VOLUME I
DRAFT FINAL REPORT

REMEDIAL INVESTIGATION REPORT
OPERABLE UNIT NO. 3
FORMER NEBRASKA ORDNANCE PLANT
MEAD, NEBRASKA
CONTRACT NO. DACA41-96-C-8011

Prepared for
Department of the Army
U.S. Army Engineer District
Kansas City District
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Kansas City, Missouri

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Term	Definition
amatol	trinitrotoluene and ammonium nitrate
ARDC	Agriculture Research and Development Center of the University of Nebraska, formerly the University of Nebraska Field Laboratory (UNFL)
ATV	All-Terrain Vehicle
bgs	Below Ground Surface
BRA	Baseline Risk Assessment
BS/BSD	Blank Spike/Blank Spike Duplicate
BTEX	Benzene, Toluene, Ethylbenzene and Total Xylenes
CDAP	Chemical Data Acquisition Plan
CEHNC	U.S. Army Engineering and Support Center, Huntsville
CEMRK	U.S. Army Corps of Engineers, Missouri River Division - Kansas City District
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations. The CFR are published in numbered titles such as 40 CFR and numbered parts such as 40 CFR 280
cm^2	Square Centimeters
CWM	Chemical Warfare Materials
DERP	Defense Environmental Restoration Program
DNT	Dinitrotoluene
DoD	Department of Defense
Donohue	SEC Donohue & Associates, Inc. (now RUST Environment and Infrastructure)
DQO	Data Quality Objective
EE/CA	Engineering Evaluation and Cost Analysis
EM	Electromagnetic
EMSL	Environmental Monitoring Systems Laboratory
EOR	Explosive Ordnance Reconnaissance
EPA	U.S. Environmental Protection Agency
ESE	Environmental Science & Engineering, Incorporated
FS	Feasibility Study
HE	High Explosives
HI	Hazard Index
HMX	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine

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Term	Definition
HNu	Portable organic vapor analyzer using a PID manufactured by HNu Corporation
HSA	Hollow Stem Auger
IAG	Interagency Agreement
ID	Internal Diameter
LCS	Laboratory Control Sample
LUST	Leaking Underground Storage Tank
Load Line	Bomb Load Line (No. 1, 2, 3, and 4)
MCL	Maximum Contaminant Level
mg/kg	Milligrams per kilogram (ppm by weight) equivalent to μg/g
mg/L	Milligrams per liter (ppm)
ml	milliliter
MS	Matrix Spike
mV	milliVolts
MW	Monitoring Well
N	Nitrogen
NDEQ	Nebraska Department of Environmental Quality
NAD-1983	North American Datum
NOP	Nebraska Ordnance Plant
NRD	Natural Resources District
O.D.	Outside Diameter
OE	Ordnance and Explosive
OU	Operable Unit
PCB	Polychlorinated biphenyl
PDP	Preliminary Data Package
PID	Photo ionization detector
PP	Proposed Plan
PPLV	Preliminary Pollutant Limit Values
ppm	Parts per million (mg/kg and mg/l)
PRGs	Preliminary Remediation Goals
PVC	Polyvinyl Chloride
PWP	Project Work Plan
QA	Quality Assurance

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Term	Definition
QA/QC	Quality Assurance/Quality Control
QCSR	Quality Control Summary Report
RBC	Risk-Based Concentration
RDX	Hexahydro-1,3,5-trintro-1,3,5-triazine
RI	Remedial Investigation
RME	Reasonable Maximum Exposure
ROD	Record of Decision
RUST	Rust Environment and Infrastructure (Formerly SEC Donohue & Assoc.)
Site	Former NOP
SPO	Sampling Plan and Objectives document (CDAP Part I)
SVOC	Semi-Volatile organic compound
TCE	Trichloroethylene (trichloroethene)
TCT	Twin City Testing Corporation
TNB	1,3,5-Trinitrobenzene
TNT	2, 4, 6-trinitrotoluene
TRPH	Total Recoverable Petroleum Hydrocarbons
USACE	U.S. Army Corps of Engineers\
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile organic compound
W-C	Woodward-Clyde
WES	U.S. Army Corps of Engineers Waterways Experiment Station
µg/L	Micrograms per liter (ppb)
µg/kg	Micrograms per kilogram (ppb by weight)

COE 010004

MECOEK 10806

0.1 PURPOSE OF REPORT

This report summarizes the background, methods, results, and conclusions of the Remedial Investigation (RI) of Operable Unit No. 3 (OU3) of the former Nebraska Ordnance Plant near Mead, Nebraska (Site). Woodward-Clyde in conjunction with the U.S. Army Corps of Engineers (USACE) Kansas City District (CEMRK) under Contract Nos. DACA 41-92-C-0023 and DACA 41-96-C-8011 conducted this investigation in general accordance with the Interagency Agreement effective January 30, 1992 under the Defense Environmental Restoration Program.

The Site has been divided into three Operable Units (OU1, OU2, and OU3) under the Interagency Agreement (IAG) dated January 30, 1992 between the U.S. Department of the Army, the U.S. Environmental Protection Agency (EPA), Region VII, and the Nebraska Department of Environmental Quality (NDEQ). OU1 includes explosives contaminated soils within the upper 4 feet, OU2 includes groundwater as well as explosives-contaminated soil (exclusive of those addressed by OU1) which may be a contributing source of groundwater contamination, and OU3 includes other areas at the Site not addressed under OU1 or OU2.

The RI was conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 as amended by Superfund Amendments and Reauthorization Act of 1986. A CERCLA RI is being conducted at the Site because the Site was placed on the U.S. Environmental Protection Agency, National Priorities List of Superfund sites in August, 1990. The Site was placed on the National Priorities List due to identified groundwater contamination and associated potential risk to human health or the environment.

0.2 SITE BACKGROUND

0.2.1 Site Description

The Site is located about one-half mile south of Mead, Nebraska in Saunders County. Mead is 30 miles west of Omaha, Nebraska and 35 miles northeast of Lincoln, Nebraska. During operations, the Site included 17,258 acres in Saunders County. Currently, the land is owned by the University of Nebraska, Agricultural Research and Development Center, U.S. Army National Guard and Reserves, and private interests.

The principal operation at the Site was loading bombs in the four load lines. This activity began in October 1942 and continued through August 1945 with the lines periodically deactivated and reactivated for operational changes. The operation of the lines was terminated in 1945 and reactivated in 1952 for use during the Korean conflict. In 1956, the Site was put on standby notice. Starting in 1958 and continuing through 1971, much of the Site, including the load lines, was "excessed" and disposed or sold.

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0.3 OU3 INVESTIGATION AREAS

Areas at the Site which have been designated as part of the OU3 RI included: Load Lines 1, 2, 3, and 4 Bomb Production Buildings and Paint Operation Areas; former Tetryl Pelleting Area; North Burning Grounds; South Burning Ground; Proving Grounds; Potential Landfill Area north

of the Proving Grounds; former NOP Landfill Area; Potential Waste Disposal Areas north of the former Nike Maintenance Area; Potential Waste Disposal Area southeast of the former Bomb Booster Assembly Area; Potential Waste Disposal Areas at the former Atlas Missile Area; Potential Waste Disposal Area north of the former Ammonium Nitrate Plant; Demolition Ground; Detonation Craters; Bermed Area southwest of Load Line 1; former Ammonium Nitrate Plant; former Raw Products Igloo Storage Areas; Johnson, Clear, and Silver Creeks; Underground Storage Tanks at the former Administration, Atlas Missile, and Bomb Booster Assembly areas, and at the former Air Force Global Communications Center; and the Geophysical Anomaly at Load Line 3. In addition to the site-specific study areas, a Site-wide survey of containerized potentially hazardous DoD waste material was also performed as part of the OU3 RI. Also, the U.S. Corps of Engineers Waterways Experiment Station (WES), in Vicksburg, Mississippi, is currently conducting a study of Plant Uptake of explosives as part of the OU3 RI.

0.4 SITE-SPECIFIC INVESTIGATIONS

Based on past DoD-related activities, previous investigation results, and known site conditions, site-specific data qualitative objects and sampling plans were developed for each OU3 investigations area. For all investigative activities combined, field sampling and laboratory analyses were performed on shallow soils (generally within the upper 2-feet below ground surface), deep soils (generally to a depth of 20 feet below ground surface), surface wipes, groundwater, surface water, and sediment samples.

For all investigation activities combined, the list of parameters included in the laboratory analysis included explosives, metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyl (soils only), thiodyglycol and nitrates and nitrites (ground water only), and Total Recoverable Hydrocarbons.

In addition to the field sampling, other field activities included ordnance and explosive avoidance surveys, surface geophysical surveys, land surveying, containerized potentially hazardous waste surveys, and habitat assessment surveys.

0.5 SUMMARY OF NATURE AND EXTENT OF CONTAMINATION

As part of the OU3 RI, screening levels were developed for the majority of soil and water analytes. These screening levels were used to streamline the RI process by accelerating and increasing consistency in decisions concerning contamination. Details of the screening level development processes were provided in the Draft Final RI Phase I Preliminary Data Package (PDP) report (W-C, 1996a). Two specific changes in the screening level concentration selection approach have taken place since the PDP report was submitted. These changes are discussed at the beginning of Section 4.0.

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0.5.1 Soil

For explosives, TNT and RDX were the most prevalent explosive compounds detected above screening levels developed for the OU3 RI. Most soils with explosives above screening levels

were from the uppermost 6-inches below ground surface (bgs). For those OU3 RI investigation areas with explosives in soils, the nature and extent of contamination has been adequately characterized. All soils identified during the OU3 RI as being contaminated with explosives also met the OU1 criteria, and therefore, will be excavated and remediated as part of the OU1 remedial action.

For metals, most soils with metals above screening levels were from the uppermost 6-inches bgs. The most prevalent metals detected in concentrations above screening levels were barium, chromium, copper, and zinc. Of these, zinc had the highest number of occurrences above screening level. While several contiguous areas with zinc above screening level were identified at each of the load lines, zinc was generally found in concentrations only slightly above the screening level and well below its published Primary Remediation Goal (PRG) value. Chromium and lead were the only metals detected in concentrations above the published PRG values. Contiguous areas of lead concentrations above the PRG were found along the east side of the East Cooling Buildings and the west and east sides of the Nose Pouring Building, where, at each location, lead above screening level was confined to the 0- to 6-inch sampling interval and the vertical extent (paralleled to the buildings) within the OU3 investigation area has been defined.

The only SVOCs above screening level were the explosive compounds 2,4,-DNT and 2,6-DNT detected in the surface soil at one South Burning Ground sampling location. This area of explosive contamination meets the OU1 criteria, and therefore, will be excavated and remediated as part of the OU1 remedial action.

0.5.2 Surface Water and Sediment

For surface waters, trichloroethylene (TCE) in Johnson Creek above Maximum Contamination Level (MCL) was detected during only one (high flow) of three sampling events. The source of TCE appears to be from the recharge of TCE-contaminated groundwater addressed in the OU2 RI. The extent of TCE above MCL has been defined to be within a narrow reach (less than 1 mile) on Johnson Creek.

No metals were detected in concentrations above Maximum Contamination Levels during any of the sampling events. Metals detected in concentrations above the screening level in Johnson Creek included copper, lead, manganese, mercury, and zinc. Mercury (during the high flow sampling) was the only metal detected at a concentration above the screening level for Clear Creek. While the downstream extent of metals above screening levels has been defined, no metals analyses were performed upstream of the Site to define the background conditions. While the OU3 RI indicates that metals in Johnson Creek are generally higher than those in Clear Creek, the data do not suggest a single source area.

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0.5.3 Groundwater

For groundwater, metals in the groundwater which exceeded screening levels (dissolved manganese and thallium, and total manganese) are consistent with the natural background metals concentrations of the Site and are therefore not attributed to any DoD activity. Elevated concentrations of nitrates and nitrites detected at the Site are also not attributable to any DoD activity and are likely a result of current agricultural practices.

0.6 CONCLUSIONS

0.6.1 Investigation Areas Requiring Additional RI Data

Based on the results of the OU3 RI, no additional data are required to fully characterize the nature and extent of contamination at any of the investigation areas. For each OU3 investigation area, the type, location and number of samples collected meets the data quality objectives and are sufficient to perform subsequent baseline risk assessments, if necessary.

0.6.2 Investigation Areas Not Requiring Further Action

Several individual OU3 investigation areas have been identified as not requiring any further action based on one or more of the following criteria:

1. Analytical results are below laboratory detection limits, screening level and/or published health-based criteria values.
2. Analytical results are consistent with background/regional concentrations.
3. Investigations areas will be addressed through alternative remedies outside of OU3.

Those OU3 investigation areas which meet one or more of these criteria include the following:

- Load Line Bomb Production Building structures selected for demolition and debris removal. The selection process is currently ongoing and includes input from CEMRK, EPA, NDEQ, and others. If there are Load Line Bomb Production Buildings which are not selected for demolition and debris removal and have been shown to contain residual contaminants, they will be further evaluated in an addendum to the OU3 RI report and the OU3 Baseline Risk Assessment report.
- Load Line Paint Operation Areas groundwater (metal results above health-based criteria but consistent with regional background concentrations)
- Former Raw Products Igloo Storage Areas (no results above health-based criteria)
- Former Tetryl Pelleting Area (no results above health-based criteria)
- North Burning Ground (no results above health-based criteria)
- South Burning Ground (see comment below)
- Proving Grounds (no results above health-based criteria)
- Former NOP Landfill Area (no results above laboratory detection)
- Potential Waste Disposal Areas north of the former Nike Maintenance Area (no results above screening level or health-based criteria)
- Potential Waste Disposal Area southeast of the former Bomb Booster Assembly Area (no results above screening level or health-based criteria)
- Potential Waste Disposal Areas at the former Atlas Missile Area (no results above health-based criteria)

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- Potential Waste Disposal Area north of the former Ammonium Nitrate Plant (no results above screening level or health-based criteria)
- Demolition Ground (no results above screening level or health-based criteria)
- Detonation Craters (no results above health-based criteria)
- Bermed Area southwest of Load Line 1 (no results above screening level or health-based criteria)
- Former Ammonium Nitrate Plant (nitrates and nitrates groundwater results above health-based criteria but consistent with regional background concentrations)
- USTs at the former Administration, Bomb Booster Assembly, and Atlas Missile areas, and at the former Air Force Global Communications Center (no results above health based criteria)
- Geophysical Anomaly at Load Line 3 (no results above screening level or health-based criteria)

With respect to the South Burning Ground, only one parameter (SVOC in soil), from one sampling location, was detected in concentrations which exceeded both the screening level and a health-based criteria. This location will be excavated and remediated under OU1, thus removing any results which would have required further action under OU3.

0.7 INVESTIGATION AREAS TO BE ADDRESSED IN THE BASELINE RISK ASSESSMENT

While the RI data have been determined adequate in addressing the nature and extent of contamination, the overall RI objectives for each investigation area also includes an evaluation of the potential risks to human health or the environment. An evaluation of potential risks will be presented in a Baseline Risk Assessment (BRA) report. The Draft Final BRA report will be submitted in July, 1997. Prior to submittal, a Technical Memorandum will be prepared which discusses the methods and procedures to be used in conducting the baseline risk assessments. The following investigation areas do not satisfy any of the three criteria mentioned in Section 0.6.2 for removing them from future action, and thus, will be included in the OU3 BRA:

- Load Line Bomb Production Buildings soils (see comment below)
- Load Line Paint Operation Areas soils
- Potential Landfill Area north of the Proving Grounds soils
- Johnson and Clear Creeks surface water and sediments
- Silver Creek surface water and sediments

For the Load Line Bomb Production Buildings, all soil sampling locations which exceeded the screening level for explosives in soil also met the remediation criteria for OU1 and explosives in soil will be excavated and remediated under OU1. Therefore none of the analytical results (explosives and metals) obtained from these locations will be included in the OU3 BRA. If for some reason these soils are not addressed under the OU1 remedy, they will be addressed under future OU3 actions.Because metals above screening level have been detected at locations which

will not be remediated under OU1, the metals and explosives at those load line bomb production locations will be addressed in the BRA.

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1.1 PURPOSE OF REPORT

This report summarizes the background, methods, results, and conclusions of the Remedial Investigation (RI) of Operable Unit No. 3 (OU3) of the former Nebraska Ordnance Plant (NOP) near Mead, Nebraska (Site). Woodward-Clyde (W-C) in conjunction with the U.S. Army Corps of Engineers (USACE) Kansas City District (CEMRK) under Contract Nos. DACA 41-92-C-0023 and DACA 41-96-C-8011 conducted this investigation in general accordance with the Interagency Agreement (IAG) effective January 30, 1992 under the Defense Environmental Restoration Program (DERP).

The Site has been divided into three Operable Units (OU1, OU2, and OU3) under the Interagency Agreement (IAG) dated January 30, 1992 between the U.S. Department of the Army, the U.S. Environmental Protection Agency (EPA), Region VII, and the Nebraska Department of Environmental Quality (NDEQ). OU1 includes explosives contaminated soils within the upper 4 feet, OU2 includes groundwater as well as explosives-contaminated soil (exclusive of those addressed by OU1) which may be a contributing source of groundwater contamination, and OU3 includes other areas at the Site not addressed under OU1 or OU2.

The RI was conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 as amended by Superfund Amendments and Reauthorization Act of 1986 (SARA). A CERCLA RI is being conducted at the Site because the Site was placed on the U.S. Environmental Protection Agency (EPA) National Priorities List (NPL) of Superfund sites in August, 1990. The Site was placed on the NPL due to identified groundwater contamination and associated potential risk to human health or the environment.

This RI report meets requirements of the National Contingency Plan (NCP) in accordance with CERCLA to characterize contamination sources and migration. The BRA, which will assess risk to human health and the environment, will be submitted under separate cover. The RI follows CERCLA Guidance EPA/540/G-89-004 for conducting RI/FS activities at CERCLA sites and EPA/540/G-57/003 for the Data Quality Objective (DQO) process.

Objectives, sampling locations, sampling methods, analytical methods, and quality assurance for the RI are outlined in work plans. The work plans for OU3 investigations at the Site consist of the following:

- Project Work Plan (PWP) (W-C, 1994a)
- Chemical Data Acquisition Plan (CDAP); Parts I, II and III:

  Part I - Sampling Plans and Objectives (SPO) (W-C, 1994b and 1996a)

  Part II - Field Protocols (FP) (W-C, 1994c and 1996a)

  Part III - Quality Assurance Plan (QAP) (W-C, 1994d)
- Safety, Health, and Emergency Response Plan (SHERP) (W-C, 1994e)

The PWP developed conceptual models which identified potential sources, release mechanisms, pathways, and receptors for the various contaminants. These conceptual models described each OU3 RI investigation area by potential source and medium. Tasks were defined for the investigation of each potential source and medium. The DQOs listed in the PWP defined the

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data needs, purpose, and rationale as to data needs, and collection methods to address data gaps. Each task had a specific set of DQOs. The overall approach was to complete the steps necessary to meet the task objective(s) in the RI through an RI Phase I and (if necessary) Phase II investigation. Phase I sampling plans and objectives are described in Chapter A of the CDAP Part I (W-C, 1994b) and those for Phase II are described in Chapter B (W-C, 1996a). The primary objective of the OU3 RI report is to evaluate the nature and extent of contamination at OU3 investigation areas that can be attributed to past DoD activities, and, if present, determine those areas which are currently acting as a source of contamination. The BRA will assess whether those contaminants which warrant further evaluation are in concentrations which pose a risk to human health.

1.2 REPORT ORGANIZATION

This report is generally organized according to the suggested outline in the EPA guidance for conducting an RI/FS (EPA, 1988a), except that the BRA is not included. The Draft Final BRA is scheduled to be submitted in July, 1997 under separate cover.

Section 1.3 includes a brief history of the Site. Section 1.4 provides a brief description and history of each individual OU3 RI investigation area, together with discussions and results from relevant previous investigations. Section 2.0, the Study Area Investigation, is structured similarly to the CDAP, Part I - Field Sampling Protocols. The descriptions of the investigations are organized by OU3 RI investigation area. The descriptions include location and quantity of samples and any deviations or elaborations not covered in the CDAP Part I. Section 3.0 provides background data and information from literature sources on surface water hydrology, geology, surface soils, and site land use. Section 4.0 discusses the analytical results of the OU3 RI, as well as results of Site-wide groundwater monitoring well analyses used to support the OU3 RI. Section 5.0 describes the persistence and mobility of selected contaminants and presents contaminant transport calculations and results. Section 6.0 summarizes the finding from sections 4.0 and 5.0, and contains the conclusions.

Tables include summaries of chemical analyses organized by study area and medium and are limited to analytes which were detected at least once in each study area and medium. All analytical results above laboratory detection levels are presented in **Appendix A.** The Ordnance and Explosive (OE) avoidance survey field notes are presented in **Appendix B**, geophysical survey results are in **Appendix C**, boring logs are in **Appendix D**, well completion diagrams are in **Appendix E**, and well development forms are in **Appendix F**. An evaluation of potential metals groundwater contamination is presented in **Appendix G** (W-C, 1996). The fate and transport backup calculations are presented in **Appendix H**.

All drawings are included in Volume II of the RI report. These drawings include all OU3 RI sampling locations and selected analytical result summaries. **Drawing 1-1** presents a complete list of drawings. **Drawing 1-2** includes general information to improve the usability of the drawings: a general legend, sample type symbols and designations, specific notes regarding sample collection and identification, and a guide for reading the analytical data including chemical abbreviations and units of concentration.

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1.3 SITE BACKGROUND

1.3.1 Site Description

The Site is located about one-half mile south of Mead, Nebraska in Saunders County **(Drawing 1-3)**. Mead is 30 miles west of Omaha, Nebraska and 35 miles northeast of Lincoln, Nebraska. During operations, the Site included 17,258 acres in Saunders County. Currently, the land is owned by the University of Nebraska, Agricultural Research and Development Center (ARDC), U.S. Army National Guard and Reserves, and private interests. The 1990 property distribution (Saunders County, 1990) is as follows:

Property Owner	Acreage (approximate)
University of Nebraska	9,518 acres
Private or Corporate	5,583 acres
U.S. Military Weekend Training Facility	960 acres
Nebraska National Guard (including 1,185 acres of the former Atlas Missile Site [Atlas Missile Area] and 12 acres north of Load Line 1).	1,197 acres

The principal operation at the Site was loading bombs in the four Load Lines. This activity began in October 1942 and continued through August 1945 with the lines periodically deactivated and reactivated for operational changes. The operation of the lines was terminated in 1945 and reactivated in 1952 for use during the Korean conflict. In 1956, the Site was put on standby notice. Starting in 1958 and continuing through 1971, much of the Site, including the load lines, was "excessed" and disposed or sold.

1.3.2 Site History

Construction contracts for the Site were awarded in December 1941. The Architect-Engineer service contract was awarded to Giffels and Vallet and the Construction contract to Metcalfe Construction Co., Hamilton Construction Co., and Kansas City Bridge Company. The Nebraska Defense Corp., a subsidiary of Firestone Tire and Rubber Co., was contracted to provide services during design and construction and to operate the Site (ESE, 1983). At the finalization of acquisition in 1942, land was acquired in 176 parcels; 165 parcels were obtained from private landowners, 3 parcels from corporate entities, and 8 parcels from religious organizations or school districts (ESE, 1983). Water for the Site was obtained from 11 supply wells ranging in depth from 100 to 150 feet, with an average total usage of 873,611 gallons per day (Nebraska Ordnance Plant, 1944).

During operations, the Site was a load, assemble, and pack facility which produced bombs, boosters, and shells. Approximately 5300 men and women worked at the Site which operated 6 days a week with three shifts each day, except for the booster line which worked only the daily

shift (ESE, 1983). Specific areas of operations included 4 bomb load lines (1 through 4) (all lines were operational by January 1943), a bomb booster (tetryl) assembly plant, an ammonium nitrate plant (went on line March 1943 and production terminated May 1943), a demolition ground, sewage treatment plant, analytical laboratories, and storage and administrative facilities. Most of the raw materials used to manufacture the weapons at the Site were fabricated at other locations and shipped to the Site for assembly (ammonium nitrate was produced at the Site during the first months of operation). Finished munitions, bulk explosives, and related ordnance materials and components were stored and demilitarized at the Site. The production facilities were initially active during World War II. Nebraska Defense Corporation operated the Site from 1942 to 1945 and produced 90- to 22,000-pound bombs and boosters at the 4 load lines. These munitions were loaded with 2,4,6-trinitrotoluene (TNT), amatol (TNT and ammonium nitrate), tritonal (TNT and aluminum), and composition B (RDX and TNT). In 1945 the plant was placed on standby.

During the interim period 1945 through 1949, production was completely terminated and released to the Ordnance Department after decontamination and shutdown procedures were completed. At that time, the Site was used primarily for storage, reworking, and disposal of bulk explosives and munitions. Decontamination procedures included cleaning, flushing and sweeping of floors, rafters, pipes and ventilation systems, flushing of contaminated drainage ditches, and removal and burning of contaminated soil. Approximately 340,000 pieces of ordnance were destroyed at the North and South Burning Grounds near the former NOP Landfill Area in 1946 (Donohue, 1992b). Tetryl boosters were destroyed at the Demolition Ground, which is located in the southwestern portion of the Site. In November 1946, the ammonium nitrate plant began production of grained ammonium nitrate under an emergency fertilizer production program. The contractor was the Emergency Export Corp., a subsidiary of Spencer Chemical Co. The production of ammonium nitrate was suspended in December 1949, and the plant was decontaminated in 1950 (ESE, 1983).

In 1950, the Site was reactivated in order to produce an assortment of weapons for use in the Korean Conflict. Munitions assembled included bombs, shells, rockets, Nike warheads, block cast TNT, supplementary charges, and boosters. In 1956 the Site was once again placed on standby status, and 640 acres in the eastern portion of the Site were transferred to the U.S. Air Force for a "Global Communications Building" (ESE, 1983).

In 1959, the Site was declared in excess to Army needs and all property was transferred to the General Services Administration (GSA) for disposition. Approximately 960 acres in the southeastern corner of the Site were transferred to the U.S. Army Reserve for training grounds; 1,460 additional acres were granted to the U.S. Air Force for a missile site; and 40 acres were transferred to the Department of Commerce (ESE, 1983). The area acquired by the U.S. Air Force in July 1959 included 1,185 acres for use as a Launcher Area in the Ammonium Nitrate Storage Area north of Load Line 4. Also included were 242 acres at the Administration Area; the heavy vehicle maintenance garage, which occupied 12 acres north of Load Line 1 and is also known as the Nike Area; and 34 acres of the northern portion of Load Line 1, which were intended for use as what is described in the transfer document as an "AFBMD Tech Area" (ESE, 1983). The Offutt Air Force Base Missile Site (Atlas Missile Area) was built by General Dynamics Corporation between 1959 and 1960. The Launcher Area consisted of three above-

ground, coffin-type silos and a launch control building. According to a declaration collected by the U.S. Department of Justice from an employee of H.K. Ferguson, the mechanical and electrical subcontractor to General Dynamics, "H.K. Ferguson employees cleaned parts with TCE at a lab located on Load Line 1. H.K. Ferguson employees also used some TCE at the Atlas Missile Area to clean parts of the missile. In the lab H.K. Ferguson employees disposed of waste TCE in the sewer drains leading to the sanitary sewer systems; at the Atlas Missile Area they disposed of the waste TCE on the ground adjacent to the Site" (Koehler, 1992). In August 1959, 1 month after being transferred to the Air Force, the Nike Area was returned to the U.S. Army for use as a "guided missile maintenance shop" (ESE, 1983).

In 1962 the U.S. Army transferred approximately 9,000 acres to the University of Nebraska for use as a field laboratory. Roughly 5,000 acres were sold to private individuals and corporations. The Atlas Missile Area and the Nike Maintenance Area were transferred to the Nebraska National Guard for use as a training facility in 1964. The Administration Area buildings used by the U.S. Air Force were excessed to private individuals.

Since closure, the Site has been used primarily for agricultural and livestock production and research. Also, several private commercial operations have established operations at the Site.

1.4 OU3 INVESTIGATION AREA BACKGROUNDS

The general vicinity of each OU3 investigation area is identified on **Drawing 1-1.** Areas at the Site which have been designated as part of the OU3 RI included: Load Lines 1, 2, 3, and 4 Bomb Production Buildings and Paint Operation Areas; former Tetryl Pelleting Area; North Burning Grounds; South Burning Ground; Proving Grounds; Potential Landfill Area north of the Proving Grounds; former NOP Landfill Area; Potential Waste Disposal Areas north of the former Nike Maintenance Area; Potential Waste Disposal Area southeast of the former Bomb Booster Assembly Area; Potential Waste Disposal Areas at the former Atlas Missile Area; Potential Waste Disposal Area north of the former Ammonium Nitrate Plant; Demolition Ground; Detonation Craters; Bermed Area southwest of Load Line 1; former Ammonium Nitrate Plant; former Raw Products Igloo Storage Areas; Johnson, Clear, and Silver Creeks; Underground Storage Tanks at the former Administration, Atlas Missile, and Bomb Booster Assembly areas, and at the Air Force Global Communications Center; and the Geophysical Anomaly at Load Line 3. In addition to the site-specific study areas, a Site-wide survey of containerized potentially hazardous DoD waste material was also performed as part of the OU3 RI. Also, the U.S. Corps of Engineers Waterways Experiment Station (WES), in Vicksburg, Mississippi, is currently conducting a study of Plant Uptake of explosives as part of the OU3 RI

The following sections discuss the history of the individual OU3 investigation areas, together with relevant discussions and results from previous Site investigations. The information being discussed in the following sections is from previous Site investigations and was not collected during OU3 RI characterization activities. A more detailed description of the scope of each investigation was included in the OU3 PWP (W-C, 1994a).

Section 1.4.1 Load Line Bomb Production Buildings

The principal operation at the Site was loading bombs in the four load lines. This activity began in October 1942 and continued through August 1945 with the lines periodically deactivated and reactivated for operational changes. The operation of the lines was terminated in 1945 and reactivated in 1952 for use during the Korean conflict. In 1956, the Site was put on standby notice. The bomb production at the load lines included melt loading and assembly of bombs, shells, warheads, demolition blocks, and practice rockets. Starting in 1958 and continuing through 1971, much of the Site, including the load lines, was "excessed" and disposed or sold.

Load Line 1

Explosive compounds handled at Load Line 1 included TNT, tritonal (80 percent TNT and 20 percent aluminum powder), and Composition B (60 percent RDX and 40 percent TNT) (ESE, 1983). Explosive compounds were detected in 197 of 362 laboratory analyses (not including field screening samples). Explosive compounds were mainly detected in ditches draining areas around the Amatol Screening and Amatol Pour buildings and the East Cooling building. The Amatol Screening and Amatol Pour buildings are at the north end of the diamond area of each load line. The East Cooling Building is on the east side of the diamond area at each load line. Seventy-six laboratory samples exceeded the PRGs for at least one of the following: RDX, TNT, TNB, 2,4-DNT, and 2,6-DNT. The PRG for TNT (22 mg/kg) was exceeded in 62 samples, followed by TNB (31 samples), 2,4-DNT (19 samples), RDX (8 samples), and 2,6-DNT (1 sample). The highest concentration of TNT was 132,800 mg/kg in the ditch near the East Cooling Building (Donohue, 1992b).

The highest concentration of PCBs detected on-site, 2430 mg/kg, was found in soil sampled near a transformer pad south of the Paint Storage Building which is at the south end of Load Line 1 (USACE, 1991). Lead was found in concentrations greater than 5 times the background concentration in two samples near the East Cooling Building, one sample near the Amatol Pour Building, and one sample near the Receiving and Painting Building. The highest concentration of lead, 576 mg/kg, was found in the soil sample immediately above the sample containing the highest concentration of TNT at Load Line 1 (Donohue, 1992b).

TCE was detected in 4 samples collected northwest of the Inert Storage Building with the highest concentrations at 99 µg/kg in a sample from 3.4 to 4.4 feet bgs. Other VOCs found in soil samples from 8 to 10 feet bgs near the fuel storage area on the northeast side of the load line included 1,1,2,2-tetrachloroethane (26 µg/kg), 1,1,2-trichloroethane (11 µg/kg), bromoform (26 µg/kg), and trichloroethene (12 µg/kg) (USACE, 1991). TCE was detected at 0.02 µg/L in a soil gas sample collected at 6 feet bgs near monitoring well MW-12A, which is located in the vicinity of the fuel storage area (Law Environmental, 1990).

Soil gas surveys at 6 feet bgs were conducted on 2 grids: one extending from the former Nike Maintenance Area north of Load Line 1 to the northern portion of the load line, and the other covering the area of the Dairy Farm which is located in the southern portion of the Load Line 1. No VOCs were reported at the Dairy Farm (Law Environmental, 1990). At the north end of the Inert Storage Building, however, TCE was found at 4 µg/L in 2 samples. Other VOCs detected in soil gas include 1,1,1-TCA, PCE (0.00003 µg/L), xylene (0.1 µg/L), total hydrocarbons

(2 μg/L), and toluene (< 0.04 μg/L). 1,1,1-TCA was detected in 3 samples at 0.001 μg/L in the vicinity of the heavy vehicle maintenance building in the former Nike Maintenance Area. No TCE, however, was detected in the soil gas at the former Nike Maintenance Area (Law Environmental, 1990).

Load Line 2

During the Korean Conflict, Load Line 2 was used to load 105-mm Howitzer shells with Composition B, which is 60 percent RDX and 40 percent TNT (ESE, 1983). RDX was detected in 185 out of 358 laboratory soil analyses from Load Line 2. Nearly half of the samples in which RDX was detected exceeded the PRG for RDX. In contrast, the PRG for RDX was exceeded in only 16 samples at the other 3 load lines. The highest concentration of RDX was 23,270 mg/kg in a soil sample from the ditch draining the Bomb Wash Pit, which is southeast of the Amatol Pour Building (Donohue, 1992b). The highest concentrations of RDX (2 mg/kg) and TNT (2 mg/kg) in wipe samples at any of the load lines were found in the Amatol Pour Building at Load Line 2. Bulk TNT in the form of chunks and pieces were reported at Load Line 2 (TCT, 1991).

Propellant cartridges and bag propellant were also produced at Load Line 2 (ESE, 1983). HMX is used as a propellant (Roberts and Hartley, 1992), and may have been used at Load Line 2. HMX was detected in 121 of 358 soil samples at Load Line 2, but was only detected in 4 samples at the other 3 load lines (Donohue, 1992b). The highest concentration of HMX was 2,020 mg/kg, which is below the PRG for HMX. Explosives which exceeded PRGs include RDX (87 laboratory samples), TNT (33 samples), 2,4-DNT (17 samples) and TNB (39 samples). The highest concentration of TNT at the Site was 176,000 mg/kg in a sample from a ditch south of the Amatol Screening Building at Load Line 2 (Donohue, 1992b).

No chlorinated VOCs were detected in the soil gas at a depth of 6 feet at Load Line 2. Some of the highest concentrations of total hydrocarbons in soil gas on-site were found at Load Line 2. Maximum concentrations of total hydrocarbons on the southeast side of Load Line 2 were 8 μg/L. The non-grid soil gas sample near monitoring well MW-13A, which is near the fuel storage area, contained 0.02 μg/L of total hydrocarbons. Benzene and toluene were detected at 0.04 μg/L and 0.07 μg/L, respectively (Law Environmental, 1990).

Five soils samples contained concentrations of lead which were greater than five times the background concentration and one sample contained chromium at a concentration greater than five times background (Donohue, 1992b).

TCE was detected in the intermediate monitoring well MW-5A, which is on the southeast side of the load line, during the Confirmation Study (USACE, 1989). RDX at 1,190 μg/L, TNT at 49 μg/L, and HMX at 60 μg/L were found in the shallow well MW-5B (USACE, 1989). MW-5B is screened at the base of the fine sand unit.

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Load Line 3

Tritonal and TNT were the principal explosives used at Load Line 3 (ESE, 1983). Bulk explosives believed to be chunks and pieces of TNT were found in surface drainages at Load Line 3 (TCT, 1991). TNT was detected in wipe samples at the Amatol Screening and Amatol Pour buildings (TCT, 1991). TNT was found in more soil samples (107) and at higher concentrations (up to 29,700 mg/kg) at Load Line 3 than any other explosive analyte (Donohue, 1992b). Thirty laboratory samples exceeded the PRG for TNT, 11 for 2,4-DNT, 10 for TNB, and 5 for RDX. The highest concentrations for both compounds were found in a soil sample from a ditch near the Amatol Screening Building (Donohue, 1992b).

Six soil samples analyzed for metals contained concentrations of lead greater than five times the background concentration. Three were near the Amatol Screening Building and two were near the Painting and Receiving Building (USACE, 1991).

2,140 mg/kg of PCBs were found in a soil sample collected near a transformer pad west of the Inert Storage Building (USACE, 1991). No VOCs were detected in soil sampled from 0 to 10 feet bgs at Load Line 3 during the Confirmation Study (USACE, 1989). A soil gas sample from the fuel storage area near monitoring well MW-14A, however, contained 0.02 μg/L total hydrocarbons (Law Environmental, 1990).

Load Line 4

Practice rockets with stick propellant and black powder were among the munitions produced at Load Line 4 (ESE, 1983). TNT, RDX, and HMX were all found in wipe samples from the Amatol Pour Building (TCT, 1991). Explosive compounds in soil, however, were at lower concentrations and were less widespread than at the other load lines. PRGs were exceeded in only three samples for TNT, 2 samples for 2,4-DNT, and 1 sample each for 2,6-DNT and RDX (Donohue, 1992b). The highest concentration of TNT was 131 mg/kg in a soil sample collected near the Amatol Pour Building.

The Law Environmental (1990) shallow (6 feet bgs) soil gas survey did not identify a significant quantity of TCE at Load Line 4. TCE was detected in only 2 soil gas samples near the Animal Disease Research Area in the southern portion of Load Line 4 (0.002 and 0.006 μg/L) and in one sample northeast of Load Line 4 (0.001 μg/L). Total hydrocarbons were detected at 19 μg/L near the fuel storage area. Tetrachloroethane (PCE) was detected in 2 samples at 0.0004 μg/L, and 1,1,1-trichloroethane (1,1,1,-TCA) was detected in 5 samples at 0.002 μg/L in the vicinity of the northern end of Load Line 4.

PCBs were detected in soil samples in 2 areas at 12.1 mg/kg and 0.13 mg/kg (USACE, 1991). Two soil samples had concentrations of lead greater than 5 times the background concentration (Donohue, 1992b).

Section 1.4.2 Load Line Paint Operation Areas

Painting operations were performed on each of the four load lines. On each load line, the Receiving and Painting building is located south of the Inert Storage building. The Paint Storage

and Mixing building is located east of the Receiving and Painting building. A Paint Storage building is also located west of the Assembly, Pack, and Shipping building (Donohue, 1992a).

Previous investigations have verified the presence of metals in soil near the former paint operation buildings. During the Confirmation Study, a soil sample collected adjacent to a Paint Storage building in Load Line 1 contained lead of concentrations greater than background concentrations (USACE, 1989). During the OU1 RI, soil samples collected from the upper 2 feet of soil near the Receiving and Painting buildings in all load lines contained concentrations of lead, barium, and chromium at concentrations greater than background concentrations. During a later phase of OU1, lead was detected above background concentrations in soil samples collected from the upper foot of soil near the Painting and Receiving building in all load lines, and of chromium was detected at concentrations greater than background in a shallow sample collected near the Painting and Receiving building in Load Line 2 (Donohue, 1992a).

Section 1.4.3 Former Raw Products Igloo Storage Areas

High explosives raw products used in the manufacture of ordnance were stored in igloos located north of Load Lines 2 and 3. Fifty-nine igloos were originally located in an area north of Load Line 2 and fifty-eight were originally located in an area north of Load Line 3 (Donohue, 1992a). Currently, thirty-six igloos are present north of Load Line 2 and twenty are present north of Load Line 3. No previous investigations have been conducted within these igloo storage areas.

Section 1.4.4 Former Tetryl Pelleting Area

Tetryl Pelleting operations were conducted at the former Tetryl Pelleting building located within the former Bomb Booster Assembly Area in the northwest portion of the Site. The Bomb Booster Assembly Area was a separate load line used by the Army to produce and load tetryl boosters for the detonation of bombs. Tetryl was screened and pelleted in the Tetryl Pelleting building prior to booster assembly (ESE, 1983). After operation by the Army, Apollo Fireworks operated for a period of approximately 20 years at the Bomb Booster Assembly Plant until production was terminated in 1989. Fireworks supplies and equipment have been scattered throughout the building since the fireworks company abandoned the facility. Black powder has been observed on the walls. The facility is currently under the supervision of the State Fire Marshall and the State Highway Patrol (TCT, 1991).

The former Bomb Booster Assembly Area, where tetryl boosters were assembled, was the subject of a soil gas survey (Law Environmental, 1990) and soil investigations (USACE, 1991, and Donohue, 1992b). PCE was detected at concentrations of up to 0.007 µg/L in 2 soil gas samples southeast of the former Bomb Booster Assembly Area near Avenue A (Law Environmental, 1990). Soil samples located south of the former Bomb Booster Assembly Area buildings did not contain any detectable concentrations of VOCs (USACE, 1991). Tetryl was detected in 28 of 112 laboratory analyses of soil samples collected during the OU1 RI. In contrast, tetryl was only detected in 9 other soil samples in the remainder of the Site. Tetryl was the only explosive compound which exceeded the PRG (2,800 mg/kg) in soil samples at the former Bomb Booster Assembly Area. Two samples collected from 0- to 1-foot bgs had concentrations over the PRG with the highest concentration being 52,000 mg/kg. No samples

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below 1-foot exceeded the PRGs. TNT was detected in 3 samples and TNB was also detected in 3 samples. RDX was detected in 5 of 99 field screening samples but was not detected in any of the 112 laboratory analyses of soil samples (Donohue, 1992b).

Section 1.4.5 Burning/Proving Grounds

The Burning/Proving Grounds are located north of the former NOP Landfill and NRD Reservoir. The Burning Grounds are comprised of the North Burning Ground and the South Burning Ground. The North Burning Grounds is located west of the Natural Resources District's (NRD) Reservoir on Johnson Creek and north of a dirt road which serviced the burn pads. The area was formerly used for burning powder boxes, combustibles, old powder, and similar materials when the Site was in operation (Weed, 1986). Currently, the area is owned by the University of Nebraska and is used as a wildlife plantings area for tall grasses and weeds (Donohue, 1992a). The South Burning Ground is located southwest of the Wastewater Treatment Plant. The area consists of approximately 3 acres and is currently being privately farmed. Powder from steamed-out bomb carcasses, powder for disposal, and similar materials were burned at the area when the Site was in operation (Weed, 1986). The Proving Grounds are located on the west side of the NRD Reservoir on Johnson Creek on the northeast side of the Site. This area, formerly used as a test area, was used to prove testing caps, fuses, and boosters when the Site was in operation (Donohue, 1992a). Historical aerial photographs (EPA, 1987) show two east-to-west trending trenches which are partially within the reservoir high water line. The Proving Grounds property is owned by the University of Nebraska and is currently graded and used as a wildlife plantings area.

No unexploded ordnance was found at the North Burning Ground (TCT, 1991). Propellant grains for large caliber ammunition and small pieces of bulk explosives were found on the ground surface in the South Burning Ground (TCT, 1991). No ordnance debris was found at the Proving Grounds (TCT, 1991). Denuded areas, however, were reported to contain bulk explosives (TCT, 1991). Soil samples collected by TCT (1991) at the Proving Grounds contained TNT, RDX, HMX, and, as might be expected in an area in which boosters were tested, tetryl. Soil samples collected by TCT (1991) at the Proving Grounds contained TNT (<0.06-127 µg/kg), RDX (<0.25-384 µg/kg), HMX (<0.25-158 µg/kg), and, as might be expected in an area in which boosters were tested, tetryl (<0.04-63.70 µg/kg). Total concentrations of explosives in the sample at the Proving Grounds were much higher (743 mg/kg) than in samples from the Burning Grounds (TCT, 1991).

Results from the supplemental OU1 RI showed that 5 samples from the South Burning Ground exceeded the PRG for RDX, with the highest concentration being 1,700 mg/kg (Donohue, 1992b). The same sample also contained 313 mg/kg of TNT, which is higher than the largest concentration of TNT reported from soil samples at the Proving Grounds. The laboratory sample exceeded the PRGs for TNB and 2,4-DNT. The only explosive which exceeded the PRGs at the Proving Grounds was TNT in 3 laboratory samples, and PRGs were not exceeded for any laboratory samples collected at the North Burning Grounds. A surface soil sample collected in the North Burning Ground had a concentration of zinc (278 mg/kg) in excess of 5 times the background concentration (43.8 mg/kg). Another sample collected from surface soil covering the landfill contained concentrations of mercury (3.0 mg/kg) and silver (71.4 mg/kg) which were

over 5 times background (0.5 mg/kg and 10.0 mg/kg, respectively). Two surface soil samples at the North Burning Ground and one each at the South Burning Ground and the Proving Grounds had detectable concentrations of toluene (Donohue, 1992b). The sample at the Proving Grounds also contained 14 µg/kg of TCE.

No explosives were detected in sediment and surface water samples collected in the NRD Reservoir and in Johnson Creek downstream of the reservoir. Sediment and surface water sampled for metals did not exceed five times the background concentrations (Donohue, 1992b).

Soil gas samples collected at 6 feet bgs during the Law Environmental (1990) investigation revealed concentrations of 1,1 1-TCA in 5 samples of up to 0.002 µg/L, TCE at 0.002 µg/L, toluene at 0.2 µg/L, benzene in 3 samples at 0.1 µg/L, and total hydrocarbons at 0.3 µg/L in the North Burning Grounds and Proving Grounds (refer to "North of Load Line 4" survey grid, Law Environmental, 1990). Seven samples collected on the grid for the Sewage Treatment Plant reported concentrations of TCE up to 0.2 µg/L and 1,1,1-TCA at 0.003 µg/L. Most of these locations were less than 1,000 feet south of the Sewage Treatment Plant.

Monitoring well MW-11A which is in the Proving Grounds downgradient of the North Burning Ground and upgradient of the South Burning ground and the Landfill, did not contain detectable concentrations of explosives in samples collected during the Confirmation Study (USACE, 1989).

Section 1.4.6 Potential Landfill Area North of the Proving Grounds

The Environmental Monitoring Systems Laboratory (EMSL) report (EPA 1987) report identified a potential landfill area contiguous with the north side of the Proving Grounds and the northeast side of the North Burning Ground. The Potential Landfill Area was identified in a 1949 aerial photo and covered approximately 10 acres. The eastern one-half boundary of the area is covered by the NRD Reservoir. The TCT Study (1991) also identified this area as a "potential landfill area". The site is presently an untilled grassy area with no visual evidence of past disposal activities. No previous investigations have been conducted in the immediate area.

Section 1.4.7 Former NOP Landfill Area

The former NOP Landfill Area consists of a series of trenches west of the sewage treatment plant that were filled with solid waste and covered with soil. It is not known when the area was first used as a landfill; however, it was reportedly used during the Site operations. Solid waste, garbage, old lumber, and similar materials were buried there (Weed, 1986). The area is currently owned by the University of Nebraska. It was also observed that when the University initiated their landfill activities, a bulldozer operator noticed a greenish gas emanating from the ground (TCT, 1991). The University also reported that there was trash at the surface prior to their operation (TCT, 1991). The University is also reported to have buried some low-level radioactive and infectious wastes in nearby trenches south of the former NOP Landfill Area (TCT, 1991), for which, the exact locations of these trenches have not been confirmed. The former NOP Landfill was addressed in the Site-wide Environmental Evaluation and Cost Analysis (EE/CA) for OE removal at the former NOP prepared for the U.S. Army Engineering

and Support Center, Huntsville (CEHNC). The EE/CA Work Plan (Dames and Moore, 1994) did not recommend any intrusive activity at the former NOP Landfill.

Section 1.4.8 Potential Waste Disposal Areas North of the Former Nike Maintenance Area

The Nike Maintenance Area was used by the U.S. Army as a guided missile maintenance shop (ESE, 1983). Subsequently, the Nike Maintenance Area was converted to the National Guard Impoundment which is its present usage. Two potential waste disposal areas located approximately 600 feet north of the former Nike Maintenance Area were originally identified in the EMSL report (EPA, 1987). The areas were noted in a 1949 aerial photo, with a combined area of approximately 10 acres. After further review of the EMSL report (EPA, 1987), the northern most potential waste disposal area was divided further divided into 3 individual potential waste disposal areas for the OU3 RI. Two of the investigation areas are presently in a cultivated field, and the third area is partially covered with a gravel parking lot. No previous investigations have been conducted in the immediate area.

Section 1.4.9 Potential Waste Disposal Area Southeast of the Former Bomb Booster Assembly Area

A potential waste disposal area located approximately 1,000 feet southeast of the Bomb Booster Assembly Area, east of Avenue A, was identified on the aerial photos contained in the EMSL report (EPA, 1987). Aerial photos indicate that a potential waste disposal area was present in 1949 and operational through the 1950s. The potential waste disposal area appeared to cover approximately 10 acres and is presently cultivated with no visual evidence of past disposal activities. The Bomb Booster Assembly Area was used to assemble tetryl boosters. No previous investigations have been conducted in the immediate area.

Section 1.4.10 Potential Waste Disposal Areas at the Former Atlas Missile Area

The Atlas Missile Area is located approximately 1 mile north of Load Lines 3 and 4. Construction on the missile complex began in 1959 and lasted for approximately 18 months. The area was used by the U.S. Air Force to house 3 missile silos and a control area. TCE was used to degrease pipelines which carried liquid oxygen fuel for the missiles. The Atlas Missile Area was abandoned by the Air Force in 1964 (USACE, 1991). Two potential waste disposal areas at the former Atlas Missile Area were identified on the EMSL aerial photographs (EPA, 1987). One potential waste disposal area was located in the southwest corner of the former Atlas Missile Area and the second potential waste disposal area was located outside the northeast side of the former Atlas Missile Area along Johnson Creek. The southwest and northeast potential waste disposal areas covered approximately 10 and 20 acres, respectively.

Some of the highest concentrations of chlorinated VOCs were detected in shallow (6 feet bgs) soil gas samples on the west sides of the 3 silos at the former Atlas Missile Area (Law Environmental, 1990). TCE was detected at concentrations of up to 9 µg/L. Total hydrocarbons were detected at 4 sampling locations. TCE was detected in 7 out of 44 soil samples collected near Silo 1, Silo 2, and north of the loop road in the ditch draining the area of Silo 3. The highest

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concentration of TCE was 33 µg/kg in the soil sample from 9 to 10 feet bgs near Silo 1 (USACE, 1991).

Section 1.4.11 Potential Waste Disposal Area North of the Former Ammonium Nitrate Plant

A potential waste disposal area located approximately 500 feet north of the former Ammonium Nitrate Plant was identified on the aerial photos contained in the EMSL report (EPA, 1987). The potential waste disposal area appeared to cover approximately 5 acres and is presently cultivated with no visual evidence of past disposal activity. No previous investigations have been conducted in the immediate area.

Section 1.4.12 Demolition Grounds

The Demolition Ground (also referred to as "Culvert Area" in some reports) is located in the southwest portion of the Site, south of Highway 63, north of Silver Creek, and east of the Detonation Craters investigation area. The area was used for the destruction of tetryl boosters (ESE, 1983).

No unexploded ordnance was reported at the Demolition Ground, but boosters and a fuse were found in the vicinity of feedlot and one unspecified ordnance related item was found at the roadside turnout on Highway 63 (TCT, 1991). No explosives were detected, however, in two soil samples collected at the Demolition Ground (TCT, 1991) nor were any detected in surface water and sediment samples (USACE, 1989).

Previous investigations of the soils and groundwater in this area indicated that both soils and groundwater contained chemicals that came from these operations. During a Confirmation Study, field screening of soil samples collected from the upper foot of soil in drainage ditches indicated the presence of explosives (USACE, 1989). Soils have also been investigated as part of OU1. Explosives have been detected in soils adjacent to the load lines, primarily in ditches, sumps, and bomb wash pits. The highest concentrations were in the upper foot of soil (Donohue, 1992a). Groundwater in the vicinity of the buildings was investigated for explosive compounds as well as other chemicals as part of the OU2 RI.

Section 1.4.13 Detonation Craters

The Detonation Craters are located in the southwest portion of the Site, west of the Demolition Ground, south of Highway 63, and north of Silver Creek. During preliminary assessment activities by TCT (1991), five possible explosion (detonation) craters, (Craters 1 through 5), were identified on historical aerial photographs (EPA, 1987). The craters are most apparent on the 1959 aerial photographs, although remnants of them are evident in later photographs.

Previous investigations by TCT (1991) included visual and geophysical surveys. Visual surveying revealed no ordnance or UXO debris. Metal detector and magnetometer surveys revealed 17 ferrous contacts within the study area. Of the 17 contacts, 7 were within a depth of 1-foot and were hand excavated. The excavators revealed 2 bomb booster adapters with no explosive components, 3 pieces of what appeared to be 75 mm projectile fragmentation, and 2 pieces of wire.

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Previous investigations by TCT included visual and geophysical surveys. Visual surveying revealed no ordnance or UXO debris. Metal detector and magnetometer surveys revealed shallow ferrous contacts at Craters 1, 2, and 3. Hand excavations at these areas revealed an artillery fuse at Crater 3.

Section 1.4.14 Bermed Area South of Load Line 1

A bermed area from past activities exists southwest of Load Line 1 (Bermed Area). The former usage of the berm is unknown. From inspection of 1955 aerial photographs, it is presumed that the Bermed Area was used for protection against accidental explosion during the loading of rail cars on the railroad spur. No previous investigations have been conducted in the immediate area.

Section 1.4.15 Former Ammonium Nitrate Plant

The Ammonium Nitrate Plant was located north of Load Lines 2 and 3. Ammonium nitrate for ordnance was produced at the plant from March to May 1943. During the last quarter of 1944, all remaining ammonium nitrate was shipped out as surplus. The plant then produced grained ammonium under an emergency fertilizer production program from 1945 to 1949. The plant has not been used to produce ammonium nitrate since 1950 and is currently used as private pasture (Donohue, 1992a).

In 1953, the Army Environmental Health Laboratory performed a study to determine residual effects from nitrate waste disposal practices on lakes, streams, and groundwater. The study concluded that at the time, no residual nitrate problem existed in the surface water and groundwater at the site (ESE, 1983).

Section 1.4.16 Geophysical Anomaly at Load Line 3

The Confirmation Study (USACE, 1987) identified a 40-foot by 50-foot geophysical anomaly prior to installing MW-14 at Load Line 3. It was reported that the southern extent of the anomaly could not be determined due to interference from overhead power lines which crossed the site in a southwesterly direction (USACE, 1987). The anomaly may be a buried utility.

Section 1.4.17 Underground Storage Tanks at the Former Administration, Bomb Booster, and Atlas Missile Areas, and Former Air Force Global Communications Center

The former Administration Area is located in the northwest corner of the Site. This area was used to support activities at the Site beginning in late 1942 and continuing through 1964. Activities at the former Administration Area which may have utilized USTs, included locomotive, vehicle and equipment maintenance and chemical storage. A potential grouping of 6 fuel oil USTs have been identified from as-built drawings (Giffels and Vallet, Inc., 1942) west of the boiler building at the former Administration Area. The Boiler Building is no longer present at the Site. No previous investigation has been performed specifically regarding USTs in this area. Previous investigations at the former Administration Area included a soil gas survey (Law Environmental, 1990) and soil sampling for explosives, metals, and PCBs (USACE, 1991, and Donohue, 1992b). No PCBs were detected at the former Administration Area (USACE, 1991). No

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soil samples exceeded the Preliminary Remediation Goals (PRGs) for RDX (6.1 mg/kg), TNT (22 mg/kg), TNB (14 mg/kg), 2,4-DNT (0.98 mg/kg), or 2,6-DNT (0.98 mg/kg) (Donohue, 1992b). Chromium was found in concentrations greater than 5 times the background concentration (20.0 mg/kg) in one sample and lead was over 5 times background (13.0 mg/kg) in 6 samples in the drainage ditch associated with the laundry facility, which is in the southeast portion of the former Administrative Area (USACE, 1991). Five soil gas samples had concentrations of TCE, 1,1,1-TCA, and PCE up to 0.002 µg/L. These samples were located southeast of the former Administration Area buildings (Law Environmental, 1990). In addition, the former NOP laundry facility, located near the southwest corner of the former Administration Area, was evaluated in the EE/CA for OE removal at the former NOP. Explosives contaminated material was identified in a discharge pipe which carried effluent from the former NOP laundry facility and discharged to an open ditch located to the south. The explosives contamination will be remediated under OU1. Given that the explosive contamination will be remediated under future activities, no further action was recommended in the EE/CA report (Dames and Moore, 1996).

At the former Bomb Booster Assembly Area, two fuel oil storage tanks have been identified from as-built drawings (Giffels and Vallet, Inc., 1942) and during previous Site visits north of the Change House. No previous investigation has been performed specifically regarding USTs in this area.

The former Atlas Missile Area is located approximately 1 mile north of Load Lines 3 and 4. Construction on the missile complex began in 1959 and lasted for approximately 18 months. The area was used by the U.S. Air Force to house 3 missile silos and a control area. TCE was used to degrease pipelines which carried liquid oxygen fuel for the missiles. The Atlas Missile Area was abandoned by the Air Force in 1964 (USACE, 1991). No previous investigation has been performed specifically regarding USTs in this area.

Three fuel oil storage tanks at two separate locations were identified from drawings of the former Air Force Communications Center (currently called the ARDC Agronomy Area). The former Air Force Communications Center is located to the east and slightly south of Load Line 3. The University of Nebraska purchased the Offutt Communications Annex, which is now known as the ARDC Agronomy Building (ESE, 1983). No previous investigation has been performed specifically regarding USTs in this area.

The OU3 RI was conducted in two phases. Phase I included shallow and deep soil sampling, surface water and sediment sampling, wipe sampling, HydroPunch® groundwater sampling, geophysical surveys. Phase II included additional shallow and deep soil sampling, HydroPunch® groundwater sampling, and surface water sampling. The OU3 RI was conducted by W-C from January to April 1995 (Phase I) and during May and July 1996 (Phase II).

As part of the OU3 RI Phase I investigation, approximately 1,435 soil samples were collected during Phase I from various OU3 RI investigation areas located throughout the Site. Because the OU3 RI field investigation preceeded the completion of the EE/CA for OE removal at the former NOP, OE avoidance surveys were performed at 10 of the OU3 investigations areas strictly as precautionary measures and in accordance with the Site Health and Emergency Response Plan (W-C, 1994e). Under the EE/CA, seven locations were identified as warranting future evaluation for removal action. These locations included the former NOP laundry facility in the former Administration Area, sewer system at the bomb load lines, Demolition Area (referred to in the EE/CA as the Culvert Area), Turnout Area near the newly constructed ARDC building, former NOP Landfill, Proving Grounds, North Burning Ground, and the former Bomb Booster Assembly Area. The EE/CA report (Dames & Moore, Inc., 1996) recommended a "no further action" alternative for the Proving Grounds, North Burning Ground, former Bomb Booster Assembly Area, and the former NOP laundry facility. A "surface clearance and limited subsurface clearance based on land use" was the recommend alternative for the Demolition Grounds. None of the remaining OU3 investigation areas were identified in the EE/CA report as areas with the potential to create a risk to public safety from OE.

Surface geophysical surveys were conducted at 10 investigation areas. Four locations along Johnson Creek and 2 locations along Silver Creek were sampled for surface water and sediment. Approximately 312 wipe samples were collected from individual Load Line Bomb Production Buildings and from individual igloos located at the two former Raw Products Igloo Storage Areas. Two shallow groundwater monitoring wells were installed and sampled, in addition to the 40 existing groundwater monitoring wells that were sampled during the Site-Wide Groundwater Monitoring Program to support the OU3 RI. These existing monitoring wells and associated parameters are listed in **Table 2-1**. Existing monitoring well clusters sampled to evaluate background groundwater quality consisted of MW-19A, MW-19B, MW-19C, MW-47A, MW-47B, MW-48A, MW-48B and MW-48D. Each of these background wells were sampled as part of the Site-Wide Quarterly Groundwater Monitoring Program and analyzed for explosives, metals, VOCs, SVOCs, Thiodyglycol, Nitrates plus Nitrites, total nitrate, and PCBs. Four HydroPunch® groundwater samples were collected at four UST investigation areas. And finally, as part of the OU3 RI Phase I investigation, a containerized potentially hazardous waste inventory was conducted at all former DoD buildings at the Site.

During the Phase I investigation, a temporary field office trailer was mobilized to the Site and set up at the north-end of Load Line 2. Water for drilling and decontamination was obtained from a hydrant connected to the Mead public water supply upgradient of the Site.

During Phase II, approximately 189 soil samples were collected to either address Phase I field sampling errors or to further define the extent of contamination at two investigation areas. Additional surface water sampling was conducted at eight locations along Johnson and Clear Creeks, and four locations along Silver Creek for confirming the presence and seasonal

variability of contamination and for determining the extent of contamination. In addition to the surface water sampling, physical habitat surveys were also conducted along Johnson, Clear, and Silver Creeks. Two new UST areas were investigated during the Phase II investigation, for which, surface geophysical surveys were performed and seven soil samples and one HydroPunch® groundwater sample was collected at each of the UST investigation areas.

During the Phase II investigation, a temporary field office trailer was mobilized to the Site and set on the west side of Load Line 2. Water for decontamination was obtained from a hydrant connected to the Mead public water supply upgradient of the Site.

Field equipment, drilling, and all sampling were in accordance with the CDAP Part II (W-C, 1994), which describes procedures for shallow soil sampling (Sections 2.2 and 2.3), deep soil sampling (Section 2.4), wipe sampling (Section 2.5), high explosives field screening (Section 2.6), surface water sampling (Section 2.7), sediment sampling (Section 2.8), groundwater monitoring well installation and development (Section 2.9), monitoring well sampling (Section 2.10), and HydroPunch® drilling and sampling (Section 2.11). Non-intrusive field activity procedures; such as the containerized potentially hazardous waste inventory of buildings, surface geophysical survey and OE avoidance survey, are described in Section 2.1 of CDAP Part II. This section includes a brief description of the field procedures and any deviations from or elaborations to the field protocols contained in CDAP Part II. Analytes, sample containers, preservation procedures, decontamination procedures, sample labeling, chain-of-custody, packing and transportation were in accordance with Sections 4.0, 5.0, 7.0, and 8.0. Borings for well installation were logged on USACE Hazardous and Toxic Waste (HTW) log forms by a W-C geologist or engineer in accordance with W-C procedures, which are modeled after ASTM D2488-90 procedures.

With the exception of soil and wipe sampling locations at the Load Line Bomb Production Buildings and the former Raw Products Igloo Storage Areas, and surface water/sediment sampling locations along Johnson, Clear, and Silver Creeks, all Phase I and Phase II sampling locations were surveyed for surface elevation and coordinates by Batheja and Associates. VOC, SVOC, TRPH, BTEX, and PBCs were analyzed by EMAX (formerly CKY) of Torrance, California. Metals and explosives were analyzed by CompuChem Laboratories (CCL) of Research Triangle Park, North Carolina. Quality Assurance (QA) samples were analyzed by the USACE Missouri River Division (MRO-LB-D) laboratory in Omaha, Nebraska. All analyses were performed in accordance with the CDAP Part III (W-C, 1994).

The following OU3 investigation area-specific discussions on Phase I and/or Phase II investigation activities includes the media, intervals, quantities, and locations of samples collected; general field procedures used; and any deviations from the original sampling plans presented in CDAP Part I (W-C, 1994b) and CDAP Part II (W-C, 1994c). The analytical and preparation methods for soil, sediment, wipe sampling, surface water, and groundwater (including HydroPunch® groundwater sampling), are presented in **Table 2-2**.

2.1 LOAD LINE BOMB PRODUCTION BUILDINGS

2.1.1 Shallow Soil Sampling Adjacent to Buildings

Shallow soil samples adjacent (within a 5-foot distance perpendicular to the exterior walls) to the Bomb Production Buildings at all 4 load lines were collected between January 9 and 28, 1995. Sampling locations were in front of doorways and immediately adjacent to the approximately 1-foot wide concrete drainage on the east and west side of the building, and also along the north-and- south- facing walls adjacent to the building. Shallow soil samples were collected from 0 to 6 inches bgs and from 1 to 2 feet using a hand auger. All of the samples were analyzed for explosives and metals. Because of field error, adjacent soil samples at the Load Line 1 West and East Cooling Buildings were not collected during the Phase I investigation. Therefore, additional soil sampling was performed on May 16, 17, and 21, 1996. All OU3 RI shallow soil sampling locations adjacent to individual Bomb Production Buildings are presented on **Drawings 2-2** through **2-56.**

As presented in the CDAP Part I (W-C, 1994b), it was intended that shallow soil samples would be collected from 77 locations (with 2 sample depths from each location) at each of the 4 load lines. However, due to the presence of physical obstructions which prevented the access to some sampling locations, not all samples from each of the load lines were collected. Whenever an obstruction was encountered, an attempt was made to offset the proposed sampling location to within a 10-foot radial distance from its original location. For those locations where a sample could not be obtained within the 10-foot sampling limits, the results obtained from surrounding locations were evaluated and determined to provide adequate coverage to characterize the general area.

The following table presents a summary of the shallow soil samples adjacent to the Bomb Production Buildings that were not collected during the investigation and presents the reasons the samples were not collected:

SHALLOW SOIL SAMPLES ADJACENT TO LOAD LINE BOMB PRODUCTION BUILDINGS NOT COLLECTED DURING THE OU3 RI

Load Line	Sample I.D.	General Location	Number of Samples	Reason Sample Was Not Collected
Load Line 1	B1A-041	Northwest corner of West Cooling Building	2	Access restricted by fenced OU1 investigation area
Load Line 1	B1A-063	Southwest corner of TNT Pouring Building	2	Auger refusal due to concrete
Load Line 1	B1A-073	North side of TNT Screening Building	2	Auger refusal due to concrete
Total for Load Line 1			**6**	

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Load Line	Sample I.D.	General Location	Number of Samples	Reason Sample Was Not Collected
Load Line 2	B2A-073	North side of TNT Screening Building	2	Auger refusal due to concrete
Total for Load Line 2			**2**	
Load Line 3	B3A-063	Southwest corner of TNT Pouring Building	2	Auger refusal due to concrete
Load Line 3	B3A-073	North side of TNT Screening Building	2	Auger refusal due to concrete
Load Line 3	B3A-077	North side of South TNT Service Building	2	Auger refusal due to concrete
Total for Load Line 3			**6**	
Load Line 4	B4A-042	North side of East Cooling Building	2	Auger refusal due to concrete
Load Line 4	B4A-063	Southwest corner of TNT Pouring Building	2	Auger refusal due to concrete
Load Line 4	B4A-073	North side of TNT Screening Building	2	Auger refusal due to concrete
Load Line 4	B4A-077	North side of South TNT Service Building	2	Auger refusal due to concrete
Total for Load Line 4			**8**	
TOTAL NUMBER OF SHALLOW ADJACENT SAMPLES NOT COLLECTED			**22**	

2.1.2 Soil Sampling Beneath Buildings

Concrete coring for the soil samples collected beneath the buildings was performed between January 25 and February 9, 1995. The soil samples were collected from beneath the building floors between January 30 and February 11, 1995. Soil samples collected beneath the flooring were taken from the uppermost 1-foot of native soil located below the flooring and associated fill material (if any) using a hand auger. All of the samples were analyzed for explosives and metals. Because of field error, the two samples beneath the Load Line 2 TNT Screening Building were not collected during the Phase I investigation. Therefore, additional sampling was performed on May 16, 1996 at the Load Line 2 TNT Screening Building. All OU3 RI sampling locations for soils collected beneath individual Bomb Production Buildings are presented on **Drawings 2-2** through **2-56.**

As presented in the CDAP Part I (W-C, 1994b), it was intended that 38 beneath soil samples would be collected from each load line. At Load Lines 1, 2 and 3, all 38 samples were collected

as planned. At Load Line 4, one sample location (B4B-008) was not collected because of auger refusal due to an obstruction which appeared to be a piece of lumber in a portion of the hole.

2.1.3 Wipe Sampling of Interior Building Surfaces

Wipe samples were collected between January 10, 1995 and February 14, 1995. Wipe samples were collected from the interior wall and floor surfaces of individual Load Line Bomb Production Buildings. All of the samples were analyzed for explosives. A number of the laboratory results for wipe samples collected during the Phase I investigation were assigned an "R" qualifier, indicating that the results were rejected. Therefore, resampling at wipe sampling locations with rejected data results was performed on August 3, 1995. All OU3 RI wipe sampling locations at the individual Bomb Production Buildings are presented in **Drawings 2-2** through **2-56.**

As presented in the CDAP Part I (W-C, 1994b), it was intended that 78 wipe samples would be collected at each of the 4 load lines. At Load Lines 3 and 4, 78 samples were collected as planned. At Load Line 1, 8 wipe samples were not collected because the walls have been removed from the Nose Pouring Building and the East Cooling Building. At these buildings, only the center floor and the discretionary floor samples were collected. At Load Line 2, six wipe samples were not collected because the TNT Screening Building had been completely removed.

2.2 LOAD LINE PAINT OPERATION AREAS

2.2.1 Shallow Soil Sampling

Shallow soil samples were collected between January 11 and 29, 1995. Shallow soil samples were collected from 0 to 6 inches bgs and from 1 to 2 feet bgs using a hand auger. All of the samples were analyzed for metals. All OU3 RI sampling locations at the Paint Operation Areas are presented on **Drawings 2-58** through **2-68**.

As presented in the CDAP Part I (W-C, 1994b), it was intended that samples would be collected from 29 locations (58 total samples at 2 depth intervals) at each load line. All of the samples at Load Lines 1 and 4 were collected as planned. At Load Lines 2 and 3, samples from P2A-014 and P3A-014 (on the east side of the Paint Storage and Mixing Building) were not collected because the areas were covered with a concrete sidewalk.

2.2.2 Groundwater Sampling At Existing Monitoring Wells

Groundwater sampling of existing monitoring wells was performed to identify whether metals are present in the groundwater downgradient of the Load Line Paint Operation Areas. The monitoring well locations are shown on **Drawing 2-69**. The groundwater samples collected from these existing wells were collected in December 1994 and in March 1995 as part of the on-going Site-Wide Groundwater Monitoring Program. Samples were analyzed for total and dissolved metals.

2.3 FORMER RAW PRODUCTS IGLOO STORAGE AREAS

2.3.1 Initial High Explosive Screening and Confirmation Sampling

Samples for HE screening were collected from two locations adjacent to each igloo located within the two former Raw Products Igloo Storage Areas. The HE Screening samples were collected between January 9 and 18, 1995. At each igloo, the samples were collected approximately 5 feet north of the concrete abutment at the entry-side corners of the igloos (**Drawing 2-70** and **Drawing 2-71**) using a hand auger. Each shallow sample consisted of soil collected from 0 to 1-foot bgs. Each sample was split with one sample used for HE screening and one sample retained for possible laboratory confirmation analysis.

With 56 igloos remaining at the two former Raw Products Igloo Storage Areas, it was intended that a total of 112 soil samples (two at each igloo) would be collected for HE screening. However, at 2 locations (IGS-100 and IGS-111), samples were not collected due to the presence of rock and/or concrete immediately below the ground surface. Therefore, the total number of samples collected for HE screening was 110. The locations of the OU3 RI confirmation sampling locations at the former Raw Products Igloo Storage Areas are presented on **Drawing 2-70** and **Drawing 2-71**.

From the group of samples displaying negative (below 0.5 parts per million (ppm)) HE screening results, 12 samples (approximately 10 percent) were randomly selected to be submitted for laboratory confirmation analyses. The purpose of submitting the samples with negative results was to confirm the results obtained during the HE screening process. As presented in Section 4.17.3.1 of the CDAP Part I (W-C, 1994b), it was intended that the confirmation samples would be analyzed for explosives and metals, however, because of field error, the samples were analyzed for explosives only. Therefore, resampling for metals analysis at the 12 confirmation sampling locations was performed on May 16, 1996 using a hand auger. The samples submitted for explosive and metals analysis were as follows:

IGN-031	IGN-056	IGN-084
IGN-032	IGN-060	IGN-106
IGN-036	IGN-080	IGN-107
IGN-040	IGN-081	IGN-109

2.3.2 Additional High Explosive Screening and Soil Sampling

Two samples displayed positive results using the HE screening method. Therefore, five additional soil samples were collected near each of the original sample locations (10 samples total) using a hand auger. Although the additional sampling was not included as part of the Phase I investigation CDAP I, the sampling was performed during the Phase I investigation (while the field HE screening laboratory was set up and operating) in order to define the lateral and vertical extent of contamination in these areas.

The additional soil samples were collected on January 17, 1995. Each of the ten samples was split, with one sample used for HE screening and one sample submitted to the laboratory for

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explosives analysis. The locations of the OU3 RI additional samples are presented on **Drawing 2-72** and **Drawing 2-73**. The additional sample locations are summarized in the following table:

Confirmation Sample I.D.	General Location	Sample Depth (feet bgs)
IGS-073-000	At original IGS-073 location	0-0.5
IGS-073-001	At original IGS-073 location	1-2
IGS-073-004	At original IGS-073 location	4-5
IGS-073-00A	Approx. 20 feet NE of IGS-073	0-0.5
IGS-073-01A	Approx. 20 feet NE of IGS-073	1-2
IGS-039-000	At original IGS-039 location	0-0.5
IGS-039-001	At original IGS-039 location	1-2
IGS-039-004	At original IGS-039 location	4-5
IGS-039-00A	Approx. 20 feet E of IGS-039	0-0.5
IGS-039-01A	Approx. 20 feet NE of IGS-039	1-2

The additional samples collected at the original positive HE screening locations were intended to provide data on the vertical extent of contamination. The samples collected to the northeast of the original sampling location were collected to provide data on the horizontal extent of contamination.

2.3.3 Wipe Sampling

Wipe samples were collected from the floors of the 20 igloos north of Load Line 2 on January 10, 1995 and from the 36 igloos north of Load Line 3 on January 16, 1995. All of the samples were analyzed for explosives (**Drawing 2-70** and **Drawing 2-71**).

2.4 FORMER TETRYL PELLETING AREA

Soil samples at the former Tetryl Pelleting Area were collected on January 30, 1995. Sampling locations were in front of doorways and immediately adjacent to the approximately 1-foot wide concrete drainage on the east side of the building. Shallow soil samples were collected at 6 locations from 0 to 6 inches bgs and from 1 to 2 feet bgs using a hand auger. All of the samples were analyzed for explosives and metals. Accuracy was impacted by the rejection of 8 tetryl results and 8 antimony results based on low LCS and matrix spike recoveries, respectively. Therefore, resampling for tetryl in soil was performed on August 31, 1995 to address the rejected tetryl results. All OU3 RI sampling locations at the former Tetryl Pelleting Area are presented on **Drawing 2-74**.

2.5 NORTH BURNING GROUND

2.5.1 Ordnance and Explosive Avoidance Survey

The OE avoidance survey was performed within the investigation area boundary on March 3 and 17, 1995. The survey was performed for 10-foot access lanes between the shallow soil sampling locations and at the sampling locations to a depth of 2 feet bgs. A Schonstedt GA-72CV was used to perform the clearance to the 2-foot depth. A 60-foot "key hole" access lane was cleared to each of the 2 shallow and deep soil sampling locations for drill rig access with the Schonstedt GA-72CV. Downhole clearance at each boring location was done with the MK 26 Ordnance Locator to a depth of 15 feet bgs. No ordnance items or explosive materials were detected during the OE avoidance survey conducted at the North Burning Ground. The OE avoidance survey report is presented in **Appendix B**.

2.5.2 Shallow and Deep Soil Sampling

Soil samples were collected between March 26 and 29, 1995. Shallow soil samples were collected at twelve sampling locations (NGA-001 through NGA-012) from 0 to 6 inches bgs and 1 to 2 feet bgs using a hand auger. At 2 of the 12 sampling locations (NGA-005 and NGA-007), deep soil samples were obtained from 4 to 5 feet bgs and 9 to 10 feet and 19 to 20 feet bgs by hollow-stem drilling and split-spoon sampling. Because the nature and extent of explosive-contaminated soil was addressed during the OU1 RI, no explosives analyses were conducted on soils collected at the North Burning Ground investigation area. The boring logs are presented in **Appendix E.** All of the samples were analyzed for metals, VOCs and SVOCs. All OU3 RI sampling locations at the North Burning Ground are presented on **Drawing 2-75**.

2.6 SOUTH BURNING GROUND

2.6.1 Ordnance and Explosive Avoidance Survey

The OE avoidance survey was performed within the investigation area boundary on March 10, 1995. The OE avoidance survey was performed to clear access for personnel and equipment necessary to collect the shallow soil samples in the area using a Schonstedt GA-72CV to 3 feet bgs. No ordnance items or explosive materials were detected during the OE avoidance survey conducted at the South Burning Ground. The OE avoidance survey report is presented in **Appendix B**.

2.6.2 Shallow Soil Sampling

Shallow soil samples were collected between March 23 and 28, 1995. Samples were collected at 17 sampling locations (SGA-001 through SGA-017) from 0 to 6 inches bgs, 1 to 2 feet bgs, and from 2 to 3 feet bgs using a hand auger. Samples were collected from the 2 to 3 feet bgs interval because the area is currently used for crop production and the shallow soils (less than 2 feet bgs) are tilled. Because the nature and extent of explosive-contaminated soil was addressed during the OU1 RI, no explosives analyses were conducted on soils collected at the South Burning

Ground investigation area. All of the samples were analyzed for metals, VOCs, and SVOCs. All OU3 RI sampling locations at the South Burning Ground are presented on **Drawing 2-76.**

2.7 PROVING GROUNDS

2.7.1 Ordnance and Explosive Avoidance Survey

The OE avoidance survey was performed within the investigation area boundary on March 15, 1995. The intention was to clear access routes for the personnel and equipment necessary to collect the shallow samples and drill and sample the deep soil borings in the area. However, as the OE avoidance survey was performed with the Schonstedt GA-72CV, it was evident that the area was "saturated" with metallic contacts at or below the surface. For this reason, it was not possible to clear access lanes of sufficient width to allow the drilling equipment to enter the area. As a result, the MK-26 (Forrester) was used to mark approximately nine locations that were clear for access by sampling personnel.

Because the area could not be accessed by drilling equipment, samples at the 2 deep borings were collected with hand auger equipment on March 24, 1995. Downhole clearance with the MK-26 (Forrester) was performed as the borings were advanced with the hand auger equipment. Each of the borings was cleared to a depth of 10 feet bgs.

2.7.2 Shallow and Deep Soil Sampling

Soil samples were collected at 6 sampling locations (PG-001 through PG-006). Shallow soil samples were collected from 0 to 6 inches bgs and from 1 to 2 feet bgs at each of the 6 sampling locations on March 24 and April 3, 1995 using a hand auger. At 2 of the 6 sampling locations (PG-001 and PG-005) deep soil samples were also collected from 4 to 5 feet and from 9 to 10 feet bgs on March 24, 1995. As outlined above in the description of the OE avoidance survey, the area was essentially "saturated" with metallic contacts at or near the ground surface. Therefore, it was not possible to clear access lanes of sufficient width to allow the drilling equipment to enter the area. As a result, sampling to 20 feet bgs using a drill rig could not be performed, and therefore, all deep soil samples were collected by hand augering. The 19- to 20-foot samples were not collected due to auger refusal at 10 feet bgs. All of the samples were analyzed for metals, VOCs, and SVOCs. Because the nature and extent of explosive-contaminated soil was addressed during the OU1 RI, no explosives analyses were conducted on soils collected at the Proving Grounds investigation area.

As presented in Section 4.6 of the CDAP Part I (W-C, 1994b), it was planned that soil samples would be collected at a total of 9 sampling locations (six shallow-only locations and 3 locations with both shallow and deep samples). Three of the proposed sampling locations (PG-008 through PG-010) were located in the eastern portion of the Proving Grounds. At the time the field investigation was performed, the eastern portion of the Proving Grounds was inundated by the western portion of the NRD Reservoir. In order to access the eastern sampling locations as planned, water was released from the reservoir at the maximum flow rate from early February through the end of the field investigation. At the time that the Phase I investigation sampling was performed, the western shore of the reservoir had only receded approximately 15 to 20 feet.

As a result, the 3 eastern-most sampling locations were still inundated by the reservoir, and therefore, were not sampled. After a period of time, the reservoir receded sufficiently to allow additional sampling to be performed. Additional Phase II soil sampling was performed on May 14, 1996 at 3 locations not sampled during the Phase I investigation. In addition to these 3 sampling locations, an additional location (PG-007) was selected and sampled to obtain shallow and deep (to 10 feet bgs) soil samples to provide greater coverage of the investigation area (W-C, 1996a). All of the samples were analyzed for metals, VOCs, and SVOCs. All OU3 RI sampling locations at the Proving Grounds are presented on **Drawing 2-77**.

During the Phase I field investigation, information on possible drum disposal in the vicinity of the Proving Grounds was received from a former U.S. Air Force employee (Mr. Leon Freeborn) who had worked at the Site. The employee recalled that drums of carbon tetrachloride were disposed of in the general vicinity of the Proving Grounds. It was therefore recommended that a formal interview with the employee be scheduled and conducted to obtain more information on the details of the alleged drum disposal. A telephone interview was conducted on March 6, 1996 to discuss the issue. Mr. Freeborn stated that, prior to a site inspection by the Inspecting General, he would assist others in removing materials/supplies that weren't being used. This material included unused and sealed 55-gallon drums of carbon tetrachloride and drums of acetone. He stated that the drums were loaded onto a truck and taken to the Army's dump site. The dump site was a slip trench approximately 150 to 200 yards running east-west in the area of the Proving Grounds. Over a period of approximately 2 to 3 years, Mr. Freeborn said that they dumped probably 3 to 4 truck loads of drums (6 or 7 drums per truck load) at that dump site which he believes is now partially covered by the NRD Reservoir. The material was dumped into an open area that was "up the hill" from Johnson Creek. He believes that the west end of the current reservoir shoreline would be in the same general location as the eastern end of the slip trench. Other materials dumped there included radio parts, used oil (approximately 10-20 barrels), kitchen waste, and other debris. Mr. Freeborn said that this dumping site was also used as the primary dump site by the Army during the same time period. Following the telephone interview, a Site visit was performed in attempt to identify the location of past dumping. Mr. Freeborn could not identify the specific or general location of past dumping. Therefore, these past dumping practices could not be confirmed.

2.7.3 Groundwater Sampling At Newly Installed Monitoring Well

A monitoring well on the east side of the NRD Reservoir (MW-64B) was installed on March 10, 1995 (**Drawing 2-69**). The boring log is presented in **Appendix D**. The installation details are presented on the monitoring well installation report in **Appendix E.** MW-64B was sampled in June, 1995 as part of the Site-Wide Groundwater Monitoring Program. The parameters of analysis included explosives, total metals, dissolved metals, VOCs, and SVOCs.

One of the objectives of the OU3 RI was to determine if the NRD Reservoir effects the local hydrologeology in a manner which prevents the exiting monitoring wells from providing groundwater samples which are representative of upgradient and downgradient conditions at the former NOP Landfill Area. Another objective was to obtain groundwater samples to determine the presence of contaminants in area east of the NRD Reservoir. Therefore, well MW-64B was place in a location to provide data which could be used in supporting both of these objectives.

Groundwater levels were measured in well MW-64B and all existing monitoring wells located in the vicinity of the NRD Reservoir as part of the Site-Wide Groundwater Monitoring Program. The groundwater levels measured in June 1995 have been converted to elevation values and are presented in **Table 2-3**. While the groundwater elevation data obtained from the existing wells and well MW-64B has limited use in evaluating the local effect of the NRD Reservoir, inferences can be made concerning any significant variations in the local groundwater gradients which might be attributed to the presence of the reservoir.

An evaluation of the effect of the NRD Reservoir was presented in the OU2 RI report (W-C, 1993a). The evaluation concluded that the NRD Reservoir has resulted in a locally elevated water table and increased hydraulic gradients. The water level measurements in MW-64B (on the east side of the NRD Reservoir), MW-11A (on the west side of the NRD Reservoir) and the water levels in the monitoring wells in the vicinity of the former NOP Landfill Area were used to calculate the hydraulic gradients between the NRD Reservoir and the former NOP Landfill Area. The hydraulic gradient on the west side of the NRD Reservoir was approximately 29 feet/mile and the hydraulic gradient on the east side of the Reservoir was approximately 14 to 16 feet/mile. Based on these water level measurements, it appears that the impact of the NRD Reservoir on the local hydrogeology is greater on the west side than on the east side. The OU2 RI report states that the hydraulic gradient outside of the influence of the NRD Reservoir ranges from 10 feet/mile in the northwest and southeastern portions of the Site to 17 feet/mile within ¾ mile of the edge of the Platte floodplain in the Johnson Creek watershed. The hydraulic gradient calculated using the water level in MW-64B is within the range for the Johnson Creek watershed.

Based on an evaluation of local groundwater gradients, there does not appear to be a significant effect on the local hydrogeology attributed to the presence of the NRD. Therefore, it is assumed that the monitoring wells placed in vicinity of the former NOP Landfill are representative of the site.

2.8 POTENTIAL LANDFILL AREA NORTH OF THE PROVING GROUNDS

2.8.1 Ordnance and Explosive Avoidance Survey

The OE avoidance survey at the Potential Landfill Area north of the Proving Grounds was performed on March 15, 1995. The intention was to clear access routes for the personnel and equipment necessary to collect the shallow samples and drill and sample the deep soil borings in the area. However, as the OE avoidance survey was performed with the Schonstedt GA-72CV, it was evident that the area was "saturated" with metallic contacts at or below the surface. For this reason it was not possible to clear access lanes of sufficient width to allow the drilling equipment to enter the area. As a result, sampling locations were not placed according to the CDAP and thus, the MK-26 (Forrester) was used to mark approximately 12 locations that were clear for access by sampling personnel (without vehicles).

Because the area could not be accessed by drilling equipment, samples at the 2 deep borings were collected with a hand auger on March 24, 1995. Downhole clearance with the MK-26 (Forrester) was performed as the borings were advanced with the hand auger. Each of the borings was cleared to a depth of 10 feet bgs. The OE avoidance survey report is presented in **Appendix B**.

2.8.2 Geophysical Survey

The geophysical survey was performed on March 20, 1995. The geophysical survey was performed to identify and delineate areas of possible or suspected waste disposal activities, and, if present, to a relocate sampling location(s) adjacent to an area(s) of subsurface anomalies. The survey was conducted using the Geonics EM-31 Terrain Conductivity Meter using a 20-foot grid node spacing. Sampling locations were not placed according to geophysical survey results as was the case with some other investigation areas. Locations had to be placed at points that were cleared for access, as discussed in Section 2.8.1

The results of the EM investigation conducted at the Potential Landfill Area north of the Proving Grounds are depicted in the Electromagnetic Contour Maps included in **Appendix C** for the quadrature response and inphase response. The results of the quadrature response indicate a rather steep gradient from terrain conductivity values of around 45 milliSiemens per meter on the west side of the site to around 8 milliSiemens per meter on the east side of the site. This gradient corresponds to variations in site topography from the relative topographic high along the slope on the west side of the site down to the shoreline of the lake on the east side of the site. The terrain conductivity gradient likely represents variations in soil types with elevation.

The inphase response map shows several bulls-eye shaped anomalies that are indicative of buried metallic objects. These anomalies are apparent in the west-central, northeastern and southeastern portions of the site. Some indications of these features are also apparent on the quadrature response map. These objects appear be indicative of buried waste including metal objects or debris in those areas.

2.8.3 Shallow and Deep Soil Sampling

Soil samples were collected from 6 sampling locations (PL-001 through PL-006). At each of the 6 locations, shallow soil samples were collected from 0 to 6 inches bgs and from 1 to 2 feet bgs on March 24 and April 3, 1995 using a hand auger. At two of the 6 shallow soil sampling locations (PL-002 and PL-006) deep soil samples were also collected from 4 to 5 feet and from 9 to 10 feet bgs on March 24, 1995. As outlined above in the description of the OE avoidance survey, the area was essentially "saturated" with metallic contacts at or near the ground surface. Therefore, it was not possible to clear access lanes of sufficient width to allow the drilling equipment to enter the area. As a result, sampling to 20 feet bgs using a drill rig could not be performed, and therefore, all deep soil samples were collected by hand augering. The 19- to 20-foot samples were not collected due to auger refusal at 10 feet bgs. All samples were analyzed for explosives, metals, VOCs, and SVOCs.

Elevated concentrations of several metals (especially lead and chromium) were detected in soil samples collected during Phase I near the surface and at depth at sampling location PL-001. Therefore, further sampling was conducted as part of a Phase II investigation to evaluate the vertical and horizontal extent of metals contamination in the vicinity of PL-001. The Phase II investigation sampling was conducted on May 14 and 15, 1996. At 3 locations (PL-007 through PL-009) shallow and deep soil samples (to 10 feet bgs) were collected to evaluate vertical and horizontal extent of contamination. At sampling location PL-001, deep soil sampling (to 10 feet bgs) was conducted to determine vertical extent of contamination. All samples were analyzed for

explosives, metals, VOCs, and SVOCs. All OU3 RI Phase I and Phase II sampling locations at the Potential Landfill Area north of the Proving Grounds are presented on **Drawing 2-78.**

2.9 FORMER NOP LANDFILL AREA

Existing monitoring wells sampled to determine whether thiodiglycol is present in the groundwater downgradient of the landfill consisted of MW-52A, MW-52B, MW-53A, MW-53B, MW-54A, MW-54B, MW-55A, MW-55B, MW-56A, and MW-56B. The locations of these monitoring wells are presented on **Drawing 2-79**. The groundwater samples were collected in September and December, 1994 and in March, 1995, in conjunction with the Site-Wide Groundwater Monitoring Program.

2.10 POTENTIAL WASTE DISPOSAL AREAS NORTH OF THE FORMER NIKE MAINTENANCE AREA

2.10.1 Ordnance and Explosive Avoidance Survey

The surficial OE avoidance survey was performed within the investigation area boundaries between March 1 and 3, 1995. The 3 areas were cleared visually and with the Schonstedt GA-72CV. No contacts were detected at either of potential waste disposal areas north of the current Nebraska National Guard parking lot. The third potential waste disposal area includes the current parking lot, an area of grass and trees to the west of the parking lot, and a small strip (approximately 20 to 25 feet wide) of land north of the parking lot (**Drawing 2-80**). No surficial OE avoidance survey was performed in the gravel parking lot. However, 169 metallic contacts were detected with the Schonstedt GA-72 CV in the grassy and wooded area to the west and within the small strip to the north of the parking lot. The contacts were flagged by the OE avoidance survey crew and avoided during intrusive sampling activities.

The downhole OE avoidance surveys were performed on March 19, 1995 at the 5 soil boring locations in the cultivated field at the 2 potential waste disposal areas north of the parking lot. The downhole clearance was performed with the MK-26 as a boring was drilled to 10 feet bgs with portable power auger equipment. The downhole clearances at the 2 soil borings in the parking lot were performed with the MK-26 while the borings were drilled and sampled on March 23, 1995. The OE avoidance survey is presented in **Appendix B**.

2.10.2 Geophysical Survey

The geophysical surveys were performed between March 8 and 11, 1995. The geophysical survey was performed to identify and delineate areas of possible or suspected waste disposal activities, and, if present, to a relocate sampling location(s) adjacent to an area(s) of subsurface anomalies. The survey was conducted using the Geonics EM-31 Terrain Conductivity Meter using a 20-foot grid node spacing. Prior to conducting the geophysical surveys and any drilling, a utility clearance was performed by the appropriate utility companies.

The results of the EM investigation conducted at the west disposal area are depicted in the Electromagnetic Contour Maps included in **Appendix C** for the quadrature response and inphase

response, respectively. The quadrature response map indicates a relatively large subcircular shaped anomaly apparent as an area of relatively low conductivity in the central portion of the site. This area corresponds to an approximately 2 to 3 feet high mound in that portion of the site. This area is also apparent on the inphase response map as a series of anomalies indicating that metal objects are buried beneath the mound. The maps also indicate a dipole anomaly (characterized by adjacent areas of relative high and low relative low readings) on the southwest edge of the mound that also likely indicates a buried metal object or objects. These results appear to indicate that wastes were disposed and buried within the mound area.

The results of the EM investigation conducted at the east disposal area are depicted in the Electromagnetic Contour Maps included in **Appendix C** for the quadrature response and inphase response. These maps indicate a linear shaped anomaly that trends southeast/northwest across the central portion of the site. The quadrature response map shows several relatively broad features that represent relatively subtle variations in terrain conductivity across the site. These features likely represent variations in the properties of subsurface soils rather than being indicative of buried waste.

The results of the EM investigation conducted at the south potential waste disposal area are depicted on the Electromagnetic Contour Maps included in **Appendix C** for the quadrature response and inphase response. These maps show several anomalies indicative of metal objects across the site. However, these anomalies appear to result from known surface features such as reinforced concrete parking curbs and pavement rather than being indicative of buried waste.

At the western potential waste disposal area, the two proposed sampling locations were placed to the south of a subsurface anomaly identified in the central portion of the investigation area. The three proposed sampling locations for the eastern waste disposal area were placed adjacent to and along a north-south trending subsurface anomaly identified in the central portion of the investigation area. For the southern disposal area, one sampling locations was placed to the east of the grassy and wooded area to address potential contamination from that area. The second proposed sampling location was placed in the parking lot. Both sampling points were located appropriately to address potential contamination in the southern potential waste disposal area.

2.10.3 Shallow and Deep Soil Sampling

Shallow and deep soil samples were collected from 7 sampling locations (NM-001 through NM-007) between March 20 and March 23, 1995. Each shallow soil sample was collected in conjunction with the drilling activities for the deep soil samples. Seven soil borings were drilled to 20 feet bgs. At each of the 7 borings, soil samples were collected from 0 to 6 inches, 1 to 2 feet, 2 to 3 feet, 4 to 5 feet, 9 to 10 feet, and 19 to 20 feet bgs by hollow-stem drilling and split-spoon sampling. The boring logs for the 7 borings are presented in **Appendix E**. All of the samples were analyzed for explosives, metals, VOCs, and SVOCs. The 7 OU3 RI soil sampling locations at the Potential Waste Disposal Areas north of the former Nike Maintenance Area are presented on **Drawing 2-80**.

COE 010040

MECOEK 10841

2.10.4 Groundwater Sampling At Existing Monitoring Wells

Groundwater samples were collected from existing monitoring wells MW-22A and MW-22B to evaluate whether the groundwater downgradient of the investigation area has been impacted by past activities. The locations of the monitoring wells are presented on **Drawing 2-69**. The groundwater samples collected from these existing monitoring wells were collected on December 17, 1994 as part of the on-going Site-Wide Groundwater Monitoring Program. Groundwater samples were analyzed for explosives, total and dissolved metals, VOCs, and SVOCs.

2.11 POTENTIAL WASTE DISPOSAL AREA SOUTHEAST OF THE FORMER BOMB BOOSTER ASSEMBLY AREA

2.11.1 Ordnance and Explosive Avoidance Survey

The OE avoidance survey was performed within the investigation area boundary on March 4, 18, and 19, 1995. The OE avoidance survey was performed to clear access routes for personnel and equipment necessary to lay out the geophysical grid area, conduct the geophysical survey, collect the shallow soil samples, and drill and sample the deep soil borings in the area.

Initially, an OE avoidance survey was performed over the entire investigation area. In addition, an OE avoidance survey was performed for 10-foot access lanes between the shallow soil sampling locations and at the shallow soil sampling locations themselves to a depth of 3 feet bgs. A Schonstedt GA-72CV was used to perform the clearance to the 3-foot bgs depth. Sixty-foot "key hole" access lanes were cleared to each of the 4 shallow and deep soil sampling locations for drill rig access with the Schonstedt GA-72CV. Downhole clearance at each boring location was performed with the MK 26 Ordnance Locator to a depth of 10 feet bgs.

No ordnance items or explosive materials were found during the OE avoidance survey conducted at the Potential Waste Disposal Area southeast of the former Bomb Booster Assembly Area. The OE avoidance survey is presented in **Appendix B**.

2.11.2 Geophysical Survey

The geophysical survey of the area was conducted on March 10 and 11, 1995. The geophysical survey was performed to identify and delineate areas of possible or suspected waste disposal activities, and, if present, to a relocate sampling location(s) adjacent to an area(s) of subsurface anomalies. The survey was conducted using the Geonics EM-31 Terrain Conductivity Meter using a 20-foot grid node spacing. The geophysical survey was conducted within the boundaries presented on **Drawing 2-81**.

The results of the EM investigation conducted at the Potential Waste Disposal Area southeast of the former Bomb Booster Assembly Area are depicted in the Electromagnetic Contour Maps included in **Appendix C** for the quadrature response and inphase response. The linear shaped, east trending anomaly apparent in the south-central portion of the site likely indicates buried wastes including metal objects. The bulls-eye shaped anomaly apparent on both maps approximately 200 feet south of the linear anomaly may also represent buried waste. The

remaining variations in quadrature and inphase response apparent on the maps appear to result from variations in soil properties across the site rather than being indicative of buried wastes.

The five northern-most proposed locations were placed according to the CDAP Part I investigation area drawing. The remaining three proposed sampling locations to the south were placed around a subsurface anomaly identified during the geophysical survey.

To better illustrate the relationship between the geophysical results and the placement of sampling location, all OU3 RI sampling locations are shown on individual Site electromagnetic contour maps in **Appendix C**.

2.11.3 Shallow and Deep Soil Sampling

Soil samples were collected at 8 sampling locations (BB-001 through BB-008). Shallow soils were collected at each of the 8 sampling locations on March 26, 1995. Because the area is currently used for crop production, at each shallow sampling location , samples were collected from 0 to 6 inches, 1 to 2 feet, and 2 to 3 feet bgs using a hand auger. At 4 of the soil sampling locations (BB-001, and BB-006 through BB-008), deep soil samples were collected from 4 to 5 feet, 9 to 10 feet bgs, and from 19 to 20 feet bgs on March 23 and 24, 1995 by hollow-stem drilling and split-spoon sampling. The soil boring logs are presented in **Appendix D.** All soil samples were analyzed for explosives, metals, VOCs, SVOCs, and PCBs. All OU3 RI sampling locations at the Potential Waste Disposal Area southeast of the former Bomb Booster Assembly Area are presented on **Drawing 2-81.**

2.11.4 Groundwater Sampling At Existing Monitoring Wells

Groundwater samples were collected from existing monitoring well MW-57B to evaluate whether the groundwater downgradient of this investigation area has been impacted by past activities at the site. The location of the monitoring well is presented on **Drawing 2-69**. Groundwater samples were collected from MW-57B in December, 1994 during the Site-Wide Groundwater Monitoring Program. The groundwater samples were analyzed for explosives, total and dissolved metals, VOCs, SVOCs, and PCBs.

2.12 POTENTIAL WASTE DISPOSAL AREAS AT THE FORMER ATLAS MISSILE AREA

2.12.1 Ordnance and Explosive Avoidance Survey

The OE avoidance survey was performed within the investigation boundaries on March 6, 7, 8, and 23, 1995. The OE avoidance survey was performed to clear access routes for personnel and equipment necessary to lay out the geophysical grid areas, conduct the geophysical survey, collect the shallow soil samples, and drill and sample the deep soil borings in the area.

An OE avoidance survey was performed over the both areas to a depth of 2 feet bgs with a Schonstedt GA-72CV. Downhole clearance at each boring location was performed with the MK-26 Ordnance Locator to a depth of 10 feet bgs.

A large area with surface metal debris in the northeast potential waste disposal area was flagged off and no OE avoidance survey was conducted there. The area appeared to contain old car parts, fencing, wire, and other metal debris. No ordnance items or explosive materials were found during the OE avoidance survey. The OE avoidance survey report is presented in **Appendix B**.

2.12.2 Geophysical Survey

Geophysical surveys were conducted on March 20 and 21, 1995. The geophysical survey was performed to identify and delineate areas of possible or suspected waste disposal activities, and, if present, to a relocate sampling location(s) adjacent to an area(s) of subsurface anomalies. The surveys were conducted using the Geonics EM-31 Terrain Conductivity Meter using a 20-foot grid node spacing. The surveys were performed within the boundaries presented on **Drawing 2-82** and **Drawing 2-83**.

The results of the EM investigation conducted at the southwest disposal area are depicted in the Electromagnetic Contour Maps included in **Appendix C** for the quadrature response and inphase response. These maps show numerous anomalies across much of the site. However, these anomalies appear to be the result of known surface features including roads, utility lines, foundation slabs and manholes rather than being indicative of buried waste. No other anomalies potentially indicative of buried wastes are apparent based on the geophysical survey results.

The results of the EM investigation conducted at the northeast disposal area are depicted in the Electromagnetic Contour Maps included in **Appendix C** for the quadrature response and inphase response. These maps show numerous anomalies across much of the site. However, these anomalies appear to be the result of surface debris including metal objects and a 55-gallon drum rather than being indicative of buried waste. No other anomalies potentially indicative of buried wastes are apparent based on the geophysical survey results.

No subsurface anomalies were identified during the geophysical survey. Therefore, all proposed sampling locations were placed as shown on the site specific investigation drawings in the CDAP Part I.

2.12.3 Shallow and Deep Soil Sampling

Both shallow (from 0 to 6 inches and 1 to 2 feet bgs) and deep (from 4 to 5 feet, 9 to 10 feet, and from 19 to 20 feet bgs) soil samples were collected from 2 sampling locations (AM-001 and AM-002) at the southwest potential waste disposal area on March 27, 1995 by hollow-stem drilling and split-spoon sampling. At the 6 northeast potential waste disposal area sampling locations (AM-003 through AM-008), 3 of the locations (AM-004, AM-005, and AM-007) were sampled for shallow soils (from 0 to 6 inches and 1 to 2 feet bgs) on March 29, 1995 using a hand auger, while the remaining 4 locations (AM-003, AM-006, and AM-008) were sampled for both shallow and deep (from 4 to 5 feet bgs, 9 to 10 feet bgs, and from 19 to 20 feet bgs) soils samples on March 27, 1995 by hollow-stem drilling and split-spoon sampling. The soil boring logs for both the southwest and northeast potential waste disposal sites are presented in **Appendix D.** All soil samples were analyzed for explosives, metals, VOCs, and SVOCs. All OU3 RI soil sampling locations for the Potential Waste Disposal Areas at the former Atlas Missile Area are presented on **Drawing 2-82** and **Drawing 2-83**.

2.12.4 Groundwater Sampling At Existing Monitoring Wells

Groundwater samples were collected from existing monitoring wells MW-58A, MW-58B, MW-59A, MW-59B, and MW-59D to evaluate whether the groundwater downgradient of the investigation area has been impacted by past activities. The locations of the monitoring wells are presented on **Drawing 2-69**. Groundwater samples were collected in December, 1994 during the Site-Wide Groundwater Monitoring Program. The groundwater samples were analyzed for explosives, total and dissolved metals, VOCs, and SVOCs.

2.13 POTENTIAL WASTE DISPOSAL AREA NORTH OF THE FORMER AMMONIUM NITRATE PLANT

2.13.1 Ordnance and Explosive Avoidance Survey

The OE avoidance survey of the area was performed on March 4 and 21, 1995. The OE avoidance survey was performed to clear access routes for personnel and equipment necessary to lay out the geophysical grid area, conduct the geophysical survey, collect the shallow soil samples, and drill and sample the deep soil borings in the area.

An OE avoidance survey was performed for 10-foot access lanes between the shallow soil sampling locations and at the shallow soil sampling locations to a depth of 2 feet bgs. A Schonstedt GA-72CV was used to perform the clearance to the 2-foot depth bgs. Sixty-foot "key hole" access lanes were cleared at each of the 5 shallow and deep soil sampling locations, for drill rig access, with the Schonstedt GA-72CV. Downhole clearance at each boring location was performed with the MK-26 Ordnance Locator to a depth of 15 feet bgs.

No ordnance items or explosive materials were found during the OE avoidance survey conducted at the Potential Waste Disposal Area north of the former Ammonium Nitrate Plant. The OE avoidance survey report is presented in **Appendix B**.

2.13.2 Geophysical Survey

The geophysical survey of the area was conducted on March 12, 1995. The geophysical survey was performed to identify and delineate areas of possible or suspected waste disposal activities, and, if present, to a relocate sampling location(s) adjacent to an area(s) of subsurface anomalies. The survey was conducted using the Geonics EM-31 Terrain Conductivity Meter using a 20-foot grid node spacing. The survey was performed within the boundaries presented on **Drawing 2-84**.

The results of the EM investigation conducted at the Potential Waste Disposal Area north of the former Ammonium Nitrate Plant are depicted in the Electromagnetics Contour Maps included in **Appendix C** for the quadrature response and inphase response. The quadrature response map shows a relatively large anomaly of relatively high conductivity values in the central portion of the site. This features is also apparent from the inphase response results. However, the inphase response shows only very slightly elevated responses in this area and likely does not represent buried metal. The anomaly most likely results from variations in soil properties and it appears possible that the anomaly represents an area of earthfill or disturbed soil. The small dipole

anomaly at the southern edge of the inphase response map represents a fence. No other anomalies potentially indicative of buried wastes are apparent based on the geophysical survey results.

The two proposed sampling locations were placed adjacent to the large subsurface anomaly identified in the central portion of the investigation area. To better illustrate the relationship between the geophysical results and the placement of sampling location, all OU3 RI sampling locations are shown on individual Site electromagnetic contour maps in **Appendix C**.

2.13.3 Shallow and Deep Soil Sampling

Both shallow (from 0 to 6 inches and 1 to 2 feet bgs) and deep (from 4 to 5 feet, 9 to 10 feet, and from 19 to 20 feet bgs) soil samples were collected from 2 sampling locations (AN-001 and AN-002) on March 22, 1995 by hollow stem drilling and split-spoon sampling. The soil boring logs are presented in **Appendix E**. All soil samples were analyzed for explosives, metals, VOCs, and SVOCs. The OU3 RI sampling locations at the Potential Waste Disposal Area north of the former Ammonium Nitrate Plant are presented on **Drawing 2-84**.

2.14 DEMOLITION GROUND

2.14.1 Ordnance and Explosive Avoidance Survey

The OE avoidance survey at the Demolition Ground was performed on March 4, 5, 21 and 22, 1995. The OE avoidance survey was performed to clear access routes for personnel and equipment necessary to lay out the geophysical grid areas, conduct the geophysical survey, collect the shallow soil samples, and drill and sample the deep soil borings in the area.

An OE avoidance survey was performed over the entire area to a depth of 2 feet bgs with a Schonstedt GA-72CV. Downhole clearance at each boring location was performed with the MK-26 Ordnance Locator to a depth of 10 feet bgs.

No ordnance items or explosive materials were found during the OE avoidance survey conducted at the Demolition Ground. The OE avoidance survey report is presented in **Appendix B**.

2.14.2 Geophysical Survey

The geophysical survey at the Demolition Ground was conducted on March 12 and 13, 1995. The survey was conducted using the Geonics EM-31 Terrain Conductivity Meter using a 20-foot grid node spacing. The geophysical survey was performed to identify and delineate areas of possible or suspected waste disposal activities, and, if present, to a relocate sampling location(s) adjacent to an area(s) of subsurface anomalies. The survey was performed within the investigation boundaries presented on **Drawing 2-85**.

The results of the EM investigation conducted at the Demolition Ground are depicted in the Electromagnetics Contour Maps included in **Appendix C** for the quadrature response and inphase response. The inphase response map shows a linear shaped, northeast trending anomaly in the central portion of the site. This features is also apparent from the quadrature response

results and likely indicates buried wastes containing metal objects or debris. The other anomalies apparent on the maps appear to be the results of visible surface features including fences, a reinforced concrete pipe and some metal surface debri~ No other anomalies potentially indicative of buried wastes are apparent based on the geophysical survey results.

No subsurface anomalies were identified which warranted the placement of an adjacent sampling location. Therefore, all proposed sampling locations were placed as shown on the site specific investigation drawings in the CDAP Part I.

2.14.3 Shallow and Deep Soil Sampling

Shallow and deep soil samples were collected from 4 sampling locations (DG-001 through DG-004) between March 24 and March 25, 1995. Each shallow soil sample was collected in conjunction with the drilling activities for the deep soil samples. Four soil borings were drilled to 20 feet bgs. At each of the 7 borings, soil samples were collected from 0 to 6 inches, 1 to 2 feet, 2 to 3 feet, 4 to 5 feet, 9 to 10 feet, and 19 to 20 feet bgs by hollow-stem drilling and split-spoon sampling. The boring logs for the 7 borings are presented in **Appendix E**. All of the samples were analyzed for explosives, metals, VOCs, and SVOCs. The 4 OU3 RI soil sampling locations at the Demolition Grounds are presented on **Drawing 2-85**.

2.14.4 Groundwater Sampling At Existing Monitoring Well

Groundwater samples were collected from existing monitoring wells MW-10A and MW-10B to evaluate whether the groundwater downgradient of the Demolition Ground has been impacted by past activities at the area. The location of the monitoring wells are shown on **Drawing 2-69**. Groundwater samples were collected in December 1994 during the Site-Wide Groundwater Monitoring Program. The groundwater samples were analyzed for explosives, total and dissolved metals, VOCs and SVOCs.

2.15 DETONATION CRATERS

2.15.1 Ordnance and Explosive Avoidance Survey

The OE avoidance survey at the Detonation Craters was performed on March 6, 1995. The OE avoidance survey was performed to clear access routes for personnel and equipment necessary to lay out the geophysical grid areas, conduct the geophysical survey, and collect the shallow soil samples in the area. An OE avoidance survey was performed with a Schonstedt GA-72CV to 2 feet bgs at Detonation Craters 1, 2, 4, and 5 and to 3 feet bgs at Detonation Crater 3. No ordnance items or explosive materials were found during the OE avoidance survey conducted at the Detonation Craters. The OE avoidance survey report is presented in **Appendix B**.

2.15.2 Geophysical Survey

Geophysical surveys were performed to identify each of the five Detonation Crater investigation areas. As presented on **Drawing 2-86**, Detonation Crater No. 1 is in close proximity to Detonation Crater No. 2 and Detonation Crater No. 4 is in close proximity to Detonation Crater

No. 5. Therefore, three separate surface geophysical investigation boundaries were identified for the five Detonation Crater investigation areas. The first area included a 300-foot by 300-foot grid at the location of Detonation Craters 1 and 2. The second area included a 300-foot by 300-foot grid at the location of Detonation Crater 3. The third area included a 300-foot by 300-foot grid at the location of Detonation Craters 4 and 5.

The geophysical survey at Detonation Craters 4 and 5 was conducted on March 11, 1995. The survey at Detonation Crater 3 was conducted on March 12, 1995, and the survey at Detonation Craters 1 and 2 was conducted on March 22, 1995. All the surveys were performed with the EM-31 Terrain Conductivity Meter using a 10-foot grid node spacing. The surveys were performed within the boundaries presented on **Drawing 2-86**.

The results of the EM investigation conducted at Craters 1 and 2 are depicted in the Electromagnetics Contour Maps included in **Appendix C** for the quadrature response and inphase response. The quadrature and inphase response maps show only relatively subtle gradations in terrain conductivities and inphase responses across the craters. These results appear to represent natural variations in soil properties across the craters rather than buried wastes.

The results of the EM investigation conducted at Crater 3 are depicted in the Electromagnetics Contour Maps included in **Appendix C** for the quadrature response and inphase response. The quadrature and inphase response maps show only relatively subtle gradations in terrain conductivities and inphase responses across the crater area. These results appear to represent natural variations in soil properties across the crater area rather than buried wastes.

The results of the EM investigation conducted at Craters 4 and 5 are depicted in the Electromagnetics Contour Maps included in **Appendix C** for the quadrature response and inphase response. The liner shaped anomaly that trends northwest to north across the western portion of the crater areas as shown on the inphase results, represents a buried electric line. The remaining portions of the quadrature and inphase response maps show only relatively subtle gradations in terrain conductivities and inphase responses across the craters. These results appear to represent natural variations in soil properties across the craters rather than buried wastes.

No subsurface anomalies were identified during the geophysical survey. Therefore, all proposed sampling locations were placed as shown on the site specific investigation drawings in the CDAP Part I.

2.15.3 Shallow Soil Sampling

The shallow soil samples at the Detonation Craters were collected at 5 sampling locations (DC-001 through DC-005) on April 5, 1995. At Detonation Craters 1, 2, 4 and 5 (DC-001, DC-002, DC-004, and DC-005), soil samples were collected from 0 to 6 inches and from 1 to 2 feet bgs using a hand auger. Because the location was in a cultivated field, at Detonation Crater 3 (DC-003), soil samples were collected from 0 to 6 inches, 1 to 2 feet, and from 2 to 3 feet bgs. All of the samples were analyzed for explosives, metals, VOCs and SVOCs. The shallow sampling locations at the Detonation Craters are presented on **Drawing 2-86**.

2.16 BERMED AREA SOUTHWEST OF LOAD LINE 1

Shallow soil samples were collected at 3 sampling locations (BR-001 through BR-003) at the Bermed Area on March 26, 1995. At each of the 3 locations, soil samples were collected from 0 to 6 inches, 1 to 2 feet and from 2 to 3 feet bgs using a hand auger. All of the samples were analyzed for explosives, metals, VOCs, and SVOCs. The OU3 RI soil sampling locations at the Bermed Area are presented on **Drawing 2-87.**

2.17 FORMER AMMONIUM NITRATE PLANT

2.17.1 Groundwater Sampling At Newly Installed Monitoring Well

A monitoring well was installed downgradient of the former Ammonium Nitrate Plant (MW-63B) on February 20, 1995 (**Drawing 2-69**). The boring log is presented in **Appendix D**. The installation details are presented on the monitoring well installation report in **Appendix E.** MW-63B was sampled during the Fourth Quarter of the Site-Wide Groundwater Monitoring Program (June, 1995). In accordance with the OU3 Work Plan, the samples were analyzed for total and dissolved metals, nitrates and nitrites (both as N). Additional data on the groundwater quality downgradient of the former Ammonium Nitrate Plant was obtained during the Third Quarterly of the Site-Wide Groundwater Monitoring Program (March, 1995), when MW-63B was sampled for nitrates (as N) and nitrates plus nitrites (both as N).

2.18 JOHNSON AND CLEAR CREEK

2.18.1 Surface Water Sampling

Surface water samples were collected from three sampling stations along Johnson Creek (JC-001 through JC-003) and one along Clear Creek (JC-004) on March 28 and 29, 1995. The surface water samples were analyzed for explosives, metals, VOCs, and SVOCs. Because of the limited quantity of data, a Phase II investigation for additional surface water sampling was recommended in the Preliminary Data Package (PDP), (W-C, 1996). The purpose of the Phase II investigation was to provide additional surface water analytical results necessary for confirming and evaluating the nature and extent of contamination of explosives, metals, and VOCs, and for evaluating seasonal analytical variations, if any.

The Phase II investigation included surface water sampling under high flow (May, 1996) and low flow (July, 1996) conditions for explosives, metals, and VOCs. Surface water samples were collected from five sampling stations along Johnson Creek (JC-001 through JC-003, and JC-005 and JC-007) and 2 along Clear Creek (JC-004 and JC-006) on May, 17 and July 23, 1996. All samples were analyzed for explosives and VOCs. In addition to explosives and VOCs, surface water samples collected at JC-003, JC-004, and JC-006 were also analyzed for metals. The locations of the Phase I and Phase II surface water sampling stations along Johnson and Clear Creeks are presented on **Drawing 2-88**.

2.18.2 Sediment Sampling

Sediment samples were collected from three sampling stations along Johnson Creek (JC-001 through JC-003) and one along Clear Creek (JC-004) on March 28 and 29, 1995. The locations of the four sampling stations are presented on **Drawing 2-88**. Sediment samples were collected from the top layer (approximately the upper 6 inches) of sediments in areas of deposition. The sediment samples were analyzed for explosives, metals, VOCs, and SVOCs.

2.18.3 Habitat Assessment Surveys

As discussed in the PWP (W-C, 1994a), a habitat assessment was planned during low flow conditions as part of the Phase II investigation to evaluate Johnson and Clear Creeks for habitats suitable to the plains topminnow (*Fundulus sciadicus*). According to the Baseline Risk Assessment - Environmental Evaluation (Donohue, 1993), the plains topminnow occurs in small to medium-sized, clear, sandy to rocky streams with moderate to rapid flow, and also quiet pools and backwaters. Donohue (1993) concluded that the plains topminnow may currently, or in the future, occur in Johnson and Clear Creeks, given their historical presence in nearby streams.

Details on the habitat assessment field survey methods are provided in Section 2.12 of CDAP Part II - Chapter B. As part of the Phase II investigation, a field reconnaissance along Johnson and Clear Creeks was performed to identify individual stream reaches where habitat assessment surveys would be performed. The number and locations of reaches were based on OU3 Phase I RI results, locations of major surface features, and professional judgment. These individual stream reaches along Johnson and Clear Creeks are presented on **Drawing 2-89.** Within each reach, measurements of instream flow and cross-channel profile were made, along with, qualitative estimates of several habitat parameters, including; instream and cover, streambed composition, channel morphology and others. Also, a qualitative evaluation of the benthic community was made based on observations from substrate sampling.

In general, the habitat assessment along Johnson and Clear Creeks indicates that this region does not support habitats suitable to the plains topminnow. Most noticeable are the lack of backwater areas, a predominant streambed composition of fine sands, and virtually no instream cover. Results of the habitat assessment will be presented, discussed, and evaluated in greater detail in the OU3 BRA.

2.19 SILVER CREEK

2.19.1 Surface Water Sampling

Surface water samples were collected from two sampling stations along Silver Creek (SC-001 and SC-002) on April 4, 1995. The surface water samples were analyzed for explosives, metals, VOCs, and SVOCs. Because of the limited quantity of data, a Phase II investigation for additional surface water sampling was recommended in the PDP (W-C, 1996). The purpose of the Phase II investigation was to provide additional surface water analytical results necessary for confirming and evaluating the nature and extent of contamination of explosives and VOCs and for evaluating seasonal analytical variations, if any.

Similar to the Phase II investigation for Johnson and Clear Creeks, the Phase II investigation for Silver Creek included surface water sampling under both high and low flow conditions. Samples were analyzed for explosives and VOCs. Surface water samples were collected from four stations along Silver Creek (SC-001 through SC-004). Surface water samples were collected on May, 17 and July 23, 1996. The locations of the Phase I and Phase II surface water sampling stations along Silver Creek are presented on **Drawing 2-88**.

2.19.2 Sediment Sampling

Sediment samples were collected from 2 sampling stations along Silver Creek on April 4, 1995. The locations of the 2 sampling stations are presented on **Drawing 2-88**. Sediment samples were collected from the top layer (approximately the upper 6 inches) of sediments in areas of deposition. The sediment samples were analyzed for explosives, metals, VOCs, and SVOCs.

2.19.3 Habitat Assessment Surveys

As discussed in the PWP (W-C, 1994a) and above, a habitat assessment was planned during low flow conditions as part of the Phase II investigation to evaluate Silver Creek for habitats suitable to the plains topminnow (*Fundulus sciadicus).*

As was discussed earlier under the habitat surveys performed for Johnson and Clear Creeks, a field reconnaissance along Silver Creek was performed to identify individual stream reaches where habitat assessment surveys would be performed. These individual stream reaches along Silver Creek are presented on **Drawing 2-89.** Results of the habitat assessment will be presented, discussed, and evaluated in greater detail in the OU3 Baseline Risk Assessment. In general, results of the habitat assessment along Silver Creek were very similar to those for Johnson and Clear Creeks, in that, this region does not appear to support habitats suitable to the plains topminnow. Most noticeable are the lack of backwater areas, a predominant streambed composition of fine sands, and virtually no instream cover.

2.20 UNDERGROUND STORAGE TANKS AT THE FORMER ADMINISTRATION, BOMB BOOSTER ASSEMBLY, AND ATLAS MISSILE AREAS, AND THE FORMER AIR FORCE GLOBAL COMMUNICATION CENTER

No known releases have been reported for any of the five underground storage tanks (USTs) included in this investigation. According to NDEQ, since there have been no reported releases, the state does not require a state-approved remedial investigation program. Because the potential source area (the UST) is a point-source of known origin, a single sampling location positioned downgradient of the UST location was considered potentially adequate in addressing the RI objectives.

2.20.1 Former Administration Area

Geophysical Survey

The geophysical survey at the former Administration Area USTs site was conducted on March 21, 1995. The geophysical survey was performed to identify an area of subsurface anomaly which may have been associated with the USTs or the backfilled area where a USTs had previously been located. The survey was conducted using the Geonics EM-31 Terrain Conductivity Meter using a 10-foot grid node spacing. The survey was performed within the investigation area boundaries presented on **Drawing 2-90.**

The results of the EM investigation conducted at the former Administration Area USTs are depicted in the Electromagnetics Contour Maps included in **Appendix C** for the quadrature response and inphase response. The inphase results indicate two anomalies that appear to be indicative of a buried metal object or objects. These anomalies include the subcircular shaped anomaly apparent in the central portion of the site and the linear to rectangular shaped anomaly apparent in the northern portion. Slightly more subtle indications of these features are also apparent on the quadrature response map. These features may be the result of the suspected underground storage tank. The anomalous zone apparent along the eastern edge of both maps represents a building. The remaining anomalies apparent on the maps are the results of known surface features including scrap railroad ties, metal rollers and other metal debris. 2

The sampling location was located adjacent to and downgradient from the subsurface anomaly identified during the geophysical survey at the former Administration Area USTs investigation area.

To better illustrate the relationship between the geophysical results and the placement of sampling location, all OU3 RI sampling locations are shown on individual Site electromagnetic contour maps in **Appendix C**.

Shallow Soil, Deep Soil, and Groundwater Sample Collection

The soil boring at the former Administration Area USTs investigation area (UA-001) was drilled and sampled on April 7 and 8, 1995. The location of the soil boring is shown on **Drawing 2-90**. Soil samples were collected from 0 to 6 inches, 1 to 2 feet, 4 to 5 feet, 9 to 10 feet, 19 to 20 feet and from 29 to 30 feet bgs by hollow-stem drilling and split-spoon sampling. The boring log is presented in **Appendix D**. All of the soil samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX), SVOCs and total recoverable petroleum hydrocarbons (TRPH).

Upon completion of the soil sampling, the boring was advanced to the top of the water table. Water was observed in the boring at a depth of approximately 35 feet bgs. Once the water table was encountered, the soil sampling tools were removed from inside the augers and the HydroPunch® II sampler was advanced to 40 feet bgs. At 40 feet bgs the tool was opened, and groundwater was allowed to enter the screen. A small (approximately 3/4-inch O.D. and 3 feet long) stainless steel bailer was used to remove the groundwater sample. However, after collecting 2-40 ml vials and 1/2 liter, it appeared that some fine sand was entering the screen and

the HydroPunch® tool was bailed dry. On the following day (April 8, 1995), the tool was removed, cleaned out with deionized water, and reinstalled to 41.4 feet bgs. The remainder of the groundwater samples were collected on April 8, 1995. The groundwater samples were analyzed for BTEX, SVOCs and TRPH.

2.20.2 Former Bomb Booster Assembly Area

Shallow Soil, Deep Soil, and Groundwater Sample Collection

No geophysical survey was performed at the former Bomb Booster Assembly Area USTs investigation area because the tanks are above-ground, surrounded by a protective berm. The soil boring at the former Bomb Booster Assembly Area USTs (UB-001) was drilled and sampled on April 6, 1995. The location of the soil boring is presented on **Drawing 2-91**. A protective berm surrounds the tanks. In order to collect samples as near to the tanks as possible/practical, the boring was placed adjacent to the protective berm. Soil samples collected from this location are considered representative of the site. Soil samples were collected from 0 to 6 inches, 1 to 2 feet, 4 to 5 feet, 9 to 10 feet, 19 to 20 feet and 29 to 30 feet bgs by hollow-stem drilling and split-spoon sampling. The boring log is presented in **Appendix D**. All of the soil samples were analyzed for BTEX, SVOCs and TRPH. Upon completion of the soil sampling, the boring was advanced to the top of the water table. Water was observed in the boring at a depth of approximately 37 feet bgs. Once the water table was encountered, the soil sampling tools were removed from inside the augers and the HydroPunch® II sampler was advanced to 43.2 feet bgs. At 42.7 feet bgs the tool was opened, and groundwater was allowed to enter the screen. A small (approximately 3/4-inch O.D. and 3 feet long) stainless steel bailer was used to remove the groundwater sample. The groundwater samples were analyzed for BTEX, SVOCs and TRPH.

ASTs

2.20.3 Former Atlas Missile Area

As described above, two USTs were identified at the former Atlas Missile Area. One fuel oil UST was identified on the northwest side of the Gate House and Vehicle Storage facility (Gate House), and one UST was identified on the southeast side of the Launch Operations building. All geophysical surveys were performed with areas delineated based on as-built drawings which identified original tank locations.

2

Geophysical Survey

A geophysical survey was conducted on March 9 and 12, 1995 at the Launch Operations building UST. The geophysical survey was performed to identify an area of subsurface anomaly which may have been associated with a UST or backfilled area where a UST had been located. One survey (March 9, 1995), was performed using the Geonics EM-31 Terrain Conductivity Meter using a 10-foot grid node spacing. A second survey was performed on March 12, 1995 with the Geonics EM-61 instrument using a 5-foot survey line spacing and a 1-foot nominal station spacing. Both surveys were performed within the investigation area boundaries presented on **Drawing 2-92**.

The results of the EM-31 investigation conducted at the Launch Operations building UST are depicted in the Electromagnetics Contour Maps included in **Appendix C** for the quadrature response and inphase response. The results of the EM survey conducted using the Geonics EM-61 are depicted on the Electromagnetics Contour Maps included in **Appendix C** for the Channel 2 and Channel 3 responses. These results indicate several anomalies indicative of metal objects. However, it appears that most if not all of these anomalies are the result of interference from surface or near surface features such as the building, pavements and various other associated objects. Due to this interference it is not possible to make a distinct interpretation as to the presence or absence of the suspected UST at the site. The sampling location was placed adjacent to and downgradient from the subsurface anomaly at the former Atlas Missile Area Launch Operations building UST location.

Due to the presence of a concrete slab over the tank location, a geophysical study was not conducted at the location of the UST at the Gate House and Vehicle Storage facility. The location of the tank site was verifiable in the field given the presence of the concrete pad and a vent pipe, and the sampling location was placed downgradient.

Soil and Groundwater Sample Collection

Launch Operations Building

The soil boring at the Launch Operations building UST (UM-002) was drilled and sampled on April 4, 1995 (**Drawing 2-92**). Soil samples were collected at 0 to 6 inches, 1 to 2 feet, 4 to 5 feet, 9 to 10 feet, 19 to 20 feet, 29 to 30 feet and 38 to 39 feet bgs by hollow-stem drilling and split-spoon sampling. The boring log is presented in **Appendix D**. All of the samples were analyzed for BTEX, SVOCs, and TRPH.

Upon completion of the soil sampling, the boring was advanced to the top of the water table. Water was observed in the boring at a depth of approximately 40.8 feet bgs. Once the water table was encountered, the soil sampling tools were removed from inside the augers and the HydroPunch® II sampler was advanced to 45 feet bgs. At 45 feet bgs the tool was opened, however, no measurable groundwater entered the screen. The HydroPunch® tool was left in place (open) overnight to evaluate whether groundwater would enter the screen. On the following day (April 5, 1995), no groundwater had accumulated in the screen. It appeared that fine sand had entered the screen and blocked the water level indicator from entering the saturated portion of the screen. The HydroPunch® tool was then removed, cleaned out with deionized water, and reinstalled to 50 feet bgs. The tool was opened, and a small quantity of groundwater entered the screen. However, after removing approximately three bailers of water, the HydroPunch® was dry. Therefore, the HydroPunch® tool and the augers were removed and the boring was abandoned.

On April 8, 1995, a new boring was drilled at the Launch Operations building UST. The new boring was located approximately 4 feet north of the abandoned boring. The boring was advanced with hollow stem augers down to 39.5 feet bgs. At 39.5 feet the HydroPunch® was installed inside the augers and advanced to 44 feet bgs. The HydroPunch® tool was opened, and groundwater samples were successfully collected. The groundwater samples were analyzed for BTEX, SVOCs and TRPH.

Gate House and Vehicle Storage Facility UST

The soil boring at the Gate House (UM-001) was drilled and sampled on April 10, 1995 (**Drawing 2-93**). Soil samples were collected at 0 to 6 inches, 1 to 2 feet, 4 to 5 feet, 9 to 10 feet, 19 to 20 feet, 29 to 30 feet and 38 to 39 feet bgs by hollow-stem drilling and split-spoon sampling. The boring log is presented in **Appendix D**. All of the samples were analyzed for BTEX, SVOCs and TRPH.

Upon completion of the soil sampling, the boring was advanced to the top of the water table. Water was observed in the boring at a depth of approximately 48 feet bgs. Once the water table was encountered, the soil sampling tools were removed from inside the augers and the HydroPunch® II sampler was advanced to 52.4 feet bgs. At 52.4 feet bgs, the tool was opened, and groundwater was allowed to enter the screen. A small (approximately 3/4-inch O.D. and 3 feet long) stainless steel bailer was used to remove the groundwater samples. The groundwater samples were analyzed for BTEX, SVOCs and TRPH.

2.20.4 Former Air Force Global Communications Center

After the Phase I investigation at the USTs was completed, three potential USTs at two additional UST locations were identified at the former Air Force Global Communications Center (currently called the ARDC Agronomy Area). Therefore, to fully meet the Site-wide UST RI objectives, soil and groundwater sampling was performed at each of the two newly identified UST locations at the former Air Force Global Communications Center (W-C, 1996b). 3

Geophysical Survey

The geophysical survey at the former Air Force Global Communications Center USTs was conducted on May 14, 1996. The geophysical survey was performed to identify an area of subsurface anomaly which may have been associated with a UST or backfilled area where a UST had been located. Geophysical surveys at both UST locations at the former Air Force Global Communications Center were conducted using the Geonics EM-61 using a 5-foot line spacing and a 1-foot nominal station spacing. The survey was performed within the investigation area boundaries presented on **Drawing 2-94**.

The results of the EM investigation conducted at the former Global Communications Center UST are depicted in the Electromagnetics Contour Map included in **Appendix C** for the Channel 2 response. These results indicate several anomalies indicative of metal objects. The relatively large anomaly in the western portion of the site likely represents a buried metal object. It appears possible that this feature may represent the suspected UST. The relatively large anomaly in the northern portion of the site results from an above-ground storage tank.

The results of the EM investigation conducted at the Emergency Power building UST are depicted in the Electromagnetics Contour Map included in **Appendix C** for the Channel 2 response. These results indicate several anomalies indicative of metal objects. The relatively large anomaly in the northern portion of the site likely represents a buried metal object. It appears possible that this feature may represent the suspected UST. The other anomalies apparent

in the western and eastern portions of the site appear to be the result of a reinforced concrete pad and a building, respectively.

The sampling locations were located adjacent to and downgradient from the 2 subsurface anomalies at the former Air Force Communications Center USTs investigation areas.

To better illustrate the relationship between the geophysical results and the placement of sampling location, all OU3 RI sampling locations are shown on individual Site electromagnetic contour maps in **Appendix C**.

Soil and Groundwater Sample Collection

The soil borings at the former Air Force Global Communications Center USTs (AGR-001 and AGR-002) were drilled and sampled on May 15 and 16, 1996. The location of the soil borings are presented on **Drawing 2-94**. For both borings, soil samples were collected at 0 to 6 inches, 1 to 2 feet, 4 to 5 feet, 9 to 10 feet, 19 to 20 feet, and 39 to 40 feet bgs by hollow-stem drilling and split-spoon sampling. The bottom soil samples were collected from 45 to 46 feet bgs at AGR-001, and from 46 to 47 feet bgs at AGR-002. The boring logs are presented in **Appendix D.** All of the samples were analyzed for BTEX, SVOCs and TRPH.

Upon completion of the soil sampling, the borings were each advanced to the top of the water table. Water was observed in both boring at a depth of approximately 47 feet bgs. Groundwater samples from AGR-001 and AGR-002 were collected on May 16 and 17, 1996, respectably. Once the water table was encountered, the soil sampling tools were removed from inside the augers and the HydroPunch® II sampler was advanced to 49 feet bgs at AGR-001 and 51 feet bgs at AGR-002. The HydroPunch® sampling tool was opened at 49 feet bgs at AGR-001 and 51 feet bgs at AGR-002 and groundwater was allowed to enter the screen. A small (approximately 3/4-inch O.D. and 3 feet long) stainless steel bailer was used to remove the groundwater samples. The groundwater samples were analyzed for BTEX, SVOCs and TRPH.

2.21 GEOPHYSICAL ANOMALY AT LOAD LINE 3

2.21.1 Geophysical Survey

The geophysical survey at the Geophysical Anomaly at Load Line 3 was conducted on March 11, 1995. The geophysical survey was performed to confirm the presence or absence of a geophysical anomaly identified previously at Load Line 3, and, if present, to a relocate sampling location(s) adjacent to an area(s) of subsurface anomalies. The EM survey was conducted using the Geonics EM-31 Terrain Conductivity Meter using a 10-foot grid node spacing The survey was performed within the investigation area boundaries presented on **Drawing 2-95**.

The results of the EM-31 investigation conducted at the Load Line 3 are depicted in the Electromagnetics Contour Maps included in **Appendix C** for the quadrature response and inphase response. These results confirm the presence of a relatively large anomaly in the west central portion of the site. The subcircular shaped anomaly is particular evident in the inphase results and appears to cover an area approximately 60 to 80 feet across. The anomaly is apparent as a dipole based on both the quadrature and inphase results. The location of the anomaly

corresponds to an approximately 3 feet high mound of vegetation covered soil. The geophysical anomaly likely represents a buried metal object or objects and the characteristics of the anomaly are similar to what would be detected for an object such as an underground storage tank.

Three bulls-eye shaped anomalies are apparent in the southwest portion of the site, south of the large anomaly discussed above. These anomalies likely represent isolated and relatively small buried metal objects or metal debris. No other anomalies potentially indicative of buried waste are apparent on the maps.

The two proposed sampling locations were placed one to the north and one to the south of the subsurface anomaly identified in the central portion of the investigation area.

To better illustrate the relationship between the geophysical results and the placement of sampling location, all OU3 RI sampling locations are shown on individual Site electromagnetic contour maps in **Appendix C**.

2.21.2 Shallow and Deep Soil Sampling

Shallow and deep soil samples were collected from 2 sampling locations (GA-001 and GA-002) on March 28, 1995. Each shallow soil sample was collected in conjunction with the drilling activities for the deep soil samples. Two soil borings were drilled to 20 feet bgs. At each of the borings, soil samples were collected from 0 to 6 inches, 1 to 2 feet, 2 to 3 feet, 4 to 5 feet, 9 to 10 feet, and 19 to 20 feet bgs by hollow-stem drilling and split-spoon sampling. The boring logs for the 2 borings are presented in **Appendix D**. All of the samples were analyzed for explosives, metals, VOCs, and SVOCs. The sample from 2 to 3 feet bgs at boring GA-002 was not analyzed for metals. The 2 OU3 RI soil sampling locations at the Load Line 3 Geophysical Anomaly area are presented on **Drawing 2-95**.

2.22 SITE-WIDE CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY

A Site-wide survey of containerized potentially hazardous waste was conducted to assess each former NOP building for the presence of containerized potentially hazardous DoD waste materials and associated releases. Several buildings at the former Ammonium Nitrate Plant, the former Administration Area, and the former Bomb Booster Assembly Area could not be accessed during the Phase I investigation due to either locked buildings or owners not allowing access to their buildings. A second attempt was made during the Phase II investigation at the Site to contact the owners and survey those buildings not surveyed during the Phase I field activity. All of the Site-wide hazardous waste survey areas are presented on **Drawing 2-96**.

2.22.1 Load Line Buildings

Load Lines 1, 2, 3, and 4 are located in the central portion of the Site (**Drawing 1-1**). Many of the load line buildings are either empty or are currently being used by the University of Nebraska Agricultural Research and Development Center (ARDC) for work areas and farm equipment and supply storage. A hazardous waste inventory was not conducted in those buildings where access could not be obtained or where the building had been demolished at the individual load line. The Receiving and Painting and Nose Pour buildings did not exist at Load Line 1 (**Drawing 2-97**).

The buildings had been previously removed due to heavy fire damage. The South Change House, South TNT Screening, South Paint Storage and Assembly and Shipping buildings have been demolished at Load Line 2 (**Drawing 2-98**).

A complete walk-through and visual hazardous waste survey was completed through the following load line buildings and their associated walkways (**Drawings 2-97** through **2-100**):

Load Line 1 Buildings: Inert Storage, Paint Storage and Mixing, Amatol Melt, Amatol Screening, Ammonium Nitrate Service, TNT Magazine, North TNT Service, East and West Cooling, TNT Pouring, TNT Screening, South TNT Service, Railroad Crane, North and South Change Houses, South Paint Storage, and Assembly and Shipping buildings.

Load Line 2 Buildings: Inert Storage, Receiving and Painting, Paint Storage and Mixing, Nose Pour, Amatol Melt, Amatol Screening, Ammonium Nitrate Service, North TNT Service, TNT Magazine, East and West Cooling, TNT Screening, South TNT Service, TNT Pouring, and North Change House buildings.

Load Line 3 Buildings: Inert Storage, Receiving and Painting, Nose Pour, Amatol Melt, Amatol Screening, Ammonium Nitrate Service, North TNT Service, TNT Magazine, East and West Cooling, North Change House, South Change House, TNT Pouring, TNT Screening, South TNT Service, South Paint Storage, Paint Storage and Mixing, Assembly and Shipping buildings.

Load Line 4 Buildings: Inert Storage, Receiving and Painting, Paint Storage and Mixing, Nose Pour, Amatol Melt, Amatol Screening, Ammonium Nitrate Service, North TNT Service, TNT Magazine, East and West Cooling, South Change House, North Change House, TNT Pouring, TNT Screening, South TNT Service, South Paint Storage, Assembly and Shipping buildings.

No potentially hazardous DoD-related waste was found in any of the Load Lines 1, 2, 3, or 4 buildings surveyed.

2.22.2 Former Bomb Booster Assembly Area Buildings

The former Bomb Booster Assembly Area is located in the northwest area of the Site (**Drawing 1-1**). The Bomb Booster Assembly Area was a separate load line used by the Army to produce and load tetryl boosters for the detonation of bombs. After operation by the Army, the majority of the Bomb Booster Assembly Area structures were used until recently as a fireworks factory. The Line Office and First Aid, Inert Storage, and Booster Assembly buildings are currently being used by CH Industries, therefore, a walk-through and visual hazardous waste survey was not conducted in those buildings.

A complete walk-through and visual hazardous waste survey was completed for the Change House, Boiler Room building, the Booster Service Magazine building, the Pelleting building, the Tetryl Rest House, the Tetryl Screening, Line Office and First Aid, intent storage, Booster Assembly Building, Rest House, the Tetryl Service Magazine building, north and south vacuum cleaner buildings and all associated walkways (**Drawing 2-101**). No potentially hazardous DoD-related waste was found in any of the former Bomb Booster Assembly Area buildings surveyed.

2.22.3 Former Administration Area Buildings

The former Administration Area is located in the northwest corner of the Site (**Drawing 1-1**). The area was used to support activities at the Site beginning in late 1942 and continuing through 1964. Many of the administration buildings have either been demolished or are currently being used by private industry and therefore, access could not be obtained. Several buildings to the south of the former Administration Area are empty and access was available (**Drawing 2-102**). No potentially hazardous DoD-related waste was found in any of the former Administration Area buildings surveyed.

2.22.4 Former Atlas Missile Area Buildings

The former Atlas Missile Area is located approximately 1 mile north of Load Line 2 (**Drawing 1-1**). Construction on the missile site began in 1959 and lasted for approximately 18 months. The area was used by the U.S. Air Force to house three missile silos and as a control area. The Atlas Missile Area was abandoned by the U.S. Air Force in 1964. The site is currently being used by the Nebraska National Guard as a training site. The gate house is currently being used by the National Guard as a check-in point and access could not be obtained.

A complete walk-through and visual hazardous waste survey was completed through all three missile silos and the launch operations building (**Drawing 2-103**). No potentially hazardous DoD-related waste was found in any of the former Atlas Missile Area buildings surveyed.

2.22.5 Former Ammonium Nitrate Plant Buildings

The former Ammonium Nitrate Plant is located north of Load Lines 2 and 3 (**Drawing 1-1**). It produced ammonium nitrate from March to May 1943 for ordnance. The plant has not been used to produce ammonium nitrate since 1950 and is currently used by private individuals as a horse breeding farm and pasture land. The three north buildings are being used to store hay and the southeast most building is being used to store plumbing materials. The remaining three buildings are currently occupied by private individuals and access could not be obtained.

A complete walk-through and visual hazardous waste survey was completed through the four accessible buildings at the former Ammonium Nitrate Plant (**Drawing 2-104**). No potentially hazardous DoD-related waste was found in any of the former Ammonium Nitrate Plant buildings surveyed.

2.22.6 Former NOP Sewage Treatment Plant Buildings

The former NOP Sewage Treatment Plant is located just south of the former NOP Landfill Area on the eastern portion of the Site (**Drawing 1-1**). The sewage treatment plant is no longer in operation. The only enclosed structure remaining at the former sewage treatment plant is the pump house building (**Drawing 2-105**).

A complete walk-through and visual hazardous waste survey was completed through the pump house building. No potentially hazardous DoD-related waste was found in the pump house building.

2.23 PLANT UPTAKE STUDY

The U.S. Army Corps of Engineers Waterways Experiment Station (WES), in Vicksburg, Mississippi, is currently conducting a study of Plant Uptake of explosives as part of the OU3 RI. As part of the study, WES is performing a literature review of relevant site investigations as well as, relevant past and current research on plant uptake of explosives. A greenhouse study of corn, tomatoes, lettuce, and radishes is being conducted using various combinations of contaminated irrigation water and/or contaminated soils. The study is being conducted under four separate experimental phases: phase I (plant uptake), phase II (concentration effects), phase III (soil type effects), and phase IV (mass balance). The results of the Plant Uptake Study are expected to be available sometime in February, 1997, and will be used in the OU3 BRA to perform a health-based evaluation of bio-uptake of munitions compounds in crop plant.

3.1 PHYSIOGRAPHY AND TOPOGRAPHY

The Site is situated in the Dissected Tills Plains Section of the central Lowlands Physiographic Province in a southeast trending valley known as Todd Valley (**Drawing 3-1**). The Site is located in the southeastern one-third of Todd Valley. At the Site, elevations range from approximately 1,110 feet to approximately 1,180 feet (above mean sea level). A detailed description of the physiography and topography of the general area as described in a 1971 Ph.D. dissertation (Piskin, 1971) is provided below:

"Todd Valley is situated in the western part of the Dissected Till Plains Section of the Central Lowland Physiographic Province. The dissected Till Plains Section characteristically shows a submature to mature topography with low, gently rolling hills and streams which meander on their floodplains. The rolling hills are made principally of till deposits which are mantled by loess. Both till and bedrock may be seen along the walls or bottom of stream valleys. Todd Valley is an abandoned stream channel in the Dissected Till Plains Section. This paleochannel had been a stream floodplain before its water was captured by the Platte River. Now, it is a terrace above the present bottom land. Todd Valley is about 30 miles long and 6 to 8 miles wide, and extends in a southeasterly direction from near Cedar Bluffs to Ashland with a slope about 7 feet per mile. Its floor is 50 to 70 feet above the present Platte River floodplain. Elevations range between 1,100 feet and 1,300 feet (above mean sea level). On the east and west sides, loess-mantled till bluffs, 70 feet to 125 feet high above the Todd Valley surface, limit the valley width."

3.2 SOILS

Nearly the entire Site consists of soils of the Sharpsburg-Fillmore Association. The Sharpsburg-Fillmore Association is described as deep, dark, moderately clayey soils in alluvium on nearly level bottom lands (USDA, 1965). The Sharpsburg-Fillmore Associated typically range from 5 to 20 feet thick across the Site and are moderately to highly susceptible to frost action. The Fillmore soils are found in depression and swales are subject to ponding and have slow to poor internal drainage. Many areas of Fillmore soils are cultivated. The soils have fairly good yields when drained. At the extreme southwest corner of the Site boundaries, soils of the Colo-Lamoure Association are found along the floodplain region of Silver Creek. Colo-Lamoure Association is described as imperfectly drained and poorly drained, moderately clayey soils in alluvium on bottom lands (USDA, 1965)

Sharpsburg soils and, to a lesser extent, Butler soils, are the predominant soil series at the Site. Sharpsburg series soils are well-drained, silty clay loams that develop from loess of Peorian age on nearly level to steeply sloping upland and have a high capacity for retaining water (USDA, 1965). These soils occur on slight crests and swells. Both Sharpsburg and Butler soils developed on the upper portion of the loess mantle (Peoria loess) which overlie the sand and gravel deposits of Todd Valley. This Peorian loess is the parent material for most of the soils found on the Todd Valley Terrace, however, there are a few small areas of sand Ortello series soils found in sandy alluvium in drainage ways such as the southwest corner of the Site near Silver Creek. Typical permeabilities of Site soils are reported to be low to moderate ranging from 7×10^{-5} to 1×10^{-3} ft/min (Piskin, 1971).

3.3 SURFACE WATERS

The major drainage features of the Todd Valley include of Johnson, Clear, Silver, Sand, and Wahoo Creeks. Sand Creek and Wahoo Creek are located in the west, Silver Creek in the central, and Johnson Creek and Clear Creek in the eastern part of the valley. At the southern end of the Todd Valley, Wahoo Creek enters Salt Creek. Salt Creek flows into the Platte River east of Ashland near the southeastern corner of Saunders County (**Drawing 3-2**).

At the Site, most surface water runoff contributions flow to Johnson Creek (**Drawing 3-3**). Major on-Site surface features which are located within the drainage basin of Johnson Creek include the former Raw Products Igloo Storage Areas, former Atlas Missile Area, former Ammonium Nitrate Plant, Load Lines 2, 3, and 4, and the Burning/Proving Grounds. Drainage ditches from Load Lines 2 and 3 originate in former high explosive igloo storage area (presently feed lots) located north of the load lines and pass through former finished ammunition igloo storage area (presently pasture land) south of the load lines. Drainage from Load Lines 2, 3, and 4 ultimately enters Johnson Creek along a man-made ditch at a point located outside the southeast boundary of the Site. Downstream of all surface runoff contributions coming from the former Atlas Missile Area and upstream of all contributions from the Burning/Proving Grounds, the U.S. Department of Agriculture Soil Conservation Service authorized the construction of a dam on Johnson Creek (Floodwater Retarding Structure 22-A. The closure of the dam was completed in 1975. The Natural Resources District (NRD) reservoir which resulted from the closure of the dam has a conservation pool of approximately 78 acres (aerial extent). The floodwater retarding structure was built to maintain flood control during a 100-year multi-day storm (flood) with a drainage area of 11,234 acres (17.5 square miles) and a flood pool of 300 acres. Downstream of the NRD reservoir and outside the boundaries of the Site, Johnson Creek has been channeled with levees built on both sides of the creek.

Along the western edge of the Site, surface water contributions drain southward from the Load Line 1 and former Administration and Bomb Booster Assembly areas. Drainage from these areas eventually enters a north-to-south flowing man-made ditch located west of the Demolition Area. This ditch eventually drains into Silver Creek at a point located near the extreme southwest corner of the Site.

3.4 GEOLOGY AND HYDROGEOLOGY

3.4.1 General Geology

Cretaceous sediments are deposited upon a Paleozoic erosional surface of Pennsylvanian shales and limestones underlying the Site. The Cretaceous rocks strike northeast-southwest across the eastern portion of Nebraska and dip 10 to 12 feet per mile to the northwest. The rocks are primarily shales and sandstones of the Dakota Group. The environment of deposition of the Dakota has been tentatively identified as deltaic (Piskin, 1971).

The eastern portion of Nebraska was repeatedly invaded by continental glaciation during the Pleistocene. Glacio-fluvial and fluvial sands and gravels were deposited in front of the glacial ice in wide alluvial plains. Till, composed of non-stratified silty, sandy clay with gravel and some boulders was deposited directly by glaciers. Till deposits formed north-northwest to

south-southeast trending moraines. Loess, primarily silt, was deposited by winds laden with floodplain and outwash fines. As a result of glaciation and the north-northwest to south-southeast trending moraines. topographic lows were filled and pre-glacial drainage systems were altered. Major streams which flowed eastward prior to glaciation tended to flow to the southeast after glaciation.

3.4.2 Site Geology

At the Site, eolian loess deposits overlie Pleistocene fluvial and glacio-fluvial sands and sandy gravels of the Todd Valley. These Pleistocene sediments rest unconformably on rock of the Dakota Group. Depths to rock range from 20 feet below ground surface in the Burning Grounds to 150 feet at Load Line 1. The Cretaceous Age Dakota Group rests unconformably upon Pennsylvanian shales and limestones. A generalized geologic column is shown in **Drawing 3-4**.

The Omadi Formation of the Dakota Group is the uppermost rock unit at the Site. The Omadi Formation can exhibit abrupt lateral and vertical lithologic changes between shale and sandstone. The formation has been divided into an upper shale and lower sandstone lithofacies at the Site. According to Piskin (1971), the lower sandstone member ranges in thickness from 16 to 89 feet, is fine to medium grained with some basal gravel, and can be weakly cemented with iron. It is variable in color from tan, yellow brown, pale orange, to orange brown and red. The complete thickness of sandstone was not penetrated by any investigation. The maximum depth drilled into the lower sandstone member was 21.5 feet. A 1965 test boring (65-4) shows the maximum thickness of the lower sandstone member at the Site as 50 feet. The upper shale member at the Site is a clayey noncalcareous shale with some interbedded thin silt and sand lenses. The shale member is believed to be relatively continuous over the northwestern portion of the Site with a maximum thickness of at least 70 feet. Piskin (1971) concluded that the shale pinches out to the east and to the south of the ARDC (formerly known as the University of Nebraska Field Laboratory). Data collected during the Confirmation Study supports this conclusion (USACE, 1989). Shale was encountered at an approximate elevation of 1,064 feet (100 feet below ground surface) between Load Lines 2 and 3. This shale pinches out to the west and to the east of the ARDC and is absent at Load Line 4 and the Burning Grounds.

Unconsolidated Pleistocene sediments overlie the eroded Cretaceous surface. These consist of sands and sandy gravels deposited in a pre- or early-Pleistocene channel of the Platte River, known as the Todd Valley. Todd Valley was filled with glacio-fluvial sands and gravels during glacial periods and was subject to erosion during interglacial times. The Todd Valley stream course was abandoned in later Wisconsin time, over 11,000 years ago when a tributary of the ancient Elkhorn River pirated the Platte River to its present course. The valley fill can be divided into an upper and lower unit. The lower unit consists of sandy gravel, fine to coarse sand and some cobbles with a maximum thickness of 60 feet. Piskin (1971) concluded that the lower unit is absent to the southwest of the ARDC. The minimum thickness of the lower unit encountered during the confirmation study field investigation was 10 feet. The lower unit is coarser at the base. Boulders were occasionally encountered on the bedrock surface. The lower unit is gray to blue-green and yellow brown and contains some silty clay balls. Monitor well 1A was terminated in a clay (at least 5 feet thick) which is laterally continuous with the basal sand and gravel (Piskin, 1971). The upper unit consists of 20 to 80 feet of fine to medium sand. The

upper sand has been referred to as the Todd Valley Sand. It is light gray and tan and appears to be thickest toward the central and southeastern portions of the Site.

Upland areas located to the northeast of the Site consist mostly of Nebraskan till overlain by Kansan till. Thin discontinuous sand and gravel seams occur within and between the two tills. The lower sandy gravel unit of the Todd Valley extends to the northeast beneath the Nebraskan till of the upland. Reportedly this unit underlies the upland area to the Platte River (Lugn, 1935). Peorian loess, composed principally of silt, was deposited over the Todd Valley sand and the older Loveland loess of the uplands. The Peorian loess is up to 50 feet thick at the head of the Paleo valley and it thins to almost nothing at Ashland.

3.4.3 General Hydrogeology

Enberg and Spalding (1978) divided eastern Nebraska into 4 groundwater regions. These are the Platte River Valley, the Missouri River Lowland, the Northeast Nebraska Glacial Drift and the Southeast Nebraska Glacial Drift. Both the Northeast and Southeast Nebraska Glacial Drift regions can contain up to 200 feet of glacial and fluvial-glacial sediments overlying primarily Cretaceous bedrock; only the Southeast Drift and the Platte River Valley Regions lies within Saunders County. The Site lies entirely within the Southeast Glacial Drift region.

Pleistocene aquifers of limited extent and Dakota Group sandstones provide water to most wells in the Southeast Region but wells in buried valleys, such as the Todd Valley in Saunders County are the most productive. Todd Valley sand and gravel deposits constitute an important regional groundwater reservoir. These deposits are hydraulically connected to the Platte River alluvium at each end of the Todd Valley and to some extent beneath the uplands lying between the Todd Valley and the Platte River bottom lands (Lugn, 1935). Souders (1967) shows a groundwater divide at the northern extent of the Todd Valley approximately 3 miles south of the parallel to the Platte River. Water north of the divide flows north to the Platte River while water south of the divide flows south-southeast down the Todd Valley with a gradient of about 0.0006 ft/ft near the divide and 0.0017 to 0.002 ft/ft in the vicinity of the Site. Souders (1967) did not find any evidence of direct groundwater discharge from the Todd Valley to the Platte River south and east of Yutan.

The Dakota aquifer is used as a water source where Pleistocene sands are thin or where overburden consists primarily of till. Generally, wells which screen the Dakota sandstones also screen overlying Pleistocene deposits.

3.4.4 Groundwater Usage

As reported by the Lower Platte NRD all cities and towns in the lower Platte North District rely on groundwater for potable supplies. The 1983 estimated groundwater usage for Saunders County was 90,237 acre-feet or 58.3 billion gallons. Together public water and rural domestic supplies constituted approximately 40 percent or 23 billion gallons. Irrigation consumes the largest volume of groundwater. The Todd Valley supports most of the irrigation wells in the Southeast Region of the NRD.

The towns of Memphis and Yutan utilize the Dakota aquifer for part of their water supply. Water quality and well yields from Dakota aquifer wells are variable. The water supply wells of Lincoln, Nebraska are located in the Platte River floodplain 2 to 4 miles northeast of Ashland. At the Site, groundwater from the Pleistocene and Cretaceous aquifer is used for domestic and agricultural purposes.

3.4.5 Site Hydrogeology

Piskin (1971) determined that the ARDC was underlain by a four component hydraulic system with Pennsylvanian strata comprising the lowermost boundary. In ascending order three of the components are:

- The Omadi sandstone aquifer
- The Omadi formation shale aquitard
- The Pleistocene sand and gravel aquifer

The shale, where present, partially confines the Omadi sandstone aquifer; where missing, the Pleistocene and Omadi aquifers are in direct contact. The combined Pleistocene-Omadi aquifer is the fourth uppermost component of the hydrostratigraphic framework defined by the Piskin. The Pleistocene-Omadi aquifer exists in the eastern and southern portions of the Site. Pressure relationships between the Pleistocene and the Omadi aquifers are undefined since no wells are known to be open solely to the Omadi. Piskin (1971) considered the entire system, from the base of the Omadi sandstone to the top of the saturated zone, as defined by the water table, to function as a single aquifer.

Investigations completed by USACE (1989) have separated the Pleistocene aquifer into 2 hydrostratigraphic units: a lower sand and gravel unit approximately 30 feet thick and an upper silty and sand unit also approximately 30 feet thick. The lower sand and gravel unit is more porous and more transmissive than the Omadi sandstone. The Omadi sandstone is more porous and more transmissive than the upper silty and sand unit. Average values of hydraulic conductivity (K) in feet per day (ft/day) and transmissivity (T) in gallons per day per foot (GPD/ft) are based on data compiled by Piskin (1971), for the full thickness of the Pleistocene aquifer and the Omadi aquifer, as shown below:

Aquifer	K (ft/day)	T (ft^2/day)
Pleistocene	136	9,224
Omadi	47	2,625

Water levels in the Pleistocene aquifer (September 1987) were 25.6 to 48.4 feet below ground surface (bgs). A groundwater flow map (**Drawing 3-5**) constructed using water levels shows that flow is toward the south-southeast with a gradient of 0.001 to 0.002 ft/ft. Groundwater elevations range from 1,143.3 feet above sea level at Load Line 1 (west-northwest) t

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1,112.8 feet at the Demolition Area (west-southwest). Flow directions determined from September 1987 measurements are consistent with those defined by Piskin's data of 1971.

Slight elevation differences of 0.01 to 0.2 feet were noted between the shallow and deep wells in the well pairs; however, consistent vertical gradients were not observed, and some of the differences may have resulted from small measurement errors. The only well pair to show a significant difference was well pair MW-10 A&B which exhibited a 0.49 foot difference between the shallow and deep wells. This difference indicates that a vertical upward gradient exists between monitoring wells MW-10A and MW-10B. The observed upward gradient is consistent for these wells. This well cluster appears to be located in a groundwater discharge area to an unnamed tributary of Silver Creek.

3.5 CLIMATOLOGY/METEOROLOGY

A mid-continental climate characterizes Nebraska (Saunders County) the area with cold winters and hot summers. This part of the Great Plains is open to the north and south, and cold northerly (winters) and hot southerly (summers) winds are not obstructed. Because the Rocky Mountains obstruct westerly winds, strong southerly winds tend to dominate in the summer and northerly winds in the winter, though there are frequent reversals of direction. Strongest winds generally occur during winter, except during severe spring or summer thunderstorms.

Average annual precipitation is about 28 inches with the majority occurring between April and September in the form of showers and thunderstorms. Snowfall averages 31 inches annually. January is the coldest month with an average low temperature of 13°F. July is the warmest month with an average high temperature of 88°F. The average frost-free period is 188 days.

3.6 BIOLOGY

Saunders County supports many kinds of wildlife that contribute to its economy and recreation. The major natural habitats occurring in the area would be cropland, grasslands, old field habitats, and small patches of woodlands along bluffs, streams, fence rows, and drainageways. A large portion of the Site is used for agricultural purposes.

Biotic communities are typical of the region and available habitats, with a variety of mammal, bird, reptile, and amphibian species common in the area. Bob White (quail) are native to Saunders County and are important upland game. Pheasant, introduced into the area years ago, are also important. Much of the recreational hunting in the county is for these two upland birds, migratory waterfowl, and upland game animals, such as, squirrel, cottontail rabbit, and white-tail deer. Other rodents and birds, as well as furbearers and predators, are found in varying numbers.

3.7 SITE LAND USE

Approximately 14.9 square miles of the former NOP are owned by the University of Nebraska ARDC **(Drawing 1-3)**. Roughly 3.4 square miles (including the southeast portion of the former NOP, the former Atlas Missile Area, and the former Nike Maintenance Area) are owned by the U.S. Government and used by the Nebraska National Guard for training and heavy equipment maintenance. The Mead Cattle Company's feed lot occupies approximately 3.5 square miles

north of the load lines. Roughly 5 square miles in the northern and east central portions of the former NOP are owned by other private interests. The former Bomb Booster Assembly Area was once used as a fireworks factory. The former Administration Area is currently occupied by cultivated fields, private residences, and Mid-America Industries, a manufacturer of foam products.

The ARDC currently uses the Site for agricultural research. A dairy research facility is located at Load Line 1. Roughly one-half of the land at Load Line 1 is used for pasture, one-fourth is cultivated, and one-fourth is fallow. A residence is located approximately 1 mile west of Load Line 1. A new University of Nebraska Research and Education building was completed in 1995 and is located along Highway 63 to the south of Load Line 1. At Load Line 2, turf research plots occupy 10 percent of the land, 60 percent is cultivated crops, 10 percent is devoted to forestry, and the rest is fallow. Another private residence is located northwest of Load Line 2. Also located at Load Line 2 area is an energy farm, the ARDC farm shop, a field day program center, an agricultural engineering research area and a center-pivot irrigation research area. Approximately 25 percent of the land surrounding Load Line 3 is used for linear-move irrigation research, 20 percent is fallow, 20 percent is pasture research, 30 percent is used for plant pathology, and the rest is occupied by facilities which include the Behlen Observatory. The Disease Control Research Center is located at Load Line 4. Pasture occupies 75 percent of the land, 10 percent is cultivated, and the swine operations and herdsmen's residence occupies the remainder.

Land south of the load lines is used for meteorology and climatology, forestry windbreak research, crop insect research, sheep and ruminant nutrition research, cattle pastures, beef cattle management research, a beef feed lot, a feed mill, beef physiology research, swine research, lowland and floodplain plantings, center pivot irrigation research, warm and cool season grass pastures, an educational television transmitter station, and crops and soils research. The ARDC also owns property formerly used as the North Burning Ground, Proving Grounds, NOP landfill, and the sewage treatment plant which is currently used for wildlife habitat.

The following table illustrates the current land uses of all the OU3 RI study investigation areas.

Investigation Area	Current Land Use
Load Line 1	ARDC - Dairy research, pasture, crops.
Load Line 2	ARDC - Turf and insect research, facility buildings
Load Line 3	ARDC - Crops, pasture, foundation seed
Load Line 4	ARDC - Vet science area, crops, pasture
Former Raw Products Igloo Storage Areas	Nebraska National Guard - Tank training area Mead Cattle Company - Cattle pens
Tetryl Pelleting Building	Privately owned
North Burning Ground	ARDC - Grass
South Burning Ground	Privately owned - Corn crops

Investigation Area	Current Land Use
Proving Grounds	ARDC - Grass
Potential Landfill Area North of Proving Grounds	ARDC - Grass
Former NOP Landfill Area	ARDC - No current land use. Fenced off.
Potential Waste Disposal Areas North of the former Nike Maintenance Area	Mead Cattle Company - Corn crops
Potential Waste Disposal Area Southeast of the former Bomb Booster Assembly Area	Mead Cattle Company - Corn crops
Potential Waste Disposal Areas at the former Atlas Missile Area	Nebraska National Guard - Tank training area
Demolition Area	ARDC - Grass area; no current land use
Detonation Craters	ARDC - Pasture land
Bermed Area South of Load Line 1	ARDC - Crops and fill material
Former Ammonium Nitrate Plant	Privately owned - Crops and horse farm
Former Administration Area USTs	Privately owned
Former Bomb Booster Assembly Area USTs	Privately owned
Former Atlas Missile Area USTs	Nebraska National Guard
Former Air Force Global Communications Center USTs	ARDC - Agronomy Research
Geophysical Anomaly at Load Line 3	ARDC - Crops

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Data summary tables are provided in the tables section of **Volume I**. Each table presents all chemicals with detectable concentrations. A complete summary of all analytical results is presented in **Appendix A**. For both tables in **Volume I** and in **Appendix A**, all chemicals with results above their respective screening level (discussed below) are underlined and in bold italic font. The maximum concentration and respective sampling location, together with the minimum concentration above the screening level, are listed in separate columns. The maximum concentration detected divided by the chemical-specific screening level is also listed to provide a factor of how much above, or below, the maximum detected concentration is relative to the screening level. A separate column is also provided in the data summary tables which lists the frequency of detection for each chemical detected.

Drawings with analytical results above screening levels are provided in **Volume II**. A drawing list and a global drawing legend/notes sheet is provided at the beginning of **Volume II**. For exact investigation area, chemical concentrations (and corresponding sampling depth) above the screening level are shown in text boxes adjacent to the corresponding sampling locations. At each OU3 RI investigation area, sampling locations from previous Site investigations (i.e. USACE Confirmation Study, 1989; OU1 RI, 1991; and the OU1 Supplemental RI, 1992a) have been added to the drawing.

As part of the OU3 RI, screening levels were developed for the majority of soil and water analytes. The usefulness of screening levels is summarized in the following statement from EPA (1994):

These screening levels were used to streamline the RI process by accelerating and increasing consistency in decisions concerning contamination. Soil screening levels do not trigger the need for response actions or define "unacceptable" levels of contaminants in soil. Areas with soil contamination concentrations below soil screening levels generally would not warrant further study or action under the CERCLA process.

Water screening levels also streamline the RI process, and do not trigger the need for response actions or define "unacceptable" levels of contaminants in water. Details of the screening level development processes were provided in the RI Phase I PDP (W-C, 1996a). Two specific changes in the screening level concentration selection approach has taken place since the PDP was submitted, and are discussed in Section 4.0. The first change (as suggested by EPA Region VII in their comments on the PDP) was to replace the 2X the average background metals soil concentrations values used as soil screening levels for cadmium and selenium, with their respective EPA Region III Risk-Based Concentrations (RBCs). The second change (in accordance with statements made in the PDP), was to apply the lowest of either the water screening levels presented in the PDP or the corresponding EPA Water Quality Criteria concentrations (EPA, 1995a), to all surface water sample results. If no Water Quality Criteria concentration was available, then the water screening level listed in the PDP was used.

As part of the OU3 RI, a review of the existing OU1 RI soil sampling results was conducted to supplement the results from the OU3 RI. A database extraction was performed to identify results obtained at OU1 RI soil sampling locations which were within the boundaries of an OU3 investigation area but outside the boundaries of any OU1 remedial action excavation areas. The results of this database extraction are presented in **Table 4-1**. Based on a review of this table, it

was concluded that none of the soil samples collected obtained during the OU1 RI at locations outside the boundaries of areas to be remediated under OU1 exhibited concentrations above any of the OU3 soil screening levels.

Tables have been prepared which summarize the soil screening level concentration values and the sources from which the screening levels were obtained. Soil screening levels for explosives are listed in **Table 4-2**. **Table 4-3** lists the soil screening levels used for metals. Because of the limited number of background metal results available from previous investigations, additional background soil samples were collected during the OU3 RI Phase I investigation (**Table 4-4**). Soil samples from 1- to 2-foot bgs were collected for background metals analysis at 10 locations (**Drawing 1-1**) at the Site on August 29, 1995. **Table 4-5** shows the average background metals concentrations used to calculate screening levels. Background concentrations were not used to develop soil screening levels for all metals. Reasons for not using background concentrations included, rejected analytical results for antimony, all results being below detection limits for silver, and the previously mentioned EPA recommendation for cadmium and selenium. Therefore, for each of these metals, the published PRG was used as the soil screening level. The PRG was also used for lead. A statistically-based background metals evaluation was presented in the PDP (W-C, 1996) which concluded that the true mean background metal concentrations for the Site are likely to be very close to the estimated means calculated from the background sampling data. Soil screening levels for volatile organic compounds (VOCs) are presented in **Table 4-6**. **Table 4-7** lists soil screening levels used for semi-volatile organic compounds (SVOCs). A soil screening level of 10 mg/kg was selected for total recoverable petroleum hydrocarbons (TRPH) and a soil screening level of 1,000 µg/kg was selected for total benzene, toluene, ethylbenzene, and total xylenes (BTEX). These values were obtained from the Nebraska Petroleum Contaminated Soils Protocol for the Leaking Underground Storage Tank (LUST) Program (NDEQ, 1993). A soil screening level of 15,000 µg/kg was developed for polychlorinated biphenyls (PCBs). This value was obtained from a letter from the USACE (March, 1994) to the EPA regarding the action level for PCB contaminated soil (USACE, 1994).

Tables have also been prepared which summarize the water screening level concentration values and the sources from which the screening levels were obtained. Water screening levels for explosives are presented in **Table 4-8**. **Table 4-9** lists the water screening levels used for metals. Water screening levels for VOCs are presented in **Table 4-10**. The Maximum Contaminant Levels (MCL) of 0.05 µg/L was used as a screening level for 1,2-dibromoethane, which is listed as an MCL under the chemical name ethylene dibromide. **Table 4-11** lists water screening levels for SVOCs. A value of 2.0 mg/L was used as a water screening level for TRPH, as the State of Nebraska LUST Program recommends using this value as a clean-up goal. The State of Nebraska Title 118 sets groundwater clean-up levels at the MCL for each respective BTEX constituent. A value of 0.5 µg/L was used as a water screening level for PCBs. The MCL values of 10,000 µg/L and 1,000 µg/L were used for water screening levels for nitrates and nitrites, respectively.

4.1 LOAD LINE BOMB PRODUCTION BUILDINGS

4.1.1 Overall RI Objectives

The first RI objective is to evaluate whether the soils adjacent to and beneath Load Line Bomb Production Buildings contain explosives or metals attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment. The second RI objective is to evaluate whether the interior building surfaces contain explosives residue at concentrations sufficient to pose an unacceptable risk to human health.

4.1.2 Soil Samples Adjacent to Bomb Production Building Results

The analytical results for all of the soil samples collected adjacent to the Bomb Production Buildings (from 0- to 6-inch and 1- to 2-foot bgs) are presented in **Appendix A.** Detectable concentrations of explosives and metals were reported at each load line. Summaries of the analytical data for the soil samples collected adjacent to Load Line Bomb Production Buildings are presented in **Tables 4-12** through **4-15**. The results for explosives and metals detected at concentrations greater than the soil screening levels are presented on **Drawings 4-1** through **4-36** and are discussed below. These drawings also include the excavation boundaries for those soils which will be excavated and remediated as part of the OU1 remediation.

Load Line 1

Explosive compounds were detected at concentrations greater than screening levels at 18 of the 71 adjacent soil sampling locations at Load Line 1 (**Drawings 4-1** through **4-9**). Of the 142 individual soil samples collected adjacent to the buildings at Load Line 1, only 20 samples displayed concentrations above the soil screening levels. The primary explosive compound detected above the screening level at Load Line 1 was TNT. The explosives were generally detected above the screening level in the soils at the Amatol Screening Building, Amatol Melt Building, the Ammonium Nitrate Service Building, the West Cooling Building, and the TNT Pouring Building. Of the 18 individual soil samples with explosives above the screening levels, 13 were from 0- to 6-inch bgs samples and 7 were from the 1- to 2-foot bgs samples. As shown in **Table 4-16**, only 6 sample locations of the 71 sampled at Load Line 1 displayed an increase in explosives concentrations with depth.

A total of 142 individual adjacent soil samples from 71 sampling locations were analyzed for metals. Metals above screening levels were detected in 25 individual adjacent soil samples. The metals which were detected above soil screening levels and the corresponding percentage of samples with detections exceeding the screening levels are as follows: aluminum (1%), arsenic (1%), barium (2%), beryllium (1%), chromium (1%), cobalt (1%), copper (6%), lead (1%), manganese (1%), nickel (1%), thallium (1%), vanadium (1%), and zinc (14%). Lead was the only metal detected which exceeded a published PRG value. **Table 4-17** lists ranges of metal concentrations detected in previous investigations at the load lines. In general, the metal concentrations detected adjacent to the Load Line 1 Bomb Production Buildings are similar in concentration to those detected in previous investigations. Of the 25 individual soil samples with

metals above the screening levels, 20 were from the 0- to 6-inch bgs samples and 5 were from the 1- to 2-foot bgs samples.

At Load Line 1, the explosives and metals above screening levels in soils adjacent to the load line buildings are isolated occurrences with limited and definable vertical (mostly in the 0- to 6-inch sampling interval) and horizontal (paralleling the building) extent. Lead (at 576 mg/kg), detected in soil sample (D260-0002) taken in a ditch located northwest of the West Cooling Building, was the only Load Line 1 metal results listed in the OU1 RI (Donohue, 1992b) which exceeded a screening level. For OU1, metals analyses were performed on soils from sumps and along ditches located outside of the OU3 investigation area.

Load Line 2

Explosive compounds were detected at concentrations greater than the screening levels at 9 of the 76 adjacent soil sampling locations sampled at Load Line 2 (**Drawings 4-10** through **4-18**). Of the 152 individual soil samples collected adjacent to the buildings at Load Line 2, only 12 soil samples displayed concentrations above the soil screening levels. The primary explosive compounds detected above the screening levels at Load Line 2 were RDX and TNT. Of the 12 samples with explosives above the screening levels, 8 were from 0- to 6-inch bgs samples and 5 were from the 1- to 2-foot bgs samples. As shown in **Table 4-18** only 3 sample locations of the 76 sampled at Load Line 2 displayed an increase in explosives concentrations with depth.

A total of 152 individual adjacent soil samples from 76 sampling locations were analyzed for metals. Metals above screening levels were detected in 41 individual soil samples at 39 sampling locations. The metals which were detected above soil screening levels and the corresponding percentage of samples with detections exceeding the screening levels are as follows: arsenic (1%), barium (1%), chromium (1%), copper (11%), lead (13%), manganese (1%), nickel (2%), and zinc (23%). Lead (at sampling locations B2A-002, B2A-003, B2A-004, B2A-005, B2A-007, B2A-010, B2A-036, B2A-043, B2A-045, B2A-046, B2A-047, B2A-050, B2A-057, B2A-058, B2A-063, B2A-065, and B2A-075) was the only metal detected which exceeded a published PRG value. **Table 4-17** lists ranges of metal concentrations detected in previous investigations at the load lines. In general, the metal concentrations detected adjacent to the Load Line 2 Bomb Production Buildings are similar in concentration to those detected in previous investigations. Of the 41 individual soil samples with metals above the screening levels, 37 were from the 0- to 6-inch bgs samples and 4 were from the 1- to 2-foot bgs samples.

At Load Line 2, the explosives and metals above screening levels in soils adjacent to the load line buildings are mostly isolated occurrences with limited vertical (mostly in the 0- to 6-inch sampling interval) and horizontal extent. Contiguous areas of elevated lead concentrations were found along the east side of the East Cooling Buildings and the west and east sides of the Nose Pouring Building. At each location, lead above screening level was confined to the 0- to 6-inch sampling interval. Chromium (at 268 mg/kg), detected in one soil sample (D19-C-0001) taken on the east side of the load line walkway at a point located between the Receiving and Painting Building and the Nose Pour Building, was the only Load Line 2 metal result listed in the OU1 RI (Donohue, 1992b) which exceeded a screening level. For OU1, metals analyses were performed on soils from sumps and along ditches located outside of the OU3 investigation area.

Load Line 3

Explosive compounds were detected at concentrations greater than the screening levels at 12 of the 74 adjacent soil sample locations sampled at Load Line 3 (**Drawings 4-19** through **4-27**). Of the 148 individual soil samples collected adjacent to the buildings at Load Line 3, only 16 individual soil samples displayed concentrations above the soil screening levels. The primary explosive compounds detected above the screening level at Load Line 3 were RDX and TNT. Explosives were detected above the screening level in the soils at the Amatol Melt Building, the Ammonium Nitrate Service Building, the East Cooling Building, the West Cooling Building, and the TNT Pouring Building. Of the 16 individual soil samples with explosives above the screening levels, 12 were from 0- to 6-inch bgs samples and only 4 were from the 1- to 2-foot bgs samples. As shown in **Table 4-19,** only 2 sample locations of the 74 sampled at Load Line 3 displayed an increase in explosives concentrations with depth.

A total of 148 individual adjacent soil samples from 74 sampling locations were analyzed for metals. Metals above screening levels were detected in 34 individual soil samples from 33 sampling locations. The metals which were detected above soil screening levels and the corresponding percentage of samples with detections exceeding the screening levels are as follows: barium (1%), copper (6%), lead (3%), nickel (3%), thallium (1%), and zinc (20%). Lead was the only metal detected at concentrations which exceed a published PRG value. **Table 4-17** lists ranges of metal concentrations detected in previous investigations at the load lines. In general, the metal concentrations detected adjacent to the Load Line 1 Bomb Production Buildings are similar in concentration to those detected in previous investigations. Of the 34 individual soil samples with metals above the screening levels, 32 were from the 0- to 6-inch bgs samples and 2 samples were from the 1- to 2-foot bgs samples.

At Load Line 3, the explosives and metals above screening levels in soils adjacent to the load line buildings are isolated occurrences with limited and definable vertical (mostly in the 0- to 6-inch sampling interval) and horizontal (paralleling the building) extent. None of the Load Line 3 metals results listed in the OU1 RI (Donohue, 1992a) exceeded the screening levels. Metals analyses were performed on soils from sumps and along ditches located outside of the OU3 investigation area.

Load Line 4

Explosive compounds were detected at concentrations greater than the screening levels at 6 of the 73 adjacent soil sample locations sampled at Load Line 4 (**Drawings 4-28** through **4-36**). Of the 146 individual soil samples collected adjacent to the buildings at Load Line 4, only 7 individual soil samples displayed concentrations above the soil screening levels. The primary explosives compound detected above the screening level at Load Line 4 was RDX. Explosives were detected above the screening level in the soils at the Amatol Melt Building, the North TNT Service Building, the East Cooling Building, and the TNT Pouring Building. Of the 6 samples with explosives above the screening levels, 4 were in the 0- to 6-inch bgs samples and only 2 were in the 1- to 2-foot bgs samples. As shown in **Table 4-20,** 1 of the 73 locations sampled at Load Line 4 displayed an increase in explosives concentrations with depth.

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A total of 146 individual adjacent soil samples from 73 locations were analyzed for metals. Metals above screening levels were detected in 26 individual soil samples at 26 sampling locations. The metals which were detected above soil screening levels and the corresponding percentage of samples with detections exceeding the screening levels are as follows: arsenic (1%), chromium (1%), copper (5%), nickel (1%), and zinc (16%). None of the metals were detected at concentrations which exceeded a published PRG value. **Table 4-17** lists ranges of metal concentrations detected in previous investigations at the load lines. In general, the metal concentrations detected adjacent to the Load Line 1 Bomb Production Buildings are similar in concentration to those detected in previous investigations. Of the 25 individual soil samples with metals above the screening levels, 24 were from the 0- to 6-inch bgs samples and 1 was from the 1- to 2-foot bgs samples.

At Load Line 4, the explosives and metals above screening levels in soils adjacent to the load line buildings are isolated occurrences with limited and definable vertical (mostly in the 0- to 6-inch sampling interval) and horizontal (paralleling the building) extent. None of the Load Line 3 metals results listed in the OU1 RI (Donohue, 1992a) exceeded the screening levels. Metals analyses were performed on soils collected from sumps and along ditches located outside of the OU3 investigation area.

4.1.3 Soil Samples Beneath Bomb Production Building Results

The analytical results for all of the soil samples collected beneath to the Bomb Production Buildings (uppermost 1-foot of native soil beneath the flooring) are presented in **Appendix A**. Detectable concentrations of explosives and metals were reported at each load line. Summaries of the analytical data for the soil samples collected beneath each Load Line Bomb Production Building are presented in **Tables 4-21** through **4-24**. The results for explosives and metals detected at concentrations greater than the soil screening levels are presented on **Drawings 4-1** through **4-36**.

Load Line 1

A total of 38 soil samples were collected from beneath the building floors at Load Line 1. The only explosive detected at concentrations greater than the soil screening level was TNT (0.32J mg/kg) which was detected beneath the Ammonium Nitrate Service Building (**Drawing 4-4**) in one sample (B1B-016). Copper (from one sample taken beneath the West Cooling Buildings) was the only metal detected at concentrations greater than the soil screening levels beneath a Load Line 1 Bomb Production Building.

Load Line 1 results indicate that explosives and/or metals above screening levels are isolated occurrences with limited horizontal extent. Also, based on the isolated occurrences, combined with the concrete flooring cover, any vertical extent of contamination is also assumed to be limited.

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Load Line 2

A total of 36 soil samples were collected from beneath the building floors at Load Line 2. Three explosive compounds (TNT, [1,3,5-trinitrobenzene (TNB)] and RDX) were detected at

concentrations greater than the soil screening level at the East Cooling Building (**Drawing 4-16**) in sample location B2B-025. No metals were detected at concentrations greater than the soil screening levels.

Load Line 2 results indicate that explosives above screening level is an isolated occurrence with limited horizontal extent. Also, based on its isolated occurrence, combined with the concrete flooring cover, any vertical extent of contamination is also assumed to be limited.

Load Line 3

A total of 38 soil samples were collected from beneath the building floors at Load Line 3. The only explosive detected at a concentration greater than the soil screening level was 2,4-DNT (3.5 mg/kg) at sampling location B2B-038 at the South TNT Service Building. No metals were detected at concentrations greater than the soil screening levels in any of the 38 soil samples.

Load Line 3 results indicate that 2,4-DNT concentration above screening level is an isolated occurrence with limited horizontal extent. Also, based on its isolated occurrence, combined with the concrete flooring cover, any vertical extent of contamination is also assumed to be limited.

Load Line 4

A total of 37 soil samples were collected from beneath the building floors at Load Line 4. No explosives were detected at concentrations greater than the soil screening levels in the beneath soil samples collected at Load Line 4. Copper (from B4B-036 beneath the TNT Screening Building) was the only metal detected (80.6J mg/kg) at a concentration greater than the soil screening levels beneath a Load Line 4 Building.

Load Line 4, the sampling locations beneath the flooring with the copper concentration above screening level in an isolated occurrence with limited horizontal extent. Also, based on its isolated occurrence, combined with the concrete flooring cover, any vertical extent of contamination is also assumed to be limited.

4.1.4 Wipe Sample Results

The analytical results for the wipe samples collected at the Bomb Production Buildings are presented in **Appendix A**. Explosives were detected at each Load Line Bomb Production Building. The detected concentrations of explosives in wipe samples collected from individual Bomb Production Buildings are presented in **Tables 4-25** through **4-28**.

A descriptive statistics summary of the two most commonly detected explosives (TNT and RDX) from all load lines combined is presented below:

	TNT	RDX
max (mg/wipe)	1.1	0.16
min (mg/wipe)	.0001	.0001
avg. (mg/wipe)	.031	.011
frequency of detection (%)	48	41

4.2 LOAD LINE PAINT OPERATION AREAS

4.2.1 Overall RI Objectives

The RI objective is to evaluate whether the soils or groundwater at Load Line Paint Operation Areas contain metals attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.2.2 Shallow Soil Sampling Results

The analytical results for all of the shallow soil samples (from 0- to 6-inch and 1- to 2-foot bgs) collected at the Load Line Paint Operation Areas are presented in **Appendix A**. Detectable concentrations of metals were reported at each load line. Summaries of the analytical data for the soil samples collected at each load line are presented in **Tables 4-29** through **4-32**. Concentrations for metals above screening levels are presented on **Drawings 4-37** through **4-43**.

Load Line 1

A total of 58 individual shallow soil samples collected from 24 sampling locations were analyzed for metals (**Drawings 4-37** and **4-38**). Metals above screening levels were detected in 8 of the 58 individual soil samples collected. Individual metals and their frequencies of detection above screening levels are as follows: antimony (3%), cadmium (2%), chromium (5%), copper (5%), lead (2%), nickel (3%), and zinc (10%). Lead (at sample location P1A-029) was the only metal which exceeded a published PRG value. Of the 8 samples with metals above the screening levels, all were from the 0- to 6-inch bgs samples.

At Load Line 1, the metals above screening levels in soils in vicinity of former paint operation buildings appear to be isolated occurrences with limited vertical (all from the 0- to 6-inch sampling interval) and horizontal extent.

Load Line 2

A total of 56 individual shallow soil samples collected from 23 sampling locations were analyzed for metals (**Drawing 4-39**). Metals above screening levels were detected in 7 of the 56 individual soil samples collected. Individual metals and their frequencies of detection above screening levels are as follows: antimony (2%), arsenic (2%), chromium (4%), cobalt (2%), copper (5%), lead (4%), nickel (4%), thallium (2%), and zinc (11%). Chromium and lead (both at sample location P2A-003) were the only metals detected which exceeded the published PRG values. Of the 7 individual soil samples with metals above the screening levels, 6 were from the 0- to 6-inch bgs samples and 1 was from the 1- to 2-foot bgs samples.

At Load Line 2, the metals above screening levels in soils in vicinity of former paint operation buildings appear to be isolated occurrences with limited vertical (mostly in the 0- to 6-inch sampling interval) and horizontal extent.

Load Line 3

A total of 56 individual shallow soil samples collected from 23 sampling locations were analyzed for metals (**Drawings 4-40** and **4-41**). Metals above screening le els were detected in 10 of the 56 individual soil samples collected. Individual metals and their frequencies of detection above screening levels are as follows: antimony (2%), barium (2%), chromium (11%), cobalt (4%), copper (9%), lead (4%), nickel (4%), and zinc (9%). Chromium (at sample location P3A-003) and lead (at sample locations P3A-003 and P3A-005) were the only metals detected which exceeded the published PRG values. Of the 10 samples with metals above the screening levels, 8 were from the 0- to 6-inch bgs samples and 2 were from the 1- to 2-foot bgs samples.

At Load Line 3, the metals above screening level in soils in vicinity of former paint operation buildings appear to be isolated occurrences with limited vertical (mostly in the 0- to 6-inch sampling interval) and horizontal extent.

Load Line 4

A total of 58 individual shallow soil samples collected from 24 sampling locations were analyzed for metals (**Drawings 4-42** and **4-43**). Metals above screening levels were detected in 9 of the 58 individual soil samples collected. Individual metals and their frequencies of detection above screening levels are as follows: antimony (3%), chromium (5%), copper (2%), lead (2%), thallium (2%), and zinc (10%). Lead (at sample location P4A-011) was the only metal detected which exceeded the published PRG value. All 9 samples with metals above the screening levels were from the 0- to 6-inch bgs samples.

At Load Line 4, the metals above screening levels in soils in vicinity of former paint operation buildings appear to be isolated occurrences with limited vertical (mostly in the 0- to 6-inch sampling interval) and horizontal extent.

4.2.3 Groundwater Sampling Results

The analytical results for all of the groundwater samples collected at the existing monitoring wells located downgradient of the Load Line Paint Operation Areas (MW-3A & B, MW-4A & B, MW-6A & B, MW-8A & B, MW-12A, MW-13A, MW-14A, and MW-15A) and Site background monitoring wells (MW-19A, B & C, MW-47A & B, and MW-48A, B & C) are presented in **Appendix A**. A summary of analytical data for the groundwater samples collected from the existing monitoring wells is provided in **Table 4-33** and **Table 4-34**. The analytical data for the background wells is summarized in **Table 4-35** and **Table 4-36**.

Total manganese, detected above the screening level in one well (MW-15A) at Load Line 3, was the only total metal detected at concentrations greater than the screening level in the groundwater samples collected from the existing wells downgradient of the Load Line Paint Operation Areas. Dissolved thallium, detected above screening level in four wells (MW-3A, MW-4A, MW-6A, and MW-8B), was the only dissolved metal detected at concentrations greater than the screening level. Total manganese and dissolved manganese and thallium were also detected in concentrations above screening level in the background wells.

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4.3 FORMER RAW PRODUCTS IGLOO STORAGE AREAS

4.3.1 Overall RI

The RI objective at the former Raw Products Igloo Storage Areas is to evaluate whether the soils contain explosives attributed to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.3.2 Initial High Explosive Screening and Confirmation Soil Sampling Results

A total of 110 soil samples were collected for high explosive (HE) screening from 55 igloos (two samples at each igloo).

HE Screening

None of the 110 soil samples screened positive (above 0.5 ppm) for RDX. Two of the 110 samples screened positive (above 0.5 ppm) for TNT. These include:

Sample I.D.	General Location	TNT Screening Results (ppm)
IGS-039	Raw Products Igloo Storage Area north of Load Line 2	>5.0
IGS-073	Raw Products Igloo Storage Area north of Load Line 3	4.0 - 5.0

Confirmation Soil Samples

Twelve soil samples (approximately 10 percent) were randomly selected for laboratory confirmation analyses. The analytical results for the 12 confirmation samples submitted are presented in **Appendix A**. Of the samples for which concentrations were reported above the detection limit by the analytical lab, only one sample (IGN-032) contained concentrations of RDX above the lower limit of the assay range of the field instrument used to perform the HE screening in the field lab. RDX was detected in IGN-032 at a concentration of 1.4 mg/kg (ppm). This concentration is well below the soil screening level of 5.8 mg/kg for RDX. The laboratory detection for RDX was 0.75 mg/kg and the lower limit of the assay range for the field lab instrument was 0.5 mg/kg. A data summary table for the confirmation soil samples is presented in **Table 4-37**. None of the confirmation samples had results which exceeded any of the screening levels for explosives in soil.

4.3.3 Additional High Explosive Screening and Soil Sampling Results

Two of the original 110 soil samples screened displayed positive results. Five additional soil samples were subsequently collected near each of the original sample locations (10 samples total).

HE Screening

None of the 10 soil samples screened (above 0.5 ppm) positive results for RDX. One sample (IGS-039-000) screened positive (4.0 - 5.0 ppm) for TNT.

Soil Sampling Results

A complete summary of the analytical results for the additional samples is presented in **Appendix A**. TNT was not detected in any of the ten samples submitted for laboratory analysis. A data summary table for the additional soil samples which exhibited concentrations above screening levels is presented in **Table 4-37**. RDX was detected in three of the ten samples, all at concentrations below the screening level.

A total of 12 shallow soil samples from 12 locations were analyzed for metals. Individual metals and their frequencies of detection above screening levels are as follows: copper (8%), nickel (8%), and zinc (33%). None of the metals were detected at concentrations which exceeded published RBC values.

4.3.4 Wipe Sampling Results

One wipe sample was collected from the center of the floor of each igloo to evaluate whether explosives are present. The analytical results for the wipe samples collected from the floors of the igloos at the former Raw Products Igloo Storage Areas are presented in **Appendix A**. Explosives concentration values detected from individual igloo floors are presented in **Table 4-38**. A descriptive statistics summary of the two most commonly detected explosives from all igloos (RDX, and HMX) is presented below:

	RDX	HMX
max. (mg/wipe)	.019	.003
min. (mg/wipe)	.0002	.000063
avg. (mg/wipe)	.0036	.00048
frequency of detection (%)	16	14

4.4 FORMER TETRYL PELLETING AREA

4.4.1 Overall RI Objectives

The RI objective is to evaluate whether the soils adjacent to the concrete drain on the east side of the former Tetryl Pelleting Building contained explosives or metals attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.4.2 Shallow Soil Sampling Results

Analytical results for all of the samples collected at the former Tetryl Pelleting Area are presented in **Appendix A**. Detectable concentrations of explosives and metals were reported in the soil samples collected. A summary of the analytical data for the samples collected from the former Tetryl Pelleting Area is presented in **Table 4-39**. No explosives were detected in concentrations above the screening levels. Metals were detected above the screening level in 3 of the 12 samples collected. Metals detected above screening level and corresponding frequency included; barium (8%), copper (8%), and zinc (13%). Of the 3 individual soil samples with metals above the screening levels, all were from the 0- to 6-inch bgs sampling interval. Sampling locations and results above screening level are presented on **Drawing 4-44**.

At the former Tetryl Pelleting Area, the sampling locations with metals above screening levels are each isolated occurrences with limited horizontal and vertical extent.

4.5 NORTH BURNING GROUND

4.5.1 Overall RI Objectives

The RI objective for the North Burning Ground is to evaluate whether the soils contain metals, VOCs, or SVOCs attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.5.2 Shallow and Deep Soil Sampling Results

The analytical results for all of the samples collected are presented in **Appendix A**. Detectable concentrations of VOCs, SVOCs and metals were reported in the soil samples collected at the North Burning Ground. A summary of the analytical data for the samples collected is presented in **Table 4-40**. No VOCs or SVOCs were detected at concentrations greater than the screening level. For metals, only 4 of the 24 individual soil samples collected had concentrations above screening level. Metals detected above screening level and corresponding frequency included; antimony (3%), beryllium (3%), cobalt (3%), copper (13%), nickel (3%), and thallium (3%). Of the 4 samples with metals above the screening levels, 2 were from the 0- to 6-inch bgs samples and 2 were from the 1- to 2-foot bgs samples. Sampling locations and results above screening level are presented on **Drawing 4-45**.

At the North Burning Ground, the sampling locations with metals above screening levels are each isolated occurrences with limited horizontal and vertical extent.

4.6 SOUTH BURNING GROUND

4.6.1 Overall RI Objectives

The RI objective for the South Burning Ground is to evaluate whether the soils contain metals, VOCs, or SVOCs attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.6.2 Shallow Soil Sampling Results

The analytical results for all of the samples collected are presented in **Appendix A**. Detectable concentrations of VOCs, SVOCs, and metals were reported in the soil samples collected at the South Burning Grounds. A summary of the analytical data for the samples collected is presented in **Table 4-41**. No VOCs or metals were detected at concentrations greater than the soil screening level. Two explosives compounds (2,4-DNT and 2,6-DNT) were detected in the SVOC analyses at concentrations greater than the explosives soil screening level at one surface soil (0- to 6-inch bgs) sample location (SGA-004). The sample location and concentration is consistent with the explosives detected during the OU1 investigation. Sampling locations and results above screening level are presented on **Drawing 4-46**.

At the South Burning Ground, the sampling location with explosives above screening level is an isolated occurrence with limited horizontal and vertical extent.

4.7 PROVING GROUNDS

4.7.1 Overall RI Objectives

The first RI objective for the Proving Grounds is to evaluate whether the soils contain metals, VOCs, or SVOCs attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment. The second RI objective is to evaluate whether the shallow groundwater east of the NRD Reservoir contains explosives, VOCs, SVOCs, or metals attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk human health or the environment.

4.7.2 Shallow and Deep Soil Sampling Results

Analytical results for all of the samples collected at the Proving Ground are presented in **Appendix A**. Detectable concentrations of VOCs, SVOCs, and metals were reported in the soil samples collected. A summary of the analytical data for the soil samples collected from the Proving Ground is presented in **Table 4-42**. For soil, no VOCs or SVOCs were detected at concentrations greater than their respective screening levels. One of the 24 soil samples collected (PG-002 from a 0- to 6-inch bgs) had a metal (zinc) slightly above screening level. concentrations above screening level are presented on **Drawing 4-47**.

At the Proving Grounds, the sampling location with metal above screening level is an isolated occurrence with limited horizontal and vertical extent.

4.7.3 Groundwater Sampling Results

The analytical results for explosives, total metals, dissolved metals, VOCs, and SVOCs are presented in **Appendix A**. Detectable concentrations of VOCs, SVOCs, and metals were reported in the groundwater sample collected from MW-64B. A summary of the analytical data for groundwater sample collected from MW-64B is presented in **Table 4-43**. For groundwater, none of the analytes were detected in concentrations above screening levels.

4.8 POTENTIAL LANDFILL AREA NORTH OF THE PROVING GROUNDS

4.8.1 Overall RI Objectives

The first RI objective for the Potential Landfill Area north of the Proving Ground is to evaluate whether the soils in the area contain explosives, metals, VOCs, or SVOCs attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.8.2 Shallow and Deep Soil Sampling Results

The analytical results for all of the samples collected at the Potential Landfill Area north of the Proving Grounds are presented in **Appendix A**. Detectable concentrations of SVOCs, explosives, and metals were reported in the soil samples collected. A summary of the analytical data for the samples collected is presented in **Table 4-44.** No SVOCs or explosives were detected at concentrations greater than soil screening levels. Four of the 24 individual soil samples collected from 14 sampling locations had metals (antimony, chromium, cobalt, copper, lead, and zinc) in concentrations above screening levels. Of the 2 Phase I sampling locations with metals above the screening levels (PL-001 and PL-003), antimony, cobalt, copper, and lead were only detected above screening levels at PL-001. For all metals above screening levels, zinc was the only metal from a single 0- to 6-inch bgs sample, while the other metals above screening levels were all from two 1- to 2-foot bgs samples. Chromium (at sample location PL-001) and lead (at sample location PL-001) were the only metals detected in concentrations above the published PRG values. For the Phase II investigation, manganese (at 1- to 2-foot bgs), from sampling location the PL-008, was the only metal detected above screening level. Concentrations above screening levels are presented on **Drawing 4-48**.

At the Potential Landfill Area north of the Proving Grounds, the sampling locations with metals above screening levels are each isolated occurrences with limited horizontal and vertical extent.

4.9 FORMER NOP LANDFILL AREA

4.9.1 Overall RI Objectives

The RI objective for the groundwater at the former NOP Landfill Area is to evaluate whether the groundwater upgradient and downgradient of the former NOP Landfill Area contains thiodiglycol (a hydrolysis degradation product of mustard agent) at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.9.2 Groundwater Sampling Results

Thiodiglycol was not detected in any of the groundwater samples collected from any of the existing monitoring wells located upgradient or downgradient of the former NOP Landfill Area. Thiodiglycol will continue to be monitored for under the Site-Wide Groundwater Monitoring Program.

4.10 POTENTIAL WASTE DISPOSAL AREAS NORTH OF THE FORMER NIKE MAINTENANCE AREA

4.10.1 Overall RI Objectives

The RI objective for the Potential Waste Disposal Areas north of the former Nike Maintenance Area is to evaluate whether the soils or groundwater contain explosives, metals, VOCs, or SVOCs attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.10.2 Shallow and Deep Soil Sampling Results

The analytical results for all of the samples collected are presented in **Appendix A.** Detectable concentrations of VOCs, SVOCs, explosives, and metals were reported in the soil samples collected. A summary of the analytical data for the soil samples collected is presented in **Table 4-45**. No VOCs, SVOCs, explosives, or metals were detected at concentrations greater than their respective soil screening level.

4.10.3 Groundwater Sampling Results

The analytical results for all of the groundwater samples collected from existing downgradient wells (MW-22A and MW-22B) and from background wells are presented in **Appendix A**. Detectable concentrations of VOCs, explosives, and metals were reported in the groundwater samples collected from the downgradient wells. Detectable concentrations of VOCs and metals were reported in the samples collected from the background wells.

Summaries of the analytical data for the downgradient wells and background wells are provided in **Tables 4-46** and **Table 4-35**, respectably. With the exception of total manganese from MW-22B, no compounds were detected at concentrations greater than the groundwater screening levels in the samples from the downgradient wells. Total manganese was also detected at concentrations greater than the screening level in the background groundwater samples.

4.11 POTENTIAL WASTE DISPOSAL AREA SOUTHEAST OF THE FORMER BOMB BOOSTER ASSEMBLY AREA

4.11.1 Overall RI Objectives

The RI objective for the Potential Waste Disposal Area located southeast of the former Bomb Booster Assembly Area is to evaluate whether the soils or groundwater contain explosives, metals, VOCs, SVOCs, or PCBs attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

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4.11.2 Shallow and Deep Soil Sampling Results

The analytical results for all of the samples collected are presented in **Appendix A**. Detectable concentrations of VOCs, SVOCs, explosives, PCBs, and metals were reported in the soil

samples. A summary of the analytical data for the soil samples collected is presented in **Table 4-47**. No VOCs, SVOCs, explosives, metals, or PCBs were detected at concentrations greater than their respective soil screening level.

4.11.3 Groundwater Sampling Results

The analytical results for the groundwater sample collected from a downgradient well (MW-57B) and the background wells are presented in **Appendix A.** Detectable concentrations of VOCs and metals were reported in the groundwater sample collected from downgradient well MW-57B. Detectable concentrations of metals and VOCs were reported in the background groundwater samples.

The analytical data summary for the groundwater samples collected from MW-57B are presented in **Table 4-48**. No compounds were detected at concentrations greater than the groundwater screening levels in the sample from MW-57B.

4.12 POTENTIAL WASTE DISPOSAL AREAS AT THE FORMER ATLAS MISSILE AREA

4.12.1 Overall RI Objectives

The RI objective for the Potential Waste Disposal Areas at the former Atlas Missile Area is to evaluate whether the soils or groundwater contain explosives, metals, VOCs, or SVOCs attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment. The second RI objective was to evaluate the potential for groundwater contamination which may be attributable to the investigation area.

4.12.2 Shallow and Deep Soil Sampling Results

The analytical results for all of the samples collected are presented in **Appendix A.** Detectable concentrations of SVOCs, explosives and metals were reported in the soil samples. A summary of the analytical data for the soil samples collected is presented in **Table 4-49**. No VOCs, SVOCs, or explosives were detected at concentrations greater than their respective soil screening level. One metal (manganese) in one sample (from 4 to 5 feet bgs) was detected at a concentration greater than the soil screening level. This sample was collected at the southwest disposal area from sampling location AMA-002 (**Drawing 4-49**).

At the former Atlas Missile Area, the sampling location with the metal above screening level is an isolated occurrence with limited horizontal and vertical extent.

4.12.3 Groundwater Sampling Results

The analytical results for all of the groundwater samples collected from wells in vicinity of the former Atlas Missile Area (MW-58A, MW-58B, MW-59A, MW-59B, and MW-59D), as well as the background wells, are presented in **Appendix A**. Detectable concentrations of VOCs,

SVOCs, and total and dissolved metals were reported in the groundwater samples collected from the near-by monitoring wells in the vicinity.

A summary of the analytical data for the groundwater samples collected from wells in the vicinity is presented in **Table 4-50**. TCE (from MW-58B) was the only VOC detected at a concentration greater than the groundwater screening level. TCE was not detected in any of the background monitoring wells. Total and dissolved manganese were detected at concentrations greater than the screening level in three of the five groundwater samples collected. Total and dissolved manganese were also detected at concentrations greater than the groundwater screening level in the background wells.

The results of the OU3 RI and previous investigations at the former Atlas Missile Area do not indicate that the waste disposal areas are a source of TCE to the groundwater. The location and concentration of TCE in groundwater detected during OU3 RI is consistent with the findings from OU2.

4.13 POTENTIAL WASTE DISPOSAL AREA NORTH OF THE FORMER AMMONIUM NITRATE PLANT

4.13.1 Overall RI Objectives

The RI objective for the Potential Waste Disposal Area north of the former Ammonium Nitrate Plant is to evaluate whether the soils contain explosives, metals, VOCs, or SVOCs attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.13.2 Shallow and Deep Soil Sampling Results

The analytical results for all of the samples collected are presented in **Appendix A**. Detectable concentrations of SVOCs, explosives, and metals were reported in the soil samples collected. A summary of the analytical data is presented in **Table 4-51**. No VOCs, SVOCs, explosives, or metals were detected at concentrations greater than their respective soil screening level.

4.14 DEMOLITION GROUND

4.14.1 Overall RI Objectives

The RI objective for the Demolition Ground is to evaluate whether the soils or groundwater contain explosives, metals, VOCs, or SVOCs attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.14.2 Shallow and Deep Soil Sampling Results

The analytical results for all of the samples collected at the Demolition Ground are presented in **Appendix A**. Detectable concentrations of VOCs, SVOCs, explosives and metals were reported in the soil samples collected. A summary of the analytical data for the soil samples collected at

the Demolition Ground area is presented in **Table 4-52**. No VOCs, SVOCs, explosives, or metals were detected at concentrations greater than their respective soil screening level.

4.14.3 Groundwater Sampling Results

The analytical results for all of the groundwater samples collected from downgradient wells MW-10A and MW-10B and the background wells are presented in **Appendix A**. Detectable concentrations of VOCs, explosives, and total and dissolved metals were reported in the groundwater samples collected from the downgradient wells.

A summary of the analytical data for the groundwater samples collected from wells MW-10A and MW-10B is presented in **Table 4-53**. No compounds were detected above the groundwater screening levels in the groundwater samples from either well.

4.15 DETONATION CRATERS

4.15.1 Overall RI I Objectives

The RI objective for the Detonation Craters located west of the Demolition Ground is to evaluate whether the soils contain explosives, metals, VOCs, or SVOCs attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.15.2 Shallow Soil Sampling Results

The analytical results for all of the samples collected at the Detonation Craters are presented in **Appendix A**. Detectable concentrations of SVOCs, explosives, and metals were reported in the soil samples. A summary of the analytical data for the samples collected from the Detonation Craters is presented in **Table 4-54**. No VOCs, SVOCs, or explosives were detected at concentrations greater than any soil screening levels. Manganese, collected at sampling location DCA-001 from 1- to 2-foot bgs, was the only metal detected (1320 mg/kg) at a concentration (1320 mg/kg) above the soil screening level (**Drawing 4-50**).

At the Detonation Craters, the sampling location with manganese above the screening level is an isolated occurrence with limited horizontal and vertical extent.

4.16 BERMED AREA SOUTHWEST OF LOAD LINE 1

4.16.1 Overall RI Objectives

The RI objective is to evaluate whether the soils at the Bermed Area contain explosives, metals, VOCs, or SVOCs attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.16.2 Shallow Soil Sampling Results

The analytical results for all of the samples collected at the Bermed Area are presented in **Appendix A**. Detectable concentrations of SVOCs, explosives, and metals were reported in the soil samples. A summary of the analytical data for the samples collected from the Bermed Area is presented in **Table 4-55**. No VOCs, SVOCs, explosives, or metals were detected at concentrations greater than their respective soil screening level.

4.17 FORMER AMMONIUM NITRATE PLANT

4.17.1 Overall RI Objectives

The RI objective is to evaluate if the groundwater downgradient of the former Ammonium Nitrate Plant contains metals, nitrates (as N), or nitrites (as N) attributable to DoD-related activities at concentrations that may cause an unacceptable risk to human health or the environment.

4.17.2 Groundwater Sampling Results

The analytical results for the newly installed downgradient monitoring well MW-63B and the background wells are presented in **Appendix A**. Detectable concentrations of nitrates, nitrites, and metals were reported in groundwater samples collected from MW-63B. Detectable concentrations of nitrates, nitrites, and metals were also reported in the groundwater samples from the background monitoring wells. A summary of the analytical data for the samples collected from MW-63B is presented in **Table 4-56**. A summary of the analytical data for the background monitoring wells is presented in **Tables 4-35**. No metals were detected in the samples from MW-63B above the groundwater screening levels. Total and dissolved manganese were detected at concentrations greater than the groundwater screening levels in the background samples. Both nitrates and nitrates were detected at concentrations greater than the screening levels in the samples from MW-63B and background well MW-48B.

4.18 JOHNSON AND CLEAR CREEKS

4.18.1 Overall RI and Phase I Objectives

The RI objective is to evaluate if the surface waters or sediment of Johnson and Clear Creeks contain explosives, metals, VOCs, or SVOCs attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.18.2 Surface Water Sampling Results

All results from the Phase I (March, 1995) and Phase II (May and July, 1996) surface water sampling are presented on **Drawing 4-51**. The analytical results for the Phase I and Phase II surface water samples collected from Johnson and Clear Creeks are presented in **Appendix A**. A

summary of the analytical data for all surface water samples collected from Johnson and Clear Creeks is presented in **Tables 4-57** through **Table 4-59**.

During the Phase I investigation, detectable concentrations of a explosives, and metals were reported in the surface water samples. No VOCs or explosives were detected at concentrations greater than the screening levels. However, RDX, HMX, and TCE were detected in concentrations slightly below screening level.

Sampling locations where RDX was detected included: JC-001, upstream of the former Atlas Missile Area on Johnson Creek; JC-002, downstream of the NRD Reservoir on Johnson Creek; JC-003, on Johnson Creek upstream of its confluence with Clear Creek; and JC-004, on Clear Creek downstream of its confluence with Johnson Creek and an unnamed tributary draining Load Lines 2, 3, and 4. Sampling locations where HMX was detected included; JC-002 and JC-003. Sampling locations where TCE was detected included; JC-003 and JC-004. The highest reported levels of RDX, HMX and TCE were each detected in the samples collected at JC-003.

Six metals (copper, lead, manganese, mercury, nickel, and zinc) were detected at concentrations greater than the screening levels during the Phase I investigation. Copper, lead, manganese, mercury, and zinc were all reported in concentrations above screening level from JC-001. Manganese and mercury were above screening levels at JC-002. Nickel, alone, was above screening level at JC-004. With the exception of nickel (from JC-004), the maximum concentration of each metal detected above screening level was detected in the surface water sample from JC-001.

During both the Phase II - high flow (May, 1996) and low flow (July, 1996) sampling events, samples were analyzed for explosives and VOCs only. Two additional sampling locations located upstream (JC-007 and JC-008) and downstream (JC-005 and JC-006) of the Phase I investigation sampling locations were added to provide additional surface water analytical results necessary for confirming and evaluating the Phase I investigation results. Results for the Phase II - high flow surface water samples collected from Johnson and Clear Creeks are presented in **Appendix A**. No detectable concentrations of explosives were reported in any of the surface water samples. Detectable concentrations of TCE and metals were reported in the samples collected. TCE and four metals (manganese, mercury, selenium, and thallium) were detected at concentrations greater than the screening levels. For TCE, concentrations above screening level were detected in samples collected at; JC-005, on Johnson Creek approximately 0.9 miles upstream of its confluence with Clear Creek; and at the JC-003 sampling location on Johnson Creek. For all metals, the highest reported metals detected in concentrations were detected in the sample collected at JC-003 on Johnson Creek.

Results for the Phase II - low flow (July, 1996) surface water samples collected from Johnson and Clear Creeks are presented in **Appendix A**. No detectable concentrations of explosives were reported in any of the surface water samples. Detectable concentrations of VOCs and metals were reported in the samples collected. The maximum concentration of TCE was from sampling section JC-005 on Johnson Creek at a concentration of 6.92 μg/L. Three metals (manganese, selenium, and thallium) were detected at concentrations greater than the screening levels. The maximum concentration for manganese was detected in the samples collected from JC-003 (406 μg/L) on Johnson Creek. The maximum concentration for thallium was detected at JC-004

(8.1 μg/L) on Clear Creek. The maximum concentration value for selenium was detected at both JC-003 (8.1 μg/L) on Johnson Creek and JC-004 (7.8 μg/L) on Clear Creek.

In terms of nature and extent, TCE concentrations above the screening level in surface waters were only detected along a 1-mile reach of Johnson Creek upstream of its confluence with Clear Creek, and only during the high flow sampling event. Also, TCE was only detected in the furthest downstream sampling location during the high flow sampling, and at concentrations well below the screening level. This limited extent of TCE contamination in surface water corresponds with the TCE contamination plume for groundwater, and is therefore assumed to be attributed to local effects from groundwater discharge.

4.18.3 Sediment Sampling Results

The analytical results for all of the sediment samples collected from Johnson and Clear Creeks are presented in **Appendix A**. Detectable concentrations of VOCs and metals were reported in the sediment samples. A summary of the analytical data for the sediment samples collected from Johnson Creek is summarized in **Table 4-60**. No metals, VOCs, SVOCs, or explosives were detected at concentrations greater than their respective screening level in the sediment samples collected from Johnson and Clear Creeks. All of the results for sediment samples are presented on **Drawing 4-52**.

4.19 SILVER CREEK

4.19.1 Overall RI Objectives

The RI objective is to evaluate if the surface waters or sediment of Silver Creek contain explosives, metals, VOCs, or SVOCs attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.19.2 Surface Water Sampling Results

All results from the Phase I (March, 1995) and Phase II (May and July, 1996) surface water sampling are all presented on **Drawing 4-51**. The analytical results for the Phase I and Phase II surface water samples collected from Silver Creek are presented in **Appendix A**. A summary of the analytical data for all surface water samples collected from Silver Creek is presented in **Tables 4-61** through **Table 4-63**.

During the Phase I investigation, detectable concentrations of toluene, 4-Am-DNT, and metals were reported in the surface water samples. No VOCs or explosives were detected at concentrations greater than their respective screening level. However, 4-Am-DNT was detected at the furthest downstream surface water sampling location (SC-002). No screening level was established for 4-Am-DNT. For metals, manganese was the only metal detected at concentrations greater than the screening levels at both of the surface water samples.

During both the Phase II - high flow (May, 1996) and low flow (July, 1996) sampling events, samples were analyzed for explosives and VOCs only. Two additional sampling locations were added (SC-003 and SC-004) to provide additional surface water analytical results necessary for

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confirming and evaluating the Phase I investigation results. Results for the Phase II - high flow surface water samples collected from Silver Creek are presented in **Appendix A**. No detectable concentrations of explosives were reported in any of the surface water samples. Detectable concentrations of one VOC (toluene) were reported in the surface water samples. None of the samples exhibited concentrations above screening level.

Results for the Phase II - low flow surface water samples collected from Silver Creek are presented in **Appendix A**. No detectable concentrations of explosives were reported in the surface water samples. Detectable concentrations of two VOCs (methylene chloride and toluene) were reported in the surface water samples. Methylene chloride and toluene were detected in blanks analyzed during the OU3 RI. Methylene chloride is generally considered as a common laboratory contaminant. Investigative samples were qualified due to blank contamination as appropriate in the QCSR. None of the samples exhibited concentrations above screening levels.

In terms of nature and extent, the presence of 4-Am-DNT was only detected during one sampling event; at one sampling location; and in low concentrations. Results from the OU2 RI suggests that the existing groundwater explosives contamination plume to be a possible source of this explosive in surface water. Results from all sampling suggests that detected compounds in Silver Creek are limited in extent and in concentrations below screening levels.

4.19.3 Sediment Sampling Results

The analytical results for all of the sediment samples collected from Silver Creek are presented in **Appendix A**. Detectable concentrations of VOCs, SVOCs, and metals were reported in the sediment samples. A summary of the analytical data for the sediment samples collected from Silver Creek is summarized in **Table 4-64**. No VOCs, SVOCs, or metals were detected at concentrations greater than their respective screening level in the sediment samples collected from Silver Creek. All of the results for the sediment samples are presented on **Drawing 4-52**.

4.20 UNDERGROUND STORAGE TANKS AT THE FORMER ADMINISTRATION, BOMB BOOSTER ASSEMBLY AND ATLAS MISSILE AREAS, AND THE FORMER AIR FORCE GLOBAL COMMUNICATIONS CENTER

4.20.1 Overall RI Objectives

The RI objective for the UST investigations is to evaluate whether the soils or groundwater contain BTEX, SVOCs or TRPH attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.20.2 Former Administration Area

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Soil Sampling Results

The analytical results for the soil samples collected at the former Administration Area USTs investigation area are presented in **Appendix A**. Detectable concentrations of SVOCs and TRPH were reported in the soil samples. A summary of the analytical data for the soil samples

collected is presented in **Table 4-65**. No SVOCs were detected at concentrations greater than the screening levels. TRPH (21 mg/kg) was detected slightly above the soil screening level in the 0- to 6-inch bgs (**Drawing 4-53**).

At the former Administration Area USTs investigation area, the sampling location with TRPH above the screening level is an isolated occurrence with limited horizontal and vertical extent. Because TRPH was only detected in the uppermost surface soil sample, the USTs are not suspected to be the source. Given that the area is currently being used by private businesses, the location and concentration of TRPH at the former Administration Area USTs investigation area may be attributed to more recent activities.

Groundwater Sampling Results

The analytical results for the groundwater sample collected from the former Administration Area USTs investigation area are presented in **Appendix A**. Low level concentrations of toluene (2.8 µg/L) and total xylenes (4.3J µg/L), together with, low level concentrations of SVOCs were detected in the groundwater samples. A summary of the analytical data for the groundwater samples is presented in **Table 4-66**. No BTEX components or SVOCs detected at concentrations greater than their respective screening levels.

4.20.3 Former Bomb Booster Assembly Area

Soil Sampling Results

The analytical results for the soil samples collected at the former Bomb Booster Assembly Area USTs investigation area are presented in **Appendix A**. Only SVOCs were detected in any of the soil samples. A summary of the analytical data for the soil samples collected is presented in **Table 4-67**. No SVOC was detected at concentrations greater than the screening levels.

Groundwater Sampling Results

The analytical results for the groundwater sample collected from the former Bomb Booster Assembly Area USTs investigation area are presented in **Appendix A**. Low level concentrations of SVOCs were detected in the groundwater samples. A summary of the analytical data for the groundwater samples is presented in **Table 4-68**. No SVOC was detected at concentrations greater than the screening levels.

4.20.4 Former Atlas Missile Area

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Soil Sampling Results

The analytical results for the soil samples collected at the two former Atlas Missile Area UST investigation areas are presented in **Appendix A**. Detectable concentrations of SVOCs were reported in the soils at both locations. TRPH was reported in one soil sample. A summary of the analytical data for the soil samples collected is presented in **Table 4-69**. No SVOCs were detected at concentrations greater than the screening levels. TRPH (21 mg/kg) was detected

slightly above the soil screening level in the 0- to 6-inch bgs at sampling location UM-002 (**Drawing 4-54**).

At the former Atlas Missile Area UST investigation area UM-002, the surface sample with TRPH above the screening level is an isolated occurrence with limited horizontal and vertical extent. Because TRPH was only detected in the uppermost surface soil sample, the UST is not suspected to be the source. Given that the area is currently being used by the National Guard, the location and concentration of TRPH at this UST investigation area may be attributed to more recent activities.

Groundwater Sampling Results

The analytical results for the groundwater samples collected from the former Atlas Missile Area UST investigation areas are presented in **Appendix A**. Low level detectable concentrations of toluene (2.8 µg/L) and SVOCs were reported in the groundwater samples at the UM-001 sampling location. Detectable concentrations of SVOCs were reported in the groundwater samples collected at sampling location UM-002. A summary of the analytical data for the groundwater samples is presented in **Table 4-70**. No SVOCs or BTEX components was detected at concentrations greater than their respective screening level.

4.20.5 Former Air Force Global Communications Center

Soil Sampling Results

The analytical results for the soil samples collected at the two former Air Force Global Communications Center UST investigation area sampling locations (AGR-001 and AGR-002) are presented in **Appendix A**. Detectable concentrations of SVOCs were reported at both sampling locations, while TRPH was reported only at AGR-001. A summary of the analytical data for the soil samples collected at the USTs is presented in **Table 4-71**. SVOCs were detected in concentrations above screening levels. Each of these SVOCs were polynuclear aromatic hydrocarbons (PAHs) detected from the 0- to 6-inch sampling interval. PAHs are common to surface soils from locations with similar land use and surface materials as the Former Air Force Global Communications Center Area. TRPH (13 mg/kg) was detected slightly above the soil screening level in the 0- to 6-inch bgs sample from AGR-001 (**Drawing 4-55**).

At the former Air Force Global Communications Center UST investigation area sampling location AGR-001, the sample with TRPH above the screening level is an isolated occurrence with limited horizontal and vertical extent. Because TRPH was only detected in the uppermost surface soil sample, the UST is not suspected to be the source. Given that the area is currently being used by the ARDC, the location and concentration of TRPH may be attributed to more recent activities.

Groundwater Sampling Results

The analytical results for the groundwater samples collected from the Air Force Global Communications Center USTs investigation areas are presented in **Appendix A**. Low concentrations of three SVOCs were detected at the AGR-001 location. A summary of the

analytical data for the groundwater samples is presented in **Table 4-72**. No SVOCs, were detected at concentrations greater than the screening levels.

4.21 GEOPHYSICAL ANOMALY AT LOAD LINE 3

4.21.1 Overall RI Objectives

The RI objective for the investigation of the Geophysical Anomaly at Load Line 3 was to evaluate whether the surrounding soils contain explosives, metals, VOCs, or SVOCs attributable to past DoD-related activities at concentrations sufficient to pose an unacceptable risk to human health or the environment.

4.21.2 Shallow and Deep Sampling Results

The analytical results for all of the samples collected at the Geophysical Anomaly at Load Line 3 are presented in **Appendix A**. Detectable concentrations of SVOCs, explosives, and metals were reported in the soil samples. A summary of the analytical data for the samples collected from the Geophysical Anomaly at Load Line 3 is presented in **Table 4-73**. No VOCs, SVOCs, explosives, or metals were detected at concentrations greater than the soil screening level.

4.22 SITE-WIDE CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY

4.22.1 Overall RI Objectives

The RI objective is to assess each former NOP building for the presence of containerized potentially hazardous DoD waste materials and potential for release. Releases (if any) were then evaluated for concentrations of chemicals sufficient to pose an unacceptable risk to human health or the environment.

4.22.2 Survey Results

No containerized potentially hazardous waste materials attributable to past DoD-related activities were found in any of the former NOP buildings surveyed during this investigation.

4.23 DATA QUALITY REVIEW

4.23.1 Data Review Process

Details of the data quality review process and review results were presented in Quality Control Summary Reports (QCSR) for the OU3 RI Phase I (W-C, 1995a) and RI Phase II (W-C, 1996d) investigations. In general, the data review process consisted of a Quality Assurance/Quality Control (QA/QC) review performed by the analytical laboratory, followed by, an independent data assessment performed by W-C. The independent data assessment followed the Contract Compliance Screen (CCS) process described in CLP Functional Guidelines and/or full data validation. One hundred percent of the data were reviewed by the CCS process while 10 percent

of the data were fully reviewed following the procedures specified in the USEPA CLP National Functional Guidelines for Inorganic and Organic Data Review (Guidelines) (EPA, 1994a, 1994b). The purpose of the CCS and full validation was to evaluate whether laboratory performance and analytical data are in compliance with method requirements and project specifications for accuracy, precision, validity, and completeness. The full validation consisted of a review of SW-846 results summary sheets and instrument reports for QA/QC parameters such as matrix spikes (MS), matrix spike duplicates (MSDs), detection limits, calibrations, lab control samples (LCS), chain of custody forms, sample preparations, holding times, etc. Full validation also consisted of recalculating laboratory data and standard calibration curves, checking for transcription errors, and carefully checking chromatograms and reconstructed ion chromatograms.

The data assessment process provided information on analytical limitations of data based on regulatory or method specific QA/QC criteria. Also, as part of the review process, data qualifiers were assigned and statements were given concerning usability of data. To ensure the data gathered during the OU3 RI Phase I and Phase II investigation activities were adequate, the precision, accuracy, representativeness, completeness, and comparability (PARCC) parameter-targets identified for Level III analyses during the development of the OU3 RI Data Quality Objectives (DQOs) were also evaluated. Quality of the analytical data is indicated by the calculation of values for precision, accuracy, and completeness. The quantitative target values for precision, accuracy, and completeness are as follows:

- Precision = 20 percent
- Accuracy = control limits specified for the particular analysis
- Completeness = 90 percent

Comparability and representativeness are assessed in a qualitative evaluation of the data generated during the field investigation.

4.23.2 OU3 RI Phase I Overall Data Assessment

As previously stated, details on the data quality review for OU3 RI Phase I results have been presented in a QCSR report (W-C, 1995a). For each OU3 investigation area, an overall data assessment was provided in the QCSR which summarized the acceptability of each PARCC parameter for each OU3 investigation area. For the OU3 RI Phase I investigation, precision, representativeness, and comparability were acceptable for each investigation area. With the exception of Load Line 2 wipe sample results, overall completeness was greater than the CDAP QA objective of 90 percent at each investigation area. Accuracy was impacted at several investigation areas, mostly due to the rejection of antimony and tetryl results. Following are several brief descriptions of the PARCC parameter(s) which was impacted at each investigation area and corrective measures (if any) taken to address the impact:

- Bomb Production Buildings Soil Samples: accuracy was impacted by the rejection of a majority of the antimony results based on low matrix spike recoveries and several tetryl results based on low Laboratory Control Sample (LCS) recovery. Resampling for tetryl in

adjacent soil was performed on August 29 and 30, 1995. This resampling was performed to address the rejected tetryl results.

- Bomb Production Buildings Wipe Samples: accuracy was impacted by the rejection of a combined total of 360 results based on low blank spike/blank spike duplicate (BS/BSD) matrix spike recoveries. The overall completeness for Load Line 2 was 75.8 percent, less than the CDAP QA objective of 90 percent. Resampling was performed on August 31, 1995 at Load Line 2 to address the rejected results.
- Load Line Paint Operation Areas Soil Samples: accuracy was impacted by the rejection of a combined total of 70 antimony results based on low matrix spike recoveries.
- Former Raw Products Igloo Storage Areas Confirmation and Additional Shallow Soil Samples: accuracy was impacted by the rejection of two tetryl results based on LCS.
- Former Tetryl Pelleting Area Soil Samples. accuracy was impacted by the rejection of eight tetryl results and eight antimony results based on low LCS and matrix spike recoveries, respectively. Resampling for tetryl in soil was performed on August 31, 1995 to address the rejected tetryl results.
- North Burning Ground Soil Samples: accuracy was impacted by the rejection of 13 nondetect antimony results based on Matrix Spike (MS) recoveries less than 30 percent.
- South Burning Ground Soil Samples: accuracy was impacted by the rejection of 32 nondetect antimony results based on MS recoveries less than 30 percent.
- Proving Grounds Soil Samples: accuracy was impacted by the rejection of ten nondetect antimony results based on MS recoveries less than 30 percent.
- Potential Landfill Area north of the Proving Grounds Soil Samples: accuracy was impacted by the rejection of six nondetect antimony results based on MS recoveries less than 30 percent.
- Potential Waste Disposal Areas north of the former Nike Maintenance Area Soil Samples: accuracy was impacted by the rejection of three nondetect antimony results based on MS recoveries less than 30 percent.
- Potential Waste Disposal Area southeast of the former Bomb Booster Assembly Area Soil Samples: accuracy was impacted by the rejection of 15 nondetect antimony results based on MS recoveries less than 30 percent.
- Potential Waste Disposal Areas at the former Atlas Missile Area Soil Samples: accuracy was impacted by the rejection of three nondetect antimony results based on MS recoveries less than 30 percent.
- Potential Waste Disposal Area north of the former Ammonium Nitrate Plant Soil Samples: accuracy was impacted by the rejection of three nondetect antimony results based on MS recoveries less than 30 percent.
- Demolition Ground Soil Samples: accuracy was impacted by the rejection of 20 nondetect antimony results based on MS recoveries less than 30 percent.

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- Detonation Craters Soil Samples: accuracy was impacted by the rejection of 12 nondetect antimony results based on MS recoveries less than 30 percent.
- Bermed Area Soil Samples: accuracy was impacted by the rejection of five nondetect antimony results based on MS recoveries less than 30 percent.
- Geophysical Anomaly at Load Line 3 Soil Samples: accuracy was impacted by the rejection of seven nondetect antimony results based on MS recoveries less than 30 percent.

4.23.3 OU3 RI Phase II Overall Data Assessment

As previously stated, details on the data quality review for OU3 RI Phase II results have been presented in a QCSR (W-C, 1996d). For each OU3 investigation area, an overall data assessment was provided in the QCSR which summarized the acceptability of each PARCC parameter for each OU3 investigation area. For the OU3 RI Phase II investigation, precision, representativeness, comparability, and completeness were acceptable for each investigation area. Accuracy was acceptable at all investigation areas, with the exception the former Raw Products Igloo Storage Areas, where accuracy was impacted by the rejection of three antimony results based on low matrix spike recoveries.

EPA guidance for conducting remedial investigations and feasibility studies under CERCLA (EPA, 1988a) states that the objectives of contaminant fate and transport analysis are to:

- Identify off-site areas potentially affected by contamination
- Estimate contaminant concentrations in those areas.

In general, the Section 4.0 nature and extent of contamination evaluations satisfy the objectives above. The fate and transport analysis addresses the objectives using an environmental screening assessment process which is based on guidance outlined in EPA (1988b). The fate and transport analysis will use information presented in earlier sections of this report concerning Site physical characteristics, contaminant source characteristics, and the nature and extent of contamination.

The fate and transport analysis begins with a discussion of the persistence of selected chemical classes identified in samples collected at the Site. The two components of contaminant persistence, chemical degradation and contaminant mobility are discussed for explosives, VOCs, and metals compounds. The fate and transport analysis continues with the screening of potential routes of contamination. The screening process which is outlined in EPA (1988b) provides an initial direction and organization for any subsequent quantitative analysis as well as a consistent basis for fate and transport analysis. If it is appropriate, contaminant migration may be quantitatively simulated for the predominant transport mechanisms identified during the screening process.

5.1 CONTAMINANT PERSISTENCE

This section presents a summary of the physicochemical properties of selected chemicals identified at the Site. A discussion of how these properties affect the persistence of the chemical class is also provided. The chemicals selected in this section represent the more prevalent compounds detected in soil, sediment, surface water, or groundwater at the Site.

Contaminant persistence is a medium-specific, relative indication of the decrease in concentration of a contaminant with time. Contaminant persistence consists of two components, chemical degradation and contaminant mobility. The degradation process is the breakdown of a chemical compound in the presence of sunlight, oxygen, chemical species, thermal influences, biological factors, or any combination of these factors. A low degradation potential indicates that a contaminant will have greater persistence in an environmental system. A high degradation potential indicates that a particular contaminant has a lower persistence.

Mobility is an indication of the movement of a solute with respect to the movement of the solvent in an environmental system (for example, the rate of movement of a contaminant relative to groundwater in the saturated zone).

5.1.1 Persistence and Mobility of Explosives

This section discusses various factors of selected compounds detected at the Site that affect their persistence and mobility. Data for some compounds are unavailable while others, such as TCE and TNT, have been extensively studied.

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Processes affecting persistence and mobility include chemical processes (complexation/chelation, dehydrohalogenation, hydrolysis, ionization, oxidation/reduction, and photolysis), phase change mechanisms (ion-cation exchange, precipitation/dissolution, sorption, volatilization), biological processes (biotransformation, bioaccumulation), and physical transport (diffusion, fallout, leaching, meteorological transport, and runoff). The degree to which these processes affect contaminants is dependent on the physicochemical properties of each contaminant, the medium, and environmental conditions.

In general, explosive compounds are susceptible to sorption and biotransformation, and, except for tetryl, are resistant to hydrolysis. Photolysis and biodegradation generally occur at the soil surface. VOCs are more susceptible than explosives to biodegradation under aerobic conditions.

SVOCs are less mobile than VOCs due to lower water solubility. Most SVOCs are not readily susceptible to photolysis, hydrolysis, or oxidation, but are susceptible to biodegradation.

Inorganic compounds are susceptible to complexation, oxidation, precipitation, and sorption. Inorganic compounds are also characterized as having low mobility.

TNT (2,4,6-Trinitrotoluene)

TNT is subject to biological degradation and photolysis; however, depending on the rate of the degradation process, the chemicals may persist in environmental media for many years (Layton et al., 1986). Although TNT is more susceptible to photolysis than biotransformation, photolysis is only significant in surface soil and surface water. Fungi, aerobic bacteria, and anaerobic bacteria, which are capable of metabolizing TNT, have been reported in soils, muds, and fresh waters and their sediments (Burrows et al., 1989). Laboratory cultures supplemented with bacterial media have resulted in rapid TNT decreases of 100 mg/l or more (Burrows et al., 1989). Biotransformation rates and products have also been shown to be affected by pH level and oxygen concentration (Layton et al., 1986).

During a degradation study of pink water compounds (wastewater from TNT manufacturing) (Green et al., 1985) in soil, 4-amino-2,6-DNT (4-ADNT) and 2-amino-4,6-DNT (2-ADNT) were the primary microbial intermediates formed from TNT after soil columns were run continuously for 100 days. 2-ADNT and 4-ADNT will undergo photolysis in surface water and are also susceptible to biotransformation under both aerobic and anaerobic conditions.

TNT has a relatively low to intermediate mobility in groundwater (Burrows et al., 1989). Based on a review of the available literature and the physicochemical properties of TNT, Spanggord et al. (1980) indicated that sediment adsorption would not likely be significant. Tucker et al. (1985), however, reported that adsorption in soil would be significant, based on experiments under a wide range of conditions. Cation exchange capacity and organic carbon content are the most critical environmental conditions affecting adsorption.

Adsorption and desorption appear to occur to the same extent. This suggests that, over time, continued leaching may remove TNT from soils. Oxidizing conditions decrease adsorption compared to reducing conditions. Reduction of TNT to 2-ADNT and 4-ADNT was observed during adsorption and desorption experiments. These products are more polar than TNT and have greater affinity for soil (Pennington, 1990).

RDX (Hexahydro-1,3,5-trinitro-1,3,5-triazine)

Aerobic biotransformation has little, if any, effect on the presence of RDX in the environment. On the other hand, certain anaerobic sludge treatment systems with high supplemental nutrient levels were found to affect the reductive transformation of RDX. Methanol, formaldehyde, hydrazine, 1,1-dimethylhydrazine, and 1,2-dimethylhydrazine were the major products (Burrows et al., 1989). Aerobic biotransformation of RDX in environmental surface waters appears to be insignificant, and the significance of anaerobes in removing it from soils and standing water zones or bottom sediments is not clear (Burrows et al., 1989). It appears, however, that added nutrients are required and that microbial degradation will occur only where sediment microbial populations have adapted to mineralize RDX (Layton et al., 1986).

RDX is readily degraded photochemically. Several different pathways may be operative. Photolysis in water leads to the formation of nitrate, formaldehyde, and methylenedinitramine. Methylenedinitramine decomposes in water to form formaldehyde and nitrous oxide (Burrows et al., 1989). Formaldehyde is biodegradable both aerobically and anaerobically (Howard, 1990). Photolysis of RDX appears to increase with increasing sunlight and ambient temperatures. Unlike TNT, the presence of decomposition products or humic substances does not accelerate the rate of photolysis (Layton et al., 1986). RDX is moderately adsorbed to soil and is considered mobile. Volatilization is not significant due to low vapor pressure. RDX has a low solubility and much of the RDX detected in wastewater from RDX production consists of undissolved particulates (Pal and Ryon, 1986).

2,4-DNT (2,4-Dinitrotoluene)

2,4-DNT has been shown to be biodegradable. 2,4-DNT is biotransformed more slowly and by fewer organisms than is TNT (Layton et al., 1987). A mixed culture has been developed that can grow on, and extensively degrade 2,4-DNT to carbon dioxide. Biotransformation involving nitro group reduction has also been observed (Burrows et al., 1989). DNT reduction products bind to humic materials as do the reduction products of TNT. The aromatic amine reduction products may undergo condensation reactions with carboxylate groups to form polyamides (Layton et al., 1986).

Photolysis of 2,4-DNT follows a similar course as TNT (Layton et al., 1986). Like TNT, rate enhancements for 2,4-DNT photolysis in natural waters has been observed and may be attributed to the action of humic acids as triplet sensitizers (Burrows et al., 1989). The presence of decomposition products also enhance the photolysis rate of 2,4-DNT. Photolysis occurs more rapidly under anaerobic conditions than aerobic (Layton et al., 1986).

2,4-DNT is moderately adsorbed to soils and is moderately mobile. It is not likely that DNT will be effectively immobilized via sorption to soils or sediments. Volatilization may be a significant environmental fate process due to a vapor pressure of 5.1×10^{-13} torr.

2,6-DNT (2,6-Dinitrotoluene)

Biodegradation of 2,6-DNT has been observed during laboratory experiments, however, supplemental nutrients appear to be necessary. The relative biodegradation rate of 2,6-DNT is approximately 3.7 times slower than for TNT (Layton et al., 1986).

The photolysis rate of 2,6-DNT is faster than of 2,4-DNT. The proposed photolysis mechanism is analogous to that of 2,4-DNT and TNT (Layton et al., 1986) The vapor pressure of 2,6-DNT has been reported as 3.5×10^{-4} torr at 20°C, indicating that volatilization may be significant. 2,6-DNT is moderately mobile (Clement Associates, 1988).

Tetryl (2,4,6-Trinitrophenylmethylnitramine)

The environmental fate of tetryl parallels that of TNT because of the structural similarity of the two compounds. Tetryl, however, has a functional group (the methylnitroamino group) that is subject to hydrolysis. Also, because of this functional group, tetryl may bind to naturally occurring macromolecules, lipids, and proteins (Layton et al., 1986).

Tetryl in aqueous solution is completely photolyzed by sunlight in approximately 20 days. The major photolytic products are N-methylpicramide, nitrate, and nitrite (Burrows et al., 1989). Tetryl, unlike other explosives at the Site undergoes slow hydrolysis under environmental conditions (Burrows et al., 1989). The hydrolysis reaction increases with increasing pH (Layton et al., 1987). Specific information regarding other fate processes, such as biodegradation, was not found. It is reasonable to assume, however, that microbial action will reduce the nitro groups to amines (Layton et al., 1987). Tetryl's low distribution coefficient (Burrows et al., 1989) suggests that it is very mobile and may slowly leach to groundwater when released to soil. Volatilization from soil or water is not expected to be significant.

HMX (Octahydro-1,3,5,7-tetranito-1,3,5,7-tetrazocine)

Hydrolysis, oxidation, abiotic reduction, volatilization, sediment sorption, and bioaccumulation do not significantly affect HMX (Spanggord et al., 1982). Photolysis is the dominant transformation mechanism in aqueous environments. Aerobic biotransformation is also important in aqueous environments (Ryon et al., 1984).

Experiments showed that concentrations of HMX in soils decreased with depth from 20,000 ppm in the upper 10 cm to 150 ppm at 60 to 90 cm of depth (Ryon et al., 1984). The low solubility of HMX, 6.63 μg/L at 20°C, slows its migration through soil and produces low concentrations in groundwater (Ryon et al., 1984).

TNB (1,3,5-Trinitrobenzene)

In the presence of nutrients and yeast extract, TNB was nearly completely degraded (Mitchell, Dennis, Burrows, 1982). One of the degradation products is 3,5-Dinitrobenzene (3,5-DNB). Extensive studies on the environmental fate of DNB has been conducted, but not on TNB. Studies of the effect of photolysis on TNB have been inconclusive. Studies on water contaminated with TNT and TNB showed an increase in TNB due to photodegradation of TNT into TNB.

5.1.2 Persistence and Mobility of Volatile Organic Compounds

TCE (Trichloroethene)

Oxidation of TCE has not been extensively researched because the available evidence suggests that organic degradation of chlorinated aliphatic compounds occurs under anoxic conditions (Olsen and Davis, 1990a). Dehydrohalogenation of TCE is the removal of a chloride ion from one carbon ion simultaneously with the removal of a hydrogen ion from an adjacent carbon ion. Dehydrohalogenation occurs in the absence of bacterial activity with a half-life of 325 days (Cooper et al., 1987). The dehydrohalogenation half-life of TCE in soil in the presence of bacterial activity under field conditions is 230 days (Roberts, Schreiner, Hopkins, 1982). Hydrolysis of TCE occurs when a hydroxyl group replaces a chloride, although hydrolysis is not an important process in degradation of TCE.

TCE is weakly adsorbed to soils (Olsen and Davis, 1990b) and is considered mobile. The irreversibility of adsorption and the difference in the rates of adsorption and desorption for TCE has been extensively studied, but not completely explained. The adsorption K_d value for an example provided by Mehren, Olsen, and Rector (1987) was 0.30 ml/g. The desorption K_d, however, was 2.0 ml/g. A possible explanation of this phenomenon is that portions of the substrata are accessible and that others (inner or poorly connected pores) are inaccessible. Desorption at accessible sites are governed by conventional equilibrium equations. Desorption from inaccessible sites are governed by first order rate equations (Karickhoff, 1984).

Once released to the atmosphere, TCE has been reported to degrade to phosgene, dichloroacetyl chloride, and forms chloride (Howard, 1990). The major degradation products of TCE released to groundwater have been reported to be isomers of dichloroethylene (DCE). The cis-1,2-DCE isomer was reported to be the major degradation product, whereas trans-1,2-DCE and 1,1-DCE are relatively minor products (Parson, et al. 1984).

5.1.3 Persistence and Mobility of Metals

Metals are unique as chemical contaminants because they are also naturally occurring. Thus, metals exist in the environment at concentrations thought of as normal or background. Metals are strongly retained in soils by ion exchange and specific adsorption. Clay minerals and amorphous oxides of iron and manganese are important adsorbents in soil. Soil properties which correlate highly with metals adsorption include total organic carbon (TOC) content and clay content. Adsorption and precipitation of metals are pH dependent as well, with the amount of adsorption increasing with increasing pH. In neutral to basic conditions, metals form complexes with organic matter and clay minerals that limit their mobility (Maidment, 1993).

Metals exist in solution as either free (uncomplexed) metal ions (e.g., Cd^{2+}, Zn^{2+}, Cr^{2+}), in various soluble complexes with organic or inorganic liquids (e.g., $CdSO_4$, $ZnCl^{+}$, $CdCl_3$), or associated with inorganic or organic colloidal (McLean and Bledsoe, 1992). Metals may exist in soil under several conditions (Shurman, 1991):

- Occupancy exchange sites on specifically absorbed to inorganic soils constituent
- Associated with insoluble organic matter

MECOEK 10901

- Present in primary or secondary minerals
- Precipitated mixed solids or pure solids (e.g., covalent compounds, hydroxides, oxides, salts)

The fate of metals in soil and groundwater depends on partitioning between soluble and particulate solid phases. Adsorption, precipitation, coprecipitation, and complexation are processes that affect partitioning. These processes, which are influenced by pH, redox potential, the ionic strength of the pore water or groundwater, the concentration of the complexing ions, and the metal concentration and type, affect the adsorption of metals to soil (Maidment, 1993).

The physicochemical properties of a salt are dependent upon the anion (e.g., chlorides, sulfates, carbonates, etc.) as well as the metallic cation. Although the identities of specific metal salts at hazardous waste sites are not usually known with certainty, generalizations may be made regarding the mobility and fate of these chemicals based on their compositions.

Fundamentally, the most important physicochemical property governing the mobility of metals is water solubility. The salts of metals may exhibit a wide range of water solubilities. Precipitation of salts of metals (e.g., Pb, Cd) with the anions prevalent in the groundwater at the Site (e.g., CO_3^{2-}) would inhibit the mobility of metals (McLean and Bledsoe, 1992).

In general, inorganic compounds, including salts of metals, possess low vapor pressures that are basically unmeasurable. Thus, potential releases of metals to air through volatilization are not relevant for this class of contaminants. However, certain metals may exhibit affinities for soils through adsorption or ion-exchange mechanisms, and thus releases to air through fugitive dust emissions are possible. The adherence of metals to soil particles may also facilitate potential releases through surface runoff under conditions involving soil erosion (i.e., movement of soil particles off-site). Arsenic is an example of a metal that exhibits a significant affinity for certain soil types.

For the OU3 RI, while several metals were identified in concentrations which exceeded the 2x background screening level for metals in soil, only two metals were detected at concentrations which exceeded a published health-based standard, namely chromium and lead. The following sections discuss the environmental fate and transport of chromium and lead and associated transition metals and metalloids.

Chromium

Chromium is found in various oxidation states ranging from +2 to +6. Only the trivalent (+3) and hexavalent (+6) forms are of biological significance. They are the most stable and common forms in the natural environment. The trivalent form of chromium is more common in nature than the hexavalent form. However, the hexavalent form is of greater importance in industrial applications where dichromate is used as a powerful oxidizing agent.

Trivalent chromium readily forms precipitates with hydroxides, carbonates, and sulfides in soil. This property is a major mechanism for attenuation in soils along with adsorption to organic matter and clay minerals. Trivalent chromium salts are subject to hydrolysis, but subsequently precipitate as insoluble hydroxides, especially $Cr(OH)_3$.

MECOEK 10902

Hexavalent chromium has been observed in deep groundwaters of the southwest at significant concentrations. It is not adsorbed to any significant degree by clays, ferric hydroxides, or ferric and manganese oxides, but may have some affinity for organic materials in soils and natural waters. These observations suggest that hexavalent chromium exhibits a greater mobility than many other heavy metals. However, as stated, environmental processes in soil ultimately result in the reduction of hexavalent chromium.

Lead

Lead salts characteristically exhibit poor solubility in water. As previously stated, lead chromate is insoluble in water. Lead oxide may exist as PbO, PbO_2, Pb_2O_4, or Pb_2O_3. The water solubilities of these forms vary and range from 2.3 mg/100 ml to insoluble. The quantities of lead released through the dissolution of lead oxide would, however, be subject to other processes that would attenuate the mobility of the ion.

In soil, lead may also precipitate as lead sulfide, lead phosphate, or lead carbonate (McLean and Bledsoe, 1992). Lead is also subject to adsorption, particularly on aluminum silicates. There is a great affinity between lead and organic matter in soil, and this process is more important in the fixation of lead in soil than either precipitation as the carbonate or sorption by hydrous oxides. Hydrolysis can be important at pH values greater than 5. Collectively, these processes attenuate the solubility, mobility, and bioavailability of lead. Benthic anaerobic microbes can methylate lead to form tetramethyl lead which is volatile and more toxic than inorganic lead.

5.2 SCREENING OF POTENTIAL ROUTES OF CONTAMINATION

The environmental screening assessment process for evaluation of contaminant fate in air, surface water, groundwater, soil, and biota is based on a procedure outlined in EPA (1988b). The screening assessment will be applied to the various media which were investigated as a part of the OU3 RI. The screening process is a qualitative analysis of contaminant fate and transport which will provide initial direction and organization for a potential subsequent quantitative analysis. The screening process estimates transport rates and potential destinations subsequent to environmental release.

The screening assessment will be performed according to the following general categories:

- Explosives in soil
- Explosives in groundwater
- Metals in soils
- Metals in groundwater
- TCE in surface water

COE 010102

MECOEK 10903

5.2.1 Explosives in Soil

Historical information indicates that explosives compounds were released to the soil during routine operations at the former NOP. These releases were caused by:

- Washing explosives dust or residue out of the load line facilities into local drainage features such as drain outfalls as a part of routine operations
- Burning off-specification ordnance at designated burning grounds

The fate and transport of explosives in soil were comprehensively evaluated in the OU1 Supplemental RI report (Donohue, 1992d). That evaluation found that two processes, microbial transformation and photo-decomposition, significantly affect the fate and distribution of explosives compounds. Consideration was given to contaminant fate and transport when the OU1 Remediation Goals (RGs) were established for explosives in soil. Also, the fate of explosives-contaminated soil characterized during OU3 were at concentrations below the OU2 criteria for leaching soils, and therefore, did not indicate explosives were a threat to groundwater.

Evaluations performed for the OU2 Feasibility Study report (W-C, 1995) indicate that some explosives-contaminated soil remaining at the Site after the OU1 remediation may be a source of groundwater contamination above the OU2 target groundwater clean up goals. This soil will be excavated and treated as a part of the OU1 remediation. Generally, explosives-contaminated soil characterized during OU3 as having concentrations below the OU1 RG's and the OU2 criteria for leaching soils have concentrations low enough to preclude them as significant sources of explosives-contamination in groundwater.

5.2.2 Explosives in Groundwater

The OU2 fate and transport evaluation (W-C, 1993) hypothesized explosives-compounds were transferred from contaminated soils in the unsaturated zone to infiltrating water which eventually entered the saturated zone. A quantitative evaluation of the groundwater transport of the explosives from this release mechanism was performed as a part of the OU2 fate and transport evaluation. The nature and extent characterizations of explosives contaminated groundwater were confirmed by the fate and transport evaluation. Target groundwater clean up goals have been established for OU2. The fate of any groundwater characterized during OU3 as exceeding these goals is that the groundwater will be remediated as a part of OU2.

5.2.3 Metals in Soils

It is hypothesized that paint waste may have been released to the ground surface during ordnance production activities, and that the paint waste may have contained metals compounds and SVOCs. The hypothetical releases would have occurred during the operation of the former NOP which took place in two periods, 1942 to 1945 and 1950 to 1956. Another potential release mechanism would be paint chips flaking from the walls of former NOP buildings.

Inorganics such as metals are naturally occurring in soils, and a qualitative review of the RI sampling results does not conclusively indicate that the measured soil concentrations are significantly different from Site background concentrations.

Selected metals were systematically evaluated using the Wilcoxon Rank Sum Test to see if the on-site metals concentrations were systematically larger than the background metals concentrations. The Wilcoxon Rank Sum Test is a nonparametric test for independent data sets which includes the following assumptions:

- The two data sets are identical in shape (variance)
- The data sets do not need to be symmetric

The Wilcoxon Rank Sum Test was used because it:

- Does not require the data to follow a specific distribution such as a normal distribution, that is, the test is a nonparametric method
- Can accommodate a few missing data or concentrations at trace or non-detect levels
- Is not seriously affected by the presence of a few outliers

The Wilcoxon Rank Sum Test was used to test the following null and alternative hypotheses:

- H_0 : The average concentrations for the on-site metals samples and the background or off-site metals are equal.
- H_A : The on-site metals have larger concentrations than the off-site metals.

The test was performed for the following metals with results above screening levels at the five percent frequency at one or more investigation areas:

- Barium
- Chromium
- Copper
- Nickel
- Zinc

Lead was also included because relatively small areas in the vicinity of the Load Line 2 East Cooling Building and the Nose Pour Building have multiple sampling locations with lead concentrations exceeding the screening level.

Appendix H contains the Wilcoxon Rank Sum Test calculations for the metals listed above. In every case, the results indicated that the null hypothesis could not be rejected at the 95 percent confidence level. Therefore, the on-site metals concentrations due not appear to be systematically larger than the off-site concentrations.

In conclusion, there does not appear to have been a release of metals to soils over substantial areas at the Site. This conclusion is supported by:

- The lack of historical records indicating that any release occurred
- The lack of anecdotal information indicating that any release occurred
- The qualitative review of the metals data which did not indicate that areas existed with elevated concentrations
- The quantitative evaluation which indicated that the on-site concentrations did not appear to be systematically larger than the off-site concentrations

Although the Wilcoxon Rank Sum Test indicate that as a group, the on-site lead concentrations are not systematically larger than the off-site concentrations, there are relatively small areas at

Load Line 2 where the screening level is exceeded at more than one adjacent sampling location. These areas occur at the East Cooling Building and the Nose Pour Building; however, elevated lead concentrations are not found in the soil outside the same buildings at the other load lines. Visual differences between the Load Line 2 buildings and the buildings at the other load lines which could account for the presence of elevated lead concentrations were not apparent to the OU3 field sampling team. In addition, no former NOP records or other information have been located which indicates that activities conducted in the Load Line 2 buildings would have potentially caused lead to be released to the soil. Therefore, it is concluded that the areas of elevated lead concentrations are isolated occurrences, and are not indicative of a DoD-related systematic release of lead across the Site.

Because it is concluded that metals were not released in significant quantities, further evaluation of the fate and transport of metals in the soil is not warranted.

5.2.4 Metals in Groundwater

The reasons for investigation metals contamination in groundwater are similar to the reasons that metals in soil were investigated. No evidence exists that explosives were released to groundwater but, on the basis of building and land use, it was hypothesized that releases may have occurred.

A qualitative evaluation of the groundwater data indicates that there are no delineable areas where metals concentrations appear to be present above regional, or background, concentrations. In addition, the previous section concluded that metals have not been released in significant quantities at the Site. Therefore, it is concluded that metals have not been released to groundwater in significant quantities and further evaluation of fate and transport is not warranted.

5.2.5 TCE in Surface Water

The results of stream sampling presented in Section 4.0 indicate that TCE is being released to Johnson Creek at a maximum measured concentration of approximately 7 μg/l. It is hypothesized that the TCE source is contaminated groundwater which discharges to the creek. A mass balance evaluation was performed to estimate the Clear Creek TCE concentration downstream of the contaminated groundwater discharge zone. **Appendix H** contains the mass balance calculations. Although the mass balance evaluation neglects TCE losses due to volatilization, the estimated concentrations approximately 1 mile down stream from the Johnson Creek junction are below the MCL. There is a high degree of uncertainty associated with this evaluation, and it is expected that this mass balance approach would tend to significantly overestimate the water concentration.

5.3 CONCLUSIONS

The environmental screening process provided the basis for the following conclusions regarding fate and transport:

- Soils with explosives concentrations exceeding the OU1 RG's will be excavated and treated during OU1 remediation activities

- The remaining soils do not pose an unacceptable systematic threat to groundwater quality
- Explosives contaminated groundwater characterized during OU3 will be remediated during future OU2 remediation activities
- Explosives residue on the interior walls of the former NOP production buildings are not a source of soil or groundwater contamination
- Metals have not been released to the soil or groundwater systematically across the Site; however, there are localized areas of lead contamination in the soil at Load Line 2
- TCE in Johnson/Clear Creek will become diluted to concentrations below the MCL less than one mile downstream from the area where it is hypothesized that TCE-contaminated groundwater discharges to the creek

6.1 SUMMARY OF NATURE AND EXTENT OF CONTAMINATION

Table 6-1 provides a qualitative summary of the results of the OU3 RI. For each matrix sampled (soil, sediment, groundwater, and surface water), symbols are presented which describes the analytes detected above laboratory detection limits and above applicable screening levels at each OU3 investigation area. Result summaries of the nature and extent of contamination evaluations are provided in the following sections according to matrix-type sampled.

6.1.1 Soils

Explosives

For the OU3 RI, explosives were detected at concentrations above laboratory detections at the following investigation areas:

- Load Line Bomb Production Buildings
- Potential Waste Disposal Areas north of the former Nike Maintenance Area, southeast of the former Bomb Booster Assembly Area, at the former Atlas Missile Area, and north of the former Ammonium Nitrate Plant
- Potential Landfill Area north of the Proving Grounds
- South Burning Ground
- Demolition Ground
- Former Raw Products Igloo Storage Areas
- Former Tetryl Pelleting Area
- Detonation Craters
- Bermed Area South of Load Line 1
- Geophysical Anomaly at Load Line 3

Table 6-2 provides a summary of individual parameters and frequencies of detections of explosives which were detected in soils at concentrations above screening levels. Explosives in soil were detected in concentrations above screening levels only at the Load Line Bomb Production Buildings (both adjacent to and beneath buildings) and at the South Proving Ground. At the Load Line Bomb Production Buildings, TNT and RDX (in soil samples collected adjacent to buildings) were the only explosives detected in concentrations above screening level in greater than 5% of the samples collected. As stated at the beginning of Section 1, OU1 is defined as explosives-contaminated soils within the upper 4 feet. Therefore the explosives-contaminated soils identified during the OU3 RI are considered relevant to OU1. A Record of Decision (ROD) for OU1 (RUST, 1996) has been approved which formalizes the selection of a remedy to remediate explosive-contaminated soils which meet the OU1 risk-based Remediation Goals (referred to as OU1 Criteria) at the Load Lines, Administration Area, Bomb Booster Assembly Area, Burning Grounds, and Proving Grounds. During the OU3 RI, explosive-contaminated

soils were identified at the Load Line Bomb Production Buildings and South Burning Ground investigation areas which met the OU1 Criteria. These contaminated soils have been identified as soils to be remediated under the OU1 remedial action. If for some reason these soils are not addressed under the OU1 remedy, they will be addressed under future OU3 actions.

In addition to the OU1 criteria for soil remediation, the OU2 criteria for leaching soils was also considered. For OU2, TNB was used as an indicator parameter for minimizing potential additional groundwater contamination from leaching of soil contaminants. Soil identified for excavation and remediation under OU2 was defined by the following criteria:

- TNB soil concentrations greater than, or equal to, 5 mg/kg in the depth interval from ground surface to 9 feet bgs, and
- TNB soil concentrations greater than, or equal to, 1 mg/kg in the depth interval from 9 feet to 12.5 feet bgs

All soils collected adjacent to Load Line Bomb Production Buildings which exceeded the 5 mg/kg target level for TNB will be excavated and remediated to 4 feet bgs under OU1. Only 3 locations (B1A-022, B2A-022, and B2A-031) had soils which exceeded the 5 mg/kg target level for TNB in the samples collected from 1 to 2 feet bgs. At 2 of theses locations (B1A-022 and B2A-022), TNB showed a noticeable reduction in concentration from the 0- to 6-inch bgs interval (27 mg/kg and 32 mg/kg), respectably, to the 1- to 2-foot bgs interval (5.3 mg/kg and 16 mg/kg respectably). At location B2A-033, TNB was not detected in the 0- to 6-inch bgs sample but was detected (11 mg/kg) in the 1- to 2-foot bgs sample. Based on explosive results from other OU3 RI soil sampling locations, it can be assumed that TNB at this location will continue to decrease with depth, and therefore, not exceed the TNB target level of 5 mg/kg below the planned 4-foot bgs excavation.

For the soils beneath the buildings which exceeded screening levels (B1B-016, B2B-025, and B3B-038), these areas are considered to be isolated occurrences (one sampling location each from Load Lines 1, 2, and 3); with limited horizontal extent; and are each covered by a concrete flooring which inhibits downward migration of contaminants.

Metals

As shown in **Table 6-2**, the OU3 RI investigation areas which exhibited metals above screening levels included the following:

- Load Line Bomb Production Buildings (soils located both adjacent to and beneath buildings)
- Load Line Paint Operation Areas
- Potential Waste Disposal Areas at the former Atlas Missile Area
- Potential Landfill Area north of the Proving Grounds
- North Burning Ground COE 010108
- Former Raw Products Igloo Storage Areas
- Former Tetryl Pelleting Area MECOEK 10909

Barium, chromium, copper, nickel, and zinc were the only metals which were detected above the screening level at frequencies of greater than 5% for individual investigation areas. At each investigation area, metals above screening levels were generally isolated occurrences with limited horizontal and vertical (primarily found in the 0- to 6-inch bgs sampling interval) extent. Zinc was the most prevalent metal detected above screening level at the Load Lines. While several contiguous areas at each Load Line exhibited concentrations of zinc above screening level, zinc was generally detected only slightly above the screening level (119.5 mg/kg) and well below its' published PRG value (23,000 mg/kg).

Chromium (at Load Line 2 and 3 Paint Operation Areas, and at the Potential Landfill Area north of the Proving Grounds) and lead (at Load Line 1, 2, and 3 Bomb Production Buildings, Load Line 1, 2, 3, and 4 Paint Operation Areas, and at the Potential Landfill Area north of the Proving Grounds) were the only metals detected in concentrations which exceeded the published PRG values. In general, chromium and lead above PRG values, in most cases, were isolated occurrences with limited and definable horizontal and vertical extent. However, contiguous areas of lead concentrations above the PRG were found along the east side of the Load Line 2 East Cooling Buildings and the west and east sides of the Nose Pouring Building. At these locations, lead above the PRG was confined to the 0- to 6-inch bgs sampling interval.

VOCs

For the OU3 RI, VOCs above laboratory detection were detected at the following investigation areas:

- Potential Waste Disposal Areas north of the former Nike Maintenance Area and southeast of the former Bomb Booster Assembly Area
- North Burning Ground
- South Burning Ground
- Proving Grounds
- Demolition Ground

No VOCs in any of the soils were detected in concentrations which exceeded screening levels.

SVOCs

While SVOCs were detected in soils at each of the investigation areas were they were included as part of the analysis, only one sample (0- to 6-inch bgs) exhibited SVOCs in concentrations which exceeded soil screening levels. This sample (SGA-004) was from the South Burning Ground and the SVOCs detected above screening levels were the explosive compounds 2,4,-DNT and 2,6-DNT.

MECOEK 10910

PCBs

COE 010109

For the OU3 RI, PCBs in soils were only analyzed for at the Potential Waste Disposal Area southeast of the former Bomb Booster Assembly Area. No soil samples exceeded the screening

level for PCBs. Aroclor-1260, from one sampling location (BBA-005) was the only PCB detected in soils. Aroclor-1260 was detected in 2 samples at 1.1 mg/kg and .31 mg/kg, collected from 0 to 6 inches bgs and 1 to 2 feet bgs, respectably. The screening level for PCBs in soil was 15 mg/kg.

TRPH

For all UST investigation areas, TRPH in soils was only detected in 1 shallow soil (0- to 6-inch bgs) sample at the former Atlas Missile Area UST sampling location AM-001 (21 mg/kg), and in 1 shallow soil sample at the former Air Force Global Communications Center UST sampling location AA-001 (13 mg/kg). The screening level for TRPH was 10 mg/kg. In each case, the TRPH was detected in concentrations slightly above the 10 mg/kg TRPH screening level. The 10 mg/kg screening level for TRPH represents the most stringent TRPH soil clean-up level identified under the State of Nebraska LUST Program (NDEQ, 1993). The soil clean-up level assigned to a particular site is based upon a total score using an empirical scoring system. While each particular OU3 UST investigation area was not assigned a score, it is assumed (based on known site-specific conditions) that the actual score at each UST area would result in soil clean-up levels of 50 mg/kg or greater.

6.1.2 Surface Waters and Sediments

Table 6-1 provides a qualitative summary of the results of the OU3 RI. For each matrix sampled (soil, sediment, groundwater, and surface water), symbols are presented which describes which analytes were detected above laboratory detection limits and above applicable screening levels at each OU3 investigation area.

Explosives

For Johnson and Silver Creeks, detectable concentrations of explosives, metals, and VOCs were detected in surface water samples. No explosives were detected in any of the May, 1996 (high flow) or July, 1996 (low flow) samples. In March, 1995, explosives (RDX and/or HMX) were detected at 4 sampling locations, along Johnson and Clear Creeks, in concentrations below screening levels. The maximum concentration values of RDX (1.8 µg/L) and HMX (0.54µg/L) were each detected in one sample from JC-003 on Johnson Creek, upstream of its' confluence with Clear Creek.

For Silver Creek, the presence of explosives in surface waters was limited to one sampling event (March, 1995); one compound (4-Am-DNT at 0.39µg/L); and at one sampling location (SC-002) downstream of the confluence of Silver Creek and the unnamed tributary draining the former Administration, Bomb Booster Assembly, Load Line 1 Bomb Production Buildings, and the Demolition Ground investigation areas.

Sediment samples were only collected during the March, 1995 sampling event. No explosives were detected in any of the sediment samples from Johnson, Clear, and Silver Creeks.

Metals

For Johnson and Clear Creeks, manganese was the only metal detected in concentrations above screening level in surface water from each of the three sampling events. In addition to the detection of mercury above screening level during the high flow sampling event, both the high flow and low flow sampling results each had concentrations of manganese, selenium, and thallium above screening levels. No metals above screening level were detected in any of the sampling events at the most downstream sampling location (JC-006) on Clear Creek. No metals in surface water was detected in concentrations above MCLs. Also, metals results from the high flow sampling were general higher in concentration than those collected during the low flow sampling. Most of the highest metal concentrations from the March, 1996 sampling event were from sampling location JC-001 on Johnson Creek upstream of the former Atlas Missile Area. In general, the highest metal concentrations from both the high and low flow sampling events were in the samples collect from JC-003 on Johnson Creek upstream of its' confluence with Clear Creek.

For Silver Creek, manganese (from the March, 1995 surface water sampling event) was the only metal detected in concentration above screening level. No metal analyses were performed on the Silver Creek high and low flow surface water samples.

Sediment samples were only collected during the March, 1995 sampling event. For Johnson, Clear, and Silver Creeks, none of the sediment samples had concentrations of metals which exceeded screening levels.

VOCs

For Johnson and Clear Creeks, TCE was the only VOC detected at a concentration above the 5 μg/L screening level. TCE was only detected above screening level at sampling locations JC-005 (6.92 μg/L) and JC-003 (5.06 μg/L), both on Johnson Creek, and only during the high flow (May, 1996) sampling event. At the farthest downstream sampling location (JC-006), TCE was detected during the May, 1996 (at 0.41 μg/L) and July, 1996 (low flow) (at 0.33 μg/L) sampling events, below the screening level. In terms of extent, TCE concentrations above screening level were only detected along a 1-mile reach of Johnson Creek upstream of its confluence with Clear Creek. This limited extent of TCE contamination in surface water corresponds with the TCE contamination plume for groundwater, and is therefore assumed to be attributed to local effects from groundwater discharge. No VOCs in sediments were detected in concentrations which exceeded screening levels.

For Silver Creek, no VOCs in surface water were detected in concentrations which exceeded screening levels. Also, the sample displaying the maximum concentration of VOCs was collected at a different sampling location for each event. No VOCs in sediments were detected in concentrations which exceeded screening levels.

SVOCs

For the OU3 RI, no SVOCs were detected in any of the surface water samples from Johnson, Clear, and Silver Creeks. No SVOCs in sediments were detected at concentrations which exceeded screening levels.

6.1.3 Groundwater

Table 6-3 provides a summary of individual parameters of various chemicals which were detected in groundwater at concentrations above screening levels. These results are further described in the following sections.

Explosives

For the OU3 RI, explosives were detected in groundwater samples from existing wells located downgradient of the Potential Waste Disposal Areas at the former Atlas Missile Area and the Demolition Ground. Each of these wells are located within the limits of the groundwater explosives contamination plume as identified in the OU2 RI. No explosives in groundwater were detected in concentrations which exceeded screening levels. No explosives were detected in any of the groundwater samples collected from the background monitoring wells.

Metals

Manganese, from MW-15A (downgradient of Load Line 3); MW-22B (downgradient of the Potential Waste Disposal Areas north of the former Nike Maintenance Area); MW-58A, MW-58B, MW-59A, MW-59B, and MW-59D (downgradient of the Potential Waste Disposal Areas at the former Atlas Missile Area); and background well MW-47A was the only metal detected in concentrations above screening levels for total metals. For dissolved metals, manganese (from MW-47A) and thallium (from MW-15A and background well MW-48A) were the only metals detected in concentrations above screening levels.

An evaluation of potential metals groundwater contamination resulting from DoD related activities at the Site is presented in **Appendix G**. In summary, metals concentrations measured in Site groundwater are not significantly different from assumed background concentrations with the exception of dissolved antimony (estimated values) and dissolved cobalt (estimated values). All of the metals concentrations belong to the background population, and there are no identifiable areas of metals contamination attributable to DoD activities. Because the measured metals concentrations are representative of ubiquitous Site conditions, additional comparisons of the measured concentrations to drinking water standards or other criteria such as the EPA Region IX PRGs are not appropriate.

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VOCs

With the exception of TCE from monitoring well MW-58B, located downgradient of the former Atlas Missile Area, no other VOCs in groundwater were detected in concentrations which exceeded screening levels. The concentration of TCE detected (57 µg/L at MW-58B) is

consistent with the nature and extent of the TCE groundwater contamination plume addressed in the OU2 RI.

SVOCs

Only one SVOC (bis[2-Ethylhexyl]phthalate), from two sampling locations (MW-64B east of the NRD Reservoir and at MW-58B at the former Atlas Missile Area), was detected in groundwater. None of the results for SVOC in groundwater were above screening levels.

PCBs

No PCBs were detected in any of the groundwater samples collected.

TRPH

No TRPH was detected in any of the groundwater samples collected.

Thiodiglycol

No thiodiglycol was detected in any of the groundwater samples collected.

Nitrates and Nitrites

At the former Ammonium Nitrate Plant, nitrates and nitrites were each detected at concentrations greater than the screening level in the samples from MW-63B, located downgradient of the investigation area. Nitrates and nitrites were also detected at concentrations greater than the screening level in MW-48B which is cross gradient from the former Ammonium Nitrate Plant.

The Groundwater Management Plan developed by the Lower Platte North NRD states that "data suggest certain areas are developing non-point [nitrates] source problems, including ... the Memphis-Mead Todd Valley area'' (HWS, 1995). Unpublished groundwater sampling data obtained from NRD (NRD, 1995) indicate that there is a regional nitrates problem in the vicinity of the former NOP which developed from point and non-point sources which are not necessarily related to DoD activities. In addition to the sampling for nitrates (as N), the NRD's sampling program has also included sampling and analysis for the nitrogen isotope ^{15}N. Gormly and Spalding (1979) report that an evaluation of ^{15}N can help in determining a source of nitrates. Concentrations of ^{15}N measured in groundwater downgradient of the former Ammonium Nitrate Plant above the range (generally 8 mg/L to 10 mg/L) of values used by the NRD to differentiate the nitrates source as animal waste (values greater than 10 mg/L) from ^{15}N concentrations (generally less than 10 mg/L) which are more indicative that the nitrates source may be commercial fertilizer or another "inorganic" source (NRD, 1996). Numerous other wells in the Todd Valley have concentrations of ^{15}N which indicate that the nitrates source is animal waste. Therefore, the nitrates in groundwater appears to be nonpoint in origin, and likely associated with local farming practices, such as, commercial feedlot operations and spreading of manure on irrigated fields surrounding the feedlots. Also, considering the short duration of the Ammonium Nitrate Plant operation (4 to 5 years), the elapsed time since the plant was in operation (approximately 45 years), and the intensive farming in the vicinity of the plant over the past 50

years, it is unlikely that the nitrates and/or nitrites detected in the downgradient monitoring well could be directly attributed to the operation of the Ammonium Nitrate Plant.

6.2 CONCLUSIONS

6.2.1 Investigation Areas Requiring Additional RI Data

Based on the results of the OU3 RI, no additional data are required to fully characterize the nature and extent of contamination at any of the investigation areas. For each investigation area, the type, location and number of samples collected meets the Data Quality Objectives as described in the OU3 PWP (W-C, 1994a) and are sufficient to perform subsequent baseline risk assessments, if necessary.

6.2.2 Investigation Areas Not Requiring Further Action

Several individual OU3 investigation areas have been identified as not requiring any further action based on one or more of the following criteria: 1) analytical results are below laboratory detection limits, screening level and/or published health-based criteria values, 2) analytical results are consistent with background/regional concentrations, and 3) investigations areas will be addressed through alternative remedies outside of OU3.

Those OU3 investigation areas which meet one or more of these criteria include the following:

- Load Line Bomb Production Building structures selected for demolition debris removal (see comment below)
- Load Line Paint Operation Areas groundwater (metal results above health-based criteria but consistent with regional background concentrations)
- Former Raw Products Igloo Storage Areas (no results above health-based criteria)
- Former Tetryl Pelleting Area (no results above health-based criteria)
- North Burning Ground (no results above health-based criteria)
- South Burning Ground (see comment below)
- Proving Grounds (no results above health-based criteria)
- Former NOP Landfill Area (no results above laboratory detection)
- Potential Waste Disposal Areas north of the former Nike Maintenance Area (no results above screening level or health-based criteria)
- Potential Waste Disposal Area southeast of the former Bomb Booster Assembly Area (no results above screening level or health-based criteria)
- Potential Waste Disposal Areas at the former Atlas Missile Area (no results above health-based criteria)
- Potential Waste Disposal Area north of the former Ammonium Nitrate Plant (no results above screening level or health-based criteria)

- Demolition Ground (no results above screening level or health-based criteria)
- Detonation Craters (no results above health-based criteria)
- Bermed Area southwest of Load Line 1 (no results above screening level or health-based criteria)
- Former Ammonium Nitrate Plant (nitrates and nitrites groundwater results above health-based criteria but consistent with regional background concentrations)
- USTs at the former Administration, Bomb Booster Assembly and Atlas Missile areas, and the former Air Force Communications Center (no result above health based criteria)
- Geophysical Anomaly at Load Line 3 (no results above screening level or health-based criteria)

With respect to the Load Line Bomb Production Buildings, the 104th Congress appropriated funds for the removal of friable asbestos and the demolition of asbestos-containing buildings and disposal of related debris at the former NOP. This process of building demolition and disposal is referred to as Building Demolition and Debris Removal (BDDR). The USACE has the authority for procuring and managing the asbestos removal and BDDR projects. Presently, CEMRK is leading an effort to prioritize buildings and identify method(s) of disposal which incorporate applicable federal and state guidelines and regulations. Although the asbestos removal and BDDR projects fall outside the provisions of the IAG and are not considered to be part of the Site-wide CERCLA process; EPA, NDEQ, Nebraska Health and Human Services (NHHS) and others are also involved in the effort. The asbestos removal project is currently scheduled to begin during the 3rd Quarter of FY1997 and will be completed in approximately 6 months. The BDDR project is currently scheduled to begin during the 1st Quarter of FY1998 and be completed in approximately 36 months.

The Load Line Bomb Production Buildings included in the BDDR project will no longer exist at the Site and will not require any further action under OU3. Should any Load Line Bomb Production Building which has also been identified in the OU3 RI investigation to contain residual contamination not be included in the BDDR project, the building will be subject to further evaluation. At the time this report was submitted, final selection of Load Line Bomb Production Buildings to be included in the BDDR project had not been made. If necessary, addendums to the OU3 RI and Baseline Risk Assessment (BRA) reports will be prepared and submitted following completion of the BDDR project and in accordance with the provisions in the IAG.

With respect to the South Burning Ground, only one parameter (SVOC in soil), from one sampling location, was detected in concentrations which exceeded both the screening level and a health-based criteria. As discussed earlier in Section 6.1, this location will be excavated and remediated under OU1, thus removing any contaminated soils which would have required further action under OU3.

6.2.3 Investigation Areas to be Addressed in the BRA

While the RI data have been determined adequate in addressing the nature and extent of contamination, the overall RI objectives for each investigation area also includes an evaluation of the potential risks to human health or the environment. As stated in Section 4.0, the Draft Final BRA report will be submitted in July, 1997. Prior to submittal, a Technical Memorandum will be prepared which discusses the methods and procedures to be used in conducting the baseline risk assessments. The following investigation areas do not satisfy any of the three criteria listed in Section 6.2.2, and will be included in the BRA report:

- Load Line Bomb Production Buildings soils
- Load Line Paint Operation Areas soils
- Potential Landfill Area north of the Proving Grounds soils
- Johnson and Clear Creeks surface water and sediment
- Silver Creek surface water and sediment

For the Load Line Bomb Production Buildings, all soil sampling locations which exceeded the screening level for explosives in soil also met the remediation criteria for OU1, and, as stated in Section 6.1, each OU3 RI soil sampling location which exceeded the screening level for explosives in soil will be excavated and remediated under OU1. Therefore none of the analytical results (explosives and metals) obtained from these locations will be included in the OU3 BRA. If for some reason these soils are not addressed under the OU1 remedy, they will be addressed under future OU3 actions.

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TABLE 2-1

OU2 QUARTERLY SAMPLING EVENT RESULTS USED TO SUPPORT OU3 RI PHASE I INVESTIGATION
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

OU3 Investigation Area	Well No.	OU2 Sampling Results Supporting OU3*		Additional OU2 Sampling Results Supporting OU3**	
		Sampling Event	Parameters	Sampling Event	Parameters
Load Line Paint Operations Buildings	MW-3A & B	2nd Qtr.	M	3rd Qtr.	M
	MW-4A & B	2nd Qtr.	M	3rd Qtr.	M
	MW-6A & B	2nd Qtr.	M	3rd Qtr.	M
	MW-8A & B	2nd Qtr.	M	3rd Qtr.	M
	MW-12A	2nd Qtr.	M	3rd Qtr.	M
	MW-13A	2nd Qtr.	M	3rd Qtr.	M
	MW-14A	2nd Qtr.	M	3rd Qtr.	M
	MW-15A	2nd Qtr.	M	3rd Qtr.	M
NOP Background Wells	MW-19A, B & C	2nd Qtr.	E, M, V, S, T, N2+N3, N, P	3rd Qtr.	E, M, V
	MW-47A & B	2nd Qtr.	E, M, V, S, T, N2+N3, N, P	3rd Qtr.	E, M, V
	MW-48A, B & D	2nd Qtr.	E, M, V, S, T, N2+N3, N, P	none	E, M, V
Proving Grounds	MW-64B	4th Qtr.	E, M, V, S	none	na
Former NOP Landfil	MW-52A & B	2nd. Qtr.	T	1st, 3rd Qtr.	T
	MW-53A & B	2nd. Qtr.	T	1st, 3rd Qtr.	T
	MW-54A & B	2nd. Qtr.	T	1st, 3rd Qtr.	T
	MW-55A & B	2nd. Qtr.	T	1st, 3rd Qtr.	T
	MW-56A & B	2nd. Qtr.	T	1st, 3rd Qtr.	T
Potential WDAs N. of Former Nike Maintenence Area	MW-22A & B	2nd. Qtr.	E, M, V, S	none	na
Potential WDA S.E. of Bomb Booster Assembly Area	MW-57B	2nd. Qtr.	E, M, V, S, P	none	na
Potential WDAs at Former Atlas Missile Area	MW-58A & B	2nd. Qtr.	E, M, V, S	none	na
	MW-59A, B & D	2nd. Qtr.	E, M, V, S	none	na
Demolition Ground	MW-10A & B	2nd. Qtr.	E, M, V, S	none	na
Former Ammonium Nitrate Plant	MW-63B	4th Qtr.	M, N2 + N3, N	3rd. Qtr.	N2+N3, N

Notes:

* = OU2 sampling event providing data needs as described in the OU3 CDAP (WCC, 1995b).
** = OU2 sampling event providing additional results to support OU3.
1st Qtr. = September 1994
2nd Qtr. = December 1994
3rd Qtr. = March 1995
4th Qtr. = June 1995

E = Explosives
M = Metals (total & dissolved)
V = Volatiles
S = Semi-volatiles
P = Polychlorinated biphenyl
T = Thiodyglycol
N2 + N3 = nitrates + nitrites
N = Nitrate
WDA = Waste Disposal Area

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TABLE 2-2
ANALYTICAL METHODOLOGIES
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Compound Class	Matrix	Analytical Method
TCL Volatile Organic Compounds (VOCs)	Soil	CLP-SOW OLM02.1
TCL Low-Concentration VOCs	Water	CLP-SOW Low Concentration (October 1992)
TCL Semi-Volatile Organic Compounds (SVOCs)	Water Soil	CLP-SOW OLM02.1
TCL Polychlorinated Biphenyls (PCBs)	Soil	CLP-SOW OLM02.1
TAL Metals	Water (total and dissolved) Soil Surface Wipe	CLP-SOW ILM03.0
Explosives	Water Soil Surface Wipe	SW846-8330[1]
NO_3/NO_2	Water	EPA 353.3
Thiodiglycol	Water	HPLC MS/MS
NO_3	Water	EPA 352.1
High Explosives Field Screening - TNT	Soil	DTECH™ Test Kit TK-1004-1
High Explosives Field Screening - RDX	Soil	DTECH™ Test Kit TK-1005-1
Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX)	Water Soil	EPA 8020
Total Recoverable Petroleum Hydrocarbons (TRPH)	Soil Water	EPA 418.1

Note:
[1] Refers to SW-846, Method 8330, Revision 0, Nov. 1992 released as a proposed update method by EPA.
TCL - Target Compound List. EPA's list of hazardous organic compounds (CLP only).
TAL - Target Analyte List. EPA's list of hazardous inorganic compounds (CLP only).

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TABLE 2-3

WATER LEVEL MEASUREMENTS
FORMER NEBRASKA ORDNANCE PLANT, MEAD NEBRASKA

Existing Monitoring Well	Date	Depth* (feet)	Elevation (feet)
MW-11A	6-Jun-95	28.29	1124.42
MW-52B	6-Jun-95	36.99	1118.25
MW-53B	6-Jun-95	24.12	1112.39
MW-54B	6-Jun-95	6.64	1114.54
MW-55B	6-Jun-95	16.58	1110.29
MW-56B	6-Jun-95	13.93	1111.91
MW-64B	6-Jun-95	26.05	1117.74

Note:
* - Depth measured from top of casing

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TABLE 4-1
SUMMARY OF DETECTIONS IN OU1 RI SOIL SAMPLES COLLECTED IN VICINITY OF OU3 RI INVESTIGATION AREAS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

OU3 Investigation Area	OU1 Sample I.D.	Parameter	OU1 RI Result	Qualifier[1]	Unit	Sampling Interval (ft bgs)	
						From	To
Load Line 1	DP-8337	1,3,5-Trinitrobenzene	531		ug/kg	0	1
Load Line 1	DP-8337	2,4,6-Trinitrotoluene	16700		ug/kg	0	1
Load Line 3	HB-12	2,4,6-Trinitrotoluene	3207		ug/kg	0	1
Load Line 3	LL3-28D	2,4,6-Trinitrotoluene	734		ug/kg	0	1
Load Line 1	DP-8337	2-Amino-4,6-dinitrotoluene	6625		ug/kg	0	1
Load Line 3	HB-12	2-Amino-4,6-dinitrotoluene	2043		ug/kg	0	1
Load Line 4	DP-6229	2-Amino-4,6-dinitrotoluene	79	J	ug/kg	0	1
Load Line 1	DP-8337	4-Amino-2,6-dinitrotoluene	2968		ug/kg	0	1
Burning Proving Area	TB-106	Aluminum	16100		mg/kg	0	1
Burning Proving Area	BP-32A	Aluminum	16000		mg/kg	0	1
Burning Proving Area	BP-33A	Aluminum	13700		mg/kg	0	1
Burning Proving Area	BP-28A	Aluminum	13300		mg/kg	0	1
Burning Proving Area	BP-08A	Aluminum	10800		mg/kg	0	1
Burning Proving Area	BP-33A	Antimony	6.2	B	mg/kg	0	1
Burning Proving Area	BP-32A	Antimony	6.1	B	mg/kg	0	1
Burning Proving Area	BP-28A	Antimony	4.7	B	mg/kg	0	1
Burning Proving Area	BP-28A	Arsenic	9.1		mg/kg	0	1
Burning Proving Area	BP-32A	Arsenic	7.6		mg/kg	0	1
Burning Proving Area	BP-33A	Arsenic	6.2		mg/kg	0	1
Burning Proving Area	TB-106	Arsenic	6.1		mg/kg	0	1
Burning Proving Area	BP-08A	Arsenic	4.6		mg/kg	0	1

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TABLE 4-1
SUMMARY OF DETECTIONS IN OU1 RI SOIL SAMPLES COLLECTED IN VICINITY OF OU3 RI INVESTIGATION AREAS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

OU3 Investigation Area	OU1 Sample I.D.	Parameter	OU1 RI Result	Qualifier[1]	Unit	Sampling Interval (ft bgs)	
						From	To
Load Line 2	D-30A	Barium	340		mg/kg	0	1
Load Line 2	D-30B	Barium	314		mg/kg	1	2
Load Line 2	D-30A	Barium	312		mg/kg	1	2
Load Line 3	D-47A	Barium	303		mg/kg	1	2
Burning Proving Area	BP-28A	Barium	282		mg/kg	0	1
Burning Proving Area	BP-33A	Barium	276		mg/kg	0	1
Load Line 2	D-30B	Barium	255		mg/kg	0	1
Burning Proving Area	TB-106	Barium	239		mg/kg	0	1
Burning Proving Area	BP-32A	Barium	229		mg/kg	0	1
Burning Proving Area	BP-08A	Barium	192		mg/kg	0	1
Load Line 3	D-47A	Barium	167		mg/kg	0	1
Burning Proving Area	BP-32A	Beryllium	0.96	B	mg/kg	0	1
Burning Proving Area	BP-33A	Beryllium	0.96	B	mg/kg	0	1
Burning Proving Area	TB-106	Beryllium	0.88	B	mg/kg	0	1
Burning Proving Area	BP-28A	Beryllium	0.81	B	mg/kg	0	1
Burning Proving Area	BP-08A	Beryllium	0.72	B	mg/kg	0	1
Burning Proving Area	TB-106	bis(2-Ethylhexyl)phthalate	120	J	ug/kg	0	1
Burning Proving Area	BP-08A	Cadmium	0.86	B	mg/kg	0	1
Burning Proving Area	BP-28A	Cadmium	0.7	B	mg/kg	0	1
Burning Proving Area	BP-33A	Cadmium	0.52	B	mg/kg	0	1
Burning Proving Area	BP-32A	Cadmium	0.37	B	mg/kg	0	1
Burning Proving Area	BP-08A	Calcium	9270		mg/kg	0	1
Burning Proving Area	BP-33A	Calcium	7620		mg/kg	0	1
Burning Proving Area	BP-28A	Calcium	5050		mg/kg	0	1
Burning Proving Area	TB-106	Calcium	4760		mg/kg	0	1
Burning Proving Area	BP-32A	Calcium	4150		mg/kg	0	1

COE 010126

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TABLE 4-1
SUMMARY OF DETECTIONS IN OU1 RI SOIL SAMPLES COLLECTED IN VICINITY OF OU3 RI INVESTIGATION AREAS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

OU3 Investigation Area	OU1 Sample I.D.	Parameter	OU1 RI Result	Qualifier[1]	Unit	Sampling Interval (ft bgs)	
						From	To
Load Line 2	D-30B	Chromium	35		mg/kg	1	2
Load Line 2	D-30B	Chromium	27		mg/kg	0	1
Load Line 2	D-30A	Chromium	26		mg/kg	0	1
Load Line 2	D-30A	Chromium	24		mg/kg	1	2
Load Line 3	D-47A	Chromium	23		mg/kg	1	2
Burning Proving Area	TB-106	Chromium	18.1		mg/kg	0	1
Burning Proving Area	BP-32A	Chromium	16.2		mg/kg	0	1
Burning Proving Area	BP-28A	Chromium	16		mg/kg	0	1
Burning Proving Area	BP-33A	Chromium	15.2		mg/kg	0	1
Load Line 3	D-47A	Chromium	14		mg/kg	0	1
Burning Proving Area	BP-08A	Chromium	12		mg/kg	0	1
Burning Proving Area	BP-28A	Cobalt	11.5	B	mg/kg	0	1
Burning Proving Area	BP-32A	Cobalt	11.4	B	mg/kg	0	1
Burning Proving Area	BP-33A	Cobalt	10.6	B	mg/kg	0	1
Burning Proving Area	TB-106	Cobalt	10.6	B	mg/kg	0	1
Burning Proving Area	BP-08A	Cobalt	8.5	B	mg/kg	0	1
Burning Proving Area	BP-08A	Copper	32.3		mg/kg	0	1
Burning Proving Area	BP-28A	Copper	21.5		mg/kg	0	1
Burning Proving Area	BP-33A	Copper	20.9		mg/kg	0	1
Burning Proving Area	BP-32A	Copper	19.4		mg/kg	0	1
Burning Proving Area	TB-106	Copper	16.4		mg/kg	0	1
Burning Proving Area	BP-28A	Iron	20700		mg/kg	0	1
Burning Proving Area	BP-32A	Iron	20700		mg/kg	0	1
Burning Proving Area	TB-106	Iron	18900		mg/kg	0	1
Burning Proving Area	BP-33A	Iron	17600		mg/kg	0	1
Burning Proving Area	BP-08A	Iron	14300		mg/kg	0	1

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TABLE 4-1
SUMMARY OF DETECTIONS IN OU1 RI SOIL SAMPLES COLLECTED IN VICINITY OF OU3 RI INVESTIGATION AREAS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

OU3 Investigation Area	OU1 Sample I.D.	Parameter	OU1 RI Result	Qualifier[1]	Unit	Sampling Interval (ft bgs)	
						From	To
Load Line 2	D-30B	Lead	38		mg/kg	0	1
Load Line 3	D-47A	Lead	36		mg/kg	0	1
Burning Proving Area	BP-08A	Lead	21.1		mg/kg	0	1
Load Line 2	D-30A	Lead	20		mg/kg	1	2
Burning Proving Area	BP-33A	Lead	18.2		mg/kg	0	1
Load Line 3	D-47A	Lead	18		mg/kg	1	2
Load Line 2	D-30B	Lead	17		mg/kg	1	2
Burning Proving Area	TB-106	Lead	15.7		mg/kg	0	1
Burning Proving Area	BP-28A	Lead	15.2		mg/kg	0	1
Load Line 2	D-30A	Lead	15		mg/kg	0	1
Burning Proving Area	BP-32A	Lead	14.9		mg/kg	0	1
Burning Proving Area	BP-28A	Magnesium	4520		mg/kg	0	1
Burning Proving Area	BP-32A	Magnesium	3710		mg/kg	0	1
Burning Proving Area	TB-106	Magnesium	3600		mg/kg	0	1
Burning Proving Area	BP-33A	Magnesium	3470		mg/kg	0	1
Burning Proving Area	BP-08A	Magnesium	2790		mg/kg	0	1
Burning Proving Area	BP-28A	Manganese	674		mg/kg	0	1
Burning Proving Area	TB-106	Manganese	650	J	mg/kg	0	1
Burning Proving Area	BP-32A	Manganese	639		mg/kg	0	1
Burning Proving Area	BP-33A	Manganese	611		mg/kg	0	1
Burning Proving Area	BP-08A	Manganese	495		mg/kg	0	1
Burning Proving Area	BP-28A	Nickel	26.9		mg/kg	0	1
Burning Proving Area	BP-32A	Nickel	24.8		mg/kg	0	1
Burning Proving Area	BP-33A	Nickel	21.7		mg/kg	0	1
Burning Proving Area	TB-106	Nickel	21		mg/kg	0	1
Burning Proving Area	BP-08A	Nickel	18.9		mg/kg	0	1
Burning Proving Area	TB-106	Potassium	3460		mg/kg	0	1
Burning Proving Area	BP-33A	Potassium	2570		mg/kg	0	1
Burning Proving Area	BP-08A	Potassium	2400		mg/kg	0	1
Burning Proving Area	BP-32A	Potassium	2280		mg/kg	0	1
Burning Proving Area	BP-28A	Potassium	2040		mg/kg	0	1

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TABLE 4-1
SUMMARY OF DETECTIONS IN OU1 RI SOIL SAMPLES COLLECTED IN VICINITY OF OU3 RI INVESTIGATION AREAS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

OU3 Investigation Area	OU1 Sample I.D.	Parameter	OU1 RI Result	Qualifier[1]	Unit	Sampling Interval (ft bgs)	
						From	To
Burning Proving Area	BP-28A	Sodium	121	B	mg/kg	0	1
Burning Proving Area	BP-33A	Sodium	118	B	mg/kg	0	1
Burning Proving Area	TB-106	Sodium	74.8	B	mg/kg	0	1
Burning Proving Area	BP-32A	Sodium	63.1	B	mg/kg	0	1
Burning Proving Area	BP-08A	Sodium	43	B	mg/kg	0	1
Burning Proving Area	TB-106	Vanadium	42.6		mg/kg	0	1
Burning Proving Area	BP-32A	Vanadium	36.7		mg/kg	0	1
Burning Proving Area	BP-33A	Vanadium	35.9		mg/kg	0	1
Burning Proving Area	BP-28A	Vanadium	34.8		mg/kg	0	1
Burning Proving Area	BP-08A	Vanadium	27.4		mg/kg	0	1
Burning Proving Area	BP-33A	Zinc	78.5		mg/kg	0	1
Burning Proving Area	BP-28A	Zinc	67.8		mg/kg	0	1
Burning Proving Area	BP-08A	Zinc	67.7		mg/kg	0	1
Burning Proving Area	TB-106	Zinc	65.3		mg/kg	0	1
Burning Proving Area	BP-32A	Zinc	63.3		mg/kg	0	1

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TABLE 4-2
SCREENING LEVELS FOR EXPLOSIVES IN SOIL
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (mg/kg)	SOURCES
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	No Screening Level Established	OU1 RG (RUST, 1994)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	No Screening Level Established	OU1 RG (RUST, 1994)
1,3-Dinitrobenzene (1,3-DNB)	3.4	OU1 RG (RUST, 1994)
2,4-Dinitrotoluene (2,4-DNT)	0.9	OU1 RG (RUST, 1994)
2,6-Dinitrotoluene (2,6-DNT)	0.9	OU1 RG (RUST, 1994)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	OU1 RG (RUST, 1994)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343.0	OU1 RG (RUST, 1994)
Nitrobenzene (NB)	No Screening Level Established	OU1 RG (RUST, 1994)
Nitrotoluene (NT)	343.0	OU1 RG (RUST, 1994)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	OU1 RG (RUST, 1994)
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	OU1 RG (RUST, 1994)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	OU1 RG (RUST, 1994)

SOURCES:

OU1 RG - OU1 Remediation Goal

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COE 010130

TABLE 4-3
SCREENING LEVELS FOR METALS IN SOIL
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (mg/kg)	SOURCES
Aluminum (A1)	33,852	2 x BG (OU3 RI)
Antimony (Sb)	31n	PRG (EPA, 1995c)
Arsenic (As)	13.5	2 x BG (OU3 RI)
Barium (Ba)	440	2 x BG (OU3 RI)
Beryllium (Be)	1.52	2 x BG (OU3 RI)
Cadmium (Cd)	39	PRG (EPA, 1995c)
Calcium (Ca)	GRAS	- - -
Chromium (Cr)	37.0	2 x BG (OU3 RI)
Cobalt (Co)	17.2	2 x BG (OU3 RI)
Copper (Cu)	33.9	2 x BG (OU3 RI)
Iron (Fe)	GRAS	- - -
Lead (Pb)	400n	PRG (EPA, 1995c)
Magnesium (Mg)	GRAS	- - -
Manganese (Mn)	1083	2 x BG (OU3 RI)
Mercury (Hg)	23n	PRG (EPA, 1995c)
Nickel (Ni)	39.3	2 x BG (OU3 RI)
Potassium (K)	GRAS	- - -
Selenium (Se)	390	PRG (EPA, 1995c)
Silver (Ag)	380n	PRG (EPA, 1995c)
Sodium (Na)	GRAS	- - -
Thallium (T1)	1.72	2 x BG (OU3 RI)

TABLE 4-3
SCREENING LEVELS FOR METALS IN SOIL
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (mg/kg)	SOURCES
Vanadium (V)	72.5	2 x BG (OU3 RI)
Zinc (Zn)	119.5	2 x BG (OU3 RI)

n - Non-carcinogenic effects
GRAS - Generally recognized as safe

SOURCES:

2 x BG - 2 times background values presented in Table 3-7
PRG - EPA Region IX Preliminary Remediation Goal (Residential Soil)
RBC - EPA Region III Risk Based Concentration (Soil Ingestion, Residential)

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Table 4-4
Analytical Data (Metals) For Background Soils
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	BKG-001			BKG-002			BKG-003			BKG-004			BKG-005			BKG-006			BKG-007			BKG-008			BKG-009			BKG-010		
		BKG-001-001 (1-2 ft)			BKG-002-001 (1-2 ft)			BKG-003-001 (1-2 ft)			BKG-004-001 (1-2 ft)			BKG-005-001 (1-2 ft)			BKG-006-001 (1-2 ft)			BKG-007-001 (1-2 ft)			BKG-008-001 (1-2 ft)			BKG-009-001 (1-2 ft)			BKG-010-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																															
Aluminum	33852	19400			15200			19000			16200			17500			16300			9660			17200			18100			20700		
Antimony	31		R			R			R			R			R			R			R			R			R			R	
Arsenic	13.5	5.6			7.2			8.1			8.2			8.4			5.8			3.8			7			6.8			6.8		
Barium	440	212			192			208			244			225			219			236			207			244			215		
Beryllium	1.52	0.78	J		0.76	J		0.86	J		0.8	J		0.81	J		0.69	J		0.54	J		0.77	J		0.79	J		0.8	J	
Cadmium	39	0.22	J		0.19	J		0.15	J		0.23	J		0.27	J		0.19	J			U	(0.11)	0.16	J		0.36	J		0.17	J	
Calcium	GRAS	2930			3130			3260			3730			3470			2790			2560			2970			3220			2370		
Chromium	37	20.2			16.2			19.9			18.1			19.6			17.8			13.1			18.7			19.9			21.3		
Cobalt	17.2	8.6	J		8.4	J		9.9	J		9.2	J		9.3	J		7.2	J		8.9	J		8.6	J		7.1	J		8.8	J	
Copper	33.9	15.7			17.3			19.1			22.1			21.4			13.4			11.9			16.8			16.5			15.2		
Iron	GRAS	18300			18000			21000			20500			20400			15900			11300			18400			18100			19500		
Lead	400	13.4			14			14.9			14.7			15.5			14.4			14.5			13.9			15.7			13.7		
Magnesium	GRAS	3380			3150			3940			4310			4150			2710			2080			3160			3170			3440		
Manganese	1083	504			513			603			572			578			447			660			523			497			516		
Nickel	39.3	19.1			19.8			23.4			24.6			24.1			15.9			12			19.6			18.7			19.3		
Potassium	GRAS	3150	J		2460	J		2820	J		2110	J		2870	J		2780	J		1720	J		2900	J		3600	J		2980	J	
Selenium	390		U	(0.77)		U	(0.78)	1.2				U	(0.82)		U	(0.79)	0.89	J			U	(0.73)	1.2	J		1	J			U	(0.75)
Thallium	1.72		U	(0.81)	0.86	J			U	(0.83)		U	(0.86)		U	(0.83)		U	(0.82)		U	(0.77)		U	(0.84)		U	(0.83)		U	(0.8)
Vanadium	72.5	40.2			31.6			37.5			31.3			38.3			36.2			27.5			38.3			40.2			41.3		
Zinc	119.5	65.6			53.7			62			66.1			67.5			56.6			42.8			55.5			65.5			62.4		

Note: 1) NA=screening level is not available.
2) R=result, Q=qualifier, QL=quantitation limit (contract required detection limit, CRDL)
3) Results above screenning levels are underlined and italicized.
4) J=estimated value, R=rejected, UJ=estimated detection limit, U=nondetect value

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TABLE 4-5

AVERAGE BACKGROUND METAL CONCENTRATIONS USED TO CALCULATE SCREENING LEVELS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Analytes	OU3 RI PHASE I INVESTIGATION BACKGROUND SAMPLE LOCATION I.Ds (Results in mg/kg)										Average Concentrations (mg/kg)
	BKG-001	BKG-002	BKG-003	BKG-004	BKG-005	BKG-006	BKG-007	BKG-008	BKG-009	BKG-010	
Aluminium	19400	15200	19000	16200	17500	16300	9660	17200	18100	20700	16926
Arsenic	5.6	7.2	8.1	8.2	8.4	5.8	3.8	7.0	6.8	6.8	6.8
Barium	212	192	208	244	225	219	236	207	244	215	220
Beryllium	0.78 J	0.76 J	0.86 J	0.8 J	0.81 J	0.69 J	0.54 J	0.77 J	0.79 J	0.80 J	0.76
Chromium	20.2	16.2	19.9	18.1	19.6	17.8	13.1	18.7	19.9	21.3	18.5
Cobalt	8.6 J	8.4 J	9.9 J	9.2 J	9.3 J	7.2 J	8.9 J	8.6 J	7.1 J	8.8 J	8.6
Copper	15.7	17.3	19.1	22.1	21.4	13.4	11.9	16.8	16.5	15.2	16.9
Manganese	504	513	603	572	578	447	660	523	497	516	541
Nickel	19.1	19.8	23.4	24.6	24.1	15.9	12.0	19.6	18.7	19.3	19.7
Silver	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.13	<0.14	<0.14	<0.13	na
Thallium	<0.81	0.86 J	<0.83	<0.86	<0.83	<0.82	<0.77	<0.84	<0.83	<0.80	0.86
Vanadium	40.2	31.6	37.5	31.3	38.3	36.2	27.5	38.3	40.2	41.3	36.2
Zinc	65.6	53.7	62	66.1	67.5	56.6	42.8	55.5	65.5	62.4	59.8

Notes:

< - Result less than indicated quantitation limit (Contract required detection limit, CRDL)

na - not available

Metals not included due to existence of PRGs: lead, cadmium, antimony, mercury, selenium, silver

J - estimated value

COE 010134

MECOEK 10935

TABLE 4-6
SCREENING LEVELS FOR VOLATILE ORGANIC COMPOUNDS IN SOIL
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (ug/kg)	SOURCES
Acetone	2,000,000n	PRG (EPA, 1995c)
Benzene	1,400c	PRG (EPA, 1995c)
Bromodichloromethane	1,400c	PRG (EPA, 1995c)
Bromoform	56,000c	PRG (EPA, 1995c)
Bromomethane	15,000n	PRG (EPA, 1995c)
2-Butanone	8,700,000n	PRG (EPA, 1995c)
Carbon Disulfide	16,000n	PRG (EPA, 1995c)
Carbon Tetrachloride	470c	PRG (EPA, 1995c)
Chlorobenzene	160,000n	PRG (EPA, 1995c)
Chloroethane	1,100,000n	PRG (EPA, 1995c)
Chloroform	530c	PRG (EPA, 1995c)
Chloromethane	2,000c	PRG (EPA, 1995c)
cis-1,2-Dichloroethene	59,000n	PRG (EPA, 1995c)
cis-1,3-Dichloropropene	510c	PRG (EPA, 1995c)
Dibromochloromethane	5,300c	PRG (EPA, 1995c)
1,1-Dichloroethane	840,000n	PRG (EPA, 1995c)
1,2-Dichloroethane	440c	PRG (EPA, 1995c)
1,1-Dichloroethene	38c	PRG (EPA, 1995c)
1,2-Dichloropropane	680c	PRG (EPA, 1995c)
Ethylbenzene	690,000sat	PRG (EPA, 1995c)
2-Hexanone	No Screening Level Established	*
Methylene Chloride	11,000c	PRG (EPA, 1995c)
4-Methyl-2-Pentanone	5,200,000n	PRG (EPA, 1995c)
Styrene	2,200,000sat	PRG (EPA, 1995c)
1,1,2,2-Tetrachloroethane	900c	PRG (EPA, 1995c)
Tetrachloroethene	7,000c	PRG (EPA, 1995c)
Toluene	1,900,000n	PRG (EPA, 1995c)
trans-1,2-Dichloroethene	170,000n	PRG (EPA, 1995c)

TABLE 4-6
SCREENING LEVELS FOR VOLATILE ORGANIC COMPOUNDS IN SOIL
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (ug/kg)	SOURCES
trans-1,3-Dichloropropene	510c	PRG (EPA, 1995c)
1,1,1-Trichloroethane	3,000,000sat	PRG (EPA, 1995c)
1,1,2-Trichloroethane	1,400c	PRG (EPA, 1995c)
Trichloroethene (TCE)	7,100c	PRG (EPA, 1995c)
Vinyl Chloride	5.2c	PRG (EPA, 1995c)
Total Xylenes	990,000sat	PRG (EPA, 1995c)

c - Carcinogenic effects
n - Non-carcinogenic effects
sat - Soil saturation
* - No screening level was established; however, all sources listed in the source summary table were referenced

SOURCES:

PRG - EPA Region IX Preliminary Remediation Goal (Residential Soil)

COE 010136

MECOEK 10937

TABLE 4-7
SCREENING LEVELS FOR SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (ug/kg)	SOURCES
Acenaphthene	360,000sat	PRG (EPA, 1995c)
Acenaphthylene	No Screening Level Established	*
Anthracene	19,000sat	PRG (EPA, 1995c)
Benzo(a)anthracene	610c	PRG (EPA, 1995c)
Benzo(a)pyrene	61c	PRG (EPA, 1995c)
Benzo(b)fluoranthene	610c	PRG (EPA, 1995c)
Benzo(g,h,i)perylene	No Screening Level Established	*
Benzo(k)fluoranthene	6,100c	PRG (EPA, 1995c)
bis(2-Chloroethoxy)methane	No Screening Level Established	*
bis(2-Chloroethyl)ether	74c	PRG (EPA, 1995c)
bis(2-Ethylhexyl)phthalate	32,000c	PRG (EPA, 1995c)
4-Bromophenyl-phenylether	4,500,000n	RBC (EPA, 1995b)
Butylbenzylphthalate	13,000,000n	PRG (EPA, 1995c)
Carbazole	22,000c	PRG (EPA, 1995c)
4-Chloroaniline	260,000n	PRG (EPA, 1995c)
4-Chloro-3-methylphenol	No Screening Level Established	*
2-Chloronaphthalene	5,200,000n	PRG (EPA, 1995c)
2-Chlorophenol	330,000n	PRG (EPA, 1995c)
4-Chlorophenyl-phenylether	No Screening Level Established	*
Chrysene	24,000sat	PRG (EPA, 1995c)
Dibenzo(a,h)anthracene	61c	PRG (EPA, 1995c)
Dibenzofuran	260,000n	PRG (EPA, 1995c)
1,2-Dichlorobenzene	2,300,000sat	PRG (EPA, 1995c)
1,3-Dichlorobenzene	2,800,000sat	PRG (EPA, 1995c)
1,4-Dichlorobenzene	7,400c	PRG (EPA, 1995c)
3,3'-Dichlorobenzidine	990c	PRG (EPA, 1995c)

MECOEK 10938

TABLE 4-7
SCREENING LEVELS FOR SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (ug/kg)	SOURCES
2,4-Dichlorophenol	200,000n	PRG (EPA, 1995c)
Diethylphthalate	52,000,000n	PRG (EPA, 1995c)
2,4-Dimethylphenol	1,300,000n	PRG (EPA, 1995c)
Dimethylphthalate	100,000,000max	PRG (EPA, 1995c)
Di-n-butylphthalate	6,500,000n	PRG (EPA, 1995c)
4,6-Dinitro-2-methylphenol	No Screening Level Established	*
2,4-Dinitrophenol	130,000n	PRG (EPA, 1995c)
2,4-Dinitrotoluene (2,4-DNT)	900	OU1 RG (RUST, 1994)
2,6-Dinitrotoluene (2,6-DNT)	900	OU1 RG (RUST, 1994)
Di-n-octylphthalate	1,300,000n	PRG (EPA, 1995c)
Fluoranthene	2,600,000n	PRG (EPA, 1995c)
Fluorene	300,000sat	PRG (EPA, 1995c)
Hexachlorobenzene	280c	PRG (EPA, 1995c)
Hexachlorobutadiene	5,700c	PRG (EPA, 1995c)
Hexachlorocyclopentadiene	450,000n	PRG (EPA, 1995c)
Hexachloroethane	32,000c	PRG (EPA, 1995c)
Indeno(1,2,3-cd)pyrene	610c	PRG (EPA, 1995c)
Isophorone	470,000c	PRG (EPA, 1995c)
2-Methylnaphthalene	No Screening Level Established	*
2-Methylphenol	3,300,000n	PRG (EPA, 1995c)
4-Methylphenol	330,000n	PRG (EPA, 1995c)
Naphthalene	800,000sat	PRG (EPA, 1995c)
2-Nitroaniline	3,900n	PRG (EPA, 1995c)
3-Nitroaniline	230,000n	RBC (EPA, 1995b)
4-Nitroaniline	230,000n	RBC (EPA, 1995b)
Nitrobenzene	No Screening Level Established	OU1 RG (RUST, 1994)
2-Nitrophenol	No Screening Level Established	*

MECOEK 10939

TABLE 4-7
SCREENING LEVELS FOR SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (ug/kg)	SOURCES
4-Nitrophenol	4,800,000n	RBC (EPA, 1995b)
N-Nitroso-di-n-propylamine	63c	PRG (EPA, 1995c)
N-Nitrosodiphenylamine (1)	91,000c	PRG (EPA, 1995c)
2,2'-oxybis(1-Chloropropane)	No Screening Level Established	*
Pentachlorophenol	2,500c	PRG (EPA, 1995c)
Phenanthrene	No Screening Level Established	*
Phenol	39,000,000n	PRG (EPA, 1995c)
Pyrene	2,000,000n	PRG (EPA, 1995c)
1,2,4-Trichlorobenzene	620,000n	PRG (EPA, 1995c)
2,4,5-Trichlorophenol	6,500,000n	PRG (EPA, 1995c)
2,4,6-Trichlorophenol	40,000c	PRG (EPA, 1995c)

c - Carcinogenic effects
max - Ceiling limit
n - Non-carcinogenic effects
sat - Soil saturation
* - No screening level was established; however, all sources listed in the source summary table were referenced
(1) - Cannot be separated from Diphenylamine

SOURCES:

OU1 RG - OU1 Remediation Goal
PRG - EPA Region IX Preliminary Remediation Goal (Residential Soil)
RBC - EPA Region III Risk-Based Concentration (Soil Ingestion, Residential)

COE 010139

MECOEK 10940

TABLE 4-8
SCREENING LEVELS FOR EXPLOSIVES IN WATER
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (ug/l)	SOURCES
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	No Screening Level Established	*
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	No Screening Level Established	*
1,3-Dinitrobenzene (1,3-DNB)	1.0	Lifetime HA (EPA, 1995a)
2,4-Dinitrotoluene (2,4-DNT)	1.24a	OU2 FTGCG (WCC, 1994e)
2,6-Dinitrotoluene (2,6-DNT)	0.05	10^{-6} Cancer Risk HA (EPA, 1995a)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2c	OU2 FTGCG (WCC, 1994e)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	370b	PRG (EPA, 1995c)
Nitrobenzene (NB)	18b	PRG (EPA, 1995c)
2-Nitrotoluene (2-NT)	61b	RBC (EPA, 1995b)
3-Nitrotoluene (3-NT)	370b	PRG (EPA, 1995c)
4-Nitrotoluene (4-NT)	370b	PRG (EPA, 1995c)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	400c	OU2 FTGCG (WCC, 1994e)
1,3,5-Trinitrobenzene (1,3,5-TNB)	0.778b	OU2 FTGCG (WCC, 1994e)
2,4,6-Trinitrotoluene (2,4,6-TNT)	2c	OU2 FTGCG (WCC, 1994e)

a - Carcinogenic risk
b - Non-carcinogenic risk
c - Health advisory
* - No screening level was established; however, all sources listed in the source summary table were referenced

SOURCES:

10^{-6} Cancer Risk HA - 10^{-6} Cancer Risk Health Advisory
Lifetime HA - Lifetime Health Advisory
OU2 FTGCG - OU2 Final Target Groundwater Cleanup Goal
PRG - EPA Region IX Preliminary Remediation Goal (Tap Water)
RBC - EPA Region III Risk-Based Concentration (Tap Water)

MECOEK 10941

COE 010140

TABLE 4-9
SCREENING LEVELS FOR METALS IN WATER
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (ug/l)	SOURCES
Aluminum (A1)	37,000n	PRG (EPA, 1995c)
Antimony (Sb)	6	MCL (EPA, 1995a)
Arsenic (As)	50	MCL (EPA, 1995a)
Barium (Ba)	2,000	MCL (EPA, 1995a)
Beryllium (Be)	4	MCL (EPA, 1995a)
Cadmium (Cd)	5	MCL (EPA, 1995a)
Calcium (Ca)	GRAS	- - -
Chromium (Cr)	100	MCL (EPA, 1995a)
Cobalt (Co)	2,200n	PRG (EPA, 1995c)
Copper (Cu)	1,300 / 12 *	AL (EPA, 1995a) / WQC (EPA, 1991)
Iron (Fe)	GRAS	- - -
Lead (Pb)	15 / 3.2 *	AL (EPA, 1995a) / WQC (EPA, 1991)
Magnesium (Mg)	GRAS	- - -
Manganese (Mn)	180n	PRG (EPA, 1995c)
Mercury (Hg)	2 / .012 *	MCL (EPA, 1995a) / WQC (EPA, 1991)
Nickel (Ni)	100	MCL (EPA, 1995a)
Potassium (K)	GRAS	- - -
Selenium (Se)	50 / 5 *	MCL (EPA, 1995a) / WQC (EPA, 1991)
Silver (Ag)	100 / .12 *	Lifetime HA (EPA, 1995a) / WQC (EPA, 1991)
Sodium (Na)	GRAS	- - -
Thallium (T1)	2	MCL (EPA, 1995a)
Vanadium (V)	260n	PRG (EPA, 1995c)
Zinc (Zn)	2,000 / 110 *	Lifetime HA (EPA, 1995a) / WQC (EPA, 1991)

n - Non-carcinogenic effects
GRAS - Generally recognized as safe
* - The first concentration is the screening level for groundwater only / the second concentration is the screening level for surface water only

SOURCES:
AL - Action Level
Lifetime HA - Lifetime Health Advisory
MCL - Maximum Contaminant Level
PRG - EPA Region IX Preliminary Remediation Goal (Tap Water)
WQC - Water Quality Criteria

COE 010141

MECOEK 10942

TABLE 4-10
SCREENING LEVELS FOR VOLATILE ORGANIC COMPOUNDS IN WATER
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (ug/l)	SOURCES
Acetone	610n	PRG (EPA, 1995c)
Benzene	5	MCL (EPA, 1995a)
Bromochloromethane	90	Lifetime HA (EPA, 1995a)
Bromomethane	10	Lifetime HA (EPA, 1995a)
2-Butanone	1,900n	PRG (EPA, 1995c)
Carbon Disulfide	21n	PRG (EPA, 1995c)
Carbon Tetrachloride	5	MCL (EPA, 1995a)
Chlorobenzene	100	MCL (EPA, 1995a)
Chloroethane	710n	PRG (EPA, 1995c)
Chloromethane	3	Lifetime HA (EPA, 1995a)
cis-1,2-Dichloroethene	70	MCL (EPA, 1995a)
cis-1,3-Dichloropropene	0.2	10^{-6} Cancer Risk HA (EPA, 1995a)
1,2-Dibromo-3-chloropropane	0.2	MCL (EPA, 1995a)
1,2-Dibromoethane	0.05	MCL (EPA, 1995a)
1,2-Dichlorobenzene	600	MCL (EPA, 1995a)
1,3-Dichlorobenzene	600^{+}	MCL (EPA, 1995a)
1,4-Dichlorobenzene	75	MCL (EPA, 1995a)
1,1-Dichloroethane	810n	PRG (EPA, 1995c)
1,2-Dichloroethane	5	MCL (EPA, 1995a)
1,1-Dichloroethene	7	MCL (EPA, 1995a)
1,2-Dichloroethene	55	PRG (EPA, 1995c)
1,2-Dichloropropane	5	MCL (EPA, 1995a)

COE 010142

MECOEK 10943

TABLE 4-10
SCREENING LEVELS FOR VOLATILE ORGANIC COMPOUNDS IN WATER
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (ug/l)	SOURCES
Ethylbenzene	700	MCL (EPA, 1995a)
2-Hexanone	No Screening Level Established	*
Methylene Chloride	5	MCL (EPA, 1995a)
4-Methyl-2-Pentanone	2,900n	PRG (EPA, 1995c)
Styrene	100	MCL (EPA, 1995a)
1,1,2,2-Tetrachloroethane	0.055c	PRG (EPA, 1995c)
Tetrachloroethene	5	MCL (EPA, 1995a)
Toluene	1,000	MCL (EPA, 1995a)
trans-1,2-Dichloroethene	100	MCL (EPA, 1995a)
trans-1,3-Dichloropropene	0.2	10^{-6} Cancer Risk HA (EPA, 1995a)
1,1,1-Trichloroethane	200	MCL (EPA, 1995a)
1,1,2-Trichloroethane	5	MCL (EPA, 1995a)
Trichloroethene (TCE)	5	MCL (EPA, 1995a)
Trihalomethane Group	100	MCL (EPA, 1995a)
Vinyl Chloride	2	MCL (EPA, 1995a)
Total Xylenes	10,000	MCL (EPA, 1995a)

c - Carcinogenic effects
n - Non-carcinogenic effects
* - No screening level was established; however, all sources listed in the source summary table were referenced
+ - The values for m-dichlorobenzene are based on data for o-dichlorobenzene

SOURCES:

10^{-6} Cancer Risk HA - 10^{-6} Cancer Risk Health Advisory
Lifetime HA - Lifetime Health Advisory
MCL - Maximum Contaminant Level
PRG - EPA Region IX Preliminary Remediation Goal (Tap Water)

COE 010143

MECOEK 10944

TABLE 4-11
SCREENING LEVELS FOR SEMI-VOLATILE ORGANIC COMPOUNDS IN WATER
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (ug/l)	SOURCES
Acenaphthene	370n	PRG (EPA, 1995c)
Acenaphthylene	No Screening Level Established / 520 **	* / WQC (EPA, 1991)
Anthracene	1,800n	PRG (EPA, 1995c)
Benzo(a)anthracene	0.092c	PRG (EPA, 1995c)
Benzo(a)pyrene	2	MCL (EPA, 1995a)
Benzo(b)fluoranthene	0.002	10^{-6} Cancer Risk HA (EPA, 1995a)
Benzo(g,h,i)perylene	No Screening Level Established	*
Benzo(k)fluoranthene	0.002	10^{-6} Cancer Risk HA (EPA, 1995a)
bis(2-Chloroethoxy)methane	No Screening Level Established	*
bis(2-Chloroethyl)ether	0.0098c	PRG (EPA, 1995c)
bis(2-Ethylhexyl)phthalate	6	MCL (EPA, 1995a)
4-Bromophenyl-phenylether	2,100n	RBC (EPA, 1995b)
Butylbenzylphthalate	7,300n	PRG (EPA, 1995c)
Carbazole	3.4c	PRG (EPA, 1995c)
4-Chloroaniline	150n	PRG (EPA, 1995c)
4-Chloro-3-methylphenol	No Screening Level Established	*
2-Chloronaphthalene	2,900n	PRG (EPA, 1995c)
2-Chlorophenol	40	Lifetime HA (EPA, 1995a)
4-Chlorophenyl-phenylether	No Screening Level Established	*
Chrysene	9.2c	PRG (EPA, 1995c)
Dibenzo(a,h)anthracene	0.0092c	PRG (EPA, 1995c)
Dibenzofuran	150n	PRG (EPA, 1995c)
1,2-Dichlorobenzene	600	MCL (EPA, 1995a)
1,3-Dichlorobenzene	600+	MCL (EPA, 1995a)
1,4-Dichlorobenzene	75	MCL (EPA, 1995a)
3,3'-Dichlorobenzidine	0.15c	PRG (EPA, 1995c)
2,4-Dichlorophenol	20	Lifetime HA (EPA, 1995a)
Diethylphthalate	5,000	Lifetime HA (EPA, 1995a)
2,4-Dimethylphenol	730n	PRG (EPA, 1995c)
Dimethylphthalate	370,000n	PRG (EPA, 1995c)

MECOEK 10945

COE 010144

TABLE 4-11
SCREENING LEVELS FOR SEMI-VOLATILE ORGANIC COMPOUNDS IN WATER
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (ug/l)	SOURCES
Di-n-butylphthalate	3,700n	PRG (EPA, 1995c)
4,6-Dinitro-2-methylphenol	No Screening Level Established	*
2,4-Dinitrophenol	73n	PRG (EPA, 1995c)
2,4-Dinitrotoluene (2,4-DNT)	1.24	OU2 FTGCG (WCC, 1994e)
2,6-Dinitrotoluene (2,6-DNT)	0.05	10^{-6} Cancer Risk HA (EPA, 1995a)
Di-n-octylphthalate	730n	PRG (EPA, 1995c)
Fluoranthene	1,500n	PRG (EPA, 1995c)
Fluorene	240n	PRG (EPA, 1995c)
Hexachlorobenzene	1	MCL (EPA, 1995a)
Hexachlorobutadiene	1	MCLG (EPA, 1995a)
Hexachlorocyclopentadiene	50	MCL (EPA, 1995a)
Hexachloroethane	1	Lifetime HA (EPA, 1995a)
Indeno(1,2,3-cd)pyrene	0.092c	PRG (EPA, 1995c)
Isophorone	40	10^{-6} Cancer Risk HA (EPA, 1995a)
2-Methylnaphthalene	No Screening Level Established	*
2-Methylphenol	1,800n	PRG (EPA, 1995c)
4-Methylphenol	180n	PRG (EPA, 1995c)
Naphthalene	20	Lifetime HA (EPA, 1995a)
2-Nitroaniline	2.2n	PRG (EPA, 1995c)
3-Nitroaniline	110n	RBC (EPA, 1995b)
4-Nitroaniline	110n	RBC (EPA, 1995b)
Nitrobenzene	18n	PRG (EPA, 1995c)
2-Nitrophenol	No Screening Level Established	*
4-Nitrophenol	60	Lifetime HA (EPA, 1995a)
N-Nitroso-di-n-propylamine	0.0096c	PRG (EPA, 1995c)
N-Nitrosodiphenylamine (1)	14c	PRG (EPA, 1995c)
2,2'-oxybis(1-Chloropropane)	No Screening Level Established	*
Pentachlorophenol	1	MCL (EPA, 1995a)
Phenanthrene	No Screening Level Established / 6.3 **	* / WQC (EPA, 1991)
Phenol	4,000 / 2560 **	Lifetime HA (EPA, 1995a) / WQC (EPA, 1991)

MECOEK 10946

COE 010145

TABLE 4-11
SCREENING LEVELS FOR SEMI-VOLATILE ORGANIC COMPOUNDS IN WATER
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

COMPOUNDS	CONCENTRATIONS (ug/l)	SOURCES
Pyrene	1,100n	PRG (EPA, 1995c)
1,2,4-Trichlorobenzene	70	MCL (EPA, 1995a)
2,4,5-Trichlorophenol	3,700n / 63 **	PRG (EPA, 1995c) / WQC (EPA,1991)
2,4,6-Trichlorophenol	3	10^{-6} Cancer Risk HA (EPA, 1995a)

c - Carcinogenic effects
n - Non-carcinogenic effects
* - No screening level was established; however, all sources listed in the source summary table were referenced
** - The first concentration is the screening level for groundwater only / the second concentration is the screening level for surface water only
(1) - Cannot be separated from Diphenylamine
+ - The values for m-dichlorobenzene are based on data for o-dichlorobenzene

SOURCES:

10^{-6} Cancer Risk HA - 10^{-6} Cancer Risk Health Advisory
Lifetime HA - Lifetime Health Advisory
MCL - Maximum Contaminant Level
MCLG - Maximum Contaminant Level Goal
OU2 FTGCG - OU2 Final Target Groundwater Cleanup Goal
PRG - EPA Region IX Preliminary Remediation Goal (Tap Water)
RBC - EPA Region III Risk-Based Concentration (Tap Water)

TABLE 4-12
DATA SUMMARY FOR LOAD LINE 1 BOMB PRODUCTION BUILDINGS ADJACENT SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
EXPLOSIVES (MG/KG)							
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	27	1.9	15.88	18%	5%	B1A-022-000
1,3-Dinitrobenzene (1,3-DNB)	3.4	0.63	*	0.19	1%	0%	B1A-060-000
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	13000	18	755.81	46%	13%	B1A-022-000
2,4-Dinitrotoluene (2,4-DNT)	0.9	6.8	2	7.56	5%	2%	B1A-036-000
2,6-Dinitrotoluene (2,6-DNT)	0.9	1	1	1.11	5%	1%	B1A-012-000
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NI	54	NA	NA	36%	NA	B1A-060-000(J)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NI	30	NA	NA	29%	NA	B1A-060-000
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	3	*	0.52	16%	0%	B1A-024-001
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343	0.46	*	0.00	5%	0%	B1A-077-000(J)
Nitrobenzene (NB)	NI	0.41	NA	NA	1%	NA	B1A-001-001(J)
Nitrotoluene	343	0.96	*	0.00	5%	0%	B1A-046-001
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	1.1	*	0.00	19%	0%	B1A-075-001
METALS (MG/KG)							
Aluminum	33852	47500	47500	1.40	100%	1%	B1A-011-001
Antimony	31	3.2	*	0.10	20%	0%	B1A-022-000(J)
Arsenic	13.5	17.5	17.5	1.30	100%	1%	B1A-011-001
Barium	440	4710	446	10.70	100%	2%	B1A-066-001(J)
Beryllium	1.52	1.9	1.9	1.25	81%	1%	B1A-011-001
Cadmium	39	17.2	*	0.44	78%	0%	B1A-047-000(J)
Calcium	GRAS	79100	NA	NA	100%	NA	B1A-066-001
Chromium	37	47	40.8	1.27	100%	1%	B1A-011-001
Cobalt	17.2	20.8	18	1.21	100%	1%	B1A-011-001
Copper	33.9	75.3	35.2	2.22	100%	6%	B1A-008-000
Iron	GRAS	46900	NA	NA	100%	NA	B1A-011-001
Lead	400	417	417	1.04	100%	1%	B1A-058-000(J)
Magnesium	GRAS	8950	NA	NA	100%	NA	B1A-011-001
Manganese	1083	1110	1090	1.02	100%	1%	B1A-027-001
Mercury	23	0.93	*	0.04	6%	0%	B1A-009-000
Nickel	39.3	51.7	43.7	1.32	100%	1%	B1A-011-001
Potassium	GRAS	8210	NA	NA	100%	NA	B1A-011-001
Selenium	390	3.1	*	0.01	37%	0%	B1A-011-001(J)
Silver	380	9.9	*	0.03	1%	0%	B1A-035-000(J)
Sodium	GRAS	3500	NA	NA	32%	NA	B1A-056-000(J)
Thallium	1.72	1.9	1.9	1.10	1%	1%	B1A-037-000(J)
Vanadium	72.5	102	102	1.41	100%	1%	B1A-011-001
Zinc	119.5	1890	125	15.82	89%	14%	B1A-047-000(J)

Note: Chemical in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not identified
* = All detections were below the screening level
SL = Screening Level

COE 010147

MECOEK 10948

B07NE003703-04386

TALBE 4-13
DATA SUMMARY FOR LOAD LINE 2 BOMB PRODUCTION BUILDINGS ADJACENT SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
EXPLOSIVES (MG/KG)							
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	32	11	18.82	10%	2%	B2A-022-000
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	14000	18	813.95	28%	4%	B2A-051-000
2,4-Dinitrotoluene (2,4-DNT)	0.9	3.7	3.7	4.11	1%	1%	B2A-051-000
2,6-Dinitrotoluene (2,6-DNT)	0.9	12	7.6	13.33	1%	1%	B2A-022-000
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NI	4.5	NA	NA	22%	NA	B2A-051-000
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NI	2.4	NA	NA	16%	NA	B2A-022-000,B2A-033-000
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	4300	12	741.38	38%	5%	B2A-008-000
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343	0.53	*	0.00	7%	0%	B2A-071-000(J)
Nitrotoluene	343	1.44	*	0.00	5%	0%	B2A-001-000
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	300	*	0.17	36%	0%	B2A-008-000(J)
METALS (MG/KG)							
Aluminum	33852	23600	*	0.70	100%	0%	B2A-066-001
Antimony	31	2.8	*	0.09	24%	0%	B2A-001-000(J)
Arsenic	13.5	15.5	15.5	1.15	99%	1%	B2A-038-000
Barium	440	516	516	1.17	100%	1%	B2A-029-000(J)
Beryllium	1.52	0.95	*	0.63	100%	0%	B2A-006-001,B2A-015-001,B2A-058-000
Cadmium	39	12.6	*	0.32	71%	0%	B2A-002-000
Calcium	GRAS	173000	NA	NA	100%	NA	B2A-054-000
Chromium	37	70.6	70.6	1.91	99%	1%	B2A-038-000(J)
Cobalt	17.2	14	*	0.81	100%	0%	B2A-071-000
Copper	33.9	145	34.1	4.28	100%	11%	B2A-038-000
Iron	GRAS	118000	NA	NA	100%	NA	B2A-038-000
Lead	400	1040	406	2.60	100%	13%	B2A-039-000
Magnesium	GRAS	5970	NA	NA	100%	NA	B2A-060-001
Manganese	1083	1090	1090	1.01	100%	1%	B2A-038-000
Mercury	23	0.39	*	0.02	3%	0%	B2A-045-000
Nickel	39.3	52.4	45.4	1.33	100%	2%	B2A-038-000
Potassium	GRAS	4940	NA	NA	100%	NA	B2A-062-000
Selenium	390	3.3	*	0.01	56%	0%	B2A-038-000(J)
Sodium	GRAS	2720	NA	NA	7%	NA	B2A-022-000
Vanadium	72.5	57.9	*	0.80	100%	0%	B2A-058-000
Zinc	119.5	654	122	5.47	100%	23%	B2A-036-000

Note: Chemical in bold, italites, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010148

MECOEK 10949

TABLE 4-14
DATA SUMMARY FOR LOAD LINE 3 BOMB PRODUCTION BUILDINGS ADJACENT SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
EXPLOSIVES (MG/KG)							
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	1.4	*	0.82	11%	0%	B3A-029-000
1,3-Dinitrobenzene (1,3-DNB)	3.4	0.42	*	0.12	2%	0%	B3A-059-001(J)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	87000	29	5058.14	36%	5%	B3A-055-000
2,4-Dinitrotoluene (2,4-DNT)	0.9	3.4	3.4	3.78	1%	1%	B3A-029-000
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NI	6	NA	NA	34%	NA	B3A-029-000
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NI	2.7	NA	NA	36%	NA	B3A-029-000,B3A-031-001
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	1600	6.2	275.86	30%	7%	B3A-053-000(J)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343	0.41	*	0.00	4%	0%	B3A-039-001(J)
Nitrobenzene (NB)	NI	1.1	NA	NA	1%	NA	B3A-054-000(J)
Nitrotoluene	343	0.62	*	0.00	1%	0%	B3A-029-000
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	730	*	0.43	34%	0%	B3A-055-000(J)
METALS (MG/KG)							
Aluminum	33852	23300	*	0.69	100%	0%	B3A-050-001
Antimony	31	1.5	*	0.05	10%	0%	B3A-065-000(J)
Arsenic	13.5	11.8	*	0.87	100%	0%	B3A-032-001
Barium	440	2380	466	5.41	100%	1%	B3A-004-000
Beryllium	1.52	1	*	0.66	100%	0%	B3A-051-001
Cadmium	39	3.1	*	0.08	90%	0%	B3A-060-000
Calcium	GRAS	69800	NA	NA	100%	NA	B3A-029-000
Chromium	37	26.8	*	0.72	100%	0%	B3A-059-000(J)
Cobalt	17.2	15.4	*	0.90	100%	0%	B3A-032-001
Copper	33.9	157	35.7	4.63	100%	6%	B3A-015-000
Iron	GRAS	25000	NA	NA	100%	NA	B3A-040-000
Lead	400	4670	438	11.68	100%	3%	B3A-032-000(J)
Magnesium	GRAS	8390	NA	NA	100%	NA	B3A-064-000
Manganese	1083	1040	*	0.96	100%	0%	B3A-030-001(J)
Mercury	23	0.72	*	0.03	21%	0%	B3A-064-000
Nickel	39.3	60	41.6	1.53	100%	3%	B3A-061-000
Potassium	GRAS	4590	NA	NA	100%	NA	B3A-076-000
Selenium	390	2.8	*	0.01	57%	0%	B3A-074-000(J)
Silver	380	79.3	*	0.21	3%	0%	B3A-064-000(J)
Sodium	GRAS	278	NA	NA	13%	NA	B3A-043-000(J)
Thallium	1.72	1.8	1.8	1.05	2%	1%	B3A-059-000(J)
Vanadium	72.5	51.5	*	0.71	100%	0%	B3A-036-000
Zinc	119.5	408	121	3.41	100%	20%	B3A-043-000

Note: Chemical in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

TABLE 4-15
DATA SUMMARY FOR LOAD LINE 4 BOMB PRODUCTION BUILDINGS ADJACENT SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
EXPLOSIVES (MG/KG)							
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.12	*	0.07	5%	0%	B4A-022-000(J)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	37	37	2.15	35%	1%	B4A-069-000
2,4-Dinitrotoluene (2,4-DNT)	0.9	0.088	*	0.10	1%	0%	B4A-037-001(J)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NI	1.1	NA	NA	17%	NA	B4A-051-001
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NI	0.87	NA	NA	19%	NA	B4A-009-000(J)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	74	6.3	12.76	20%	5%	B4A-008-000
Nitrobenzene (NB)	NI	1.6	NA	NA	2%	NA	B4A-015-001(J)
Nitrotoluene	343	0.28	*	0.00	1%	0%	B4A-013-001
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	7.5	*	0.00	34%	0%	B4A-008-000
METALS (MG/KG)							
Aluminum	33852	25600	*	0.76	100%	0%	B4A-028-001
Antimony	31	1.4	*	0.05	14%	0%	B4A-011-000(J)
Arsenic	13.5	15.3	15.3	1.13	100%	1%	B4A-011-000
Barium	440	347	*	0.79	100%	0%	B4A-071-00
Beryllium	1.52	1	*	0.66	98%	0%	B4A-018-001,B4A-021-001,B4A-028-001,B4A-038-001,B4A-067-001
Cadmium	39	10.3	*	0.26	90%	0%	B4A-003-000
Calcium	GRAS	51000	NA	NA	100%	NA	B4A-057-000
Chromium	37	57	40.5	1.54	100%	1%	B4A-011-000
Cobalt	17.2	14.9	*	0.87	100%	0%	B4A-027-001
Copper	33.9	112	34.2	3.30	100%	5%	B4A-014-000
Iron	GRAS	70600	NA	NA	100%	NA	B4A-011-000
Lead	400	313	*	0.78	100%	0%	B4A-046-000
Magnesium	GRAS	5260	NA	NA	100%	NA	B4A-038-001
Manganese	1083	960	*	0.89	100%	0%	B4A-025-000
Mercury	23	0.38	*	0.02	27%	0%	B4A-009-000
Nickel	39.3	61.7	61.7	1.57	100%	1%	B4A-011-000
Potassium	GRAS	6090	NA	NA	100%	NA	B4A-021-000
Selenium	390	3.3	*	0.01	64%	0%	B4A-011-000(J)
Sodium	GRAS	10200	NA	NA	23%	NA	B4A-014-000
Thallium	1.72	1.5	*	0.87	1%	0%	B4A-050-000(J)
Vanadium	72.5	52.3	*	0.72	100%	0%	B4A-028-001
Zinc	119.5	355	120	2.97	100%	16%	B4A-054-000

Note: Chemical in bold, italiles, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010150

MECOEK 10951

B07NE003703-04389

TABLE 4-16

LOAD LINE 1 ADJACENT SOIL SAMPLING LOCATIONS WITH EXPLOSIVES ABOVE SCREENING LEVELS FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Sample Location I.D.	Explosive	Concentration in mg/kg	
		0-0.5 ft bgs	1-2 ft bgs
B1A-007	2,4,6-TNT	**58**	U(0.5)
B1A-008	1,3,5-TNB	**6.4**	U(0.5)
	2,4,6-TNT	**420**	0.65
B1A-009	1,3,5-TNB	**1.9**	U(0.5)
	2,4,6-TNT	**43**	2.4
B1A-012	1,3,5-TNB	**2.3**	U(0.5)
	2,4,6-TNT	**860**	3.2
	2,6-DNT	**1**	U(0.5)
B1A-016	2,4,6-TNT	U(0.5)	**32**
B1A-022	1,3,5-TNB	**27**	**5.3**
	2,4,6-TNT	**13000**	**1100**
	2,4-DNT	**5**	0.89
B1A-029	2,4,6-TNT	0.78	**1880**
B1A-030	1,3,5-TNB	U(0.5)	**2.2**
B1A-031	2,4,6-TNT	U(0.5)	**183**
B1A-033	2,4,6-TNT	U(0.5)	**790**
B1A-034	2,4,6-TNT	**230**	**4300**
B1A-036	2,4,6-TNT	**24**	U(0.5)
	2,4-DNT	**6.8**	U(0.5)
B1A-037	2,4,6-TNT	**21**	0.2J
B1A-038	1,3,5-TNB	**3**	U(0.5)
	2,4,6-TNT	**180**	0.72
B1A-057	2,4,6-TNT	**26**	U(0.5)
B1A-058	2,4,6-TNT	**1500**	**18**
	1,3,5-TNB	**2.5**	U(0.5)
B1A-060	2,4,6-TNT	**68**	0.28
	2,4-DNT	**2**	U(0.5)

Note:
Concentrations above screening level are shown in bold text
U - nondetect value, J - estimated value
Numbers in parenthesis are quantitation limits
(contract required quantitation limits, CRQLs)

COE 010151

TABLE 4-17

METAL CONCENTRATIONS IN SOILS FROM PREVIOUS INVESTIGATIONS AT LOAD LINES FORMER NEBRASKA ORDNANCE PLANT, MEAD NEBRASKA

Previous Investigation (Document Source)	Analyte	Ranges in Concentrations (mg/kg)			
		Load Line 1	Load Line 2	Load Line 3	Load Line 4
OU1 RI Report (CEMRK, 1991) and Supplemental OU1 RI/FS (Donohue, 1992a)	Barium	12 - 813	24 - 403	13 - 430	29.3 - 375
	Cadmium	1.5 - 2.5	1.5 - 1.8	U	U
	Chromium	3 - 43	3 - 268	14 - 36	4 - 33
	Lead	6.4 - 576	6.6 - 198	6 - 331	14 - 91.2
Confirmation Study (CEMRK, 1987)	Arsenic	1.7 - 3.0	1.7 - 4.0	2.5 - 4.7	2.1 - 3.4
	Barium	230 - 270	220 - 310	180 - 330	210 - 290
	Cadmium	1.1 - 1.9	1.3 - 1.7	U - 1.3	U - 1.1
	Chromium	15 - 26	16 -19	14 - 17	14 - 18
	Lead	24 - 260	23 -27	18 - 35	20 - 25
	Mercury	U - 0.1	U	U - 0.11	U
	Selenium	0.1 - 0.32	0.23 - 0.29	0.22 - 0.42	0.39 - 0.58
	Silver	U	U	U	U

Note:
U - Undetected

COE 010152

MECOEK 10953

TABLE 4-18

LOAD LINE 2 ADJACENT SOIL SAMPLING LOCATIONS WITH EXPLOSIVES ABOVE SCREENING LEVELS FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Sample Location I.D.	Explosive	Concentration in mg/kg	
		0-0.5 ft bgs	1-2 ft bgs
B2A-007	RDX	**2200**	U(4.2)
B2A-008	RDX	**4300**	**18J**
B2A-009	RDX	**1500J**	**47**
B2A-013	RDX	**13**	**61**
B2A-022	1,3,5-TNB	**32**	**16**
	2,4,6-TNT	**87**	**37**
	2,6-DNT	**12**	**7.6**
	RDX	1.9J	**12**
B2A-031	2,4,6-TNT	**170**	0.48J
B2A-033	1,3,5-TNB	U(0.5)	**11**
	2,4,6-TNT	**500**	**18**
B2A-051	2,4,6-TNT	**14000**	0.41J
	2,4-DNT	**3.7**	U(0.5)

Note:
Concentrations above screening level are shown in bold text
U - nondetect value, J - estimated value
Numbers in parenthesis are quantitation limits
(contract required quantitation limits, CRQLs)

COE 010153

MECOEK 10954

TABLE 4-19

LOAD LINE 3 ADJACENT SOIL SAMPLING LOCATIONS WITH EXPLOSIVES ABOVE SCREENING LEVEL FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Sample Location I.D.	Explosive	Concentration in mg/kg	
		0-0.5 ft bgs	1-2 ft bgs
B3A-011	RDX	**110J**	**26**
B3A-022	2,4,6-TNT	**100**	U(0.5)
	RDX	**160**	0.14J
B3A-029	2,4,6-TNT	**20000**	3.8
	2,4-DNT	**3.4**	U(0.5)
B3A-030	2,4,6-TNT	**76**	U(0.5)
B3A-033	RDX	**150**	U(0.75)
B3A-051	RDX	**130**	1.9
B3A-052	2,4,6-TNT	**87**	U(0.5)
	RDX	2.2	**28**
B3A-053	2,4,6-TNT	**62J**	UJ(0.5)
	RDX	**1600J**	**35J**
B3A-055	2,4,6-TNT	**87000**	UJ(0.5)
	RDX	U(7500)	**6.2**
B3A-058	RDX	**18**	UJ(0.75)
B3A-061	2,4,6-TNT	**29**	6.5J
B3A-066	RDX	**14**	4.3

Note:
Concentrations above screening level are shown in bold text
U - nondetect value, J - estimated value, UJ - estimated quantitation limit
Numbers in parenthesis are quantitation limits
(contract required quantitation limits, CRQLs)

COE 010154

MECOEK 10955

TABLE 4-20

LOAD LINE 4 ADJACENT SOIL SAMPLING LOCATIONS WITH EXPLOSIVES ABOVE SCREENING LEVEL FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Sample Location I.D.	Explosive	Concentration in mg/kg	
		0-0.5 ft bgs	1-2 ft bgs
B4A-008	RDX	**74**	**6.3**
B4A-009	RDX	**24**	0.34J
B4A-026	RDX	**28**	U(0.75)
B4A-051	RDX	**14J**	2.2
B4A-054	RDX	0.56J	**11**
B4A-069	2,4,6-TNT	**37**	0.4J
	RDX	**36**	0.59J

Note:
Concentrations above screening level are shown in bold text
U - nondetect value, J - estimated value
Numbers in parenthesis are quantitation limits
(contract required quantitation limits, CRQLs)

COE 010155

MECOEK 10956

TABLE 4-21
DATA SUMMARY FOR LOAD LINE 1 BOMB PRODUCTION BUILDINGS BENEATH SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
EXPLOSIVES (MG/KG)							
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.2	*	0.12	3%	0%	B1B-036-000(J)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	32	32	1.86	11%	3%	B1B-016-000(J)
2,4-Dinitrotoluene (2,4-DNT)	0.9	0.23	*	0.26	3%	0%	B1B-037-000(J)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NI	0.37	NA	NA	16%	NA	B1B-024-000(J)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NI	0.23	NA	NA	8%	NA	B1B-012-000(J)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	5.1	*	0.88	18%	0%	B1B-038-000
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343	0.071	*	0.00	3%	0%	B1B-036-000(J)
Nitrotoluene	343	0.69	*	0.00	3%	0%	B1B-022-000
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	1.2	*	0.00	16%	0%	B1B-037-000
METALS (MG/KG)							
Aluminum	33852	21900	*	0.65	100%	0%	B1B-025-000
Antimony	31	0.55	*	0.02	5%	0%	B1B-031-000(J)
Arsenic	13.5	10.6	*	0.79	100%	0%	B1B-027-000,B1B-034-000
Barium	440	334	*	0.76	100%	0%	B1B-034-000
Beryllium	1.52	0.95	*	0.63	100%	0%	B1B-025-000
Cadmium	39	0.84	*	0.02	66%	0%	B1B-034-000(J)
Calcium	GRAS	9900	NA	NA	100%	NA	B1B-017-000
Chromium	37	24.1	*	0.65	100%	0%	B1B-024-000
Cobalt	17.2	14.7	*	0.85	100%	0%	B1B-034-000
Copper	33.9	44.3	44.3	1.31	100%	3%	B1B-024-000
Iron	GRAS	23600	NA	NA	100%	NA	B1B-025-000
Lead	400	26.6	*	0.07	100%	0%	B1B-013-000(J)
Magnesium	GRAS	6280	NA	NA	100%	NA	B1B-017-000
Manganese	1083	897	*	0.83	100%	0%	B1B-034-000(J)
Nickel	39.3	32.7	*	0.83	100%	0%	B1B-034-000
Potassium	GRAS	11600	NA	NA	100%	NA	B1B-025-000
Selenium	390	2	*	0.01	39%	0%	B1B-036-000(J)
Vanadium	72.5	46.2	*	0.64	100%	0%	B1B-025-000
Zinc	119.5	64	*	0.54	100%	0%	B1B-034-000

Note: *Chemical in bold, italics, and underlined are detected above the respective screening levels.*
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

TABLE 4-22
DATA SUMMARY FOR LOAD LINE 2 BOMB PRODUCTION BUILDINGS BENEATH SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
EXPLOSIVES (MG/KG)							
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	1.9	1.9	1.12	8%	3%	B2B-025-000
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	220	220	12.79	21%	3%	B2B-025-000
2,4-Dinitrotoluene (2,4-DNT)	0.9	0.39	*	0.43	8%	0%	B2B-030-000(J)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NI	0.32	NA	NA	8%	NA	B2B-021-000(J),B2B-025-000(J)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NI	0.21	NA	NA	3%	NA	B2B-021-000(J)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	740	740	127.59	29%	3%	B2B-025-000
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343	0.14	*	0.00	8%	0%	B2B-021-000(J)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	35	*	0.02	39%	0%	B2B-025-000
METALS (MG/KG)							
Aluminum	33852	20200	*	0.60	100%	0%	B2B-026-000(J)
Antimony	31	0.59	*	0.02	3%	0%	B2B-026-000(J)
Arsenic	13.5	11.5	*	0.85	100%	0%	B2B-016-000
Barium	440	324	*	0.74	100%	0%	B2B-037-000(J)
Beryllium	1.52	0.92	*	0.61	95%	0%	B2B-026-000
Cadmium	39	0.66	*	0.02	63%	0%	B2B-026-000(J)
Calcium	GRAS	16000	NA	NA	100%	NA	B2B-035-000
Chromium	37	23.7	*	0.64	100%	0%	B2B-026-000(J)
Cobalt	17.2	12.5	*	0.73	100%	0%	B2B-021-000
Copper	33.9	25.8	*	0.76	100%	0%	B2B-028-000(J)
Iron	GRAS	23700	NA	NA	100%	NA	B2B-026-000
Lead	400	36.3	*	0.09	100%	0%	B2B-035-000
Magnesium	GRAS	5150	NA	NA	100%	NA	B2B-026-000
Manganese	1083	898	*	0.83	100%	0%	B2B-025-000
Mercury	23	0.38	*	0.02	3%	0%	B2B-035-000(J)
Nickel	39.3	29.6	*	0.75	100%	0%	B2B-026-000
Potassium	GRAS	3890	NA	NA	100%	NA	B2B-026-000
Selenium	390	1.9	*	0.00	37%	0%	B2B-031-000(J)
Sodium	GRAS	266	NA	NA	42%	NA	B2B-001-000(J),B2B-003-000(J)
Thallium	1.72	1.4	*	0.81	3%	0%	B2B-001-000(J)
Vanadium	72.5	53.1	*	0.73	100%	0%	B2B-026-000
Zinc	119.5	66.9	*	0.56	97%	0%	B2B-026-000

Note: Chemical in bold, italiles, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

TABLE 4-23
DATA SUMMARY FOR LOAD LINE 3 BOMB PRODUCTION BUILDINGS BENEATH SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
EXPLOSIVES (MG/KG)							
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.21	*	0.12	18%	0%	B3B-014-000(J)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.82	*	0.05	8%	0%	B3B-038-000
2,4-Dinitrotoluene (2,4-DNT)	0.9	3.5	3.5	3.89	3%	3%	B3B-038-000
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NI	0.073	NA	NA	3%	NA	B3B-007-000(J)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NI	0.24	NA	NA	5%	NA	B3B-004-000(J)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	3.6	*	0.62	13%	0%	B3B-016-000
Nitrotoluene	343	0.19	*	0.00	3%	0%	B3B-014-000
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.52	*	0.00	58%	0%	B3B-010-000
METALS (MG/KG)							
Aluminum	33852	22600	*	0.67	100%	0%	B3B-020-000
Antimony	31	0.63	*	0.02	5%	0%	B3B-006-000(J)
Arsenic	13.5	11.2	*	0.83	100%	0%	B3B-005-000,B3B-025-000
Barium	440	391	*	0.89	100%	0%	B3B-001-000
Beryllium	1.52	0.99	*	0.65	100%	0%	B3B-020-000
Cadmium	39	0.61	*	0.02	82%	0%	B3B-025-000(J)
Calcium	GRAS	5660	NA	NA	100%	NA	B3B-002-000
Chromium	37	23.3	*	0.63	100%	0%	B3B-020-000
Cobalt	17.2	12.9	*	0.75	100%	0%	B3B-010-000,B3B-023-000
Copper	33.9	31.6	*	0.93	100%	0%	B3B-038-000(J)
Iron	GRAS	22300	NA	NA	100%	NA	B3B-006-000
Lead	400	69	*	0.17	100%	0%	B3B-007-000
Magnesium	GRAS	4780	NA	NA	100%	NA	B3B-005-000
Manganese	1083	853	*	0.79	100%	0%	B3B-021-000(J)
Mercury	23	0.17	*	0.01	3%	0%	B3B-036-000(J)
Nickel	39.3	29.8	*	0.76	100%	0%	B3B-003-000(J)
Potassium	GRAS	4210	NA	NA	100%	NA	B3B-020-000
Selenium	390	2.1	*	0.01	47%	0%	B3B-019-000(J),B3B-026-000(J)
Sodium	GRAS	624	NA	NA	11%	NA	B3B-003-000
Vanadium	72.5	48.3	*	0.67	100%	0%	B3B-020-000
Zinc	119.5	63.5	*	0.53	100%	0%	B3B-020-000

Note: Chemical in bold, italiles, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

TABLE 4-24
DATA SUMMARY FOR LOAD LINE 4 BOMB PRODUCTION BUILDINGS BENEATH SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PALNT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
EXPLOSIVES (MG/KG)							
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.056	*	0.00	3%	0%	B4B-035-000(J)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NI	0.3	NA	NA	3%	NA	B4B-035-000(J)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.59	*	0.10	27%	0%	B4B-018-000(J)
Nitrobenzene (NB)	NI	0.0053	NA	NA	3%	NA	B4B-021-000(J)
Nitrotoluene	343	0.12	*	0.00	3%	0%	B4B-035-000
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.15	*	0.00	14%	0%	B4B-035-000(J)
METALS (MG/KG)							
Aluminum	33852	18300	*	0.54	100%	0%	B4B-016-000
Arsenic	13.5	10	*	0.74	100%	0%	B4B-018-000
Barium	440	302	*	0.69	100%	0%	B4B-018-000
Beryllium	1.52	0.89	*	0.59	100%	0%	B4B-018-000,B4B-024-000
Cadmium	39	0.96	*	0.02	100%	0%	B4B-034-000(J)
Calcium	GRAS	8370	NA	NA	100%	NA	B4B-007-000
Chromium	37	27.3	*	0.74	100%	0%	B4B-033-000(J)
Cobalt	17.2	13.7	*	0.80	100%	0%	B4B-016-000
Copper	33.9	80.6	80.6	2.38	100%	3%	B4B-036-000(J)
Iron	GRAS	22000	NA	NA	100%	NA	B4B-024-000
Lead	400	16.8	*	0.04	100%	0%	B4B-024-000
Magnesium	GRAS	4780	NA	NA	100%	NA	B4B-007-000
Manganese	1083	972	*	0.90	100%	0%	B4B-030-000
Nickel	39.3	28.6	*	0.73	100%	0%	B4B-003-000
Potassium	GRAS	3530	NA	NA	100%	NA	B4B-034-000
Selenium	390	2.4	*	0.01	73%	0%	B4B-038-000(J)
Vanadium	72.5	43.1	*	0.59	100%	0%	B4B-012-000
Zinc	119.5	60.6	*	0.51	100%	0%	B4B-028-000

Note: Chemical in bold, italites, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010159 MECOEK 10960

TABLE 4-25

LOAD LINE 1 DETECTED CONCENTRATIONS OF EXPLOSIVES IN WIPE SAMPLES
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRAKA

Building Name	Sample Location I.D.	Explosive	Results[1] (mg/wipe)
Nose Pour	B1W-005-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0003 J
Amatol Melt (1st Floor)	B1W-007-NWL	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.000072 J
	B1W-008-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0085
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0024
	B1W-010-WWL	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0006
	B1W-011-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.013
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0016
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0013
	B1W-012-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.013 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0055 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0056 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00032 J
Amatol Melt (2nd Floor)	B1W-019-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.046
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0044
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0039
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0026
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00089
	B1W-020-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0092
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.00039 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00027 J
	B1W-021-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.022
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0015
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00093 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0012
	B1W-022-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00091
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00026 J
	B1W-023-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.037
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0013
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0034
	B1W-024-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0051
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0012
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.001
Amatol Melt (3rd Floor)	B1W-031-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.005
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00024 J
	B1W-032-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0036
	B1W-033-SWL	1,3,5-Trinitrobenzene (1,3,5-TNB)	0.0005 J
		2,4,6-Trinitrotoluene (2,4,6-TNT)	0.052 J
		2,4-Dinitrotoluene (2,4-DNT)	0.0005 J
		2,6-Dinitrotoluene (2,6-DNT)	0.0089 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0084 J
		2-Nitrotoluene (2-NT)	0.042 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0048 J
		4-Nitrotoluene (4-NT)	0.042 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00065 J
		Nitrobenzene (NB)	0.002 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0029 J
	B1W-034-WWL	1,3,5-Trinitrobenzene (1,3,5-TNB)	0.00023 J
		2,4,6-Trinitrotoluene (2,4,6-TNT)	0.032
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0024
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0013
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00046 J
	B1W-035-FLR	1,3,5-Trinitrobenzene (1,3,5-TNB)	0.0001 J
		2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0037

TABLE 4-25

LOAD LINE 1 DETECTED CONCENTRATIONS OF EXPLOSIVES IN WIPE SAMPLES
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRAKA

Building Name	Sample Location I.D.	Explosive	Results[1] (mg/wipe)
Amatol Melt (3rd Floor) (cont'd)	B1W-035-FLR	2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.001
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0017
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0002 J
	B1W-036-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0047
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0003 J
Amatol Screening (1st Floor)	B1W-013-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00063
	B1W-014-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0062
	B1W-015-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0022
	B1W-016-WWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0028
	B1W-017-FLR	4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00029 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0013
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00066
Amatol Screening (2nd Floor)	B1W-025-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0082
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0015
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0008 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0027
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0005
	B1W-026-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0037
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0012
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0018
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00063 J
	B1W-027-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.031
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0031
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0046
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0005
	B1W-028-WWL	2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.00043 J
	B1W-029-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0026
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00013 J
	B1W-030-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0016
Ammonium Nitrate Service	B1W-037-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0013
	B1W-038-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.011 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0066 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0019 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00063 J
	B1W-039-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.003
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.00052
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0019
	B1W-040-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0014
	B1W-041-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0022 J
North TNT Service	B1W-043-NWL	1,3,5-Trinitrobenzene (1,3,5-TNB)	0.00025 J
		2,4,6-Trinitrotoluene (2,4,6-TNT)	0.006
		2-Nitrotoluene (2-NT)	0.0027
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0025
		4-Nitrotoluene (4-NT)	0.0027
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0024
	B1W-044-EWL	1,3,5-Trinitrobenzene (1,3,5-TNB)	0.00011 J
		2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0013 J
	B1W-045-SWL	4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0036
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0013
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0029
	B1W-046-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00096
	B1W-048-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00036 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00032 J

TABLE 4-25

LOAD LINE 1 DETECTED CONCENTRATIONS OF EXPLOSIVES IN WIPE SAMPLES
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRAKA

Building Name	Sample Location I.D.	Explosive	Results[1] (mg/wipe)
West Cooling	B1W-049-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0071
	B1W-050-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0022
	B1W-051-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.026
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0025
	B1W-052-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0017
	B1W-053-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.04 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0024 J
	B1W-054-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0016 J
East Cooling	B1W-059-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00037 J
	B1W-060-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00023 J
TNT Pouring	B1W-061-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0013
	B1W-062-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0072
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00047
	B1W-063-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.003
		3-Nitrotoluene (3-NT)	0.0012
	B1W-064-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0034
		3-Nitrotoluene (3-NT)	0.0025
	B1W-065-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0032 J
TNT Screening	B1W-067-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0048
		3-Nitrotoluene (3-NT)	0.0016
	B1W-068-EWL	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00022 J
	B1W-069-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0023
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.00079
	B1W-070-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.015
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0026
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00049 J
	B1W-071-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0011
	B1W-072-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00022 J
South TNT Service	B1W-073-NWL	1,3,5-Trinitrobenzene (1,3,5-TNB)	0.00095 J
		2,4,6-Trinitrotoluene (2,4,6-TNT)	0.036 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.002 J
	B1W-074-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.017 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0049 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0015 J
	B1W-075-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.072
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0068
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0031
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0088
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.002
	B1W-076-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.048
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.007
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0045
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.042
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0067
	B1W-078-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00066 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00071

TABLE 4-26

LOAD LINE 2 DETECTED CONCENTRATIONS OF EXPLOSIVES IN WIPE SAMPLES
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Building Name	Sample Location I.D.	Explosive	Results[1] (mg/wipe)
Nose Pour	B2W-001-RNW	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.018
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0035
	B2W-002-REW	2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0079
	B2W-004-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0012 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0019 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0013 J
	B2W-005-RFL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00092
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0043
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.00022
	B2W-006-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0045
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0022
Amatol Melt (1st Floor)	B2W-007-RWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00056
	B2W-008-REW	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0091
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0095
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0047
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0069
	B2W-009-SWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0022 J
	B2W-010-WWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.11 J
	B2W-011-RFL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0027
		2,6-Dinitrotoluene (2,6-DNT)	0.00017
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.00051
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00062
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00062
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.00053
	B2W-012-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00088 J
Amatol Melt (2nd Floor)	B2W-019-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	1.1 J
		2,4-Dinitrotoluene (2,4-DNT)	0.0011 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.023 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.018 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.12 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0053 J
	B2W-020-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0092 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0017 J
	B2W-021-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.055
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.013 J
	B2W-022-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.034
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.013
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0019
	B2W-023-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0027
		2,6-Dinitrotoluene (2,6-DNT)	0.0002 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.00056
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00049 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.16
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.065
	B2W-024-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.016 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0042 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0017 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.14 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.056 J

TABLE 4-26

LOAD LINE 2 DETECTED CONCENTRATIONS OF EXPLOSIVES IN WIPE SAMPLES
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Building Name	Sample Location I.D.	Explosive	Results[1] (mg/wipe)
Amatol Melt (3rd Floor)	B2W-031-NWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0015
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00091
	B2W-032-EWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0014 J
	B2W-033-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0066
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.00053
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0018
	B2W-034-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0066 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0016 J
	B2W-035-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00074
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0084
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.023
	B2W-036-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.14 J
		2,6-Dinitrotoluene (2,6-DNT)	0.0011 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0057 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0042 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.064 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.019 J
Amatol Screening (1st Floor)	B2W-013-RNW	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0064 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0053 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0017 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.017 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0053 J
		2-Nitrotoluene (2-NT)	0.0075 J
		4-Nitrotoluene (4-NT)	0.0075 J
	B2W-014-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0023 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0038 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00055 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0028 J
	B2W-015-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0049 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0042 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0065 J
	B2W-016-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0058 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0043 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0039 J
	B2W-017-RFL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0014
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.011
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.001
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0067
	B2W-018-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0032 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.01 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0046 J
Amatol Screening (2nd Floor)	B2W-025-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0044
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.007
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00096
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00023 J
	B2W-027-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0058 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0074 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.002 J
	B2W-028-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0056 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.005 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0012 J
	B2W-029-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00082 J
	B2W-029-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0078 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00097 J
	B2W-030-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0012 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0055 J

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TABLE 4-26

LOAD LINE 2 DETECTED CONCENTRATIONS OF EXPLOSIVES IN WIPE SAMPLES FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Building Name	Sample Location I.D.	Explosive	Results[1] (mg/wipe)
Ammonium Nitrate Service	B2W-037-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0021 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0062 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0062 J
	B2W-038-EWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0037 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00052 J
	B2W-039-SWL	4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00041 J
	B2W-040-WWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0042 J
	B2W-041-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0031 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00074 J
	B2W-042-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00032 J
North TNT Service	B2W-043-NWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0017 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0013 J
	B2W-047-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.078 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.012 J
	B2W-048-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.061 J
West Cooling	B2W-050-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.021 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0032 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.01 J
	B2W-051-EWL	3-Nitrotoluene (3-NT)	0.0034 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0018 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00071 J
	B2W-053-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00015 J
East Cooling	B2W-056-NWL	3-Nitrotoluene (3-NT)	0.0024
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.024
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00075
	B2W-058-SWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0024 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00039 J
	B2W-059-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00021 J
	B2W-060-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0011 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00078 J
TNT Pouring	B2W-062-EWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00047 J
	B2W-063-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0018 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0094 J
	B2W-064-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0012
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0028
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00026 J
	B2W-065-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0037
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0004 J
	B2W-066-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.01
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00054
South TNT Service	B2W-076-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0016 J
	B2W-077-FLR	2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0003 J
		3-Nitrotoluene (3-NT)	0.00062 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0015 J

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TABLE 4-27

LOAD LINE 3 DETECTED CONCENTRATIONS OF EXPLOSIVES IN WIPE SAMPLES
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Building Name	Sample Location I.D.	Explosive	Results[1] (mg/wipe)
Nose Pour	B3W-003-SWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.002
	B3W-005-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00057
	B3W-006-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0005 J
Amatol Melt (1st Floor)	B3W-007-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00037 J
	B3W-008-EWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00048 J
	B3W-010-WWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00056 J
	B3W-011-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.002 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00016 J
Amatol Melt (2nd Floor)	B3W-020-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.98 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.021 J
		4-Amino-_,6-dintrotoluene (4-Am-DNT)	0.0046 J
	B3W-021-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00084 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00038 J
	B3W-022-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.092 J
	B3W-023-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.015 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0022 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.002 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0035 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00035 J
	B3W-024-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.017 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.00081 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00078 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0018 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00063 J
Amatol Melt (3rd Floor)	B3W-031-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.51 J
		2,4-Dinitrotoluene (2,4-DNT)	0.012 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0455 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0946 J
	B3W-032-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.16 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0134 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0011 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0155 J
	B3W-033-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0046 J
	B3W-034-WWL	1,3,5-Trinitrobenzene (1,3,5-TNB)	0.0018 J
		2,4,6-Trinitrotoluene (2,4,6-TNT)	0.09 J
	B3W-035-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.011 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0023 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0021 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0039 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00065 J
	B3W-036-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0029 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.00063 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00065 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0015 J
		Nitrobenzene (NB)	0.1 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00022 J
Amatol Screening (1st Floor)	B3W-013-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00093 J
	B3W-014-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0069 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00065 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00078 J
	B3W-015-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.023 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0066 J
	B3W-017-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0062 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0027 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0054 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00034 J

TABLE 4-27

LOAD LINE 3 DETECTED CONCENTRATIONS OF EXPLOSIVES IN WIPE SAMPLES
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Building Name	Sample Location I.D.	Explosive	Results[1] (mg/wipe)
Amatol Screening (2nd Floor)	B3W-025-NWL	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0001 J
	B3W-026-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0015 J
	B3W-027-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0092 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00016 J
	B3W-028-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00099 J
	B3W-029-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.045 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0006 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.003 J
	B3W-030-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0055 J
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0014 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0013 J
Ammonium Nitrate Service	B3W-038-EWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0012 J
	B3W-041-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0001 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0001 J
North TNT Service	B3W-043-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0024
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0026
	B3W-044-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00093 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0011 J
	B3W-045-SWL	2,6-Dinitrotoluene (2,6-DNT)	0.00031 J
	B3W-046-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0016
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00092
	B3W-047-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0002 J
	B3W-048-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0003 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0001 J
West Cooling	B3W-051-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00018 J
	B3W-052-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0031
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0019
	B3W-053-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0003 J
	B3W-054-FLR	4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0004 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.000014 J
East Cooling	B3W-055-WWL	2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0033
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0033
	B3W-057-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0037
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00091 J
	B3W-058-SWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0035
	B3W-059-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0016 J
TNT Pouring	B3W-061-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0051 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0051 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.023 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0029 J
	B3W-062-EWL	2-Nitrotoluene (2-NT)	0.0016 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0084 J
		4-Nitrotoluene (4-NT)	0.0016 J
	B3W-063-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.009 J
		2-Nitrotoluene (2-NT)	0.00039 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0065 J
		4-Nitrotoluene (4-NT)	0.00039 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00069 J
	B3W-064-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.002 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0057 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00043 J
	B3W-065-FLR	3-Nitrotoluene (3-NT)	0.0004 J
	B3W-066-FLR	3-Nitrotoluene (3-NT)	0.0011 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00051 J

TABLE 4-27

LOAD LINE 3 DETECTED CONCENTRATIONS OF EXPLOSIVES IN WIPE SAMPLES FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Building Name	Sample Location I.D.	Explosive	Results[1] (mg/wipe)
TNT Screening	B3W-067-NWL	4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.011 J
	B3W-068-EWL	4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.017 J
	B3W-068-EWL	Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	0.0017 J
	B3W-069-SWL	2,4-Dinitrotoluene (2,4-DNT)	0.00026 J
		3-Nitrotoluene (3-NT)	0.0011 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.012 J
		Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	0.00056 J
	B3W-070-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.003
		2-Nitrotoluene (2-NT)	0.007
		3-Nitrotoluene (3-NT)	0.00089
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0075
		4-Nitrotoluene (4-NT)	0.007
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00078
	B3W-071-FLR	2-Nitrotoluene (2-NT)	0.0016
		3-Nitrotoluene (3-NT)	0.0013
		4-Nitrotoluene (4-NT)	0.0016
		Nitrobenzene (NB)	0.003
	B3W-072-FLR	3-Nitrotoluene (3-NT)	0.0014
South TNT Service	B3W-073-NWL	1,3,5-Trinitrobenzene (1,3,5-TNB)	0.0013 J
		2,4,6-Trinitrotoluene (2,4,6-TNT)	0.016
		3-Nitrotoluene (3-NT)	0.0042
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0033
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00096
		Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	0.019 J
	B3W-074-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0022 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0016 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0059 J
	B3W-075-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.018
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0015
	B3W-076-WWL	1,3,5-Trinitrobenzene (1,3,5-TNB)	0.00068 J
		1,3-Dinitrobenzene	0.00018 J
		2,4,6-Trinitrotoluene (2,4,6-TNT)	0.026
		2,6-Dinitrotoluene (2,6-DNT)	0.0085
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0047
		2-Nitrotoluene (2-NT)	0.0014
		3-Nitrotoluene (3-NT)	0.096
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0049
		4-Nitrotoluene (4-NT)	0.0014
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0014
		Nitrobenzene (NB)	0.093

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TABLE 4-28

LOAD LINE 4 DETECTED CONCENTRATIONS OF EXPLOSIVES IN WIPE SAMPLES
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Building Name	Sample Location I.D.	Explosive	Results[1] (mg/wipe)
Nose Pour	B4W-001-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00082
	B4W-003-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.003
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0021
	B4W-005-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00054 J
Amatol Melt (1st Floor)	B4W-011-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0013 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00066 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0026 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00049 J
Amatol Melt (2nd Floor)	B4W-019-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.04
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0022
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00088 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.053
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0027
	B4W-020-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.094
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0051
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0026
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.081
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0076
	B4W-021-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0083
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.00037 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00045 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.026
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0028
	B4W-022-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0071
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0026
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00033 J
	B4W-023-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00066 J
	B4W-024-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00064 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00085
Amatol Melt (3rd Floor)	B4W-031-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0007
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0007 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00082
	B4W-032-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0006 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0016 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00097 J
	B4W-033-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0092
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.00054
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0053
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00049 J
	B4W-034-WWL	1,3,5-Trinitrobenzene (1,3,5-TNB)	0.00053 J
		2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00044 J
	B4W-035-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00099
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0063
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0038
	B4W-036-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00023 J
Amatol Screening (1st Floor)	B4W-015-SWL	2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.0011 J
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00076 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0025 J
	B4W-017-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00044 J
	B4W-018-FLR	4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00083 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0027 J
Amatol Screening (2nd Floor)	B4W-025-NWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0012 J
	B4W-026-EWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0014
	B4W-027-SWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0007
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00038 J

TABLE 4-28

LOAD LINE 4 DETECTED CONCENTRATIONS OF EXPLOSIVES IN WIPE SAMPLES FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Building Name	Sample Location I.D.	Explosive	Results[1] (mg/wipe)
Ammonium Nitrate Service	B4W-037-NWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00049 J
	B4W-037-NWL	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00032 J
	B4W-040-WWL	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00026 J
North TNT Service	B4W-043-NWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0076
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00039 J
	B4W-046-WWL	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00031 J
	B4W-047-FLR	1,3-Dinitrobenzene	0.0014 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00097 J
	B4W-048-FLR	1,3-Dinitrobenzene	0.0014 J
		2-Nitrotoluene (2-NT)	0.0086 J
		4-Nitrotoluene (4-NT)	0.0086 J
West Cooling	B4W-049-WWL	2,6-Dinitrotoluene (2,6-DNT)	0.00032 J
	B4W-051-EWL	2,6-Dinitrotoluene (2,6-DNT)	0.000096 J
	B4W-052-SWL	2,6-Dinitrotoluene (2,6-DNT)	0.0004 J
	B4W-053-FLR	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00088 J
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00021 J
	B4W-054-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00021 J
East Cooling	B4W-059-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00022 J
	B4W-060-FLR	2-Nitrotoluene (2-NT)	0.006 J
		4-Nitrotoluene (4-NT)	0.006 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00041 J
TNT Pouring	B4W-061-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0039
		2-Amino-4,6-dintrotoluene (2-Am-DNT)	0.00075
		4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.00024 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0095
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0015
	B4W-064-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.004
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0062
	B4W-065-FLR	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00011 J
	B4W-066-FLR	1,3,5-Trinitrobenzene (1,3,5-TNB)	0.00011 J
		Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00028 J
TNT Screening	B4W-067-NWL	4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0021 J
	B4W-069-SWL	4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0025 J
	B4W-070-WWL	4-Amino-2,6-dintrotoluene (4-Am-DNT)	0.0012 J
	B4W-072-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00021 J
South TNT Service	B4W-073-NWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00077 J
	B4W-074-EWL	1,3,5-Trinitrobenzene (1,3,5-TNB)	0.0022
		Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.000056 J
	B4W-076-WWL	2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00035 J

TABLE 4-29
DATA SUMMARY FOR LOAD LINE 1 PAINT OPERATIONS AREAS SOIL SAMPLING
FORMER NBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
METALS	**(MG/KG)**						
Aluminum	33852	24800	*	0.73	100%	0%	P1A-028-001
Antimony	31	47.2	40.3	1.52	57%	3%	P1A-020-000(J)
Arsenic	13.5	10.7	*	0.79	100%	0%	P1A-015-001
Barium	440	339	*	0.77	100%	0%	P1A-019-001
Beryllium	1.52	0.94	*	0.62	100%	0%	P1A-025-001,P1A-026-001
Cadmium	39	144	144	3.69	78%	2%	P1A-029-000
Calcium	GRAS	28300	NA	NA	100%	NA	P1A-029-000
Chromium	37	140	41.3	3.78	100%	5%	P1A-029-000
Cobalt	17.2	13.4	*	0.78	100%	0%	P1A-015-001
Copper	33.9	53.6	36.3	1.58	100%	5%	P1A-008-000
Iron	GRAS	23800	NA	NA	100%	NA	P1A-015-001
Lead	400	794	794	1.99	100%	2%	P1A-029-000(J)
Magnesium	GRAS	6360	NA	NA	100%	NA	P1A-024-000
Manganese	1083	878	*	0.81	100%	0%	P1A-015-001
Mercury	23	0.24	*	0.01	3%	0%	P1A-018-000(J)
Nickel	39.3	49.5	39.5	1.26	100%	3%	P1A-008-000(J)
Potassium	GRAS	4850	NA	NA	100%	NA	P1A-024-000
Selenium	390	2	*	0.01	43%	0%	P1A-022-001(J)
Sodium	GRAS	215	NA	NA	9%	NA	P1A-001-001(J)
Thallium	1.72	1.5	*	0.87	2%	0%	P1A-004-001(J)
Vanadium	72.5	53.1	*	0.73	100%	0%	P1A-028-001
Zinc	119.5	266	123	2.23	100%	10%	P1A-020-000(J)

Note : Chemicals in bold, italics, and underlined are detected above the respective screening levels.

GRAS -- Generally recognized as safe

NI = *screening level not identified*

* = all detection were below the screening level

TABLE 4-30
DATA SUMMARY FOR LOAD LINE 2 PAINT OPERATIONS AREAS SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
METALS	**(MG/KG)**						
Aluminum	33852	27000	*	0.80	100%	0%	P2A-028-001
Antimony	31	501	37.4	16.16	38%	5%	P2A-003-000(UJ)
Arsenic	13.5	14.6	14.6	1.08	100%	2%	P2A-003-000
Barium	440	423	*	0.96	100%	0%	P2A-003-000
Beryllium	1.52	1.1	*	0.72	100%	0%	P2A-028-001
Cadmium	39	13.8	*	0.35	70%	0%	P2A-003-000
Calcium	GRAS	16100	NA	NA	100%	NA	P2A-012-000
Chromium	37	840	94.4	22.70	100%	4%	P2A-003-000
Cobalt	17.2	44.9	44.9	2.61	100%	2%	P2A-003-000
Copper	33.9	86	35.2	2.54	100%	5%	P2A-003-000
Iron	GRAS	26800	NA	NA	100%	NA	P2A-003-000
Lead	400	3960	490	9.90	100%	4%	P2A-003-000
Magnesium	GRAS	6110	NA	NA	100%	NA	P2A-024-001
Manganese	1083	1080	*	1.00	100%	0%	P2A-018-000(J)
Mercury	23	0.76	*	0.03	11%	0%	P2A-003-000
Nickel	39.3	63	43.6	1.60	100%	4%	P2A-003-000
Potassium	GRAS	4430	NA	NA	100%	NA	P2A-028-001
Selenium	390	1.9	*	0.00	27%	0%	P2A-009-000(J),P2A-028-001(J)
Sodium	GRAS	6100	NA	NA	7%	NA	P2A-007-000
Thallium	1.72	2.2	2.2	1.28	4%	2%	P2A-006-001(J)
Vanadium	72.5	60.5	*	0.83	100%	0%	P2A-026-001
Zinc	119.5	486	120	4.07	100%	11%	P2A-003-000

Note : Chemicals in bold, italics, and underlined are detected above the respective screening levels.

GRAS = Generally recognized as safe

NI = screening level not identified

* = all detection were below the screening level

COE 010172

MECOEK 10973

TABLE 4-31
DATA SUMMARY FOR LOAD LINE 3 PAINT OPERATIONS AREAS SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
METALS	**(MG/KG)**						
Aluminum	33852	24200	*	0.71	100%	0%	P3A-024-000
Antimony	31	54.8	54.8	1.77	36%	2%	P3A-005-000(J)
Arsenic	13.5	13.4	*	0.99	100%	0%	P3A-029-001
Barium	440	516	516	1.17	100%	2%	P3A-003-000
Beryllium	1.52	0.95	*	0.63	100%	0%	P3A-024-000
Cadmium	39	5.8	*	0.15	86%	0%	P3A-003-000
Calcium	GRAS	124000	NA	NA	100%	NA	P3A-027-000(J)
Chromium	37	806	37.2	21.78	100%	11%	P3A-003-000
Cobalt	17.2	25.2	18.6	1.47	100%	4%	P3. -003-000
Copper	33.9	218	35.5	6.43	100%	9%	P3A-005-000
Iron	GRAS	45000	NA	NA	100%	NA	P3A-029-001
Lead	400	3730	996	9.33	100%	4%	P3A-003-000(J)
Magnesium	GRAS	6150	NA	NA	100%	NA	P3A-005-001
Manganese	1083	813	*	0.75	100%	0%	P3A-015-001
Mercury	23	0.29	*	0.01	45%	0%	P3A-003-000
Nickel	39.3	194	110	4.94	100%	4%	P3A-003-000
Potassium	GRAS	5290	NA	NA	100%	NA	P3A-024-000
Selenium	390	1.8	*	0.00	48%	0%	P3A-028-001(J)
Sodium	GRAS	441	NA	NA	2%	NA	P3A-017-001
Thallium	1.72	1.2	*	0.70	2%	0%	P3A-027-001(J)
Vanadium	72.5	59.1	*	0.82	100%	0%	P3A-024-000
Zinc	119.5	551	153	4.61	100%	9%	P3A-003-000

Note : Chemicals in bold, italics, and underlined are detected above the respective screening levels.

GRAS = Generally recognized as safe

NI = screening level not identified

* = all detection were below the screening level

COE 010173

MECOEK 10974

TABLE 4-32
DATA SUMMARY FOR LOAD LINE 4 PAINT OPERATIONS AREAS SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
METALS	**(MG/KG)**						
Aluminum	33852	20300	*	0.60	100%	0%	P4A-028-001
Antimony	31	171	38.4	5.52	38%	3%	P4A-001-000(J)
Arsenic	13.5	9	*	0.67	98%	0%	P4A-007-001(J)
Barium	440	278	*	0.63	100%	0%	P4A-025-001
Beryllium	1.52	0.88	*	0.58	79%	0%	P4A-028-001
Cadmium	39	19.7	*	0.51	62%	0%	P4A-011-000
Calcium	GRAS	167000	NA	NA	100%	NA	P4A-027-000
Chromium	37	123	48.2	3.32	100%	5%	P4A-011-000
Cobalt	17.2	13	*	0.76	100%	0%	P4A-004-000
Copper	33.9	37.2	37.2	1.10	100%	2%	P4A-005-000(J)
Iron	GRAS	22000	NA	NA	100%	NA	P4A-001-001
Lead	400	600	600	1.50	100%	2%	P4A-011-000
Magnesium	GRAS	4090	NA	NA	100%	NA	P4A-001-001
Manganese	1083	810	*	0.75	100%	0%	P4A-007-000(J)
Nickel	39.3	34.2	*	0.87	100%	0%	P4A-005-000
Potassium	GRAS	6430	NA	NA	100%	NA	P4A-025-001
Selenium	390	2.3	*	0.01	47%	0%	P4A-007-001(J)
Sodium	GRAS	226	NA	NA	19%	NA	P4A-018-000(J)
Thallium	1.72	1.8	1.8	1.05	3%	2%	P4A-007-001(J)
Vanadium	72.5	42	*	0.58	100%	0%	P4A-028-000
Zinc	119.5	264	120	2.21	100%	10%	P4A-007-000

Note : Chemicals in bold, italics, and underlined are detected above the respective screening levels.

GRAS = Generally recognized as safe

NI = screening level not identified

* = all detection were below the screening level

COE 010174

MECOEK 10975

TABLE 4-33
DATA SUMMARY FOR NOVEMBER/DECEMBER 1994 GROUNDWATER SAMPLING OF EXISTING MONITORING WELLS AT LOAD LINE PAINT OPERATIONS AREAS FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
DISSOLVED METALS (UG/L)							
Aluminum	37000	313	*	0.01	100%	0%	AMW-013-114
Arsenic	50	15.4	*	0.31	100%	0%	AMW-004-114
Barium	2000	456	*	0.23	100%	0%	BMW-003-114
Cadmium	5	0.32	*	0.06	8%	0%	AMW-012-114(B)
Calcium	GRAS	74600	NA	NA	100%	NA	AMW-003-114
Chromium	100	3.3	*	0.03	50%	0%	BMW-008-114(B)
Cobalt	2200	1.2	*	0.00	8%	0%	AMW-013-114(B)
Copper	1300	3	*	0.00	17%	0%	AMW-013-114(B)
Iron	GRAS	334	NA	NA	17%	NA	AMW-013-114
Lead	15	3.6	*	0.24	17%	0%	AMW-013-114
Magnesium	GRAS	25500	NA	NA	100%	NA	BMW-003-114
Manganese	180	37.9	*	0.21	58%	0%	AMW-004-114
Nickel	100	6.6	*	0.07	42%	0%	AMW-012-114(B)
Potassium	GRAS	14100	NA	NA	100%	NA	AMW-012-114
Selenium	50	28	*	0.56	100%	0%	AMW-003-114
Sodium	GRAS	26300	NA	NA	100%	NA	AMW-008-114
Thallium	2	8.7	5.6	4.35	33%	33%	BMW-003-114(B)
Vanadium	260	10.6	*	0.04	100%	0%	BMW-004-114(B)
Zinc	2000	8.3	*	0.00	100%	0%	AMW-012-114(B)
TOTAL METALS (UG/L)							
Aluminum	37000	4160	*	0.11	100%	0%	AMW-012-114
Arsenic	50	12.1	*	0.24	67%	0%	AMW-004-114
Barium	2000	434	*	0.22	100%	0%	BMW-003-114
Beryllium	4	0.83	*	0.21	17%	0%	AMW-012-114(B)
Calcium	GRAS	76800	NA	NA	100%	NA	AMW-004-114
Chromium	100	12.6	*	0.13	33%	0%	AMW-012-114
Copper	1300	10.5	*	0.01	42%	0%	AMW-012-114(B)
Iron	GRAS	6040	NA	NA	50%	NA	AMW-012-114(*)
Lead	15	13.6	*	0.91	33%	0%	AMW-012-114
Magnesium	GRAS	25500	NA	NA	100%	NA	BMW-003-114
Manganese	180	345	345	1.92	83%	8%	AMW-015-114(B)
Nickel	100	27.1	*	0.27	50%	0%	AMW-012-114(B)
Potassium	GRAS	12900	NA	NA	100%	NA	AMW-012-114
Selenium	50	15.9	*	0.32	58%	0%	AMW-003-114
Sodium	GRAS	26100	NA	NA	100%	NA	AMW-008-114
Vanadium	260	24.5	*	0.09	100%	0%	AMW-012-114(B)
Zinc	2000	92.6	*	0.05	83%	0%	AMW-014-114

Note : Monitoring wells sampled include MW-3A & B, MW-4A & B, MW-6A & B, MW-8A & B, MW-12A, MW-13A, MW-14A, and MW-15A.
Chemicals in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = screening level not identified
* = all detection were below the screening level

TABLE 4-34
DATA SUMMARY FOR MARCH 1995 GROUNDWATER SAMPLING OF EXISTING MONITORING WELLS AT LOAD LINE PAINT OPERATIONS AREAS FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
DISSOLVED METALS (UG/L)							
Aluminum	37000	145	*	0.00	100%	0%	BMW-003-035(B)
Antimony	6	12.6	12.6	2.10	8%	8%	BMW-003-035(B)
Arsenic	50	9.7	*	0.19	67%	0%	AMW-004-035(B)
Barium	2000	475	*	0.24	100%	0%	BMW-003-035
Beryllium	4	1.2	*	0.30	8%	0%	BMW-003-035(B)
Cadmium	5	1.1	*	0.22	8%	0%	BMW-003-035(B)
Calcium	GRAS	74500	NA	NA	100%	NA	AMW-004-035
Chromium	100	4.4	*	0.04	25%	0%	BMW-003-035(B)
Cobalt	2200	12.9	*	0.01	17%	0%	BMW-003-035(B)
Copper	1300	6.1	*	0.00	50%	0%	BMW-003-035(B)
Iron	GRAS	65.4	NA	NA	8%	NA	AMW-004-035(B)
Lead	15	2	*	0.13	8%	0%	BMW-003-035(B)
Magnesium	GRAS	24200	NA	NA	100%	NA	BMW-003-035
Manganese	180	44	*	0.24	42%	0%	AMW-004-035
Mercury	2	0.32	*	0.16	8%	0%	AMW-015-035
Nickel	100	11.3	*	0.11	42%	0%	BMW-003-035(B)
Potassium	GRAS	12400	NA	NA	100%	NA	AMW-012-035(E)
Selenium	50	31.6	*	0.63	100%	0%	AMW-003-035(*)
Silver	100	2.5	*	0.03	8%	0%	BMW-003-035(B)
Sodium	GRAS	27400	NA	NA	100%	NA	AMW-008-035
Thallium	2	8	7.5	4.00	17%	17%	BMW-003-035(B)
Vanadium	260	17.5	*	0.07	100%	0%	BMW-003-035(B)
Zinc	2000	25	*	0.01	100%	0%	BMW-008-035
TOTAL METALS (UG/L)							
Aluminum	37000	2030	*	0.05	100%	0%	AMW-014-035
Arsenic	50	9.6	*	0.19	50%	0%	AMW-004-035(B)
Barium	2000	399	*	0.20	100%	0%	BMW-003-035
Calcium	GRAS	72700	NA	NA	100%	NA	AMW-003-035
Chromium	100	4.7	*	0.05	50%	0%	AMW-014-035(B)
Cobalt	2200	1.5	*	0.00	25%	0%	AMW-012-035(B)
Copper	1300	8.8	*	0.01	42%	0%	AMW-015-035(B)
Iron	GRAS	2300	NA	NA	33%	NA	AMW-014-035
Lead	15	5.5	*	0.37	42%	0%	AMW-014-035
Magnesium	GRAS	23100	NA	NA	100%	NA	BMW-003-035
Manganese	180	67.5	*	0.38	92%	0%	AMW-014-035
Nickel	100	8.6	*	0.09	67%	0%	AMW-012-035(B)
Potassium	GRAS	10900	NA	NA	100%	NA	AMW-012-035(E)
Selenium	50	19.1	*	0.38	42%	0%	AMW-003-035
Silver	100	0.76	*	0.01	8%	0%	AMW-015-035(B)
Sodium	GRAS	24800	NA	NA	100%	NA	AMW-008-035
Vanadium	260	11	*	0.04	92%	0%	BMW-004-035(B)
Zinc	2000	117	*	0.06	100%	0%	AMW-013-035

Note : Monitoring wells sampled include MW-3A & B, MW-4A & B, MW-6A & B, MW-8A & B, MW-12A, MW-13A, MW-14A, and MW-15A.
Chemicals in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = screening level not identified
* = all detection were below the screening level

TABLE 4-35
DATA SUMMARY FOR NOVEMBER/DECEMBER 1994 GROUNDWATER SAMPLING OF BACKGROUND MONITORING WELLS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
DISSOLVED METALS (UG/L)							
Aluminum	37000	150	*	0.00	100%	0%	CMW-019-114(B)
Arsenic	50	26.3	*	0.53	100%	0%	AMW-047-114
Barium	2000	510	*	0.26	100%	0%	CMW-019-114
Calcium	GRAS	169000	NA	NA	100%	NA	AMW-019-114
Chromium	100	0.94	*	0.01	13%	0%	CMW-019-114(B)
Cobalt	2200	3.9	*	0.00	38%	0%	BMW-019-114(B)
Iron	GRAS	1930	NA	NA	75%	NA	AMW-019-114
Magnesium	GRAS	33100	NA	NA	100%	NA	AMW-019-114
Manganese	180	463	259	2.57	88%	75%	AMW-047-114
Nickel	100	3.8	*	0.04	25%	0%	CMW-019-114(B)
Potassium	GRAS	36200	NA	NA	100%	NA	AMW-019-114
Selenium	50	30.6	*	0.61	100%	0%	BMW-048-114
Sodium	GRAS	205000	NA	NA	100%	NA	AMW-019-114(E)
Thallium	2	7	7	3.50	13%	13%	AMW-048-114(B)
Vanadium	260	10.8	*	0.04	38%	0%	BMW-048-114(B)
Zinc	2000	10.2	*	0.01	88%	0%	BMW-019-114(B)
TOTAL METALS (UG/L)							
Aluminum	37000	213	*	0.01	88%	0%	AMW-019-114
Arsenic	50	22.3	*	0.45	100%	0%	DMW-048-114
Barium	2000	285	*	0.14	88%	0%	BMW-048-114
Calcium	GRAS	157000	NA	NA	88%	NA	AMW-019-114
Cobalt	2200	1.4	*	0.00	13%	0%	DMW-048-114(B)
Iron	GRAS	1870	NA	NA	75%	NA	BMW-047-114
Magnesium	GRAS	31000	NA	NA	88%	NA	AMW-019-114
Manganese	180	481	264	2.67	75%	75%	AMW-047-114
Nickel	100	2.9	*	0.03	13%	0%	BMW-048-114(B)
Potassium	GRAS	21000	NA	NA	88%	NA	AMW-019-114
Selenium	50	22.8	*	0.46	13%	0%	BMW-048-114
Silver	100	4.7	*	0.05	13%	0%	BMW-019-114(B)
Sodium	GRAS	191000	NA	NA	88%	NA	AMW-019-114(E)
Vanadium	260	11.1	*	0.04	38%	0%	BMW-048-114(B)
Zinc	2000	107	*	0.05	88%	0%	AMW-019-114
VOLATILES (UG/L)							
Chloromethane	3	0.6	*	0.20	13%	0%	BMW-019-114(J)
Methylene chloride	5	4	*	0.80	75%	0%	AMW-047-114(B)
WATER QUALITY (mg/L)							
Nitrite	1	5.7	5.7	5.70	29%	14%	BMW-048-114
Nitrate	10	59	59	5.90	29%	14%	BMW-048-114

Note : Monitoring wells sampled include MW-19A, B & C, MW-47A & B, and MW-48A, B & D.
Chemicals in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = screening level not identified
* = all detection were below the screening level

COE 010177

MECOEK 10978

TABLE 4-36
DATA SUMMARY FOR MARCH 1995 GROUNDWATER SAMPLING OF BACKGROUND MONITORING WELLS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
DISSOLVED METALS (UG/L)							
Aluminum	37000	81.1	*	0.00	60%	0%	BMW-047-035(B)
Arsenic	50	24.3	*	0.49	80%	0%	AMW-047-035
Barium	2000	496	*	0.25	100%	0%	CMW-019-035
Calcium	GRAS	165000	NA	NA	100%	NA	AMW-019-035
Cobalt	2200	4.1	*	0.00	40%	0%	BMW-019-035(B)
Copper	1300	1.1	*	0.00	40%	0%	AMW-047-035(B)
Iron	GRAS	1850	NA	NA	80%	NA	BMW-047-035
Lead	15	1.6	*	0.11	20%	0%	AMW-047-035(B)
Magnesium	GRAS	32100	NA	NA	100%	NA	AMW-019-035
Manganese	180	461	343	2.56	100%	80%	AMW-047-035
Nickel	100	2.2	*	0.02	40%	0%	CMW-019-035(B)
Potassium	GRAS	33800	NA	NA	100%	NA	AMW-019-035(E)
Selenium	50	15.5	*	0.31	100%	0%	BMW-019-035
Sodium	GRAS	200000	NA	NA	100%	NA	AMW-019-035
Vanadium	260	2.6	*	0.01	60%	0%	CMW-019-035(B)
Zinc	2000	19	*	0.01	100%	0%	BMW-019-035(B)
TOTAL METALS (UG/L)							
Aluminum	37000	188	*	0.01	100%	0%	CMW-019-035(B)
Arsenic	50	21.2	*	0.42	80%	0%	AMW-047-035
Barium	2000	455	*	0.23	100%	0%	CMW-019-035
Calcium	GRAS	169000	NA	NA	100%	NA	AMW-019-035
Cobalt	2200	3.4	*	0.00	40%	0%	BMW-019-035(B)
Iron	GRAS	1840	NA	NA	80%	NA	AMW-019-035
Magnesium	GRAS	32900	NA	NA	100%	NA	AMW-019-035
Manganese	180	437	325	2.43	100%	80%	AMW-047-035
Nickel	100	2.3	*	0.02	40%	0%	CMW-019-035(B)
Potassium	GRAS	31400	NA	NA	100%	NA	AMW-019-035(E)
Sodium	GRAS	200000	NA	NA	100%	NA	AMW-019-035
Vanadium	260	2.3	*	0.01	20%	0%	CMW-019-035(B)
Zinc	2000	17.3	*	0.01	100%	0%	BMW-019-035(B)
VOLATILES (UG/L)							
Methylene chloride	5	2	*	0.40	100%	0%	AMW-019-035(B)

Note : Monitoring wells sampled include MW-19A, B & C, MW-47A & B, and MW-48A, B & D.
Chemicals in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = screening level not identified
* = all detection were below the screening level

COE 010178

MECOEK 10979

TABLE 4-37
DATA SUMMARY FOR FORMER RAW PRODUCTS IGLOO STORAGE AREAS SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
EXPLOSIVES (MG/KG)							
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	1.4	*	0.24	36%	0%	IGN-032-000
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343	0.27	*	0.00	14%	0%	IGN-080-000(J)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.093	*	0.00	9%	0%	IGN-106-000(J)
METALS (MG/KG)							
Aluminum	33852	15600	*	0.46	100%	0%	IGN-056-000
Arsenic	13.5	11	*	0.81	100%	0%	IGN-084-000
Barium	440	281	*	0.64	100%	0%	IGN-084-000
Calcium	GRAS	12100	NA	NA	100%	NA	IGN-109-000
Chromium	37	24.2	*	0.65	100%	0%	IGN-109-000(*)
Cobalt	17.2	11	*	0.64	100%	0%	IGN-084-000(B)
Copper	33.9	36.1	36.1	1.06	100%	8%	IGN-109-000
Iron	GRAS	48700	NA	NA	100%	NA	IGN-109-000
Lead	400	118	*	0.30	100%	0%	IGN-056-000
Magnesium	GRAS	4280	NA	NA	100%	NA	IGN-084-000
Manganese	1083	635	*	0.59	100%	0%	IGN-109-000(J)
Mercury	23	0.44	*	0.02	58%	0%	IGN-031-000(J)
Nickel	39.3	66.1	66.1	1.68	100%	8%	IGN-109-000
Potassium	GRAS	3420	NA	NA	100%	NA	IGN-081-000
Selenium	390	1.3	*	0.00	8%	0%	IGN-109-000
Silver	380	25.2	*	0.07	8%	0%	IGN-036-000
Vanadium	72.5	35.8	*	0.49	100%	0%	IGN-056-000
Zinc	119.5	199	133	1.67	100%	33%	IGN-080-000

Note : Chemicals in bold, italics, and underlined are detected above the respective screening levels.

GRAS = Generally recognized as safe

NI = screening level not identified

* = all detection were below the screening level

COE 010179

MECOEK 10980

TABLE 4-38

FORMER RAW PRODUCTS IGLOO STORAGE AREAS NORTH OF LOAD LINES 2 AND 3
DETECTED CONCENTRATIONS OF EXPLOSIVES IN WIPE SAMPLES
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Igloo Number	Sample Location I.D.	Explosive	Result[1] (mg/wipe)
IGW-001	IGW-001-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.00043 J
IGW-003	IGW-003-FLR	4-Amino-2,6-dinitrotoluene	0.00056 J
IGW-004	IGW-004-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.000063 J
IGW-005	IGW-005-FLR	2,4-Dinitrotoluene	0.00039 J
	IGW-005-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.00015 J
IGW-006	IGW-006-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.00027 J
IGW-007	IGW-007-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.00055
IGW-008	IGW-008-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.00021 J
IGW-009	IGW-009-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.019
	IGW-009-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.00047 J
IGW-010	IGW-010-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.012
	IGW-010-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.003
IGW-011	IGW-011-FLR	4-Amino-2,6-dinitrotoluene	0.0005 J
IGW-012	IGW-012-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.00052
IGW-013	IGW-013-FLR	2,4,6-Trinitrotoluene	0.00093 J
	IGW-013-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.0062 J
IGW-015	IGW-015-FLR	2,4,6-Trinitrotoluene	0.00021 J
IGW-016	IGW-016-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.00019 J
IGW-017	IGW-017-FLR	2,4,6-Trinitrotoluene	0.00062
	IGW-017-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.0006 J
IGW-018	IGW-018-FLR	2,4-Dinitrotoluene	0.00074
	IGW-018-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.0003 J
IGW-019	IGW-019-FLR	2,4,6-Trinitrotoluene	0.0008 J
	IGW-019-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.0064 J
IGW-020	IGW-220-BLK	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.0009
IGW-021	IGW-021-FLR	Nitrobenzene	0.006 J
IGW-022	IGW-022-FLR	2,4-Dinitrotoluene	0.00071 J
	IGW-022-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.00062 J
	IGW-022-FLR	Nitrobenzene	0.0062 J
IGW-023	IGW-023-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.00062 J
IGW-024	IGW-024-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.00069 J
IGW-025	IGW-025-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.004 J
IGW-026	IGW-026-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.003 J
IGW-028	IGW-028-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.0024 J
IGW-029	IGW-029-FLR	4-Amino-2,6-dinitrotoluene	0.00059 J
	IGW-029-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.0016
IGW-030	IGW-030-FLR	2,4-Dinitrotoluene	0.0021 J
	IGW-030-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.0019 J
IGW-032	IGW-032-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.00026 J
IGW-034	IGW-034-FLR	2,4,6-Trinitrotoluene	0.00026 J
	IGW-034-FLR	2,4-Dinitrotoluene	0.00077
IGW-035	IGW-035-FLR	4-Amino-2,6-dinitrotoluene	0.00057 J
IGW-036	IGW-036-FLR	2,4,6-Trinitrotoluene	0.00038 J
	IGW-036-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.0025 J
IGW-037	IGW-037-FLR	4-Amino-2,6-dinitrotoluene	0.00094 J
IGW-039	IGW-039-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.0002 J
IGW-040	IGW-040-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.000098 J
IGW-042	IGW-042-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.00014 J
IGW-048	IGW-048-FLR	3-Nitrotoluene	0.00067 J
IGW-052	IGW-052-FLR	3-Nitrotoluene	0.0014 J
	IGW-052-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.00073 J
	IGW-052-FLR	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	0.00058 J
IGW-055	IGW-055-FLR	Hexahydro-1,2,3-trinitro-1,2,3-triazine	0.001 J

TABLE 4-39
DATA SUMMARY FOR FORMER TETRYL PELLETING AREA SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
EXPLOSIVES (MG/KG)							
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343	0.000093	*	0.00	42%	0%	TPA-001-R00
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.47	*	0.00	42%	0%	TPA-002-001(J)
METALS (MG/KG)							
Aluminum	33852	18200	*	0.54	100%	0%	TPA-001-001(J)
Antimony	31	9.3	*	0.30	33%	0%	TPA-001-000(J)
Arsenic	13.5	13	*	0.96	100%	0%	TPA-001-000
Barium	440	520	520	1.18	100%	8%	TPA-002-000
Beryllium	1.52	0.78	*	0.51	100%	0%	TPA-001-001,TPA-004-001
Cadmium	39	1.4	*	0.04	33%	0%	TPA-002-000
Calcium	GRAS	10400	NA	NA	100%	NA	TPA-003-000
Chromium	37	20.5	*	0.55	100%	0%	TPA-004-000
Cobalt	17.2	11.4	*	0.66	100%	0%	TPA-002-000
Copper	33.9	34.6	34.6	1.02	100%	8%	TPA-001-000
Iron	GRAS	19400	NA	NA	100%	NA	TPA-004-001
Lead	400	248	*	0.62	100%	0%	TPA-005-000
Magnesium	GRAS	3430	NA	NA	100%	NA	TPA-004-001
Manganese	1083	575	*	0.53	100%	0%	TPA-004-001
Mercury	23	0.6	*	0.03	8%	0%	TPA-001-000
Nickel	39.3	29.3	*	0.75	100%	0%	TPA-004-001(J)
Potassium	GRAS	3540	NA	NA	100%	NA	TPA-001-001
Selenium	390	1.9	*	0.00	25%	0%	TPA-003-000(J)
Sodium	GRAS	169	NA	NA	42%	NA	TPA-004-000(J)
Vanadium	72.5	37.2	*	0.51	100%	0%	TPA-001-001,TPA-003-001
Zinc	119.5	275	135	2.30	100%	17%	TPA-002-000

Note : Chemicals in bold, italics, and underlined are detected above the respective screening levels.

GRAS = Generally recognized as safe

NI = screening level not identified

* = all detection were below the screening level

TABLE 4-40
DATA SUMMARY FOR NORTH BURNING GROUND SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
Butylbenzylphthalate	13000000	57	*	0.00	3%	0%	NGA-004-001(J)
Di-n-butylphthalate	6500000	3518	*	0.00	20%	0%	NGA-008-001
Diethylphthalate	52000000	31	*	0.00	7%	0%	NGA-002-001(J)
Pyrene	2000000	54	*	0.00	7%	0%	NGA-008-000(J)
bis(2-Ethylhexyl)phthalate	32000	1222	*	0.04	10%	0%	NGA-007-000
METALS (MG/KG)							
Aluminum	33852	17300	*	0.51	100%	0%	NGA-005-004
Antimony	31	31.6	31.6	1.02	17%	3%	NGA-002-001(R)
Arsenic	13.5	13.4	*	0.99	93%	0%	NGA-002-001
Barium	440	244	*	0.55	100%	0%	NGA-005-001
Beryllium	1.52	3.1	3.1	2.04	100%	3%	NGA-002-001
Cadmium	39	3.1	*	0.08	90%	0%	NGA-002-001
Calcium	GRAS	104000	NA	NA	100%	NA	NGA-009-000
Chromium	37	19.6	*	0.53	100%	0%	NGA-002-001
Cobalt	17.2	37.7	37.7	2.19	100%	3%	NGA-002-001
Copper	33.9	206	34.2	6.08	100%	13%	NGA-011-000
Iron	GRAS	20500	NA	NA	100%	NA	NGA-005-004
Lead	400	43	*	0.11	100%	0%	NGA-010-000
Magnesium	GRAS	4040	NA	NA	100%	NA	NGA-005-004
Manganese	1083	718	*	0.66	100%	0%	NGA-005-001
Nickel	39.3	42.7	42.7	1.09	100%	3%	NGA-002-001
Potassium	GRAS	3440	NA	NA	100%	NA	NGA-001-000(J)
Selenium	390	3.7	*	0.01	73%	0%	NGA-002-001(J)
Silver	380	17.1	*	0.05	10%	0%	NGA-010-000
Sodium	GRAS	266	NA	NA	3%	NA	NGA-007-000(J)
Thallium	1.72	4.4	4.4	2.56	3%	3%	NGA-002-001(J)
Vanadium	72.5	52.2	*	0.72	100%	0%	NGA-002-001
Zinc	119.5	101	*	0.85	97%	0%	NGA-004-000
VOLATILES (UG/KG)							
Trichloroethene (TCE)	7100	2	*	0.00	6%	0%	NGA-006-001(J)

Note : Chemicals in bold, italics, and underlined are detected above the respective screening levels.

GRAS = Generally recognized as safe

NI = screening level not identified

* = all detection were below the screening level

COE 010182

MECOEK 10983

TABLE 4-41
DATA SUMMARY FOR SOUTH BURNING GROUND SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
1,2-Dichlorobenzene	2300000	47	*	0.00	2%	0%	SGA-012-002(J)
2,4-Dimethylphenol	1300000	48	*	0.00	4%	0%	SGA-012-002(J)
2,4-Dinitrotoluene (2,4-DNT)	900	48771	48771	54.19	2%	2%	SGA-004-000
2,6-Dinitrotoluene (2,6-DNT)	900	4534	4534	5.04	2%	2%	SGA-004-000
2-Methylphenol	3300000	421	*	0.00	6%	0%	SGA-012-002
4-Methylphenol	330000	597	*	0.00	6%	0%	SGA-012-002
Butylbenzylphthalate	13000000	486	*	0.00	8%	0%	SGA-001-001
Di-n-butylphthalate	6500000	17826	*	0.00	31%	0%	SGA-004-000
Diethylphthalate	52000000	871	*	0.00	4%	0%	SGA-009-002
N-Nitrosodiphenylamine (1)	91000	4633	*	0.05	4%	0%	SGA-004-000
Naphthalene	800000	21	*	0.00	4%	0%	SGA-012-002(J)
Phenol	39000000	477	*	0.00	6%	0%	SGA-012-002
Pyrene	2000000	89	*	0.00	2%	0%	SGA-006-002(J)
METALS (MG/KG)							
Aluminum	33852	22500	*	0.66	100%	0%	SGA-017-002
Antimony	31	0.56	*	0.02	4%	0%	SGA-017-000(J)
Arsenic	13.5	10.1	*	0.75	100%	0%	SGA-012-002
Barium	440	290	*	0.66	100%	0%	SGA-010-001
Beryllium	1.52	0.86	*	0.57	100%	0%	SGA-017-002
Cadmium	39	1.1	*	0.03	100%	0%	SGA-006-001(J)
Calcium	GRAS	11000	NA	NA	100%	NA	SGA-010-002
Chromium	37	24	*	0.65	100%	0%	SGA-017-002
Cobalt	17.2	10.9	*	0.63	100%	0%	SGA-005-002,SGA-011-002
Copper	33.9	22.5	*	0.66	100%	0%	SGA-010-001
Iron	GRAS	22700	NA	NA	100%	NA	SGA-003-001
Lead	400	18	*	0.05	100%	0%	SGA-013-002(J)
Magnesium	GRAS	6180	NA	NA	100%	NA	SGA-006-002
Manganese	1083	678	*	0.63	100%	0%	SGA-011-002
Nickel	39.3	28.7	*	0.73	100%	0%	SGA-011-002
Potassium	GRAS	3840	NA	NA	100%	NA	SGA-016-000
Selenium	390	2.2	*	0.01	75%	0%	SGA-008-000(J),SGA-008-001(J),SGA-017-001(J)
Sodium	GRAS	251	NA	NA	16%	NA	SGA-012-002(J)
Thallium	1.72	1.4	*	0.81	4%	0%	SGA-008-002(J)
Vanadium	72.5	52.7	*	0.73	100%	0%	SGA-017-002
Zinc	119.5	89.7	*	0.75	100%	0%	SGA-016-000
VOLATILES (UG/KG)							
Acetone	2000000	17	*	0.00	3%	0%	SGA-009-001
Trichloroethene (TCE)	7100	42	*	0.01	9%	0%	SGA-003-001

Note : Chemicals in bold, italics, and underlined are detected above the respective screening levels.

GRAS = Generally recognized as safe

NI = screening level not identified

* = all detection were below the screening level

COE 010183

MECOEK 10984

B07NE003703-04422

TABLE 4-42
DATA SUMMARY FOR PROVING GROUNDS SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
4-Chloro-3-methylphenol	NI	93	NA	NA	4%	NA	PGA-005-004(J)
Benzo(a)anthracene	610	18	*	0.03	4%	0%	PGA-009-004(J)
Benzo(a)pyrene	61	18	*	0.30	4%	0%	PGA-009-004(J)
Benzo(b)fluoranthene	610	25	*	0.04	4%	0%	PGA-009-004(J)
Benzo(g,h,i)perylene	NI	26	NA	NA	4%	NA	PGA-009-004(J)
Benzo(k)fluoranthene	6100	8	*	0.00	4%	0%	PGA-009-004(J)
Butylbenzylphthalate	13000000	344	*	0.00	7%	0%	PGA-002-000(J)
Chrysene	24000	16	*	0.00	4%	0%	PGA-009-004(J)
Di-n-butylphthalate	6500000	3542	*	0.00	43%	0%	PGA-001-000
Fluoranthene	2600000	13	*	0.00	4%	0%	PGA-009-004(J)
Pentachlorophenol	2500	14	*	0.01	4%	0%	PGA-005-004(J)
Pyrene	2000000	243	*	0.00	14%	0%	PGA-005-004(J)
bis(2-Ethylhexyl)phthalate	32000	49	*	0.00	21%	0%	PGA-006-001(J)
METALS (MG/KG)							
Aluminum	33852	19300	*	0.57	100%	0%	PGA-007-000
Antimony	31	4.1	*	0.13	18%	0%	PGA-004-001(J)
Arsenic	13.5	11.2	*	0.83	89%	0%	PGA-007-000
Barium	440	298	*	0.68	100%	0%	PGA-007-004
Beryllium	1.52	0.7	*	0.46	57%	0%	PGA-001-001
Cadmium	39	0.99	*	0.03	54%	0%	PGA-001-009(J)
Calcium	GRAS	34000	NA	NA	100%	NA	PGA-009-001
Chromium	37	18.5	*	0.50	96%	0%	PGA-007-000(*)
Cobalt	17.2	12	*	0.70	93%	0%	PGA-007-004
Copper	33.9	26	*	0.77	96%	0%	PGA-008-000
Iron	GRAS	22900	NA	NA	100%	NA	PGA-007-001
Lead	400	83.5	*	0.21	96%	0%	PGA-009-001
Magnesium	GRAS	7000	NA	NA	96%	NA	PGA-009-001
Manganese	1083	791	*	0.73	96%	0%	PGA-001-004
Nickel	39.3	34.4	*	0.88	89%	0%	PGA-007-004
Potassium	GRAS	4210	NA	NA	96%	NA	PGA-007-000
Selenium	390	2.1	*	0.01	43%	0%	PGA-007-000(*)
Sodium	GRAS	373	NA	NA	39%	NA	PGA-009-000(B)
Thallium	1.72	1.3	*	0.76	4%	0%	PGA-005-004(J)
Vanadium	72.5	41.5	*	0.57	96%	0%	PGA-007-000
Zinc	119.5	127	127	1.06	64%	4%	PGA-002-000
VOLATILES (UG/KG)							
2-Hexanone	NI	1	NA	NA	6%	NA	PGA-010-001(J)
Acetone	2000000	18	*	0.00	50%	0%	PGA-001-009(J)
Methylene Chloride	11000	19	*	0.00	44%	0%	PGA-007-001
Toluene	1900000	4	*	0.00	17%	0%	PGA-007-001(J)
Trichloroethene (TCE)	7100	1	*	0.00	11%	0%	PGA-001-009(J),PGA-005-001(J)

Note: Chemical in bold, italifcs, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010184

MECOEK 10985

TABLE 4-43
ANALYTICAL DATA FOR GROUNDWATER SAMPLING OF NEWLY INSTALLED MONITORING WELL AT PROVING GROUNDS FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

	Screening Level	MW-64B BMW-064-065 R	Q	QL
DISSOLVED METALS (UG/L)				
Aluminum	37000	66.6	B	
Barium	2000	320	E	
Calcium	GRAS	51600		
Copper	1300	1.1	B	
Magnesium	GRAS	14100		
Manganese	180	54		
Nickel	100	5.1	B	
Potassium	GRAS	8770	E	
Sodium	GRAS	22500		
Zinc	2000	5.5	B	
TOTAL METALS (UG/L)				
Aluminum	37000	352		
Antimony	6	2.8	B	
Barium	2000	238		
Cadmium	5	0.4	B	
Calcium	GRAS	50300		
Copper	1300	4.5	B	
Iron	GRAS	212		
Magnesium	GRAS	13500		
Manganese	180	69.2		
Nickel	100	6.8	B	
Potassium	GRAS	7350	E	
Sodium	GRAS	22000		
Vanadium	260	0.67	B	
Zinc	2000	7.3	B	
VOLATILES (UG/L)				
Acetone	610	10	B	
Methylene chloride	5	1	J	
SEMIVOLATILES (UG/L)				
bis(2-Ethylhexyl)phthalate	6	2	J	

Note:
1) NA=screening level is not available, GRAS=generally recognized as safe.
2) R=result, Q=qualifier, QL=quantitation limit (CRDL for inorganics and CRQL for organics)
3) Results above screening level are underlined and italicized.
4) For volatiles and semivolatiles, J=estimated concentration, B=possible/probable blank contamination. For dissolved and total metals,

COE 010185

MECOEK 10986

B07NE003703-04424

TABLE 4-44
DATA SUMMARY FOR POTENTIAL LANDFILL AREA NORTH OF THE PROVING GROUNDS SOIL SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
Benzo(b)fluoranthene	610	77	*	0.13	6%	0%	PLA-001-000(J)
Butylbenzylphthalate	13000000	1204	*	0.00	13%	0%	PLA-004-001(J)
Chrysene	24000	27	*	0.00	6%	0%	PLA-001-000(J)
Di-n-butylphthalate	6500000	2823	*	0.00	31%	0%	PLA-002-009
Diethylphthalate	52000000	72	*	0.00	6%	0%	PLA-003-001(J)
Phenol	39000000	48	*	0.00	6%	0%	PLA-006-000(J)
Pyrene	2000000	89	*	0.00	6%	0%	PLA-004-000(J)
bis(2-Ethylhexyl)phthalate	32000	701	*	0.02	13%	0%	PLA-003-001
EXPLOSIVES (MG/KG)							
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.068	*	0.00	13%	0%	PLA-004-000(J)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NI	0.26	NA	NA	13%	NA	PLA-004-000(J)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NI	0.13	NA	NA	13%	NA	PLA-003-001(J)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.068	*	0.00	25%	0%	PLA-001-000(J)
METALS (MG/KG)							
Aluminum	33852	17900	*	0.53	100%	0%	PLA-002-001
Antimony	31	81.8	81.8	2.64	30%	3%	PLA-001-001(J)
Arsenic	13.5	10.5	*	0.78	60%	0%	PLA-001-009
Barium	440	353	*	0.80	100%	0%	PLA-009-004
Beryllium	1.52	0.82	*	0.54	53%	0%	PLA-002-001
Cadmium	39	1.4	*	0.04	50%	0%	PLA-009-004
Calcium	GRAS	136000	NA	NA	100%	NA	PLA-001-000
Chromium	37	688	37.5	18.59	100%	7%	PLA-001-001
Cobalt	17.2	18.7	18.7	1.09	100%	3%	PLA-001-001
Copper	33.9	47.9	47.9	1.41	93%	3%	PLA-001-001(J)
Iron	GRAS	23800	NA	NA	100%	NA	PLA-008-001
Lead	400	2910	2910	7.28	93%	3%	PLA-001-001
Magnesium	GRAS	16700	NA	NA	100%	NA	PLA-001-000
Manganese	1083	1130	1130	1.04	100%	3%	PLA-008-001(J)
Nickel	39.3	37.3	*	0.95	100%	0%	PLA-008-001
Potassium	GRAS	3380	NA	NA	100%	NA	PLA-007-000
Selenium	390	3.1	*	0.01	23%	0%	PLA-005-000(J)
Silver	380	6	*	0.02	3%	0%	PLA-009-000(J)
Sodium	GRAS	311	NA	NA	43%	NA	PLA-001-001(J)
Thallium	1.72	1.4	*	0.81	3%	0%	PLA-001-001(J)
Vanadium	72.5	42.5	*	0.59	100%	0%	PLA-002-001
Zinc	119.5	728	150	6.09	93%	7%	PLA-003-000

Note: Chemical in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010186

MECOEK 10987

B07NE003703-04425

TABLE 4-45
DATA SUMMARY FOR SOIL SAMPLING AT POTENTIAL WASTE DISPOSAL AREAS NORTH OF THE FORMER NIKE MAINTENANCE AREA
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
Butylbenzylphthalate	13000000	740	*	0.00	7%	0%	NMA-001-001
Di-n-butylphthalate	6500000	3593	*	0.00	21%	0%	NMA-001-004
Pyrene	2000000	164	*	0.00	7%	0%	NMA-002-001(J)
EXPLOSIVES (MG/KG)							
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.46	*	0.08	5%	0%	NMA-004-019(J)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.94	*	0.00	26%	0%	NMA-006-002
METALS (MG/KG)							
Aluminum	33852	20400	*	0.60	100%	0%	NMA-005-001
Antimony	31	0.65	*	0.02	5%	0%	NMA-002-002(J)
Arsenic	13.5	11.3	*	0.84	79%	0%	NMA-006-002
Barium	440	368	*	0.84	100%	0%	NMA-005-001
Beryllium	1.52	0.84	*	0.55	100%	0%	NMA-005-001
Cadmium	39	1.3	*	0.03	79%	0%	NMA-005-001
Calcium	GRAS	11300	NA	NA	100%	NA	NMA-002-001
Chromium	37	21	*	0.57	100%	0%	NMA-005-001
Cobalt	17.2	15.8	*	0.92	100%	0%	NMA-007-009
Copper	33.9	23.5	*	0.69	98%	0%	NMA-005-009
Iron	GRAS	21700	NA	NA	100%	NA	NMA-005-009
Lead	400	20.3	*	0.05	100%	0%	NMA-001-001
Magnesium	GRAS	4690	NA	NA	100%	NA	NMA-002-001
Manganese	1083	785	*	0.72	100%	0%	NMA-006-000(J)
Nickel	39.3	28	*	0.71	100%	0%	NMA-002-000(J)
Potassium	GRAS	3780	NA	NA	100%	NA	NMA-005-000
Selenium	390	2.1	*	0.01	55%	0%	NMA-003-000(J)
Sodium	GRAS	1090	NA	NA	12%	NA	NMA-002-004
Vanadium	72.5	39.9	*	0.55	100%	0%	NMA-005-001
Zinc	119.5	94.7	*	0.79	100%	0%	NMA-004-000
VOLATILES (UG/KG)							
Total Xylenes	990000	1	*	0.00	3%	0%	NMA-004-004

Note: Chemical in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = *Screening level not Identified*
* = All detections were below the screening level
SL = Screening Level

COE 010187

MECOEK 10988

B07NE003703-04426

TABLE 4-46
DATA SUMMARY FOR NOVEMBER/DECEMBER 1994 GROUNDWATER SAMPLING OF EXISTING MONITORING WELLS AT POTENTIAL WASTE DISPOSAL AREAS NORTH OF THE FORMER NIKE MAINTENANCE AREA FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
DISSOLVED METALS (UG/L)							
Aluminum	37000	96.1	*	0.00	100%	0%	BMW-022-114(B)
Arsenic	50	5.9	*	0.12	50%	0%	AMW-022-114(B)
Barium	2000	264	*	0.13	100%	0%	BMW-022-114
Calcium	GRAS	86500	NA	NA	100%	NA	AMW-022-114
Cobalt	2200	1.2	*	0.00	100%	0%	AMW-022-114(B)
Copper	1300	1.3	*	0.00	50%	0%	AMW-022-114(B)
Magnesium	GRAS	15100	NA	NA	100%	NA	BMW-022-114
Manganese	180	180	*	1.00	100%	0%	AMW-022-114
Nickel	100	2.1	*	0.02	50%	0%	BMW-022-114(B)
Potassium	GRAS	17900	NA	NA	100%	NA	AMW-022-114
Selenium	50	23.6	*	0.47	100%	0%	BMW-022-114
Sodium	GRAS	22400	NA	NA	100%	NA	AMW-022-114
Vanadium	260	2.2	*	0.01	100%	0%	BMW-022-114(B)
Zinc	2000	1.3	*	0.00	100%	0%	AMW-022-114(B)
EXPLOSIVES (UG/L)							
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2	1.3	*	0.65	50%	0%	BMW-022-114
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX	400	0.12	*	0.00	50%	0%	BMW-022-114
TOTAL METALS (UG/L)							
Aluminum	37000	133	*	0.00	100%	0%	AMW-022-114(B)
Arsenic	50	5.2	*	0.10	100%	0%	AMW-022-114(B)
Barium	2000	253	*	0.13	100%	0%	BMW-022-114
Calcium	GRAS	84800	NA	NA	100%	NA	AMW-022-114
Cobalt	2200	0.75	*	0.00	50%	0%	BMW-022-114(B)
Magnesium	GRAS	15100	NA	NA	100%	NA	BMW-022-114
Manganese	180	185	185	1.03	100%	50%	BMW-022-114
Nickel	100	3.2	*	0.03	50%	0%	BMW-022-114(B)
Potassium	GRAS	14800	NA	NA	100%	NA	AMW-022-114
Selenium	50	10.4	*	0.21	50%	0%	BMW-022-114
Sodium	GRAS	21000	NA	NA	100%	NA	AMW-022-114
Vanadium	260	2.9	*	0.01	100%	0%	BMW-022-114(B)
Zinc	2000	1.2	*	0.00	100%	0%	AMW-022-114(B),BMW-022-114(B)
VOLATILES (UG/L)							
Methylene chloride	5	3	*	0.60	100%	0%	AMW-022-114(B)

Note: Chemical in bold, italilcs, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

TABLE 4-47
DATA SUMMARY FOR SOIL SAMPLING AT POTENTIAL WASTE DISPOSAL AREA SOUTHEAST OF THE FORMER BOMB BOOSTER ASSEMBLY AREA
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
2,4-Dimethylphenol	1300000	63	*	0.00	3%	0%	BBA-003-000(J)
2-Methylphenol	3300000	111	*	0.00	3%	0%	BBA-003-000(J)
4-Methylphenol	330000	148	*	0.00	3%	0%	BBA-003-000(J)
Butylbenzylphthalate	13000000	401	*	0.00	8%	0%	BBA-001-009(J)
Di-n-butylphthalate	6500000	3089	*	0.00	31%	0%	BBA-001-009
Phenol	*39000000*	*139*	*	*0.00*	*8%*	*0%*	*BBA-003-000(J)*
Pyrene	2000000	123	*	0.00	6%	0%	BBA-001-000(J)
EXPLOSIVES (MG/KG)							
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.0014	*	0.00	3%	0%	BBA-007-002(J)
2,6-Dinitrotoluene (2,6-DNT)	0.9	0.0025	*	0.00	3%	0%	BBA-008-000(J)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NI	0.0025	NA	NA	6%	NA	BBA-007-002(J)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NI	0.0019	NA	NA	6%	NA	BBA-006-019(J)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343	0.00026	*	0.00	3%	0%	BBA-007-002(J)
Nitrotoluene	*343*	*0.0048*	*	*0.00*	*6%*	*0%*	*BBA-008-000*
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.39	*	0.00	19%	0%	BBA-001-019(J)
METALS (MG/KG)							
Aluminum	33852	20700	*	0.61	100%	0%	BBA-002-001(J)
Antimony	31	0.54	*	0.02	3%	0%	BBA-008-002(J)
Arsenic	13.5	9.8	*	0.73	89%	0%	BBA-006-009
Barium	440	360	*	0.82	100%	0%	BBA-001-002
Beryllium	1.52	0.96	*	0.63	100%	0%	BBA-008-000
Cadmium	*39*	*1.4*	*	*0.04*	*86%*	*0%*	*BBA-001-002*
Calcium	GRAS	22400	NA	NA	100%	NA	BBA-005-000
Chromium	37	21.4	*	0.58	100%	0%	BBA-006-009(J),BBA-008-002(J)
Cobalt	17.2	12.7	*	0.74	100%	0%	BBA-007-004
Copper	33.9	25.8	*	0.76	100%	0%	BBA-008-000
Iron	GRAS	22000	NA	NA	100%	NA	BBA-008-002
Lead	400	28	*	0.07	100%	0%	BBA-007-009
Magnesium	*GRAS*	*4900*	*NA*	*NA*	*100%*	*NA*	*BBA-006-009*
Manganese	1083	818	*	0.76	100%	0%	BBA-001-002(J)
Nickel	39.3	30	*	0.76	100%	0%	BBA-003-002
Potassium	GRAS	4790	NA	NA	100%	NA	BBA-008-000
Selenium	390	2.2	*	0.01	78%	0%	BBA-006-001(J)
Vanadium	72.5	48.4	*	0.67	100%	0%	BBA-006-009
Zinc	119.5	103	*	0.86	100%	0%	BBA-005-000(J)
PCBs (UG/KG)							
Total PCBs	*15000*	*1105.7*	*	*0.07*	*6%*	*0%*	*BBA-005-000*
VOLATILES (UG/KG)							
Acetone	2000000	17	*	0.00	4%	0%	BBA-007-001
Tetrachloroethene	7000	1	*	0.00	4%	0%	BBA-006-009(J)
Toluene	1900000	0.6	*	0.00	7%	0%	BBA-007-004(J)
Trichloroethene (TCE)	7100	2	*	0.00	4%	0%	BBA-007-004(J)

Note: Chemical in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010189

MECOEK 10990

TABLE 4-48
DATA SUMMARY FOR NOVEMBER/DECEMBER 1994 GROUNDWATER SAMPLING OF THE EXISTING MONITORING WELL AT THE POTENTIAL WASTE DISPOSAL AREA SOUTHEAST OF THE FORMER BOMB BOOSTER ASSEMBLY AREA FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
DISSOLVED METALS (UG/L)							
Aluminum	37000	105	*	0.00	100%	0%	BMW-057-114(B)
Arsenic	50	5.9	*	0.12	100%	0%	BMW-057-114(B)
Barium	2000	722	*	0.36	100%	0%	BMW-057-114
Calcium	GRAS	81400	NA	NA	100%	NA	BMW-057-114
Chromium	100	2.5	*	0.03	100%	0%	BMW-057-114(B)
Magnesium	GRAS	26000	NA	NA	100%	NA	BMW-057-114
Nickel	100	1.9	*	0.02	100%	0%	BMW-057-114(B)
Potassium	GRAS	17600	NA	NA	100%	NA	BMW-057-114
Selenium	50	7.1	*	0.14	100%	0%	BMW-057-114
Sodium	GRAS	16600	NA	NA	100%	NA	BMW-057-114
Vanadium	260	1.7	*	0.01	100%	0%	BMW-057-114(B)
Zinc	2000	1.9	*	0.00	100%	0%	BMW-057-114(B)
TOTAL METALS (UG/L)							
Aluminum	37000	157	*	0.00	100%	0%	BMW-057-114(B)
Arsenic	50	3.6	*	0.07	100%	0%	BMW-057-114(B)
Barium	2000	662	*	0.33	100%	0%	BMW-057-114
Calcium	GRAS	81500	NA	NA	100%	NA	BMW-057-114
Chromium	100	2.6	*	0.03	100%	0%	BMW-057-114(B)
Magnesium	GRAS	25200	NA	NA	100%	NA	BMW-057-114
Manganese	180	0.82	*	0.00	100%	0%	BMW-057-114(B)
Nickel	100	1.6	*	0.02	100%	0%	BMW-057-114(B)
Potassium	GRAS	14400	NA	NA	100%	NA	BMW-057-114
Selenium	50	6.8	*	0.14	100%	0%	BMW-057-114
Sodium	GRAS	15300	NA	NA	100%	NA	BMW-057-114
Vanadium	260	2.4	*	0.01	100%	0%	BMW-057-114(B)
Zinc	2000	0.67	*	0.00	100%	0%	BMW-057-114(B)
VOLATILES (UG/L)							
Methylene chloride	5	0.8	*	0.16	100%	0%	BMW-057-114(JB)

Note: Monitoring well sampled includes MW-57B.
Chemical in bold, italilcs, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010190

MECOEK 10991

TABLE 4-49
DATA SUMMARY FOR SOIL SAMPLING AT POTENTIAL WASTE DISPOSAL AREAS AT THE FORMER ATLAS MISSILE AREA
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
Butylbenzylphthalate	13000000	403	*	0.00	19%	0%	AMA-006-019
Di-n-butylphthalate	6500000	4247	*	0.00	39%	0%	AMA-001-001(J)
Diethylphthalate	52000000	161	*	0.00	13%	0%	AMA-008-000(J)
Pyrene	2000000	154	*	0.00	10%	0%	AMA-005-001(J)
bis(2-Ethylhexyl)phthalate	32000	2108	*	0.07	6%	0%	AMA-008-000
EXPLOSIVES (MG/KG)							
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.063	*	0.00	3%	0%	AMA-003-009(J)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NI	0.057	NA	NA	3%	NA	AMA-001-000(J)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343	0.098	*	0.00	10%	0%	AMA-003-009(J)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.14	*	0.00	52%	0%	AMA-003-009(J),AMA-004-000(J)
METALS (MG/KG)							
Aluminum	33852	25600	*	0.76	100%	0%	AMA-008-004
Antimony	31	0.67	*	0.02	6%	0%	AMA-008-004(J)
Arsenic	13.5	10	*	0.74	74%	0%	AMA-001-004
Barium	440	341	*	0.78	100%	0%	AMA-001-004
Beryllium	1.52	1	*	0.66	100%	0%	AMA-008-004
Cadmium	39	1.1	*	0.03	74%	0%	AMA-008-009(J)
Calcium	GRAS	6980	NA	NA	100%	NA	AMA-005-001
Chromium	37	27.2	*	0.74	100%	0%	AMA-008-004
Cobalt	17.2	14.3	*	0.83	100%	0%	AMA-002-004
Copper	33.9	25.1	*	0.74	100%	0%	AMA-001-004
Iron	GRAS	24800	NA	NA	100%	NA	AMA-008-004
Lead	400	17.6	*	0.04	100%	0%	AMA-001-000(J)
Magnesium	GRAS	5210	NA	NA	100%	NA	AMA-001-004
Manganese	1083	1150	1150	1.06	100%	3%	AMA-002-004
Nickel	39.3	37.6	*	0.96	100%	0%	AMA-008-009
Potassium	GRAS	4290	NA	NA	100%	NA	AMA-008-000
Selenium	390	2.6	*	0.01	61%	0%	AMA-001-001(J)
Sodium	GRAS	176	NA	NA	13%	NA	AMA-005-001(J)
Vanadium	72.5	59.5	*	0.82	100%	0%	AMA-008-004
Zinc	119.5	90.6	*	0.76	100%	0%	AMA-008-009

Note: Chemical in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = *All detections were below the screening level*
SL = Screening Level

COE 010191

MECOEK 10992

B07NE003703-04430

TABLE 4-50
DATA SUMMARY FOR NOVEMBER/DECEMBER 1994 GROUNDWATER SAMPLING OF EXISTING MONITORING WELLS AT POTENTIAL WASTE DISPOSAL AREAS AT THE FORMER ATLAS MISSILE AREA FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
DISSOLVED METALS (UG/L)							
Aluminum	37000	159	*	0.00	100%	0%	AMW-059-114(B),DMW-059-114(B)
Arsenic	50	23.8	*	0.48	100%	0%	DMW-059-114
Barium	2000	813	*	0.41	100%	0%	BMW-059-114
Calcium	GRAS	91500	NA	NA	100%	NA	AMW-058-114
Iron	GRAS	1020	NA	NA	20%	NA	AMW-058-114
Magnesium	GRAS	20500	NA	NA	100%	NA	BMW-059-114
Manganese	180	989	195	5.49	80%	60%	AMW-059-114
Nickel	100	6.3	*	0.06	60%	0%	BMW-059-114(B)
Potassium	GRAS	16600	NA	NA	100%	NA	AMW-058-114(E)
Selenium	50	19.8	*	0.40	100%	0%	AMW-059-114
Sodium	GRAS	38700	NA	NA	100%	NA	AMW-058-114
Vanadium	260	5.6	*	0.02	80%	0%	BMW-058-114(B)
Zinc	2000	1.4	*	0.00	100%	0%	DMW-059-114(B)
SEMIVOLATILES (UG/L)							
bis(2-Ethylhexyl)phthalate	6	4	*	0.67	40%	0%	BMW-058-114(J)
TOTAL METALS (UG/L)							
Aluminum	37000	320	*	0.01	100%	0%	DMW-059-114
Arsenic	50	23.3	*	0.47	80%	0%	DMW-059-114
Barium	2000	749	*	0.37	100%	0%	BMW-059-114
Calcium	GRAS	96800	NA	NA	100%	NA	AMW-058-114
Iron	GRAS	1110	NA	NA	80%	NA	AMW-058-114
Magnesium	GRAS	19800	NA	NA	100%	NA	BMW-059-114
Manganese	180	931	208	5.17	100%	60%	AMW-059-114(E)
Potassium	GRAS	14800	NA	NA	100%	NA	AMW-058-114
Selenium	50	12	*	0.24	20%	0%	BMW-058-114
Sodium	GRAS	39000	NA	NA	100%	NA	AMW-058-114
Vanadium	260	6.2	*	0.02	80%	0%	BMW-058-114(B)
Zinc	2000	30.4	*	0.02	80%	0%	BMW-059-114
VOLATILES (UG/L)							
Methylene chloride	5	4	*	0.80	60%	0%	BMW-058-114(JB)
Trichloroethene (TCE)	5	57	57	11.40	20%	20%	BMW-058-114

Note: Chemical in bold, italilcs, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010192

MECOEK 10993

TABLE 4-51
DATA SUMMARY FOR SOIL SAMPLING AT THE POTENTIAL WASTE DISPOSAL AREA NORTH OF THE FORMER AMMONIUM NITRATE PLANT FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
Butylbenzylphthalate	13000000	229	*	0.00	8%	0%	ANA-002-019(J)
Di-n-butylphthalate	6500000	2330	*	0.00	8%	0%	ANA-002-019
Diethylphthalate	52000000	527	*	0.00	8%	0%	ANA-001-000
Pyrene	2000000	105	*	0.00	8%	0%	ANA-001-000(J)
EXPLOSIVES (MG/KG)							
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.1	*	0.00	8%	0%	ANA-001-004(J)
METALS (MG/KG)							
Aluminum	33852	18000	*	0.53	100%	0%	ANA-002-000
Arsenic	13.5	10.1	*	0.75	83%	0%	ANA-002-004
Barium	440	303	*	0.69	100%	0%	ANA-002-002
Beryllium	1.52	0.81	*	0.53	100%	0%	ANA-001-002
Cadmium	39	1.2	*	0.03	83%	0%	ANA-002-004(J),ANA-002-009(J)
Calcium	GRAS	16500	NA	NA	100%	NA	ANA-002-009
Chromium	37	20.5	*	0.55	100%	0%	ANA-002-009
Cobalt	17.2	12.1	*	0.70	100%	0%	ANA-002-004
Copper	33.9	23.6	*	0.70	100%	0%	ANA-002-004
Iron	GRAS	20100	NA	NA	100%	NA	ANA-002-009
Lead	400	30.2	*	0.08	100%	0%	ANA-002-000
Magnesium	GRAS	9150	NA	NA	100%	NA	ANA-002-009
Manganese	1083	708	*	0.65	100%	0%	ANA-002-004
Nickel	39.3	30.2	*	0.77	100%	0%	ANA-002-004
Potassium	GRAS	4200	NA	NA	100%	NA	ANA-002-000
Selenium	390	1.3	*	0.00	25%	0%	ANA-001-009(J)
Vanadium	72.5	43.8	*	0.60	100%	0%	ANA-002-009
Zinc	119.5	87.4	*	0.73	100%	0%	ANA-002-000(J)

Note: Chemical in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010193
MECOEK 10994

TABLE 4-52
DATA SUMMARY FOR SOIL SAMPLING AT THE DEMOLITION GROUND
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
Butylbenzylphthalate	13000000	337	*	0.00	5%	0%	DGA-001-009(J)
Di-n-butylphthalate	6500000	2706	*	0.00	30%	0%	DGA-001-000
Pyrene	2000000	153	*	0.00	5%	0%	DGA-002-000(J)
EXPLOSIVES (MG/KG)							
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.066	*	0.00	10%	0%	DGA-002-019(J)
METALS (MG/KG)							
Aluminum	33852	18100	*	0.53	100%	0%	DGA-001-000
Arsenic	13.5	9.4	*	0.70	80%	0%	DGA-001-004,DGA-002-004
Barium	440	434	*	0.99	100%	0%	DGA-003-001(J)
Beryllium	1.52	0.76	*	0.50	100%	0%	DGA-001-001
Cadmium	39	0.82	*	0.02	80%	0%	DGA-001-004(J)
Calcium	GRAS	4230	NA	NA	100%	NA	DGA-003-004
Chromium	37	18.5	*	0.50	100%	0%	DGA-001-000
Cobalt	17.2	11.4	*	0.66	100%	0%	DGA-002-009
Copper	33.9	21.3	*	0.63	100%	0%	DGA-001-004
Iron	GRAS	19900	NA	NA	100%	NA	DGA-001-001
Lead	400	15.6	*	0.04	100%	0%	DGA-001-000
Magnesium	GRAS	3970	NA	NA	100%	NA	DGA-004-004
Manganese	1083	889	*	0.82	100%	0%	DGA-002-009
Mercury	23	0.13	*	0.01	5%	0%	DGA-002-009(J)
Nickel	39.3	30.1	*	0.77	100%	0%	DGA-002-009
Potassium	GRAS	4460	NA	NA	100%	NA	DGA-003-000
Selenium	390	1.8	*	0.00	35%	0%	DGA-001-001(J)
Sodium	GRAS	750	NA	NA	5%	NA	DGA-004-009
Vanadium	72.5	40.1	*	0.55	100%	0%	DGA-001-000
Zinc	119.5	68.4	*	0.57	100%	0%	DGA-001-000
VOLATILES (UG/KG)							
Toluene	1900000	0.6	*	0.00	13%	0%	DGA-004-004(J)
Trichloroethene (TCE)	7100	2	*	0.00	6%	0%	DGA-004-009(J)

Note: Chemical in bold, italiics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010194

MECOEK 10995

B07NE003703-04433

TABLE 4-53
DATA SUMMARY FOR NOVEMBER/DECEMBER 1994 GROUNDWATER SAMPLING OF EXISTING MONITORING WELLS AT THE DEMOLITION GROUND FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
DISSOLVED METALS (UG/L)							
Aluminum	37000	130	*	0.00	100%	0%	BMW-010-114(B)
Arsenic	50	5.4	*	0.11	100%	0%	AMW-010-114(B)
Barium	2000	182	*	0.09	100%	0%	BMW-010-114(B)
Calcium	GRAS	48800	NA	NA	100%	NA	AMW-010-114
Magnesium	GRAS	9080	NA	NA	100%	NA	AMW-010-114
Manganese	180	10.3	*	0.06	50%	0%	BMW-010-114(B)
Nickel	100	1.9	*	0.02	100%	0%	BMW-010-114(B)
Potassium	GRAS	11000	NA	NA	100%	NA	BMW-010-114
Selenium	50	14.1	*	0.28	100%	0%	AMW-010-114
Sodium	GRAS	17300	NA	NA	100%	NA	AMW-010-114(E)
Vanadium	260	2.3	*	0.01	100%	0%	AMW-010-114(B),BMW-010-114(B)
Zinc	2000	0.26	*	0.00	50%	0%	BMW-010-114(B)
EXPLOSIVES (UG/L)							
2,4,6-Trinitrotoluene (2,4,6-TNT)	2	0.32	*	0.16	50%	0%	BMW-010-114
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NI	0.43	NA	NA	100%	NA	BMW-010-114
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2	0.24	*	0.12	100%	0%	AMW-010-114
TOTAL METALS (UG/L)							
Aluminum	37000	158	*	0.00	100%	0%	BMW-010-114(B)
Arsenic	50	3.8	*	0.08	100%	0%	AMW-010-114(B)
Barium	2000	171	*	0.09	100%	0%	BMW-010-114(B)
Calcium	GRAS	45100	NA	NA	100%	NA	AMW-010-114
Copper	1300	3.2	*	0.00	50%	0%	BMW-010-114(B)
Iron	GRAS	187	NA	NA	100%	NA	AMW-010-114(*)
Magnesium	GRAS	8980	NA	NA	100%	NA	AMW-010-114
Manganese	180	10.9	*	0.06	100%	0%	BMW-010-114(BE)
Potassium	GRAS	9650	NA	NA	100%	NA	BMW-010-114
Sodium	GRAS	16900	NA	NA	100%	NA	AMW-010-114(E)
Vanadium	260	4	*	0.02	50%	0%	BMW-010-114(B)
Zinc	2000	28.7	*	0.01	100%	0%	BMW-010-114
VOLATILES (UG/L)							
Methylene chloride	5	0.5	*	0.10	50%	0%	AMW-010-114(JB)

Note: Chemical in bold, italilcs, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010195

MECOEK 10996

TABLE 4-54
DATA SUMMARY FOR SOIL SAMPLING AT DETONATION CRATERS
WEST OF THE DEMOLITION GROUND
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
Butylbenzylphthalate	13000000	919	*	0.00	9%	0%	DCA-004-001
Di-n-butylphthalate	6500000	2776	*	0.00	27%	0%	DCA-004-001
Pyrene	2000000	67	*	0.00	9%	0%	DCA-003-002(J)
EXPLOSIVES (MG/KG)							
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343	0.074	*	0.00	9%	0%	DCA-004-000(J)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.071	*	0.00	45%	0%	DCA-003-000(J)
METALS (MG/KG)							
Aluminum	33852	12600	*	0.37	100%	0%	DCA-002-000
Antimony	31	0.48	*	0.02	9%	0%	DCA-004-001(R)
Arsenic	13.5	5.1	*	0.38	100%	0%	DCA-002-000(J)
Barium	440	184	*	0.42	100%	0%	DCA-002-000
Beryllium	1.52	0.59	*	0.39	100%	0%	DCA-002-000
Cadmium	39	2.2	*	0.06	55%	0%	DCA-003-002
Calcium	GRAS	3840	NA	NA	100%	NA	DCA-001-000
Chromium	37	16.2	*	0.44	100%	0%	DCA-003-002
Cobalt	17.2	7.2	*	0.42	100%	0%	DCA-001-001,DCA-002-001
Copper	33.9	13.3	*	0.39	100%	0%	DCA-002-000
Iron	GRAS	14800	NA	NA	100%	NA	DCA-002-000
Lead	400	177	*	0.44	100%	0%	DCA-003-002(J)
Magnesium	GRAS	2720	NA	NA	100%	NA	DCA-002-000
Manganese	1083	1320	1320	1.22	100%	9%	DCA-001-001
Nickel	39.3	13.7	*	0.35	100%	0%	DCA-002-000
Potassium	GRAS	2850	NA	NA	100%	NA	DCA-002-000
Selenium	390	2.1	*	0.01	82%	0%	DCA-001-001(J),DCA-002-000(J)
Sodium	GRAS	258	NA	NA	9%	NA	DCA-005-001(J)
Vanadium	72.5	25	*	0.34	100%	0%	DCA-002-000
Zinc	119.5	55.3	*	0.46	100%	0%	DCA-002-000

Note: Chemical in bold, italilcs, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010196

MECOEK 10997

B07NE003703-04435

TABLE 4-55
DATA SUMMARY FOR SOIL SAMPLING AT THE BERMED AREA
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
Di-n-butylphthalate	6500000	2331	*	0.00	11%	0%	BRA-001-000(J)
Diethylphthalate	52000000	22	*	0.00	33%	0%	BRA-001-002(J)
Pyrene	2000000	121	*	0.00	11%	0%	BRA-003-002(J)
EXPLOSIVES (MG/KG)							
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.027	*	0.00	33%	0%	BRA-003-000(J)
METALS (MG/KG)							
Aluminum	33852	23100	*	0.68	100%	0%	BRA-003-002
Arsenic	13.5	7.2	*	0.53	100%	0%	BRA-002-002(J)
Barium	440	278	*	0.63	100%	0%	BRA-002-002
Beryllium	1.52	0.88	*	0.58	100%	0%	BRA-003-002
Cadmium	39	0.56	*	0.01	100%	0%	BRA-002-002(J)
Calcium	GRAS	178000	NA	NA	100%	NA	BRA-003-001
Chromium	37	24.1	*	0.65	100%	0%	BRA-003-002
Cobalt	17.2	11.5	*	0.67	100%	0%	BRA-002-002
Copper	33.9	16.6	*	0.49	100%	0%	BRA-002-000
Iron	GRAS	21300	NA	NA	100%	NA	BRA-002-002
Lead	400	15.8	*	0.04	100%	0%	BRA-002-002(J)
Magnesium	GRAS	4010	NA	NA	100%	NA	BRA-002-002
Manganese	1083	674	*	0.62	100%	0%	BRA-002-002(J)
Nickel	39.3	21.2	*	0.54	100%	0%	BRA-002-002
Potassium	GRAS	3970	NA	NA	100%	NA	BRA-003-002
Selenium	390	2	*	0.01	78%	0%	BRA-003-002(J)
Vanadium	72.5	49.8	*	0.69	100%	0%	BRA-003-002
Zinc	119.5	82.4	*	0.69	100%	0%	BRA-003-002

Note: Chemical in bold, italilcs, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010197

MECOEK 10998

B07NE003703-04436

TABLE 4-56
ANALYTICAL DATA FOR GROUNDWATER SAMPLING OF NEWLY INSTALLED MONITORING WELL AT THE FORMER AMMONIUM NITRATE PLANT FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

	Screening Level	MW-63B					
		BMW-063-035			BMW-063-065		
		R	Q	QL	R	Q	QL
DISSOLVED METALS (UG/L)							
Aluminum	37000		NA		150	B	
Arsenic	50		NA		4.3	B	
Barium	2000		NA		122	B	
Beryllium	4		NA		0.33	B	
Calcium	GRAS		NA		101000		
Chromium	100		NA		2.4	B	
Magnesium	GRAS		NA		23800		
Manganese	180		NA		7.7	B	
Potassium	GRAS		NA		7640	E	
Selenium	50		NA		8.5		
Sodium	GRAS		NA		19700	E	
Vanadium	260		NA		12.5	B	
Zinc	2000		NA		1.9	B	
TOTAL METALS (UG/L)							
Aluminum	37000		NA		534		
Arsenic	50		NA		4.5	B	
Barium	2000		NA		115	B	
Calcium	GRAS		NA		10300		
Chromium	100		NA		3.9	B	
Copper	1300		NA		1.7	B	
Iron	GRAS		NA		290		
Magnesium	GRAS		NA		23800		
Manganese	180		NA		15.6		
Potassium	GRAS		NA		6710	E	
Selenium	50		NA		4.5	B	
Sodium	GRAS		NA		19100	E	
Vanadium	260		NA		13.9	B	
Zinc	2000		NA		6.3	B	
WATER QUALITY (mg/L unless indicated)							
Nitrite	1	*5.8*				U	(0.02)
Nitrate	10	*40*			*41*		

Note:
1) NA=not analyzed, GRAS=generally recognized as safe.
2) R=result, Q=qualifier, QL=quantitation limit
3) Results above screening level are underlined and italicized
4) For dissolved and total metals, B=concentration below quantitation limit (CRDL), E=reported value is estimated because of the presence of interference.

COE 010198

MECOEK 10999

B07NE003703-04437

TABLE 4-57
DATA SUMMARY FOR SURFACE WATER SAMPLING AT JOHNSON AND CLEAR CREEKS - MARCH 1995
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
EXPLOSIVES (UG/L)							
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2	1.8	*	0.90	100%	0%	JCW-003-035
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	400	0.54	*	0.00	50%	0%	JCW-003-035
METALS (UG/L)							
Aluminum	37000	21000	*	0.57	100%	0%	JCW-001-035
Arsenic	50	11.2	*	0.22	50%	0%	JCW-001-035
Barium	2000	280	*	0.14	100%	0%	JCW-001-035
Calcium	GRAS	86600	NA	NA	100%	NA	JCW-004-035
Chromium	100	13.7	*	0.14	25%	0%	JCW-001-035
Cobalt	2200	10.1	*	0.00	25%	0%	JCW-001-035
Copper	12	32.5	32.5	2.71	50%	25%	JCW-001-035
Iron	GRAS	18000	NA	NA	100%	NA	JCW-001-035
Lead	3.2	10.9	10.9	3.41	25%	25%	JCW-001-035
Magnesium	GRAS	17900	NA	NA	100%	NA	JCW-004-035
Manganese	180	580	554	3.22	100%	50%	JCW-001-035
Mercury	0.012	0.28	0.22	23.33	50%	50%	JCW-001-035(J)
Nickel	100	129	129	1.29	50%	25%	JCW-004-035(J)
Potassium	GRAS	30400	NA	NA	100%	NA	JCW-001-035
Sodium	GRAS	44200	NA	NA	100%	NA	JCW-004-035
Vanadium	260	41	*	0.16	50%	0%	JCW-001-035
Zinc	110	442	442	4.02	50%	25%	JCW-001-035
VOLATILES (UG/L)							
Trichloroethene (TCE)	5	4.51	*	0.90	50%	0%	JCW-003-035

Note: *Chemical in bold, italilcs, and underlined are detected above the respective screening levels.*
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010199

MECOEK 11000

TABLE 4-58
DATA SUMMARY FOR SURFACE WATER SAMPLING AT JOHNSON AND CLEAR CREEKS - MAY 1996
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
METALS (UG/L)							
Aluminum	37000	2380	*	0.06	100%	0%	JCW-004-056(J)
Arsenic	50	7.5	*	0.15	100%	0%	JCW-003-056(B)
Barium	2000	142	*	0.07	100%	0%	JCW-006-056(B)
Calcium	GRAS	93200	NA	NA	100%	NA	JCW-004-056(J)
Iron	GRAS	2500	NA	NA	100%	NA	JCW-004-056(J)
Magnesium	GRAS	19700	NA	NA	100%	NA	JCW-006-056
Manganese	180	406	217	2.26	100%	100%	JCW-003-056
Mercury	0.012	0.88	0.42	73.33	67%	67%	JCW-003-056
Potassium	GRAS	9910	NA	NA	100%	NA	JCW-006-056
Selenium	5	8.1	5.9	1.62	100%	100%	JCW-003-056
Sodium	GRAS	38400	NA	NA	100%	NA	JCW-004-056
Thallium	2	16.7	16.7	8.35	33%	33%	JCW-003-056
Vanadium	260	11.8	*	0.05	67%	0%	JCW-006-056(B)
Zinc	110	15.5	*	0.14	100%	0%	JCW-003-056(B)
VOLATILES (UG/L)							
Toluene	1000	1.3	*	0.00	75%	0%	JCW-002-056
Trichloroethene (TCE)	5	6.92	5.06	1.38	50%	25%	JCW-005-056

Note: Chemical in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010200

MECOEK 11001

TABLE 4-59
DATA SUMMARY FOR SURFACE WATER SAMPLING AT JOHNSON AND CLEAR CREEKS - JULY 1996
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
METALS (UG/L)							
Aluminum	37000	7060	*	0.19	100%	0%	JCW-003-076(J)
Arsenic	50	6	*	0.12	67%	0%	JCW-006-076(B)
Barium	2000	211	*	0.11	100%	0%	JCW-003-076(J)
Calcium	GRAS	71700	NA	NA	100%	NA	JCW-006-076(J)
Copper	12	2	*	0.17	33%	0%	JCW-003-076(J)
Iron	GRAS	9670	NA	NA	100%	NA	JCW-003-076
Magnesium	GRAS	15200	NA	NA	100%	NA	JCW-004-076
Manganese	180	249	249	1.38	100%	33%	JCW-003-076
Potassium	GRAS	11800	NA	NA	100%	NA	JCW-003-076
Selenium	5	5.4	5.4	1.08	67%	67%	JCW-003-076(*),JCW-004-076(*)
Sodium	GRAS	40800	NA	NA	100%	NA	JCW-004-076(J)
Thallium	2	8.1	7.3	4.05	67%	67%	JCW-004-076(B)
Vanadium	260	20.2	*	0.08	67%	0%	JCW-003-076(B)
VOLATILES (UG/L)							
Toluene	1000	0.1	*	0.00	25%	0%	JCW-004-076(J)
Trichloroethene (TCE)	5	3.79	*	0.76	50%	0%	JCW-005-076

Note: Chemical in bold, italilcs, and underlined are detected above the respective screening levels.

GRAS = Generally recognized as safe

NI = Screening level not Identified

* = All detections were below the screening level

SL = Screening Level

COE 010201

MECOEK 11002

TABLE 4-60
DATA SUMMARY FOR JOHNSON AND CLEAR CREEKS SEDIMENT SAMPLING
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
METALS (MG/KG)							
Aluminum	33852	15900	*	0.47	100%	0%	JCS-001-035
Arsenic	13.5	8.3	*	0.61	50%	0%	JCS-001-035
Barium	440	245	*	0.56	100%	0%	JCS-001-035
Beryllium	1.52	0.82	*	0.54	50%	0%	JCS-001-035
Calcium	GRAS	3690	NA	NA	100%	NA	JCS-001-035
Chromium	37	16.8	*	0.45	100%	0%	JCS-001-035
Cobalt	17.2	12.6	*	0.73	100%	0%	JCS-001-035
Copper	33.9	17.8	*	0.53	100%	0%	JCS-001-035
Iron	GRAS	17400	NA	NA	100%	NA	JCS-001-035
Lead	400	18.3	*	0.05	100%	0%	JCS-001-035
Magnesium	GRAS	3310	NA	NA	100%	NA	JCS-001-035
Manganese	1083	706	*	0.65	100%	0%	JCS-001-035
Nickel	39.3	19.6	*	0.50	50%	0%	JCS-001-035(J)
Potassium	GRAS	3900	NA	NA	100%	NA	JCS-001-035
Silver	380	2.3	*	0.01	50%	0%	JCS-001-035
Sodium	GRAS	275	NA	NA	100%	NA	JCS-001-035
Vanadium	72.5	38.8	*	0.54	100%	0%	JCS-001-035
Zinc	119.5	90.2	*	0.75	100%	0%	JCS-001-035
VOLATILES (UG/KG)							
Acetone	2000000	48	*	0.00	50%	0%	JCS-001-035(J)

Note: Chemical in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010202

MECOEK 11003

TABLE 4-61
DATA SUMMARY FOR SURFACE WATER SAMPLING AT SILVER CREEK - MARCH 1995
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
EXPLOSIVES (UG/L)							
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NI	0.39	NA	NA	50%	NA	SCW-002-045(J)
METALS (UG/L)							
Aluminum	37000	596	*	0.02	100%	0%	SCW-001-045
Barium	2000	174	*	0.09	100%	0%	SCW-001-045
Calcium	GRAS	79700	NA	NA	100%	NA	SCW-001-045(J)
Iron	GRAS	803	NA	NA	100%	NA	SCW-001-045
Magnesium	GRAS	19700	NA	NA	100%	NA	SCW-002-045
Manganese	180	281	249	1.56	100%	100%	SCW-001-045
Potassium	GRAS	10900	NA	NA	100%	NA	SCW-002-045
Selenium	5	5	*	1.00	50%	0%	SCW-001-045
Sodium	GRAS	40000	NA	NA	100%	NA	SCW-002-045
Vanadium	260	6.8	*	0.03	50%	0%	SCW-002-045
VOLATILES (UG/L)							
Toluene	1000	0.11	*	0.00	50%	0%	SCW-002-045(J)

Note: Chemical in bold, italilcs, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010203

MECOEK 11004

TABLE 4-62
DATA SUMMARY FOR SURFACE WATER SAMPLING AT SILVER CREEK - MAY 1996
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
VOLATILES (UG/L)							
Toluene	1000	0.23	*	0.00	75%	0%	SCW-004-056(J)

Note: Chemical in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010204

MECOEK 11005

TABLE 4-63
DATA SUMMARY FOR SURFACE WATER SAMPLING AT SILVER CREEK - JULY 1996
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
VOLATILES (UG/L)							
Methylene Chloride	5	0.46	*	0.09	25%	0%	SCW-002-076(J)
Toluene	1000	0.16	*	0.00	75%	0%	SCW-003-076(J)

Note: Chemical in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

TABLE 4-64
DATA SUMMARY FOR SEDIMENT SAMPLING AT SILVER CREEK
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
4-Methylphenol	330000	2444	*	0.01	50%	0%	SCS-001-045
Di-n-butylphthalate	6500000	575	*	0.00	50%	0%	SCS-001-045
Pyrene	2000000	107	*	0.00	50%	0%	SCS-002-045(J)
METALS (MG/KG)							
Aluminum	33852	10000	*	0.30	100%	0%	SCS-002-045
Arsenic	13.5	6.9	*	0.51	100%	0%	SCS-002-045
Barium	440	237	*	0.54	100%	0%	SCS-002-045
Calcium	GRAS	6400	NA	NA	100%	NA	SCS-002-045
Chromium	37	12.8	*	0.35	100%	0%	SCS-002-045
Cobalt	17.2	6.5	*	0.38	100%	0%	SCS-002-045
Copper	33.9	14.1	*	0.42	100%	0%	SCS-002-045
Iron	GRAS	14500	NA	NA	100%	NA	SCS-002-045
Lead	400	11.3	*	0.03	100%	0%	SCS-002-045
Magnesium	GRAS	3020	NA	NA	100%	NA	SCS-002-045
Manganese	1083	896	*	0.83	100%	0%	SCS-002-045
Nickel	39.3	16.1	*	0.41	100%	0%	SCS-002-045
Potassium	GRAS	2220	NA	NA	100%	NA	SCS-002-045
Selenium	390	2.2	*	0.01	100%	0%	SCS-001-045
Silver	380	2.3	*	0.01	100%	0%	SCS-002-045
Sodium	GRAS	286	NA	NA	100%	NA	SCS-002-045
Vanadium	72.5	23.2	*	0.32	100%	0%	SCS-002-045
Zinc	119.5	58.5	*	0.49	100%	0%	SCS-002-045
VOLATILES (UG/KG)							
Acetone	2000000	43	*	0.00	50%	0%	SCS-001-045(J)
Toluene	1900000	246	*	0.00	50%	0%	SCS-001-045(J)

Note: Chemical in bold, italilcs, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

TABLE 4-65
DATA SUMMARY FOR SOIL SAMPLING
NEAR THE FORMER ADMINISTRATION AREA UNDERGROUND STORAGE TANKS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
Benzo(b)fluoranthene	610	32	*	0.05	17%	0%	UAA-001-000(J)
Butylbenzylphthalate	13000000	196	*	0.00	17%	0%	UAA-001-004(J)
Di-n-butylphthalate	6500000	3206	*	0.00	67%	0%	UAA-001-004
Fluoranthene	2600000	26	*	0.00	17%	0%	UAA-001-000(J)
Pyrene	2000000	94	*	0.00	17%	0%	UAA-001-000(J)
bis(2-Ethylhexyl)phthalate	32000	42	*	0.00	17%	0%	UAA-001-004(U)
TPH (MG/KG)							
TRPH	10	21	21	2.10	17%	17%	UAA-001-000

Note: Chemical in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010207

MECOEK 11008

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TABLE 4-66
DATA SUMMARY FOR HYDROPUNCH GROUNDWATER SAMPLING
NEAR THE FORMER ADMINISTRATION AREA UNDERGROUND STORAGE TANKS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
BTEX (UG/L)							
Total Xylenes	10000	4.3	*	0.00	100%	0%	UAW-001-045(J)
SEMIVOLATILES (UG/L)							
Di-n-butylphthalate	3700	0.5	*	0.00	100%	0%	UAW-001-045(J)

Note: Chemical in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010208

MECOEK 11009

TABLE 4-67
DATA SUMMARY FOR SOIL SAMPLING
NEAR THE FORMER BOMB BOOSTER ASSEMBLY AREA UNDERGROUND STORAGE TANKS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES	**(UG/KG)**						
Butylbenzylphthalate	13000000	633	*	0.00	17%	0%	UBA-001-004
Di-n-butylphthalate	6500000	4222	*	0.00	50%	0%	UBA-001-004

Note: Chemical in bold, italilcs, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010209

MECOEK 11010

TABLE 4-68
DATA SUMMARY FOR HYDROPUNCH GROUNDWATER SAMPLING NEAR THE FORMER BOMB BOOSTER ASSEMBLY AREA UNDERGROUND STORAGE TANKS FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/L)							
Phenol	4000	1	*	0.00	100%	0%	UBW-001-045(J)
bis(2-Ethylhexyl)phthalate	6	0.9	*	0.15	100%	0%	UBW-001-045(J)

Note: Chemical in bold, italilcs, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010210

MECOEK 11011

TABLE 4-69
DATA SUMMARY FOR SOIL SAMPLING
NEAR THE FORMER ATLAS MISSILE AREA UNDERGROUND STORAGE TANKS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
Butylbenzylphthalate	13000000	1164	*	0.00	8%	0%	UMA-001-038
Di-n-butylphthalate	6500000	3327	*	0.00	23%	0%	UMA-001-038
Pyrene	2000000	50	*	0.00	8%	0%	UMA-002-000(J)
bis(2-Ethylhexyl)phthalate	32000	246	*	0.01	8%	0%	UMA-001-038(J)
TPH (MG/KG)							
TRPH	10	21	21	2.10	8%	8%	UMA-002-000

Note: Chemical in bold, italilcs, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010211

MECOEK 11012

TABLE 4-70
DATA SUMMARY FOR HYDROPUNCH GROUNDWATER SAMPLING NEAR THE FORMER ATLAS MISSILE AREA UNDERGROUND STORAGE TANKS FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
BTEX (UG/L)							
Toluene	1000	2.8	*	0.00	50%	0%	UMW-001-045
SEMIVOLATILES (UG/L)							
Butylbenzylphthalate	7300	0.4	*	0.00	100%	0%	UMW-002-045(J)
Di-n-butylphthalate	3700	0.5	*	0.00	100%	0%	UMW-001-045(J),UMW-002-045(J)
bis(2-Ethylhexyl)phthalate	6	0.7	*	0.12	100%	0%	UMW-002-045(J)

Note: Chemical in bold, italiics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010212

MECOEK 11013

TABLE 4-71
DATA SUMMARY FOR SOIL SAMPLING
NEAR THE FORMER AIR FORCE GLOBAL COMMUNICATIONS CENTER UNDERGROUND STORAGE TANKS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
4-Chloro-3-methylphenol	NI	90	NA	NA	6%	NA	AGR-002-000(J)
Acenaphthene	360000	180	*	0.00	13%	0%	AGR-002-000(J)
Anthracene	19000	180	*	0.01	25%	0%	AGR-002-000(J)
Benzo(a)anthracene	610	1100	1100	1.80	31%	6%	AGR-002-000
Benzo(a)pyrene	61	1100	140	18.03	25%	19%	AGR-002-000
Benzo(b)fluoranthene	610	1600	690	2.62	31%	13%	AGR-002-000
Benzo(g,h,i)perylene	NI	720	NA	NA	25%	NA	AGR-002-000
Benzo(k)fluoranthene	6100	520	*	0.09	31%	0%	AGR-002-000
Butylbenzylphthalate	13000000	16	*	0.00	13%	0%	AGR-001-001RE(J)
Carbazole	22000	230	*	0.01	13%	0%	AGR-002-000(J)
Chrysene	24000	930	*	0.04	31%	0%	AGR-002-000
Dibenzo(a,h)anthracene	61	170	79	2.79	19%	13%	AGR-002-000(J)
Fluoranthene	2600000	2800	*	0.00	31%	0%	AGR-002-000
Fluorene	300000	87	*	0.00	13%	0%	AGR-002-000(J)
Indeno(1,2,3-cd)pyrene	610	650	650	1.07	25%	6%	AGR-002-000
Naphthalene	800000	31	*	0.00	6%	0%	AGR-002-000(J)
Pentachlorophenol	2500	110	*	0.04	13%	0%	AGR-002-000(J)
Phenanthrene	NI	1500	NA	NA	31%	NA	AGR-002-000
Pyrene	2000000	2200	*	0.00	31%	0%	AGR-002-000
TPH (MG/KG)							
TRPH	10	13	13	1.30	6%	6%	AGR-001-000

Note: Chemical in bold, italics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010213

MECOEK 11014

TABLE 4-72
DATA SUMMARY FOR HYDROPUNCH GROUNDWATER SAMPLING
NEAR THE FORMER AIR FORCE GLOBAL COMMUNICATIONS CENTER UNDERGROUND STORAGE TANKS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES	(UG/L)						
Butylbenzylphthalate	7300	4	*	0.00	50%	0%	AGR-001-056(J)
Diethylphthalate	5000	1	*	0.00	50%	0%	AGR-001-056(J)
Pentachlorophenol	1	0.3	*	0.30	50%	0%	AGR-001-056(J)

Note: Chemical in bold, italilcs, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

COE 010214

MECOEK 11015

TABLE 4-73
DATA SUMMARY FOR SOIL SAMPLING AT THE GEOPHYSICAL ANOMALY AT LOAD LINE 3
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

Chemical	Screening Level	Max Conc	Min >SL	Max Conc/SL	% Samples w/ reportable Conc	% Samples w/ Conc > SL	Max Conc Sample ID & Qualifier
SEMIVOLATILES (UG/KG)							
2-Methylphenol	3300000	69	*	0.00	8%	0%	GAA-001-019(J)
4-Methylphenol	330000	101	*	0.00	8%	0%	GAA-001-019(J)
Benzo(a)anthracene	610	69	*	0.11	8%	0%	GAA-002-002(J)
Benzo(b)fluoranthene	610	140	*	0.23	17%	0%	GAA-002-002(J)
Benzo(k)fluoranthene	6100	148	*	0.02	17%	0%	GAA-002-002(J)
Chrysene	24000	76	*	0.00	8%	0%	GAA-002-002(J)
Di-n-butylphthalate	6500000	2666	*	0.00	17%	0%	GAA-001-009
Fluoranthene	2600000	56	*	0.00	8%	0%	GAA-002-002(J)
Phenol	39000000	86	*	0.00	8%	0%	GAA-001-019(J)
Pyrene	2000000	134	*	0.00	17%	0%	GAA-001-002(J)
bis(2-Ethylhexyl)phthalate	32000	1691	*	0.05	17%	0%	GAA-002-002
EXPLOSIVES (MG/KG)							
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.062	*	0.00	75%	0%	GAA-001-009(J)
METALS (MG/KG)							
Aluminum	33852	19100	*	0.56	100%	0%	GAA-001-000
Arsenic	13.5	9	*	0.67	82%	0%	GAA-001-004
Barium	440	343	*	0.78	100%	0%	GAA-001-002
Beryllium	1.52	0.79	*	0.52	100%	0%	GAA-001-000,GAA-002-001
Cadmium	39	0.61	*	0.02	82%	0%	GAA-001-004(J)
Calcium	GRAS	10100	NA	NA	100%	NA	GAA-001-009
Chromium	37	20.9	*	0.56	100%	0%	GAA-001-000
Cobalt	17.2	10.3	*	0.60	100%	0%	GAA-001-002,GAA-001-004
Copper	33.9	20.7	*	0.61	100%	0%	GAA-001-004
Iron	GRAS	20400	NA	NA	100%	NA	GAA-002-001
Lead	400	15.8	*	0.04	100%	0%	GAA-002-001,GAA-002-004
Magnesium	GRAS	6560	NA	NA	100%	NA	GAA-001-009
Manganese	1083	724	*	0.67	100%	0%	GAA-001-004(J)
Nickel	39.3	25.8	*	0.66	100%	0%	GAA-001-004
Potassium	GRAS	3190	NA	NA	100%	NA	GAA-001-000(J)
Selenium	390	2.1	*	0.01	45%	0%	GAA-001-002(J)
Sodium	GRAS	705	NA	NA	36%	NA	GAA-001-004
Vanadium	72.5	45.5	*	0.63	100%	0%	GAA-001-000
Zinc	119.5	72.1	*	0.60	100%	0%	GAA-002-004

Note: Chemical in bold, italiics, and underlined are detected above the respective screening levels.
GRAS = Generally recognized as safe
NI = Screening level not Identified
* = All detections were below the screening level
SL = Screening Level

TABLE 6-1

OU3 RI SUMMARY OF ANALYTICAL DETECTIONS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

MATRIX	ANALYTES	OU3 INVESTIGATION AREA																											
		Load Lines			Potential Waste Disposal/Landfill Areas						Burning/ Proving/Demolition Grounds				Storage/ Process Areas			Surface Water Bodies			Underground Storage Tanks						Other Investigation Areas		
		Bomb Production Buildings (Adjacent Samples)	Bomb Production Buildings (Beneath Samples)	Paint Operation Areas	Potential WDA N. of Former Nike Maintenance Area	Potential WDA Southeast of Former Bomb Booster Assembly Area	Potential WDAs at the Former Atlas Missile Area	Potential WDA N. of the Former Ammonium Nitrate Plant	Former NOP Landfill Area	Potential Landfill North of Proving Grounds	North Burning Ground	South Burning Ground	Proving Ground	Demolition Ground	Former Raw Products Igloo Storage Areas	Former Tetryl Pelleting Area	Former Ammonium Nitrate Plant	Johnson Creek	Clear Creek	Silver Creek	Former Administration Area	Former Bomb Booster Assembly Area	Former Atlas Missile Area (UM-001)	Former Atlas Missile Area (UM-002)	Former Air Force Communications Center (AGR-001)	Former Air Force Communications Center (AGR-002)	Detonation Craters	Bermed Area Southwest of Load Line 1	Geophysical Anomaly at Load Line 3
Soil	Explosives	●	●		+	+	+	+		+		●		+	+	+											●	+	+
	Metals	●	●	●	+	+	●	+		●	●	+	●	+	●	●											●	+	+
	VOC				+	+	○	○		○	+	+	+	+													○	○	○
	SVOC				+	+	+	+		+	+	●	+	+							+	+	+	+	+	+	+	+	+
	PCB					+																							
	BTEX																				○	○	○	○	○	○			
	TRPH																				●	○	○	●	●	○			
Sediment	Explosives																	○	○	○									
	Metals																	+	+	+									
	VOC																	+	+	+									
	SVOC																	○	○	+									
Groundwater	Explosives				+	○	○						○	+															
	VOC				+	+	●						+	+															
	SVOC				○	○	+						+	○							+	+	○	+	+	○			
	BTEX																				+	○	+	○	○	○			
	TRPH																				○	○	○	○	○	○			
	Total Metals			●	●	+	●						+	+			+												
	Dissolved Metals			●	+	+	●						+	+			+												
	Thiodiglycol								○																				
	Nitrates + Nitrites																●												
	Total Nitrates																●												
Surface Water	Explosives																	+	+	+									
	Metals																	●	●	●									
	VOC																	●	+	+									
	SVOC																	○	○	○									

Notes:

○ No results above detection

● Result(s) above screening level

+ Result(s) above detection but below screening level

Blank cells indicate no analysis was performed for a particular analyte

COE 010216

MECOEK 11017

B07NE003703-04455

TABLE 6-2

OU3 RI SUMMARY OF EXPLOSIVES AND METALS IN SOILS ABOVE SCREENING LEVELS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

ANALYTES	PARAMETERS	OU3 INVESTIGATION AREA																							
		Load Lines			Potential Waste Disposal/Landfill Areas						Burning/ Proving/Demolition Grounds				Storage/ Process Areas			Underground Storage Tanks						Other Investigation Areas		
		Bomb Production Buildings (Adjacent Samples)	Bomb Production Buildings (Beneath Samples)	Paint Operation Areas	Potential WDA N of Former Nike Maintenance Area	Potential WDA Southeast of Former Bomb Booster Assembly Area	Potential WDAs at the Former Atlas Missile Area	Potential WDA N of the Former Ammonium Nitrate Plant	Former NOP Landfill Area	Potential Landfill North of Proving Grounds	North Burning Ground	South Burning Ground	Proving Ground	Demolition Ground	Former Raw Products Igloo Storage Areas	Former Tetryl Pelleting Area	Former Ammonium Nitrate Plant	Former Administration Area	Former Bomb Booster Assembly Area	Former Atlas Missile Area (UM-001)	Former Atlas Missile Area (UM-002)	Former Air Force Communications Center (AGR-001)	Former Air Force Communications Center (AGR-002)	Detonation Craters	Bermed Area Southwest of Load Line 1	Geophysical Anomaly at Load Line 3
Explosives	TNT	●	○	na							na	na	na					na	na	na	na	na	na			
	RDX	●	○	na							na	na	na					na	na	na	na	na	na			
	TNB	○	○	na							na	na	na					na	na	na	na	na	na			
	2,4 DNT	○	○	na							na	○	na					na	na	na	na	na	na			
	2,6 DNT	○		na							na	○	na					na	na	na	na	na	na			
Metals	Al	○									na	na	na					na	na	na	na	na	na			
	An			○						○	○															
	Ar	○		○																						
	Ba	○		○												●										
	Br	○									○															
	Cd	○		○																						
	Cr	○		●						●																
	Co	○		○						○	○															
	Cu	●	○	●						○	●				●	●										
	Pb	○		○						○																
	Mn	○					○			○																
	Ni	○		○							○				●											
	Th	○		○							○															
	Va	○																								
	Zn	●		●						●					●	●										

Notes:

○ = Result detected above screening level at < 5% frequency

● = Result detected above screening level at > 5% frequency

na = Parameter not included in laboratory analysis

Blank cells indicates parameter was not detected or detected below the screening level

W:\K9623\DFRI\TABLES XLS-t6-2soil 4/28/97 10 28 AM

COE 010217

MECOEK 11018

B07NE003703-04456

TABLE 6-3

OU3 RI SUMMARY OF GROUNDWATER RESULTS ABOVE SCREENING LEVELS
FORMER NEBRASKA ORDNANCE PLANT, MEAD, NEBRASKA

ANALYTES	PARAMETERS	Former NOP Background Wells			OU3 INVESTIGATION AREA											
					Load Line Paint Operation Areas								Potential WDAs at Former Atlas Missile Area		Potential WDAs N. of Former Nike Maintenance Area	Former Ammonium Nitrate Plant
		MW-19A, B & C	MW-47A & B	MW-48A, B & D	MW-3A&B	MW-4A&B	MW-6A&B	MW-8A&B	MW-12A	MW-13A	MW-14A	MW-15A	MW58A & B	MW-59A, B & D	MW-22A & B	MW-63B
Dissolved Metals	Mn	●	●	●									●	●		
	Th			●	●	●	●	●								
Total Metals	Mn	●	●	●								●	●	●	●	
Water Quality	Nitrite			●	na	na	na	na	na	na	na	na	na	na	na	●
	Nitrate			●	na	na	na	na	na	na	na	na	na	na	na	●

Notes:

● = Result above screening level

na = Parameter not included in laboratory analysis

Blank cells indicates parameter was either not detected or detected below the screening level

COE 010218

MECOEK 11019

VOLUME II
DRAFT FINAL REPORT

REMEDIAL INVESTIGATION REPORT
OPERABLE UNIT NO. 3
FORMER NEBRASKA ORDNANCE PLANT
MEAD, NEBRASKA
CONTRACT NO. DACA41-96-C-8011

Prepared for
Department of the Army
U.S. Army Engineer District
Kansas City District
Corps of Engineers
Kansas City, Missouri

May 1997

Woodward-Clyde

Woodward-Clyde Federal Services
10975 El Monte, Suite 100
Overland Park, Kansas 66211

Project K9623

DRAWING LIST

DRAWING 1-1 DRAWING LIST
DRAWING 1-2 LEGEND/NOTES SHEET FOR DRAWINGS
DRAWING 1-3 OPERABLE UNIT 3 INVESTIGATION AREAS
DRAWING 2-1 BOMB PRODUCTION BUILDINGS AT LOAD LINE 1
DRAWING 2-2 LOAD LINE 1 NOSE POUR BUILDING SAMPLING LOCATIONS
DRAWING 2-3 LOAD LINE 1 AMATOL MELT BUILDING SAMPLING LOCATIONS
DRAWING 2-4 LOAD LINE 1 2ND FLOOR AMATOL MELT BUILDING SAMPLING LOCATIONS
DRAWING 2-5 LOAD LINE 1 3RD FLOOR AMATOL MELT BUILDING SAMPLING LOCATIONS
DRAWING 2-6 LOAD LINE 1 AMATOL SCREENING BUILDING SAMPLING LOCATIONS
DRAWING 2-7 LOAD LINE 1 2ND FLOOR AMATOL SCREENING BUILDING SAMPLING LOCATIONS
DRAWING 2-8 LOAD LINE 1 AMMONIUM NITRATE SERVICE BUILDING SAMPLING LOCATIONS
DRAWING 2-9 LOAD LINE 1 NORTH TNT SERVICE BUILDING SAMPLING LOCATIONS
DRAWING 2-10 LOAD LINE 1 WEST COOLING BUILDING SAMPLING LOCATIONS
DRAWING 2-11 LOAD LINE 1 EAST COOLING BUILDING SAMPLING LOCATIONS
DRAWING 2-12 LOAD LINE 1 TNT POURING BUILDING SAMPLING LOCATIONS
DRAWING 2-13 LOAD LINE 1 TNT SCREENING BUILDING SAMPLING LOCATIONS
DRAWING 2-14 LOAD LINE 1 SOUTH TNT SERVICE BUILDING SAMPLING LOCATIONS
DRAWING 2-15 BOMB PRODUCTION BUILDINGS AT LOAD LINE 2
DRAWING 2-16 LOAD LINE 2 NOSE POUR BUILDING SAMPLING LOCATIONS
DRAWING 2-17 LOAD LINE 2 AMATOL MELT BUILDING SAMPLING LOCATIONS
DRAWING 2-18 LOAD LINE 2 2ND FLOOR AMATOL MELT BUILDING SAMPLING LOCATIONS
DRAWING 2-19 LOAD LINE 2 3RD FLOOR AMATOL MELT BUILDING SAMPLING LOCATIONS
DRAWING 2-20 LOAD LINE 2 AMATOL SCREENING BUILDING SAMPLING LOCATIONS
DRAWING 2-21 LOAD LINE 2 2ND FLOOR AMATOL SCREENING BUILDING SAMPLING LOCATIONS
DRAWING 2-22 LOAD LINE 2 AMMONIUM NITRATE SERVICE BUILDING SAMPLING LOCATIONS
DRAWING 2-23 LOAD LINE 2 NORTH TNT SERVICE BUILDING SAMPLING LOCATIONS
DRAWING 2-24 LOAD LINE 2 WEST COOLING BUILDING SAMPLING LOCATIONS
DRAWING 2-25 LOAD LINE 2 EAST COOLING BUILDING SAMPLING LOCATIONS
DRAWING 2-26 LOAD LINE 2 TNT POURING BUILDING SAMPLING LOCATIONS
DRAWING 2-27 LOAD LINE 2 TNT SCREENING BUILDING SAMPLING LOCATIONS
DRAWING 2-28 LOAD LINE 2 SOUTH TNT SERVICE BUILDING SAMPLING LOCATIONS
DRAWING 2-29 BOMB PRODUCTION BUILDINGS AT LOAD LINE 3
DRAWING 2-30 LOAD LINE 3 NOSE POUR BUILDING SAMPLING LOCATIONS
DRAWING 2-31 LOAD LINE 3 AMATOL MELT BUILDING SAMPLING LOCATIONS
DRAWING 2-32 LOAD LINE 3 2ND FLOOR AMATOL MELT BUILDING SAMPLING LOCATIONS
DRAWING 2-33 LOAD LINE 3 3RD FLOOR AMATOL MELT BUILDING SAMPLING LOCATIONS
DRAWING 2-34 LOAD LINE 3 AMATOL SCREENING BUILDING SAMPLING LOCATIONS
DRAWING 2-35 LOAD LINE 3 2ND FLOOR AMATOL SCREENING BUILDING SAMPLING LOCATIONS
DRAWING 2-36 LOAD LINE 3 AMMONIUM NITRATE SERVICE BUILDING SAMPLING LOCATIONS
DRAWING 2-37 LOAD LINE 3 NORTH TNT SERVICE BUILDING SAMPLING LOCATIONS
DRAWING 2-38 LOAD LINE 3 WEST COOLING BUILDING SAMPLING LOCATIONS
DRAWING 2-39 LOAD LINE 3 EAST COOLING BUILDING SAMPLING LOCATIONS
DRAWING 2-40 LOAD LINE 3 TNT POURING BUILDING SAMPLING LOCATIONS
DRAWING 2-41 LOAD LINE 3 TNT SCREENING BUILDING SAMPLING LOCATIONS
DRAWING 2-42 LOAD LINE 3 SOUTH TNT SERVICE BUILDING SAMPLING LOCATIONS
DRAWING 2-43 BOMB PRODUCTION BUILDINGS AT LOAD LINE 4
DRAWING 2-44 LOAD LINE 4 NOSE POUR BUILDING SAMPLING LOCATIONS
DRAWING 2-45 LOAD LINE 4 AMATOL MELT BUILDING SAMPLING LOCATIONS
DRAWING 2-46 LOAD LINE 4 2ND FLOOR AMATOL MELT BUILDING SAMPLING LOCATIONS
DRAWING 2-47 LOAD LINE 4 3RD FLOOR AMATOL MELT BUILDING SAMPLING LOCATIONS
DRAWING 2-48 LOAD LINE 4 AMATOL SCREENING BUILDING SAMPLING LOCATIONS
DRAWING 2-49 LOAD LINE 4 2ND FLOOR AMATOL SCREENING BUILDING SAMPLING LOCATIONS
DRAWING 2-50 LOAD LINE 4 AMMONIUM NITRATE SERVICE BUILDING SAMPLING LOCATIONS
DRAWING 2-51 LOAD LINE 4 NORTH TNT SERVICE BUILDING SAMPLING LOCATIONS
DRAWING 2-52 LOAD LINE 4 WEST COOLING BUILDING SAMPLING LOCATIONS
DRAWING 2-53 LOAD LINE 4 EAST COOLING BUILDING SAMPLING LOCATIONS
DRAWING 2-54 LOAD LINE 4 TNT POURING BUILDING SAMPLING LOCATIONS
DRAWING 2-55 LOAD LINE 4 TNT SCREENING BUILDING SAMPLING LOCATIONS
DRAWING 2-56 LOAD LINE 4 SOUTH TNT SERVICE BUILDING SAMPLING LOCATIONS
DRAWING 2-57 PAINT OPERATIONS AREAS AT LOAD LINE 1
DRAWING 2-58 LOAD LINE 1 RECEIVING AND PAINTING BUILDING/NORTH PAINT STORAGE AND MIXING BUILDING SAMPLING LOCATIONS
DRAWING 2-59 LOAD LINE 1 SOUTH PAINT STORAGE BUILDING SAMPLING LOCATIONS
DRAWING 2-60 PAINT OPERATIONS AREAS AT LOAD LINE 2
DRAWING 2-61 LOAD LINE 2 RECEIVING AND PAINTING BUILDING/NORTH PAINT STORAGE AND MIXING BUILDING SAMPLING LOCATIONS
DRAWING 2-62 LOAD LINE 2 SOUTH PAINT STORAGE BUILDING SAMPLING LOCATIONS
DRAWING 2-63 PAINT OPERATIONS AREAS AT LOAD LINE 3
DRAWING 2-64 LOAD LINE 3 RECEIVING AND PAINTING BUILDING/NORTH PAINT STORAGE AND MIXING BUILDING SAMPLING LOCATIONS
DRAWING 2-65 LOAD LINE 3 SOUTH PAINT STORAGE BUILDING SAMPLING LOCATIONS
DRAWING 2-66 PAINT OPERATIONS AREAS AT LOAD LINE 4
DRAWING 2-67 LOAD LINE 4 RECEIVING AND PAINTING BUILDING/NORTH PAINT STORAGE AND MIXING BUILDING SAMPLING LOCATIONS
DRAWING 2-68 LOAD LINE 4 SOUTH PAINT STORAGE BUILDING SAMPLING LOCATIONS
DRAWING 2-69 GROUNDWATER MONITORING WELLS SAMPLED TO SUPPORT OU3 RI
DRAWING 2-70 IGLOO STORAGE AREA NORTH OF LOAD LINE 2 SAMPLING LOCATIONS AND RESULTS ABOVE FIELD LAB INSTRUMENT DETECTION LIMITS
DRAWING 2-71 IGLOO STORAGE AREA NORTH OF LOAD LINE 3 SAMPLING LOCATIONS AND RESULTS ABOVE FIELD LAB INSTRUMENT DETECTION LIMITS
DRAWING 2-72 IGLOO STORAGE AREA NORTH OF LOAD LINE 2 ADDITIONAL SAPLING LOCATIONS AND RESULTS ABOVE FIELD LAB INSTRUMENT DETECTION LIMITS
DRAWING 2-73 IGLOO STORAGE AREA NORTH OF LOAD LINE 3 ADDITIONAL SAMPLING LOCATIONS AND RESULTS ABOVE FIELD LAB INSTRUMENT DETECTION LIMITS
DRAWING 2-74 FORMER TETRYL PELLETING AREA SAMPLING LOCATIONS
DRAWING 2-75 NORTH BURNING GROUND SAMPLING LOCATIONS
DRAWING 2-76 SOUTH BURNING GROUND SAMPLING LOCATIONS
DRAWING 2-77 PROVING GROUNDS SAMPLING LOCATIONS
DRAWING 2-78 POTENTIAL LANDFILL AREA NORTH OF THE PROVING GROUNDS SAMPLING LOCATIONS
DRAWING 2-79 FORMER NOP LANDFILL AREA GROUNDWATER MONITORING WELLS SAMPLED TO SUPPORT OU3 RI
DRAWING 2-80 POTENTIAL WASTE DISPOSAL AREAS NORTH OF THE FORMER NIKE MAINTENANCE AREA SAMPLING LOCATIONS
DRAWING 2-81 POTENTIAL WASTE DISPOSAL AREA SOUTHEAST OF THE FORMER BOMB BOOSTER ASSEMBLY AREA SAMPLING LOCATIONS
DRAWING 2-82 SOUTHWEST POTENTIAL WASTE DISPOSAL AREA AT THE FORMER ATLAS MISSILE AREA SAMPLING LOCATIONS
DRAWING 2-83 NORTHEAST POTENTIAL WASTE DISPOSAL AREA AT THE FORMER ATLAS MISSILE AREA SAMPLING LOCATIONS
DRAWING 2-84 POTENTIAL WASTE DISPOSAL AREA NORTH OF THE FORMER AMMONIUM NITRATE PLANT SAMPLING LOCATIONS
DRAWING 2-85 DEMOLITION GROUND SAMPLING LOCATIONS
DRAWING 2-86 DETONATION CRATERS SAMPLING LOCATIONS
DRAWING 2-87 BERMED AREA SOUTHWEST OF LOAD LINE 1 SAMPLING LOCATIONS
DRAWING 2-88 JOHNSON, CLEAR AND SILVER CREEKS SAMPLING STATIONS
DRAWING 2-89 JOHNSON AND SILVER CREEKS HABITAT ASSESSMENT LOCATIONS
DRAWING 2-90 FORMER ADMINSTRATION AREA USTs SAMPLING LOCATION
DRAWING 2-91 FORMER BOMB BOOSTER ASSEMBLY PLANT AREA USTs SAMPLING LOCATION
DRAWING 2-92 FORMER ATLAS MISSILE AREA LAUNCH OPERATIONS BUILDING UST SAMPLING LOCATION
DRAWING 2-93 FORMER ATLAS MISSILE AREA GATE HOUSE UST SAMPLING LOCATION
DRAWING 2-94 FORMER AIR FORCE GLOBAL COMMUNICATIONS CENTER USTs SAMPLING LOCATIONS
DRAWING 2-95 GEOPHYSICAL ANOMALY AT LOAD LINE 3 SAMPLING LOCATIONS
DRAWING 2-96 SITE-WIDE CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS
DRAWING 2-97 LOAD LINE 1 CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS
DRAWING 2-98 LOAD LINE 2 CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS
DRAWING 2-99 LOAD LINE 3 CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS
DRAWING 2-100 LOAD LINE 4 CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS
DRAWING 2-101 FORMER BOMB BOOSTER ASSEMBLY PLANT AREA CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS
DRAWING 2-102 FORMER ADMINISTRATION AREA CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS
DRAWING 2-103 FORMER ATLAS MISSILE AREA CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS
DRAWING 2-104 FORMER AMMONIUM NITRATE PLANT CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS
DRAWING 2-105 FORMER NOP SEWAGE TREATMENT PLANT CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS
DRAWING 3-1 PHYSIOGRAPHIC SETTING
DRAWING 3-2 REGIONAL SURFACE DRAINAGE
DRAWING 3-3 SITE SURFACE DRAINAGE
DRAWING 3-4 GENERALIZED GEOLOGIC COLUMN
DRAWING 3-5 GROUNDWATER FLOW MAP
DRAWING 4-1 LOAD LINE 1 NOSE POUR BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-2 LOAD LINE 1 AMATOL MELT BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-3 LOAD LINE 1 AMATOL SCREENING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-4 LOAD LINE 1 AMMONIUM NITRATE SERVICE BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-5 LOAD LINE 1 NORTH TNT SERVICE BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-6 LOAD LINE 1 WEST COOLING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-7 LOAD LINE 1 EAST COOLING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-8 LOAD LINE 1 TNT POURING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-9 LOAD LINE 1 TNT SCREENING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-10 LOAD LINE 2 NOSE POUR BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-11 LOAD LINE 2 AMATOL MELT BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-12 LOAD LINE 2 AMATOL SCREENING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-13 LOAD LINE 2 AMMONIUM NITRATE SERVICE BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-14 LOAD LINE 2 NORTH TNT SERVICE BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

DRAWING LIST

Designed by:	S.J.F.
Drawn by:	R.A.D.
Checked by:	B.C.O.
Submitted by:	RAN
Scale:	NONE
Date:	MAY, 1997
Dwg. No.:	1-1
Sheet number:	1 of 2

29 APR 97 10:10:57
MCS FILE:j:\mead\ou3dwgs.dgn

DRAWING LIST

DRAWING 4-15 LOAD LINE 2 WEST COOLING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-16 LOAD LINE 2 EAST COOLING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-17 LOAD LINE 2 TNT POURING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-18 LOAD LINE 2 SOUTH TNT SERVICE BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-19 LOAD LINE 3 NOSE POUR BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-20 LOAD LINE 3 AMATOL MELT BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-21 LOAD LINE 3 AMATOL SCREENING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-22 LOAD LINE 3 AMMONIUM NITRATE SERVICE BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-23 LOAD LINE 3 NORTH TNT SERVICE BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-24 LOAD LINE 3 WEST COOLING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-25 LOAD LINE 3 EAST COOLING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-26 LOAD LINE 3 TNT POURING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-27 LOAD LINE 3 SOUTH TNT SERVICE BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-28 LOAD LINE 4 NOSE POUR BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-29 LOAD LINE 4 AMATOL MELT BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-30 LOAD LINE 4 AMATOL SCREENING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-31 LOAD LINE 4 AMMONIUM NITRATE SERVICE BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-32 LOAD LINE 4 NORTH TNT SERVICE BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-33 LOAD LINE 4 WEST COOLING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-34 LOAD LINE 4 EAST COOLING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-35 LOAD LINE 4 TNT POURING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-36 LOAD LINE 4 TNT SCREENING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-37 LOAD LINE 1 RECEIVING AND PAINTING BUILDING/NORTH PAINT STORAGE AND MIXING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-38 LOAD LINE 1 SOUTH PAINT STORAGE BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-39 LOAD LINE 2 RECEIVING AND PAINTING BUILDING/NORTH PAINT STORAGE AND MIXING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-40 LOAD LINE 3 RECEIVING AND PAINTING BUILDING/NORTH PAINT STORAGE AND MIXING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-41 LOAD LINE 3 SOUTH PAINT STORAGE BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-42 LOAD LINE 4 RECEIVING AND PAINTING BUILDING/NORTH PAINT STORAGE AND MIXING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-43 LOAD LINE 4 SOUTH PAINT STORAGE BUILDING SAMPLING LOCTIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-44 FORMER TETRYL PELLETING AREA SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-45 NORTH BURNING GROUND SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-46 SOUTH BURNING GROUND SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-47 PROVING GROUNDS SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-48 POTENTIAL LANDFILL AREA NORTH OF THE PROVING GROUNDS SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-49 SOUTHWEST POTENTIAL WASTE DISPOSAL AREA AT FORMER ATLAS MISSILE AREA SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-50 DETONATION CRATERS SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-51 JOHNSON, CLEAR AND SILVER CREEKS SAMPLING STATONS AND SURFACE WATER SAMPLING RESULTS
DRAWING 4-52 JOHNSON, CLEAR AND SILVER CREEKS SAMPLING STATIONS AND SEDIMENT SAMPLING RESULTS
DRAWING 4-53 FORMER ADMINISTRATION AREA UST SAMPLING LOCATION AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-54 FORMER ATLAS MISSILE AREA LAUNCH OPERATIONS BUILDING UST SAMPLING LOCATION AND RESULTS ABOVE SOIL SCREENING LEVELS
DRAWING 4-55 FORMER AIR FORCE GLOBAL COMMUNICATIONS CENTER USTs SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

29 APR 97 10:11:49
MCS FILE: j:\mead\ou3dwgs2.dgn

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

DRAWING LIST

Scale: NONE
Date: MAY, 1997
Dwg. No.: 1–1
Sheet number: 2 of 2

LEGEND

- ARMY CONSTRUCTED BUILDINGS
- ARMY BUILDINGS DEMOLISHED (FOUNDATION REMAINING)
- OU1/OU2 SOIL EXCAVATION AREA
- PAVED ROAD
- UNPAVED ROAD
- FENCE
- DOOR OR BAY DOOR
- DOUBLE DOOR
- BUCKET TRAP SUMP
- DITCH WITH ARROW INDICATING FLOW DIRECTION
- CULVERT
- DECIDUOUS
- TREELINE
- SILO/BIN
- TANK
- POWER POLE
- 1150 INDEX CONTOUR
- INTERMEDIATE CONTOUR

OU3 RI SAMPLE TYPES

● B2A-001	ADJACENT SOIL SAMPLE LOCATION
■ B2B-001	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-005/B2W-006	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳WALL, ✕ FLOOR) B2W-001	SURFACE WIPE SAMPLE LOCATION
● NG-001	SHALLOW SOIL SAMPLE LOCATION
⊙ UB-001	DEEP SOIL SAMPLE LOCATION
◑ BKG-001	BACKGROUND SOIL SAMPLE LOCATION
⊕ MW-10	GROUNDWATER MONITORING WELL LOCATION
▲ SC-001	SURFACE WATER AND SEDIMENT SAMPLE LOCATION

CHEMICAL ABBREVIATIONS

1.3.5-TNB = 1.3.5-TRINITROBENZENE
2.4-DNT = 2.4-DINITROTOLUENE
2.6-DNT = 2.6-DINITROTOLUENE
2.4.6-TNT = 2.4.6-TRINITROTOLUENE
4-AM-DNT = 4-AMINO-2.6-DINITROTOLUENE
HMX = OCTAHYDRO-1.3.5.7-TETRANITRO-1.3.5.7-TETRAZINE
RDX = HEXAHYDRO-1.3.5-TRINITRO-1.3.5-TRIAZINE
TCE = TRICHLOROETHYLENE
TRPH = TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
Ag = SILVER
Al = ALUMINUM
As = ARSENIC
Ba = BARIUM
Ca = CALCIUM
Cd = CADMIUM
Co = COBALT
Cr = CHROMIUM
Cu = COPPER
Fe = IRON
Hg = MERCURY
K = POTASSIUM
Mg = MAGNESIUM
Mn = MANGANESE
Na = SODIUM
Ni = NICKEL
Pb = LEAD
Sb = ANTIMONY
Se = SELENIUM
V = VANADIUM
Zn = ZINC

OU3 RI ANALYTICAL RESULTS

SAMPLE ID	B1A-036	DEPTH	
		0-0.5'	1-2'
COMPOUND	2.4.6-TNT	24	BSL
	Se	2.3J	BSL

DEPTH INTERVAL

CONCENTRATION

BSL = BELOW SCREENING LEVEL

UNITS OF CONCENTRATION IN SOIL:

EXPLOSIVES, METALS, TPH — mg/kg

SEMIVOLATILES, VOLATILES, PCBs — µg/kg

UNITS OF CONCENTRATION IN WATER:

EXPLOSIVES, METALS, SEMIVOLATILES, VOLATILES, BTEX — µg/L

PREVIOUS INVESTIGATION SAMPLE TYPES

- DH3 — PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)-USACE/CEMRK, 1989
- D2A — PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991) -USACE/CEMRK, 1991
- HB18 — PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992) DONAHUE, 1992a
- NS-4 — PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (FINAL ENGINEERING REPORT 1991) -TCT, 1991
- ⊗ BB01 — PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)-RUST, 1995
- △ — PREVIOUS INVESTIGATION SURFACE WATER AND SEDIMENT SAMPLING LOCATION (CONFIRMATION STUDY 1989)-USACE/CEMRK, 1989
- ◬ — PREVIOUS INVESTIGATION SURFACE WATER AND SEDIMENT SAMPLING LOCATION (OU1 RI 1991)-USACE/CEMRK, 1991
- ◭ — PREVIOUS INVESTIGATION SEDIMENT SAMPLING LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)-DONAHUE, 1992

OU3 RI GENERAL NOTES:

1. A SIX-DIGIT SAMPLE IDENTIFICATION NUMBER (i.e. B1A-001) WAS USED. THE FIRST TWO CHARACTERS IDENTIFIED THE INVESTIGATION AREA FROM WHERE THE SAMPLES WERE COLLECTED (i.e. "B1" FOR BOMB PRODUCTION BUILDINGS AT LOAD LINE 1). THE THIRD CHARACTER IDENTIFIED THE SAMPLE DESCRIPTION (i.e. "A" FOR ADJACENT, "B" FOR BENEATH). THE NEXT THREE NUMERICAL CHARACTERS IDENTIFIED THE SAMPLE LOCATION.
2. AT EACH SHALLOW SOIL SAMPLE LOCATION, DISCRETE SAMPLES WERE COLLECTED AT THE FOLLOWING INTERVALS: 0-0.5 FT AND 1-2 FT BELOW GROUND SURFACE (BGS) EXCEPT IN PLOWED FIELDS WHERE A SAMPLE WAS ALSO COLLECTED FROM 2-3 FT BGS AT ALL SAMPLE LOCATIONS.
3. AT EACH DEEP SOIL SAMPLE LOCATION, DISCRETE SAMPLES WERE COLLECTED AT THE FOLLOWING INTERVALS: 0-6 IN, 1-2 FT, 4-5 FT, 9-10 FT, AND 19-20 FT BGS EXCEPT IN PLOWED FIELDS WHERE A SAMPLE WAS ALSO COLLECTED FROM 2-3 FT BGS AT ALL SAMPLE LOCATIONS.
4. DRAWINGS ARE IN 1983 NEBRASKA STATE PLANE COORDINATES AND VERTICAL DATUM NGVD 1929.
5. EXPLANATION OF THE QUALIFIERS USED IN REPORTING CONCENTRATIONS OF DETECTED COMPOUNDS IS INCLUDED IN THE BEGINNING OF THE TABLE SECTION OF VOLUME I OF THE RI REPORT.

OU3 RI LOAD LINE SPECIFIC NOTES:

1. AT EACH ADJACENT SOIL SAMPLE LOCATION, DISCRETE SAMPLES WERE COLLECTED AT THE FOLLOWING INTERVALS: 0-0.5 FT. AND 1-2 FT. BGS.
2. EACH SOIL SAMPLE COLLECTED BENEATH THE CONCRETE FLOORS OF LOAD LINE BUILDINGS (BENEATH SOIL SAMPLES) CONSISTED OF THE UPPERMOST ONE FOOT OF SOIL IMMEDIATELY BELOW THE FLOORING OR FILL/BASE MATERIAL (IF PRESENT).
3. WALL WIPE SAMPLES WERE COLLECTED APPROXIMATELY 5 FEET ABOVE THE FLOOR. FLOOR WIPE SAMPLES WERE IN TWO LOCATIONS, THE APPROXIMATE CENTER-POINT OF BUILDING AND A DISCRETIONARY LOCATION DETERMINED IN THE FIELD.
4. FOR ALL LOAD LINE BOMB PRODUCTION BUILDINGS: SOIL SAMPLES WERE ANALYZED FOR EXPLOSIVES AND METALS; SURFACE WIPE SAMPLES WERE ANALYZED FOR EXPLOSIVES.
5. FOR ALL LOAD LINE PAINT OPERATIONS BUILDINGS: SOIL SAMPLES WERE ANALYZED FOR METALS.

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LEGEND/NOTES SHEET FOR DRAWINGS

Scale: NONE
Date: MAY, 1997
Dwg. No.: 1-2
Sheet number:

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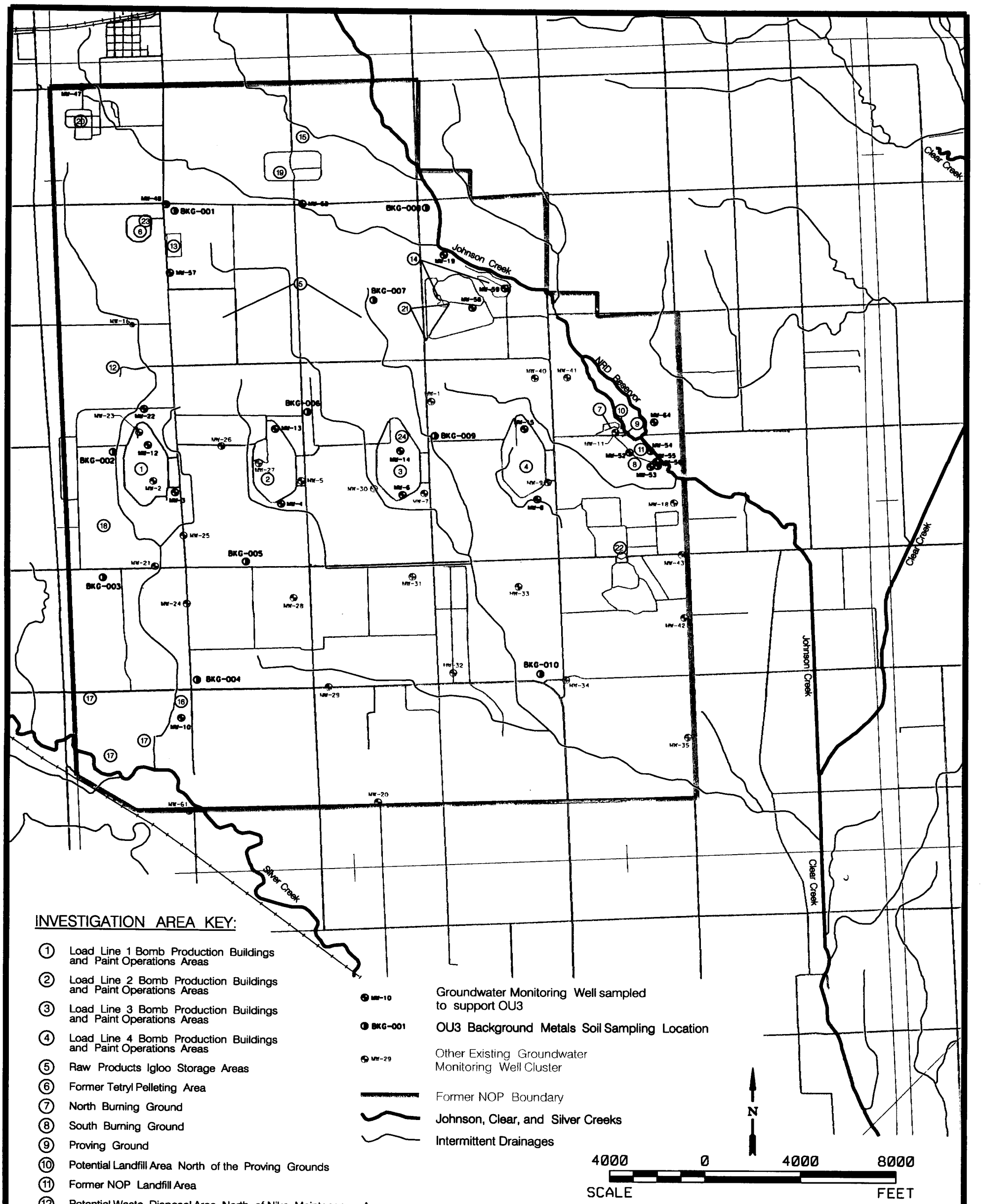

INVESTIGATION AREA KEY:

1. Load Line 1 Bomb Production Buildings and Paint Operations Areas
2. Load Line 2 Bomb Production Buildings and Paint Operations Areas
3. Load Line 3 Bomb Production Buildings and Paint Operations Areas
4. Load Line 4 Bomb Production Buildings and Paint Operations Areas
5. Raw Products Igloo Storage Areas
6. Former Tetryl Pelleting Area
7. North Burning Ground
8. South Burning Ground
9. Proving Ground
10. Potential Landfill Area North of the Proving Grounds
11. Former NOP Landfill Area
12. Potential Waste Disposal Area North of Nike Maintenance Area
13. Potential Waste Disposal Area Southeast of Bomb Booster Assembly Area
14. Potential Waste Disposal Areas at the Atlas Missile Area
15. Potential Waste Disposal Area North of Ammonium Nitrate Plant
16. Demolition Ground
17. Detonation Craters
18. Bermed Area Southwest of Load Line 1
19. Ammonium Nitrate Plant Operations Area
20. Administration Area UST
21. Atlas Missile Area USTs
22. Former Air Force Global Communications Area UST
23. Bomb Booster Assembly Area UST
24. Geophysical Anomaly at Load Line 3

MW-10 Groundwater Monitoring Well sampled to support OU3

BKG-001 OU3 Background Metals Soil Sampling Location

MW-29 Other Existing Groundwater Monitoring Well Cluster

Former NOP Boundary

Johnson, Clear, and Silver Creeks

Intermittent Drainages

Revisions			
Symbol	Descriptions	Date	Approved

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KANSAS CITY, MISSOURI

Designed by: S.J.F.
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Checked by: D.C.C.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

OPERABLE UNIT 3
INVESTIGATION AREAS

Scale: 1 IN = 4000 FT
Date: MAY, 1996
Dwg. No.: 1-3
Sheet number: 1

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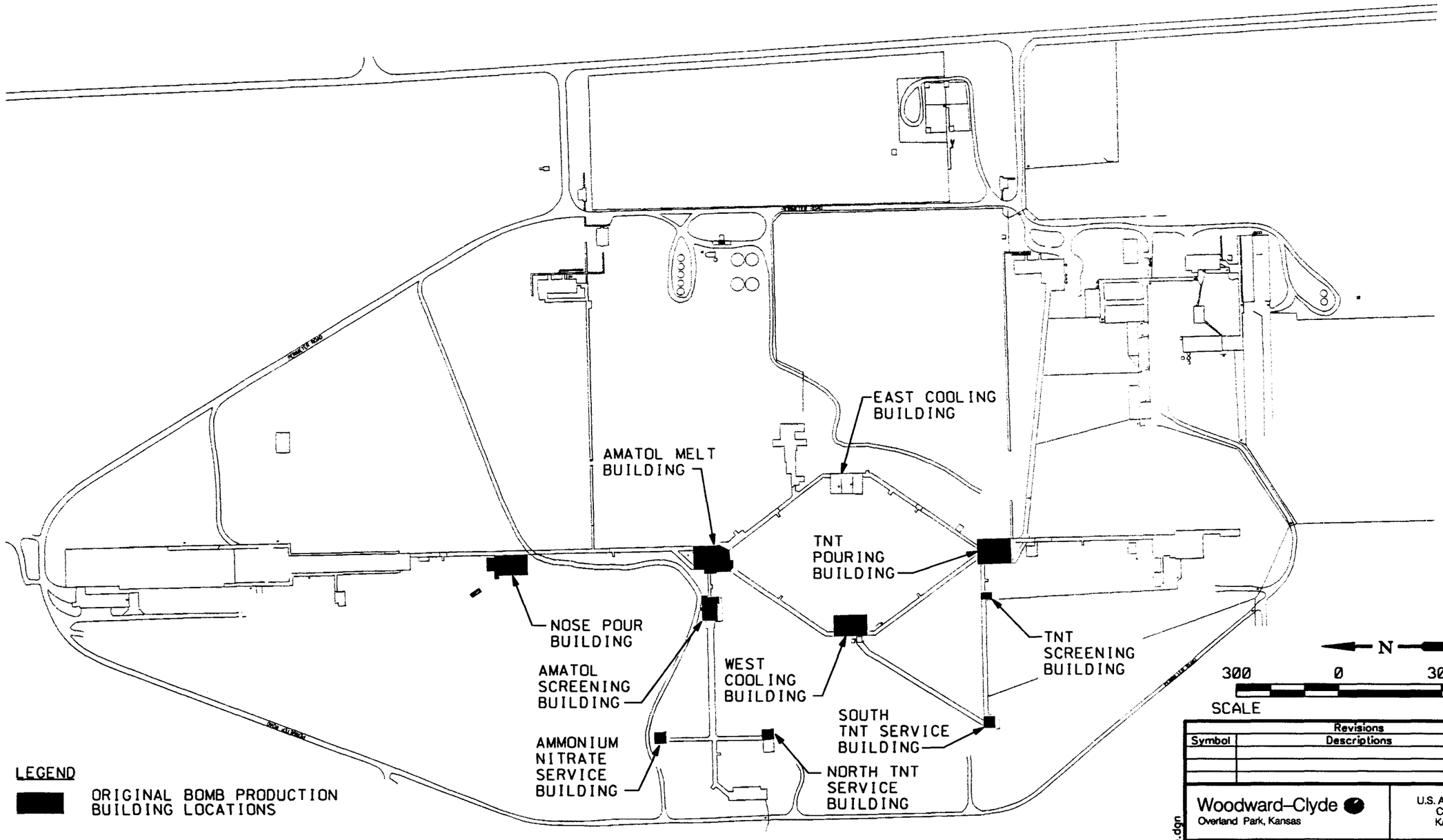

LEGEND

ORIGINAL BOMB PRODUCTION BUILDING LOCATIONS

NOTE:

THE FOLLOWING BOMB PRODUCTION BUILDINGS AT LOAD LINE 1 HAVE BEEN DEMOLISHED: NOSE POUR AND EAST COOLING.

SOURCE: DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

BOMB PRODUCTION BUILDINGS AT LOAD LINE 1

Scale: 1 IN = 300 FEET
Date: MAY, 1997
Dwg. No.: 2-1
Sheet number: 1

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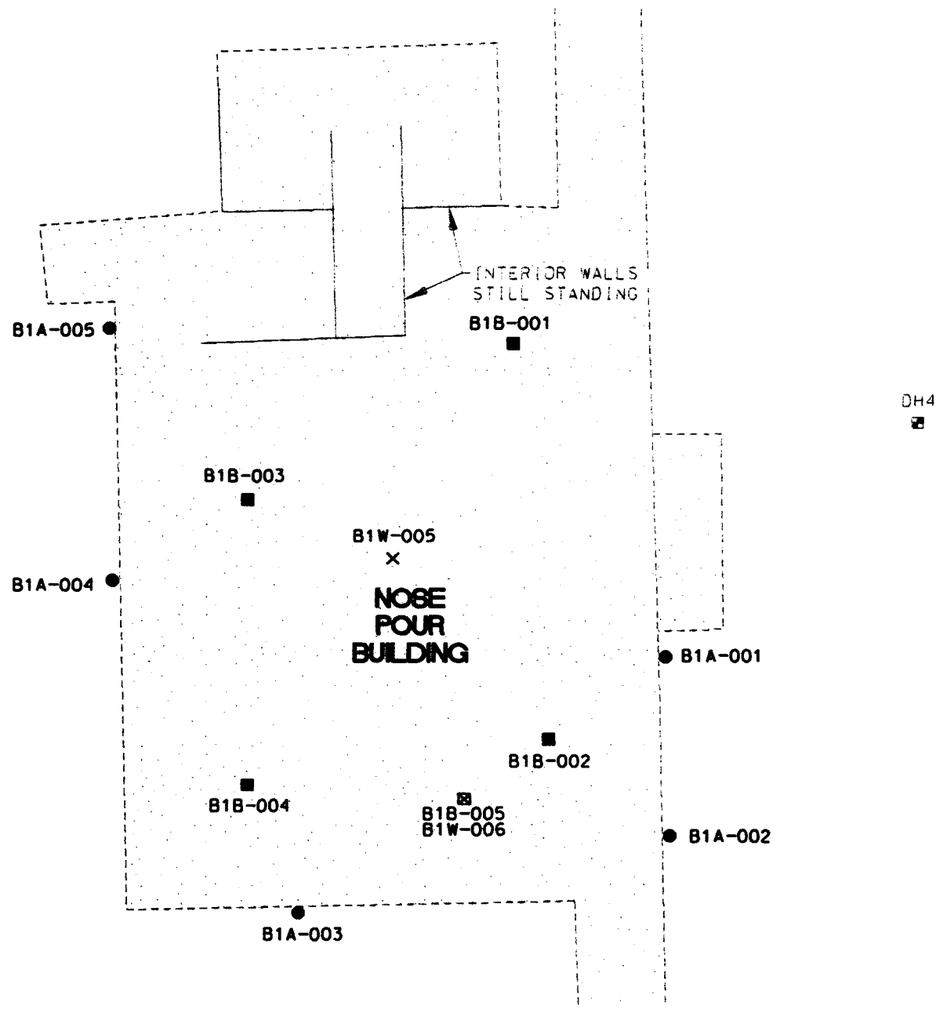

SOURCE : DONOHUE, 1992B

LEGEND:

● B1A-001	ADJACENT SOIL SAMPLE LOCATION
■ B1B-001	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-005/B1W-006	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B1W-005	SURFACE WIPE SAMPLE LOCATION
⊠ DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE BUILDING FOUNDATION.
2. SURFACE WIPE SAMPLES B1W-001 TO B1W-004 WERE NOT COLLECTED BECAUSE THE WALLS WERE NO LONGER PRESENT.

N

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SCALE FEET

Revisions			
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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
NOSE POURING
BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-2
Sheet number: 1

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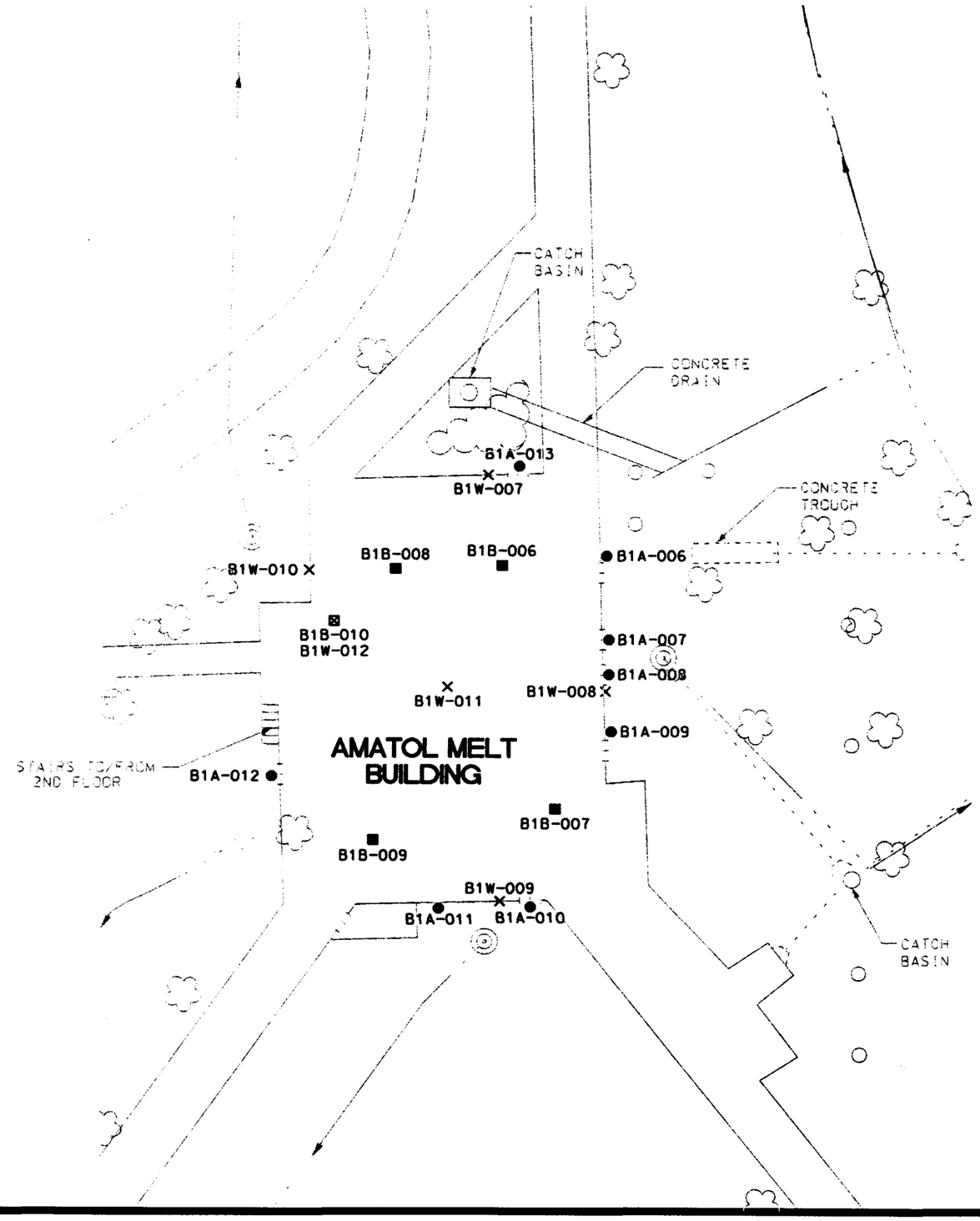

SOURCE : DONOHUE, 1992B

LEGEND:

● B1A-006	ADJACENT SOIL SAMPLE LOCATION
■ B1B-006	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-010/B1W-012	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(→✕ WALL, ✕ FLOOR) B1W-007	SURFACE WIPE SAMPLE LOCATION

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1.5 FT FROM EXTERIOR WALLS OF THE AMATOL MELT BUILDING.

N

30 0 30 60

SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
AMATOL MELT BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 30 FEET
Date: MAY, 1997
Dwg. No.: 2-3
Sheet number: 1

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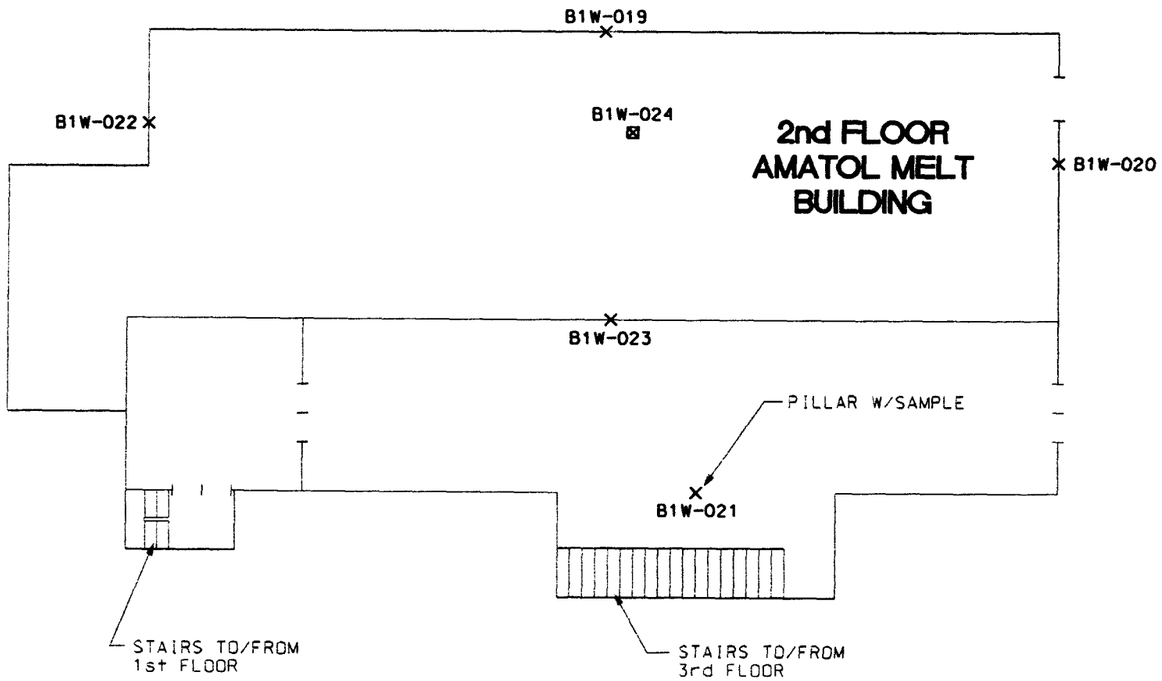
MCS FILE: j:\mead\ou3\12.dgn

LEGEND:

⊠ B1W-024 DISCRETIONARY WIPE SAMPLE LOCATION

(✳ WALL, × FLOOR) B1W-019 SURFACE WIPE SAMPLE LOCATION



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10 0 10 20

SCALE FEET

SOURCE: FIELD MEASUREMENTS

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
2nd FLOOR
AMATOL MELT BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-4
Sheet number: 1

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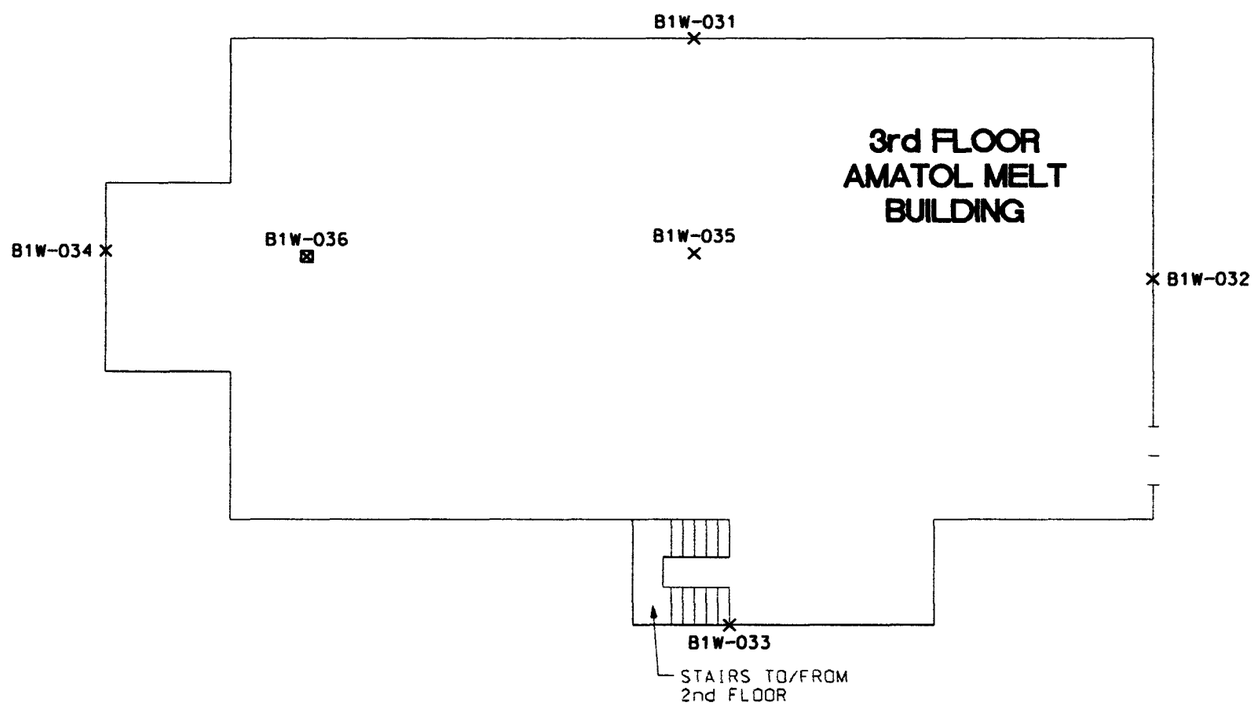
MCS FILE: j:\mead\ou3\122.dgn

LEGEND:

⊠ B1W-036 DISCRETIONARY WIPE SAMPLE LOCATION

(✳ WALL, × FLOOR) B1W-031 SURFACE WIPE SAMPLE LOCATION



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SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

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CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
3rd FLOOR
AMATOL MELT BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-5
Sheet number: 1

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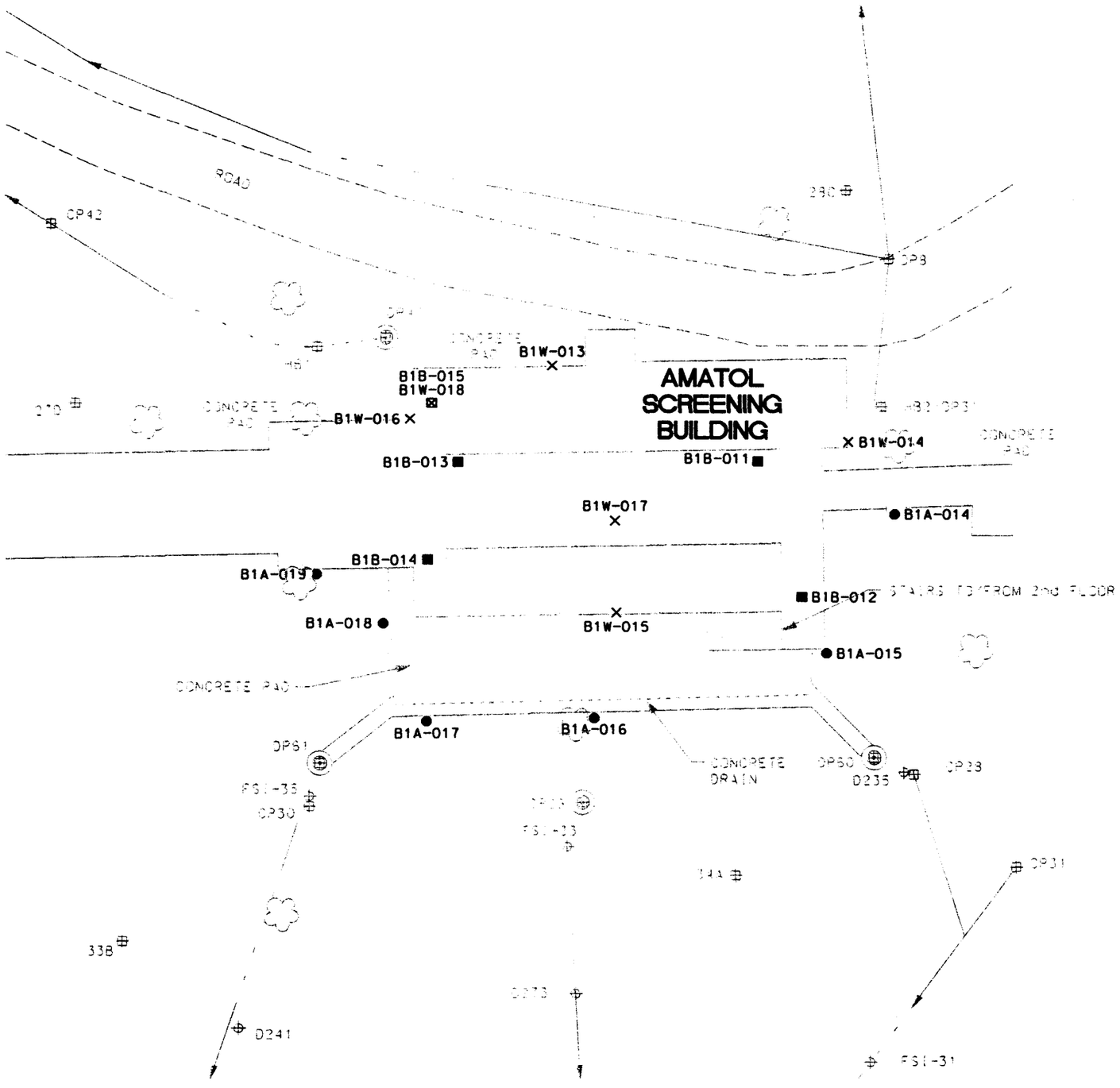
SOURCE: FIELD MEASUREMENTS



SOURCE: FIELD MEASUREMENTS

LEGEND:

● B1A-014	ADJACENT SOIL SAMPLE LOCATION
■ B1B-011	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-015/B1W-018	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B1W-013	SURFACE WIPE SAMPLE LOCATION
⊕ D235	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ DP7	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS OR CONCRETE FOUNDATION OF THE AMATOL SCREENING BUILDING.

N

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SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
AMATOL SCREENING BUILDING
SAMPLING LOCATIONS

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAD

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-6
Sheet number: 1

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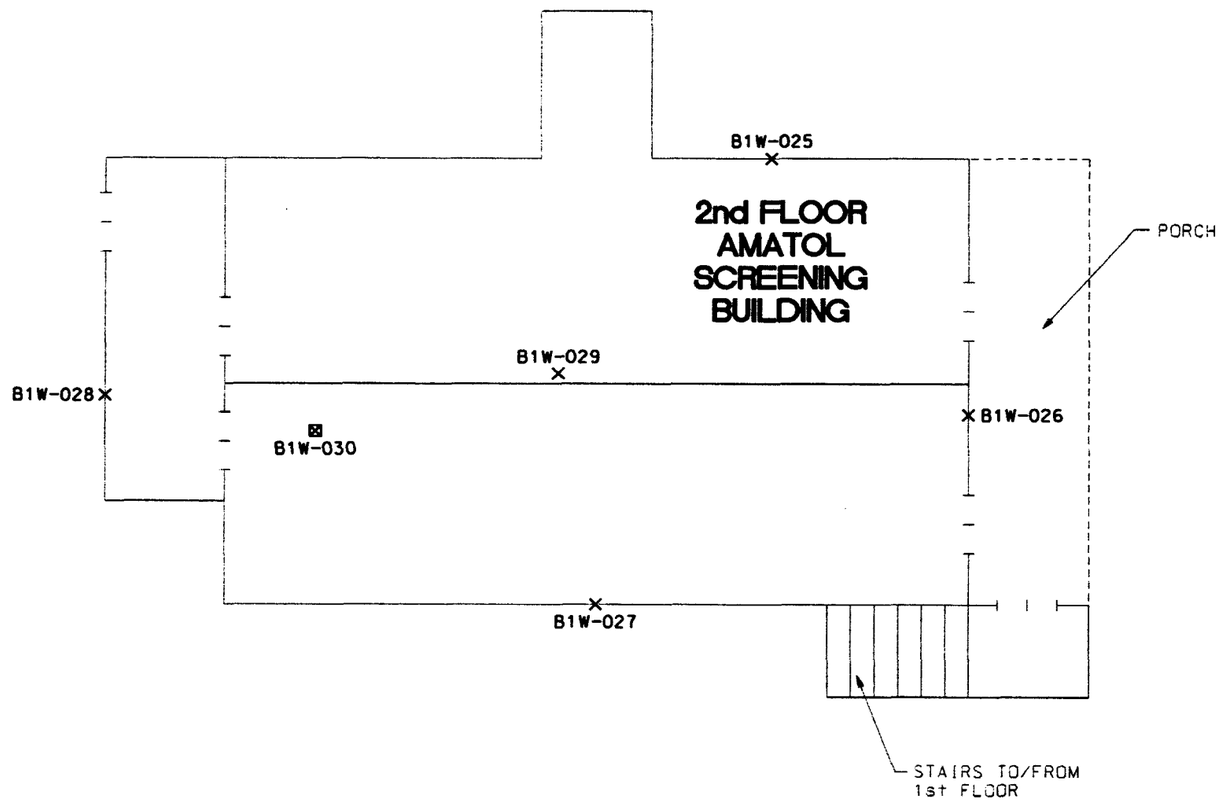
MCS FILE: j:\mead\ou3\13.dgn

LEGEND:

⊠ B1W-030 DISCRETIONARY WIPE SAMPLE LOCATION

(→← WALL, × FLOOR) B1W-025 SURFACE WIPE SAMPLE LOCATION



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SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
2nd FLOOR
AMATOL SCREENING BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-7
Sheet number: 1

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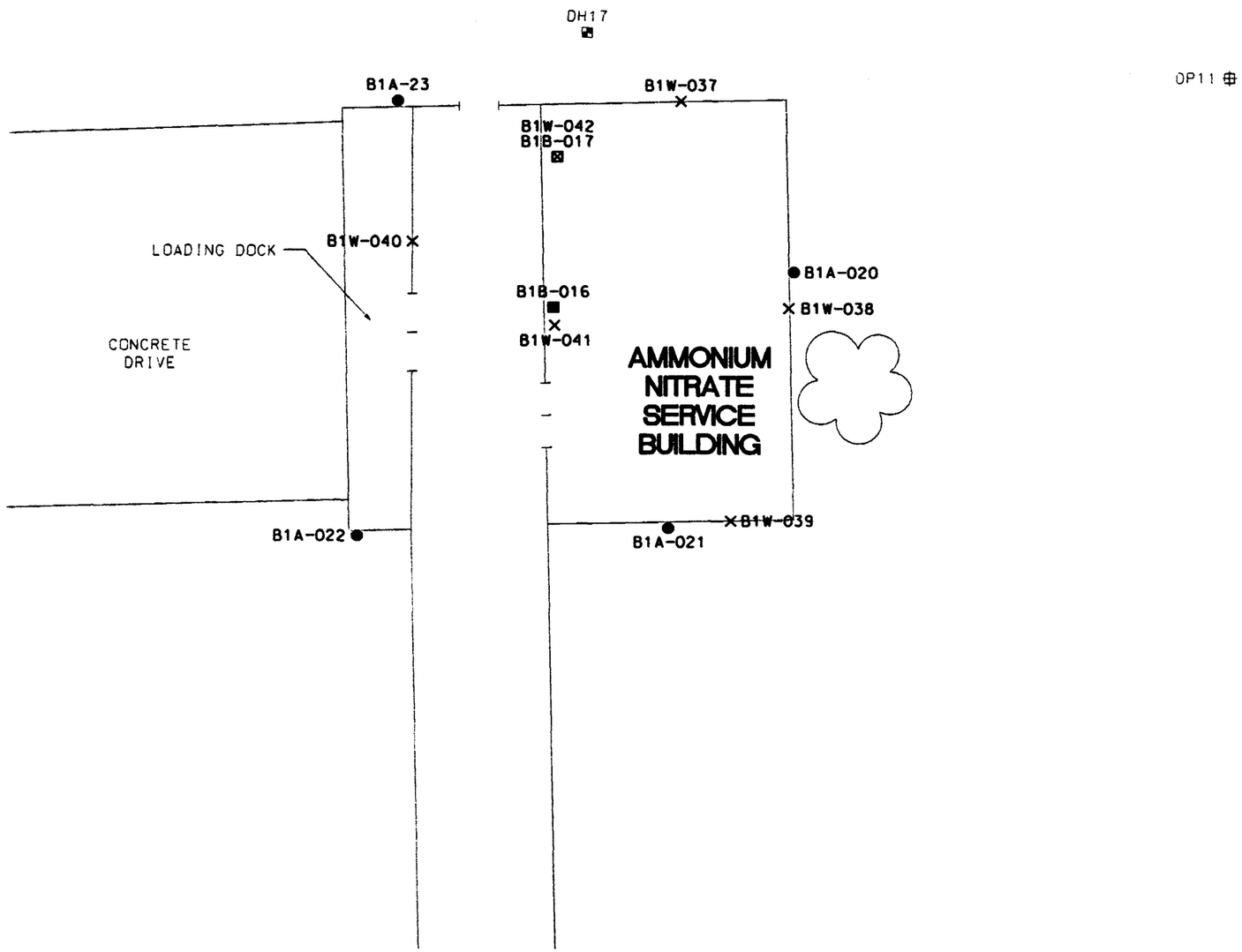
SOURCE: FIELD MEASUREMENTS



SOURCE : DONOHUE, 1992B

LEGEND:

● B1A-020	ADJACENT SOIL SAMPLE LOCATION
■ B1B-016	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-017/B1W-042	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B1W-037	SURFACE WIPE SAMPLE LOCATION
⊠ DH17	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ OP11	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS OF THE BUILDING.

N

10 0 10 20

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

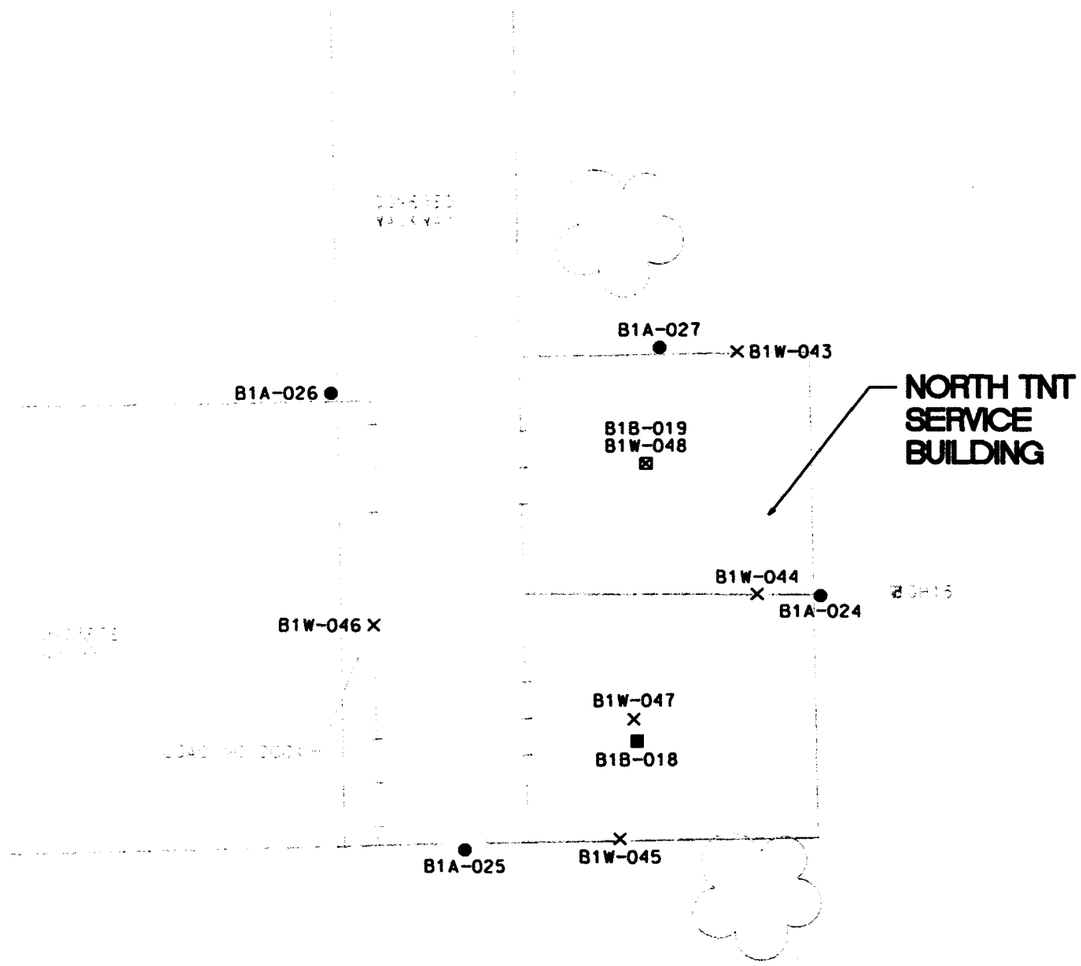
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
AMMONIUM NITRATE
SERVICE BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-8
Sheet number: 1

21 APR 97 14:16:46
MCS FILE: j:\mead\ou3\14.dgn



LEGEND:

● B1A-024	ADJACENT SOIL SAMPLE LOCATION
■ B1B-018	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-019/B1W-048	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B1W-043	SURFACE WIPE SAMPLE LOCATION
⊠ DH15	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ 260	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS OF THE BUILDING.

N

10 0 10 20

SCALE FEET

SOURCE : DONOHUE, 1992B

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

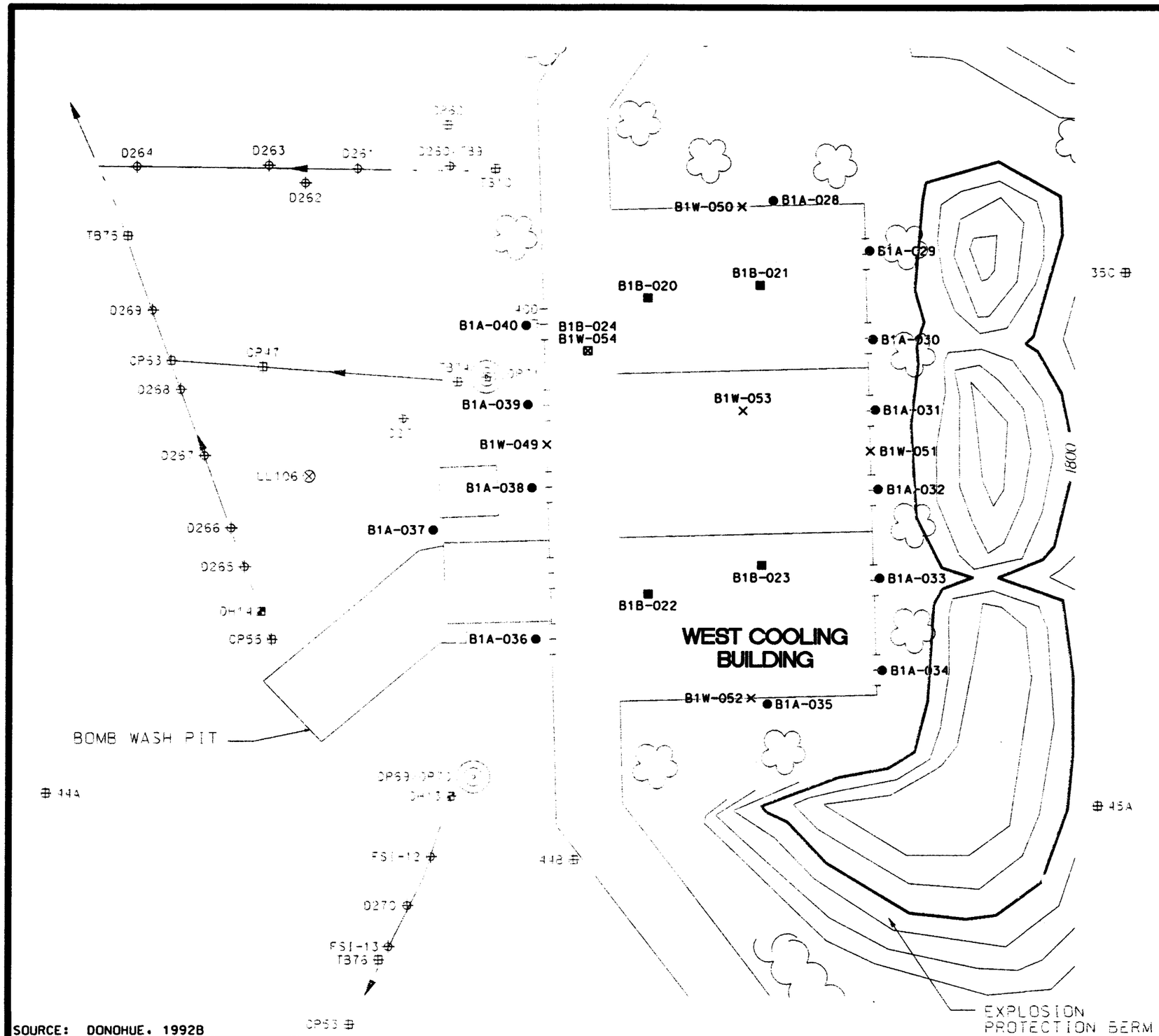
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
NORTH TNT
SERVICE BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-9
Sheet number: 1

07 APR 97 13:09:54
MCS FILE: j:\mead\ou3\15.dgn



SOURCE: DONOHUE, 1992B

LEGEND:

● B1A-028	ADJACENT SOIL SAMPLE LOCATION
■ B1B-020	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-024/B1W-054	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✕ WALL, X FLOOR) B1W-049	SURFACE WIPE SAMPLE LOCATION
DH14	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
D269	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
400	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
LL106	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
800	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE WEST COOLING BUILDING:
   B1A-036 AT 2.25 FT, B1A-037 AT 1.2 FT,
   B1A-038 AT 2.25 FT, B1A-039 AT 2.5 FT,
   B1A-040 AT 2.6 FT
2. SAMPLE B1A-041 WAS NOT COLLECTED BECAUSE ACCESS WAS RESTRICTED BY FENCED OU1 INVESTIGATION AREA.
3. CONTOUR INTERVAL IS 2 FEET

20 0 20 40
SCALE FEET

N

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
WEST COOLING
BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-10
Sheet number: 1

08 APR 97 08:27:28
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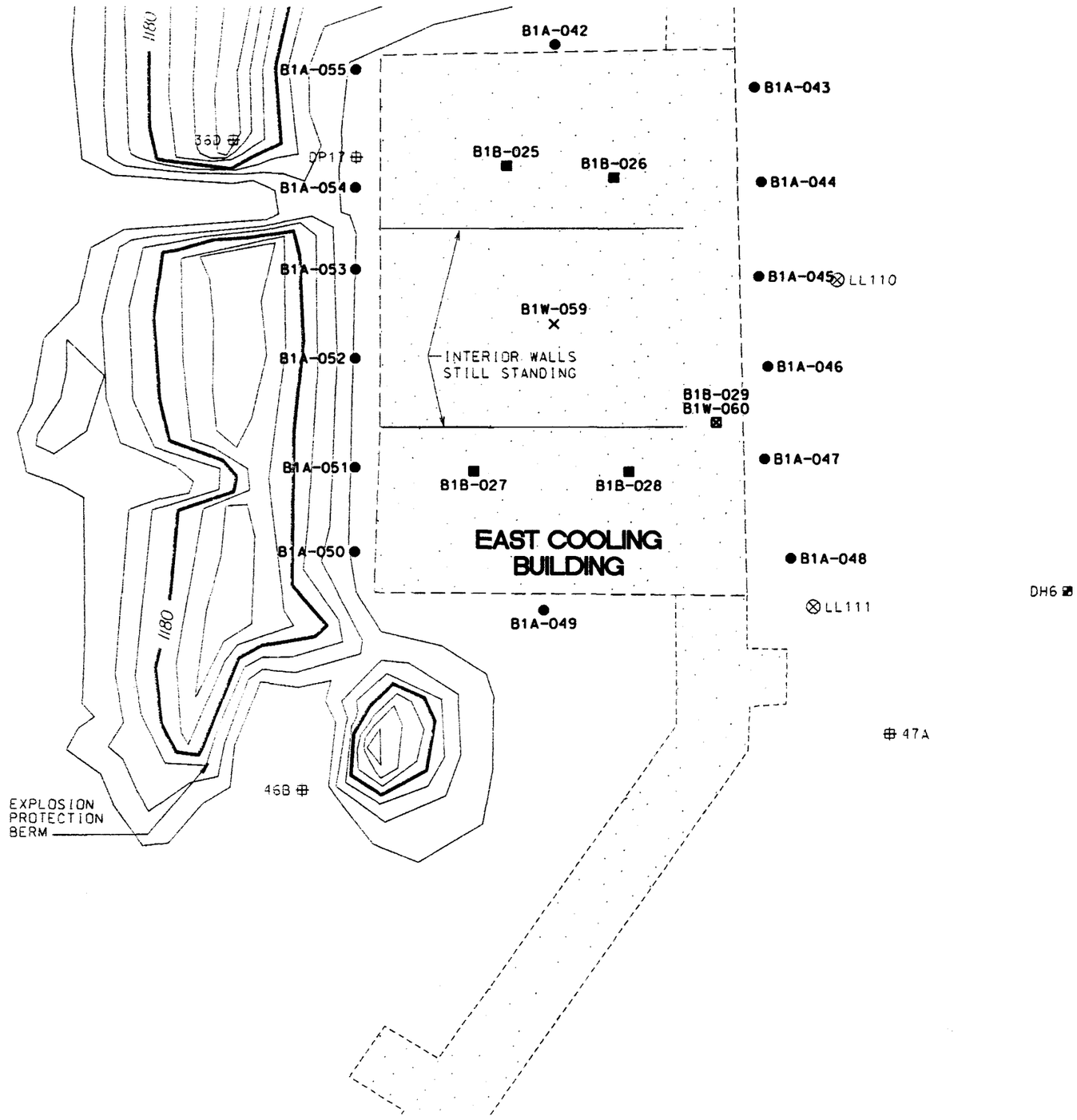


LEGEND:

● B1A-043	ADJACENT SOIL SAMPLE LOCATION
■ B1B-025	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-029/B1W-060	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✕ WALL, ✕ FLOOR) B1W-059	SURFACE WIPE SAMPLE LOCATION
⊠ DH6	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ 47A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊗ LL110	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
— 1180 —	INDEX CONTOUR
⌒	INTERMEDIATE CONTOUR

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE EAST COOLING BUILDING:
   B1A-043 AT 2.4 FT. B1A-044 AT 3.3 FT.
   B1A-045 AT 2.4 FT. B1A-046 AT 3.6 FT.
   B1A-047 AT 2.75 FT. B1A-048 AT 6.7 FT.
   B1A-049 AT 1.7 FT
2. SURFACE WIPE SAMPLES B1W-055 TO B1W-058 WERE NOT COLLECTED BECAUSE THE WALLS WERE NO LONGER PRESENT.
3. CONTOUR INTERVAL IS 2 FEET.

N

20 0 20 40

SCALE FEET

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

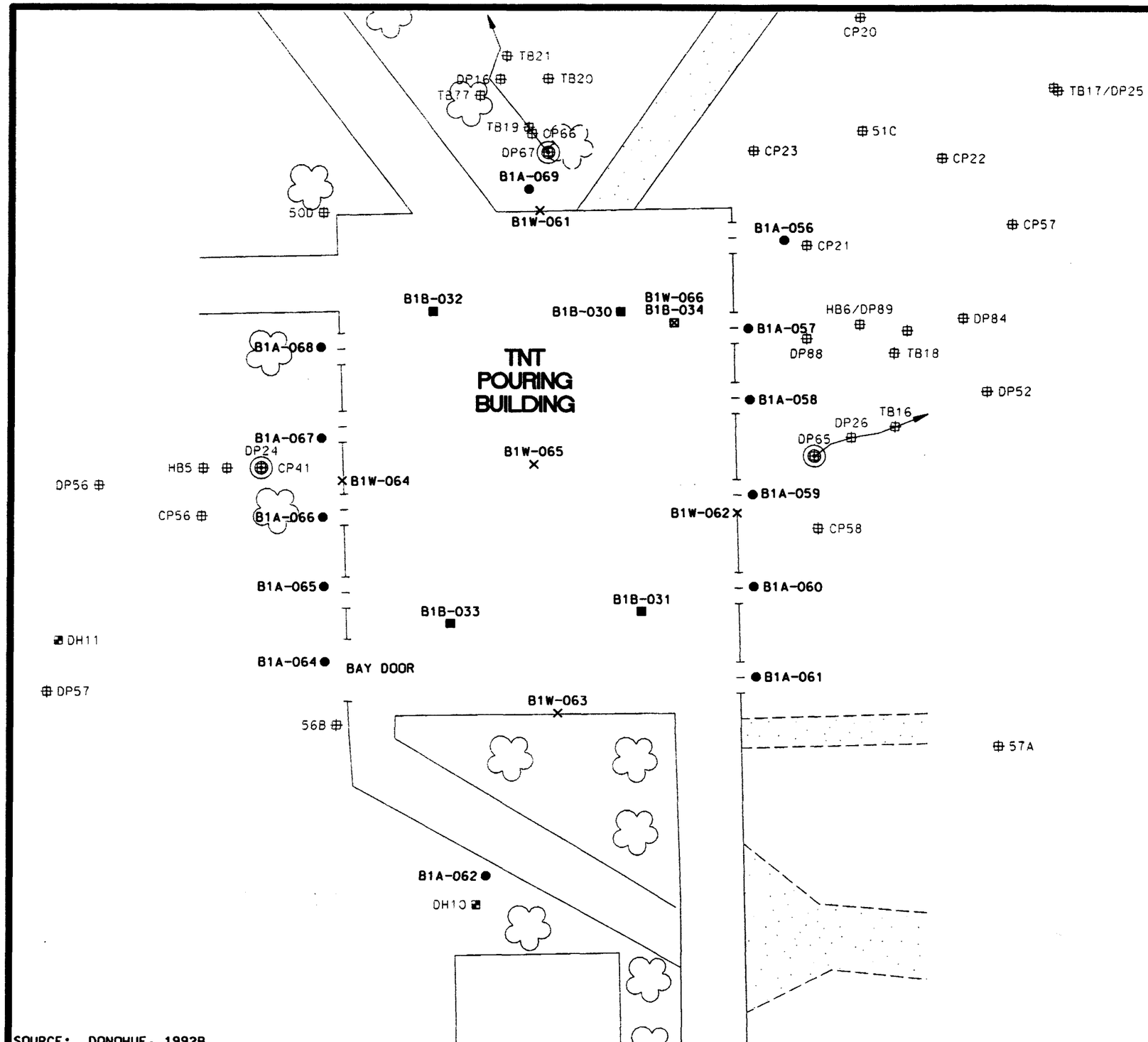
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
EAST COOLING
BUILDING
SAMPLING LOCATIONS

Scale: 1 IN - 20 FEET
Date: MAY, 1997
Dwg. No.: 2-11
Sheet number: 1

21 APR 97 14:21:12
MCS FILE: j:\mead\ou3\16.dgn

B07NE003703-04473



LEGEND:

● B1A-056	ADJACENT SOIL SAMPLE LOCATION
■ B1B-030	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-034/B1W-066	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B1W-061	SURFACE WIPE SAMPLE LOCATION
DH10	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
DP26	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES WERE COLLECTED APPROXIMATELY 2 FT FROM THE EXTERIOR WALLS OF THE TNT POURING BUILDING WITH THE FOLLOWING EXCEPTIONS:
   B1A-056 AT 9.0 FT. B1A-064 AT 3.0 FT.
   B1A-065 AT 3.0 FT. B1A-066 AT 3.0 FT.
   B1A-067 AT 3.0 FT. B1A-068 AT 2.5 FT.
   B1A-069 AT 3.5 FT
2. ADJACENT SOIL SAMPLE B1A-063 WAS NOT COLLECTED DUE TO CONCRETE DEBRIS AT SAMPLING LOCATION.

N

20 0 20 40

SCALE FEET

SOURCE: DONOHUE, 1992B

Revisions

Symbol	Descriptions	Date	Apprv'd

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KANSAS CITY, MISSOURI

U.S. Army Corps of Engineers

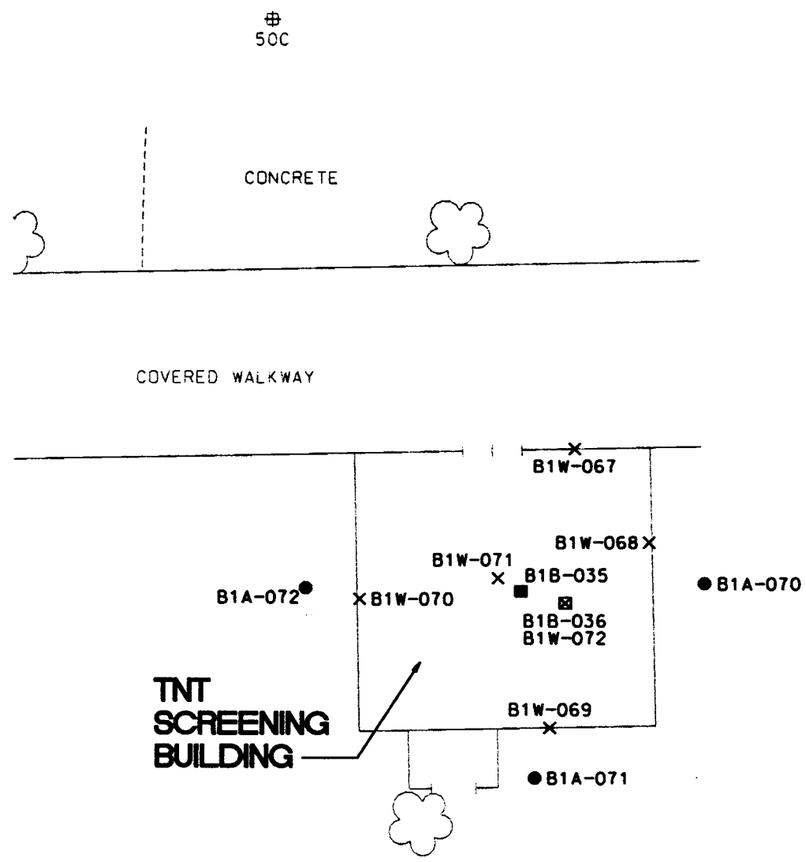
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR, NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
TNT POURING
BUILDING
SAMPLING LOCATIONS

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN
Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-12
Sheet number: 1

21 APR 97 14:41:06
MCS FILE: j:\mead\ou3119.dgn

B07NE003703-04474



LEGEND:

● B1A-070	ADJACENT SOIL SAMPLE LOCATION
■ B1B-035	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-036/B1W-072	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B1W-067	SURFACE WIPE SAMPLE LOCATION
	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES WERE COLLECTED APPROXIMATELY 3 FT FROM THE EXTERIOR WALLS OF THE TNT SCREENING BUILDING.
2. ADJACENT SOIL SAMPLE B1A-073 WAS NOT COLLECTED DUE TO CONCRETE PAD AT SAMPLE LOCATION.

N

10 0 10 20

SCALE FEET

SOURCE : FIELD MEASUREMENTS

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
TNT SCREENING
BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-13
Sheet number: 1

08 APR 97 09:02:34
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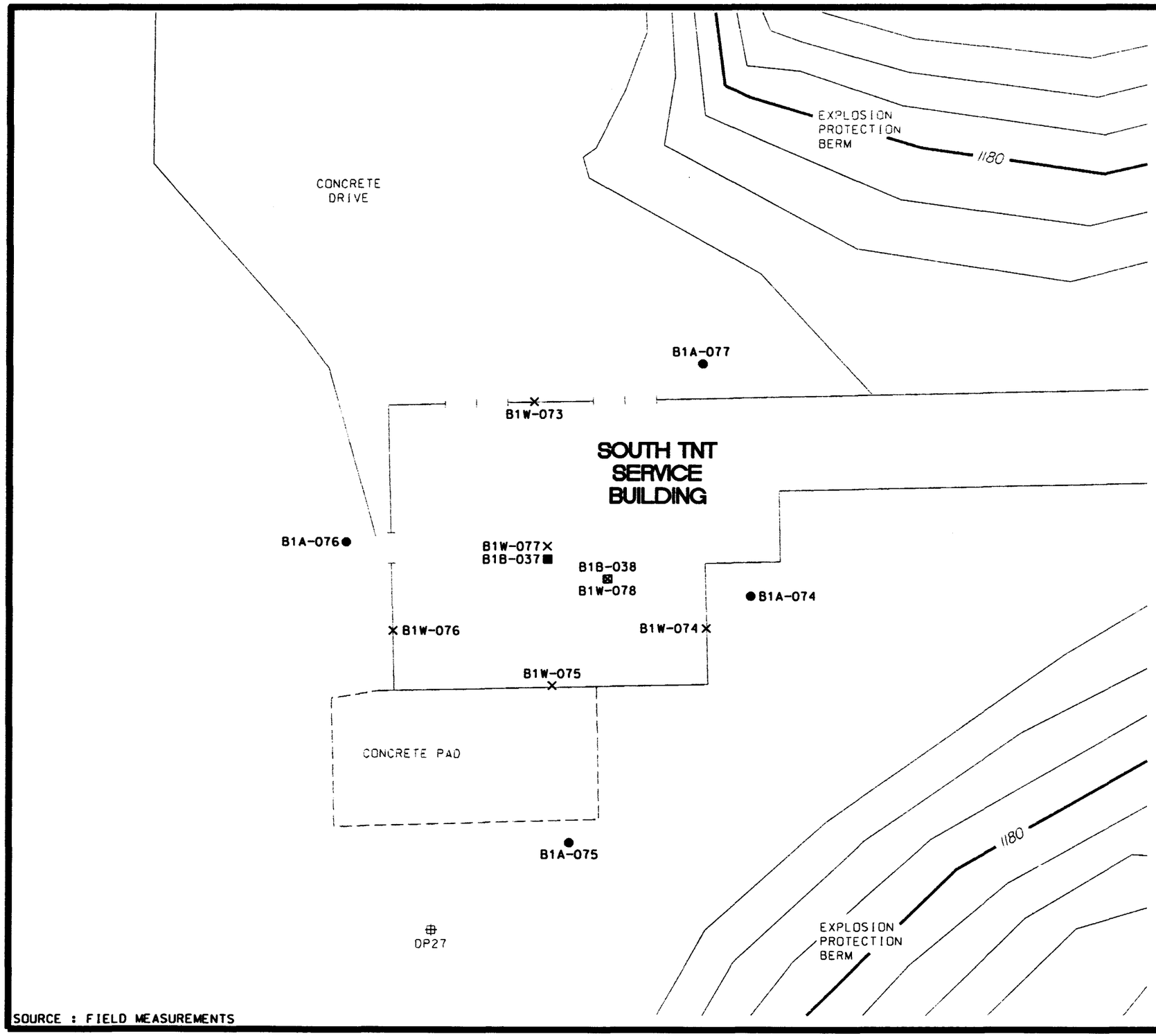

LEGEND:

● B1A-074	ADJACENT SOIL SAMPLE LOCATION
■ B1B-037	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-038/B1W-078	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B1W-073	SURFACE WIPE SAMPLE LOCATION
⊕ DP27	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
1180	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE TNT SERVICE BUILDING:
   B1A-074 AT 3.0 FT, B1A-075 AT 15.0 FT,
   B1A-076 AT 4.0 FT, B1A-077 AT 3.0 FT
2. CONTOUR INTERVAL IS 2 FT

N

10 0 10 20

SCALE FEET

SOURCE : FIELD MEASUREMENTS

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
SOUTH TNT
SERVICE BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-14
Sheet number: 1

08 APR 97 09:05:30
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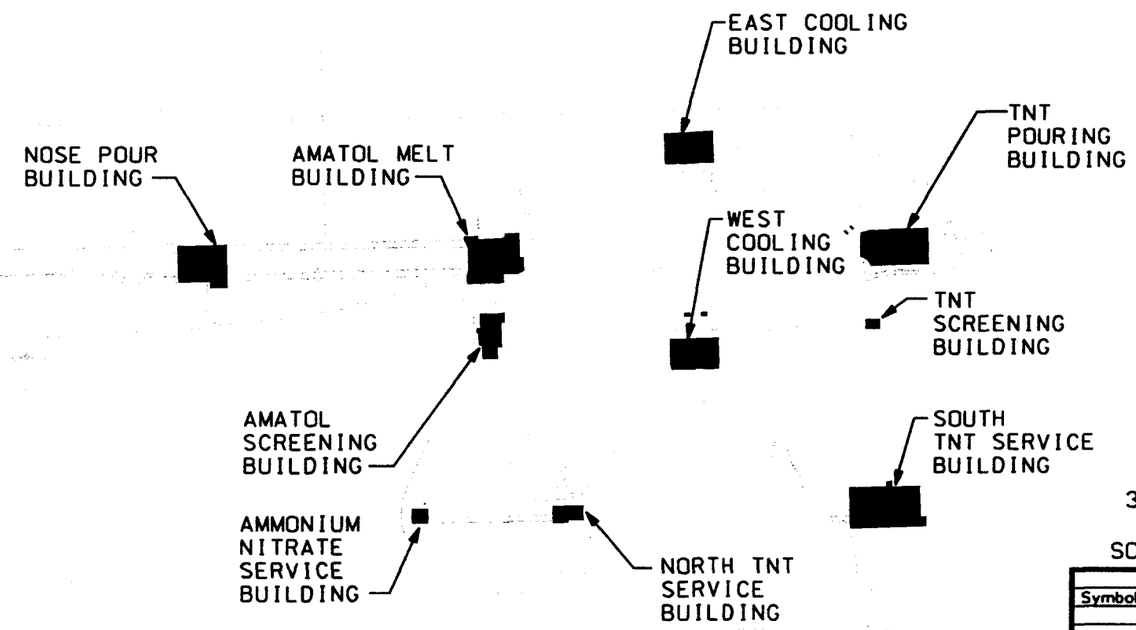

N

300 0 300 600

SCALE FEET

LEGEND:

ORIGINAL BOMB PRODUCTION BUILDING LOCATIONS

NOTE:

THE TNT SCREENING BUILDING AT LOAD LINE 2 HAS BEEN DEMOLISHED.

SOURCE: DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

BOMB PRODUCTION BUILDINGS AT LOAD LINE 2

Scale: 1 IN = 300 FEET
Date: MAY, 1997
Dwg. No.: 2-15
Sheet number: 1

08 APR 97 08:20:35
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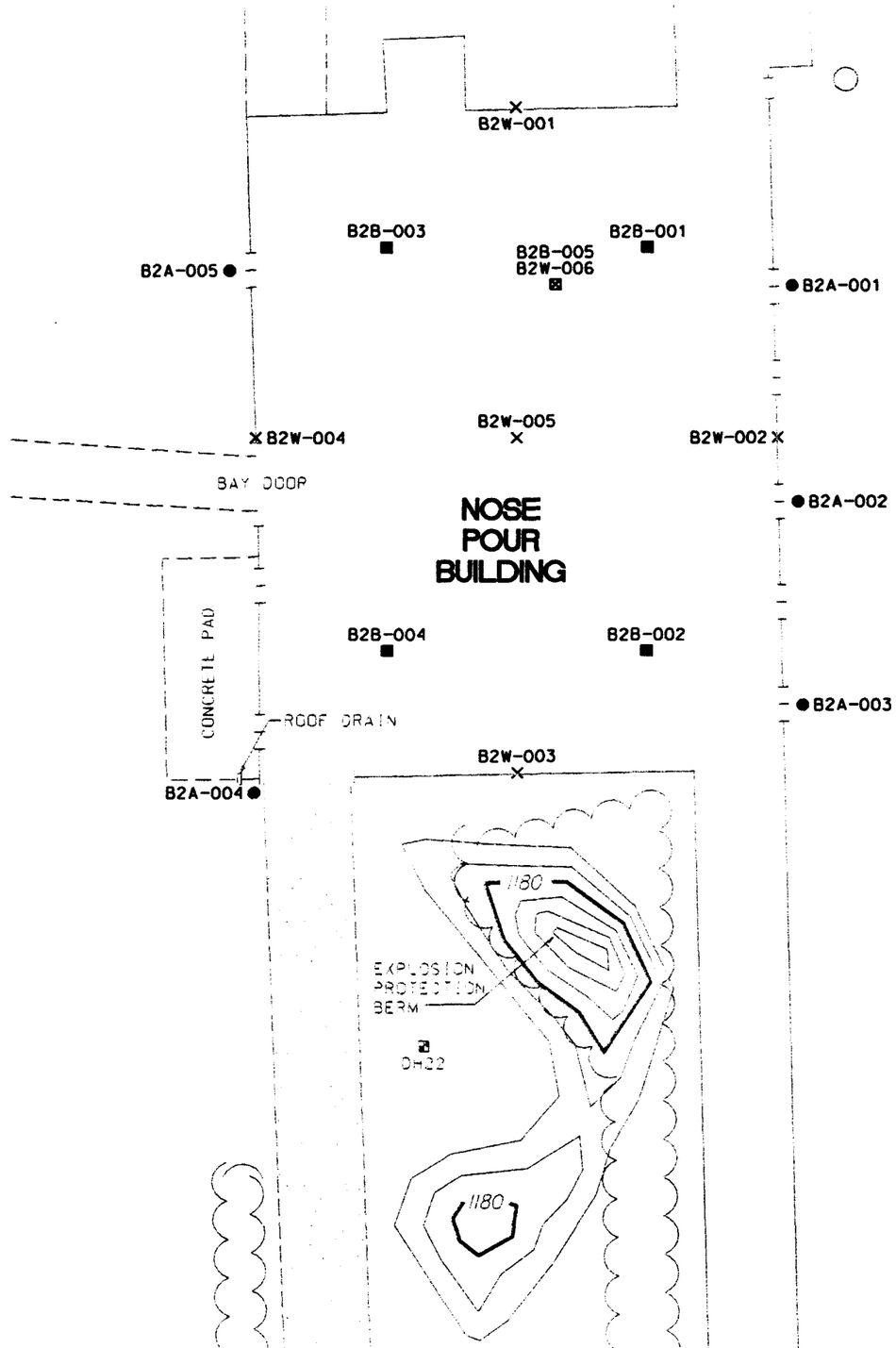


SOURCE : DONAHUE, 1992B

LEGEND:

● B2A-001	ADJACENT SOIL SAMPLE LOCATION
■ B2B-001	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-005/B2W-006	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B2W-001	SURFACE WIPE SAMPLE LOCATION
⊕ 22B	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊠ DH22	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
— 1180 —	INDEX CONTOUR
⌒	INTERMEDIATE CONTOUR

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 2 FT FROM THE EXTERIOR WALLS.

N

20 0 20 40

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

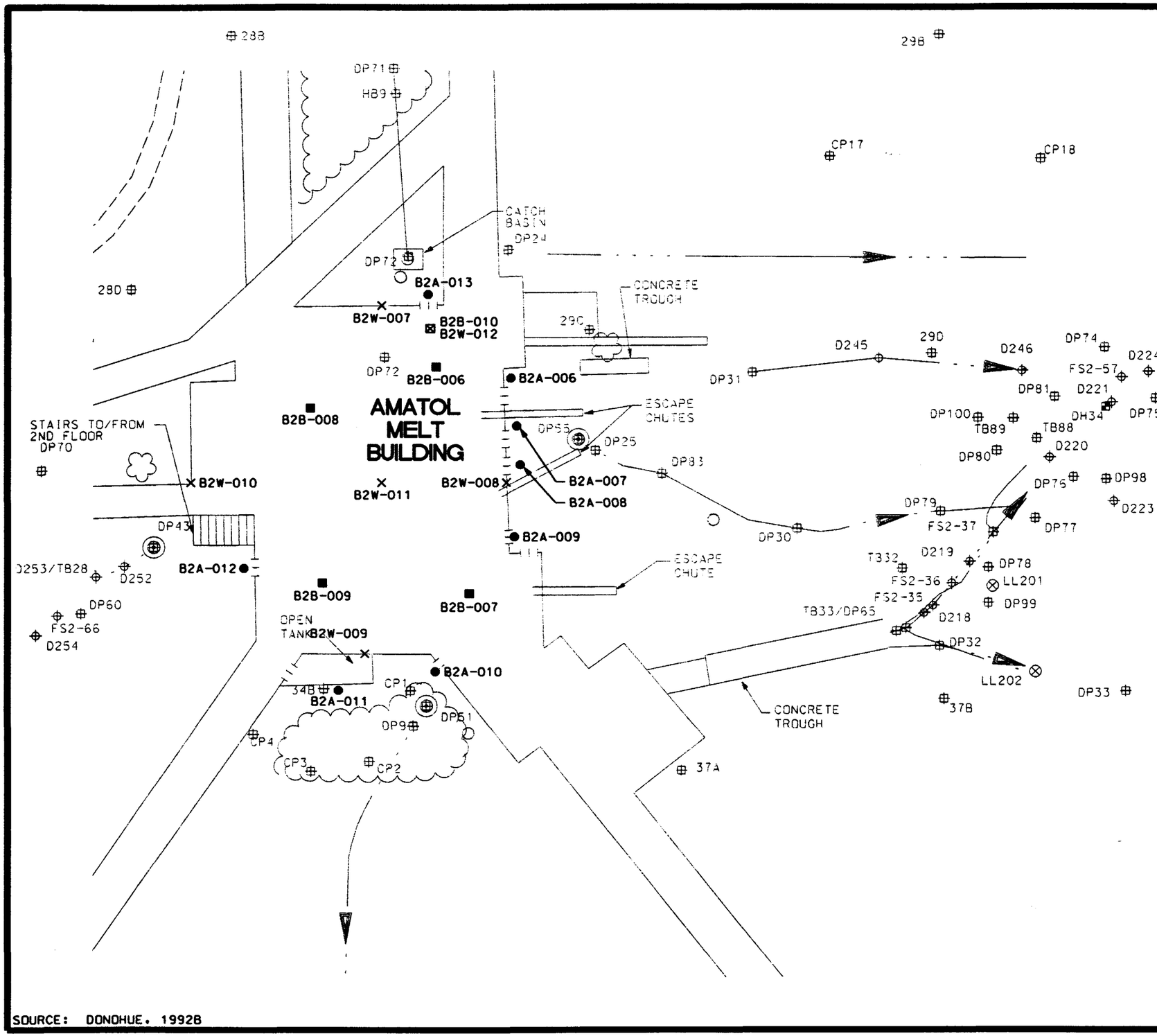
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
NOSE POURING BUILDING
SAMPLING LOCATIONS

Scale: 1 IN - 20 FEET
Date: MAY, 1997
Dwg. No.: 2-16
Sheet number: 1

08 APR 97 08:57:13
MCS FILE: j:\meod\ou3\21.dgn



SOURCE: DONOHUE, 1992B

LEGEND:

● B2A-006	ADJACENT SOIL SAMPLE LOCATION
■ B2B-006	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-010/B2W-012	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✕ WALL, × FLOOR) B2W-007	SURFACE WIPE SAMPLE LOCATION
◪ DH34	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
⊕ D220	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊞ DP75	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊗ LL201	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE AMATOL MELT BUILDING:
   B2A-006 AT 1.5 FT. B2A-007 AT 2.0 FT.
   B2A-008 AT 3.0 FT. B2A-009 AT 1.5 FT.
   B2A-010 AT 2.0 FT. B2A-011 AT 1.5 FT.
   B2A-012 AT 2.0 FT. B2A-013 AT 2.0 FT

N

30 0 30 60

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
AMATOL MELT BUILDING
SAMPLING LOCATIONS

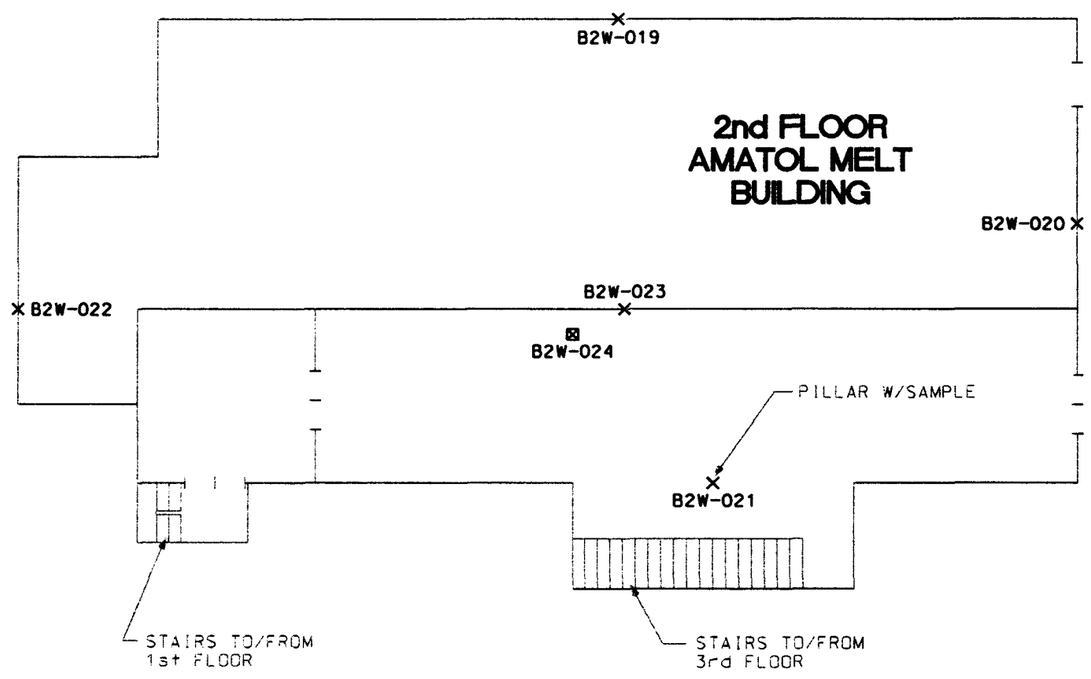
Scale: 1 IN = 30 FEET
Date: MAY, 1997
Dwg. No.: 2-17
Sheet number: 1

21 APR 97 15:09:12
MCS FILE: j:\mead\ou3\22.dgn

LEGEND:

⊠ B2W-019 DISCRETIONARY WIPE SAMPLE LOCATION

(✕ WALL, ✕ FLOOR) B2W-024 SURFACE WIPE SAMPLE LOCATION



N

10 0 10 20

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
2nd FLOOR
AMATOL MELT BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-18
Sheet number: 1

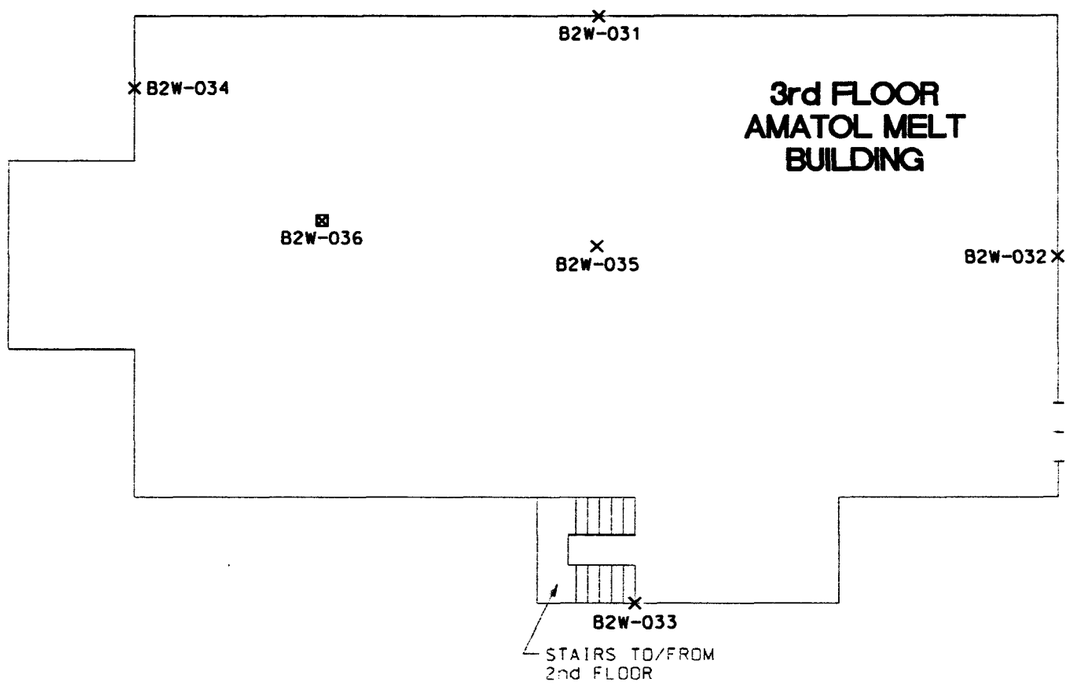
21 APR 97 15:11:42
MCS FILE: j:\mead\ou3\222.dgn

SOURCE: FIELD MEASUREMENTS

LEGEND:

⊠ B2W-036 DISCRETIONARY WIPE SAMPLE LOCATION

(✕ WALL, ✕ FLOOR) B2W-031 SURFACE WIPE SAMPLE LOCATION



N

10 0 10 20

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

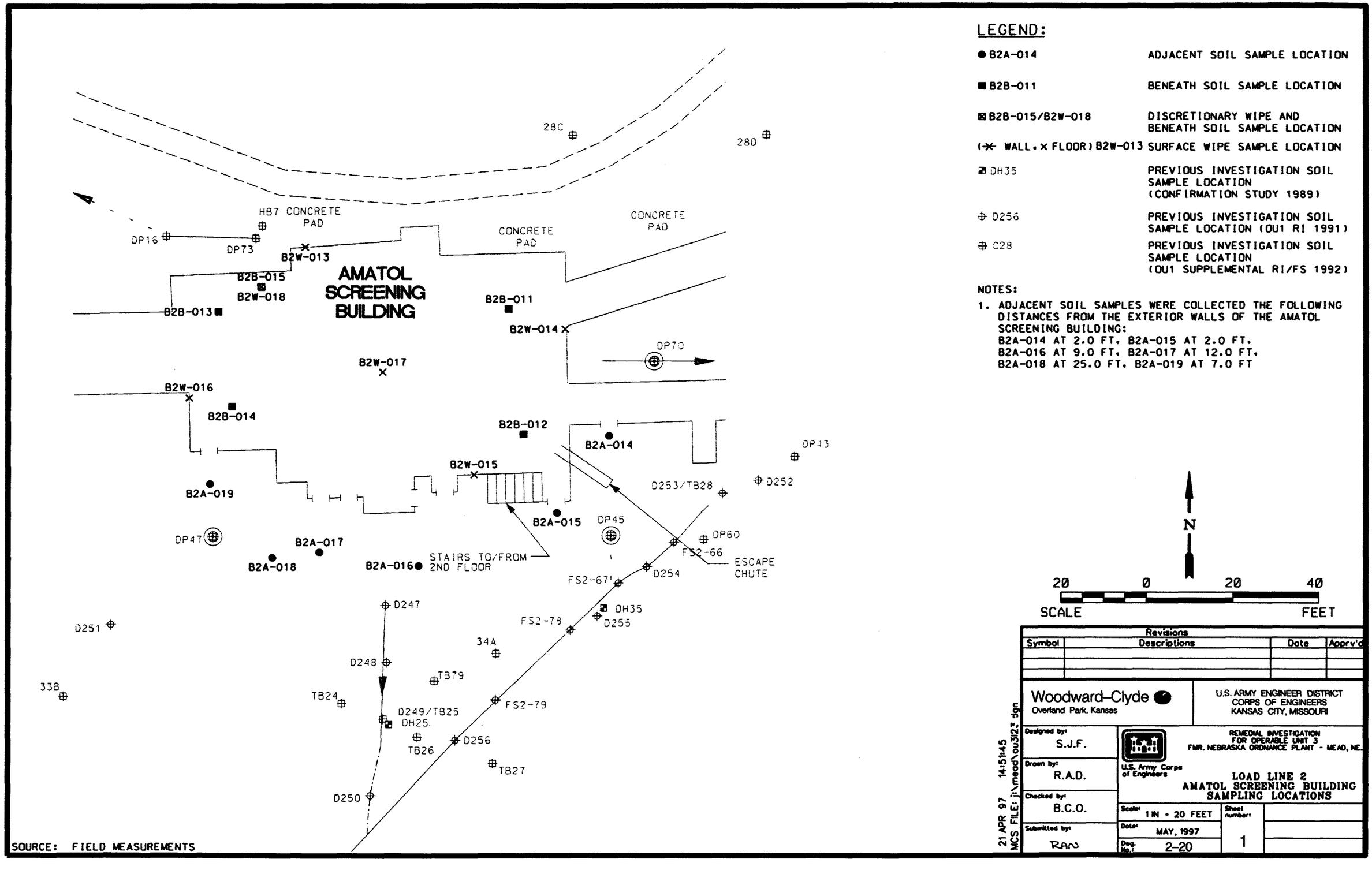
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
3rd FLOOR
AMATOL MELT BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-19
Sheet number: 1

21 APR 97 15:12:56
MCS FILE: j:\mead\ou3\223.dgn

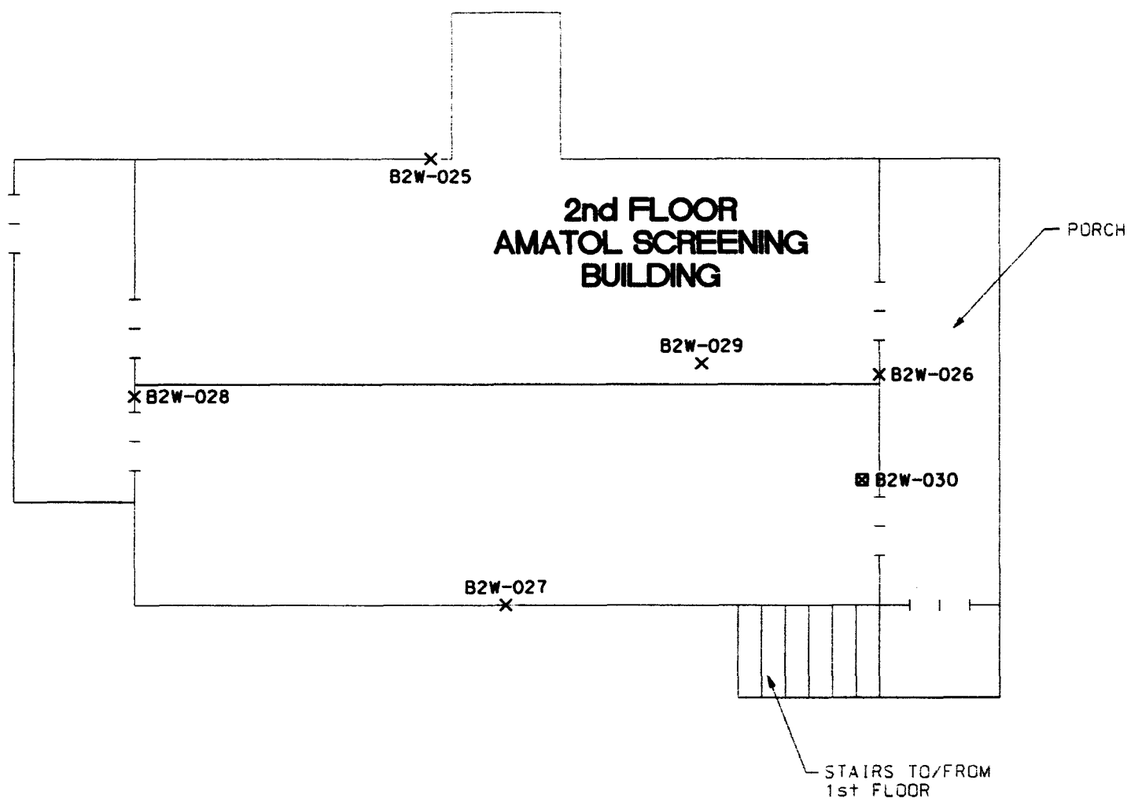
SOURCE: FIELD MEASUREMENTS


LEGEND:
B2A-014 ADJACENT SOIL SAMPLE LOCATION
B2B-011 BENEATH SOIL SAMPLE LOCATION
B2B-015/B2W-018 DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(WALL, FLOOR) B2W-013 SURFACE WIPE SAMPLE LOCATION
DH35 PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
D256 PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
C28 PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
NOTES:
1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE AMATOL SCREENING BUILDING:
B2A-014 AT 2.0 FT. B2A-015 AT 2.0 FT.
B2A-016 AT 9.0 FT. B2A-017 AT 12.0 FT.
B2A-018 AT 25.0 FT. B2A-019 AT 7.0 FT
AMATOL SCREENING BUILDING
CONCRETE PAD
HB7
DP16
DP73
B2W-013
B2B-015
B2W-018
B2B-013
B2B-011
B2W-014
DP70
B2W-017
B2W-016
B2B-014
B2B-012
B2A-014
B2W-015
B2A-019
B2A-015
DP45
DP47
B2A-017
B2A-018
B2A-016
STAIRS TO/FROM 2ND FLOOR
ESCAPE CHUTE
28C
28D
DP43
D252
D253/TB28
DP60
FS2-66
D254
FS2-67
DH35
D255
FS2-78
34A
D247
D248
TB79
TB24
D249/TB25
DH25
TB26
D256
FS2-79
TB27
D250
D251
338
N
20 0 20 40
SCALE FEET
SOURCE: FIELD MEASUREMENTS
Revisions
Symbol Descriptions Date Apprv'd
Woodward-Clyde
Overland Park, Kansas
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI
Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN
U.S. Army Corps of Engineers
REMEDIAL INVESTIGATION FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 2
AMATOL SCREENING BUILDING
SAMPLING LOCATIONS
Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-20
Sheet number: 1
21 APR 97 14:51:45
MCS FILE: i:\mead\ou3\2-2.dgn

LEGEND:

⊠ B2W-030 DISCRETIONARY WIPE SAMPLE LOCATION

(→← WALL, × FLOOR) B2W-029 SURFACE WIPE SAMPLE LOCATION



N

10 0 10 20

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

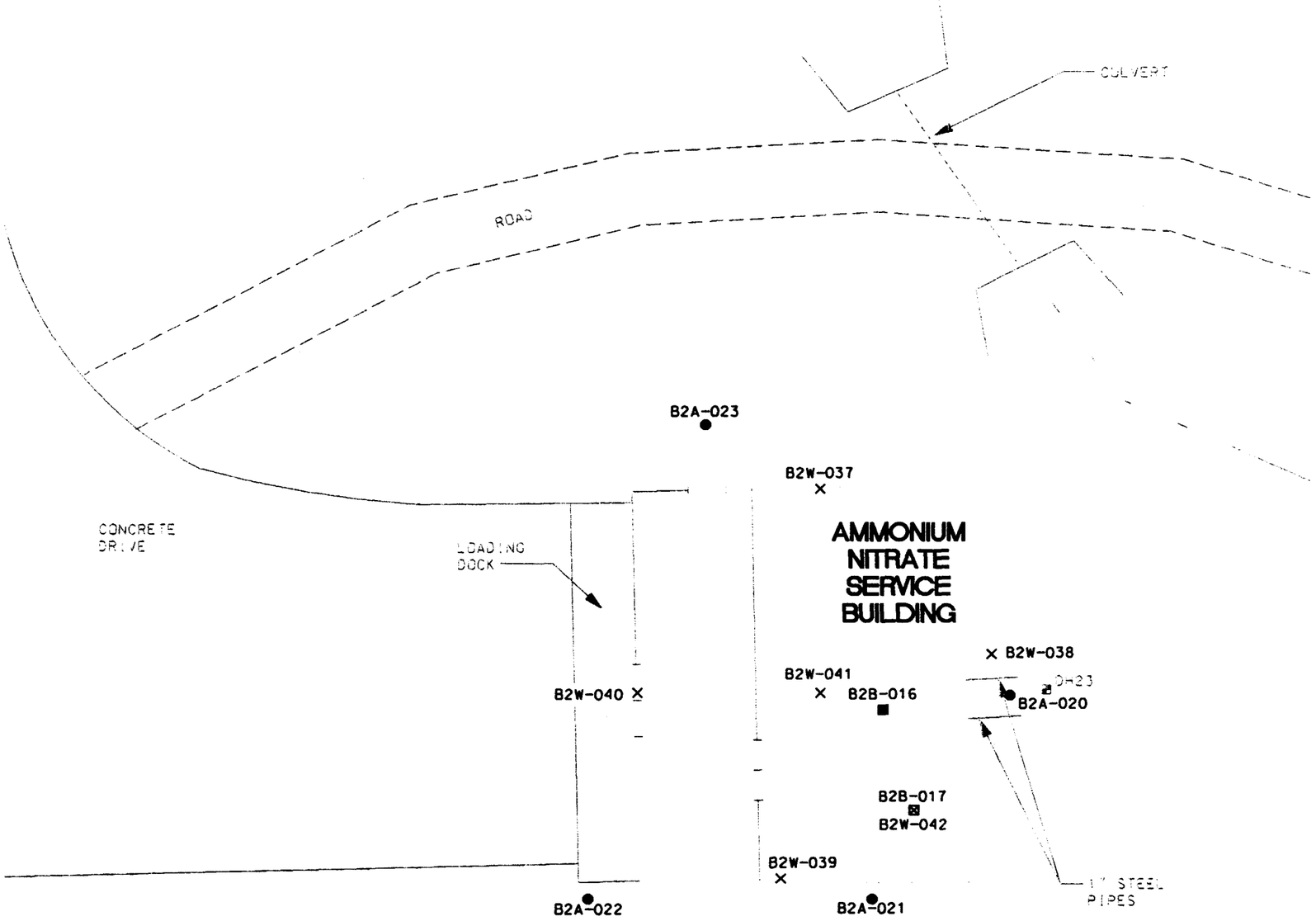
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
2nd FLOOR
AMATOL SCREENING BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-21
Sheet number: 1

21 APR 97 14:53:01
MCS FILE: j:\mead\ou3\2-52.dgn

SOURCE: FIELD MEASUREMENTS



LEGEND:

● B2A-020	ADJACENT SOIL SAMPLE LOCATION
■ B2B-016	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-017/B2W-042	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B2W-037	SURFACE WIPE SAMPLE LOCATION
◪ DH-23	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS EXCEPT B2A-023 WHICH WAS COLLECTED APPROXIMATELY 5 FT FROM THE EXTERIOR WALLS.

N

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SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

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Overland Park, Kansas

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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

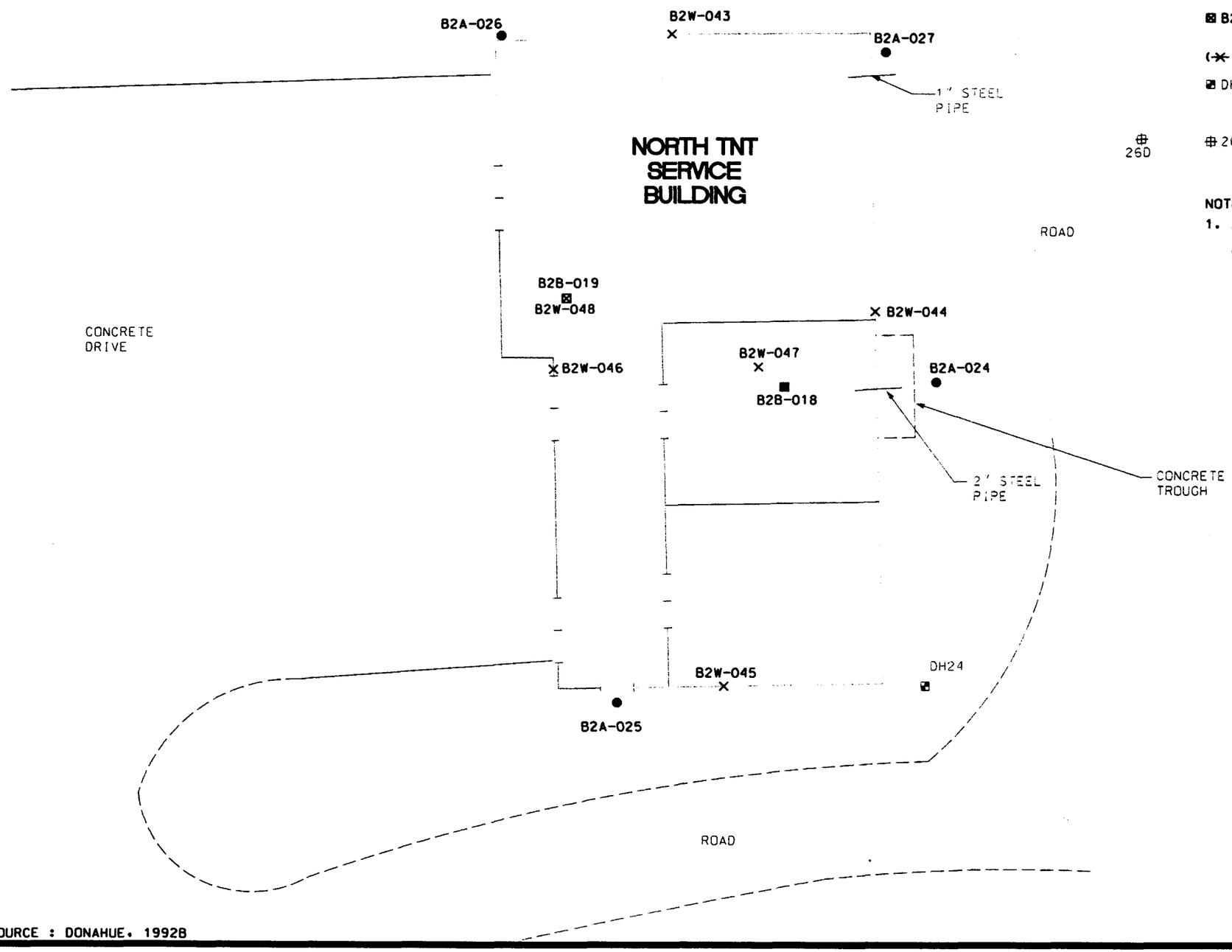
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
AMMONIUM NITRATE
SERVICE BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-22
Sheet number: 1

08 APR 97 12:37:17
MCS FILE: j:\mead\ou3\24.dgn

SOURCE : DONOHUE, 1992B



SOURCE : DONAHUE, 1992B

LEGEND:

● B2A-024	ADJACENT SOIL SAMPLE LOCATION
■ B2B-018	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-019/B2W-048	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B2W-047	SURFACE WIPE SAMPLE LOCATION
⊠ DH24	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ 26D	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS EXCEPT B2A-024 WHICH WAS COLLECTED APPROXIMATELY 5 FT FROM THE EXTERIOR WALLS.

N

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SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

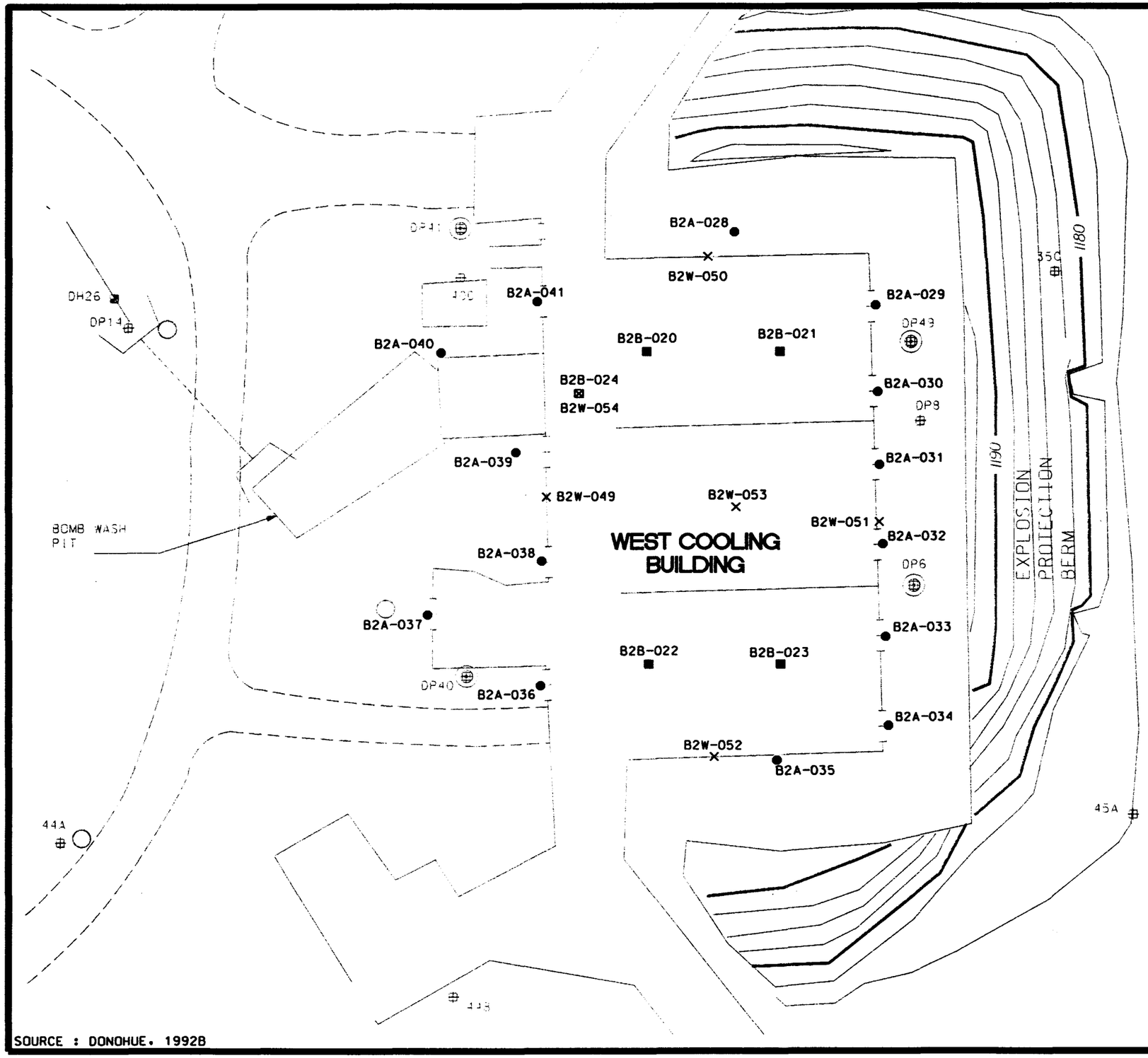
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR, NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
NORTH TNT SERVICE BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-23
Sheet number: 1

21 APR 97 14:55:13
MCS FILE: j:\mead\ou3\25.dgn



SOURCE : DONOHUE, 1992B

LEGEND:

● B2A-028	ADJACENT SOIL SAMPLE LOCATION
■ B2B-020	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-024/B2W-054	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(→✕ WALL, ✕ FLOOR) B2W-049	SURFACE WIPE SAMPLE LOCATION
⊠ DH26	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ 44A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
— 1180 —	INDEX CONTOUR
⌒	INTERMEDIATE CONTOUR

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE WEST COOLING BUILDING:
   B2A-028 AT 3.8 FT. B2A-039 AT 5.0 FT
2. CONTOUR INTERVAL IS 2 FT

N

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SCALE FEET

Revisions			
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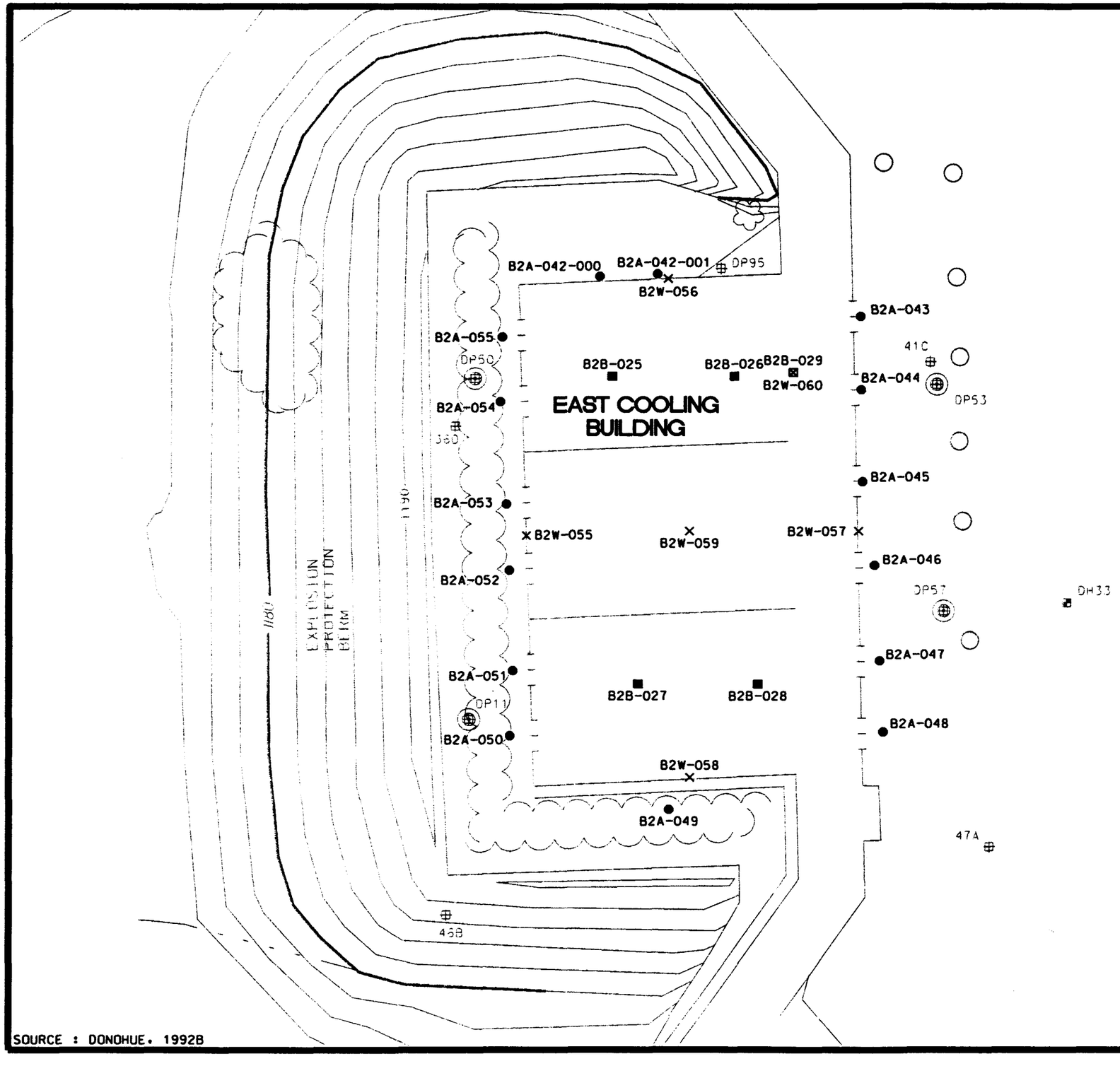
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
WEST
COOLING BUILDING
SAMPLING LOCATIONS

Designed by: S.J.F.	Scale: 1 IN = 20 FEET	Sheet number: 1	
Drawn by: R.A.D.	Date: MAY, 1997		
Checked by: B.C.O.	Dwg. No.: 2-24		
Submitted by: RAN			

08 APR 97 13:00:45
MCS FILE: j:\mead\ou3\27.dgn



SOURCE : DONOHUE, 1992B

LEGEND:

● B2A-042	ADJACENT SOIL SAMPLE LOCATION
■ B2B-025	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-029/B2W-060	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✕ WALL, ✕ FLOOR) B2W-056	SURFACE WIPE SAMPLE LOCATION
DH33	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
41C	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
1180	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE EAST COOLING BUILDING:
   B2A-046 AT 2.25 FT, B2A-047 AT 2.8 FT,
   B2A-048 AT 3.2 FT, B2A-049 AT 2.3 FT,
   B2A-050 AT 3.2 FT, B2A-051 AT 2.7 FT,
   B2A-052 AT 2.5 FT, B2A-053 AT 2.7 FT,
   B2A-054 AT 3.2 FT, B2A-055 AT 2.7 FT.
2. ADJACENT SAMPLE B2A-042 WAS SPLIT DUE TO CONCRETE. THE 0-6 INCH BGS SAMPLE WAS COLLECTED BUT AUGER REFUSAL DUE TO CONCRETE WAS ENCOUNTERED BEFORE 1 FOOT BGS. THE SAMPLE LOCATION WAS THEREFORE OFFSET TO THE EAST AND THE 1-2 FOOT BGS SAMPLE WAS COLLECTED.
3. CONTOUR INTERVAL IS 2 FT

20 0 20 40
SCALE FEET

N

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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

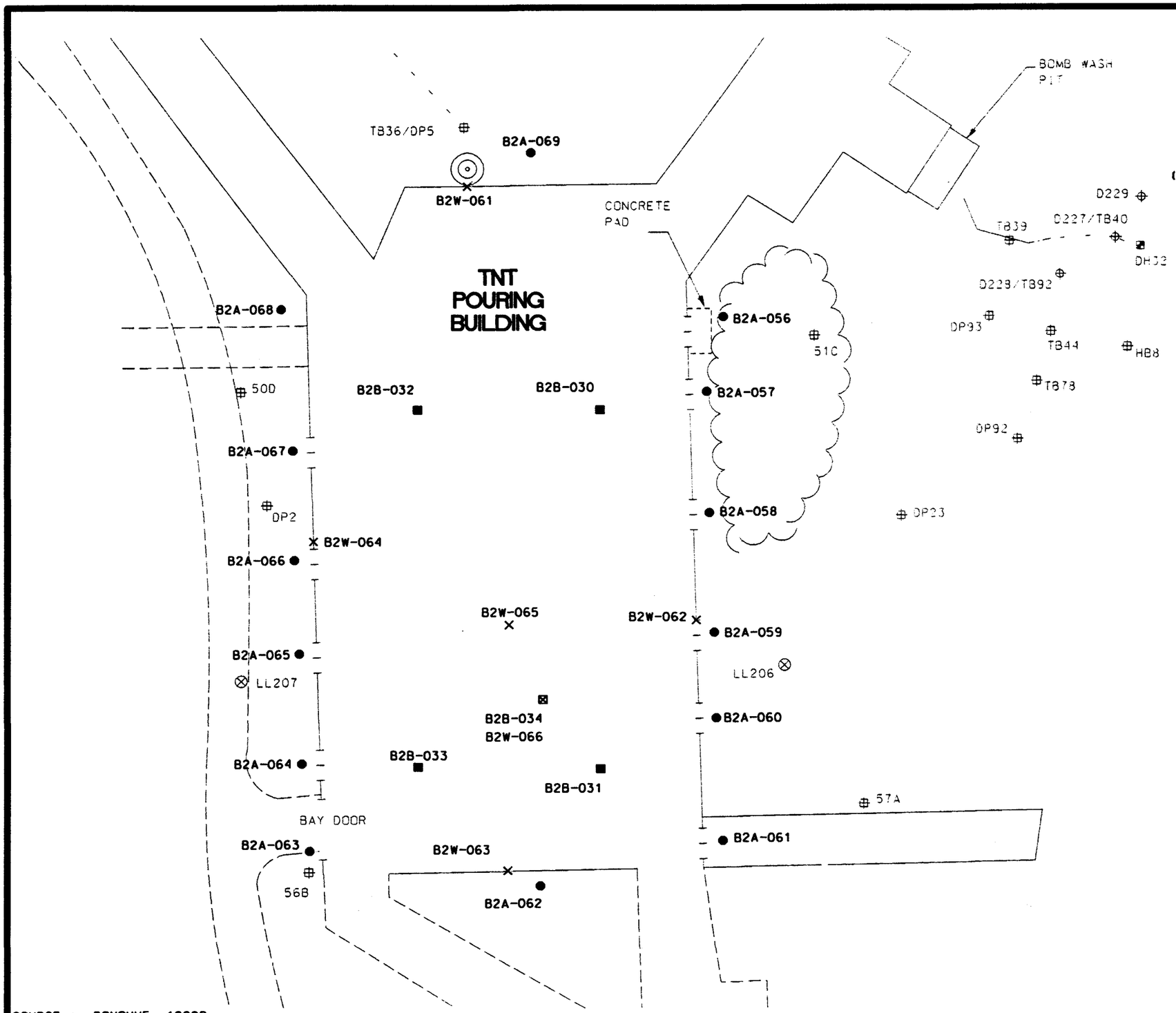
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
EAST
COOLING BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-25
Sheet number: 1

08 APR 97 13:23:19
MCS FILE: j:\mead\ou3\26.dgn



LEGEND:

● B2A-056	ADJACENT SOIL SAMPLE LOCATION
■ B2B-030	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-034/B2W-066	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B2W-061	SURFACE WIPE SAMPLE LOCATION
⊠ DH32	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ D227	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
⊕ TB44	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊗ LL206	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)

NOTES:

1. ALL ADJACENT SOIL SAMPLES WERE COLLECTED 2 FT FROM THE EXTERIOR WALLS OF THE TNT POURING AND TNT SCREENING BUILDINGS WITH THE FOLLOWING EXCEPTIONS:
   B2A-056 AT 5.0 FT. B2A-061 AT 2.5 FT.
   B2A-062 AT 1.5 FT. B2A-063 AT 2.5 FT.
   B2A-068 AT 1.5 FT. B2A-069 AT 6.0 FT

N

20 0 20 40
SCALE FEET

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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
TNT POURING BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-26
Sheet number: 1

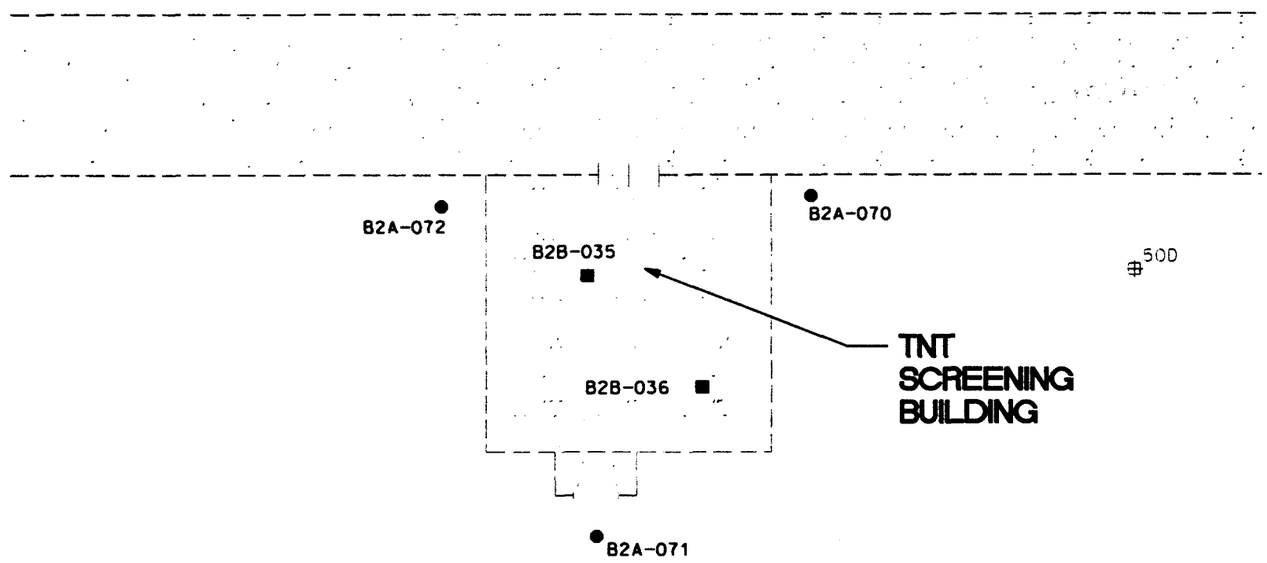
21 APR 97 15:00:02
MCS FILE: j:\mead\ou3\29.dgn

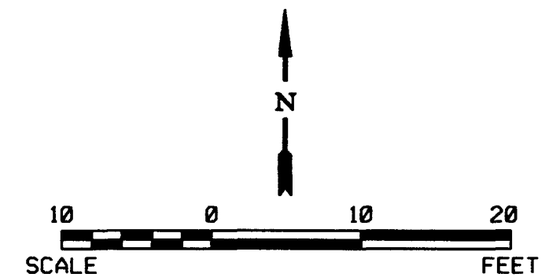
LEGEND:

● B2A-070	ADJACENT SOIL SAMPLE LOCATION
■ B2B-036	BENEATH SOIL SAMPLE LOCATION
⊕ DP75	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ADJACENT SOIL SAMPLE B2A-073 WAS NOT COLLECTED DUE TO CONCRETE.
2. BENEATH SOIL SAMPLES B2B-035 AND B2B-036 AND SURFACE WIPE SAMPLES B2W-067 TO B2W-072 WERE NOT COLLECTED BECAUSE THE TNT SCREENING BUILDING NO LONGER EXISTS.





Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

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CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

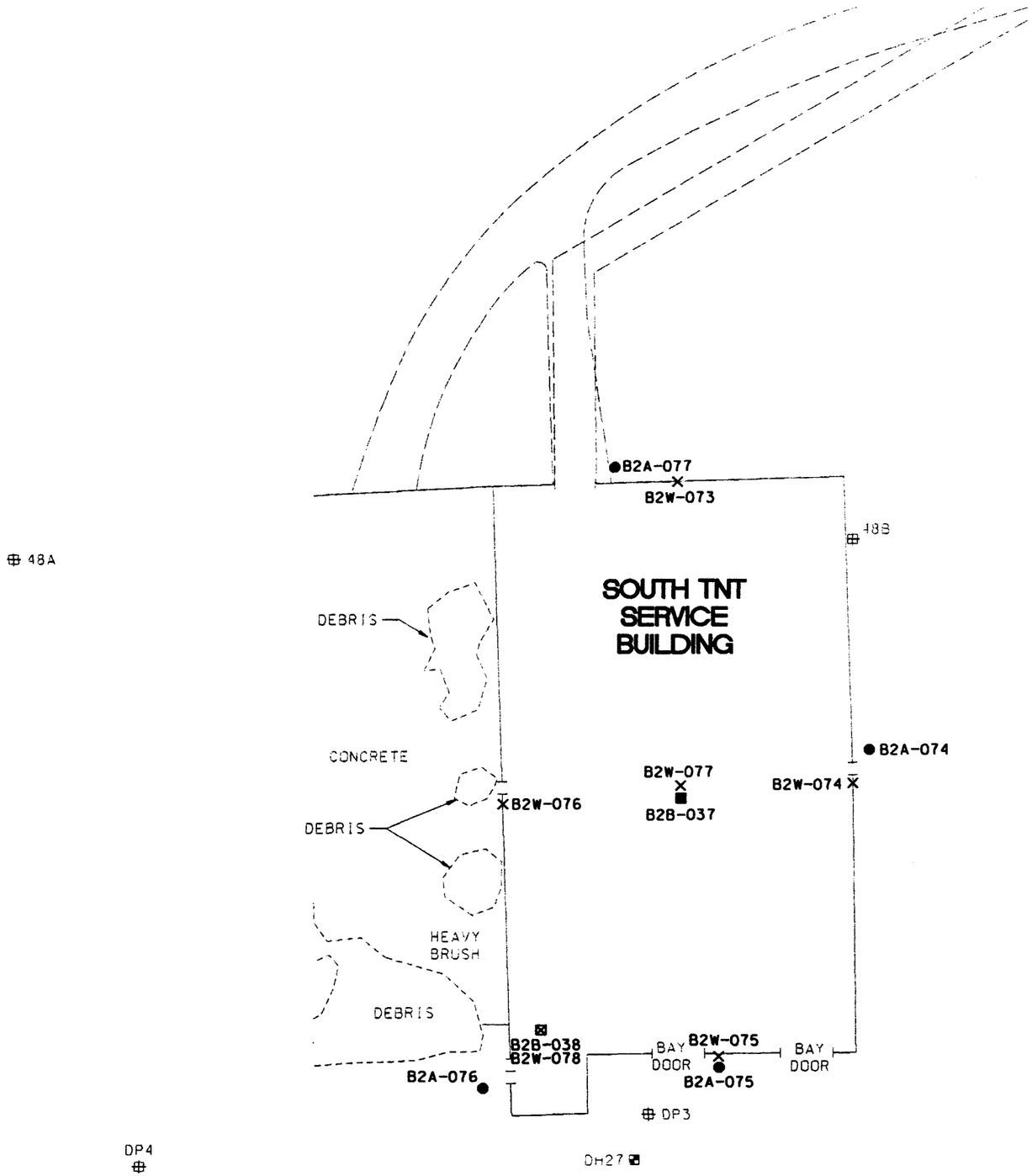
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
TNT SCREENING BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-27
Sheet number: 1

21 APR 97 15:01:46
MCS FILE: j:\mead\ou3\128.dgn

SOURCE : FIELD MEASUREMENTS



SOURCE : FIELD MEASUREMENTS

LEGEND:

● B2A-074	ADJACENT SOIL SAMPLE LOCATION
■ B2B-037	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-038/B2W-078	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(→✕ WALL, ✕ FLOOR) B2W-073	SURFACE WIPE SAMPLE LOCATION
⊠ DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE SOUTH TNT SERVICE BUILDING:
   B2A-074 AT 3.0 FT, B2A-075 AT 2.0 FT, B2A-076 AT 5.5 FT.

N

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SCALE FEET

Revisions			
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Woodward-Clyde
Overland Park, Kansas

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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
SOUTH TNT
SERVICE BUILDING
SAMPLING LOCATIONS

Scale: 1 IN - 30 FEET
Date: MAY, 1997
Dwg. No.: 2-28
Sheet number: 1

21 APR 97 15:06:28
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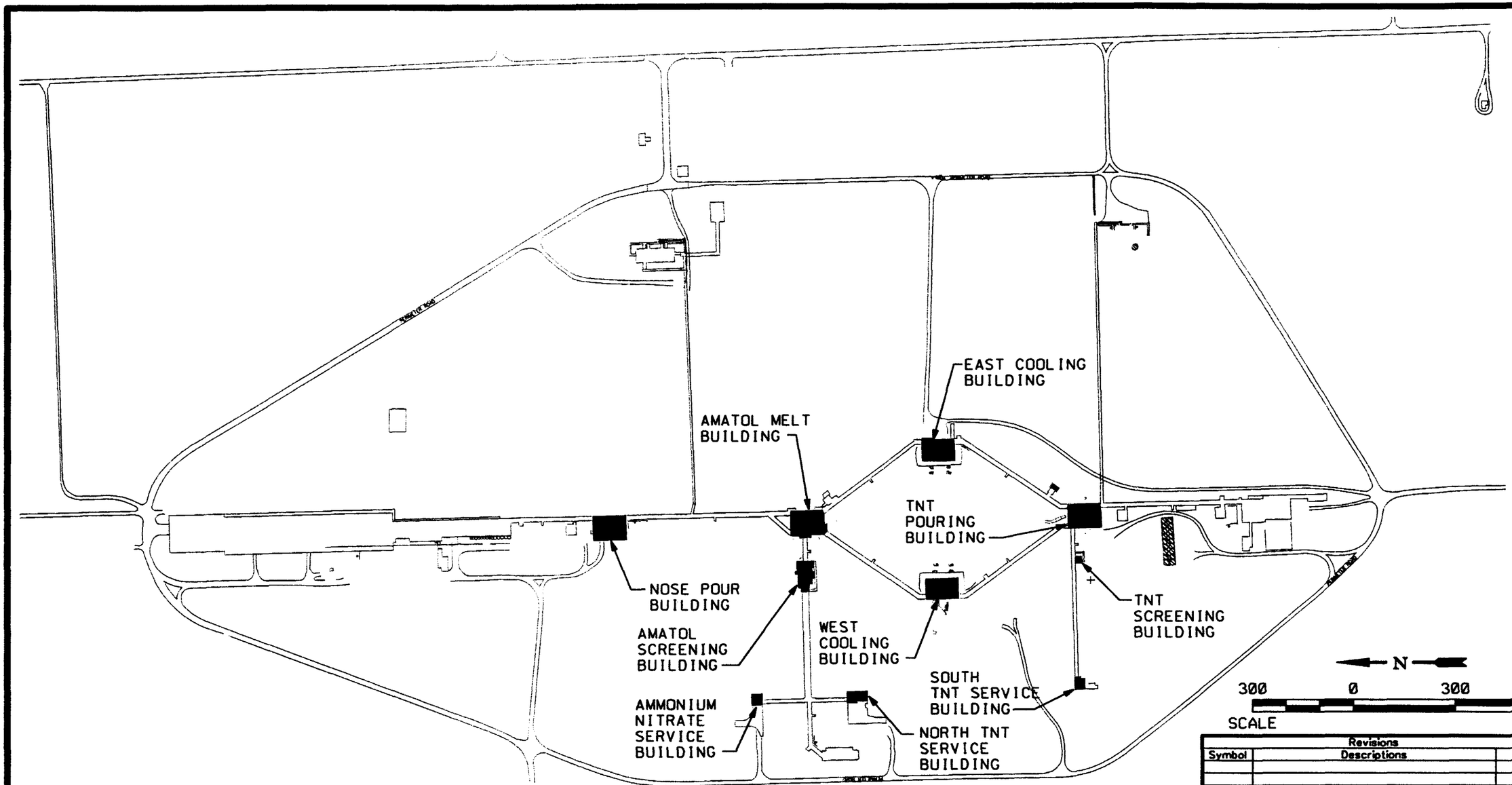

LEGEND:

ORIGINAL BOMB PRODUCTION BUILDING LOCATIONS

SOURCE: DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

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CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

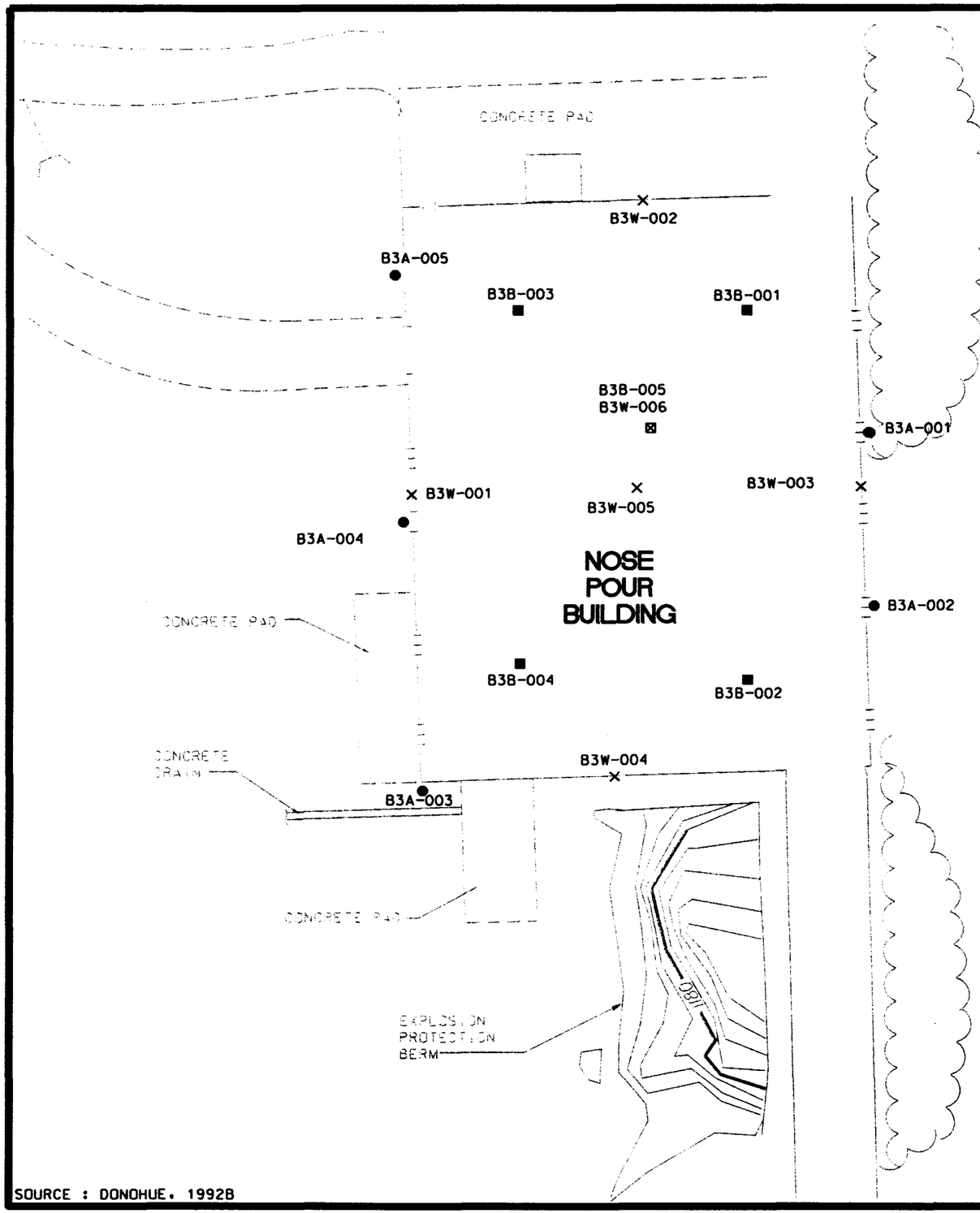
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

BOMB PRODUCTION BUILDINGS AT LOAD LINE 3

Scale: 1 IN - 300 FEET
Date: MAY, 1997
Dwg. No.: 2-29
Sheet number: 1

21 APR 97 15:08:59
MCS FILE: j:\meod\ou313b.dgn



SOURCE : DONOHUE, 1992B

LEGEND:

● B3A-001	ADJACENT SOIL SAMPLE LOCATION
■ B3B-001	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-005/B3W-006	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B3W-001	SURFACE WIPE SAMPLE LOCATION
1180	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1.5 FT FROM EXTERIOR WALLS.

N

20 0 20 40

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

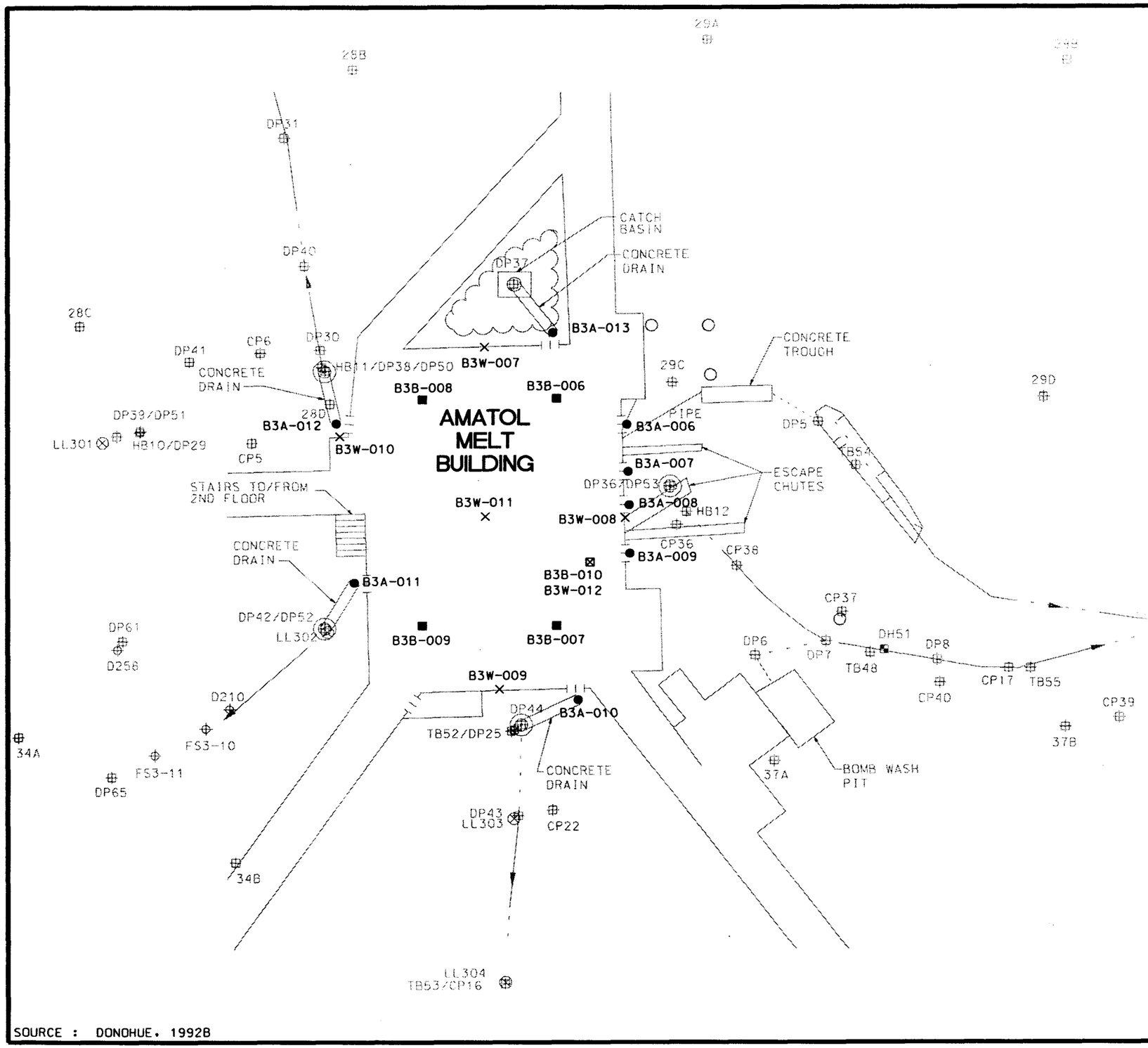
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
NOSE POUR BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-30
Sheet number: 1

08 APR 97 15:58:48
MCS FILE: j:\mead\ou3\31.dgn



SOURCE : DONOHUE, 1992B

LEGEND:

● B3A-006	ADJACENT SOIL SAMPLE LOCATION
■ B3B-006	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-010/B3W-012	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(→✕ WALL, ✕ FLOOR) B3W-007	SURFACE WIPE SAMPLE LOCATION
DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
DH5	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊗ LL302	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)

N

30 0 30 60

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAW

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
AMATOL MELT BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 30 FEET
Date: MAY, 1997
Drg. No.: 2-31
Sheet number: 1

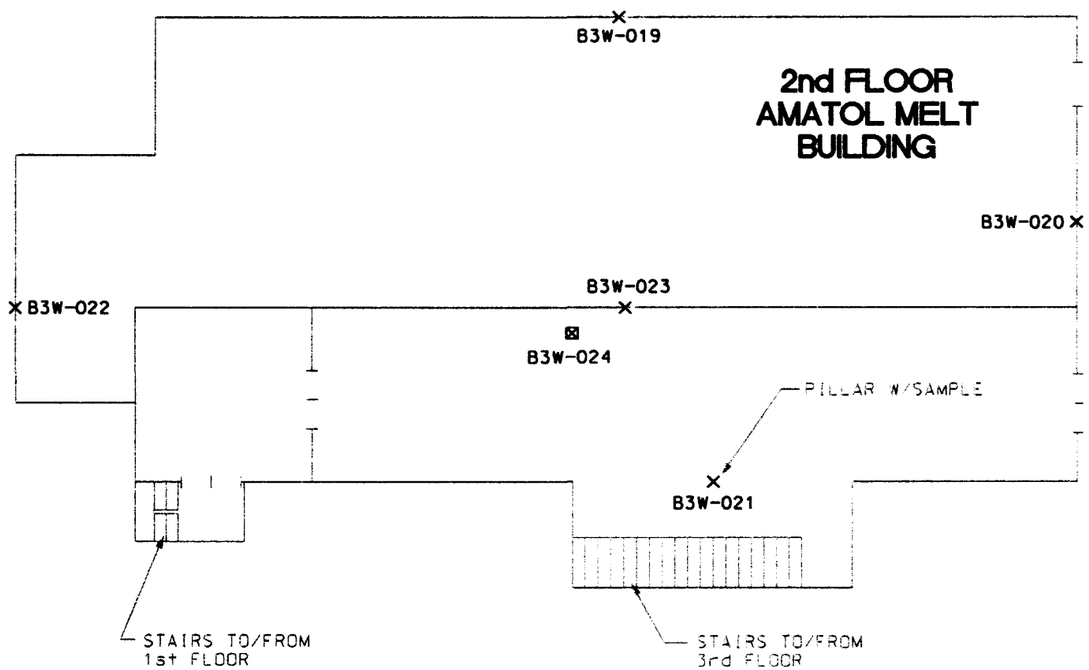
28 APR 97 14:01:53
MCS FILE: j:\mead\ou3\32.dgn

B07NE003703-04493

LEGEND:

⊠ B3W-024 DISCRETIONARY WIPE SAMPLE LOCATION

(→✕ WALL, ✕ FLOOR) B3W-019 SURFACE WIPE SAMPLE LOCATION



N

10 0 10 20

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
2nd FLOOR
AMATOL MELT BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-32
Sheet number: 1

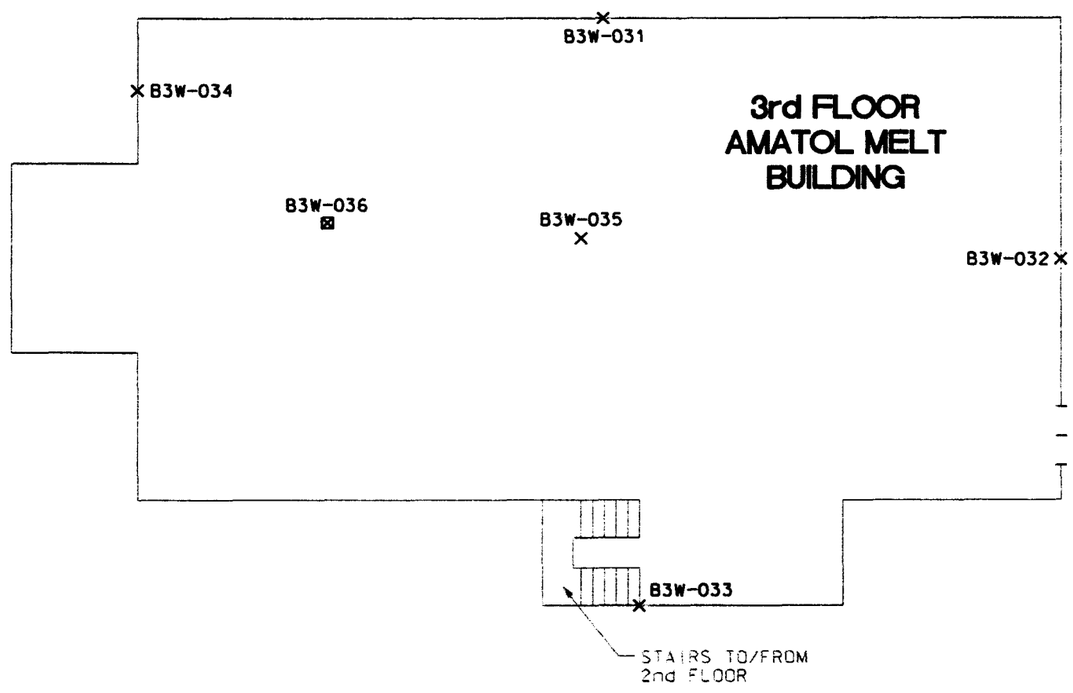
21 APR 97 15:21:41
MCS FILE: j:\mead\ou3\3322.dgn

SOURCE: FIELD MEASUREMENTS

LEGEND:

⊠ B3W-036 DISCRETIONARY WIPE SAMPLE LOCATION

(→✕ WALL, ✕ FLOOR) B3W-031 SURFACE WIPE SAMPLE LOCATION



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10 0 10 20

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

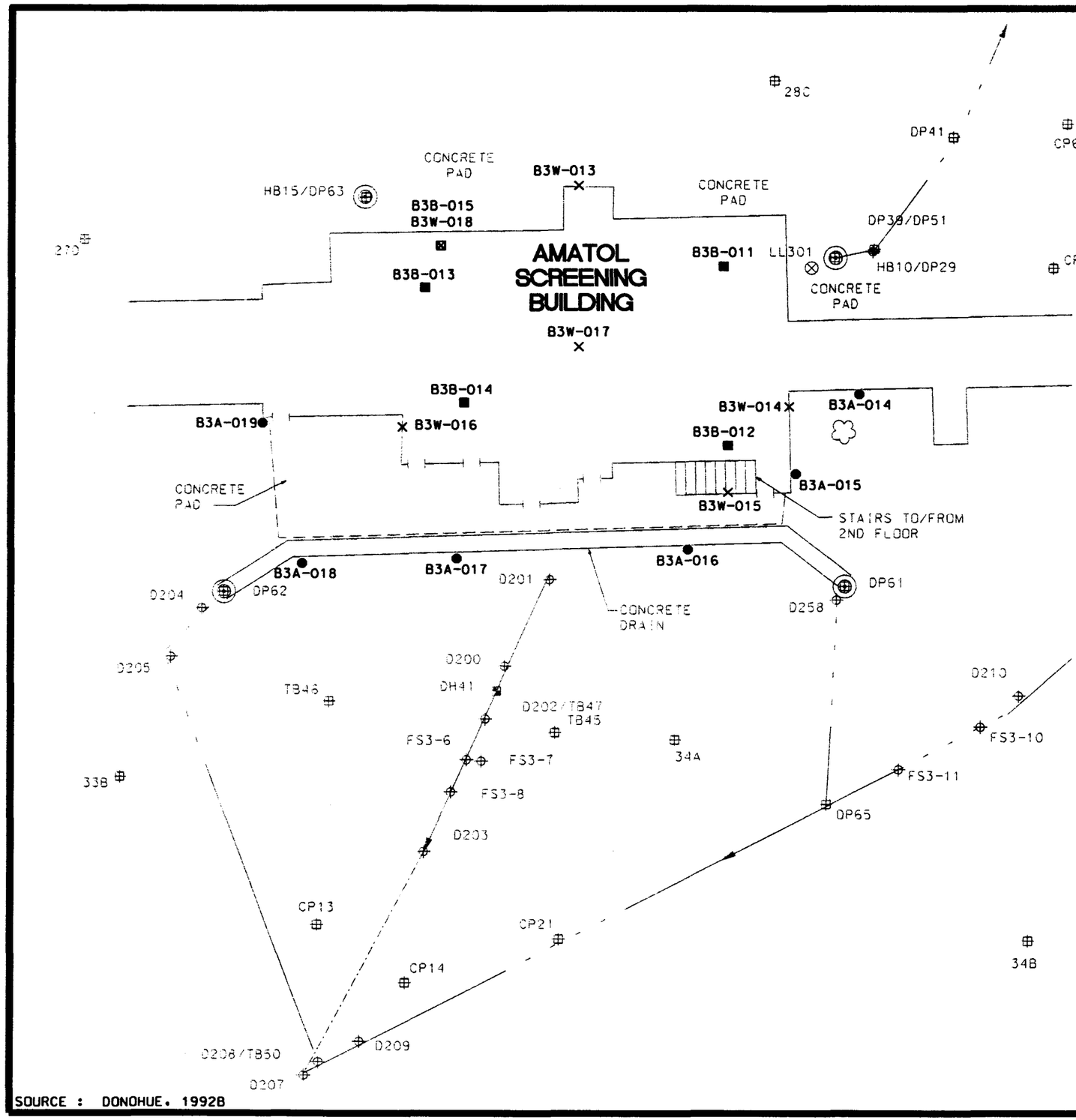
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
3rd FLOOR
AMATOL MELT BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-33
Sheet number: 1

21 APR 97 15:22:33
MCS FILE: j:\mead\ou3\1323.dgn

SOURCE: FIELD MEASUREMENTS



SOURCE : DONOHUE, 1992B

LEGEND:

● B3A-014	ADJACENT SOIL SAMPLE LOCATION
■ B3B-011	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-015/B3W-018	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B3W-013	SURFACE WIPE SAMPLE LOCATION
DH41	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
D200	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
CP5	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
LL301	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)

NOTES:

1. ALL ADJACENT SOIL SAMPLES WERE COLLECTED APPROXIMATELY 1 FT FROM CONCRETE WALKS OR EXTERIOR WALLS.

N

20 0 20 40

SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
AMATOL SCREENING BUILDING
SAMPLING LOCATIONS

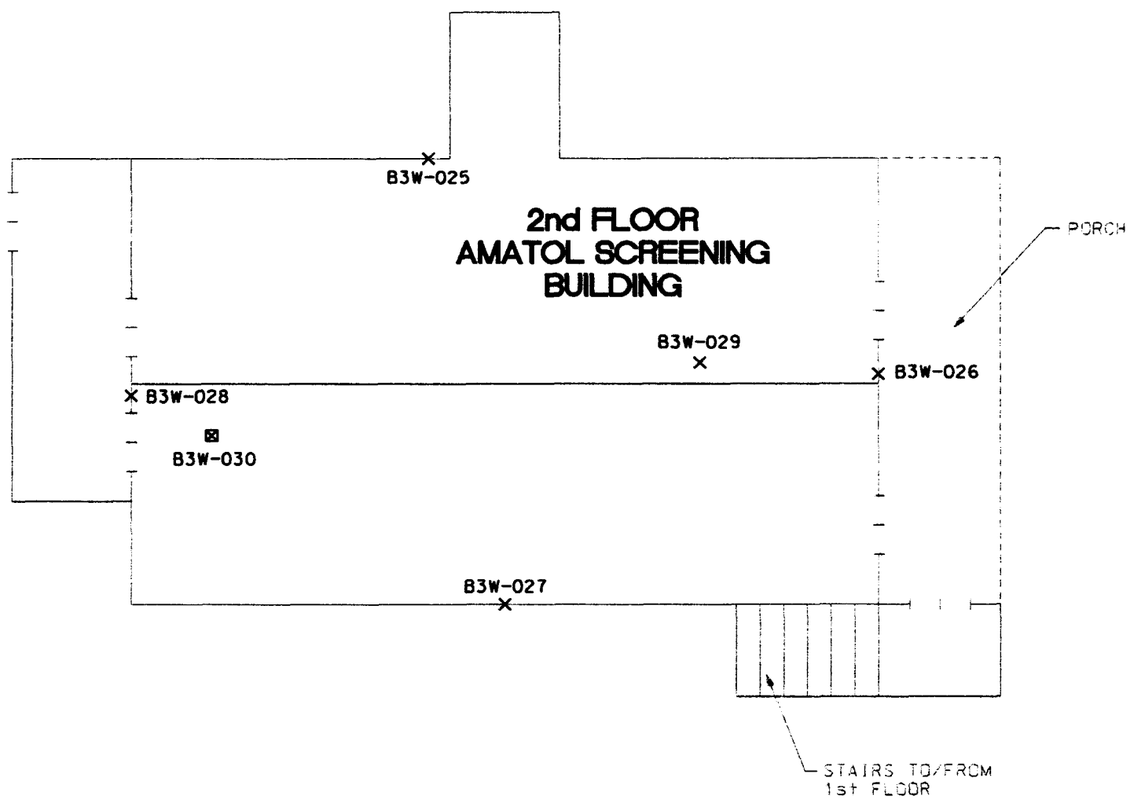
Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-34
Sheet number: 1

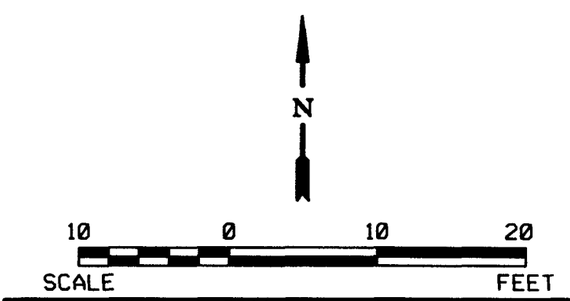
21 APR 97 15:24:07
MCS FILE: j:\mead\ou3\33.dgn

LEGEND:

⊠ B3W-030 DISCRETIONARY WIPE SAMPLE LOCATION

(✕ WALL, ✕ FLOOR) B3W-025 SURFACE WIPE SAMPLE LOCATION





Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

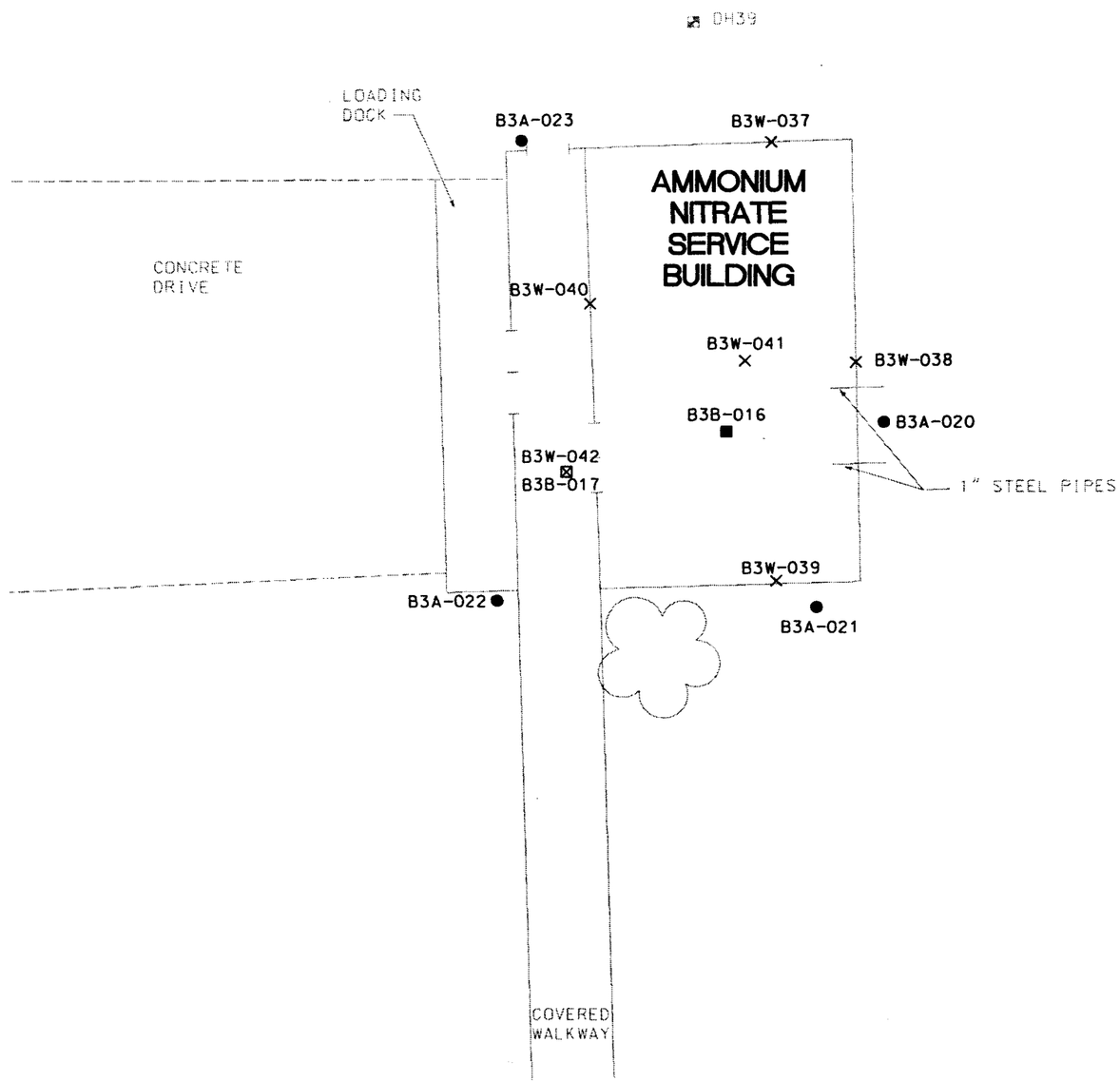
LOAD LINE 3
2nd FLOOR
AMATOL SCREENING BUILDING
SAMPLING LOCATIONS

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-35
Sheet number: 1

21 APR 97 15:25:10
MCS FILE: j:\mead\ou3\332.dgn

SOURCE: FIELD MEASUREMENTS



LEGEND:

● B3A-020	ADJACENT SOIL SAMPLE LOCATION
■ B3B-016	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-017/B3W-042	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B3W-037	SURFACE WIPE SAMPLE LOCATION
DH39	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)

NOTES:
1. ALL ADJACENT SOIL SAMPLES COLLECTED 1 FT FROM EXTERIOR WALLS.

N

10 0 10 20
SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

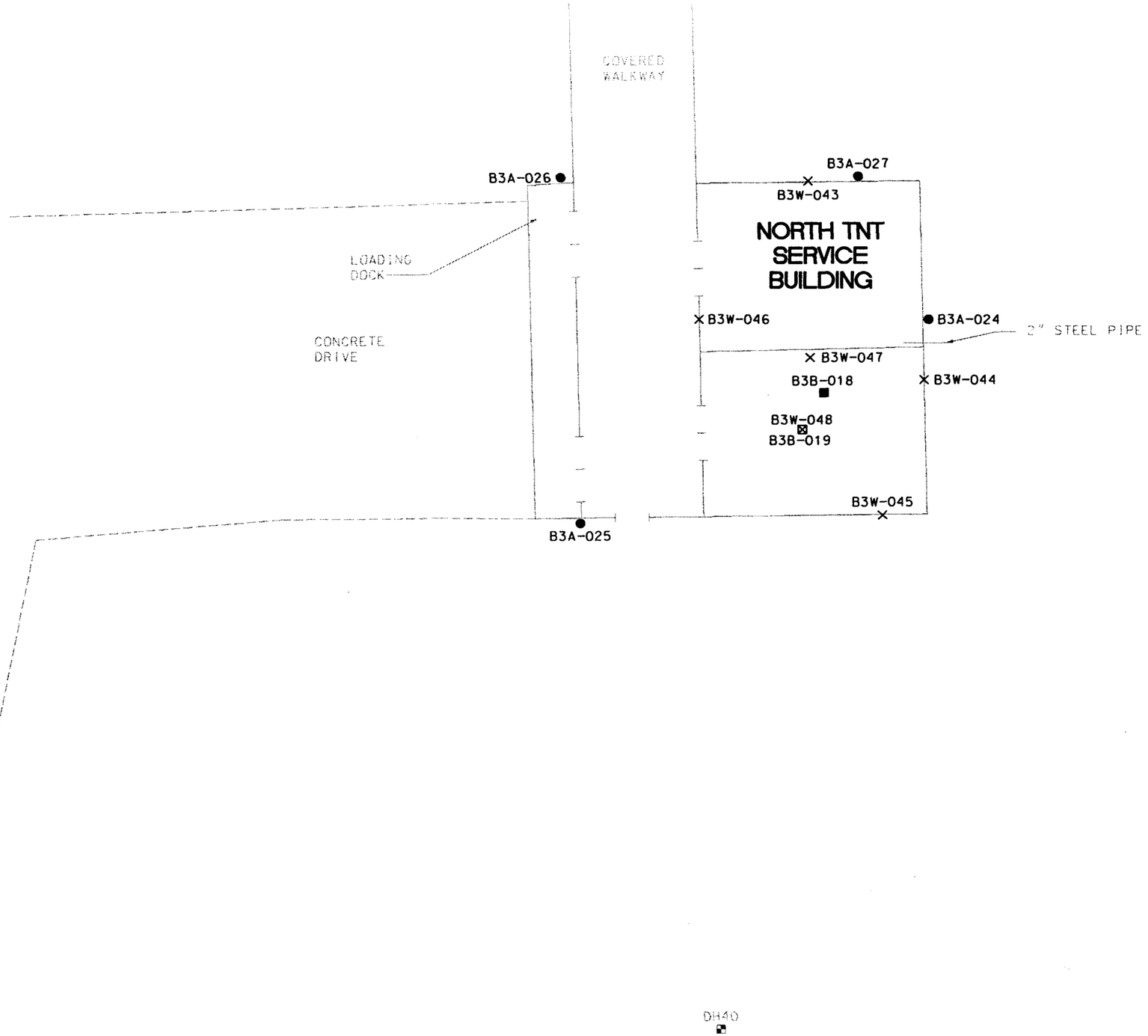
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
AMMONIUM NITRATE
SERVICE BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-36
Sheet number: 1

28 APR 97 14:02:42
MCS FILE: j:\mead\ou3\13+.dgn

SOURCE : FIELD MEASUREMENTS



LEGEND:

● B3A-024	ADJACENT SOIL SAMPLE LOCATION
■ B3B-018	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-019/B3W-048	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B3W-047	SURFACE WIPE SAMPLE LOCATION
DH40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
26D	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED 1 FT FROM EXTERIOR WALLS.

N

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SCALE FEET

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

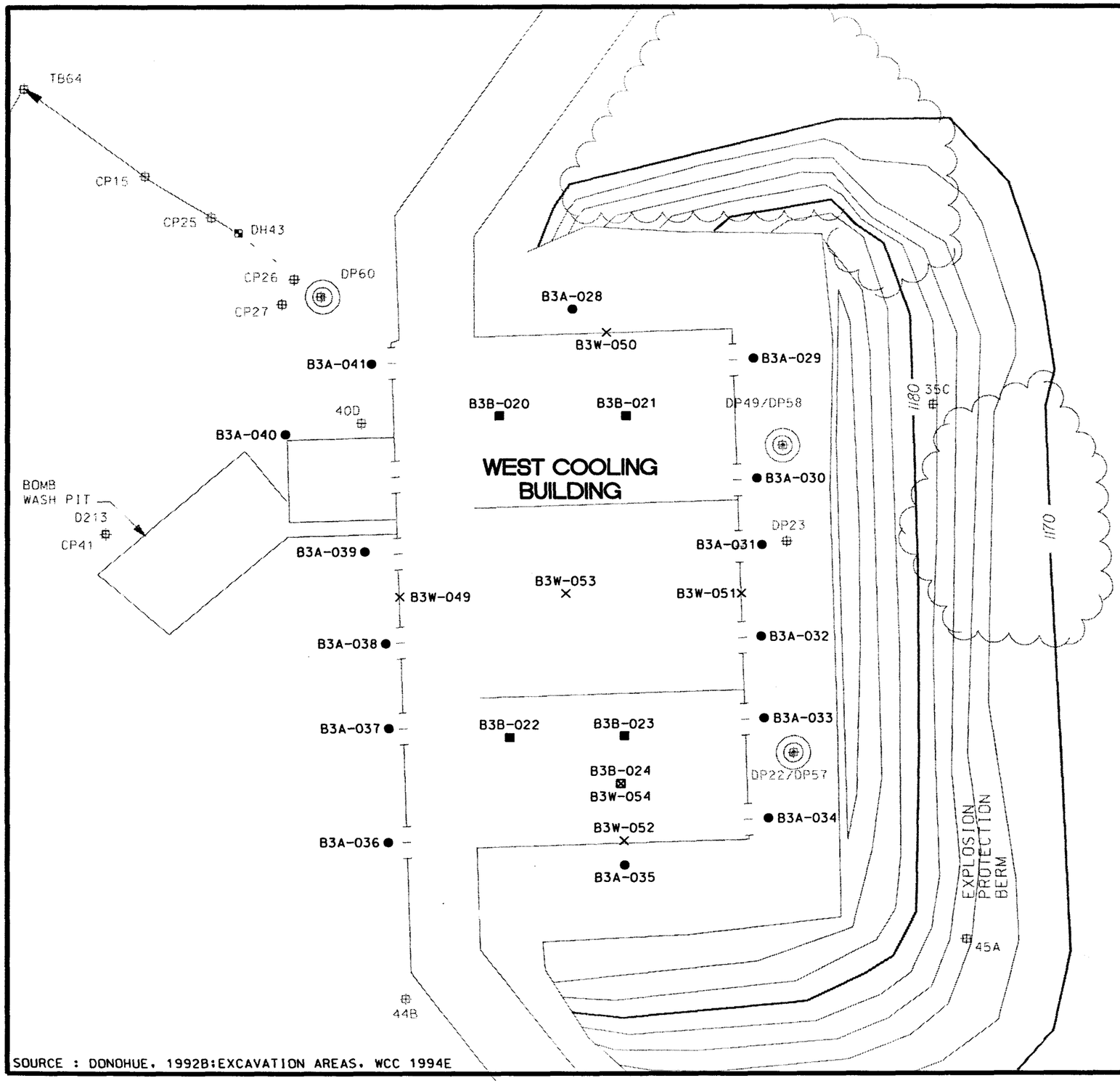
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
NORTH TNT
SERVICE BUILDING
SAMPLING LOCATIONS

Scale: 1 IN - 10 FEET
Date: MAY, 1997
Dwg. No.: 2-37
Sheet number: 1

28 APR 97 14:04:04
MCS FILE: j:\mead\ou3\135.dgn



SOURCE : DONOHUE, 1992B:EXCAVATION AREAS, WCC 1994E

LEGEND:

● B3A-028	ADJACENT SOIL SAMPLE LOCATION
■ B3B-020	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-024/B3W-049	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✕ WALL, ✕ FLOOR) B3W-052	SURFACE WIPE SAMPLE LOCATION
DH43	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
35C	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
D213	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
1180	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE WEST COOLING BUILDING:
   B3A-028 AT 3.9 FT. B3A-029 AT 2.9 FT.
   B3A-030 AT 2.9 FT. B3A-031 AT 3.5 FT.
   B3A-032 AT 2.8 FT. B3A-033 AT 2.8 FT.
   B3A-034 AT 3.0 FT. B3A-035 AT 3.3 FT.
   B3A-036 AT 2.7 FT. B3A-037 AT 1.9 FT.
   B3A-038 AT 2.0 FT. B3A-039 AT 5.25 FT.
   B3A-040 AT 1.9 FT. B3A-041 AT 2.9 FT

N

20 0 20 40
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

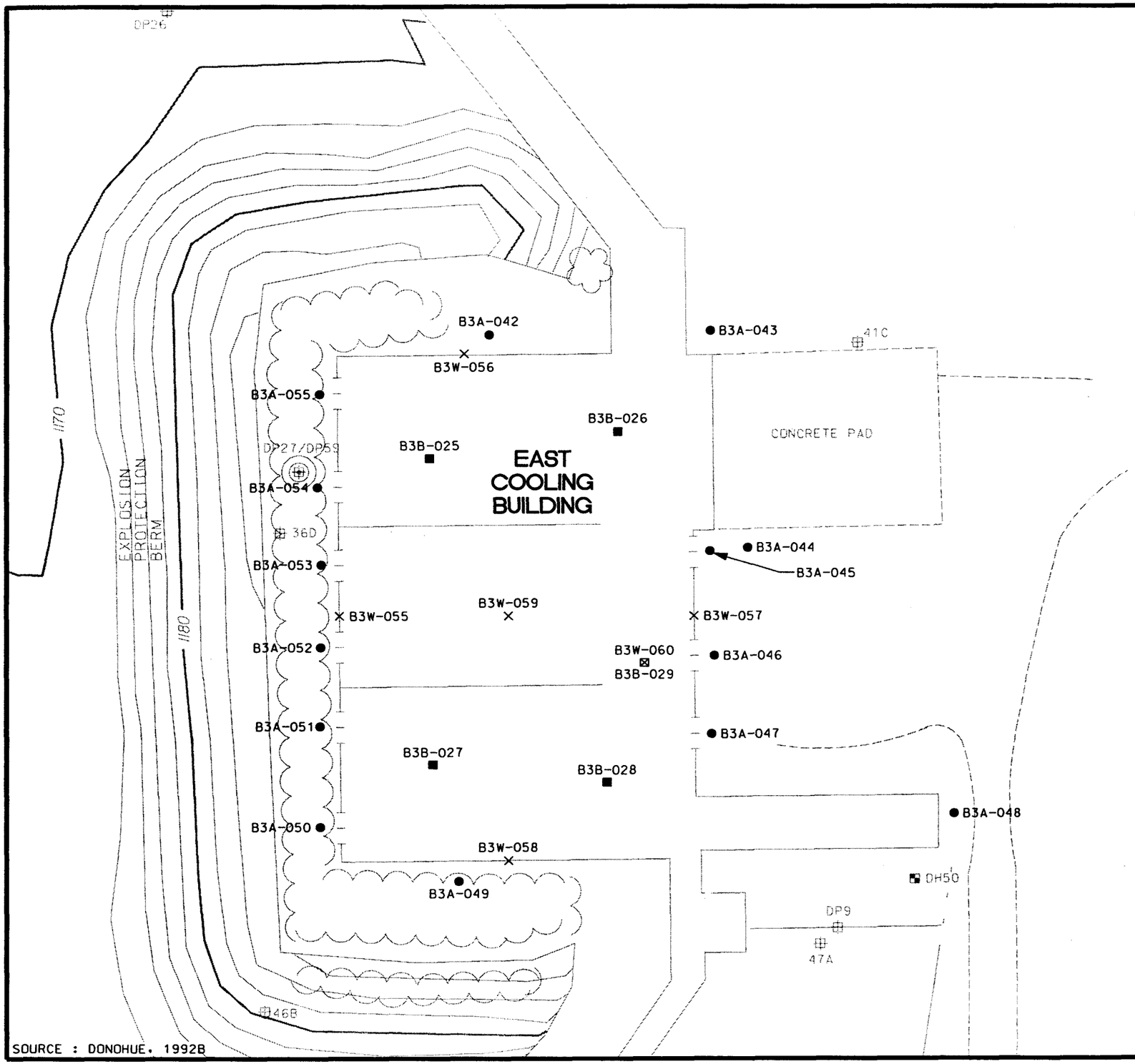
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
WEST COOLING
BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-38
Sheet number: 1

28 APR 97 14:04:38
MCS FILE: j:\mead\ou3\137.dgn

B07NE003703-04500



SOURCE : DONOHUE, 1992B

LEGEND:

● B3A-042	ADJACENT SOIL SAMPLE LOCATION
■ B3B-025	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-029/B3W-055	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B3W-055	SURFACE WIPE SAMPLE LOCATION
DH50	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
1180	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE EAST COOLING BUILDING:
   B3A-042 AT 3.0 FT, B3A-043 AT 3.8 FT,
   B3A-044 AT 3.0 FT, B3A-045 AT 2.25 FT,
   B3A-046 AT 2.8 FT, B3A-047 AT 2.25 FT,
   B3A-048 AT 2.2 FT, B3A-049 AT 3.2 FT,
   B3A-050 AT 3.2 FT, B3A-051 AT 3.1 FT,
   B3A-052 AT 2.7 FT, B3A-053 AT 2.2 FT,
   B3A-054 AT 3.0 FT, B3A-055 AT 2.5 FT

N

20 0 20 40
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

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Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
EAST COOLING
BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-39
Sheet number: 1

28 APR 97 14:05:44
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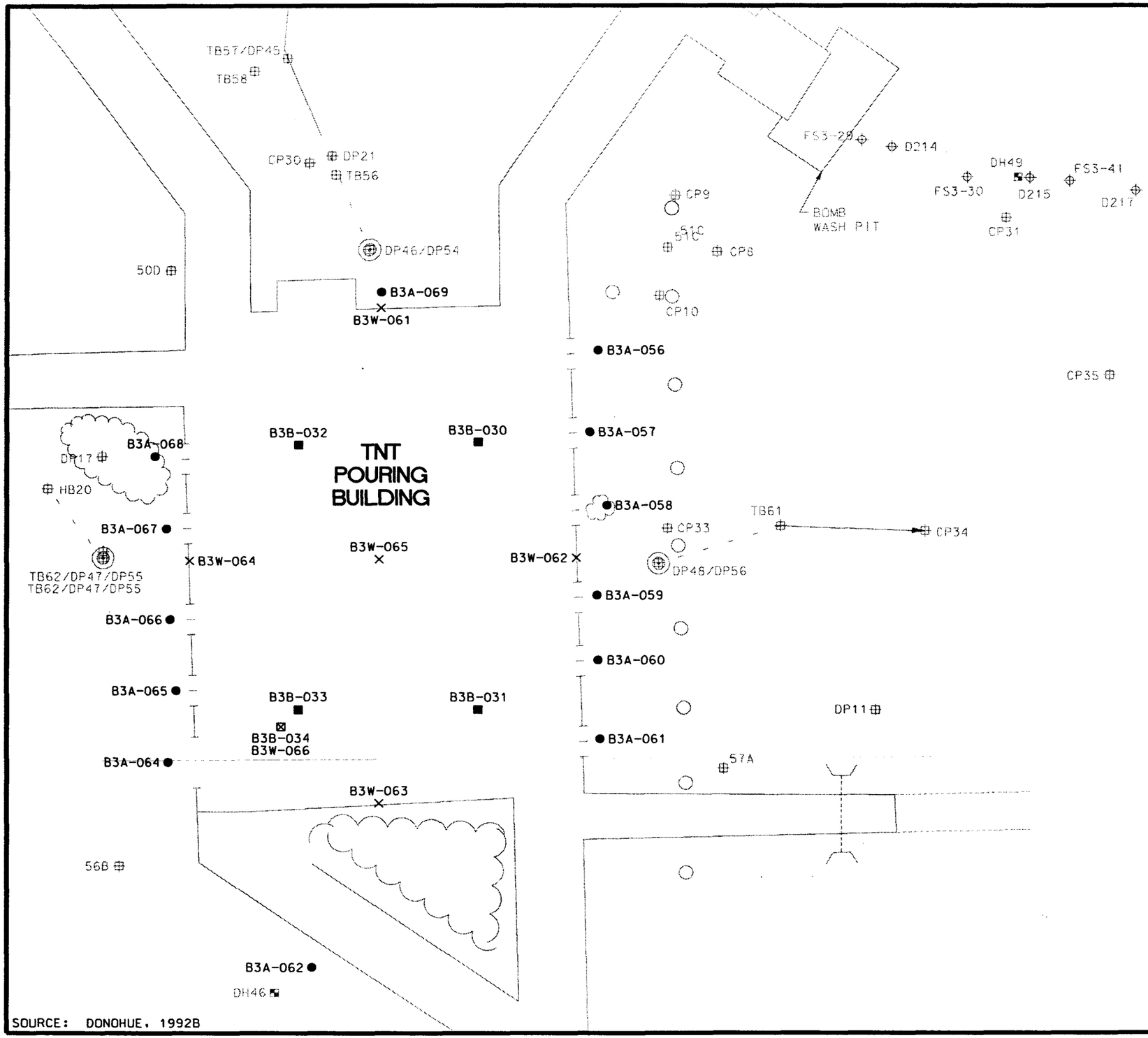

SOURCE: DONOHUE, 1992B

LEGEND:

● B3A-056	ADJACENT SOIL SAMPLE LOCATION
■ B3B-030	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-034/B3W-066	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✕ WALL, × FLOOR) B3W-061	SURFACE WIPE SAMPLE LOCATION
DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
DH5	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE TNT POURING BUILDING:
   B3A-056 AT 4.5 FT, B3A-057 AT 2.5 FT,
   B3A-058 AT 5.0 FT, B3A-059 AT 2.5 FT,
   B3A-060 AT 2.5 FT, B3A-061 AT 2.5 FT,
   B3A-062 AT 4.0 FT, B3A-064 AT 4.5 FT,
   B3A-065 AT 2.5 FT, B3A-066 AT 3.0 FT,
   B3A-067 AT 3.0 FT, B3A-068 AT 5.0 FT,
   B3A-069 AT 2.5 FT
2. ADJACENT SOIL SAMPLE B3A-063 WAS NOT COLLECTED DUE TO CONCRETE DEBRIS AT SAMPLING LOCATION.

N

20 0 20 40
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
TNT POURING
BUILDING
SAMPLING LOCATIONS

Scale: 1 IN - 20 FEET
Date: MAY, 1997
Dwg. No.: 2-40
Sheet number: 1

28 APR 97 14:06:14
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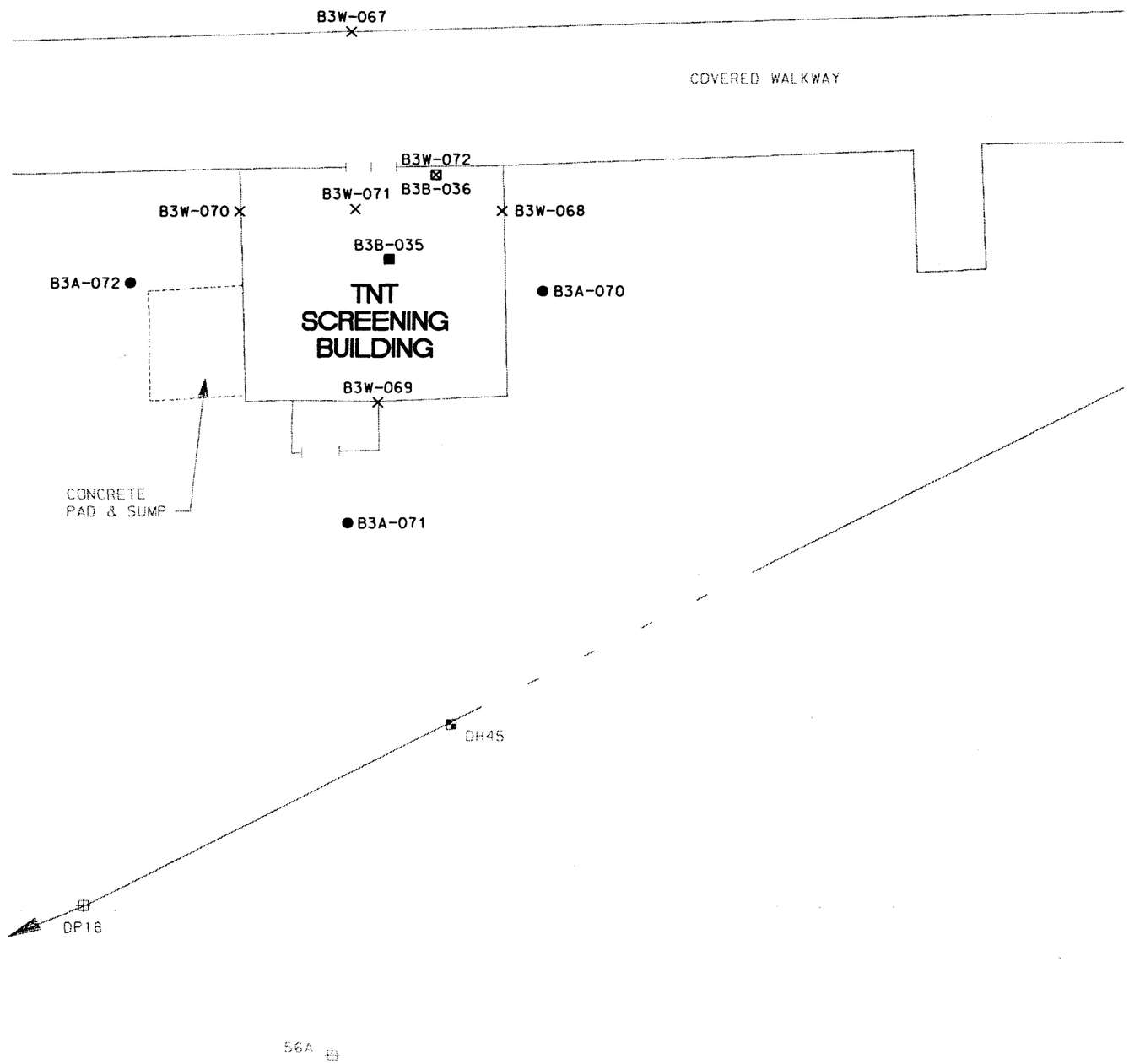

SOURCE : DONOHUE, 1992B

LEGEND:

● B3A-070	ADJACENT SOIL SAMPLE LOCATION
■ B3B-035	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-036/B3W-072	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✕ WALL, X FLOOR) B3W-067	SURFACE WIPE SAMPLE LOCATION
DH45	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
56A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE TNT SCREENING BUILDING: B3A-070 AT 2.0 FT, B3A-071 AT 5.0 FT, B3A-072 AT 9.5 FT
2. ADJACENT SOIL SAMPLE B3A-073 WAS NOT COLLECTED DUE TO CONCRETE PAD AT SAMPLE LOCATION.

N

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SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
TNT SCREENING
BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-41
Sheet number: 1

28 APR 97 14:06:50
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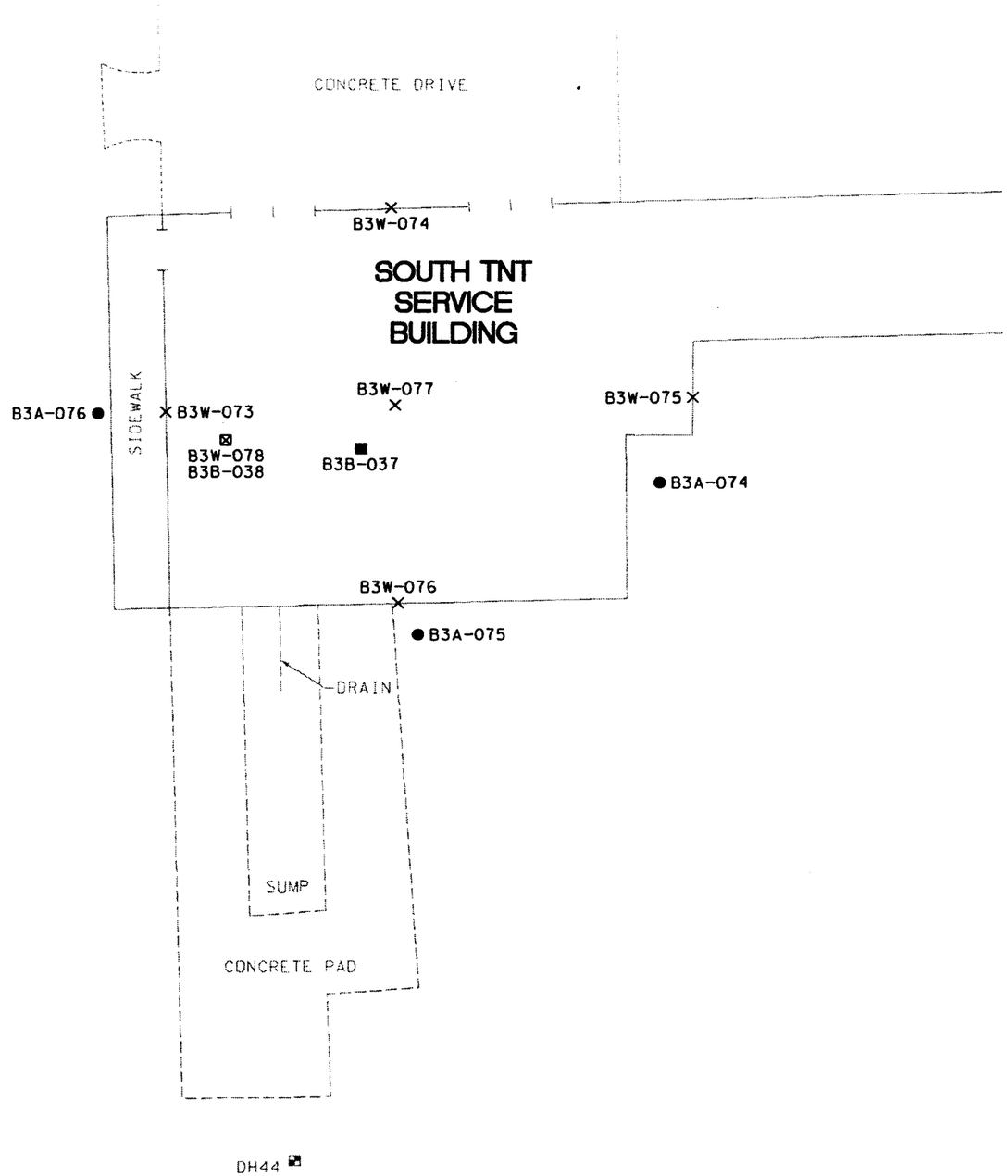

SOURCE : DONOHUE, 1992B

LEGEND:

● B3A-074	ADJACENT SOIL SAMPLE LOCATION
■ B3B-037	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-038/B3W-078	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B3W-073	SURFACE WIPE SAMPLE LOCATION
⊠ DH44	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE SOUTH TNT SERVICE BUILDING:
   B3A-074 AT 2.0 FT. B3A-075 AT 2.0 FT.
   B3A-076 AT 4.5 FT
2. ADJACENT SOIL SAMPLE B3A-077 NOT COLLECTED DUE TO CONCRETE PAD AT SAMPLING LOCATION.

N

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SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
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KANSAS CITY, MISSOURI

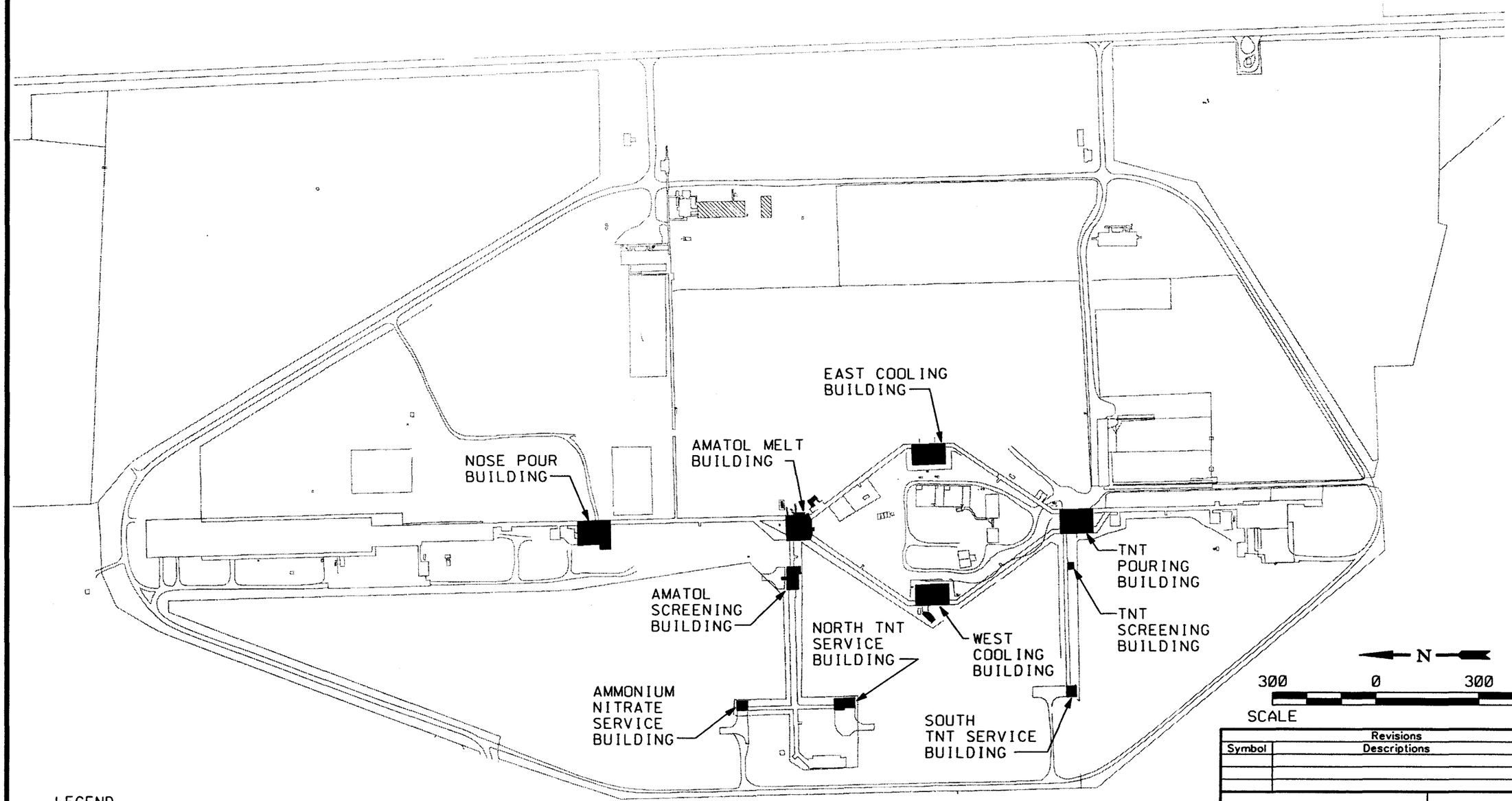
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
SOUTH TNT SERVICE BUILDING
SAMPLING LOCATIONS

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN
Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-42
Sheet number: 1

28 APR 97 14:07:17
MCS FILE: j:\mead\ou3\130.dgn



LEGEND

ORIGINAL BOMB PRODUCTION BUILDING LOCATIONS

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

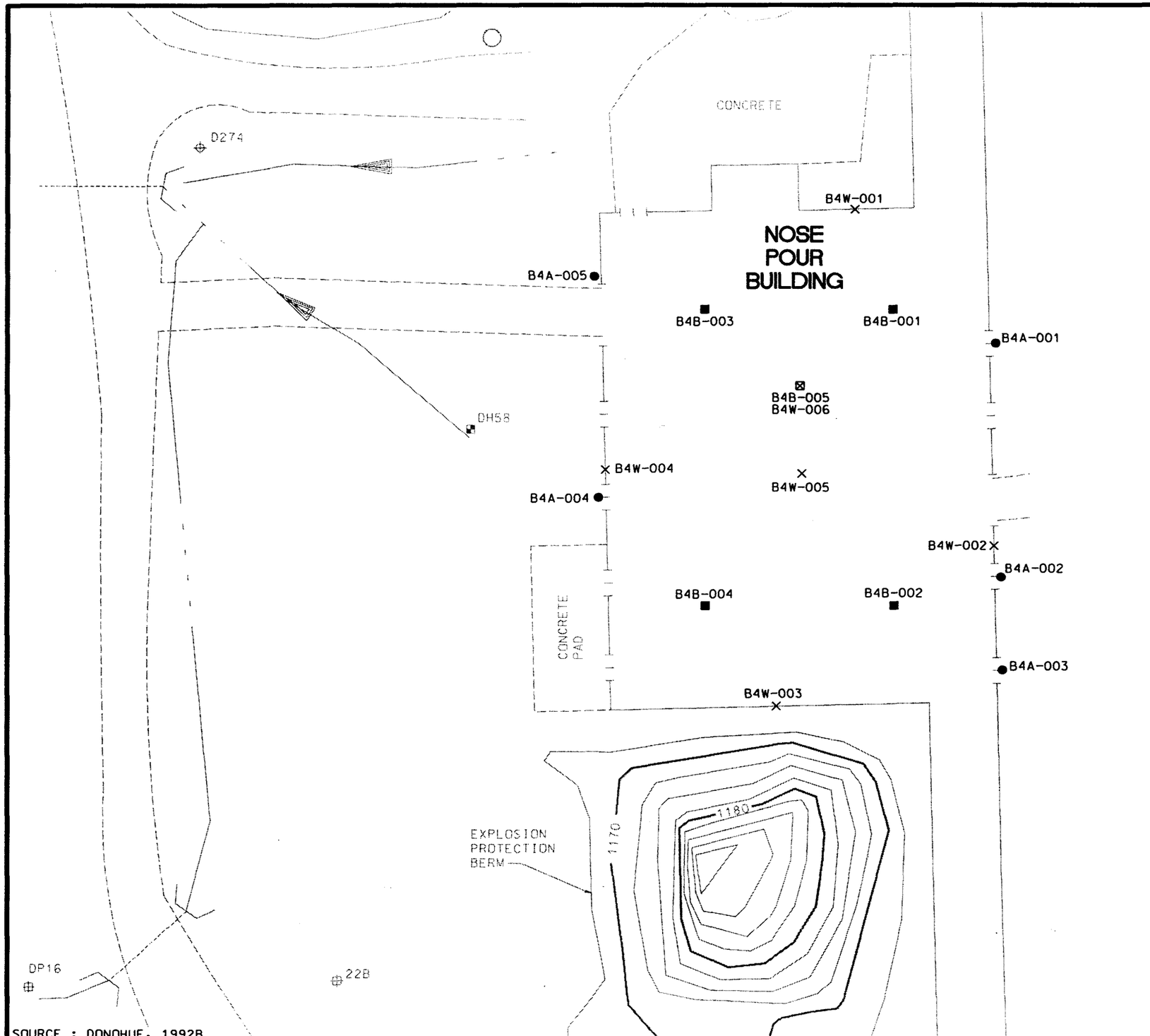
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

BOMB PRODUCTION BUILDINGS AT LOAD LINE 4

Scale: 1 IN = 300 FEET
Date: MAY, 1997
Dwg. No.: 2-43
Sheet number: 1

28 APR 97 14:08:09
MCS FILE: j:\mead\ou3\14b.dgn



SOURCE : DONOHUE, 1992B

LEGEND:

● B4A-001	ADJACENT SOIL SAMPLE LOCATION
■ B4B-001	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-005/B4W-006	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B4W-001	SURFACE WIPE SAMPLE LOCATION
DH58	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
D274	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
22B	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
1180	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1.5 FT FROM THE EXTERIOR WALLS OF THE AMATOL MELT BUILDING.

N

20 0 20 40

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

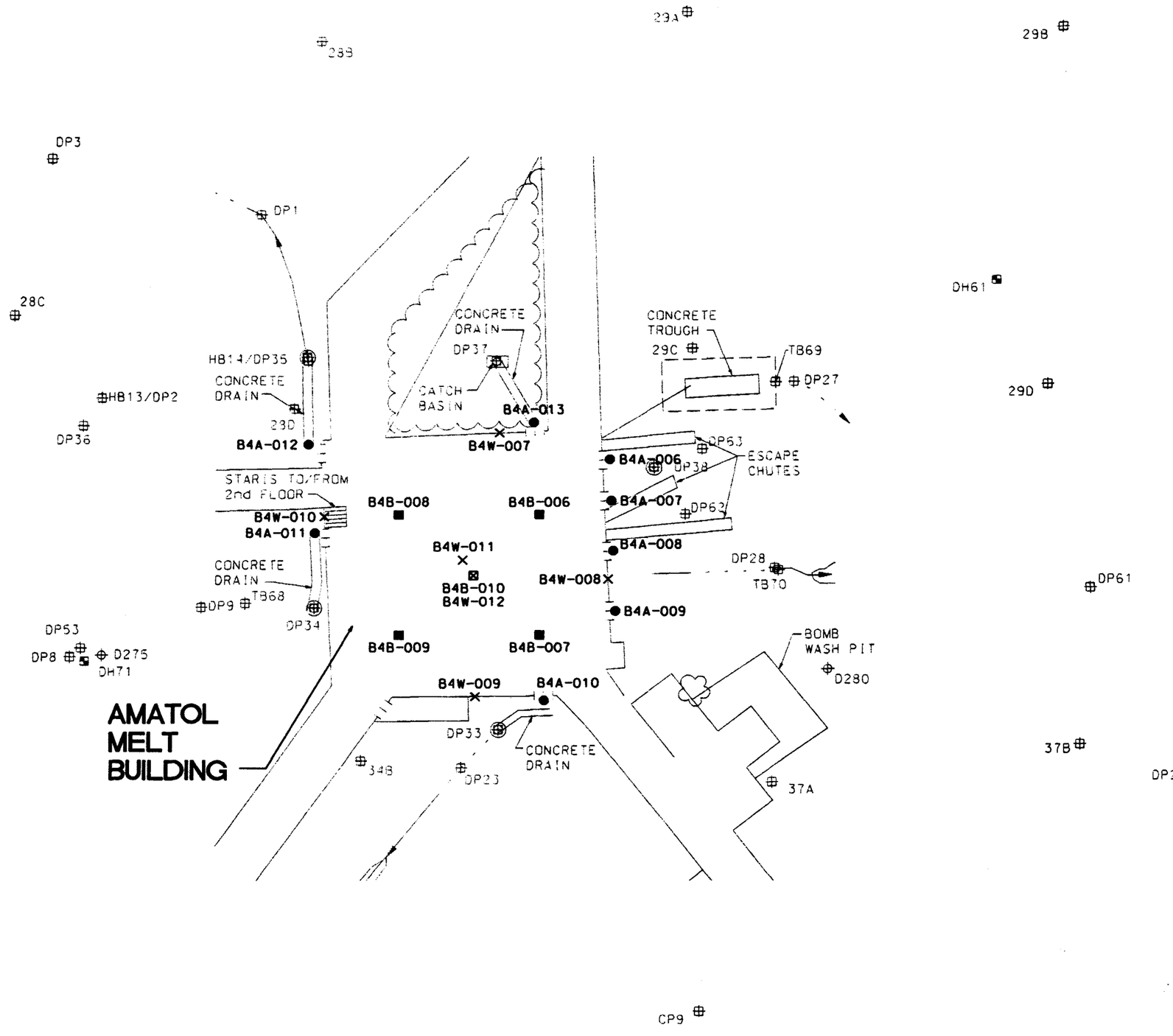
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
NOSE POURING BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-44
Sheet number: 1

28 APR 97 14:08:41
MCS FILE: j:\mead\ou3l41.dgn



LEGEND:

● B4A-006	ADJACENT SOIL SAMPLE LOCATION
■ B4B-006	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-010/B4W-012	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(→✕ WALL, ✕ FLOOR)B4W-007	SURFACE WIPE SAMPLE LOCATION
⊠ DH71	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ D275	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
⊕ DP36	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1.5 FT FROM THE EXTERIOR WALLS OF THE AMATOL MELT BUILDING.

N

30 0 30 60

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
AMATOL MELT BUILDING
SAMPLING LOCATIONS

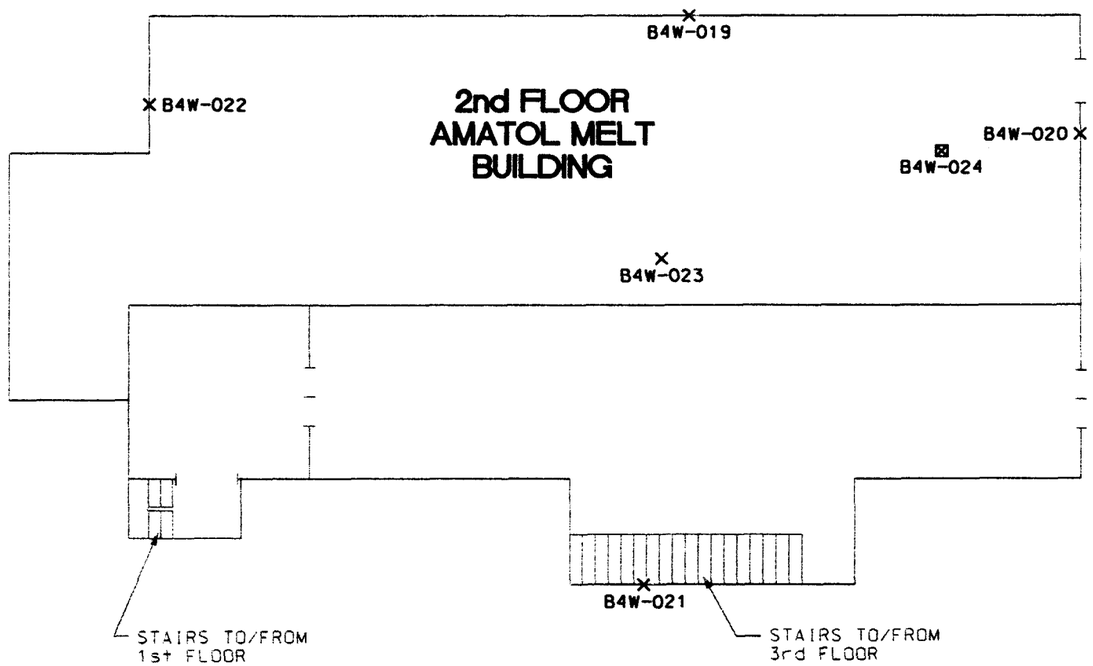
Scale: 1 IN = 30 FEET
Date: MAY, 1997
Dwg. No.: 2-45
Sheet number: 1

21 APR 97 15:30:33
MCS FILE: i:\mead\ou3\42.dgn

SOURCE : DONOHUE, 1992B

LEGEND:

⊠ B4W-024	DISCRETIONARY WIPE SAMPLE LOCATION
(→✕ WALL, ✕ FLOOR) B4W-019	SURFACE WIPE SAMPLE LOCATION



N

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SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
2nd FLOOR
AMATOL MELT BUILDING
SAMPLING LOCATIONS

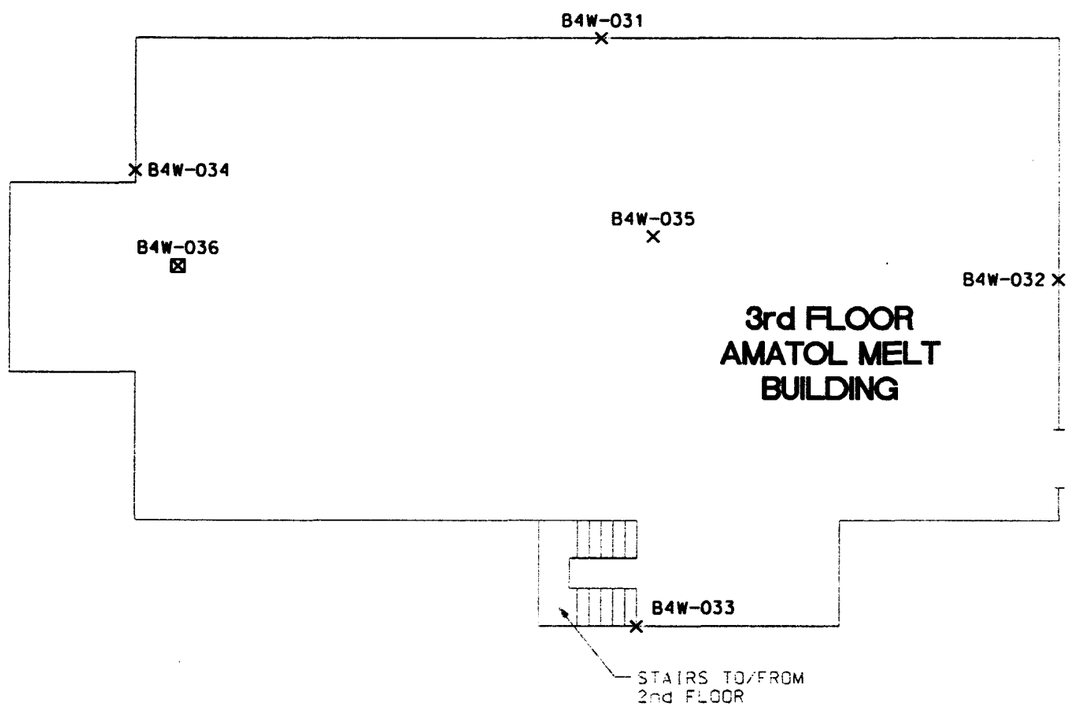
Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-46
Sheet number: 1

21 APR 97 15:31:10
MCS FILE: j:\mead\ou3\1422.dgn

SOURCE: FIELD MEASUREMENTS

LEGEND:

⊠ B4W-036	DISCRETIONARY WIPE SAMPLE LOCATION
(✳ WALL, × FLOOR) B4W-031	SURFACE WIPE SAMPLE LOCATION



N

10 0 10 20

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

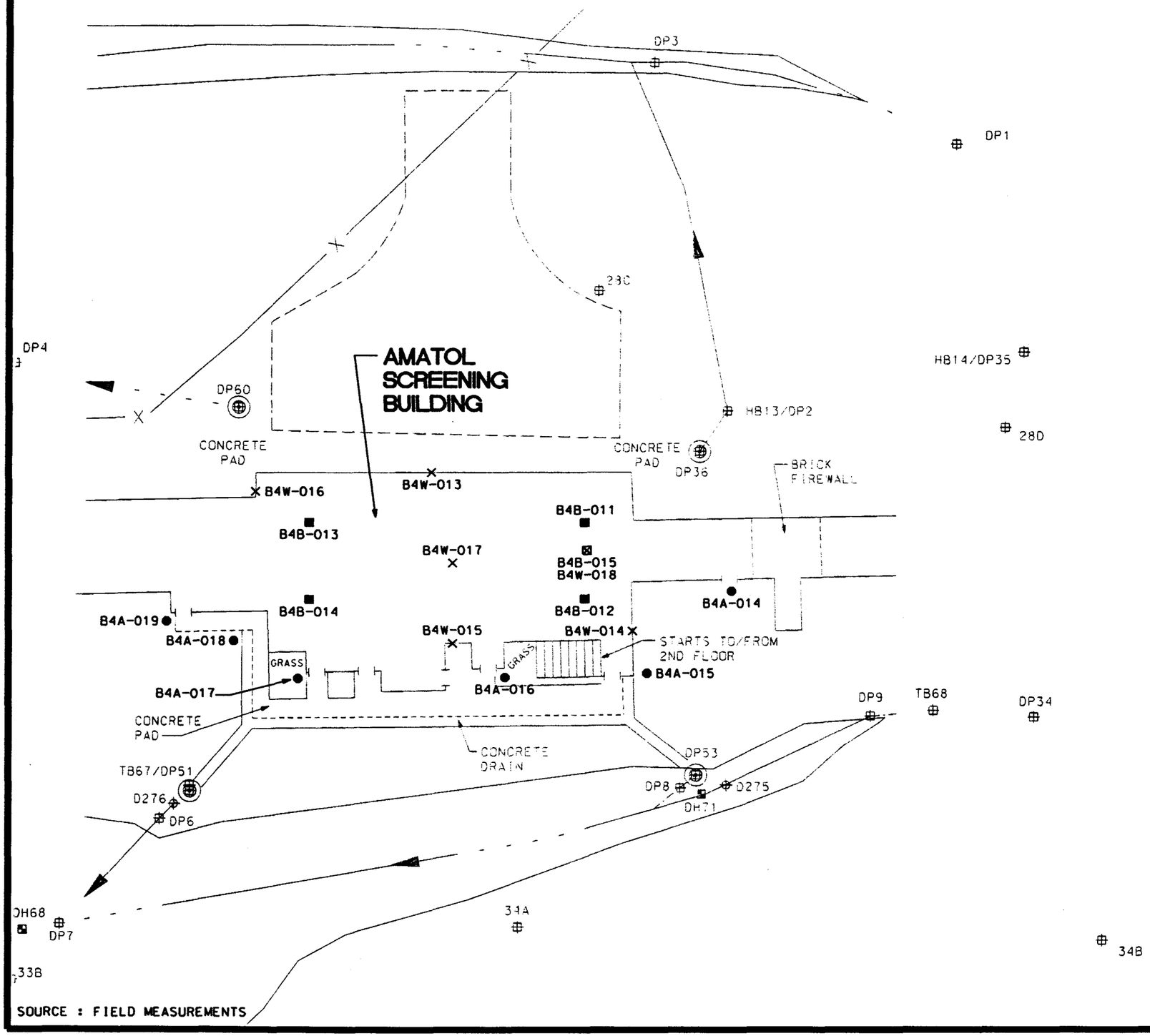
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
3rd FLOOR
AMATOL MELT BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-47
Sheet number: 1

21 APR 97 15:31:50
MCS FILE: j:\mead\ou3\4423.dgn

SOURCE: FIELD MEASUREMENTS



SOURCE : FIELD MEASUREMENTS

LEGEND:

● B4A-014	ADJACENT SOIL SAMPLE LOCATION
■ B4B-011	BENEATH SOIL SAMPLE LOCATION
▣ B4B-015/B4W-018	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B4W-013	SURFACE WIPE SAMPLE LOCATION
DH71	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
D276	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
DP9	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1.5 FT FROM THE EXTERIOR WALLS OF THE AMATOL SCREENING BUILDING.

N

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SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

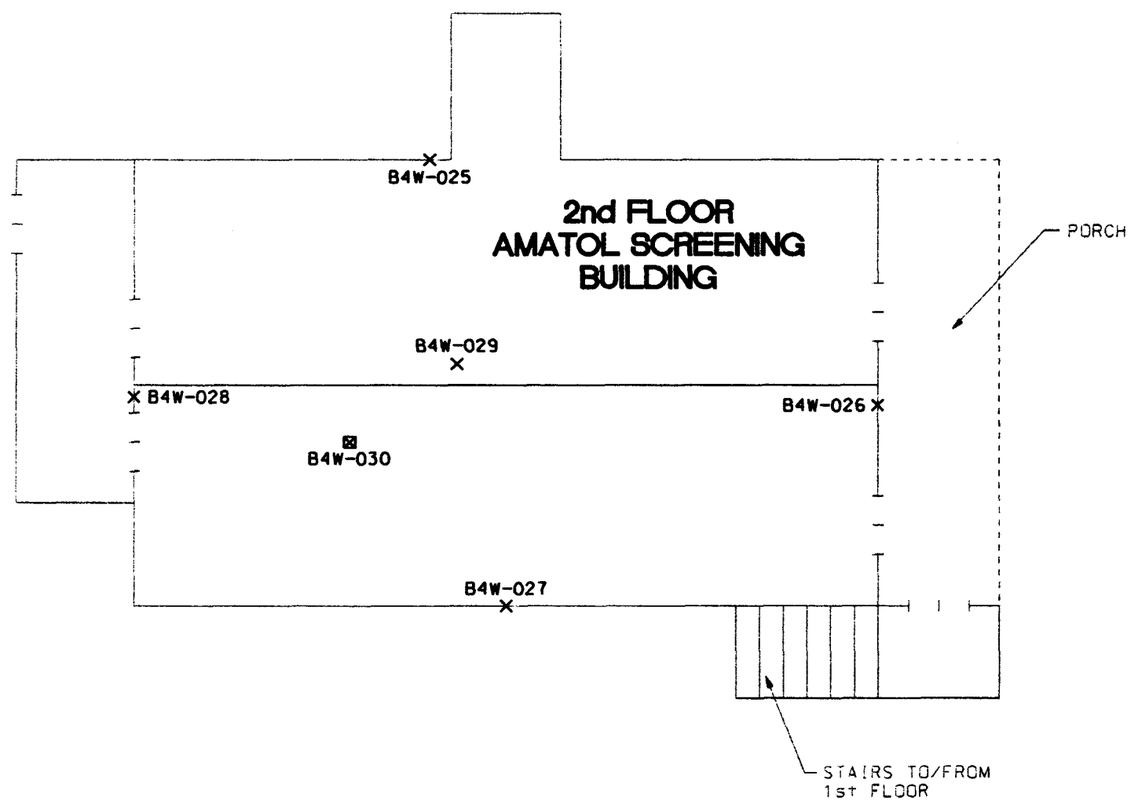
LOAD LINE 4
AMATOL
SCREENING BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-48
Sheet number: 1

24 APR 97 08:42:53
MCS FILE: j:\mead\ou3\4.3.dgn

LEGEND:

⊠ B4W-030	DISCRETIONARY WIPE SAMPLE LOCATION
(→✕ WALL, ✕ FLOOR) B4W-025	SURFACE WIPE SAMPLE LOCATION



N

10 0 10 20

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

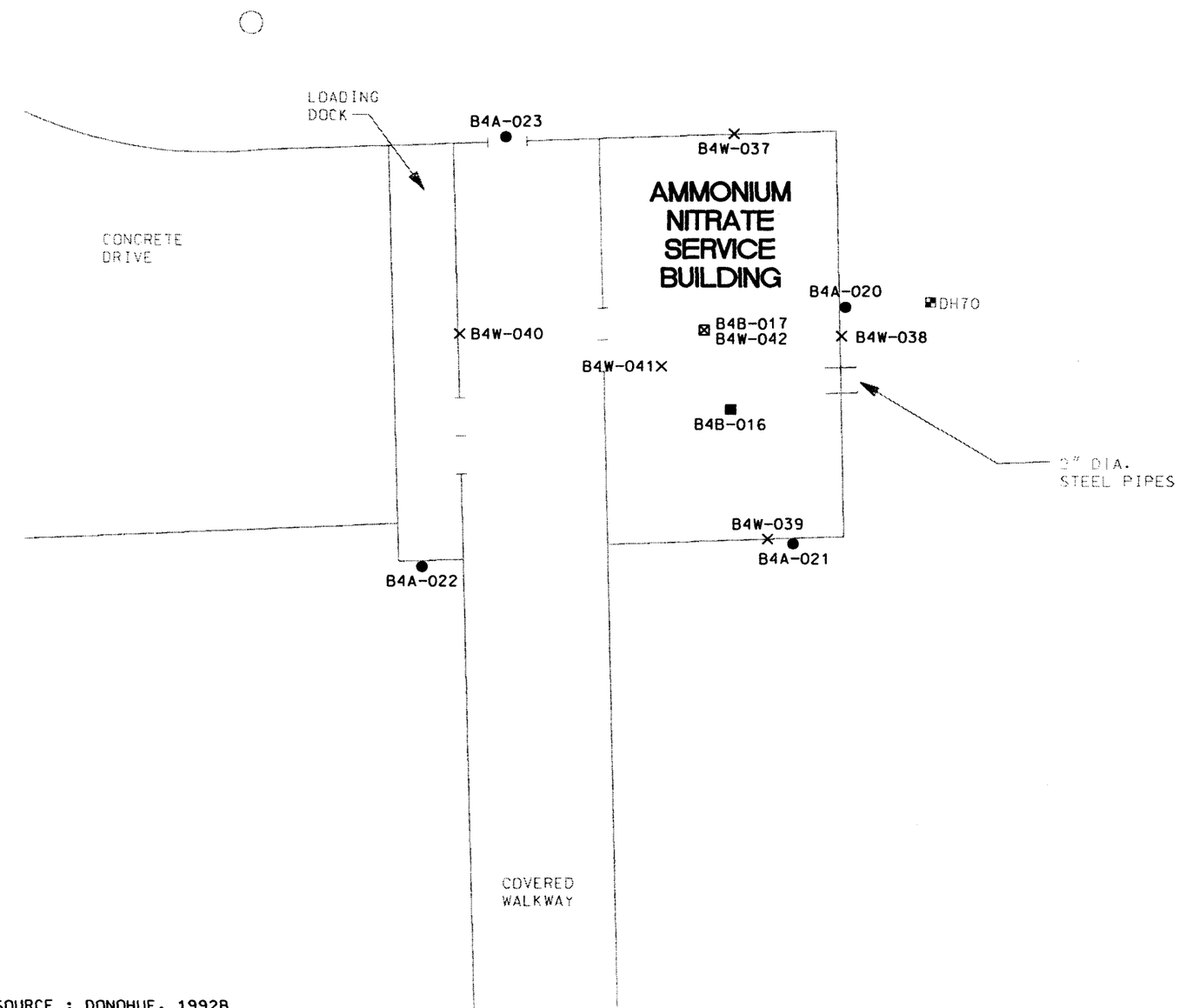
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
2nd FLOOR
AMATOL SCREENING BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-49
Sheet number: 1

21 APR 97 15:32:32
MCS FILE: j:\mead\ou3\4432.dgn

SOURCE: FIELD MEASUREMENTS



SOURCE : DONOHUE, 1992B

LEGEND:

● B4A-020	ADJACENT SOIL SAMPLE LOCATION
■ B4B-016	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-017/B4W-042	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(⊗ WALL, × FLOOR) B4W-037	SURFACE WIPE SAMPLE LOCATION
■ DH70	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS OF THE AMMONIUM NITRATE AND NORTH TNT SERVICE BUILDINGS.

N

10 0 10 20

SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAD

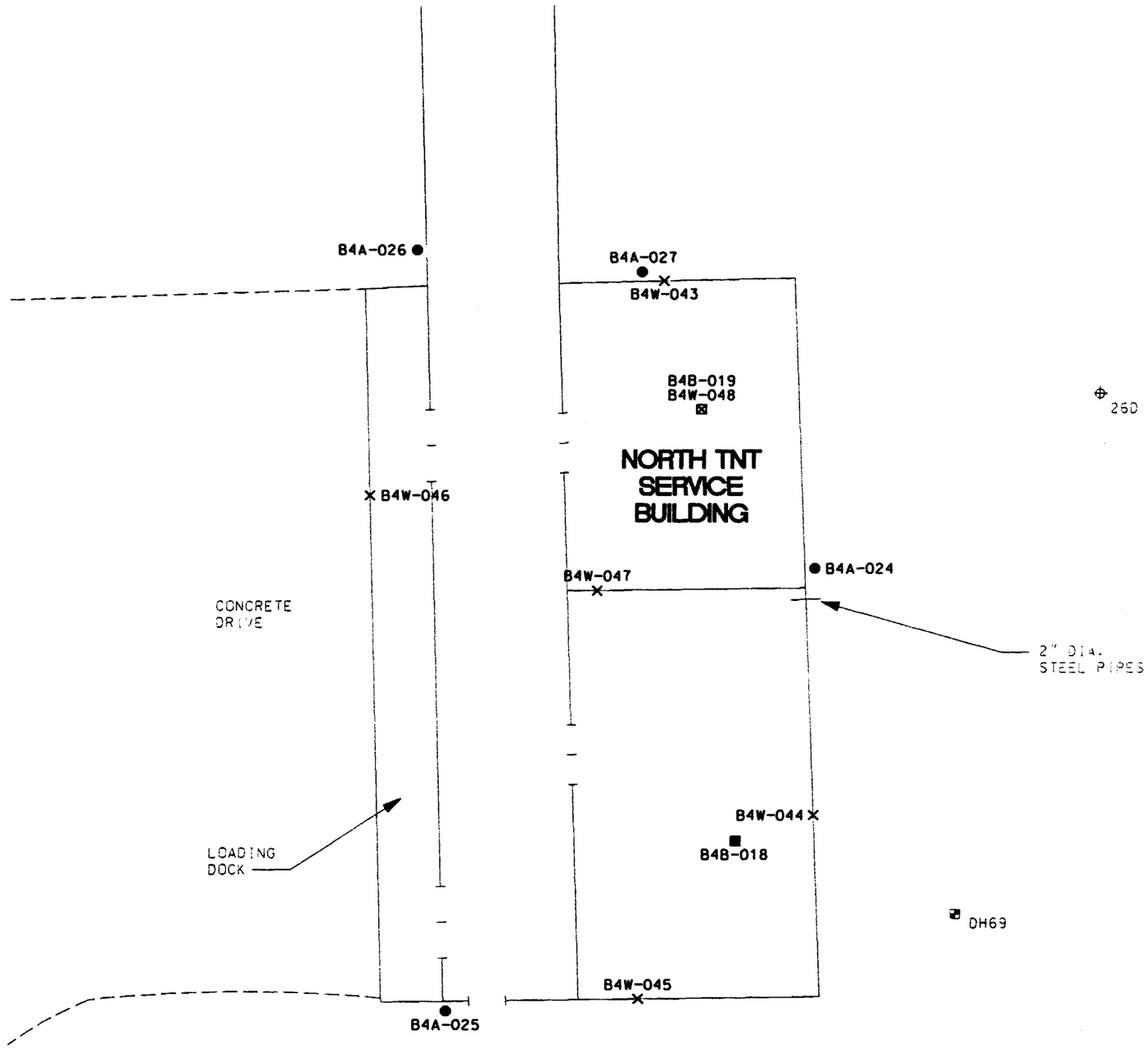
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
AMMONIUM NITRATE
SERVICE BUILDING
SAMPLING LOCATIONS

Scale: 1 IN - 10 FEET
Date: MAY, 1997
Dwg. No.: 2-50
Sheet number: 1

28 APR 97 14:09:32
MCS FILE: j:\mead\ou3l44.dgn



SOURCE : DONOHUE, 1992B

LEGEND:

● B4A-024	ADJACENT SOIL SAMPLE LOCATION
■ B4B-018	BENEATH SOIL SAMPLE LOCATION
▣ B4B-019/B4W-048	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B4W-043	SURFACE WIPE SAMPLE LOCATION
DH69	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS OF THE NORTH TNT SERVICE BUILDING.

N

10 0 10 20

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: RAN

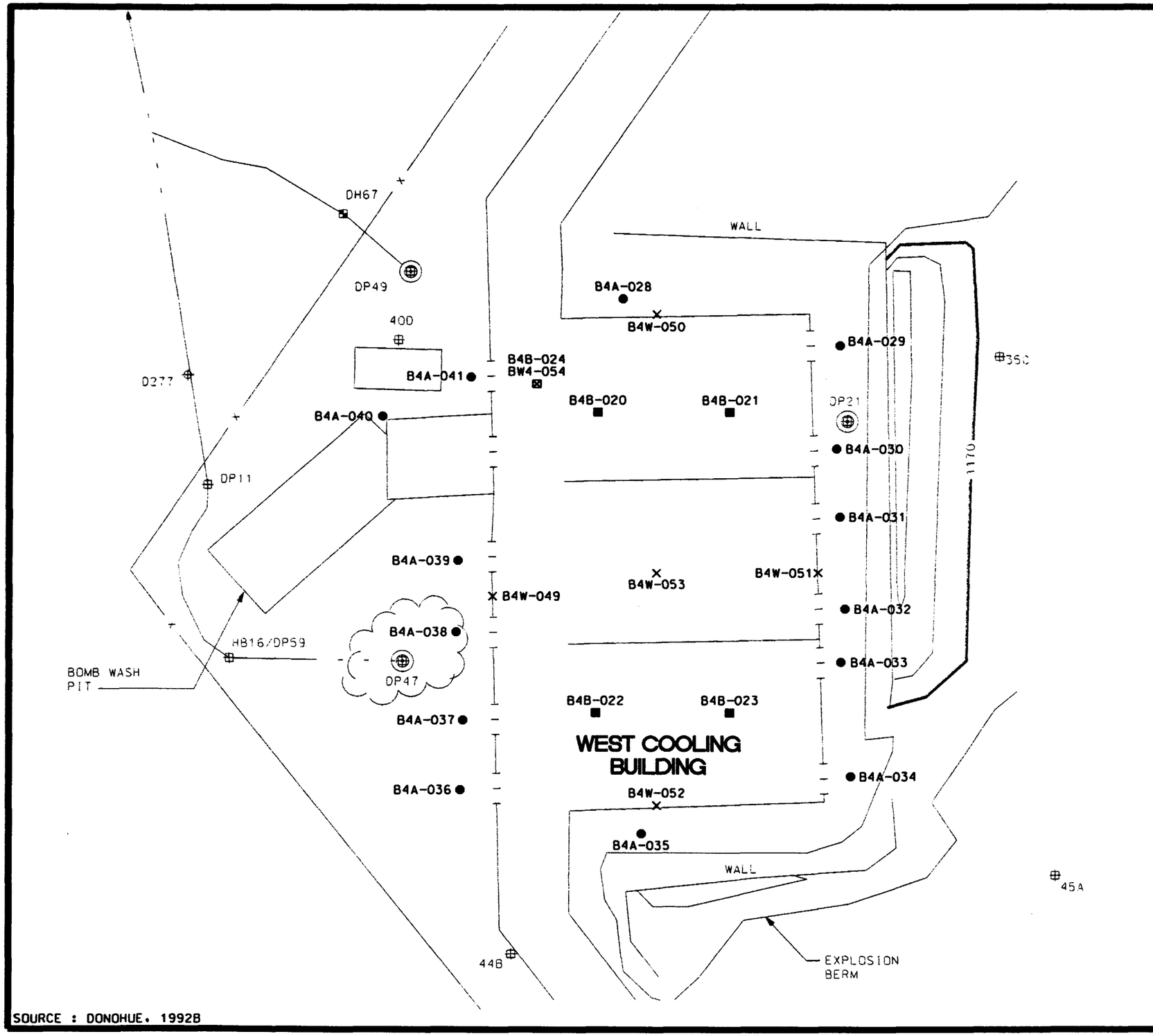
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
NORTH TNT
SERVICE BUILDINGS
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: FEBRUARY, 1997
Dwg. No.: 2-51
Sheet number: 1

21 APR 97 15:33:28
MCS FILE: j:\mead\ou3\45.dgn



SOURCE : DONOHUE, 1992B

LEGEND:

● B4A-028	ADJACENT SOIL SAMPLE LOCATION
■ B4B-020	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-024/B4W-054	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B4W-049	SURFACE WIPE SAMPLE LOCATION
DH67	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
D277	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
400	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
1170	INDEX CONTOUR
	INTERMEDIATE CONTOUR
— x —	FENCE

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE WEST COOLING BUILDING:
   B4A-028 AT 2.7 FT. B4A-029 AT 5.0 FT.
   B4A-030 AT 3.7 FT. B4A-031 AT 3.8 FT.
   B4A-032 AT 4.4 FT. B4A-033 AT 3.2 FT.
   B4A-034 AT 4.25 FT. B4A-035 AT 4.25 FT.
   B4A-036 AT 6.25 FT. B4A-037 AT 5.5 FT.
   B4A-038 AT 6.2 FT. B4A-039 AT 5.5 FT.
   B4A-040 AT 1.0 FT. B4A-041 AT 2.75 FT

N

20 0 20 40

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
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KANSAS CITY, MISSOURI

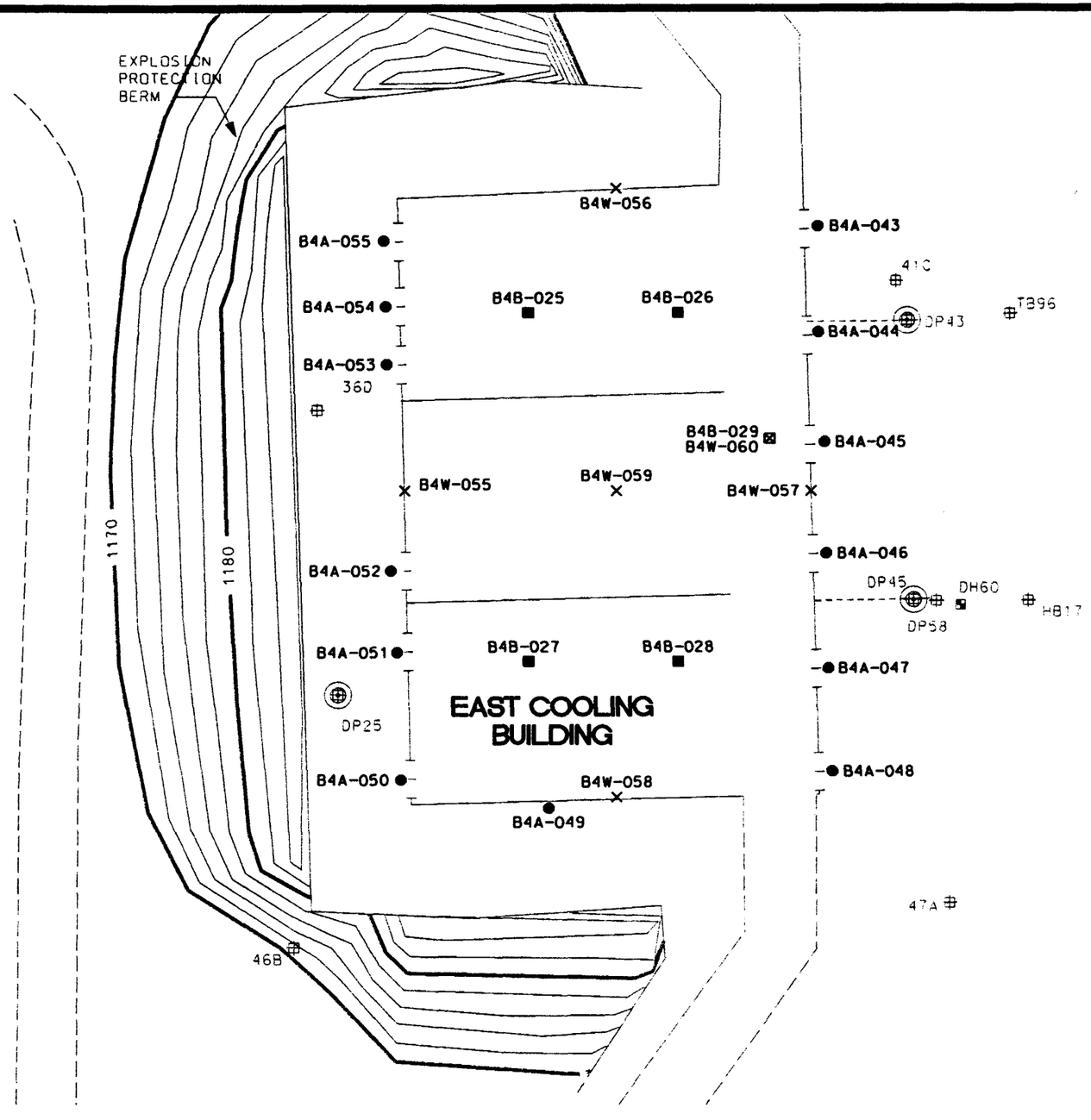
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
WEST
COOLING BUILDING
SAMPLING LOCATIONS

Designed by:	S.J.F.
Drawn by:	R.A.D.
Checked by:	B.C.O.
Submitted by:	RAN
Scale:	1 IN = 20 FEET
Date:	MAY, 1997
Dwg. No.:	2-52
Sheet number:	1

17 APR 97 13:14:09
MCS FILE: j:\mead\ou3\47.dgn



LEGEND:

● B4A-043	ADJACENT SOIL SAMPLE LOCATION
■ B4B-025	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-029/B4W-060	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(⊱ WALL, × FLOOR) B4W-055	SURFACE WIPE SAMPLE LOCATION
DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
1170	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS OF THE EAST COOLING BUILDING.
2. ADJACENT SOIL SAMPLE B4A-042 WAS NOT COLLECTED DUE TO CONCRETE DEBRIS AT SAMPLE LOCATION.
3. CONTOUR INTERVAL IS 2 FT

N

20 0 20 40

SCALE FEET

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

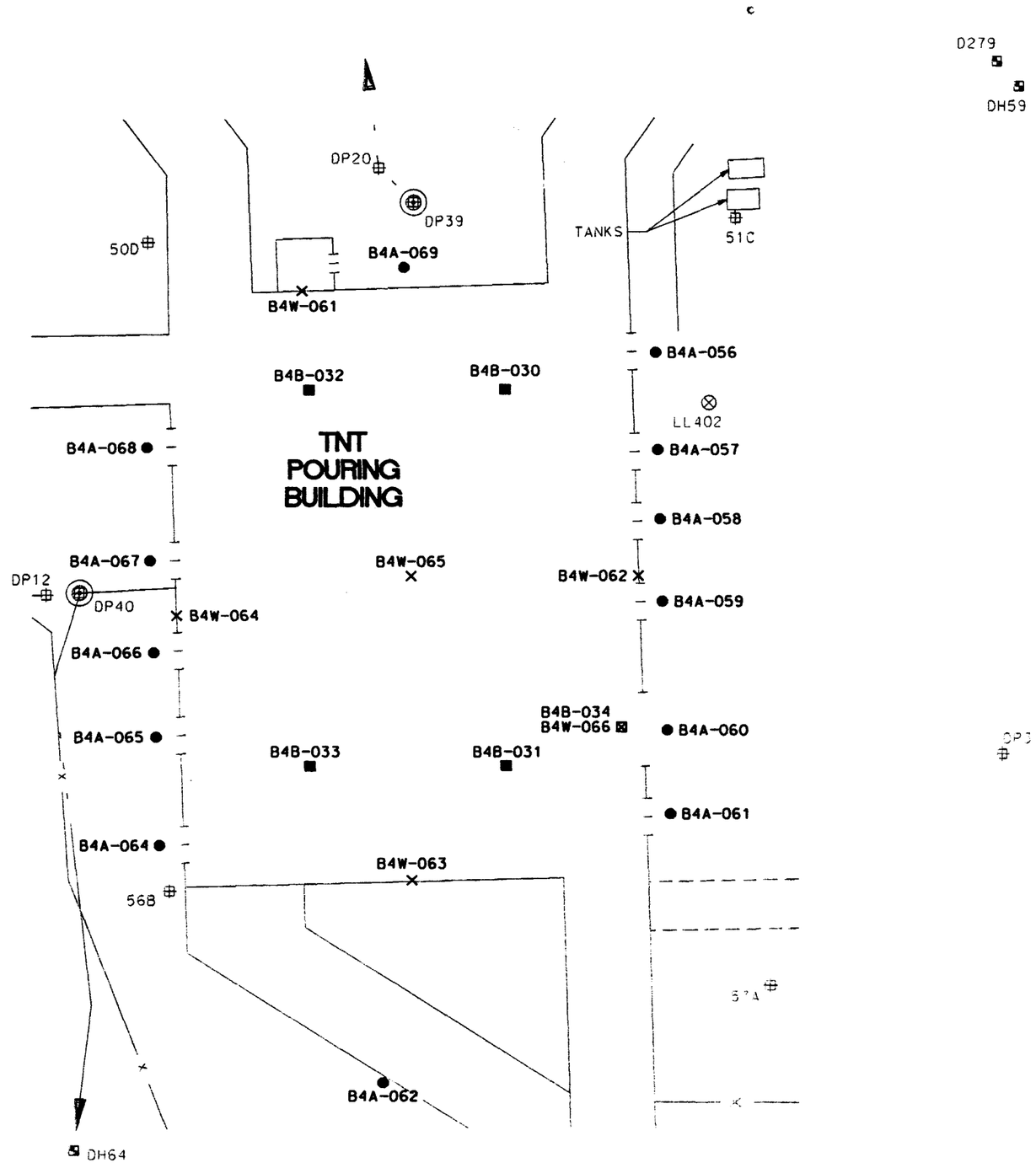
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
EAST COOLING
BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-53
Sheet number: 1

24 APR 97 08:45:10
MCS FILE: j:\mead\ou3\146.dgn



SOURCE : DONOHUE, 1992B

LEGEND:

● B4A-056	ADJACENT SOIL SAMPLE LOCATION
■ B4B-030	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-034/B4W-066	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B4W-061	SURFACE WIPE SAMPLE LOCATION
DH64	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
DH5	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
51C	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊗ LL402	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
— x —	FENCE

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWNG DISTANCES FROM THE EXTERIOR WALLS OF THE TNT POURING BUILDING:
   B4A-056 AT 7.5 FT. B4A-057 AT 3.0 FT.
   B4A-058 AT 3.0 FT. B4A-059 AT 3.0 FT.
   B4A-060 AT 3.0 FT. B4A-064 AT 3.0 FT.
   B4A-065 AT 3.0 FT. B4A-066 AT 3.0 FT.
   B4A-067 AT 3.0 FT. B4A-068 AT 3.0 FT.
   B4A-069 AT 2.5 FT
2. ADJACENT SOIL SAMPLE B4A-063 WAS NOT COLLECTED DUE TO CONCRETE DEBRIS AT SAMPLE LOCATION.

N

20 0 20 40
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

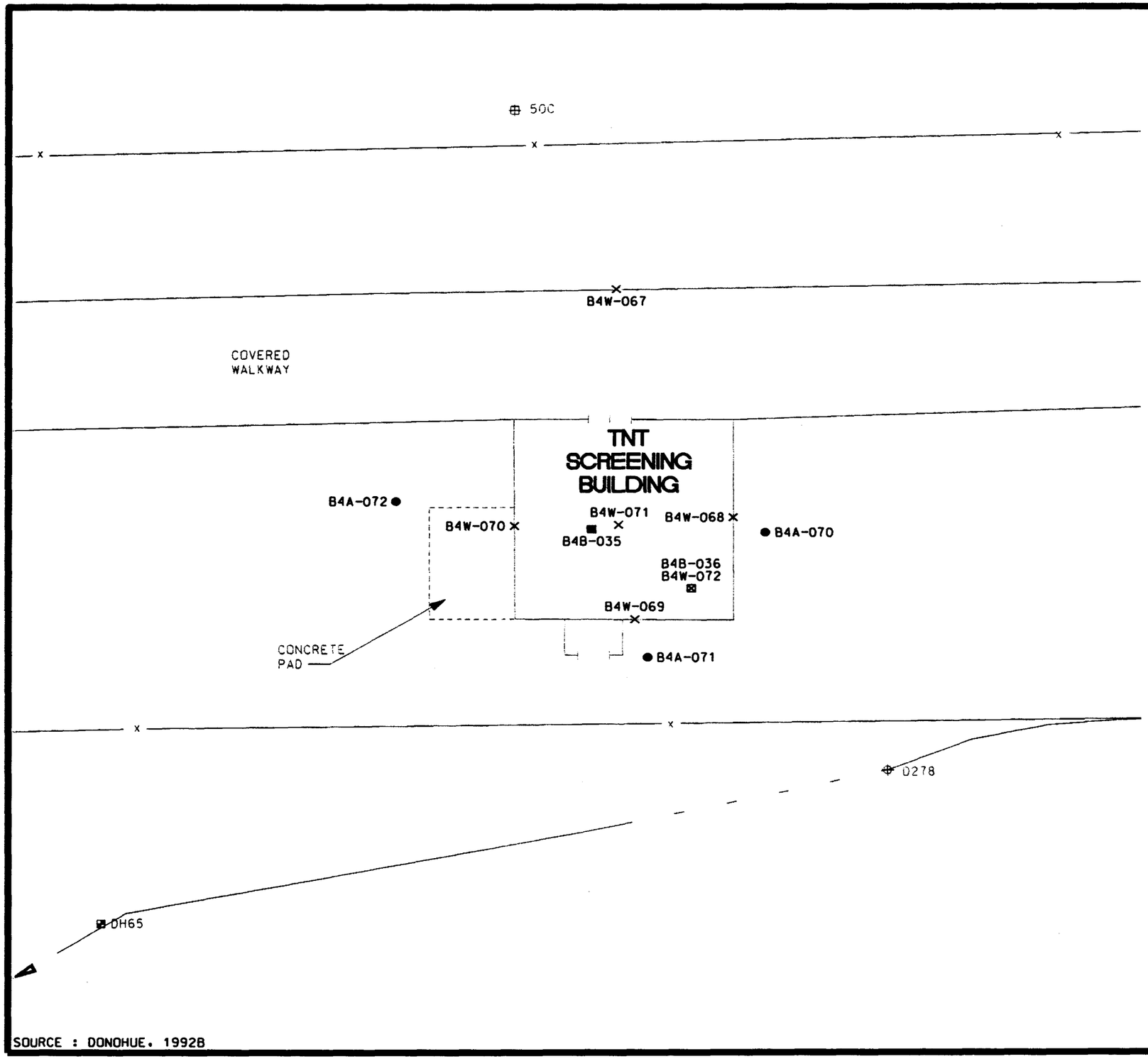
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
TNT POURING
BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-54
Sheet number: 1

30 APR 97 07:34:19
MCS FILE: i:\mead\ou3\49.dgn

B07NE003703-04516



SOURCE : DONOHUE, 1992B

LEGEND:

● B4A-070	ADJACENT SOIL SAMPLE LOCATION
■ B4B-035	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-036/B4W-072	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B4W-067	SURFACE WIPE SAMPLE LOCATION
⊠ DH65	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ D278	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
⊞ 50C	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
—— x ——	FENCE

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE TNT SCREENING BUILDING:
   B4A-070 AT 3.0 FT. B4A-071 AT 3.0 FT.
   B4A-072 AT 9.5 FT
2. ADJACENT SOIL SAMPLE B4A-073 WAS NOT COLLECTED DUE TO CONCRETE PAD AT SAMPLE LOCATION.

N

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SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

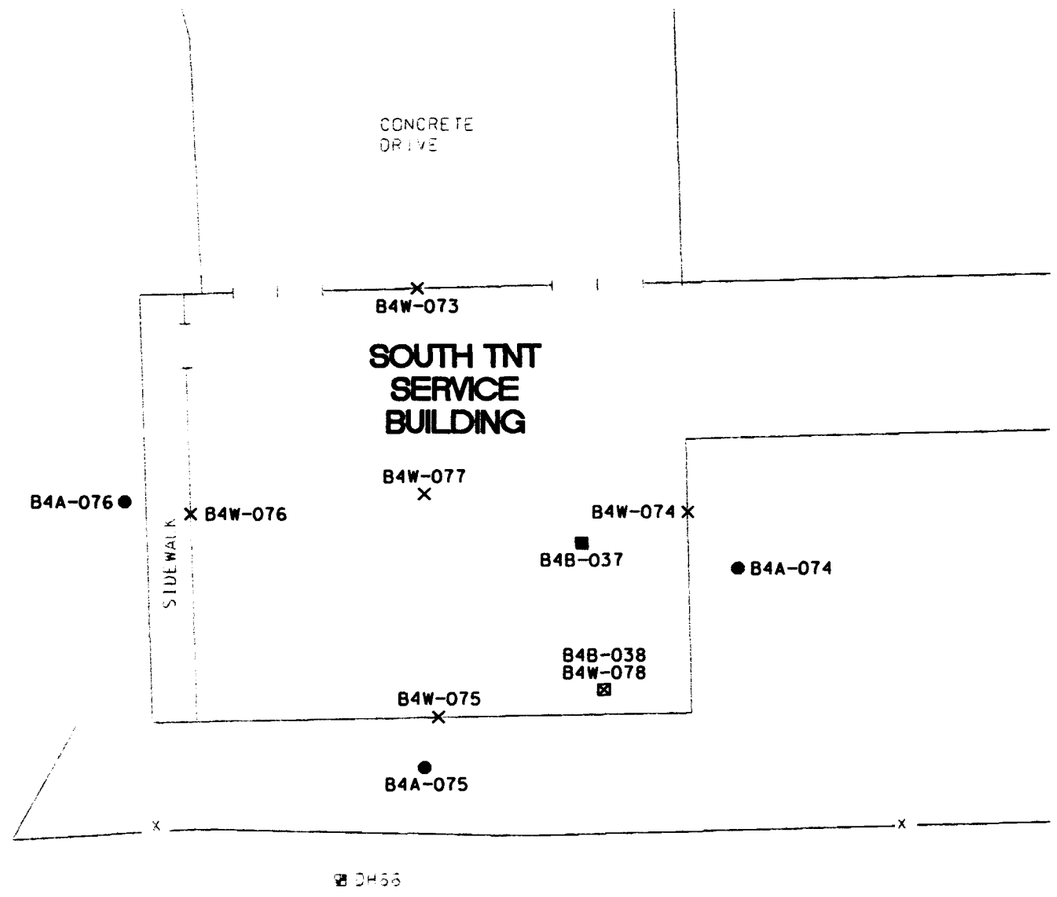
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
TNT SCREENING
BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-55
Sheet number: 1

17 APR 97 13:58:34
MCS FILE: j:\mead\ou3\45.dgn



LEGEND:

● B4A-074	ADJACENT SOIL SAMPLE LOCATION
■ B4B-037	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-038/B4W-078	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✕ WALL, X FLOOR) B4W-073	SURFACE WIPE SAMPLE LOCATION
⊠ DH66	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
—— x ——	FENCE

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE SOUTH TNT SERVICE BUILDING:
   B4A-074 AT 3.0 FT, B4A-075 AT 3.0 FT,
   B4A-076 AT 4.0 FT
2. ADJACENT SOIL SAMPLE B4A-077 WAS NOT COLLECTED DUE TO CONCRETE PAD AT SAMPLE LOCATION.

N

10 0 10 20
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

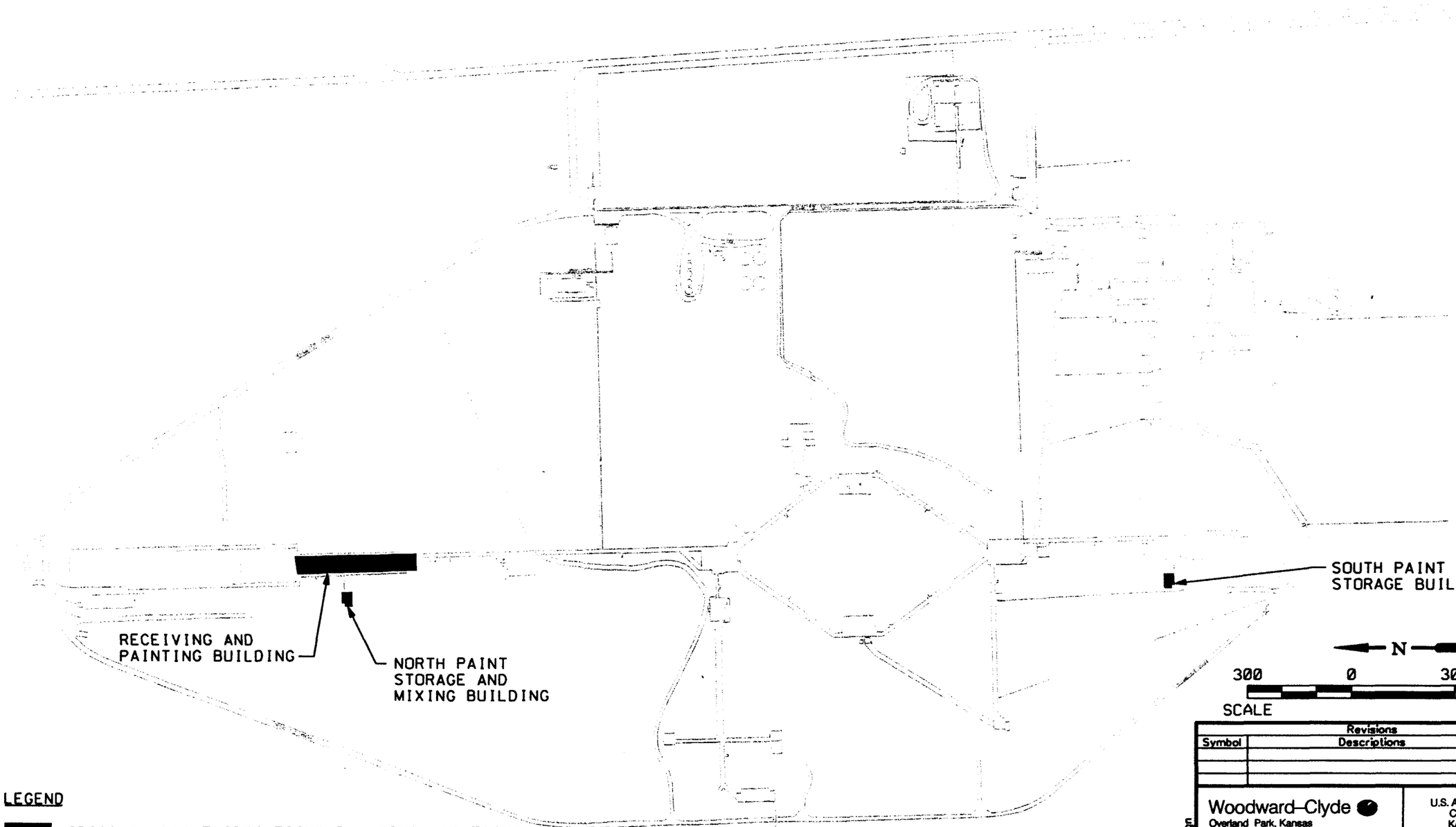
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
SOUTH TNT SERVICE BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-56
Sheet number: 1

17 APR 97 13:55:26
MCS FILE: j:\mead\ou3\40.dgn

SOURCE : DONOHUE, 1992B



LEGEND

ORIGINAL PAINT OPERATIONS BUILDING LOCATIONS

NOTE:

THE RECEIVING AND PAINTING BUILDING AT LOAD LINE 1 HAS BEEN DEMOLISHED.

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

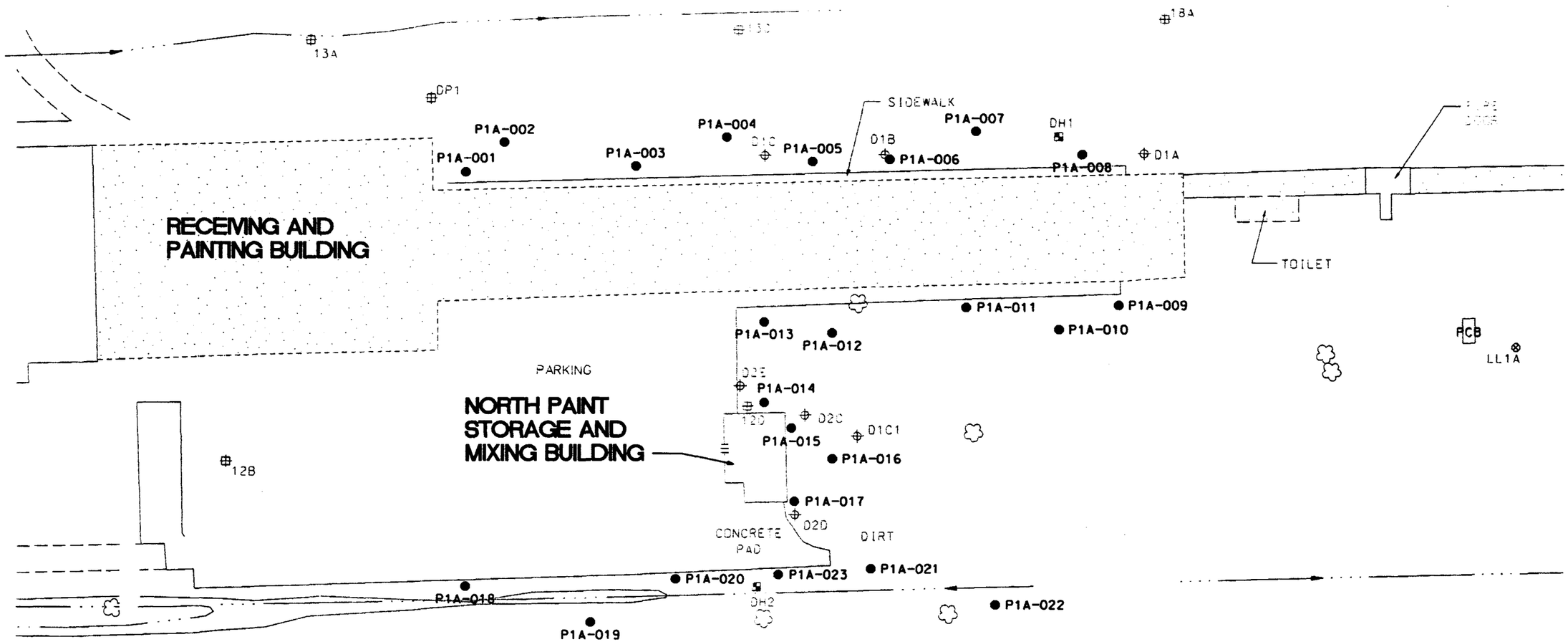
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

PAINT OPERATIONS
AREAS AT
LOAD LINE 1

Scale: 1 IN = 300 FEET
Date: MAY, 1997
Dwg. No.: 2-57
Sheet number: 1

24 APR 97 08:49:32
MCS FILE: i:\mead\ou3llp.dgn



LEGEND:

● P1A-001	ADJACENT SOIL SAMPLE LOCATION
▣ DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
⊕ D2A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊗ LL1A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (PDI 1995)

NOTES:

1. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE RECEIVING AND PAINTING BUILDING:
   P1A-001 AT 6.5 FT. P1A-002 AT 20.0 FT.
   P1A-003 AT 7.5 FT. P1A-004 AT 20.0 FT.
   P1A-005 AT 7.5 FT. P1A-006 AT 7.5 FT.
   P1A-007 AT 20.0 FT. P1A-009 AT 9.5 FT.
   P1A-010 AT 20.0 FT. P1A-011 AT 8.0 FT.
   P1A-012 AT 20.0 FT. P1A-013 AT 13.0 FT

2. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE NORTH PAINT STORAGE AND MIXING BUILDING:
   P1A-014 AT 3.0 FT. P1A-015 AT 1.0 FT.
   P1A-016 AT 20.0 FT. P1A-017 AT 1.0 FT

3. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES WEST OF THE CONCRETE PAD WEST OF THE NORTH PAINT STORAGE & MIXING BUILDING:
   P1A-018 AT 1.0 FT. P1A-019 AT 20.0 FT.
   P1A-020 AT 1.0 FT. P1A-021 AT 1.0 FT.
   P1A-022 AT 20.0 FT. P1A-023 AT 1.0 FT

SOURCE : DONOHUE.1992B

N

50 0 50 100

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
RECEIVING AND PAINTING
BUILDING / NORTH PAINT
STORAGE AND MIXING BUILDING
SAMPLING LOCATIONS

Scale: 1 IN - 50 FEET
Date: MAY, 1997
Dwg. No.: 2-58
Sheet number: 1

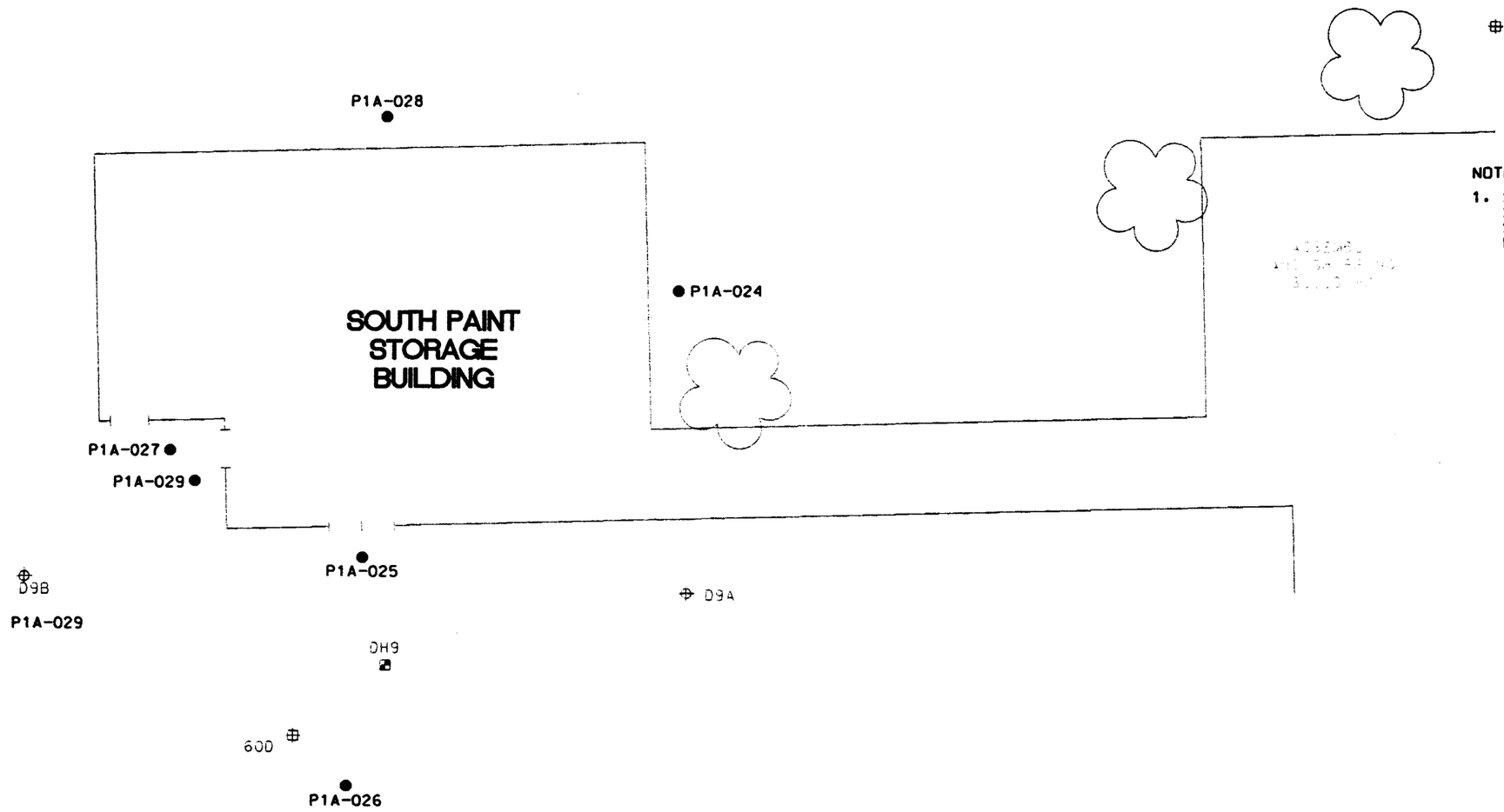
24 APR 97 08:54:43
MCS FILE: j:\mead\ou3p11.dgn

LEGEND:

● P1A-024	ADJACENT SOIL SAMPLE LOCATION
⊠ DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ D19C	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
⊞ CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. SOIL SAMPLES WERE COLLECTED APPROXIMATELY 2 FT FROM THE EXTERIOR WALLS OF THE SOUTH PAINT STORAGE BUILDING WITH THE FOLLOWING EXCEPTION: P1A-026 AT 20 FT



N

10 0 10 20

SCALE FEET

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

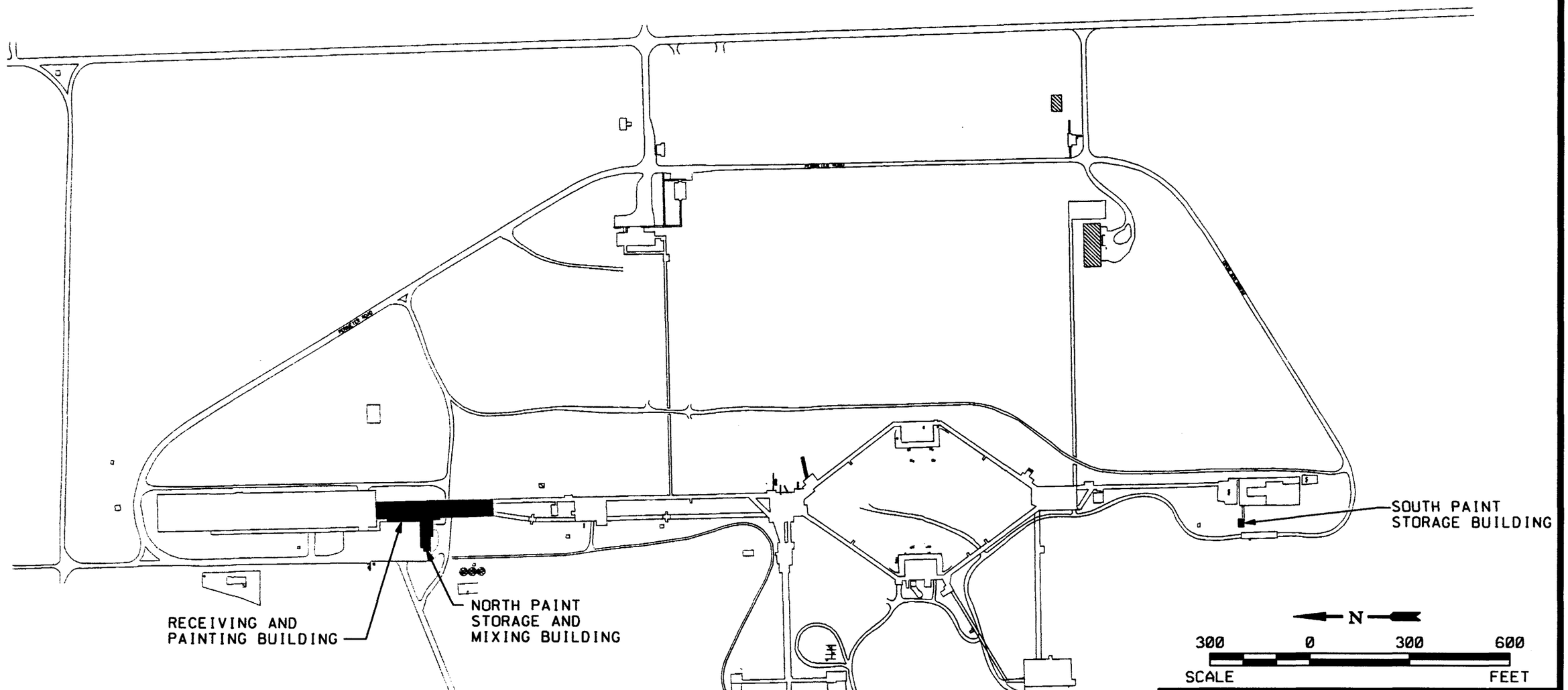
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
SOUTH PAINT STORAGE
BUILDING SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-59
Sheet number: 1

24 APR 97 09:01:45
MCS FILE: j:\mead\ou3p12.dgn



LEGEND

ORIGINAL PAINT OPERATIONS BUILDING LOCATIONS

NOTE:

THE SOUTH PAINT STORAGE BUILDING AT LOAD LINE 2 HAS BEEN DEMOLISHED.

SOURCE : DONOHUE. 1992B

24 APR 97 09:08:45
MCS FILE: j:\mead\ou3\2p.dgn

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

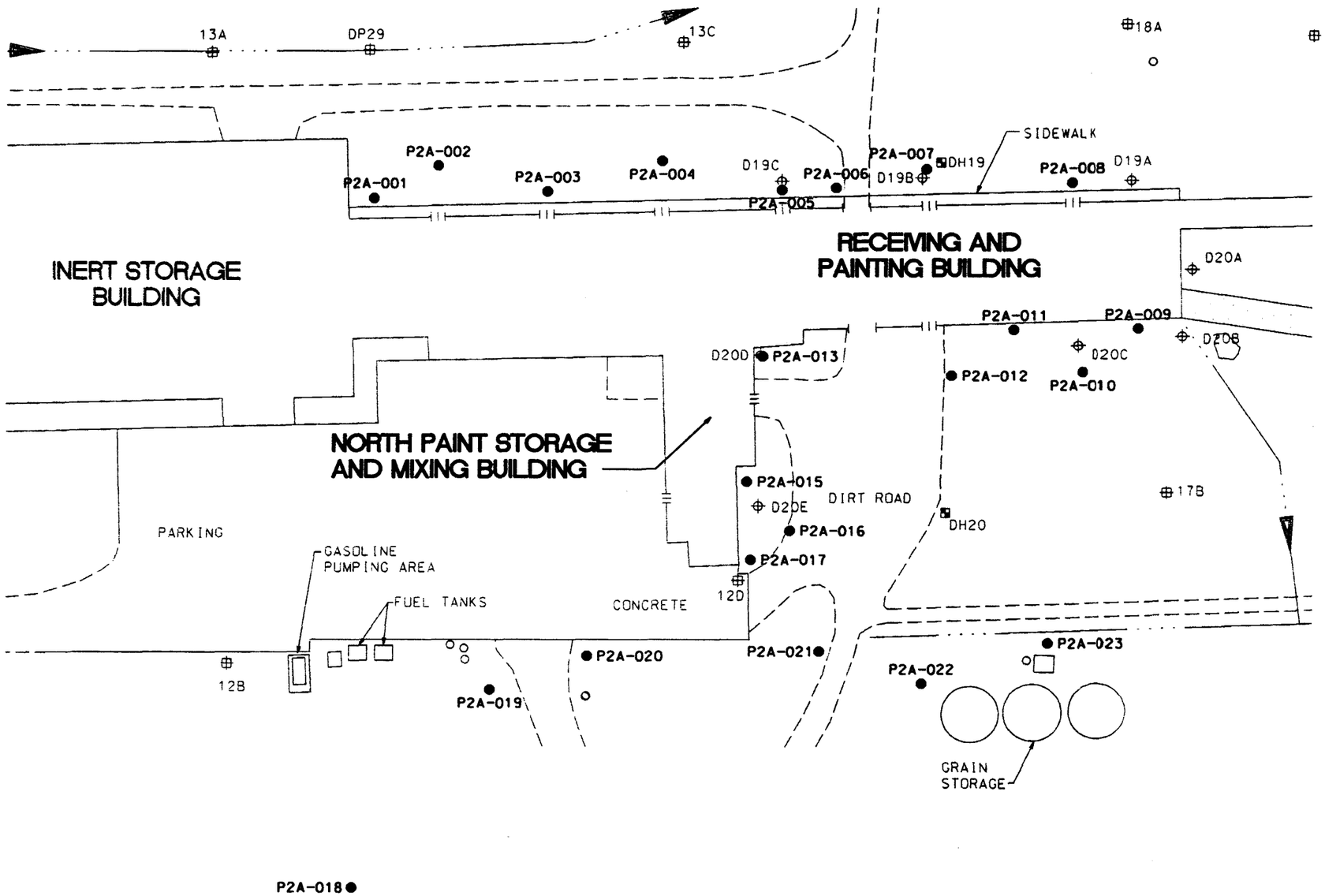
Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

PAINT OPERATIONS
AREAS AT
LOAD LINE 2

Scale: 1 IN - 300 FEET
Date: MAY, 1997
Dwg. No.: 2-60
Sheet number: 1



SOURCE : DONOHUE, 1992B

LEGEND:

● P2A-001	ADJACENT SAMPLE LOCATION
⊞ DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ D19C	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
⊞ CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE RECEIVING AND PAINTING BUILDING:
   P2A-001 AT 6.5 FT, P2A-002 AT 20.0 FT,
   P2A-003 AT 7.5 FT, P2A-004 AT 20.0 FT,
   P2A-005 AT 7.0 FT, P2A-006 AT 7.0 FT,
   P2A-007 AT 20.0 FT, P2A-008 AT 7.0 FT,
   P2A-009 AT 2.0 FT, P2A-010 AT 20.0 FT,
   P2A-011 AT 1.0 FT, P2A-012 AT 20.0 FT,
   P2A-013 AT 2.0 FT
2. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE NORTH PAINT STORAGE AND MIXING BUILDING:
   P2A-015 AT 2.0 FT, P2A-016 AT 20.0 FT,
   P2A-017 AT 5.0 FT
3. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE CONCRETE PAD WEST OF THE NORTH PAINT STORAGE AND MIXING BUILDING:
   P2A-018 AT 100.0 FT, P2A-019 AT 20.0 FT,
   P2A-020 AT 5 FT
4. SHALLOW SOIL SAMPLE P2A-014 NOT COLLECTED DUE TO CONCRETE PAD AT SAMPLING LOCATION.

50 0 50 100
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

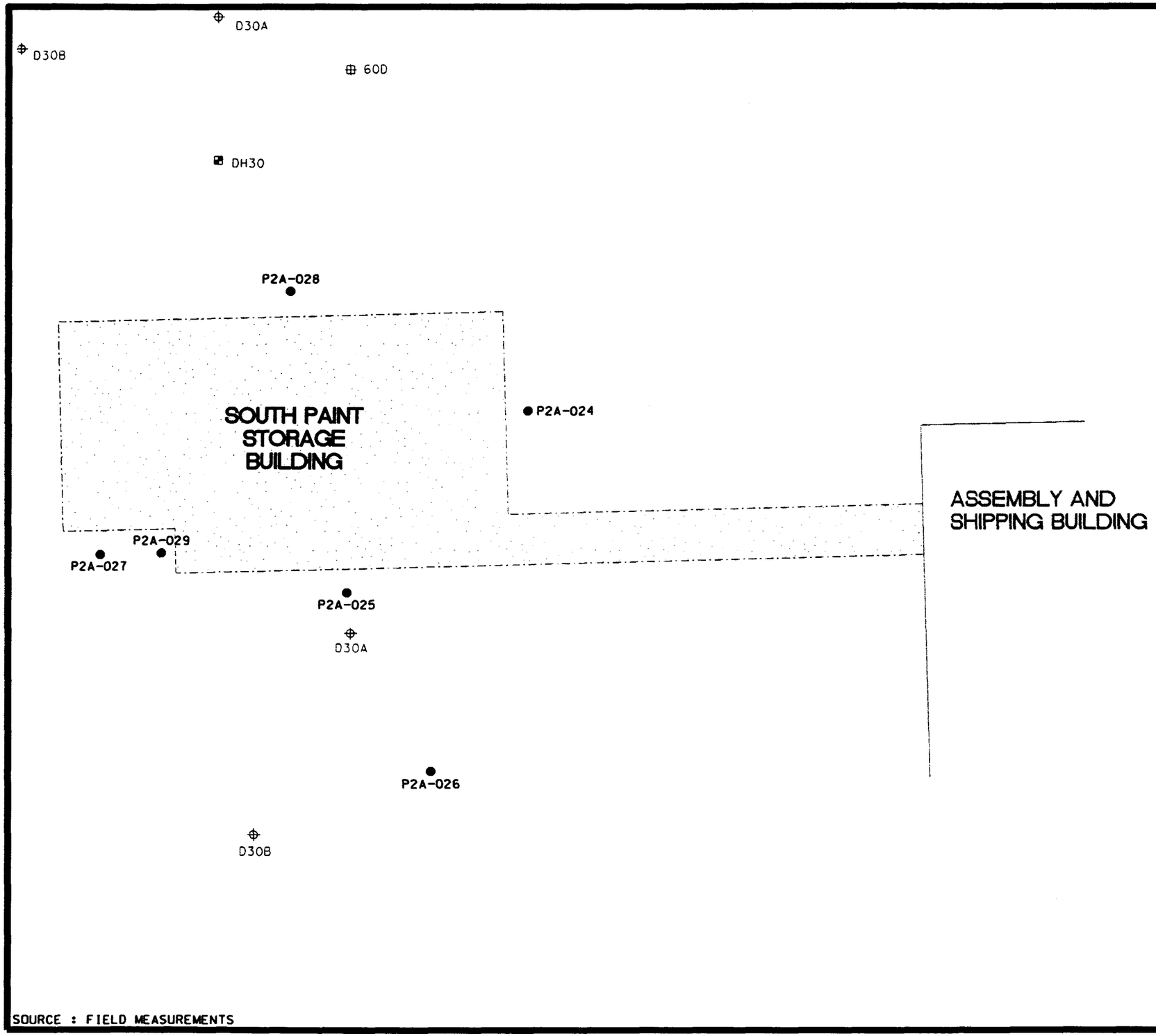
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
RECEIVING AND PAINTING
BUILDING / NORTH PAINT
STORAGE AND MIXING BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 50 FEET
Date: MAY, 1997
Dwg. No.: 2-61
Sheet number: 1

24 APR 97 09:19:30
MCS FILE: j:\mead\ou3p21.dgn



LEGEND:

● P2A-024	SHALLOW SOIL SAMPLE LOCATION
⊞ DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
⊕ D2A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊞ CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
-·-·-·-·-	BUILDING FOUNDATION REMOVED

NOTES:

1. ALL OF THE SHALLOW SOIL SAMPLES WERE COLLECTED 2 FT FROM THE FOUNDATION OF THE SOUTH PAINT STORAGE BUILDING EXCEPT P2A-026 = 20.0 FT
2. LOCATION OF PREVIOUS INVESTIGATION SAMPLES D30A AND D30B ARE APPROXIMATE BECAUSE COORDINATES WERE NOT AVAILABLE.

SOURCE : FIELD MEASUREMENTS

24 APR 97 09:20:55
MCS FILE: j:\mead\ou3p22.dgn

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

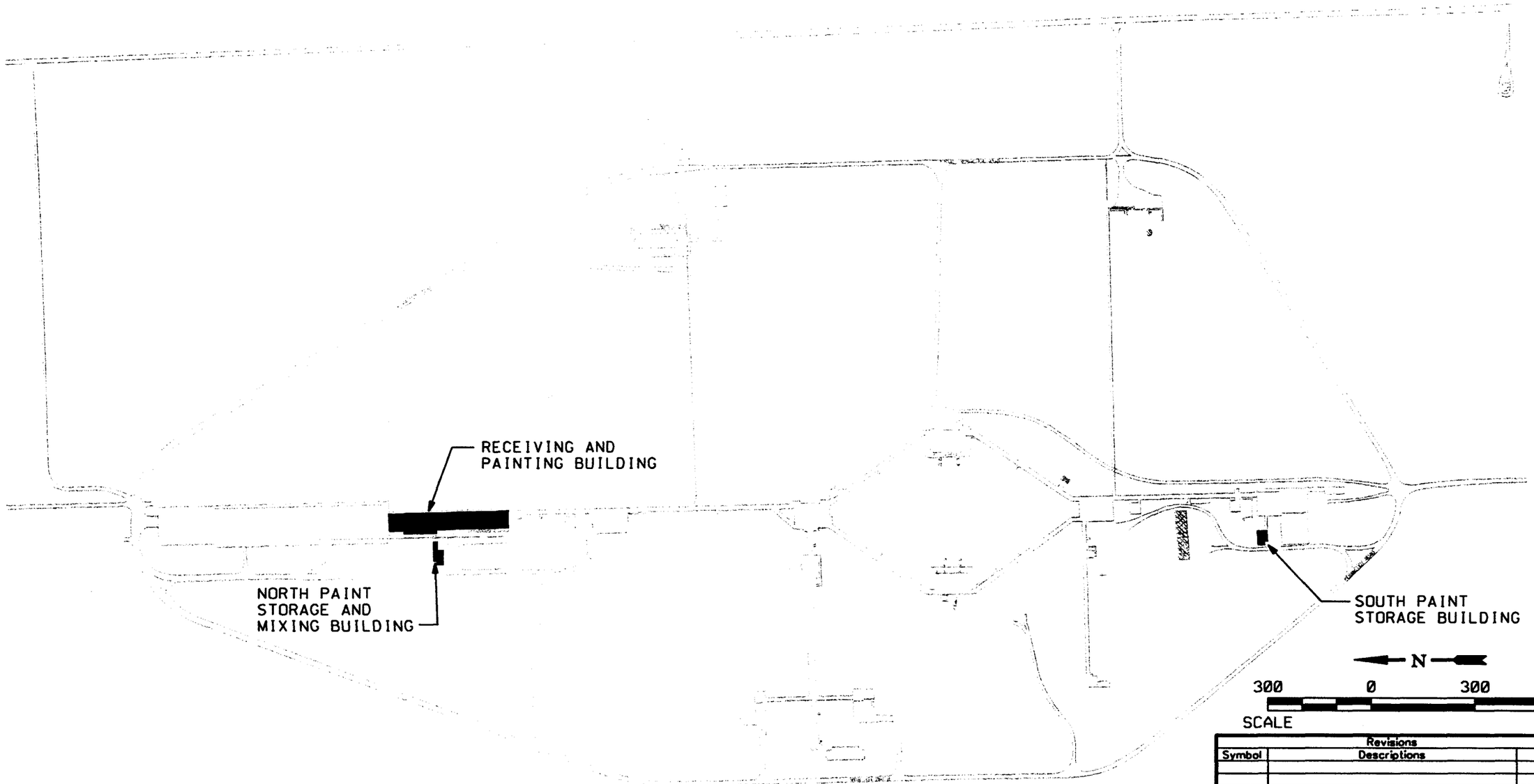
Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
SOUTH PAINT STORAGE
BUILDING SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-62
Sheet number: 1



LEGEND

ORIGINAL PAINT OPERATIONS BUILDING LOCATIONS

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

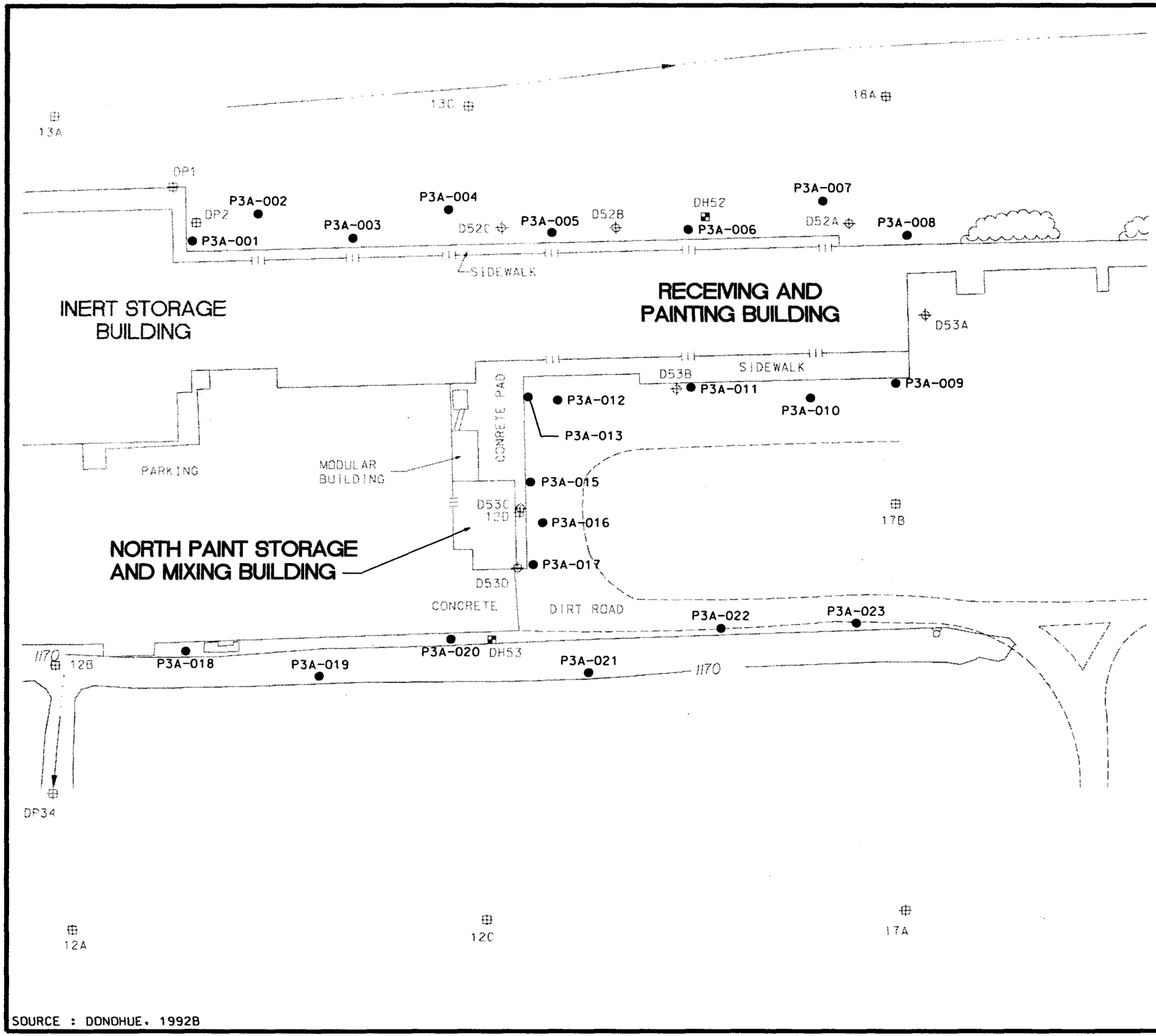
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

PAINT OPERATIONS
AREAS AT
LOAD LINE 3

Scale: 1 IN - 300 FEET
Date: MAY, 1997
Dwg. No.: 2-63
Sheet number: 1

24 APR 97 09:25:47
MCS FILE: j:\mead\ou3\l3p.dgn



LEGEND:

● P3A-001	ADJACENT SOIL SAMPLE LOCATION
■ DH52	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
⊕ D52B	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊞ 18A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE RECEIVING AND PAINTING BUILDING:
   P3A-001 AT 7.5 FT, P3A-002 AT 20.0 FT,
   P3A-003 AT 7.5 FT, P3A-004 AT 20.0 FT,
   P3A-005 AT 7.5 FT, P3A-006 AT 7.5 FT,
   P3A-007 AT 20.0 FT, P3A-008 AT 2.0 FT,
   P3A-009 AT 13.0 FT, P3A-010 AT 20.0 FT,
   P3A-011 AT 12.6 FT

2. SOIL SAMPLE P3A-014 WAS NOT COLLECTED DUE TO CONCRETE PAD AT SAMPLE LOCATION.

N

50 0 50 100

SCALE FEET

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
RECEIVING AND PAINTING BUILDING / NORTH PAINT STORAGE AND MIXING BUILDING SAMPLING LOCATIONS

Scale: 1 IN = 50 FEET
Date: MAY, 1997
Dwg. No.: 2-64
Sheet number: 1

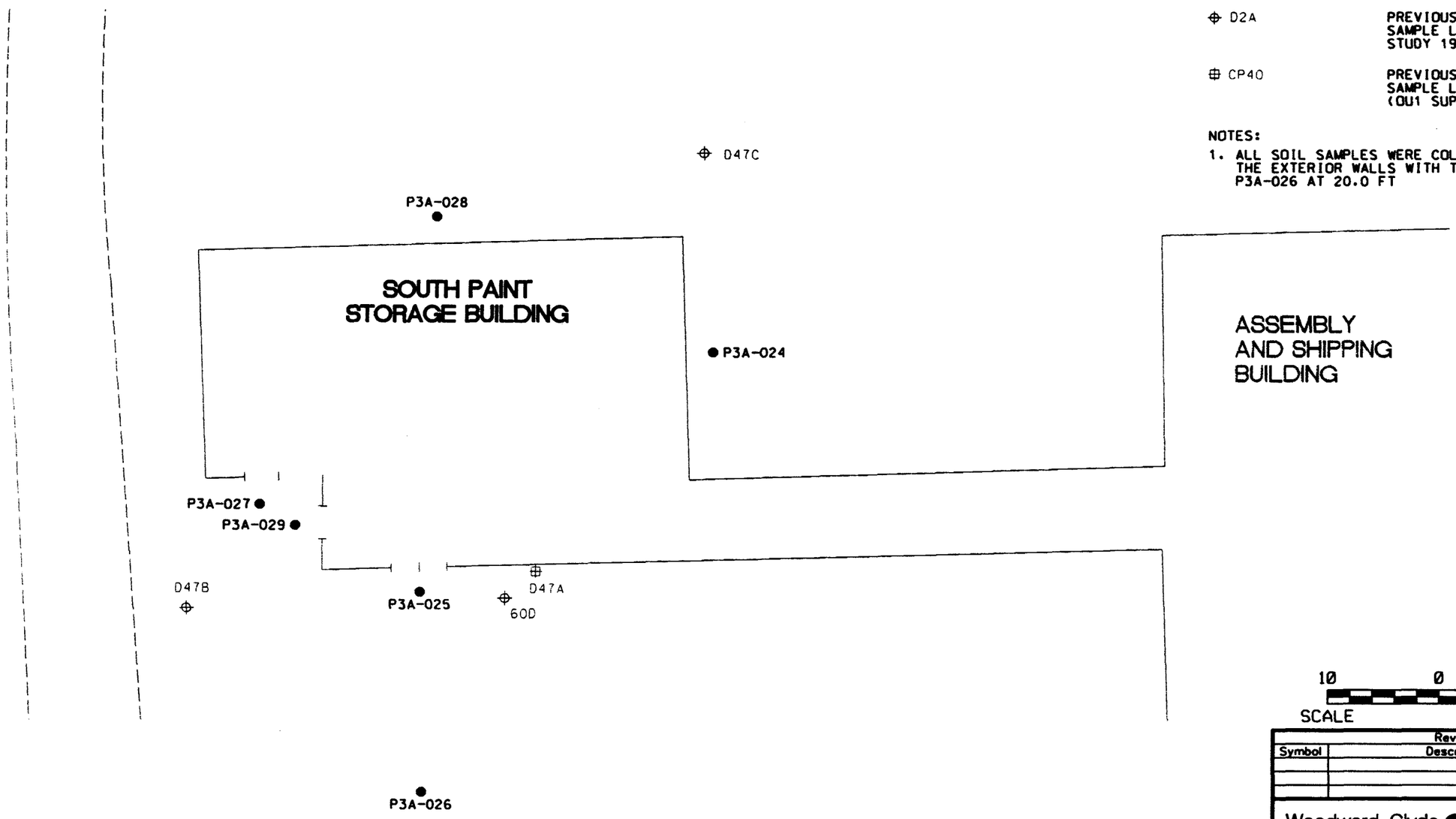
28 APR 97 12:53:01
MCS FILE: j:\mead\ou3p31.dgn

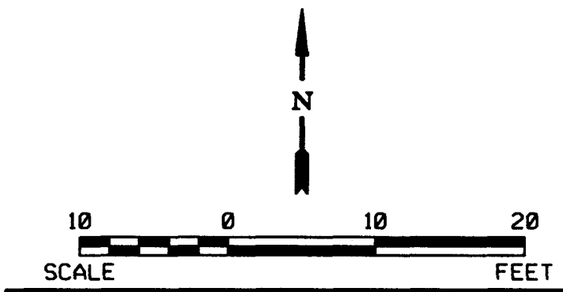
LEGEND:

● P3A-024	ADJACENT SOIL SAMPLE LOCATION
⊕ D2A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊞ CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL SOIL SAMPLES WERE COLLECTED 2 FT FROM THE EXTERIOR WALLS WITH THE EXCEPTION OF P3A-026 AT 20.0 FT





SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

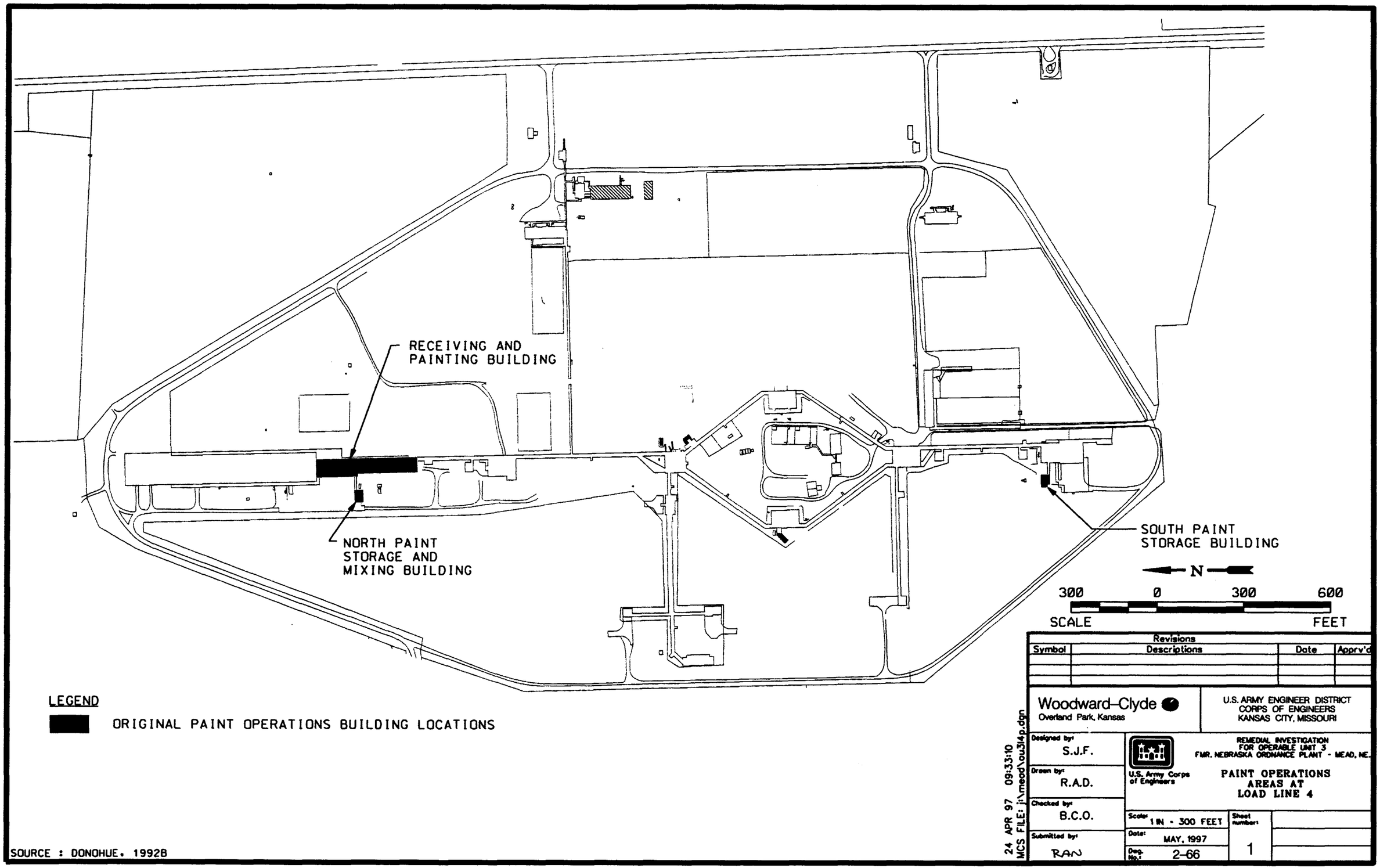
U.S. Army Corps of Engineers

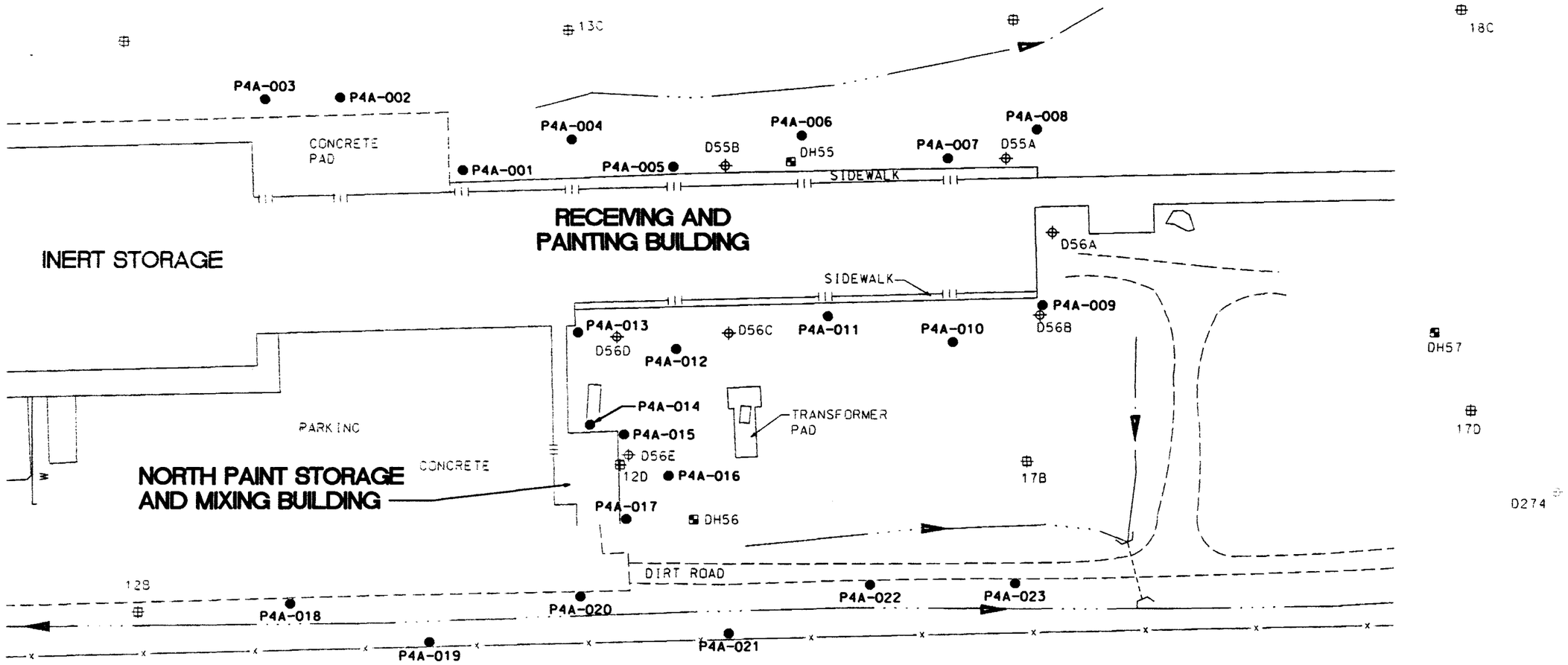
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
SOUTH PAINT STORAGE
BUILDING SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-65
Sheet number: 1

24 APR 97 09:27:48
MCS FILE: j:\mead\ou3p32.dgn


RECEIVING AND
PAINTING BUILDING
NORTH PAINT
STORAGE AND
MIXING BUILDING
SOUTH PAINT
STORAGE BUILDING
N
300 0 300 600
SCALE FEET
LEGEND
ORIGINAL PAINT OPERATIONS BUILDING LOCATIONS
SOURCE : DONOHUE, 1992B
24 APR 97 09:33:10
MCS FILE: j:\mead\ou3l4p.dgn
Revisions
Symbol
Descriptions
Date
Apprv'd
Woodward–Clyde
Overland Park, Kansas
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI
Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN
U.S. Army Corps of Engineers
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
PAINT OPERATIONS
AREAS AT
LOAD LINE 4
Scale: 1 IN = 300 FEET
Date: MAY, 1997
Dwg. No.: 2-66
Sheet number: 1



LEGEND:

● P4A-001	ADJACENT SOIL SAMPLE LOCATION
▣ DH56	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
⊕ D56E	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ 12B	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE RECEIVING AND PAINTING BUILDING:
   P4A-001 AT 7.0 FT. P4A-002 AT 42.0 FT.
   P4A-003 AT 42.0 FT. P4A-004 AT 20.0 FT.
   P4A-005 AT 7.0 FT. P4A-006 AT 20.0 FT.
   P4A-007 AT 7.0 FT. P4A-008 AT 20.0 FT.
   P4A-009 AT 3.0 FT. P4A-010 AT 20.0 FT.
   P4A-011 AT 7.0 FT. P4A-012 AT 20.0 FT.
   P4A-013 AT 3.0 FT

2. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE NORTH PAINT STORAGE/MIXING BUILDING:
   P4A-014 AT 1.0 FT. P4A-015 AT 1.0 FT.
   P4A-016 AT 20.0 FT. P4A-017 AT 1.0 FT

3. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES WEST OF THE CONCRETE PAD AND OR DIRT ROAD WEST OF THE NORTH PAINT STORAGE/MIXING BUILDING:
   P4A-018 AT 1.0 FT. P4A-019 AT 20.0 FT.
   P4A-020 AT 1.0 FT. P4A-021 AT 20.0 FT.
   P4A-022 AT 1.0 FT. P4A-023 AT 1.0 FT

N

50 0 50 100

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

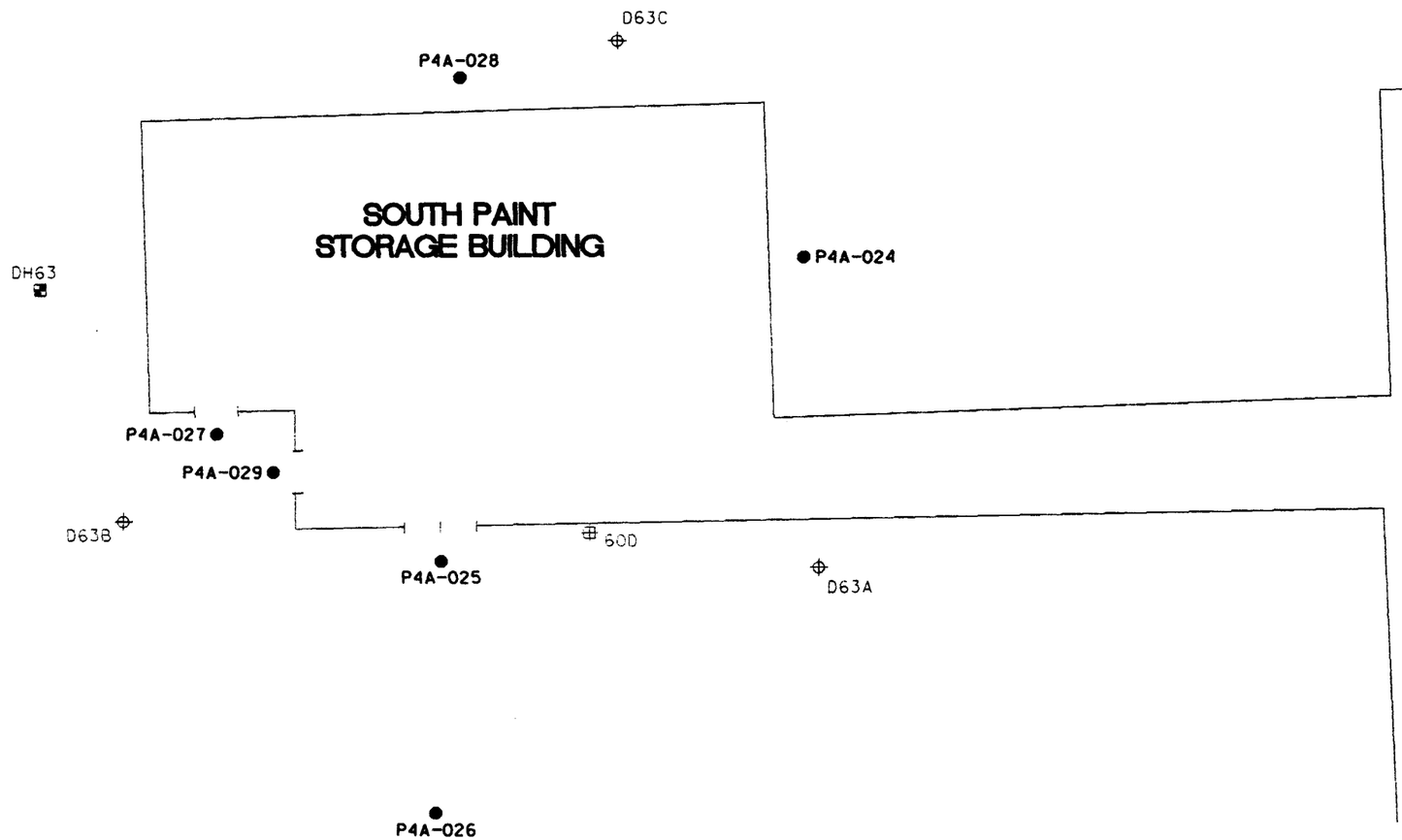
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
RECEIVING AND PAINTING BUILDING / NORTH PAINT STORAGE AND MIXING BUILDING SAMPLING LOCATIONS

Scale: 1 IN = 50 FEET
Date: MAY, 1997
Dwg. No.: 2-67
Sheet number: 1

24 APR 97 09:39:13
MCS FILE: j:\mead\ou3p41.dgn

SOURCE : DONOHUE, 1992B



LEGEND:

● P4A-024	ADJACENT SOIL SAMPLE LOCATION
⊠ DH63	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
⊕ D63A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊞ 60D	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. SOIL SAMPLES WERE COLLECTED 2 FT FROM THE EXTERIOR WALLS OF THE SOUTH PAINT STORAGE BUILDING WITH THE EXCEPTION OF P4A-026 TAKEN AT 20.0 FT

ASSEMBLY AND SHIPPING BUILDING

N

10 0 10 20

SCALE FEET

SOURCE : DONOHUE, 1992B

24 APR 97 09:40:26
MCS FILE: j:\mead\ou3p42.dgn

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

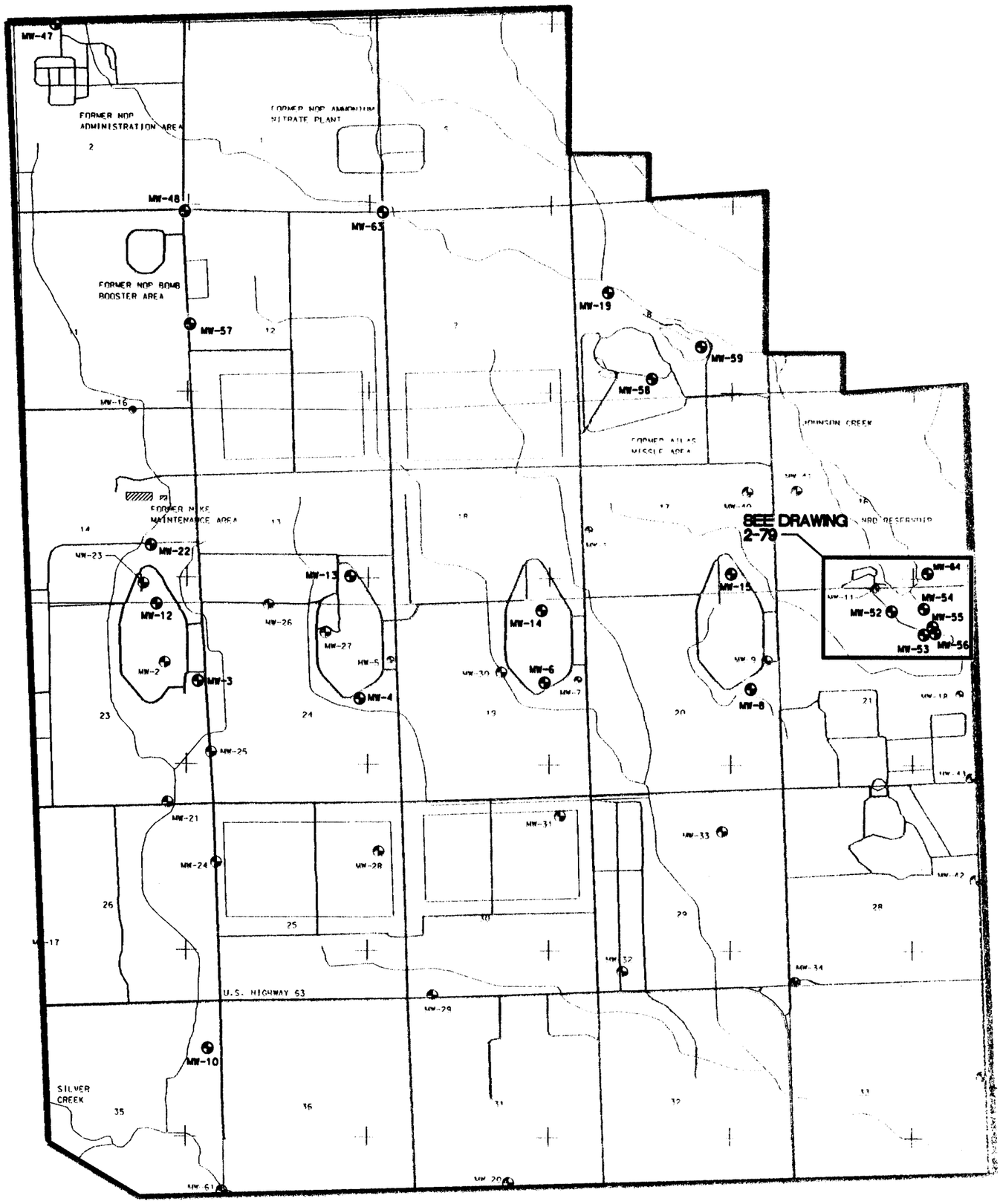
Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAW

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
SOUTH PAINT
STORAGE BUILDING
SAMPLING LOCATIONS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 2-68
Sheet number: 1



N

3000 0 3000 6000

SCALE FEET

LEGEND:

MW-10 GROUNDWATER MONITORING WELL CLUSTER SAMPLED TO SUPPORT OU3 RI

MW-29 OTHER EXISTING GROUNDWATER MONITORING WELL CLUSTER

FORMER NOP BOUNDARY

SOURCE: USGS, 1969.

Revisions			
Symbol	Descriptions	Date	Approved

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

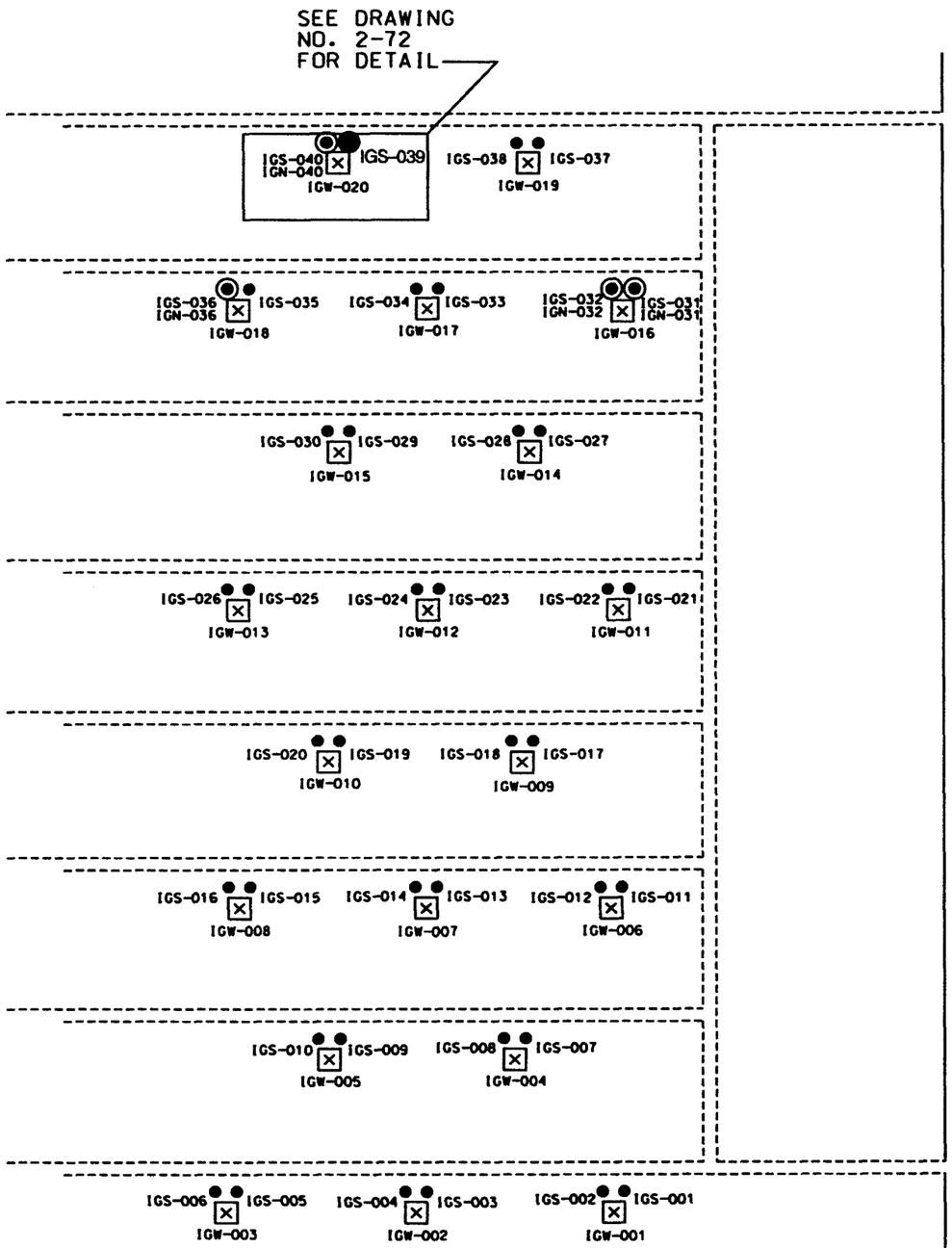
GROUNDWATER MONITORING WELLS SAMPLED TO SUPPORT OU3 RI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

Scale: 1 IN = 3000 FT
Date: MAY, 1997
Dwg. No.: 2-69
Sheet number: 1

27 APR 97 11:24:14
MICRO FILE: j:\mead\ou3mw-1.dgn

B07NE003703-04531



LEGEND:

□	IGLOO STORAGE BUILDING
● IGS-001	SHALLOW SOIL SAMPLE LOCATION
◉ IGN-031	CONFIRMATION SOIL SAMPLE LOCATION
× IGW-001	SURFACE WIPE SAMPLE LOCATION
● IGS-039	POSITIVE HE SCREENING RESULTS
----------	DIRT ROAD
==========	PAVED ROAD

NOTES:

1. ALL SHALLOW SOIL SAMPLES WERE COLLECTED APPROXIMATELY 5 FEET FROM THE CONCRETE ABUTMENTS AT THE ENTRYSIDE CORNERS OF THE IGLOOS.

2. EACH SHALLOW SOIL SAMPLE CONSISTED OF SOIL COLLECTED FROM APPROXIMATELY 0-1 FOOT BGS. EACH SHALLOW SAMPLE WAS SPLIT WITH ONE SAMPLE SUBMITTED FOR HIGH EXPLOSIVE SCREENING AND ONE SAMPLE RETAINED FOR POTENTIAL CONFIRMATION ANALYSIS.

3. ALL SURFACE WIPE SAMPLES WERE COLLECTED APPROXIMATELY AT THE CENTER POINT OF THE IGLOO FLOORS. WIPE SAMPLES WERE ANALYZED FOR EXPLOSIVES.

N

400 0 400 800

SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

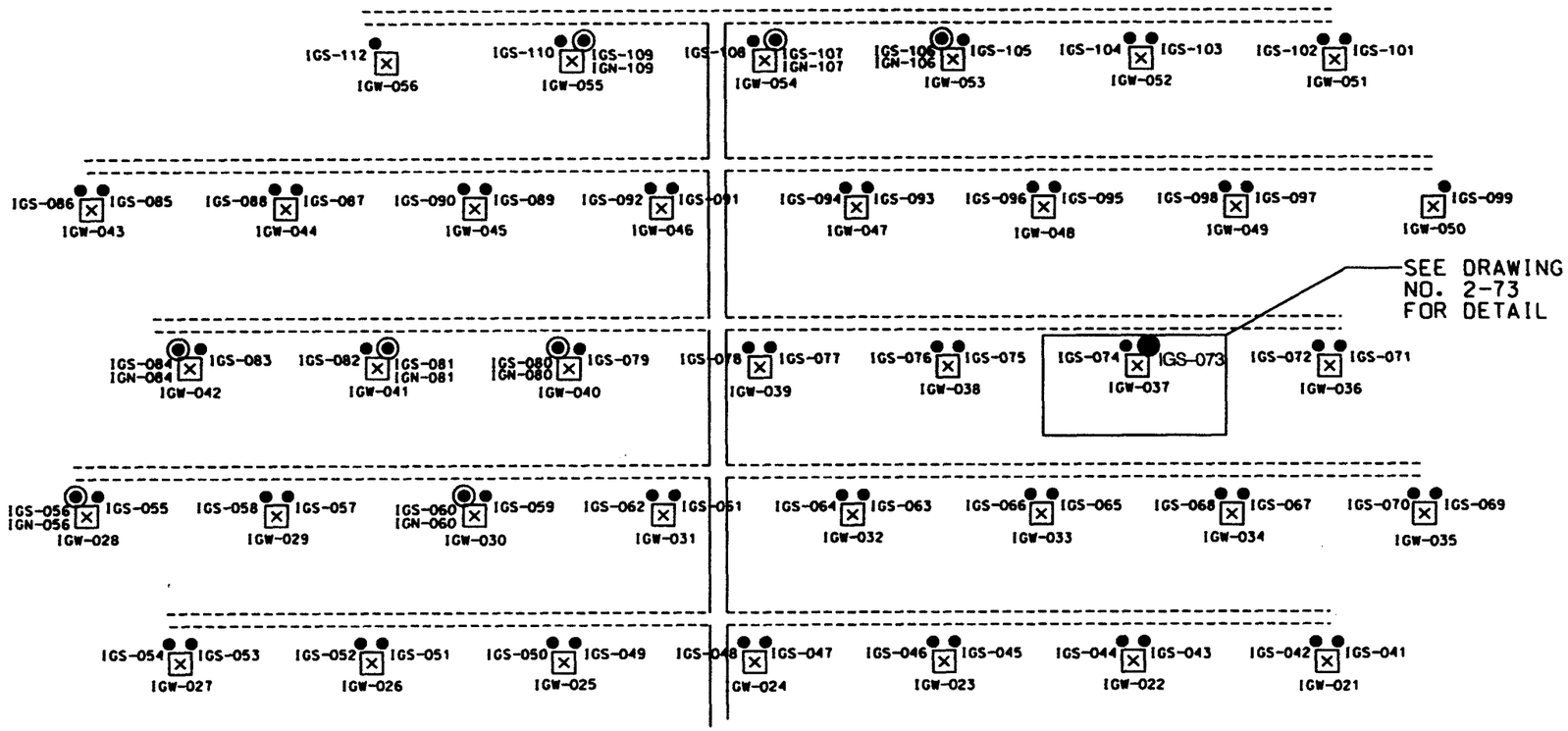
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT-MEAD, NE.

IGLOO STORAGE AREA NORTH OF LOAD LINE 2 SAMPLING LOCATIONS AND RESULTS ABOVE FIELD LAB INSTRUMENT DETECTION LIMITS

Scale: 1 INCH = 400 FEET
Date: MAY, 1997
Dwg. No.: 2-70
Sheet number:

18 APR 97 13:45:32
MCS FILE: j:\mead\igloo1a.dgn

B07NE003703-04532



LEGEND:

□	IGLOO STORAGE BUILDING
● IGS-041	SHALLOW SOIL SAMPLE LOCATION
◉ IGN-056	CONFIRMATION SOIL SAMPLE LOCATION
× IGW-021	SURFACE WIPE SAMPLE LOCATION
● IGS-073	POSITIVE HE SCREENING RESULTS
----------	DIRT ROAD
————	PAVED ROAD

NOTES:

1. ALL SHALLOW SOIL SAMPLES WERE COLLECTED APPROXIMATELY 5 FEET FROM THE CONCRETE ABUTMENTS AT THE ENTRYSIDE CORNERS OF THE IGLOOS.
2. EACH SHALLOW SOIL SAMPLE CONSISTED OF SOIL COLLECTED FROM APPROXIMATELY 0-1 FOOT BGS. EACH SHALLOW SAMPLE WAS SPLIT, WITH ONE SAMPLE SUBMITTED FOR HIGH EXPLOSIVE SCREENING AND ONE SAMPLE RETAINED FOR POTENTIAL CONFIRMATION ANALYSIS.
3. SHALLOW SOIL SAMPLES IGS-100 AND IGS-111 WERE NOT COLLECTED DUE TO THE PRESENCE OF ROCK AND/OR CONCRETE APPROXIMATELY 1 TO 2 INCHES FROM THE SURFACE.
4. ALL SURFACE WIPE SAMPLES WERE COLLECTED APPROXIMATELY AT THE CENTER POINT OF THE IGLOO FLOORS. WIPE SAMPLES WERE ANALYZED FOR EXPLOSIVES.

18 APR 97 13:51:38
MCS FILE: j:\mead\igloo2a.dgn

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

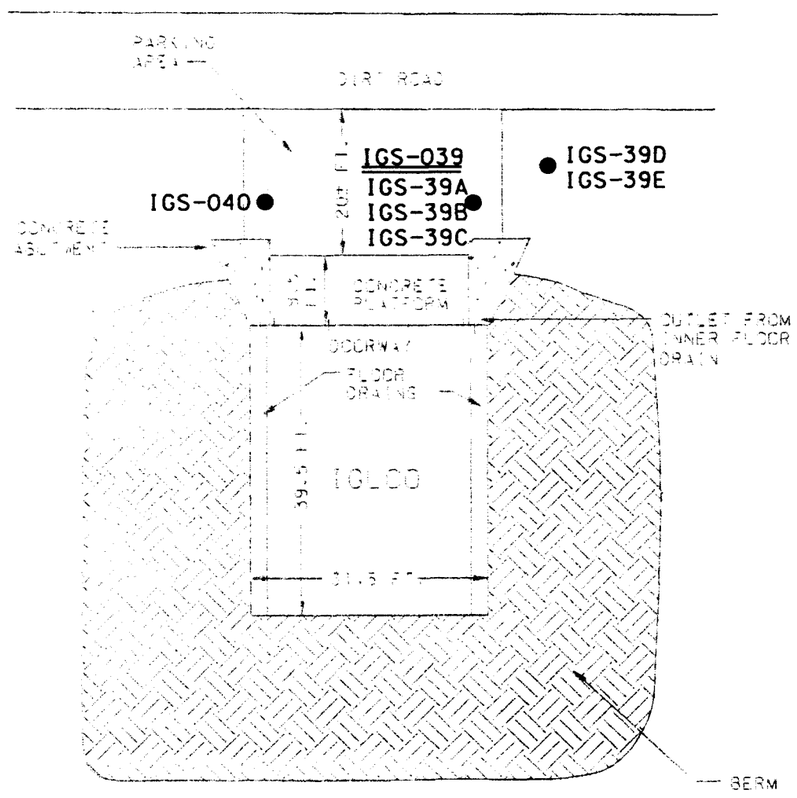
Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT-MEAD, NE.

IGLOO STORAGE AREA NORTH OF LOAD LINE 3 SAMPLING LOCATIONS AND RESULTS ABOVE FIELD LAB INSTRUMENT DETECTION LIMITS

Scale: 1 INCH = 400 FEET
Date: MAY, 1997
Dwg. No.: 2-71
Sheet number:



LEGEND:

● IGS-39A — HE SCREENING AND SOIL SAMPLING LOCATIONS

● IGS-039 — POSITIVE HE SCREENING RESULTS

NOTE:

THE FOLLOWING ADDITIONAL SOIL SAMPLES WERE COLLECTED FOR HE SCREENING AND CONFIRMATION ANALYSIS:

SCREENING I.D.	CONFIRMATION I.D.	DEPTH BGS (FT)
IGS-39A	IGN-039-000	0-0.5
IGS-39B	IGN-039-001	1-2
IGS-39C	IGN-039-004	4-5
IGS-39D	IGN-039-00A	0-0.5
IGS-39E	IGN-039-01A	1-2

N

20 0 20 40

SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

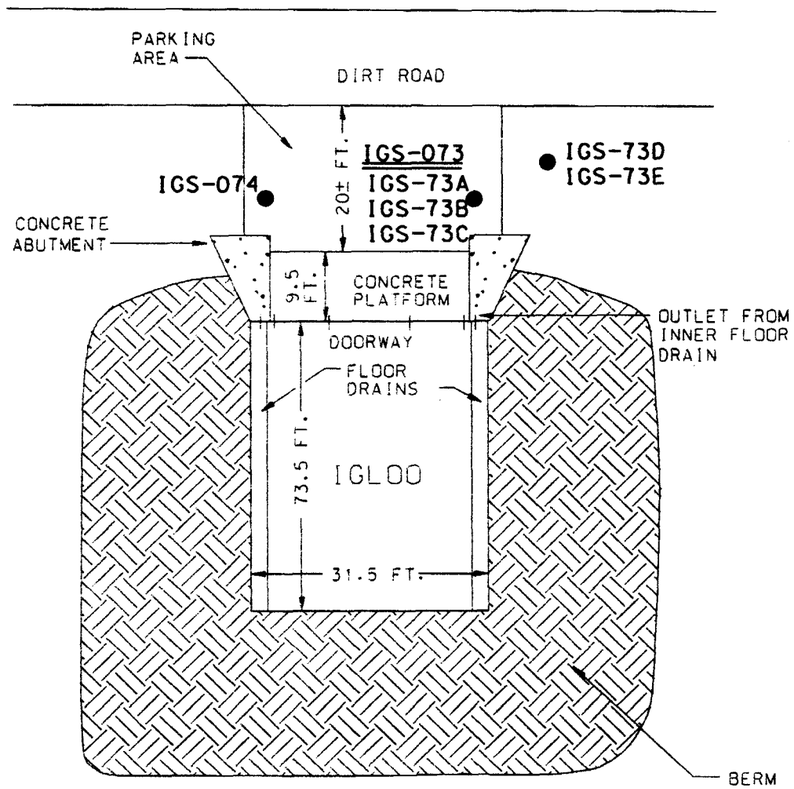
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT-MEAD, NE.

IGLOO STORAGE AREA NORTH OF LOAD LINE 2 ADDITIONAL SAMPLING LOCATIONS AND RESULTS ABOVE FIELD LAB INSTRUMENT DETECTION LIMITS

Scale: 1 INCH = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-72
Sheet number:

18 APR 97 14:02:04
MCS FILE: j:\mead\igloo3a.dgn



LEGEND:

● IGS-73A — HE SCREENING AND SOIL SAMPLING LOCATIONS

● IGS-073 — POSITIVE HE SCREENING RESULTS

NOTE:

THE FOLLOWING ADDITIONAL SOIL SAMPLES WERE COLLECTED FOR HE SCREENING AND CONFIRMATION ANALYSIS:

SCREENING I.D.	CONFIRMATION I.D.	DEPTH BGS (FT)
IGS-73A	IGN-073-000	0-0.5
IGS-73B	IGN-073-001	1-2
IGS-73C	IGN-073-004	4-5
IGS-73D	IGN-073-00A	0-0.5
IGS-73E	IGN-073-01A	1-2

N

20 0 20 40

SCALE FEET

Revisions

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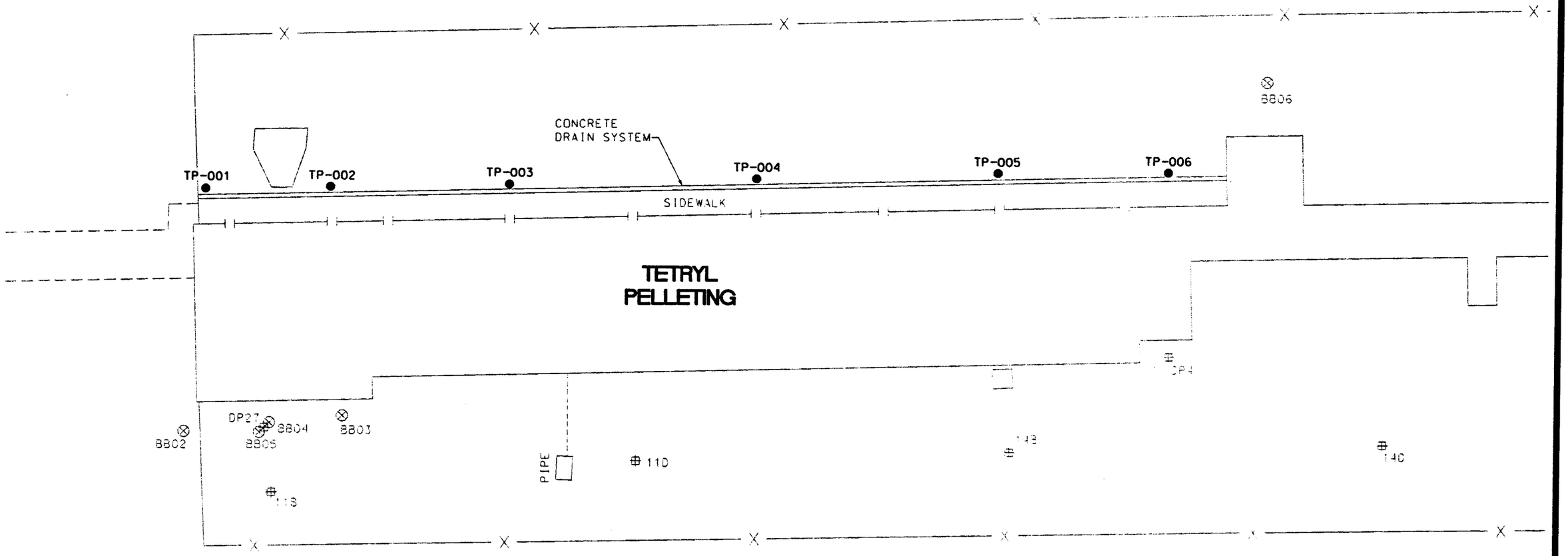
Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT-MEAD, NE.
IGLOO STORAGE AREA NORTH
OF LOAD LINE 3 ADDITIONAL
SAMPLING LOCATIONS
AND RESULTS ABOVE FIELD
LAB INSTRUMENT DETECTION LIMITS

Scale: 1 INCH = 20 FEET
Sheet number:
Date: MAY, 1997
Dwg. No.: 2-73

24 APR 97 09:51:40
MCS FILE: j:\mead\igloo4a.dgn



LEGEND:

● TP-001	ADJACENT SOIL SAMPLE LOCATION
⊕ DP27	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊗ BB06	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
—— X ——	FENCE

NOTES:

1. ALL OU3 RI SAMPLES WERE ANALYZED FOR EXPLOSIVES AND METALS.
2. ALL OU3 RI SHALLOW SOIL SAMPLES WERE COLLECTED APPROXIMATELY 6 FT FROM THE EXTERIOR WALLS OF THE TETRYL PELLETING BUILDING WITH THE FOLLOWING EXCEPTIONS: TP-001 AT 7.0 FT, TP-002 AT 7.0 FT

SOURCE: DONOHUE, 1992B

N

20 0 20 40

SCALE FEET

Revisions			
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Overland Park, Kansas

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Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

FORMER TETRYL
PELLETING AREA
SAMPLING LOCATIONS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-74
Sheet number: 1

29 APR 97 10:15:22
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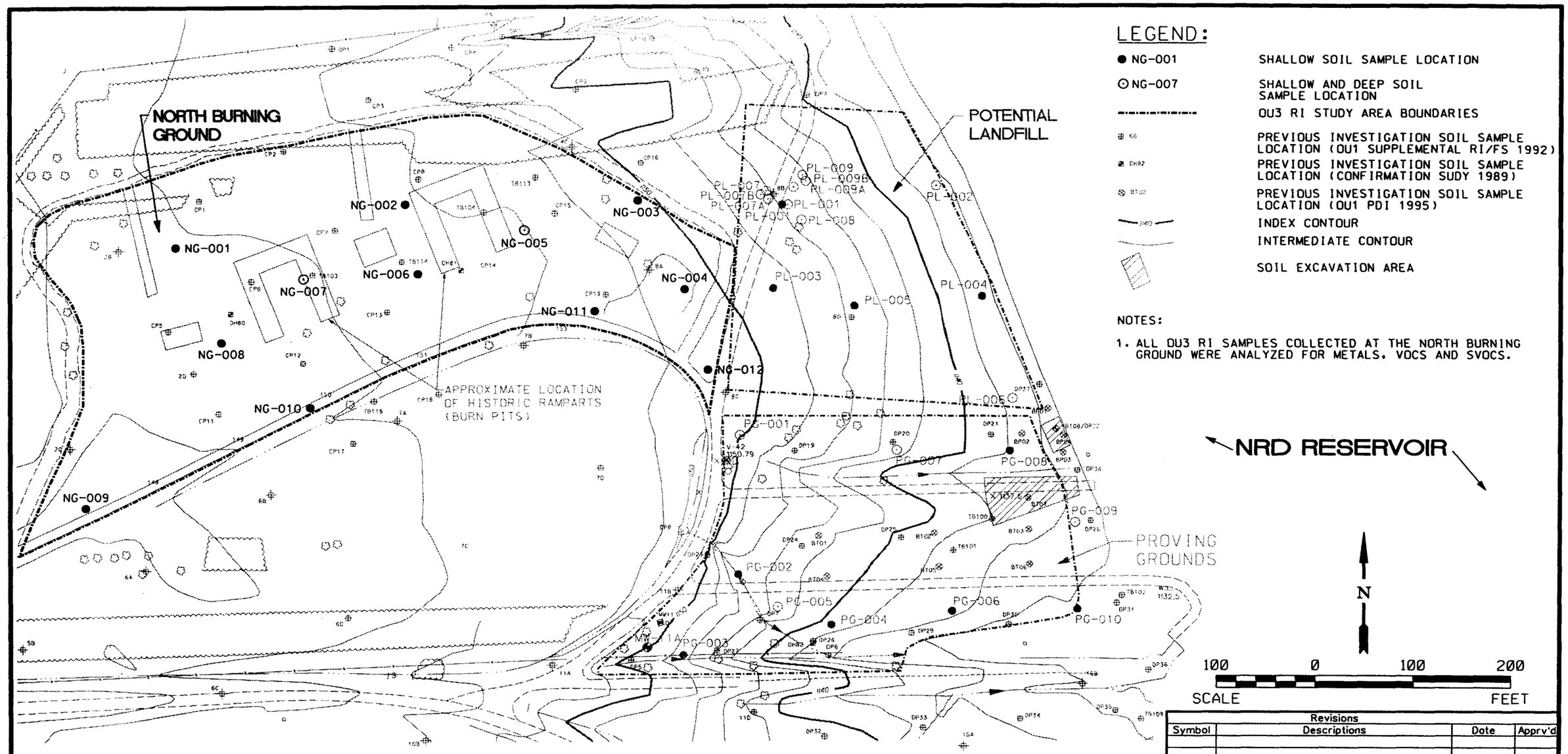

LEGEND:

● NG-001	SHALLOW SOIL SAMPLE LOCATION
⊙ NG-007	SHALLOW AND DEEP SOIL SAMPLE LOCATION
-·-·-·-	OU3 RI STUDY AREA BOUNDARIES
⊕ 6B	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊞ DH82	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION SUDY 1989)
⊗ BT02	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
—1040—	INDEX CONTOUR
—	INTERMEDIATE CONTOUR
▨	SOIL EXCAVATION AREA

NOTES:

1. ALL OU3 RI SAMPLES COLLECTED AT THE NORTH BURNING GROUND WERE ANALYZED FOR METALS, VOCS AND SVOCS.

SOURCE: DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

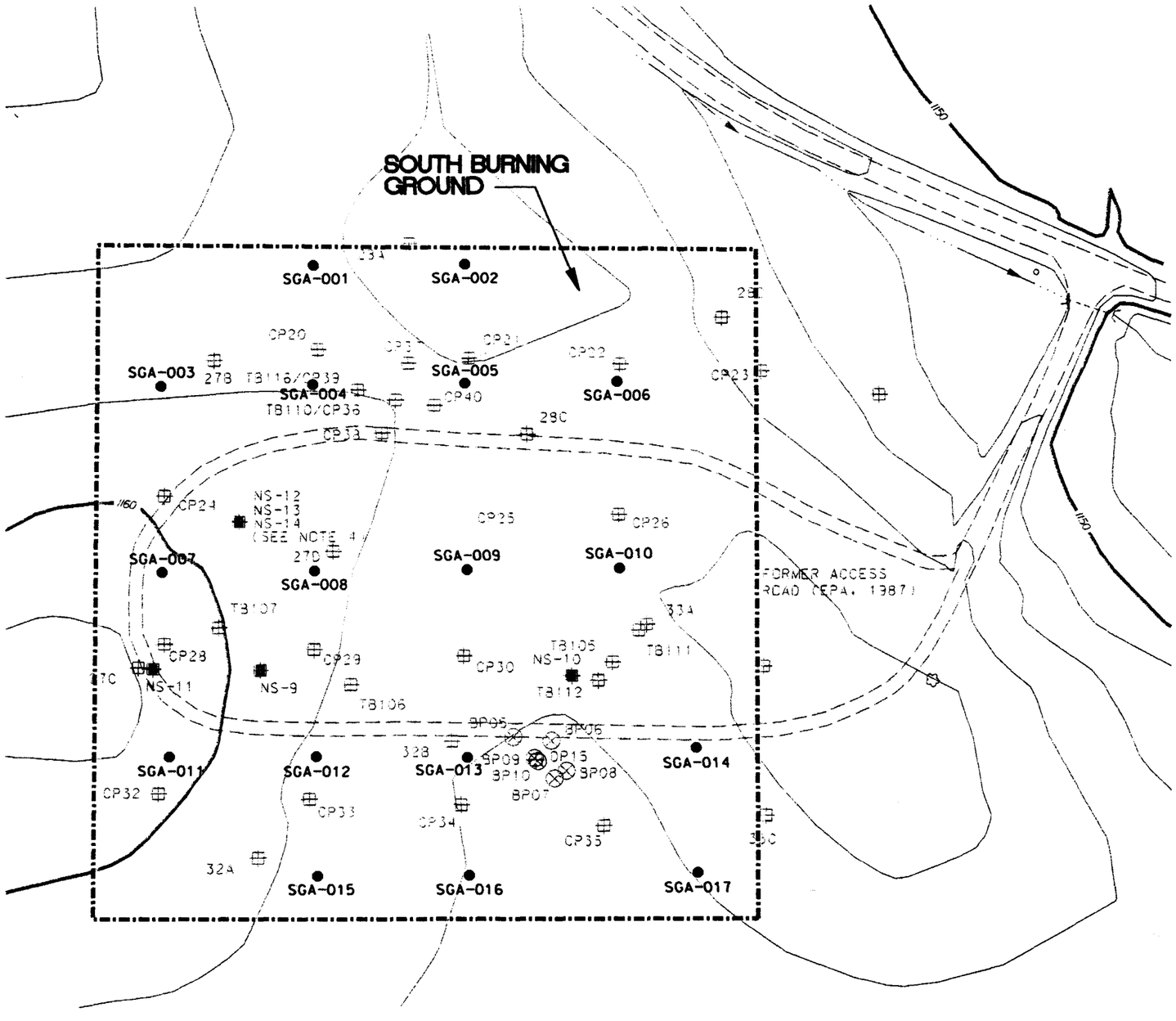
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

NORTH BURNING GROUND
SAMPLING LOCATIONS

Scale: 1 IN = 100 FEET
Date: MAY, 1997
Dwg. No.: 2-75
Sheet number: 1

28 APR 97 14:10:30
MCS FILE: j:\mead\ou3ng01.dgn

B07NE003703-04537



SOURCE: DONOHUE, 1992B

LEGEND:

● SGA-001	SHALLOW SOIL SAMPLE LOCATION (SEE NOTE 2)
⊕ DP14	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊗ BP05	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
■ NS-9	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (FINAL ENGINEERING REPORT 1991)
—·—·—	OU3 RI STUDY AREA BOUNDARIES
1150	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ALL OU3 RI SAMPLES WERE ANALYZED FOR METALS, VOCS AND SVOCS WITH ONE EXCEPTION. THE 0-6 in. bgs SAMPLING INTERVAL WAS NOT ANALYZED FOR VOCs.
2. DUE TO PLOWING AT THIS SITE, SHALLOW SOIL SAMPLES WERE COLLECTED FROM 2-3 FT AT ALL OU3 RI SAMPLE LOCATIONS.
3. PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION NS-9 THROUGH NS-12 ARE APPROXIMATE BECAUSE NO COORDINATES WERE AVAILABLE. EACH OF THESE SAMPLES WERE COMPOSITED FROM THREE SUB-SAMPLES.
4. SAMPLES NS-13 AND NS-14 WERE DUPLICATES OF NS-12.
5. CONTOUR INTERVAL IS 2 FT.

N

80 0 80 160

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

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Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

SOUTH BURNING GROUND SAMPLING LOCATIONS

Scale: 1 IN = 80 FEET
Date: MAY, 1997
Dwg. No.: 2-76
Sheet number: 1

24 APR 97 10:09:25
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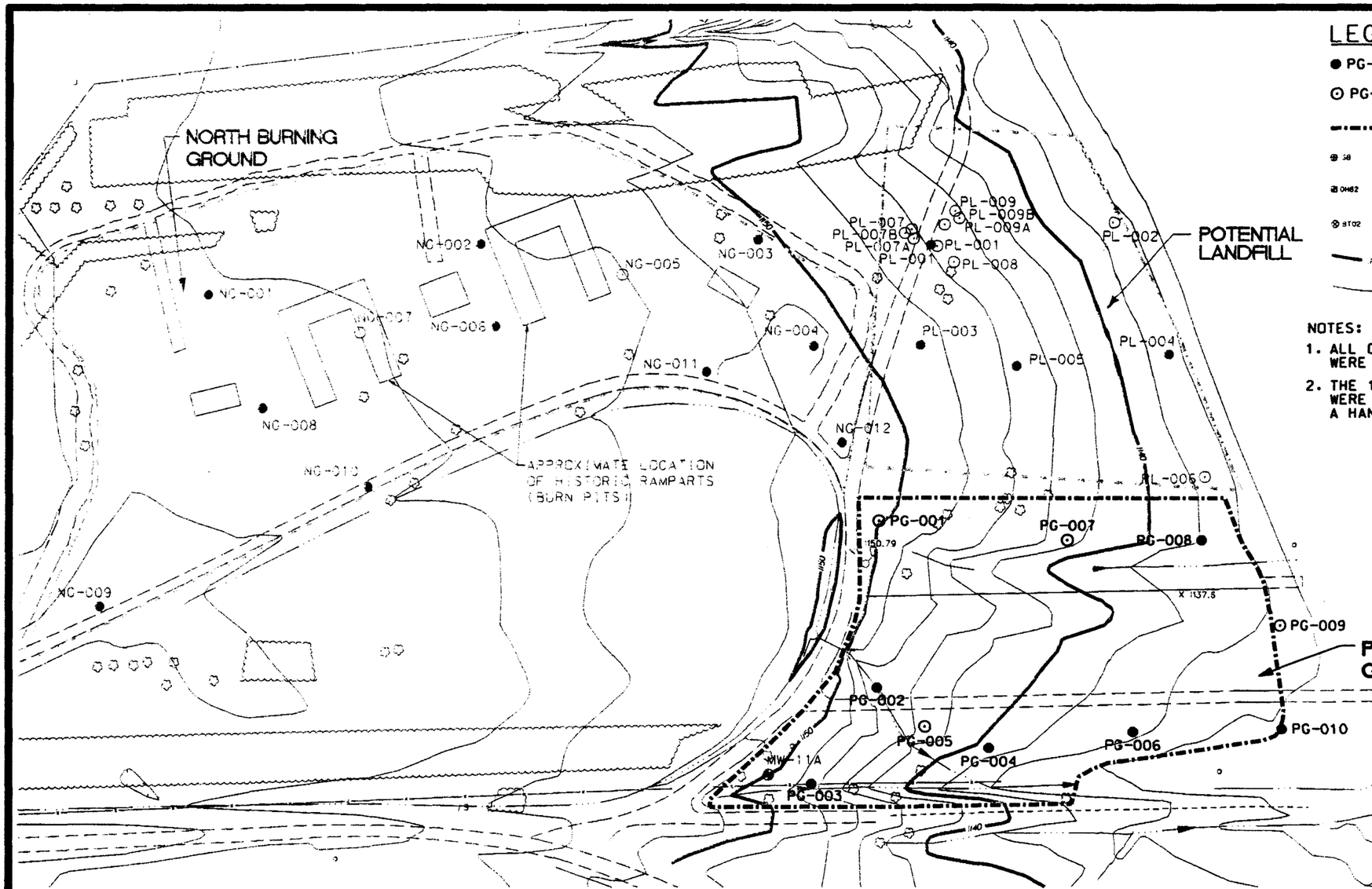

LEGEND:

● PG-002	SHALLOW SOIL SAMPLE LOCATION
⊙ PG-001	SHALLOW AND DEEP SOIL SAMPLE LOCATION
—·—·—	OU3 RI STUDY AREA BOUNDARIES
⊕ SB	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊠ OH62	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION SUDY 1989)
⊗ ST02	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
—— 140 ——	INDEX CONTOUR
——	INTERMEDIATE CONTOUR

NOTES:

1. ALL OU3 RI SAMPLES COLLECTED AT THE PROVING GROUNDS WERE ANALYZED FOR METALS. VOCS AND SVOCS.
2. THE 19-20 FT. INTERVAL OF THE FOLLOWING SAMPLE LOCATIONS WERE NOT SAMPLED BECAUSE THEY WERE NOT ATTAINABLE WITH A HAND AUGER: PG-001 AND PG-005.

SOURCE: DONOHUE. 1992B

24 APR 97 10:12:04
MCS FILE: j:\mead\ou3ng03.dgn

Revisions

Symbol	Descriptions	Date	Apprv'd

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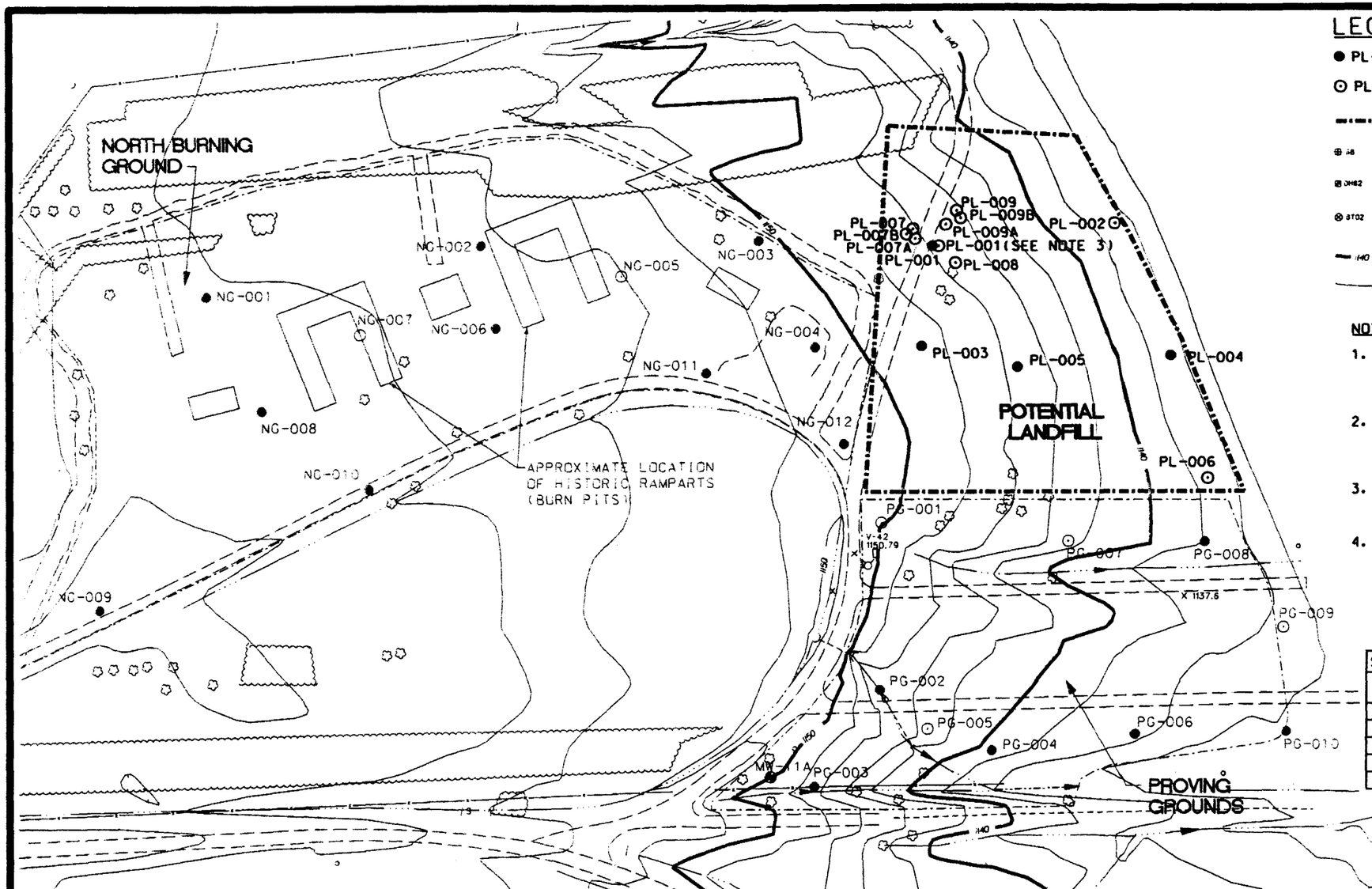
Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

PROVING GROUNDS SAMPLING LOCATIONS

Scale: 1 IN = 100 FEET
Date: MAY, 1997
Dwg. No.: 2-77
Sheet number: 1



SOURCE: DONOHUE, 1992B

LEGEND:

● PL-001	SHALLOW SOIL SAMPLE LOCATION
⊙ PL-002	SHALLOW AND DEEP SOIL SAMPLE LOCATION
	OU3 RI STUDY AREA BOUNDARIES
	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION SUDY 1989)
	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ALL OU3 RI SAMPLES COLLECTED AT THE POTENTIAL LANDFILL WERE ANALYZED FOR EXPLOSIVES, METALS, VOCS AND SVOCS, EXCEPT SAMPLES COLLECTED AT PL-007, PL-008 AND PL-009 WHICH WERE ANALYZED FOR METALS ONLY.
2. THE 19-20 FT. INTERVAL OF THE FOLLOWING SAMPLE LOCATIONS WERE NOT SAMPLED BECAUSE THEY WERE NOT ATTAINABLE WITH A HAND AUGER: PL-002 AND PL-006. PL-006 WAS ALSO NOT SAMPLED AT THE 9-10 FT. INTERVAL DUE TO AUGER REFUSAL.
3. DURING THE PHASE II SAMPLING, THE ORIGINAL SAMPLING POINT PL-001 WAS SLIGHTLY OFFSET AND SAMPLED FROM 4-5 FT AND 9-10 FT.
4. DURING PHASE II SAMPLING, PL-007 AND PL-009 SAMPLE LOCATIONS WERE OFFSET THREE TIMES, EACH, DURING SAMPLING DUE TO THE POSSIBLE PRESENCE OF UNEXPLODED ORDNANCE. THE FOLLOWING TABLE DETAILS THE DEPTHS AT WHICH SAMPLES WERE COLLECTED:

Sampling Points	Depths			
	0-0.5 FT	1-2 FT	4-5 FT	9-10 FT
PL-007	X			
PL-007A		X	X	
PL-007B				X
PL-009	X			
PL-009A		X	X	
PL-009B				X

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Symbol	Descriptions	Date	Apprv'd

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Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

POTENTIAL LANDFILL AREA NORTH OF THE PROVING GROUNDS SAMPLING LOCATIONS

Scale: 1 IN = 100 FEET
Date: MAY, 1997
Dwg. No.: 2-78
Sheet number: 1

21 APR 97 15:41:33
MCS FILE: j:\mead\ou3ng02.dgn

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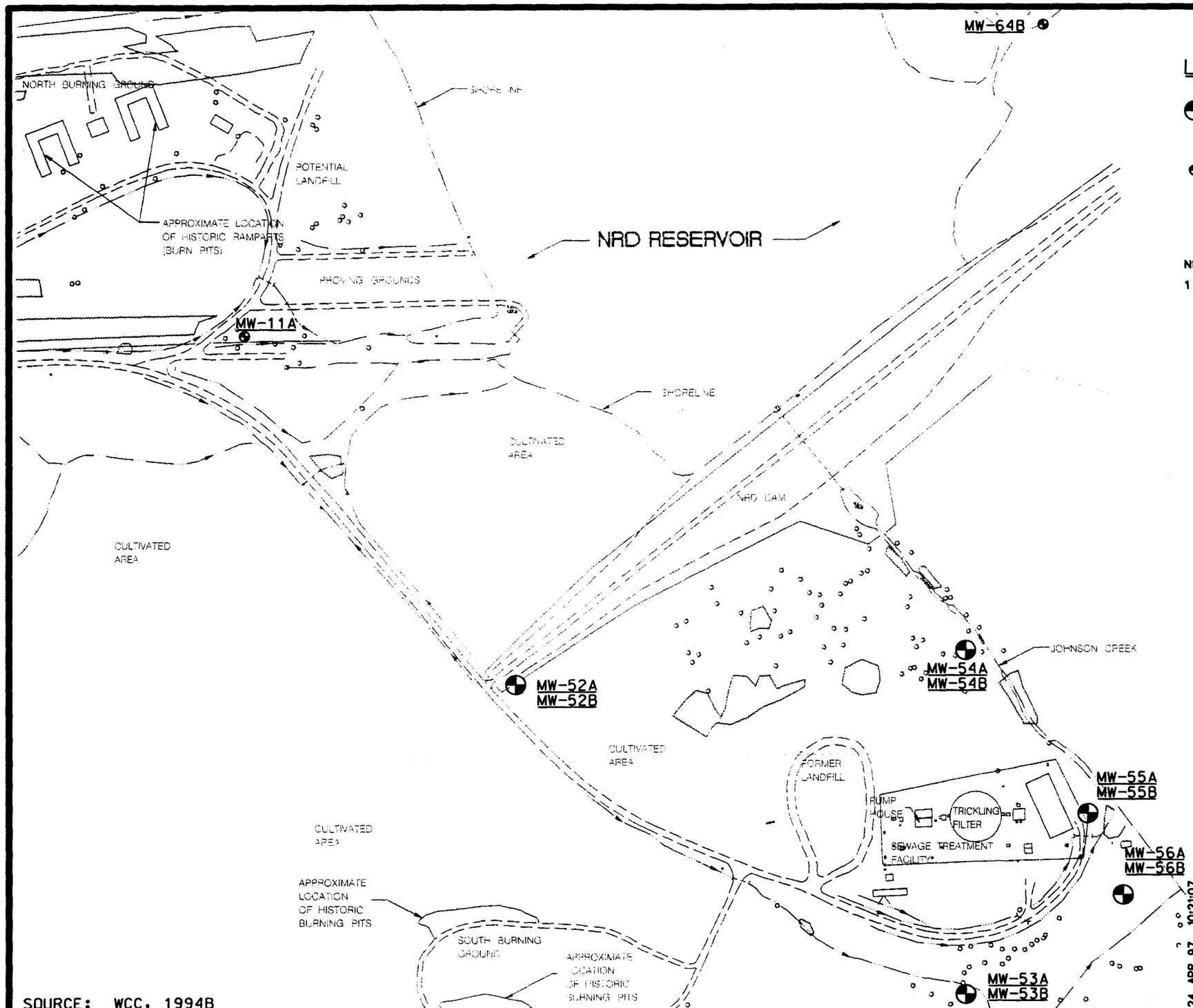

SOURCE: WCC, 1994B

LEGEND:

MW-54A / MW-54B	LANDFILL AREA GROUNDWATER MONITORING WELL CLUSTER SAMPLED TO SUPPORT OU3 RI
MW-11A	OTHER EXISTING GROUNDWATER MONITORING WELL CLUSTER

NOTE:

1. "A" REPRESENTS INTERMEDIATE WELLS, AND "B" REPRESENTS SHALLOW WELLS.

N

200 0 200 400

SCALE FEET

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Symbol	Descriptions	Date	Apprv'd

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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

FORMER NOP LANDFILL AREA GROUNDWATER MONITORING WELLS SAMPLED TO SUPPORT THE OU3 RI

Scale: 1 IN = 200 FT
Date: MAY, 1997
Dwg. No.: 2-79
Sheet number: 1

24 APR 97 10:21:07
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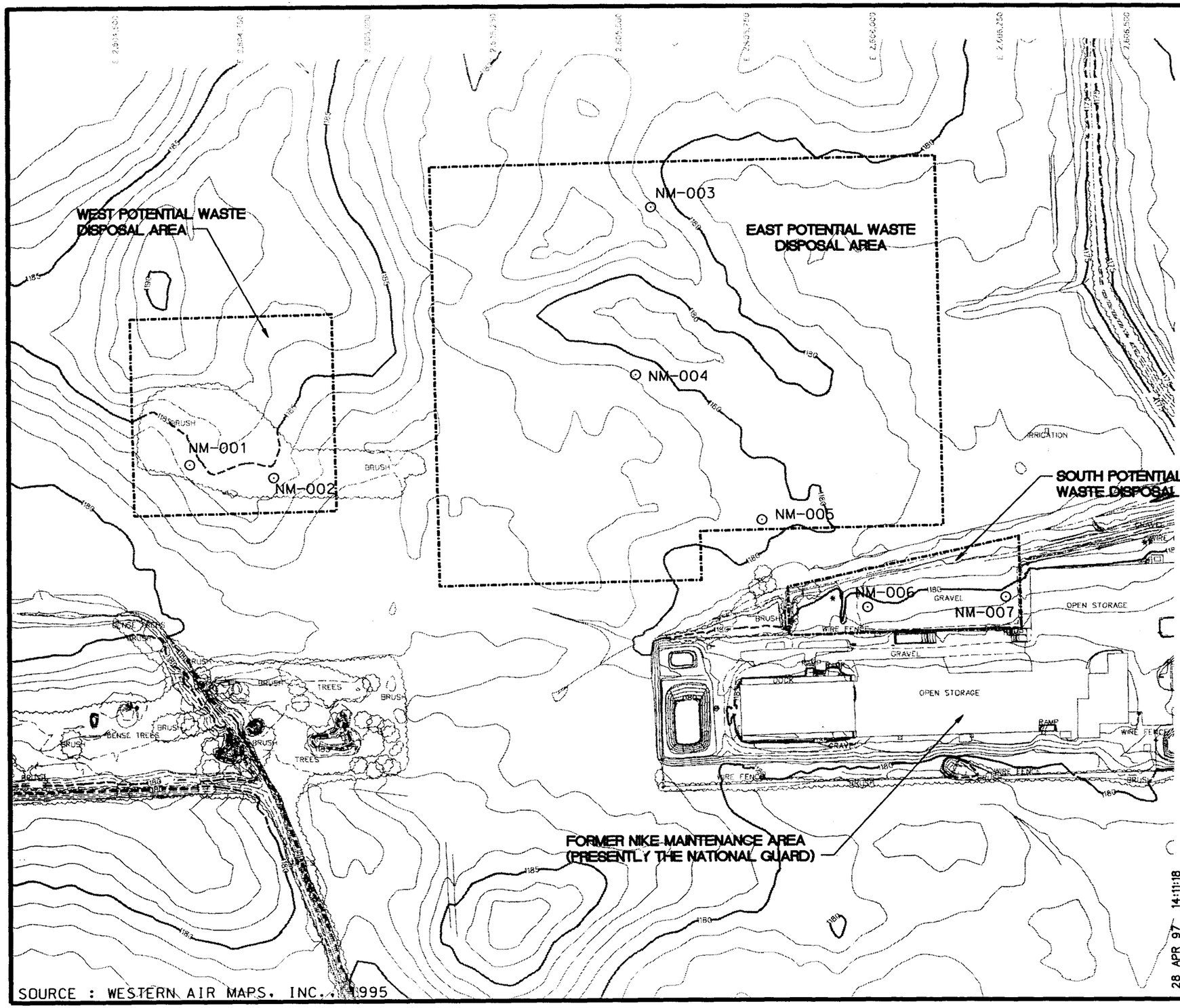

LEGEND

⊙NM-001	SHALLOW AND DEEP SOIL SAMPLE LOCATION (SEE NOTE 2)
1150	INDEX CONTOUR
	INTERMEDIATE CONTOUR
	OU3 RI STUDY AREA BOUNDARIES

NOTES:

1. ALL SAMPLES WERE ANALYZED FOR EXPLOSIVES, METALS, VOCs AND SVOCs WITH ONE EXCEPTION. THE 0-6 IN BGS SAMPLING INTERVAL WAS NOT ANALYZED FOR VOCs.
2. DUE TO PLOWING AT THIS SITE, SHALLOW SOIL SAMPLES WERE COLLECTED FROM 2-3 FT AT ALL SAMPLE LOCATIONS.
3. CONTOUR INTERVAL IS 1 FT

N

200 0 200 400

SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

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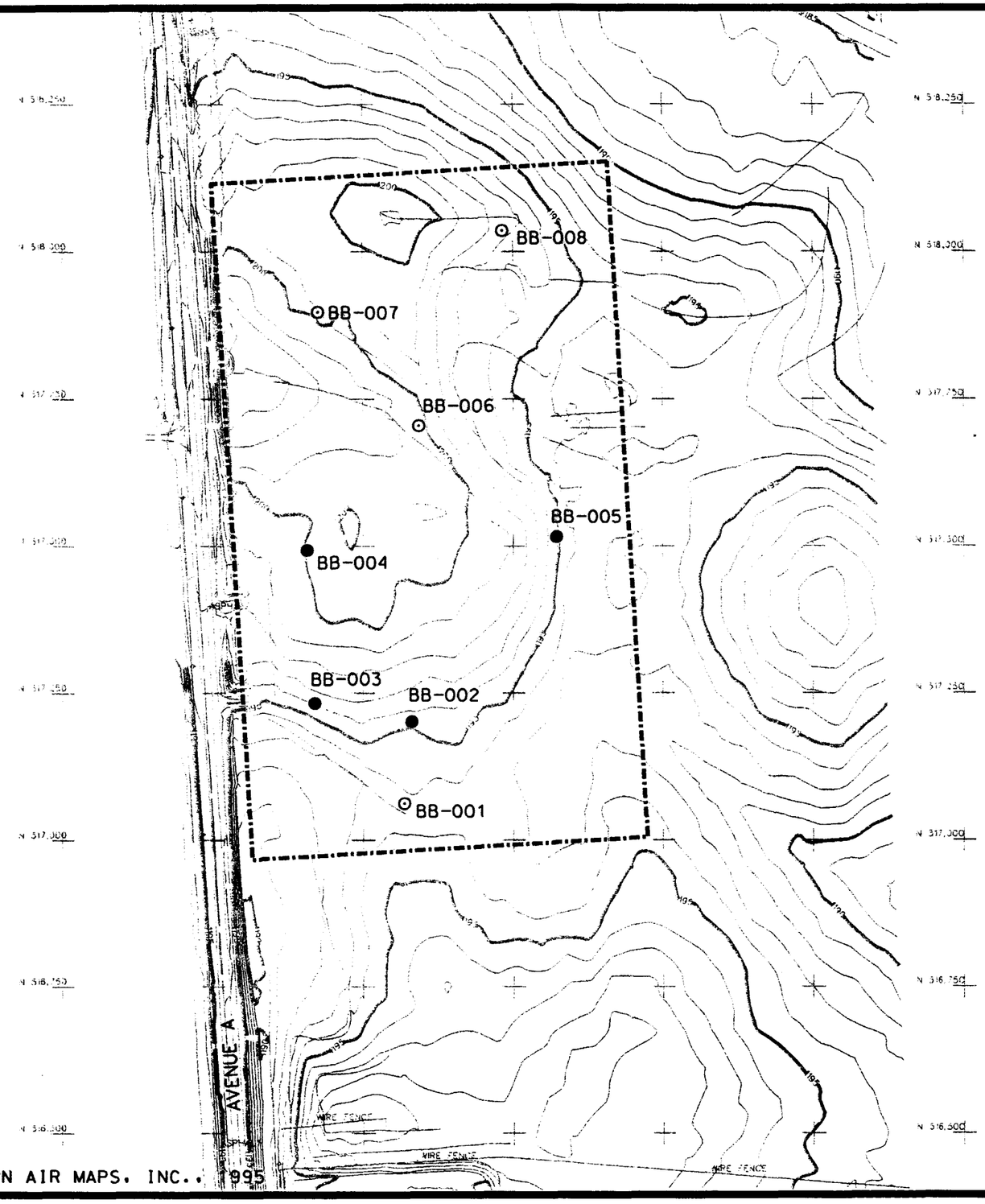
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

POTENTIAL WASTE DISPOSAL AREAS NORTH OF THE FORMER NIKE MAINTENANCE AREA SAMPLING LOCATIONS

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN
Scale: 1 IN - 200 FEET
Date: MAY, 1997
Dwg. No.: 2-80
Sheet number: 1

28 APR 97 14:11:18
MCS FILE: j:\mead\ou3nm01.dgn

B07NE003703-04542



SOURCE : WESTERN AIR MAPS, INC., 1995

LEGEND

● BB-002	SHALLOW SOIL SAMPLE LOCATION (SEE NOTE 2)
⊙ BB-001	SHALLOW AND DEEP SOIL SAMPLE LOCATION
-·-·-·-	OU3 RI STUDY AREA BOUNDARIES
	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ALL SAMPLES WERE ANALYZED FOR EXPLOSIVES, METALS, VOCs, SVOCs AND PCBs WITH ONE EXCEPTION. THE 0-6 IN BGS SAMPLING INTERVAL WAS NOT ANALYZED FOR VOCs.
2. DUE TO PLOWING AT THIS SITE SHALLOW SOIL SAMPLES WERE COLLECTED FROM 2-3 FT AT ALL SHALLOW SOIL SAMPLE LOCATIONS.
3. CONTOUR INTERVAL IS 1 FT.

N

200 0 200 400

SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

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Overland Park, Kansas

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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

POTENTIAL WASTE DISPOSAL AREA SOUTHEAST OF THE FORMER BOMB BOOSTER ASSEMBLY AREA SAMPLING LOCATIONS

Scale: 1 IN = 200 FEET
Date: MAY, 1997
Dwg. No.: 2-81
Sheet number: 1

11 APR 97 14:19:28
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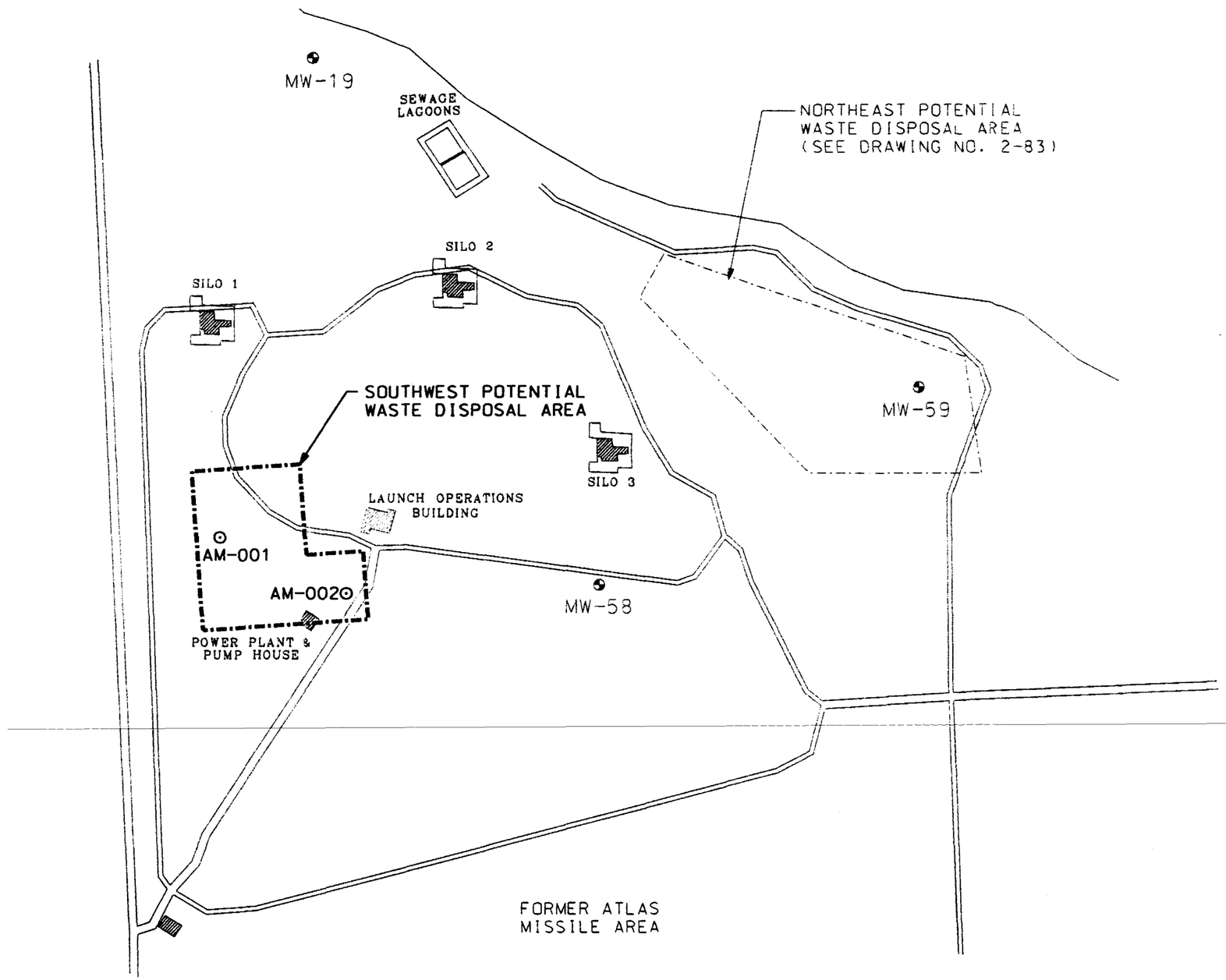

SOURCE : WCC, 1994B

LEGEND

⊙ AM-001	SHALLOW AND DEEP SOIL SAMPLE LOCATION
◉ MW-59	EXISTING GROUNDWATER MONITORING WELL CLUSTER
-·-·-·-	OU3 RI STUDY AREA BOUNDARIES

NOTES:

1. ALL SAMPLES WERE ANALYZED FOR EXPLOSIVES, METALS, VOCs AND SVOCs WITH ONE EXCEPTION. THE 0-6 IN BGS SAMPLING INTERVAL WAS NOT ANALYZED FOR VOCs.

N

500 0 500 1000

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

SOUTHWEST POTENTIAL WASTE DISPOSAL AREA AT THE FORMER ATLAS MISSILE AREA SAMPLING LOCATIONS

Scale: 1 IN = 500 FT
Date: MAY, 1997
Dwg. No.: 2-82
Sheet number: 1

24 APR 97 10:24:06
MCS FILE: j:\mead\ou3am02.dgn

SOURCE : WESTERN AIR MAPS, INC., 1995

LEGEND

● AM-004	SHALLOW SOIL SAMPLE LOCATION
⊙ AM-003	SHALLOW AND DEEP SOIL SAMPLE LOCATION
MW-59	GROUNDWATER MONITORING WELL CLUSTER
-·-·-·-	OU3 RI STUDY AREA BOUNDARIES
—1105—	INDEX CONTOUR
——	INTERMEDIATE CONTOUR

NOTES:

1. ALL SAMPLES WERE ANALYZED FOR EXPLOSIVES, METALS, VOCs AND SVOCs WITH ONE EXCEPTION. THE 0-6 IN BGS SAMPLING INTERVAL WAS NOT ANALYZED FOR VOCs.

N

200 0 200 400

SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

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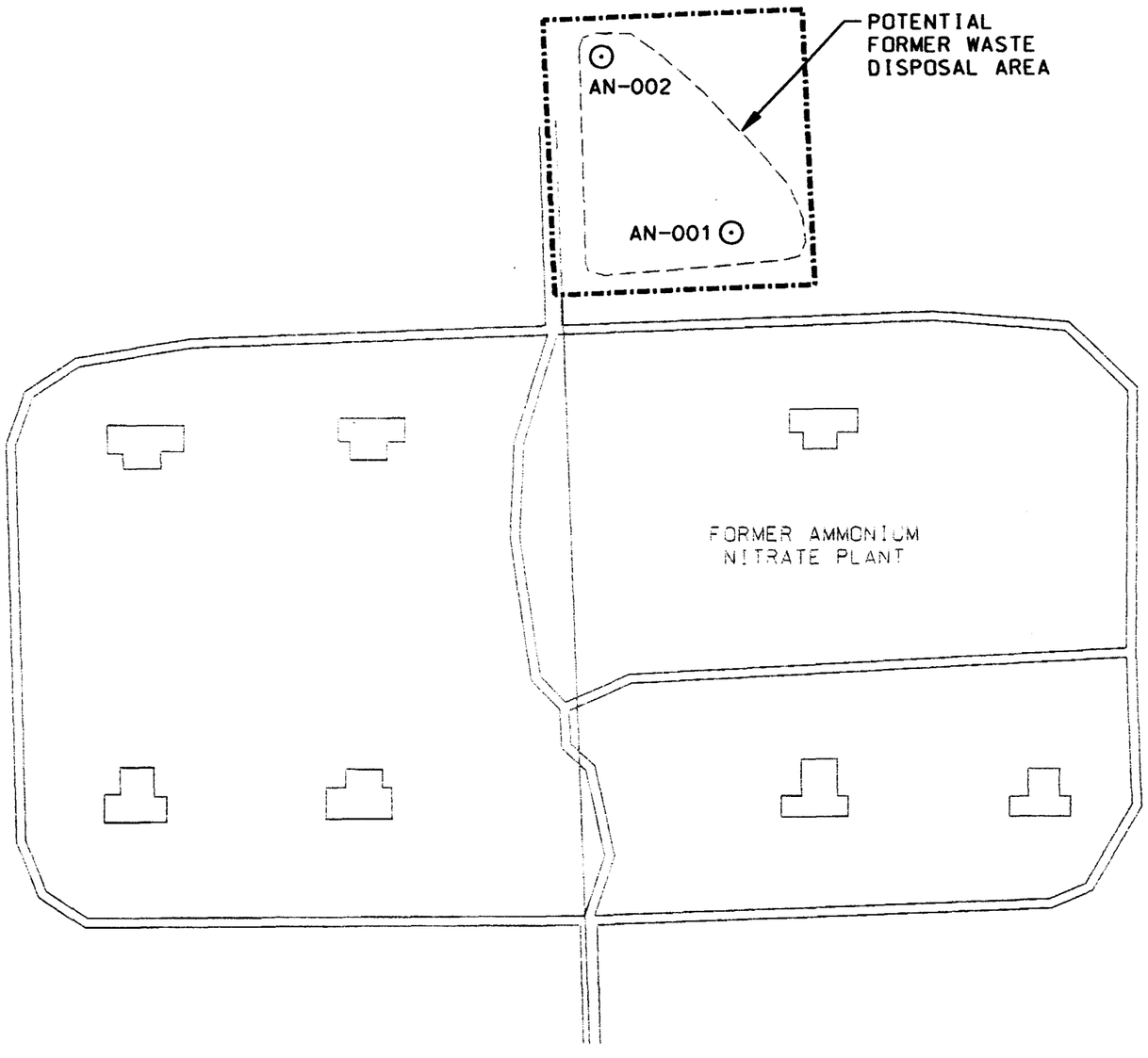
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

NORTHEAST POTENTIAL WASTE DISPOSAL AREA AT THE FORMER ATLAS MISSILE AREA SAMPLING LOCATIONS

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN
Scale: 1 IN = 200 FEET
Date: MAY, 1997
Dwg. No.: 2-83
Sheet number: 1

22 APR 97 12:45:07
MCS FILE: j:\mead\ou3om0tb.dgn



SOURCE : WCC, 1994B

LEGEND:

⊙ AN-001 — SHALLOW AND DEEP SOIL SAMPING LOCATION

-·-·-·- OU3 RI STUDY AREA BOUNDARIES

– – – – – APPROXIMATE BOUNDARY OF WASTE DISPOSAL AREA (EPA, 1987)

NOTES:

1. ALL SAMPLES ANALYZED FOR EXPLOSIVES, METALS, SVOCS AND VOCS WITH ONE EXCEPTION. THE 0-6 IN BGS SAMPLING INTERVAL WAS NOT ANALYZED FOR VOCS.

N

300 0 300 600

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

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Overland Park, Kansas

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CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

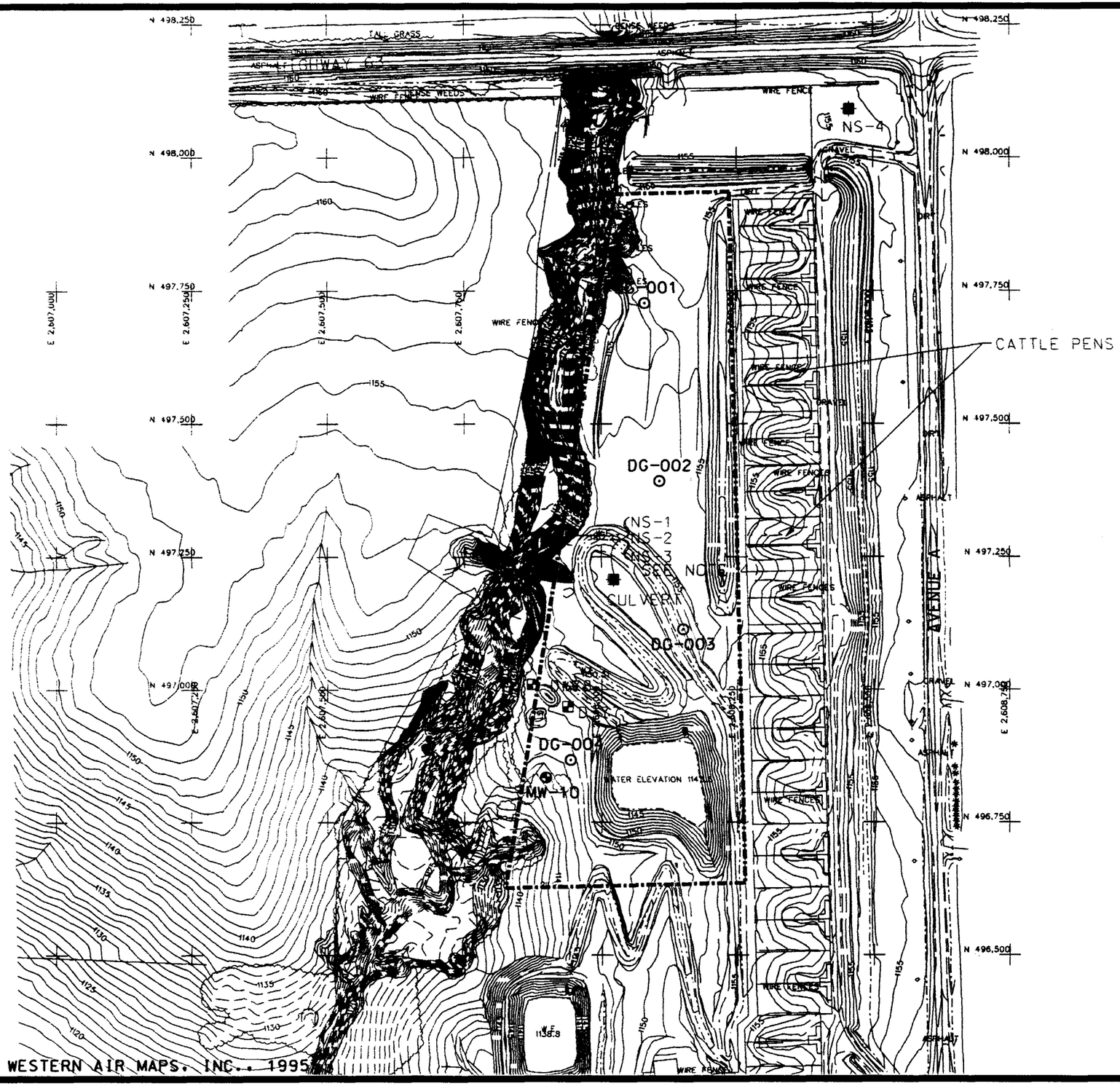
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

POTENTIAL WASTE DISPOSAL AREA NORTH OF THE FORMER AMMONIUM NITRATE PLANT SAMPLING LOCATIONS

Scale: 1 IN = 300 FEET
Date: MAY, 1997
Dwg. No.: 2-84
Sheet number: 1

24 APR 97 10:24:56
MCS FILE: j:\mead\ou3-f.dgn



SOURCE : WESTERN AIR MAPS, INC., 1995

LEGEND

⊙ DG-001	SHALLOW AND DEEP SOIL SAMPLE LOCATION
■ D-77	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
■ NS-1	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (FINAL ENGINEERING REPORT 1991)
⊕ MW-10	GROUNDWATER MONITORING WELL CLUSTER (SEE NOTE 2)
-·-·-·-	OU3 RI STUDY AREA BOUNDARIES
—1105—	INDEX CONTOUR
——	INTERMEDIATE CONTOUR

NOTES:

1. ALL OU3 RI SAMPLES WERE ANALYZED FOR EXPLOSIVES, METALS, VOCs AND SVOCs WITH ONE EXCEPTION. THE 0-6 IN BGS SAMPLING INTERVAL WAS NOT ANALYZED FOR VOCs.
2. THE LOCATION OF SAMPLES D-77, D-78 AND NS-1 THROUGH NS-4 ARE APPROXIMATE BECAUSE NO SURVEY DATA WAS AVAILABLE.
3. SAMPLE NS-1 WAS A COMPOSITE SAMPLE FROM THREE LOCATIONS IN THE CULVERT. NS-2 AND NS-3 WERE DUPLICATE SAMPLES OF NS-1.
4. COUNTOUR INTERVAL IS 1 FOOT.

N

200 0 200 400

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
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KANSAS CITY, MISSOURI

U.S. Army Corps of Engineers

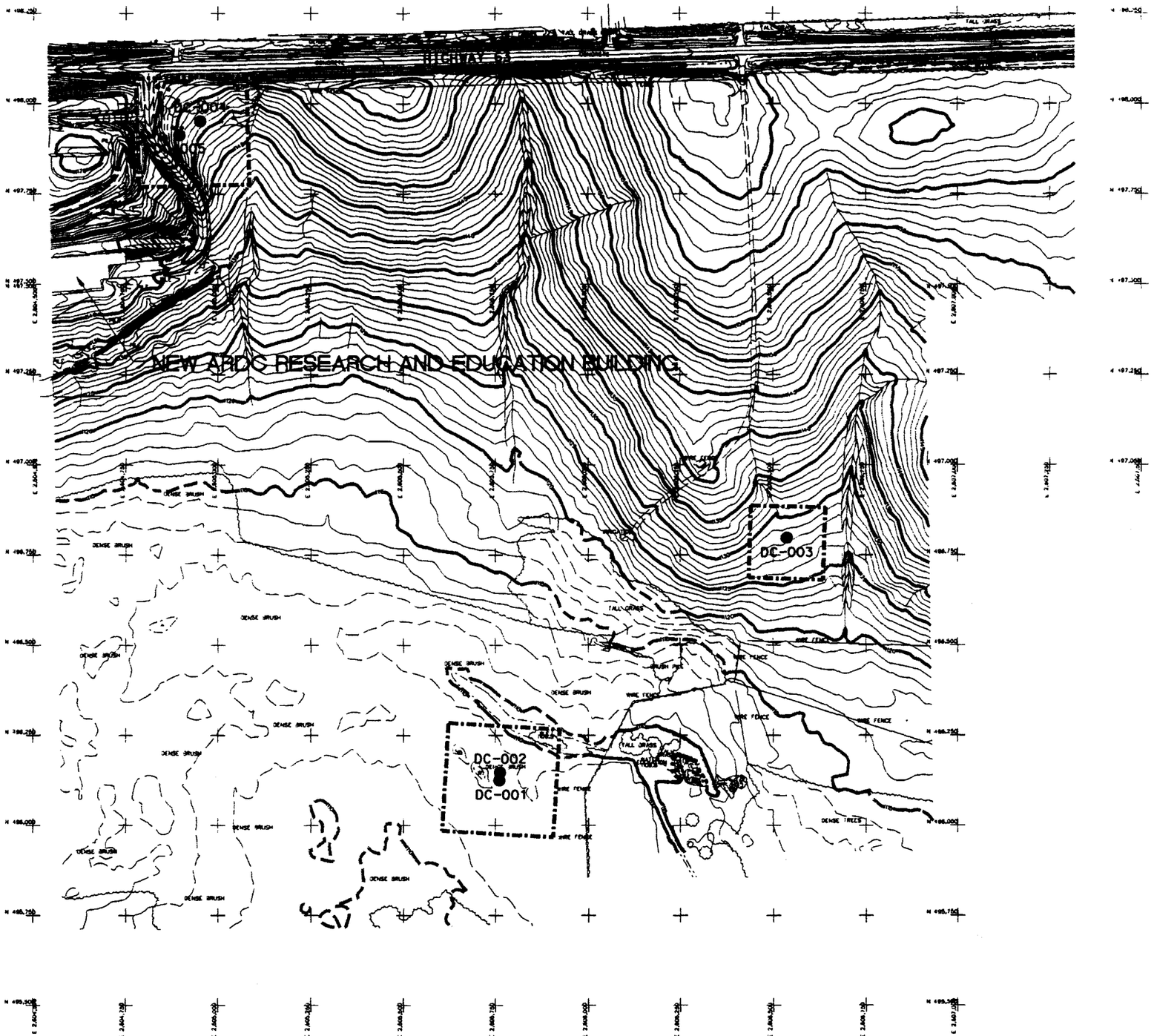
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

DEMOLITION GROUND SAMPLING LOCATIONS

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN
Scale: 1 IN = 200 FEET
Date: MAY, 1997
Dwg. No.: 2-85
Sheet number: 1

21 APR 97 16:23:34
MCS FILE: j:\mead\ou3dg001.dgnREF :FL11, FL12

B07NE003703-04547



SOURCE: WESTERN AIR MAPS, INC., 1995

LEGEND

- ● DC-001 — SHALLOW SOIL SAMPLE LOCATION
- OU3 RI STUDY AREA BOUNDARIES
- INDEX CONTOUR
- INTERMEDIATE CONTOUR

NOTES:

1. ALL SAMPLES WERE ANALYZED FOR EXPLOSIVES, METALS, VOCs AND SVOCs WITH ONE EXCEPTION. THE 0-6 IN BGS SAMPLING INTERVAL WAS NOT ANALYZED FOR VOCs.
2. SAMPLE LOCATION DCA-003 WAS SAMPLED AT AN ADDITIONAL INTERVAL (2-3 FT) DUE TO PLOWING THAT HAD TAKEN PLACE AT THIS SAMPLING LOCATION.

N

300 0 300 600

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

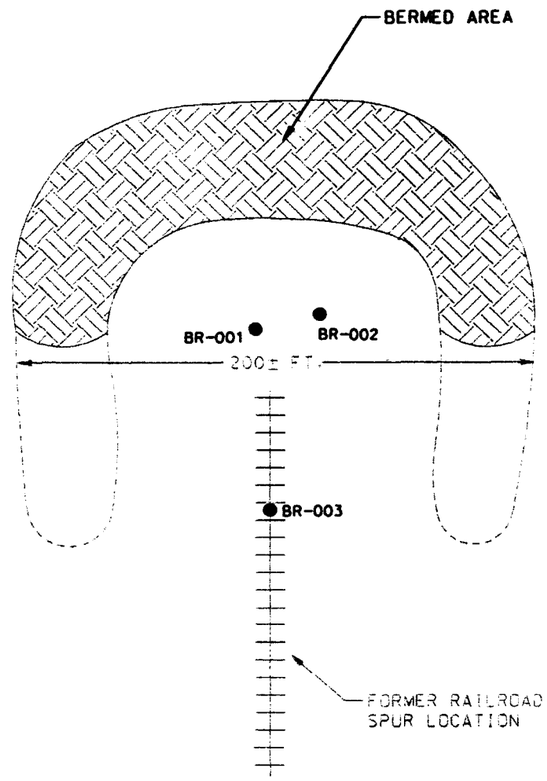
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

DETONATION CRATERS
SAMPLING LOCATIONS

Scale: 1 IN = 300 FEET
Date: MAY, 1997
Dwg. No.: 2-86
Sheet number: 1

24 APR 97 10:27:29
MCS FILE:j:\mead\ou3dc01b.dgn



LEGEND:

BR-001 ● SHALLOW SOIL SAMPLE LOCATION (SEE NOTE 1)

----- REPRESENTS APPROXIMATE BOUNDARY AS SHOWN ON JULY 5, 1955 AIR PHOTOS

REMAINING BERMED AREA

NOTES:

1. DUE TO PLOWING AT THIS SITE, SHALLOW SOIL SAMPLES WERE COLLECTED FROM 2-3 FT AT ALL SAMPLE LOCATIONS.

N

NOT TO SCALE

SOURCE : WCC, 1994B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

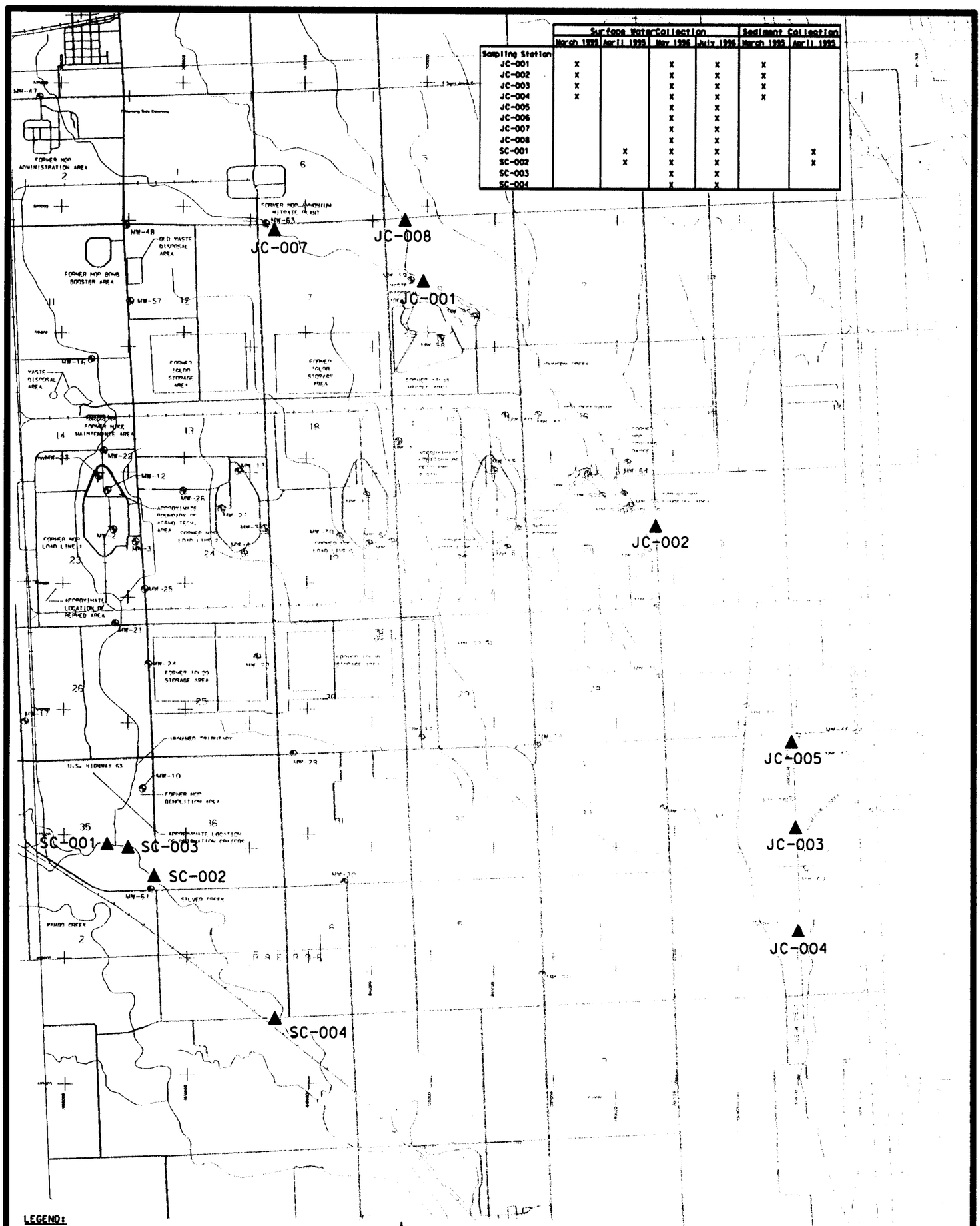
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT-MEAD, NE.

BERMED AREA
SOUTHWEST OF LOAD LINE 1
SAMPLING LOCATIONS

Scale: NOT TO SCALE
Sheet number:
Date: MAY, 1997
Dwg. No.: 2-87

21 APR 97 16:27:33
MCS FILE: j:\mead\ou3br01.dgn



Sampling Station	Surface Water Collection				Sediment Collection	
	March 1995	April 1995	May 1996	July 1996	March 1995	April 1995
JC-001	X		X	X	X	
JC-002	X		X	X	X	
JC-003	X		X	X	X	
JC-004	X		X	X	X	
JC-005			X	X		
JC-006			X	X		
JC-007			X	X		
JC-008			X	X		
SC-001		X	X	X		X
SC-002		X	X	X		X
SC-003			X	X		
SC-004			X	X		

LEGEND:

JC-002 JOHNSON AND CLEAR CREEK SAMPLING STATION

SC-001 SILVER CREEK SURFACE WATER SAMPLING STATION

MW-10 GROUNDWATER MONITORING WELL CLUSTER LOCATION

36 SECTION

T 14 N TOWNSHIP 14 NORTH

R 9 E RANGE 9 EAST

N

4000 0 4000 8000

SCALE FEET

NOTES:

1. PHASE I SAMPLING LOCATIONS: SC-001, SC-002, JC-001, JC-002, JC-003, JC-004.
2. PHASE II SAMPLING LOCATIONS: SC-001, SC-002, SC-003, SC-004, JC-001, JC-002, JC-003, JC-004, JC-005, JC-006, JC-007, JC-008
3. ALL OUS RI SAMPLES WERE ANALYZED FOR EXPLOSIVES, METALS, VOCs, AND SVOCs.
4. ALL SURFACE WATER SAMPLE LOCATIONS ARE APPROXIMATE BECAUSE THEY ARE NOT SURVEYED.
5. UNITS OF CONCENTRATION FOR EXPLOSIVES, METALS AND VOLATILES IN WATER ARE ug/L

SOURCE: USGS, 1969

Woodward-Clyde
Overland Park, Kansas

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KANSAS CITY, MISSOURI

U.S. Army Corps of Engineers

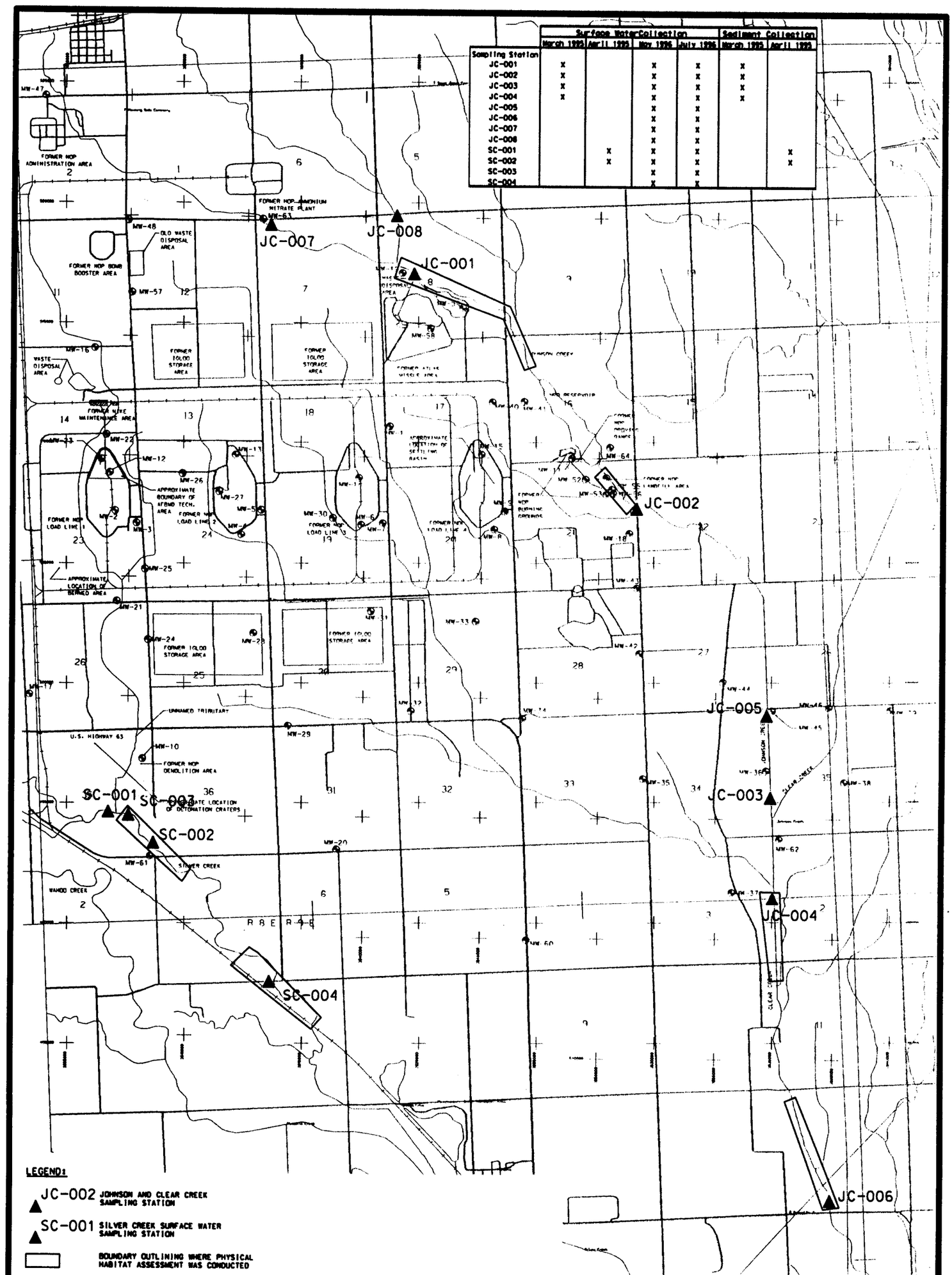
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

JOHNSON, CLEAR AND SILVER CREEKS SAMPLING STATIONS

Designed by: S.J.F.	Scale: AS NOTED	Sheet number: 1	
Drawn by: J.W.B.	Date: MAY, 1997		
Checked by: B.C.O.	Dwg. No.: 2-88		
Submitted by: RAJ			

11 APR 97 13:19:54
MCS FILE: KansasDwgs3.dgn

B07NE003703-04550



Sampling Station	Surface Water Collection March 1995	April 1995	May 1996	July 1996	Sediment Collection March 1995	April 1995
JC-001	x		x	x	x	
JC-002	x		x	x	x	
JC-003	x		x	x	x	
JC-004	x		x	x	x	
JC-005			x	x		
JC-006			x	x		
JC-007			x	x		
JC-008			x	x		
SC-001		x	x	x		x
SC-002		x	x	x		x
SC-003			x	x		
SC-004			x	x		

LEGEND:

- JC-002 JOHNSON AND CLEAR CREEK SAMPLING STATION
- SC-001 SILVER CREEK SURFACE WATER SAMPLING STATION
- BOUNDARY OUTLINING WHERE PHYSICAL HABITAT ASSESSMENT WAS CONDUCTED
- MW-10 GROUNDWATER MONITORING WELL CLUSTER LOCATION
- 36 SECTION
- T 14 N TOWNSHIP 14 NORTH
- R 9 E RANGE 9 EAST

NOTES:

1. ALL OU3 RI SAMPLES WERE ANALYZED FOR EXPLOSIVES, METALS, VOCs, AND SVOCs.
2. ALL SURFACE WATER SAMPLE LOCATIONS ARE APPROXIMATE BECAUSE THEY ARE NOT SURVEYED.
3. UNITS OF CONCENTRATION FOR EXPLOSIVES, METALS AND VOLATILES IN WATER ARE ug/L

SOURCE: USGS, 1969

N

4000 0 4000 8000

SCALE FEET

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAJ

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR, NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

JOHNSON, CLEAR AND SILVER CREEKS HABITAT ASSESSMENT LOCATIONS

Scale: AS NOTED
Date: MAY, 1997
Dwg. No.: 2-89
Sheet number: 1

08 APR 97 08:49:43
MCS FILE: K:\mapsOU3-rdm.dgn

B07NE003703-04551

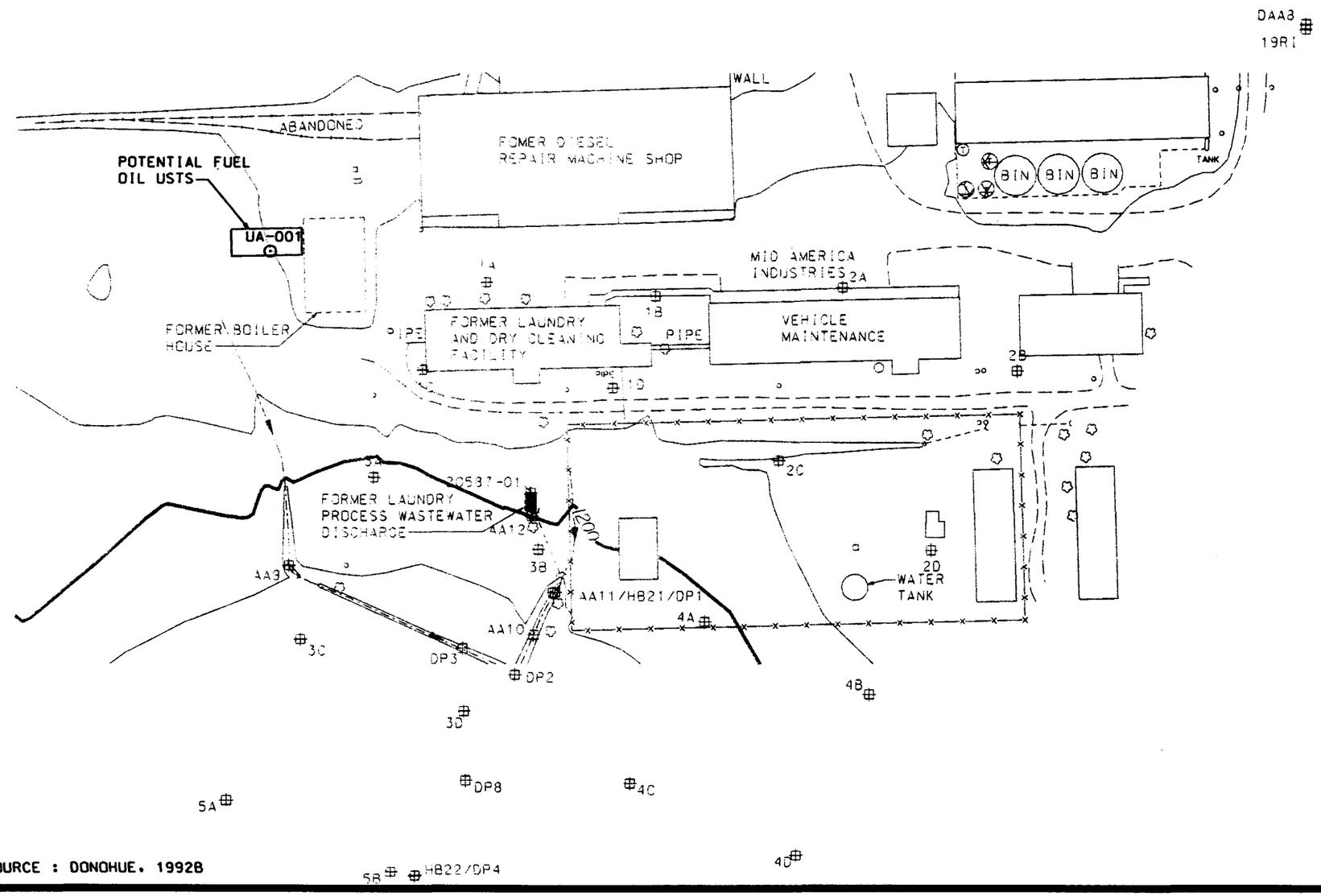
LEGEND:

⊙ UA-001 — SHALLOW AND DEEP SOIL SAMPLE LOCATION (SEE NOTE 2)

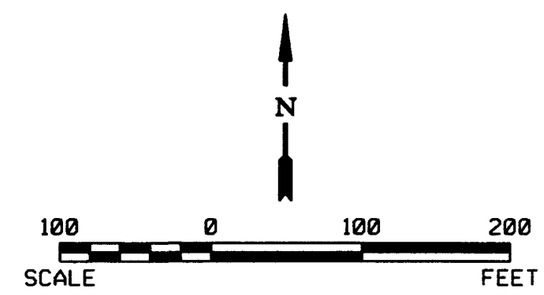
⊞ 1A — PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL OU3 RI SAMPLES WERE ANALYZED FOR SVOCs, BTEX AND TRPH.
2. SOIL SAMPLE (28-29 FT BGS) AND A HYDROPUNCH SAMPLE WERE ALSO COLLECTED AT THIS LOCATION. HYDROPUNCH® SET AT 41.4 FT BGS. GROUNDWATER LEVEL AT 36.35 FT BGS.



SOURCE : DONOHUE, 1992B



Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

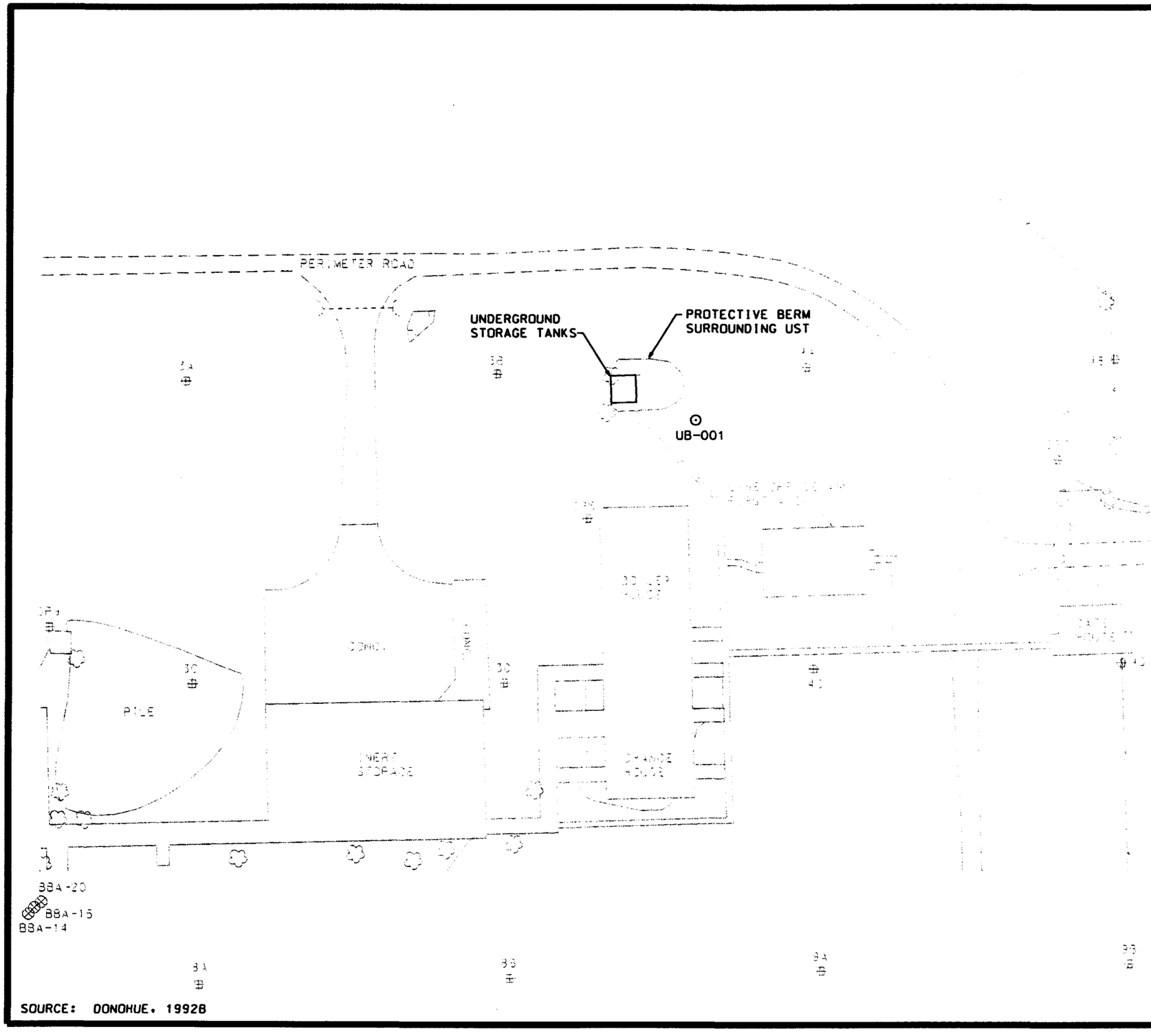
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

FORMER ADMINISTRATION AREA USTs SAMPLING LOCATION

Scale: 1 IN = 100 FEET
Date: MAY, 1997
Dwg. No.: 2-90
Sheet number: 1

21 APR 97 16:29:56
MCS FILE: j:\mead\ou3uo01.dgn



SOURCE: DONOHUE, 1992B

LEGEND:

⊙ UB-001	SHALLOW AND DEEP SOIL SAMPLE LOCATION (SEE NOTE 2)
⊕ TP6	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊗ BBA-20	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)

NOTES:

1. ALL OU3 RI SAMPLES WERE ANALYZED FOR SVOCs, BTEX AND TRPH.
2. A SOIL SAMPLE (29-30 FT BGS) AND A HYDROPUNCH® SAMPLE WERE ALSO COLLECTED AT THIS LOCATION. HYDROPUNCH® SET AT 43.2 FT BGS. GROUNDWATER LEVEL AT 38.75 FT BGS. A SOIL SAMPLE WAS NOT COLLECTED AT THE 39 FT. BGS INTERVAL BECAUSE THE WATER LEVEL WAS ENCOUNTERED AT A SHALLOWER DEPTH.

N

50 0 50 100
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

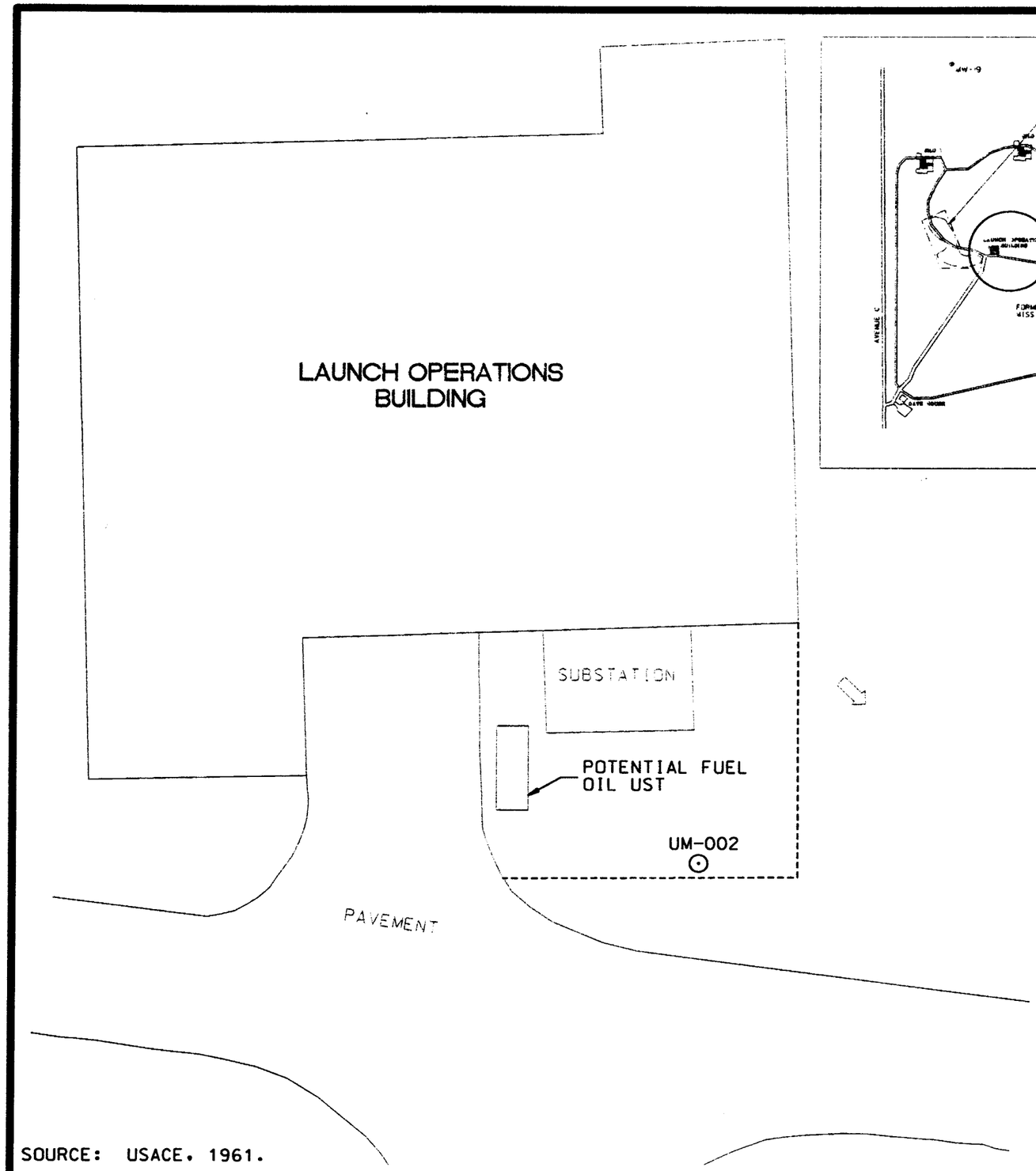
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

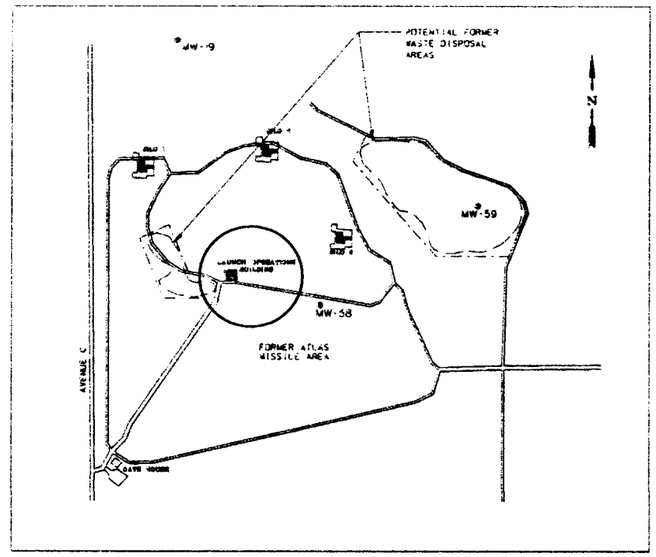
FORMER BOMB BOOSTER ASSEMBLY AREA USTs SAMPLING LOCATION

Scale: 1 IN = 50 FEET
Date: MAY, 1997
Dwg. No.: 2-91
Sheet number: 1

11 APR 97 13:13:06
MCS FILE: j:\mead\ou3ub-1.dgn



SOURCE: USACE. 1961.



LEGEND:

⊙ UM-002 — SHALLOW AND DEEP SOIL SAMPLING LOCATION (SEE NOTE 2)

---------- — OU3 RI STUDY AREA BOUNDARY

⇦ — GROUNDWATER FLOW (APPROXIMATE)

NOTES:

1. ALL SAMPLES WERE ANALYZED FOR SVOCs, VOCs, TRPH AND BTEX.
2. SOIL SAMPLES (29FT-30 FT AND 38 FT-39 FT. BGS), AND A HYDROPUNCH® SAMPLE WERE ALSO COLLECTED AT THIS LOCATION. HYDROPUNCH® SET AT 44 FT BGS. GROUNDWATER LEVEL AT 42.09 FT BGS.

N

20 0 20 40

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

FORMER ATLAS MISSILE AREA
LAUNCH OPERATIONS BUILDING
UST SAMPLING LOCATION

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 2-92
Sheet number: 1

21 APR 97 16:31:20
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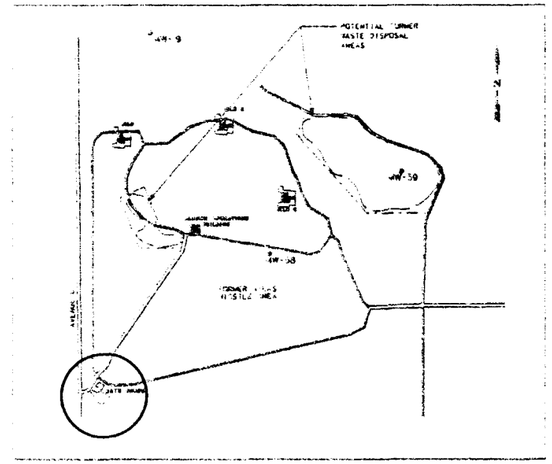
B07NE003703-04554



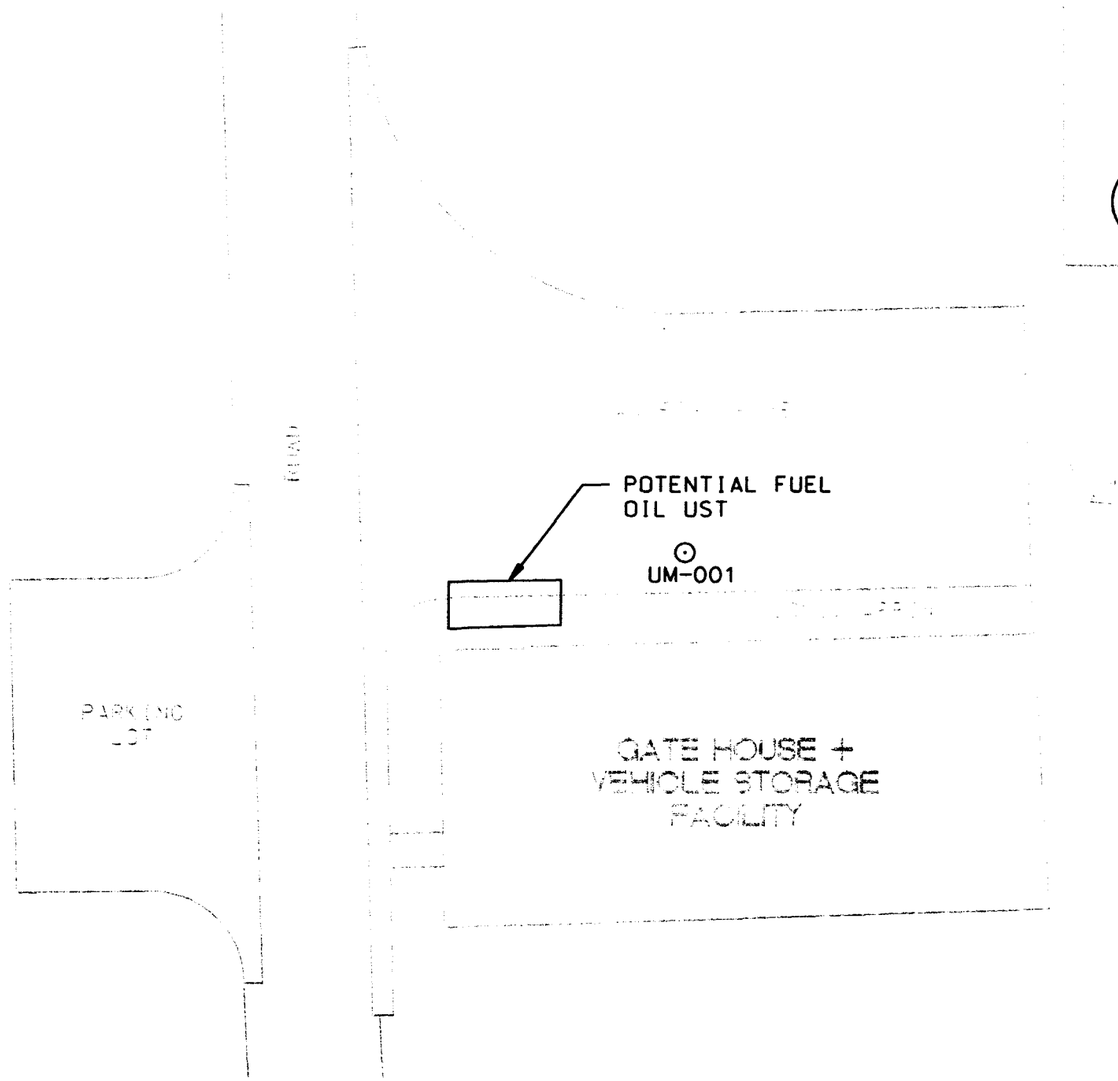
LEGEND:

⊙ UM-001 — SHALLOW AND DEEP SOIL SAMPLING LOCATION (SEE NOTE 2)

⇦ — GROUNDWATER FLOW (APPROXIMATE)

NOTE:

1. ALL SAMPLES WERE ANALYZED FOR SVOCs, VOCs, TRPH, AND BTEX (BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES).
2. A SOIL SAMPLE (29 FT-30 FT BGS) AND A HYDROPUNCH® SAMPLE WERE ALSO COLLECTED AT THIS LOCATION. HYDROPUNCH SET AT 52.35 FT BGS. GROUNDWATER LEVEL AT 48.57 FT BGS.
3. SHALLOW SOIL SAMPLE UMA-001-000 WAS NOT COLLECTED DUE TO CONCRETE PAD AT SAMPLING LOCATION.



N

15 0 15 30

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

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CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

FORMER ATLAS MISSILE AREA GATE HOUSE UST SAMPLING LOCATION

Scale: 1 IN - 15 FEET
Date: MAY, 1997
Dwg. No.: 2-93
Sheet number: 1

11 APR 97 13:17:16
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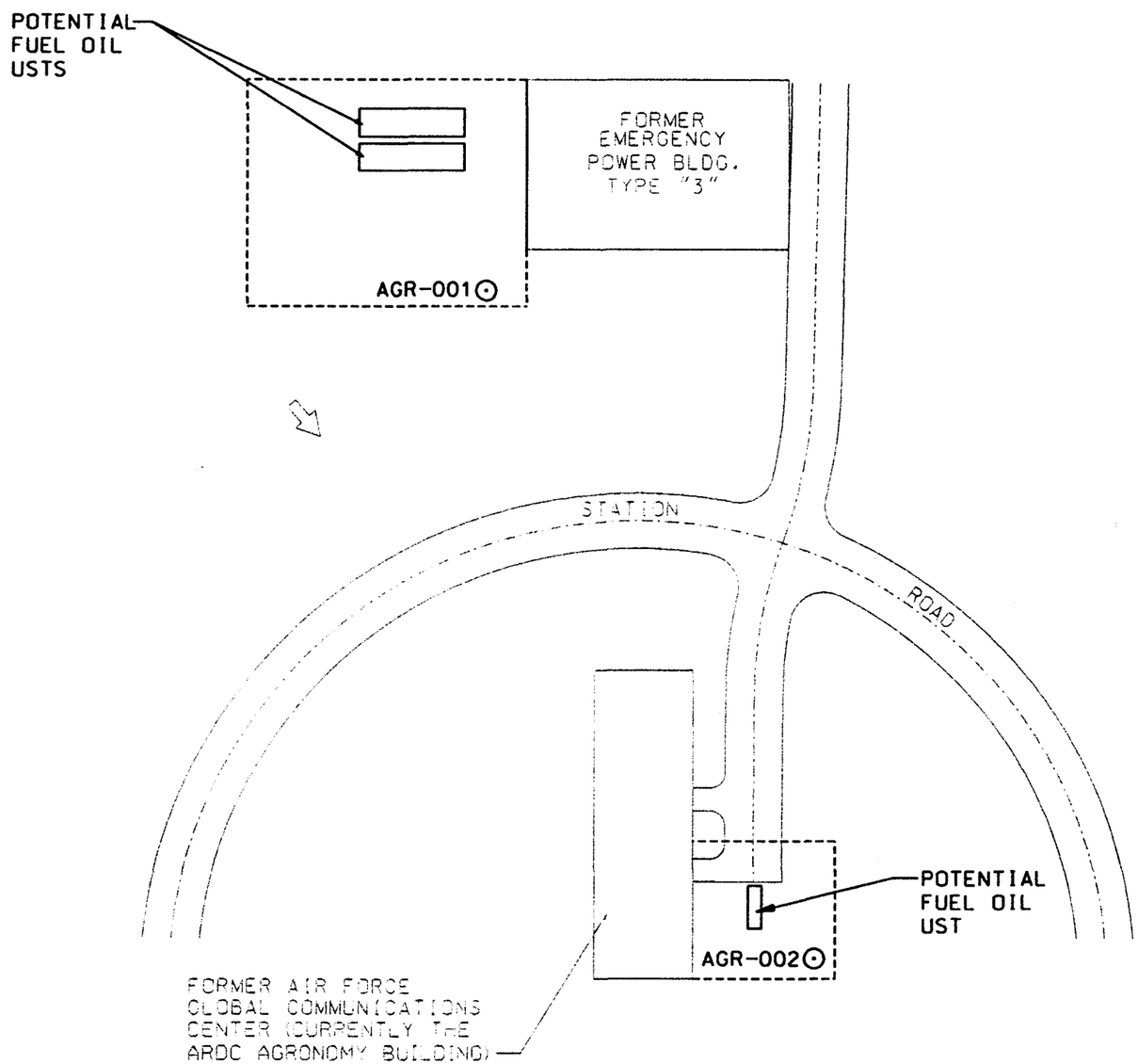
SOURCE: USACE, 1961.



LEGEND:

⊙ AGR-002	DEEP SOIL SAMPLING LOCATION (SEE NOTE 2 AND 3)
----------	OU3 RI STUDY AREA BOUNDARIES
⇘	GROUNDWATER FLOW (APPROXIMATE)

NOTE:

1. SOIL AND GROUNDWATER SAMPLES WERE ANALYZED FOR SVOCS, BTEX, AND TRPH.
2. AT AGR-001, SOIL SAMPLES (39-40 AND 45-46 FT BGS) AND A HYDROPUNCH SAMPLE WERE ALSO COLLECTED AT THIS LOCATION. THE HYDROPUNCH WAS SET AT 49 FT BGS. GROUNDWATER LEVEL WAS ENCOUNTERED AT 47 FT BGS.
3. AT AGR-002, SOIL SAMPLES (39-40 AND 45-46 FT BGSO AND HYDROPUNCH SAMPLE WERE ALSO COLLECTED AT THIS LOCATION. THE HYDROPUNCH WAS SET AT 51 FT BGS. GROUNDWWATER LEVEL WAS ENCOUNTERED AT 47 FT BGS.

N

50 0 50 100

SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

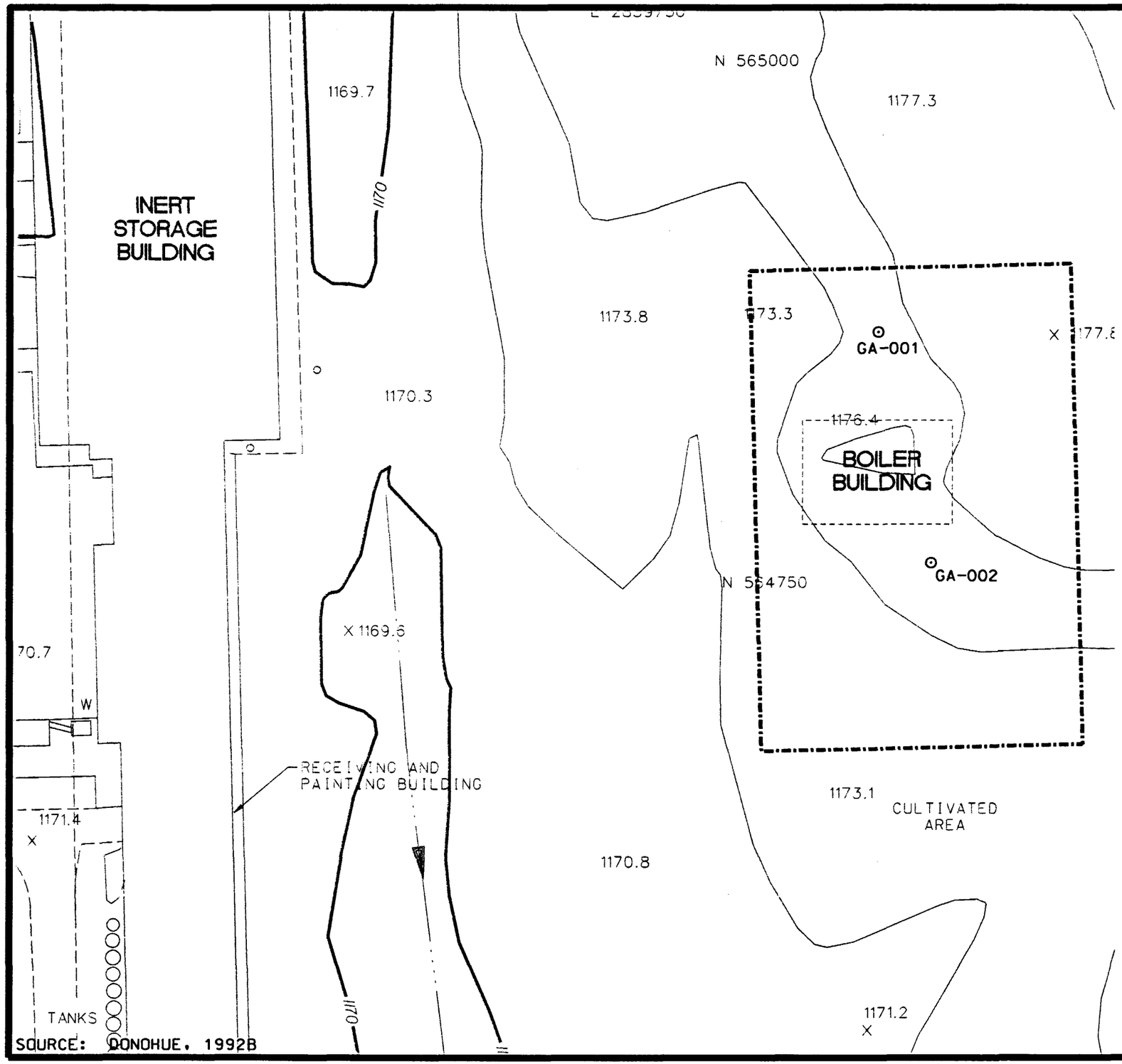
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

FORMER AIR FORCE GLOBAL COMMUNICATIONS CENTER USTs SAMPLING LOCATIONS

Scale: 1 INCH = 50 FEET
Date: MARCH, 1997
Dwg. No.: 2-94
Sheet number: 1

22 APR 97 13:03:04
MCS FILE: j:\mead\pint-02.dgn



SOURCE: DONOHUE, 1992B

LEGEND:

⊙ GA-001	SHALLOW AND DEEP SOIL SAMPLE LOCATION
-·-·-·-	OU3 RI STUDY AREA BOUNDARIES
1170	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ALL SAMPLES ANALYZED FOR EXPLOSIVES, METALS, SVOCS AND VOCS WITH ONE EXCEPTION. THE 0-6 IN BGS SAMPLING INTERVAL WAS NOT ANALYZED FOR VOCS.

N

50 0 50 100

SCALE FEET

22 APR 97 09:01:24
MCS FILE: j:\mead\ou3go01.dgn REF.:LL3BASE

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

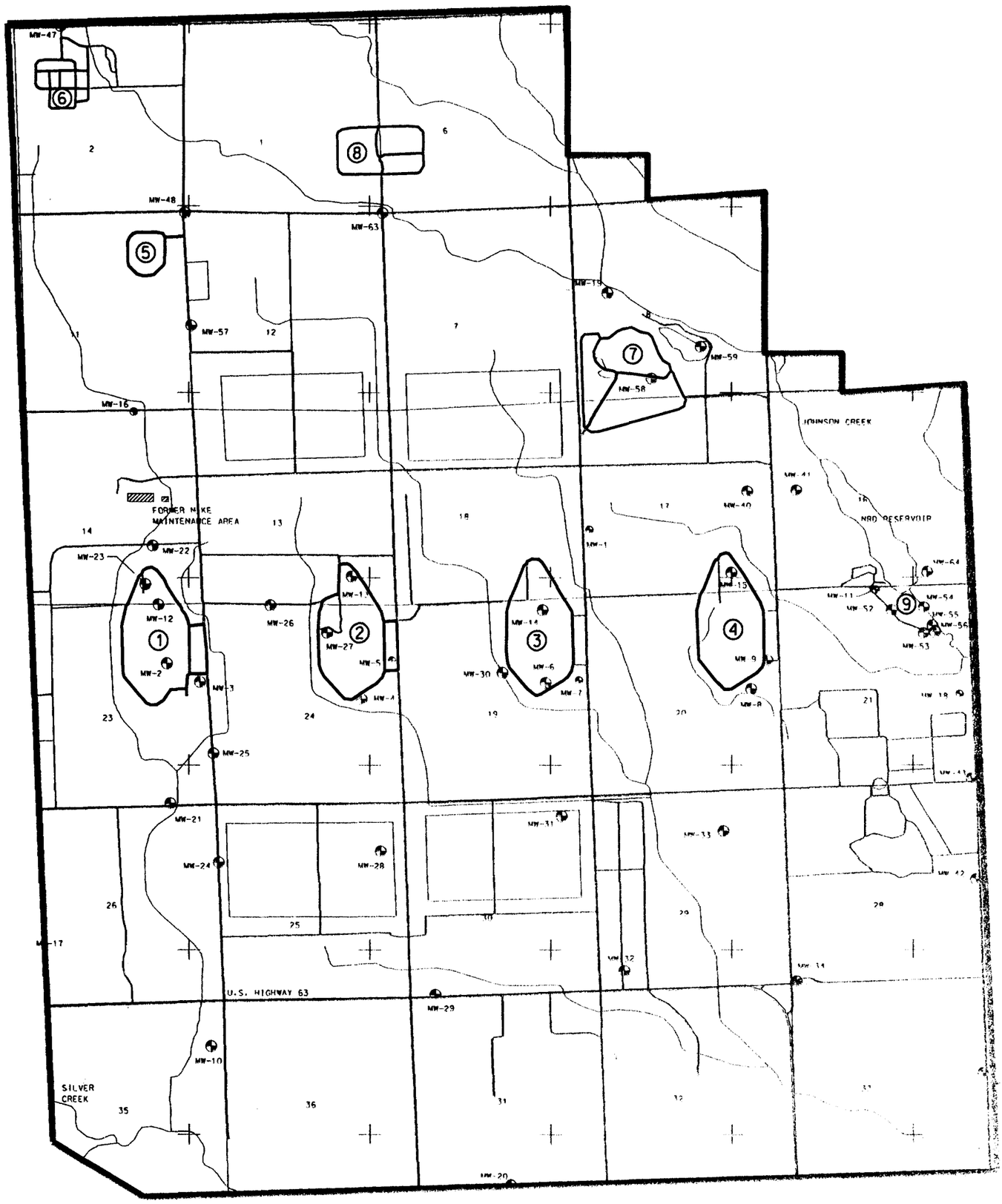
Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

GEOPHYSICAL ANOMALY AT LOAD LINE 3 SAMPLING LOCATIONS

Scale: 1 IN = 50 FEET
Date: MARCH, 1997
Dwg. No.: 2-95
Sheet number: 1



LOCATIONS KEY:

1. LOAD LINE 1 (SEE DRAWING 2-97)
2. LOAD LINE 2 (SEE DRAWING 2-98)
3. LOAD LINE 3 (SEE DRAWING 2-99)
4. LOAD LINE 4 (SEE DRAWING 2-100)
5. FROMER BOMB BOOSTER ASSEMBLY PLANT AREA (SEE DRAWING 2-101)
6. FORMER ADMINISTRATION BUILDING AREA (SEE DRAWING 2-102)
7. FORMER ATLAS MISSLE AREA (SEE DRAWING 2-103)
8. FORMER AMMONIUM NITRATE PLANT AREA (SEE DRAWING 2-104)
9. FORMER NOP SEWAGE TREATMENT PLANT (SEE DRAWING 2-105)

N

3000 0 3000 6000

SCALE FEET

SOURCE: USGS. 1969

Revisions			
Symbol	Descriptions	Date	Approved

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Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

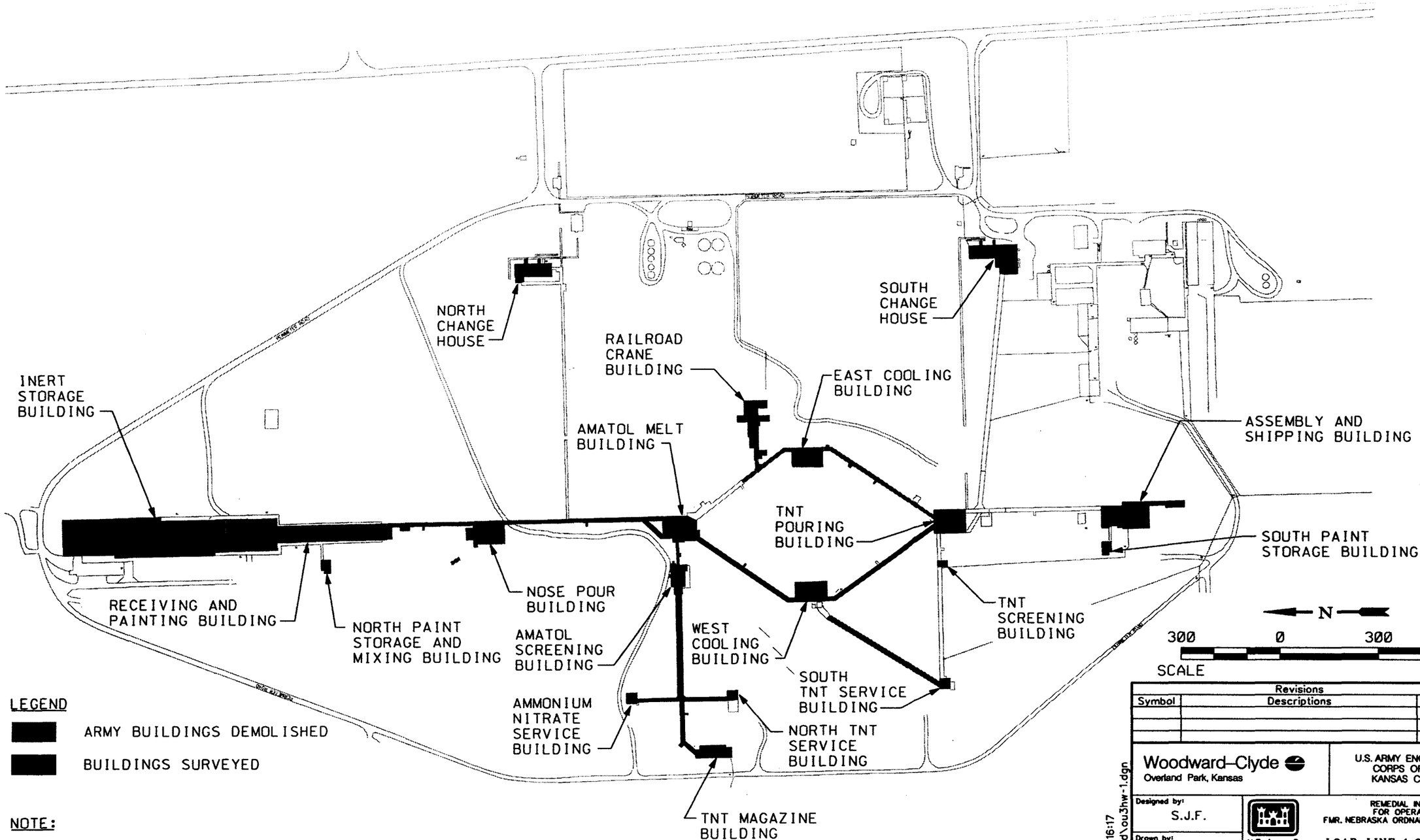
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

SITE-WIDE CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS

Scale: 1 IN = 3000 FT
Date: MAY, 1997
Dwg. No.: 2-96
Sheet number: 1

24 APR 97 10:39:33
MICRO FILE:\meadrau3-rfi.dgn

B07NE003703-04558



LEGEND

ARMY BUILDINGS DEMOLISHED

BUILDINGS SURVEYED

NOTE:

THE EAST COOLING BUILDING HAS BEEN DEMOLISHED. ONLY THE INTERIOR WALLS REMAIN.

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

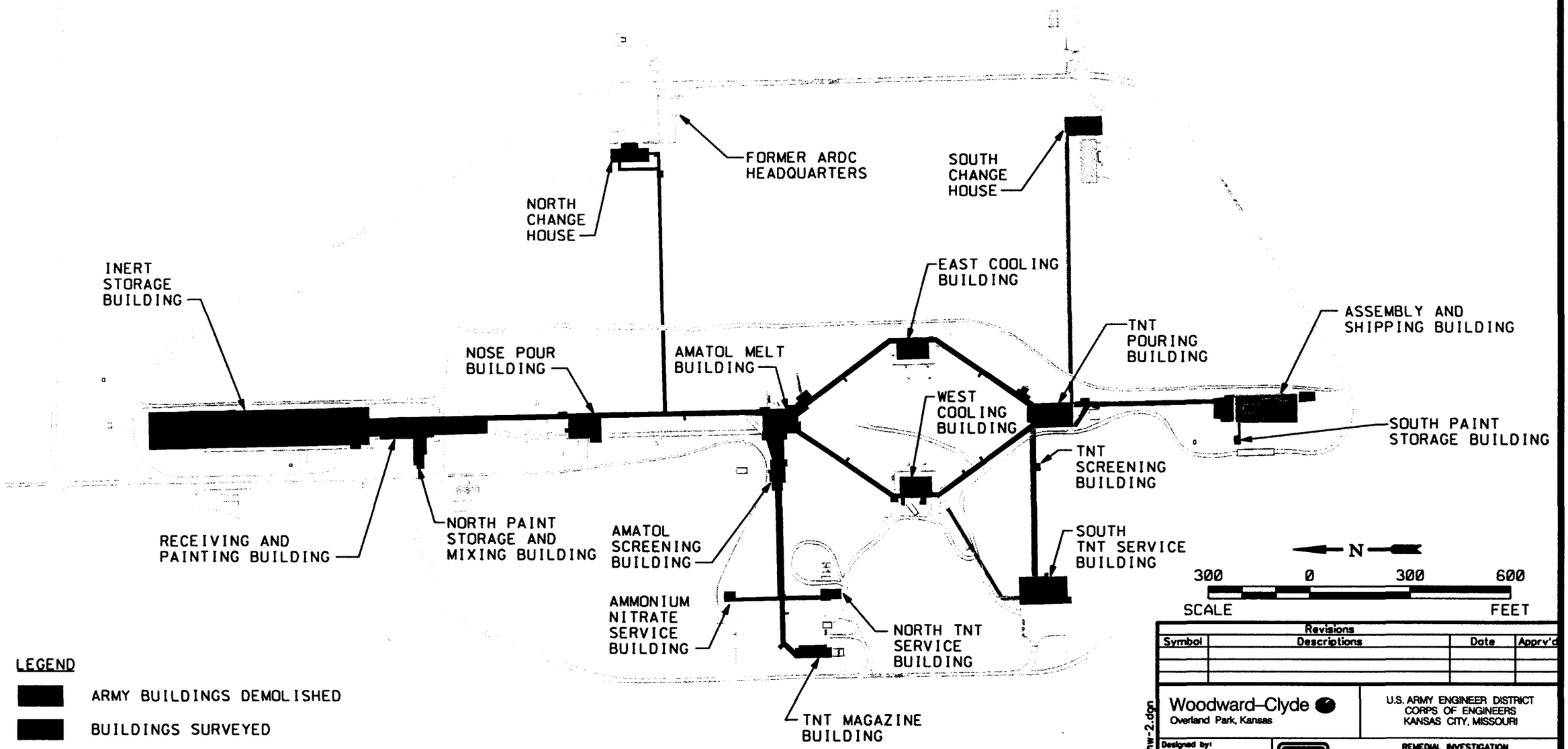
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1 CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS

Scale: 1 IN - 300 FEET
Date: MAY, 1997
Dwg. No.: 2-97
Sheet number: 1

28 APR 97 14:16:17
MCS FILE: j:\mead\ou3hw-1.dgn



SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

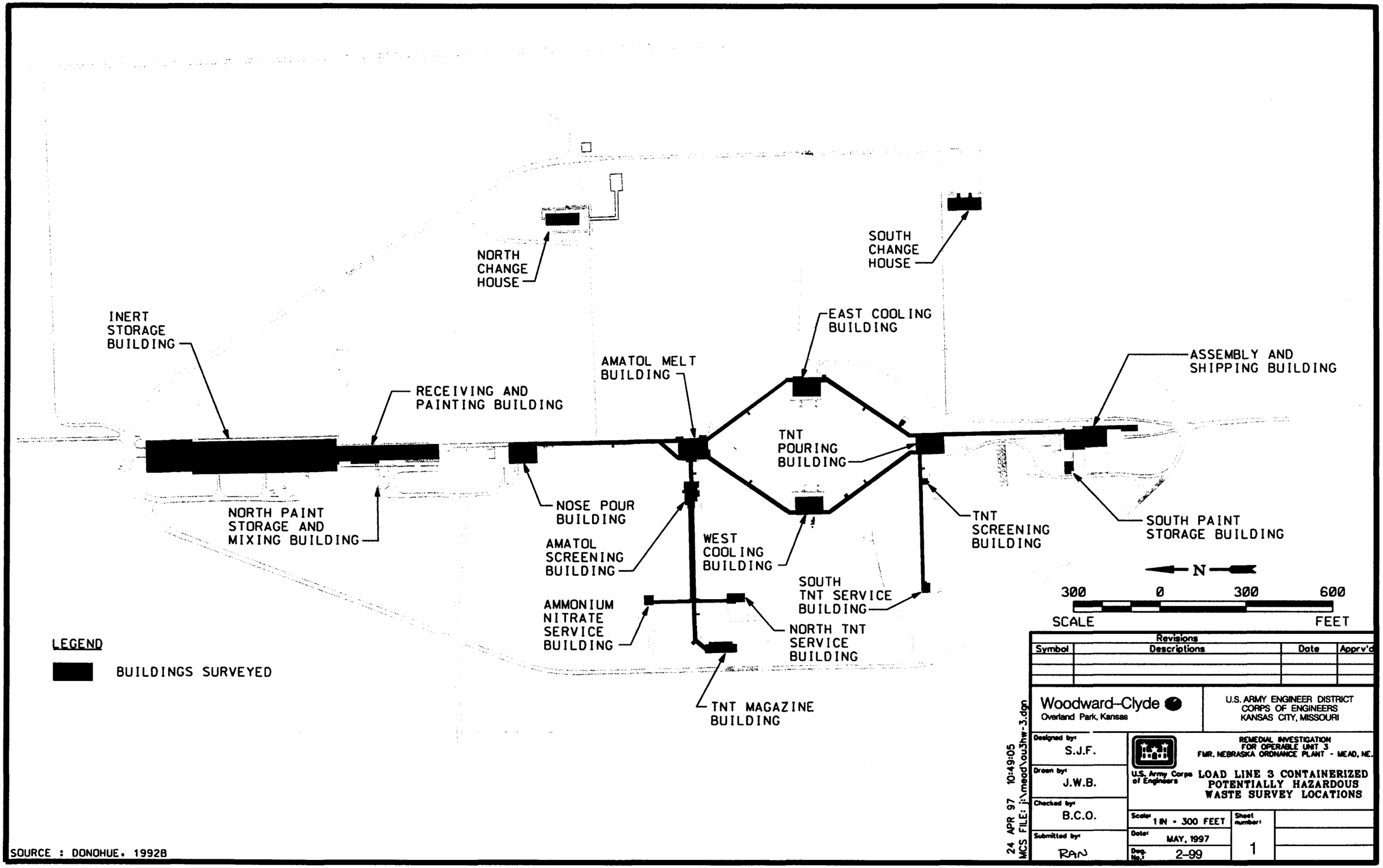
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2 CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS

Scale: 1 IN - 300 FEET
Date: MAY, 1997
Dwg. No.: 2-98
Sheet number: 1

24 APR 97 10:45:17
MCS FILE: j:\mead\ou3hw-2.dgn

B07NE003703-04560


NORTH CHANGE HOUSE
SOUTH CHANGE HOUSE
INERT STORAGE BUILDING
EAST COOLING BUILDING
AMATOL MELT BUILDING
ASSEMBLY AND SHIPPING BUILDING
RECEIVING AND PAINTING BUILDING
TNT POURING BUILDING
NORTH PAINT STORAGE AND MIXING BUILDING
NOSE POUR BUILDING
TNT SCREENING BUILDING
SOUTH PAINT STORAGE BUILDING
AMATOL SCREENING BUILDING
WEST COOLING BUILDING
N
SOUTH TNT SERVICE BUILDING
300 0 300 600
SCALE FEET
AMMONIUM NITRATE SERVICE BUILDING
NORTH TNT SERVICE BUILDING
LEGEND
BUILDINGS SURVEYED
TNT MAGAZINE BUILDING
SOURCE : DONOHUE, 1992B
Revisions
Symbol
Descriptions
Date
Apprv'd
Woodward-Clyde
Overland Park, Kansas
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI
Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN
U.S. Army Corps of Engineers
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 3 CONTAINERIZED
POTENTIALLY HAZARDOUS
WASTE SURVEY LOCATIONS
Scale: 1 IN = 300 FEET
Date: MAY, 1997
Dwg. No.: 2-99
Sheet number: 1
24 APR 97 10:49:05
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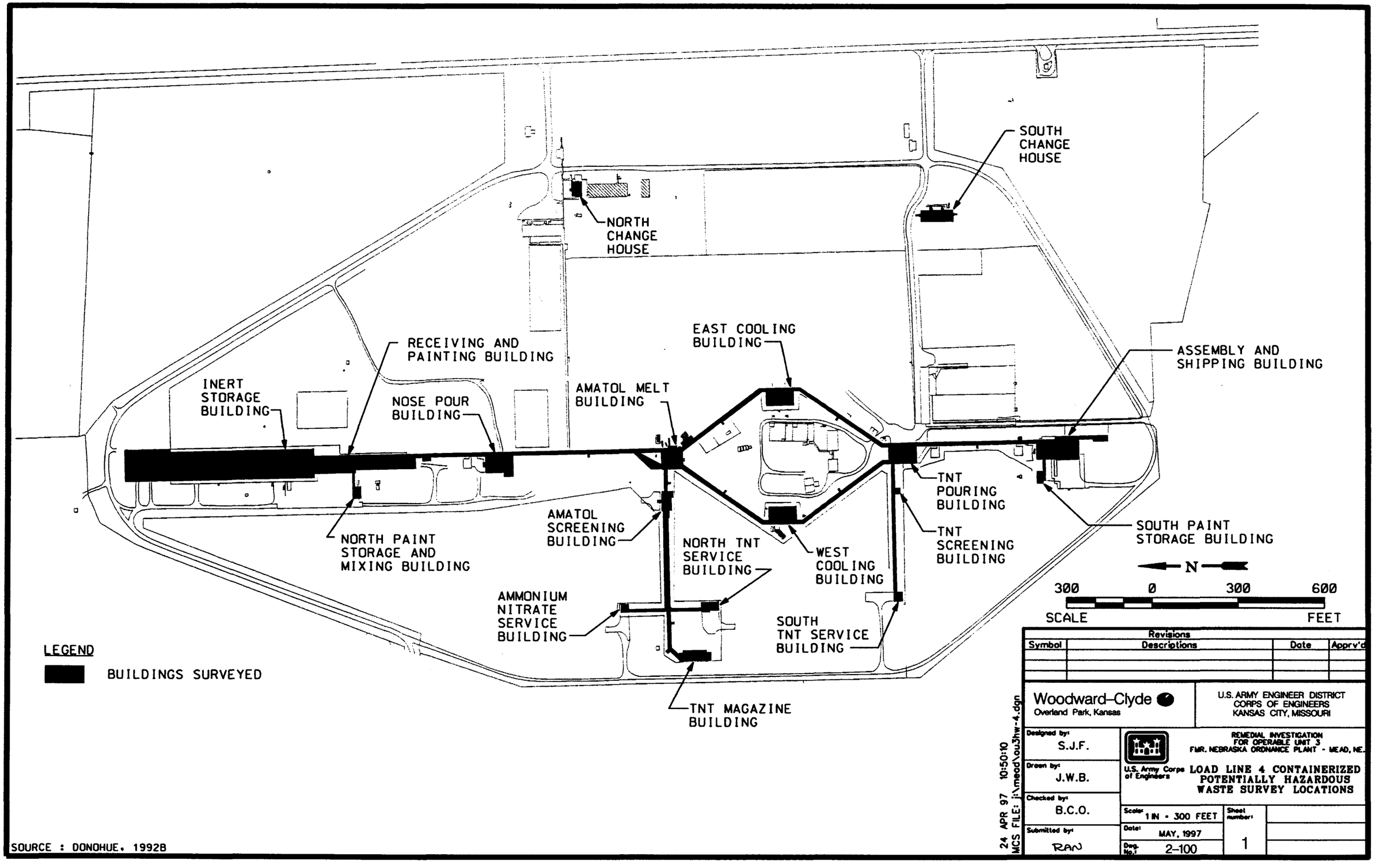
SOUTH CHANGE HOUSE
NORTH CHANGE HOUSE
EAST COOLING BUILDING
RECEIVING AND PAINTING BUILDING
ASSEMBLY AND SHIPPING BUILDING
INERT STORAGE BUILDING
NOSE POUR BUILDING
AMATOL MELT BUILDING
TNT POURING BUILDING
AMATOL SCREENING BUILDING
SOUTH PAINT STORAGE BUILDING
NORTH PAINT STORAGE AND MIXING BUILDING
NORTH TNT SERVICE BUILDING
WEST COOLING BUILDING
TNT SCREENING BUILDING
N
300 0 300 600
SCALE FEET
AMMONIUM NITRATE SERVICE BUILDING
SOUTH TNT SERVICE BUILDING
LEGEND
BUILDINGS SURVEYED
TNT MAGAZINE BUILDING
Revisions
Symbol
Descriptions
Date
Apprv'd
Woodward-Clyde
Overland Park, Kansas
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI
Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN
U.S. Army Corps of Engineers
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 4 CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS
Scale: 1 IN = 300 FEET
Date: MAY, 1997
Dwg. No.: 2-100
Sheet number: 1
24 APR 97 10:50:10
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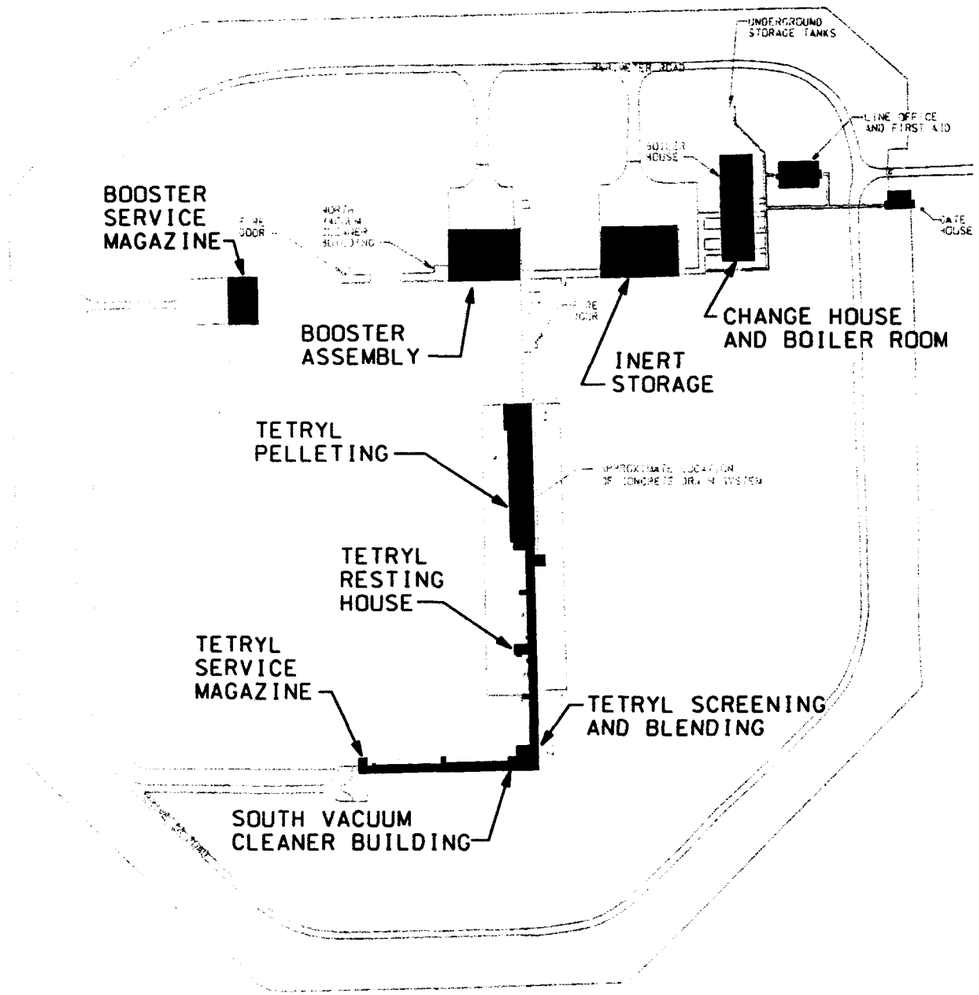
SOURCE : DONOHUE, 1992B



N

200 0 200 400

SCALE FEET

LEGEND

BUILDINGS SURVEYED

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

FORMER BOMB BOOSTER ASSEMBLY
PLANT AREA CONTAINERIZED
POTENTIALLY HAZARDOUS WASTE
SURVEY LOCATIONS

Scale: 1 IN = 200 FEET
Date: MAY, 1997
Dwg. No.: 2-101
Sheet number: 1

11 APR 97 13:21:52
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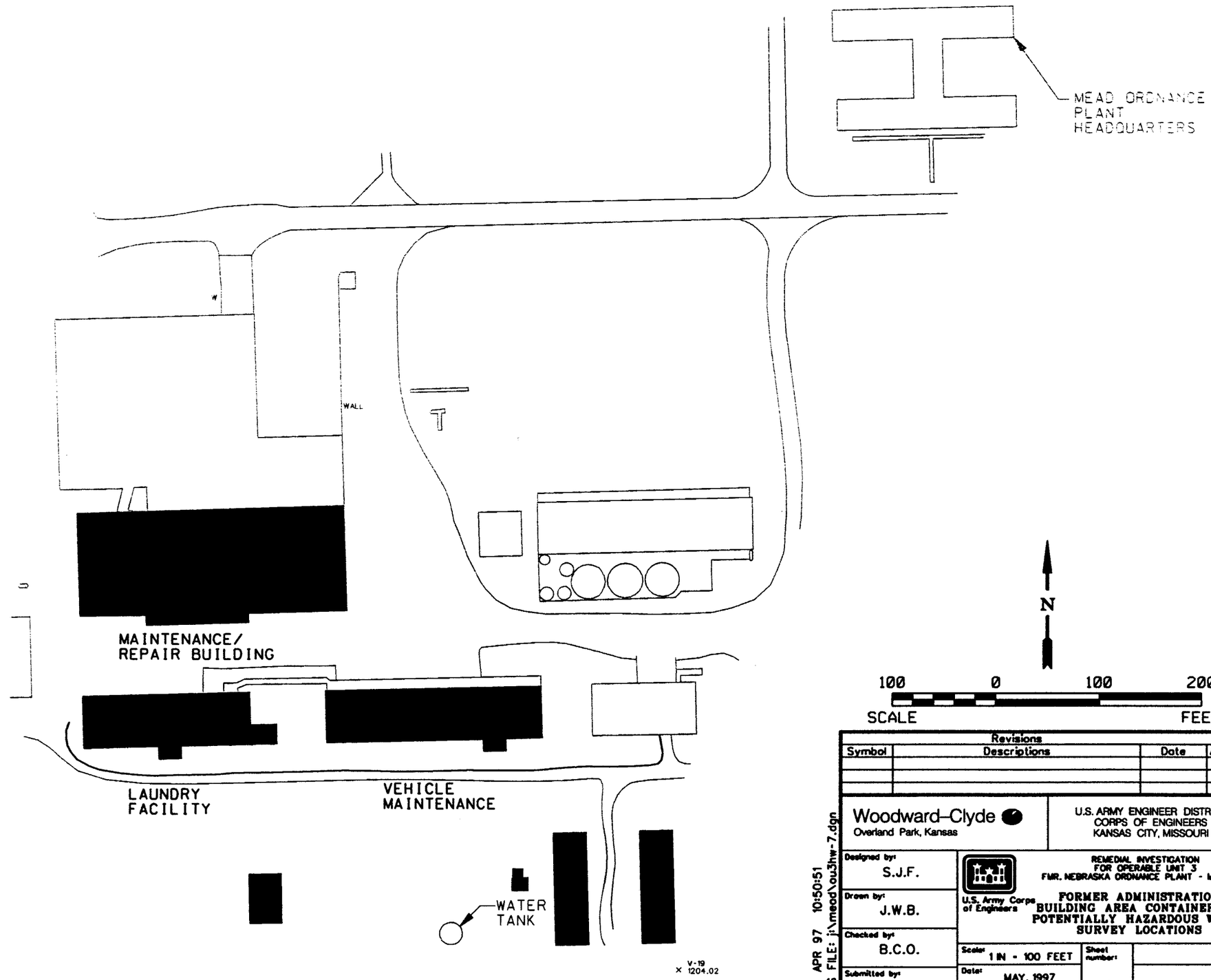

LEGEND

BUILDINGS SURVEYED

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

FORMER ADMINISTRATION
BUILDING AREA CONTAINERIZED
POTENTIALLY HAZARDOUS WASTE
SURVEY LOCATIONS

Scale: 1 IN - 100 FEET
Date: MAY, 1997
Dwg. No.: 2-102
Sheet number: 1

24 APR 97 10:50:51
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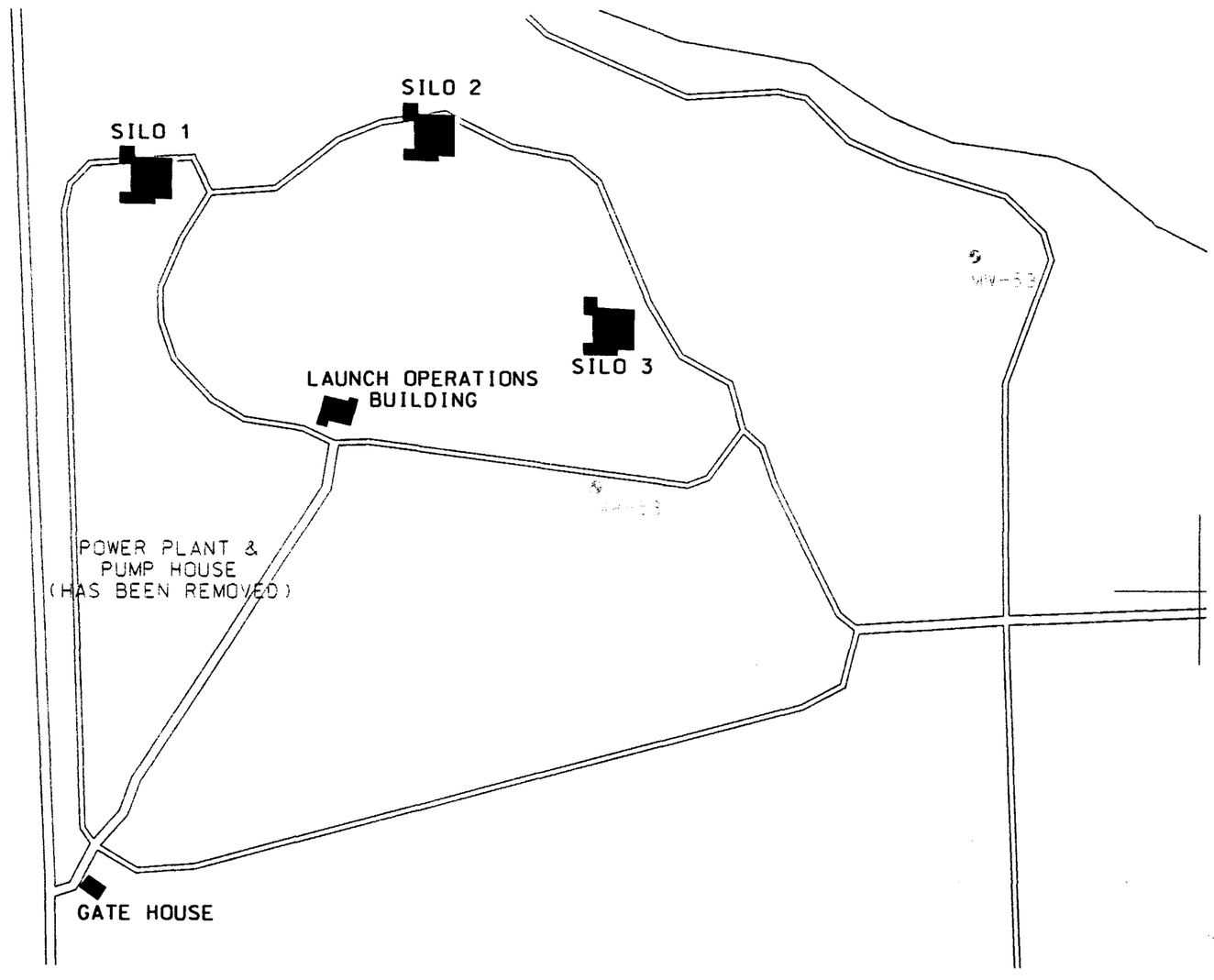

LEGEND:

BUILDINGS SURVEYED

MW-58 EXISTING GROUNDWATER MONITORING WELL CLUSTER

N

500 0 500 1000

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAW

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

FORMER ATLAS MISSILE AREA CONTAINERIZED POTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS

Scale: 1 IN = 500 FT
Date: MAY, 1997
Dwg. No.: 2-103
Sheet number: 1

24 APR 97 10:54:04
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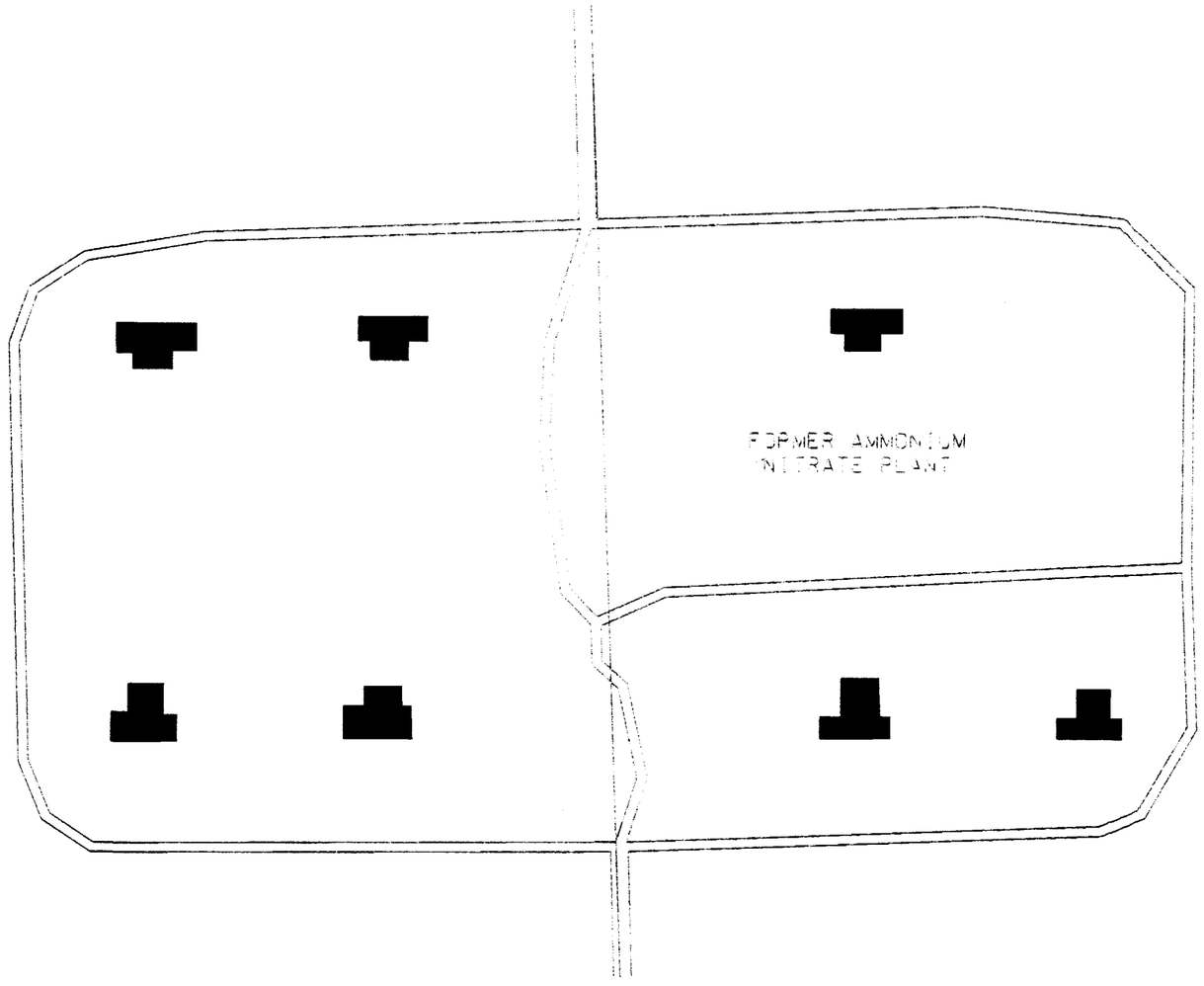
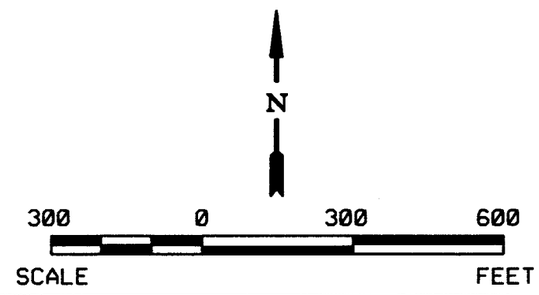
SOURCE : WCC. 1994B





LEGEND

BUILDINGS SURVEYED

SOURCE : WCC. 1994B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

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CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

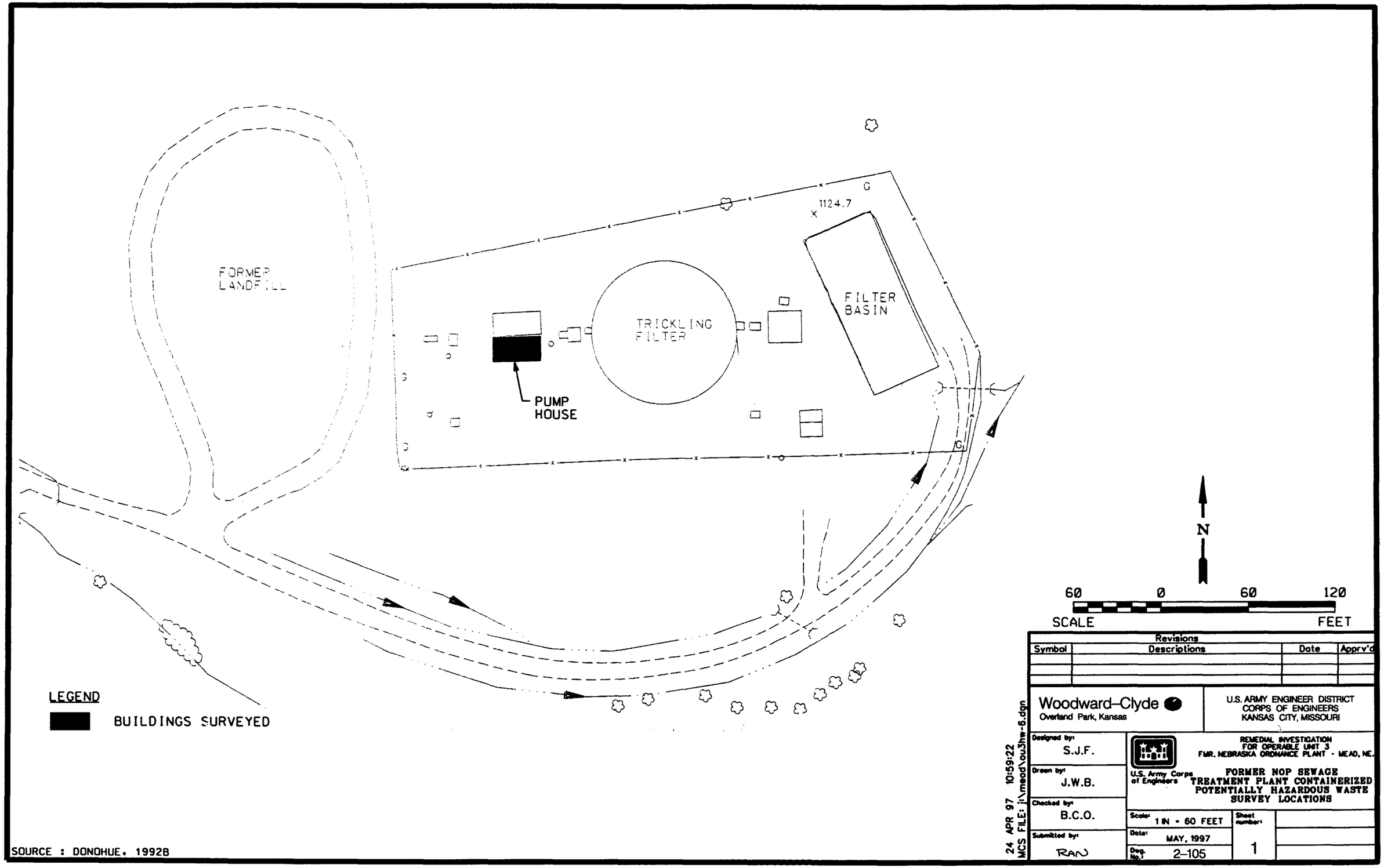
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

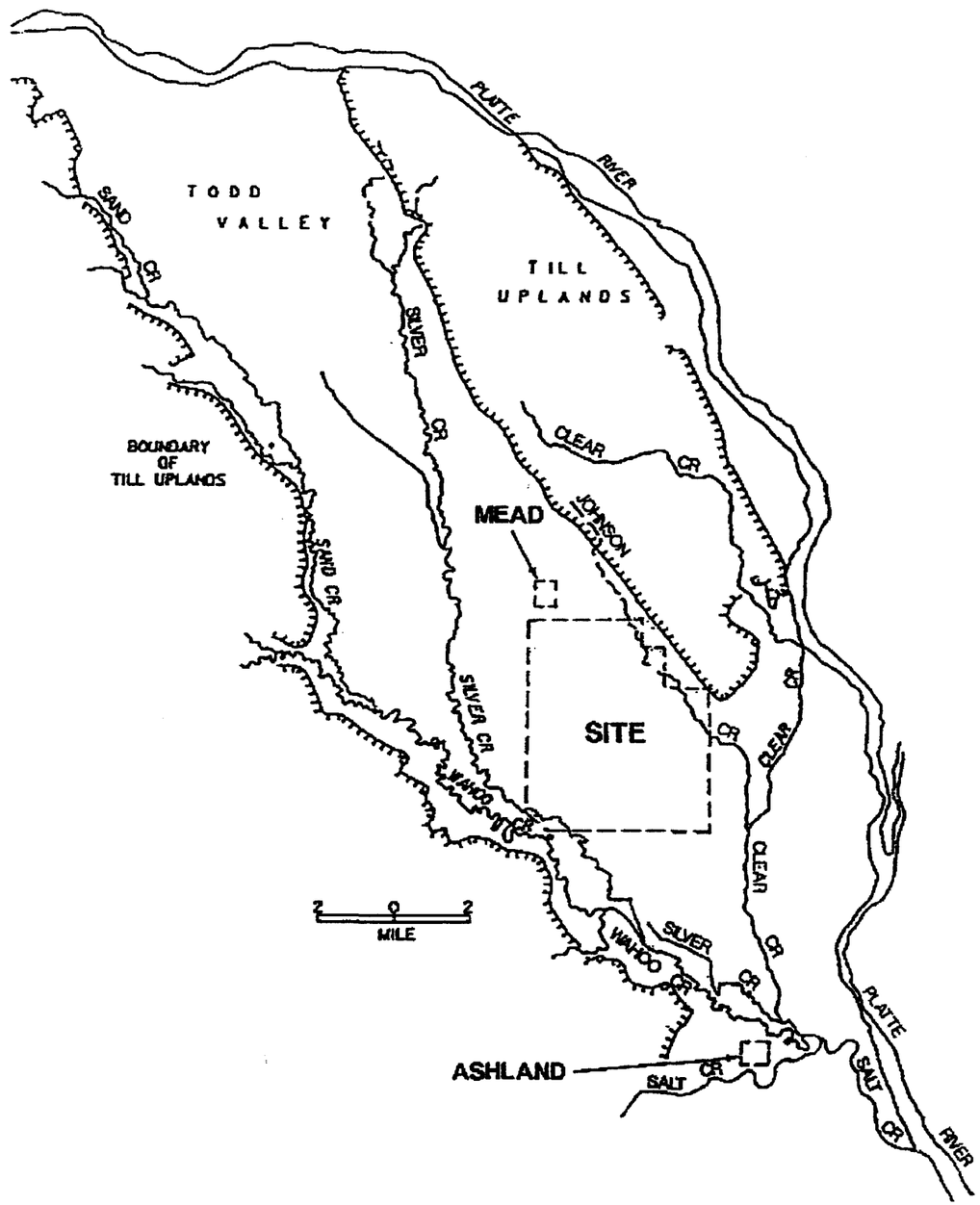
FORMER AMMONIUM NITRATE PLANT AREA CONTAINERIZED PONTENTIALLY HAZARDOUS WASTE SURVEY LOCATIONS

Scale: 1 IN = 300 FEET
Date: MAY, 1997
Dwg. No.: 2-104
Sheet number: 1

24 APR 97 10:55:59
MCS FILE: j:\mead\ou3hw-8.dgn



B07NE003703-04567



N

MODIFIED AFTER SEC DONOHUE, 1992a

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

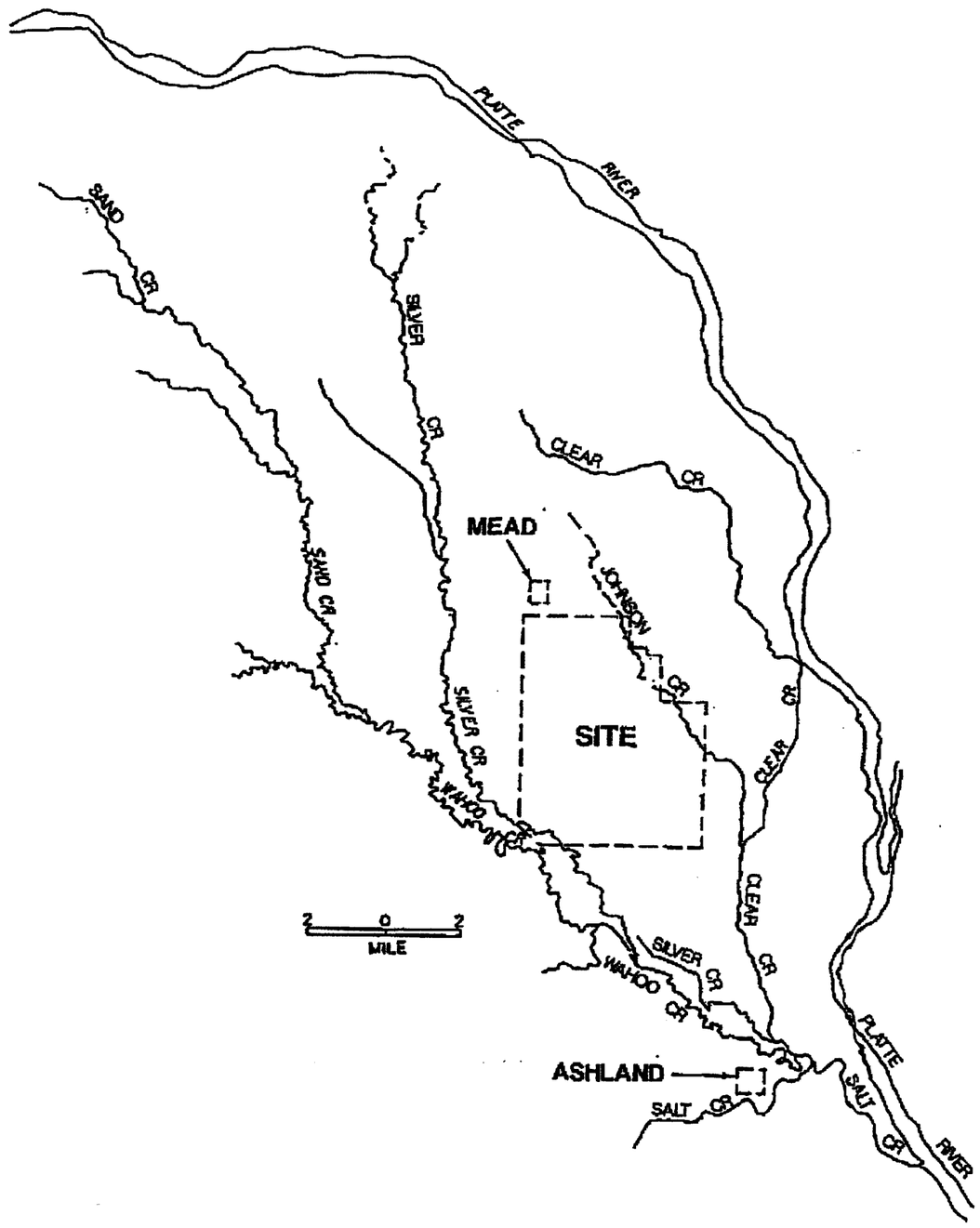
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

PHYSIOGRAPHIC SETTING

Designed by: R.A.N.	Scale: AS SHOWN	Sheet number: 1	
Drawn by: J.W.B.	Date: MAY 1997		
Checked by: B.C.O.	Dwg. No.: 3-1		
Submitted by: RAN			

27 APR 97 11:27:47
MCS FILE: j:\mead\brd-3-1.dgn



N

MODIFIED AFTER SEC DONOHUE, 1992a

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: R.A.N.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

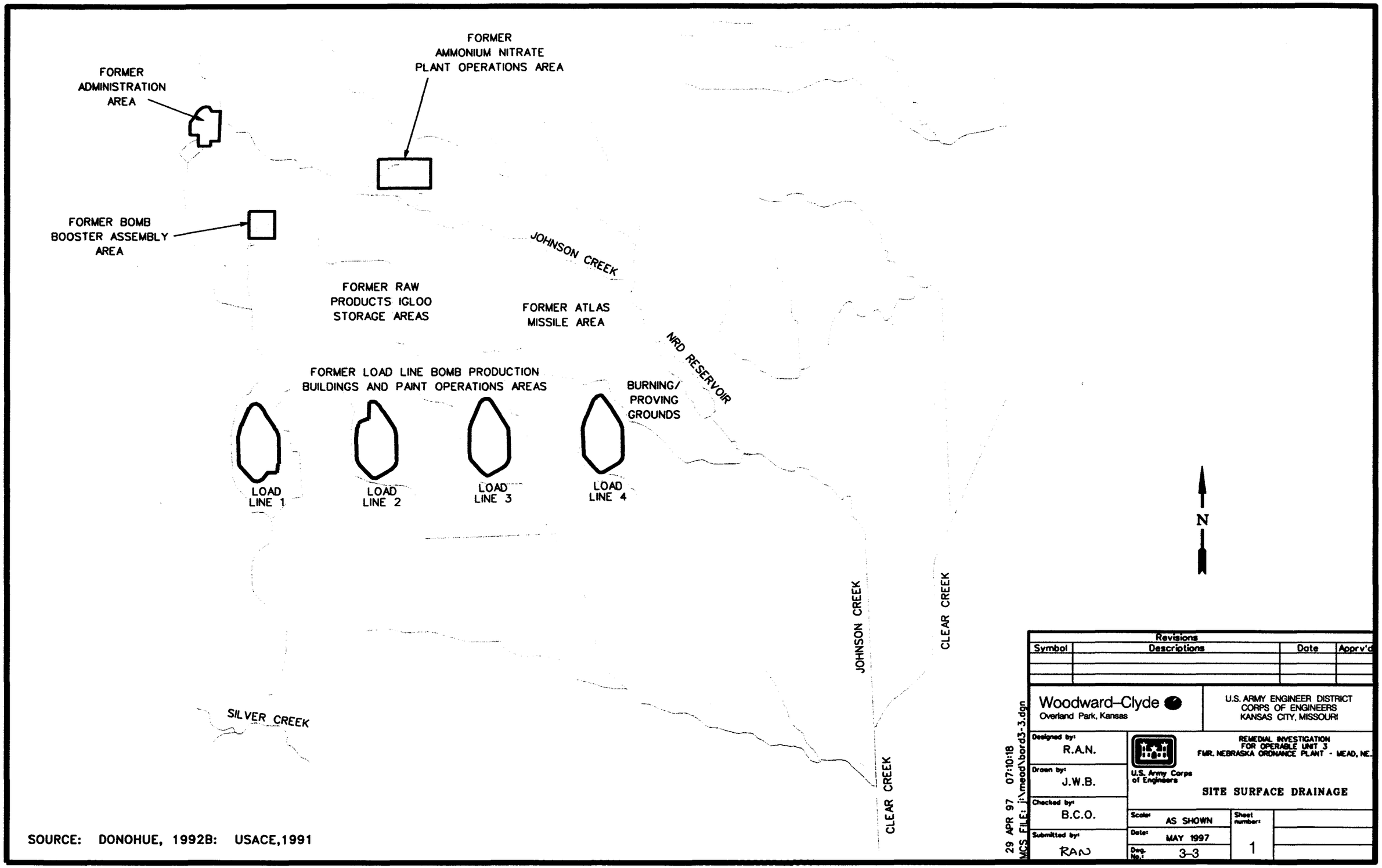
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

REGIONAL SURFACE DRAINAGE

Scale: AS SHOWN
Date: MAY 1997
Dwg. No.: 3-2
Sheet number: 1

18 APR 97 11:03:04
MCS FILE: j:\mead\brd-3-2.dgn

B07NE003703-04569



SOURCE: DONOHUE, 1992B: USACE,1991

ERA	SYSTEM	GROUP OR SERIES	FORMATION OR MEMBER	THICKNESS	LITHOLOGY	GENERAL DESCRIPTION
CENOZOIC	Quaternary	Pleistocene to Recent		15-25'		ALLUVIUM-sand and gravel
						LOESS-clayey silt, silt, and silty clay w/occasional fine sand, yellow brown w/gray
			Grand Island (Kansan) and Crete (Illinoian) Members	30-90'		SAND-very fine to coarse, light gray to pale orange, coarser at base, well sorted at top to poorly sorted at base, gravelly at base.
				0-55'		SANDY GRAVEL-fine to coarse, light gray to yellow-brown poorly to moderately sorted, occasional boulder clay, occasional clay and sandy silty clay balls at base, more gravelly at base.
MESOZOIC	Cretaceous	Dakota Gp.	Omadi Fm.	0-110'		SHALE FACIES-moderately hard, brown-yellow to green-gray w/red mottling, clayey, non-calcareous, micaceous occasional silt and sand lenses
				40-110'		SANDSTONE FACIES-light yellow-brown to pale orange, mostly clear, white and iron stained quartz grains, poor to moderately cemented, fine to medium grained, well sorted, sub-round to round; grades to blue gray at base, occasional shale and silt lenses.
PALEOZOIC	Pennsylvanian	Undifferentiated		0-30'		SHALE- moderately hard, green-gray, silty, calcareous
				300-550'		LIMESTONE-hard, white to blue-gray, shaley w/shale interbeds, fossiliferous

MODIFIED AFTER PISKIN (1971)

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Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
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KANSAS CITY, MISSOURI

Designed by: R.A.N.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

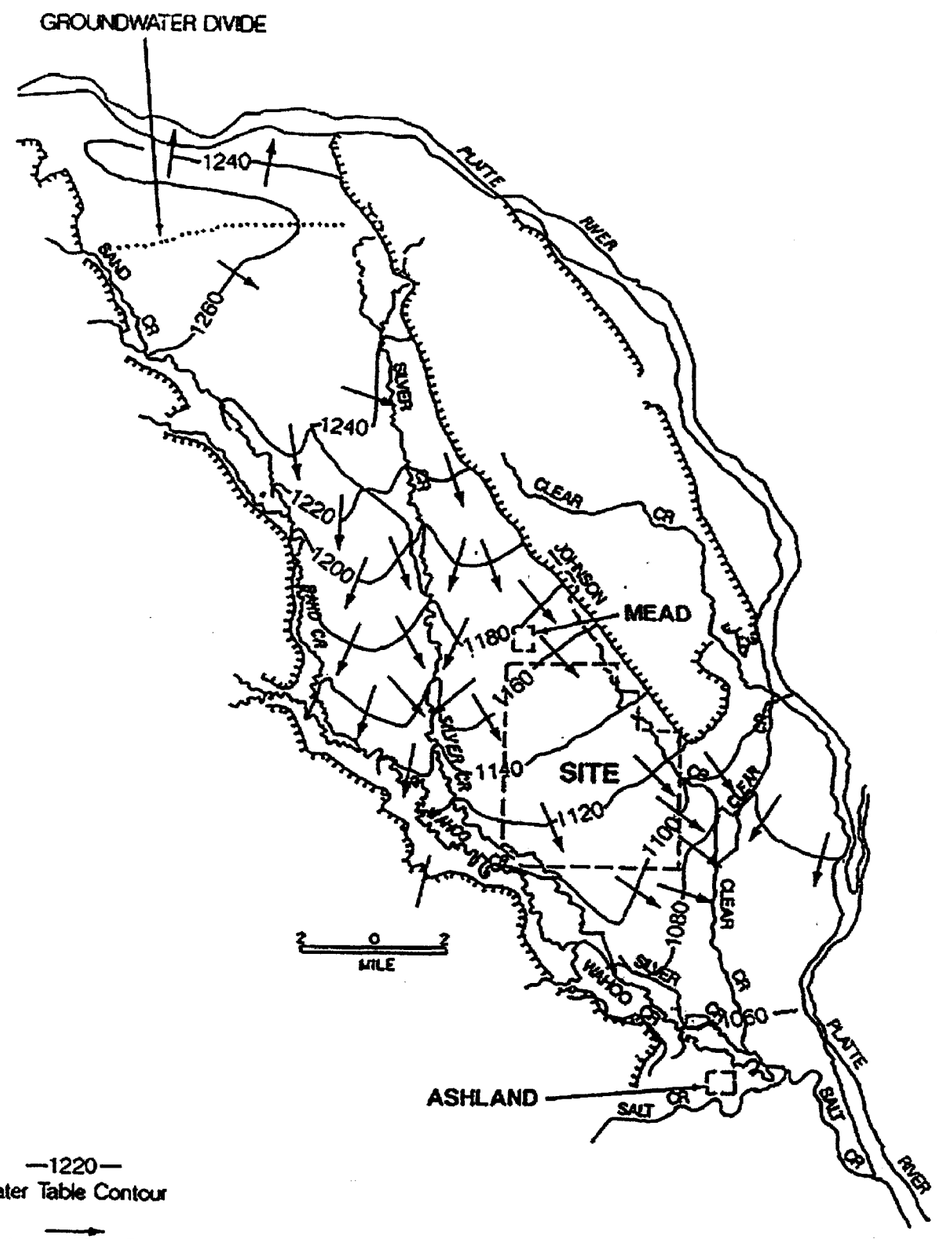
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

GENERALIZED
GEOLOGIC COLUMN

Scale: AS SHOWN
Date: MAY, 1997
Dwg. No.: 3-4
Sheet number: 1

18 APR 97 11:37:17
MCS FILE: j:\mead\brd-3-4.dgn



N

—1220—
Water Table Contour

Groundwater Flow Direction

Uplands Boundary

MODIFIED AFTER SEC DONOHUE, 1992a

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: R.A.N.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

GROUNDWATER FLOW MAP

Scale: AS SHOWN
Date: MAY, 1997
Dwg. No.: 3-5
Sheet number: 1

18 APR 97 11:41:20
MCS FILE: j:\mead\brd-3-5.dgn

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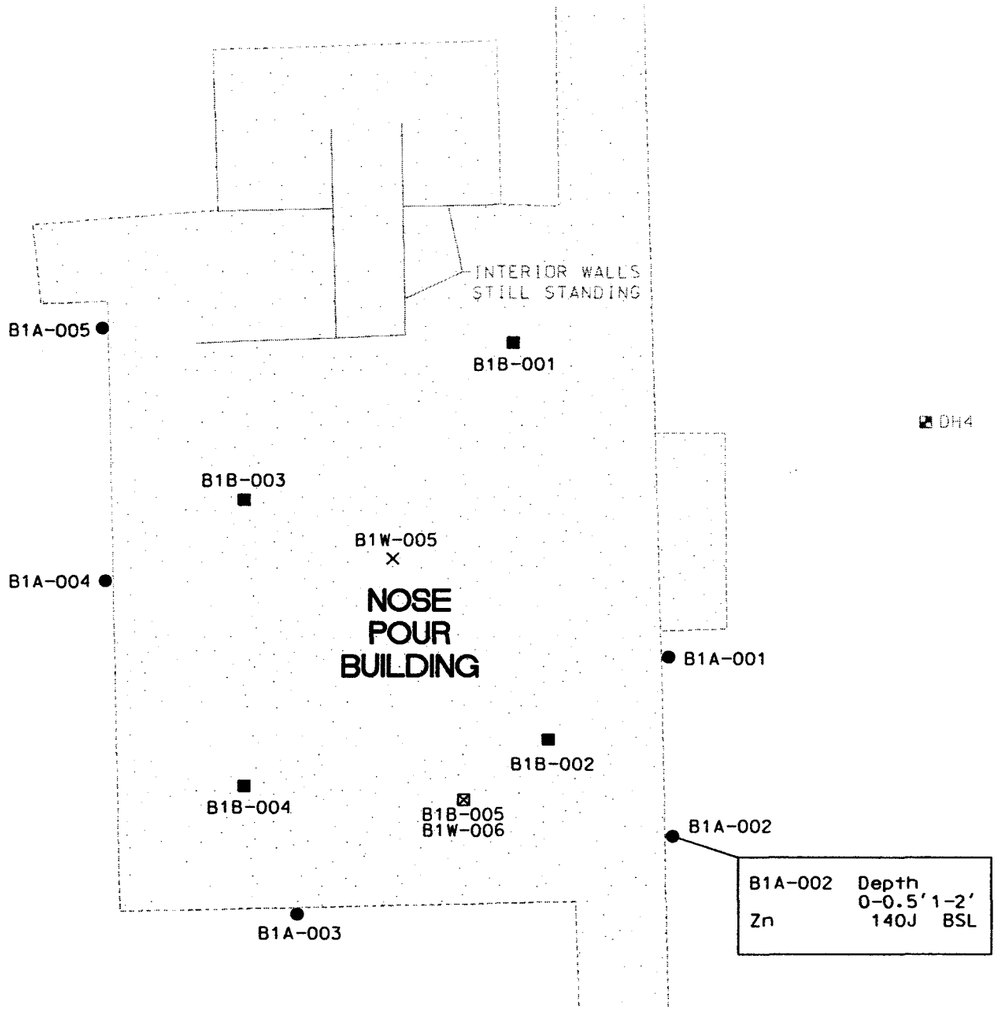

LEGEND:

● B1A-001	ADJACENT SOIL SAMPLE LOCATION
■ B1B-001	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-005/B1W-006	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(⊗ WALL, × FLOOR) B1W-005	SURFACE WIPE SAMPLE LOCATION
⊠ DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE BUILDING FOUNDATION.
2. SURFACE WIPE SAMPLES B1W-001 TO B1W-004 WERE NOT COLLECTED BECAUSE THE WALLS WERE NO LONGER PRESENT.
3. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

20 0 20 40

SCALE FEET

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
NOSE POUR BUILDING
SAMPLING LOCATIONS AND RESULTS
ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-1
Sheet number: 1

27 APR 97 18:59:59
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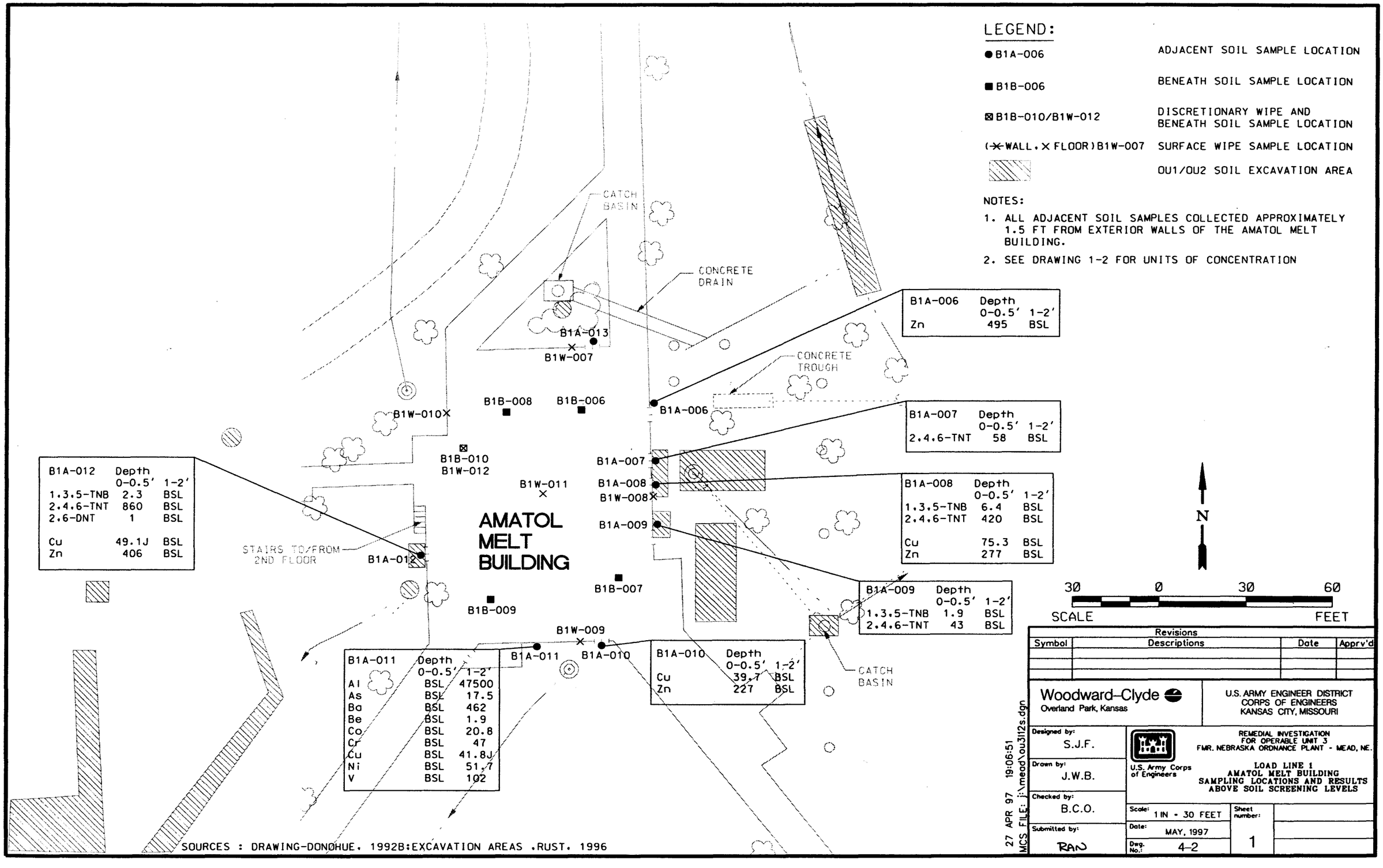
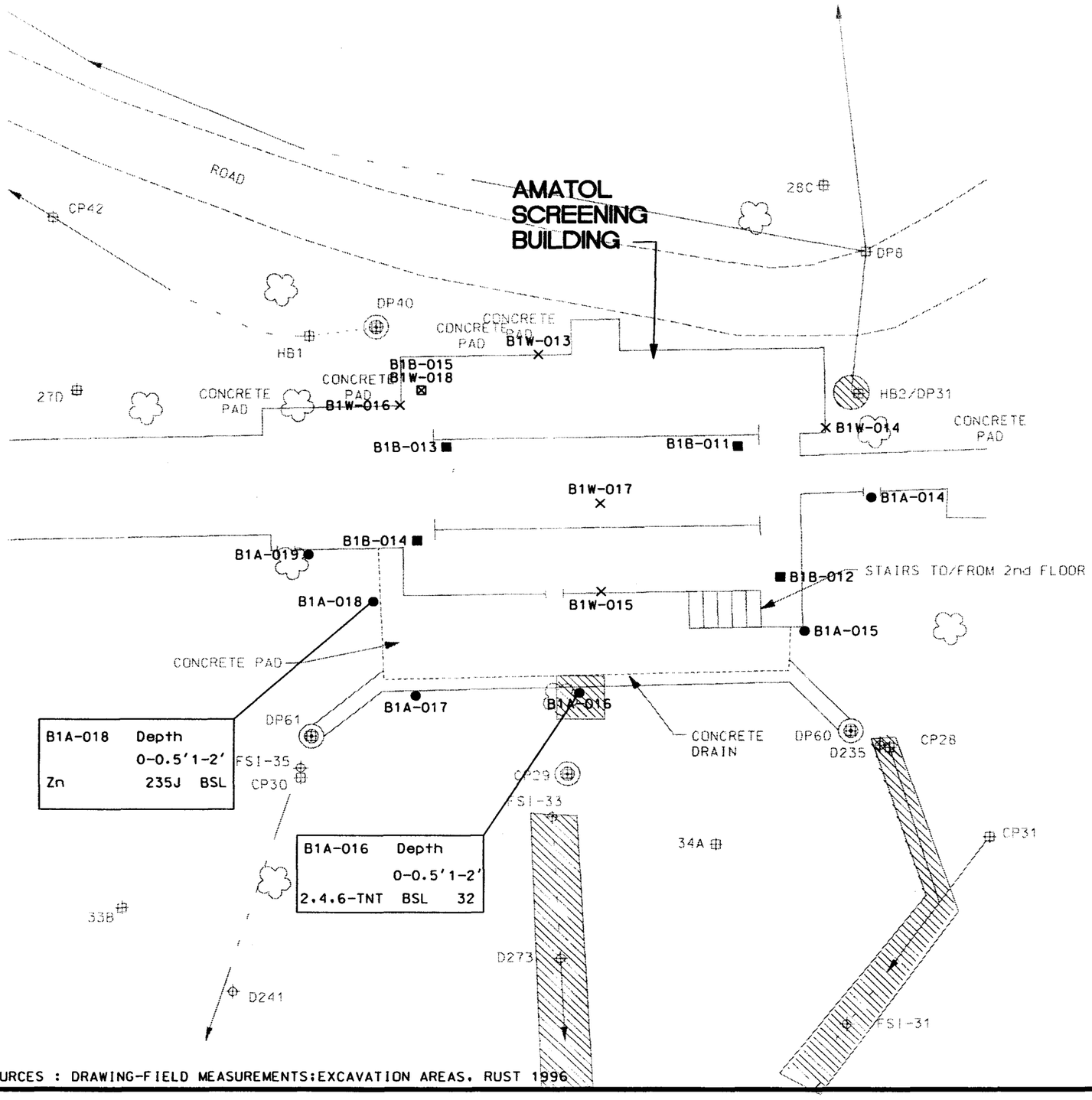

LEGEND:
B1A-006 ADJACENT SOIL SAMPLE LOCATION
B1B-006 BENEATH SOIL SAMPLE LOCATION
B1B-010/B1W-012 DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(WALL, FLOOR)B1W-007 SURFACE WIPE SAMPLE LOCATION
OU1/OU2 SOIL EXCAVATION AREA
NOTES:
1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1.5 FT FROM EXTERIOR WALLS OF THE AMATOL MELT BUILDING.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION
CATCH BASIN
CONCRETE DRAIN
CONCRETE TROUGH
B1A-013
B1W-007
B1B-008
B1B-006
B1W-010
B1A-006
B1B-010
B1W-012
B1W-011
B1A-007
B1A-008
B1W-008
B1A-009
AMATOL MELT BUILDING
STAIRS TO/FROM 2ND FLOOR
B1A-012
B1B-007
B1B-009
B1W-009
B1A-011
B1A-010
CATCH BASIN
B1A-006 Depth 0-0.5' 1-2'
Zn 495 BSL
B1A-007 Depth 0-0.5' 1-2'
2,4,6-TNT 58 BSL
B1A-008 Depth 0-0.5' 1-2'
1,3,5-TNB 6.4 BSL
2,4,6-TNT 420 BSL
Cu 75.3 BSL
Zn 277 BSL
B1A-012 Depth 0-0.5' 1-2'
1,3,5-TNB 2.3 BSL
2,4,6-TNT 860 BSL
2,6-DNT 1 BSL
Cu 49.1J BSL
Zn 406 BSL
B1A-009 Depth 0-0.5' 1-2'
1,3,5-TNB 1.9 BSL
2,4,6-TNT 43 BSL
B1A-011 Depth 0-0.5' 1-2'
Al BSL 47500
As BSL 17.5
Ba BSL 462
Be BSL 1.9
Co BSL 20.8
Cr BSL 47
Cu BSL 41.8J
Ni BSL 51.7
V BSL 102
B1A-010 Depth 0-0.5' 1-2'
Cu 39.7 BSL
Zn 227 BSL
N
30 0 30 60
SCALE FEET
SOURCES : DRAWING-DONOHUE, 1992B:EXCAVATION AREAS ,RUST, 1996
27 APR 97 19:06:51
MCS FILE: j:\mead\ou3\12s.dgn
Revisions
Symbol Descriptions Date Apprv'd
Woodward-Clyde
Overland Park, Kansas
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI
Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN
U.S. Army Corps of Engineers
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 1
AMATOL MELT BUILDING
SAMPLING LOCATIONS AND RESULTS
ABOVE SOIL SCREENING LEVELS
Scale: 1 IN = 30 FEET
Date: MAY, 1997
Dwg. No.: 4-2
Sheet number: 1



SOURCES : DRAWING-FIELD MEASUREMENTS;EXCAVATION AREAS, RUST 1996

LEGEND:

● B1A-014	ADJACENT SOIL SAMPLE LOCATION
■ B1B-011	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-015/B1W-018	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B1W-013	SURFACE WIPE SAMPLE LOCATION
⊕ D235	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ DP7	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
▨	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS OR CONCRETE FOUNDATION OF THE AMATOL SCREENING BUILDING.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

20 0 20 40

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

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CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
AMATOL SCREENING BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-3
Sheet number: 1

27 APR 97 19:20:27
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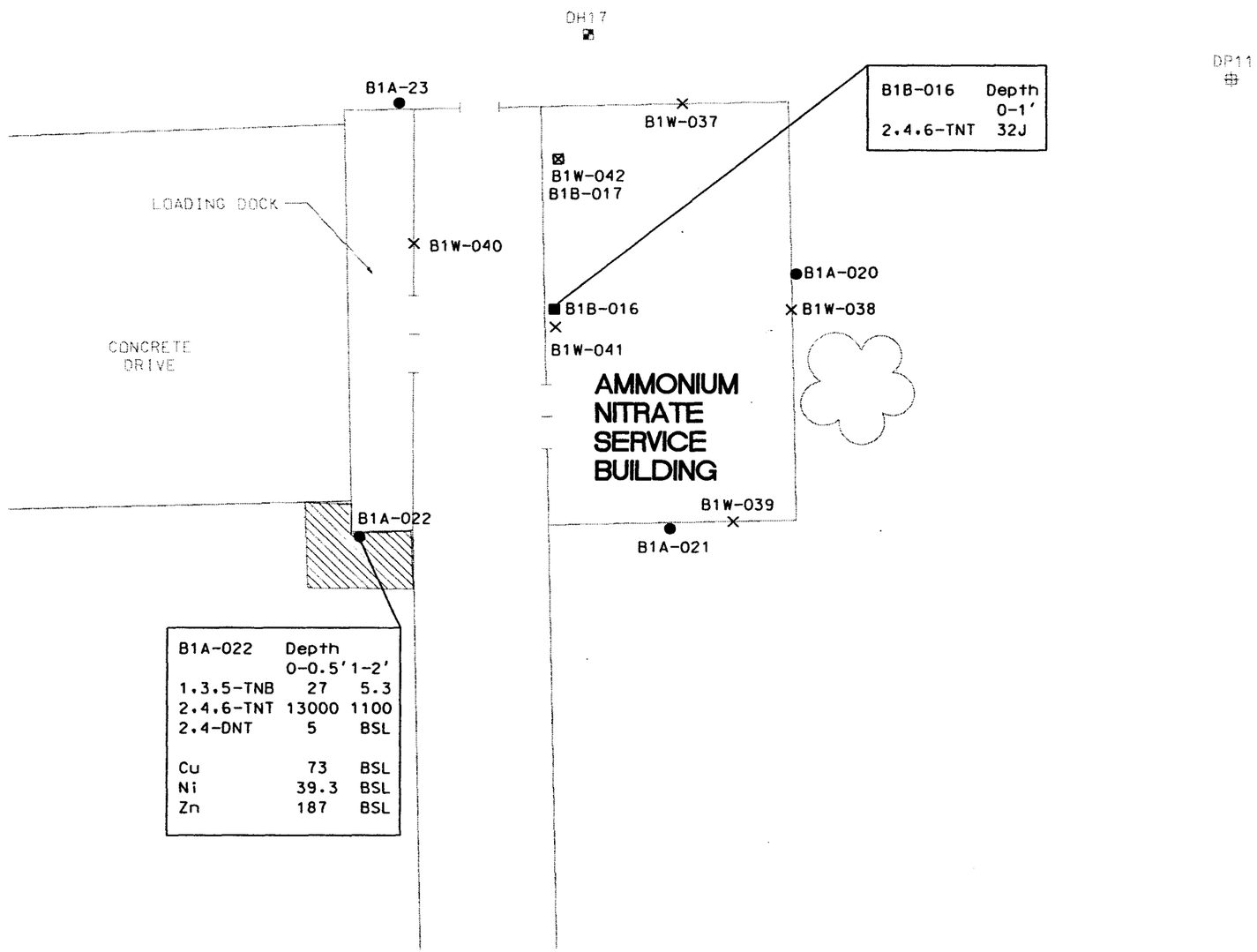

B1A-022	Depth 0-0.5'	1-2'
1.3.5-TNB	27	5.3
2.4.6-TNT	13000	1100
2.4-DNT	5	BSL
Cu	73	BSL
Ni	39.3	BSL
Zn	187	BSL

LEGEND:

● B1A-020	ADJACENT SOIL SAMPLE LOCATION
■ B1B-016	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-017/B1W-042	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B1W-037	SURFACE WIPE SAMPLE LOCATION
DH17	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
DP11	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS OF THE BUILDING.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

10 0 10 20

SCALE FEET

SOURCES : DRAWING-DONOHUE, 1992B ; EXCAVATION AREAS, RUST 1996

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
AMMONIUM NITRATE
SERVICE BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 4-4
Sheet number: 1

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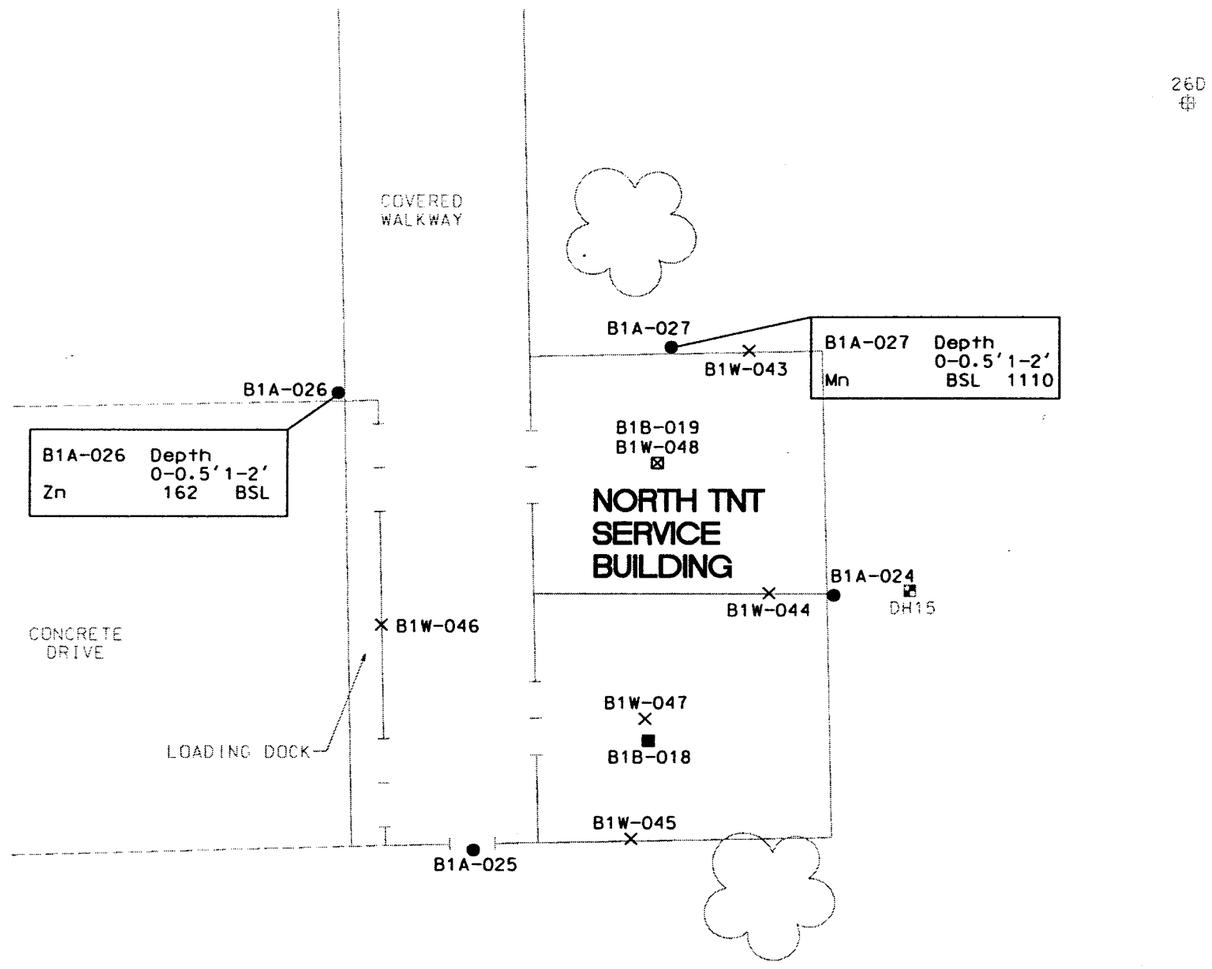

LEGEND:

● B1A-024	ADJACENT SOIL SAMPLE LOCATION
■ B1B-018	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-019/B1W-048	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B1W-043	SURFACE WIPE SAMPLE LOCATION
DH15	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
26D	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS OF THE BUILDING.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

10 0 10 20

SCALE FEET

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1.
NORTH TNT
SERVICE BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS)

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Drg. No.: 4-5
Sheet number: 1

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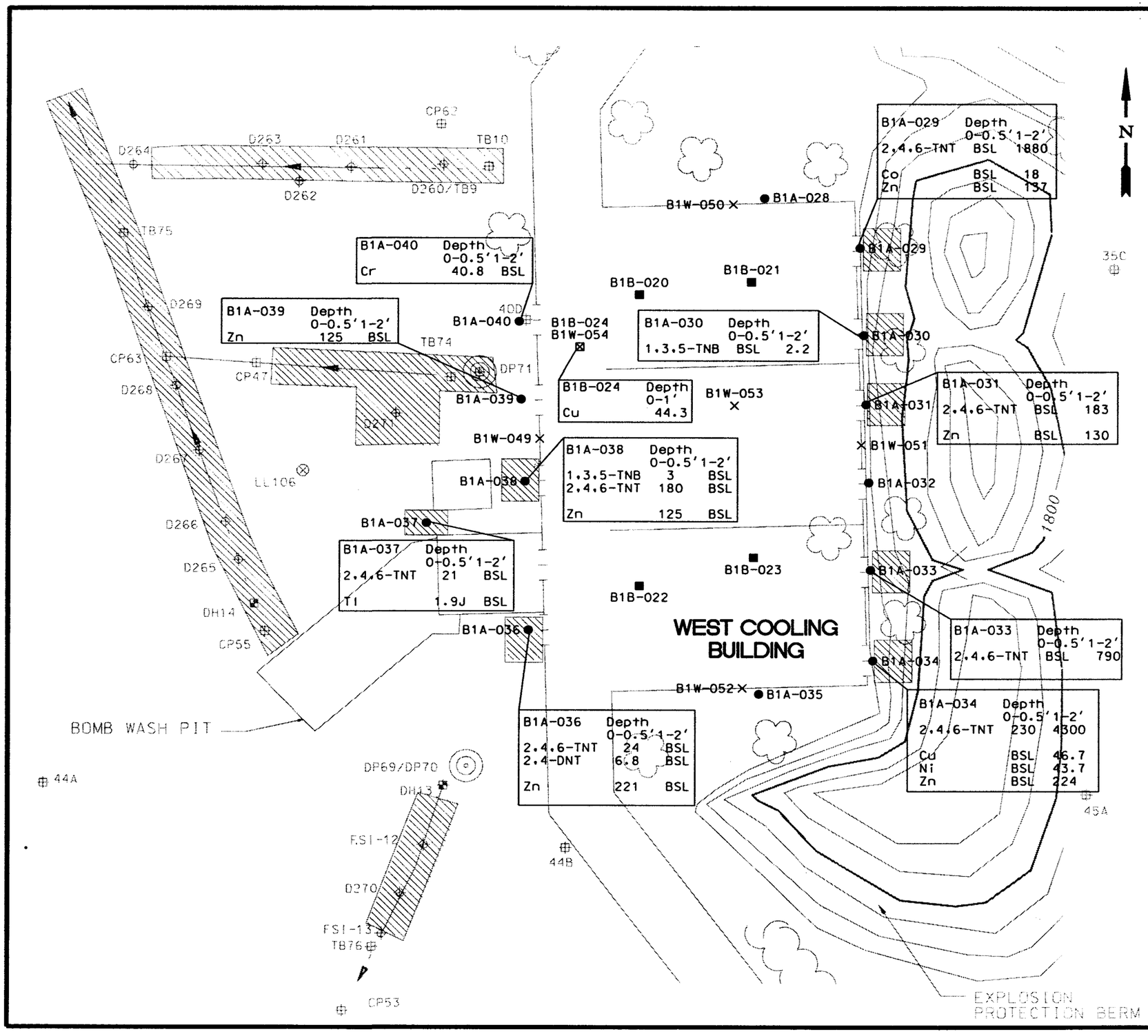

LEGEND:

● B1A-028	ADJACENT SOIL SAMPLE LOCATION
■ B1B-020	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-024/B1W-054	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, X FLOOR) B1W-049	SURFACE WIPE SAMPLE LOCATION
DH14	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
D269	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
40D	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
LL106	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
1800	INDEX CONTOUR
	INTERMEDIATE CONTOUR
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE WEST COOLING BUILDING:
   B1A-036 AT 2.25 FT, B1A-037 AT 1.2 FT,
   B1A-038 AT 2.25 FT, B1A-039 AT 2.5 FT,
   B1A-040 AT 2.6 FT
2. SAMPLE B1A-041 WAS NOT COLLECTED BECAUSE ACCESS WAS RESTRICTED BY FENCED OU1 INVESTIGATION AREA.
3. CONTOUR INTERVAL IS 2 FEET
4. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

20 0 20 40
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
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U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 1
WEST COOLING BUILDING
SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-6
Sheet number: 1

27 APR 97 19:31:24
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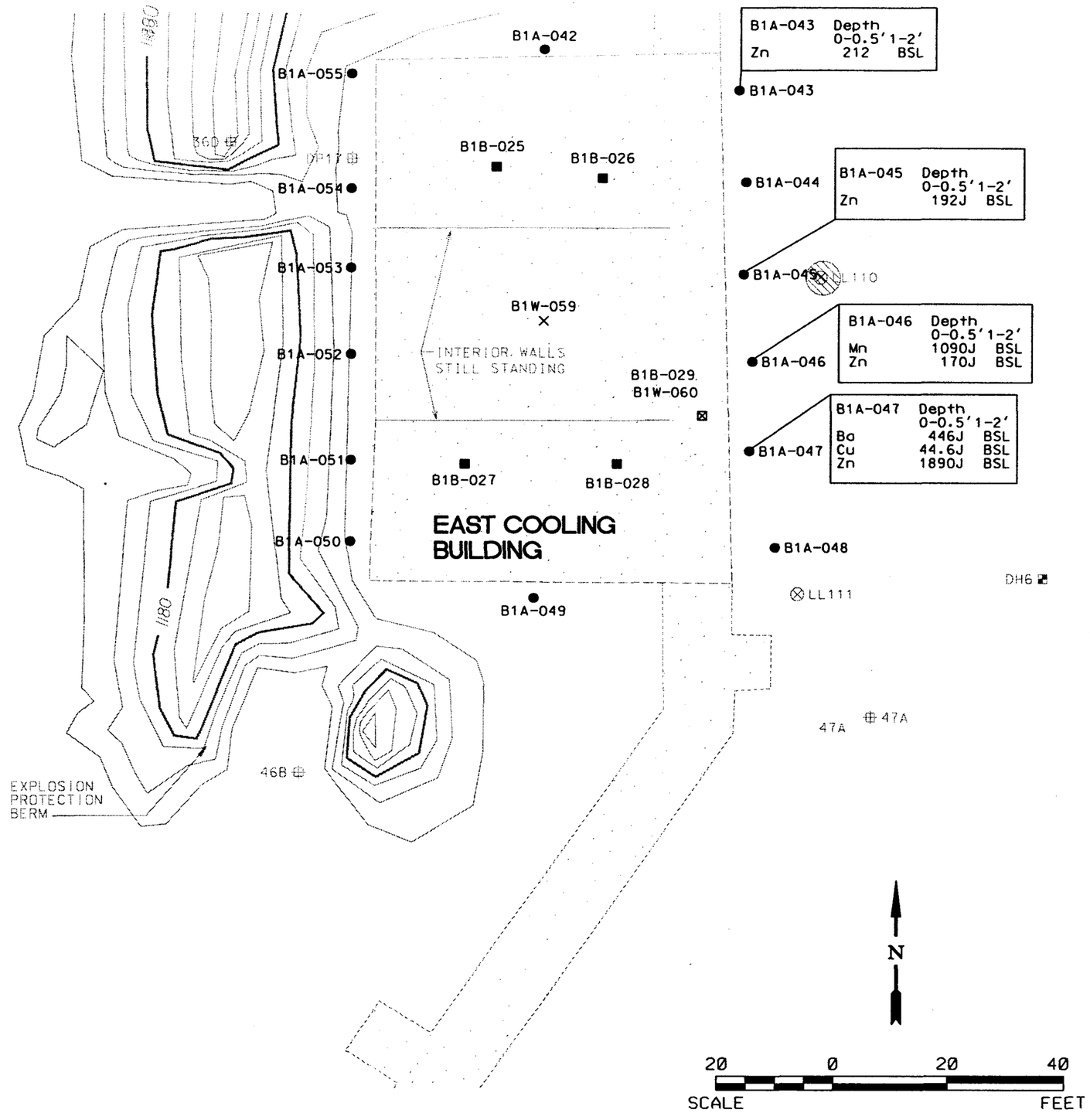
B07NE003703-04578



SOURCE : DONOHUE, 1992B

LEGEND:

● B1A-043	ADJACENT SOIL SAMPLE LOCATION
■ B1B-025	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-029/B1W-060	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B1W-059	SURFACE WIPE SAMPLE LOCATION
DH6	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
47A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
LL110	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
	OU1/OU2 SOIL EXCAVATION AREA
1180	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE EAST COOLING BUILDING:
   B1A-043 AT 2.4 FT. B1A-044 AT 3.3 FT.
   B1A-045 AT 2.4 FT. B1A-046 AT 3.6 FT.
   B1A-047 AT 2.75 FT. B1A-048 AT 6.7 FT.
   B1A-049 AT 1.7 FT
2. SURFACE WIPE SAMPLES B1W-055 TO B1W-058 WERE NOT COLLECTED BECAUSE THE WALLS WERE NO LONGER PRESENT.
3. CONTOUR INTERVAL IS 2 FEET.
4. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 1
EAST COOLING
BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN
Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-7
Sheet number: 1

27 APR 97 19:35:17
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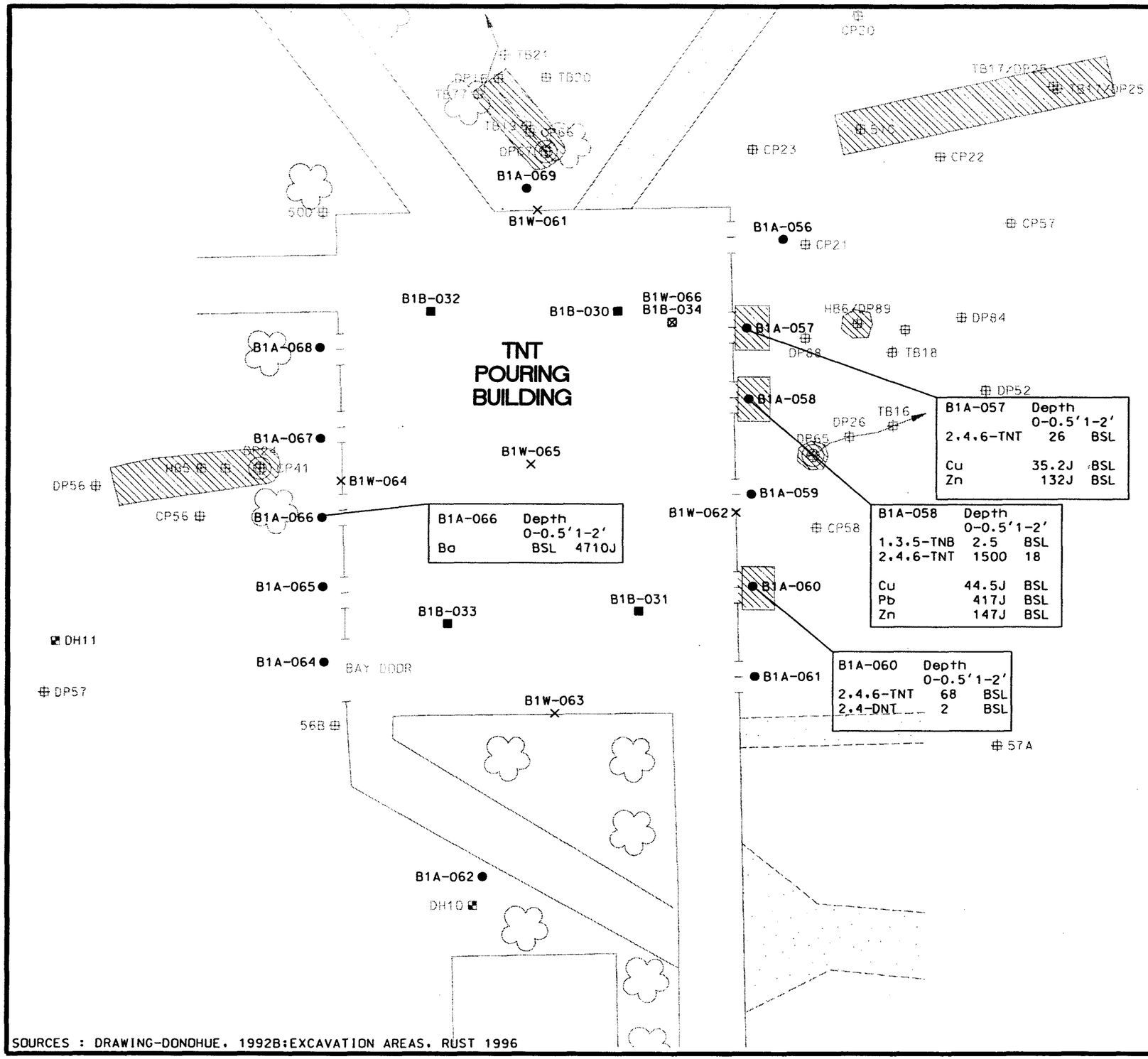

SOURCES : DRAWING-DONOHUE, 1992B:EXCAVATION AREAS, RUST 1996

LEGEND:

● B1A-056	ADJACENT SOIL SAMPLE LOCATION
■ B1B-030	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-034/B1W-066	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B1W-061	SURFACE WIPE SAMPLE LOCATION
DH10	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
DP26	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ALL ADJACENT SOIL SAMPLES WERE COLLECTED APPROXIMATELY 2 FT FROM THE EXTERIOR WALLS OF THE TNT POURING BUILDING WITH THE FOLLOWING EXCEPTIONS:
   B1A-056 AT 9.0 FT, B1A-064 AT 3.0 FT,
   B1A-065 AT 3.0 FT, B1A-066 AT 3.0 FT,
   B1A-067 AT 3.0 FT, B1A-068 AT 2.5 FT,
   B1A-069 AT 3.5 FT
2. ADJACENT SOIL SAMPLE B1A-063 WAS NOT COLLECTED DUE TO CONCRETE DEBRIS AT SAMPLING LOCATION.
3. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

20 0 20 40

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
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Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
TNT POURING BUILDING
SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-8
Sheet number: 1

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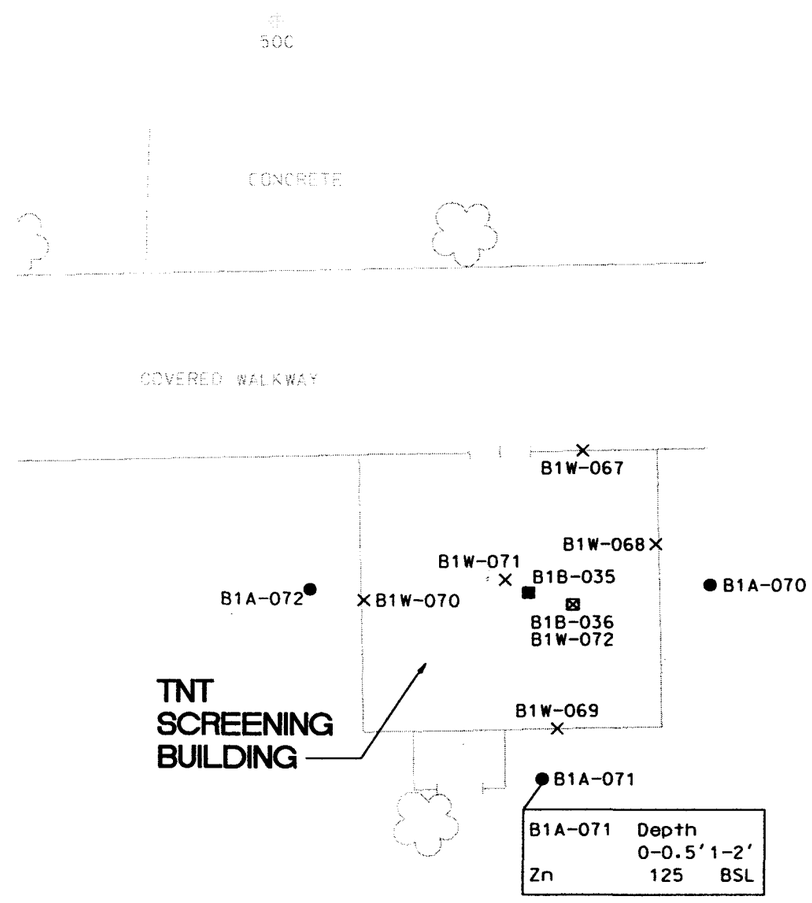

LEGEND:

● B1A-070	ADJACENT SOIL SAMPLE LOCATION
■ B1B-035	BENEATH SOIL SAMPLE LOCATION
⊠ B1B-036/B1W-072	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B1W-067	SURFACE WIPE SAMPLE LOCATION
⊞ SOC	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES WERE COLLECTED APPROXIMATELY 3 FT FROM THE EXTERIOR WALLS OF THE TNT SCREENING BUILDING.
2. ADJACENT SOIL SAMPLE B1A-073 WAS NOT COLLECTED DUE TO CONCRETE PAD AT SAMPLE LOCATION.
3. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

10 0 10 20

SCALE FEET

SOURCE : FIELD MEASUREMENTS

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
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Checked by: B.C.O.
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U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
TNT SCREENING
BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN - 10 FEET
Date: MAY, 1996
Dwg. No.: 4-9
Sheet number: 1

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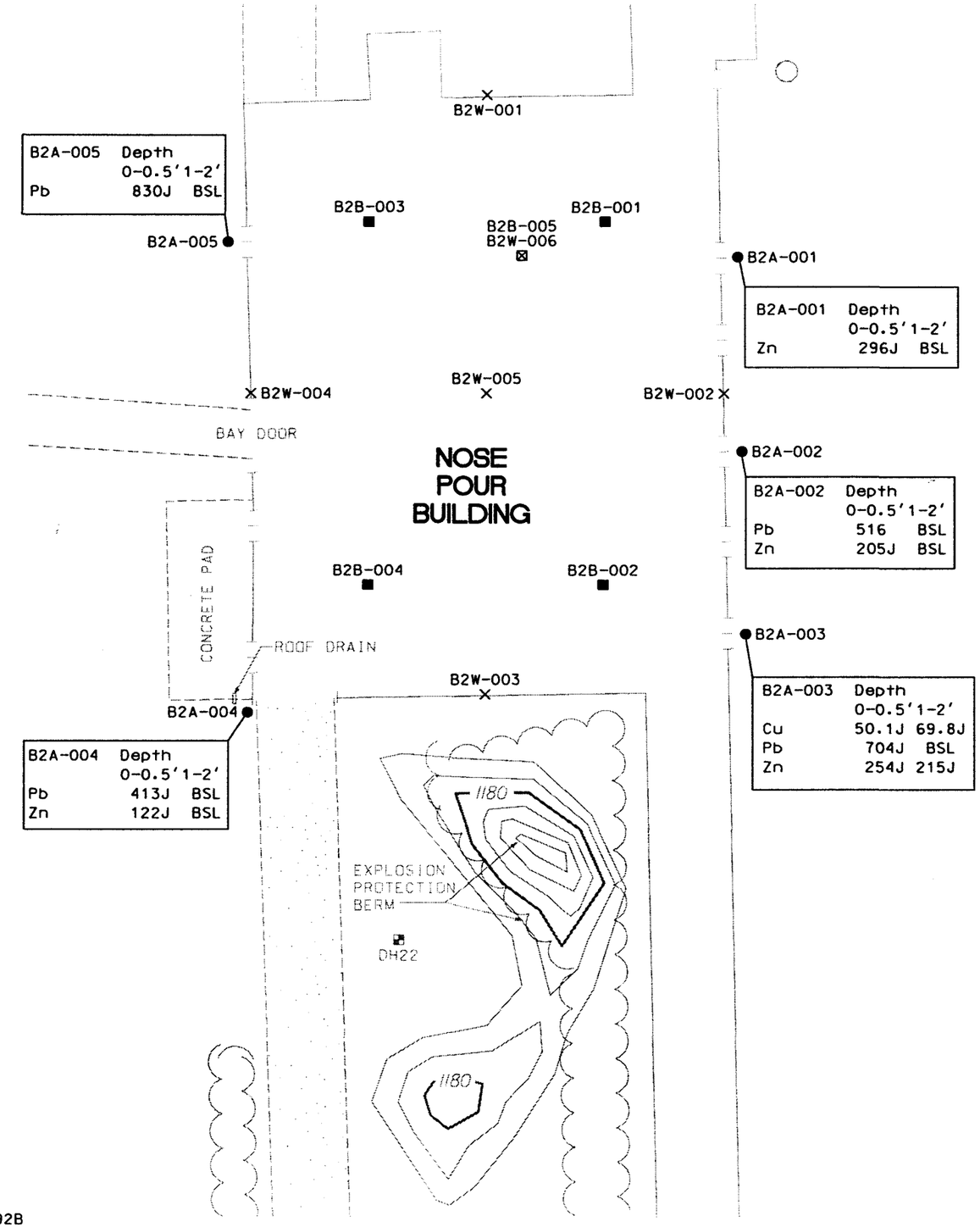

SOURCE : DONAHUE, 1992B

LEGEND:

● B2A-001	ADJACENT SOIL SAMPLE LOCATION
■ B2B-001	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-005/B2W-006	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B2W-001	SURFACE WIPE SAMPLE LOCATION
⊕ 22B	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
▣ DH22	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
— 1180 —	INDEX CONTOUR
⌒	INTERMEDIATE CONTOUR

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 2 FT FROM THE EXTERIOR WALLS.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

20 0 20 40

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

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U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
NOSE POUR BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1996
Dwg. No.: 4-10
Sheet number: 1

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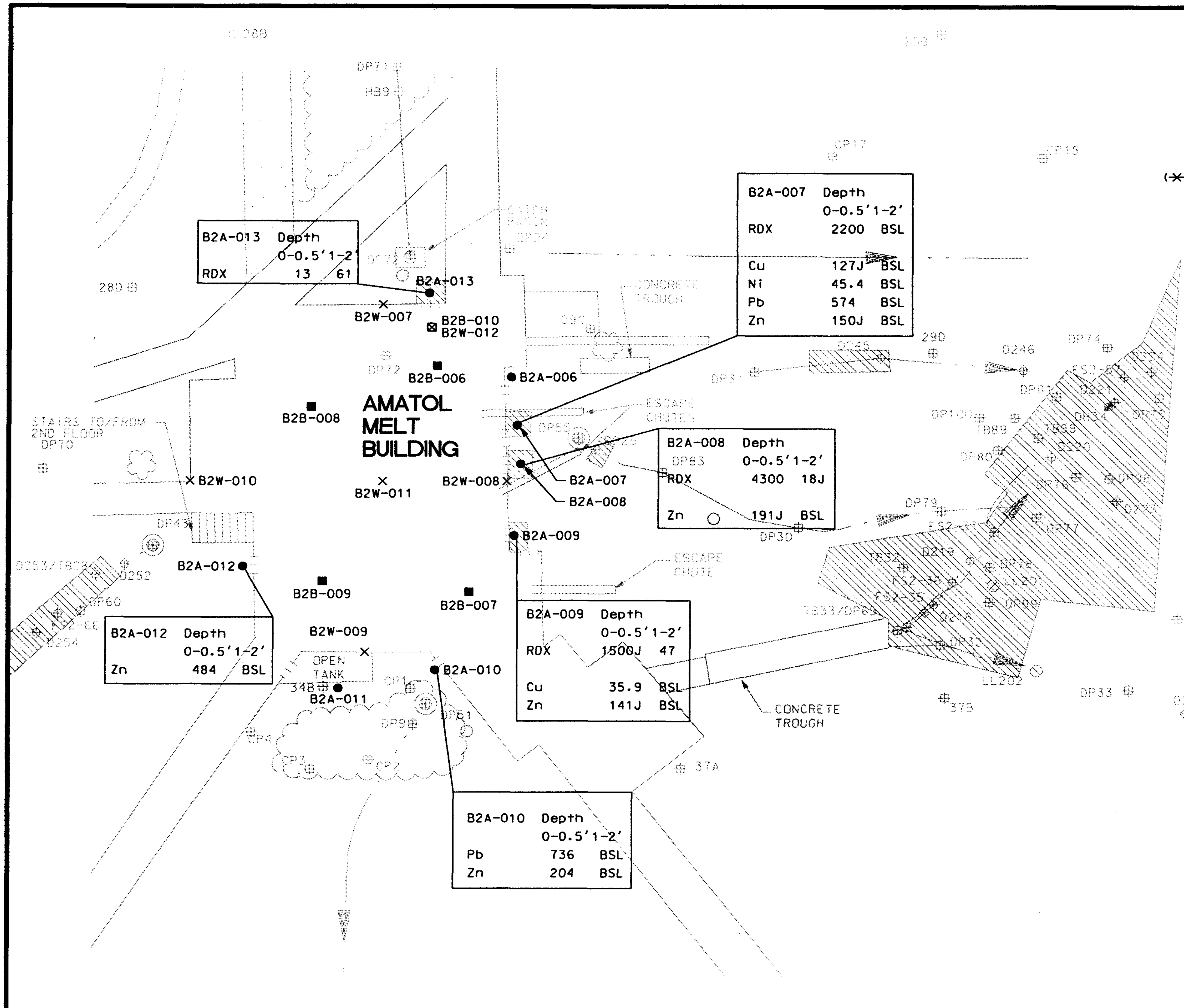

SOURCES : DRAWING-DONOHUE. 1992B;EXCAVATION AREAS. RUST 1996

LEGEND:

● B2A-006	ADJACENT SOIL SAMPLE LOCATION
■ B2B-006	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-010/B2W-012	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✕ WALL, X FLOOR) B2W-007	SURFACE WIPE SAMPLE LOCATION
DH34	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
D220	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
DP75	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊗ LL201	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE AMATOL MELT BUILDING:
B2A-006 AT 1.5 FT, B2A-007 AT 2.0 FT,
B2A-008 AT 3.0 FT, B2A-009 AT 1.5 FT,
B2A-010 AT 2.0 FT, B2A-011 AT 1.5 FT,
B2A-012 AT 2.0 FT, B2A-013 AT 2.0 FT
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

30 0 30 60
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
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Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 2
AMATOL MELT BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 30 FEET
Date: MAY, 1997
Dwg. No.: 4-11
Sheet number: 1

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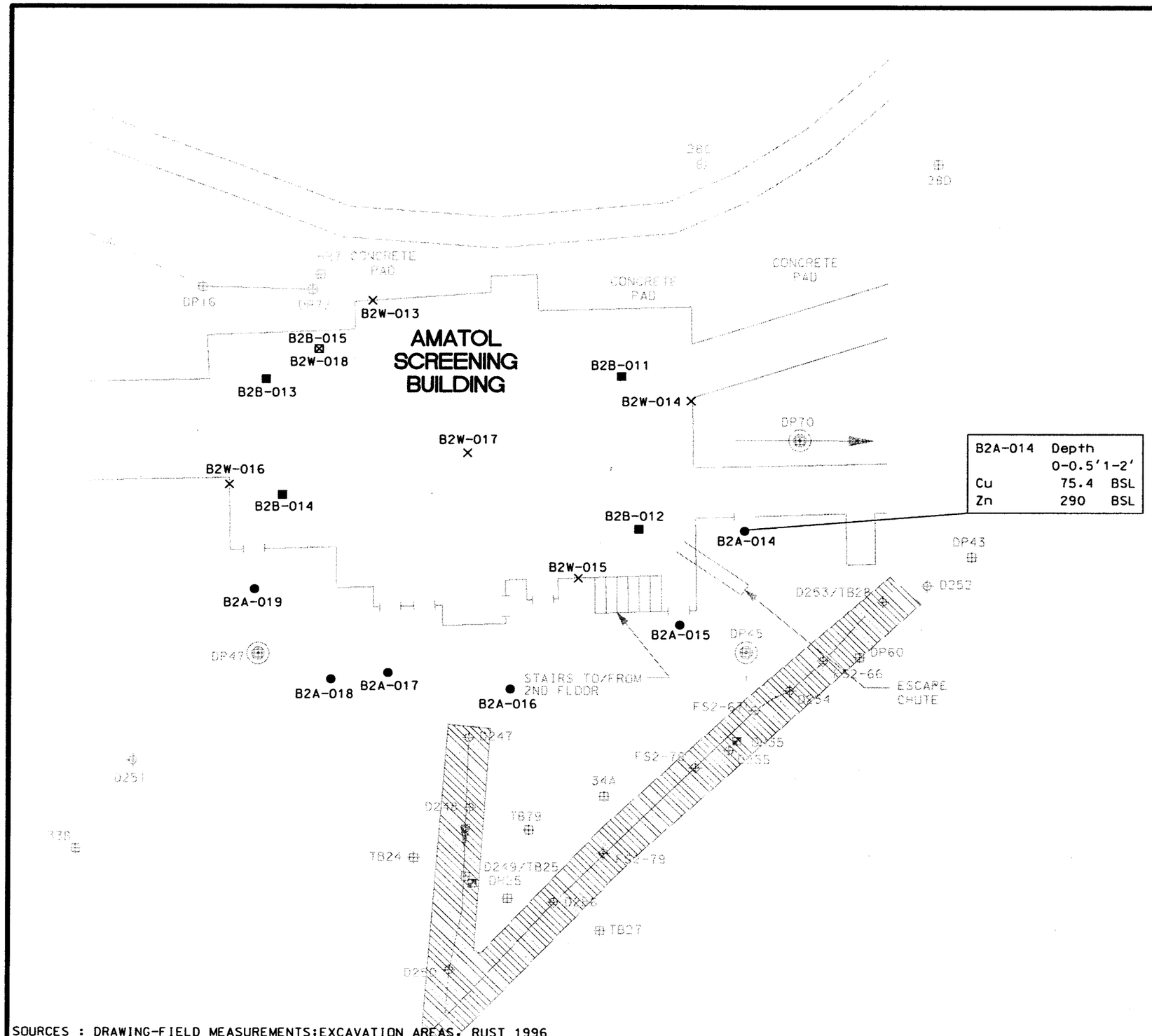

LEGEND:

● B2A-014	ADJACENT SOIL SAMPLE LOCATION
■ B2B-011	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-015/B2W-018	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B2W-013	SURFACE WIPE SAMPLE LOCATION
D-35	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
D255	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
33B	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE AMATOL SCREENING BUILDING:
   B2A-014 AT 2.0 FT, B2A-015 AT 2.0 FT,
   B2A-016 AT 9.0 FT, B2A-017 AT 12.0 FT,
   B2A-018 AT 25.0 FT, B2A-019 AT 7.0 FT
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

20 0 20 40
SCALE FEET

SOURCES : DRAWING-FIELD MEASUREMENTS;EXCAVATION AREAS, RUST 1996

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
AMATOL SCREENING BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-12
Sheet number: 1

27 APR 97 20:18:44
MCS FILE: j:\mead\ou3\23s.dgn

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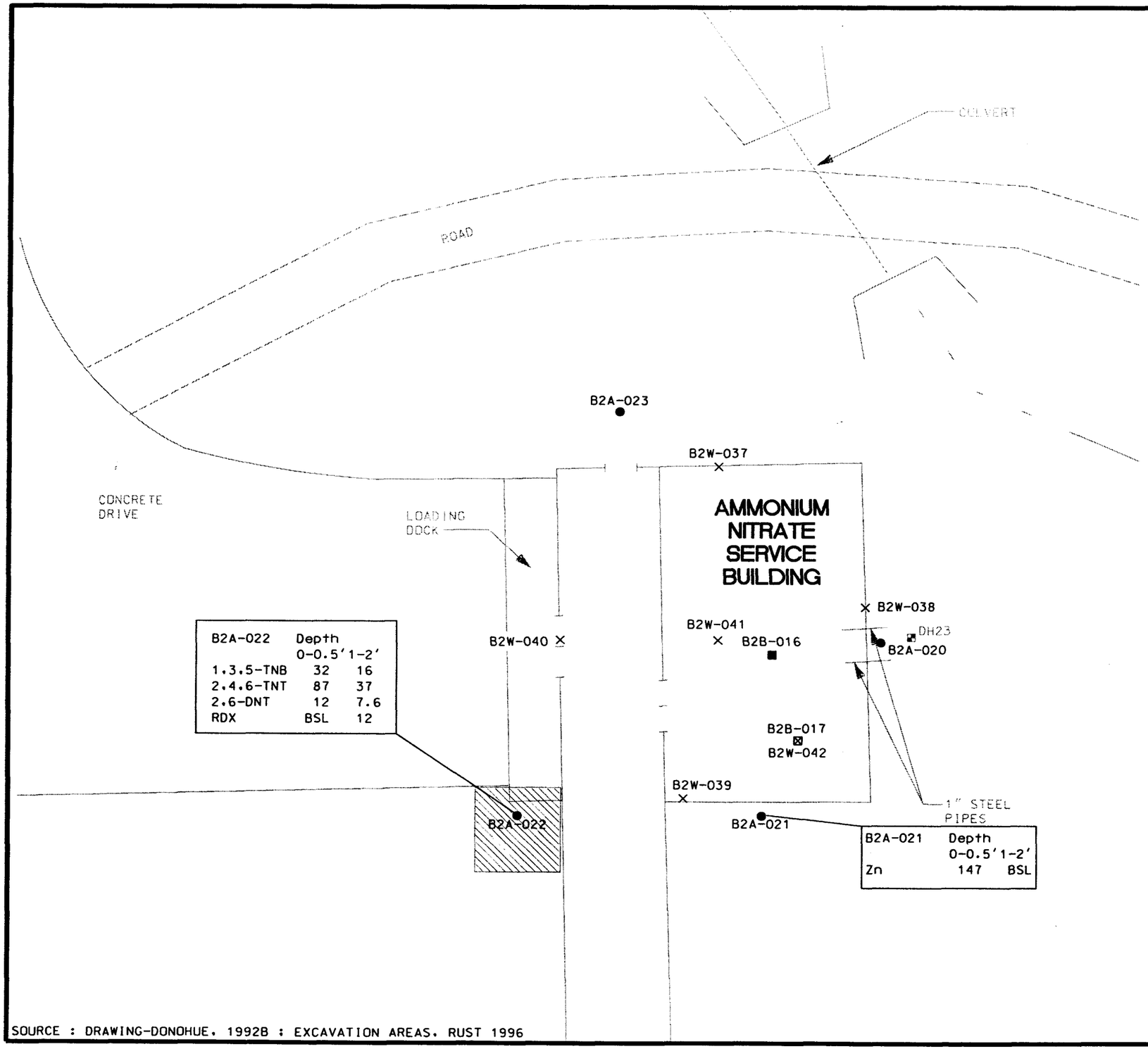


B2A-022	Depth 0-0.5'	1-2'
1.3.5-TNB	32	16
2.4.6-TNT	87	37
2.6-DNT	12	7.6
RDX	BSL	12

B2A-021	Depth 0-0.5'	1-2'
Zn	147	BSL

SOURCE : DRAWING-DONOHUE, 1992B ; EXCAVATION AREAS, RUST 1996

LEGEND:

● B2A-020	ADJACENT SOIL SAMPLE LOCATION
■ B2B-016	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-017/B2W-042	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(→✕ WALL, ✕ FLOOR) B2W-037	SURFACE WIPE SAMPLE LOCATION
⊠ DH23	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
▨	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS EXCEPT B2A-023 WHICH WAS COLLECTED APPROXIMATELY 5 FT FROM THE EXTERIOR WALLS.
2. SEE DRAWING 2-1 FOR UNITS OF CONCENTRATION

N

10 0 10 20

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

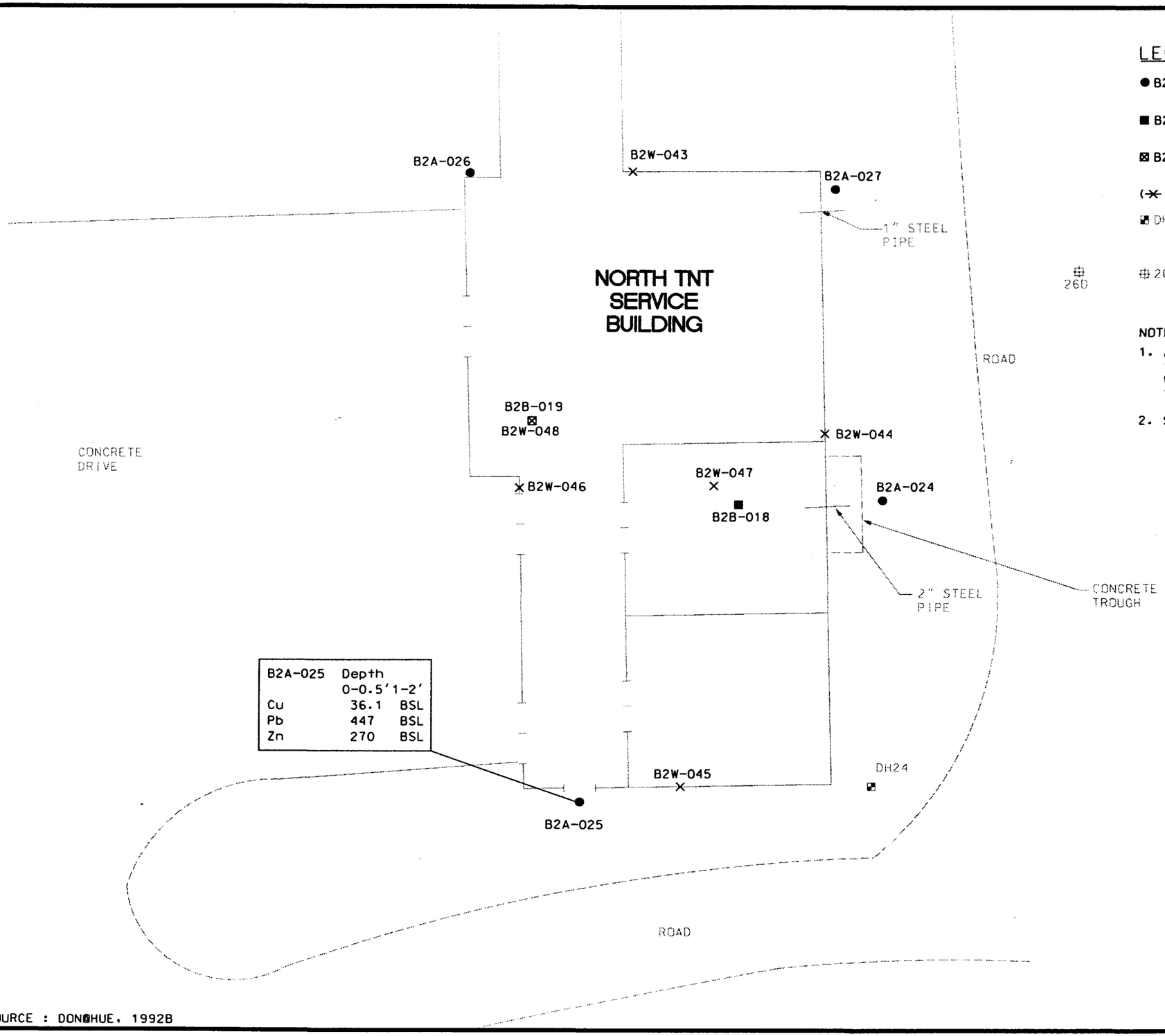
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
AMMONIUM NITRATE SERVICE BUILDING
SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 4-13
Sheet number: 1

27 APR 97 20:21:06
MCS FILE: j:\mead\ou3\24s.dgn



SOURCE : DONOHUE, 1992B

LEGEND:

● B2A-024	ADJACENT SOIL SAMPLE LOCATION
■ B2B-018	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-019/B2W-048	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B2W-047	SURFACE WIPE SAMPLE LOCATION
◘ DH24	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊕ 26D	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS EXCEPT B2A-024 WHICH WAS COLLECTED APPROXIMATELY 5 FT FROM THE EXTERIOR WALLS.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

10 0 10 20
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

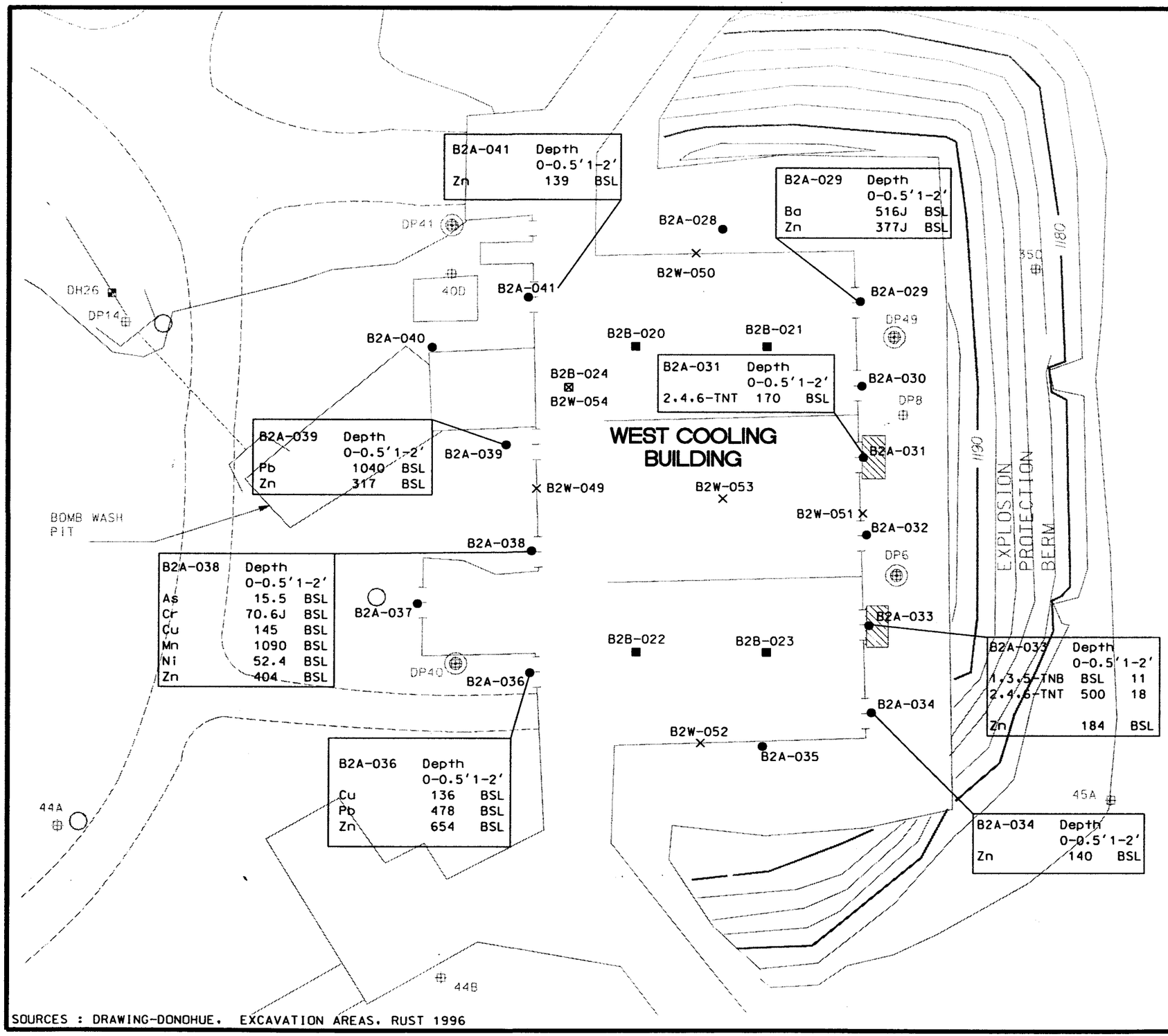
Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 2
NORTH TNT SERVICE BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN - 10 FEET
Date: MAY, 1997
Dwg. No.: 4-14
Sheet number: 1

27 APR 97 20:22:09
MCS FILE: j:\mead\ou3\25s.dgn



SOURCES : DRAWING-DONOHUE. EXCAVATION AREAS. RUST 1996

LEGEND:

● B2A-028	ADJACENT SOIL SAMPLE LOCATION
■ B2B-020	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-024/B2W-054	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B2W-049	SURFACE WIPE SAMPLE LOCATION
DH26	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
44A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
1180	INDEX CONTOUR
	INTERMEDIATE CONTOUR
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE WEST COOLING BUILDING: B2A-028 AT 3.8 FT, B2A-039 AT 5.0 FT
2. CONTOUR INTERVAL IS 2 FT.
3. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

20 0 20 40
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 2
WEST
COOLING BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-15
Sheet number: 1

27 APR 97 20:29:26
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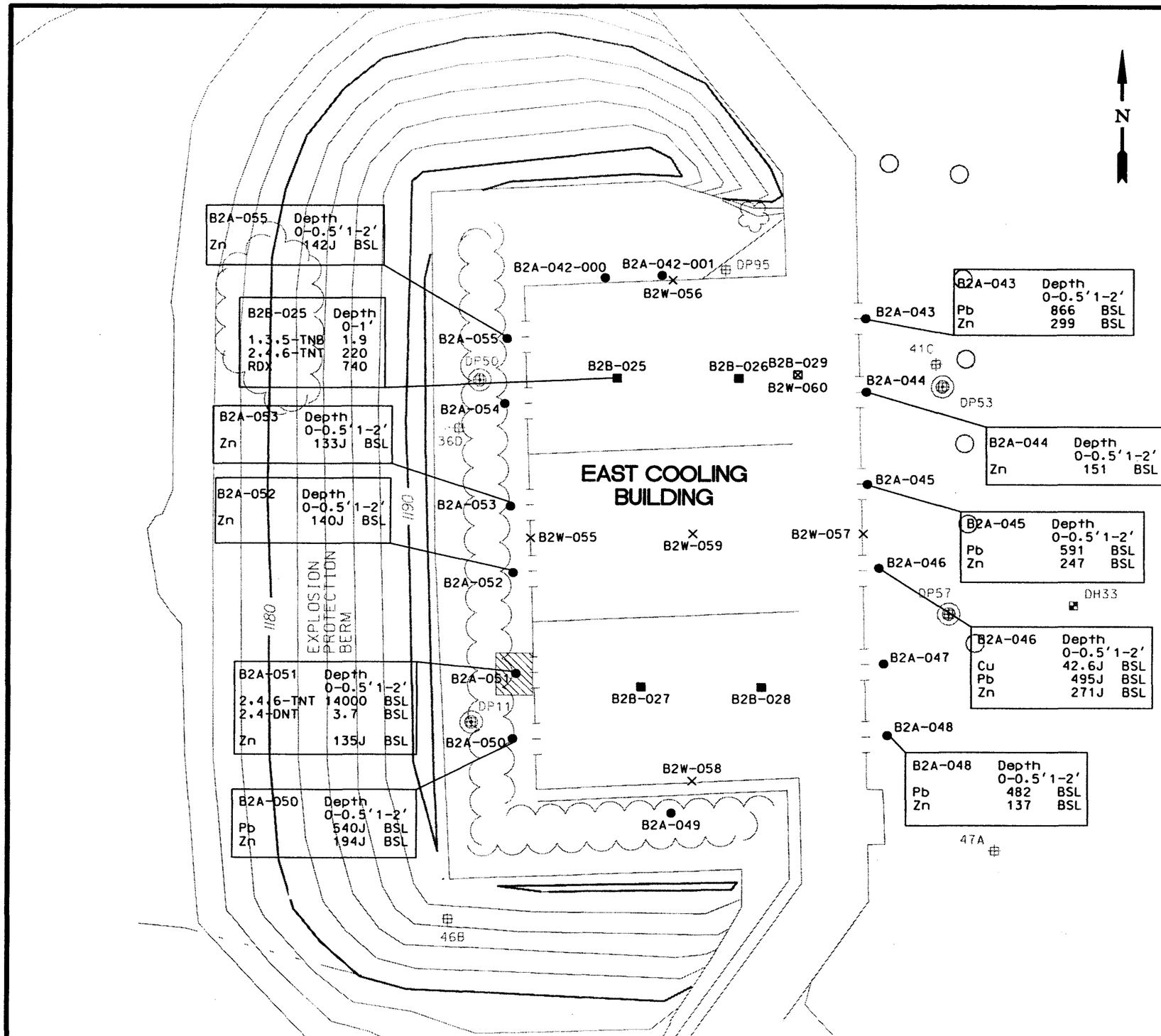

LEGEND:

● B2A-042	ADJACENT SOIL SAMPLE LOCATION
■ B2B-025	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-029/B2W-060	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✕ WALL, × FLOOR) B2W-056	SURFACE WIPE SAMPLE LOCATION
DH33	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
41C	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
1180	INDEX CONTOUR
	INTERMEDIATE CONTOUR
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE EAST COOLING BUIILDING:
   B2A-046 AT 2.25 FT, B2A-047 AT 2.8 FT,
   B2A-048 AT 3.2 FT, B2A-049 AT 2.3 FT,
   B2A-050 AT 3.2 FT, B2A-051 AT 2.7 FT,
   B2A-052 AT 2.5 FT, B2A-053 AT 2.7 FT,
   B2A-054 AT 3.2 FT, B2A-055 AT 2.7 FT.
2. ADJACENT SAMPLE B2A-042 WAS SPLIT DUE TO CONCRETE. THE 0-6 INCH BGS SAMPLE WAS COLLECTED BUT AUGER REFUSAL DUE TO CONCRETE WAS ENCOUNTERED BEFORE 1 FOOT BGS. THE SAMPLE LOCATION WAS THEREFORE OFFSET TO THE EAST AND THE 1-2 FOOT BGS SAMPLE WAS COLLECTED.
3. CONTOUR INTERVAL IS 2 FT
4. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

20 0 20 40
SCALE FEET

SOURCES : DRAWING-DONOHUE ; EXCAVATION AREAS, RUST 1996

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 2
EAST
COOLING BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-16
Sheet number: 1

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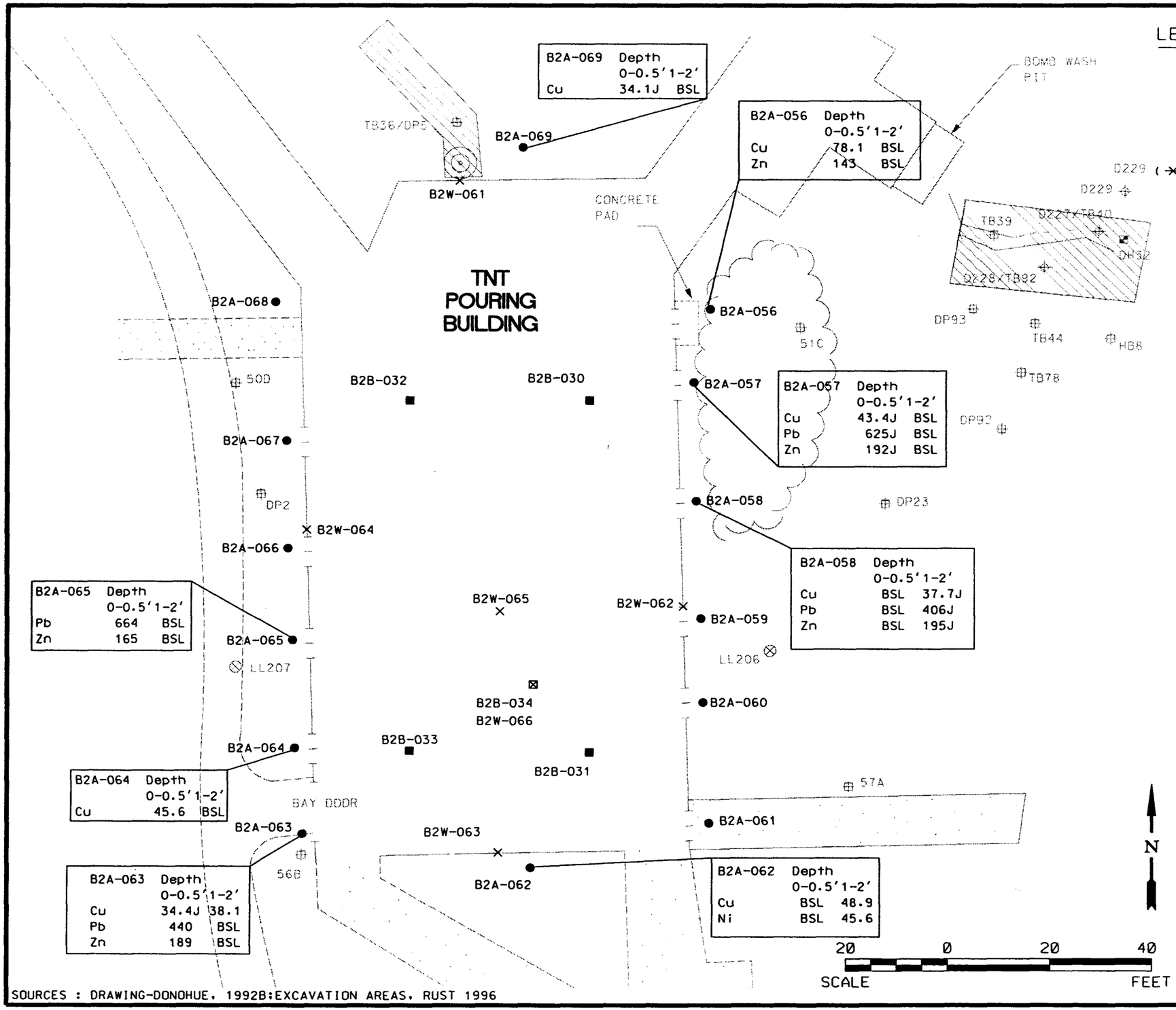

SOURCES : DRAWING-DONOHUE, 1992B;EXCAVATION AREAS, RUST 1996

LEGEND:

● B2A-056	ADJACENT SOIL SAMPLE LOCATION
■ B2B-030	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-034/B2W-066	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
D229 (✳ WALL, X FLOOR) B2W-061	SURFACE WIPE SAMPLE LOCATION
DH32	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
D227	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
TB44	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊗ LL206	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ALL ADJACENT SOIL SAMPLES WERE COLLECTED 2 FT FROM THE EXTERIOR WALLS OF THE TNT POURING AND TNT SCREENING BUILDINGS WITH THE FOLLOWING EXCEPTIONS:
   B2A-056 AT 5.0 FT. B2A-061 AT 2.5 FT.
   B2A-062 AT 1.5 FT. B2A-063 AT 2.5 FT.
   B2A-068 AT 1.5 FT. B2A-069 AT 6.0 FT
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 2
TNT POURING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-17
Sheet number: 1

27 APR 97 20:48:58
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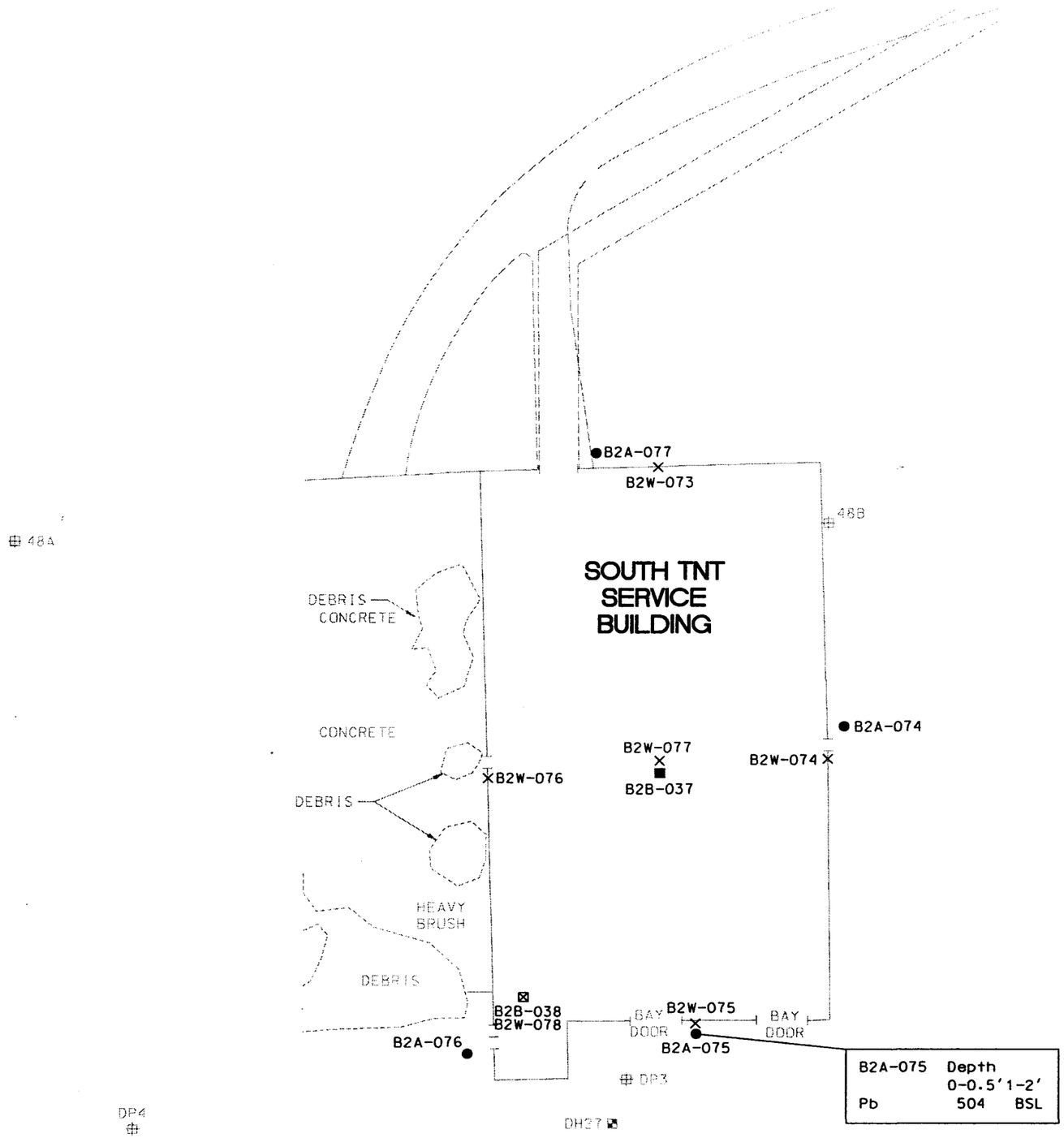
B07NE003703-04589



SOURCE : FIELD MEASUREMENTS

LEGEND:

● B2A-074	ADJACENT SOIL SAMPLE LOCATION
■ B2B-037	BENEATH SOIL SAMPLE LOCATION
⊠ B2B-038/B2W-078	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B2W-073	SURFACE WIPE SAMPLE LOCATION
DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE SOUTH TNT SERVICE BUILDING:
   B2A-074 AT 3.0 FT. B2A-075 AT 2.0 FT.
   B2A-076 AT 5.5 FT.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

30 0 30 60

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

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Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 2
SOUTH TNT
SERVICE BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 30 FEET
Date: MAY, 1997
Dwg. No.: 4-18
Sheet number: 1

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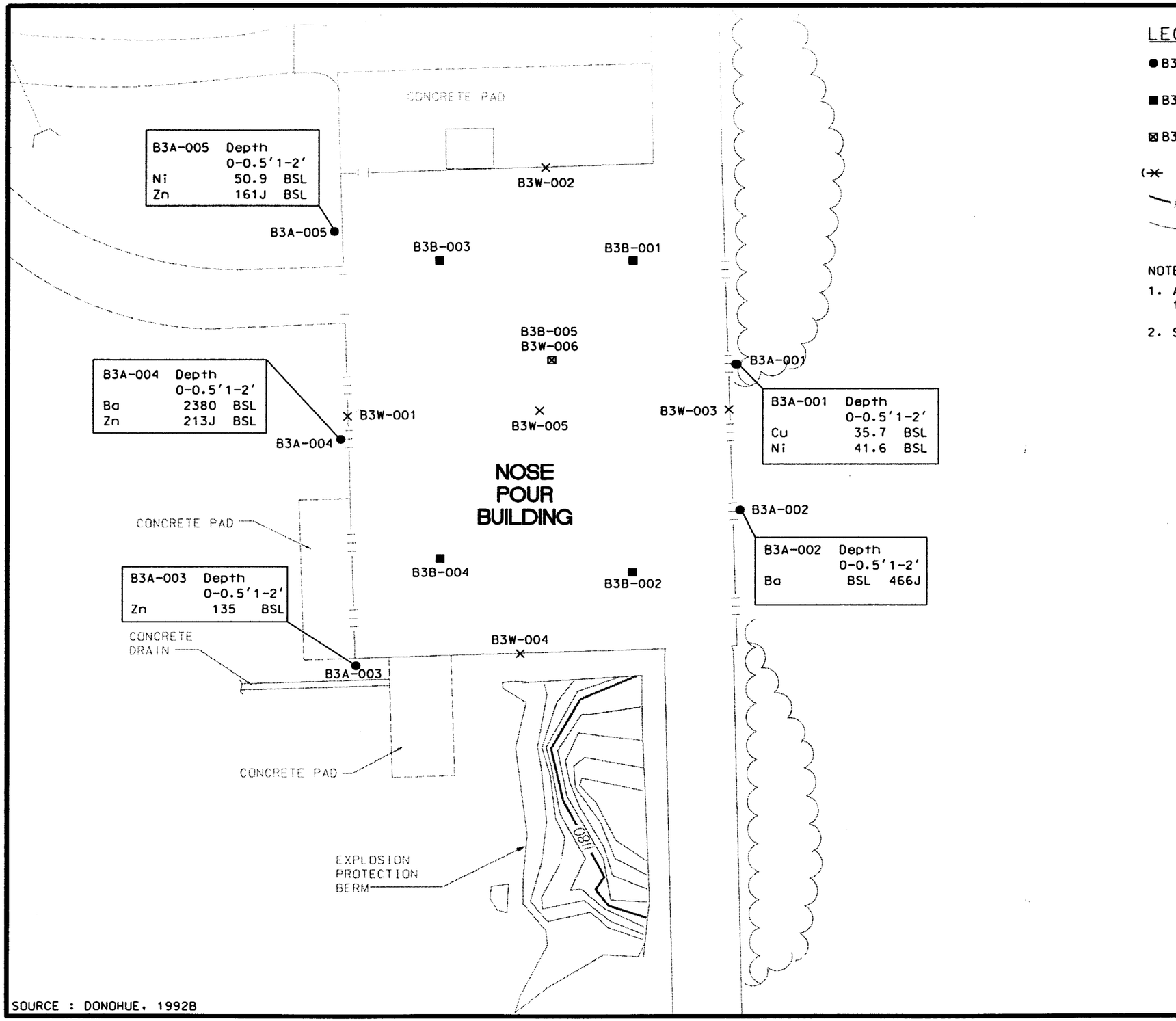

SOURCE : DONOHUE, 1992B

LEGEND:

● B3A-001	ADJACENT SOIL SAMPLE LOCATION
■ B3B-001	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-005/B3W-006	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B3W-001	SURFACE WIPE SAMPLE LOCATION
1180	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1.5 FT FROM EXTERIOR WALLS.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

20 0 20 40

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
NOSE POUR BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN - 20 FEET
Date: MAY, 1997
Dwg. No.: 4–19
Sheet number: 1

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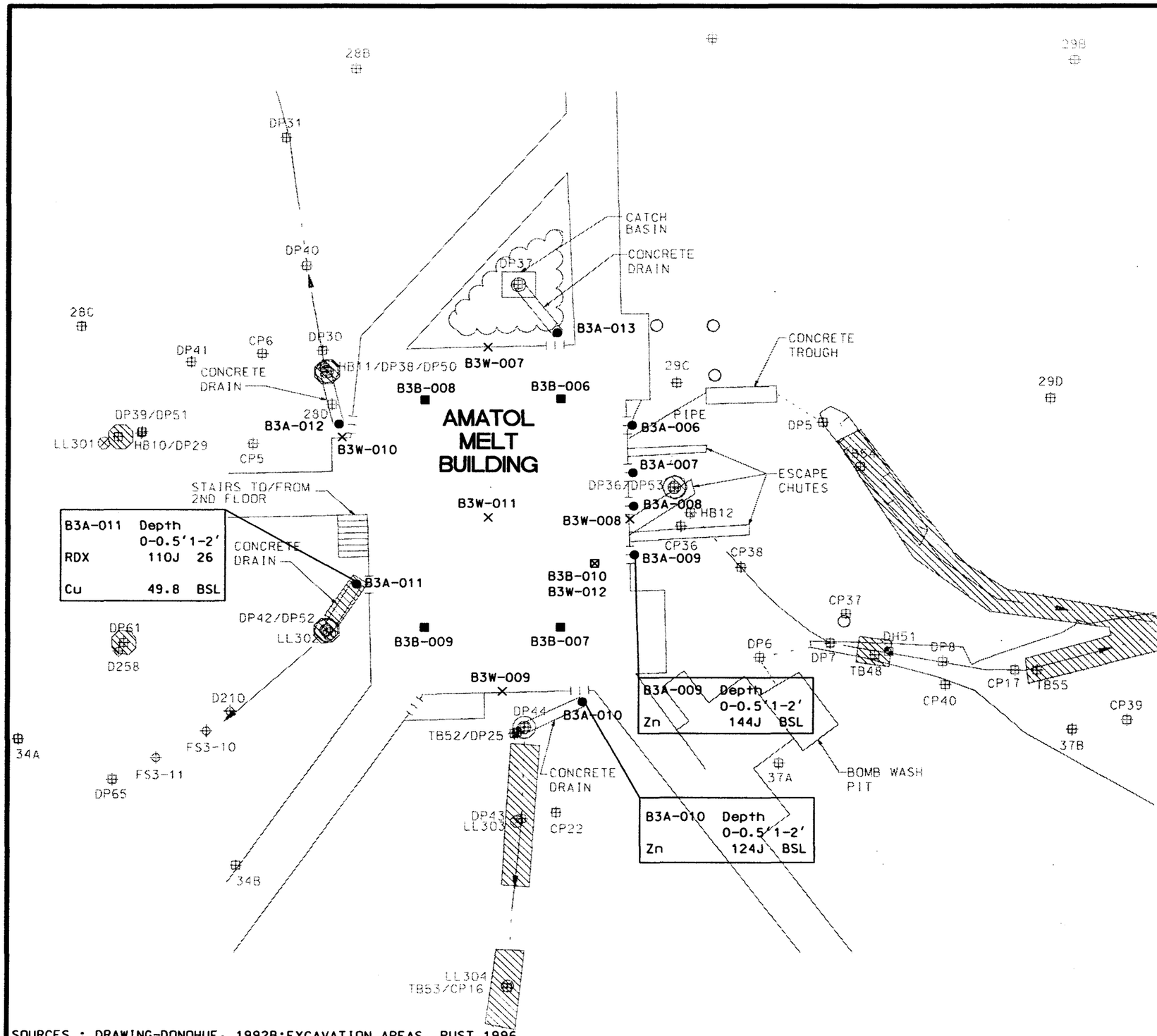

LEGEND:

● B3A-006	ADJACENT SOIL SAMPLE LOCATION
■ B3B-006	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-010/B3W-012	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✕ WALL, × FLOOR) B3W-007	SURFACE WIPE SAMPLE LOCATION
DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
DH5	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
LL302	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
	OU1/OU2 SOIL EXCAVATION AREA

NOTE:

1. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

SOURCES : DRAWING-DONOHUE, 1992B:EXCAVATION AREAS, RUST 1996

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 3
AMATOL MELT BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN - 30 FEET
Date: MAY, 1997
Drwg. No.: 4-20
Sheet number: 1

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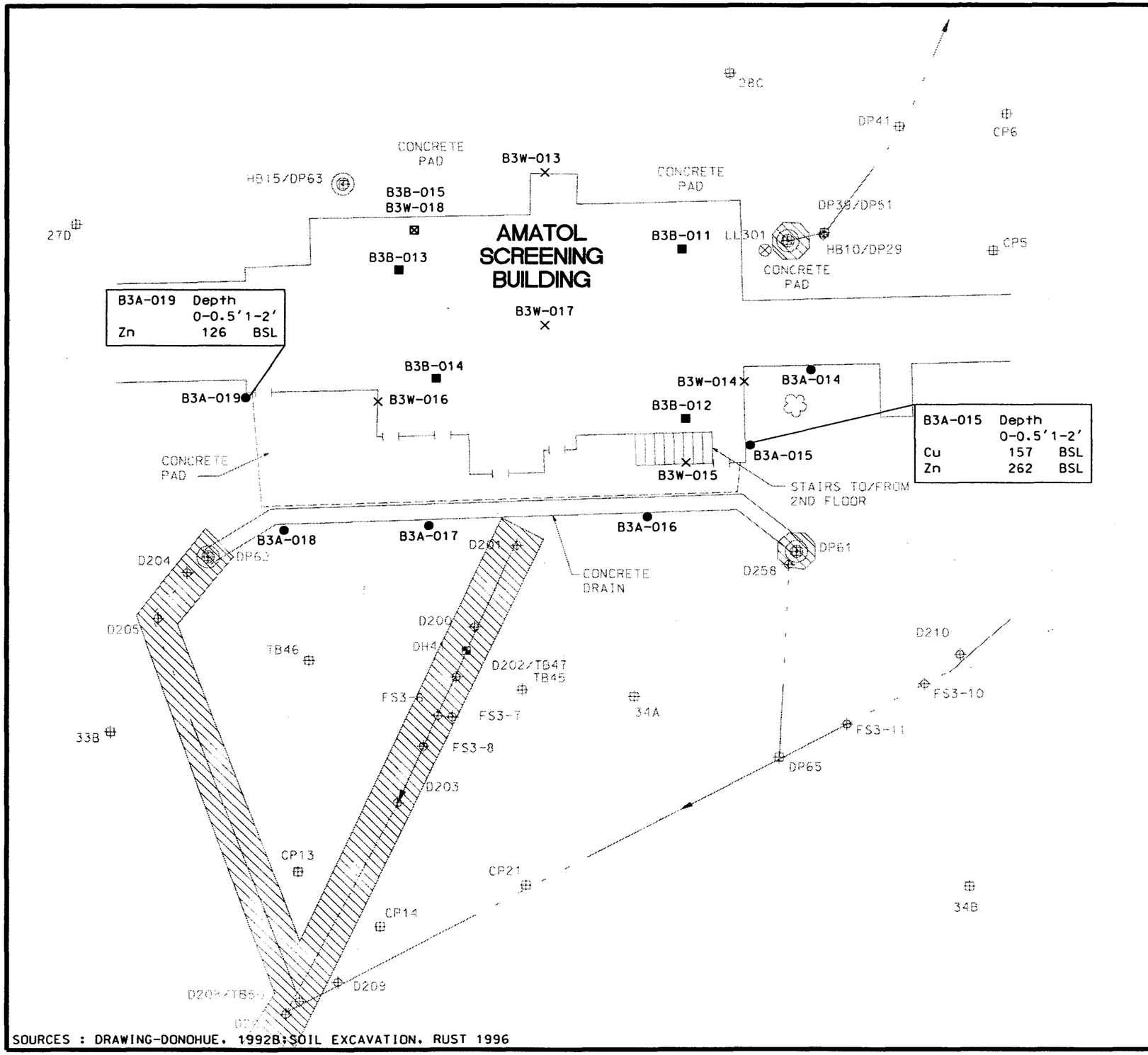

LEGEND:

● B3A-014	ADJACENT SOIL SAMPLE LOCATION
■ B3B-011	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-015/B3W-018	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B3W-013	SURFACE WIPE SAMPLE LOCATION
DH41	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
D200	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
CP5	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
LL301	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:
1. ALL ADJACENT SOIL SAMPLES WERE COLLECTED APPROXIMATELY 1 FT FROM CONCRETE WALKS OR EXTERIOR WALLS.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

20 0 20 40
SCALE FEET

SOURCES : DRAWING-DONOHUE, 1992B;SOIL EXCAVATION, RUST 1996

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
AMATOL SCREENING BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-21
Sheet number: 1

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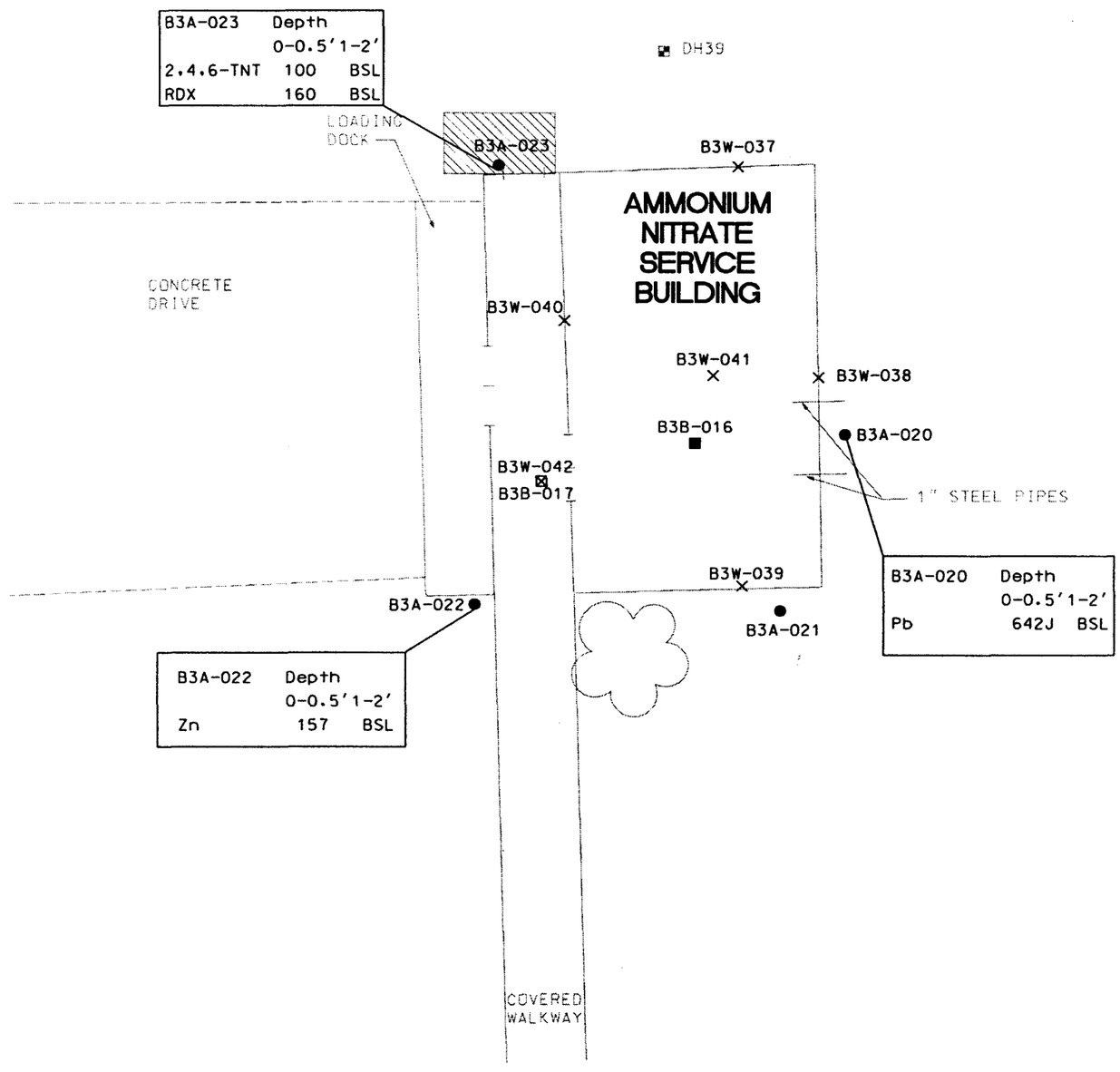

LEGEND:

● B3A-020	ADJACENT SOIL SAMPLE LOCATION
■ B3B-016	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-017/B3W-042	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(⊸ WALL, × FLOOR) B3W-037	SURFACE WIPE SAMPLE LOCATION
DH39	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:
1. ALL ADJACENT SOIL SAMPLES COLLECTED 1 FT FROM EXTERIOR WALLS.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

10 0 10 20
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
AMMONIUM NITRATE
SERVICE BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 4-22
Sheet number: 1

27 APR 97 21:17:01
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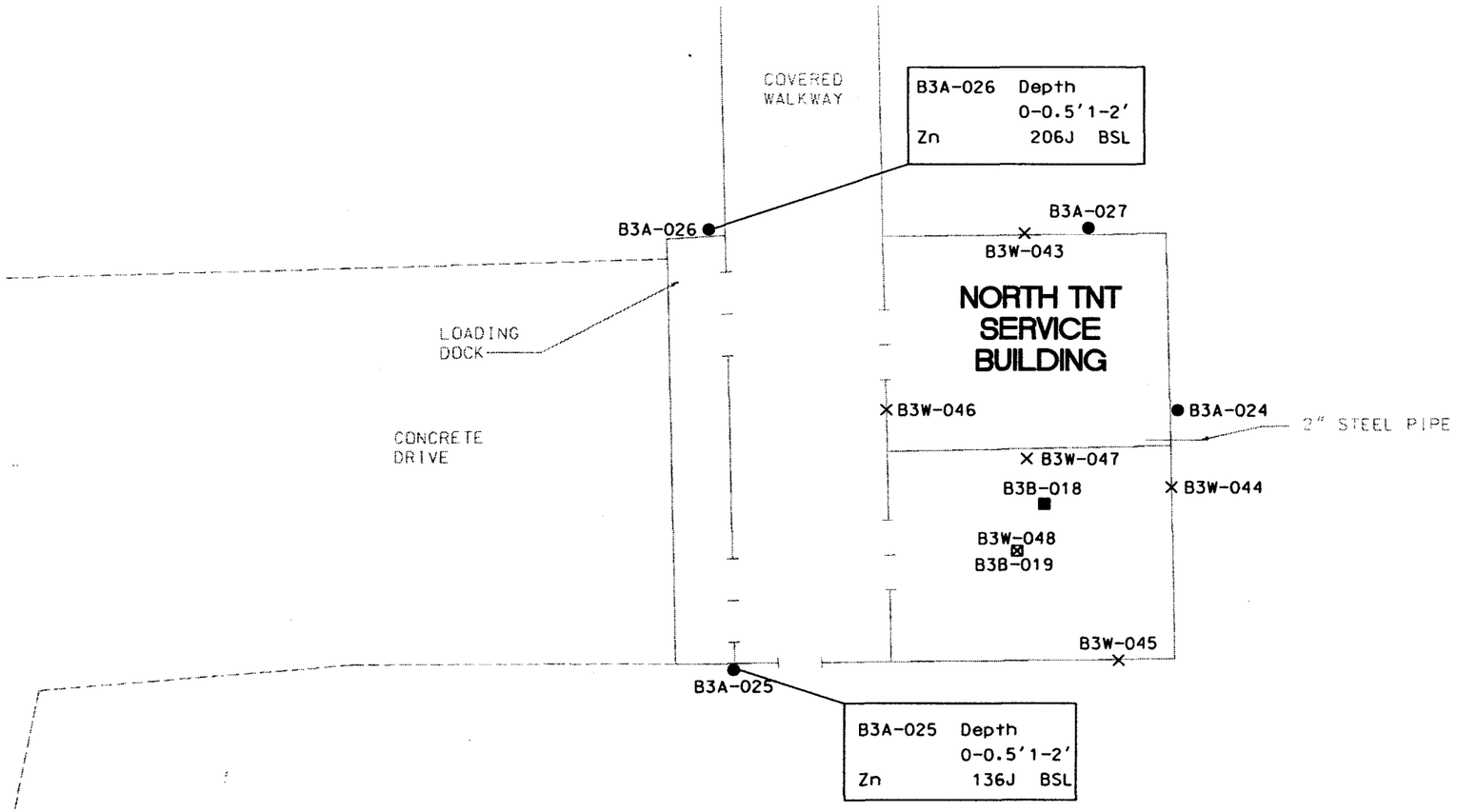
SOURCES : DRAWING-FIELD MEASUREMENTS ; EXCAVATIN AREAS, RUST 1996



LEGEND:

● B3A-024	ADJACENT SOIL SAMPLE LOCATION
■ B3B-018	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-019/B3W-048	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✕ WALL, × FLOOR) B3W-047	SURFACE WIPE SAMPLE LOCATION
DH40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
26D	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED 1 FT FROM EXTERIOR WALLS.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

10 0 10 20

SCALE FEET

SOURCE : DONOHUE. 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

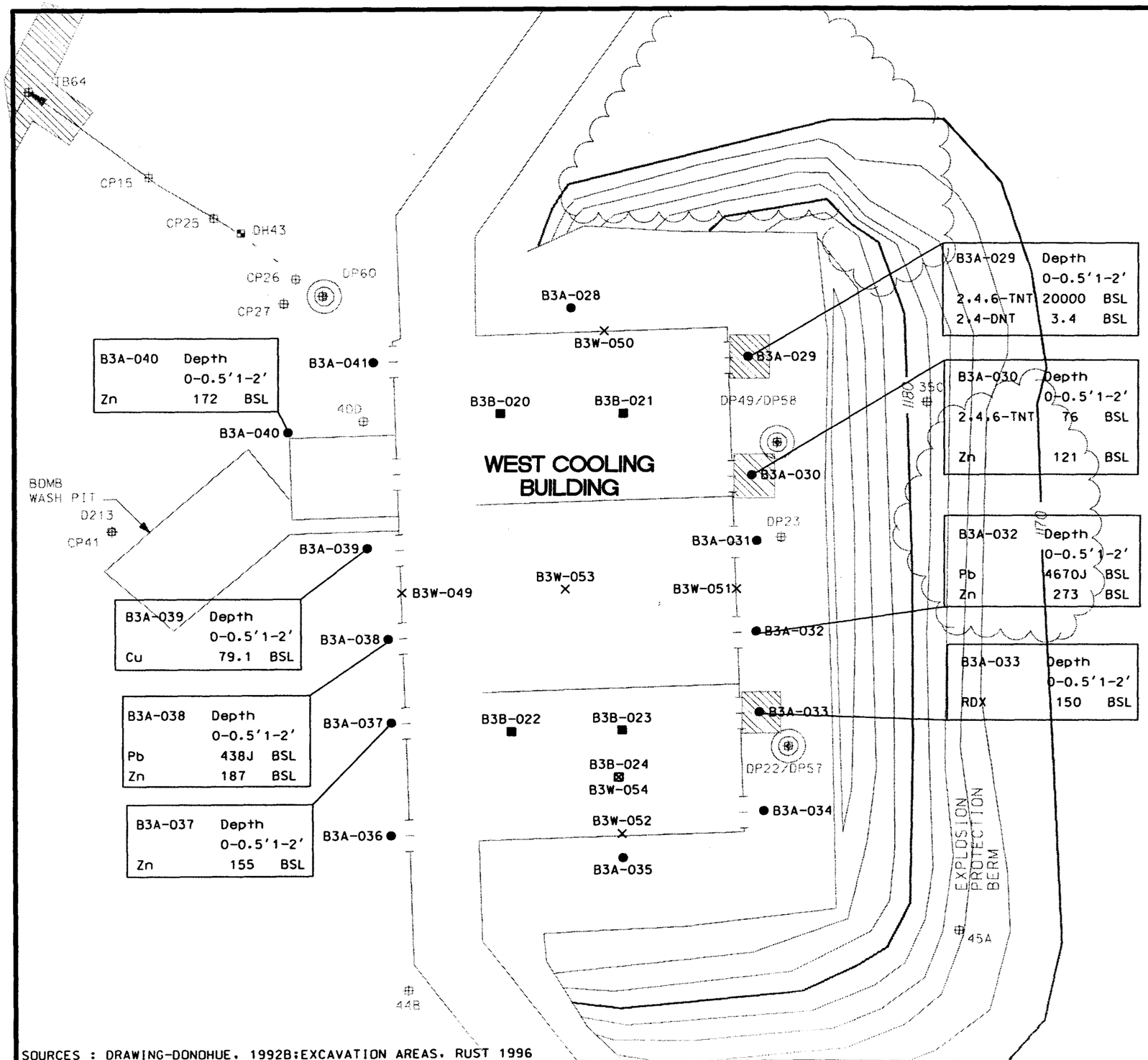
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
NORTH TNT
SERVICE BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 4-23
Sheet number: 1

MCS FILE: j:\mead\ou3\35s.dgn 27 APR 97 21:21:06



SOURCES : DRAWING-DONOHUE, 1992B;EXCAVATION AREAS, RUST 1996

LEGEND:

● B3A-028	ADJACENT SOIL SAMPLE LOCATION
■ B3B-020	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-024/B3W-049	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(⊹ WALL, × FLOOR) B3W-052	SURFACE WIPE SAMPLE LOCATION
DH43	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
35C	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
D213	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
1180	INDEX CONTOUR
	INTERMEDIATE CONTOUR
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE WEST COOLING BUILDING:
   B3A-028 AT 3.9 FT. B3A-029 AT 2.9 FT.
   B3A-030 AT 2.9 FT. B3A-031 AT 3.5 FT.
   B3A-032 AT 2.8 FT. B3A-033 AT 2.8 FT.
   B3A-034 AT 3.0 FT. B3A-035 AT 3.3 FT.
   B3A-036 AT 2.7 FT. B3A-037 AT 1.9 FT.
   B3A-038 AT 2.0 FT. B3A-039 AT 5.25 FT.
   B3A-040 AT 1.9 FT. B3A-041 AT 2.9 FT
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

20 0 20 40
SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

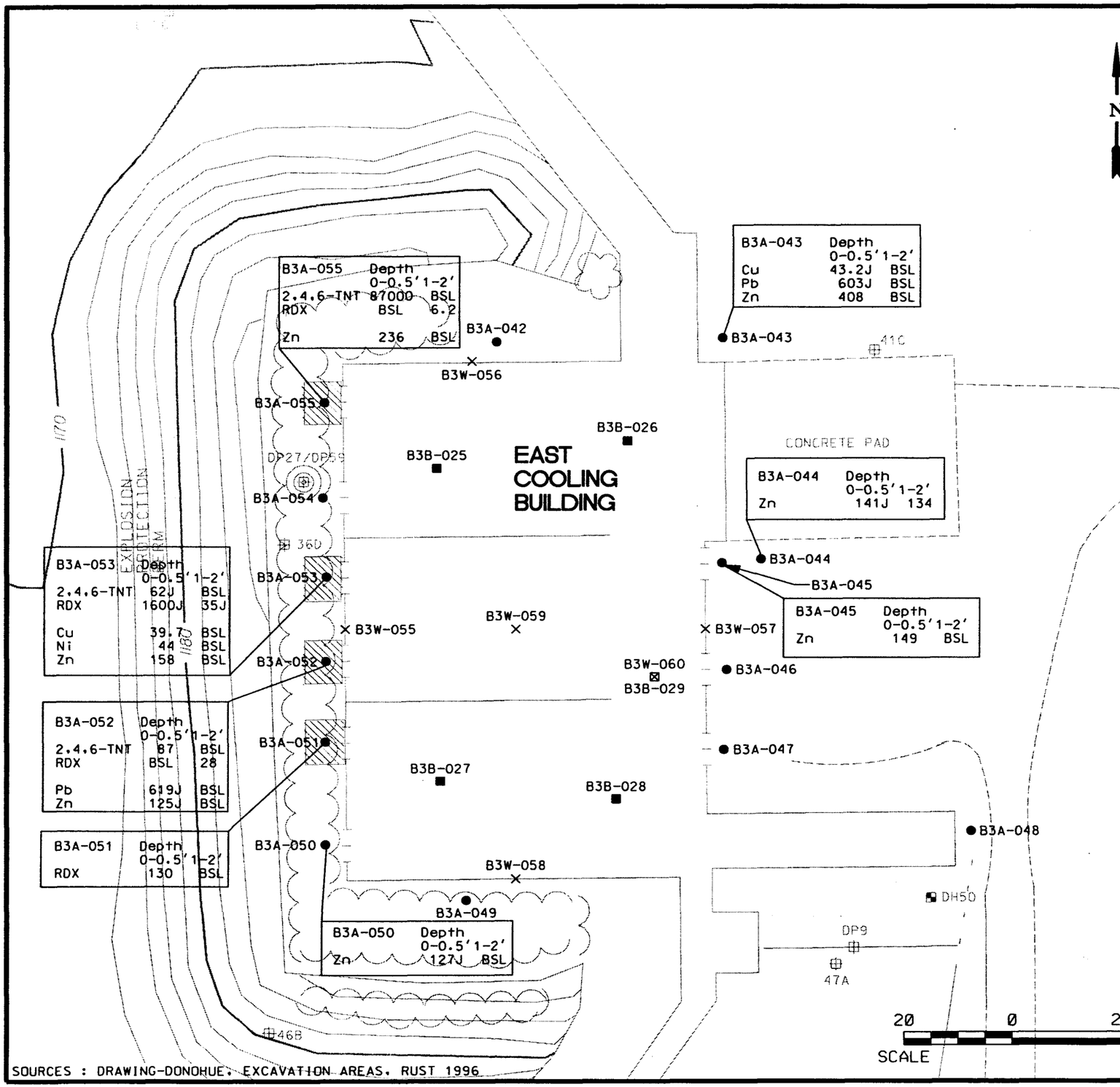
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 3
WEST COOLING
BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN - 20 FEET
Date: MAY, 1997
Dwg. No.: 4-24
Sheet number: 1

27 APR 97 21:30:00
MKOS FILE: j:\mead\ou3\37s.dgn

B07NE003703-04596



SOURCES : DRAWING-DONOHUE, EXCAVATION AREAS, RUST 1996

LEGEND:

● B3A-042	ADJACENT SOIL SAMPLE LOCATION
■ B3B-025	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-029/B3W-055	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B3W-055	SURFACE WIPE SAMPLE LOCATION
DH50	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
1120	INDEX CONTOUR
	INTERMEDIATE CONTOUR
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE EAST COOLING BUILDING:
   B3A-042 AT 3.0 FT, B3A-043 AT 3.8 FT,
   B3A-044 AT 3.0 FT, B3A-045 AT 2.25 FT,
   B3A-046 AT 2.8 FT, B3A-047 AT 2.25 FT,
   B3A-048 AT 2.2 FT, B3A-049 AT 3.2 FT,
   B3A-050 AT 3.2 FT, B3A-051 AT 3.1 FT,
   B3A-052 AT 2.7 FT, B3A-053 AT 2.2 FT,
   B3A-054 AT 3.0 FT, B3A-055 AT 2.5 FT
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

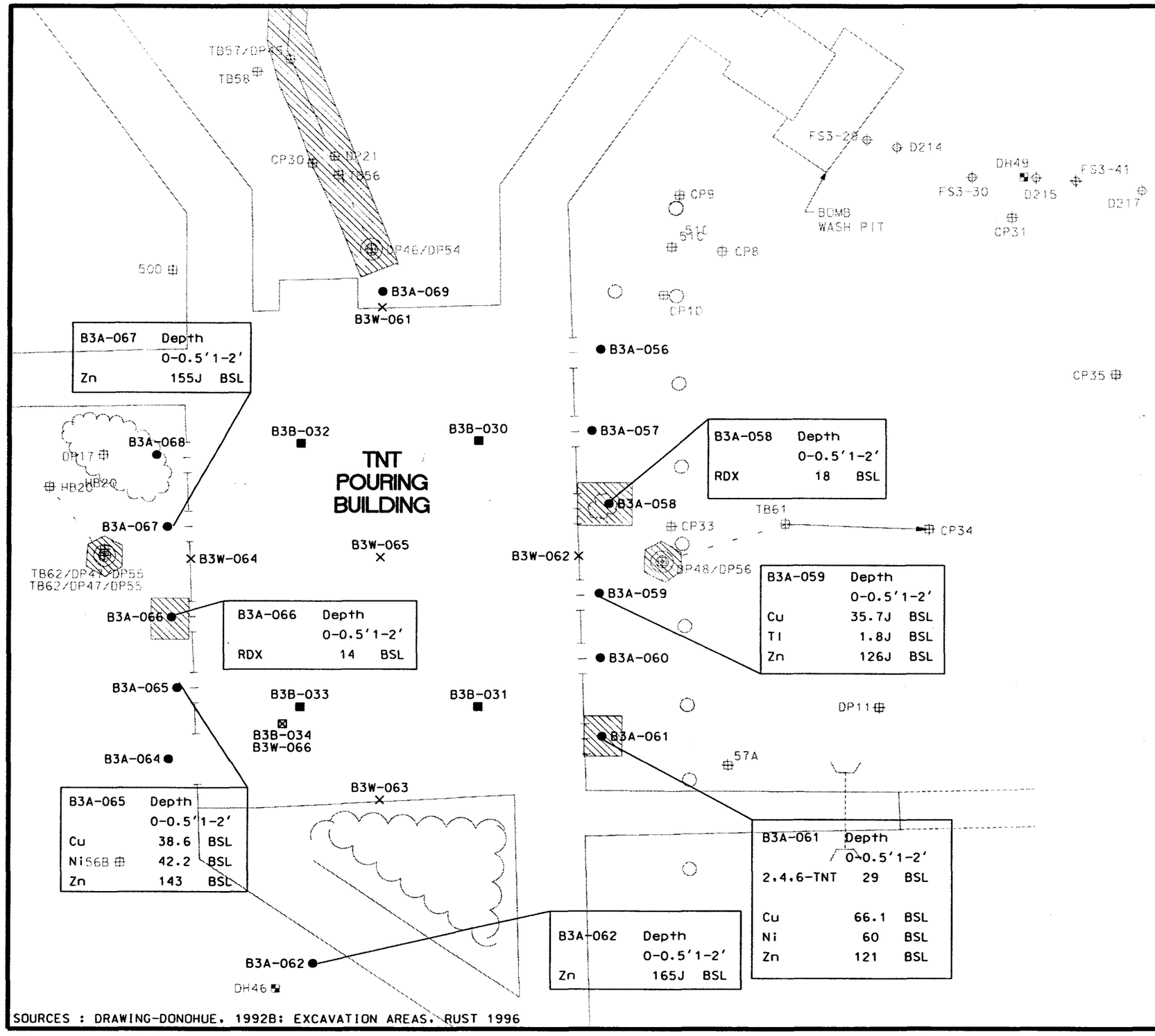
Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 3
EAST COOLING
BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-25
Sheet number: 1

MCS FILE: j:\mead\ou3\36s.dgn 27 APR 97 21:43:34



SOURCES : DRAWING-DONOHUE, 1992B; EXCAVATION AREAS, RUST 1996

LEGEND:

● B3A-056	ADJACENT SOIL SAMPLE LOCATION
■ B3B-030	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-034/B3W-066	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B3W-061	SURFACE WIPE SAMPLE LOCATION
DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
DH5	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE TNT POURING BUILDING:
   B3A-056 AT 4.5 FT, B3A-057 AT 2.5 FT,
   B3A-058 AT 5.0 FT, B3A-059 AT 2.5 FT,
   B3A-060 AT 2.5 FT, B3A-061 AT 2.5 FT,
   B3A-062 AT 4.0 FT, B3A-064 AT 4.5 FT,
   B3A-065 AT 2.5 FT, B3A-066 AT 3.0 FT,
   B3A-067 AT 3.0 FT, B3A-068 AT 5.0 FT,
   B3A-069 AT 2.5 FT
2. ADJACENT SOIL SAMPLE B3A-063 WAS NOT COLLECTED DUE TO CONCRETE DEBRIS AT SAMPLING LOCATION.
3. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

20 0 20 40
SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 3
TNT POURING
BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOILS SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-26
Sheet number: 1

28 APR 97 12:51:17
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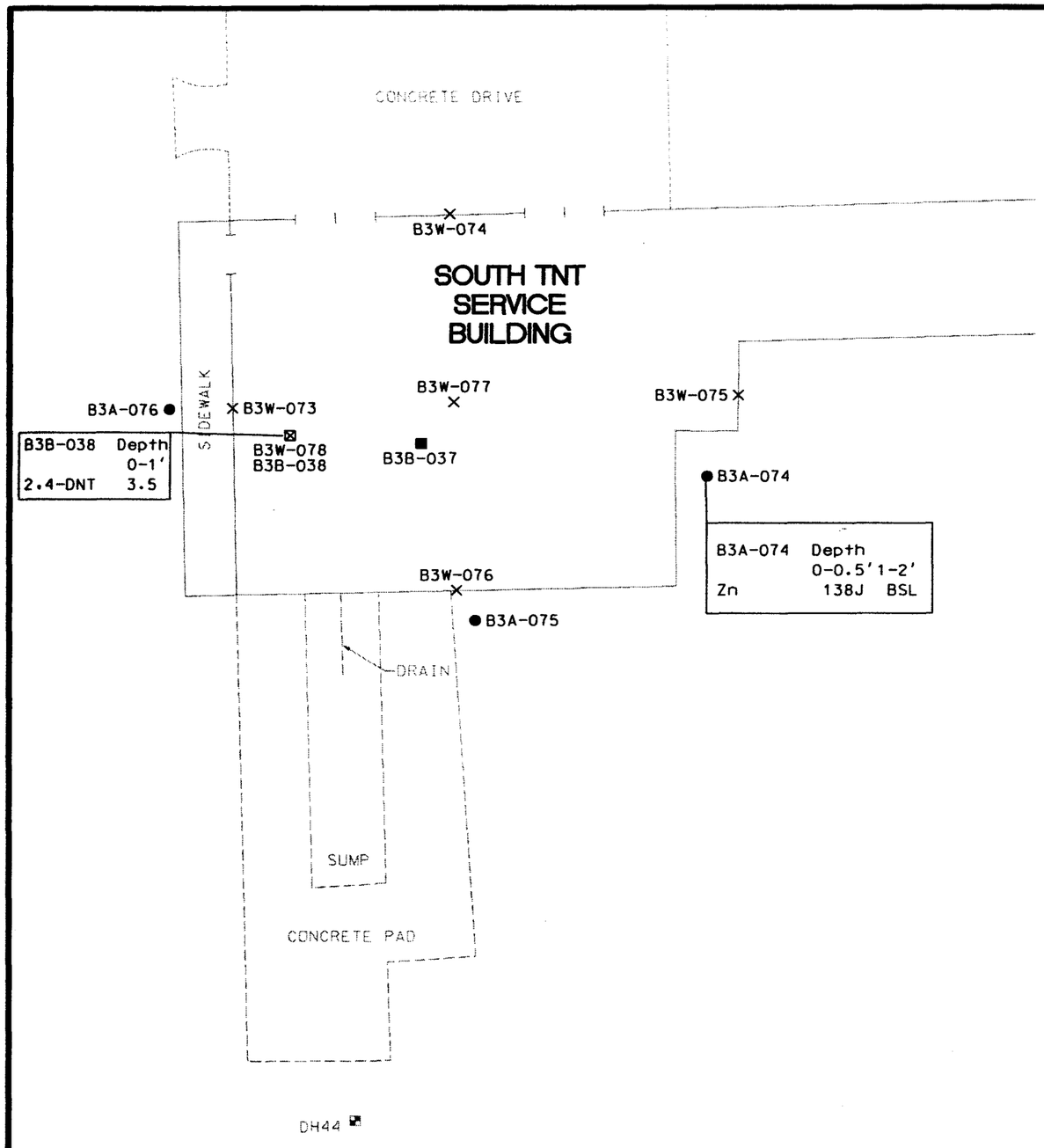

SOURCE : DONOHUE. 1992B

LEGEND:

● B3A-074	ADJACENT SOIL SAMPLE LOCATION
■ B3B-037	BENEATH SOIL SAMPLE LOCATION
⊠ B3B-038/B3W-078	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(⊸ WALL, × FLOOR) B3W-073	SURFACE WIPE SAMPLE LOCATION
◪ DH44	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE SOUTH TNT SERVICE BUILDING:
   B3A-074 AT 2.0 FT. B3A-075 AT 2.0 FT.
   B3A-076 AT 4.5 FT
2. ADJACENT SOIL SAMPLE B3A-077 NOT COLLECTED DUE TO CONCRETE PAD AT SAMPLING LOCATION.
3. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

10 0 10 20
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
SOUTH TNT SERVICE BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 4-27
Sheet number: 1

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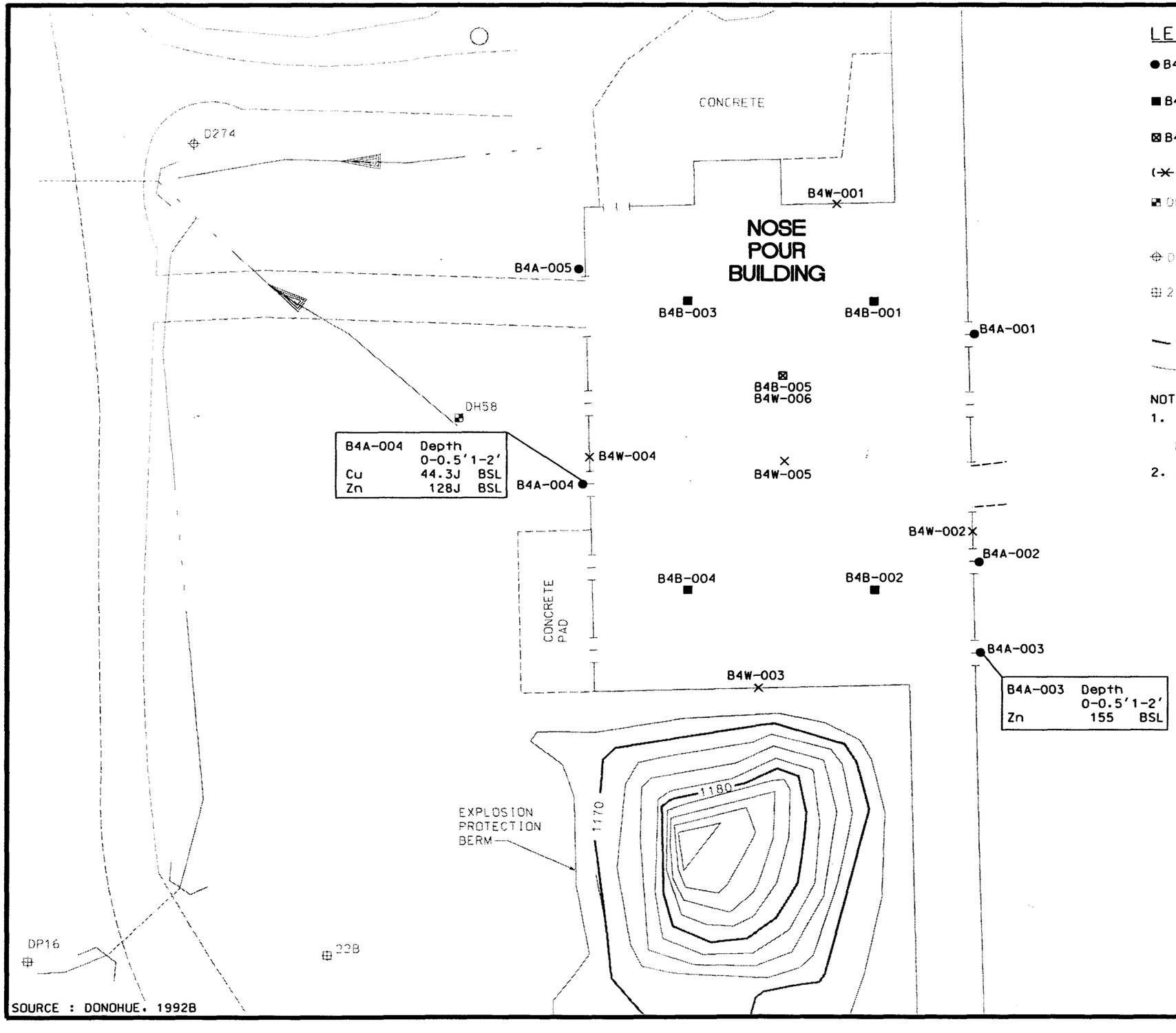

LEGEND:

● B4A-001	ADJACENT SOIL SAMPLE LOCATION
■ B4B-001	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-005/B4W-006	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✕ WALL, ✕ FLOOR) B4W-001	SURFACE WIPE SAMPLE LOCATION
DH58	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
D274	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
22B	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
1180	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1.5 FT FROM THE EXTERIOR WALLS OF THE AMATOL MELT BUILDING.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

20 0 20 40

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
NOSE POURING BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN - 20 FEET
Date: MAY, 1997
Dwg. No.: 4-28
Sheet number: 1

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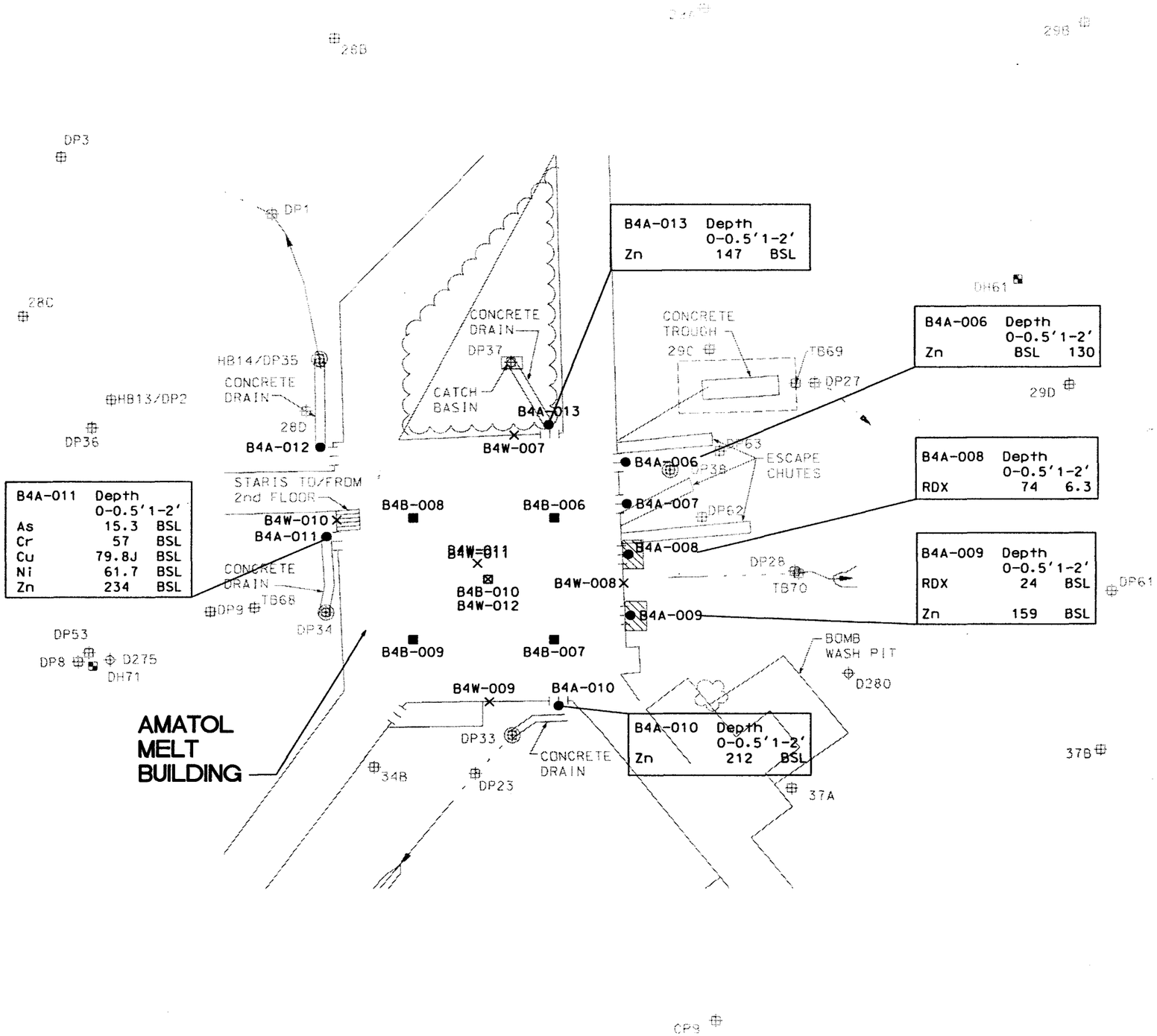
B07NE003703-04600



LEGEND:

● B4A-006	ADJACENT SOIL SAMPLE LOCATION
■ B4B-006	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-010/B4W-012	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(→✕ WALL, ✕ FLOOR) B4W-007	SURFACE WIPE SAMPLE LOCATION
DH71	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
D275	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
DP36	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1.5 FT FROM THE EXTERIOR WALLS OF THE AMATOL MELT BUILDING.
2. SEE LEGEND/NOTES SHEET FOR UNITS OF CONCENTRATION

N

30 0 30 60
SCALE FEET

SOURCES : DRAWING-DONOHUE, 1992B ; EXCAVATION AREAS, RUST 1996

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
AMATOL MELT BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 30 FEET
Date: MAY, 1997
Dwg. No.: 4-29
Sheet number: 1

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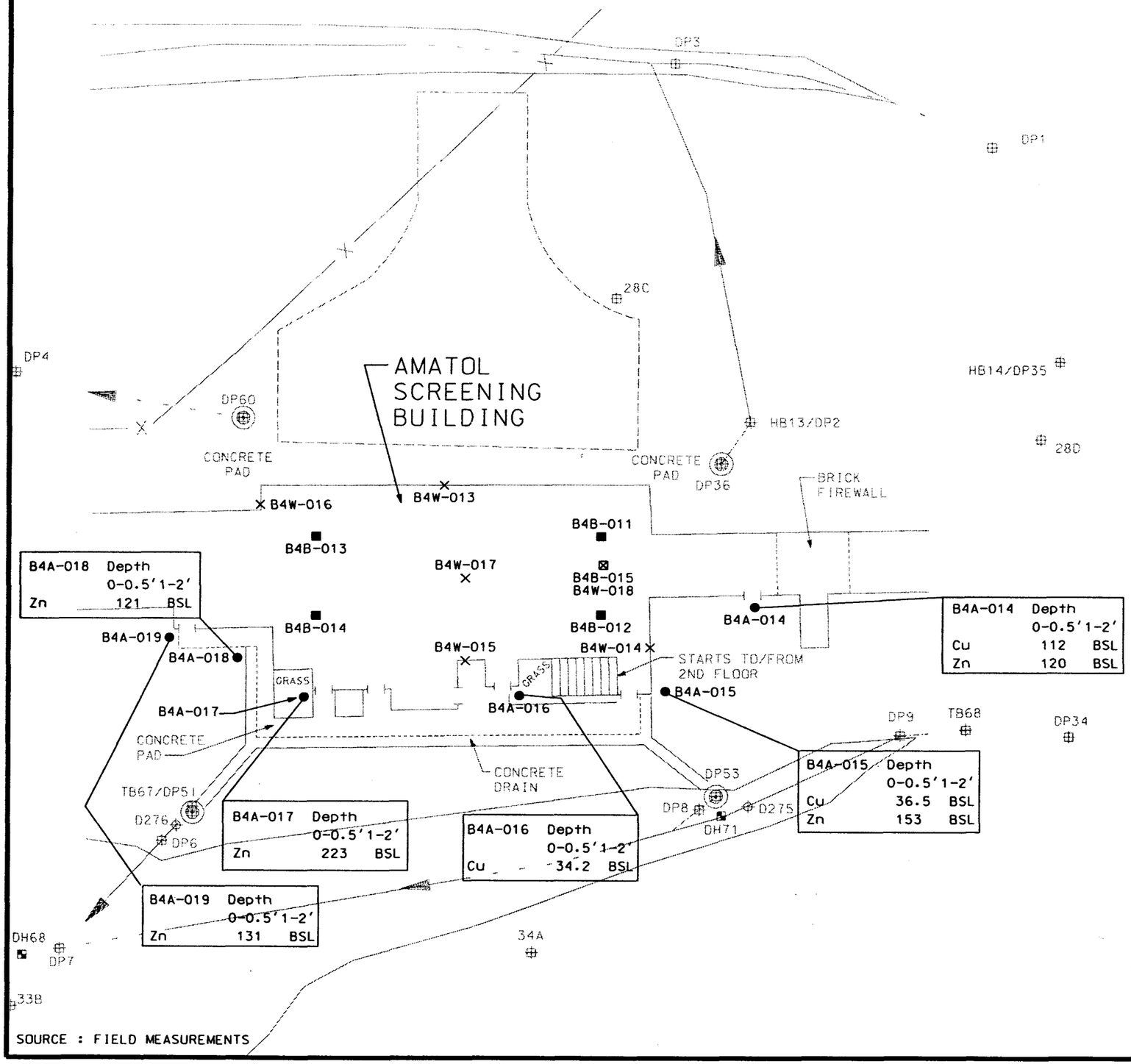

SOURCE : FIELD MEASUREMENTS

LEGEND:

● B4A-014	ADJACENT SOIL SAMPLE LOCATION
■ B4B-011	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-015/B4W-018	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✕ WALL, × FLOOR) B4W-013	SURFACE WIPE SAMPLE LOCATION
DH71	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
D276	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
DP9	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1.5 FT FROM THE EXTERIOR WALLS OF THE AMATOL SCREENING BUILDING.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

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KANSAS CITY, MISSOURI

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
AMATOL
SCREENING BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN
Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-30
Sheet number: 1

27 APR 97 23:00:18
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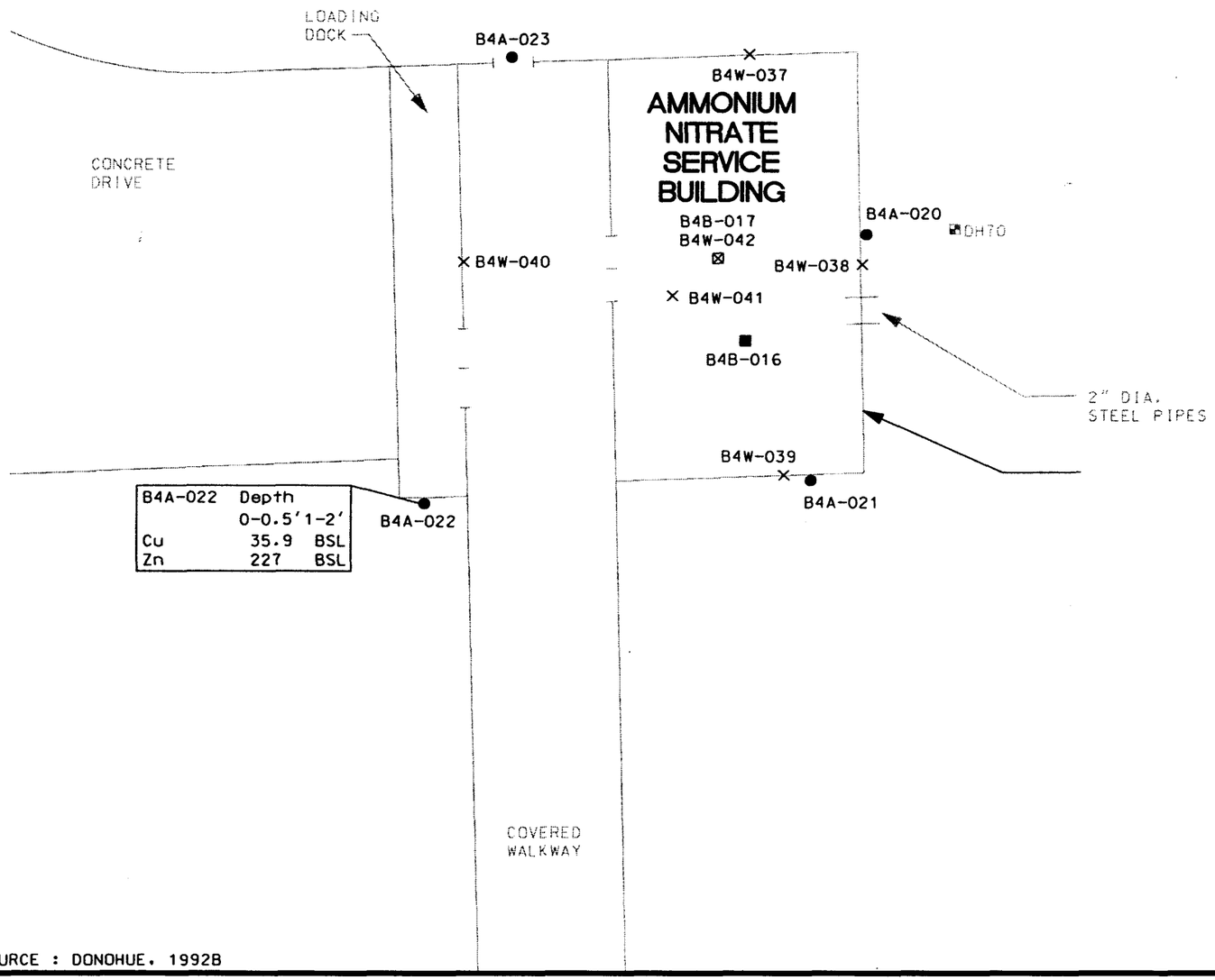

B4A-022	Depth 0-0.5'	1-2'
Cu	35.9	BSL
Zn	227	BSL

SOURCE : DONOHUE, 1992B

LEGEND:

● B4A-020	ADJACENT SOIL SAMPLE LOCATION
■ B4B-016	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-017/B4W-042	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(⊹ WALL, × FLOOR) B4W-037	SURFACE WIPE SAMPLE LOCATION
DH70	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS OF THE AMMONIUM NITRATE AND NORTH TNT SERVICE BUILDINGS.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

10 0 10 20

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
AMMONIUM NITRATE
SERVICE BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 4-31
Sheet number: 1

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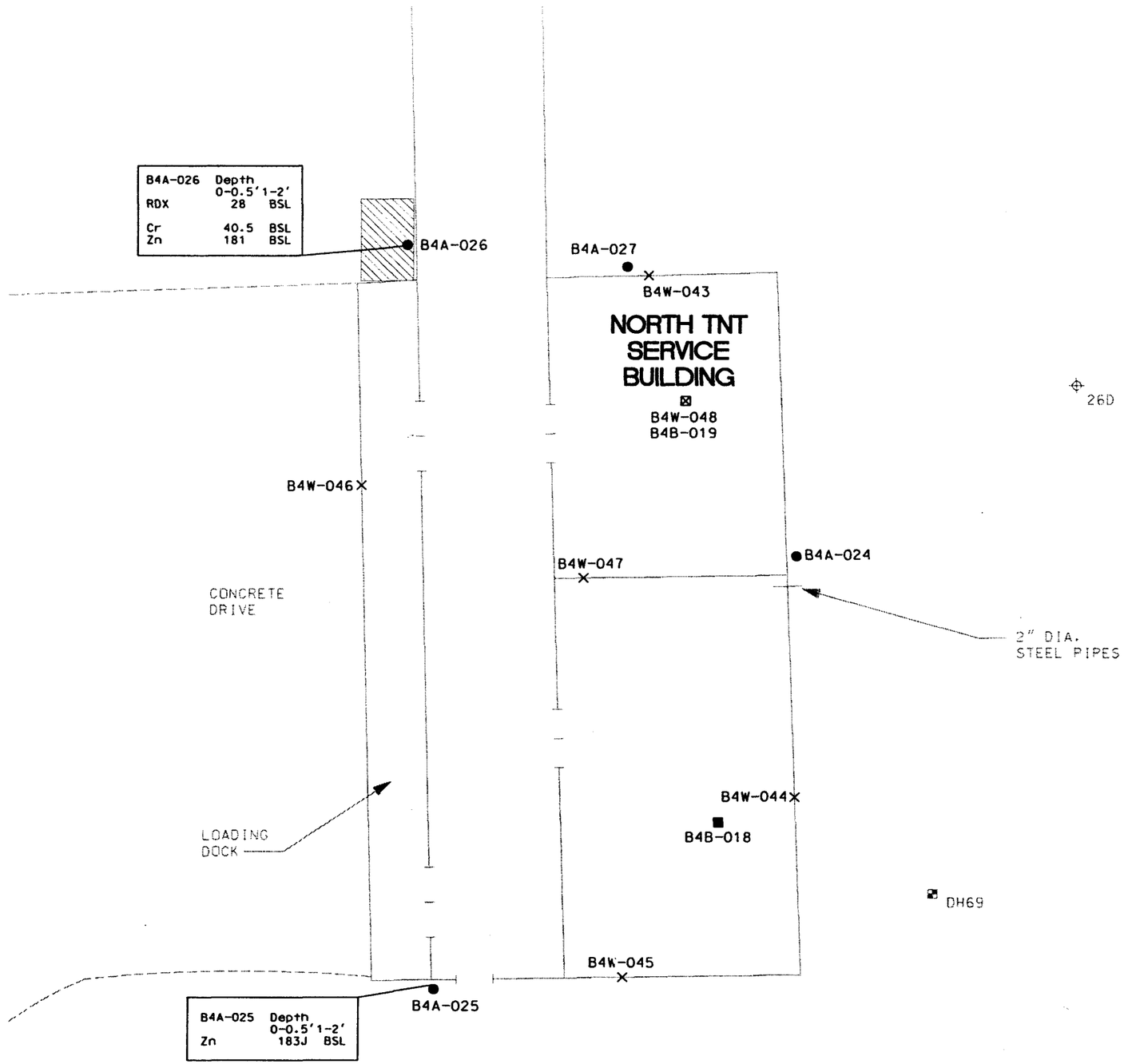

SOURCES : DRAWING-DONOHUE. 1992B ; EXCAVATION AREAS. RUST 1996

LEGEND:

● B4A-024	ADJACENT SOIL SAMPLE LOCATION
■ B4B-018	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-019/B4W-048	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B4W-043	SURFACE WIPE SAMPLE LOCATION
DH69	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ALL ADJACENT SOIL SAMPLES COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS OF THE NORTH TNT SERVICE BUILDING.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

N

10 0 10 20

SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
NORTH TNT
SERVICE BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN
Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 4-32
Sheet number: 1

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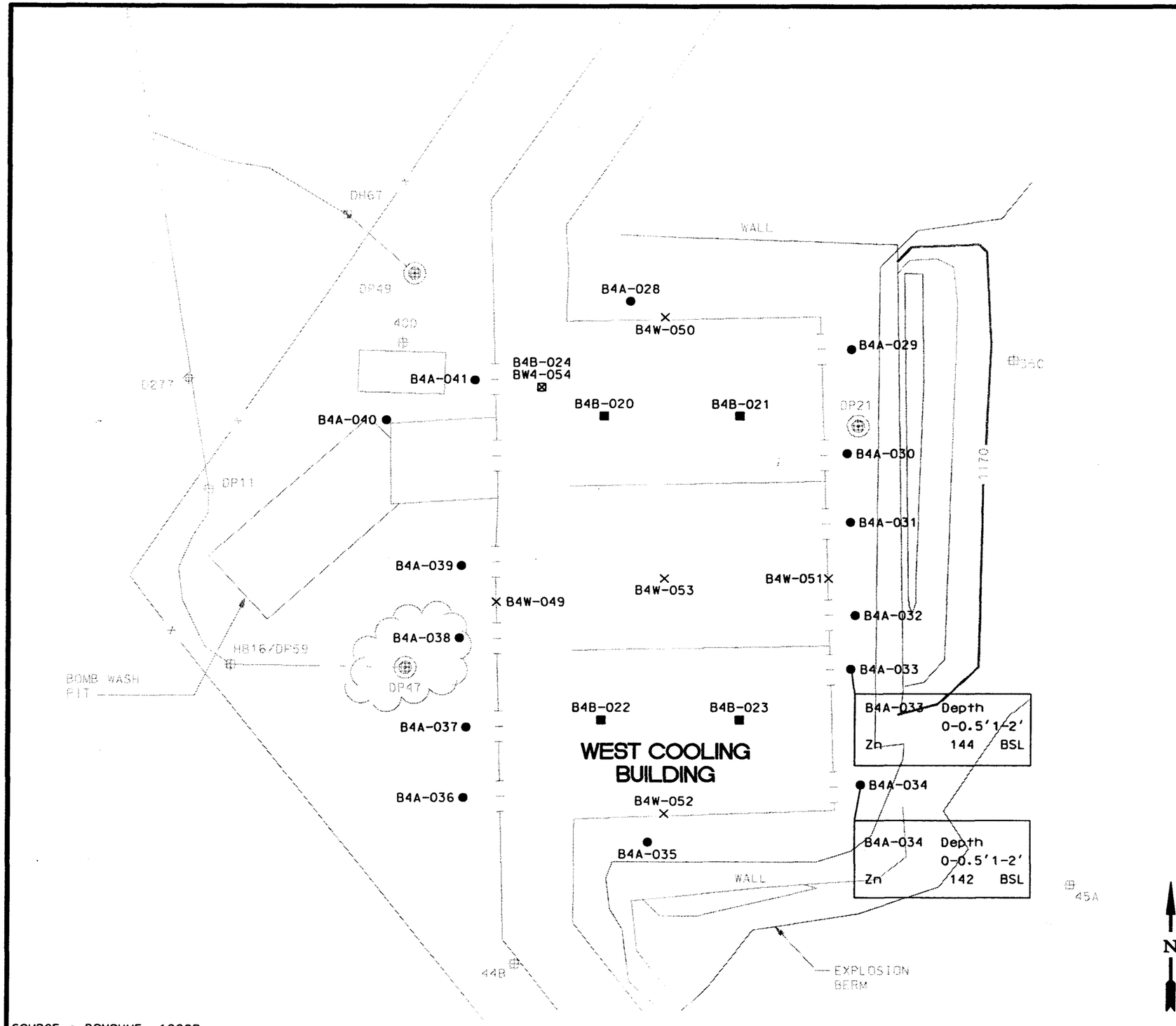

SOURCE : DONOHUE, 1992B

LEGEND:

● B4A-028	ADJACENT SOIL SAMPLE LOCATION
■ B4B-020	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-024/B4W-054	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B4W-049	SURFACE WIPE SAMPLE LOCATION
DH67	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
D277	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
40D	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
1170	INDEX CONTOUR
	INTERMEDIATE CONTOUR
— x —	FENCE

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE WEST COOLING BUILDING:
   B4A-028 AT 2.7 FT. B4A-029 AT 5.0 FT.
   B4A-030 AT 3.7 FT. B4A-031 AT 3.8 FT.
   B4A-032 AT 4.4 FT. B4A-033 AT 3.2 FT.
   B4A-034 AT 4.25 FT. B4A-035 AT 4.25 FT.
   B4A-036 AT 6.25 FT. B4A-037 AT 5.5 FT.
   B4A-038 AT 6.2 FT. B4A-039 AT 5.5 FT.
   B4A-040 AT 1.0 FT. B4A-041 AT 2.75 FT
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

20 0 20 40
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 4
WEST
COOLING BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-33
Sheet number: 1

28 APR 97 02:19:14
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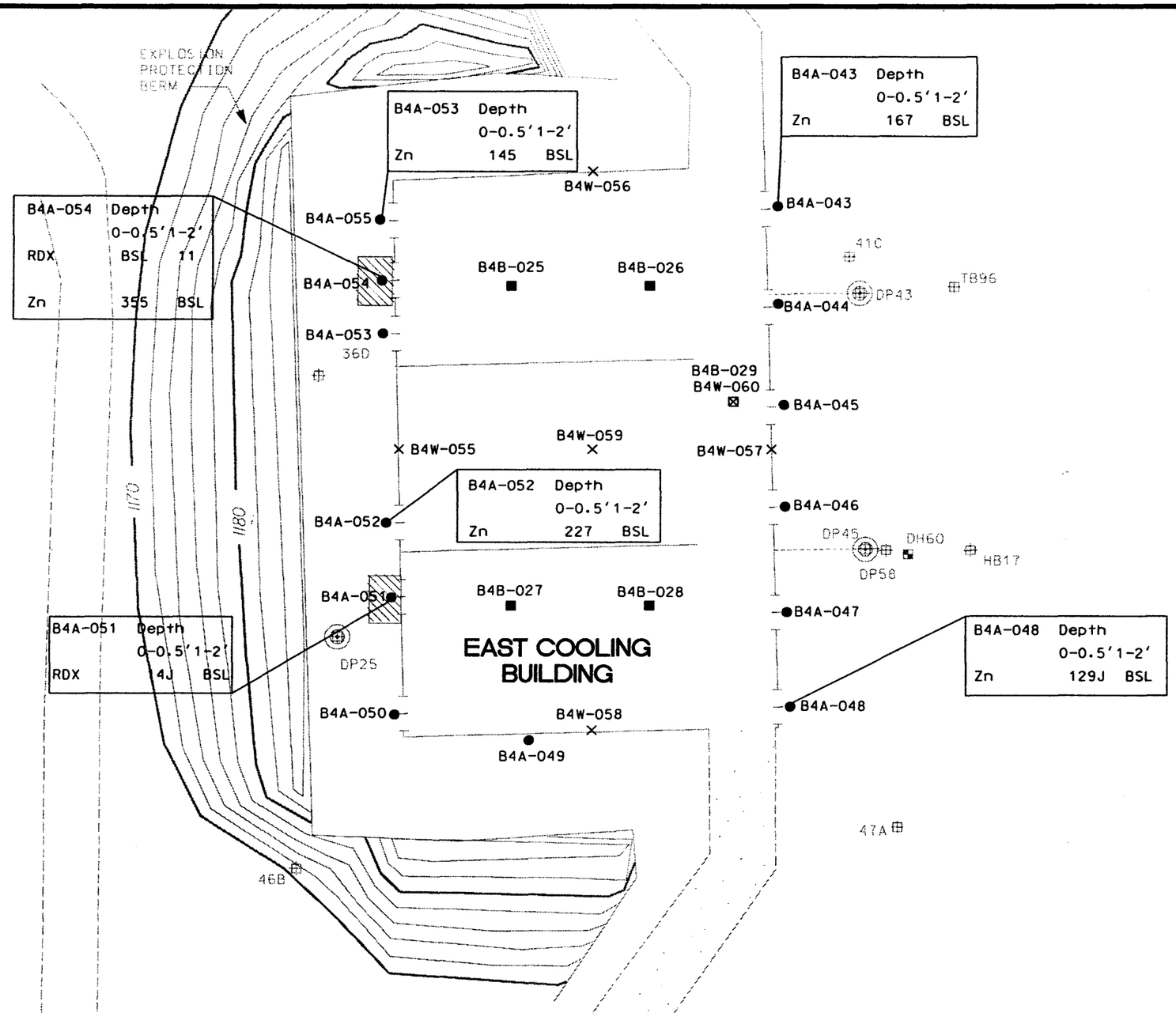

LEGEND:

● B4A-043	ADJACENT SOIL SAMPLE LOCATION
■ B4B-025	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-029/B4W-060	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, × FLOOR) B4W-055	SURFACE WIPE SAMPLE LOCATION
DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
1170	INDEX CONTOUR
	INTERMEDIATE CONTOUR
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED APPROXIMATELY 1 FT FROM THE EXTERIOR WALLS OF THE EAST COOLING BUILDING.
2. ADJACENT SOIL SAMPLE B4A-042 WAS NOT COLLECTED DUE TO CONCRETE DEBRIS AT SAMPLE LOCATION.
3. CONTOUR INTERVAL IS 2FT.
4. SEE DRAWING 2-1 FOR UNITS OF CONCENTRATION

20 0 20 40
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 4
EAST COOLING
BUILDING
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-34
Sheet number: 1

27 APR 97 23:16:14
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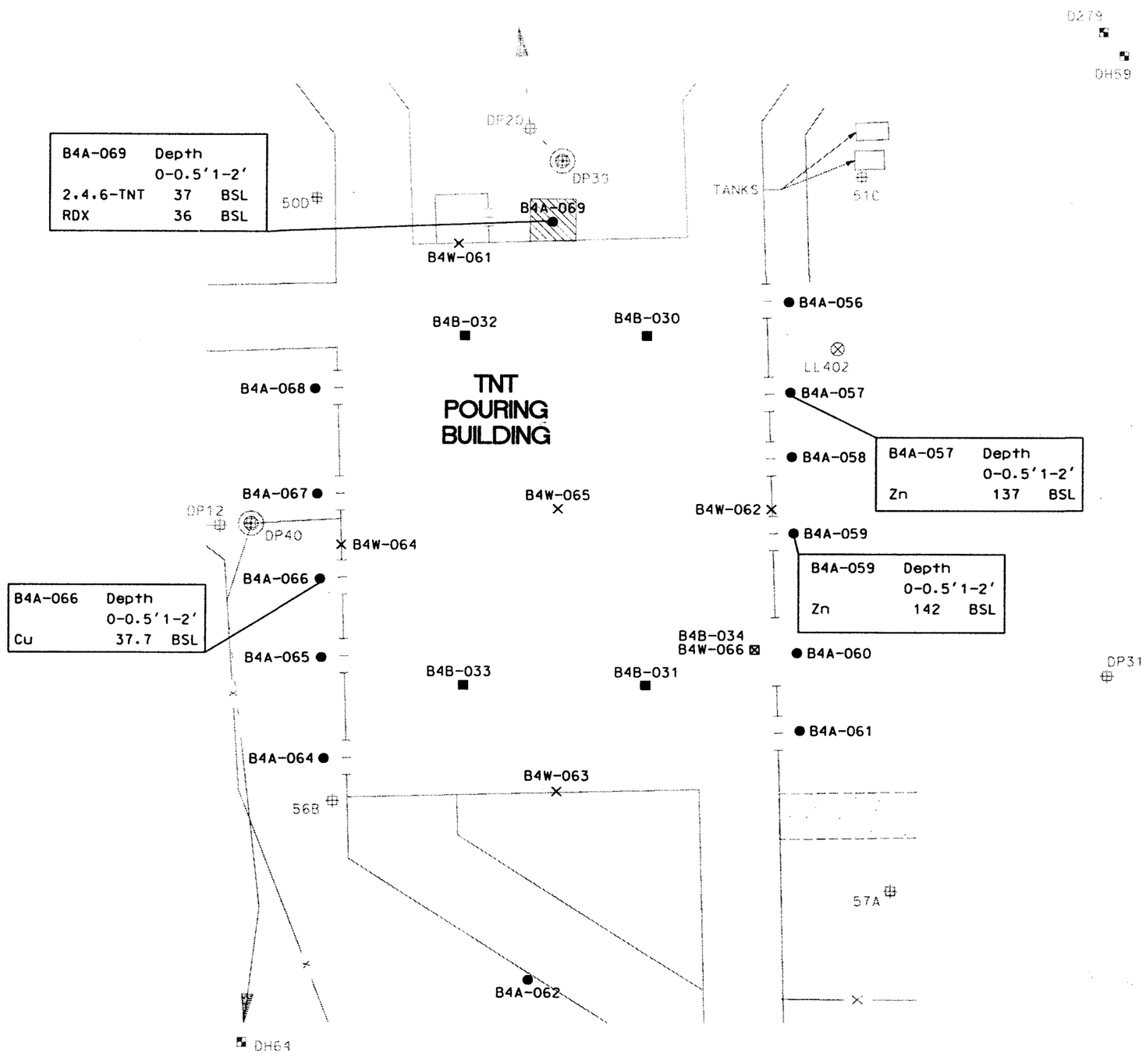
SOURCES : DRAWING-DONOHUE, 1992B : EXCAVATION AREAS, RUST 1996



LEGEND:

● B4A-056	ADJACENT SOIL SAMPLE LOCATION
■ B4B-030	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-034/B4W-066	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(✳ WALL, X FLOOR) B4W-061	SURFACE WIPE SAMPLE LOCATION
DH64	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
DH5	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
51C	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊗ LL402	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
— x —	FENCE
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWNG DISTANCES FROM THE EXTERIOR WALLS OF THE TNT POURING BUILDING:
   B4A-056 AT 7.5 FT. B4A-057 AT 3.0 FT.
   B4A-058 AT 3.0 FT. B4A-059 AT 3.0 FT.
   B4A-060 AT 3.0 FT. B4A-064 AT 3.0 FT.
   B4A-065 AT 3.0 FT. B4A-066 AT 3.0 FT.
   B4A-067 AT 3.0 FT. B4A-068 AT 3.0 FT.
   B4A-069 AT 2.5 FT
2. ADJACENT SOIL SAMPLE B4A-063 WAS NOT COLLECTED DUE TO CONCRETE DEBRIS AT SAMPLE LOCATION.
3. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

20 0 20 40
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

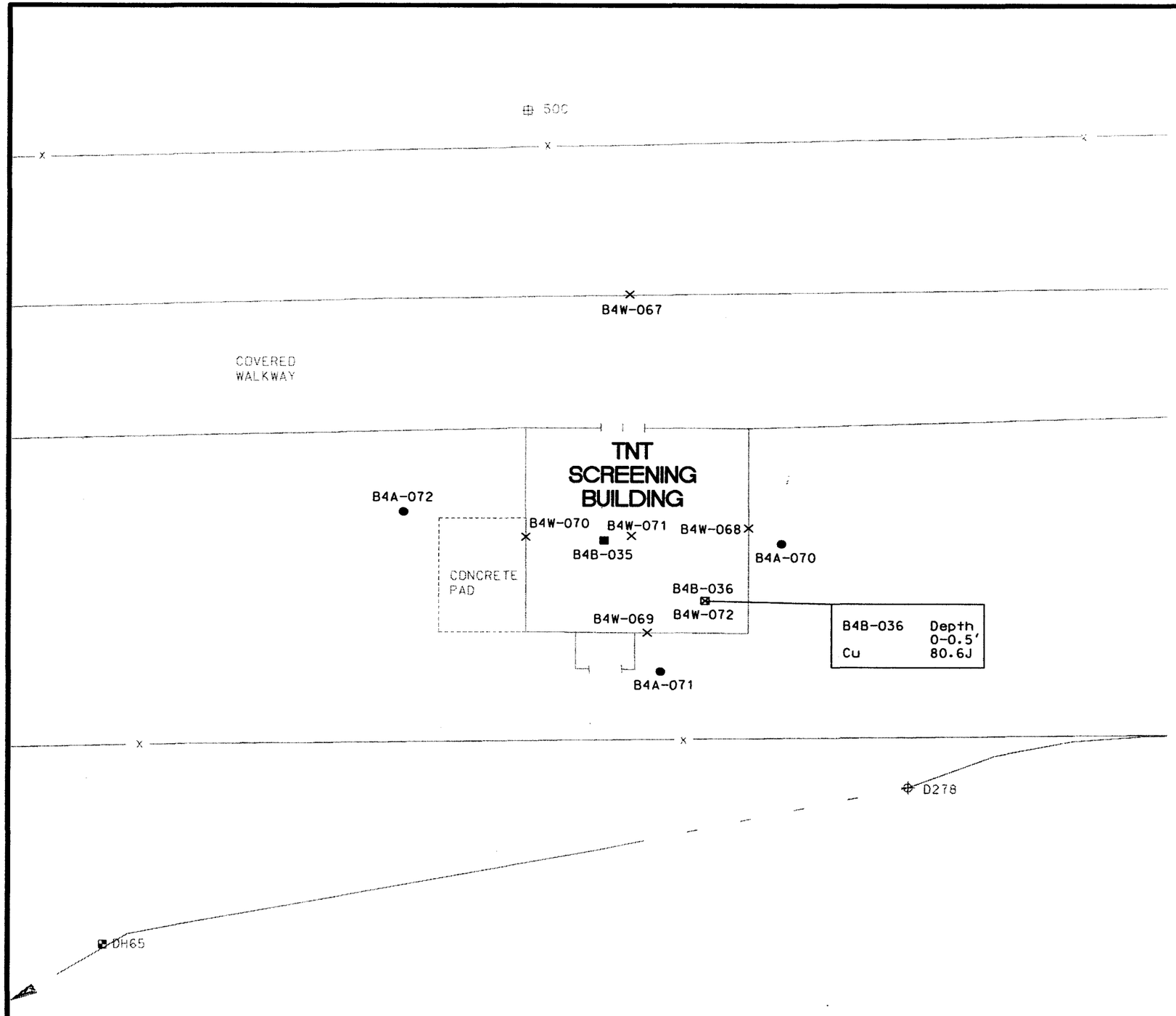
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 4
TNT POURING BUILDING
SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-35
Sheet number: 1

27 APR 97 23:22:41
MCS FILE: j:\mead\ou3\149s.dgn

SOURCES: DRAWING - DONOHUE, 1992B; EXCAVATION AREAS, RUST 1996



B4B-036	Depth
	0-0.5'
Cu	80.6J

SOURCE : DONOHUE, 1992B

LEGEND:

● B4A-070	ADJACENT SOIL SAMPLE LOCATION
■ B4B-035	BENEATH SOIL SAMPLE LOCATION
⊠ B4B-036/B4W-072	DISCRETIONARY WIPE AND BENEATH SOIL SAMPLE LOCATION
(→✕ WALL, ✕ FLOOR) B4W-067	SURFACE WIPE SAMPLE LOCATION
DH65	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
D278	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
50C	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
—— x ——	FENCE

NOTES:

1. ADJACENT SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE TNT SCREENING BUILDING:
   B4A-070 AT 3.0 FT. B4A-071 AT 3.0 FT.
   B4A-072 AT 9.5 FT
2. ADJACENT SOIL SAMPLE B4A-073 WAS NOT COLLECTED DUE TO CONCRETE PAD AT SAMPLE LOCATION.
3. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

N

10 0 10 20
SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

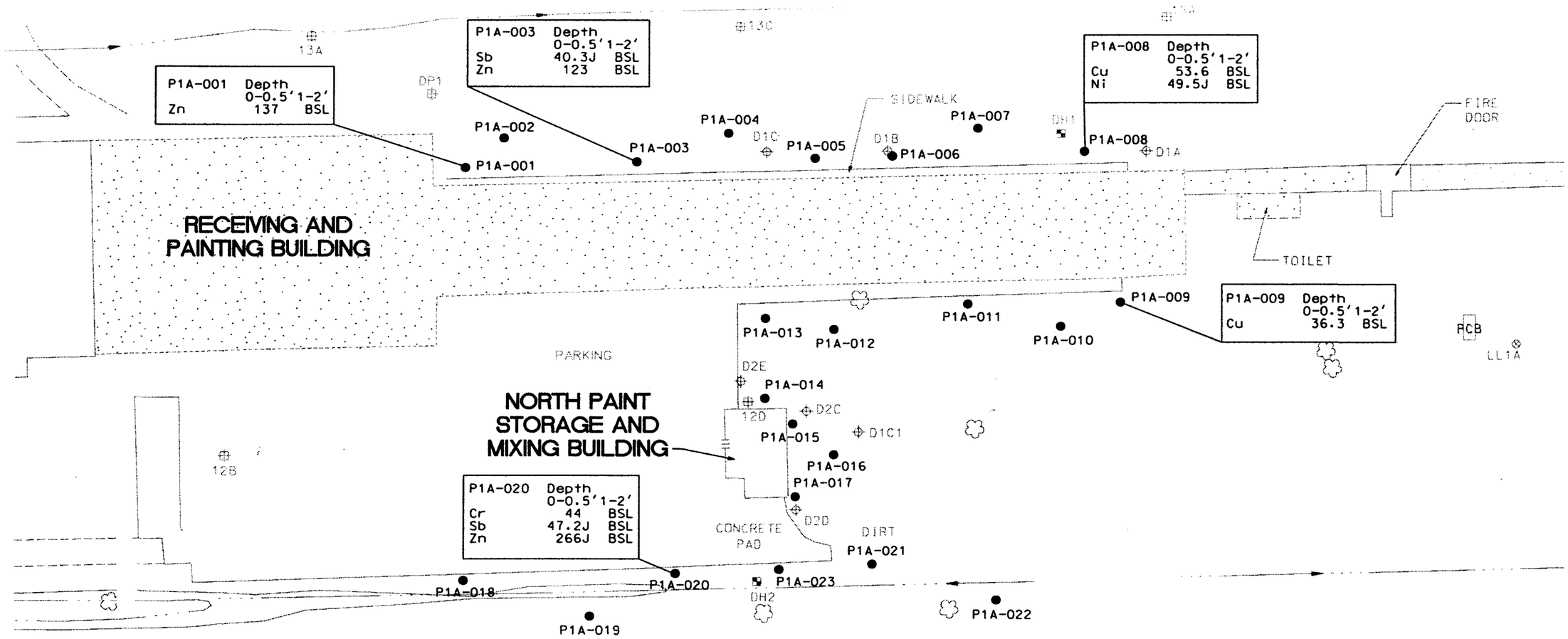
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
TNT SCREENING BUILDING
SAMPLING LOCATION AND RESULTS
ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 4-36
Sheet number: 1

27 APR 97 23:26:50
MCS FILE: j:\mead\ou3\48s.dgn



LEGEND:

● P1A-001	ADJACENT SOIL SAMPLE LOCATION
▣ DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
⊕ D2A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⊞ CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊗ LL1A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (PDI 1995)

SOURCE : DONOHUE, 1992B

NOTES:

1. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE RECEIVING AND PAINTING BUILDING:
   P1A-001 AT 6.5 FT, P1A-002 AT 20.0 FT,
   P1A-003 AT 7.5 FT, P1A-004 AT 20.0 FT,
   P1A-005 AT 7.5 FT, P1A-006 AT 7.5 FT,
   P1A-007 AT 20.0 FT, P1A-009 AT 9.5 FT,
   P1A-010 AT 20.0 FT, P1A-011 AT 8.0 FT,
   P1A-012 AT 20.0 FT, P1A-013 AT 13.0 FT
2. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE NORTH PAINT STORAGE AND MIXING BUILDING:
   F1A-014 AT 3.0 FT, P1A-015 AT 1.0 FT,
   P1A-016 AT 20.0 FT, P1A-017 AT 1.0 FT
3. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES WEST OF THE CONCRETE PAD WEST OF THE NORTH PAINT STORAGE & MIXING BUILDING:
   P1A-018 AT 1.0 FT, P1A-019 AT 20.0 FT,
   P1A-020 AT 1.0 FT, P1A-021 AT 1.0 FT,
   P1A-022 AT 20.0 FT, P1A-023 AT 1.0 FT
4. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

N

50 0 50 100

SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
RECEIVING AND PAINTING BUILDING / NORTH PAINT STORAGE AND MIXING BUILDING
SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 50 FEET
Date: MAY, 1997
Dwg. No.: 4-37
Sheet number: 1

27 APR 97 23:37:53
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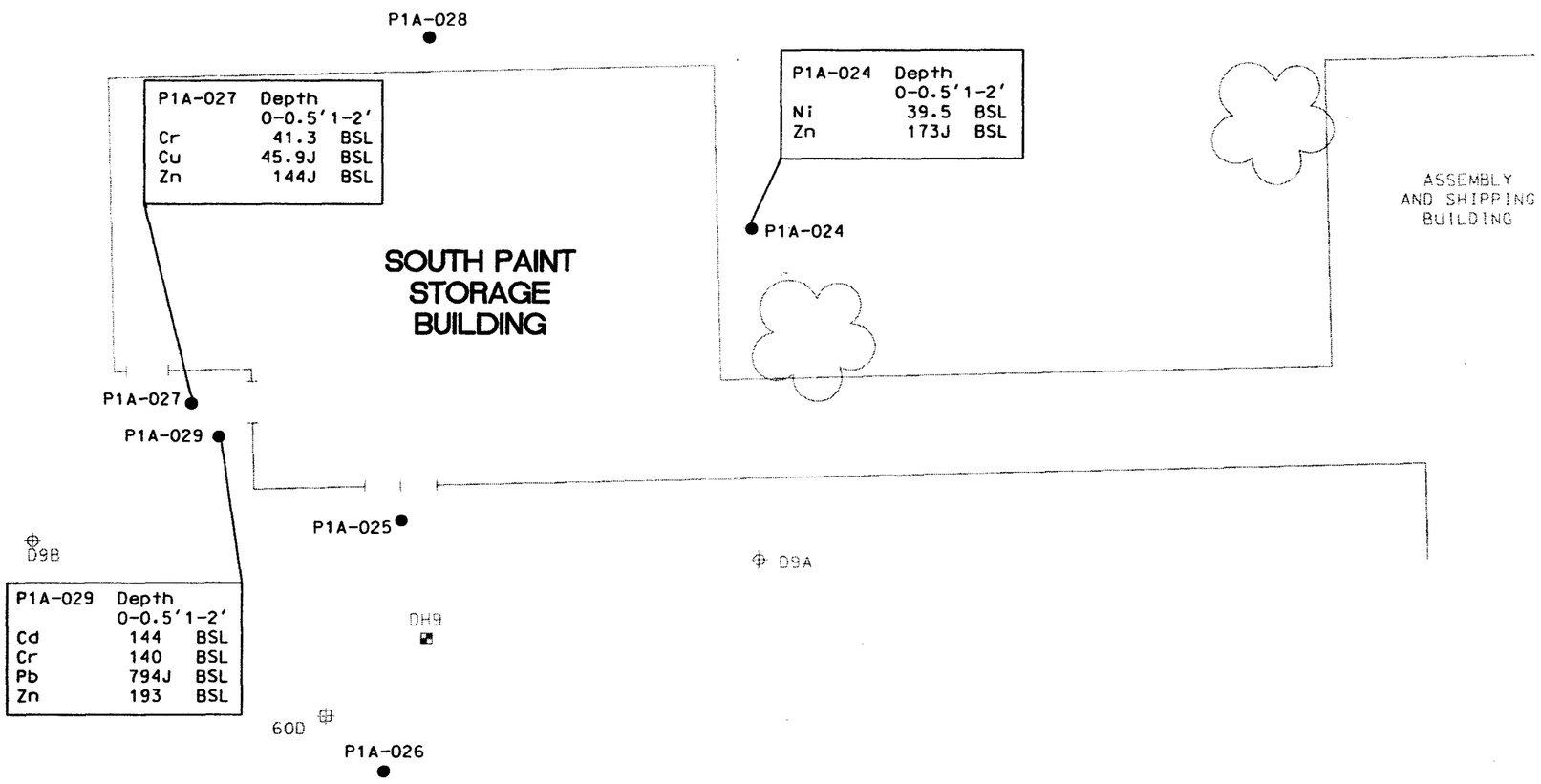


SOURCE : DONOHUE, 1992B

LEGEND:

● P1A-024	ADJACENT SOIL SAMPLE LOCATION
DH4	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
D19C	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. SOIL SAMPLES WERE COLLECTED APPROXIMATELY 2 FT FROM THE EXTERIOR WALLS OF THE SOUTH PAINT STORAGE BUILDING WITH THE FOLLOWING EXCEPTION: P1A-026 AT 20 FT.
2. SEE DDRAWING 1-2 FOR UNITS OF CONCENTRATION.

N

10 0 10 20

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

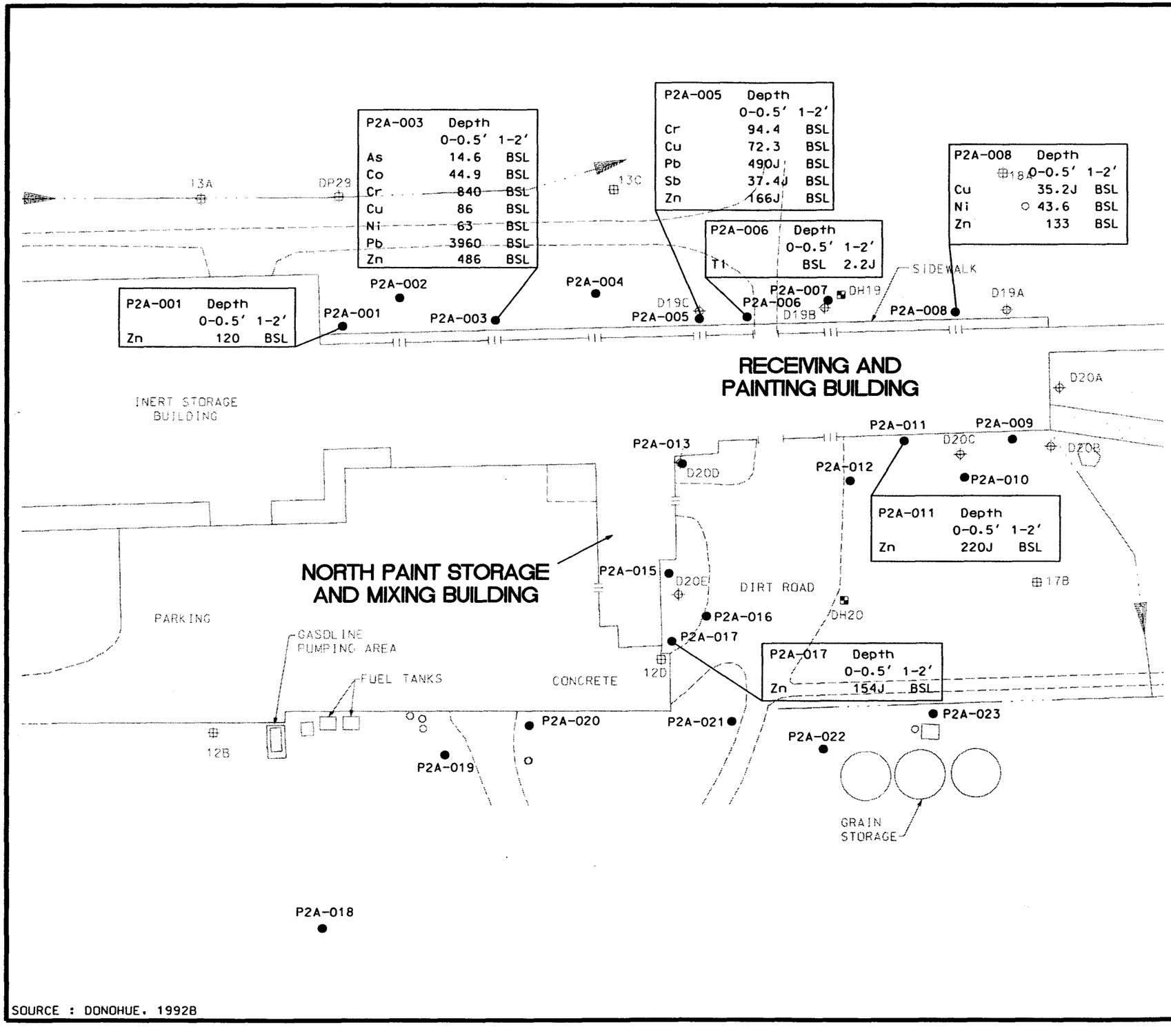
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 1
SOUTH PAINT STORAGE
BUILDING SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 4-38
Sheet number: 1

27 APR 97 23:42:08
MCS FILE: j:\mead\ou3p12bs.dgn



SOURCE : DONOHUE, 1992B

LEGEND:

- ● P2A-001 ADJACENT SOIL SAMPLE LOCATION
- DH4 PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
- D19C PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
- CP40 PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE RECEIVING AND PAINTING BUILDING:
   P2A-001 AT 6.5 FT. P2A-002 AT 20.0 FT.
   P2A-003 AT 7.5 FT. P2A-004 AT 20.0 FT.
   P2A-005 AT 7.0 FT. P2A-006 AT 7.0 FT.
   P2A-007 AT 20.0 FT. P2A-008 AT 7.0 FT.
   P2A-009 AT 2.0 FT. P2A-010 AT 20.0 FT.
   P2A-011 AT 1.0 FT. P2A-012 AT 20.0 FT.
   P2A-013 AT 2.0 FT
2. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE NORTH PAINT STORAGE AND MIXING BUILDING:
   P2A-015 AT 2.0 FT. P2A-016 AT 20.0 FT.
   P2A-017 AT 5.0 FT
3. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE CONCRETE PAD WEST OF THE NORTH PAINT STORAGE AND MIXING BUILDING:
   P2A-018 AT 100.0 FT. P2A-019 AT 20.0 FT.
   P2A-020 AT 5 FT
4. SOIL SAMPLE P2A-014 NOT COLLECTED DUE TO CONCRETE PAD AT SAMPLING LOCATION.
5. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

50 0 50 100
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

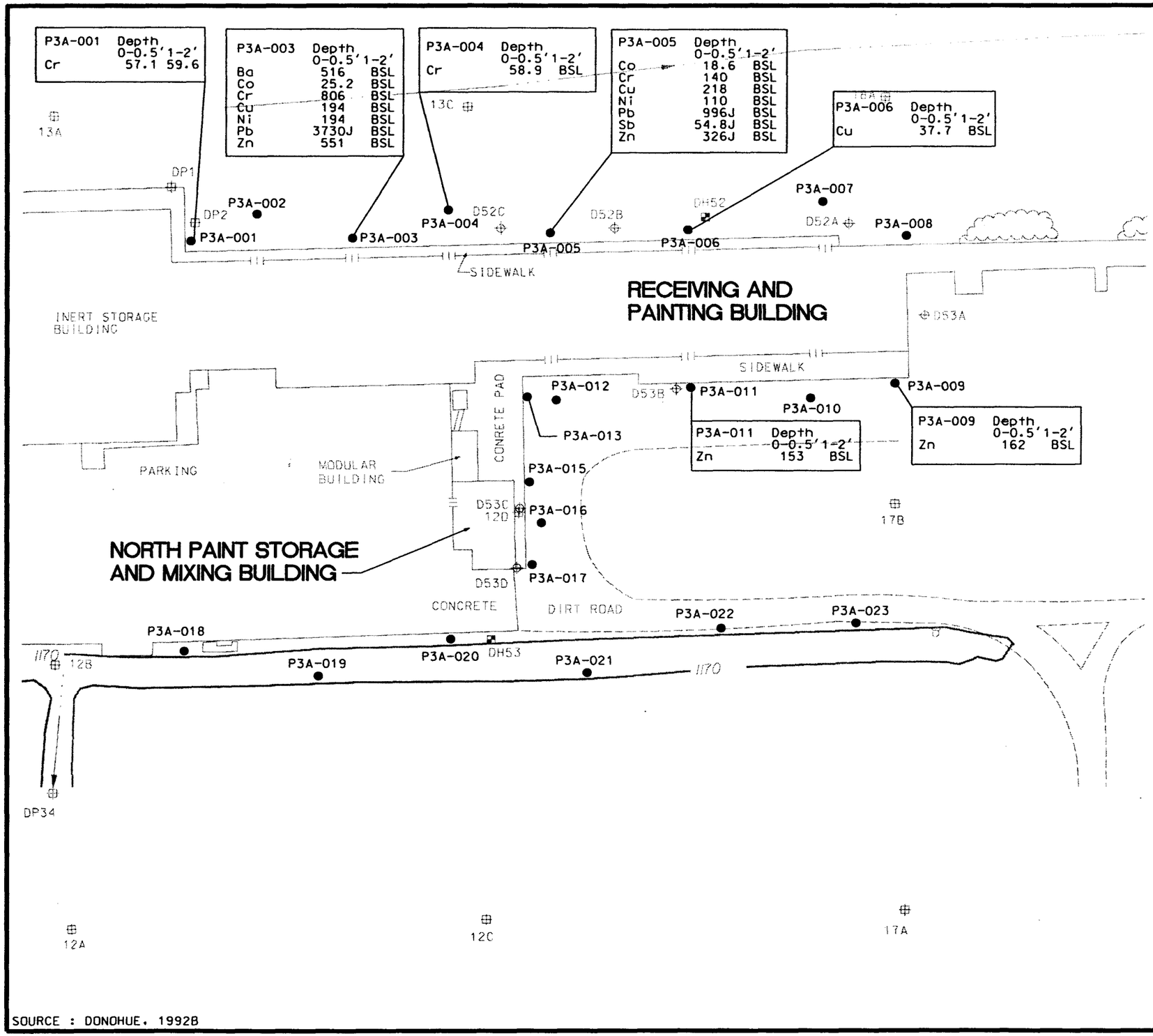
Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 2
RECEIVING AND PAINTING
BUILDING / NORTH PAINT
STORAGE AND MIXING BUILDING
SAMPLING LOCATIONS AND RESULTS
ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 50 FEET
Date: MAY, 1997
Dwg. No.: 4-39
Sheet number: 1

28 APR 97 12:54:45
MCS FILE: j:\mead\ou3p2lbs.dgn



SOURCE : DONOHUE, 1992B

LEGEND:

● P3A-001	ADJACENT SOIL SAMPLE LOCATION
DH52	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
D52B	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
18A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
1170	INDEX CONTOUR

NOTES:

1. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE RECEIVING AND PAINTING BUILDING:
   P3A-001 AT 7.5 FT, P3A-002 AT 20.0 FT,
   P3A-003 AT 7.5 FT, P3A-004 AT 20.0 FT,
   P3A-005 AT 7.5 FT, P3A-006 AT 7.5 FT,
   P3A-007 AT 20.0 FT, P3A-008 AT 2.0 FT,
   P3A-009 AT 13.0 FT, P3A-010 AT 20.0 FT,
   P3A-011 AT 12.6 FT
2. SOIL SAMPLE P3A-014 WAS NOT COLLECTED DUE TO CONCRETE PAD AT SAMPLE LOCATION.
3. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

N

50 0 50 100

SCALE FEET

Revisions

Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.
LOAD LINE 3
RECEIVING AND PAINTING BUILDING / NORTH PAINT STORAGE AND MIXING BUILDING
SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 50 FEET
Date: MAY, 1997
Dwg. No.: 4-40
Sheet number: 1

28 APR 97 12:55:59
MCS FILE: j:\mead\ou3p31bs.dgn

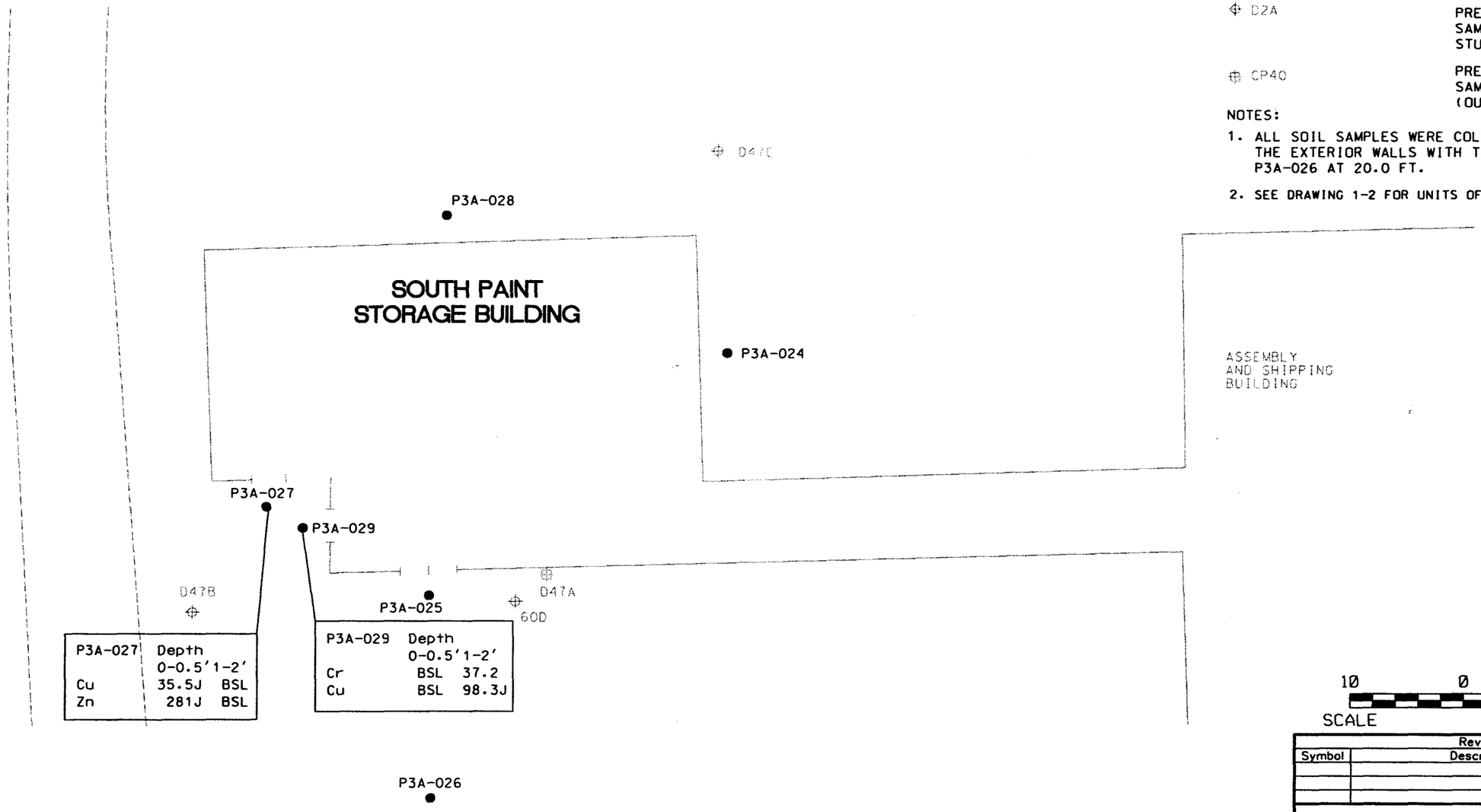
B07NE003703-04612

LEGEND:

● P3A-024	ADJACENT SOIL SAMPLE LOCATION
⌖ D2A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
⌖ CP40	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL SOIL SAMPLES WERE COLLECTED 2 FT FROM THE EXTERIOR WALLS WITH THE EXCEPTION OF P3A-026 AT 20.0 FT.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.



P3A-027	Depth 0-0.5'	1-2'
Cu	35.5J	BSL
Zn	281J	BSL

P3A-029	Depth 0-0.5'	1-2'
Cr	BSL	37.2
Cu	BSL	98.3J

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

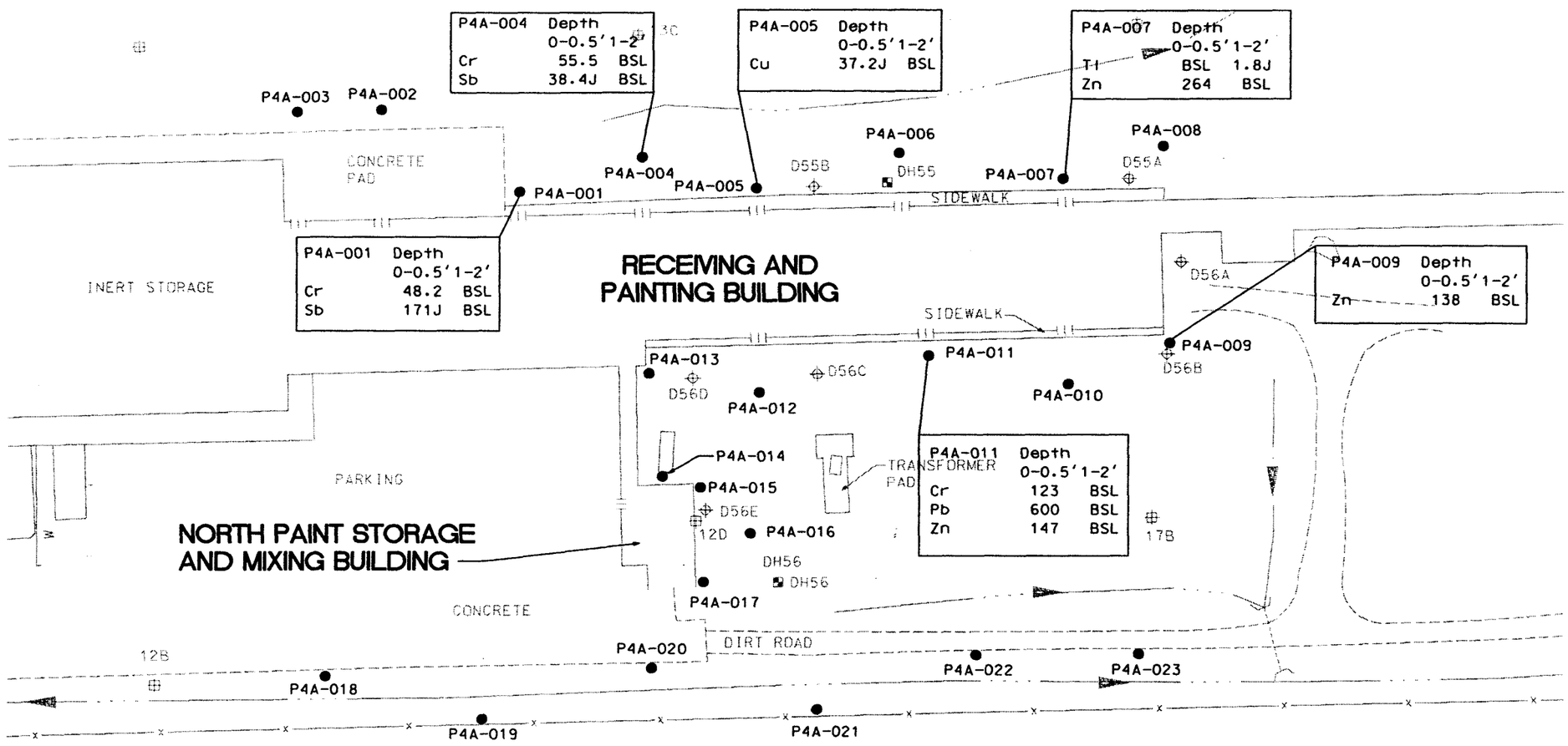
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 3
SOUTH PAINT STORAGE
BUILDING SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 4-41
Sheet number: 1

28 APR 97 00:24:55
MCS FILE: j:\mead\ou3p32bs.dgn



LEGEND:

	● P4A-001	ADJACENT SOIL SAMPLE LOCATION
DH56	DH56	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
D56E	D56E	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
12B	12B	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE RECEIVING AND PAINTING BUILDING:
   P4A-001 AT 7.0 FT, P4A-002 AT 42.0 FT,
   P4A-003 AT 42.0 FT, P4A-004 AT 20.0 FT,
   P4A-005 AT 7.0 FT, P4A-006 AT 20.0 FT,
   P4A-007 AT 7.0 FT, P4A-008 AT 20.0 FT,
   P4A-009 AT 3.0 FT, P4A-010 AT 20.0 FT,
   P4A-011 AT 7.0 FT, P4A-012 AT 20.0 FT,
   P4A-013 AT 3.0 FT
2. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES FROM THE EXTERIOR WALLS OF THE NORTH PAINT STORAGE/MIXING BUILDING:
   P4A-014 AT 1.0 FT, P4A-015 AT 1.0 FT,
   P4A-016 AT 20.0 FT, P4A-017 AT 1.0 FT
3. SOIL SAMPLES WERE COLLECTED THE FOLLOWING DISTANCES WEST OF THE CONCRETE PAD AND OR DIRT ROAD WEST OF THE NORTH PAINT STORAGE/MIXING BUILDING:
   P4A-018 AT 1.0 FT, P4A-019 AT 20.0 FT,
   P4A-020 AT 1.0 FT, P4A-021 AT 20.0 FT,
   P4A-022 AT 1.0 FT, P4A-023 AT 1.0 FT
4. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

SOURCE : DONOHUE, 1992B

N

50 0 50 100

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

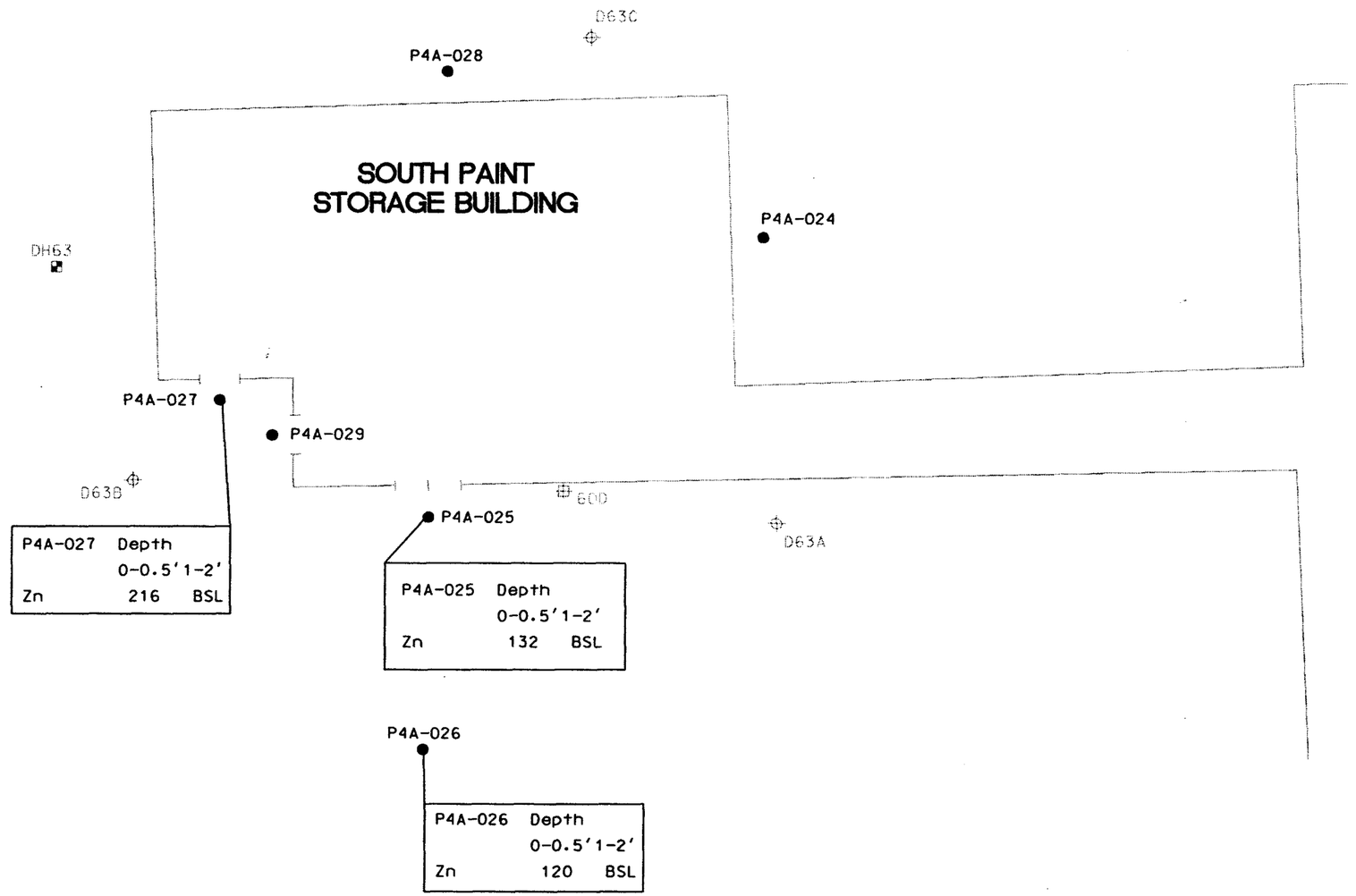
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
RECEIVING AND PAINTING BUILDING / NORTH PAINT STORAGE AND MIXING BUILDING SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 50 FEET
Date: MAY, 1997
Dwg. No.: 4-42
Sheet number: 1

28 APR 97 12:57:41
MCS FILE: j:\mead\ou3p4tbs.dgn

B07NE003703-04614



LEGEND:

● P4A-024	ADJACENT SOIL SAMPLE LOCATION
DH63	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 RI 1991)
D63A	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION STUDY 1989)
60D	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. SOIL SAMPLES WERE COLLECTED 2 FT FROM THE EXTERIOR WALLS OF THE SOUTH PAINT STORAGE BUILDING WITH THE EXCEPTION OF P4A-026 TAKEN AT 20.0 FT.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

N

10 0 10 20

SCALE FEET

SOURCE : DONOHUE, 1992B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

LOAD LINE 4
SOUTH PAINT STORAGE
BUILDING SAMPLING
LOCATIONS AND RESULTS
ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 10 FEET
Date: MAY, 1997
Dwg. No.: 4-43
Sheet number: 1

28 APR 97 00:39:26
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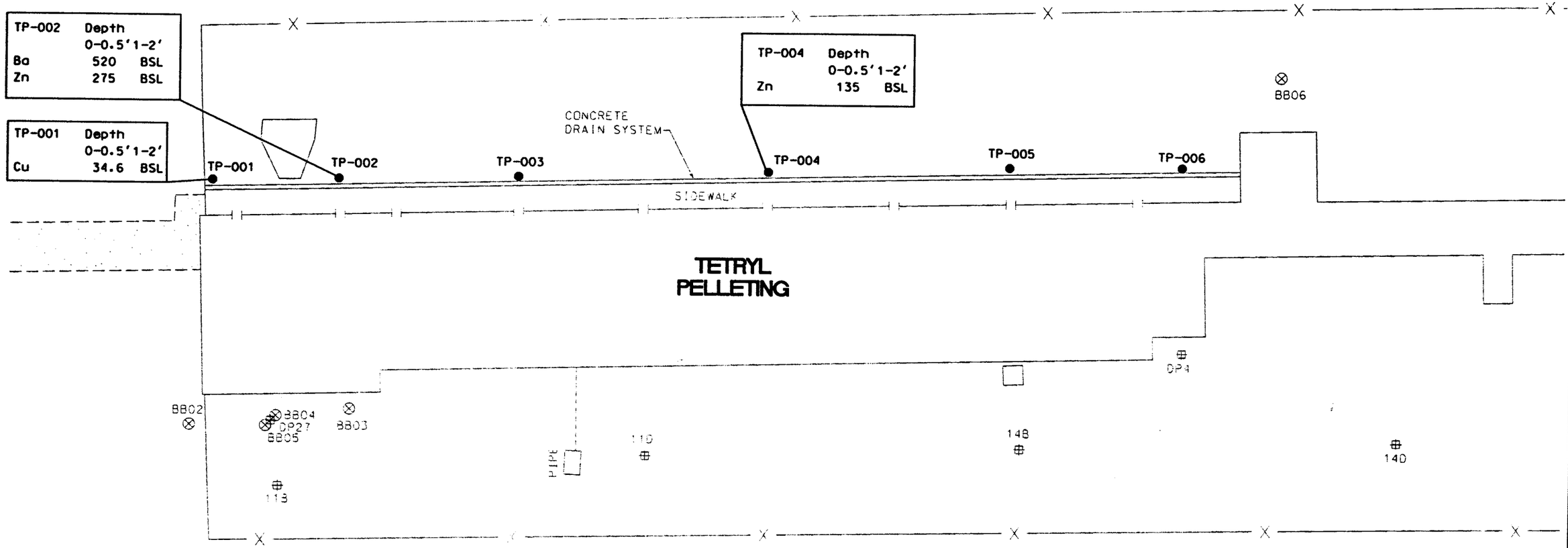

LEGEND:

● TP-001	ADJACENT SOIL SAMPLE LOCATION
⊕ DP27	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊗ BB06	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
—X—	FENCE

NOTES:

1. ALL OU3 RI SAMPLES WERE ANALYZED FOR EXPLOSIVES AND METALS.
2. ALL OU3 RI SHALLOW SOIL SAMPLES WERE COLLECTED APPROXIMATELY 6 FT FROM THE EXTERIOR WALLS OF THE TETRYL PELLETING BUILDING WITH THE FOLLOWING EXCEPTIONS: TP-001 AT 7.0 FT. TP-002 AT 7.0 FT.
3. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

SOURCE: DONOHUE, 1992B

N

20 0 20 40

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

FORMER TETRYL PELLETING AREA SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

Scale: 1 IN - 20 FEET
Date: MAY, 1997
Dwg. No.: 4-44
Sheet number: 1

29 APR 97 10:17:16
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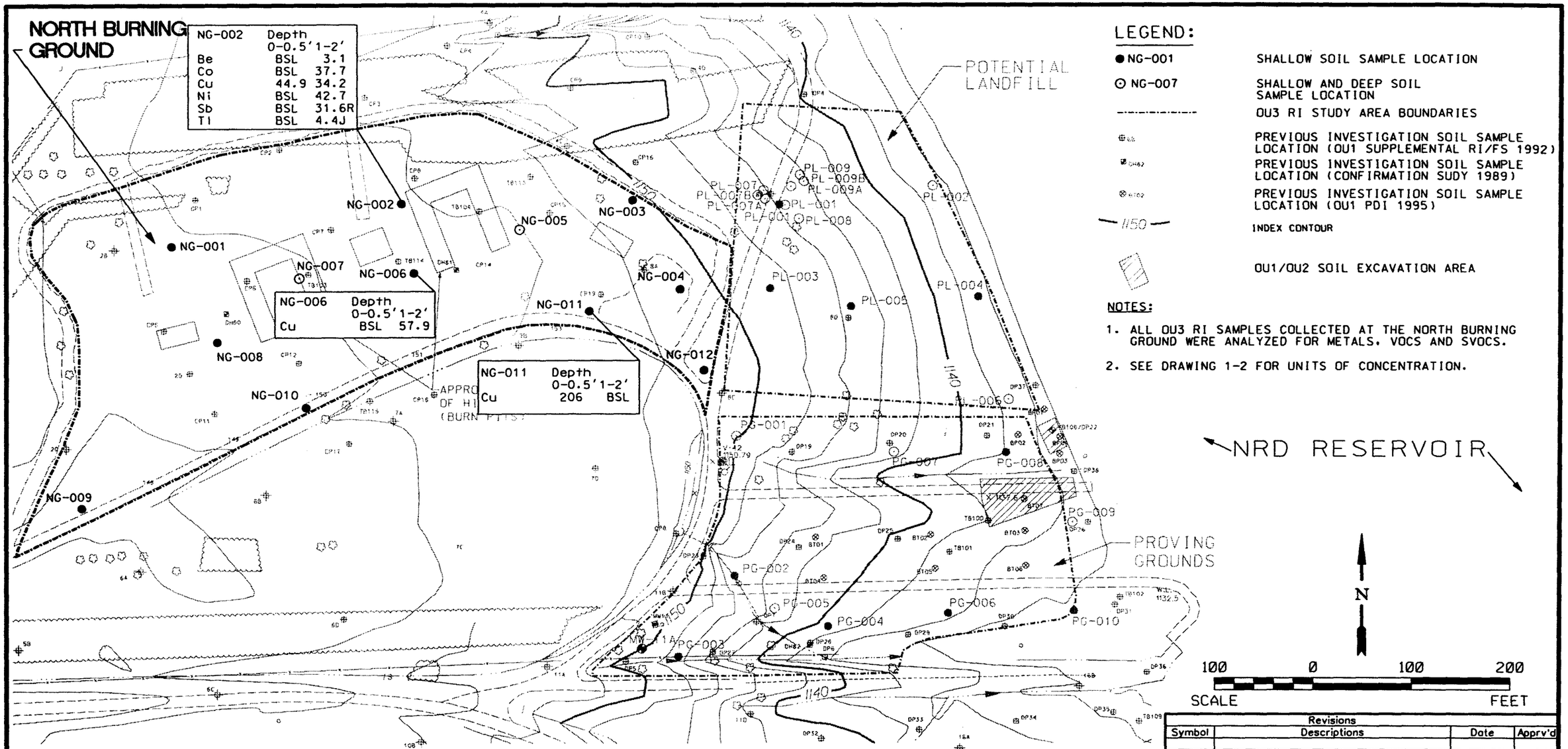


LEGEND:

- ● NG-001 — SHALLOW SOIL SAMPLE LOCATION
- ⊙ NG-007 — SHALLOW AND DEEP SOIL SAMPLE LOCATION
- OU3 RI STUDY AREA BOUNDARIES
- PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
- PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION SUDY 1989)
- PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
- 1150 — INDEX CONTOUR
- OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ALL OU3 RI SAMPLES COLLECTED AT THE NORTH BURNING GROUND WERE ANALYZED FOR METALS, VOCS AND SVOCS.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

SOURCES: DRAWING - DONOHUE, 1992B; EXCAVATION AREAS, RUST 1996

28 APR 97 13:12:02
MCS FILE: j:\mead\ou3ng02fs.dgn

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

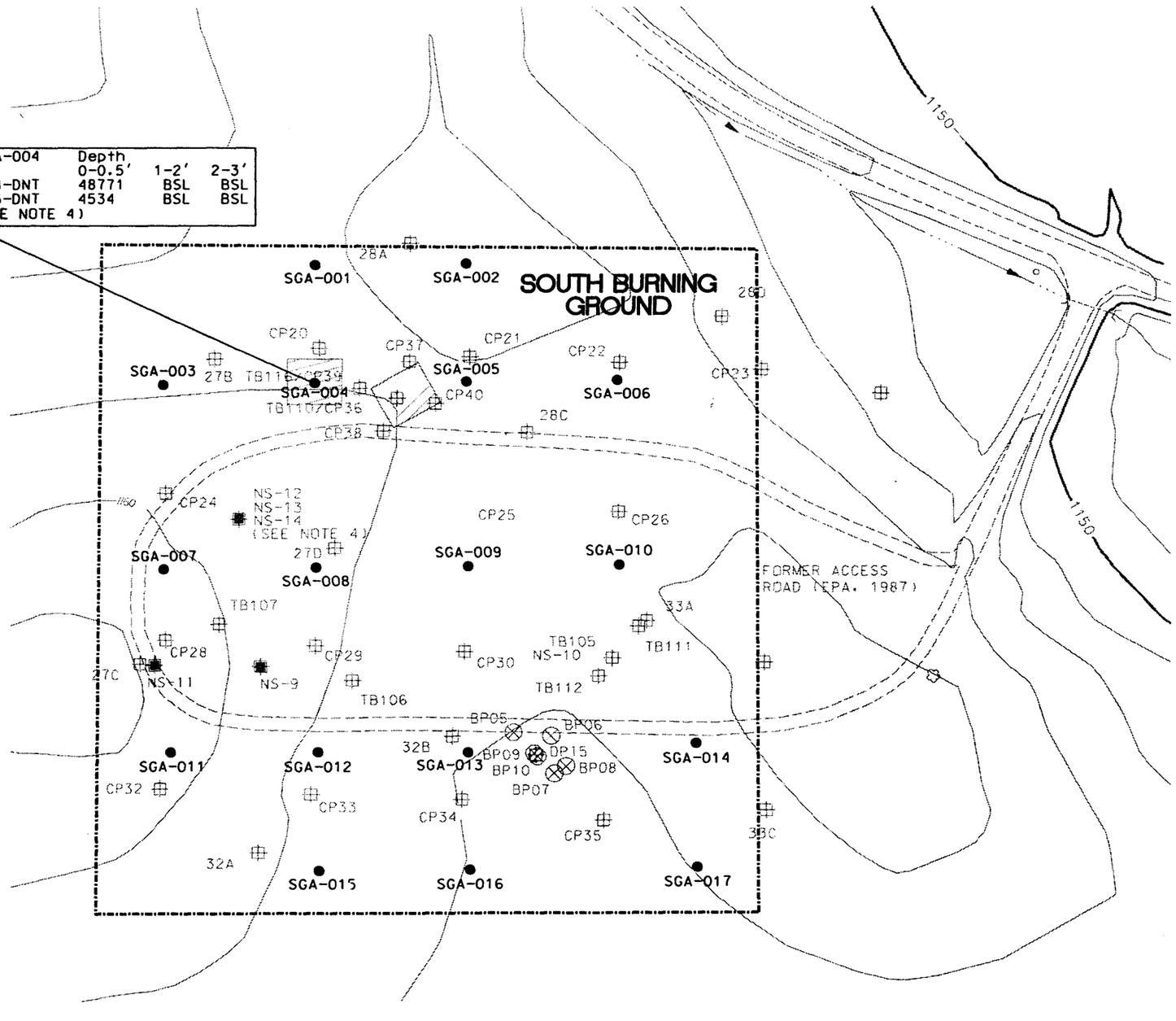
Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

NORTH BURNING GROUND
SAMPLING LOCATIONS AND RESULTS
ABOVE SOIL SCREENING LEVELS

Scale: 1 IN - 100 FEET
Date: MAY, 1997
Dwg. No.: 4-45
Sheet number: 1



SGA-004	Depth 0-0.5'	1-2'	2-3'
2,4-DNT	48771	BSL	BSL
2,6-DNT	4534	BSL	BSL
(SEE NOTE 4)			

LEGEND:

- ● SGA-001 — SHALLOW SOIL SAMPLE LOCATION (SEE NOTE 2)
- DP14 — PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
- BP05 — PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
- NS-9 — PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (FINAL ENGINEERING REPORT 1991)
- OU3 RI STUDY AREA BOUNDARIES
- 1150 — INDEX CONTOUR
- INTERMEDIATE CONTOUR
- OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ALL OU3 RI SAMPLES WERE ANALYZED FOR METALS, VOCS AND SVOCS WITH ONE EXCEPTION. THE 0-6 in. bgs SAMPLING INTERVAL WAS NOT ANALYZED FOR VOCs.
2. DUE TO PLOWING AT THIS SITE, SHALLOW SOIL SAMPLES WERE COLLECTED FROM 2-3 FT. AT ALL OU3 RI SAMPLE LOCATIONS.
3. PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION NS-9 THROUGH NS-12 ARE APPROXIMATE BECAUSE NO COORDINATES WERE AVAILABLE. EACH OF THESE SAMPLES WERE COMPOSITED FROM THREE SUB-SAMPLES.
4. 2,4-DNT AND 2,6-DNT ARE FROM TARGET COMPOUND LIST OF SEMI-VOLATILES THE REPORTED CONCENTRATIONS ARE IN $\mu g/kg$.
5. SAMPLES NS-13 AND NS-14 WERE DUPLICATES OF NS-12.
6. CONTOUR INTERVAL IS 2 FT.
7. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

80 0 80 160
SCALE FEET

N

SOURCES: DRAWING - DONOHUE, 1992B; EXCAVATION AREAS, RUST 1996

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

U.S. Army Corps of Engineers

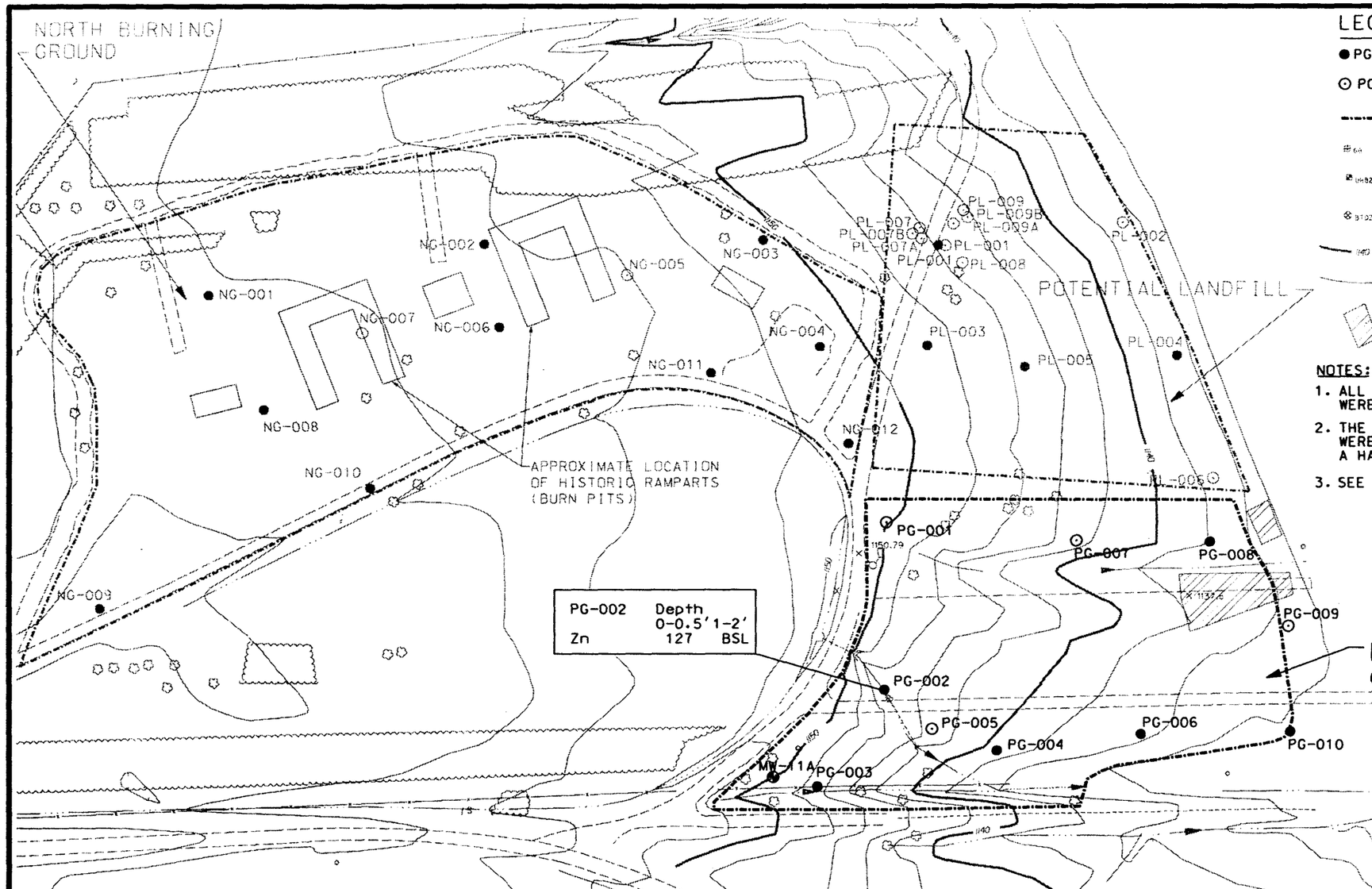
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

SOUTH BURNING GROUND
SAMPLING LOCATIONS
AND RESULTS ABOVE
SOIL SCREENING LEVELS

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN
Scale: 1 IN = 80 FEET
Date: MAY, 1997
Dwg. No.: 4-46
Sheet number: 1

28 APR 97 14:18:18
MCS FILE: j:\mead\ou3sg01s.dgn

B07NE003703-04618



LEGEND:

● PG-002	SHALLOW SOIL SAMPLE LOCATION
⊙ PG-001	SHALLOW AND DEEP SOIL SAMPLE LOCATION
	OU3 RI STUDY AREA BOUNDARIES
	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION SUDY 1989)
	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
	INDEX CONTOUR
	INTERMEDIATE CONTOUR
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ALL OU3 RI SAMPLES COLLECTED AT THE PROVING GROUNDS WERE ANALYZED FOR METALS. VOCS AND SVOCS.
2. THE 19-20 FT. INTERVAL OF THE FOLLOWING SAMPLE LOCATIONS WERE NOT SAMPLED BECAUSE THEY WERE NOT ATTAINABLE WITH A HAND AUGER: PG-001 AND PG-005.
3. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION

SOURCES: DRAWING - DONOHUE, 1992B; EXCAVATION AREAS, RUST 1996

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

PROVING GROUNDS SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

Scale: 1 IN - 100 FEET
Date: MAY, 1997
Dwg. No.: 4-47
Sheet number: 1

28 APR 97 14:19:39
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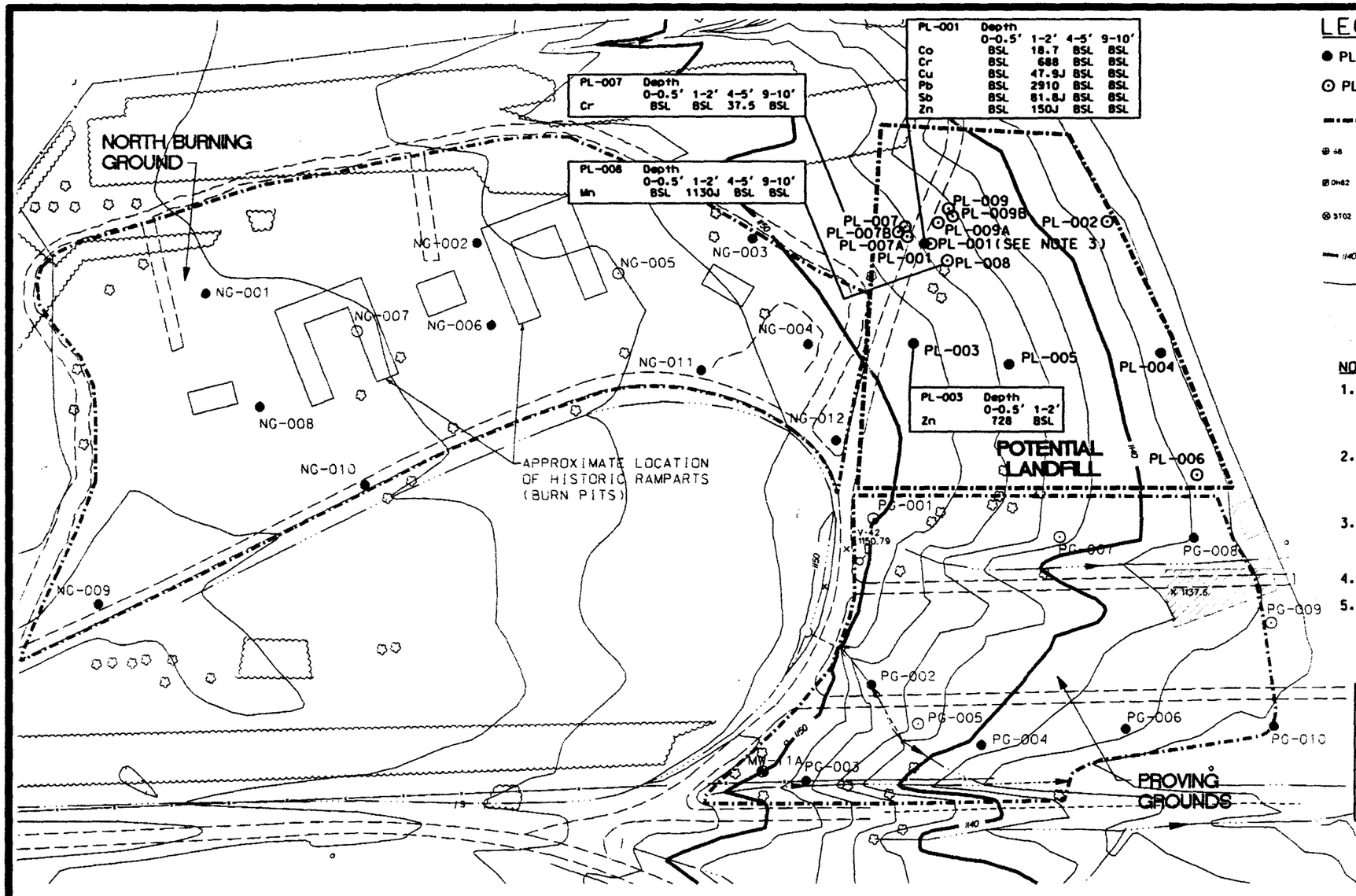


SOURCE: DRAWING - DONOHUE, 1992B; EXCAVATION AREAS, RUST 1996

LEGEND:

● PL-001	SHALLOW SOIL SAMPLE LOCATION
⊙ PL-002	SHALLOW AND DEEP SOIL SAMPLE LOCATION
	OU3 RI STUDY AREA BOUNDARIES
⊕ 58	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)
⊠ DH82	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (CONFIRMATION SUDY 1989)
⊗ 3102	PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 PDI 1995)
1140	INDEX CONTOUR
	INTERMEDIATE CONTOUR
	OU1/OU2 SOIL EXCAVATION AREA

NOTES:

1. ALL OU3 RI SAMPLES COLLECTED AT THE POTENTIAL LANDFILL WERE ANALYZED FOR EXPLOSIVES, METALS, VOCS AND SVOCS, EXCEPT SAMPLES COLLECTED AT PL-007, PL-008 AND PL-009 WHICH WERE ANALYZED FOR METALS ONLY.
2. THE 19-20 FT. INTERVAL OF THE FOLLOWING SAMPLE LOCATIONS WERE NOT SAMPLED BECAUSE THEY WERE NOT ATTAINABLE WITH A HAND AUGER: PL-002 AND PL-006. PL-006 WAS ALSO NOT SAMPLED AT THE 9-10 FT. INTERVAL DUE TO AUGER REFUSAL.
3. DURING THE PHASE II SAMPLING, THE ORIGINAL SAMPLING POINT PL-001 WAS SLIGHTLY OFFSET AND SAMPLED FROM 4-5 FT AND 9-10 FT.
4. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.
5. DURING PHASE II SAMPLING, PL-007 AND PL-009 SAMPLE LOCATIONS WERE OFFSET THREE TIMES, EACH, DURING SAMPLING DUE TO THE POSSIBLE PRESENCE OF UNEXPLODED ORDNANCE. THE FOLLOWING TABLE DETAILS THE DEPTHS AT WHICH SAMPLES WERE COLLECTED:

Sampling Points	Depths			
	0-0.5 FT	1-2 FT	4-5 FT	9-10 FT
PL-007	X			
PL-007A		X	X	
PL-007B				X
PL-009	X			
PL-009A		X	X	
PL-009B				X

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

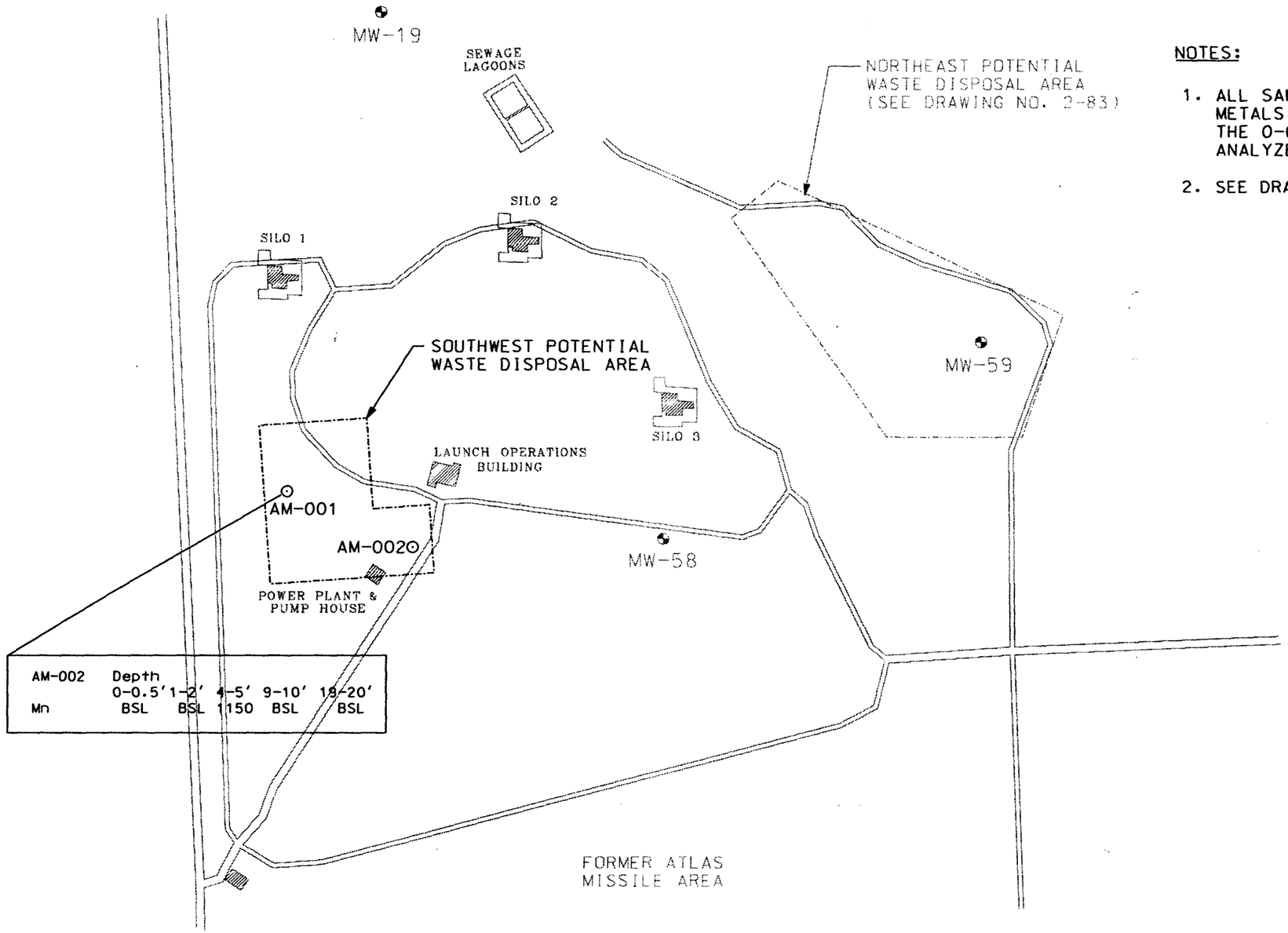
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

POTENTIAL LANDFILL AREA NORTH OF THE PROVING GROUNDS SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 100 FEET
Date: MAY, 1997
Dwg. No.: 4-48
Sheet number: 1

29 APR 97 10:23:31
MCS FILE: j:\mead\ou3ng1.dgn

B07NE003703-04620



AM-002	Depth 0-0.5'	1-2'	4-5'	9-10'	19-20'
Mn	BSL	BSL	1150	BSL	BSL

SOURCE : WCC, 1994B

LEGEND

AM-001 ⊙	SHALLOW AND DEEP SOIL SAMPLE LOCATION
MW-59 ⊕	EXISTING GROUNDWATER MONITORING WELL CLUSTER
---·---·---	OU3 RI STUDY AREA BOUNDARIES

NOTES:

1. ALL SAMPLES WERE ANALYZED FOR EXPLOSIVES, METALS, VOCs AND SVOCs WITH ONE EXCEPTION. THE 0-6 IN BGS SAMPLING INTERVAL WAS NOT ANALYZED FOR VOCs.
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

N

500 0 500 1000
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

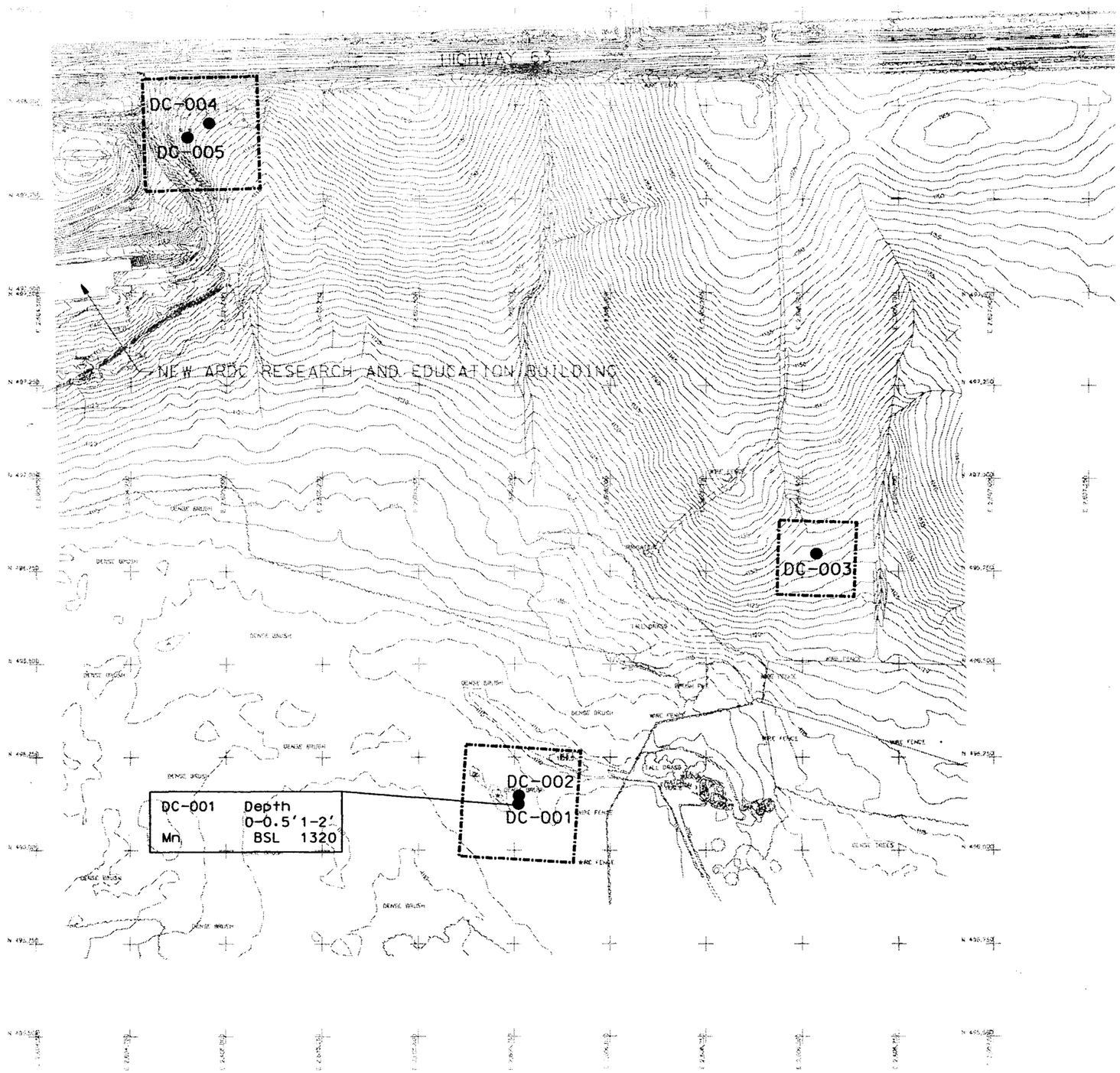
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

SOUTHWEST POTENTIAL WASTE DISPOSAL AREA AT FORMER ATLAS MISSILE AREA SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 500 FT
Date: MAY, 1997
Dwg. No.: 4-49
Sheet number: 1

28 APR 97 13:13:21
MCS FILE: j:\mead\ou3am02bs.dgn



SOURCE: WESTERN AIR MAPS, INC., 1995

LEGEND

●DC-001	SHALLOW SOIL SAMPLE LOCATION
-·-·-·-	OU3 RI STUDY AREA BOUNDARIES
1145	INDEX CONTOUR
	INTERMEDIATE CONTOUR

NOTES:

1. ALL SAMPLES WERE ANALYZED FOR EXPLOSIVES, METALS, VOCs AND SVOCs WITH ONE EXCEPTION. THE 0-6 IN BGS SAMPLING INTERVAL WAS NOT ANALYZED FOR VOCs.
2. SAMPLE LOCATION DCA-003 WAS SAMPLED AT AN ADDITIONAL INTERVAL (2-3 FT) DUE TO PLOWING THAT HAD TAKEN PLACE AT THIS SAMPLING LOCATION.
3. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

N

300 0 300 600
SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

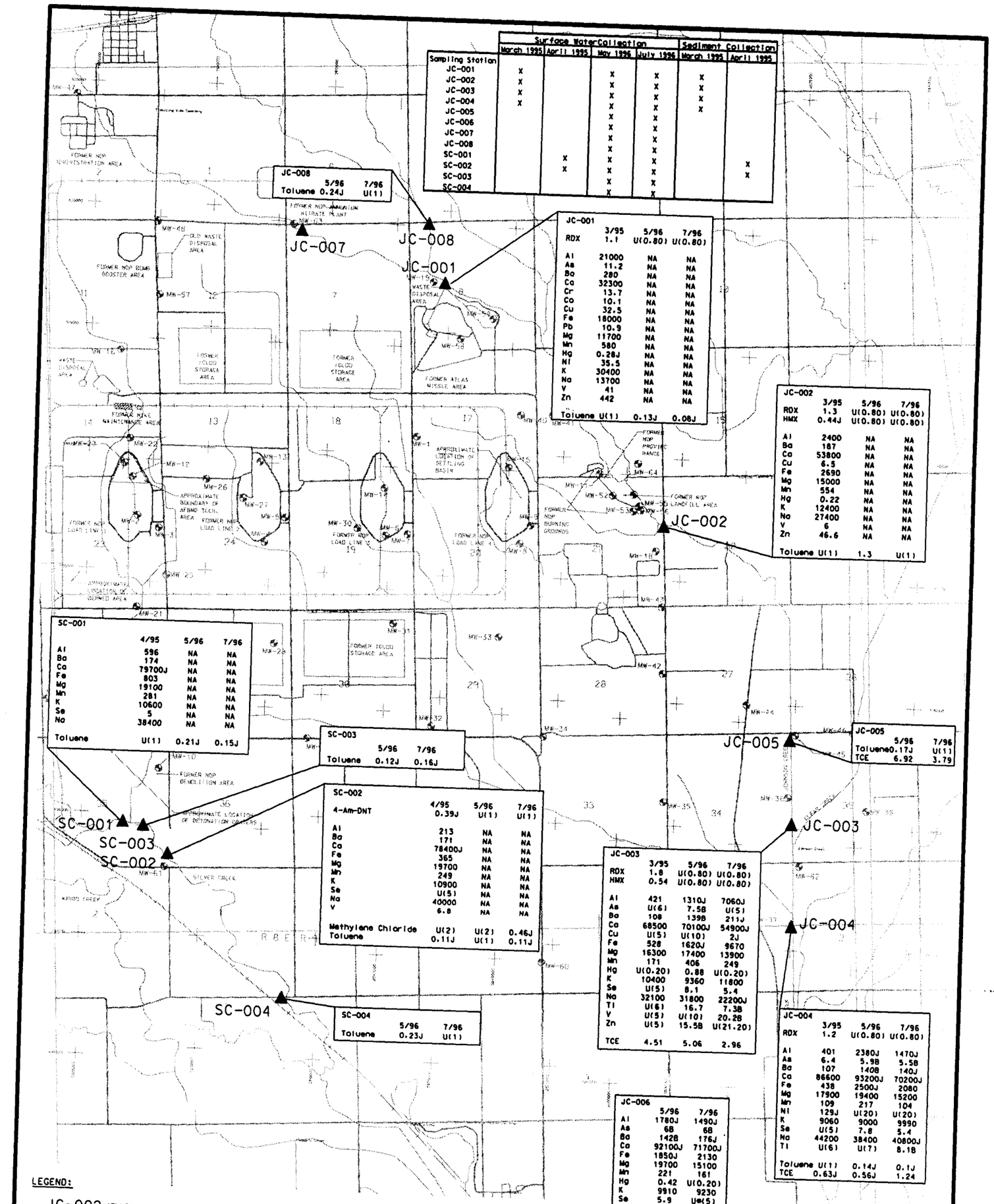
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

DETONATION CRATERS SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS

Scale: 1 IN = 300 FEET
Date: MAY, 1997
Dwg. No.: 4-50
Sheet number: 1

28 APR 97 13:16:25
MCS FILE: j:\mead\ou3dc01bs.dgn

B07NE003703-04622



Sampling Station	Surface Water Collection March 1995	April 1995	May 1996	July 1996	Sediment Collection March 1995	April 1995
JC-001	X		X	X	X	
JC-002	X		X	X	X	
JC-003	X		X	X	X	
JC-004	X		X	X	X	
JC-005			X	X	X	
JC-006			X	X		
JC-007			X	X		
JC-008			X	X		
SC-001		X	X	X		X
SC-002		X	X	X		X
SC-003			X	X		
SC-004			X	X		

JC-008

	5/96	7/96
Toluene	0.24J	U(1)

JC-001

	3/95	5/96	7/96
RDX	1.1	U(0.80)	U(0.80)
Al	21000	NA	NA
As	11.2	NA	NA
Ba	280	NA	NA
Ca	32300	NA	NA
Cr	13.7	NA	NA
Co	10.1	NA	NA
Cu	32.5	NA	NA
Fe	18000	NA	NA
Pb	10.9	NA	NA
Mg	11700	NA	NA
Mn	580	NA	NA
Hg	0.28J	NA	NA
Ni	35.5	NA	NA
K	30400	NA	NA
Na	13700	NA	NA
V	41	NA	NA
Zn	442	NA	NA
Toluene	U(1)	0.13J	0.08J

JC-002

	3/95	5/96	7/96
RDX	1.3	U(0.80)	U(0.80)
HMX	0.44J	U(0.80)	U(0.80)
Al	2400	NA	NA
Ba	187	NA	NA
Ca	53800	NA	NA
Cu	6.5	NA	NA
Fe	2690	NA	NA
Mg	15000	NA	NA
Mn	554	NA	NA
Hg	0.22	NA	NA
K	12400	NA	NA
Na	27400	NA	NA
V	6	NA	NA
Zn	46.6	NA	NA
Toluene	U(1)	1.3	U(1)

SC-001

	4/95	5/96	7/96
Al	596	NA	NA
Ba	174	NA	NA
Ca	79700J	NA	NA
Fe	803	NA	NA
Mg	19100	NA	NA
Mn	281	NA	NA
K	10600	NA	NA
Se	5	NA	NA
Na	38400	NA	NA
Toluene	U(1)	0.21J	0.15J

SC-003

	5/96	7/96
Toluene	0.12J	0.16J

JC-005

	5/96	7/96
Toluene	0.17J	U(1)
TCE	6.92	3.79

SC-002

	4/95	5/96	7/96
4-Am-DNT	0.39J	U(1)	U(1)
Al	213	NA	NA
Ba	171	NA	NA
Ca	78400J	NA	NA
Fe	365	NA	NA
Mg	19700	NA	NA
Mn	249	NA	NA
K	10900	NA	NA
Se	U(5)	NA	NA
Na	40000	NA	NA
V	6.8	NA	NA
Methylene Chloride	U(2)	U(2)	0.46J
Toluene	0.11J	U(1)	0.11J

JC-003

	3/95	5/96	7/96
RDX	1.8	U(0.80)	U(0.80)
HMX	0.54	U(0.80)	U(0.80)
Al	421	1310J	7060J
As	U(6)	7.5B	U(5)
Ba	108	139B	211J
Ca	68500	70100J	54900J
Cu	U(5)	U(10)	2J
Fe	528	1620J	9670
Mg	16300	17400	13900
Mn	171	406	249
Hg	U(0.20)	0.88	U(0.20)
K	10400	9360	11800
Se	U(5)	8.1	5.4
Na	32100	31800	22200J
Tl	U(6)	16.7	7.3B
V	U(5)	U(10)	20.2B
Zn	U(5)	15.5B	U(21.20)
TCE	4.51	5.06	2.96

SC-004

	5/96	7/96
Toluene	0.23J	U(1)

JC-004

	3/95	5/96	7/96
RDX	1.2	U(0.80)	U(0.80)
Al	401	2380J	1470J
As	6.4	5.9B	5.5B
Ba	107	140B	140J
Ca	86600	93200J	70200J
Fe	438	2500J	2080
Mg	17900	19400	15200
Mn	109	217	104
Ni	129J	U(20)	U(20)
K	9060	9000	9990
Se	U(5)	7.8	5.4
Na	44200	38400	40800J
Tl	U(6)	U(7)	8.1B
Toluene	U(1)	0.14J	0.1J
TCE	0.63J	0.56J	1.24

JC-006

	5/96	7/96
Al	1780J	1490J
As	6B	6B
Ba	142B	176J
Ca	92100J	71700J
Fe	1850J	2130
Mg	19700	15100
Mn	221	161
Hg	0.42	U(0.20)
K	9910	9230
Se	5.9	U(5)
Na	37500	36800J
V	12B	10.1B
Zn	13B	U(8)
Toluene	0.11J	U(1)
TCE	0.41J	0.33J

LEGEND:

JC-002 JOHNSON AND CLEAR CREEK SAMPLING STATION

SC-001 SILVER CREEK SURFACE WATER SAMPLING STATION

MW-10 GROUNDWATER MONITORING WELL CLUSTER LOCATION

36 SECTION

T 14 N TOWNSHIP 14 NORTH

R 9 E RANGE 9 EAST

NOTES:

1. ALL OU3 RI SAMPLES WERE ANALYZED FOR EXPLOSIVES, METALS, VOCs, AND SVOCs.
2. ALL SURFACE WATER SAMPLE LOCATIONS ARE APPROXIMATE BECAUSE THEY ARE NOT SURVEYED.
3. UNITS OF CONCENTRATION FOR EXPLOSIVES, METALS AND VOLATILES IN WATER ARE ug/L
4. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

SOURCE: USGS, 1969

N

4000 0 4000 8000

SCALE FEET

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

JOHNSON, CLEAR AND SILVER CREEKS
SAMPLING STATIONS AND SURFACE WATER SAMPLING RESULTS

Scale: AS NOTED
Date: MAY, 1997
Dwg. No.: 4-51
Sheet number: 1

28 APR 97 02:03:27 MCS FILE: F:\mead\ou3-rpt\a.dgn

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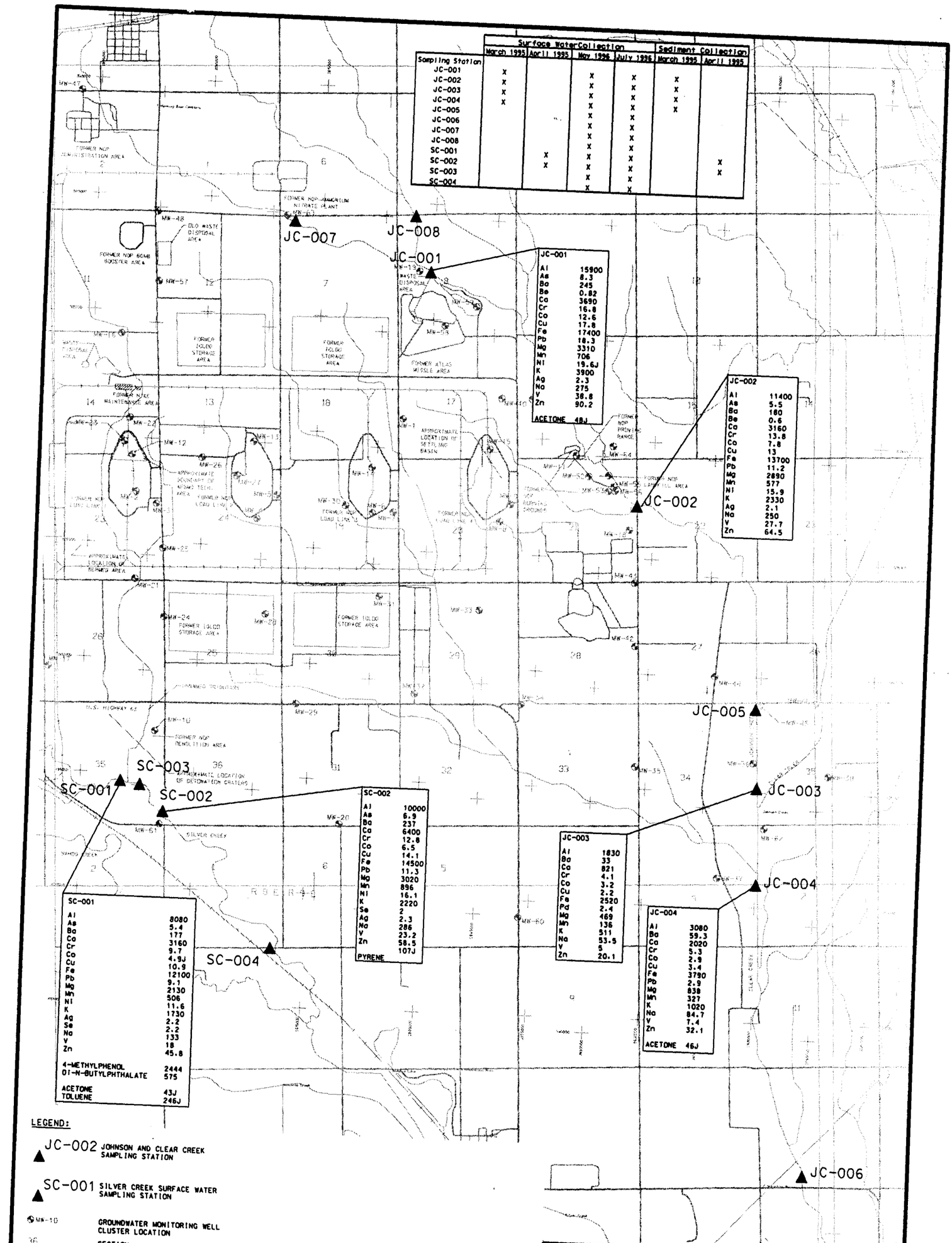

Sampling Station	Surface Water Collection March 1995	Surface Water Collection April 1995	Surface Water Collection May 1996	Surface Water Collection July 1996	Sediment Collection March 1995	Sediment Collection April 1995
JC-001	x		x	x	x	
JC-002	x		x	x	x	
JC-003	x		x	x	x	
JC-004	x		x	x	x	
JC-005			x	x		
JC-006			x	x		
JC-007			x	x		
JC-008			x	x		
SC-001		x	x	x		x
SC-002		x	x	x		x
SC-003			x	x		
SC-004			x	x		

JC-001

Al	15900
As	8.3
Ba	245
Be	0.82
Ca	3690
Cr	16.8
Co	12.6
Cu	17.8
Fe	17400
Pb	18.3
Mg	3310
Mn	706
Ni	19.6J
K	3900
Ag	2.3
Na	275
V	38.8
Zn	90.2
ACETONE	48J

JC-002

Al	11400
As	5.5
Ba	160
Be	0.6
Ca	3160
Cr	13.8
Co	7.8
Cu	13
Fe	13700
Pb	11.2
Mg	2890
Mn	577
Ni	15.9
K	2330
Ag	2.1
Na	250
V	27.7
Zn	64.5

SC-002

Al	10000
As	6.9
Ba	237
Ca	6400
Cr	12.8
Co	6.5
Cu	14.1
Fe	14500
Pb	11.3
Mg	3020
Mn	896
Ni	16.1
K	2220
Se	2
Ag	2.3
Na	286
V	23.2
Zn	58.5
PYRENE	107J

JC-003

Al	1830
Ba	33
Ca	821
Cr	4.1
Co	3.2
Cu	2.2
Fe	2520
Pb	2.4
Mg	469
Mn	136
K	511
Na	53.5
V	5
Zn	20.1

JC-004

Al	3080
Ba	59.3
Ca	2020
Cr	5.3
Co	2.9
Cu	3.4
Fe	3790
Pb	2.9
Mg	838
Mn	327
K	1020
Na	84.7
V	7.4
Zn	32.1
ACETONE	46J

SC-001

Al	8080
As	5.4
Ba	177
Ca	3160
Cr	9.7
Co	4.9J
Cu	10.9
Fe	12100
Pb	9.1
Mg	2130
Mn	506
Ni	11.6
K	1730
Ag	2.2
Se	2.2
Na	133
V	18
Zn	45.8
4-METHYLPHENOL	2444
DI-N-BUTYLPHTHALATE	575
ACETONE	43J
TOLUENE	246J

LEGEND:

JC-002 JOHNSON AND CLEAR CREEK SAMPLING STATION

SC-001 SILVER CREEK SURFACE WATER SAMPLING STATION

MW-10 GROUNDWATER MONITORING WELL CLUSTER LOCATION

36 SECTION

T 14 N TOWNSHIP 14 NORTH

R 9 E RANGE 9 EAST

NOTES:

1. ALL OU3 RI SAMPLES WERE ANALYZED FOR EXPLOSIVES, METALS, VOCs, AND SVOCs.
2. ALL SURFACE WATER SAMPLE LOCATIONS ARE APPROXIMATE BECAUSE THEY ARE NOT SURVEYED.
3. UNITS OF CONCENTRATION FOR EXPLOSIVES, METALS AND VOLATILES IN WATER ARE ug/L
3. UNITS OF CONCENTRATION FOR EXPLOSIVES, METALS AND VOLATILES IN WATER ARE ug/L
2. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

SOURCE: USGS, 1969

N

4000 0 4000 8000

SCALE FEET

28 APR 97 020540
MCS FILE: J:\mead\ou3-sba.dgn

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

JOHNSON, CLEAR AND SILVER CREEKS SAMPLING STATIONS AND SEDIMENT SAMPLING RESULTS

Designed by:	S.J.F.
Drawn by:	J.W.B.
Checked by:	B.C.O.
Submitted by:	RAN
Scale:	AS NOTED
Date:	MAY, 1997
Dwg. No.:	4-52
Sheet number:	1

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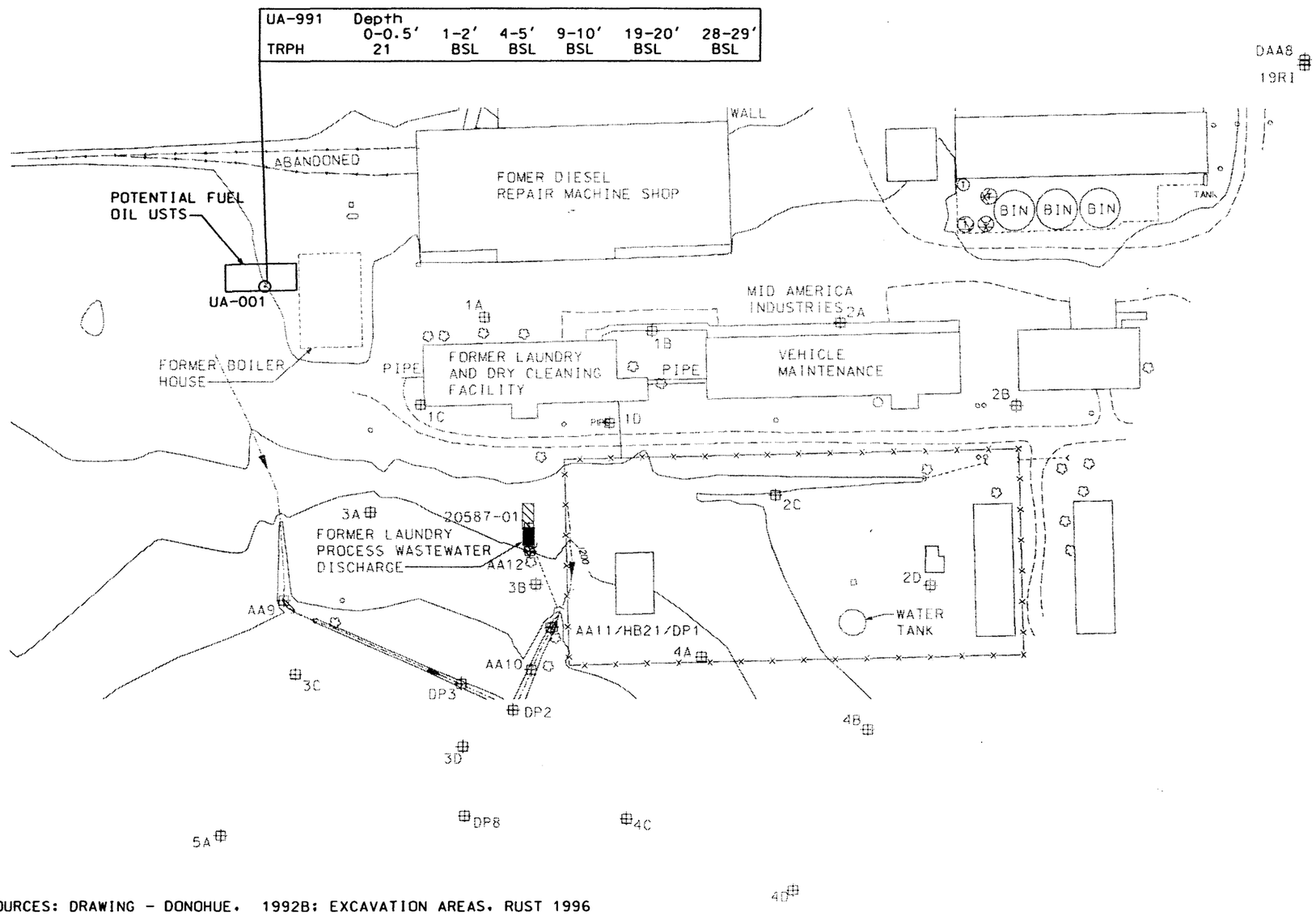


SOURCES: DRAWING - DONOHUE. 1992B: EXCAVATION AREAS. RUST 1996

LEGEND:

⊙ UA-001 — SHALLOW AND DEEP SOIL SAMPLE LOCATION (SEE NOTE 2)

⊞ 1A — PREVIOUS INVESTIGATION SOIL SAMPLE LOCATION (OU1 SUPPLEMENTAL RI/FS 1992)

NOTES:

1. ALL OU3 RI SAMPLES WERE ANALYZED FOR SVOCs, BTEX AND TRPH.
2. SOIL SAMPLE (28-29 FT BGS) AND A HYDROPUNCH SAMPLE WERE ALSO COLLECTED AT THIS LOCATION. HYDROPUNCH SET AT 41.4 FT BGS. GROUNDWATER LEVEL AT 36.35 FT BGS.
3. TRPH=TOTAL RECOVERABLE PETROLEUM HYDROCARBONS.
4. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

N

100 0 100 200

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

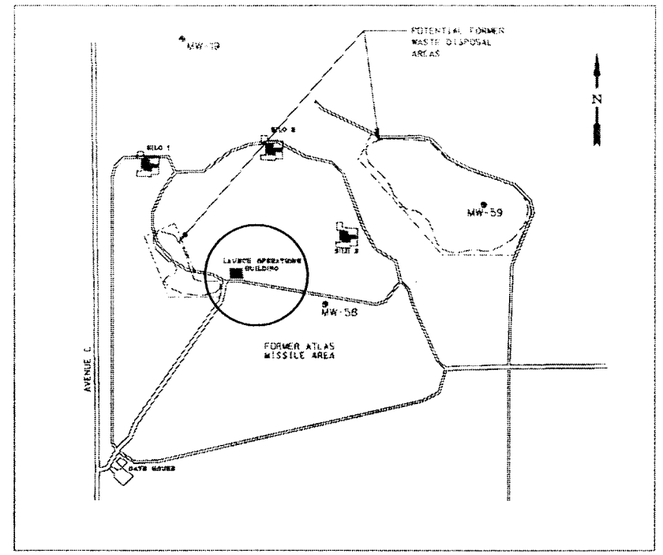
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

FORMER ADMINISTRATION AREA USTs SAMPLING LOCATION AND RESULTS ABOVE SCREENING LEVELS

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN
Scale: 1 IN = 100 FEET
Date: MAY, 1997
Dwg. No.: 4-53
Sheet number: 1

28 APR 97 02:07:58
MCS FILE: j:\mead\ou3ua01s.dgn

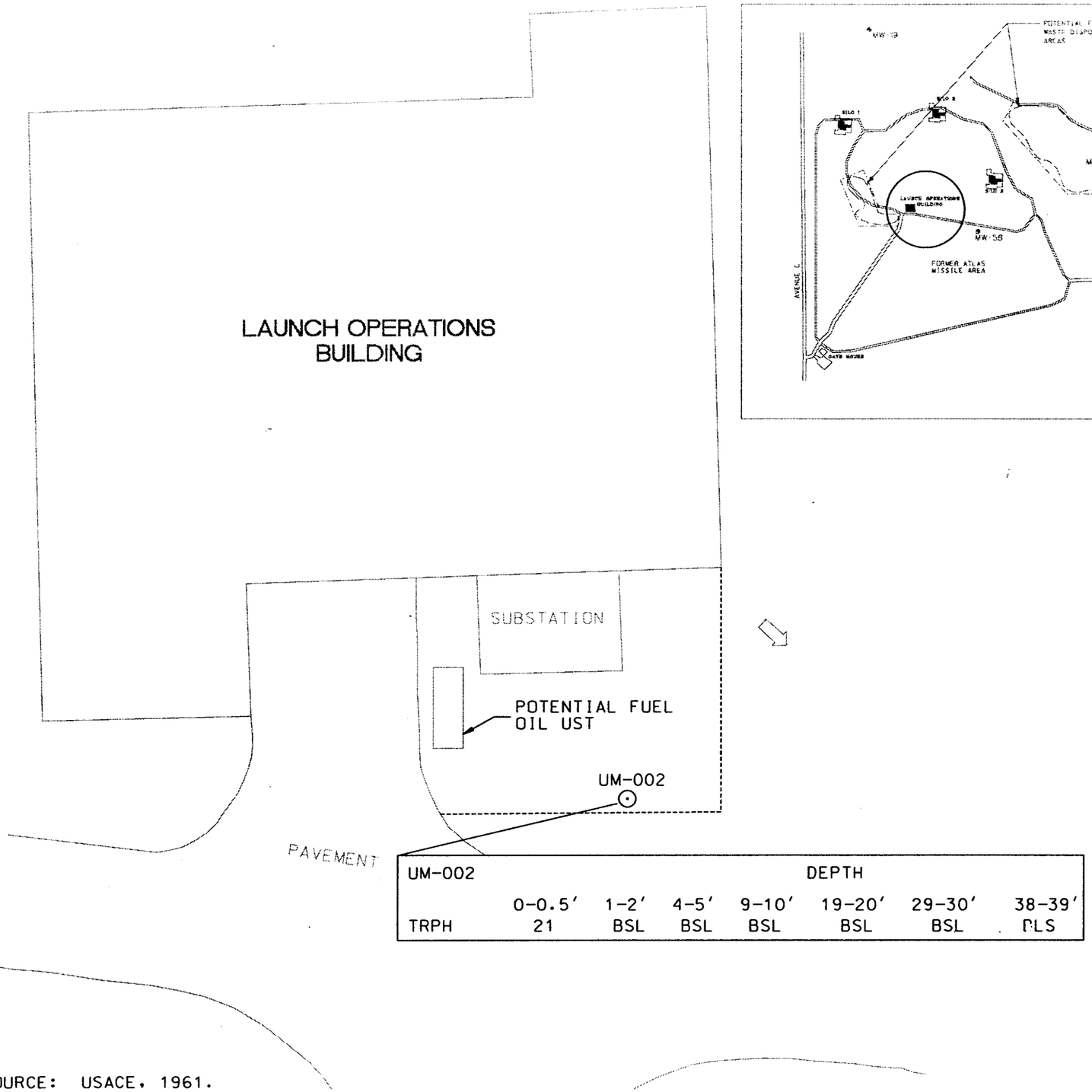


LEGEND:

⊙ UM-002	SHALLOW AND DEEP SOIL SAMPLING LOCATION (SEE NOTE 2)
----------	OU3 RI STUDY AREA BOUNDARY
⇦	GROUNDWATER FLOW (APPROXIMATE)

NOTES:

1. ALL SAMPLES WERE ANALYZED FOR SVOCs, VOCs, TRPH AND BTEX.
2. SOIL SAMPLES (29FT-30 FT AND 38 FT-39 FT. BGS), AND A HYDROPUNCH® SAMPLE WERE ALSO COLLECTED AT THIS LOCATION. HYDROPUNCH® SET AT 44 FT BGS. GROUNDWATER LEVEL AT 42.09 FT BGS.
3. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.



UM-002	DEPTH						
	0-0.5'	1-2'	4-5'	9-10'	19-20'	29-30'	38-39'
TRPH	21	BSL	BSL	BSL	BSL	BSL	BLS

SOURCE: USACE, 1961.

N

20 0 20 40

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: R.A.D.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

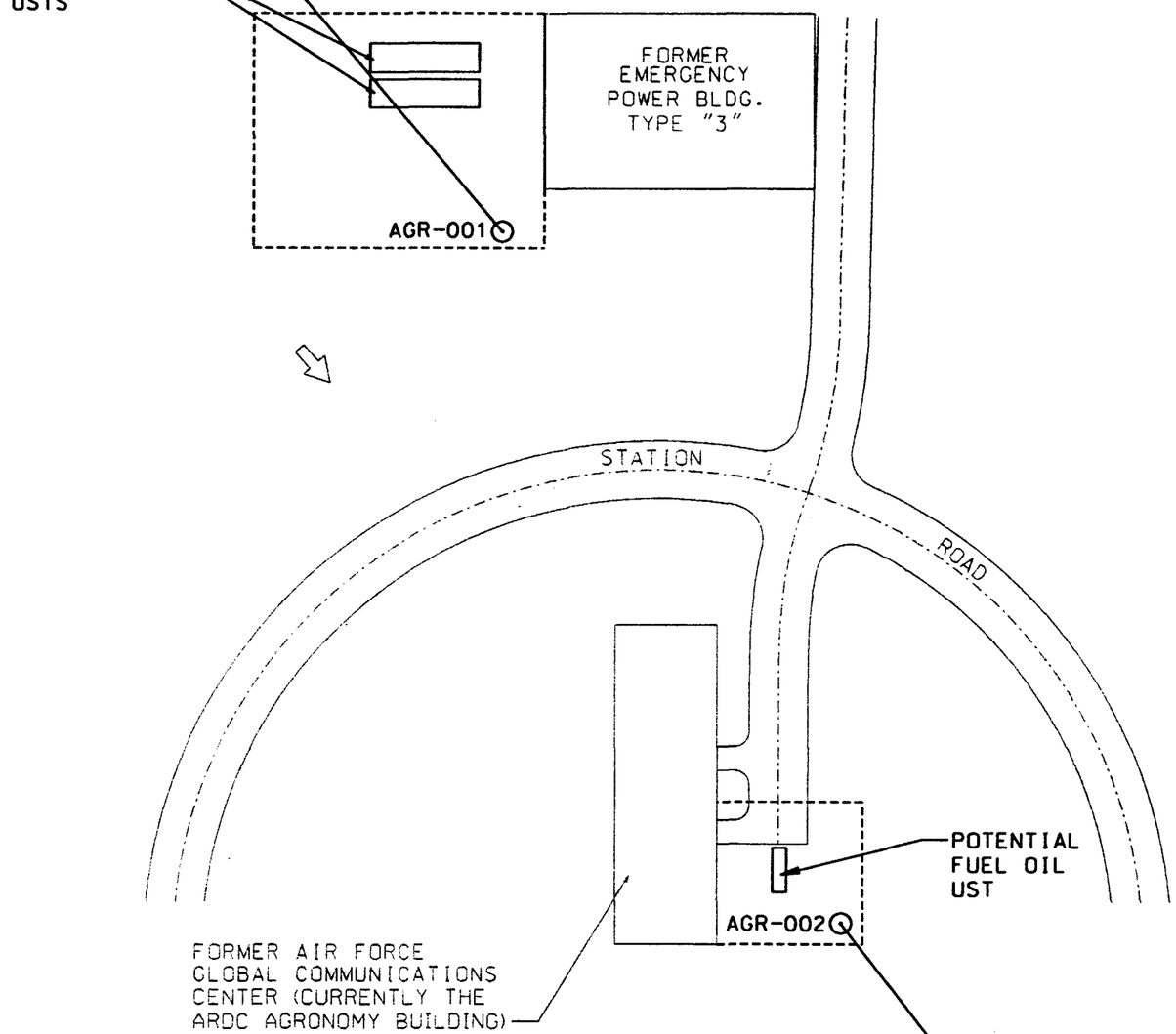
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

FORMER ATLAS MISSILE AREA
LAUNCH OPERATIONS BUILDING
UST SAMPLING LOCATION AND
RESULTS ABOVE SCREENING LEVELS

Scale: 1 IN = 20 FEET
Date: MAY, 1997
Dwg. No.: 4-54
Sheet number: 1

28 APR 97 02:08:46 j:\mead\ou3um01bs.dgn

AGR-001	Depth 0-0.5'	1-2'	4-5'	9-10'	19-20'	29-30'	39-40'	45-46'
Benzo(a)pyrene	140J	BSL	BSL	BSL	BSL	BSL	BSL	BSL
TRPH	13	BSL	BSL	BSL	BSL	BSL	BSL	BSL



AGR-002	Depth 0-0.5'	1-2'	4-5'	9-10'	19-20'	29-30'	39-40'	46-47'
Benzo(a)anthracene	1100	BSL	BSL	BSL	BSL	BSL	BSL	BSL
Benzo(a)pyrene	1100	460	BSL	BSL	BSL	BSL	BSL	BSL
Benzo(b)fluoranthene	1600	690	BSL	BSL	BSL	BSL	BSL	BSL
Dibenzo(a,h)anthrocene	170	79	BSL	BSL	BSL	BSL	BSL	BSL
Indeno(1,2,3-cd)pyrene	650	BSL	BSL	BSL	BSL	BSL	BSL	BSL

LEGEND:

⊙ AGR-002 — DEEP SOIL SAMPLING LOCATION (SEE NOTE 2 AND 3)

---------- — OU3 RI STUDY AREA BOUNDARIES

GROUNDWATER FLOW (APPROXIMATE)

NOTE:

1. SOIL AND GROUNDWATER SAMPLES WERE ANALYZED FOR SVOCS, BTEX, AND TRPH.
2. AT AGR-001, SOIL SAMPLES (39-40 AND 45-46 FT BGS) AND A HYDROPUNCH SAMPLE WERE ALSO COLLECTED AT THIS LOCATION. THE HYDROPUNCH WAS SET AT 49 FT BGS. GROUNDWATER LEVEL WAS ENCOUNTERED AT 47 FT BGS.
3. AT AGR-002, SOIL SAMPLES (39-40 AND 45-46 FT BGSO AND HYDROPUNCH SAMPLE WERE ALSO COLLECTED AT THIS LOCATION. THE HYDROPUNCH WAS SET AT 51 FT BGS. GROUNDWWATER LEVEL WAS ENCOUNTERED AT 47 FT BGS.
4. SEE DRAWING 1-2 FOR UNITS OF CONCENTRATION.

N

50 0 50 100

SCALE FEET

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: J.W.B.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NEBRASKA

FORMER AIR FORCE GLOBAL COMMUNICATION CENTER UST SAMPLING LOCATIONS AND RESULTS ABOVE SOIL SCREENING LEVELS.

Scale: 1 INCH = 50 FEET
Date: MAY, 1997
Dwg. No.: 4-55
Sheet number: 1

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MCS FILE: j:\mead\pint-02s.dgn

VOLUME III
DRAFT FINAL REPORT

REMEDIAL INVESTIGATION REPORT
OPERABLE UNIT NO. 3
FORMER NEBRASKA ORDNANCE PLANT
MEAD, NEBRASKA
CONTRACT NO. DACA41-96-C-8011

Prepared for
Department of the Army
U.S. Army Engineer District
Kansas City District
Corps of Engineers
Kansas City, Missouri

May 1997

Woodward-Clyde

Woodward-Clyde Federal Services
10975 El Monte, Suite 100
Overland Park, Kansas 66211

Project K9623

Appendix A

B07NE003703-04629

The following notes apply to the Appendix Tables:

GRAS = Generally Recognized As Safe
R = Rejected
J = Estimated Value
UJ = Estimated Detection Limit
U = Nondetect Value

Table A-1	Analytical Data For Background Soils
Table A-2	Analytical Data For Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Table A-3	Analytical Data Load Line 1 Bomb Production Buildings Beneath Soil Sampling
Table A-4	Analytical Data For Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Table A-5	Analytical Data For Load Line 2 Bomb Production Buildings Beneath Soil Sampling
Table A-6	Analytical Data For Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Table A-7	Analytical Data For Load Line 3 Bomb Production Buildings Beneath Soil Sampling
Table A-8	Analytical Data For Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Table A-9	Analytical Data For Load Line 4 Bomb Production Buildings Beneath Soil Sampling
Table A-10	Analytical Data For Load Line 1 Bomb Production Buildings Surface Wipe Sampling
Table A-11	Analytical Data For Load Line 2 Bomb Production Buildings Surface Wipe Sampling
Table A-12	Analytical Data For Load Line 3 Bomb Production Buildings Surface Wipe Sampling
Table A-13	Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Table A-14	Analytical Data For Load Line 1 Paint Operation Areas Shallow Soil Sampling
Table A-15	Analytical Data For Load Line 2 Paint Operation Areas Shallow Soil Sampling
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Table A-17	Analytical Data For Load Line 4 Paint Operation Areas Shallow Soil Sampling

Table A-18	Analytical Data For Groundwater Sampling At Existing Monitoring Wells At Load Lines Paint Operation Areas
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Table A-30	Analytical Data For Shallow And Deep Soil Sampling At The Potential Waste Disposal Area Southeast Of The Former Bomb Booster Area
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Table A-34	Analytical Data For Shallow And Deep Soil Sampling At Potential Waste Disposal Area North Of The Former Ammonium Nitrate Plant
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Table A-40	Analytical Data For Surface Water Sampling At Johnson And Clear Creeks
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Table 4-51	Analytical Data For Hydropunch Groundwater Sampling Near The Former Air Force Global Communications Center Underground Storage Tanks
Table A-52	Analytical Data For Shallow And Deep Soil Sampling At Geophysical Anomaly At Load Line 3

Table A-1
Analytical Data For Background Soils
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	BKG-001			BKG-002			BKG-003			BKG-004			BKG-005			BKG-006			BKG-007			BKG-008			BKG-009			BKG-010		
		BKG-001-001 (1-2 ft)			BKG-002-001 (1-2 ft)			BKG-003-001 (1-2 ft)			BKG-004-001 (1-2 ft)			BKG-005-001 (1-2 ft)			BKG-006-001 (1-2 ft)			BKG-007-001 (1-2 ft)			BKG-008-001 (1-2 ft)			BKG-009-001 (1-2 ft)			BKG-010-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																															
Aluminum	33852	19400			15200			19000			16200			17500			16300			9660			17200			18100			20700		
Antimony	31		R			R			R			R			R			R			R			R			R			R	
Arsenic	13.5	5.6			7.2			8.1			8.2			8.4			5.8			3.8			7			6.8			6.8		
Barium	440	212			192			208			244			225			219			236			207			244			215		
Beryllium	1.52	0.78	J		0.76	J		0.86	J		0.8	J		0.81	J		0.69	J		0.54	J		0.77	J		0.79	J		0.8	J	
Cadmium	39	0.22	J		0.19	J		0.15	J		0.23	J		0.27	J		0.19	J			U	(0.11)	0.16	J		0.36	J		0.17	J	
Calcium	GRAS	2930			3130			3260			3730			3470			2790			2560			2970			3220			2370		
Chromium	37	20.2			16.2			19.9			18.1			19.6			17.8			13.1			18.7			19.9			21.3		
Cobalt	17.2	8.6	J		8.4	J		9.9	J		9.2	J		9.3	J		7.2	J		8.9	J		8.6	J		7.1	J		8.8	J	
Copper	33.9	15.7			17.3			19.1			22.1			21.4			13.4			11.9			16.8			16.5			15.2		
Iron	GRAS	18300			18000			21000			20500			20400			15900			11300			18400			18100			19500		
Lead	400	13.4			14			14.9			14.7			15.5			14.4			14.5			13.9			15.7			13.7		
Magnesium	GRAS	3380			3150			3940			4310			4150			2710			2080			3160			3170			3440		
Manganese	1083	504			513			603			572			578			447			660			523			497			516		
Nickel	39.3	19.1			19.8			23.4			24.6			24.1			15.9			12			19.6			18.7			19.3		
Potassium	GRAS	3150	J		2460	J		2820	J		2110	J		2870	J		2780	J		1720	J		2900	J		3600	J		2980	J	
Selenium	390		U	(0.77)		U	(0.78)	1.2				U	(0.82)		U	(0.79)	0.89	J			U	(0.73)	1.2	J		1	J			U	(0.75)
Thallium	1.72		U	(0.81)	0.86	J			U	(0.83)		U	(0.86)		U	(0.83)		U	(0.82)		U	(0.77)		U	(0.84)		U	(0.83)		U	(0.8)
Vanadium	72.5	40.2			31.6			37.5			31.3			38.3			36.2			27.5			38.3			40.2			41.3		
Zinc	119.5	65.6			53.7			62			66.1			67.5			56.6			42.8			55.5			65.5			62.4		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit (CRDL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-001						B1A-002						B1A-003						B1A-004					
		B1A-001-000 (0-0.5 ft)			B1A-001-001 (1-2 ft)			B1A-002-000 (0-0.5 ft)			B1A-002-001 (1-2 ft)			B1A-003-000 (0-0.5 ft)			B1A-003-001 (1-2 ft)			B1A-004-000 (0-0.5 ft)			B1A-004-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.2	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)	0.37	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.48	J			U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)	0.26	J			U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)	0.41	J			U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	17600	J		20300	J		14900	J		20100	J		20400	J		15200	J		17800	J		14400	J	
Antimony	31	0.48	J			UJ	(0.45)		UJ	(0.48)		UJ	(4.4)		UJ	(0.46)		UJ	(0.43)		UJ	(0.48)		UJ	(0.46)
Arsenic	13.5	11			7.1	J		7.6	J		8.1	J		8.8	J		5.6	J		9	J		6.4	J	
Barium	440	244			250	J		236	J		247	J		264	J		241	J		262	J		199	J	
Beryllium	1.52	0.87			0.89			0.75			0.92			0.9			0.76			0.86			0.66		
Cadmium	39		U	(0.12)	0.29	J		1	J		0.54	J		0.27	J		0.25	J		0.21	J		0.77	J	
Calcium	GRAS	5010			4930			17700			5060			4000			3680			4350			4910		
Chromium	37	19.7	J		20.7	J		25.8	J		21	J		21.3	J		16.7	J		19.5	J		17.2	J	
Cobalt	17.2	8.1			10.5			10.8			10.3			11.4			9.2			12.2			9		
Copper	33.9	20.4	J		17.8	J		26.5	J		21.9	J		19.7	J		15	J		19.8	J		19.1	J	
Iron	GRAS	21200			20700	J		18800	J		21300	J		22100	J		16800	J		21300	J		18800	J	
Lead	400	19.4	J		35.5			291			22.8			18.6			14.6			15.5			36.6		
Magnesium	GRAS	4210			3460			4050			3760			4360			3030			4370			2570		
Manganese	1083	354	J		645	J		651	J		635	J		651	J		601	J		679	J		568	J	
Mercury	23		U	(0.12)		U	(0.11)		U	(0.11)		U	(0.11)		U	(0.11)		U	(0.12)		U	(0.11)		U	(0.12)
Nickel	39.3	20.7			21.7			25.9			23.6			23.9			18			24.4			23.8		
Potassium	GRAS	3340			3410			3890			3700			4160			3390			3570			2840		
Selenium	390	1.1	J		1.1	J			U	(1.1)		U	(1)		U	(1.1)	1	J		1.1	J			U	(1.1)
Silver	380		UJ	(0.14)		UJ	(0.14)		UJ	(0.15)		UJ	(0.14)		UJ	(0.15)		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)
Sodium	GRAS		U	(315)		U	(322)		U	(344)		U	(316)		U	(328)		U	(307)		U	(342)		U	(328)
Thallium	1.72		U	(12.8)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.3)
Vanadium	72.5	34.9			42.1	J		35	J		41.9	J		44.9	J		33.8	J		42.5	J		34.3	J	
Zinc	119.5	65.7			68.9	J		***140***	J		76.8	J		62.7	J		56	J		60.9	J		85.2	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit (CRQL/CRDL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-005						B1A-006						B1A-007						B1A-008					
		B1A-005-000 (0-0.5 ft)			B1A-005-001 (1-2 ft)			B1A-006-000 (0-0.5 ft)			B1A-006-001 (1-2 ft)			B1A-007-000 (0-0.5 ft)			B1A-007-001 (1-2 ft)			B1A-008-000 (0-0.5 ft)			B1A-008-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)	0.45	J			U	(0.5)		U	(0.5)		U	(0.5)	***6.4***				U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.33	J			U	(0.5)	***58***				U	(0.5)	***420***			0.65		
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)	0.26	J			U	(0.5)	1.1			0.71			9.9			5		
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)	0.17	J			U	(1)	1.1				U	(1)	7.1			1		
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(1.2)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.028	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	17100	J		15200	J		13000			18800			16000	J		20200	J		14100			14900		
Antimony	31		UJ	(0.49)	0.52	J			UJ	(0.45)		UJ	(0.47)		UJ	(0.43)		UJ	(0.46)	0.86	J			UJ	(0.46)
Arsenic	13.5	9	J		7.6	J		6.3	J		9			6.5	J		9.6			5.9	J		8.9		
Barium	440	286	J		232			185			227			173			274			151			207		
Beryllium	1.52	0.83			0.77			0.61			0.85			0.66			0.9			0.56			0.8		
Cadmium	39	0.3	J		0.37	J		2.1			0.92	J		0.59	J		0.29	J		2.2			0.23	J	
Calcium	GRAS	5850			4430			4890	J		3910	J		6460			4780			37000	J		4870	J	
Chromium	37	20.4	J		17	J		17.3			19.7			18.3			20.2			18.5			16.5		
Cobalt	17.2	12.5			10.2			8.2			10.3			8			11.3			6.3			10.4		
Copper	33.9	22	J		17.8	J		31.3			21.2			20.6	J		20.6	J		***75.3***			21.5		
Iron	GRAS	21300	J		18900	J		15600			20500			16000			22200			13200			19900		
Lead	400	36.2			25.7			394	J		24.8	J		71.4	J		16.7	J		210	J		15	J	
Magnesium	GRAS	5350			3320			2630			3370			2930			3900			2780			3630		
Manganese	1083	763	J		609	J		496	J		594	J		491	J		692	J		375	J		614	J	
Mercury	23		U	(0.11)		U	(0.1)		U	(0.13)		U	(0.12)	0.15	J			U	(0.13)	0.29				U	(0.1)
Nickel	39.3	28.3			21.1			19.8			22.7			18.3			26.4			25			25.4		
Potassium	GRAS	3630			3150			2620			3120			3220			3320			2660			2740		
Selenium	390		U	(1.1)		U	(1.1)	1.2	J		1.7	J			U	(1)	1.5	J		1	J		1.4	J	
Silver	380		UJ	(0.16)		UJ	(0.14)		U	(0.14)		U	(0.15)		UJ	(0.14)		UJ	(0.14)		U	(0.13)		U	(0.14)
Sodium	GRAS		U	(351)		U	(326)		U	(317)		U	(336)		U	(306)		U	(325)		U	(303)		U	(326)
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.4)		U	(12.4)		U	(13.2)		U	(1.2)		U	(1.3)
Vanadium	72.5	43.6	J		35.7	J		28.1			39.9			36.2			37.2			24.9			25.1		
Zinc	119.5	68.2	J		67.6	J		***495***			105			83.9			72.5			***277***			56.9		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit (CRQL/CRDL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-009						B1A-010						B1A-011						B1A-012					
		B1A-009-000 (0-0.5 ft)			B1A-009-001 (1-2 ft)			B1A-010-000 (0-0.5 ft)			B1A-010-001 (1-2 ft)			B1A-011-000 (0-0.5 ft)			B1A-011-001 (1-2 ft)			B1A-012-000 (0-0.5 ft)			B1A-012-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	***1.9***				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	***2.3***				U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	***43***			2.4			2.9	J			U	(0.5)	0.21	J			U	(0.5)	***860***			3.2		
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.6				U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	***1***				U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	4.1			3.9			0.25	J			U	(0.5)		U	(0.5)		U	(0.5)	12	J		0.73		
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	3.4			2				U	(1)		U	(1)		U	(1)		U	(1)	14	J		0.56	J	
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.42	J			U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	20500	J		20000	J		15100			18100			18700			***47500***			18000			13100		
Antimony	31	0.52	J		0.59	J			UJ	(0.45)		UJ	(0.45)		R			R		0.51	J			R	
Arsenic	13.5	7.4	J		10.5			6.6	J		9.4			9.3			***17.5***			5.4	J		6.5	J	
Barium	440	169			271			230			214			206			***462***			201			188		
Beryllium	1.52	0.84			0.94			0.65			0.87			0.83			***1.9***			0.54			0.68		
Cadmium	39	0.83	J		0.24	J		0.97	J		0.31	J		0.18	J		0.55	J		1.7			0.31	J	
Calcium	GRAS	7160			4920			22100	J		4480	J		4030			8830			23200			3840		
Chromium	37	24.5			21.1			22.3			18.9			19			***47***			26.2			15		
Cobalt	17.2	9.7			13.6			8.3			10.4			9.6			***20.8***			7.3			8.8		
Copper	33.9	24.8	J		22.1	J		***39.7***			20.1			16.4	J		***41.8***	J		***49.1***	J		18.3	J	
Iron	GRAS	20500			23500			16700			21000			20100			46900			14900			16500		
Lead	400	42.8	J		17.7	J		214	J		22	J		24.3	J		29.9	J		347			23.4		
Magnesium	GRAS	3870			4530			4500			3610			3740			8950			3710			2790		
Manganese	1083	529	J		827	J		504	J		607	J		545	J		1010	J		443			517		
Mercury	23	0.93				U	(0.13)		U	(0.12)		U	(0.11)		U	(0.13)		U	(0.24)	0.28				U	(0.11)
Nickel	39.3	22.3			28.3			19.9			22.7			21.9			***51.7***			21			19.6		
Potassium	GRAS	3950			3510			3940			3210			4090			8210			3680			2640		
Selenium	390		U	(1.1)		U	(1.1)	1.3	J		2.2	J		2.1	J		3.1	J			U	(1.1)	1.7	J	
Silver	380		UJ	(0.14)		UJ	(0.15)		U	(0.14)		U	(0.14)		UJ	(0.15)		UJ	(0.29)		UJ	(0.15)		UJ	(0.14)
Sodium	GRAS		U	(32.4)		U	(330)		U	(318)		U	(320)	967	J		2690	J		1260			779		
Thallium	1.72		U	(13.2)		U	(13.4)		U	(1.3)		U	(1.3)		U	(13.6)		U	(26.4)		U	(1.4)		U	(1.3)
Vanadium	72.5	43.4			41.1			35			34.4			38.7			***102***			23.7			30.4		
Zinc	119.5	89			63.4			***227***			66			56.9	J		117	J		***406***			66.8		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit (CRQL/CRDL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-013						B1A-014						B1A-015						B1A-016					
		B1A-013-000 (0-0.5 ft)			B1A-013-001 (1-2 ft)			B1A-014-000 (0-0.5 ft)			B1A-014-001 (1-2 ft)			B1A-015-000 (0-0.5 ft)			B1A-015-001 (1-2 ft)			B1A-016-000 (0-0.5 ft)			B1A-016-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)	0.12	J			U	(0.5)		U	(0.5)		U	(0.5)	0.3	J	
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.063	J			U	(0.5)	0.34	J		0.39	J			U	(0.5)	*32*		
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.29	J	
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.28	J			U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.25	J		0.16	J		0.42	J			U	(0.5)		U	(0.5)	0.2	J		0.18	J		15		
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.5	J			U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.34	J			U	(1)	0.23	J			U	(1)	0.27	J		0.28	J		0.34	J		10		
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.11	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	15800			14600			19500			18700			21200			19900			13700			14800		
Antimony	31	0.52	J			R			R			R		0.88	J			R			R			R	
Arsenic	13.5	8.3			7.8	J		8.5	J		10.2			9.1			8.5	J		7.4	J		6	J	
Barium	440	198			222			229			221			282			250			248			197		
Beryllium	1.52	0.77			0.77			0.81			0.9			0.88			0.85			0.74			0.69		
Cadmium	39	0.48	J		0.35	J		0.35	J		0.21	J		0.77	J		0.57	J		0.88	J		0.92	J	
Calcium	GRAS	4130			4190			3470			4110			7270			4390			7220			6360		
Chromium	37	17.7			16.3			20	J		18.8			25			21.6			16.3	J		16.1		
Cobalt	17.2	10.7			9.7			8.8			10.8			11			10.2			8.7			7.9		
Copper	33.9	20.4	J		20.5	J		18.5	J		22.7	J		22.9	J		20.3	J		19.7	J		16	J	
Iron	GRAS	18700			18400			19500			22500			21500			20400			17200			16100		
Lead	400	39.7	J		17.3	J		27.9	J		15.7	J		55.2	J		44.4	J		153	J		20.6	J	
Magnesium	GRAS	3230			3500			3710			4110			4470			3770			3200			3100		
Manganese	1083	638	J		542	J		496	J		628	J		673	J		587	J		565	J		404	J	
Mercury	23		U	(0.1)		U	(0.1)		U	(0.12)		U	(0.12)		U	(0.1)		U	(0.13)		U	(0.13)		U	(0.12)
Nickel	39.3	22.6			22.5			21.8			27.2			25			22.8			19.1			17.8		
Potassium	GRAS	3380			2870			4680			3680			4570			3840			3350			3350		
Selenium	390	1.2	J			U	(1.1)	1.2	J		1.6	J		1.1	J			U	(1.1)		U	(1.1)		U	(1.1)
Silver	380		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)		UJ	(0.14)
Sodium	GRAS	2490	J		814	J		1420	J		916	J		1430	J		856	J		1260	J		1090	J	
Thallium	1.72		U	(12.8)		U	(13.7)		U	(13.5)		U	(14.1)		U	(13.1)		U	(13.9)		U	(14)		U	(13.3)
Vanadium	72.5	37.4			32.1			43.4			38.9			49.9			45			34.7			34.1		
Zinc	119.5	72.6	J		57.9	J		75.7	J		58.7	J		94.6	J		82.1	J		96.5	J		51.4	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit (CRQL/CRDL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-017						B1A-018						B1A-019						B1A-020					
		B1A-017-000 (0-0.5 ft)			B1A-017-001 (1-2 ft)			B1A-018-000 (0-0.5 ft)			B1A-018-001 (1-2 ft)			B1A-019-000 (0-0.5 ft)			B1A-019-001 (1-2 ft)			B1A-020-000 (0-0.5 ft)			B1A-020-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)	0.17	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.24	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.36	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.17	J	
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)	0.28	J			U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)	0.31	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.22	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.068	J	
METALS (MG/KG)																									
Aluminum	33852	11500			17700			16600			17600			11800			15600			23200	J		14300	J	
Antimony	31		R			R		0.53	R			R			R			R			UJ	(0.48)		UJ	(0.48)
Arsenic	13.5	7.1	J		8.6	J		6.7	J		8.7	J		7.2	J		8	J		10.4			8.2	J	
Barium	440	177			266			239			232			169			199			258			210		
Beryllium	1.52	0.63			0.84			0.72			0.8			0.58			0.75			0.99			0.77		
Cadmium	39	0.23	J		0.21	J		1	J		0.41	J		0.4	J		0.51	J		0.23	J		0.16	J	
Calcium	GRAS	4100			3950			7960			3970			4540			3420			4470	J		3700	J	
Chromium	37	14.4	J		19.2			19.7			18.8			13.8			18.4			25.7	J		16.6	J	
Cobalt	17.2	8.3			10.7			8.9			9.8			7.2			10.5			11.6			9.8		
Copper	33.9	16.7	J		20.3	J		22.5	J		19.5	J		15	J		18.9	J		23.8			20.2		
Iron	GRAS	15700			20600			17600			19900			14000			18000			24500			19200		
Lead	400	15.7	J		14	J		300	J		14.2	J		67.4	J		15.8	J		20.6	J		14.7		
Magnesium	GRAS	3220			3950			3790			3670			2740			3230			5210			3840		
Manganese	1083	258	J		523	J		561	J		565	J		437	J		757	J		665			582		
Mercury	23		U	(0.11)		U	(0.12)		U	(0.14)		U	(0.11)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)
Nickel	39.3	18.1			23.1			20.4			23.2			16.4			22.2			29.7			23.3		
Potassium	GRAS	2760			3280			4250			3660			3530			3720			4500			2640		
Selenium	390		U	(1.1)		U	(1.1)		U	(1.2)	1.8	J			U	(1.1)	1.6	J			U	(1.1)		U	(1.1)
Silver	380		UJ	(0.15)		UJ	(0.16)		UJ	(0.16)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)
Sodium	GRAS	187	J		742	J		1760	J		1230	J		412	J		350	J			U	(341)		U	(341)
Thallium	1.72		U	(13.4)		U	(14.3)		U	(14.9)		U	(13.8)		U	(14.1)		U	(13.4)		U	(1.4)		U	(1.4)
Vanadium	72.5	30.3			37			43			43.1			28.4			40.2			50.5			31.1		
Zinc	119.5	46.8	J		54.4	J		***235***	J		54	J		79.5	J		50.3	J		67.6	J		54.6	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit (CRQL/CRDL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-021						B1A-022						B1A-023						B1A-024					
		B1A-021-000 (0-0.5 ft)			B1A-021-001 (1-2 ft)			B1A-022-000 (0-0.5 ft)			B1A-022-001 (1-2 ft)			B1A-023-000 (0-0.5 ft)			B1A-023-001 (1-2 ft)			B1A-024-000 (0-0.5 ft)			B1A-024-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)	***27***			***5.3***				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.18	J			U	(0.5)	***13000***			***1100***				UJ	(0.5)		U	(0.5)	0.68			0.13	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)	***5***			0.89				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.18	J	
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)	10			4.7				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)	7.1			2.9				U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.5)		UJ	(0.5)		U	(0.75)	3		
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.11	J		0.31	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	18300	J		19200	J		16200			15000	R		10800			6820			6450			13000		
Antimony	31		UJ	(0.48)		UJ	(0.45)	3.2	J			U	(0.46)		R			R			R			R	
Arsenic	13.5	7.3	J		7.6	J		6.3	J		6.5	J		8.2	J		3.7	J		4.8	J		10.1		
Barium	440	257			283			263	J		231			211			123			152			249		
Beryllium	1.52	0.83			0.87			0.75			0.71			0.71			0.38			0.43			0.79		
Cadmium	39	0.22	J		0.24	J		0.88	J		0.29	J		0.23	J			UJ	(0.12)	2.9	J		0.3	J	
Calcium	GRAS	3910	J		4560	J		3810			3070			3590			1750			3480			4450		
Chromium	37	20.3	J		22.4	J		22.6			17.8			12.5			7.9			9			14.8		
Cobalt	17.2	10.2			10.9			9.8	J		9.4			9.8			5.4			6.3			11.6		
Copper	33.9	18.4			19.5			***73***			29			17.8			8.7			14.9			23.7		
Iron	GRAS	19500			20500			17400			17300			15200			8820			12000			19100		
Lead	400	47.3			16.5			172			23			21.2	J		7.7	J		165	J		15.5	J	
Magnesium	GRAS	3770			4300			2820			2940			2610			1620			1770			3920		
Manganese	1083	605			639			537	J		284			531	J		317	J		416	J		768	J	
Mercury	23		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.11)		U	(0.12)		U	(0.12)		U	(0.1)	0.18	J	
Nickel	39.3	21.2			22.6			39.3			18.5			19.9			10.3			13.6			28.7		
Potassium	GRAS	4490			3770			4020			3530			2780			1670			1750			2190		
Selenium	390		U	(1.1)		U	(1)		U	(1.1)	2.4	J			U	(1.1)		U	(1)	1.6	J			U	(1.1)
Silver	380		UJ	(0.15)		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)		U	(1.1)		U	(1.1)		U	(1)		U	(1.2)
Sodium	GRAS		U	(340)		U	(320)		U	(344)		U	(330)	74.1	J		118	J		108	J		192	J	
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.4)
Vanadium	72.5	41.3			46.2			34.1			32.7			26.3			16.4			17.6			23.6		
Zinc	119.5	81	J		64.4	J		***187***			68.4			48.9			26.8			119			54.7		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit (CRQL/CRDL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-025						B1A-026						B1A-027						B1A-028					
		B1A-025-000 (0-0.5 ft)			B1A-025-001 (1-2 ft)			B1A-026-000 (0-0.5 ft)			B1A-026-001 (1-2 ft)			B1A-027-000 (0-0.5 ft)			B1A-027-001 (1-2 ft)			B1A-028-000 (0-0.5 ft)			B1A-028-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.11	J		0.35	J		0.47	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.29	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)	0.24	J		0.38	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)	0.33	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)	0.21	J		0.38	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	14700			16000			13400			15700			14300			15200			21100	J		19600	J	
Antimony	31		R			UJ	(0.46)		R			R			R			R			UJ	(0.43)		UJ	(0.42)
Arsenic	13.5	9.1			7.4	J		5.9	J		5.7	J		7.4	J		9.5			9.2			9.3		
Barium	440	243			299			218			219			265			289			221			336		
Beryllium	1.52	0.69			0.75			0.68			0.71			0.7			0.75			0.9			0.86		
Cadmium	39	0.41	J		0.47	J		1	J		0.36	J		0.39	J		0.38	J		0.27	J		0.33	J	
Calcium	GRAS	4020			4320			4310			3000			4340			4080			3770			4200		
Chromium	37	17.2	J		20.6			16			17.3			16.1			17.6			22.8	J		23		
Cobalt	17.2	10.1			10.4			9.7			8.3			9.2			11			10.3			11.5		
Copper	33.9	19.4			18.6	J		20.1			16.2			19.4			21.4			20	J		19.6	J	
Iron	GRAS	19000			18500			15700			16100			17800			20300			21700			21300		
Lead	400	15.1			14.7	J		93.4			14.3			91			30			17.3	J		14.5	J	
Magnesium	GRAS	3980			4220			2640			2750			3680			3910			4250			4630		
Manganese	1083	617			716			516			591			527			***1110***			578	J		675	J	
Mercury	23		U	(0.13)		U	(0.13)		U	(0.12)		U	(0.1)		U	(0.12)	0.13	J			U	(0.11)		U	(0.11)
Nickel	39.3	25.1			22.7			21.4			17.4			22			27.2			24.6			25		
Potassium	GRAS	3550			3470			3260			3400			4030			3450			4770			4410		
Selenium	390		U	(1.1)	1.1	J			U	(1.1)	1.8	J			U	(1.1)		U	(1.1)		U	(0.99)		U	(0.97)
Silver	380		*UJ*	*(0.14)*		*UJ*	*(0.15)*		*UJ*	*(0.15)*		*UJ*	*(0.15)*		*UJ*	*(0.15)*		*UJ*	*(0.15)*		*UJ*	*(0.14)*		*UJ*	*(0.13)*
Sodium	GRAS		U	(324)	208	J			U	(334)		U	(342)		U	(330)		U	(337)		U	(304)		U	(29.7)
Thallium	1.72		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.2)		U	(12.1)
Vanadium	72.5	33.3			38			29.5			33.3			29			34			47.6			51.7		
Zinc	119.5	57.6			62.5			***162***			48.8			66.4			57.5			75			59.1		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit (CRQL/CRDL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-029						B1A-030						B1A-031						B1A-032					
		B1A-029-000 (0-0.5 ft)			B1A-029-001 (1-2 ft)			B1A-030-000 (0-0.5 ft)			B1A-030-001 (1-2 ft)			B1A-031-000 (0-0.5 ft)			B1A-031-001 (1-2 ft)			B1A-032-000 (0-0.5 ft)			B1A-032-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.518)		U	(496)		U	(0.535)	***2.2***				U	(0.557)		U	(25.3)		U	(0.519)		U	(0.48)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.518)		U	(496)		U	(0.535)		U	(0.494)		U	(0.557)		U	(25.3)		U	(0.519)		U	(0.48)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.775			***1880***				U	(0.535)	2.7				U	(0.557)	***183***				U	(0.519)		U	(0.48)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.518)		U	(496)		U	(0.535)		U	(0.494)		U	(0.557)		U	(25.3)		U	(0.519)		U	(0.48)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.518)		U	(496)		U	(0.535)		U	(0.494)		U	(0.557)		U	(25.3)		U	(0.519)		U	(0.48)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.518)		U	(496)		U	(0.535)	2				U	(0.557)		U	(25.3)		U	(0.519)		U	(0.48)
2-Nitrotoluene (2-NT)	NA		U	(0.518)		U	(496)		U	(0.535)		U	(0.494)		U	(0.557)		U	(25.3)		U	(0.519)		U	(0.48)
3-Nitrotoluene (3-NT)	NA		U	(0.518)		U	(496)		U	(0.535)		U	(0.494)		U	(0.557)		U	(25.3)		U	(0.519)		U	(0.48)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(0.518)		U	(496)		U	(0.535)	0.56				U	(0.557)		U	(25.3)		U	(0.519)		U	(0.48)
4-Nitrotoluene (4-NT)	NA		U	(0.518)		U	(496)		U	(0.535)		U	(0.494)		U	(0.557)		U	(25.3)		U	(0.519)		U	(0.48)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.518)		U	(496)		U	(0.535)		U	(0.494)		U	(0.557)		U	(25.3)		U	(0.519)		U	(0.48)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.518)		U	(496)		U	(0.535)		U	(0.494)		U	(0.557)		U	(25.3)		U	(0.519)		U	(0.48)
Nitrobenzene (NB)	NA		U	(0.518)		U	(496)		U	(0.535)		U	(0.494)		U	(0.557)		U	(25.3)		U	(0.519)		U	(0.48)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.518)		U	(496)		U	(0.535)		U	(0.494)		U	(0.557)		U	(25.3)		U	(0.519)		U	(0.48)
METALS (MG/KG)																									
Aluminum	33852	9710			13700			13000			9110			11900			13900			13900			13600		
Antimony	31		UJ	(13.1)		UJ	(12.8)		UJ	(13.5)		R			UJ	(13.6)		UJ	(13)		UJ	(12.7)		UJ	(12.4)
Arsenic	13.5	7.7			7.9			9			6.9			7.4			8			9.4			9.8		
Barium	440	222			312			251			179	*		247			253			261			238		
Beryllium	1.52		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.2)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.2)
Cadmium	39		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.2)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.2)
Calcium	GRAS	3740			4920			4830			2860			4690			14500			3620			18800		
Chromium	37	13.5			18			16.1			9.3	*		15.9			18.1			16			16.3		
Cobalt	17.2	7.4	B		***18***			9	B		7.7	B		9.2	B		11.6	B		9.1	B		11.3	B	
Copper	33.9	16.8			21.1			22.5			17.5			17.4			21.9			17.1			22.6		
Iron	GRAS	14900			18400			18400			20000			17000			19400			18800			19000		
Lead	400	54.9			119			64.5			11			39.9			27.2			17.9			15.9		
Magnesium	GRAS	2790			3400			3450			2610			3310			4190			3530			4220		
Manganese	1083	566			995			558			464	J		579			691			583			702		
Mercury	23		UN	(0.11)		UN	(0.11)		UN	(0.11)		U	(0.1)		UN	(0.11)	0.24	J		0.19	J			UN	(0.1)
Nickel	39.3	21.2			25.5			24.9			20.7			22			31.7			27.9			27.8		
Potassium	GRAS	2760			2690			3320			1510			2960			2800			3630			3200		
Selenium	390		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.2)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.2)
Silver	380		U	(2.6)		U	(2.6)		U	(2.7)		UJ	(2.5)		U	(2.7)		U	(2.6)		U	(2.5)		U	(2.5)
Sodium	GRAS		U	(262)		U	(255)		U	(270)		U	(247)		U	(271)		U	(261)		U	(254)		U	(248)
Thallium	1.72		U	(1.8)		U	(1.8)		U	(1.9)		U	(1.7)		U	(1.9)		U	(1.8)		U	(1.8)		U	(1.7)
Vanadium	72.5	25.5			33.1			30.7			20.4			28.5			34.3			32.3			30.9		
Zinc	119.5	95.1			***137***			103			47.2	*			U	(79.8)	***130***				U	(68.8)	97.8		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit (CRQL/CRDL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-033						B1A-034						B1A-035						B1A-036					
		B1A-033-000 (0-0.5 ft)			B1A-033-001 (1-2 ft)			B1A-034-000 (0-0.5 ft)			B1A-034-001 (1-2 ft)			B1A-035-000 (0-0.5 ft)			B1A-035-001 (1-2 ft)			B1A-036-000 (0-0.5 ft)			B1A-036-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.502)		U	(250)		U	(99.4)		U	(935)		U	(0.497)		U	(0.503)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.502)		U	(250)		U	(99.4)		U	(935)		U	(0.497)		U	(0.503)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.502)	***790***			***230***			***4300***			12			8.6			***24***				U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.502)		U	(250)		U	(99.4)		U	(935)		U	(0.497)		U	(0.503)	***6.8***				U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.502)		U	(250)		U	(99.4)		U	(935)		U	(0.497)		U	(0.503)	0.29	J			U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.502)		U	(250)		U	(99.4)		U	(935)		U	(0.497)		U	(0.503)	3			0.29	J	
2-Nitrotoluene (2-NT)	NA		U	(0.502)		U	(250)		U	(99.4)		U	(935)		U	(0.497)		U	(0.503)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.502)		U	(250)		U	(99.4)		U	(935)		U	(0.497)		U	(0.503)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(0.502)		U	(250)		U	(99.4)		U	(935)		U	(0.497)		U	(0.503)	2.7			0.22	J	
4-Nitrotoluene (4-NT)	NA		U	(0.502)		U	(250)		U	(99.4)		U	(935)		U	(0.497)		U	(0.503)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.502)		U	(250)		U	(99.4)		U	(935)		U	(0.497)		U	(0.503)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.502)		U	(250)		U	(99.4)		U	(935)		U	(0.497)		U	(0.503)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(0.502)		U	(250)		U	(99.4)		U	(935)		U	(0.497)		U	(0.503)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.502)		U	(250)		U	(99.4)		U	(935)		U	(0.497)		U	(0.503)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	10800			12800			15200			10800			14700			18400			19000	J		19300	J	
Antimony	31		R			R			R			R			R			R		0.84	J		0.52	J	
Arsenic	13.5	9.1			6.6			9.7			6.5			11.6			10.5			6.8	J		8.8	J	
Barium	440	265	*		234	*		272	*		210	*		281	*		199	*		227			223		
Beryllium	1.52		U	(1.3)		U	(1.2)		U	(1.2)		U	(1.2)		U	(1.2)		U	(1.3)	0.75			0.89		
Cadmium	39		U	(1.3)		U	(1.2)		U	(1.2)	2				U	(1.2)		U	(1.3)	1.9			0.2	J	
Calcium	GRAS	3430			4320			5100			44800			4100			3880			35000			4370		
Chromium	37	12.5	*		12.2	*		13.4	*		18.9	*		18.1	*		17.1	*		25.4			19.6		
Cobalt	17.2	9.5	B		8.2	B		9.1	B		6.8	B		10.1	B		11	B		9.2			10.4		
Copper	33.9	17.8			32			29.4			***46.7***			20.7			19.9			33.5	J		21	J	
Iron	GRAS	16900			15300			18000			17500			21200			22800			18100			21500		
Lead	400	14			35.4			45.7			52.3			14.9			16.8			319	J		14.7	J	
Magnesium	GRAS	3310			3090			3470			3150			4110			4110			3850			4150		
Manganese	1083	641	J		720	J		475	J		476	J		650	J		704	J		574	J		598	J	
Mercury	23		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.11)		U	(0.13)
Nickel	39.3	24.7			21.8			21.9			***43.7***			27.1			26.9			31.4			25.9		
Potassium	GRAS	2720			2900			3130			2240			4030			4290			4870			3620		
Selenium	390		U	(1.3)		U	(1.2)		U	(1.2)		U	(1.2)		U	(1.2)		U	(1.3)	2.3	J		1.6	J	
Silver	380		UJ	(2.5)		UJ	(2.5)		UJ	(2.5)		UJ	(2.3)	9.9	J			UJ	(2.5)		UJ	(0.15)		UJ	(0.15)
Sodium	GRAS		U	(251)		U	(249)		U	(249)		U	(233)		U	(249)		U	(251)		U	(343)		U	(342)
Thallium	1.72		U	(1.8)		U	(1.7)		U	(1.7)		U	(1.6)		U	(1.7)		U	(1.8)		U	(14)		U	(14)
Vanadium	72.5	26.7			24.6			28.5			20.8			29.7			32.1			42.2			33.6		
Zinc	119.5	59.9	*		119	*		112	*		***224***	*		72.2	*		69.5	*		***221***			69.2		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit (CRQL/CRDL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-037						B1A-038						B1A-039						B1A-040					
		B1A-037-000 (0-0.5 ft)			B1A-037-001 (1-2 ft)			B1A-038-000 (0-0.5 ft)			B1A-038-001 (1-2 ft)			B1A-039-000 (0-0.5 ft)			B1A-039-001 (1-2 ft)			B1A-040-000 (0-0.5 ft)			B1A-040-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)	***3***				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	***21***			0.2	J		***180***			0.72			1.2			0.078	J		2.1			0.083	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.7			0.75			5.8			1.2			0.35	J		0.32	J		0.47	J			U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA	0.23	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	1			0.34	J		3.5			0.57	J			U	(1)		U	(1)	0.43	J			U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.36	J			U	(0.5)	0.28	J			U	(0.5)		U	(0.5)	0.081	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	23600	J		23100	J		23000	J		21100	J		21400	J		23200	J		16300			19600		
Antimony	31		UJ	(0.48)		UJ	(0.45)	0.86	J			UJ	(0.48)	0.78	J			UJ	(0.44)		R			R	
Arsenic	13.5	8.8	J		9.9			8.6			8.7	J		8.6	J		9.4			7.8	J		8.3	J	
Barium	440	234			255			249			237			216			231			220			245		
Beryllium	1.52	0.91			0.94			0.88			0.9			0.87			0.98			0.74			0.85		
Cadmium	39	0.59	J		0.52	J		0.77	J		0.4	J		1.1	J		0.2	J		0.91	J		0.39	J	
Calcium	GRAS	5340			4790			9280			4690			12200			4470			17900	J		8330		
Chromium	37	24.4			25.1			28.1			24.5			23.2			23			***40.8***			20.1		
Cobalt	17.2	10.9			10.9			10.7			10.8			10.2			10.7			9			10.2		
Copper	33.9	25.3	J		21.7	J		29	J		20.6	J		24.8	J		20.5	J		28.9	J		22.4	J	
Iron	GRAS	21900			23300			21700			21800			21100			23500			17800			20600		
Lead	400	116	J		26	J		93.7	J		39.7	J		79.6	J		16	J		176	J		15	J	
Magnesium	GRAS	4340			4330			4660			4110			4330			4330			4160			4100	J	
Manganese	1083	685	J		583	J		619	J		633	J		594	J		605	J		558	J		604		
Mercury	23		U	(0.13)		U	(0.11)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.11)		U	(0.12)		U	(0.13)
Nickel	39.3	25.3			26.9			25.8			25.2			23.5			25.3			33.3			23.4		
Potassium	GRAS	4250			4010			5130			4350			5210			4280			4560			4200		
Selenium	390		U	(1.1)		U	(1)		U	(1)	1.3	J			U	(1.1)	1.4	J			U	(1.1)		U	(1.1)
Silver	380		UJ	(0.15)		UJ	(0.14)		UJ	(0.14)		UJ	(0.15)		UJ	(0.16)		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)
Sodium	GRAS		U	(342)		U	(322)		U	(320)		U	(340)		U	(35.2)		U	(30.9)	1330	J		1140	J	
Thallium	1.72	***1.9***	J			U	(13.1)		U	(13)		U	(13.8)		U	(14.4)		U	(12.6)		U	(13.8)		U	(14)
Vanadium	72.5	51.2			51.7			53			42.8			49.3			47			36.8			41.8		
Zinc	119.5	107			110			***125***			69.6			***125***			68.7			109	J		55	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-042						B1A-043						B1A-044						B1A-045					
		B1A-042-000 (0-0.5 ft)			B1A-042-001 (1-2 ft)			B1A-043-000 (0-0.5 ft)			B1A-043-001 (1-2 ft)			B1A-044-000 (0-0.5 ft)			B1A-044-001 (1-2 ft)			B1A-045-000 (0-0.5 ft)			B1A-045-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.477)		U	(0.466)		U	(0.5)	0.23	J		0.24	J		0.16	J			U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.477)		U	(0.466)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.477)		U	(0.466)	0.75				U	(0.5)	0.21	J			U	(0.5)	0.093	J			U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.477)		U	(0.466)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.477)		U	(0.466)		U	(0.5)		U	(0.5)	0.28	J			U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.477)		U	(0.466)	0.48	J		0.25	J			U	(0.5)		U	(0.5)		UJ	(0.5)		UJ	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.477)		U	(0.466)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.477)		U	(0.466)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(0.477)		U	(0.466)	0.4	J			U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.477)		U	(0.466)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.477)		U	(0.466)		U	(0.75)		U	(0.75)	0.16	J		0.21	J			U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.477)		U	(0.466)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		UJ	(0.75)		UJ	(0.75)
Nitrobenzene (NB)	NA		U	(0.477)		U	(0.466)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.477)		U	(0.466)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.083	J		0.064	J	
METALS (MG/KG)																									
Aluminum	33852	9900			11700			12100			20700			17200			17000			15500			21700		
Antimony	31		UJ	(11.9)		UJ	(11.6)		R			R			R			R		0.55	J			UJ	(0.48)
Arsenic	13.5	8.7			6.9			6.1	J		9.7			8.2	J		9.9			6.6	J		9.5		
Barium	440	234			229			231			251			223			215			291	J		237	J	
Beryllium	1.52		U	(1.2)		U	(1.2)	0.6			0.92			0.83			0.83			0.7			0.94	J	
Cadmium	39		U	(1.2)		U	(1.2)	2.5			0.34	J		0.17	J		0.22	J		1.1	J			UJ	(0.13)
Calcium	GRAS	3710			3830			10900			4260			7120			3870			35600	J		4540	J	
Chromium	37	12.7			13.8			27.4			22.4			17.8			18.1			24.6	J		21.8	J	
Cobalt	17.2	10.2	B		9.2	B		7.9			10.9			10.9			11.6			10.9	J		11.5	J	
Copper	33.9	15.4			15.5			22.9	J		22.3	J		18	J		21.6	J		26.2	J		21.7	J	
Iron	GRAS	15400			16400			14900			22200			20300			20900			18900			23500		
Lead	400	17			22.3			265			18.2			17.6			15.2			216	J		18.9	J	
Magnesium	GRAS	3000			3240			3350			4430			3610			4190			4330			4430		
Manganese	1083	588			536			474			611			656			724			624	J		639	J	
Mercury	23		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.11)		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.11)
Nickel	39.3	20.2			21.6			22.6			25.2			22			24.3			24.3	J		25.7	J	
Potassium	GRAS	2860			3000			3320			3790			3180			2900			4290	J		3840	J	
Selenium	390		U	(1.2)		U	(1.2)		U	(1.1)		U	(1.1)		U	(1.1)		U	(1.1)	1.3	J		1.5	J	
Silver	380		U	(2.4)		U	(2.3)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.16)		UJ	(0.15)
Sodium	GRAS		U	(238)		U	(233)	1710			538			2520			727				U	(349)		U	(341)
Thallium	1.72		U	(1.7)		U	(1.6)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)
Vanadium	72.5	25.5			27.1			29.1			48.2			36.8			38.1			35			44.9		
Zinc	119.5		U	(57.6)		U	(66.8)	***212***			62.6			57			56.4			***192***	J		65.5	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-046						B1A-047						B1A-048						B1A-049					
		B1A-046-000 (0-0.5 ft)			B1A-046-001 (1-2 ft)			B1A-047-000 (0-0.5 ft)			B1A-047-001 (1-2 ft)			B1A-048-000 (0-0.5 ft)			B1A-048-001 (1-2 ft)			B1A-049-000 (0-0.5 ft)			B1A-049-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.78				U	(0.5)	0.16	J			U	(0.5)	0.11	J		0.24	J			U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)	0.48	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.3	J			U	(0.5)	0.14	J			UJ	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)	0.48	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)	0.48	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.66	J			U	(0.75)		U	(0.75)	0.63	J			U	(0.75)		U	(0.93)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.095	J		0.073	J		0.084	J			U	(0.5)		U	(0.5)	0.19	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	11100			21300			16800			13700			16600	J		18900	J		16600	J		16700	J	
Antimony	31	0.47	J			UJ	(0.46)		UJ	(0.5)		UJ	(0.48)		UJ	(0.45)		UJ	(0.47)		UJ	(0.47)		UJ	(0.47)
Arsenic	13.5	6.6	J		10.6			8.3	J		9.6			8.2	J		10			9.4			9.6		
Barium	440	298	J		261	J		***446***	J		279	J		245			282			248			242		
Beryllium	1.52	0.6			0.97			0.78			0.77			0.77			0.92			0.84			0.88		
Cadmium	39	1.3	J			UJ	(0.12)	17.2	J		0.2	J		1.1	J		0.29	J		0.27	J		0.28	J	
Calcium	GRAS	31000	J		4580	J		9310	J		4850	J		35000	J		4760	J		4900	J		4650	J	
Chromium	37	24.1	J		22.3	J		33.2	J		15.8	J		24.1	J		21.1	J		19	J		18.5	J	
Cobalt	17.2	16.8	J		13.3	J		11.5	J		10.7	J		10			12.6			10.5			12.1		
Copper	33.9	27.9	J		24.9	J		***44.6***	J		22.3	J		29.7			27.3			21.9			25.3		
Iron	GRAS	15400			24300			20400			20500			19000			23500			21000			22200		
Lead	400	240	J		17.6	J		274	J		15.4	J		121			16.3			18.4			16.2		
Magnesium	GRAS	4140			4930			4100			3950			4570			4890			4040			4320		
Manganese	1083	***1090***	J		806	J		573	J		620	J		625			705			675			720		
Mercury	23		U	(0.1)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)
Nickel	39.3	28.7	J		28.9	J		38.9	J		26.4	J		34.3			29			25.3			27.7		
Potassium	GRAS	4040	J		3990	J		4220	J		2840	J		4400			3340			3590			2930		
Selenium	390	1.7	J		1.3	J			U	(1.2)		U	(1.1)		U	(1)		U	(1.1)		U	(1.1)		U	(1.1)
Silver	380		UJ	(0.15)		UJ	(0.14)		UJ	(0.16)		UJ	(0.15)		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)
Sodium	GRAS		U	(332)		U	(326)		U	(491)		U	(341)		U	(320)		U	(334)		U	(333)		U	(333)
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.5)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.4)
Vanadium	72.5	30.4			43.7			38.6			28.4			37.4			42.8			37.1			31.2		
Zinc	119.5	***170***	J		67.1	J		***1890***	J		63.2	J		109	J		62.4	J		65.8	J		60.9	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-050						B1A-051						B1A-052						B1A-053					
		B1A-050-000 (0-0.5 ft)			B1A-050-001 (1-2 ft)			B1A-051-000 (0-0.5 ft)			B1A-051-001 (1-2 ft)			B1A-052-000 (0-0.5 ft)			B1A-052-001 (1-2 ft)			B1A-053-000 (0-0.5 ft)			B1A-053-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.495)		U	(0.503)		U	(0.503)		U	(0.494)		U	(0.496)		U	(0.503)		U	(0.49)		U	(0.504)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.495)		U	(0.503)		U	(0.503)		U	(0.494)		U	(0.496)		U	(0.503)		U	(0.49)		U	(0.504)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.495)		U	(0.503)		U	(0.503)		U	(0.494)		U	(0.496)		U	(0.503)		U	(0.49)		U	(0.504)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.495)		U	(0.503)		U	(0.503)		U	(0.494)		U	(0.496)		U	(0.503)		U	(0.49)		U	(0.504)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.495)		U	(0.503)		U	(0.503)		U	(0.494)		U	(0.496)		U	(0.503)		U	(0.49)		U	(0.504)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.495)		U	(0.503)		U	(0.503)		U	(0.494)		U	(0.496)		U	(0.503)		U	(0.49)		U	(0.504)
2-Nitrotoluene (2-NT)	NA		U	(0.495)		U	(0.503)		U	(0.503)		U	(0.494)		U	(0.496)		U	(0.503)		U	(0.49)		U	(0.504)
3-Nitrotoluene (3-NT)	NA		U	(0.495)		U	(0.503)		U	(0.503)		U	(0.494)		U	(0.496)		U	(0.503)		U	(0.49)		U	(0.504)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(0.495)		U	(0.503)		U	(0.503)		U	(0.494)		U	(0.496)		U	(0.503)		U	(0.49)		U	(0.504)
4-Nitrotoluene (4-NT)	NA		U	(0.495)		U	(0.503)		U	(0.503)		U	(0.494)		U	(0.496)		U	(0.503)		U	(0.49)		U	(0.504)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.495)		U	(0.503)		U	(0.503)		U	(0.494)		U	(0.496)		U	(0.503)		U	(0.49)		U	(0.504)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.495)		U	(0.503)		U	(0.503)		U	(0.494)		U	(0.496)		U	(0.503)		U	(0.49)		U	(0.504)
Nitrobenzene (NB)	NA		U	(0.495)		U	(0.503)		U	(0.503)		U	(0.494)		U	(0.496)		U	(0.503)		U	(0.49)		U	(0.504)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.495)		U	(0.503)		U	(0.503)		U	(0.494)		U	(0.496)		U	(0.503)		U	(0.49)		U	(0.504)
METALS (MG/KG)																									
Aluminum	33852	12400			11900			12700			11600			12300			11300			10800			11700		
Antimony	31		UJ	(12.4)		UJ	(12.6)		UJ	(12.6)		UJ	(12.4)		UJ	(12.4)		UJ	(12.6)		UJ	(12.3)		UJ	(12.6)
Arsenic	13.5	8.3			7.2			8.6			7.2			8.5			8.1			7.9			7.8		
Barium	440	247			233			227			221			266			238			241			247		
Beryllium	1.52		U	(1.2)		U	(1.3)		U	(1.3)		U	(1.2)		U	(1.2)		U	(1.3)		U	(1.2)		U	(1.3)
Cadmium	39		U	(1.2)		U	(1.3)		U	(1.3)		U	(1.2)		U	(1.2)		U	(1.3)		U	(1.2)		U	(1.3)
Calcium	GRAS	3700			4000			3490			3260			4290			3760			3130			4800		
Chromium	37	16.2			12.9			14.7			12.6			14.3			13.7			13.1			15.7		
Cobalt	17.2	10.1	B		9.9	B		10	B		9.5	B		10.1	B		9.6	B		11.4	B		10.9	B	
Copper	33.9	18			15.6			16.8			15.6			17.1			15.9			15.5			17.5		
Iron	GRAS	17700			16300			17600			15800			17400			16900			15900			17600		
Lead	400	50			25.7			16.2			21			31.5			20.2			21.1			225		
Magnesium	GRAS	3330			3270			3380			2970			3480			3240			3060			3550		
Manganese	1083	584			550			563			522			571			576			639			587		
Mercury	23		U	(0.1)		U	(0.1)		U	(0.1)	0.13				U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)
Nickel	39.3	24.8			24.6			21.3			21.4			24			24.5			21			23.7		
Potassium	GRAS	3620			3190			3250			2350			3260			2670			2940			3070		
Selenium	390		U	(1.2)		U	(1.3)	2.4				U	(1.2)		U	(1.2)		U	(1.3)		U	(1.2)	1.4		
Silver	380		U	(2.5)		U	(2.5)		U	(2.5)		U	(2.5)		U	(2.5)		U	(2.5)		U	(2.5)		U	(2.5)
Sodium	GRAS		U	(248)		U	(252)		U	(252)		U	(247)		U	(248)		U	(251)		U	(245)		U	(252)
Thallium	1.72		U	(1.7)		U	(1.8)		U	(1.8)		U	(1.7)		U	(1.7)		U	(1.8)		U	(1.7)		U	(1.8)
Vanadium	72.5	29.9			26.7			29.2			26.3			28.9			27.5			25.9			29.1		
Zinc	119.5		U	(75)		U	(64.6)		U	(66)		U	(63.7)		U	(73.8)		U	(60.1)		U	(61.8)		U	(93.9)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-054						B1A-055						B1A-056						B1A-057					
		B1A-054-000 (0-0.5 ft)			B1A-054-001 (1-2 ft)			B1A-055-000 (0-0.5 ft)			B1A-055-001 (1-2 ft)			B1A-056-000 (0-0.5 ft)			B1A-056-001 (1-2 ft)			B1A-057-000 (0-0.5 ft)			B1A-057-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.501)		U	(0.496)		U	(0.498)		U	(0.496)		U	(0.5)		U	(0.5)	0.55				U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.501)		U	(0.496)		U	(0.498)		U	(0.496)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.501)		U	(0.496)		U	(0.498)		U	(0.496)	5	J			U	(0.5)	***26***				U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.501)		U	(0.496)		U	(0.498)		U	(0.496)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.501)		U	(0.496)		U	(0.498)		U	(0.496)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.501)		U	(0.496)		U	(0.498)		U	(0.496)	1.2				U	(0.5)	1	J			UJ	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.501)		U	(0.496)		U	(0.498)		U	(0.496)		U	(0.75)	0.2	J			U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.501)		U	(0.496)		U	(0.498)		U	(0.496)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(0.501)		U	(0.496)		U	(0.498)		U	(0.496)	0.97	J			U	(1)	1.1	J			U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.501)		U	(0.496)		U	(0.498)		U	(0.496)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.501)		U	(0.496)		U	(0.498)		U	(0.496)		U	(0.75)		U	(0.75)	0.67	J			U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.501)		U	(0.496)		U	(0.498)		U	(0.496)		U	(0.75)		U	(0.75)		UJ	(0.75)		UJ	(0.75)
Nitrobenzene (NB)	NA		U	(0.501)		U	(0.496)		U	(0.498)		U	(0.496)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.501)		U	(0.496)		U	(0.498)		U	(0.496)	0.13	J			U	(0.5)	0.38	J		0.063	J	
METALS (MG/KG)																									
Aluminum	33852	11600			12800			12400			11100			13100			14200			13300			7990		
Antimony	31		UJ	(12.5)		UJ	(12.4)		UJ	(12.4)		UJ	(12.4)		R			R			UJ	(0.48)		UJ	(0.45)
Arsenic	13.5	8			7.4			8.4			8			7.9	J		9.8			7.8	J		5.1	J	
Barium	440	229			246			261			249			261			310			259	J		176	J	
Beryllium	1.52		U	(1.3)		U	(1.2)		U	(1.2)		U	(1.2)	0.61			0.77			0.68			0.45		
Cadmium	39		U	(1.3)		U	(1.2)		U	(1.2)		U	(1.2)	0.69	J		0.56	J		1.7	J		0.2	J	
Calcium	GRAS	3720			3920			3130			3160			3980			5180			6540	J		3150	J	
Chromium	37	13.1			15.1			14.6			13.7			16.7			17.9			21.1	J		10.5	J	
Cobalt	17.2	8.3	B		10.2	B		10.6	B		11.6	B		8.4			12.5			9.6	J		6.9	J	
Copper	33.9	16.2			16.5			16.4			14.9			23.3	J		21.8	J		***35.2***	J		15.9	J	
Iron	GRAS	16900			17000			17000			16000			16300			20200			18000			12700		
Lead	400	14.5			17.5			14.3			17.5			31.9	J		15.8	J		277	J		13.7	J	
Magnesium	GRAS	3270			3460			3260			3150			3420			4420			3520			2530		
Manganese	1083	557			564			612			630			469	J		782	J		593	J		417	J	
Mercury	23		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.12)		U	(0.13)		U	(0.11)		U	(0.1)
Nickel	39.3	23.3			26.8			21			21.9			23			27.2			26.2	J		16.3	J	
Potassium	GRAS	2720			3330			2910			2770			4000			3210			3280	J		1980	J	
Selenium	390		U	(1.3)		U	(1.2)		U	(1.2)		U	(1.2)		U	(1)		U	(1.1)	1.5	J			U	(1)
Silver	380		U	(2.5)		U	(2.5)		U	(2.5)		U	(2.5)		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)		UJ	(0.14)
Sodium	GRAS		U	(250)	287	B			U	(249)		U	(248)	3500	J		1870	J			U	(341)		U	(318)
Thallium	1.72		U	(1.8)		U	(1.7)		U	(1.7)		U	(1.7)		U	(12.6)		U	(14)		U	(1.4)		U	(1.3)
Vanadium	72.5	27.4			29			28			27.4			32.9			41.1			32.6			22.3		
Zinc	119.5		U	(64.1)		U	(68.5)		U	(59.7)		U	(56.3)	64.6	J		57.1	J		***132***	J		37	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-058						B1A-059						B1A-060						B1A-061					
		B1A-058-000 (0-0.5 ft)			B1A-058-001 (1-2 ft)			B1A-059-000 (0-0.5 ft)			B1A-059-001 (1-2 ft)			B1A-060-000 (0-0.5 ft)			B1A-060-001 (1-2 ft)			B1A-061-000 (0-0.5 ft)			B1A-061-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	***2.5***				U	(0.5)		U	(0.5)		U	(0.5)	1.3				U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.63				U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	***1500***			***18***			0.28	J			U	(0.5)	***68***			0.28	J		2.8				U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	***2***				U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	7.9	J		1.7	J		0.35	J			UJ	(0.5)	54	J		0.69	J		0.37	J		0.51	J	
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA	0.36	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	5.5	J		0.33	J			U	(1)		U	(1)	30				U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	1.3			0.8			1.4			0.71	J		1.7			0.8			0.69	J		0.83		
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		UJ	(0.75)		J			UJ	(0.75)		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.4	J			U	(0.5)	0.046	J			U	(0.5)	0.69				U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	17400			14400			15200			16700			14900			13800			7950			13600		
Antimony	31		UJ	(0.45)		UJ	(0.46)		UJ	(0.45)		UJ	(0.45)		UJ	(0.47)	1.2	J			UJ	(0.41)		UJ	(0.4)
Arsenic	13.5	6	J		5.3	J		8.1	J		7.5	J		7.7	J		8.4	J		6.5	J		5.2	J	
Barium	440	252	J		210	J		240	J		250	J		267	J		283	J		190	J		238	J	
Beryllium	1.52	0.66			0.66			0.68			0.8			0.82			0.73			0.5			0.67	J	
Cadmium	39	6.3	J			UJ	(0.12)	2.6	J		0.28	J		1.9	J		2.6	J		0.36	J		0.14	J	
Calcium	GRAS	9230	J		3930	J		51000	J		4400	J		6970	J		5400	J		4140	J		3780	J	
Chromium	37	24	J		16.4	J		20	J		18.3	J		31.2	J		18.6	J		12.1	J		14.8	J	
Cobalt	17.2	8.8	J		8.6	J		9.4	J		9.9	J		10.4	J		11.3	J		7.7	J		9.3	J	
Copper	33.9	***44.5***	J		13.6	J		19.9	J		18.6	J		26.5	J		25.3	J		17.2	J		13.6	J	
Iron	GRAS	15900			15700			17500			19800			19100			20100			13000			15400		
Lead	400	***417***	J		17.1	J		153	J		17.5	J		145	J		42.7	J		36.3	J		15.6	J	
Magnesium	GRAS	3120			2790			4050			3800			3630			3720			2400			2800		
Manganese	1083	537	J		505	J		606	J		612	J		628	J		670	J		371	J		525	J	
Mercury	23		U	(0.13)		U	(0.12)		U	(0.11)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.11)		U	(0.11)
Nickel	39.3	21.9	J		16.7	J		20.2	J		22.5	J		23.3	J		34.8	J		17.3	J		16.4	J	
Potassium	GRAS	3570	J		3020	J		3980	J		2920	J		3480	J		2740	J		2600	J		2950	J	
Selenium	390	1.2	J			U	(1.1)		U	(1)		U	(1)	1.7	J			U	(1.1)	1.2	J		1.1	J	
Silver	380		UJ	(0.14)		UJ	(0.15)		UJ	(0.14)		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)		UJ	(0.13)		UJ	(0.13)
Sodium	GRAS		U	(316)		U	(329)		U	(319)		U	(319)		U	(336)		U	(328)		U	(290)		U	(286)
Thallium	1.72		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.2)		U	(1.2)
Vanadium	72.5	30			34.1			34.3			30.4			35			28.8			19.6			27.3		
Zinc	119.5	***147***	J		49.8	J		112	J		60	J		117	J		95.4	J		50.5	J		53.6	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-062						B1A-064						B1A-065						B1A-066					
		B1A-062-000 (0-0.5 ft)			B1A-062-001 (1-2 ft)			B1A-064-000 (0-0.5 ft)			B1A-064-001 (1-2 ft)			B1A-065-000 (0-0.5 ft)			B1A-065-001 (1-2 ft)			B1A-066-000 (0-0.5 ft)			B1A-066-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.63	J			U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	14			3.2			12			1.1	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	4.4			1			9.8	J		0.43	J	
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)	0.21	J		0.27	J			U	(1)	3.4			0.31	J		6.7	J			U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.1	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	11500			11700			12200			14000			17200			16600			16100			14400		
Antimony	31		UJ	(0.36)	0.61	J		0.57	J			R		0.47	J		0.66	J		0.61	J			UJ	(0.47)
Arsenic	13.5	7.8			11.9			8	J		8.3	J		10.3			10.7			8.3	J		8	J	
Barium	440	245	J		306	J		224			286			259	J		383	J		326	J		***4710***	J	
Beryllium	1.52	0.6			0.74			0.66			0.76			0.83			0.84			0.73			0.68		
Cadmium	39	0.51	J		0.46	J		1.8			0.44	J		1.5			0.63	J		2.6			2.2		
Calcium	GRAS	4020			4980			8370			4750			5860			8320			9640			79100		
Chromium	37	14.6			15.4			25.4			16.3			28.3			20.6			29.2			17.9		
Cobalt	17.2	8.9	J		11.6	J		10.2			11.5			11.3	J		11.4	J		10.5	J		9.6	J	
Copper	33.9	17.6			23.3			20.1			23			26			25.2			24.5			18.1		
Iron	GRAS	16400			20400			16900			20200			22400			22900			20000			17300		
Lead	400	21			15.9			185			16.2			63			20.9			86.8			25.9		
Magnesium	GRAS	3560			4350			3740			4610			4720			5230			4400			5110		
Manganese	1083	541	J		691	J		573			801			504	J		639	J		607	J		562	J	
Mercury	23		U	(0.1)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.11)		U	(0.1)
Nickel	39.3	22.1			27.6			23			29.1			29.8			30			24.4			23.4		
Potassium	GRAS	3200			2270			2870			2490			3500			3270			3250			3140		
Selenium	390	0.88	J		1.3	J			U	(1.1)	1.5	J		1.2	J		2	J			U	(1.1)	1.2	J	
Silver	380		UJ	(0.11)		UJ	(0.14)		UJ	(0.15)		UJ	(0.16)		UJ	(0.15)		UJ	(0.16)		UJ	(0.15)		UJ	(0.15)
Sodium	GRAS		U	(255)		U	(322)	165	J		264	J			U	(331)		U	(358)		U	(344)		U	(333)
Thallium	1.72		U	(1)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.5)		U	(1.4)		U	(1.4)
Vanadium	72.5	29.7			31.5			29.5			24.9			40.8			40.4			36			32		
Zinc	119.5	62.9			60.9			78			58.3			80.1			67.2			88.5			54.7		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-067						B1A-068						B1A-069						B1A-070					
		B1A-067-000 (0-0.5 ft)			B1A-067-001 (1-2 ft)			B1A-068-000 (0-0.5 ft)			B1A-068-001 (1-2 ft)			B1A-069-000 (0-0.5 ft)			B1A-069-001 (1-2 ft)			B1A-070-000 (0-0.5 ft)			B1A-070-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)	0.39	J			U	(0.5)		U	(0.5)	0.36	J			U	(0.5)	0.27	J	
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	15				U	(0.5)	0.16	J		0.36	J			U	(0.5)	0.4	J			U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.13	J		0.13	J			U	(0.5)	0.19	J	
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.73				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.18	J			U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.58	J			U	(1)	0.54	J			U	(1)	0.13	J			U	(1)		U	(1)	0.2	J	
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	2.1				U	(0.75)		U	(0.75)		U	(0.75)	0.58	J		0.11	J		0.58	J		0.32	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)	0.2	J			U	(0.75)	0.18	J			U	(0.75)	0.15	J		0.28	J	
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)	0.034	J		0.25	J			U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	18500			17800			17000	J		14700	J		13500	J		13100	J		18700			21900		
Antimony	31		R			R			UJ	(0.48)		UJ	(0.46)		UJ	(0.47)		UJ	(0.48)	0.69	J		0.58	J	
Arsenic	13.5	8.8	J		9.1			8.5	J		8.8			8.8			9.1			7.6	J		6.1	J	
Barium	440	228			259			250			249			276			326			236			225		
Beryllium	1.52	0.85			0.82			0.81			0.82			0.75			0.76			0.78			0.84	J	
Cadmium	39	0.63	J		0.52	J		1.4			0.24	J		0.52	J		0.37	J		0.5	J		0.33	J	
Calcium	GRAS	5520			4470			10000	J		4860	J		5270	J		5340	J		4040			2720		
Chromium	37	20.4			22.5			27.8	J		16.6	J		17.5	J		16.7	J		20.7			22.6		
Cobalt	17.2	10.4			12.3			10.3			12			10.9			11.2			10.5			9.8		
Copper	33.9	21.9			23.5			30.7			21.4			24.3			25.9			16	J		15.1	J	
Iron	GRAS	21500			21300			21500			20100			20000			20300			18900			19700		
Lead	400	27.4			67.5			194			19.2			24.7			14.5			29.9	J		13.9	J	
Magnesium	GRAS	4030			4290			4110			3760			4510			4370			3480			3480		
Manganese	1083	575			661			619			724			640			760			640			507		
Mercury	23		U	(0.1)		U	(0.12)		U	(0.12)		U	(0.1)		U	(0.12)		U	(0.11)		U	(0.12)		U	(0.12)
Nickel	39.3	27.2			27.3			24.7			26.2			26.7			34.2			20.1			19.1		
Potassium	GRAS	3190			3020			3730			2510			4090			2540			4720			4250		
Selenium	390	1.1	J		1.4	J			U	(1.1)		U	(1.1)		U	(1.1)		U	(1.1)	1.6	J		1.4	J	
Silver	380		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.14)
Sodium	GRAS		U	(344)		U	(331)		U	(340)		U	(328)		U	(332)		U	(341)	60.4	J			U	(31.5)
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.3)
Vanadium	72.5	34			34.6			40.3			28.2			33.8			27.9			43.1			45.6		
Zinc	119.5	63.2			63.4			109	J		56.8	J		61.8	J		67.7	J		69.5			63.6		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-071						B1A-072						B1A-074						B1A-075					
		B1A-071-000 (0-0.5 ft)			B1A-071-001 (1-2 ft)			B1A-072-000 (0-0.5 ft)			B1A-072-001 (1-2 ft)			B1A-074-000 (0-0.5 ft)			B1A-074-001 (1-2 ft)			B1A-075-000 (0-0.5 ft)			B1A-075-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.12	J			U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.49	J			U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.2	J			U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)	0.48	J			U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.096	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.16	J		1.1		
METALS (MG/KG)																									
Aluminum	33852	16100			20200			19500			16300			22100			23200			15900			19400		
Antimony	31		UJ	(0.46)	0.47	J		0.53	J		0.53	J		0.79	J		0.61	J			UJ	(0.47)	0.48	J	
Arsenic	13.5	6.4	J		5.5	J		8.4			5.8	J		7.9	J		9.1			7.6	J		7.6	J	
Barium	440	228			264			306			224			341			265			291			221		
Beryllium	1.52	0.69			0.81			0.83			0.75			0.92			0.94			0.75			0.78		
Cadmium	39	1.3			0.41	J		0.41	J		0.37	J		0.61	J		0.47	J		0.3	J		0.34	J	
Calcium	GRAS	4580			3820			3630			2870			4370			4020			4330			3560		
Chromium	37	19.6			21.5			21.6			18.1			25.1			24.9			17.5			21.4		
Cobalt	17.2	9.6			10.5			11.6			10.5			11.7			11.2			10.1			10.3		
Copper	33.9	16.9	J		16.3	J		17.5	J		13.8	J		24			21.6	J		19.8	J		16.2	J	
Iron	GRAS	16800			19600			21200			17100			23000			23800			19000			19000		
Lead	400	169	J		15.9	J		16.6	J		14.1	J		102	J		17.7	J		16.6	J		15.2	J	
Magnesium	GRAS	3230			3580			4210			3020			4610			4680			3780			3640		
Manganese	1083	610			644			669			665			547			667			617			596		
Mercury	23		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.11)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)
Nickel	39.3	18.1			19.8			22.2			18.1			25.5			26			24.3			20.9		
Potassium	GRAS	4190			4380			6070			3480			5380			4240			3100			3760		
Selenium	390	1.6	J			UJ	(1.1)	1.4	J		1.6	J			U	(1.2)	1.7	J			U	(1.1)	1.5	J	
Silver	380		UJ	(0.14)		UJ	(0.15)		UJ	(0.14)		UJ	(0.13)		UJ	(0.16)		UJ	(0.16)		UJ	(0.15)		UJ	(0.14)
Sodium	GRAS	99.6	J		57.6	J		231	J		251	J		141	J		171	J		251	J		113	J	
Thallium	1.72		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.2)		U	(1.5)		U	(1.4)		U	(1.3)		U	(1.3)
Vanadium	72.5	37.6			42.8			42.3			36.9			52			50.3			27.6			47		
Zinc	119.5	***125***			68.9			69.2			59.5			117			68.8			54.9			54.4		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-2
Analytical Data for Load Line 1 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1A-076						B1A-077					
		B1A-076-000 (0-0.5 ft)			B1A-076-001 (1-2 ft)			B1A-077-000 (0-0.5 ft)			B1A-077-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)													
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.16	J		0.022	J		0.023	J		2.7	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)	1.2		
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)	0.52	J			U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)	0.81	J	
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.47	J			U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)	0.46	J			U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.31	J		0.16	J			U	(0.5)		U	(0.5)
METALS (MG/KG)													
Aluminum	33852	6800			11200			14700			10100		
Antimony	31		R			R			R			R	
Arsenic	13.5	5.1	J		7.3	J		6.3	J		6.9	J	
Barium	440	174			241			247			208		
Beryllium	1.52	0.43			0.7			0.73			0.65		
Cadmium	39	0.22	J		0.37	J		0.65	J		0.52	J	
Calcium	GRAS	4360			4070			3510			3520		
Chromium	37	9.1			12.4			17.2			13.2		
Cobalt	17.2	6.4			10.2			10.4			9.1		
Copper	33.9	12.6			17.5			17.2			18.8		
Iron	GRAS	10600			15100			16800			15300		
Lead	400	24.5	J		15.2	J		34.2	J		20.5	J	
Magnesium	GRAS	2070			2870			3340			2680		
Manganese	1083	390	J		635	J		655	J		504	J	
Mercury	23		U	(0.11)		U	(0.11)		U	(0.12)		U	(0.12)
Nickel	39.3	13.8			22			20.3			18.6		
Potassium	GRAS	2120			2410			3760			2420		
Selenium	390		U	(1)	1.3	J			U	(1.1)		U	(1)
Silver	380		U	(1)		U	(1.1)		U	(1.1)		U	(1.1)
Sodium	GRAS	94.1	J		96.2	J		47.1	J		146	J	
Thallium	1.72		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.3)
Vanadium	72.5	17.2			27.1			33.8			25		
Zinc	119.5	40.8			44.3			63			95	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-3
Analytical Data for Load Line 1 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1B-001			B1B-002			B1B-003			B1B-004			B1B-005			B1B-006			B1B-007			B1B-008		
		B1B-001-000 (0-1 ft)			B1B-002-000 (0-1 ft)			B1B-003-000 (0-1 ft)			B1B-004-000 (0-1 ft)			B1B-005-000 (0-1 ft)			B1B-006-000 (0-1 ft)			B1B-007-000 (0-1 ft)			B1B-008-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)	0.49	J			U	(0.5)		U	(0.5)		U	(0.5)	0.2	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.25	J			U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)	0.061	J			U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.72	J			U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		UJ	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	13900			14000			17000			15800			13400			11500			11200	J		10800		
Antimony	31		UJ	(0.49)		UJ	(0.49)		UJ	(0.49)		UJ	(0.49)		UJ	(0.46)		R			R			R	
Arsenic	13.5	4.8	J		6.3	J		6.7	J		6.7	J		5.7	J		8.5	J		8.4	J		6.6	J	
Barium	440	291			245			219			239			262			240			261			161		
Beryllium	1.52	0.75			0.72			0.78			0.72			0.64			0.66			0.67			0.53		
Cadmium	39		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.2)	0.28	J		0.54	J		0.19	J	
Calcium	GRAS	3280			3220			2750			2350			2610			4720	J		4300			6940	J	
Chromium	37	16.9			16.4			18.5			17.9			15.4			12.8			13.5			12.3		
Cobalt	17.2	9.8			9.1			9.4			8.6			8.4			10.2			9.8			6.9		
Copper	33.9	15			15			14.9			14.5			12.7			18.5			19			14.8		
Iron	GRAS	15600			16100			17600			16600			14400			16600			17700			14000		
Lead	400	12.8			12.7			12.5			12.9			11.9			13	J		13.6			10	J	
Magnesium	GRAS	2780			2910			3130			2870			2530			3480			3360			3080		
Manganese	1083	782			689			561			539			679			618			597			396		
Nickel	39.3	17.9	J		17.7	J		17.9	J		17.3	J		16.2	J		23.3	J		22.2			18.3	J	
Potassium	GRAS	3230			3370			3840			6920			3940			2310			2600			2240		
Selenium	390	1.2	J			U	(1.1)	1.6	J			U	(1.1)	1.2	J			U	(1.1)	1.5	J			U	(1.1)
Vanadium	72.5	32.6			33.2			37.8			37			32.5			23.2			29			24.7		
Zinc	119.5	52.5			49.6			57.1			51.3			45.6			47	J		51.4			39		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-3
Analytical Data for Load Line 1 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1B-009			B1B-010			B1B-011			B1B-012			B1B-013			B1B-014			B1B-015			B1B-016			B1B-017		
		B1B-009-000 (0-1 ft)			B1B-010-000 (0-1 ft)			B1B-011-000 (0-1 ft)			B1B-012-000 (0-1 ft)			B1B-013-000 (0-1 ft)			B1B-014-000 (0-1 ft)			B1B-015-000 (0-1 ft)			B1B-016-000 (0-1 ft)			B1B-017-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																												
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(2.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	***32***	J		0.6	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(2.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)	0.3	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(2.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(3.8)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)	0.23	J			U	(1)		U	(1)		U	(1)		U	(5)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.6	J			U	(0.75)	0.65	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(3.8)	0.61	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(3.8)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(2.5)		U	(0.5)
METALS (MG/KG)																												
Aluminum	33852	13300			11600			18500			18500			12100			16800			12200			16000			17700		
Antimony	31		R			R			R			R			R			UJ	(0.44)		R			U	(0.45)		UJ	(0.46)
Arsenic	13.5	10.2			8.8			8.6	J		10.2			7.3	J		8.7			7	J		9.1			10.4		
Barium	440	198			290			213			294			191			212			182			271			272		
Beryllium	1.52	0.66			0.65			0.82			0.84			0.61			0.82			0.67			0.76			0.86		
Cadmium	39	0.28	J		0.17	J		0.25	J		0.26	J		0.21	J			U	(1.2)	0.21	J			U	(1.2)		U	(1.2)
Calcium	GRAS	3920	J		4280	J		3660	J		3650	J		4280	J		3690			3180			6530			9900		
Chromium	37	15.9			14.9			19.2			19.1			15.3			18.2			14.3			19.1			21.3		
Cobalt	17.2	10.9			9.8			9.3			9.9			7.8			10.2			9.4			10.3			11.7		
Copper	33.9	21.4			18.4			20.1			20.9			14.8			20.1			18			23.3			23		
Iron	GRAS	18700			17400			20300			21200			14800			19900			15800			19900			22400		
Lead	400	13.1	J		14.1	J		13	J		14	J		26.6	J		14.1			14			16			15.3		
Magnesium	GRAS	3590			3560			4070			4370			3070			4000			3230			5160			6280		
Manganese	1083	477			553			514			562			455			633			458	J		589			708		
Nickel	39.3	24.7	J		22.9	J		23.8	J		25.8	J		18.6	J		24.9	J		20	J		27	J		29.6	J	
Potassium	GRAS	2840			2590			3280			3320			2790			3310			2700			3100			3640		
Selenium	390		U	(1.1)		U	(1.1)		U	(1.1)	1.5	J			U	(1)		U	(1)		U	(1.1)		U	(1)		U	(1.1)
Vanadium	72.5	31.5			28.5			38.6			38.5			26			37			25.8			40.5			44.7		
Zinc	119.5	51.7			53.1			55.8			58.9	J		49.9			55.7			48.5			57.6			63.6		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-3
Analytical Data for Load Line 1 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1B-018			B1B-019			B1B-020			B1B-021			B1B-022			B1B-023			B1B-024			B1B-025		
		B1B-018-000 (0-1 ft)			B1B-019-000 (0-1 ft)			B1B-020-000 (0-1 ft)			B1B-021-000 (0-1 ft)			B1B-022-000 (0-1 ft)			B1B-023-000 (0-1 ft)			B1B-024-000 (0-1 ft)			B1B-025-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.37	J			U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.69	J			U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	17800			12700			15700			14600			16200			16100			20900			21900		
Antimony	31		UJ	(0.46)		R			R			UJ	(0.46)		R			UJ	(0.49)		UJ	(0.46)		UJ	(0.47)
Arsenic	13.5	7.7	J		7	J		9.2			7.6	J		7.6	J		9.4			7.8	J		10.2		
Barium	440	196			227			218			227			225			258			260			297		
Beryllium	1.52	0.83			0.65			0.79			0.73			0.77			0.84			0.89			0.95		
Cadmium	39	0.49	J		0.24	J		0.25	J			U	(1.2)	0.25	J		0.43	J		0.45	J			U	(1.2)
Calcium	GRAS	3350			3020			3790			3300			3640			4270			3520			4500		
Chromium	37	18.8			14.1			17.1			17.5			17.3			18.6			24.1			23.8		
Cobalt	17.2	10.1			9.5			9.6			8.5			9.4			10.4			10.5			14		
Copper	33.9	17.6			16.5			20.9			15.1			18.1			20.1			***44.3***			23.4		
Iron	GRAS	19500			15500			19500			17900			18800			21200			20900			23600		
Lead	400	14.5			12.6			13.8			14.1			13.7			15.1			14.9			15.5		
Magnesium	GRAS	3720			3010			3960			3100			3700			4300			4010			4900		
Manganese	1083	578	J		646	J		604	J		594	J		573	J		601	J		531	J		668		
Nickel	39.3	23.5			19.7	J		23.2	J		19.9	J		22.9	J		25			24.3			27.3	J	
Potassium	GRAS	3470			2760			2990			3420			3240			3320			4060			11600		
Selenium	390	1.2	J			U	(1)		U	(1.1)	1.4	J			U	(1.1)	1.2	J		1.1	J			U	(1.1)
Vanadium	72.5	36.3			27.5			29			36			31.4			35.2			43.2			46.2		
Zinc	119.5	57.1			44			55			49.1			51.5			60.1			57.5			60.7		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-3
Analytical Data for Load Line 1 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1B-026			B1B-027			B1B-028			B1B-029			B1B-030			B1B-031			B1B-032			B1B-033		
		B1B-026-000 (0-1 ft)			B1B-027-000 (0-1 ft)			B1B-028-000 (0-1 ft)			B1B-029-000 (0-1 ft)			B1B-030-000 (0-1 ft)			B1B-031-000 (0-1 ft)			B1B-032-000 (0-1 ft)			B1B-033-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		UJ	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)	0.086	J			U	(0.5)		U	(0.5)		U	(0.5)	0.099	J	
METALS (MG/KG)																									
Aluminum	33852	17100			18000			15800			17800			13500			12300			15300			10900	J	
Antimony	31	0.51	J			UJ	(0.47)		UJ	(0.46)		UJ	(0.48)		UJ	(0.48)	0.55	J			UJ	(0.46)		R	
Arsenic	13.5	9.7			10.6			9.6			9.7			9.4			10.2			9.5			9.2		
Barium	440	232			278			209			236			291			244			306			258		
Beryllium	1.52	0.86			0.84			0.79			0.86			0.74			0.73			0.8			0.66		
Cadmium	39		U	(1.2)		U	(1.2)		U	(1.2)	0.45	J		0.49	J		0.44	J		0.63	J		0.75	J	
Calcium	GRAS	3900			3710			3580			3940			5290			4790			4740			7830		
Chromium	37	18.4			19.9			17.1			19			17.5			16.3			18.9			14		
Cobalt	17.2	11.8			11.7			10.4			10.3			10.5			10			11.3			10.3		
Copper	33.9	22.4			23.6			22.1			26.1			21.4			22.8			23.1			21		
Iron	GRAS	21300			22200			20100			22400			19700			19600			20900			18600		
Lead	400	14.8			14.9			14.2			15.5			14.2			14.2			15.2			13.5		
Magnesium	GRAS	4240			4500			4080			4520			4450			4440			4730			4570		
Manganese	1083	696			645			604			575	J		652	J		532	J		708	J		603		
Nickel	39.3	26.6	J		27.5	J		26.2	J		26.5			26.5			26.4			29.5			25.7		
Potassium	GRAS	3200			6750			2750			3380			2930			2660			3100			2520		
Selenium	390		U	(1.1)	1.1	J			U	(1.1)	1.3	J		1.4	J		1.6	J			U	(1.1)	1.6	J	
Vanadium	72.5	33.9			37.6			30.4			32.8			31.9			30.6			36.2			28.6		
Zinc	119.5	58.1			58.5			51.2			61.3			55.4			61.7			62.2			54.4		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-3
Analytical Data for Load Line 1 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B1B-034			B1B-035			B1B-036			B1B-037			B1B-038		
		B1B-034-000 (0-1 ft)			B1B-035-000 (0-1 ft)			B1B-036-000 (0-1 ft)			B1B-037-000 (0-1 ft)			B1B-038-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)	0.2	J			U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)	0.23	J			U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)	0.15	J		0.077	J			U	(0.5)	0.16	J	
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)	0.18	J			U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)	0.044	J		4.4			5.1		
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)	0.071	J			U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.41	J		0.43	J		1.2			0.63		
METALS (MG/KG)																
Aluminum	33852	14400			11000			9940	J		11600			15500		
Antimony	31		UJ	(0.48)		R			R			R			R	
Arsenic	13.5	10.6			6.3	J		6.4	J		6.3	J		8.3	J	
Barium	440	334			188			217			200			264		
Beryllium	1.52	0.82			0.64			0.61			0.62			0.77		
Cadmium	39	0.84	J		0.37	J		0.42	J		0.18	J		0.24	J	
Calcium	GRAS	5020			2840			2640			3310			3210		
Chromium	37	19.5			12.4			12			12.4			16.2		
Cobalt	17.2	14.7			9.3			9.9			8.4			9.5		
Copper	33.9	24.2			14			14.2			14.4			17		
Iron	GRAS	21900			14200			13700			14500			18500		
Lead	400	16.4			13			12.6			11.8			13.7		
Magnesium	GRAS	4940			2560			2290			2890			3550		
Manganese	1083	897	J		579	J		572			523	J		705	J	
Nickel	39.3	32.7			18.8	J		15.7			17.7	J		28.5	J	
Potassium	GRAS	3180			2610			2510			2700			2910		
Selenium	390		U	(1.1)		U	(0.98)	2	J			U	(1.1)		U	(1.1)
Vanadium	72.5	35.3			23.7			25.4			23			28.1		
Zinc	119.5	64			42.9			39.7			40.8			51.9		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-001						B2A-002						B2A-003						B2A-004					
		B2A-001-000 (0-0.5 ft)			B2A-001-001 (1-2 ft)			B2A-002-000 (0-0.5 ft)			B2A-002-001 (1-2 ft)			B2A-003-000 (0-0.5 ft)			B2A-003-001 (1-2 ft)			B2A-004-000 (0-0.5 ft)			B2A-004-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)	0.22	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.24	J			U	(0.5)		U	(0.5)		U	(0.5)	0.15	J			U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.43	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA	0.72	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.44	J			U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA	0.72	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(1.4)		U	(1.6)	0.79			0.77			0.52	J			U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.49	J			U	(0.5)	0.36	J		0.46	J		0.4	J		0.06	J			U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	16700			14100			11900			17900			16500	J		19500	J		18300	J		18900	J	
Antimony	31	2.8	J			R		0.91	J		0.51	J		1.7	J		1.3	J		0.53	J			UJ	(0.43)
Arsenic	13.5	7.8	J		7.5	J		4.7	J		8.5			5.6	J		8.9			9.9			8.5		
Barium	440	232			228			145			257			267	J		263	J		240	J		274	J	
Beryllium	1.52	0.77			0.72			0.48			0.81			0.79			0.87			0.8	J		0.82	J	
Cadmium	39	2.6			0.5	J		12.6				U	(1.1)	2.4			0.52	J		1.3			1.6		
Calcium	GRAS	4120			3340			166000			4620			9180	J		4580	J		3850	J		4970	J	
Chromium	37	25.1			15.8			19.3			20			28.8	J		22.2	J		22.1	J		22.6	J	
Cobalt	17.2	10.7			11			7.1			9.9			9.4			10.8			10.4	J		11.3	J	
Copper	33.9	32.6			16.8	J		20.2			19.4			***50.1***	J		***69.8***	J		19.8	J		19.8	J	
Iron	GRAS	19300			17400			16300			20000			18400	J		21300	J		20600	J		19900	J	
Lead	400	317			26.4			***516***			23.2			***704***	J		23.5	J		***413***	J		207	J	
Magnesium	GRAS	3640			2620			3920			3740			3760			4230			3600			3920		
Manganese	1083	667			762			671			576			549	J		617	J		583	J		786	J	
Mercury	23		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.1)		UJ	(0.12)		UJ	(0.11)		UJ	(0.1)		UJ	(0.1)
Nickel	39.3	37.5			18.7			22.7			22.5			35.1			24.9			21.4			26.8		
Potassium	GRAS	3210			2830			3180			3210			3710			3620			3380			3460		
Selenium	390	1.7	J			U	(1.1)	1.2	J		2	J			U	(1.1)		U	(1)	1.4	J			U	(1)
Sodium	GRAS		U	(308)	1350				U	(332)		U	(307)		U	(333)		U	(308)		U	(310)		U	(305)
Vanadium	72.5	43.3			32.6			33.3			43.7			40.7			45.4			47.6			48.7		
Zinc	119.5	***296***	J		65.5			***205***	J		57.6	J		***254***	J		***215***	J		***122***	J		91.3	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-005						B2A-006						B2A-007						B2A-008					
		B2A-005-000 (0-0.5 ft)			B2A-005-001 (1-2 ft)			B2A-006-000 (0-0.5 ft)			B2A-006-001 (1-2 ft)			B2A-007-000 (0-0.5 ft)			B2A-007-001 (1-2 ft)			B2A-008-000 (0-0.5 ft)			B2A-008-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.96		
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.14	J			U	(0.5)	0.08	J			U	(0.5)	1.4				U	(0.5)	5.1			0.7		
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.28	J		0.27	J			U	(0.5)		U	(0.5)	0.81				U	(0.5)	1			0.95		
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.3	J			U	(0.75)	0.33	J			U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.34	J			U	(1)		U	(1)		U	(1)	0.51	J			U	(1)	1.5				U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)	0.3	J			U	(0.75)		U	(0.75)	***2200***				U	(4.2)	***4300***			***18***	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.053	J		0.07	J			U	(0.5)		U	(0.5)	290			0.64			300	J		5.8		
METALS (MG/KG)																									
Aluminum	33852	15100	J		17600	J		18800	J		21600	J		15000			18600			8930	J		12200		
Antimony	31	0.78	J		0.54	J		1.2	J			UJ	(0.46)	1.1	J			UJ	(0.46)	1.3	J			UJ	(0.48)
Arsenic	13.5	8.9			9.3			7.7	J		10.2			10.9			9.4				U	(7.7)	9.2		
Barium	440	259	J		253	J		248	J		299	J		280			295			166	J		302		
Beryllium	1.52	0.73	J		0.82			0.79			0.95			0.71			0.84			0.44			0.72		
Cadmium	39	0.87	J			U	(1.2)	1.5				U	(1.2)	0.95	J			U	(1.2)	1.7				U	(1.2)
Calcium	GRAS	6230	J		4560	J		7360	J		4580	J		7120			4860			25100	J		5170		
Chromium	37	20.9	J		20.3	J		23.9	J		23.6	J		27.5			22.4			18.2	J		15.5		
Cobalt	17.2	9.8			10.1			9.7			12.7			10.6			11.3			5.3			11.3		
Copper	33.9	23.3	J		20.8	J		27.3	J		21.9	J		***127***	J		27.4			31.1	J		21.8	J	
Iron	GRAS	19600	J		20900	J		19800	J		23900	J		37700			22100			11700	J		20000		
Lead	400	***830***	J		29.3	J		118	J		20.4	J		***574***			19.6			305	J		20.4		
Magnesium	GRAS	3760			4060			4570			4900			4000			4600			2520			3910		
Manganese	1083	551	J		552	J		522	J		814	J		620			718			307	J		806		
Mercury	23		UJ	(0.11)		UJ	(0.11)		UJ	(0.11)		UJ	(0.12)		U	(0.11)		U	(0.11)		UJ	(0.11)		U	(0.12)
Nickel	39.3	22.1			24.5			27			28.3			***45.4***			26.9			30.3			28.8		
Potassium	GRAS	3500			3470			3850			3650			3250			3680			2050			2530		
Selenium	390	1.6	J		1.3	J		1.2	J		1.2	J			U	(0.99)	2.2	J		0.97	J		1.1	J	
Sodium	GRAS		U	(325)		U	(323)		U	(335)		U	(330)		U	(302)		U	(329)		U	(296)		U	(338)
Vanadium	72.5	42.5			44.6			48.1			49.3			39.9			51.7			23.2			31.2		
Zinc	119.5	106	J		62.3	J		99.3	J		65	J		***150***	J		66.4	J		***191***	J		64.7	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-009						B2A-010						B2A-011						B2A-012					
		B2A-009-000 (0-0.5 ft)			B2A-009-001 (1-2 ft)			B2A-010-000 (0-0.5 ft)			B2A-010-001 (1-2 ft)			B2A-011-000 (0-0.5 ft)			B2A-011-001 (1-2 ft)			B2A-012-000 (0-0.5 ft)			B2A-012-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	1.5			0.9				U	(0.5)	0.12	J			U	(0.5)		U	(0.5)	0.045	J		0.21	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.64	J		0.83	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.33	J		0.35	J	
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA	0.39	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.36	J		0.32	J			U	(1)		U	(1)		U	(1)		U	(1)	0.26	J		0.41	J	
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	***1500***	J		***47***			2.6			1.4				U	(0.75)		U	(0.75)	4.4			4.8		
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	220			9.8			0.15	J		0.11	J			U	(0.5)		U	(0.5)	0.7			1.1		
METALS (MG/KG)																									
Aluminum	33852	14100			18300			11500			17900	J		13100			15000			9150			10900		
Antimony	31	0.66	J		0.85	J			R		0.58	J			UJ	(0.46)	0.49	UJ	(4.6)		UJ	(0.46)		UJ	(0.46)
Arsenic	13.5	6.2	J		8.9			7.2	J		7.3	J		8.1	J		10.4			4.1	J		5.6	J	
Barium	440	249			264			210			298	J		201			266			374			170		
Beryllium	1.52	0.71			0.86			0.66			0.85			0.68			0.76			0.47			0.59		
Cadmium	39	1.2				U	(1.2)	0.79	J			U	(1.2)	0.65	J		0.45	J		0.78	J		0.24	J	
Calcium	GRAS	8310			4880			4290			4170	J		3710			3600			3890			3880		
Chromium	37	21			21.9			16			20.5	J		15.4			17.6			12.9			13.8		
Cobalt	17.2	9.3			11.5			10.1			10.3			10			10.9			6.3			7.5		
Copper	33.9	***35.9***			21.5			22.3	J		19.4	J		19.9			21.4			16.6			17.8		
Iron	GRAS	18000			21400			16600			19600	J		17300			20500			12600			17600		
Lead	400	362			46			***736***			25.9	J		182			30.1			318			16.1		
Magnesium	GRAS	3510			4330			2980			3760			3510			4090			2450			2980		
Manganese	1083	574			678			627			658	J		609			604			339			373		
Mercury	23		U	(0.1)		U	(0.12)		U	(0.12)		UJ	(0.12)		UJ	(0.11)		UJ	(0.12)		UJ	(0.12)		UJ	(0.12)
Nickel	39.3	23.5			26.6			19.7			24.7			21.8			26			15.2			18.2		
Potassium	GRAS	3520			3590			2550			3440			2700			2700			2110			2260		
Selenium	390		U	(1.1)	2.4	J			U	(1.1)		U	(1.1)	1.2	J		1.7	J		1.4	J			UJ	(1.1)
Sodium	GRAS		U	(329)		U	(332)	1480				U	(327)		U	(328)		U	(326)		U	(330)		U	(324)
Vanadium	72.5	34.4			45.6			29.2			44.2			32.1			38.3			23.6			29.2		
Zinc	119.5	***141***	J		67.7	J		***204***			74.9	J		98.4			60.6			***484***			52.4		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-013						B2A-014						B2A-015						B2A-016					
		B2A-013-000 (0-0.5 ft)			B2A-013-001 (1-2 ft)			B2A-014-000 (0-0.5 ft)			B2A-014-001 (1-2 ft)			B2A-015-000 (0-0.5 ft)			B2A-015-001 (1-2 ft)			B2A-016-000 (0-0.5 ft)			B2A-016-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(2.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)	0.63	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.46	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(2.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(2.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.21	J			U	(2.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.18	J	
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(3.8)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(3.8)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(5)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)	0.26	J	
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(3.8)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	***13***			***61***				U	(0.75)		U	(0.75)	1.4			1				U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(3.8)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	3			9.9			0.076	J		0.1	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	9680			13800			12700			11900	J		20200			22200			14400			14000	J	
Antimony	31		UJ	(0.47)	0.57	J			UJ	(0.44)		R			UJ	(0.45)		UJ	(0.48)		UJ	(0.46)		R	
Arsenic	13.5	6.1	J		6.8	J		7.2	J		8.1	J		10			9.4			8.5			9.4		
Barium	440	170			194			232			170			321			262			253			251		
Beryllium	1.52	0.58			0.65			0.65			0.65			0.94			0.95			0.77			0.76		
Cadmium	39	0.22	J		0.25	J		0.97	J			U	(1.2)	0.44	J		0.56	J		0.38	J		0.43	J	
Calcium	GRAS	4190			3520			5720			3340			4940			4880			5020			4060		
Chromium	37	11.6			14.4			19.8				UJ	(13.7)	23.3			26.7			17.3			16.6	J	
Cobalt	17.2	7.3			9.3			9.7	J		8			10.6			12			11			10		
Copper	33.9	16.7			17			***75.4***			16.6			24			25.8			19.6			21.6		
Iron	GRAS	13800			15700			18100			16800			23500			23400			19100			19100		
Lead	400	32.7			22.8			287			29.7			15.9			106			14.8			25.9	J	
Magnesium	GRAS	2460			2720			4310			2800			4930			4740			4190			3940		
Manganese	1083	283			418			494			386			575	J		692	J		611	J		596		
Mercury	23		UJ	(0.12)		UJ	(0.1)		U	(0.12)		U	(0.11)		U	(0.13)		U	(0.12)		U	(0.11)		U	(0.11)
Nickel	39.3	17.4			18.4			28.6			18.7			29.2			27.9			23.9			24.8		
Potassium	GRAS	2230			2530			2880			2280			3390			4500			2580			3060		
Selenium	390	1.4	J		1.5	J			U	(1)	1.1	J			U	(1)		U	(1.1)		U	(1.1)	1.3	J	
Sodium	GRAS		U	(334)		U	(308)		U	(309)		U	(315)		U	(320)		U	(338)		U	(324)		U	(331)
Vanadium	72.5	24.5			32.7			32.8	J		28.5			49.8			53.3			31.5			34		
Zinc	119.5	45.2			44			***290***			54.7	J		67			101			56			60.5		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-017						B2A-018						B2A-019						B2A-020					
		B2A-017-000 (0-0.5 ft)			B2A-017-001 (1-2 ft)			B2A-018-000 (0-0.5 ft)			B2A-018-001 (1-2 ft)			B2A-019-000 (0-0.5 ft)			B2A-019-001 (1-2 ft)			B2A-020-000 (0-0.5 ft)			B2A-020-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	1			0.95				U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.93)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.09	J		0.038	J	
METALS (MG/KG)																									
Aluminum	33852	15600			15500			19400			19500			19700			15200			16200			17300		
Antimony	31		UJ	(0.46)		UJ	(0.44)		UJ	(0.44)		UJ	(0.45)		UJ	(0.48)		UJ	(0.48)		UJ	(0.51)		UJ	(0.49)
Arsenic	13.5	9.6			8.6			8.8			9.1			9.2			8.4	J		8.3	J		11.2		
Barium	440	264			255			244			235			251			258			283			276		
Beryllium	1.52	0.82			0.81			0.87			0.85			0.93			0.82			0.82			0.89		
Cadmium	39	0.4	J		0.33	J		0.48	J		0.13	J		0.35	J		0.48	J		0.64	J		0.53	J	
Calcium	GRAS	4560			4020			3820			3180			4490			4290			4810			5240		
Chromium	37	19.2			17.3			21			19.6			20.6			17.1			21.6			23.4		
Cobalt	17.2	10.7			10.3			10.9	J		11.5	J		13	J		10.8	J		10.9	J		10.3	J	
Copper	33.9	22			20.1			19			14.4			22.3			23.5			21.8			23.8		
Iron	GRAS	20500			19800			20800			20400			22100			20000			21000			23200		
Lead	400	17.5			14.6			28.8			15.4			26.4			15.8			76.2			15.7		
Magnesium	GRAS	4130			3970			4070			3890			4220			4320			4710			4970		
Manganese	1083	548	J		632	J		605			706			759			718			634			483		
Mercury	23		U	(0.11)		U	(0.12)		U	(0.1)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.14)		U	(0.12)
Nickel	39.3	24.5			23.5			22.1			20.4			25.6			29.6			25.6			23.1		
Potassium	GRAS	2860			2460			3690			2600			3230			2390			4230			3610		
Selenium	390	1.3	J			U	(1)	1	J		1.1	J			U	(1.1)	1.1	J			U	(1.2)	1.6	J	
Sodium	GRAS		U	(320)		U	(310)		U	(312)		U	(318)		U	(339)		U	(342)		U	(360)		U	(346)
Vanadium	72.5	34.8			28.4			45.3	J		37.2	J		38.5	J		27.3	J		47.6	J		52.6	J	
Zinc	119.5	64.3			56.1			95.1			57.7			67.6			60.3			95.3			74.1		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-021						B2A-022						B2A-023						B2A-024					
		B2A-021-000 (0-0.5 ft)			B2A-021-001 (1-2 ft)			B2A-022-000 (0-0.5 ft)			B2A-022-001 (1-2 ft)			B2A-023-000 (0-0.5 ft)			B2A-023-001 (1-2 ft)			B2A-024-000 (0-0.5 ft)			B2A-024-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)	***32***			***16***				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	***87***			***37***				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)	***12***			***7.6***				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)	2.8			1.4				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)	2.4			1.1				U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)	0.089	J		1.9	J		***12***				U	(0.75)		U	(0.75)	0.2	J		0.089	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.11	J			U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)	2.2				U	(1.4)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	9430			14300			18400			9370			9190			11400			13200			13400		
Antimony	31		R			R		0.59	J			R			R			R			R			R	
Arsenic	13.5	7.7	J		7.6	J		9.7			8.8	J		7.4	J		6.3	J		9.2			8.4	J	
Barium	440	220			250			266			223			241			268			227			249		
Beryllium	1.52	0.6			0.78			0.84			0.65			0.59			0.67			0.7			0.7		
Cadmium	39	0.87	J		0.31	J		0.26	J		0.43	J		0.46	J		0.48	J			U	(1.3)		U	(1.3)
Calcium	GRAS	4910			5470			4170			4030			4870			4850			4670			4630		
Chromium	37	13.5			20			23.3			13.4			13.8			17.5			17.6			18.6		
Cobalt	17.2	9.1			11.7			9.5			10.4			8.9			7.2			9.8			10.8		
Copper	33.9	22.7	J		21	J		24.1	J		22.5	J		20.4			21.3			20.6			20.2		
Iron	GRAS	15700			19900			21400			17400			16400			16200			18900			18100		
Lead	400	217			15.2			23.6			27			32.3	J		13.8	J		18.3			14		
Magnesium	GRAS	3160			4450			4480			3250			3340			4220			3820			3950		
Manganese	1083	614			539			279			478			608			574			622			634		
Mercury	23		U	(0.14)		U	(0.13)		U	(0.12)		U	(0.11)		UJ	(0.13)		UJ	(0.12)		U	(0.11)		U	(0.13)
Nickel	39.3	21.7			22.1			24.4			25.4			21.9			27			24.4			23.3		
Potassium	GRAS	3440			3230			4130			2550			220			2780			3510			3320		
Selenium	390		U	(1.2)		U	(1.1)		U	(1.1)		U	(1.1)		UJ	(1.1)		UJ	(1.1)	1.7	J			U	(1.1)
Sodium	GRAS	2120			1230			2720			2640				U	(341)		U	(342)		U	(344)		U	(343)
Vanadium	72.5	26.8			38.1			53.8			27.4			26.8			29			37			37.4		
Zinc	119.5	***147***			70.4			72.2			67.6			79.8	J		62.2	J		68.8			52.3		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-025						B2A-026						B2A-027						B2A-028					
		B2A-025-000 (0-0.5 ft)			B2A-025-001 (1-2 ft)			B2A-026-000 (0-0.5 ft)			B2A-026-001 (1-2 ft)			B2A-027-000 (0-0.5 ft)			B2A-027-001 (1-2 ft)			B2A-028-000 (0-0.5 ft)			B2A-028-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)	0.055	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.18	J		4.4			0.11	J		0.13	J			U	(0.75)	0.21	J		0.62	J		0.49	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)	0.15	J		0.13	J			U	(0.75)	0.17	J			U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.051	J		0.046	J	
METALS (MG/KG)																									
Aluminum	33852	12200			16000			10400			16400			14600			13900			15800			14400		
Antimony	31		R			R			R			R			R			R			UJ	(0.48)		UJ	(0.49)
Arsenic	13.5	8.4	J		9.9			9.4			9.6			9.2	J		7.9	J		8.1	J		9.8		
Barium	440	221			286			221			262			237			264			295			357		
Beryllium	1.52	0.62			0.78			0.63			0.76			0.71			0.74			0.8			0.8		
Cadmium	39	2				U	(1.3)		U	(1.2)		U	(1.2)		U	(1.4)		U	(1.3)	0.72	J		0.56	J	
Calcium	GRAS	4660			4510			4860			5240			4550			4640			4730			4680		
Chromium	37	17.7			19.9			14.2			20.3			19.3			18.2			20.2			18.6		
Cobalt	17.2	9.4			10.4			9.8			9.8			10.1			10.6			11.3	J		12.1	J	
Copper	33.9	***36.1***			22.9			20			20.5			19.5			21.4			21.8			23.9		
Iron	GRAS	18500			21000			17800			20100			19100			19200			20500			21000		
Lead	400	***447***			14.4			28.2			13.4			38.5			14.3			99.2			16.2		
Magnesium	GRAS	3360			4580			3310			4260			4260			4380			4380			4650		
Manganese	1083	569			620			566			576			621			834			739			985		
Mercury	23	0.22	J			U	(0.12)		U	(0.12)		U	(0.11)		U	(0.11)		U	(0.11)		U	(0.13)		U	(0.12)
Nickel	39.3	23.9			26			22.8			24.5			24.6			28			28.9			31.3		
Potassium	GRAS	3410			3390			2990			3590			3840			3210			4030			3080		
Selenium	390	1.7	J			U	(1.1)	1.2	J			U	(1.1)		U	(1.2)		U	(1.2)	1.9	J			U	(1.1)
Sodium	GRAS		U	(347)		U	(344)		U	(340)		U	(338)		U	(368)		U	(358)		U	(342)		U	(345)
Vanadium	72.5	34.8			45.3			30.4			46.5			42.3			40.5			43.7	J		42.6	J	
Zinc	119.5	***270***			60.6			119			57.8			82.5			60.4			75.8			70.1		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-029						B2A-030						B2A-031						B2A-032					
		B2A-029-000 (0-0.5 ft)			B2A-029-001 (1-2 ft)			B2A-030-000 (0-0.5 ft)			B2A-030-001 (1-2 ft)			B2A-031-000 (0-0.5 ft)			B2A-031-001 (1-2 ft)			B2A-032-000 (0-0.5 ft)			B2A-032-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	1.4				U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.21	J		0.032	J		0.81				U	(0.5)	***170***			0.48	J		0.11	J		0.14	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.48	J			U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)	0.26	J			U	(0.5)	1.8			0.87			0.15	J			U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)	0.21	J			U	(1)	1.3				U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(1)		U	(0.8)	0.25	J			U	(0.75)		U	(0.75)		U	(0.75)	0.23	J			U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)	0.04	J			U	(0.5)		U	(0.5)	0.041	J		0.057	J		0.066	J	
METALS (MG/KG)																									
Aluminum	33852	16300	J		18700	J		11700	J		16600	J		8960	J		17800	J		9570	J		12100	J	
Antimony	31		UJ	(0.43)		UJ	(0.46)		R			R			R			R			R			R	
Arsenic	13.5	6.2	J		9.5			6.5	J		9			5.5	J		8.2			7	J		7.2	J	
Barium	440	***516***	J		313	J		202			219			179			247			181			205		
Beryllium	1.52	0.7			0.88			0.59			0.81			0.48			0.82			0.55			0.69		
Cadmium	39	1.4				U	(1.2)	0.87	J		0.16	J		1.2			0.36	J		0.77	J		0.32	J	
Calcium	GRAS	27700	J		4600	J		28100			3950			91600			3780			49300			4720		
Chromium	37	23.4	J		21.1	J		18.8	J		17.6	J		12.1	J		18.3	J		11.8	J		13.3	J	
Cobalt	17.2	12.8			11.6			8.2			10.3			6.8			11			7			9.4		
Copper	33.9	19.6	J		22.6	J		20.8			19.4			17.1			18.5			16.1			15.9		
Iron	GRAS	18900	J		22600	J		17100			19600			12200			19500			13700			16200		
Lead	400	393	J		16	J		82.3	J		14	J		116	J		14.3	J		32.1	J		17.9	J	
Magnesium	GRAS	4170			4720			4210			3840			4160			3930			3690			3010		
Manganese	1083	645	J		658	J		495			627			553			712			485			579		
Mercury	23		UJ	(0.11)		UJ	(0.1)		U	(0.11)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)
Nickel	39.3	22.2			28.2			19.3			23			16.7			22.7			17.3			20.1		
Potassium	GRAS	3900			3360			3200			2760			2900			2750			2430			2320		
Selenium	390	1.2	J			U	(1.1)	1.1	J		1.2	J			U	(1.1)	1.6	J			U	(1)	1.7	J	
Sodium	GRAS		U	(303)		U	(327)		U	(333)		U	(336)		U	(331)		U	(315)		U	(320)		U	(332)
Vanadium	72.5	40.9			42.8			28.7			32.2			23.4			34.1			22.3			25.7		
Zinc	119.5	***377***	J		60.6	J		99.9			53.6	U	(1.5)	94.8			51.1			72.3			50.1		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-033						B2A-034						B2A-035						B2A-036					
		B2A-033-000 (0-0.5 ft)			B2A-033-001 (1-2 ft)			B2A-034-000 (0-0.5 ft)			B2A-034-001 (1-2 ft)			B2A-035-000 (0-0.5 ft)			B2A-035-001 (1-2 ft)			B2A-036-000 (0-0.5 ft)			B2A-036-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)	***11***				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	***500***			***18***			0.34	J		1				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	1.7			1.3			0.43	J		0.41	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	2.4			0.43	J		0.37	J		0.33	J			U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	10700			17300			7290			13600			14000			15400			9940			12700		
Antimony	31		UJ	(0.45)		UJ	(0.46)	0.94	J		0.48	J		0.51	J			UJ	(0.46)		UJ	(0.46)		UJ	(0.48)
Arsenic	13.5	5.9	J		6.6	J		4.8	J		6.1	J		7.2	J		7.7	J		5	J		9.2		
Barium	440	193			185			270			196			235			237			241			333		
Beryllium	1.52	0.55			0.73			0.35			0.65			0.67			0.74			0.5			0.72		
Cadmium	39	1.2			0.16	J		1.1	J		0.32	J		0.41	J		0.23	J		3.1			0.46	J	
Calcium	GRAS	39900			3280			35800			10900			3400			3260			23100			5050		
Chromium	37	12.9			16.9			14.5			14			15.4			16			15.7			15.5		
Cobalt	17.2	7.2			8			6			8.3			9			9.1			7.3			10.1		
Copper	33.9	18.1			11.9			21.1			13.7			16.5			15.9			***136***			20.7		
Iron	GRAS	14300			17300			15000			15100			16600			17700			14600			18700		
Lead	400	163			13.6			90.2			20.6			68.4			13.2			***478***			16.7		
Magnesium	GRAS	4980			3090			3830			2710			3290			3470			3300			3620		
Manganese	1083	467			396			382			501			547			545			468			640		
Mercury	23		UJ	(0.12)		UJ	(0.11)		UJ	(0.12)		UJ	(0.12)		UJ	(0.11)		UJ	(0.12)		UJ	(0.11)		UJ	(0.13)
Nickel	39.3	18			16.7			28.3			17.6			18.7			20.5			19.8			25.3		
Potassium	GRAS	2960			3000			1760			2740			3550			3210			2560			2580		
Selenium	390	2	J		1.5	J		1.7	J		1.1	J			UJ	(1.1)		UJ	(1.1)		UJ	(1.1)		UJ	(1.1)
Sodium	GRAS		U	(322)		U	(328)		U	(328)		U	(330)		U	(350)		U	(329)		U	(324)		U	(341)
Vanadium	72.5	25.3			36.4			18.4			30.1			32.4			32.8			23.5			33.2		
Zinc	119.5	***184***			46.5			***140***			48.4			67			46.8			***654***			59.8		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-037						B2A-038						B2A-039						B2A-040					
		B2A-037-000 (0-0.5 ft)			B2A-037-001 (1-2 ft)			B2A-038-000 (0-0.5 ft)			B2A-038-001 (1-2 ft)			B2A-039-000 (0-0.5 ft)			B2A-039-001 (1-2 ft)			B2A-040-000 (0-0.5 ft)			B2A-040-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	8.4				U	(0.5)	0.6				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.23	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.14	J			U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)	0.17	J			U	(0.75)		U	(0.75)	0.69	J		0.6	J		0.46	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)	0.05	J		0.049	J		0.031	J			U	(0.5)	0.096	J			U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	14100			12500			7150	J		7400	J		12400			17200			15200	J		16700	J	
Antimony	31	0.56	J			UJ	(0.45)	1.6	J			R			UJ	(0.47)		UJ	(0.43)		UJ	(0.49)		UJ	(0.45)
Arsenic	13.5	8.3	J		7.3	J		***15.5***			7.5	J		6.9	J		8.7			8.5	J		9.4		
Barium	440	245			281			169			218			213			275			266	J		309	J	
Beryllium	1.52	0.71			0.7			0.4			0.53			0.63			0.83			0.76			0.83		
Cadmium	39	1.2			0.39	J		2.5			0.36	J		1.3			0.37	J		0.53	J		0.56	J	
Calcium	GRAS	5500			4030			44000			6080			11800			4430			5820	J		5330	J	
Chromium	37	17.8			15.2			***70.6***	J		10.3	J		18.6			19.7			23	J		22	J	
Cobalt	17.2	9.4			9.8			10.6			8.2			8.8	J		10.7	J		10.4	J		10.9	J	
Copper	33.9	19.8			20.7			***145***			17.4			24.5			21.8			22.4	J		22.9	J	
Iron	GRAS	18400			18000			118000			13900			16700			20500			19600	J		21300	J	
Lead	400	40.4			13.9			138	J		17.4	J		***1040***			19.9			99.3	J		16	J	
Magnesium	GRAS	3910			3970			3800			2720			4500			4010			4440			4810		
Manganese	1083	567			544			***1090***			499			544			650			631	J		759	J	
Mercury	23		UJ	(0.11)		UJ	(0.12)		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.11)		UJ	(0.13)		UJ	(0.11)
Nickel	39.3	23.6			24.1			***52.4***			20.5			22.2			26.1			25.3			28.3		
Potassium	GRAS	3380			2450			1570			1630			2970			2920			4150			3460		
Selenium	390	1.2	J		1.2	J		3.3	J			U	(1.1)	2.1	J			U	(1)	1.4	J		1.3	J	
Sodium	GRAS		U	(333)		U	(323)		U	(342)		U	(331)		U	(337)		U	(307)		U	(346)		U	(323)
Vanadium	72.5	36.3			30.3			35.3			20.4			35.4	J		40.8	J		43.5	J		45.9	J	
Zinc	119.5	65.3			51.7			***404***			53.8			***317***			59			73.6	J		62.1	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-041						B2A-042						B2A-043						B2A-044					
		B2A-041-000 (0-0.5 ft)			B2A-041-001 (1-2 ft)			B2A-042-000 (0-0.5 ft)			B2A-042-001 (1-2 ft)			B2A-043-000 (0-0.5 ft)			B2A-043-001 (1-2 ft)			B2A-044-000 (0-0.5 ft)			B2A-044-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.079	J			U	(0.5)	0.35	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.091	J		0.0036	J	
METALS (MG/KG)																									
Aluminum	33852	16300			17900			12000			9990			12400			13700			15700			19700		
Antimony	31		UJ	(0.49)		UJ	(0.46)		UJ	(0.48)		UJ	(0.46)	0.75	J			UJ	(0.47)	0.78	J			UJ	(0.48)
Arsenic	13.5	8.2	J		8.8			6.2	J		7.5	J		6.9	J		9.1			8.6	J		9.9		
Barium	440	279			329			199			231			190			253			183			253		
Beryllium	1.52	0.79			0.88			0.65			0.62			0.7			0.75			0.62			0.93		
Cadmium	39	0.94	J		0.45	J		0.5	J		0.28	J		1.6			0.24	J		4.3			0.21	J	
Calcium	GRAS	8830			5130			3520			3750			8140			4490			135000			5130		
Chromium	37	29.5			23.3			14.8			12.8			17.1			15.2			23.7			21		
Cobalt	17.2	10.6	J		10	J		7.8			8.7			9.3			10.4			8.3			11.6	J	
Copper	33.9	27.6			24.3			19.7			19.2			28.9			20.1			28.8			23.7		
Iron	GRAS	20700			21700			15400			15900			17400			19000			22300			23000		
Lead	400	200			18.5			172			12.8			***866***			15.1			339			17.2		
Magnesium	GRAS	5190			5170			2880			3510			3190			3560			4150			4120		
Manganese	1083	610			499			401			469			598			627			594	J		639		
Mercury	23		U	(0.13)		U	(0.11)		UJ	(0.12)		UJ	(0.11)		UJ	(0.13)		UJ	(0.12)		U	(0.11)		U	(0.13)
Nickel	39.3	26.8			25.7			16.9			21.2			28.2			24.4			24.6			27.4		
Potassium	GRAS	3800			3550			2950			2160			2870			2400			3580			3070		
Selenium	390		U	(1.1)		U	(1.1)	1.5	J		1.2	J		2	J			UJ	(1.1)		U	(1.2)		U	(1.1)
Sodium	GRAS		U	(345)		U	(329)		U	(343)		U	(324)		U	(345)		U	(335)		U	(369)		U	(340)
Vanadium	72.5	45.6	J		50.6	J		29.2			24.9			31.5			32.5			37.9			39.7	J	
Zinc	119.5	***139***			64			96.5			45.5			***299***			51.8			***151***			62.1		

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-045						B2A-046						B2A-047						B2A-048					
		B2A-045-000 (0-0.5 ft)			B2A-045-001 (1-2 ft)			B2A-046-000 (0-0.5 ft)			B2A-046-001 (1-2 ft)			B2A-047-000 (0-0.5 ft)			B2A-047-001 (1-2 ft)			B2A-048-000 (0-0.5 ft)			B2A-048-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)	0.65	J			U	(0.75)		U	(0.75)	0.16	J		0.65	J			U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		R			U	(0.75)		U	(0.75)	0.32	J			U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)	0.13	J		0.044	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	17100			19300			15200	J		19200			15100			17200	J		14400			22000		
Antimony	31		UJ	(0.48)		UJ	(0.45)		UJ	(0.49)		R			R			R			R			R	
Arsenic	13.5	9.8			11			8.5	J		9.9			8	J		10.3			7.3	J		9.5		
Barium	440	221			277			184			270			199			240			183			212		
Beryllium	1.52	0.8			0.93			0.63			0.91			0.71			0.84			0.68			0.91		
Cadmium	39	2.2			0.53	J		1.3			0.33	J			U	(1.3)		U	(1.2)	0.89	J			U	(1.3)
Calcium	GRAS	23300			4850			13500	J		4610			5870			4140			6070			4450		
Chromium	37	20.9			21.7			24.5	J		21.2			19			19.1	J		18.5			22.2		
Cobalt	17.2	9.9			12.3			8.9			12.7			9.3			11.1			8.5			10.4		
Copper	33.9	24			24.5			***42.6***	J		23.7	J		21.6			22.8			20.7			19.3		
Iron	GRAS	22900			23500			25500	J		22900			18900			21700			17300			21800		
Lead	400	***591***			17.3			***495***	J		16.7			346			20.9			***482***			49		
Magnesium	GRAS	4400			4730			3250			4630			3210			4360			2990			3940		
Manganese	1083	603	J		725	J		562			741			548			637			498			581		
Mercury	23	0.39				U	(0.1)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.1)		U	(0.13)		U	(0.13)
Nickel	39.3	24.7			30.1			24.9			29.9			21.6			26.4			23.3			23.1		
Potassium	GRAS	3620			3160			3290			3400			3180			2960			2830			3410		
Selenium	390	1.4	J		1.9	J		1.7	J			U	(1.1)	1.5	J		1.2	J		1.8	J		1.5	J	
Sodium	GRAS		U	(339)		U	(321)		U	(350)	2170				U	(344)		U	(333)		U	(355)		U	(347)
Vanadium	72.5	42.7			40.6			38.1			46.1			35.2			40			33.6			46.3		
Zinc	119.5	***247***			64.8			***271***	J		67.6			118			59.2	J		***137***			60		

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-049						B2A-050						B2A-051						B2A-052					
		B2A-049-000 (0-0.5 ft)			B2A-049-001 (1-2 ft)			B2A-050-000 (0-0.5 ft)			B2A-050-001 (1-2 ft)			B2A-051-000 (0-0.5 ft)			B2A-051-001 (1-2 ft)			B2A-052-000 (0-0.5 ft)			B2A-052-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.44	J			U	(0.5)		U	(0.5)	0.089	J	
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	***14000***			0.41	J		0.44	J			U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	***3.7***				U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)	0.27	J		4.5			0.22	J			U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.48	J			U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.077	J			U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		UJ	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)	0.016	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	10400			12700			9790	J		11000	J		8310	J		11400	J		11000	J		11800	J	
Antimony	31		R			R			R			R			R			R			R			R	
Arsenic	13.5	6.9	J		8.8			5.4	J		9.7			6.2	J		9.1			6.6	J		9.3		
Barium	440	225			213			191	J		277	J		153			270			175			263		
Beryllium	1.52	0.62			0.7			0.6			0.7			0.48			0.68			0.55			0.7		
Cadmium	39		U	(1.3)		U	(1.2)	0.6	J			U	(1.3)	1.4				U	(1.3)	1.3				U	(1.2)
Calcium	GRAS	4430			4040			7620	J		15300	J		89000			9440			89200			4910		
Chromium	37	13.1			14.2			15.3	J		14.9	J		12	J		15.1	J		18.1	J		15.8	J	
Cobalt	17.2	8.1			9.3			8			11.1			6.6			9.4			6.8			9.4		
Copper	33.9	17.4			19.3			21.5	J		22.7	J		16.1			20.8			23.9			20.8		
Iron	GRAS	14600			17700			14400	J		19200	J		12300			18100			16200			18800		
Lead	400	118			16.7			***540***	J		25.1	J		177			13.5			280			14.6		
Magnesium	GRAS	2880			3530			2610			3950			4510			3720			5680			4000		
Manganese	1083	454			580			442	J		749	J		485			595			490			561		
Mercury	23		U	(0.13)		U	(0.11)		UJ	(0.13)		UJ	(0.11)		U	(0.11)		U	(0.12)	0.12	J			U	(0.13)
Nickel	39.3	18.4			22.1			18.6			28.8			17.9			23.9			19.4			24.6		
Potassium	GRAS	3170			2660			2650			2590			2620			2520			3150			2540		
Selenium	390	1.3	J			U	(1.1)		U	(1.2)		U	(1.1)		UJ	(1.1)	1.3	J			UJ	(1.1)		UJ	(1.1)
Sodium	GRAS		U	(352)		U	(338)		U	(1280)		U	(1420)		U	(341)		U	(340)		U	(338)		U	(340)
Vanadium	72.5	26.7			24.1			25.5			31.6			22.7			31.6			28.3			32.4		
Zinc	119.5	77.3			50.5			***194***	J		66.8	J		***135***	J		57.1	J		***140***	J		56.2	J	

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-053						B2A-054						B2A-055						B2A-056					
		B2A-053-000 (0-0.5 ft)			B2A-053-001 (1-2 ft)			B2A-054-000 (0-0.5 ft)			B2A-054-001 (1-2 ft)			B2A-055-000 (0-0.5 ft)			B2A-055-001 (1-2 ft)			B2A-056-000 (0-0.5 ft)			B2A-056-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.19	J			U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.062	J			U	(0.5)	0.37	J			U	(0.5)		U	(0.5)		U	(0.5)	0.26	J			U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)	0.35	J			U	(0.5)	0.26	J			U	(0.5)		U	(0.5)	0.15	J	
2-Nitrotoluene (2-NT)	NA		U	(0.75)	0.52	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)	0.28	J			U	(1)	0.23	J			U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)	0.052	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.082	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	7670	J		12600	J		9310	J		10600	J		7880	J		10800	J		10100	J		10900	J	
Antimony	31		R			R			R			R			R			R			R			R	
Arsenic	13.5	4.9	J		9.1			4.6	J		9.4			5.2	J		11.9			6.7	J		8.7		
Barium	440	138			269			134			250			148			263			181			216		
Beryllium	1.52	0.43			0.73			0.43			0.66			0.48			0.69			0.6			0.68		
Cadmium	39	1.2				U	(1.2)	0.94	J			U	(1.2)		U	(1)		U	(1.2)	3.2			0.33	J	
Calcium	GRAS	107000			4650			173000			18400			4750			5300			5290			4040		
Chromium	37	10.4	J		16.2	J		12.8	J		14.6	J		10.9	J		14.8	J		16.9	J		12.4	J	
Cobalt	17.2	5.4			9.5			5			8.6			6.6			13			8.1			9.6		
Copper	33.9	13.8			20.7			14.6			20			16.2			24.3			***78.1***			22.4		
Iron	GRAS	11500			19600			11500			17700			12100			19000			15200			17000		
Lead	400	360			15.2			162			19.7			176			16.2			258	J		14.8	J	
Magnesium	GRAS	3410			4020			5470			3870			2170			3550			2830			3260		
Manganese	1083	417			558			374			528			393			776			498			487		
Mercury	23		U	(0.12)		U	(0.12)		U	(0.12)	0.13	J			U	(0.09)		U	(0.11)		U	(0.13)		U	(0.13)
Nickel	39.3	13.7			23.9			13.1			21.9			17.5			29.3			22.3			25.1		
Potassium	GRAS	2520			2630			3470			2570			1960			2320			2450			2020		
Selenium	390		UJ	(1.1)	1.6	J			UJ	(1.1)	1.2	J		1.3	J		1.3	J			U	(1.1)		U	(1.1)
Sodium	GRAS		U	(323)		U	(335)		U	(338)		U	(333)		U	(274)		U	(340)		U	(345)		U	(326)
Vanadium	72.5	19.8			34			22.8			30.2			20.2			31.3			24.3			23.8		
Zinc	119.5	***133***	J		54.6	J		74	J		60.6	J		***142***	J		58	J		***143***			46.9		

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-057						B2A-058						B2A-059						B2A-060					
		B2A-057-000 (0-0.5 ft)			B2A-057-001 (1-2 ft)			B2A-058-000 (0-0.5 ft)			B2A-058-001 (1-2 ft)			B2A-059-000 (0-0.5 ft)			B2A-059-001 (1-2 ft)			B2A-060-000 (0-0.5 ft)			B2A-060-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.12	J			U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.091	J			U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	15700	J		17800	J		21600	J		19900	J		12700	J		12600	J		16400			17300		
Antimony	31	0.63	J		0.72	J		1.1	J		1.1	J			R			R		0.59	J			UJ	(0.47)
Arsenic	13.5	8.2	J		9.4			11.1			7.9	J		8.2	J		8.4			7.1	J		9.7		
Barium	440	233	J		281	J		277	J		236	J		185			242			226			294		
Beryllium	1.52	0.76			0.88			0.95			0.83			0.67			0.69			0.75			0.85		
Cadmium	39	3.6				U	(1.3)		U	(1.2)	2.2			0.71	J		0.43	J		0.95	J			U	(1.2)
Calcium	GRAS	5670	J		5190	J		4940	J		4790	J		4130			5260			4450			7850		
Chromium	37	22	J		22.1	J		26.3	J		28.8	J		16.5	J		16	J		22.4			22		
Cobalt	17.2	10.5			11.4			11.9			11			8.5			9.6			9.7			11.4		
Copper	33.9	***43.4***	J		23.9	J		26	J		***37.7***	J		29.6			21.8			25.7			22.5		
Iron	GRAS	19900	J		22300	J		23700	J		20900	J		16800			17700			19000			21800		
Lead	400	***625***	J		31.2	J		58	J		***406***	J		36.4	J		21.5	J		176			27.3		
Magnesium	GRAS	4100			4670			5200			4180			3430			4520			4480			5970		
Manganese	1083	592	J		670	J		664	J		583	J		465			560			525			626		
Mercury	23		UJ	(0.11)		UJ	(0.12)		UJ	(0.11)		UJ	(0.12)		U	(0.11)		U	(0.12)		U	(0.12)		U	(0.1)
Nickel	39.3	25.7			28.2			28			27.1			22.2			24.4			33.6			27.6		
Potassium	GRAS	3200			3370			3910			3570			2590			2600			3520			3610		
Selenium	390		U	(1.1)		U	(1.1)	1.7	J		1.6	J		1.1	J			U	(1.1)	1.2	J		1.5	J	
Sodium	GRAS		U	(344)		U	(349)		U	(336)		U	(328)		U	(334)		U	(323)		U	(321)		U	(337)
Vanadium	72.5	43.7			48.8			57.9			50.8			34.3			32.4			42.6			49.5		
Zinc	119.5	***192***	J		69.1	J		82.1	J		***195***	J		60			54.9			111	J		61.9	J	

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-061						B2A-062						B2A-063						B2A-064					
		B2A-061-000 (0-0.5 ft)			B2A-061-001 (1-2 ft)			B2A-062-000 (0-0.5 ft)			B2A-062-001 (1-2 ft)			B2A-063-000 (0-0.5 ft)			B2A-063-001 (1-2 ft)			B2A-064-000 (0-0.5 ft)			B2A-064-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)	0.24	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.19	J			U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.053	J		0.1	J			U	(0.5)	0.27	J	
METALS (MG/KG)																									
Aluminum	33852	15700			17900			20800			19900			10400			12200	J		19100			20200		
Antimony	31	0.78	J			UJ	(0.47)		UJ	(4.5)		UJ	(0.42)		R			R		1	J		0.63	J	
Arsenic	13.5	6.7	J		8.4	J		9.1			9.2			5.4	J		7.2	J		7	J		8.3	J	
Barium	440	206			269			264			252			128			212			206			243		
Beryllium	1.52	0.67			0.83			0.88			0.83			0.47			0.7			0.75			0.89		
Cadmium	39	1.1	J			U	(1.2)		U	(1.2)		U	(1.1)	1	J		0.96	J		1.5				U	(1.2)
Calcium	GRAS	25200			5930			5360			4460			40100			6830			10100			4380		
Chromium	37	19			22.5			24			25			20.2			14	J		21.6			20.5		
Cobalt	17.2	8.5			11.2			10.9			11.4			6.8			8.9			9.2			11		
Copper	33.9	19.4			20.4			22.7			***48.9***			***34.4***	J		***38.1***			***45.6***			18.4		
Iron	GRAS	17100			20800			22100			33900			17500			17600			18600			21100		
Lead	400	59.5			15.8			129			34.3			***440***			26.7	J		185			19		
Magnesium	GRAS	3650			5060			5400			4980			3440			3280			3810			3840		
Manganese	1083	508			635			613			622			402			536			524			648		
Mercury	23		U	(0.12)		U	(0.12)		U	(0.11)		U	(0.11)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.11)
Nickel	39.3	21.4			26.3			26.4			***45.6***			17.4			20.2			21.5			23		
Potassium	GRAS	3830			3660			4940			3720			2360			2310			3820			3660		
Selenium	390	1.4	J			U	(1.1)	1.4	J		2.2	J		1.1	J			U	(1.1)	1.2	J		1.6	J	
Sodium	GRAS		U	(328)		U	(337)		U	(321)		U	(296)	1890				U	(343)		U	(329)		U	(334)
Vanadium	72.5	40.8			49.2			54.6			51.2			24.3			27.7			44.8			45.2		
Zinc	119.5	71.1	J		55.2	J		84.8	J		60.6	J		***189***			58.8			88.8	J		54.9	J	

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-065						B2A-066						B2A-067						B2A-068					
		B2A-065-000 (0-0.5 ft)			B2A-065-001 (1-2 ft)			B2A-066-000 (0-0.5 ft)			B2A-066-001 (1-2 ft)			B2A-067-000 (0-0.5 ft)			B2A-067-001 (1-2 ft)			B2A-068-000 (0-0.5 ft)			B2A-068-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.034	J			U	(0.5)	0.6				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.43	J			U	(0.5)	12				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)	1.1				U	(0.5)		U	(0.5)	0.99				U	(0.5)	0.25	J	
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		UJ	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)	0.77	J			U	(1)		U	(1)	0.53	J			U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		UJ	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.51	J		0.15	J			U	(0.75)		U	(0.75)		U	(0.75)	0.28	J		1.2			0.97		
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.35	J		0.052	J		0.34	J			U	(0.5)		U	(0.5)	0.12	J		0.054	J		0.051	J	
METALS (MG/KG)																									
Aluminum	33852	9620			18200	J		20400			23600			17300	J		16400	J		14400	J		18000	J	
Antimony	31		R			J		1.2	J		0.72	J			R			R			UJ	(0.46)	0.46	J	
Arsenic	13.5	6.4	J		8	J		7.3	J		8.4	J		6.9	J		6.6	J		4.6	J		8		
Barium	440	217			196			253			230			191			189			245	J		238	J	
Beryllium	1.52	0.56			0.83			0.83			0.93			0.72			0.71			0.67			0.83		
Cadmium	39	1.9			0.42	J		1.4				U	(1.2)	0.86	J		0.18	J		1.5				U	(1.1)
Calcium	GRAS	11900			6550			8780			5080			5990			3530			3500	J		3410	J	
Chromium	37	13.8			19.3	J		24.4			24.5			21.2	J		17.6	J		18.5	J		19.1	J	
Cobalt	17.2	8.1			9.8			11.2			10.5			8.4			8.1			7.8			10.5		
Copper	33.9	27	J		19.4			29.2			18.9			30.6			14			25.2	J		20.2	J	
Iron	GRAS	14200			20300			20000			22000			17400			16300			16700	J		19700	J	
Lead	400	***664***			19.5	J		152			37.2			244	J		32	J		96.7	J		19	J	
Magnesium	GRAS	2890			3490			3780			3940			3330			2800			3140			3640		
Manganese	1083	646			576			718			599			562			475			410	J		634	J	
Mercury	23		U	(0.13)		U	(0.13)		U	(0.11)		U	(0.12)		U	(0.13)		U	(0.13)		UJ	(0.11)		UJ	(0.12)
Nickel	39.3	18.8			22.2			23.2			23.1			20.3			17.2			15			23.1		
Potassium	GRAS	2450			3030			4270			3900			3290			3080			3700			3640		
Selenium	390		U	(1.1)		U	(1.1)	1.2	J		1.6	J		1.6	J			U	(1.1)		U	(1.1)		U	(0.95)
Sodium	GRAS	758				U	(335)		U	(337)		U	(333)		U	(344)		U	(335)		U	(323)		U	(290)
Vanadium	72.5	23.1			39.5			47.4			53.1			38.5			35			35.9			39.2		
Zinc	119.5	***165***			53			119	J		62	J		110			51.3			106	J		71.3	J	

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-069						B2A-070						B2A-071						B2A-072					
		B2A-069-000 (0-0.5 ft)			B2A-069-001 (1-2 ft)			B2A-070-000 (0-0.5 ft)			B2A-070-001 (1-2 ft)			B2A-071-000 (0-0.5 ft)			B2A-071-001 (1-2 ft)			B2A-072-000 (0-0.5 ft)			B2A-072-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)	0.36	J		0.32	J		0.44	J		0.42	J			U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)	0.12	J		0.046	J			U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)	0.18	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)	0.24	J		0.39	J			U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)	0.18	J		0.37	J		0.38	J			U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	1.3			1.3				U	(0.75)	0.27	J			U	(0.75)	0.26	J			U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)	0.5	U	(0.5)	0.11	J		0.53	J		0.28	J			U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.039	J		0.07	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	20300	J		21400	J		9800			15500			15100			10500			16500			16900		
Antimony	31	0.61	J		0.51	J			R			R			R			R			UJ	(0.48)		U	(0.47)
Arsenic	13.5	7.4	J		8			6	J		6.7	J		7.5	J		7	J		5.1	J		8.8		
Barium	440	219	J		234	J		224			240			208			197			239			265		
Beryllium	1.52	0.84			0.89			0.62			0.72			0.77			0.64			0.92			0.81		
Cadmium	39		U	(1.2)		U	(1.1)		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.13)	0.13	J	
Calcium	GRAS	5490	J		4400	J		4200			3700			4120			4070			4440			4210		
Chromium	37	22	J		22.4	J		12.2			16.1			16.2			11.6			18.9			19		
Cobalt	17.2	10.1			11.1			8.5			9.2			14			12.8			8.1			10.9		
Copper	33.9	***34.1***	J		18	J		17			16.6			16.8			18.5			22.8			20.9		
Iron	GRAS	19900	J		20500	J		15100			17600			18700			15400			18100			20300		
Lead	400	189	J		22.9	J		22.6	J		13.4	J		18	J		21	J		13.8	J		16.2		
Magnesium	GRAS	3870			3800			3150			3460			3440			3050			3410			3970		
Manganese	1083	575	J		541	J		517			546			613			611			412			579		
Mercury	23		UJ	(0.12)		UJ	(0.12)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)
Nickel	39.3	21.8			21.7			20.6			19.4			19.9			21.2			17.9			22		
Potassium	GRAS	4220			3880			2760			3240			2650			1890			2670			3120		
Selenium	390	1.6	J		1.1	J		1.3	J			U	(1.1)	1.7	J		1.3	J		1.3	J		1.5	J	
Sodium	GRAS		U	(326)		U	(31)		U	(332)		U	(327)		U	(347)		U	(332)		U	(351)	259	J	
Vanadium	72.5	47.2			48			22.7			31.5			30.1			17.8			26.9			35.8		
Zinc	119.5	95.5	J		58.3	J		47.9			51.3			50.9			51.5			61.3	J		56		

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-4
Analytical Data for Load Line 2 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2A-074						B2A-075						B2A-076						B2A-077					
		B2A-074-000 (0-0.5 ft)			B2A-074-001 (1-2 ft)			B2A-075-000 (0-0.5 ft)			B2A-075-001 (1-2 ft)			B2A-076-000 (0-0.5 ft)			B2A-076-001 (1-2 ft)			B2A-077-000 (0-0.5 ft)			B2A-077-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)	0.16	J		0.94				U	(0.75)	1.1			1.2			1.4			1.1		
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.042	J			U	(0.5)	0.038	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	13500	J		13000	J		7970			15800			14600			20000			15500			16400		
Antimony	31		R			R			UJ	(0.45)		UJ	(0.42)		UJ	(0.45)		UJ	(0.44)		UJ	(0.47)		UJ	(0.44)
Arsenic	13.5	6.9	J		7.2	J		3.7	J		8.7			6	J		9.2			7.2	J		9		
Barium	440	213			236			138			311			173			259			252			273		
Beryllium	1.52	0.68			0.7			0.38			0.74			0.63			0.93			0.77			0.8		
Cadmium	39	0.2	J		0.29	J		0.38	J		0.57	J		0.72	J		0.39	J		0.13	J		0.37	J	
Calcium	GRAS	3350			4040			2440			6950			4890			4680			3930			4210		
Chromium	37	15.7	J		16.1	J		10.6			22.2			19.3			22.4			18.5			19.4		
Cobalt	17.2	7.9			9			8.3			10.3			7.7			12			9.3			9.8		
Copper	33.9	16.1			19.8			12.3			22.6			16.7			24.5			18.5			19.5		
Iron	GRAS	16100			17500			9970			18800			15300			23000			18700			19900		
Lead	400	51.1	J		21.9	J		***504***			42.8			91.2			16.2			21.5			43.1		
Magnesium	GRAS	3130			3620			1720			4680			3030			4660			3490			3870		
Manganese	1083	469			534			468	J		599	J		362	J		693	J		522	J		568	J	
Mercury	23		U	(0.12)		U	(0.12)		U	(0.09)		U	(0.12)		U	(0.11)		U	(0.12)		U	(0.12)		U	(0.11)
Nickel	39.3	18.9			21.8			11.5			24.6			17.9			28.6			36.8			22.2		
Potassium	GRAS	2910			2780			2110			3450			3060			3400			3220			3300		
Selenium	390		U	(1.1)	1.6	J			U	(1)	1.1	J		1.1	J			U	(1)	1.3	J		1.1	J	
Sodium	GRAS		U	(350)		U	(350)		U	(317)		U	(302)		U	(321)		U	(312)		U	(334)		U	(310)
Vanadium	72.5	31.6			32.6			22			43.5			34.6			39.6			36.3			37.6		
Zinc	119.5	53.5			63.3			96.5			66.9			67.3			62.6			54.4			66.9		

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-5
Analytical Data for Load Line 2 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2B-001			B2B-002			B2B-003			B2B-004			B2B-005			B2B-006			B2B-007			B2B-008			B2B-009		
		B2B-001-000 (0-1 ft)			B2B-002-000 (0-1 ft)			B2B-003-000 (0-1 ft)			B2B-004-000 (0-1 ft)			B2B-005-000 (0-1 ft)			B2B-006-000 (0-1 ft)			B2B-007-000 (0-1 ft)			B2B-008-000 (0-1 ft)			B2B-009-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																												
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		UJ	(0.5)		U	(0.5)	0.14	J			U	(0.5)	0.75				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)	0.38	J			U	(0.5)		U	(0.5)		U	(0.5)	0.48	J			U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)	1.2				U	(0.75)		U	(0.75)	0.8				U	(0.75)	0.66	J			U	(0.75)	0.16	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		R			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.42	J		0.27	J			U	(0.5)	0.34	J			U	(0.5)		U	(0.5)	0.5	J		0.44	J			U	(0.5)
METALS (MG/KG)																												
Aluminum	33852	13400	J		14900	J		14500	J		12300			13500			11500			13300			11800			16800		
Antimony	31		R			R			R			R			R			R			R			R			R	
Arsenic	13.5	8.2	J		8.3			9.1			8.2			6.5	J		8.6	J		7.1	J		8.3	J		8.3	J	
Barium	440	191	J		202	J		177	J		179			252			226			187			214			227		
Beryllium	1.52	0.69			0.75			0.76			0.66			0.66			0.67			0.7			0.64			0.78		
Cadmium	39		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.13)
Calcium	GRAS	4710	J		3780	J		3810	J		3430			3520			4490			2890			4630			3550		
Chromium	37	16.2			16.6			16.9			14.6			15.7			14			14.5			14.8			18.9		
Cobalt	17.2	8.9			10.4			9.7			8.8			8.7			10			9			8.9			10.2		
Copper	33.9	20.1	J		19.5	J		21.4	J		19			15			20.4			17.5			18.8			19.4		
Iron	GRAS	18200	J		19700	J		19800	J		17300	J		17100			18000			17000			18000			19400		
Lead	400	12.3			14			13.7			12.3	J		16.1	J		13.1	J		13.3	J		12.4	J		13.9	J	
Magnesium	GRAS	3920			3900			4060			3470			3540			3300			3010			3520			3650		
Manganese	1083	481	J		668	J		596	J		555			530			664			553			582			583		
Mercury	23		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.13)		U	(0.13)
Nickel	39.3	22.9			23.9			24.4			21.3			18.3			23.6			20.2			23.1			22.8		
Potassium	GRAS	2460			2560			2840			2340			2290			2320			2550			2560			3170		
Selenium	390	1.1	J			U	(1)		U	(1.1)		U	(1)		U	(1)		U	(1.1)	1.2	J			U	(1.1)		U	(1.1)
Sodium	GRAS	266	J		187	J		266	J			U	(311)		U	(317)		U	(342)		U	(326)		U	(327)		U	(340)
Thallium	1.72	1.4	J			U	(1.3)		U	(1.4)		U	(1.3)		U	(12.9)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.4)
Vanadium	72.5	30.5			33.7			34.4			28.8			29.2			26.7			29.7			31.2			40.4		
Zinc	119.5	50.9			56.8			54.2			49.3	J		48.1	J		51.6	J		46.1	J		48.6	J		51.4	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-5
Analytical Data for Load Line 2 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2B-010			B2B-011			B2B-012			B2B-013			B2B-014			B2B-015			B2B-016			B2B-017			B2B-018		
		B2B-010-000 (0-1 ft)			B2B-011-000 (0-1 ft)			B2B-012-000 (0-1 ft)			B2B-013-000 (0-1 ft)			B2B-014-000 (0-1 ft)			B2B-015-000 (0-1 ft)			B2B-016-000 (0-1 ft)			B2B-017-000 (0-1 ft)			B2B-018-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																												
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		UJ	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		UJ	(0.5)	0.44	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		UJ	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		UJ	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		UJ	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)	0.38	J			UJ	(0.75)		U	(0.75)	0.082	J		2.2			1.2				U	(0.75)	0.86		
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		UJ	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		UJ	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.051	J			UJ	(0.5)	0.32	J		0.11	J		0.29	J		0.26	J			U	(0.5)	0.18	J	
METALS (MG/KG)																												
Aluminum	33852	9540			11600			13400			14600			14000			13500			11400			10700			12600		
Antimony	31		R			R			R			R			R			R			R			R			R	
Arsenic	13.5	6	J		8.5	J		8.8			7.5	J		6.9	J		7.6	J		11.5			9.3			9.2		
Barium	440	148			232			189			192			147			151			228			231			254		
Beryllium	1.52	0.53			0.66			0.73			0.69			0.7			0.68			0.66			0.64			0.69		
Cadmium	39		U	(0.12)		U	(0.12)	0.35	J		0.27	J			U	(0.12)	0.22	J		0.37	J		0.52	J		0.4	J	
Calcium	GRAS	3310			3950			3750	J		3520	J		4620			2930	J		4380	J		4340	J		4700	J	
Chromium	37	11.6			15.3			15.5			15.6			14.9			15			15.3			14.6			16.5		
Cobalt	17.2	7.5			8.3			9.9			8.7			8.4			8.8			10.7			9.2			10.4		
Copper	33.9	15.6			20.9			19.3			14.9			14.5			14.2			21.2			20.6			20.6		
Iron	GRAS	13400			18400			18700			16600			16000			15600			19300			18100			19000		
Lead	400	10.5	J		12.2	J		13.7	J		13.1	J		12.3	J		13.6	J		13	J		12.9	J		13.3	J	
Magnesium	GRAS	2500			3890			3830			3290			3090			2740			4010			3930			4220		
Manganese	1083	619			490			608			512			480			522			461			607			605		
Mercury	23		U	(0.12)		U	(0.12)		U	(0.11)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.13)		U	(0.13)		U	(0.13)
Nickel	39.3	17.3			22.1			24	J		18.7	J		17.4			17.6	J		24.4	J		25.1	J		25.6	J	
Potassium	GRAS	1960			2730			2720			3100			2660			3140			2610			2520			2910		
Selenium	390		U	(1)		U	(1.1)		U	(0.99)		U	(0.99)		U	(1.1)		U	(1)		U	(1.1)		U	(1.1)		U	(1.1)
Sodium	GRAS		U	(313)		U	(368)	215	J		193	J			U	(331)	191	J		241	J		190	J		183	J	
Thallium	1.72		U	(1.3)		U	(1.4)		U	(1.2)		U	(1.2)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.4)
Vanadium	72.5	21.9			33.9			30.3			31.6			28.3			31.3			32.8			30			35.6		
Zinc	119.5	36.2	J		54.3	J		54.9	J		48.9	J		43.7	J		45.9	J		55.7	J		58	J		57.6	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-5
Analytical Data for Load Line 2 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2B-019			B2B-020			B2B-021			B2B-022			B2B-023			B2B-024			B2B-025			B2B-026		
		B2B-019-000 (0-1 ft)			B2B-020-000 (0-1 ft)			B2B-021-000 (0-1 ft)			B2B-022-000 (0-1 ft)			B2B-023-000 (0-1 ft)			B2B-024-000 (0-1 ft)			B2B-025-000 (0-1 ft)			B2B-026-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	***1.9***				U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	3.3				U	(0.5)	0.29	J			U	(0.5)		U	(0.5)		U	(0.5)	***220***				U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.19	J			U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)	0.32	J			U	(0.5)		U	(0.5)		U	(0.5)	0.32	J			U	(0.5)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)	0.21	J			U	(1)		U	(1)		U	(1)		UJ	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)	0.64	J			U	(0.75)		U	(0.75)		U	(0.75)	***740***				U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		UJ	(0.75)		UJ	(0.75)	0.14	J			UJ	(0.75)		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		UJ	(0.5)		UJ	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	35				U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	11900			9480			13800			16400			19400			12500			8920	J		20200	J	
Antimony	31		R			U	(0.44)		U	(0.47)		U	(0.45)		R			R			UJ	(0.44)	0.59	J	
Arsenic	13.5	9.9			9.1			8.6			10.8			9.8			10.2			7.8	J		10.4		
Barium	440	262			255			255			246			182			303			278			277		
Beryllium	1.52	0.67			0.6			0.74			0.84			0.9			0.71			0.57			0.92		
Cadmium	39	0.41	J		0.33	J		0.29	J		0.24	J		0.13	J		0.47	J		0.57	J		0.66	J	
Calcium	GRAS	5890	J		3900	J		4120			4170	J		3320	J		4580	J		4000			4230		
Chromium	37	15.6			12.2			16.6			18.3			19.3			16.4			11.9	J		23.7	J	
Cobalt	17.2	10.2			9.5			12.5			11.5			10.4			10.3			11.8			11.9		
Copper	33.9	19.9			19.7			22.9			23			19.7			20.3			19.8	J		24.4	J	
Iron	GRAS	18500			16200			19600			21600			21600			19100			14700			23700		
Lead	400	12.9	J		12	J		13.9			15.1	J		14.5	J		13.4	J		13.2			15.7		
Magnesium	GRAS	3700			3510			4230			4490			4210			4270			3240			5150		
Manganese	1083	527			606			709			695			603			641			898			678		
Mercury	23		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.12)
Nickel	39.3	23.7	J		24.1	J		26.5			29	J		24	J		26.6	J		28.7			29.6		
Potassium	GRAS	3040			1860			2610			2760			2870			2690			2020			3890		
Selenium	390		U	(1.2)		U	(1)		U	(1.1)		U	(1)		U	(1)		U	(1.1)	1.3	J		1.6	J	
Sodium	GRAS	99.1	J		251	J		166	J		173	J		157	J		200	J			U	(316)		U	(318)
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.3)
Vanadium	72.5	30.6			23.4			30.6			36			36.5			31.6			24.1			53.1		
Zinc	119.5	56.9	J		48.1	J		56.5			58.1	J		59.7			57.6	J		42.7			66.9		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-5
Analytical Data for Load Line 2 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2B-027			B2B-028			B2B-029			B2B-030			B2B-031			B2B-032			B2B-033			B2B-034		
		B2B-027-000 (0-1 ft)			B2B-028-000 (0-1 ft)			B2B-029-000 (0-1 ft)			B2B-030-000 (0-1 ft)			B2B-031-000 (0-1 ft)			B2B-032-000 (0-1 ft)			B2B-033-000 (0-1 ft)			B2B-034-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)	0.022	J			U	(0.5)	0.078	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)	0.39	J			U	(0.5)	0.093	J			U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.057	J			U	(0.5)		U	(0.5)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		UJ	(0.75)		UJ	(0.75)	0.045	J		0.094	J			UJ	(0.75)		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)	0.13	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.018	J	
METALS (MG/KG)																									
Aluminum	33852	11500	J		15600	J		13100	J		12500	J		14700	J		15400	J		15500	J		20000	J	
Antimony	31		UJ	(0.44)		UJ	(0.44)		UJ	(0.47)		UJ	(0.43)		UJ	(0.44)		R			R			R	
Arsenic	13.5	9.1			10.2			9.6			6.8	J		8.5			8.1	J		7.2	J		9.6		
Barium	440	239			225			218			170			186			231	J		266	J		214	J	
Beryllium	1.52	0.72			0.83			0.75			0.68			0.74			0.76			0.76			0.89		
Cadmium	39	0.51	J		0.56	J		0.45	J		0.33	J		0.5	J		0.36	J		0.44	J		0.51	J	
Calcium	GRAS	3960			3920			4000			3160			3880			3500			3120			3560		
Chromium	37	13.6	J		18	J		14.7	J		13.8	J		17.3	J		16			16.8			21.8		
Cobalt	17.2	10.9			11.1			11.1			9.1			10.1			11.2			10.2			11.1		
Copper	33.9	23.2	J		25.8	J		24.5	J		18.8	J		22.2	J		16.6			17.3			23.4		
Iron	GRAS	18500			21800			19400			16100			19100			18200			19000			23100		
Lead	400	14.6			15.1			14.5			12.5			13.1			14.9			14.3			15		
Magnesium	GRAS	3740			4290			3900			2900			4070			3350			3350			4520		
Manganese	1083	620			628			622			489			505			688			628			620		
Mercury	23		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.11)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)
Nickel	39.3	24.2			28			26			21.2			23.5			21.5			21.1			26.7		
Potassium	GRAS	2230			2930			2550			2610			2830			3020			3250			3800		
Selenium	390	1.6	J		1.8	J		1.2	J		1.2	J		1.9	J		1.1	J		1.4	J		1.2	J	
Sodium	GRAS		U	(311)		U	(316)		U	(333)		U	(302)		U	(315)		U	(334)		U	(315)		U	(325)
Thallium	1.72		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.2)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.3)
Vanadium	72.5	27.2			36.3			30.5			28.8			35.4			32.1			35.1			46.6		
Zinc	119.5	52			61.5			56.2			44.1			49.9			48.3			49.9			58.5		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-5
Analytical Data for Load Line 2 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B2B-035			B2B-036			B2B-037			B2B-038		
		B2B-035-000 (0-1 ft)			B2B-036-000 (0-1 ft)			B2B-037-000 (0-1 ft)			B2B-038-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)													
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.509)		U	(0.517)		UJ	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.509)		U	(0.517)		UJ	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.509)		U	(0.517)		UJ	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.509)		U	(0.517)		UJ	(0.5)		U	(0.5)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(0.509)		U	(0.517)		UJ	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.509)		U	(0.517)		UJ	(0.75)		UJ	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.509)		U	(0.517)		UJ	(0.75)		UJ	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.509)		U	(0.517)		UJ	(0.5)	0.3	J	
METALS (MG/KG)													
Aluminum	33852	12600			13700			14000	J		10600	J	
Antimony	31		UJ	(12.3)		UJ	(12.7)		R			R	
Arsenic	13.5	8.9			9			9.9			9.3		
Barium	440	166			278			324	J		249	J	
Beryllium	1.52		U	(1.2)		U	(1.3)	0.74			0.66		
Cadmium	39		U	(1.2)		U	(1.3)	0.63	J		0.48	J	
Calcium	GRAS	16000			3730			5170			5600		
Chromium	37	15.8			14.6			17.4			13.8		
Cobalt	17.2	8.4	B		8.6	B		11.3			11.3		
Copper	33.9	17.9			14.5			22.8			21.2		
Iron	GRAS	17500			17900			20600			17900		
Lead	400	36.3			23.5			14.5			14.4		
Magnesium	GRAS	3920			3760			4580			3960		
Manganese	1083	485			605			636			655		
Mercury	23	0.38	J			UN	(0.11)		U	(0.12)		U	(0.12)
Nickel	39.3	24.4			20.4			27.8			25.5		
Potassium	GRAS	2500			1930			3100			2560		
Selenium	390		U	(1.2)		U	(1.3)	1.2	J		1.1	J	
Sodium	GRAS	262	B			U	(253)		U	(317)		U	(324)
Thallium	1.72		U	(1.7)		U	(1.8)		U	(1.3)		U	(1.3)
Vanadium	72.5	28.2			26.8			36			26.2		
Zinc	119.5		U	(69.2)	65.6	U	(2.5)	59.5			51.7		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-001						B3A-002						B3A-003						B3A-004					
		B3A-001-000 (0-0.5 ft)			B3A-001-001 (1-2 ft)			B3A-002-000 (0-0.5 ft)			B3A-002-001 (1-2 ft)			B3A-003-000 (0-0.5 ft)			B3A-003-001 (1-2 ft)			B3A-004-000 (0-0.5 ft)			B3A-004-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.082	J		0.097	J			U	(0.5)	0.17	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.21	J		0.46	J			U	(0.5)		U	(0.5)	0.12	J			U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.18	J			U	(1)		U	(1)	0.36	J			U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)	0.21	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.84)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.096	J			U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	21500			22400			15700			16900			16600			15200			10700	J		10200	J	
Antimony	31	1.3	J			UJ	(0.46)	0.64	J		0.46	J			UJ	(0.5)		UJ	(0.47)		UJ	(0.49)		UJ	(0.5)
Arsenic	13.5	10.2			9.2			10.1			11			10.5			10.7			8.3	J		8.1	J	
Barium	440	234	J		227	J		307	J		***466***	J		315	J		309	J		***2380***			244		
Beryllium	1.52	0.94			0.92			0.79			0.81			0.82			0.8			0.61			0.63		
Cadmium	39	0.77	J		0.31	J		0.66	J		0.54	J		1.1	J		0.55	J		1.4			0.44	J	
Calcium	GRAS	6200			4420			6710			8890			4660			4920			5820	J		4870	J	
Chromium	37	25.4	J		24.3			20.7	J		21.7			21.9	J		19.8			16.8	J		14.5	J	
Cobalt	17.2	12.4	J		11.6	J		11.6	J		11.3	J		11.9	J		11.3	J		9.3			9.7		
Copper	33.9	***35.7***			22.9			32.6			23.7			23.7			23.7			23.7	J		23.7	J	
Iron	GRAS	24000			22800			22000			22300			23000			22000			17000	J		17400	J	
Lead	400	56.7			19.4			28.3			19			123			21.9			214	J		23.7	J	
Magnesium	GRAS	4330			3900			4350			4850			4710			4560			3530			3430		
Manganese	1083	695	J		655	J		826	J		697	J		774	J		691	J		538			676		
Mercury	23		U	(0.11)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.13)		U	(0.13)
Nickel	39.3	***41.6***			25.1			36.8			30.1			29.5			29.4			30.1			24.3		
Potassium	GRAS	3730			3550			3460			3490			3370			2930			2370			2230		
Selenium	390	2	J		1.9	J			U	(1.1)		U	(1.1)	1.9	J		1.6	J			U	(1.1)		U	(1.1)
Silver	380		UJ	(0.15)		UJ	(0.14)		UJ	(0.15)		UJ	(0.14)		UJ	(0.16)		UJ	(0.15)		UJ	(0.15)		UJ	(0.16)
Sodium	GRAS		U	(338)		U	(324)		U	(339)		U	(324)		U	(352)		U	(337)		U	(348)		U	(352)
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)
Vanadium	72.5	50.2			45.8			43.3			47.4			45.5			41.6			28.5			29.1		
Zinc	119.5	85.2			67.2			71.9			69.3			***135***			67.3			***213***	J		63	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-005						B3A-006						B3A-007						B3A-008					
		B3A-005-000 (0-0.5 ft)			B3A-005-001 (1-2 ft)			B3A-006-000 (0-0.5 ft)			B3A-006-001 (1-2 ft)			B3A-007-000 (0-0.5 ft)			B3A-007-001 (1-2 ft)			B3A-008-000 (0-0.5 ft)			B3A-008-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.46	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4	0.37	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.69				U	(0.5)		U	(0.5)		U	(0.5)	0.47	J			U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)	0.37	J			U	(0.5)	0.3	J			U	(0.5)	0.51				U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)	0.35	J			U	(1)	0.18	J			U	(1)	0.47	J			U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)	0.12	J			U	(0.75)	0.13	J		0.86			2.4			4.5			4.4		
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.3	J		0.26	J		1.4			1.1		
METALS (MG/KG)																									
Aluminum	33852	8700	J		14500	J		10500	J		10800	J		14400			9900	J		16800	J		11600	J	
Antimony	31		UJ	(0.47)		UJ	(0.48)		UJ	(0.51)		UJ	(0.49)		R			UJ	(0.48)		UJ	(0.47)		UJ	(0.49)
Arsenic	13.5	3.1	J		9.7			7.3	J		8.6	J		9.1			8.5	J		8.7			8.7	J	
Barium	440	160			285			225			243			237			249			271			260		
Beryllium	1.52	0.4			0.73			0.58	J		0.67			0.77			0.66			0.78			0.72		
Cadmium	39	1.5			0.36	J		2.8			0.44	J		0.29	J		0.23	J		0.47	J		0.35	J	
Calcium	GRAS	5370	J		5670	J		15500	J		5580	J		5140			5280	J		6350	J		5070	J	
Chromium	37	15.6	J		18.9	J		14.6	J		13.7	J		17.7			12.7	J		23.4	J		14.8	J	
Cobalt	17.2	6.8			9.7			9.2	J		10.1			10			9.7			10.4			10.6		
Copper	33.9	30.1	J		20.9	J		23.1	J		20.9	J		24.3			21.6	J		25.4	J		24.2	J	
Iron	GRAS	11000	J		19400	J		15700	J		17400	J		19900			16700	J		20300	J		18600	J	
Lead	400	362	J		14.9	J		106	J		18.2	J		35.7	J		18.5	J		83.9	J		15.3	J	
Magnesium	GRAS	2240			4180			3340			3650			3910			3620			4420			3990		
Manganese	1083	404			531			593			555			597			534			620			762		
Mercury	23		U	(0.12)		U	(0.13)		U	(0.14)		U	(0.12)	0.21	J			U	(0.12)	0.14	J			U	(0.13)
Nickel	39.3	***50.9***			23.9			25.8			25.1			26.5			24.6			32			29		
Potassium	GRAS	2410			3310			2550			2370			3160			2040			3690			2380		
Selenium	390		U	(1.1)		U	(1.1)		U	(1.2)		U	(1.1)		U	(1.1)		U	(1.1)		U	(1.1)		U	(1.1)
Silver	380	0.33	J			UJ	(0.15)		UJ	(0.16)		UJ	(0.16)		UJ	(0.16)		UJ	(0.15)		UJ	(0.15)		UJ	(0.16)
Sodium	GRAS		U	(334)		U	(339)		U	(359)		U	(349)		U	(349)		U	(339)		U	(337)		U	(350)
Thallium	1.72		U	(1.4)	1.7	J			U	(1.5)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)
Vanadium	72.5	23.4			40.3			26.2			26.3			34.5			23.3			43.4			25.7		
Zinc	119.5	***161***	J		56	J		84.3	J		54.5	J		71.5			53.5	J		82.2	J		57.7	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-009						B3A-010						B3A-011						B3A-012					
		B3A-009-000 (0-0.5 ft)			B3A-009-001 (1-2 ft)			B3A-010-000 (0-0.5 ft)			B3A-010-001 (1-2 ft)			B3A-011-000 (0-0.5 ft)			B3A-011-001 (1-2 ft)			B3A-012-000 (0-0.5 ft)			B3A-012-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		UJ	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.35	J			R			U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.78	J			U	(0.5)	0.95				U	(0.5)	1.5	J		0.98	J		0.057	J		0.24	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.22	J			U	(0.5)	0.33	J			U	(0.5)	0.85	J		0.82			0.37	J			U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.27	J			U	(1)	0.4	J			U	(1)	0.95	J		0.77	J		0.24	J			U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)	1.2			***110***	J		***26***				UJ	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		UJ	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		R			UJ	(0.75)		R			U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	9.3	J		3.5			0.38	J			U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	16000			18800			14000	J		13000			19900	J		16700			13400			16200		
Antimony	31	0.68	J			UJ	(0.45)		UJ	(0.46)		UJ	(0.47)		U	(0.47)		UJ	(0.46)		R			U	(0.46)
Arsenic	13.5	9.4			10			7.1	J		8.1	J		7.7	J		9.6			6.4	J		8.2	J	
Barium	440	260			262			210			227			205			258			224			238		
Beryllium	1.52	0.76			0.87			0.7			0.67			0.78			0.81			0.63			0.78		
Cadmium	39	1	J		0.27	J		0.56	J		0.3	J		1.1	J		0.54	J		0.21	J			U	(0.12)
Calcium	GRAS	7060	J		4900	J		5920	J		3980	J		6570			5820			8270			4800		
Chromium	37	20.6			21.1			18.1	J		15.7			24.1			23.1			15.4			18		
Cobalt	17.2	10.4			10.4			8.5			9.2			9.8			10.9			8.1			10.5		
Copper	33.9	32.2	J		24			30.8	J		21.1			***49.8***			30.4			18.7			19.5		
Iron	GRAS	19900			22800			16700	J		17600			20600			22600			16000			19600		
Lead	400	123	J		22.9			137	J		28.1			111	J		31.7	J		27.3	J		20.4		
Magnesium	GRAS	4010			4560			3370			3570			4060			4520			3230			3850		
Manganese	1083	586	J		610			497			561			504			653			602			603		
Mercury	23	0.25	J			UJ	(0.13)		U	(0.12)		UJ	(0.12)	0.15	J			U	(0.12)		U	(0.12)		U	(0.12)
Nickel	39.3	30.1			26.6			22.3			23.2			35.6			29.4			18.3			22.7		
Potassium	GRAS	2890			3090			2950			2520			3750			3140			2700			3030		
Selenium	390		U	(1.1)		U	(1)		U	(1.1)		U	(1.1)		U	(1.1)	1.7	J			U	(1.1)		U	(1.1)
Silver	380		UJ	(0.15)		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.14)		UJ	(0.15)		U	(0.15)
Sodium	GRAS		U	(342)		U	(316)		U	(328)		U	(330)		U	(330)		U	(324)		U	(329)	50	J	
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)
Vanadium	72.5	35.1			37.5			34.3			27.7			44.3			34.8			30.6			36.7		
Zinc	119.5	***144***	J		75.4			***124***	J		62.9			112			74.5	J		55.1			56.1		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-013						B3A-014						B3A-015						B3A-016					
		B3A-013-000 (0-0.5 ft)			B3A-013-001 (1-2 ft)			B3A-014-000 (0-0.5 ft)			B3A-014-001 (1-2 ft)			B3A-015-000 (0-0.5 ft)			B3A-015-001 (1-2 ft)			B3A-016-000 (0-0.5 ft)			B3A-016-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.2	J			UJ	(0.5)		U	(0.5)		U	(0.5)		U	(0.62)		U	(0.58)	0.18	J			U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		UJ	(0.5)		UJ	(0.5)	0.096	J		0.17	J		0.6			0.29	J			U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		UJ	(1)		UJ	(1)	0.22	J			U	(1)	0.59	J		0.27	J		0.23	J			U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		UJ	(0.75)		U	(0.5)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.43	J			U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		R			R			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		UJ	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		UJ	(0.5)		UJ	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	12700			18800			16100			17600			12500			18900			19000			19100		
Antimony	31		R			R			UJ	(0.47)		UJ	(0.46)		UJ	(0.48)		UJ	(0.45)		UJ	(0.48)		UJ	(0.45)
Arsenic	13.5	7.7	J		9.6			7.2	J		8	J		6.3	J		8.3			9.2			9.2		
Barium	440	213			241			257			262			182			243			260			238		
Beryllium	1.52	0.68			0.85			0.67			0.83			0.57			0.83			0.85			0.87		
Cadmium	39	0.18	J			U	(0.13)	0.28	J		0.18	J		0.92	J		0.26	J		0.38	J		0.22	J	
Calcium	GRAS	4590			4790			4110			3820			4460	J		5170	J		7230	J		4540	J	
Chromium	37	18			21.3			17.7			19.4			15.5			20.1			20.5			20.6		
Cobalt	17.2	9.6			11.6			8.3			10.7			7			9.4			11.7			9.1		
Copper	33.9	25.8			23.8			15.6			19.9			***157***			21			28.3	J		23.2	J	
Iron	GRAS	17300			22000			16300			20600			13900			20200			20700			22100		
Lead	400	187	J		20.8			381	J		15.8	J		143			26.2			73.9	J		16.4	J	
Magnesium	GRAS	3260			4440			3080			3990			2690			3590			3940			4380		
Manganese	1083	571			543			510			702			384			385			645	J		530	J	
Mercury	23	0.15	J		0.15	J			U	(0.12)		U	(0.13)		UJ	(0.13)		UJ	(0.12)		UJ	(0.13)		U	(0.12)
Nickel	39.3	24.7			26.3			18.7			23.7			18.1			22.2			36.4			25.4		
Potassium	GRAS	2760			3470			3700			3160			2730			3520			4050			3280		
Selenium	390		U	(1.1)	1.9	J			U	(1.1)	1.6	J		1.3	J		1.1	J		1.1	J		1.1	J	
Silver	380		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.14)		UJ	(0.15)		UJ	(0.14)
Sodium	GRAS		U	(347)		U	(34.6)		U	(332)		U	(330)		U	(340)		U	(317)		U	(344)		U	(320)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)
Vanadium	72.5	29.6			45.3			37.8			37.6			30.2			39.9			39.9			40.3		
Zinc	119.5	108			60.6			92.6	J		63.4	J		***262***			74.2			83.9	J		66.1	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-017						B3A-018						B3A-019						B3A-020					
		B3A-017-000 (0-0.5 ft)			B3A-017-001 (1-2 ft)			B3A-018-000 (0-0.5 ft)			B3A-018-001 (1-2 ft)			B3A-019-000 (0-0.5 ft)			B3A-019-001 (1-2 ft)			B3A-020-000 (0-0.5 ft)			B3A-020-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.16	J		0.42	J			U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.16	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.22	J			U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.072	J			U	(0.5)		U	(0.5)		U	(0.5)	0.38	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	18000			19400			15700			15800			11800			11500			10100	J		18300		
Antimony	31		UJ	(0.49)		UJ	(0.44)		UJ	(0.51)		UJ	(0.47)		R			R			R			R	
Arsenic	13.5	8.4	J		8.9			8.4	J		6	J		7.7	J		7.1	J		5.9	J		9.2	J	
Barium	440	236			246			227			236			236			223			244			230		
Beryllium	1.52	0.82			0.87			0.78			0.78			0.64			0.66			0.56			0.87		
Cadmium	39	0.27	J		0.2	J		0.37	J		0.5	J		0.39	J		0.29	J		0.14	J			U	(0.14)
Calcium	GRAS	5620			4270			5880	J		3640	J		4820			4700			3750			4020		
Chromium	37	19.5			21.2			18.7			17.8			15.2			14.5			11.8			18.8		
Cobalt	17.2	9.6			10.6			10			11			9.2			8.4			7.2			9.7		
Copper	33.9	19.8			21.6			21.5	J		18.3	J		24			19.6			15.1			21.3		
Iron	GRAS	20000			21600			19100			17600			18300			15500			13300			21100		
Lead	400	61.8	J		15.6	J		25.3	J		15.6	J		165	J		104	J		***642***	J		14.7	J	
Magnesium	GRAS	3610			4370			3550			2990			2980			2920			2650			3850		
Manganese	1083	573			636			548	J		739	J		566			490			436			548		
Mercury	23		U	(0.13)		U	(0.12)	0.34			0.21	J		0.16	J			U	(0.13)	0.14	J			U	(0.14)
Nickel	39.3	22.1			25.5			22.3			21.7			21.7			19.5			16.7			24.4		
Potassium	GRAS	3990			3440			3890			3520			3280			2690			2020	J		2990		
Selenium	390	1.3	J		1.1	J		1.2	J			U	(1.1)	1.3	J		1.2	J			U	(1.1)	1.6	J	
Silver	380		UJ	(0.16)		UJ	(0.14)		UJ	(0.16)		UJ	(0.15)		UJ	(0.16)		UJ	(0.15)		UJ	(0.15)		UJ	(0.17)
Sodium	GRAS		U	(351)		U	(311)		U	(360)		U	(333)		U	(370)		U	(344)		U	(340)		U	(374)
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.5)		U	(1.4)		U	(1.5)		U	(1.4)		U	(1.4)		U	(1.5)
Vanadium	72.5	38.2			40.6			36.7			35.7			29.4			28.2			23.7			39.2		
Zinc	119.5	81.4	J		63.1	J		67.4	J		57.5	J		***126***			88.7			55.2			54.8		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-021						B3A-022						B3A-023						B3A-024					
		B3A-021-000 (0-0.5 ft)			B3A-021-001 (1-2 ft)			B3A-022-000 (0-0.5 ft)			B3A-022-001 (1-2 ft)			B3A-023-000 (0-0.5 ft)			B3A-023-001 (1-2 ft)			B3A-024-000 (0-0.5 ft)			B3A-024-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.066	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.43	J		0.16	J			U	(0.5)		U	(0.5)	***100***				U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.33	J			U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)	0.63	J			U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	***160***			0.14	J			U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.42	J			U	(0.5)		U	(0.5)		U	(0.5)	15				U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	12600			19500			16600			14500			14100			16000			18200			20500		
Antimony	31		R			R			R			R			UJ	(0.41)		UJ	(0.4)		UJ	(0.46)		UJ	(0.46)
Arsenic	13.5	9.2	J		9.7			9.9			9	J		7.3	J		7.8			7.6	J		7.3	J	
Barium	440	234			200			216			229			201			211			235			216		
Beryllium	1.52	0.71			0.89			0.82			0.8			0.66			0.73			0.81			0.85		
Cadmium	39	0.32	J		0.19	J		0.6	J			U	(0.14)	0.58	J		0.29	J		0.22	J		0.14	J	
Calcium	GRAS	5420			3650			4320			4170			3440	J		3580	J		4310			4180		
Chromium	37	14.6			20.2			18.5			16.2			16.7			17.5			19.7			21.3		
Cobalt	17.2	9.1			10.4			10.1			10			8.5			8.9			10.1			10.3		
Copper	33.9	19.8			22.2			25.5			22.3			21	J		19.5	J		18.1	J		17	J	
Iron	GRAS	17400			22000			20400			19800			16600			18400			20100			20600		
Lead	400	65.3	J		15	J		35.5	J		19.2	J		31.8	J		12.6	J		27.2	J		15.9	J	
Magnesium	GRAS	3500			4180			3650			3530			3320			3850			3520			3590		
Manganese	1083	555			572			590			566			489	J		503	J		609			574		
Mercury	23	0.16	J		0.19	J		0.16	J		0.16	J		0.18	J		0.18	J		0.17	J		0.34		
Nickel	39.3	22.2			25.3			24.7			24.9			21.4			23.9			21.4			21.6		
Potassium	GRAS	3620			3240			3440			2690			3450			3170			3760			3590		
Selenium	390	1.4	J		2.1	J			U	(1.2)	1.7	J		1.2	J		1.2	J			U	(1.1)	1.5	J	
Silver	380		UJ	(0.17)		UJ	(0.15)		UJ	(0.16)		UJ	(0.16)		UJ	(0.13)		UJ	(0.13)		U	(0.15)		U	(0.15)
Sodium	GRAS		U	(384)		U	(346)		U	(368)		U	(365)		U	(293)		U	(283)		U	(328)		U	(330)
Thallium	1.72		U	(1.6)		U	(1.4)		U	(1.5)		U	(1.5)		U	(1.2)		U	(1.2)		U	(1.3)		U	(1.3)
Vanadium	72.5	29.9			41.3			36.9			31.2			32.6			35.5			39.2			40.6		
Zinc	119.5	73.8			58			***157***			68			106	J		47.6	J		75.5			61.8		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-025						B3A-026						B3A-027						B3A-028					
		B3A-025-000 (0-0.5 ft)			B3A-025-001 (1-2 ft)			B3A-026-000 (0-0.5 ft)			B3A-026-001 (1-2 ft)			B3A-027-000 (0-0.5 ft)			B3A-027-001 (1-2 ft)			B3A-028-000 (0-0.5 ft)			B3A-028-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.16	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.21	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.1	J	
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.11	J			U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)	0.11	J	
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.12	J	
METALS (MG/KG)																									
Aluminum	33852	14600			19000			14400			21000			14700			17600			15200			14900	J	
Antimony	31		UJ	(0.47)		UJ	(0.44)		UJ	(0.48)		UJ	(0.48)	0.9	J			UJ	(0.46)		R			UJ	(0.47)
Arsenic	13.5	7.7	J		7	J		8.2	J		8.9			5.6	J		8.8			6.9	J		6.8	J	
Barium	440	238			205			227			251			241			241			212			253		
Beryllium	1.52	0.71			0.78			0.73			0.93			0.65			0.82			0.74			0.74		
Cadmium	39	0.57	J		0.31	J		0.67	J		0.29	J		0.37	J		0.26	J		0.16	J		0.28	J	
Calcium	GRAS	3970	J		2890	J		4590	J		4120	J		5730	J		4120	J		3630			4100	J	
Chromium	37	18.1			19.3			17.1			21.7			17.7			19.4			17			17.1	J	
Cobalt	17.2	9.4			9.2			10			11.2			8.4			10.2			9.5			9.3		
Copper	33.9	21.2	J		15.9	J		30.8	J		23.9	J		19.9	J		21	J		17.9			17.9		
Iron	GRAS	18400			18800			18300			23300			16100			20900			18000			17200		
Lead	400	32.6	J		16	J		46.4	J		16.7	J		46.8	J		15.4	J		19.5			14.2		
Magnesium	GRAS	3370			3400			3360			4300			3090			4090			3380			3360		
Manganese	1083	513	J		523	J		609	J		617	J		524	J		604	J		571			712		
Mercury	23	0.18	J		0.18	J		0.21	J		0.2	J		0.23	J		0.19	J			U	(0.13)		U	(0.1)
Nickel	39.3	20.8			19.3			23.9			27.4			17.6			25.7			20.8			21.7		
Potassium	GRAS	3820			3340			3690			3620			4500			3290			3110			3000		
Selenium	390	1.8	J		2	J			U	(1.1)	2	J		1.4	J		1.7	J		1.1	J			U	(1.1)
Silver	380		UJ	(0.15)		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)		UJ	(0.17)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)
Sodium	GRAS		U	(332)		U	(311)		U	(344)		U	(339)		U	(385)		U	(327)		U	(328)		U	(331)
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.6)		U	(1.3)		U	(1.3)		U	(1.3)
Vanadium	72.5	36.4			38.3			33.5			42.5			36			35.8			36.9			37.4		
Zinc	119.5	***136***	J		58.7	J		***206***	J		66.5	J		107	J		64.5	J		57			49.9	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-029						B3A-030						B3A-031						B3A-032					
		B3A-029-000 (0-0.5 ft)			B3A-029-001 (1-2 ft)			B3A-030-000 (0-0.5 ft)			B3A-030-001 (1-2 ft)			B3A-031-000 (0-0.5 ft)			B3A-031-001 (1-2 ft)			B3A-032-000 (0-0.5 ft)			B3A-032-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	1.4				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4	0.12	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	***20000***			3.8			***76***				U	(0.5)	12	J		0.5			0.64			0.32	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9	***3.4***				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	6				U	(0.5)	1.5				U	(0.5)	0.59	J			U	(0.5)	0.27	J			U	(0.5)
3-Nitrotoluene (3-NT)	NA	0.62	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	2.7				U	(1)	2.2				U	(1)	0.72	J		2.7				U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)	2.2			0.7	J			U	(0.75)		U	(0.75)	4				U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.00075)		U	(0.00075)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.14	J		0.049	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	9480			15800			12200			17800			14400			19800			11500			11200		
Antimony	31		R			R			UJ	(0.45)		UJ	(0.47)		R			UJ	(0.49)		R			R	
Arsenic	13.5	5.3	J		9.4			4.9	J		7.3	J		5.8	J		7.5	J		5.5	J		11.8		
Barium	440	160			228			183	J		305	J		234			270			192			208		
Beryllium	1.52	0.46			0.76			0.54			0.79			0.74			0.84			0.53			0.72		
Cadmium	39	1.2			0.34	J		1.2			0.44	J		0.41	J		0.38	J		0.96	J		0.48	J	
Calcium	GRAS	69800			6020			39700			11900			10300			4450			22100			4490		
Chromium	37	12.2			17.2			14.7			20.3			16.4			21.9			15.7			14.4		
Cobalt	17.2	6.6			10.4			7	J		10.8	J		8.8			10.6			6.9			15.4		
Copper	33.9	17.4			19.8			22.6			19.6			20.1			18.9	J		21.8			22.5		
Iron	GRAS	12500			19600			14500			18900			17200			19900			13100			20500		
Lead	400	90			15.6			114			16.2			32.9	J		16.9	J		***4670***	J		15.9	J	
Magnesium	GRAS	2640			3480			2830			3830			2960			3910			3060			3760		
Manganese	1083	504			513			434	J		1040	J		451	J		508			442	J		959	J	
Mercury	23		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.11)		U	(0.13)		U	(0.13)	0.11	J			U	(0.13)
Nickel	39.3	24.6			23.9			23.7			24.9			23			23			30.2			30		
Potassium	GRAS	2540			2740			3030			3560			3090			3720			2800			2360		
Selenium	390		U	(1.1)		U	(1.1)	1.3	J		1.5	J			U	(1.1)	1.7	J		1.3	J			U	(1.1)
Silver	380		UJ	(0.15)		UJ	(0.16)		UJ	(0.14)		UJ	(0.15)		U	(1.1)		UJ	(0.15)		U	(1.1)		U	(1.2)
Sodium	GRAS		U	(339)		U	(349)		U	(319)		U	(331)	71.9	J		135	J		142	J		139	J	
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.4)
Vanadium	72.5	22.2			26.6			26.7			40			30.6			46.3			26.7			27.9		
Zinc	119.5	107			54.3			***121***			59.3			67			61			***273***			53.7		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-033						B3A-034						B3A-035						B3A-036					
		B3A-033-000 (0-0.5 ft)			B3A-033-001 (1-2 ft)			B3A-034-000 (0-0.5 ft)			B3A-034-001 (1-2 ft)			B3A-035-000 (0-0.5 ft)			B3A-035-001 (1-2 ft)			B3A-036-000 (0-0.5 ft)			B3A-036-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.44	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.29	J			U	(0.5)	0.24	J			U	(0.5)	0.052	J		0.062	J			U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.51				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.34	J			U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.53	J		0.4	J			U	(1)	0.25	J			U	(1)		U	(1)	0.15	J			U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	***150***				U	(0.75)		U	(0.5)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.5)		U	(0.5)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)	0.13	J			U	(0.00075)		U	(0.75)	0.24	J			U	(0.75)		U	(0.00075)		U	(0.00075)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)	0.2	J			U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	4.7				U	(0.5)		U	(0.5)	0.092	J			U	(0.5)	0.27	J			U	(0.5)	0.043	J	
METALS (MG/KG)																									
Aluminum	33852	10500			13300			9250			16500			14100			13400			21700			17200		
Antimony	31		R			R			R			R			R			R			R			U	(0.49)
Arsenic	13.5	7	J		10.1			5.7	J		9.9			6.6	J		8.3	J		9.9	J		10.9		
Barium	440	219			144			200			257			233			230			272			317		
Beryllium	1.52	0.63			0.79			0.55			0.84			0.76			0.73			0.89			0.8		
Cadmium	39	0.96	J		0.22	J		1.1	J		0.3	J		0.46	J		0.34	J		0.23	J		0.49	J	
Calcium	GRAS	24900			4980			23700			4510	J		4650			4640			6860			4600		
Chromium	37	13.4			14.5			14.4			18.8			16.2			15.3			24.7			19.4		
Cobalt	17.2	8.7			9.9			7.5			11			9.3			9.4			10.5			11.4		
Copper	33.9	21.9			22.4			17.5			21.7	J		19.9			18.7			29.6			20		
Iron	GRAS	15000			19400			13700			20800			17600			16200			22800			22200		
Lead	400	79.9	J		16	J		101	J		15.2	J		46.8	J		15	J		71.7	J		15.2		
Magnesium	GRAS	2890			3480			2660			4110			3430			2860			4380			4040		
Manganese	1083	606	J		201	J		509	J		410	J		543	J		518	J		669			776		
Mercury	23		U	(0.13)		U	(0.13)	0.14	J			U	(0.13)		U	(0.13)		U	(0.13)		U	(0.15)		U	(0.12)
Nickel	39.3	21.2			24.1			19.3			23.4			20.8			19.2			27.8			28.6		
Potassium	GRAS	2770			2450			2340			3040			3500			2950			3880			3120		
Selenium	390		U	(1.1)		U	(1.1)	1.4	J			U	(1.1)		U	(1.1)		U	(1.1)	2.2	J			U	(1.1)
Silver	380		U	(1.2)		U	(1.1)		U	(1.1)		UJ	(1.2)		U	(1.2)		U	(1.2)		UJ	(0.18)		U	(0.15)
Sodium	GRAS	119	J		147	J		98.7	J			U	(346)	77	J		94.6	J			U	(400)		U	(348)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.6)		U	(1.4)
Vanadium	72.5	25.6			29.5			22.7			36.8			31.5			30.6			51.5			39.2		
Zinc	119.5	103			57.3			115			60	J		87			55.2			89.6			60.4		

Note: 1) NA- screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-037						B3A-038						B3A-039						B3A-040					
		B3A-037-000 (0-0.5 ft)			B3A-037-001 (1-2 ft)			B3A-038-000 (0-0.5 ft)			B3A-038-001 (1-2 ft)			B3A-039-000 (0-0.5 ft)			B3A-039-001 (1-2 ft)			B3A-040-000 (0-0.5 ft)			B3A-040-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.092	J		0.23	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.22	J		0.27	J	
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	4.3				U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)	0.2	J		0.8				U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)	0.087	J		1				U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)	0.11	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.11	J		0.28	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343	0.22	J			U	(0.75)		U	(0.00075)		U	(0.00075)		U	(0.00075)	0.41	J			U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)	0.11	J		0.31	J		0.049	J			U	(0.5)		U	(0.5)	0.25	J	
METALS (MG/KG)																									
Aluminum	33852	13300			15000			11400			11900			14300			16600			16800			14200		
Antimony	31	0.93	J			UJ	(0.49)		R			R			U	(0.51)		U	(0.47)		UJ	(0.5)		UJ	(0.47)
Arsenic	13.5	7.7	J		8	J		6.9	J		10.3			6.7	J		8.7			9.6			8.3	J	
Barium	440	187			222			202			231			221			323			236			265		
Beryllium	1.52	0.58			0.76			0.56			0.73			0.68			0.77			0.8			0.74		
Cadmium	39	0.65	J			U	(0.13)	0.89	J		0.35	J		0.62	J		0.56	J		0.66	J		0.3	J	
Calcium	GRAS	30500			4830			11900			4740			7440			4370			5360			4890		
Chromium	37	21.2			16.1			16.2			13.7			17.7			19			25.6			17.5		
Cobalt	17.2	7.6			9.6			8.1			10.6			8.7			12			10.2			9.7		
Copper	33.9	21.3			18.2			23.1			22.2			***79.1***			20.1			32.6	J		20.8	J	
Iron	GRAS	16900			18300			15200			18700			17400			19300			25000			19600		
Lead	400	314			17.9			***438***	J		24.1	J		126			23.5			154	J		16.5	J	
Magnesium	GRAS	3600			3390			3220			3230			3380			3840			3400			3440		
Manganese	1083	578			572			487	J		750	J		524			1030			571			545		
Mercury	23		U	(0.12)		U	(0.11)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)
Nickel	39.3	27.3			24.1			21.6			25.1			21.1			25.3			27.4			23.7		
Potassium	GRAS	2600			2570			2410			2350			3270			3290			3370			2630		
Selenium	390	1.2	J			U	(1.1)	1.4	J			U	(1.1)	1.9	J		1.7	J		1.5	J			U	(1.1)
Silver	380		UJ	(0.13)		UJ	(0.16)		U	(0.15)		U	(1.1)		U	(0.16)		U	(0.15)		UJ	(0.16)		UJ	(0.15)
Sodium	GRAS		U	(301)		U	(350)		U	(344)	108	J			U	(363)		U	(333)	207	J		262	J	
Thallium	1.72		U	(1.2)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.5)		U	(1.4)		U	(1.4)		U	(1.4)
Vanadium	72.5	38.3			25.4			33.9			27.6			32.8			37.7			39.3			29.8		
Zinc	119.5	***155***			53.1			***187***			57.1			117			59.5			***172***			59.2		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-041						B3A-042						B3A-043						B3A-044					
		B3A-041-000 (0-0.5 ft)			B3A-041-001 (1-2 ft)			B3A-042-000 (0-0.5 ft)			B3A-042-001 (1-2 ft)			B3A-043-000 (0-0.5 ft)			B3A-043-001 (1-2 ft)			B3A-044-000 (0-0.5 ft)			B3A-044-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)	0.12	J			U	(0.5)	0.046	J			U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.1	J			U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.26	J			U	(0.5)		U	(0.5)	0.73		
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)	0.22	J			U	(1)		U	(1)	0.37	J	
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.5)		U	(0.75)	0.082	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.00075)		U	(0.00075)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.00075)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.048	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		UJ	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	8040			16500			19700			18800			9990			18500			6840	J		18200		
Antimony	31		U	(0.42)		U	(0.47)		UJ	(0.47)		UJ	(0.47)	0.53	J			UJ	(0.46)		UJ	(0.45)		UJ	(0.47)
Arsenic	13.5	5.1	J		7.5	J		8.7			10.2			5.8	J		9.4			2.6	J		9.3		
Barium	440	157			218			246	J		272	J		250			225			93.2			245		
Beryllium	1.52	0.49			0.76			0.85			0.87			0.47			0.83			0.3			0.81		
Cadmium	39	0.28	J		0.38	J		0.52	J		0.52	J		1.2	J		0.3	J		0.42	J		0.96	J	
Calcium	GRAS	4150			3860			4460			4490			12500			4590			8070	J		7190		
Chromium	37	10.5			17.7			21.6			21.6			16.5			20.6			14.9	J		21.9		
Cobalt	17.2	6.7			9.6			10.9	J		11.8	J		7.8			10.6			4.4			11		
Copper	33.9	13.9			19.5			19.2			23.1			***43.2***	J		20.2	J		10.2			23	J	
Iron	GRAS	11900			19100			21000			22800			24800			21200			8580			21100		
Lead	400	43.5			14.8			34			16.6			***603***	J		25.1	J		233			34.2	J	
Magnesium	GRAS	2160			3690			3910			4600			2810			3720			2700			3740		
Manganese	1083	398			616			622	J		709	J		520			606			234			646		
Mercury	23		U	(0.1)		U	(0.12)		U	(0.12)		U	(0.11)		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.12)
Nickel	39.3	15			24.4			23			28.4			23.6			24.4			16.3			28.4		
Potassium	GRAS	2000			2990			4120			3490			2550			3630			1800			3500		
Selenium	390		U	(0.97)		U	(1.1)	1.1	J		1.2	J		1.9	J		1.8	J		1.4	J		1.5	J	
Silver	380		U	(0.13)		U	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.16)		UJ	(0.15)		UJ	(0.14)		UJ	(0.15)
Sodium	GRAS		U	(298)		U	(332)		U	(336)		U	(336)	278	J		89.9	J			U	(330)	172	J	
Thallium	1.72		U	(1.2)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.5)		U	(1.3)		U	(1.3)		U	(1.3)
Vanadium	72.5	21.4			30.6			47.3			43.1			23.4			41.6			18			42.7		
Zinc	119.5	53.5			55.3			76.9			66			***408***			67			***141***	J		***134***		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-045						B3A-046						B3A-047						B3A-048					
		B3A-045-000 (0-0.5 ft)			B3A-045-001 (1-2 ft)			B3A-046-000 (0-0.5 ft)			B3A-046-001 (1-2 ft)			B3A-047-000 (0-0.5 ft)			B3A-047-001 (1-2 ft)			B3A-048-000 (0-0.5 ft)			B3A-048-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.23	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.17	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)	0.32	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)	0.27	J			U	(1)	0.35	J			U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.17	J		0.33	J			U	(0.75)	0.86				U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)	0.16	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	8530			21300			6020	J		20700			8170	J		20300			3500	J		18100		
Antimony	31	0.54	J		0.53	J			UJ	(0.45)		UJ	(0.45)		UJ	(0.42)		UJ	(0.46)		UJ	(0.41)		UJ	(0.47)
Arsenic	13.5	3.1	J		10.3			3.3	J		8.7			4.9	J		8.5			2.1	J		8.7		
Barium	440	101			256	J		119			254			134			256			89			221		
Beryllium	1.52	0.35			0.9			0.31			0.85			0.43			0.83			0.19	J		0.83		
Cadmium	39	0.72	J		0.47	J		0.28	J		0.13	J		0.29	J		0.15	J			U	(0.11)		U	(0.12)
Calcium	GRAS	2860			4870			9020	J		4240	J		5780	J		4360	J		3090	J		4180	J	
Chromium	37	12.7			23.1			9	J		21.9			12.8	J		20.6			5	J		18.9		
Cobalt	17.2	4.5			11.5	J		4.7			9.9			6			10.9			3.1			10.9		
Copper	33.9	9.4	J		21.4			14.2	J		18.5			18.8	J		17.8			5.7	J		21.9		
Iron	GRAS	9070			23100			10100	J		21000			10800	J		20500			4890	J		21000		
Lead	400	157	J		16.4			86.6	J		15.2			99	J		17.2			104	J		19.7		
Magnesium	GRAS	1610			4320			2320			3980			2110			3610			910			4120		
Manganese	1083	197			659	J		305			526			363			693			190			644		
Mercury	23		U	(0.12)		U	(0.13)		U	(0.12)		UJ	(0.12)		U	(0.11)		UJ	(0.13)		U	(0.11)		UJ	(0.12)
Nickel	39.3	9.7			26.1			15.8			21.4			14.8			22.1			6			27.4		
Potassium	GRAS	1950			4330			1600			4010			1950			3820			1210			3240		
Selenium	390	1.3	J		1.2	J			U	(1)	2	J			U	(0.98)		U	(1.1)		U	(0.95)	2	J	
Silver	380		UJ	(0.14)		UJ	(0.15)		UJ	(0.14)		UJ	(0.14)		UJ	(0.13)		UJ	(0.15)		UJ	(0.13)		UJ	(0.15)
Sodium	GRAS	241	J			U	(331)		U	(317)		U	(318)		U	(300)		U	(328)		U	(292)		U	(331)
Thallium	1.72		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.2)		U	(1.3)		U	(1.2)		U	(1.3)
Vanadium	72.5	23.2			49			14.1			43.3			21.7			41.6			9.5			32.5		
Zinc	119.5	***149***			67.1			63.7	J		61.9			68	J		63.7			36.4	J		58.5		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-049						B3A-050						B3A-051						B3A-052					
		B3A-049-000 (0-0.5 ft)			B3A-049-001 (1-2 ft)			B3A-050-000 (0-0.5 ft)			B3A-050-001 (1-2 ft)			B3A-051-000 (0-0.5 ft)			B3A-051-001 (1-2 ft)			B3A-052-000 (0-0.5 ft)			B3A-052-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.19	J			U	(0.5)	0.8				U	(0.5)	***87***				U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.67				U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)	0.59	J			U	(1)	1.1				U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.78)	4.8			***130***			1.9			2.2			***28***		
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.25	J			U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)	0.98			8.7			0.25	J		0.67			2.7		
METALS (MG/KG)																									
Aluminum	33852	13100	J		19400			12300	J		23300			10000	J		22700			8920	J		17900		
Antimony	31		UJ	(0.57)		UJ	(0.47)		UJ	(0.51)		UJ	(0.47)		UJ	(0.48)		UJ	(0.48)		UJ	(0.47)		UJ	(0.46)
Arsenic	13.5	7.6	J		8.9			7.1	J		10.8			6.1	J		11			5.3	J		9.4		
Barium	440	256			257			232			278			200			256			242			259		
Beryllium	1.52	0.76			0.85			0.66			0.99			0.54			1			0.52			0.86		
Cadmium	39	0.25	J		0.19	J		0.64	J		0.21	J		2.3			0.14	J		0.63	J		0.35	J	
Calcium	GRAS	5920	J		4740	J		8870	J		4860	J		41500	J		5140	J		7040	J		5150	J	
Chromium	37	15.4	J		21.5			15.8	J		24.4			13.1	J		23.9			11.9	J		19.4		
Cobalt	17.2	10.3			10.1			9.5			12.1			7.9			11.2			6.4			10.7		
Copper	33.9	20.6	J		21.6			22.7	J		25.3			21.5	J		26.3			25.1	J		20.7		
Iron	GRAS	17800	J		21200			16600	J		24900			14100	J		24900			13500	J		21500		
Lead	400	35	J		28.4			140	J		17.3			118	J		20.5			***619***	J		22.5		
Magnesium	GRAS	3460			4620			3210			4970			2800			4760			2530			3930		
Manganese	1083	633			597			577			657			515			658			452			641		
Mercury	23		U	(0.14)		UJ	(0.13)		U	(0.13)		UJ	(0.13)		U	(0.13)		UJ	(0.13)		U	(0.12)		UJ	(0.13)
Nickel	39.3	22.9			25.5			26.9			29.3			24.3			28.8			19.3			25.3		
Potassium	GRAS	3650			3610			3180			3810			3080			3820			2420			3260		
Selenium	390	1.4	J			U	(1.1)		U	(1.2)	1.2	J			U	(1.1)	2.3	J			U	(1.1)	1.4	J	
Silver	380		UJ	(0.18)		UJ	(0.15)		UJ	(0.16)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)
Sodium	GRAS		U	(405)		U	(334)		U	(363)		U	(334)		U	(344)		U	(339)		U	(336)		U	(327)
Thallium	1.72		U	(1.6)		U	(1.4)		U	(1.5)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.3)
Vanadium	72.5	31.1			40.1			30.3			47			24			46.2			21.5			36		
Zinc	119.5	68.3	J		68			***127***	J		66.1			111	J		70.1			***125***	J		61.7		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-053						B3A-054						B3A-055						B3A-056					
		B3A-053-000 (0-0.5 ft)			B3A-053-001 (1-2 ft)			B3A-054-000 (0-0.5 ft)			B3A-054-001 (1-2 ft)			B3A-055-000 (0-0.5 ft)			B3A-055-001 (1-2 ft)			B3A-056-000 (0-0.5 ft)			B3A-056-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.28	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(5000)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(5000)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	***62***	J			UJ	(0.5)		U	(0.5)		UJ	(0.5)	***87000***				UJ	(0.5)	2.4				U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(5000)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.7	J		1.7	J			U	(0.5)		UJ	(0.5)		U	(5000)	0.24	J		1.7			0.26	J	
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(7500)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	1.8	J		1.2	J		0.25	J			UJ	(1)		U	(10000)		UJ	(1)	1.8			0.31	J	
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	***1600***	J		***35***	J			U	(0.75)		U	(0.5)		U	(7500)	***6.2***				U	(0.75)		UJ	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		R			R			U	(0.75)		R			U	(7500)		R			U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)	1.1	J			U	(2)		U	(20000)		UJ	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	46	J		5	J			U	(0.5)		UJ	(0.5)	730	J		1	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	17800			19400			19700			20500			15500			13600			17300			11000	J	
Antimony	31		R			R			R			R			R			R			R			UJ	(0.47)
Arsenic	13.5	6.7	J		8.5	J		6.8	J		9.2			5.8	J		9			6.2	J		7.5	J	
Barium	440	295			254			214			252			230			250			221			218		
Beryllium	1.52	0.79			0.87			0.8			0.95			0.66			0.76			0.68			0.7		
Cadmium	39	0.62	J		0.14	J		0.33	J			U	(0.13)	0.65	J			U	(0.13)	0.94	J			U	(0.12)
Calcium	GRAS	17500			4770			4930			4950			11600			6140			5190			4090		
Chromium	37	23.9			20.1			21.8			20.6			19.3			15.6			21.1			12.2	J	
Cobalt	17.2	9.5			11.1			9.3			10.8			8.7			10.8			8.3			9.2		
Copper	33.9	***39.7***			21.4			22.2			22.2			32.6			22.8			25			17.2		
Iron	GRAS	22400			21400			19700			23400			17400			19200			17900			15900	J	
Lead	400	203	J		16.5			117	J		15.5			310	J		23.7			186	J		17.2		
Magnesium	GRAS	4140			3870			3530			4060			3370			3610			3450			3130		
Manganese	1083	632			636			554			601			507			637			522			564		
Mercury	23		U	(0.17)	0.14	J			U	(0.13)		U	(0.13)	0.13	J			U	(0.12)		U	(0.13)		U	(0.13)
Nickel	39.3	***44***			26.4			21.9			25.8			33.5			27			22.5			21.8		
Potassium	GRAS	4480			3680			3840			3650			3220			2620			3840			2180		
Selenium	390		U	(1.5)	1.8	J			U	(1.1)	1.9	J			U	(1.1)		U	(1.1)	1.2	J			U	(1.1)
Silver	380		UJ	(0.2)		UJ	(0.15)		UJ	(0.15)		UJ	(0.16)		UJ	(0.15)		UJ	(0.15)		UJ	(0.16)		UJ	(0.15)
Sodium	GRAS		U	(460)		U	(33.5)		U	(348)	88.7	J			U	(344)		U	(339)		U	(359)	221	U	(337)
Thallium	1.72		U	(1.9)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.5)		U	(1.4)
Vanadium	72.5	42.2			42.6			45			44.7			36.4			31.1			38.7			19.6		
Zinc	119.5	***158***			57.1			106			60.7			***236***			56.1			104			46.4	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-057						B3A-058						B3A-059						B3A-060					
		B3A-057-000 (0-0.5 ft)			B3A-057-001 (1-2 ft)			B3A-058-000 (0-0.5 ft)			B3A-058-001 (1-2 ft)			B3A-059-000 (0-0.5 ft)			B3A-059-001 (1-2 ft)			B3A-060-000 (0-0.5 ft)			B3A-060-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.42	J			U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	15				UJ	(0.5)	14				UJ	(0.5)	5.2				UJ	(0.5)	0.17	J			UJ	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	1.8			0.32	J		1.9			0.45	J		2.3				UJ	(0.5)	0.094	J			UJ	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	1.7				UJ	(1)	1.8			0.28	J		2.2				UJ	(1)	0.15	J		0.16	J	
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	3.3			0.81	J		***18***				UJ	(0.75)	1.3				UJ	(0.5)		U	(0.82)		UJ	(0.5)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		R			U	(0.75)		R			U	(0.75)	0.2	J			U	(0.75)		R	
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(0.5)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.51			0.17	J		1.8				U	(0.5)	0.3	J		0.48	J		0.14	J		0.18	J	
METALS (MG/KG)																									
Aluminum	33852	17900			15400			14800			18000			19900	J		15200			17500	J		15100		
Antimony	31		R			R		0.52	J			R			UJ	(0.57)		R			UJ	(0.49)		R	
Arsenic	13.5	7	J		8.8			6.4	J		7.6	J		8	J		8.7			5.7	J		7.9	J	
Barium	440	217			247			214			209			291			217			200			196		
Beryllium	1.52	0.74			0.79			0.61			0.8			0.78			0.78			0.68			0.74		
Cadmium	39	0.67	J			U	(0.13)	1.4				U	(0.13)	2.4			0.17	J		3.1				U	(0.13)
Calcium	GRAS	9610			5850			8270			4070			18400	J		5040			31000	J		4390		
Chromium	37	21.9			16.6			25.2			18.1			26.8	J		19.6			23.2	J		16.5		
Cobalt	17.2	10.2			10.5			9.2			9.4			10.9			10.4			8.8			9.4		
Copper	33.9	28.3			21.2			31.7			19.5			***35.7***	J		21.5			25.7	J		19.7		
Iron	GRAS	18800			19700			23500			19500			24700	J		19100			17100	J		18200		
Lead	400	73	J		20.4			89.7	J		16.7	J		123	J		22.2	J		116	J		17.7	J	
Magnesium	GRAS	3550			3540			3040			3640			3880			3660			3400			3320		
Manganese	1083	550			617			542			536			673			590			520			535		
Mercury	23		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.15)		U	(0.13)		U	(0.12)		U	(0.13)
Nickel	39.3	33.1			25.1			31.2			22.1			35.2			25			30			22.3		
Potassium	GRAS	3570			2800			3430			3210			4270			2770			3850			2760		
Selenium	390	1.2	J		2.1	J		1.3	J		1.2	J			U	(1.3)		U	(1.1)		U	(1.1)	1.3	J	
Silver	380		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.18)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)
Sodium	GRAS		U	(329)					U	(331)		U	(347)		U	(407)		U	(335)		U	(346)		U	(339)
Thallium	1.72		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.4)	***1.8***	J			U	(1.4)		U	(1.4)		U	(1.4)
Vanadium	72.5	40.8			30.2			36.2			37.3			44.1			31.8			41.8			34		
Zinc	119.5	73.8			56.4			115			53.1			***126***	J		55.4			104	J		51.6		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-061						B3A-062						B3A-064						B3A-065					
		B3A-061-000 (0-0.5 ft)			B3A-061-001 (1-2 ft)			B3A-062-000 (0-0.5 ft)			B3A-062-001 (1-2 ft)			B3A-064-000 (0-0.5 ft)			B3A-064-001 (1-2 ft)			B3A-065-000 (0-0.5 ft)			B3A-065-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	***29***			6.5	J			U	(0.61)		U	(0.5)		U	(0.5)		U	(0.5)	0.64				U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	2.6			0.27	J		0.3	J			U	(0.5)		U	(0.5)	0.21	J		0.29	J			U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	2.2			0.12	J			U	(1)		U	(1)		U	(1)	0.24	J		0.27	J			U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	1.2				UJ	(0.5)		U	(0.75)		U	(0.75)	1.2			1.7			0.32	J		0.88		
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		R			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.35	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	11800			16000			17100			19700			7950			18200			9780			14800		
Antimony	31		R			R			UJ	(0.46)		UJ	(0.46)	0.43	J		0.59	J		1.5	J			UJ	(0.47)
Arsenic	13.5	5.1	J		9.4			9.2			7.6	J		5.9	J		8.4	J		4.5	J		9.6		
Barium	440	248			204			235			223			85.4			212			143			272		
Beryllium	1.52	0.58			0.76			0.83			0.81			0.53			0.77			0.61			0.77		
Cadmium	39	2.5			0.29	J		0.41	J		0.25	J		0.85	J		0.67	J		3			0.36	J	
Calcium	GRAS	45600			4900			4150			3180			64100			24900			45700	J		6200	J	
Chromium	37	18.9			16.9			19			20.6			26.5			20.5			26.7			16.7		
Cobalt	17.2	8.8			9.8			10.1			9.2			5.4			8.9			6.2			10		
Copper	33.9	***66.1***			19.9			23.5			15.4			16.6			21.5			***38.6***			21.7		
Iron	GRAS	14700			19400			20200			19000			11900			19900			14500			19400		
Lead	400	114			24.7	J		26.1	J		14.2	J		131	J		24.4	J		278			33.8		
Magnesium	GRAS	2830			3530			3940			3540			8390			4490			5180			3710		
Manganese	1083	543			577			600			537			265			545			335			600		
Mercury	23	0.13	J			U	(0.13)		U	(0.13)		U	(0.13)	0.72				U	(0.13)		UJ	(0.12)		UJ	(0.13)
Nickel	39.3	***60***			22.1			24			19.6			18			23.4			***42.2***			24.9		
Potassium	GRAS	3240			2890			3720			3750			3080			3670			2670			2970		
Selenium	390		U	(1.1)	1.8	J			U	(1.1)	2.1	J		1.7	J		1.2	J			U	(1.1)	1.3	J	
Silver	380		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)	79.3	J			UJ	(0.15)	3.8	J			UJ	(0.15)
Sodium	GRAS		U	(322)		U	(334)		U	(329)		U	(329)		U	(309)		U	(341)		U	(323)		U	(331)
Thallium	1.72		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.2)		U	(1.4)		U	(1.3)		U	(1.4)
Vanadium	72.5	26.9			33.5			37.5			43.2			17.9			40.6			23			31.1		
Zinc	119.5	***121***			52.6			***165***	J		62	J		98.7	J		68.3	J		***143***			58.6		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-066						B3A-067						B3A-068						B3A-069					
		B3A-066-000 (0-0.5 ft)			B3A-066-001 (1-2 ft)			B3A-067-000 (0-0.5 ft)			B3A-067-001 (1-2 ft)			B3A-068-000 (0-0.5 ft)			B3A-068-001 (1-2 ft)			B3A-069-000 (0-0.5 ft)			B3A-069-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.81)		U	(0.5)		U	(0.5)		U	(0.52)	1.9				U	(0.5)	1.6				U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.23	J		1.3			0.2	J		0.89			0.49	J		0.18	J		1.3				U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.26	J			U	(1)		U	(1)	0.2	J		0.46	J			U	(1)	1.1	J			U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	***14***			4.3			0.67	J		2.3				U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	1.8			1.4			0.096	J		0.89			0.1	J		0.13	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	15000			17300			14900			17000			15800			20500			11700	J		12000	J	
Antimony	31		UJ	(0.48)		UJ	(0.48)	0.54	J			UJ	(0.49)	0.68	J			UJ	(0.49)		UJ	(0.51)		UJ	(0.51)
Arsenic	13.5	8.6	J		9			9.6			9.5			7	J		9.6			9.3	J		9.6		
Barium	440	237			250			282			252			233			222			225			255		
Beryllium	1.52	0.77			0.83			0.71			0.85			0.66			0.93			0.74			0.78		
Cadmium	39	0.48	J		0.23	J		2.8			0.19	J		1.7				U	(0.13)	0.42	J		0.26	J	
Calcium	GRAS	5080	J		4860	J		7250			5000			14000	J		5170	J		5030			5180		
Chromium	37	18.1			19			21.5			18.7			20.2			20.8			14.2	J		14.1	J	
Cobalt	17.2	10.5			10.6			9.4			10.8			9.3			10.9			10.2			11.1		
Copper	33.9	22.5			23.3			25.6			27			22.6			23.3			22.4			21.9		
Iron	GRAS	19800			21100			17800			21500			17700			23300			17300	J		18200	J	
Lead	400	76.8			17.4			120	J		18.1	J		142			24.1			35.4	J		19.1	J	
Magnesium	GRAS	3590			4140			3400			4320			3750			4260			3440			3640		
Manganese	1083	628			525			522			625			580			593			614			692		
Mercury	23		UJ	(0.13)		UJ	(0.13)		U	(0.13)		U	(0.13)	0.13	J			UJ	(0.13)		U	(0.13)		U	(0.14)
Nickel	39.3	26.5			27			31.5			28.3			24.7			29.3			25.5			25.6		
Potassium	GRAS	3420			3110			3360			3130			3510			3510			3170			3090		
Selenium	390		U	(1.1)	2.1	J		1.6	J		1.6	J		1.1	J		2.5	J		2.1	J		2.1	J	
Silver	380		UJ	(0.15)		UJ	(0.15)	0.42	J			UJ	(0.16)	1.4	J			UJ	(0.15)		UJ	(0.16)		UJ	(0.16)
Sodium	GRAS		U	(343)		U	(341)		U	(340)		U	(349)		U	(330)		U	(346)		UJ	(361)		U	(364)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.4)	1.7	J			U	(1.3)		U	(1.4)		U	(1.5)		U	(1.5)
Vanadium	72.5	33			33.7			34.7			32.3			34.3			33.1			27.3			26.8		
Zinc	119.5	77.5			60.8			***155***	J		63.4	J		104			65.9			73.7	J		57.3	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-070						B3A-071						B3A-072						B3A-074					
		B3A-070-000 (0-0.5 ft)			B3A-070-001 (1-2 ft)			B3A-071-000 (0-0.5 ft)			B3A-071-001 (1-2 ft)			B3A-072-000 (0-0.5 ft)			B3A-072-001 (1-2 ft)			B3A-074-000 (0-0.5 ft)			B3A-074-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.17	J		0.47	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	14800	J		12800	J		11300	J		12100	J		11300	J		12600	J		12800	J		15100	J	
Antimony	31		UJ	(0.53)		UJ	(0.5)		UJ	(0.43)		UJ	(0.47)		UJ	(0.48)		UJ	(0.48)		UJ	(0.49)		UJ	(0.48)
Arsenic	13.5	9.4	J		8.3	J		7.2	J		9			9.4			8.8	J		8.4	J		9.6		
Barium	440	267			245			210			245			259			260			245			250		
Beryllium	1.52	0.82			0.73			0.65			0.76			0.72			0.72			0.77			0.83		
Cadmium	39	0.31	J		0.18	J		0.43	J		0.24	J		0.25	J			U	(0.13)	0.41	J		0.27	J	
Calcium	GRAS	4040			4280			3560			4200			4300			4060			4050			4520		
Chromium	37	17	J		15.4	J		13.2	J		13.7	J		13.7	J		14.9	J		15.2	J		16.8	J	
Cobalt	17.2	10.5			9.7			9.1			10.4			10.2			10.3			9.9			11.6		
Copper	33.9	23.9			20.4			20.9			23.3			21.3			19.7			21.1			22.3		
Iron	GRAS	19300	J		18600	J		15700	J		18500	J		18000	J		18300	J		18100	J		20100	J	
Lead	400	39.9	J		15	J		66	J		16.5	J		17.2	J		15	J		41.1	J		24.5	J	
Magnesium	GRAS	3460			3750			2870			3890			3430			3670			3330			3760		
Manganese	1083	639			585			552			655			628			646			587			680		
Mercury	23		U	(0.15)		U	(0.13)		U	(0.12)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)
Nickel	39.3	23.3			23.5			20.3			28.9			24.1			23.7			22.1			25		
Potassium	GRAS	4260			3050			2660			2170			3370			2590			3940			3500		
Selenium	390	2	J			U	(1.2)	1.4	J		2.1	J			U	(1.1)	1.6	J		2.8	J		1.9	J	
Silver	380		UJ	(0.17)		UJ	(0.16)		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)
Sodium	GRAS		U	(378)		U	(355)					U	(335)		U	(344)		U	(342)		U	(346)		U	(341)
Thallium	1.72		U	(1.5)		U	(1.4)		U	(1.2)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)
Vanadium	72.5	35.2			30.2			26.5			22.5			27.3			28.7			29.4			31		
Zinc	119.5	83.8	J		55.5	J		61.7	J		55.6	J		57.2	J		56	J		***138***	J		71.4	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-6
Analytical Data for Load Line 3 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3A-075						B3A-076					
		B3A-075-000 (0-0.5 ft)			B3A-075-001 (1-2 ft)			B3A-076-000 (0-0.5 ft)			B3A-076-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)													
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
1,3-Dinitrobenzene (1,3-DNB)	3.4		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.23	J		0.46	J			U	(0.5)	0.37	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.3	J		0.28	J			U	(0.5)
METALS (MG/KG)													
Aluminum	33852	9650	J		12800			19200			20800		
Antimony	31		UJ	(0.46)		U	(0.47)		UJ	(0.44)		UJ	(0.52)
Arsenic	13.5	7.1	J		8.4	J		8.1			10		
Barium	440	234			251			220			296		
Beryllium	1.52	0.63			0.75			0.81			0.96		
Cadmium	39	0.42	J		0.27	J		0.24	J		0.23	J	
Calcium	GRAS	4450			5080			4560			4320		
Chromium	37	17.3	J		14.4	J		20.4			22.8		
Cobalt	17.2	8.1			9.9			9.8			12.1		
Copper	33.9	26.1			18.7			19.3			21.7		
Iron	GRAS	14900	J		17400	J		19900			23400		
Lead	400	146	J		18.9	J		24.6	J		19.3	J	
Magnesium	GRAS	2790			3250			3950			4470		
Manganese	1083	499			594			563			751		
Mercury	23		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.14)
Nickel	39.3	22.4			21.8			22.1			26.5		
Potassium	GRAS	2900			2520			4590			4240		
Selenium	390	1.5	J		1.4	J		1.7	J		2.4	J	
Silver	380		UJ	(0.14)		UJ	(0.15)		UJ	(0.14)		UJ	(0.16)
Sodium	GRAS		U	(324)		U	(333)		U	(314)		U	(370)
Thallium	1.72		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.5)
Vanadium	72.5	24.1			28.3			42.3			46.9		
Zinc	119.5	63.1	J		49	J		64.8	J		67.7	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-7
Analytical Data for Load Line 3 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3B-001			B3B-002			B3B-003			B3B-004			B3B-005			B3B-006			B3B-007			B3B-008		
		B3B-001-000 (0-1 ft)			B3B-002-000 (0-1 ft)			B3B-003-000 (0-1 ft)			B3B-004-000 (0-1 ft)			B3B-005-000 (0-1 ft)			B3B-006-000 (0-1 ft)			B3B-007-000 (0-1 ft)			B3B-008-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.16	J			U	(0.5)		U	(0.5)	0.12	J			U	(0.5)		U	(0.5)		U	(0.5)	0.14	J	
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.073	J			U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)	0.24	J			U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.3	J			U	(0.5)	0.28	J			U	(0.5)	0.22	J		0.3	J		0.42	J	
METALS (MG/KG)																									
Aluminum	33852	17400			13100			13700			14100			16300			16100			17600			14500		
Antimony	31		UJ	(0.46)		UJ	(0.45)		UJ	(0.47)		UJ	(0.46)	0.46	J		0.63	J			R			R	
Arsenic	13.5	9.2			10.1			10.7			9.6			11.2			10.7			9.5			6.9	J	
Barium	440	391			298			272			356			237			252			243			178		
Beryllium	1.52	0.82			0.73			0.77			0.76			0.82			0.85			0.82			0.66		
Cadmium	39		U	(1.2)		U	(1.2)		U	(1.2)		U	(1.2)		U	(1.2)		U	(1.2)	0.28	J		0.22	J	
Calcium	GRAS	3760			5660			4410			4230			4070			4580			5560			4190		
Chromium	37	19			15.9			17			17.5			19.3			18.1			19.4			15.7		
Cobalt	17.2	10.9			10.9			10.6			12.2			11.1			11.7			11.3			9.9		
Copper	33.9	20.9			21.8			23.6			23			23.9			23.9			20.4			14.2		
Iron	GRAS	20900			19800			21200			20300			22100			22300			20700			17600		
Lead	400	13.8			14			14.4			15.2			14.5			15.6			69			13.4		
Magnesium	GRAS	4520			4330			4760			4460			4780			4580			4490			3650		
Manganese	1083	636			651			624			617			668			650			579	J		644	J	
Mercury	23		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.13)		U	(0.12)
Nickel	39.3	26.2	J		28.1	J		29.8	J		28.6	J		29.4	J		27.7	J		25.7	J		17.7	J	
Potassium	GRAS	2940			2760			2650			2930			3170			3240			3210-			2690		
Selenium	390		U	(1.1)		U	(1)		U	(1.1)		U	(1.1)		U	(1.1)		U	(1.1)		U	(1.1)		U	(1)
Sodium	GRAS	622				U	(318)	624				U	(329)		U	(326)		U	(331)		U	(348)		U	(311)
Vanadium	72.5	36.6			31.8			31.2			34			38			36			38.1			27.8		
Zinc	119.5	55.7			53.5			59.6			60.1			61.6			60.1			58.7			50.5		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-7
Analytical Data for Load Line 3 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3B-009			B3B-010			B3B-011			B3B-012			B3B-013			B3B-014			B3B-015			B3B-016			B3B-017		
		B3B-009-000 (0-1 ft)			B3B-010-000 (0-1 ft)			B3B-011-000 (0-1 ft)			B3B-012-000 (0-1 ft)			B3B-013-000 (0-1 ft)			B3B-014-000 (0-1 ft)			B3B-015-000 (0-1 ft)			B3B-016-000 (0-1 ft)			B3B-017-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																												
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)	0.15	J		0.19	J		0.2	J		0.21	J			U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.19	J			U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)	0.12	J			U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	3.6			0.86		
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.52			0.41	J			U	(0.5)	0.5			0.48	J		0.41	J		0.24	J			U	(0.5)
METALS (MG/KG)																												
Aluminum	33852	14200			15400			16200			12900			15300			11800			14600			12800			12200	J	
Antimony	31		R			R			R			R			R			R			R			R			R	
Arsenic	13.5	10.3			8.7			9.3			7	J		6.3	J		6.3	J		5.6	J		7.2	J		8	J	
Barium	440	253			201			222			229			189			266			191			214			241		
Beryllium	1.52	0.76			0.76			0.8			0.67			0.72			0.66			0.74			0.62			0.7		
Cadmium	39	0.14	J		0.2	J		0.34	J		0.29	J		0.18	J		0.38	J		0.25	J		0.25	J		0.5	J	
Calcium	GRAS	4030			3910			4310			3050			2620			2580			2980			3300			3590		
Chromium	37	15.8			16.9			17.8			14			16.2			13.2			17.8			15.8			13.9		
Cobalt	17.2	10.3			12.9			10.9			9.2			9.7			9.9			10.1			9.7			9.5		
Copper	33.9	21.4			14.8			20.5			14.9			14.6			13.9			15.2			17.4			18.5		
Iron	GRAS	19800			19800			20300			15700			16600			14500			16400			16200			17700		
Lead	400	14.3			14.5			14.2			12.3			12.7			12.7			12.7			12			13.3		
Magnesium	GRAS	4020			4170			4320			3030			3010			2580			2990			3280			3300		
Manganese	1083	589	J		727	J		636	J		545	J		554	J		675	J		621	J		419	J		557		
Mercury	23		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.13)
Nickel	39.3	26.2	J		22.2	J		25.8	J		19.3	J		18.1	J		19	J		19.7	J		23.7	J		23		
Potassium	GRAS	2570			2800			3240			2700			3280			2720			3240			2640			2570		
Selenium	390		U	(1.1)		U	(1.1)	1.1	J			U	(0.98)		U	(1)	1.1	J			U	(1)		U	(1)	1.5	J	
Sodium	GRAS		U	(338)		U	(324)		U	(299)		U	(301)		U	(310)		U	(307)		U	(320)		U	(318)		U	(335)
Vanadium	72.5	30			33			35.5			27			32.6			24.8			29.8			28.4			29		
Zinc	119.5	52			55.3			55.9			42.6			49.5			46.3			51.5			48.8			49.5		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-7
Analytical Data for Load Line 3 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3B-018			B3B-019			B3B-020			B3B-021			B3B-022			B3B-023			B3B-024			B3B-025		
		B3B-018-000 (0-1 ft)			B3B-019-000 (0-1 ft)			B3B-020-000 (0-1 ft)			B3B-021-000 (0-1 ft)			B3B-022-000 (0-1 ft)			B3B-023-000 (0-1 ft)			B3B-024-000 (0-1 ft)			B3B-025-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.68				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.039	J		0.048	J			U	(0.5)	0.021	J		0.1	J		0.072	J		0.0073	J	
METALS (MG/KG)																									
Aluminum	33852	16400			16200	J		22600			14800			12900	J		10600	J		13200	J		13900	J	
Antimony	31		UJ	(4.3)		R			UJ	(0.49)		UJ	(0.49)		R			R			R			R	
Arsenic	13.5	9.5			8			7.4	J		6.8	J		5.9	J		8.4	J		6.4	J		11.2		
Barium	440	242			218			232			162			229			285			236			231		
Beryllium	1.52	0.85			0.78			0.99			0.68			0.68			0.63			0.69			0.73		
Cadmium	39	0.41	J		0.52	J		0.49	J		0.39	J		0.45	J		0.51	J		0.4	J		0.61	J	
Calcium	GRAS	3720			3530			4000			3540			3320			4010			3380			3660		
Chromium	37	17.9			16.8			23.3			16.6			14.3			13.4			14.6			14.9		
Cobalt	17.2	10.3			10.1			11.6			11			8.4			12.9			8.5			9.7		
Copper	33.9	21.1			18.3			21.1			16.2			15.7			20.3			16.2			19.7		
Iron	GRAS	21100			20100			21100			17400			14400			18700			14700			18700		
Lead	400	15.1			13.9			16.1			11.9			13.1			13.7			13.2			13		
Magnesium	GRAS	4100			3780			4580			3450			2940			3750			3000			3620		
Manganese	1083	621	J		572			324	J		853	J		270	J		388			276			315		
Mercury	23		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.12)
Nickel	39.3	25			22.5			26.1			21.7			19.5	J		21			20			22.3		
Potassium	GRAS	2950			2970			4210			3070			2900			2600			2980			2630		
Selenium	390	1.8	J		2.1	J		1.2	J			U	(1.1)	1.4	J			U	(1.1)		U	(1.1)	1.7	J	
Sodium	GRAS		U	(307)		U	(306)		U	(350)		U	(346)		U	(328)		U	(340)		U	(338)		U	(318)
Vanadium	72.5	33.4			32.7			48.3			33.9			29.7			27.8			30.4			31.6		
Zinc	119.5	57.3			53			63.5			44.4			44.9			53.5			45.5			50.9		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-7
Analytical Data for Load Line 3 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3B-026			B3B-027			B3B-028			B3B-029			B3B-030			B3B-031			B3B-032			B3B-033		
		B3B-026-000 (0-1 ft)			B3B-027-000 (0-1 ft)			B3B-028-000 (0-1 ft)			B3B-029-000 (0-1 ft)			B3B-030-000 (0-1 ft)			B3B-031-000 (0-1 ft)			B3B-032-000 (0-1 ft)			B3B-033-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		UJ	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.26	J			U	(0.75)	0.084	J			U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.059	J			U	(0.5)	0.074	J			U	(0.5)		U	(0.5)	0.076	J		0.022	J			U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	17800			15900			14500			18600			16400			13900			17500			14100		
Antimony	31		UJ	(0.44)		UJ	(0.42)		UJ	(0.44)		UJ	(0.46)		UJ	(0.44)		UJ	(0.44)		UJ	(0.42)		R	
Arsenic	13.5	7.7	J		7.8			8.4			8.3	J		8.1	J		8	J		7.8			7.8	J	
Barium	440	346			218			237			266			183			201			299			216		
Beryllium	1.52	0.8			0.71			0.75			0.87			0.81			0.75			0.79			0.78		
Cadmium	39	0.58	J		0.42	J		0.47	J		0.4	J		0.45	J		0.46	J		0.42	J		0.25	J	
Calcium	GRAS	3160			3420			3540			3630			3340			3190			3320			3500		
Chromium	37	19.6			16.9			16			19.5			17.7			15.6			18.6			14.6		
Cobalt	17.2	11.1			8.3			9.9			11.1			9.6			9.8			9.3			10.1		
Copper	33.9	18.9			16.5			18.6			18.4			18.9			17.8			18.6			18.7		
Iron	GRAS	19100			17800			18200			21000			19400			17800			19300			17600		
Lead	400	16.1			13.2			14			16.3			14.3			14.5			14			13.9		
Magnesium	GRAS	3530			3350			3560			4060			3560			3130			3640			3240		
Manganese	1083	700	J		485	J		576	J		542	J		579			564	J		539	J		579	J	
Mercury	23		U	(0.12)		U	(0.11)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.11)		U	(0.12)
Nickel	39.3	22.2			19.7			21.8			22.8			22.6			21			21.7			22.8	J	
Potassium	GRAS	3680			3150			3110			3510			3240			3040			3590			2770		
Selenium	390	2.1	J		1.5	J		1.8	J		1.2	J		1.7	J		1.7	J		1.5	J			U	(1)
Sodium	GRAS		U	(316)		U	(295)		U	(312)		U	(326)		U	(316)		U	(315)		U	(299)		U	(318)
Vanadium	72.5	39.8			34.2			31.1			36.6			35.7			32.8			38.6			27.7		
Zinc	119.5	52.7			50.3			51			59.4			51.6			49.6			52.3			48.5		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-7
Analytical Data for Load Line 3 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B3B-034			B3B-035			B3B-036			B3B-037			B3B-038		
		B3B-034-000 (0-1 ft)			B3B-035-000 (0-1 ft)			B3B-036-000 (0-1 ft)			B3B-037-000 (0-1 ft)			B3B-038-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.15	J			U	(0.5)		U	(0.5)		U	(0.5)	0.82		
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	*3.5*		
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)	0.036	J			U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.09	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																
Aluminum	33852	6220			14500	J		13500	J		9010	J		12200	J	
Antimony	31		UJ	(0.41)		R			R			R			R	
Arsenic	13.5	2.9	J		8.8			7.2	J		5.9	J		7.8	J	
Barium	440	76.8			232			191			158			200		
Beryllium	1.52	0.33			0.71			0.68			0.53			0.69		
Cadmium	39		U	(0.11)	0.47	J		0.42	J		0.28	J		0.44	J	
Calcium	GRAS	2100			3660			3290			2880			3410		
Chromium	37	7			16.2			14.9			10.3			13.3		
Cobalt	17.2	4			10.6			9.3			7.4			9.9		
Copper	33.9	7.2			19.5			16.5			12.6			31.6	J	
Iron	GRAS	7710			19700			17600			13100			17500		
Lead	400	6.2			13.8			13.2			10.5			15.1		
Magnesium	GRAS	1480			3870			3380			2350			3170		
Manganese	1083	223	J		624			570			454			659		
Mercury	23		U	(0.11)		U	(0.12)	0.17	J			U	(0.12)		U	(0.12)
Nickel	39.3	9.4			23.1			20.2			16			24		
Potassium	GRAS	1470			3000			2770			2200			2530		
Selenium	390		U	(0.94)	1.4	J			U	(1)	2	J		2	J	
Sodium	GRAS		U	(289)		U	(316)		U	(309)	246	J		250	J	
Vanadium	72.5	14.6			33.1			29.7			21.3			27.9		
Zinc	119.5	19.8			53.8			48.8			35.1			54.9		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-001						B4A-002						B4A-003						B4A-004					
		B4A-001-000 (0-0.5 ft)			B4A-001-001 (1-2 ft)			B4A-002-000 (0-0.5 ft)			B4A-002-001 (1-2 ft)			B4A-003-000 (0-0.5 ft)			B4A-003-001 (1-2 ft)			B4A-004-000 (0-0.5 ft)			B4A-004-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.1	J			U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.46	J			U	(0.5)	0.47	J		0.14	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.39	J			U	(0.5)	0.26	J			U	(0.5)	0.4	J		0.54				U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.32	J			U	(1)	0.25	J			U	(1)	0.3	J		0.17	J			U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)	0.69	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.093	J			U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.064	J			U	(0.5)		U	(0.5)	0.086	J		0.4	J		0.072	J		0.28	J		0.083	J	
METALS (MG/KG)																									
Aluminum	33852	15500			10200			12600			11900			11700			11600			18100			15300		
Antimony	31		UJ	(0.46)		UJ	(0.47)		R			R			R			R			UJ	(0.47)	0.51	J	
Arsenic	13.5	7.1	J		5	J		5.5	J		3.1	J		5.3	J		6.5	J		7.6	J		6.9	J	
Barium	440	203			265			201			241			195			215			216			247		
Beryllium	1.52	0.73			0.65			0.63			0.66			0.59			0.64				U	(0.8)	0.8		
Cadmium	39	4			0.23	J		2.2			0.49	J		10.3			0.75	J		8.8	J		0.47	J	
Calcium	GRAS	3870			3430			3020			3070			3890			3560			3380			3660		
Chromium	37	18.7			13.5			14.6			14.5			18			13.7			20			17.6		
Cobalt	17.2	9.1			8.8			9.3			9.1			7.9			8			10.3			9		
Copper	33.9	31.6	J		14.7	J		26			16.5			29.7			15.9			***44.3***	J		18.2	J	
Iron	GRAS	17500			13200			14800			10900			14100			14400			19200			17400		
Lead	400	98.9	J		15.4	J		28.5			15.4			237			23.7			162	J		17.6	J	
Magnesium	GRAS	2890			2400			2340			2440			2360			2360			3390			3500		
Manganese	1083	540			790			566			525			507			572			681			559		
Mercury	23	0.22	J		0.14	J		0.14	J		0.14	J		0.2	J		0.18	J			U	(0.13)	0.16	J	
Nickel	39.3	25.4			15.5			17.9			17.2			20			16.2			22.4			21.9		
Potassium	GRAS	3210			2590			2730			2860			2810			2800			3760			3360		
Selenium	390	1.3	J		1.8	J			U	(1)		U	(1.1)		U	(1.1)		U	(1.1)	2.4	J		1.9	J	
Sodium	GRAS		U	(327)		U	(336)		U	(315)		U	(325)		U	(334)		U	(342)		U	(337)		U	(344)
Thallium	1.72		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)
Vanadium	72.5	33.1			26.3			28.9			25			26.9			26.9			38.5			29.9		
Zinc	119.5	88			44.1			61.4			46.9			***155***			48.9			***128***	J		55.5		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-005						B4A-006						B4A-007						B4A-008					
		B4A-005-000 (0-0.5 ft)			B4A-005-001 (1-2 ft)			B4A-006-000 (0-0.5 ft)			B4A-006-001 (1-2 ft)			B4A-007-000 (0-0.5 ft)			B4A-007-001 (1-2 ft)			B4A-008-000 (0-0.5 ft)			B4A-008-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.32	J		0.16	J		0.37	J			U	(0.5)	5.1				U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.19	J			U-	(0.5)	0.31	J			U	(0.5)	0.22	J			U	(0.5)	0.2	J			U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.26	J		0.18	J		0.32	J			U	(1)	0.21	J			U	(1)	0.29	J			U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)	0.098	J		0.1	J		3.3			0.74	J		***74***			***6.3***		
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)	0.16	J		0.12	J		0.85			0.41	J		7.5			1.7		
METALS (MG/KG)																									
Aluminum	33852	19400			21600			12000			12600			9850			11100			11900			12300		
Antimony	31		UJ	(0.48)		UJ	(0.47)		R			R			R			R		0.48	J			R	
Arsenic	13.5	7	J		8	J		6.9	J		8.5	J		8.1	J		8.3	J		7.4	J		8.3		
Barium	440	209			222			199			250			236			266			206			288		
Beryllium	1.52	0.81			0.89			0.58			0.69			0.53			0.64			0.66			0.69		
Cadmium	39	1.2	J		0.53	J		2.1			0.32	J		0.79	J		0.23	J		0.97	J		0.47	J	
Calcium	GRAS	3410			3530			11900			4580			10100			4490			7780			4780		
Chromium	37	21.1			23.3			20.7			15.6			16.9			14			27.5			15.7		
Cobalt	17.2	9.8			9.9			8.6			11			8.2			8.9			9.2			10.1		
Copper	33.9	18.5			17.4			26.9			20.9			26.9			20.5			28.2			21.1		
Iron	GRAS	20000			22600			16500			19100			34900			17600			16900			18400		
Lead	400	274			22.3			27.1			16.1			43	J		13.7	J		98.5	J		14	J	
Magnesium	GRAS	3340			3870			5110			3750			3200			3580			3320			3820		
Manganese	1083	499			565			519			610			547			497			566			619		
Mercury	23		U	(0.13)		U	(0.13)	0.19	J		0.14	J			U	(0.12)		U	(0.12)	0.14	J			U	(0.12)
Nickel	39.3	20.8	J		23.3	J		29.9			25.1			23.5			22.9			23.1			26		
Potassium	GRAS	3760			3800			2930			2540			3540			3000			3610			2770		
Selenium	390	1.3	J			UJ	(1.1)	1.1	J			U	(1.1)	1.4	J			U	(1.1)		U	(1.1)		U	(1)
Sodium	GRAS		U	(344)		U	(332)		U	(305)		U	(339)		U	(321)		U	(333)		UJ	(334)		U	(312)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.2)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.3)
Vanadium	72.5	42.4			44			31			30.8			26			27			26.6			31.4		
Zinc	119.5	85.9			58.9			63.9			***130***			61.2			48.9			83.1			51.9		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-009						B4A-010						B4A-011						B4A-012					
		B4A-009-000 (0-0.5 ft)			B4A-009-001 (1-2 ft)			B4A-010-000 (0-0.5 ft)			B4A-010-001 (1-2 ft)			B4A-011-000 (0-0.5 ft)			B4A-011-001 (1-2 ft)			B4A-012-000 (0-0.5 ft)			B4A-012-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)	0.088	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	2.5			0.46	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.52				U	(0.5)		U	(0.5)		U	(0.5)	0.12	J		0.079	J			U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.87	J			U	(1)		U	(1)		U	(1)	0.18	J		0.12	J			U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	***24***			0.34	J			U	(0.75)		U	(0.75)	3.4			0.79			2.2			0.34	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	4.7			0.28	J			U	(0.5)	0.33	J			U	(0.5)	0.069	J			U	(0.5)	0.13	J	
METALS (MG/KG)																									
Aluminum	33852	15000			12700			12000			17800			12000			12700			5710			14500		
Antimony	31		R			R			UJ	(0.42)		UJ	(0.45)	1.4	J			R			UJ	(0.44)		UJ	(0.44)
Arsenic	13.5	6.9	J		9.1			7.5	J		7.9	J		***15.3***			7.3	J		3.5	J		9.4		
Barium	440	164			207			163			234			210			241			149			256		
Beryllium	1.52	0.7			0.71			0.6			0.78			0.59			0.66			0.28			0.74		
Cadmium	39	1.7			0.46	J		1.1			0.54	J		1.6			0.57	J		0.92	J		0.55	J	
Calcium	GRAS	5790			4490			3610			4020			19600			4580			13900			5470		
Chromium	37	21			15.5			14			19			***57***			17.5			15.1			17.9		
Cobalt	17.2	8.9			10.5			9.5			9.7			13.5			9.6			5			10.5		
Copper	33.9	31.5			22.8			28.1			18.9			***79.8***	J		26.2			25.6			23		
Iron	GRAS	19700			19600			19000			20500			70600			20700			13100			20800		
Lead	400	125	J		18.9	J		291			20.3			159	J		21.7			47.5			14.8		
Magnesium	GRAS	3340			3470			2890			3880			4250			3750			2200			4420		
Manganese	1083	557			644			585			570			864			603			399			635		
Mercury	23	0.38				U	(0.13)		U	(0.11)		U	(0.12)	0.25	J		0.17	J		0.14	J			U	(0.12)
Nickel	39.3	25.6			27.7			18.5	J		23	J		***61.7***			26			14.5	J		27	J	
Potassium	GRAS	3610			2660			2870			3240			3110			2760			1550			3060		
Selenium	390	1.1	J			U	(1.1)	1.3	J		1.6	J		3.3	J			U	(1.1)		UJ	(1)	1.6	J	
Sodium	GRAS		U	(321)		U	(338)		U	(296)		U	(323)		U	(340)		U	(325)		U	(312)		U	(313)
Thallium	1.72		U	(1.3)		U	(1.4)		U	(1.2)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.3)
Vanadium	72.5	32			33.8			27.2			36.2			37			34.4			16.4			35		
Zinc	119.5	***159***			56.5			***212***			58.1			***234***			60.5			63.4			57.7		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-013						B4A-014						B4A-015						B4A-016					
		B4A-013-000 (0-0.5 ft)			B4A-013-001 (1-2 ft)			B4A-014-000 (0-0.5 ft)			B4A-014-001 (1-2 ft)			B4A-015-000 (0-0.5 ft)			B4A-015-001 (1-2 ft)			B4A-016-000 (0-0.5 ft)			B4A-016-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)	0.093	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.37	J		0.4	J			U	(0.5)	0.45	J			U	(0.5)	0.071	J		0.44	J		0.071	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)	0.14	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)	0.14	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA	0.72	J			U	(2)		U	(2)		U	(2)		U	(2)	1.6	J			U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)	0.35	J			U	(0.5)		U	(0.5)	0.28	J			U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	9740			10500			19800			17800			15000			18500			21100			22500		
Antimony	31		R			R			U	(0.51)	0.51	J		0.74	J			UJ	(0.52)	0.59	J			UJ	(0.49)
Arsenic	13.5	5.5	J		10.4			10.7			10.5			8.2	J		10			10.7			9.9		
Barium	440	169			237			283			329			283			323			243			228		
Beryllium	1.52	0.53			0.7			0.9			0.88			0.75			0.89			0.97			0.97		
Cadmium	39	0.7	J		0.5	J		0.5	J		0.38	J		0.81	J		0.23	J		0.63	J			U	(0.13)
Calcium	GRAS	5260			4200			5170			5070			6180			5340			4090			3840		
Chromium	37	13.1			14			23.5			21.7			19.9			22.7			25			23.8		
Cobalt	17.2	7.5			11.7			12.4			11.9			10.5			11.6			12.8			11.5		
Copper	33.9	21.6			26.7			***112***			28.2			***36.5***			27.3			***34.2***			28.2		
Iron	GRAS	14700			20100			24100			24300			20500			24200			25200			25300		
Lead	400	201			18.4	J		59.8			17.1	J		90.7			17.7	J		110			21.4	J	
Magnesium	GRAS	2540			3530			4690			5250			4150			5100			4920			4960		
Manganese	1083	465			646			727			706			633			687			741			615		
Mercury	23		U	(0.13)		U	(0.13)		U	(0.14)		U	(0.14)	0.14	J			U	(0.14)		U	(0.14)		U	(0.13)
Nickel	39.3	20.9			29.2			31.4			32			26.7			30.3			29.7			29.9		
Potassium	GRAS	2330			2400			5080			3740			3980			3910			4240			3820		
Selenium	390		U	(1.1)		U	(1.1)	1.6	J		1.7	J		1.4	J			U	(1.2)	1.3	J			U	(1.1)
Sodium	GRAS		UJ	(343)		U	(343)	10200			3890	J		2270				UJ	(422)	711			3380	J	
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.5)		U	(1.4)		U	(1.5)		U	(1.5)		U	(1.5)		U	(1.4)
Vanadium	72.5	25.2			30.7			44.9			45.5			37.4			47.4			48.6			43.6		
Zinc	119.5	***147***			60.8			***120***			69.2			***153***			69.2			117			68.2		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-017						B4A-018						B4A-019						B4A-020					
		B4A-017-000 (0-0.5 ft)			B4A-017-001 (1-2 ft)			B4A-018-000 (0-0.5 ft)			B4A-018-001 (1-2 ft)			B4A-019-000 (0-0.5 ft)			B4A-019-001 (1-2 ft)			B4A-020-000 (0-0.5 ft)			B4A-020-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)	0.095	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.46	J		0.48	J		0.46	J			U	(0.5)		U	(0.5)	0.15	J			U	(0.5)	0.089	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.23	J		0.29	J		0.28	J		0.36	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	15100			16000			21700			25300			20600			18500			21300	J		23400		
Antimony	31	0.74	J		0.52	J		0.56	J		0.51	J		0.57	J			UJ	(0.45)		R			UJ	(0.46)
Arsenic	13.5	8.8	J		9.7			8.9	J		8.5	J		8.7	J		6.7	J		7.3	J		7.5	J	
Barium	440	229			261			273			235			264			222			211			221		
Beryllium	1.52	0.81			0.88			0.94			1			0.88			0.8			0.89			0.93		
Cadmium	39	0.62	J		0.14	J		0.5	J		0.17	J		0.52	J		0.22	J		0.21	J		0.22	J	
Calcium	GRAS	3970			4120			5140			3960			5130			4010			2910			3140		
Chromium	37	19.3			18.1			23.5			25.1			23.5			19.6			23.5			23.5		
Cobalt	17.2	11.2			12.5			11.7			11.7			11.1			10.6			10.5			10.9		
Copper	33.9	33.1			27			25.6			19.8			23.5			16.6			20.6			18.3		
Iron	GRAS	21600			22900			23500			24700			22000			18600			21400			22100		
Lead	400	205			19.8	J		85			17.6	J		103			15.4	J		19.7			15	J	
Magnesium	GRAS	4080			4480			4320			4660			3990			3290			4100			4060		
Manganese	1083	642			778			711			651			637			697			583			648		
Mercury	23		U	(0.14)		U	(0.14)		U	(0.14)		U	(0.13)		U	(0.14)		U	(0.13)		U	(0.14)		U	(0.12)
Nickel	39.3	28			30.8			26.5			25.8			24.8			20.9			21.8			22.9		
Potassium	GRAS	3400			2760			5600			4570			4870			3960			4720			4010		
Selenium	390	1.8	J			U	(1.2)	1.8	J		1.7	J		1.2	J		1.6	J		2	J		1.2	J	
Sodium	GRAS	9630				U	(369)	1950			1780	J		6060			3950	J		3000				UJ	(330)
Thallium	1.72		U	(1.5)		U	(1.5)		U	(1.6)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.5)		U	(1.3)
Vanadium	72.5	34.7			30.4			49.2			51.7			47.1			40.9			46.9			45.7		
Zinc	119.5	***223***			69.7			***121***			68.1			***131***			54			74.7			58.7		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-021						B4A-022						B4A-023						B4A-024					
		B4A-021-000 (0-0.5 ft)			B4A-021-001 (1-2 ft)			B4A-022-000 (0-0.5 ft)			B4A-022-001 (1-2 ft)			B4A-023-000 (0-0.5 ft)			B4A-023-001 (1-2 ft)			B4A-024-000 (0-0.5 ft)			B4A-024-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)	0.12	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.46	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.12	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.35	J	
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)	0.21	J	
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)	0.43	J			U	(0.5)		U	(0.5)		U	(0.5)	0.075	J		0.05	J	
METALS (MG/KG)																									
Aluminum	33852	20000			25400			16900			13900			15900			17700			15700			16800		
Antimony	31		U	(0.52)		U	(0.52)		U	(0.65)		U	(0.5)		UJ	(0.47)		UJ	(0.51)		UJ	(0.47)		R	
Arsenic	13.5	7.5	J		8.2	J		7.6	J		6.5	J		7	J		5.9	J		8.3	J		7.8	J	
Barium	440	285			255			266			252			256			205			201			197	J	
Beryllium	1.52	0.9			1			0.82			0.66			0.73			0.77			0.83			0.78		
Cadmium	39	0.15	J		0.26	J		1.3	J		0.77	J		0.49	J		0.41	J		0.47	J		0.43	J	
Calcium	GRAS	3580			4020			5800			3290			11400			4380			4570			4120		
Chromium	37	21.3			25.3			21.5			17.3			17.7			18.9			16.9			17.8		
Cobalt	17.2	11.1			13.8			10.6			9.2			12			9.1			8.1			9.1		
Copper	33.9	19.7			20.3			***35.9***			26.2			15.7			15.1			19.9			19.4		
Iron	GRAS	22500			23900			19700			16400			18100			19200			20700			20000		
Lead	400	23.1			17.6			226			130			16.5			14.3			25			14.2		
Magnesium	GRAS	3950			4410			3640			2700			4620			3610			3480			3690		
Manganese	1083	727			942			704			577			947			542			466			530		
Mercury	23		U	(0.14)		U	(0.14)		U	(0.18)		U	(0.13)		U	(0.13)		U	(0.14)		U	(0.13)		U	(0.13)
Nickel	39.3	20.9			26.3			23.2			17.3			21.2	J		18.3	J		20.8	J		22.1		
Potassium	GRAS	6090			5360			6020			3480			4140			3650			2900			3150		
Selenium	390	1.5	J		2.5	J		2.1	J			U	(1.1)		UJ	(1.1)		UJ	(1.2)	1.2	J		1.5	J	
Sodium	GRAS	157	J		472			806			1210				U	(334)		U	(360)		U	(331)		U	(337)
Thallium	1.72		U	(1.5)		U	(1.5)		U	(1.9)		U	(1.4)		U	(1.4)		U	(1.5)		U	(1.4)		U	(1.4)
Vanadium	72.5	40.9			48.6			38.8			31			36			40.7			28.8			37.1		
Zinc	119.5	81.6			70.9			***227***			114			51.4			50.5			64.6			52		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-025						B4A-026						B4A-027						B4A-028					
		B4A-025-000 (0-0.5 ft)			B4A-025-001 (1-2 ft)			B4A-026-000 (0-0.5 ft)			B4A-026-001 (1-2 ft)			B4A-027-000 (0-0.5 ft)			B4A-027-001 (1-2 ft)			B4A-028-000 (0-0.5 ft)			B4A-028-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.87			0.5	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)	0.48	J		0.24	J			U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)	***28***				U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)	0.73	J			U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)	2.9			0.45	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	11600			18100			15200			16200			15400			14100			18800			25600		
Antimony	31	0.6	J			UJ	(0.45)	0.82	J			UJ	(0.46)		UJ	(0.48)		UJ	(0.46)		UJ	(0.54)		UJ	(0.49)
Arsenic	13.5	8.8			7.4	J		6.7	J		7.4	J		7.2	J		5.4	J		8.6	J		10.3		
Barium	440	305			153			227			242			212			268			262			242		
Beryllium	1.52	0.69	J		0.85			0.72			0.78			0.74			0.69			0.84			1		
Cadmium	39	0.79	J		0.39	J		0.77	J		0.55	J		0.49	J		0.42	J		0.27	J		0.13	J	
Calcium	GRAS	4050			2910			5690			4940			4010			2940			3990			3720		
Chromium	37	15.9			19.4			***40.5***			17.7			17.2			16.4			21.5			25.8		
Cobalt	17.2	13.6			9.4			8.6			10.5			11.8			14.9			11			12.1		
Copper	33.9	19.5	J		18.4			21.1			18.8			16.5			13.8			20.5			25.3		
Iron	GRAS	17200			20300			18600			19700			18500			16700			20700			25600		
Lead	400	114	J		13.8			85.7			16			28.6			17.5			45.6	J		19	J	
Magnesium	GRAS	2930			3560			2520			3160			3310			2780			4260			5200		
Manganese	1083	960			592			433			609			646			924			634			710		
Mercury	23		U	(0.13)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.14)		U	(0.13)
Nickel	39.3	21			22	J		27	J		22.8	J		20.5	J		17.6	J		23.9			30.1		
Potassium	GRAS	4820			3950			3390			3220			3860			3030			4780			4740		
Selenium	390	1.7	J		1.1	J		1.3	J		1.3	J			UJ	(1.1)	1.1	J		1.7	J			U	(1.1)
Sodium	GRAS		U	(341)		U	(322)		U	(341)		U	(326)		U	(342)		U	(327)		U	(381)		U	(345)
Thallium	1.72		U	(1.4)		U	(13.1)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.6)		U	(1.4)
Vanadium	72.5	33.9			38.7			34.4			34.5			35.8			37.5			45.2			52.3		
Zinc	119.5	***183***	J		55.6			***181***			57.5			61.7			43.5			74.5	J		69.8	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-029						B4A-030						B4A-031						B4A-032					
		B4A-029-000 (0-0.5 ft)			B4A-029-001 (1-2 ft)			B4A-030-000 (0-0.5 ft)			B4A-030-001 (1-2 ft)			B4A-031-000 (0-0.5 ft)			B4A-031-001 (1-2 ft)			B4A-032-000 (0-0.5 ft)			B4A-032-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		UJ	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		UJ	(0.5)		U	(0.54)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.13	J		0.37	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.41	J	
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.02	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		UJ	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.093	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	14000			19600			11000			15500			15600			17600			15000			13000		
Antimony	31		UJ	(0.47)		UJ	(0.46)		R			R			R			R			R			R	
Arsenic	13.5	7	J		8.7			6.2	J		7.3	J		7.5	J		6.5	J		8.1	J		5	J	
Barium	440	274			248			217			279			241			247			265			205		
Beryllium	1.52	0.7			0.86			0.6			0.78			0.78			0.8			0.78			0.59		
Cadmium	39	0.63	J		0.2	J		0.64	J		0.24	J		0.89	J		0.31	J		0.77	J			U	(0.13)
Calcium	GRAS	8420			3900	J		14200			4440			6820			4990			8860			3180		
Chromium	37	18.6			20.7			13.4			16.9			18.8			19.3			17.9			14.7		
Cobalt	17.2	10.4			12.1			8			10.6			10.2			11.4			10.2			8.1		
Copper	33.9	29	J		16.4			19.4			16.5			22.8			14.4			23.1			11.7		
Iron	GRAS	21800			21800			15500			19100			19600			19800			19900			14900		
Lead	400	142	J		17			124	J		19.2	J		97.3	J		17.2	J		65.2	J		14.1	J	
Magnesium	GRAS	3770			4240			2910			3350			3770			3720			3750			2840		
Manganese	1083	674			690			529			722			626			769			631			531		
Mercury	23	0.13	J			UJ	(0.13)	0.15	J		0.15	J		0.16	J		0.14	J		0.19	J		0.14	J	
Nickel	39.3	25.1			21.8			18.7			20.1			23.2			18.8			22.4			14.2		
Potassium	GRAS	4110			3780			3410			3320			4040			3650			3650			3020		
Selenium	390	1.5	J			U	(1.1)	2.2	J		1.5	J			U	(1.3)	2.1	J		1.3	J			U	(1.1)
Sodium	GRAS		U	(337)		U	(328)		U	(342)		U	(346)		U	(398)		U	(365)		U	(385)		U	(350)
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.6)		U	(1.5)		U	(1.6)		U	(1.4)
Vanadium	72.5	31.9			38.4			25.3			31.3			35.9			37.2			34.3			28		
Zinc	119.5	114			76.1			102			62.7			104			66.1			99.1			50.9		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-033						B4A-034						B4A-035						B4A-036					
		B4A-033-000 (0-0.5 ft)			B4A-033-001 (1-2 ft)			B4A-034-000 (0-0.5 ft)			B4A-034-001 (1-2 ft)			B4A-035-000 (0-0.5 ft)			B4A-035-001 (1-2 ft)			B4A-036-000 (0-0.5 ft)			B4A-036-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7	0.032	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.47	J			U	(0.5)	0.23	J		0.18	J		0.24	J			U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)	0.13	J			U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		UJ	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.16	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	10500			16400			11900			16500			8210	J		20000	J		16500			17200		
Antimony	31		R			R			R			UJ	(0.49)		UJ	(0.44)		UJ	(0.48)		R			R	
Arsenic	13.5	5.3	J		7	J		5.2	J		7.2	J		4.1	J		10.4			9.3			9.3	J	
Barium	440	210			249			247			267			268			266			222			228		
Beryllium	1.52	0.55			0.76			0.59			0.75			0.53			0.94			0.8			0.86		
Cadmium	39	0.46	J		0.27	J		0.78	J		0.33	J		0.56	J			U	(0.13)	0.23	J			U	(0.14)
Calcium	GRAS	5950			4250			7450			5570	J		9000			3660			4590			4180		
Chromium	37	13.2			18.1			14.4			18.9			10.4	J		20.7	J		18.9			18.2		
Cobalt	17.2	8			10.2			8.7			10.5			6.7			12.4			11.3			11		
Copper	33.9	17.9			15.8			21.3			15.4	J		22.5			27.1			22.8			22.2		
Iron	GRAS	14800			19000			15500			19700			12800	J		23700	J		20700			21300		
Lead	400	193	J		20	J		204	J		16.9	J		90.5	J		17.3			24.9	J		16.9	J	
Magnesium	GRAS	2760			3570			3230			3680			3330			4580			3900			3950		
Manganese	1083	522			650			564			688	J		525			747			661			702		
Mercury	23	0.16	J		0.2	J			U	(0.14)	0.2	J			U	(0.12)		U	(0.13)	0.16	J		0.18	J	
Nickel	39.3	18.1			18.8			19.2			18.6			16.6			28.6			26.2			26.8		
Potassium	GRAS	2880			3640			3340			3780			3380			5870			4240			3400		
Selenium	390		U	(1.2)	1.8	J		1.4	J		1.7	J		1.7	J		1.6	J		1.6	J		1.8	J	
Sodium	GRAS		U	(356)		U	(336)		U	(380)		U	(348)		U	(314)		U	(340)		U	(360)		U	(370)
Thallium	1.72		U	(1.5)		U	(1.4)		U	(1.5)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.5)		U	(1.5)
Vanadium	72.5	24.2			35.4			26.5			34.9			17.6			37.3			35.8			34.9		
Zinc	119.5	***144***			68.5			***142***			68	J		101	J		61.9	J		69.1			56.6		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-037						B4A-038						B4A-039						B4A-040					
		B4A-037-000 (0-0.5 ft)			B4A-037-001 (1-2 ft)			B4A-038-000 (0-0.5 ft)			B4A-038-001 (1-2 ft)			B4A-039-000 (0-0.5 ft)			B4A-039-001 (1-2 ft)			B4A-040-000 (0-0.5 ft)			B4A-040-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		UJ	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	2				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)	0.088	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.34	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.29	J		0.17	J			U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		R			U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.3	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	17600	J		16700	J		16800	J		21900	J		9930			16000			14800			12500		
Antimony	31		UJ	(0.5)		UJ	(0.49)	0.57	J			UJ	(0.52)		R			R			UJ	(0.48)		UJ	(0.38)
Arsenic	13.5	10.9			11			10.4			11.3			7.7	J		8.3	J		7.5	J		7.8		
Barium	440	251			288			253			266			201			231			185			218		
Beryllium	1.52	0.87			0.89			0.82			1			0.6			0.79			0.74			0.64		
Cadmium	39	0.41	J			U	(0.13)	0.43	J		0.14	J		0.37	J		0.15	J		0.53	J		0.34	J	
Calcium	GRAS	5080			4640			5040			4870			8170			4200			4430	J		3810	J	
Chromium	37	20.9	J		17.8	J		20.6	J		22.5	J		12.8			16.7			17.5			15		
Cobalt	17.2	10.9			12			10.7			12.7			8.7			9.5			10.4			9.1		
Copper	33.9	24.9			24.7			25			28.1			19.9			20.2			32.7	J		18.9	J	
Iron	GRAS	22200	J		22800	J		21300	J		25900	J		16000			19700			17600			16900		
Lead	400	31.7	J		17.1	J		43.6	J		18.3	J		40.1	J		14.9			40.6	J		12.7	J	
Magnesium	GRAS	4280			4380			4140			5260			3250			3670			3100			3270		
Manganese	1083	610			716			627			723			533			554			642	J		503	J	
Mercury	23		U	(0.13)		U	(0.14)		U	(0.13)	0.16	J		0.16	J		0.15	J		0.31			0.17	J	
Nickel	39.3	27.9			28			28.9			31.1			22.3			23.9			22.2			22.7		
Potassium	GRAS	4670			3310			4270			3830			2980			3000			3350			2640		
Selenium	390	2.1	J		1.3	J		2.2	J		1.4	J			U	(1.1)		U	(1.1)	1.6	J			U	(0.88)
Sodium	GRAS		U	(358)		U	(351)		U	(358)		U	(371)		U	(344)		U	(336)		U	(340)		U	(269)
Thallium	1.72		U	(1.5)		U	(1.4)		U	(1.5)		U	(1.5)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.1)
Vanadium	72.5	40.2			33.9			38.8			45			24.6			32.5			32.6			28		
Zinc	119.5	75.7	J		66.5	J		85.8	J		72	J		64.7			53.4			88.4	J		48.5	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-041						B4A-043						B4A-044						B4A-045					
		B4A-041-000 (0-0.5 ft)			B4A-041-001 (1-2 ft)			B4A-043-000 (0-0.5 ft)			B4A-043-001 (1-2 ft)			B4A-044-000 (0-0.5 ft)			B4A-044-001 (1-2 ft)			B4A-045-000 (0-0.5 ft)			B4A-045-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)	0.48	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.23	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	12400			15700			14200			16900			9310			17200			17000			13800		
Antimony	31		UJ	(0.47)		UJ	(0.45)	0.62	J			UJ	(0.47)		UJ	(0.47)		UJ	(0.47)		UJ	(0.43)		R	
Arsenic	13.5	6.5	J		8.1	J		7.4	J		6.6	J		5.3	J		7.9	J		6.4	J		7.4	J	
Barium	440	179			255			221			259			174			234			240			227		
Beryllium	1.52	0.62			0.8			0.7			0.8			0.52			0.83			0.71			0.73		
Cadmium	39	0.74	J		0.45	J		0.6	J		0.29	J		0.47	J			U	(0.12)	0.33	J		0.22	J	
Calcium	GRAS	3800	J		4140	J		5140			4260			5130			4060			3630			4140		
Chromium	37	17.2			17.9			21.5			18.7			13.3			18.4			22.3			15.4		
Cobalt	17.2	8.2			10.2			9.9			10.5			7.1			10.3			8.7			9.6		
Copper	33.9	19.1	J		20.3	J		27	J		19.5	J		22.6	J		17	J		21.2			18.6		
Iron	GRAS	15900			20000			19300			19900			14400			20700			19700			18200		
Lead	400	89.5	J		23.4	J		86.4	J		17.7	J		88.9	J		14.9	J		35.4	J		14.7		
Magnesium	GRAS	3700			3700			3290			3370			2730			3310			3330			3200		
Manganese	1083	481	J		641	J		624			734			438			605			527			646		
Mercury	23	0.2	J		0.19	J		0.15	J		0.15	J		0.15	J		0.21	J			U	(0.12)	0.15	J	
Nickel	39.3	22.3			22.8			28.7			26.8			19.8			20.2			23.3			23		
Potassium	GRAS	3270			3220			4030			3090			3520			3040			4860			2580		
Selenium	390	1.6	J		1.8	J		2	J		1.2	J		2.1	J			U	(1.1)	1.3	J			U	(1.1)
Sodium	GRAS		U	(334)		U	(318)		U	(344)		U	(336)		U	(331)		U	(334)	1740	J			U	(344)
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.2)		U	(1.4)
Vanadium	72.5	30.6			31.6			34			30.2			23.2			35.6			37.2			30.8		
Zinc	119.5	105	J		67.1	J		***167***			61.5			91.9			62.8			75.8			50.6		

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-046						B4A-047						B4A-048						B4A-049					
		B4A-046-000 (0-0.5 ft)			B4A-046-001 (1-2 ft)			B4A-047-000 (0-0.5 ft)			B4A-047-001 (1-2 ft)			B4A-048-000 (0-0.5 ft)			B4A-048-001 (1-2 ft)			B4A-049-000 (0-0.5 ft)			B4A-049-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		UJ	(0.5)		U	(0.5)		UJ	(0.5)		UJ	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.089	J			U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.045	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		R			U	(0.75)		U	(0.00075)		U	(0.00075)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		UJ	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.4	J		0.37	J	
METALS (MG/KG)																									
Aluminum	33852	12000			16600			11500			17700			14500			14100			11600	J		11200	J	
Antimony	31		R			R			R			R			R			R			R		0.5	J	
Arsenic	13.5	6.4	J		7.8	J		6.6	J		8	J		7.3	J		6.8	J		7.3	J		8.2	J	
Barium	440	237	J		251	J		192	J		223	J		195			213	J		177			178		
Beryllium	1.52	0.63			0.76			0.54			0.79			0.67			0.69			0.62			0.71		
Cadmium	39	0.65	J		0.39	J		0.94	J		0.59	J		0.46	J		0.43	J			U	(0.13)		U	(0.12)
Calcium	GRAS	*14000*			4220			*6950*			*4750*			*4660*			*4090*			*3440*			*3400*		
Chromium	37	19.9			16.9			16.9			18.4			17.4			15.2			12.4			12.6		
Cobalt	17.2	9			10.5			7.9			9.2			8.5			8.1			8.3			9.2		
Copper	33.9	20.8			17			24.9			18.5			20.6			16.7			19.7			15.5		
Iron	GRAS	*16500*			*19700*			*17900*			*20100*			*18000*			*17500*			*15400*			*15900*		
Lead	400	313			14.5			133			15.2			183	J		69.6			19.4			13.5		
Magnesium	GRAS	2710			3220			3190			3730			3180			2950			2690			2790		
Manganese	1083	498			730			514			517			516			420			510	J		550	J	
Mercury	23		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.12)
Nickel	39.3	25.9			23.2			19.6			21.5			21.6			18.6			18.2			18.9		
Potassium	GRAS	3200			2950			3050			3180			3460			2790			2870			2220		
Selenium	390	1.3	J		1.4	J			U	(1.2)		U	(1.1)	1.8	J		1.7	J		1.7	J		1.7	J	
Sodium	GRAS		U	(345)		U	(335)		U	(354)		U	(350)		U	(345)		U	(346)		U	(344)		U	(328)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(14.1)		U	(1.4)		U	(1.4)		U	(1.3)
Vanadium	72.5	26.2			35.8			27.4			38			33.7			31.1			25.7			24.9		
Zinc	119.5	75.3			49.1			109			52.7			***129***	J		61.2			47.5			43.5		

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-050						B4A-051						B4A-052						B4A-053					
		B4A-050-000 (0-0.5 ft)			B4A-050-001 (1-2 ft)			B4A-051-000 (0-0.5 ft)			B4A-051-001 (1-2 ft)			B4A-052-000 (0-0.5 ft)			B4A-052-001 (1-2 ft)			B4A-053-000 (0-0.5 ft)			B4A-053-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		UJ	(0.5)		UJ	(0.5)		UJ	(0.5)		UJ	(0.5)		UJ	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.08	J		0.24	J		3.2	J		0.94				UJ	(0.5)		U	(0.5)		U	(0.5)	0.094	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)	0.69			1	J		1.1				UJ	(0.5)		U	(0.5)		U	(0.5)	0.4	J	
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)	0.39	J		0.65	J		0.67	J			U	(1)		U	(1)		U	(1)	0.3	J	
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)	0.13	J		***14***	J		2.2			1.2			0.097	J			U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		R			U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)	1.1			0.4	J		0.2	J		0.1	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	8640	J		11100	J		10700	J		11100	J		13200			14900	J		7440	J		13500	J	
Antimony	31		R			R			R			R			U	(0.53)		R			R			R	
Arsenic	13.5	5	J		8.2	J		6	J		9.2			7.1	J		6.2	J		3.8	J		5.6	J	
Barium	440	148			188			182			226			190			204			164			192		
Beryllium	1.52	0.49			0.65			0.66			0.68			0.64			0.71			0.43			0.66		
Cadmium	39	0.23	J			U	(0.12)		U	(0.13)	0.21	J		0.92	J		0.2	J		0.38	J			U	(0.13)
Calcium	GRAS	3840			4160			13800			4270			12100			3890			5790			3680		
Chromium	37	11.7			12.9			14			12.6			16.5			15.3			10.4			14		
Cobalt	17.2	6.6			8.9			7.6			10.5			8.2			7.9			6.6			8.1		
Copper	33.9	16.5			16.1			16.5			21.4			24.7			20.8			23.1			18.6		
Iron	GRAS	12600			16100			13900			17200			17300			16200			11600			14400		
Lead	400	219			15.4			77.2			17.5			181			18.3			187			16.2		
Magnesium	GRAS	2100			2470			2400			2760			3010			2900			2180			2570		
Manganese	1083	392	J		555	J		376	J		637	J		471			416	J		422	J		318	J	
Mercury	23		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.14)		U	(0.13)		U	(0.13)		U	(0.13)
Nickel	39.3	15.9			19.9			18.9			21.6			21.5			19.6			18.8			16.5		
Potassium	GRAS	2000			2240			2510			2380			2940			3020			2030			2800		
Selenium	390	1.6	J			UJ	(1.1)	1.3	J		1.5	J		1.5	J			UJ	(1.1)		UJ	(1.1)		UJ	(1.1)
Sodium	GRAS		U	(328)		U	(325)		U	(339)		U	(329)	91	J			U	(333)		U	(338)		U	(351)
Thallium	1.72	1.5	J		26.5	U	(1.3)	23.4	U	(1.4)	26.6	U	(1.3)	29.2	U	(1.5)	1.4	J		17.7	U	(1.4)	28.6	U	(1.4)
Vanadium	72.5	20.8			45.5			53.6			48.9			***227***			48.5			***145***			42.1		
Zinc	119.5	101																							

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-054						B4A-055						B4A-056						B4A-057					
		B4A-054-000 (0-0.5 ft)			B4A-054-001 (1-2 ft)			B4A-055-000 (0-0.5 ft)			B4A-055-001 (1-2 ft)			B4A-056-000 (0-0.5 ft)			B4A-056-001 (1-2 ft)			B4A-057-000 (0-0.5 ft)			B4A-057-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		UJ	(0.5)		UJ	(0.5)		UJ	(0.5)		UJ	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.46	J		0.23	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)	0.53				U	(0.5)	0.53				U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)	0.26	J			U	(1)	0.41	J			U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.56	J		***11***				U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		R			R			U	(0.00075)		U	(0.00075)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.38	J		0.62				U	(0.5)	0.12	J		0.091	J			U	(0.5)	0.39	J			U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	7200	J		12500	J		4950	J		12300	J		7080			14000			12100			17500		
Antimony	31		R			R			R			R			R			UJ	(0.47)	0.48	J			UJ	(0.5)
Arsenic	13.5	4.1	J		4.6	J		2.3	J		6.7	J		4.3	J		9.1			5.6	J		9.5		
Barium	440	169			175			68.2			202			137			264			174			228		
Beryllium	1.52	0.45			0.7			0.25			0.63			0.36			0.74			0.61			0.84		
Cadmium	39	0.32	J			U	(0.12)	0.22	J			U	(0.12)	0.49	J		0.56	J		1.3			0.49	J	
Calcium	GRAS	6190			6070			1670			3800			31300			4750			51000			5410		
Chromium	37	10.4			14.2			8.7			12.8			9.2			16.9			22.9			19.2		
Cobalt	17.2	6.3			8.4			3.7			8.4			5.1			10.4			8.3			10.2		
Copper	33.9	16.1			17.4			12			18.8			11.8			21.5			20.9			21.7		
Iron	GRAS	11600			15000			7250			15200			9460			20400			15600			23100		
Lead	400	298			29.9			168			17.9			85.1	J		16.5			298			18.2		
Magnesium	GRAS	2250			2550			1110			2400			2110			3990			3270			3980		
Manganese	1083	401	J		308	J		218	J		501	UJ	(0.98)	323			637			478			365		
Mercury	23		U	(0.13)		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.1)		U	(0.13)		U	(0.12)		U	(0.13)
Nickel	39.3	16.5			18.5			7.8			18.3			12.2			26	J		18.9	J		21.9	J	
Potassium	GRAS	2210			2600			1190			2380			2100			3070			3140			3400		
Selenium	390	1.2	J		1.2	J			UJ	(1)		UJ	(1.1)	0.96	J		1.1	J			UJ	(1)	1.2	J	
Sodium	GRAS		U	(354)		U	(328)		U	(315)		U	(331)		U	(274)		U	(331)		U	(320)		U	(354)
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.1)		U	(1.4)		U	(1.3)		U	(1.4)
Vanadium	72.5	18.1			26.7			12.7			26.3			16.7			30.4			27.4			37.3		
Zinc	119.5	***355***			63.6			105			44.5			66.3			57.8			***137***			60.4		

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-058						B4A-059						B4A-060						B4A-061					
		B4A-058-000 (0-0.5 ft)			B4A-058-001 (1-2 ft)			B4A-059-000 (0-0.5 ft)			B4A-059-001 (1-2 ft)			B4A-060-000 (0-0.5 ft)			B4A-060-001 (1-2 ft)			B4A-061-000 (0-0.5 ft)			B4A-061-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.46	J			U	(0.5)	0.45	J		0.082	J			U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)	0.18	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)	0.21	J			U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)	0.043	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)	0.25	J			U	(0.5)	0.38	J			U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	10800			15300			10100			12000			10700			12300			10900			12900		
Antimony	31		R			R		0.68	J			UJ	(0.46)		R			R			R			R	
Arsenic	13.5	7.3	J		8.4	J		5.6	J		9.5			5.6	J		7.3	J		7.2	J		7.2	J	
Barium	440	214			246			195			237			201			246			205			229		
Beryllium	1.52	0.62			0.74			0.52			0.69			0.56			0.69			0.65			0.69		
Cadmium	39	0.55	J		0.27	J		0.63	J		0.72	J		0.88	J		0.59	J		0.55	J		0.37	J	
Calcium	GRAS	6390			4800			44600			4990			9920			4280			6350			4110		
Chromium	37	15.1			18.7			29			16			20.8			16			13.7			15.3		
Cobalt	17.2	8.8			10			7.6			10.5			8.7			10.1			8.4			9		
Copper	33.9	24.3			23.1			26.1			23.9			26.2			21.5			23.6			18.2		
Iron	GRAS	17700			20400			14700			21200			20000			18800			15900			16900		
Lead	400	153	J		32.9	J		149			26.5			107	J		36.2	J		154	J		15.5	J	
Magnesium	GRAS	2900			3630			2820			3840			3450			3570			2800			3180		
Manganese	1083	547			559			409			658			524			683			452			562		
Mercury	23		U	(0.12)		U	(0.13)	0.13	J			U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)
Nickel	39.3	23.4			23.5			21.4			25.6	J		25			24			19.2			22.3		
Potassium	GRAS	2260			2940			2220			2450			2400			2650			2510			2970		
Selenium	390		U	(1.1)	1.4	J			U	(1.1)		UJ	(1.1)	1.1	J			U	(1.1)		U	(1.1)	1.4	J	
Sodium	GRAS		U	(335)		U	(345)		U	(332)		U	(330)		U	(335)		U	(327)	288	J		323	J	
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)
Vanadium	72.5	26.9			34.6			23.8			25.2			26.7			29.8			25.9			30.8		
Zinc	119.5	*103*			*61.5*			***142***			*59.9*			*92.5*			*65.9*			*101*			*52*		

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8

Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-062						B4A-064						B4A-065						B4A-066					
		B4A-062-000 (0-0.5 ft)			B4A-062-001 (1-2 ft)			B4A-064-000 (0-0.5 ft)			B4A-064-001 (1-2 ft)			B4A-065-000 (0-0.5 ft)			B4A-065-001 (1-2 ft)			B4A-066-000 (0-0.5 ft)			B4A-066-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)	0.43	J			U	(0.5)	0.47	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.084	J			U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.094	J			U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)	0.35	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	18200			19300			14300			18400			18400			20900			17000			17600		
Antimony	31		UJ	(0.49)		UJ	(0.44)		UJ	(0.49)		UJ	(0.54)	0.79	J			UJ	(0.53)	1	J			UJ	(0.54)
Arsenic	13.5	8.3	J		8.5			6.8	J		7.4	J		7.4	J		8.6	J		8.1	J		9.3	J	
Barium	440	242			211			193			247			239			262			213			245		
Beryllium	1.52	0.81			0.84			0.67			0.89			0.78			0.91			0.69			0.86		
Cadmium	39	0.28	J		0.18	J		0.38	J		0.18	J		0.73	J		0.2	J		0.33	J		0.15	J	
Calcium	GRAS	3890			3320			5170			4650			11300			4870			10700			5580		
Chromium	37	19.2			19.9			33.6			18.7			22.3			22			33.1			22		
Cobalt	17.2	11.1			9			8.9			10.4			9.9			11.2			10.4			11		
Copper	33.9	20.5			19.6			30.6			23.1			21.4			22.2			*37.7*			31.9		
Iron	GRAS	20600			20800			21800			21300			19900			22500			38000			26300		
Lead	400	32.5	J		14.3	J		74.4	J		16	J		67.2	J		16.5	J		53.3	J		17.2	J	
Magnesium	GRAS	3730			3890			3170			3990			3910			4140			3620			4220		
Manganese	1083	743			482			541			630			632			666			739			661		
Mercury	23		U	(0.14)		U	(0.12)		U	(0.13)		U	(0.14)		U	(0.12)		U	(0.14)		U	(0.14)		U	(0.14)
Nickel	39.3	23.3			22			23.3			26.2			24			26.5			31.6			33.5		
Potassium	GRAS	5100			3720			3340			3140			4050			3720			3610			3630		
Selenium	390	1.6	J			U	(1)	1.4	J		1.4	J		1.9	J		1.5	J		2.6	J		1.7	J	
Sodium	GRAS	3750	J		1530	J		2460	J		2300	J			U	(332)		UJ	(576)	1170	J		2890	J	
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.5)		U	(1.4)		U	(1.5)		U	(1.5)		U	(1.6)
Vanadium	72.5	37.9			39.1			33.7			28.7			42.4			39.3			39.4			39.2		
Zinc	119.5	67.2			56.1			82.8			57.2			90.7			61			91.7			64.5		

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-067						B4A-068						B4A-069						B4A-070					
		B4A-067-000 (0-0.5 ft)			B4A-067-001 (1-2 ft)			B4A-068-000 (0-0.5 ft)			B4A-068-001 (1-2 ft)			B4A-069-000 (0-0.5 ft)			B4A-069-001 (1-2 ft)			B4A-070-000 (0-0.5 ft)			B4A-070-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		UJ	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.16	J			U	(0.5)	***37***			0.4	J		0.099	J		0.3	J	
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)	0.36	J			U	(0.5)		U	(0.5)	0.65			0.14	J			U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)	0.32	J			U	(1)		U	(1)	0.73	J		0.097	J			U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)	0.41	J			U	(0.75)		U	(0.75)	***36***			0.59	J			U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		UJ	(0.75)		UJ	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	3.9			0.04	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	9070			24400			22200			19400			12100			15100			17800			11900		
Antimony	31		UJ	(0.4)		UJ	(0.53)		UJ	(0.48)		UJ	(0.52)		R			R			UJ	(0.53)		R	
Arsenic	13.5	3	J		7.1	J		7.8	J		10			6.7	J		6.3	J		10.2			9.8	J	
Barium	440	126			266			195			277			207			207			325			234	J	
Beryllium	1.52	0.37			1			0.88				U	(0.87)	0.67			0.71			0.88			0.73		
Cadmium	39	0.32	J		0.14	J		0.43	J		0.37	J		0.3	J		0.18	J		0.44	J		0.56	J	
Calcium	GRAS	12700			4840			6530			5030			3900			3500			5260			4530		
Chromium	37	15.6			25.8			23.5			22.3			17.3			16			21.3			14.9		
Cobalt	17.2	4.5			7.6			9.8			11.9			9.5			8.5			11.9			11.3		
Copper	33.9	17.3			20.8			20.8			23.3	J		18.3			16			27.2			24		
Iron	GRAS	12100			23200			21700			23100			17100			17000			23300			20300		
Lead	400	150	J		18.8	J		52.3	J		19	J		44	J		14.3	J		44.7	J		15.9		
Magnesium	GRAS	2210			4070			3900			4220			2950			3070			4800			4110		
Manganese	1083	297			277			536			770			594			539			758			703		
Mercury	23		U	(0.11)		U	(0.15)		U	(0.13)		U	(0.14)		U	(0.13)		U	(0.13)		U	(0.14)		U	(0.14)
Nickel	39.3	15.5			22.6			21.6			29.1			22.3			19.5			30.2			28.3		
Potassium	GRAS	2460			5360			4670			4570			2930			3000			5450			3230		
Selenium	390		U	(0.93)		U	(1.2)	1.4	J		1.7	J		1.7	J			U	(1.1)		U	(1.2)		U	(1.3)
Sodium	GRAS	2030	J			UJ	(376)		UJ	(343)		U	(369)		U	(356)		U	(338)		UJ	(374)		U	(386)
Thallium	1.72		U	(1.2)		U	(1.5)		U	(1.4)		U	(1.5)		U	(1.5)		U	(1.4)		U	(1.5)		U	(1.6)
Vanadium	72.5	21.3			51.3			47.8			40.8			28.1			30.9			43.7			29.2		
Zinc	119.5	74.9			67.1			85.6			70.5	J		61			46.9			80.8			57.6		

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-071						B4A-072						B4A-074						B4A-075					
		B4A-071-000 (0-0.5 ft)			B4A-071-001 (1-2 ft)			B4A-072-000 (0-0.5 ft)			B4A-072-001 (1-2 ft)			B4A-074-000 (0-0.5 ft)			B4A-074-001 (1-2 ft)			B4A-075-000 (0-0.5 ft)			B4A-075-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)		U	(0.5)	0.1	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)	0.5	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)	0.44	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	18000			15400			20300			13400			16200			22500			18200			18500		
Antimony	31		U	(0.52)		U	(0.53)		U	(0.52)		U	(0.48)		U	(0.48)		U	(0.51)		UJ	(0.46)		UJ	(0.44)
Arsenic	13.5	11.4			11.1			11			9			6.2	J		7.9	J		7.5	J		7.3	J	
Barium	440	248			347			264			287			167			216			203			222		
Beryllium	1.52	0.9			0.84			0.93			0.76			0.71			0.97			0.78			0.8		
Cadmium	39	0.45	J		0.29	J		0.27	J		0.28	J			U	(0.13)	0.23	J		0.57	J		0.45	J	
Calcium	GRAS	4630			4900			4570			4550			2810			3980			4520			3570		
Chromium	37	20.8			19.7			22.9			16.4			17			23.3			18.7			18.8		
Cobalt	17.2	12.5			13.1			11.5			10.8			8.8			11.9			9.5			9.7		
Copper	33.9	27.5			28			30.6			25.7			16.6			20.8			18.6			16.4		
Iron	GRAS	24000			23000			24900			20400			17700			23200			19600			20100		
Lead	400	45.7			20.3			20.3			15.6			18.2			17.1			23.8			14		
Magnesium	GRAS	4740			4880			5120			4400			3180			4260			3880			3810		
Manganese	1083	693			767			672			669			501			703			566			564		
Mercury	23		U	(0.14)		U	(0.14)		U	(0.14)		U	(0.14)		U	(0.13)		U	(0.14)		U	(0.13)		U	(0.12)
Nickel	39.3	30.4			32.5			32.7			29.8			19.6			26.3			20.4	J		20.7	J	
Potassium	GRAS	6070			3460			4620			2760			4350			4070			5150			3210		
Selenium	390	2	J		1.4	J		1.8	J			U	(1.1)	1.6	J		2	J			UJ	(1.1)	1.3	J	
Sodium	GRAS	5860			4420			665			8470			1390			3270				U	(328)		U	(312)
Thallium	1.72		U	(1.5)		U	(1.5)		U	(1.5)		U	(1.4)		U	(1.4)		U	(1.5)		U	(1.3)		U	(1.3)
Vanadium	72.5	37.8			29.8			40.9			25.1			34.3			44			39.2			37.6		
Zinc	119.5	85.5			73.2			72.9			65.7			53.8			64.2			63.1			52		

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-8
Analytical Data for Load Line 4 Bomb Production Buildings Adjacent Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4A-076					
		B4A-076-000 (0-0.5 ft)			B4A-076-001 (1-2 ft)		
		R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)							
1,3,5-Trinitrobenzene (1,3,5-TNB)	1.7		U	(0.5)		U	(0.5)
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)
2,4-Dinitrotoluene (2,4-DNT)	0.9		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)
METALS (MG/KG)							
Aluminum	33852	20700			20900		
Antimony	31		UJ	(0.48)		UJ	(0.46)
Arsenic	13.5	8.1	J		7.7	J	
Barium	440	252			226		
Beryllium	1.52		U	(0.85)	0.84		
Cadmium	39	0.4	J		0.27	J	
Calcium	GRAS	4030			3030	J	
Chromium	37	22.8			21.4		
Cobalt	17.2	11.1			9.8		
Copper	33.9	19.8	J		16.1	J	
Iron	GRAS	21800			20800		
Lead	400	25.5	J		14.4	J	
Magnesium	GRAS	4180			3710		
Manganese	1083	657			559		
Mercury	23		U	(0.13)		U	(0.12)
Nickel	39.3	23.6			21.5		
Potassium	GRAS	6010			4160		
Selenium	390	1.4	J		1.9	J	
Sodium	GRAS		U	(340)	187	J	
Thallium	1.72		U	(1.4)		U	(1.3)
Vanadium	72.5	43.2			42.3		
Zinc	119.5	88.4	J		58.4	J	

Note: 1) NA=screening level is not available. 2) R=result,Q=qualifier,QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-9
Analytical Data for Load Line 4 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4B-001			B4B-002			B4B-003			B4B-004			B4B-005			B4B-006			B4B-007			B4B-009			B4B-010		
		B4B-001-000 (0-1 ft)			B4B-002-000 (0-1 ft)			B4B-003-000 (0-1 ft)			B4B-004-000 (0-1 ft)			B4B-005-000 (0-1 ft)			B4B-006-000 (0-1 ft)			B4B-007-000 (0-1 ft)			B4B-009-000 (0-1 ft)			B4B-010-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																												
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																												
Aluminum	33852	10200	J		10600	J		11600	J		15700	J		15100	J		13400	J		15500	J		9600	J		14000	J	
Antimony	31		R			R			R			R			R			UJ	(0.46)		UJ	(0.47)		UJ	(0.46)		R	
Arsenic	13.5	6.5	J		8.3	J		9.1			6.8	J		8.4			9.3			9.3			8.3	J		9.4		
Barium	440	262			179			264			260			209			246			231			217			208	J	
Beryllium	1.52	0.59			0.63			0.67			0.69			0.75			0.72			0.8			0.59			0.75		
Cadmium	39	0.42	J		0.44	J		0.83	J		0.47	J		0.45	J		0.62	J		0.59	J		0.48	J		0.45	J	
Calcium	GRAS	3760			3400			5540			2820			3620			4240			8370			4730			4060		
Chromium	37	11.7			12.5			14.4			16.8			16.2			17.2	J		17.7	J		13	J		16.9		
Cobalt	17.2	8.4			10.5			12.8			10			10.7			9.7			10.6			8.6			10.4		
Copper	33.9	16.6			17.4			20.9			15.5			19.7			22.1	J		22.9	J		18.7	J		21.8		
Iron	GRAS	15500			16900			19200			17500			20000			19500			20500			16000			20100		
Lead	400	12.3			13			13.9			13.9			14.5			13.4			14.6			11.7			14		
Magnesium	GRAS	2900			2860			3770			3020			3710			4060			4780			3450			4080		
Manganese	1083	672			654			948			655			617			618			667			523			597		
Nickel	39.3	20.9			19.4			28.6			18.3			24.1			27			26.4			22.4			26.4		
Potassium	GRAS	2220			2570			2730			3480			2830			2820			3000			2270			2880		
Selenium	390	1.8	J			U	(1.1)	1.6	J			U	(1.1)	1.3	J			U	(1.1)	1.4	J			U	(1.1)		U	(1.1)
Vanadium	72.5	22.2			27.6			26			34.3			29.7			34.6			37.3			25			32.8		
Zinc	119.5	42.9			44.3			53.2			48.3			52.2			56			53.4			47.1			56.9		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-9
Analytical Data for Load Line 4 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4B-011			B4B-012			B4B-013			B4B-014			B4B-015			B4B-016			B4B-017			B4B-018		
		B4B-011-000 (0-1 ft)			B4B-012-000 (0-1 ft)			B4B-013-000 (0-1 ft)			B4B-014-000 (0-1 ft)			B4B-015-000 (0-1 ft)			B4B-016-000 (0-1 ft)			B4B-017-000 (0-1 ft)			B4B-018-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.062	J			U	(0.75)		U	(0.75)		U	(0.75)	0.31	J		0.3	J			U	(0.75)	0.59	J	
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.066	J		0.11	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	13100	J		16200	J		12900	J		13100	J		15000			18300			15300	J		16000		
Antimony	31		UJ	(0.42)		UJ	(0.44)		UJ	(0.44)		UJ	(0.43)		UJ	(0.45)		UJ	(0.49)		UJ	(0.47)		UJ	(0.48)
Arsenic	13.5	8.4			9.5			9.8			7.4	J		9.8			8.4	J		7.6	J		10		
Barium	440	234			285			210			157			194			282			236			302		
Beryllium	1.52	0.71			0.75			0.75			0.72			0.8			0.82			0.76			0.89		
Cadmium	39	0.41	J		0.61	J		0.61	J		0.29	J		0.44	J		0.48	J		0.36	J		0.35	J	
Calcium	GRAS	4070			6220			4260			3250			4540			3180			4030			4200		
Chromium	37	15.4	J		21.1	J		15.3	J		13.8	J		17.5			18.5			15.8	J		16.2		
Cobalt	17.2	9.9			10.4			10.2			9.8			10.7			13.7			10			11.4		
Copper	33.9	22.1	J		24.3	J		22.2	J		15	J		23.6			16.9			19.7	J		25.3		
Iron	GRAS	18400			21300			19200			16600			20500			20100			18100			21400		
Lead	400	13			13.6			13.9			14.2			14.9			14.5			13.7			16.3		
Magnesium	GRAS	3800			4580			3870			3210			4140			3510			3350			4070		
Manganese	1083	595			643			645			619			617			807			567			599		
Nickel	39.3	24.3			26			26.2			19.4			25.9			22.3			21.3			27.2		
Potassium	GRAS	2640			3390			2690			2170			3010			3470			3020			2800		
Selenium	390	1.1	J			U	(1)	1.7	J		1.4	J		1.4	J		1.3	J		1.3	J		1.5	J	
Vanadium	72.5	29.7			43.1			30.7			23.1			33.5			36.7			30.5			31.3		
Zinc	119.5	54			56			54.5			44.9			56.6			54.3			49.6			57.8		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-9
Analytical Data for Load Line 4 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4B-019			B4B-020			B4B-021			B4B-022			B4B-023			B4B-024			B4B-025			B4B-026		
		B4B-019-000 (0-1 ft)			B4B-020-000 (0-1 ft)			B4B-021-000 (0-1 ft)			B4B-022-000 (0-1 ft)			B4B-023-000 (0-1 ft)			B4B-024-000 (0-1 ft)			B4B-025-000 (0-1 ft)			B4B-026-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.24	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.19	J		0.17	J			U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)	0.0053	J			U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	6570			17400	J		14200			13800			13100			17400			12500			14600		
Antimony	31		UJ	(0.42)		R			UJ	(0.47)		UJ	(0.47)		UJ	(0.46)		UJ	(0.47)		UJ	(0.46)		UJ	(0.46)
Arsenic	13.5	4.1	J		9.1			7.4	J		8.1	J		6.6	J		9.5			8.8			7	J	
Barium	440	109			183			197			217			230			198			296			253		
Beryllium	1.52	0.42			0.79			0.73			0.72			0.7			0.89			0.75			0.77		
Cadmium	39	0.16	J		0.46	J		0.39	J		0.37	J		0.38	J		0.41	J		0.45	J		0.39	J	
Calcium	GRAS	1950			3820			3330			3920			3180			3820			3740			3040		
Chromium	37	7.4			18.1			15.2			15.5			15			18.2			13			16.1		
Cobalt	17.2	6.2			10			10.3			10.3			9.9			12			8.3			8.5		
Copper	33.9	9.8			19.6			14.2			18.7			15.6			22			21.8			16.9		
Iron	GRAS	9040			21300			18400			18600			18000			22000			21400			17300		
Lead	400	8.7			13.9			14.5			14.3			14.5			16.8			14			14.4		
Magnesium	GRAS	1610			4030			3310			3550			3220			3940			3400			3160		
Manganese	1083	376			589			639			621			630			701			311			387		
Nickel	39.3	11.2			23.6			18			21.7			17.6			25.1			23			17.7		
Potassium	GRAS	1500			3190			2870			3000			2800			3170			2230			3260		
Selenium	390	1.2	J			U	(1)	1.3	J		1.6	J			U	(1.1)	1.9	J		1.3	J		1.1	J	
Vanadium	72.5	16.1			35.3			30.1			29.9			28.9			35.8			21.5			32.6		
Zinc	119.5	24.4			56.6			56.4			55			58.2			59.7			51.7			55.8		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-9
Analytical Data for Load Line 4 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4B-027			B4B-028			B4B-029			*B4B-030			B4B-031			B4B-032			B4B-033			B4B-034		
		B4B-027-000 (0-1 ft)			B4B-028-000 (0-1 ft)			B4B-029-000 (0-1 ft)			B4B-030-000 (0-1 ft)			B4B-031-000 (0-1 ft)			B4B-032-000 (0-1 ft)			B4B-033-000 (0-1 ft)			B4B-034-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.12	J		0.35	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.1	J		0.038	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	12700			17100			13500			11400	J		10900			13300	J		15200	J		16600		
Antimony	31		UJ	(0.44)		UJ	(0.48)		UJ	(0.45)		UJ	(0.48)		UJ	(0.5)		UJ	(0.48)		UJ	(0.46)		UJ	(0.48)
Arsenic	13.5	7.3	J		8.2	J		5.7	J		9.7			6.3	J		8.1	J		6.8	J		4.3	J	
Barium	440	151			266			152			232			263			211			256			188		
Beryllium	1.52	0.72			0.83			0.71			0.69			0.68			0.73			0.7			0.8		
Cadmium	39	0.32	J		0.58	J		0.39	J		0.6	J		0.5	J		0.48	J		0.37	J		0.96	J	
Calcium	GRAS	3640			3520			3190			4380			3800			3800			3060			3160		
Chromium	37	14.2			18.6			15.2			13.9	J		12.7			14.9	J		27.3	J		17.1		
Cobalt	17.2	9.7			11.2			7.7			12.7			8.5			9.4			10.9			7		
Copper	33.9	18.8			19.3			15.9			21.8	J		19.4			19.7	J		17.4	J		17.8		
Iron	GRAS	16900			19000			14300			21400			15000			18100			18200			16900		
Lead	400	13.5			15.5			12.9			13.6			15.6			13.6			14.2			14		
Magnesium	GRAS	3470			3690			2720			3890			2880			3460			3320			3260		
Manganese	1083	609			436			381			972			324			583			499			158		
Nickel	39.3	21.3			22			15.4			24.8			19.2			23.4			27.9			20.4		
Potassium	GRAS	2370			3500			3050			2570			3460			2760			3240			3530		
Selenium	390	1.2	J		1.1	J			U	(1)	1.4	J		1.7	J			U	(1.1)	1.5	J		1.4	J	
Vanadium	72.5	23.1			36.4			27.5			28.6			26.9			30.2			36.9			35.8		
Zinc	119.5	47.9			60.6			44.5			52.3			51.7			51.1			49			53.6		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-9
Analytical Data for Load Line 4 Bomb Production Buildings Beneath Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	B4B-035			B4B-036			B4B-037			B4B-038		
		B4B-035-000 (0-1 ft)			B4B-036-000 (0-1 ft)			B4B-037-000 (0-1 ft)			B4B-038-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)													
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2	0.056	J			U	(0.5)		U	(0.5)		U	(0.5)
3-Nitrotoluene (3-NT)	NA	0.12	J			U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA	0.3	J			U	(1)		U	(1)		U	(1)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)	0.34	J			U	(0.75)
Nitrobenzene (NB)	NA		U	(2)		U	(2)		U	(2)		U	(2)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.15	J			U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)													
Aluminum	33852	14300			12300	J		12500			12200	J	
Antimony	31		UJ	(0.46)		UJ	(0.44)		UJ	(0.46)		UJ	(0.45)
Arsenic	13.5	9.2			8.9			7	J		7.1	J	
Barium	440	258			190			164			229		
Beryllium	1.52	0.76			0.69			0.7			0.71		
Cadmium	39	0.41	J		0.4	J		0.41	J		0.43	J	
Calcium	GRAS	3770			3330			2900			3410		
Chromium	37	15.7			13.9	J		13.6			13.5	J	
Cobalt	17.2	10.4			9.1			8.6			10.5		
Copper	33.9	22.4			***80.6***	J		15.8			16.9	J	
Iron	GRAS	19500			17400			15900			16500		
Lead	400	14.3			16.4			13			14.2		
Magnesium	GRAS	3910			3460			2840			2970		
Manganese	1083	589			570			533			652		
Nickel	39.3	24.4			22.9			18.3			20.7		
Potassium	GRAS	2870			2340			2670			2630		
Selenium	390	1.6	J		1.6	J		1.4	J		2.4	J	
Vanadium	72.5	31.3			27.6			27.5			27.3		
Zinc	119.5	52			50.3			48.8			47.7		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-10
Analytical Data for Load Line 1 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B1W-005			B1W-006			B1W-007			B1W-008			B1W-009			B1W-010			B1W-011		
	B1W-005-FLR			B1W-006-FLR			B1W-007-NWL			B1W-008-EWL			B1W-009-SWL			B1W-010-WWL			B1W-011-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																					
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0003	J			U	(0.0005)		U	(0.0005)	0.0085				U	(0.0005)		U	(0.0005)	0.013		
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0024				U	(0.0005)		U	(0.0005)	0.0016		
2-Nitrotoluene (2-NT)		U	(0.0008)		U	(0.0008)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.0008)		U	(0.0008)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)	0.0013		
4-Nitrotoluene (4-NT)		U	(0.0008)		U	(0.0008)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.0008)		U	(0.0008)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			R			UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)	0.000072	J			U	(0.0005)		U	(0.0005)	0.0006				U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-10
Analytical Data for Load Line 1 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B1W-012			B1W-013			B1W-014			B1W-015			B1W-016			B1W-017		
	B1W-012-FLR			B1W-013-NWL			B1W-014-EWL			B1W-015-SWL			B1W-016-WWL			B1W-017-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.013			0.00063			0.0062			0.0022				U	(0.0005)		U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	0.0055				U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	0.0056				U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)	0.00029	J	
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00032	J			U	(0.00075)		U	(0.00075)		U	(0.00075)	0.0028			0.0013		
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.00066		

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-10
Analytical Data for Load Line 1 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B1W-018			B1W-019			B1W-020			B1W-021			B1W-022			B1W-023		
	B1W-018-FLR			B1W-019-NWL			B1W-020-EWL			B1W-021-SWL			B1W-022-WWL			B1W-023-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)	0.046			0.0092			0.022			0.00091			0.037		
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)	0.0044			0.00039	J		0.0015				U	(0.0005)	0.0013		
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)	0.0039				U	(0.001)	0.00093	J			U	(0.001)	0.0034		
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)	0.0026				U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)	0.00089			0.00027	J		0.0012			0.00026	J			U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-10
Analytical Data for Load Line 1 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B1W-024			B1W-025			B1W-026			B1W-027			B1W-028			B1W-029		
	B1W-024-FLR			B1W-025-NWL			B1W-026-EWL			B1W-027-SWL			B1W-028-WWL			B1W-029-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0051			0.0082			0.0037			0.031				U	(0.0005)	0.0026		
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	0.0012			0.0015			0.0012			0.0031			0.00043	J			U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.001)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	0.001			0.0008	J		0.0018			0.0046				U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)	0.0027			0.00063	J			U	(0.00075)		U	(0.00075)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)	0.0005				U	(0.0005)	0.0005				U	(0.0005)	0.00013	J	

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-10
Analytical Data for Load Line 1 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B1W-030			B1W-031			B1W-032			B1W-033			B1W-034			B1W-035		
	B1W-030-FLR			B1W-031-NWL			B1W-032-EWL			B1W-033-SWL			B1W-034-WWL			B1W-035-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0005	J		0.00023	J		0.0001	J	
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0016			0.005			0.0036			0.052	J		0.032			0.0037		
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0005	J			U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0089	J			U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0084	J		0.0024			0.001		
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)	0.042	J			U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)	0.0048	J		0.0013			0.0017		
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)	0.042	J			U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		U	(0.00075)		U	(0.00075)	0.00065	J			U	(0.00075)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)	0.002	J			U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)	0.00024	J			U	(0.0005)	0.0029	J		0.00046	J		0.0002	J	

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-10
Analytical Data for Load Line 1 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B1W-036			B1W-037			B1W-038			B1W-039			B1W-040			B1W-041		
	B1W-036-FLR			B1W-037-NWL			B1W-038-EWL			B1W-039-SWL			B1W-040-WWL			B1W-041-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0047			0.0013			0.011	J		0.003			0.0014			0.0022	J	
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)	0.0066	J		0.00052				U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	0.0003	J			U	(0.001)	0.0019	J		0.0019				U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		U	(0.00075)	0.00063	J			U	(0.00075)		U	(0.00075)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-10
Analytical Data for Load Line 1 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B1W-042			B1W-043			B1W-044			B1W-045			B1W-046			B1W-047			B1W-048		
	B1W-042-FLR			B1W-043-NWL			B1W-044-EWL			B1W-045-SWL			B1W-046-WWL			B1W-047-FLR			B1W-048-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																					
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)	0.00025	J		0.00011	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)	0.006			0.0013	J			U	(0.0005)	0.00096	J			U	(0.0005)		U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)	0.0027				U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)	0.0025				U	(0.001)	0.0036				U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)	0.0027				U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)	0.0024				U	(0.00075)	0.0013				U	(0.00075)		U	(0.00075)	0.00036	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		R	
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0017)		U	(0.0005)	0.0029				U	(0.0005)		U	(0.0005)	0.00032	J	

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-10
Analytical Data for Load Line 1 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B1W-049			B1W-050			B1W-051			B1W-052			B1W-053			B1W-054		
	B1W-049-WWL			B1W-050-NWL			B1W-051-EWL			B1W-052-SWL			B1W-053-FLR			B1W-054-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0071			0.0022			0.026			0.0017			0.04	J		0.0016	J	
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)	0.0025				U	(0.0005)	0.0024	J			U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		R			UJ	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0012)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-10
Analytical Data for Load Line 1 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B1W-059			B1W-060			B1W-061			B1W-062			B1W-063			B1W-064		
	B1W-059-FLR			B1W-060-FLR			B1W-061-NWL			B1W-062-EWL			B1W-063-SWL			B1W-064-WWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		R			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)	0.0013			0.0072			0.003			0.0034		
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)	0.0012			0.0025		
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)	0.00047				U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00037	J		0.00023	J			U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			U	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-10
Analytical Data for Load Line 1 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B1W-065			B1W-066			B1W-067			B1W-068			B1W-069			B1W-070			B1W-071		
	B1W-065-FLR			B1W-066-FLR			B1W-067-NWL			B1W-068-EWL			B1W-069-SWL			B1W-070-WWL			B1W-071-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																					
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0032	J			U	(0.0005)	0.0048				UJ	(0.0005)	0.0023			0.015			0.0011		
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)	0.00079			0.0026				U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)	0.0016				UJ	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)					U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			R			UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		R	
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		UJ	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.00022	J			U	(0.0005)	0.00049	J			U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-10
Analytical Data for Load Line 1 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B1W-072			B1W-073			B1W-074			B1W-075			B1W-076			B1W-077		
	B1W-072-FLR			B1W-073-NWL			B1W-074-EWL			B1W-075-SWL			B1W-076-WWL			B1W-077-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)	0.00095	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0012)	0.036	J		0.017	J		0.072			0.048				U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0068			0.007				U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)	0.0049	J		0.0031			0.0045				U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00022	J			U	(0.00075)	0.0015	J		0.0088			0.042				U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		R	
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)	0.002	J			U	(0.0005)	0.002			0.0067				U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-10
Analytical Data for Load Line 1 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B1W-078		
	B1W-078-FLR		
	R	Q	QL
EXPLOSIVES (MG/WIPE)			
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00066	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		U	(0.00075)
Nitrobenzene (NB)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00071		

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-11
Analytical Data for Load Line 2 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B2W-001						B2W-002						B2W-003						B2W-004		
	B2W-001-NWL			B2W-001-RNW			B2W-002-EWL			B2W-002-REW			B2W-003-SWL			B2W-003-RSW			B2W-004-WWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																					
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)	0.00061	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.1				U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.16			0.018			0.012				U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0012	J	
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)	0.021	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	0.0028			0.0035				U	(0.0005)	0.0079				U	(0.0005)		U	(0.0005)	0.0019	J	
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	0.005				U	(0.001)	0.012				U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0035				U	(0.0011)	0.0083				U	(0.00075)	0.00063	J			U	(0.00075)	0.0013	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		U	(0.00075)		U	(0.00075)		R			U	(0.00075)		UJ	(0.00075)		U	(0.00075)		UJ	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00046	J			U	(0.0005)	0.00065				U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.00085)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-11
Analytical Data for Load Line 2 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B2W-005						B2W-006			B2W-007					
	B2W-005-FLR			B2W-005-RFL			B2W-006-FLR			B2W-007-NWL			B2W-007-RNW		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)															
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)	0.00092				U	(0.0005)		U	(0.0005)	0.00056		
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)	0.00022				U	(0.0005)	0.00039	J			U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)	0.00047	J			U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0042	J		0.0043			0.0045			0.0036				U	(0.0015)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			U	(0.00075)		R			R			U	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.003	J			U	(0.0005)	0.0022			0.00043	J			U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-11
Analytical Data for Load Line 2 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B2W-008						B2W-009			B2W-010			B2W-011					
	B2W-008-EWL			B2W-008-REW			B2W-009-SWL			B2W-010-WWL			B2W-011-FLR			B2W-011-RFL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.033			0.0091				U	(0.0005)		U	(0.0005)	0.00058			0.0027		
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.00017		
2,6-Dinitrotoluene (2,6-DNT)	0.0065	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0025)	0.0069				U	(0.0005)		U	(0.0005)		U	(0.0005)	0.00053		
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.0025)	0.0047				U	(0.001)		U	(0.001)		U	(0.001)	0.00051		
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.014			0.0095			0.0022	J		0.11	J		0.0022				U	(0.00096)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			U	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		R			U	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0022				U	(0.0005)		U	(0.0019)		U	(0.0068)	0.0013			0.00062		

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-11
Analytical Data for Load Line 2 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B2W-012			B2W-013						B2W-014			B2W-015			B2W-016		
	B2W-012-FLR			B2W-013-NWL			B2W-013-RNW			B2W-014-EWL			B2W-015-SWL			B2W-016-WWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)	0.004			0.0064	J		0.0023	J		0.0049	J		0.0058	J	
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)	0.0053	J		0.0038	J		0.0042	J		0.0043	J	
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)	0.0075	J			U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)	0.0008	J		0.0017	J		0.00055	J			U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)	0.0075	J			U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00088			0.006			0.017	J		0.0028	J		0.0065	J		0.0039	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			R			UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)	0.00052				UJ	(0.0005)		U	(0.00078)		U	(0.0014)		U	(0.00096)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-11
Analytical Data for Load Line 2 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B2W-017						B2W-018			B2W-019			B2W-020			B2W-021		
	B2W-017-FLR			B2W-017-RFL			B2W-018-FLR			B2W-019-NWL			B2W-020-EWL			B2W-021-SWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.046			0.0014			0.0032			1.1			0.0092	J		0.055		
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0011				U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	0.0055				U	(0.0005)		R		0.023				U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	0.0039			0.001				U	(0.001)	0.018				U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.26			0.011			0.01			0.12			0.0017	J		0.013	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			U	(0.00075)		U	(0.00075)		R			UJ	(0.00075)		UJ	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.071			0.0067			0.0046			0.0053				U	(0.0005)		UJ	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-11
Analytical Data for Load Line 2 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B2W-022			B2W-023			B2W-024			B2W-025			B2W-026			B2W-027		
	B2W-022-WWL			B2W-023-FLR			B2W-024-FLR			B2W-025-NWL			B2W-026-EWL			B2W-027-SWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.034			0.0027			0.016			0.0044				UJ	(0.004)	0.0058	J	
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)	0.0002	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)	0.00056			0.0042				U	(0.0005)		UJ	(0.011)	0.0074	J	
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)	0.00049	J		0.0017			0.007				U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.013			0.16			0.14			0.00096				U	(0.00075)	0.002	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		R			R			R			UJ	(0.00075)		UJ	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0019			0.065			0.056			0.00023	J			U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-11
Analytical Data for Load Line 2 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B2W-028			B2W-029			B2W-030			B2W-031			B2W-032			B2W-033		
	B2W-028-WWL			B2W-029-FLR			B2W-030-FLR			B2W-031-NWL			B2W-032-EWL			B2W-033-SWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0056	J		0.00082			0.0012				U	(0.0005)		U	(0.0005)	0.0066		
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	0.005	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.00053		
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0012	J		0.0078			0.0055			0.0015			0.0014	J		0.0018		
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		R			R			R			UJ	(0.00075)		UJ	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)	0.00097						0.00091				U	(0.00087)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-11
Analytical Data for Load Line 2 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B2W-034			B2W-035			B2W-036			B2W-037			B2W-038			B2W-039		
	B2W-034-WWL			B2W-035-FLR			B2W-036-FLR			B2W-037-NWL			B2W-038-EWL			B2W-039-SWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0066	J		0.00074			0.14			0.0021	J			U	(0.00053)		U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)	0.0011				U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)	0.0057			0.0062	J			U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.0075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)	0.0042				U	(0.001)		U	(0.001)	0.00041	J	
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0016	J		0.0084			0.064			0.0062	J		0.0037	J			U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		R			R			UJ	(0.00075)		R			R	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)	0.023			0.019				U	(0.0005)	0.00052	J			U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-11
Analytical Data for Load Line 2 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B2W-040			B2W-041			B2W-042			B2W-043			B2W-044			B2W-045			B2W-046		
	B2W-040-WWL			B2W-041-FLR			B2W-042-FLR			B2W-043-NWL			B2W-044-EWL			B2W-045-SWL			B2W-046-WWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																					
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		UJ	(0.000758)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		UJ	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0042	J		0.0031	J		0.00032	J		0.0017	J			U	(0.00075)		U	(0.00075)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		R			R			UJ	(0.00075)		R			R			R	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		UJ	(0.0005)	0.00074	J			U	(0.0005)	0.0013	J			U	(0.0005)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-11
Analytical Data for Load Line 2 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B2W-047			B2W-048			B2W-049			B2W-050			B2W-051			B2W-052			B2W-053		
	B2W-047-FLR			B2W-048-FLR			B2W-049-WWL			B2W-050-NWL			B2W-051-EWL			B2W-052-SWL			B2W-053-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																					
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)	0.061	J			U	(0.0005)	0.021	J			U	(0.0005)		U	(0.0005)		U	(0.00054)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0032	J			U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)	0.0034	J			U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.078	J			U	(0.00075)		U	(0.00075)	0.01	J		0.0018	J			U	(0.00075)	0.00015	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			R			R			UJ	(0.00075)		U	(0.00075)		R			R	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.012	J			U	(0.0005)		U	(0.0005)		U	(0.0005)	0.00071	J			U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-11
Analytical Data for Load Line 2 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B2W-054			B2W-055			B2W-056			B2W-057			B2W-058			B2W-059			B2W-060		
	B2W-054-FLR			B2W-055-WWL			B2W-056-NWL			B2W-057-EWL			B2W-058-SWL			B2W-059-FLR			B2W-060-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																					
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.00055)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)	0.0024				UJ	(0.00075)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		UJ	(0.001)		UJ	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		U	(0.00075)	0.024				UJ	(0.00075)	0.0024	J			U	(0.00075)	0.0011	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			R			R			R			UJ	(0.00075)		R			R	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)	0.00075				UJ	(0.0005)	0.00039	J		0.00021	J		0.00078	J	

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-11
Analytical Data for Load Line 2 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B2W-061			B2W-062			B2W-063			B2W-064			B2W-065			B2W-066			B2W-073		
	B2W-061-NWL			B2W-062-EWL			B2W-063-SWL			B2W-064-WWL			B2W-065-FLR			B2W-066-FLR			B2W-073-NWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																					
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)	0.0018	J		0.0012				U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)	0.00047	J		0.0094	J		0.0028			0.0037			0.01				U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			R			R			R			UJ	(0.00075)		R			R	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.00026	J		0.0004	J		0.00054				U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-11
Analytical Data for Load Line 2 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B2W-074			B2W-075			B2W-076			B2W-077			B2W-078		
	B2W-074-EWL			B2W-075-SWL			B2W-076-WWL			B2W-077-FLR			B2W-078-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)															
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)	0.0016	J			U	(0.0005)		U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0003	J			U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.0008)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)	0.00062	J			U	(0.0008)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.0008)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		U	(0.0008)		U	(0.00075)	0.0015	J			U	(0.0008)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		R			UJ	(0.00075)		R			R	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-12
Analytical Data For Load Line 3 Bomb Production Buildings Surface Wipe Samlping
Former Nebraska Ordnance Plant, Mead, Nebraska

	B3W-001			B3W-002			B3W-003			B3W-004			B3W-005			B3W-006			B3W-007		
	B3W-001-NWL			B3W-002-EWL			B3W-003-SWL			B3W-004-WWL			B3W-005-FLR			B3W-006-FLR			B3W-007-NWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																					
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.00057			0.0005	J		0.00037	J	
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		U	(0.00075)	0.002				U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			UJ	(0.00075)		R			R			R			R			UJ	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-12
Analytical Data For Load Line 3 Bomb Production Buildings Surface Wipe Samlping
Former Nebraska Ordnance Plant, Mead, Nebraska

	B3W-008			B3W-009			B3W-010			B3W-011			B3W-012			B3W-013		
	B3W-008-EWL			B3W-009-SWL			B3W-010-WWL			B3W-011-FLR			B3W-012-FLR			B3W-013-NWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		R			U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		R			U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)		U	(0.00076)	0.002	J			R		0.00093	J	
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		R			U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		R			U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		R			U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		R			U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		R			U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		R			U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		R			U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00048	J			U	(0.00075)	0.00056	J		0.00016	J			R			U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		R			R	
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		R			U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		R			U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-12
Analytical Data For Load Line 3 Bomb Production Buildings Surface Wipe Samlping
Former Nebraska Ordnance Plant, Mead, Nebraska

	B3W-014			B3W-015			B3W-016			B3W-017			B3W-018			B3W-019			B3W-020		
	B3W-014-EWL			B3W-015-SWL			B3W-016-WWL			B3W-017-FLR			B3W-018-FLR			B3W-019-NWL			B3W-020-EWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																					
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)		R			U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		R			U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0069	J		0.023	J			U	(0.0005)	0.0062	J			R			U	(0.0005)	0.98	J	
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		R			U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		R			U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0027	J			R			U	(0.0005)	0.021	J	
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		R			U	(0.0008)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		R			U	(0.0008)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	0.00065	J			U	(0.001)		U	(0.001)	0.0054	J			R			U	(0.001)	0.0046	J	
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		R			U	(0.0008)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00078	J		0.0066	J			U	(0.00075)	0.00034	J			R			U	(0.0008)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		R			R			R	
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		R			U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		R			U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-12
Analytical Data For Load Line 3 Bomb Production Buildings Surface Wipe Samlping
Former Nebraska Ordnance Plant, Mead, Nebraska

	B3W-021			B3W-022			B3W-023			B3W-024			B3W-025			B3W-026		
	B3W-021-SWL			B3W-022-WWL			B3W-023-FLR			B3W-024-FLR			B3W-025-NWL			B3W-026-EWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00084	J		0.092	J		0.015	J		0.017	J			U	(0.0005)	0.0015	J	
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)	0.0022	J		0.00081	J			U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)	0.002	J		0.00078	J			U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00038	J			U	(0.00075)	0.0035	J		0.0018	J			U	(0.0008)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			R			R			U	(0.00075)		R			R	
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.00031)		U	(0.0005)	0.00035	J		0.00063	J		0.0001	J			U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-12
Analytical Data For Load Line 3 Bomb Production Buildings Surface Wipe Samlping
Former Nebraska Ordnance Plant, Mead, Nebraska

	B3W-027			B3W-028			B3W-029			B3W-030			B3W-031		
	B3W-027-SWL			B3W-028-WWL			B3W-029-FLR			B3W-030-FLR			B3W-031-NWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)															
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0092	J		0.00099	J		0.045	J		0.0055	J		0.51	J	
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.012	J	
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)	0.0006	J		0.0014	J		0.0455	J	
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)	0.003	J		0.0013	J			U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00016	J			U	(0.00075)		U	(0.00075)		U	(0.0008)	0.0946	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			R			U	(0.00075)		R			U	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-12
Analytical Data For Load Line 3 Bomb Production Buildings Surface Wipe Samlping
Former Nebraska Ordnance Plant, Mead, Nebraska

	B3W-032			B3W-033			B3W-034			B3W-035			B3W-036			B3W-037		
	B3W-032-EWL			B3W-033-SWL			B3W-034-WWL			B3W-035-FLR			B3W-036-FLR			B3W-037-NWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)	0.0018	J			U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.16	J		0.0046	J		0.09	J		0.011	J		0.0029	J			U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	0.0134	J			U	(0.0005)		U	(0.0005)	0.0023	J		0.00063	J			U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	0.0011	J			U	(0.001)		U	(0.001)	0.0021	J		0.00065	J			U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0155	J			U	(0.00075)		U	(0.00075)	0.0039	J		0.0015	J			U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			R			R			U	(0.00075)		R			UJ	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)	0.1	J			U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.00065	J		0.00022	J			U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-12
Analytical Data For Load Line 3 Bomb Production Buildings Surface Wipe Samlping
Former Nebraska Ordnance Plant, Mead, Nebraska

	B3W-038			B3W-039			B3W-040			B3W-041			B3W-042			B3W-043			B3W-044		
	B3W-038-EWL			B3W-039-SWL			B3W-040-WWL			B3W-041-FLR			B3W-042-FLR			B3W-043-NWL			B3W-044-EWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																					
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0001	J			U	(0.0005)	0.0024			0.00093	J	
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.0008)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.0008)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.0008)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0012	J			U	(0.00075)		U	(0.00075)	0.0001	J			U	(0.0008)	0.0026			0.0011	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		R			R			UJ	(0.00075)		UJ	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-12
Analytical Data For Load Line 3 Bomb Production Buildings Surface Wipe Samlping
Former Nebraska Ordnance Plant, Mead, Nebraska

	B3W-045			B3W-046			B3W-047			B3W-048			B3W-049			B3W-050		
	B3W-045-SWL			B3W-046-WWL			B3W-047-FLR			B3W-048-FLR			B3W-049-WWL			B3W-050-NWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)	0.0016				U	(0.0005)	0.0003	J			U	(0.0005)		U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)	0.00031	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.0008)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.0008)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.0008)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)	0.00092				U	(0.0008)		U	(0.0008)		U	(0.00075)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		UJ	(0.00075)		UJ	(0.00075)		R			R			UJ	(0.00075)		UJ	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)	0.0002	J		0.0001	J			U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-12
Analytical Data For Load Line 3 Bomb Production Buildings Surface Wipe Samlping
Former Nebraska Ordnance Plant, Mead, Nebraska

	B3W-051			B3W-052			B3W-053			B3W-054			B3W-055			B3W-056		
	B3W-051-EWL			B3W-052-SWL			B3W-053-FLR			B3W-054-FLR			B3W-055-WWL			B3W-056-NWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00018	J		0.0031				U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0033				U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.0008)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.0008)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)	0.0019				U	(0.001)	0.0004	J		0.0033				U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.0008)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		U	(0.00075)	0.0003	J			U	(0.0008)		U	(0.00075)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		U	(0.00075)		U	(0.00075)		R			R			U	(0.00075)		U	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0004)		U	(0.0005)		U	(0.0005)	0.000014	J			U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-12
Analytical Data For Load Line 3 Bomb Production Buildings Surface Wipe Samlping
Former Nebraska Ordnance Plant, Mead, Nebraska

	B3W-057			B3W-058			B3W-059			B3W-060			B3W-061			B3W-062		
	B3W-057-EWL			B3W-058-SWL			B3W-059-FLR			B3W-060-FLR			B3W-061-NWL			B3W-062-EWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		R			R	
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.001)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0037				U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0051	J			U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.001)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.001)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.001)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.0008)		U	(0.0015)	0.0016	J	
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.0008)		U	(0.0015)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	0.00091	J			U	(0.001)		U	(0.001)		U	(0.001)	0.0051	J		0.0084	J	
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.0008)		U	(0.0008)		U	(0.0015)	0.0016	J	
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)	0.0035			0.0016	J			U	(0.0008)	0.023	J			U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		U	(0.00075)		U	(0.00075)		R			R			R			R	
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.004)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0029	J			UJ	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-12
Analytical Data For Load Line 3 Bomb Production Buildings Surface Wipe Samlping
Former Nebraska Ordnance Plant, Mead, Nebraska

	B3W-063			B3W-064			B3W-065			B3W-066			B3W-067			B3W-068		
	B3W-063-SWL			B3W-064-WWL			B3W-065-FLR			B3W-066-FLR			B3W-067-NWL			B3W-068-EWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		R			R			R			R			R			R	
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.009	J		0.002	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)	0.00039	J			U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)	0.0004	J		0.0011	J			U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	0.0065	J		0.0057	J			U	(0.001)		U	(0.001)	0.011	J		0.017	J	
4-Nitrotoluene (4-NT)	0.00039	J			U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00069	J		0.00043	J			U	(0.00075)	0.00051	J			U	(0.00075)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			R			R			R			R		0.0017	J	
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-12
Analytical Data For Load Line 3 Bomb Production Buildings Surface Wipe Samlping
Former Nebraska Ordnance Plant, Mead, Nebraska

	B3W-069			B3W-070			B3W-071			B3W-072			B3W-073			B3W-074		
	B3W-069-SWL			B3W-070-WWL			B3W-071-FLR			B3W-072-FLR			B3W-073-NWL			B3W-074-EWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		R			R			R			R		0.0013	J			R	
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)	0.003				U	(0.0005)		U	(0.0005)	0.016			0.0022	J	
2,4-Dinitrotoluene (2,4-DNT)	0.00026	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)	0.007			0.0016				U	(0.00075)		U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)	0.0011	J		0.00089			0.0013			0.0014			0.0042				U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	0.012	J		0.0075				U	(0.001)		U	(0.001)	0.0033			0.0016	J	
4-Nitrotoluene (4-NT)		U	(0.00075)	0.007			0.0016				U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)	0.00078				U	(0.00075)		U	(0.00075)	0.00096			0.0059	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	0.00056	J			R			R			R		0.019	J			R	
Nitrobenzene (NB)		U	(0.002)		U	(0.002)	0.003				U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-12
Analytical Data For Load Line 3 Bomb Production Buildings Surface Wipe Samlping
Former Nebraska Ordnance Plant, Mead, Nebraska

	B3W-075			B3W-076			B3W-077			B3W-078		
	B3W-075-SWL			B3W-076-WWL			B3W-077-FLR			B3W-078-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)												
1,3,5-Trinitrobenzene (1,3,5-TNB)		R		0.00068	J			R			U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)	0.00018	J			U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.018			0.026				U	(0.0005)		U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)	0.0057	U	(0.0005)	0.0085				U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)	0.0047				U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)	0.0014				U	(0.00075)		U	(0.00075)
3-Nitrotoluene (3-NT)		U	(0.00075)	0.096				U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	0.0087	U	(0.001)	0.0049				U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)	0.0014				U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0015			0.0014				U	(0.00075)		U	(0.00075)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)		R			R			R			U	(0.00075)
Nitrobenzene (NB)		U	(0.002)	0.093				U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-13
Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B4W-001			B4W-002			B4W-003			B4W-004			B4W-005			B4W-006		
	B4W-001-NWL			B4W-002-EWL			B4W-003-SWL			B4W-004-WWL			B4W-005-FLR			B4W-006-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00082				U	(0.0005)	0.003				U	(0.00057)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)	0.0021				U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		U	(0.00075)		U	(0.0075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.00074)		U	(0.0005)		U	(0.0028)		U	(0.0005)	0.00054	J			U	(0.00075)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-13
Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B4W-007			B4W-008			B4W-009			B4W-010			B4W-011			B4W-012			B4W-013		
	B4W-007-NWL			B4W-008-EWL			B4W-009-SWL			B4W-010-WWL			B4W-011-FLR			B4W-012-FLR			B4W-013-NWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																					
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0013	J			U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)	0.00066	J			U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)	0.0026	J			U	(0.00075)		U	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.00049	J			U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-13
Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B4W-014			B4W-015			B4W-016			B4W-017			B4W-018			B4W-019		
	B4W-014-EWL			B4W-015-SWL			B4W-016-WWL			B4W-017-FLR			B4W-018-FLR			B4W-019-NWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0002)		UJ	(0.00056)	0.04		
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)	0.0011	J			U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0022		
2-Nitrotoluene (2-NT)		U	(0.00075)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)	0.00076	J			U	(0.001)		U	(0.001)	0.00083	J		0.00088	J	
4-Nitrotoluene (4-NT)		U	(0.00075)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)	0.0025	J			U	(0.00075)		U	(0.00075)	0.0027	J		0.053		
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)	0.00044	J			U	(0.00075)	0.0027		

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-13
Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B4W-020			B4W-021			B4W-022			B4W-023			B4W-024		
	B4W-020-EWL			B4W-021-SWL			B4W-022-WWL			B4W-023-FLR			B4W-024-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)															
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.094)	0.0083			0.0071				U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	0.0051			0.00037	J			U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	0.0026			0.00045	J			U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.081			0.026			0.0026			0.00066	J		0.00064	J	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.0076			0.0028			0.00033	J			U	(0.0005)	0.00085		

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-13
Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B4W-025			B4W-026			B4W-027			B4W-028			B4W-029			B4W-030		
	B4W-025-NWL			B4W-026-EWL			B4W-027-SWL			B4W-028-WWL			B4W-029-FLR			B4W-030-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)	0.0014			0.0007				U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0012	J			U	(0.00075)	0.00038	J			U	(0.00075)		U	(0.00075)		U	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-13
Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B4W-031			B4W-032			B4W-033			B4W-034			B4W-035		
	B4W-031-NWL			B4W-032-EWL			B4W-033-SWL			B4W-034-WWL			B4W-035-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)															
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)	0.00053	J			UJ	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0007			0.0006	J		0.0092			0.00044	J		0.00099		
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)	0.00054				U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0007	J		0.0016	J		0.0053				U	(0.00075)	0.0063		
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00082			0.00097	J		0.00049	J			U	(0.0005)	0.0038		

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-13
Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B4W-036			B4W-037			B4W-038			B4W-039			B4W-040			B4W-041		
	B4W-036-FLR			B4W-037-NWL			B4W-038-EWL			B4W-039-SWL			B4W-040-WWL			B4W-041-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)	0.00049	J			U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00023	J		0.00032	J			U	(0.0005)		U	(0.0005)	0.00026	J			U	(0.00075)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-13
Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B4W-042			B4W-043			B4W-044			B4W-045			B4W-046			B4W-047		
	B4W-042-FLR			B4W-043-NWL			B4W-044-EWL			B4W-045-SWL			B4W-046-WWL			B4W-047-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0014	J	
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)	0.0076				U	(0.00075)		U	(0.00075)	0.00031	J		0.00097	J	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.00075)	0.00039	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.00075)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-13
Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B4W-048			B4W-049			B4W-050			B4W-051			B4W-052		
	B4W-048-FLR			B4W-049-WWL			B4W-050-NWL			B4W-051-EWL			B4W-052-SWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)															
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)	0.0014	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)	0.00032	J			U	(0.0005)	0.000096	J		0.0004	J	
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)	0.0086	J			U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)	0.0086	J			U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.00075)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-13
Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B4W-053			B4W-054			B4W-055			B4W-056			B4W-057			B4W-058		
	B4W-053-FLR			B4W-054-FLR			B4W-055-WWL			B4W-056-NWL			B4W-057-EWL			B4W-058-SWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		UJ	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00088	J			U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00021	J		0.00021	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-13
Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B4W-059			B4W-060			B4W-061			B4W-062			B4W-063			B4W-064		
	B4W-059-FLR			B4W-060-FLR			B4W-061-NWL			B4W-062-EWL			B4W-063-SWL			B4W-064-WWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)	0.0039				U	(0.0005)		U	(0.0005)	0.004		
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)	0.00075				U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)	0.006	J			U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)	0.00024	J			U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)	0.006	J			U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)	0.00041	J		0.0095				U	(0.00075)		U	(0.0075)	0.0062		
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00022	J			U	(0.0005)	0.0015				U	(0.0005)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-13
Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B4W-065			B4W-066			B4W-067			B4W-068			B4W-069			B4W-070		
	B4W-065-FLR			B4W-066-FLR			B4W-067-NWL			B4W-068-EWL			B4W-069-SWL			B4W-070-WWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)	0.00011	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00011	J			U	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0038)		UJ	(0.00065)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)	0.0021	J			U	(0.001)	0.0025	J		0.0012	J	
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)	0.00028	J			U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-13
Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B4W-071			B4W-072			B4W-073			B4W-074			B4W-075			B4W-076		
	B4W-071-FLR			B4W-072-FLR			B4W-073-NWL			B4W-074-EWL			B4W-075-SWL			B4W-076-WWL		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.0022				U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)	0.00077	J			U	(0.0005)		U	(0.0005)	0.00035	J	
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)	0.00021	J			U	(0.0005)	0.000056	J			U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-13
Analytical Data For Load Line 4 Bomb Production Buildings Surface Wipe Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	B4W-077			B4W-078		
	B4W-077-FLR			B4W-078-FLR		
	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)						
1,3,5-Trinitrobenzene (1,3,5-TNB)		U	(0.0005)		U	(0.0005)
1,3-Dinitrobenzene (1,3-DNB)		U	(0.0005)		U	(0.0005)
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)
2,6-Dinitrotoluene (2,6-DNT)		U	(0.0005)		U	(0.0005)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)		U	(0.0005)		U	(0.0005)
2-Nitrotoluene (2-NT)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)
4-Nitrotoluene (4-NT)		U	(0.00075)		U	(0.00075)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		U	(0.00075)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-14
Analytical Data for Load Line 1 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P1A-001						P1A-002						P1A-003						P1A-004						P1A-005					
		P1A-001-000 (0-0.5 ft)			P1A-001-001 (1-2 ft)			P1A-002-000 (0-0.5 ft)			P1A-002-001 (1-2 ft)			P1A-003-000 (0-0.5 ft)			P1A-003-001 (1-2 ft)			P1A-004-000 (0-0.5 ft)			P1A-004-001 (1-2 ft)			P1A-005-000 (0-0.5 ft)			P1A-005-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																															
Aluminum	33852	13000			12600			13900	J		18800	J		15900			18700			11400	J		17600			12400			15500		
Antimony	31	0.8	J		0.62	J			UJ	(0.43)		UJ	(0.46)	***40.3***	J		3.6	J			UJ	(0.44)	0.6	J		5.6	J		0.98	J	
Arsenic	13.5	8.3	J		9.3			6.4	J		9.4			8.5			8.1	J		9.6			6.9	J		5.2	J		5.9	J	
Barium	440	240			259			236			310			246			276			270			259			261			249		
Beryllium	1.52	0.66			0.69			0.67			0.92			0.77			0.82			0.66			0.81			0.67			0.78		
Cadmium	39	0.74	J		0.46	J		0.29	J		0.29	J		0.32	J	-		U	(0.12)	0.27	J		0.22	J		0.52	J		0.15	J	
Calcium	GRAS	5740			5870			3440	J		4340	J		4970			4090			4350	J		3400			4680			3030		
Chromium	37	23			18			16.9	J		21.5	J		28.8			20.6			14.7	J		18.8			22			17.4		
Cobalt	17.2	9.4			10.5			9.6			12.2			10.8			10.3			9.7			10.4			9.9			10.7		
Copper	33.9	28.8			23.2			18.3			24.5			31.8			16.8			20.3			17.5			33.1			16.9		
Iron	GRAS	18000			18700			17200			22500			20300			21700			18700			20000			15900			18000		
Lead	400	260			40.4			17.8			16.3			108			17.3			13.6			14.3			127			17.9		
Magnesium	GRAS	3690	J		3640	J		3890			4950			3960	J		4050	J		4020	J		3720	J		3080	J		3180	J	
Manganese	1083	505			667			545			733			574			632			610			656			638			617		
Mercury	23		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.11)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.12)
Nickel	39.3	23.2	J		25.6	J		18.8			27.5			25.4	J		20.3	J		24.5	J		20.9	J		19.9	J		19	J	
Potassium	GRAS	3600	J		3300	J		4660			4340			4490	J		3750	J		2750	J		3400	J		4120	J		3670	J	
Selenium	390	1.3	J			U	(1.1)		U	(1)		U	(1.1)	1.5	J		1.4	J			U	(1)	1.6	J		1.9	J		1.4	J	
Sodium	GRAS	185	J		215	J			U	(306)		U	(329)	97	J		88.4	J			U	(314)		U	(321)		U	(350)		U	(32.7)
Thallium	1.72		U	(1.3)		U	(1.4)		U	(1.2)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)	1.5	J			U	(1.4)		U	(1.3)
Vanadium	72.5	26.2			24			30.2			39.1			33.9			35.2			24.7			34.5			30.4			34.5		
Zinc	119.5	***137***			73.5			53.1	J		60.7	J		***123***			64.3			57.5	J		68.7			110			64.2		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-14
Analytical Data for Load Line 1 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P1A-006						P1A-007						P1A-008						P1A-009						P1A-010					
		P1A-006-000 (0-0.5 ft)			P1A-006-001 (1-2 ft)			P1A-007-000 (0-0.5 ft)			P1A-007-001 (1-2 ft)			P1A-008-000 (0-0.5 ft)			P1A-008-001 (1-2 ft)			P1A-009-000 (0-0.5 ft)			P1A-009-001 (1-2 ft)			P1A-010-000 (0-0.5 ft)			P1A-010-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																															
Aluminum	33852	16100			14300			13400			12400			13400			17600			13100			15600			17400			17000		
Antimony	31	6.4	J		0.49	J		0.83	J			UJ	(0.46)	7.2	J			UJ	(0.46)	2.1	J			UJ	(0.45)	0.54	J			UJ	(0.47)
Arsenic	13.5	6.6	J		5.7	J		6.9	J		8.3	J		5.9	J		6.8	J		7.4	J		7.5	J		7.9	J		9.2		
Barium	440	250			266			246			262			252			240			215			241			241			244		
Beryllium	1.52	0.72			0.77			0.65			0.69			0.7			0.81			0.68			0.79			0.8			0.81		
Cadmium	39	0.93	J			U	(0.12)	0.25	J		0.18	J		2.3				U	(0.12)	0.98	J		0.2	J			U	(0.13)		U	(0.12)
Calcium	GRAS	5630			3180			6830			4350			9660			3040			4860			4420			3470			3500		
Chromium	37	25.2			16.3			17.1			15.2			31			19.5			22.4			23.8			18.9			17.9		
Cobalt	17.2	9.8			11.1			8.4			9.9			8.8			11.2			9.4			12.7			10.5			11		
Copper	33.9	23.3	J		17.5			21.4			21.1			***53.6***			16.6			***36.3***			16.1			21.3			18.3		
Iron	GRAS	17200			17100			17800			19300			16200			19600			16500			18900			19700			21100		
Lead	400	164	J		14.4			30.3			14.1			148			16.9			95.7	J		17.1	J		20.8			15.5		
Magnesium	GRAS	3680			3010	J		4270	J		4010	J		3360	J		3370	J		3330			3310			3570			4040		
Manganese	1083	614			727			489			612			440			624			542			767			610			663		
Mercury	23		U	(0.12)		U	(0.13)		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.11)		U	(0.11)		U	(0.12)
Nickel	39.3	20.6			19	J		20.9	J		24.6	J		***49.5***	J		19.6	J		21.1			20			19.7			22.2		
Potassium	GRAS	4350			3580	J		4290	J		2680	J		3580	J		4300	J		4490			3340			3630			2600		
Selenium	390	1.7	J		1.3	J		1.2	J		1.4	J			U	(1.1)		U	(1.1)		U	(1.1)		U	(1)	1.2	J		1.1	J	
Sodium	GRAS	40.2	J			U	(31.7)		U	(320)		U	(329)		U	(337)		U	(324)		U	(336)		U	(321)		U	(34)		U	(332)
Thallium	1.72		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)
Vanadium	72.5	38.3			32.8			34.7			25.2			29.3			38.6			30.9			31.1			36			32.9		
Zinc	119.5	92			59.8			61.1			60.8			118			64.8			101			65			63.7			56.2		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-14
Analytical Data for Load Line 1 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P1A-011						P1A-012						P1A-013						P1A-014					
		P1A-011-000 (0-0.5 ft)			P1A-011-001 (1-2 ft)			P1A-012-000 (0-0.5 ft)			P1A-012-001 (1-2 ft)			P1A-013-000 (0-0.5 ft)			P1A-013-001 (1-2 ft)			P1A-014-000 (0-0.5 ft)			P1A-014-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	17200			14200			16200			17600			14400			15200			17300			15200		
Antimony	31	0.65	J			UJ	(0.45)	1.3	J			UJ	(0.44)		UJ	(4.5)	0.66	J		0.56	J			UJ	(0.43)
Arsenic	13.5	7.7	J		6	J		7.1	J		8.7			9.4			7.7	J		7.9	J		7.6	J	
Barium	440	224			262			231			240			232			251			270			240		
Beryllium	1.52	0.79			0.73			0.76			0.83			0.77			0.77			0.78			0.73		
Cadmium	39	0.2	J			U	(0.12)	0.3	J		0.18	J		0.32	J			U	(0.11)	0.15	J			U	(0.11)
Calcium	GRAS	3060			3470			3420			3430			4420			3860			3600			3500		
Chromium	37	19.1			16.3			18.4			18.6			20.5			16.8			19.2			16.5		
Cobalt	17.2	10.6			9.7			10.3			11.1			10.9			13.3			11			9.3		
Copper	33.9	17.7			14.4			17.7			17.3			27.4			16.5			16.8			15.2		
Iron	GRAS	19100			17400			18600			20600			19900			19400			20800			19300		
Lead	400	19.7			20.3			27.1			16.3	J		48.3			18.9			21.9			14.7		
Magnesium	GRAS	3350			3130			3360	J		3930			3670			3530			3920			3910		
Manganese	1083	605			608			600			672			673			840			679			561		
Mercury	23		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.11)		U	(0.1)
Nickel	39.3	20			18.7			19.3	J		21			24.5			20.2			21			18.7		
Potassium	GRAS	4240			3420			3830	J		2690			3880			2880			3760			2330		
Selenium	390		U	(1.1)	1.5	J		1.1	J			U	(1)	1.9	J		1.1	J			U	(1.1)		U	(1)
Sodium	GRAS		U	(33.5)		U	(318)		U	(345)		U	(314)		U	(321)		U	(309)		U	(33.3)		U	(307)
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.3)
Vanadium	72.5	36			24.3			36.1			32.2			31.6			26.7			38.1			27.5		
Zinc	119.5	63.7			55.2			65.7			61.9			77.6			62.6			69.8			52.8		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-14
Analytical Data for Load Line 1 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P1A-015						P1A-016						P1A-017						P1A-018						P1A-019					
		P1A-015-000 (0-0.5 ft)			P1A-015-001 (1-2 ft)			P1A-016-000 (0-0.5 ft)			P1A-016-001 (1-2 ft)			P1A-017-000 (0-0.5 ft)			P1A-017-001 (1-2 ft)			P1A-018-000 (0-0.5 ft)			P1A-018-001 (1-2 ft)			P1A-019-000 (0-0.5 ft)			P1A-019-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																															
Aluminum	33852	16200			15900			7070			10900			13400			12800			11300			9520			8920			13400		
Antimony	31		UJ	(0.48)		UJ	(4.8)	0.5	J		0.49	J			UJ	(0.45)	0.56	J		0.55	J			UJ	(0.46)	0.72	J			R	
Arsenic	13.5	9			10.7			4.8	J		7.5	J		7.7	J		9.7			6.5	J		8	J		4.9	J		10.5		
Barium	440	267			318			132			191			221			306			186			238			181			339		
Beryllium	1.52	0.79			0.92			0.57			0.65			0.7			0.74			0.58			0.63			0.51			0.78		
Cadmium	39	0.14	J			U	(0.12)		U	(0.12)	0.18	J		0.22	J		0.24	J		0.59	J		0.38	J		0.25	J		0.21	J	
Calcium	GRAS	3820			4860			4330			3870			3420			4210			3700			4380			4190			5890		
Chromium	37	18.3			17.6			9.5			13.2			16.1			15.5			18.5			12.6			13.2			17.9		
Cobalt	17.2	11.4			13.4			6.3			9.2			10.3			11.2			8			11.3			7.4			11		
Copper	33.9	21.7			20.4			12.8			16.4			18.8			22.9			21.7			19.2			20.4			23.6		
Iron	GRAS	20900			23800			11800			16000			18100			20600			15400			16800			13100			21000		
Lead	400	39.6			22.9			22.7			17.2			23.6			17.1			72.3			15.5			27.7	J		15.4	J	
Magnesium	GRAS	4220	J		4720	J		1870			3110			3450	J		4150	J		2780	J		3440	J		2460			4240		
Manganese	1083	705			878			373			564			617			670			447			726			432			682		
Mercury	23		U	(0.13)		U	(0.12)		U	(0.1)		U	(0.12)		U	(0.12)		U	(0.13)	0.24	J			U	(0.12)	0.16	J			UJ	(0.12)
Nickel	39.3	24.2	J		30.3	J		14.2			21.3			22.5			29.3	J		18.2	J		25.1	J		16.1			28.7		
Potassium	GRAS	3220	J		2490	J		1820			2370			3220			2840	J		2940	J		2730	J		2690			2960		
Selenium	390	1.2	J		1.6	J		1	J			U	(1.1)	1.1	J			U	(1.1)		U	(1.1)	1.1	J		1.4	J			UJ	(1.1)
Sodium	GRAS		U	(344)		U	(338)		U	(314)		U	(322)		U	(318)		U	(334)		U	(323)		U	(324)		U	(298)		U	(340)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.2)		U	(1.4)
Vanadium	72.5	31.9			27.9			18.7			25			28.1			26.5			26.1			22.1			24.1			35.2		
Zinc	119.5	70.6			75.4			40.3			49.7			60.1			66.8			80.6			57.8			61.1	J		65.1	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-14
Analytical Data for Load Line 1 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P1A-020						P1A-021						P1A-022						P1A-023					
		P1A-020-000 (0-0.5 ft)			P1A-020-001 (1-2 ft)			P1A-021-000 (0-0.5 ft)			P1A-021-001 (1-2 ft)			P1A-022-000 (0-0.5 ft)			P1A-022-001 (1-2 ft)			P1A-023-000 (0-0.5 ft)			P1A-023-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	5610			13400			5840			5550			10200			8020			11000			12700		
Antimony	31	***47.2***	J		0.55	J			R			R			R			R		0.98	J			R	
Arsenic	13.5	3.4	J		8.2	J		3.5	J		2.1	J		7.1	J		9.8			8.8			10		
Barium	440	112			202			149			84.8			237			265			275			285		
Beryllium	1.52	0.36			0.76			0.33			0.27			0.65			0.62			0.68			0.74		
Cadmium	39	0.22	J		0.14	J		0.23	J			U	(0.12)		U	(0.12)		U	(0.12)	0.27	J		0.27	J	
Calcium	GRAS	2540			3930			2570			1390			3880			4340			4480			4950		
Chromium	37	***44***			14.4			9.6			6.2			12.6			11.1			15.2			16.8		
Cobalt	17.2	7.7			12.7			5.1			4			9.8			9.1			10			10.5		
Copper	33.9	15.1			19.3			12.2			6			18.9			21.8			23.1			23.6		
Iron	GRAS	8440			18400			8510			6820			15900			16800			18300			19900		
Lead	400	232	J		18.3	J		76.9	J		7	J		13.5	J		13.9	J		21.8	J		14.6	J	
Magnesium	GRAS	1470			3250			1570			1240			3150			3530			3780			4440		
Manganese	1083	268	J		801			325			224			580			594			661			538		
Mercury	23		UJ	(0.12)		UJ	(0.12)		UJ	(0.12)		UJ	(0.11)		UJ	(0.11)		UJ	(0.1)		UJ	(0.12)		UJ	(0.12)
Nickel	39.3	11			24.8			9.8			7.7			21.4			22.5			23.7			26.7		
Potassium	GRAS	1720			3940			1860			1090			2410			1760			3160			2610		
Selenium	390		UJ	(1)		UJ	(1.1)		UJ	(1)		UJ	(1.1)		UJ	(1.1)	2	J		1.4	J			UJ	(1.1)
Sodium	GRAS		U	(317)		U	(328)		U	(314)		U	(32.5)		U	(332)		U	(330)		U	(341)		U	(337)
Thallium	1.72		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)
Vanadium	72.5	14.3			28.7			15.6			14.7			25.4			25			31.4			36.3		
Zinc	119.5	***266***	J		50.4	J		45.1	J		20	J		51.4	J		53.7	J		66.5	J		59.2	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-14
Analytical Data for Load Line 1 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P1A-024						P1A-025						P1A-026						P1A-027					
		P1A-024-000 (0-0.5 ft)			P1A-024-001 (1-2 ft)			P1A-025-000 (0-0.5 ft)			P1A-025-001 (1-2 ft)			P1A-026-000 (0-0.5 ft)			P1A-026-001 (1-2 ft)			P1A-027-000 (0-0.5 ft)			P1A-027-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	22200			21000			8390			22600			15100			21300			5270			14500		
Antimony	31	0.5	J			UJ	(0.47)	0.78	J			UJ	(0.44)	0.5	J			UJ	(0.44)	4.7	J		0.65	J	
Arsenic	13.5	7	J		7.7	J		4.6	J		9.8			7.8	J		9.8			2.6	J		7.7	J	
Barium	440	253			254			136			304			183			335			109			242		
Beryllium	1.52	0.84			0.88			0.43			0.94			0.72			0.94			0.28			0.71		
Cadmium	39	0.85	J		0.32	J		0.57	J		0.35	J		0.28	J		0.23	J		2			0.29	J	
Calcium	GRAS	11200	J		4110	J		2700	J		4340	J		4340	J		4290	J		12200	J		4620		
Chromium	37	33.2			24.1			16			24.5			19.7			23.1			***41.3***			18.6		
Cobalt	17.2	10.6			11.1			6.3			11.5			9.5			12.9			4.2			10.3		
Copper	33.9	26.1	J		19.1	J		14.5	J		24	J		20.1	J		23.4	J		***45.9***	J		27.3		
Iron	GRAS	21100			21000			11200			23500			18800			22800			7320			18000		
Lead	400	123	J		16.6	J		124	J		19.3			16.3	J		16.5	J		302	J		21.4	J	
Magnesium	GRAS	6360			4310			2230			4750			4150			4700			1620			3630		
Manganese	1083	604	J		602	J		350	J		637	J		520	J		750	J		200	J		616		
Mercury	23		U	(0.1)		U	(0.11)		U	(0.11)		U	(0.1)		U	(0.1)		U	(0.12)		U	(0.11)		U	(0.12)
Nickel	39.3	***39.5***			24.3			14			27.1			23			26			9.1			21.2		
Potassium	GRAS	4850			4400			2660			4280			4770			4220			1540			2930		
Selenium	390		U	(1.1)		U	(1.1)		U	(1.1)		U	(1)		U	(1.1)		U	(1)		U	(0.94)	1.4	J	
Sodium	GRAS		U	(337)		U	(334)		U	(332)		U	(314)		U	(328)		U	(310)		U	(288)		U	(332)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.2)		U	(1.4)
Vanadium	72.5	51.8			46			23.4			51.1			42.5			43			16			31.3		
Zinc	119.5	***173***	J		72	J		82	J		75.3	J		73.6	J		69.7	J		***144***	J		54.4		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-14
Analytical Data for Load Line 1 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P1A-028						P1A-029					
		P1A-028-000 (0-0.5 ft)			P1A-028-001 (1-2 ft)			P1A-029-000 (0-0.5 ft)			P1A-029-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)													
Aluminum	33852	14300			24800			4620			14300		
Antimony	31		UJ	(0.49)		UJ	(0.48)	28	UJ	(4.1)	4.7	J	
Arsenic	13.5	8.1	J		7.4	J		2.8	J		8.7		
Barium	440	296			262			154			256		
Beryllium	1.52	0.75			0.93			0.24			0.74		
Cadmium	39	0.38	J		0.3	J		***144***			0.46	J	
Calcium	GRAS	4850	J		3490	J		28300			4840		
Chromium	37	17.7			25.9			***140***			23.1		
Cobalt	17.2	10.8			10.5			9.8			9.9		
Copper	33.9	20	J		17.1	J		29.1			20.4		
Iron	GRAS	18600			21200			7210			19200		
Lead	400	42.3	J		14.3	J		***794***	J		50.9	J	
Magnesium	GRAS	3940			4130			1900			3490		
Manganese	1083	672	J		568	J		246			605		
Mercury	23		U	(0.12)		U	(0.13)		U	(0.11)		U	(0.12)
Nickel	39.3	24.8			21.4			12.3			21.6		
Potassium	GRAS	3300			4760			1620			3480		
Selenium	390		U	(1.1)		U	(1.1)		U	(0.94)		U	(1)
Sodium	GRAS		U	(346)		U	(33.8)		U	(289)		U	(310)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.2)		U	(1.3)
Vanadium	72.5	33.1			53.1			15.1			32		
Zinc	119.5	90.1	J		61.7	J		***193***			65.4		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-15
Analytical Data for Load Line 2 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P2A-001						P2A-002						P2A-003						P2A-004					
		P2A-001-000 (0-0.5 ft)			P2A-001-001 (1-2 ft)			P2A-002-000 (0-0.5 ft)			P2A-002-001 (1-2 ft)			P2A-003-000 (0-0.5 ft)			P2A-003-001 (1-2 ft)			P2A-004-000 (0-0.5 ft)			P2A-004-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	12600	J		11300	J		17100			16200			13600			15000			14500	J		21600	J	
Antimony	31	0.73	J		1.1	J			UJ	(0.46)		UJ	(4.4)	***501***	UJ	(4.9)	20.9	UJ	(4.7)	***44.2***	UJ	(4.7)		UJ	(0.46)
Arsenic	13.5	8.3	J		9.4			9			7.4	J		***14.6***			10.8			8.2	J		8.1	J	
Barium	440	221			205			265			219			423			372			231			232		
Beryllium	1.52	0.66			0.62			0.83			0.78			0.95			0.84			0.76			0.91		
Cadmium	39	0.57	J			U	(1.2)	0.41	J		0.33	J		13.8			0.9	J		0.22	J			U	(0.12)
Calcium	GRAS	4080			5350			5290			4380			8420			5290			3770	J		3550	J	
Chromium	37	20.5	J		16.6	J		20.7			20			***840***			35.8			18.8	J		22	J	
Cobalt	17.2	9			8.7			11.6			8.8			***44.9***			13.4			11			10.6		
Copper	33.9	22.3			20.2			22.3			18.3			***86***			29.1			20.7			16.9		
Iron	GRAS	16700			16200			20900			17800			26800			21900			18900			22300		
Lead	400	121	J		59.5			16.9			33.6			***3960***			128			21.8			15.8		
Magnesium	GRAS	3650			3870			4760			3620			4000			4670			3600			4260		
Manganese	1083	538			544			697	J		493	J		668	J		969	J		630			585		
Mercury	23		U	(0.12)	0.16	J			U	(0.12)		U	(0.13)	0.76				U	(0.11)	0.16	J			U	(0.13)
Nickel	39.3	21.8			20.6			27			19.1			***63***			35.1			23.6			21.3		
Potassium	GRAS	2570			2330			2910			3630			2710			2950			2850			3140		
Selenium	390		U	(1.1)		UJ	(1.1)		U	(1.1)	1.2	J			U	(1.1)		U	(1.1)		U	(1.1)		U	(1.1)
Silver	380		UJ	(0.15)		UJ	(0.15)		UJ	(0.14)		UJ	(0.14)		UJ	(0.16)		UJ	(0.15)		UJ	(0.15)		UJ	(0.14)
Sodium	GRAS		U	(337)		U	(333)		U	(326)		U	(313)		U	(352)		U	(332)		U	(337)		U	(326)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.3)
Vanadium	72.5	34			30.5			35.9			40.7			32.8			35.9			31.7			40.1		
Zinc	119.5	***120***			65.4	J		58.4			60.3			***486***			81.2			54.5	J		68.2	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-15
Analytical Data for Load Line 2 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P2A-005						P2A-006						P2A-007						P2A-008					
		P2A-005-000 (0-0.5 ft)			P2A-005-001 (1-2 ft)			P2A-006-000 (0-0.5 ft)			P2A-006-001 (1-2 ft)			P2A-007-000 (0-0.5 ft)			P2A-007-001 (1-2 ft)			P2A-008-000 (0-0.5 ft)			P2A-008-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	14600			12400			15000	J		14100	J		15200			18500			9270			14700		
Antimony	31	37.4	J		1.7	J		4.2	J			UJ	(0.55)		U	(0.48)		UJ	(0.49)	10	R		0.62	J	
Arsenic	13.5	8	J		8.4	J		8.2	J		11.2			8.5	J		9.8			6.9	J		9.5		
Barium	440	230			245			248			328			240			276			196			257		
Beryllium	1.52	0.73			0.71			0.75			0.87			0.74			0.84			0.6			0.77		
Cadmium	39	1.1	J			U	(0.12)	0.36	J		0.5	J		0.25	J		0.51	J		1.1	J		0.36	J	
Calcium	GRAS	5060			4750			10200	J		6460	J		3900			4550			4430			5180		
Chromium	37	***94.4***			15.2			19	J		19.3	J		18.3			22.2			31.1			19		
Cobalt	17.2	13.4			10.6			9.3			12.4			9.9			11.9			8.6			10.6		
Copper	33.9	***72.3***			20.1			21.3			27.9			19.5			22.9	J		***35.2***	J		22.6		
Iron	GRAS	23100			18200			18600			23400			19600			22400			17100			20500		
Lead	400	***490***	J		15.7	J		41.6			18.4			16			16.7	J		183			14.8		
Magnesium	GRAS	3360			3480			4260			4960			3950			4790			2720			4360		
Manganese	1083	610			624			575			759			564			725			507			515		
Mercury	23		UJ	(0.12)		UJ	(0.13)		U	(0.12)		U	(0.14)		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.12)
Nickel	39.3	33.7			24.7			22.4			31.6			23.3			28.4			***43.6***			24.4		
Potassium	GRAS	3030			2230			3230			2650			3730			3210			2480			3090		
Selenium	390		UJ	(1.1)	1.1	J			U	(1.1)		U	(1.3)		U	(1.1)		U	(1.1)		U	(1.1)		U	(1.1)
Silver	380		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.17)		U	(0.15)		UJ	(0.15)		UJ	(1.5)		U	(0.15)
Sodium	GRAS		U	(340)		U	(328)		U	(327)		U	(389)	6100			258	J		2020			3010		
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.3)	***2.2***	J			U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)
Vanadium	72.5	35.6			30.6			34.3			34.3			39.7			44.4			24.9			41.6		
Zinc	119.5	***166***	J		52.3	J		66.3	J		69.3	J		56.7			69			***133***			56.1		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-15
Analytical Data for Load Line 2 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P2A-009						P2A-010						P2A-011						P2A-012					
		P2A-009-000 (0-0.5 ft)			P2A-009-001 (1-2 ft)			P2A-010-000 (0-0.5 ft)			P2A-010-001 (1-2 ft)			P2A-011-000 (0-0.5 ft)			P2A-011-001 (1-2 ft)			P2A-012-000 (0-0.5 ft)			P2A-012-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	16300			14100	J		12500	J		14800	J		13200	J		13400	J		3380	J		10700	J	
Antimony	31		R			R			R			R		0.6	J			R			R			R	
Arsenic	13.5	9.6			8.9			7.4	J		7.7	J		9			9.9			1.7	J		9.4		
Barium	440	241			247			220			208			245			270			69.5			286		
Beryllium	1.52	0.78			0.73			0.68			0.72			0.69			0.7			0.22	J		0.64		
Cadmium	39		U	(1.3)		U	(1.2)	1.5				U	(1.2)	0.79	J			U	(1.3)		U	(1.3)		U	(1.3)
Calcium	GRAS	3980			4020			6290			3720			6590			4900			16100			4170		
Chromium	37	18.1			17.1	J		14.9	J		17.2	J		18.5	J		17	J		5.8	J		13.6	J	
Cobalt	17.2	10.3			9.9			8.3			8.7			9.8			10.7			3.2			9.7		
Copper	33.9	20.1			19			16.3			17.5			21			20.9			17.1			20.5		
Iron	GRAS	19700			19200			16300			17900			18300			19100			5320			17000		
Lead	400	56.2			17.1			18.2			14.8			65.1			14.5			20.9			13		
Magnesium	GRAS	3960			4170			3170			3660			4270			3860			1390			3490		
Manganese	1083	633			556			461			517			600			628			205			590		
Mercury	23		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.12)	0.29			0.13	J			U	(0.12)	0.15	J	
Nickel	39.3	24.7			21.9			19.5			20.5			23.6			23.9			6.9			22.1		
Potassium	GRAS	3440			2740			3030			2980			2870			2680			1080			2300		
Selenium	390	1.9	J		1.4	J			UJ	(1.1)		UJ	(1.1)		UJ	(1.1)		UJ	(1.1)		UJ	(1.2)	1.4	J	
Silver	380		UJ	(0.16)		UJ	(0.15)		UJ	(0.15)		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)		UJ	(0.16)		UJ	(0.15)
Sodium	GRAS		U	(352)		U	(339)		U	(328)		U	(323)		U	(328)		U	(341)		U	(354)		U	(343)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.4)
Vanadium	72.5	38.2			35			29.5			36.9			36.8			37.5			9.6			28.1		
Zinc	119.5	66			54.1	J		51.9	J		51.8	J		***220***	J		66.3	J		27.8	J		49.7	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-15
Analytical Data for Load Line 2 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P2A-013						P2A-015						P2A-016						P2A-017					
		P2A-013-000 (0-0.5 ft)			P2A-013-001 (1-2 ft)			P2A-015-000 (0-0.5 ft)			P2A-015-001 (1-2 ft)			P2A-016-000 (0-0.5 ft)			P2A-016-001 (1-2 ft)			P2A-017-000 (0-0.5 ft)			P2A-017-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	13900	J		20100	J		13300			10900			13200			15500			10800	J		16400	J	
Antimony	31	7.7	J		3.2	J			R			R			R			R		1.3	J			UJ	(0.48)
Arsenic	13.5	5.6	J		7.5	J		7.7	J		8.6	J		8.6			9.1			5	J		9.2	J	
Barium	440	150	J		199	J		203			206			218			221			153	J		265	J	
Beryllium	1.52	0.62			0.76			0.67			0.64			0.68			0.75			0.52			0.84		
Cadmium	39		U	(0.11)		U	(0.12)		U	(1.2)		U	(1.2)		U	(1.2)		U	(1.2)	0.38	J		0.25	J	
Calcium	GRAS	3020			1350			3690			3700			4060			3670			2770			4140		
Chromium	37	18.5	J		21.6	J		16			13.4			15.3			17.5			15.9	J		18.1	J	
Cobalt	17.2	6.8			9.3			8.9			9.2			9.5			9.8			6.8			11.1		
Copper	33.9	17.3	J		17.3	J		17.3			18.2			18.3			19.4			12.8	J		23.9	J	
Iron	GRAS	15800	J		20500	J		17000			16600			17200			19400			13200	J		21400	J	
Lead	400	144			35.2			17.4			16.5			18.8			13.4			88.4			17.4		
Magnesium	GRAS	2630			3330			3550			3380			3230			4020			2400			4290		
Manganese	1083	207	J		398	J		531			551			606			575			437	J		678	J	
Mercury	23		U	(0.12)		U	(0.11)		U	(0.1)		U	(0.13)		U	(0.1)		U	(0.11)		U	(0.13)		U	(0.12)
Nickel	39.3	14.8			19.2			20.7			21.3			20.3			23.3			13.7			27.3		
Potassium	GRAS	2770			3610			2620			2180			3100			2870			2270			2810		
Selenium	390		U	(1)		U	(1)		U	(1.1)	1.3	J		1.2	J		1.6	J			U	(1.1)		U	(1.1)
Silver	380		UJ	(0.14)		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		UJ	(0.14)		UJ	(0.15)		UJ	(0.15)
Sodium	GRAS		U	(308)		U	(316)		U	(334)		U	(335)		U	(328)		U	(320)		U	(331)		U	(340)
Thallium	1.72		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.4)
Vanadium	72.5	35.2	J		44.2	J		34.6			27.4			31.8			37.2			28.6	J		31.9	J	
Zinc	119.5	119	J		70.7	J		49.2			47.7			55.5			49.9			***154***	J		71.5	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-15
Analytical Data for Load Line 2 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P2A-018						P2A-019						P2A-020						P2A-021					
		P2A-018-000 (0-0.5 ft)			P2A-018-001 (1-2 ft)			P2A-019-000 (0-0.5 ft)			P2A-019-001 (1-2 ft)			P2A-020-000 (0-0.5 ft)			P2A-020-001 (1-2 ft)			P2A-021-000 (0-0.5 ft)			P2A-021-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	14600			16000	J		14000	J		21500	J		10200			18600			9550			12600		
Antimony	31		UJ	(0.48)		UJ	(0.47)		UJ	(0.42)		UJ	(0.45)	27.6	UJ	(4.1)		UJ	(0.43)		UJ	(0.43)		UJ	(0.43)
Arsenic	13.5	7.7	J		5.8	J		6.7	J		10.7	J		7.3	J		10.3			6.2	J		9.9		
Barium	440	270			204	J		229	J		261	J		186			240			165			236		
Beryllium	1.52	0.77			0.76			0.68			0.96			0.57			0.87			0.5			0.73		
Cadmium	39	0.68	J		0.28	J		0.15	J		0.27	J		0.57	J		0.29	J			U	(0.11)	0.2	J	
Calcium	GRAS	6470	J		3760			5440			4140			4680	J		4430	J		3660	J		4160	J	
Chromium	37	18.7			18	J		16.7	J		22.7	J		21			23.1			12			15.4		
Cobalt	17.2	16.7			9.4			8.4			11.4			8.4			11.7			6.3			10.5		
Copper	33.9	21.8			18.3	J		17.8	J		25.6	J		17			24.1			13.2			22.5		
Iron	GRAS	18700			17500	J		17000	J		24700	J		14600			22400			12400			19400		
Lead	400	38.1	J		23.4			17.1			16.9			54.6	J		16	J		11.4	J		14.9	J	
Magnesium	GRAS	3010			3380			3420			4860			2730			4740			2590			3830		
Manganese	1083	1080	J		490	J		483	J		635	J		382	J		645	J		335	J		640	J	
Mercury	23		U	(0.13)		U	(0.12)		U	(0.11)		U	(0.12)		U	(0.11)		U	(0.11)		U	(0.1)		U	(0.11)
Nickel	39.3	21			19.1			19.6			29.4			19.1			28			15.1			25.4		
Potassium	GRAS	3420			3550			3160			3500			2220			3360			2020			2230		
Selenium	390	1.4	J			U	(1.1)		U	(0.98)		U	(1)		U	(0.95)	1.1	J			U	(0.99)	1.1	J	
Silver	380		U	(0.15)		UJ	(0.15)		UJ	(0.13)		UJ	(0.14)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.14)
Sodium	GRAS		U	(339)		U	(337)		U	(300)		U	(319)		U	(291)		U	(304)		U	(303)		U	(306)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.2)		U	(1.3)		U	(1.2)		U	(1.2)		U	(1.2)		U	(1.2)
Vanadium	72.5	41.8			39.6	J		34.9	J		49.7	J		24.2			47.9			23.6			26.3		
Zinc	119.5	66.6			58.8	J		51.2	J		64.1	J		60.8			65.3			50.3			56.1		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-15
Analytical Data for Load Line 2 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P2A-022						P2A-023						P2A-024						P2A-025					
		P2A-022-000 (0-0.5 ft)			P2A-022-001 (1-2 ft)			P2A-023-000 (0-0.5 ft)			P2A-023-001 (1-2 ft)			P2A-024-000 (0-0.5 ft)			P2A-024-001 (1-2 ft)			P2A-025-000 (0-0.5 ft)			P2A-025-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	10500			24800			19000			22400			18800			15900			20200			17200		
Antimony	31	0.7	J			UJ	(0.44)		UJ	(0.44)		UJ	(0.44)		UJ	(0.45)		UJ	(0.47)		UJ	(0.44)	3.2	J	
Arsenic	13.5	6.6	J		9.2			9			9.3			11			11.9			9.5			9.3		
Barium	440	155			227			216			244			289			306			240			150		
Beryllium	1.52	0.59			0.97			0.84			0.93			0.89			0.84			0.87			0.77		
Cadmium	39	0.27	J		0.12	J		0.32	J		0.27	J		0.44	J		0.58	J		0.44	J		0.17	J	
Calcium	GRAS	3640	J		3770	J		3980	J		4020	J		6690	J		7050	J		5360	J		4480	J	
Chromium	37	12.9			25.6			21.5			23.7			21.9			20.6			23.5			23.4		
Cobalt	17.2	7.1			7.6			10.3			11.3			11.5			11.6			10.6			10		
Copper	33.9	15.2	J		22.3	J		20.5	J		21.8	J		24.6			24.7			22.5			22.6		
Iron	GRAS	13500			23900			20700			23000			23300			22900			21700			20100		
Lead	400	23.1	J		13.7	J		16.3	J		15.5	J		17.4	J		15.1	J		23.6	J		35.7	J	
Magnesium	GRAS	2310			4600			4130			4560			5520			6110			4880			4160		
Manganese	1083	366	J		352	J		650	J		612	J		671	J		678	J		617	J		576	J	
Mercury	23		U	(0.11)		U	(0.12)		U	(0.11)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.12)
Nickel	39.3	17			22.1			25.3			25.9			27.9			28.8			25.2			25		
Potassium	GRAS	2860			4200			3770			3560			3630			3660			3910			3190		
Selenium	390		U	(0.99)		U	(1)		U	(1)		U	(1)	1.2	J			U	(1.1)	1.4	J			U	(1)
Silver	380		U	(1)					U	(1)		U	(1)		U	(0.14)		U	(0.15)		U	(0.14)		U	(0.14)
Sodium	GRAS		U	(305)		U	(314)		U	(314)		U	(312)		U	(321)		U	(334)		U	(314)		U	(310)
Thallium	1.72		U	(1.2)	1.4	J			U	(1.3)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.3)
Vanadium	72.5	27.5			49.6			42.6			44.1			45.1			45.7			50.1			38.9		
Zinc	119.5	54.9	J		60.2	J		62.5	J		64.3	J		64			63.4			61.8			58.8		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-15
Analytical Data for Load Line 2 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P2A-026						P2A-027						P2A-028						P2A-029					
		P2A-026-000 (0-0.5 ft)			P2A-026-001 (1-2 ft)			P2A-027-000 (0-0.5 ft)			P2A-027-001 (1-2 ft)			P2A-028-000 (0-0.5 ft)			P2A-028-001 (1-2 ft)			P2A-029-000 (0-0.5 ft)			P2A-029-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	20000			23200			12600	J		18800	J		19700			27000			15600	J		23300	J	
Antimony	31		UJ	(0.51)		UJ	(0.5)	4.2	J		0.74	J			UJ	(0.44)		UJ	(0.47)	6.3	J		5.5	J	
Arsenic	13.5	10.1			12.7			5.8	J		8.7	J		9.4			9.8			7	J		10.3	J	
Barium	440	289			236			171	J		325	J		283			204			214	J		273	J	
Beryllium	1.52	0.86			0.99			0.57			0.93			0.88			1.1			0.73			1		
Cadmium	39	0.31	J		0.37	J		0.21	J		0.2	J		0.39	J		0.37	J		0.23	J			U	(0.12)
Calcium	GRAS	5640	J		4320	J		8440			4540			4170	J		3740	J		6100			4410		
Chromium	37	23.4			26.8			16.9	J		18.6	J		21.9			27			25.1	J		24.1	J	
Cobalt	17.2	11.5			12.6			7.7			10.7			10.7			11.6			8.9			11.4		
Copper	33.9	21.1			24.7			15	J		20.8	J		22.1			23.8			18.3	J		23.8	J	
Iron	GRAS	21800			26100			14400	J		22100	J		21400			26200			18200	J		25800	J	
Lead	400	17.3	J		17.6	J		32.4			15.8			17.7	J		15.8	J		60.2			16.6		
Magnesium	GRAS	5250			5240			3060			4010			4420			5010			3950			5110		
Manganese	1083	680	J		704	J		420	J		617	J		655	J		623	J		522	J		622	J	
Mercury	23		U	(0.14)		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.13)		U	(0.12)
Nickel	39.3	25.6			31			17.3			25.2			24.1			27.6			20.8			28		
Potassium	GRAS	3930			4350			2650			3410			3900			4430			3390			4000		
Selenium	390		U	(1.2)		U	(1.1)		U	(0.97)		U	(1.1)	1.4	J		1.9	J			U	(1.1)		U	(1)
Silver	380		U	(0.16)		U	(0.16)		UJ	(0.13)		UJ	(0.15)		U	(0.14)		U	(0.15)		UJ	(0.15)		UJ	(0.14)
Sodium	GRAS		U	(365)		U	(352)		U	(298)		U	(332)		U	(313)		U	(336)		U	(344)		U	(320)
Thallium	1.72		U	(1.5)		U	(1.4)		U	(1.2)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.3)
Vanadium	72.5	53.7			60.5			31.8	J		41.1	J		47.2			56.8			39	J		50.9	J	
Zinc	119.5	59.8			67.5			45.2	J		57.8	J		59			65.9			76.3	J		64.4	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-16
Analytical Data for Load Line 3 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P3A-001						P3A-002						P3A-003						P3A-004					
		P3A-001-000 (0-0.5 ft)			P3A-001-001 (1-2 ft)			P3A-002-000 (0-0.5 ft)			P3A-002-001 (1-2 ft)			P3A-003-000 (0-0.5 ft)			P3A-003-001 (1-2 ft)			P3A-004-000 (0-0.5 ft)			P3A-004-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	13500			15600			15500			13100			11700			17800			14300			14900		
Antimony	31		UJ	(4.9)		UJ	(5.3)	1.1	J			UJ	(0.44)		UJ	(4.8)	13.3	J		26.1	J		17.8	J	
Arsenic	13.5	7.7	J		9.4	J		7.9	J		6.7	J		10.4			10.2			9.4			10.7		
Barium	440	242			247			194			253			***516***			273			295			350		
Beryllium	1.52	0.73			0.76			0.75			0.72			0.74			0.87			0.78			0.81		
Cadmium	39	0.33	J		0.37	J			U	(0.12)	0.22	J		5.8			0.61	J		0.35	J		0.3	J	
Calcium	GRAS	5270			10500			3650			4050			6120			6180			4390			4830		
Chromium	37	***57.1***			***59.6***			18.4			15.6			***806***			24.5			***58.9***			36.1		
Cobalt	17.2	11.7			13			6.6			9.1			***25.2***			11			15.1			13.5		
Copper	33.9	20.6			23			16.7			16.3			***194***			33.6			21.4			23.8		
Iron	GRAS	17600			18900			19300			16700			30100			21800			19800			21100		
Lead	400	280			271			26.3			15			***3730***	J		66.3	J		300	J		118	J	
Magnesium	GRAS	3360			4260			3670			3290			3470			5130			4450			4880		
Manganese	1083	531			705			399			669			570			546			713			692		
Mercury	23		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.12)	0.29				U	(0.13)		U	(0.12)		U	(0.12)
Nickel	39.3	20.6			25			19.3			19.9			***194***			30.5			27.3			28.7		
Potassium	GRAS	2990			3260			3210			2990			2510			3480			3100			2830		
Selenium	390	1.4	J		1.5	J			U	(1.1)	1.4	J		1.3	J		1.5	J			U	(1.1)		U	(1)
Sodium	GRAS		U	(346)		U	(375)		U	(333)		U	(310)		U	(340)		U	(333)		U	(338)		U	(318)
Thallium	1.72		U	(1.4)		U	(1.5)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.3)
Vanadium	72.5	33.4			38.9			30.4			31.8			31			43.8			35.6			37.2		
Zinc	119.5	91.8			96			65.6			52.1			***551***			83.4			95.3			69		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-16
Analytical Data for Load Line 3 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P3A-005						P3A-006						P3A-007						P3A-008						P3A-009					
		P3A-005-000 (0-0.5 ft)			P3A-005-001 (1-2 ft)			P3A-006-000 (0-0.5 ft)			P3A-006-001 (1-2 ft)			P3A-007-000 (0-0.5 ft)			P3A-007-001 (1-2 ft)			P3A-008-000 (0-0.5 ft)			P3A-008-001 (1-2 ft)			P3A-009-000 (0-0.5 ft)			P3A-009-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																															
Aluminum	33852	11300			17200			9120			13600			9450			14700			16200			12500			10400			13300		
Antimony	31	***54.8***	J		2.2	J		2.3	J			R			R			R		0.6	J			R			R			R	
Arsenic	13.5	8.7	J		10.1			7	J		6.9	J		6.7	J		5.9	J		5.4	J		5	J		5.1	J		6.9	J	
Barium	440	285			288			266			214			239			203			200			227			136			245		
Beryllium	1.52	0.69			0.83			0.65			0.8			0.65			0.75			0.73			0.69			0.52			0.68		
Cadmium	39	2.4			0.28	J		0.91	J			U	(0.13)	0.22	J			U	(0.12)		U	(0.13)		U	(0.12)		U	(0.11)	0.28	J	
Calcium	GRAS	5470			9490	J		6390			4510			4600			3050			3820			3850			5950			6490		
Chromium	37	***140***			22.1			18.1			15.1			13.5			16.1			18.2			14.5			12.4			16.4		
Cobalt	17.2	***18.6***			11.3			10.1			7.7			10.7			8.9			6.4			8.4			6.5			9.7		
Copper	33.9	***218***			23.9			***37.7***			16.5			17.4			14.8			15.4			14.5			12.8			17.5		
Iron	GRAS	20000			22000			15600			17600			14900			16600			17600			15100			12400			16900		
Lead	400	***996***	J		18.9			79.6	J		14.1	J		41.2	J		14	J		62.8			13.6			22.5			14.5		
Magnesium	GRAS	3730			6150			3650			3530			3250			2990			3500			2860			2500			4280		
Manganese	1083	647			642			615			270			673			555			341			523			336			614		
Mercury	23	0.28	J			UJ	(0.13)		UJ	(0.12)	0.15	J			UJ	(0.13)		UJ	(0.12)		U	(0.11)		U	(0.13)		U	(0.1)	0.14	J	
Nickel	39.3	***110***			26.9			35.5			20.4			22.8			18.6			17.3			16.8			15.1			21.3		
Potassium	GRAS	2440			3290			2570			2580			2690			3100			3550			3010			2270			3030		
Selenium	390		UJ	(1.2)	1.3	J		1.4	J			UJ	(1.1)	1.7	J			UJ	(1.1)		U	(1.1)	1.5	J			U	(0.99)	1.4	J	
Sodium	GRAS		U	(378)		U	(333)		U	(323)		U	(341)		U	(343)		U	(326)		U	(351)		U	(328)		U	(305)		U	(334)
Thallium	1.72		U	(1.5)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.2)		U	(1.4)
Vanadium	72.5	31.5			44.1			25.9			29.7			27.5			35.1			35.3			30.7			25.2			34.7		
Zinc	119.5	***326***	J		68.5			67.1	J		47.1	J		52.1	J		46.4	J		64.1			44.6			***162***			75.7		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-16
Analytical Data for Load Line 3 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P3A-010						P3A-011						P3A-012						P3A-013						P3A-015					
		P3A-010-000 (0-0.5 ft)			P3A-010-001 (1-2 ft)			P3A-011-000 (0-0.5 ft)			P3A-011-001 (1-2 ft)			P3A-012-000 (0-0.5 ft)			P3A-012-001 (1-2 ft)			P3A-013-000 (0-0.5 ft)			P3A-013-001 (1-2 ft)			P3A-015-000 (0-0.5 ft)			P3A-015-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																															
Aluminum	33852	11300			12900			11400			16800			13800			10500			12900			15200			12800			16400		
Antimony	31		R			R		0.58	J			R			J			J		3.8	J			UJ	(0.44)		UJ	(0.46)		UJ	(0.48)
Arsenic	13.5	6	J		8.7			6.2	J		9.3			8.5			9.1			7.6	J		9.8			5.8	J		8.6	J	
Barium	440	208			238			211			219			266			305			394			332			148			257		
Beryllium	1.52	0.63			0.74			0.61			0.84			0.75			0.65			0.69			0.8			0.61			0.82		
Cadmium	39	0.23	J		0.22	J		0.33	J		0.16	J		0.25	J		0.16	J		0.47	J		0.37	J		0.39	J		0.21	J	
Calcium	GRAS	12500			4840			3880			4170			4740			3860			4730			4930			2770			3910		
Chromium	37	14.6			15.9			16.8			19.8			17			12.8			20.6			19.5			15.1			17.7		
Cobalt	17.2	8.8			10.6			9.1			11.5			10.9			10.1			9.2			11.4			7.7			12.2		
Copper	33.9	17.2			20.9			19.5			22			21.9			22			21.2	J		24.1	J		17	J		22.6	J	
Iron	GRAS	15300			18600			15600			20800			19700			17500			18300			21600			15000			21300		
Lead	400	33.8			18			65.8			19.5			16.6			13.6			155	J		17.2	J		71.5	J		18.1	J	
Magnesium	GRAS	3390			3960			3080			4220			4180			3640			3650			4750			2730			4190		
Manganese	1083	541			644			546			653			671			602			479			725			472			813		
Mercury	23		U	(0.12)		U	(0.12)	0.21	J			U	(0.11)		U	(0.12)	0.11	J		0.14	J		0.13	J		0.16	J		0.16	J	
Nickel	39.3	20.1			25.6			21.9			29.2			26.7			25.7			24.3			28.2			16.6			28.2		
Potassium	GRAS	3280			2760			2800			2770			3130			2030			3150			3120			2510			2760		
Selenium	390		U	(1.1)	1.6	J		1.5	J		1.6	J		1.6	J		1.4	J		1.6	J		1.1	J			U	(1.1)	1.7	J	
Sodium	GRAS		U	(329)		U	(332)		U	(333)		U	(327)		U	(309)		U	(315)		U	(305)		U	(313)		U	(325)		U	(338)
Thallium	1.72		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.2)		U	(1.3)		U	(1.3)		U	(1.4)
Vanadium	72.5	28.2			32.5			28.5			36.2			34.3			28.5			30.4			37.7			29.3			29.3		
Zinc	119.5	66.6			55.1			***153***			56.2			57.6			51.8			108			74.4			101			64.3		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-16
Analytical Data for Load Line 3 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P3A-016						P3A-017						P3A-018						P3A-019						P3A-020					
		P3A-016-000 (0-0.5 ft)			P3A-016-001 (1-2 ft)			P3A-017-000 (0-0.5 ft)			P3A-017-001 (1-2 ft)			P3A-018-000 (0-0.5 ft)			P3A-018-001 (1-2 ft)			P3A-019-000 (0-0.5 ft)			P3A-019-001 (1-2 ft)			P3A-020-000 (0-0.5 ft)			P3A-020-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																															
Aluminum	33852	15000			11800			13600			17500			9000			12800			13400			14100			8510			11400		
Antimony	31	0.66	J			UJ	(0.47)		UJ	(0.47)		U	(0.47)		R			R		7.9	J			R		0.63	R			R	
Arsenic	13.5	8	J		8	J		7.6	J		8.1	J		6.7	J		8	J		7.5	J		8.3	J		2.9	J		7.3	J	
Barium	440	235			243			234			267			199			225			210			232			130			221		
Beryllium	1.52	0.77			0.71			0.73			0.86			0.56			0.69			0.71			0.75			0.87			0.66		
Cadmium	39	0.39	J		0.39	J		0.24	J		0.13	J		0.41	J		0.3	J			U	(0.13)	0.15	J		0.19	J		0.33	J	
Calcium	GRAS	5780	J		4560	J		3830			4120			4180			3980			3390			3750			7250			3960		
Chromium	37	18.6			15.3			15.1			18.5			12.7			14.9			23.2			15.2			24.1			14.4		
Cobalt	17.2	10			10.5			11.7			10.9			8.4			9.1			11.1			9.8			6.3			9.8		
Copper	33.9	20.2	J		21.1	J		19.8	J		22.4			21.5			20.1			18.5			22.2			13.1			20.8		
Iron	GRAS	19300			18400			18000			21400			14600			18600			17700			19000			13900			17400		
Lead	400	20.2	J		15.7	J		59.6	J		40.3			21.6			13.3			63.1			14.5			84.6			14.1		
Magnesium	GRAS	4100			3890			3360			4310			3060			3850			3420			3880			1940			3670		
Manganese	1083	547	J		596	J		737			664			551			531			608			601			359			597		
Mercury	23	0.21	J		0.18	J		0.14	J			U	(0.13)	0.15	J		0.16	J		0.15	J		0.17	J			U	(0.12)	0.13	J	
Nickel	39.3	23.8			24.4			23.3			25.1			22.2			24.5			22.2			24.8			18.4			25.5		
Potassium	GRAS	3230			2570			2290			2700			2310			2570			2550			2280			1980			2210		
Selenium	390	1.1	J		1.6	J			U	(1.1)	1.1	J			U	(1)		U	(1.1)	1.2	J		1.4	J			U	(1.1)	1.2	J	
Sodium	GRAS		U	(339)		U	(341)		U	(335)	441				U	(320)		U	(342)		U	(340)		U	(338)		U	(328)		U	(334)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.4)
Vanadium	72.5	36.2			24.1			22.5			29			19.7			30.5			28			28.4			23			25.6		
Zinc	119.5	61.8	J		59.6	J		73.2			59.3			50.5			51.8			53.3			52.9			41.6			49.3		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-16
Analytical Data for Load Line 3 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P3A-021						P3A-022						P3A-023						P3A-024					
		P3A-021-000 (0-0.5 ft)			P3A-021-001 (1-2 ft)			P3A-022-000 (0-0.5 ft)			P3A-022-001 (1-2 ft)			P3A-023-000 (0-0.5 ft)			P3A-023-001 (1-2 ft)			P3A-024-000 (0-0.5 ft)			P3A-024-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	14200			14200			14900			13000			15300			14200			24200			21900		
Antimony	31		R			R			R			R			UJ	(0.48)		UJ	(0.47)	2.3	J			UJ	(0.47)
Arsenic	13.5	7.2	J		8.7			6.8	J		8.3	J		9			9.6			9.1			9		
Barium	440	206			241			210			263			245			261			267			254		
Beryllium	1.52	0.73			0.75			0.73			0.71			0.81			0.8			0.95			0.93		
Cadmium	39	0.22	J		0.16	J		0.32	J		0.22	J		0.16	J			U	(0.12)	0.74	J		0.38	J	
Calcium	GRAS	3510			3750			4000			3850			4150			4090			4450	J		3700	J	
Chromium	37	15.3			16.4			23.6			14.8			17			16.1			28.8			22.8		
Cobalt	17.2	9.6			10.1			9.5			10.2			10.9			11			13.1			11.5		
Copper	33.9	20.1			22.3			19.5	J		21.6	J		22.8	J		24.1	J		23.2	J		20.7	J	
Iron	GRAS	18000			19800			18100			18800			20900			21100			22200			22200		
Lead	400	16.7			14.7			15.8	J		15.1	J		18.1	J		16.1	J		122	J		15.8	J	
Magnesium	GRAS	3440			4080			3620			3730			4010			3980			4550			4320		
Manganese	1083	564			582			598			618			636			645			742	J		660	J	
Mercury	23	0.17	J		0.15	J		0.18	J		0.17	J		0.15	J		0.14	J			U	(0.12)	0.22	J	
Nickel	39.3	21.7			26.5			25.7			26.4			26.9			27			24			25.3		
Potassium	GRAS	2900			2720			2890			2350			3140			2490			5290			3920		
Selenium	390		U	(1.1)		U	(1.1)		U	(1.1)		U	(1.1)	1.1	J		1.4	J			U	(1.1)		U	(1.1)
Sodium	GRAS		U	(349)		U	(324)		U	(338)		U	(338)		U	(342)		U	(334)		U	(34)		U	(334)
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)
Vanadium	72.5	29.9			30.4			34.3			25.5			27.7			28.4			59.1			47		
Zinc	119.5	50.1			54			51.4			51.7			61			58.7			100	J		63.1	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-16
Analytical Data for Load Line 3 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P3A-025						P3A-026						P3A-027						P3A-028					
		P3A-025-000 (0-0.5 ft)			P3A-025-001 (1-2 ft)			P3A-026-000 (0-0.5 ft)			P3A-026-001 (1-2 ft)			P3A-027-000 (0-0.5 ft)			P3A-027-001 (1-2 ft)			P3A-028-000 (0-0.5 ft)			P3A-028-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	6680	J		21700	J		8470	J		19800	J		9090			15700			18700			20800		
Antimony	31	1	J			UJ	(0.47)		UJ	(0.44)		UJ	(0.44)	1.5	J			UJ	(0.41)	2.9	J		0.59	J	
Arsenic	13.5	5.8	J		9.7			3.7	J		8.7			3.6	J		7.2	J		7.1			9.2		
Barium	440	58			233			114			251			210			194			223			256		
Beryllium	1.52	0.31			0.93			0.38			0.86			0.38			0.69			0.77			0.91		
Cadmium	39	1.4			0.5	J		0.37	J		0.27	J		3.7			0.25	J		0.3	J		0.39	J	
Calcium	GRAS	64000			7450			6350			4410			124000	J		4010	J		3200	J		3710	J	
Chromium	37	11.3			23.7			11.7			21.3			18.8			16.4			21.2			22.6		
Cobalt	17.2	4.3			10.5			4.9			10			4.9			8			9.4			11.4		
Copper	33.9	8.8	J		21.3	J		8.5	J		18.7	J		***35.5***	J		18	J		17.8	J		20.5	J	
Iron	GRAS	8480			23300			8970			20900			10300			16600			18400			21800		
Lead	400	26.7	J		32	J		18.3	J		14.2	J		206	J		12.7	J		19.3	J		16.7	J	
Magnesium	GRAS	4650			4360			1670			4030			3020			3100			3790			4260		
Manganese	1083	258	J		582	J		279	J		632	J		441	J		458	J		538	J		676	J	
Mercury	23		U	(0.11)		U	(0.12)		U	(0.12)		U	(0.11)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.11)
Nickel	39.3	12.5			25.5			10.4			22.6			13			19.3			21			25		
Potassium	GRAS	2120			3810			2090			3870			2810			2620			3700			3820		
Selenium	390		U	(0.93)		U	(1.1)		U	(1)		U	(1)		U	(0.93)		U	(0.94)		U	(0.85)	1.8	J	
Sodium	GRAS		U	(286)		U	(33.3)		U	(31.3)		U	(31.2)		U	(287)		U	(289)		U	(262)		U	(340)
Thallium	1.72		U	(11.6)		U	(13.6)		U	(12.7)		U	(12.7)		U	(1.2)	1.2	J			U	(1.1)		U	(1.4)
Vanadium	72.5	20.8			50			22.6			43.1			22.4			28.9			45.7			44.9		
Zinc	119.5	52.5			83.5			34.4			63.2			***281***	J		51.1	J		59.6	J		66.4	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-16
Analytical Data for Load Line 3 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P3A-029					
		P3A-029-000 (0-0.5 ft)			P3A-029-001 (1-2 ft)		
		R	Q	QL	R	Q	QL
METALS (MG/KG)							
Aluminum	33852	6430			20000	J	
Antimony	31	2.7	J		1.3	J	
Arsenic	13.5	3.2	J		13.4		
Barium	440	104			235		
Beryllium	1.52	0.32			0.85		
Cadmium	39	0.55	J		0.23	J	
Calcium	GRAS	15200	J		5740		
Chromium	37	14.3			***37.2***		
Cobalt	17.2	4.6			10.9		
Copper	33.9	9.8	J		***98.3***	J	
Iron	GRAS	8050			45000		
Lead	400	46.7	J		42.9	J	
Magnesium	GRAS	1810			4130		
Manganese	1083	243	J		663	J	
Mercury	23		U	(0.11)		U	(0.1)
Nickel	39.3	10.7			35		
Potassium	GRAS	1690			3730		
Selenium	390		U	(0.96)		U	(1)
Sodium	GRAS		U	(293)		U	(321)
Thallium	1.72		U	(1.2)		U	(13.1)
Vanadium	72.5	20.6			42.4		
Zinc	119.5	45.9	J		76.6		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-17
Analytical Data for Load Line 4 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P4A-001						P4A-002						P4A-003						P4A-004					
		P4A-001-000 (0-0.5 ft)			P4A-001-001 (1-2 ft)			P4A-002-000 (0-0.5 ft)			P4A-002-001 (1-2 ft)			P4A-003-000 (0-0.5 ft)			P4A-003-001 (1-2 ft)			P4A-004-000 (0-0.5 ft)			P4A-004-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	16600			18900			14900			14500			6270			7550			17500			17900		
Antimony	31	***171***	J		10	J			UJ	(0.45)		UJ	(0.47)	3	J		5	J		***38.4***	J		1.9	J	
Arsenic	13.5	8.3	J		8.2	J		5.6	J		5	J		3.5	J		3.9	J		7.7	J		7.6	J	
Barium	440	234			272			186			246			125			152			246			209		
Beryllium	1.52		U	(0.24)		U	(0.24)		U	(0.24)		U	(0.24)		U	(0.24)		U	(0.24)		U	(0.27)		U	(0.25)
Cadmium	39	3.2	J		0.27	J		0.14	J			UJ	(0.12)		UJ	(0.12)		UJ	(0.12)	0.52	J		0.25	J	
Calcium	GRAS	4350			4510			3740			3030			2600			2210			4350			3240		
Chromium	37	***48.2***			21.3			17.5			17.4			15			14.8			***55.5***			19.2		
Cobalt	17.2	11.1			10.6			7.2			10			5.6			7			13			9.8		
Copper	33.9	25.5	J		22.8	J		15.1	J		14	J		9.6	J		9.8	J		19.7	J		15.6	J	
Iron	GRAS	19300			22000			15900			15400			8460			9680			20300			19200		
Lead	400	209	J		18.1	J		17.4	J		12.6	J		46.5	J		34.5	J		215	J		15.6	J	
Magnesium	GRAS	3390			4090			2900			2910			1380			1610			3650			3360		
Manganese	1083	552			666			461			585			335			347			740			556		
Nickel	39.3	24.9			29.9			16.7			16			10.1			9.9			25			21.2		
Potassium	GRAS	3680			3500			2990			3060			1590			1950			4360			3580		
Selenium	390		U	(1.1)	1.5	J		1.1	J		1.4	J			U	(1)	1.2	J			U	(1.2)	2.1	J	
Sodium	GRAS		U	(323)		U	(330)		U	(321)		U	(330)		U	(321)		U	(328)		U	(365)		U	(339)
Thallium	1.72		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.5)		U	(1.4)
Vanadium	72.5	37.7			39.5			30.8			32.7			15.7			24.7			38.3			38.5		
Zinc	119.5	108	J		61	J		50.8	J		43.9	J		31.4	J		30.8	J		76.5	J		53.4	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-17
Analytical Data for Load Line 4 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P4A-005						P4A-006						P4A-007						P4A-008						P4A-009					
		P4A-005-000 (0-0.5 ft)			P4A-005-001 (1-2 ft)			P4A-006-000 (0-0.5 ft)			P4A-006-001 (1-2 ft)			P4A-007-000 (0-0.5 ft)			P4A-007-001 (1-2 ft)			P4A-008-000 (0-0.5 ft)			P4A-008-001 (1-2 ft)			P4A-009-000 (0-0.5 ft)			P4A-009-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																															
Aluminum	33852	16900			18900			16000			18600			16400	J		15700	J		12700			15200			7740			11100		
Antimony	31	15.4	J		2.1	J		1.6	J			UJ	(0.48)	6.5	J			R			R			R			R			R	
Arsenic	13.5	8.5	J		7.1	J		7.8	J		8.2	J		7.7	J		9	J		6.2	J		5.9	J		3.4	J		5	J	
Barium	440	218			216			212			241			237			180			172	J		199	J		128	J		181	J	
Beryllium	1.52		U	(0.25)		U	(0.25)		U	(0.71)		U	(0.81)	0.73			0.8			0.59			0.68			0.37			0.58		
Cadmium	39	2.3	J		0.28	J		1.1	J		0.17	J		2.4				U	(0.13)	0.38	J		0.52	J		0.51	J		0.31	J	
Calcium	GRAS	5450			3920			3940			3560			4240			3900			2750			2760			3100			2470		
Chromium	37	29.6			20.8			19.6			20.2			31.8			16.5			14.3			16.1			14.5			12.5		
Cobalt	17.2	12.6			9.9			9.3			10.2			12.1			9.9			8			9.4			4.3			7.1		
Copper	33.9	***37.2***	J		18.3	J		20.6	J		19.3	J		27.1			18.9			14.7			15			13.2			13		
Iron	GRAS	20400			20000			18300			20900			18800			20300			15600			16600			9130			13100		
Lead	400	100	J		15.7	J		38.8	J		15	J		136			15			11.9			13.1			326			12.5		
Magnesium	GRAS	3450			3770			3480			3960			3270			3260			2990			2950			2890			2300		
Manganese	1083	766			586			594			601			810	J		386	J		486			608			222			409		
Nickel	39.3	34.2			22.7			24.3			24.1			28.3			22.6			17.8			19.1			16.8			14.7		
Potassium	GRAS	3400			3660			3730			3370			3760			2950			2830			3330			1970			2670		
Selenium	390	1.8	J		1.1	J			U	(1.2)	1.3	J			J		2.3	J			U	(1.1)	1.3	J		1.8	J			U	(1.1)
Sodium	GRAS		U	(344)		U	(334)		U	(359)		U	(340)		U	(350)		U	(358)		U	(322)		U	(312)		U	(366)		U	(336)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.5)		U	(1.4)		U	(1.4)	***1.8***	J			U	(1.3)		U	(1.3)		U	(1.5)		U	(1.4)
Vanadium	72.5	37.4			40			34.1			37.4			38.7			32.8			29.3			34			26			25.7		
Zinc	119.5	103	J		56.9	J		70.4	J		58.6	J		***264***			50.8			41.5			44.3			***138***			37.7		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-17
Analytical Data for Load Line 4 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P4A-010						P4A-011						P4A-012						P4A-013						P4A-014					
		P4A-010-000 (0-0.5 ft)			P4A-010-001 (1-2 ft)			P4A-011-000 (0-0.5 ft)			P4A-011-001 (1-2 ft)			P4A-012-000 (0-0.5 ft)			P4A-012-001 (1-2 ft)			P4A-013-000 (0-0.5 ft)			P4A-013-001 (1-2 ft)			P4A-014-000 (0-0.5 ft)			P4A-014-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																															
Aluminum	33852	11100			13000			8760			13500			15000			13800			13400			15400			12600			13100	J	
Antimony	31		R			R		5.1	J			R			R			R		15.8	J		1.5	J			R			R	
Arsenic	13.5	5	J		6.3	J		7.1	J		7.5	J		6.2	J		6.9	J		6.4	J		8.1	J		7.5	J		6.9	J	
Barium	440	153	J		193	J		204	J		197	J		207	J		226	J		187	J		201	J		206	J		219	J	
Beryllium	1.52	0.54			0.61			0.52			0.66			0.71			0.71			0.66			0.75			0.68			0.67		
Cadmium	39	0.67	J		0.42	J		19.7			0.54	J		0.49	J		0.43	J		1.3			0.64	J		0.57	J			U	(0.12)
Calcium	GRAS	2660			2510			4180			3760			3210			3360			4120			3850			3380			3250	J	
Chromium	37	13.1			14.3			***123***			14.5			16.5			15.1			24.2			17.2			15.3			14.8		
Cobalt	17.2	7.1			8.1			9.6			9			8.7			9.5			9.2			9.6			9			8.9		
Copper	33.9	14.8			15.4			33.7			15.9			17.8			18.9			32.1			20.5			17.7			14	J	
Iron	GRAS	13800			16200			17200			17700			17900			17900			16600			19600			17000			16000	J	
Lead	400	21.2			10.9			***600***			13.4			16.9			13.3			112			17.1			45.9			13.7		
Magnesium	GRAS	2520			2850			2010			2770			3270			3390			2860			3750			3050			2880		
Manganese	1083	433			496			605			567			521			586			543			578			542			549	J	
Nickel	39.3	15.5			18			24.1			19.7			20			21.5			18.5			23.5			19.6			17.8		
Potassium	GRAS	4560			4490			2180			2820			3430			2730			3320			3010			3340			2760		
Selenium	390	1.1	J			U	(1.1)	1.5	J		1.8	J			U	(1.1)		U	(1.1)	1.5	J			U	(1.1)	1.2	J		1.6	J	
Sodium	GRAS		U	(333)		U	(325)		U	(360)		U	(338)		U	(340)		U	(339)		U	(352)		U	(341)		U	(341)	197	J	
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.5)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.3)
Vanadium	72.5	24.7			30			26.4			29.9			33			29.6			31.9			34.4			27.7			30		
Zinc	119.5	44.9			40.3			***147***			45.1			49.9			47.6			93.5			51.3			69.4			45.6		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-17
Analytical Data for Load Line 4 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P4A-015						P4A-016						P4A-017						P4A-018						P4A-019					
		P4A-015-000 (0-0.5 ft)			P4A-015-001 (1-2 ft)			P4A-016-000 (0-0.5 ft)			P4A-016-001 (1-2 ft)			P4A-017-000 (0-0.5 ft)			P4A-017-001 (1-2 ft)			P4A-018-000 (0-0.5 ft)			P4A-018-001 (1-2 ft)			P4A-019-000 (0-0.5 ft)			P4A-019-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																															
Aluminum	33852	13600	J		13500	J		14000	J		13300	J		8020	J		16200	J		10000	J		15100	J		10300	J		17100	J	
Antimony	31		R			R			R			R		0.71	J			R		0.8	J			R		1.1	J			R	
Arsenic	13.5	6.9	J		7.2	J		6	J		6.8	J		4.4	J		6.1	J		6.3	J		5.9	J		6.9	J		8.4	J	
Barium	440	183	J		189	J		194	J		202	J		115	J		193	J		157	J		199	J		198	J		204	J	
Beryllium	1.52	0.66			0.69			0.66			0.69			0.43			0.74			0.58			0.71			0.6			0.8		
Cadmium	39		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.12)	0.77	J			U	(0.12)	0.29	J			U	(0.13)		U	(0.13)		U	(0.12)
Calcium	GRAS	2620	J		2460	J		2720	J		2900	J		2230	J		2860	J		3540	J		2940	J		3650	J		3590	J	
Chromium	37	15.5			15.3			15.7			14.7			13.9			17.5			12.3			15.8			12.8			17.9		
Cobalt	17.2	8.3			8.8			7.9			8.8			5.7			8.9			7.4			8.7			8.2			9.4		
Copper	33.9	15.8	J		14.1	J		14.2	J		16	J		14.1	J		15.2	J		19.9	J		14.5	J		16.7	J		18.3	J	
Iron	GRAS	15300	J		15900	J		15500	J		16700	J		10000	J		17200	J		14500	J		17200	J		14400	J		19700	J	
Lead	400	47.3			14.1			14.3			12.9			95.7			15.5			19.4			13.2			16.7			23.3		
Magnesium	GRAS	2750			2670			2700			2960			1780			3090			2360			2960			2540			3640		
Manganese	1083	516	J		555	J		497	J		535	J		345	J		542	J		432	J		488	J		525	J		555	J	
Nickel	39.3	16.7			17.2			16.6			18.8			10.8			17.7			17			16.6			17.7			21.4		
Potassium	GRAS	2950			2710			3250			2570			1840			3010			2520			2890			2230			2820		
Selenium	390		U	(1.1)	1.2	J		1.1	J			U	(1.1)	1.1	J			U	(1.1)		U	(1.1)		U	(1.1)		U	(1.1)	1.7	J	
Sodium	GRAS	137	J		141	J		185	J		89.9	J		157	J		90.6	J		226	J		196	J		223	J		203	J	
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.4)	1.4	J			U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)
Vanadium	72.5	31.4			32.5			32.7			29.6			18.9			35.7			24.4			30.9			25			35.6		
Zinc	119.5	69.3			43.2			44.1			45.4			78.9			51.1			47.5			49.4			43.9			52.5		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-17
Analytical Data for Load Line 4 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P4A-020						P4A-021						P4A-022						P4A-023						P4A-024					
		P4A-020-000 (0-0.5 ft)			P4A-020-001 (1-2 ft)			P4A-021-000 (0-0.5 ft)			P4A-021-001 (1-2 ft)			P4A-022-000 (0-0.5 ft)			P4A-022-001 (1-2 ft)			P4A-023-000 (0-0.5 ft)			P4A-023-001 (1-2 ft)			P4A-024-000 (0-0.5 ft)			P4A-024-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																															
Aluminum	33852	10100			12900			16800			14100			10700			10500			13100			10600			8150			14000		
Antimony	31	0.7	R			R			R			R			R			R			R			R			UJ	(0.41)	0.54	J	
Arsenic	13.5	5.2	J		6	J		8.3	J		5.8	J		5.5	J		4.9	J		6.3	J		4.9	J		4.1	J		7	J	
Barium	440	156			187			187			207			152			256			177			198			109			191		
Beryllium	1.52	0.54			0.66			0.74			0.68			0.53			0.6			0.63			0.58			0.41			0.63		
Cadmium	39		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.11)		U	(0.13)		U	(0.12)		U	(0.12)	0.13	J			U	(0.11)
Calcium	GRAS	3320			3190			3430			2640			2570			3040			3050			2870			1800			2670		
Chromium	37	12.6			14.7			18.9			15.1			12.2			13.3			15			13.4			9.5			14.7		
Cobalt	17.2	7			7.9			9.5			7.6			7.4			7.8			8.2			6.2			5.8			8.6		
Copper	33.9	15.8			13.3			21.1			13.4			13.3			11.9			15.4			11.7			9.3			12.4		
Iron	GRAS	13300			15500			19200			15200			12800			12700			15600			12300			9860			16500		
Lead	400	18.8	J		12.8	J		15	J		11.6	J		9.5	J		11.9	J		11.8	J		11.1	J		17.9	J		12.2		
Magnesium	GRAS	2370			2650			3640			2590			2490			2180			2830			2190			1900			3120		
Manganese	1083	437			458			533			496			493			699			443			420			330			510		
Nickel	39.3	15.7			16.1			22.6			15.4			15.5			13.7			17.4			13.6			11.2			16.5		
Potassium	GRAS	2500			2650			4430			3990			2010			2250			2520			2320			2190			2440		
Selenium	390		U	(1.1)	1.1	J			U	(1.1)		U	(1.1)		U	(1)	1.4	J			U	(1)		U	(1)		U	(0.96)		U	(1)
Sodium	GRAS		U	(346)		U	(324)		U	(330)		U	(339)		U	(306)		U	(345)		U	(314)		U	(320)		U	(293)		U	(310)
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.2)		U	(14.1)		U	(1.3)		U	(1.3)		U	(1.2)		U	(1.3)
Vanadium	72.5	25.2			30.4			40.2			31.1			24.7			26.6			28.6			24.6			19.5			30.3		
Zinc	119.5	43.7	J		42.1	J		53.5	J		44.1	J		33.2	J		38.9	J		42.4	J		36	J		34.4			47.8		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-17
Analytical Data for Load Line 4 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P4A-025						P4A-026						P4A-027						P4A-028					
		P4A-025-000 (0-0.5 ft)			P4A-025-001 (1-2 ft)			P4A-026-000 (0-0.5 ft)			P4A-026-001 (1-2 ft)			P4A-027-000 (0-0.5 ft)			P4A-027-001 (1-2 ft)			P4A-028-000 (0-0.5 ft)			P4A-028-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	4810			17600			6230			17700			4430			13900			18900			20300		
Antimony	31		UJ	(0.88)	0.56	J			UJ	(0.68)	0.5	J			UJ	(0.43)	0.46	J			UJ	(0.49)		UJ	(0.48)
Arsenic	13.5		U	(1.6)	8.6	J		3.2	J		8.6			1.9	J		6.8	J		7.6	J		7.2	J	
Barium	440	184			278			231			209	J		145			201			240			260		
Beryllium	1.52	0.22	J		0.8			0.33	J		0.79			0.21	J		0.64			0.83			0.88		
Cadmium	39	0.31	J		0.27	J		0.53	J		0.44	J		5.7			0.4	J		0.32	J		0.22	J	
Calcium	GRAS	13700			2620			15900			3330			167000			4080			3650			3340		
Chromium	37	8.5	J		18.9			10.3			19.5			9.7			16.2			20.6			21		
Cobalt	17.2	2.8			11.4			4			10.2	J		2.9			8.3			10.6			10.7		
Copper	33.9	22.4			15.9			23.6			18.4			31.3			28.6			18.9			17.3		
Iron	GRAS	6120			21200			7950			20100			5460			15400			19500			20500		
Lead	400	37.7			15.3			19.1			15.5			95.5	J		26.7	J		36.4	J		14.8	J	
Magnesium	GRAS	2960			3800			3390			3690			2610			2850			3660			3650		
Manganese	1083	239			770			336			661	J		326			477			671			607		
Nickel	39.3	8.8			21.9			12.9			23.7			7.7			17.7			21.4			22.1		
Potassium	GRAS	4960			6430			6420			5300			2950			4730			4300			3570		
Selenium	390	2.1	J		1.6	J		2.1	J		2.2	J			U	(1)		U	(1.1)		U	(1.1)		U	(1.1)
Sodium	GRAS		U	(624)		U	(342)		U	(483)		U	(321)		U	(308)		U	(323)		U	(346)		U	(339)
Thallium	1.72		U	(2.5)		U	(1.4)		U	(2)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.4)
Vanadium	72.5	11.9			39.6			14.7			35.7			12.8			31.8			42			40.4		
Zinc	119.5	***132***			61.8			***120***			58			***216***			100			70.6			61		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-17
Analytical Data for Load Line 4 Paint Operations Areas Shallow Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	P4A-029					
		P4A-029-000 (0-0.5 ft)			P4A-029-001 (1-2 ft)		
		R	Q	QL	R	Q	QL
METALS (MG/KG)							
Aluminum	33852	3520			17500		
Antimony	31	1.2	J			UJ	(0.48)
Arsenic	13.5	1.5	J		6.7	J	
Barium	440	78.2			258		
Beryllium	1.52	0.19	J		0.77		
Cadmium	39	0.76	J		0.52	J	
Calcium	GRAS	14900			2950		
Chromium	37	15.9			18.6		
Cobalt	17.2	3.3			9.7		
Copper	33.9	14.2			20.8		
Iron	GRAS	6080			18200		
Lead	400	133	J		23.5	J	
Magnesium	GRAS	1370			3210		
Manganese	1083	151			541		
Nickel	39.3	6.7			20.1		
Potassium	GRAS	2180			5840		
Selenium	390		U	(0.97)		U	(1.1)
Sodium	GRAS		U	(297)		U	(343)
Thallium	1.72		U	(1.2)		U	(1.4)
Vanadium	72.5	9.9			38.4		
Zinc	119.5	89.7			69.1		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-18

Analytical Data for Groundwater Sampling at Existing Monitoring Wells at Load Lines Paint Operations Areas
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	MW-03A						MW-03B						MW-04A						MW-04B					
		AMW-003-114			AMW-003-035			BMW-003-114			BMW-003-035			AMW-004-114			AMW-004-035			BMW-004-114			BMW-004-035		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
DISSOLVED METALS (UG/L)																									
Aluminum	37000	81.8	B		87.8	B		81.7	B		145	B		91	B		63.8	B		91	B		96.4	B	
Antimony	6		U	(1.9)		U	(1.9)		U	(1.9)	***12.6***	B			U	(1.9)		U	(1.9)		U	(1.9)		U	(1.9)
Arsenic	50	7.9	B		4.2	B		6.7	B		9.6	B		15.4			9.7	B		13			7.2	B	
Barium	2000	241			232			456			475			108	B		108	B		143	B		108	B	
Beryllium	4		U	(0.1)		U	(0.1)		U	(0.1)	1.2	B			U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)
Cadmium	5		U	(0.5)		U	(0.5)		U	(0.5)	1.1	B			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
Calcium	GRAS	74600			73900			73400			70300			72600			74500			55800			59200		
Chromium	100		U	(2.2)		U	(2.2)	2.2	B		4.4	B			U	(2.2)		U	(2.2)		U	(2.2)		U	(2.2)
Cobalt	2200		U	(0.5)		U	(0.5)		U	(0.5)	12.9	B			U	(0.5)	0.64	B			U	(0.5)		U	(0.5)
Copper	1300		U	(0.8)		U	(0.8)		U	(0.8)	6.1	B			U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)
Iron	GRAS		U	(27.2)		U	(27.2)		U	(27.2)		U	(27.2)	66.9	B		65.4	B			U	(27.2)		U	(27.2)
Lead	15		U	(1.6)		U	(1.6)	1.7	B		2	B			U	(1.6)		U	(1.6)		U	(1.6)		U	(1.6)
Magnesium	GRAS	15600			15400			25500			24200			12100			11900			13200			13000		
Manganese	180	1	B		0.79	B			U	(0.4)	4.1	B		37.9			44			0.54	B		0.57	B	
Mercury	2		U	(0.2)		U	(0.2)		U	(0.2)		U	(0.2)		UN	(0.2)		U	(0.2)		UN	(0.2)		U	(0.2)
Nickel	100		U	(1.5)		U	(1.5)		U	(1.5)	11.3	B		2.2	B		1.9	B		3.6	B		4.4	B	
Potassium	GRAS	13500			11700	E		13200			11200	E		13400			11700	E		12100			10400	E	
Selenium	50	28			31.6	*		23.4			25.9	*		11.2			13.8	*		14.9			18.3	*	
Silver	100		U	(0.6)		U	(0.6)		U	(0.6)	2.5	B			U	(0.6)		U	(0.6)		U	(0.6)		U	(0.6)
Sodium	GRAS	18700			19000			23600			23900			19000			19500			15800			16600		
Thallium	2		U	(5.5)		U	(5.5)	***8.7***	B		***8***	B		***6.7***	B			U	(5.5)		U	(5.5)		U	(5.5)
Vanadium	260	4.7	B		5	B		4.4	B		17.5	B		4.1	B		4.7	B		10.6	B		11.4	B	
Zinc	2000	2.3	B		11	B		2.8	B		16.9	B		1.1	B		2.3	B		0.87	B		3.4	B	
TOTAL METALS (UG/L)																									
Aluminum	37000	96.5	B		124	B		116	B		97.3	B		174	B		140	B		133	B		124	B	
Arsenic	50		U	(3.5)	6.8	B			U	(3.5)		U	(3.5)	12.1			9.6	B		11.2			7.9	B	
Barium	2000	231			231			434			399			106	B		99.5	B		139	B		105	B	
Beryllium	4		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)
Calcium	GRAS	73000			72700			71000			67300			76800			65800			57500			57600		
Chromium	100		U	(2.2)		U	(2.2)	2.5	B		2.4	B			U	(2.2)		U	(2.2)		U	(2.2)		U	(2.2)
Cobalt	2200		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
Copper	1300		U	(0.8)		U	(0.8)	0.84	B			U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)
Iron	GRAS		U	(27.2)		U	(27.2)		U	(27.2)		U	(27.2)	92.6	B		198				U	(27.2)		U	(27.2)
Lead	15		U	(1.6)		U	(1.6)		U	(1.6)		U	(1.6)		U	(1.6)		U	(1.6)		U	(1.6)		U	(1.6)
Magnesium	GRAS	15700			15200			25500			23100			12200			10500			13000			12500		
Manganese	180	1.6	B		1.2	B			U	(0.4)	3	B		40.1			40.3			0.9	B		0.85	B	
Nickel	100	1.7	B		1.6	B		2.6	B		1.5	B		2.2	B		2.1	B		3.8	B		3.6	B	
Potassium	GRAS	10400	E		10500	E		10200	E		9510	E		11200			9380	E		9890			9200	E	
Selenium	50	15.9			19.1			5.5			6.2			5.4				U	(4.4)	10.6			6.1		
Silver	100		U	(0.6)		U	(0.6)		U	(0.6)		U	(0.6)		U	(0.6)		U	(0.6)		U	(0.6)		U	(0.6)
Sodium	GRAS	18600	E		18500			23400	E		22100			18400			17300			15100			15800		
Vanadium	260	4.7	B		4.6	B		4.2	B		4.8	B		4.7	B		3.8	B		11.5	B		11	B	
Zinc	2000	2.1	B*		11.6	B			U*	(0.6)	12.5	B		0.66	B		5.5	B		3.6	B		14.1	B	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-18

Analytical Data for Groundwater Sampling at Existing Monitoring Wells at Load Lines Paint Operations Areas
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	MW-06A						MW-06B						MW-08A						MW-08B					
		AMW-006-114			AMW-006-035			BMW-006-114			BMW-006-035			AMW-008-114			AMW-008-035			BMW-008-114			BMW-008-035		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
DISSOLVED METALS (UG/L)																									
Aluminum	37000	53.5	B		77.4	B		87.8	B		98.4	B		58.1	B		59.8	B		56.2	B		34.2	B	
Antimony	6		U	(1.9)		U	(1.9)		U	(1.9)		U	(1.9)		U	(1.9)		U	(1.9)		U	(1.9)		U	(1.9)
Arsenic	50	7.6	B		6.2	B		6.4	B			U	(3.5)	6.8	B		6.2	B		4.1	B		5.8	B	
Barium	2000	183	B		182	B		275			270			102	B		101	B		282			284		
Beryllium	4		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)
Cadmium	5		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
Calcium	GRAS	66200			67000			50800			52400			66100			68800			52700			53500		
Chromium	100		U	(2.2)		U	(2.2)		U	(2.2)		U	(2.2)		U	(2.2)		U	(2.2)	3.3	B		3.1	B	
Cobalt	2200		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
Copper	1300		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)	0.99	B			U	(0.8)	0.92	B	
Iron	GRAS		U	(27.2)		U	(27.2)		U	(27.2)		U	(27.2)		U	(27.2)		U	(27.2)		U	(27.2)		U	(27.2)
Lead	15		U	(1.6)		U	(1.6)		U	(1.6)		U	(1.6)		U	(1.6)		U	(1.6)		U	(1.6)		U	(1.6)
Magnesium	GRAS	12000			11700			14900			14700			15600			16100			18600			19200		
Manganese	180		U	(0.4)		U	(0.4)		U	(0.4)		U	(0.4)		U	(0.4)		U	(0.4)		U	(0.4)		U	(0.4)
Mercury	2		UN	(0.2)		U	(0.2)		UN	(0.2)		U	(0.2)		U	(0.2)		U	(0.2)		U	(0.2)		U	(0.2)
Nickel	100		U	(1.5)		U	(1.5)		U	(1.5)		U	(1.5)		U	(1.5)		U	(1.5)		U	(1.5)		U	(1.5)
Potassium	GRAS	12000			10100	E		10800			9080	E		13300	E		11600	E		11800	E		10200	E	
Selenium	50	18.2			22.7	*		15.3			17.4	*		13.2			13.8			7.4			5.2		
Silver	100		U	(0.6)		U	(0.6)		U	(0.6)		U	(0.6)		U	(0.6)		U	(0.6)		U	(0.6)		U	(0.6)
Sodium	GRAS	18300			18900			14800			15500			26300			27400			15200			15800		
Thallium	2	*5.6*	B			U	(5.5)		U	(5.5)		U	(5.5)		U	(5.5)		U	(5.5)	*7.5*	B		*7.5*	B	
Vanadium	260	5.1	B		5.7	B		4.2	B		5.2	B		2.6	B		3.2	B		2.9	B		3	B	
Zinc	2000	0.85	B		2.2	B		0.94	B		2.4	B		0.69	B		23.7			2	B		25		
TOTAL METALS (UG/L)																									
Aluminum	37000	132	B		78.7	B		163	B		156	B		153	B		48.3	B		131	B		99	B	
Arsenic	50	5.3	B		4.8	B		5.2	B			U	(3.5)		U	(3.5)	3.7	B			U	(3.5)		U	(3.2)
Barium	2000	177	B		180	B		266			253			105	B		96.7	B		297			277		
Beryllium	4		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.2)		U	(0.1)		U	(0.2)
Calcium	GRAS	67800			66800			52900			48500			67600			64900			55100			52000		
Chromium	100		U	(2.2)		U	(2.2)		U	(2.2)		U	(2.2)		U	(2.2)	1.4	B		4	B		3.5	B	
Cobalt	2200		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.6)		U	(0.5)		U	(0.6)
Copper	1300		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)	0.82	B			U	(0.8)		U	(0.7)
Iron	GRAS		U	(27.2)		U	(27.2)		U	(27.2)		U	(27.2)	98.3	B			U	(15.7)		U	(27.2)		U	(15.7)
Lead	15		U	(1.6)		U	(1.6)		U	(1.6)	2.1	B			U	(1.6)		U	(1.9)		U	(1.6)		U	(1.9)
Magnesium	GRAS	11800			11700			14800			13700			15800			15200			19300			18500		
Manganese	180	0.42	B		0.71	B			U	(0.4)	1.7	B		0.72	B		0.35	B		0.43	B		0.34	B	
Nickel	100		U	(1.5)		U	(1.5)	1.6	B			U	(1.5)		U	(1.5)	1.7	B			U	(1.5)		U	(1.4)
Potassium	GRAS	9720			9140	E		8970			7730	E		11600			9730	E		10600			8880	E	
Selenium	50	13.2			7.5			5.9				U	(4.4)	7.7			7.4				U	(4.4)		U	(4.4)
Silver	100		U	(0.6)		U	(0.6)		U	(0.6)		U	(0.6)		U	(0.6)		U	(0.5)		U	(0.6)		U	(0.5)
Sodium	GRAS	17400			18400			14300			14300			26100			24800			15600			15000		
Vanadium	260	6	B		5.3	B		5	B		4.6	B		3.2	B		2.7	B		3.3	B		3.1	B	
Zinc	2000	1.1	B		3.6	B		1.2	B		8.6	B		1.5	B		3.8	B			U	(0.6)	25.6		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-18

Analytical Data for Groundwater Sampling at Existing Monitoring Wells at Load Lines Paint Operations Areas
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	MW-12A						MW-13A						MW-14A						MW-15A					
		AMW-012-114			AMW-012-035			AMW-013-114			AMW-013-035			AMW-014-114			AMW-014-035			AMW-015-114			AMW-015-035		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
DISSOLVED METALS (UG/L)																									
Aluminum	37000	160	B		104	B		313			119	B		136	B		70.2	B		149	B		71.4	B	
Antimony	6		U	(1.2)		U	(1.9)		U	(1.2)		U	(1.9)		U	(1.2)		U	(1.9)		U	(1.2)		U	(1.9)
Arsenic	50	6.2	B			U	(3.5)	6	B			U	(3.5)	4.7	B			U	(3.5)	5.3	B		4.7	B	
Barium	2000	251			258			200	B		171	B		288			294			260			233		
Beryllium	4		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)		U	(0.1)
Cadmium	5	0.32	B			U	(0.5)		U	(0.3)		U	(0.5)		U	(0.3)		U	(0.5)		U	(0.3)		U	(0.5)
Calcium	GRAS	49600			49700			33200			29400			54400			54800			39500			35400		
Chromium	100	1.5	B			U	(2.2)	1.6	B			U	(2.2)	2.4	B			U	(2.2)	2.9	B		2.5	B	
Cobalt	2200		U	(0.5)		U	(0.5)	1.2	B			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
Copper	1300	0.44	B			U	(0.8)	3	B		1.1	B			U	(0.3)	1.2	B			U	(0.3)	0.82	B	
Iron	GRAS		U	(7)		U	(27.2)	334				U	(27.2)		U	(7)		U	(27.2)		U	(7)		U	(27.2)
Lead	15		U	(1.4)		U	(1.6)	3.6				U	(1.6)		U	(1.4)		U	(1.6)		U	(1.4)		U	(1.6)
Magnesium	GRAS	16800			16800			12700			11400			21200			21400			14900			13300		
Manganese	180	1.4	B		0.4	B		27.1				U	(0.4)	0.55	B			U	(0.4)	0.43	B			U	(0.4)
Mercury	2		UN	(0.2)		U	(0.2)		UN	(0.2)		U	(0.2)		UN	(0.2)		U	(0.2)		UN	(0.2)	0.32		
Nickel	100	6.6	B		5.8	B		2.6	B		1.9	B			U	(0.7)		U	(1.5)	0.84	B			U	(1.5)
Potassium	GRAS	14100			12400	E		8410			6740	E		8610			7350	E		7540			5950	E	
Selenium	50	10.2			6.7	*		12.7			9.2	*		15.4			19.6			11.3			13.5		
Silver	100		U	(0.5)		U	(0.6)		U	(0.5)		U	(0.6)		U	(0.5)		U	(0.6)		U	(0.5)		U	(0.6)
Sodium	GRAS	15200	E		14200			13400	E		12800			22100	E		21800	E		16200	E		13600	E	
Thallium	2		U	(3)		U	(5.5)		U	(3)		U	(5.5)		U	(3)		U	(5.5)		U	(3)		U	(5.5)
Vanadium	260	6	B		6.1	B		7.1	B		5.9	B		3.2	B		3	B		3.8	B		3.6	B	
Zinc	2000	8.3	B		4.4	B		3.7	B		5.4	B		1.2	B		4.4	B		1.1	B		3.2	B	
TOTAL METALS (UG/L)																									
Aluminum	37000	4160			1320			1050			707			1340			2030			3690			127	B	
Arsenic	50	9.6	B			U	(3.5)	4.2	B		4.1	B		3.7	B			U	(3.5)	5.4	B			U	(3.5)
Barium	2000	308			264			206			167	B		290			282			306			0.48	B	
Beryllium	4	0.83	B			U	(0.1)		U	(0.2)		U	(0.1)		U	(0.2)		U	(0.1)	0.24	B			U	(0.1)
Calcium	GRAS	46200			47500			30600			26500			50800			46200			35000			48.5	B	
Chromium	100	12.6			3.5	B			U	(5.7)	2.5	B			U	(5.7)	4.7	B		5.8	B			U	(2.2)
Cobalt	2200		U	(12.6)	1.5	B			U	(12.6)	0.7	B			U	(12.6)	0.88	B			U	(12.6)		U	(0.5)
Copper	1300	10.5	B		3.4	B		4.1	B		2.8	B		2.7	B		4	B		5	B		8.8	B	
Iron	GRAS	6040	*		1860			1170	*		681			1180	*		2300			3370	*			U	(27.2)
Lead	15	13.6			3.3			4.7			1.7	B		3.2			5.5			10.2	S		1.8	B	
Magnesium	GRAS	17000			15900			12600			10000			21100			18000			14600			7.1	B	
Manganese	180	63.9	E		16.6			26.7	E		22.5			33.3	E		67.5			***345***	E			U	(0.4)
Nickel	100	27.1	B		8.6	B			U	(17.8)	3.5	B			U	(17.8)	2.9	B			U	(17.8)		U	(1.5)
Potassium	GRAS	12900			10900	E		7040			5460	E		7150			5850			6630			109	B	
Selenium	50		UWN	(2.7)		U	(4.4)		UWN	(2.7)		U	(4.4)		UWN	(2.7)		U	(4.4)		UWN	(2.7)		U	(4.4)
Silver	100		U	(4.5)		U	(0.6)		U	(4.5)		U	(0.6)		U	(4.5)		U	(0.6)		U	(4.5)	0.76	B	
Sodium	GRAS	13800	E		13200			12800	E		10800			20900	E		17000	E		14400	E		839	BE	
Vanadium	260	24.5	B		10.4	B		8.9	B		6.7	B		6.7	B		5.9	B		10	B			U	(0.5)
Zinc	2000	50.5			28.5			39.8			117			92.6			37.2			30.4			4.9	B	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-19
Analytical Data for Groundwater Sampling of Background Monitoring Wells
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	MW-19A						MW-19B						MW-19C					
		AMW-019-114			AMW-019-035			BMW-019-114			BMW-019-035			CMW-019-114			CMW-019-035		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
DISSOLVED METALS (UG/L)																			
Aluminum	37000	43	B			U	(19.2)	70.3	B			U	(19.2)	150	B		58.6	B	
Arsenic	50	19.2			19.4			20.7			21.9			4	B			U	(3.5)
Barium	2000	17.4	B		17	B		25.6	B		23.6	B		510			496		
Calcium	GRAS	169000			165000			127000			124000			66900			61700		
Chromium	100		U	(0.7)		U	(2.2)		U	(0.7)		U	(2.2)	0.94	B			U	(2.2)
Cobalt	2200	1.2	B		1.2	B		3.9	B		4.1	B			U	(0.5)		U	(0.5)
Copper	1300		U	(0.3)		U	(0.8)		U	(0.3)		U	(0.8)		U	(0.3)		U	(0.8)
Iron	GRAS	1930			1790			751			724				U	(7)		U	(27.2)
Lead	15		U	(1.4)		U	(1.6)		U	(1.4)		U	(1.6)		U	(1.4)		U	(1.6)
Magnesium	GRAS	33100			32100			24500			23800			23100			21700		
Manganese	180	***358***			***354***			***343***			***343***			53.7			33.6		
Nickel	100		U	(0.7)		U	(1.5)		U	(0.7)		U	(1.5)	3.8	B		2.2	B	
Potassium	GRAS	36200			33800	E		26900			25100	E		6640			5080	E	
Selenium	50	11.6			11.6	*		14.5			15.5			8			11.4		
Sodium	GRAS	205000	E		200000			108000	E		106000	E		22400	E		20300	E	
Thallium	2		U	(3)		U	(5.5)		U	(3)		U	(5.5)		U	(3)		U	(5.5)
Vanadium	260		U	(0.4)	0.53	B		0.59	B			U	(0.5)	2.8	B		2.6	B	
Zinc	2000		U	(0.2)	2.7	B		10.2	B		19	B		0.73	B		2.3	B	
TOTAL METALS (UG/L)																			
Aluminum	37000	213			24.6	B		117	B		81	B			U	(33.8)	188	B	
Arsenic	50	18.8			17.8			19.8			16.6			2.7	B			U	(3.5)
Barium	2000	17.6	B		17.3	B		22.5	B		22.9	B			U	(0.6)	455		
Calcium	GRAS	157000			169000			118000			119000				U	(53.7)	59500		
Cobalt	2200		U	(12.6)	1.1	B			U	(12.6)	3.4	B			U	(12.6)		U	(0.5)
Iron	GRAS	1810	*		1840			746	*		713				U*	(20.8)		U	(27.2)
Magnesium	GRAS	31000			32900			23600			23000				U	(27.3)	20300		
Manganese	180	***327***	E		***361***			***323***	E		***325***				UE	(1)	34.2		
Nickel	100		U	(17.8)		U	(1.5)		U	(17.8)		U	(1.5)		U	(17.8)	2.3	B	
Potassium	GRAS	21000			31400	E		17500			22800				U	(341)	4210	B	
Selenium	50		UWN	(2.7)		U	(4.4)		UN	(27)		U	(4.4)		UEN	(2.7)		U	(4.4)
Silver	100		U	(4.5)		U	(0.6)	4.7	B			U	(0.6)		U	(4.5)		U	(0.6)
Sodium	GRAS	191000	E		200000			105000	E		101000	E			UE	(93.8)	18700	E	
Vanadium	260		U	(2.9)		U	(0.5)		U	(2.9)		U	(0.5)		U	(2.9)	2.3	B	
Zinc	2000	107			7.8	B		20.8			17.3	B			U	(3.1)	7	B	
VOLATILES (UG/L)																			
Chloromethane	3		U	(1)		U	(1)	0.6	J			U	(1)		U	(1)		U	(1)
Methylene chloride	5		U	(2)	2	B			U	(2)	0.6	JB		0.6	JB		0.7	JB	
WATER QUALITY (mg/L)																			
Nitrite	1		U	(0.05)		NA			U	(0.05)		NA			NA			NA	
Nitrate	10		U	(0.05)		NA			U	(0.05)		NA			NA			NA	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-19
Analytical Data for Groundwater Sampling of Background Monitoring Wells
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	MW-47A						MW-47B						MW-48A			MW-48B			MW-48D		
		AMW-047-114			AMW-047-035			BMW-047-114			BMW-047-035			AMW-048-114			BMW-048-114			DMW-048-114		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
DISSOLVED METALS (UG/L)																						
Aluminum	37000	96.5	B		39	B		99.5	B		81.1	B		75	B		54	B		83.8	B	
Arsenic	50	26.3			24.3			22.8			19.7			11.8			9	B		21.4		
Barium	2000	144	B		141	B		159	B		151	B		125	B		301			135	B	
Calcium	GRAS	86700			85700			89000			88400			75100			77300			70700		
Chromium	100		U	(2.2)		U	(2.2)		U	(2.2)		U	(2.2)		U	(2.2)		U	(2.2)		U	(2.2)
Cobalt	2200		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.98	B	
Copper	1300		U	(0.8)	1.1	B			U	(0.8)	0.88	B			U	(0.8)		U	(0.8)		U	(0.8)
Iron	GRAS	1720			1770			1870			1850			289				U	(27.2)	1400		
Lead	15		U	(1.6)	1.6	B			U	(1.6)		U	(1.6)		U	(1.6)		U	(1.6)		U	(1.6)
Magnesium	GRAS	14600			14900			16000			16200			11900			21200			11700		
Manganese	180	***463***			***461***			***403***			***395***			***259***				U	(0.4)	***281***		
Nickel	100		U	(1.5)	1.8	B			U	(1.5)		U	(1.5)		U	(1.5)	2.4	B			U	(1.5)
Potassium	GRAS	14500			12800	E		14000			12500	E		14700			14800			12800		
Selenium	50	16.8			8.2			14.4			4.5	B		11.3			30.6			9		
Sodium	GRAS	29600			30300			21400			22100			18700			16700			20200		
Thallium	2		U	(5.5)		U	(5.5)		U	(5.5)		U	(5.5)	***7***	B			U	(5.5)		U	(5.5)
Vanadium	260		U	(0.5)	0.88	B			U	(0.5)		U	(0.5)		U	(0.5)	10.8	B			U	(0.5)
Zinc	2000	1.1	B		4.6	B		1.3	B		5.2	B		0.84	B		1.1	B		1.1	B	
TOTAL METALS (UG/L)																						
Aluminum	37000	104	B		70.8	B		89.9	B		71.5	B		123	B		131	B		146	B	
Arsenic	50	18.1			21.2			17			18.9			10.8			11.7			22.3		
Barium	2000	157	B		129	B		149	B		147	B		119	B		285			129	B	
Calcium	GRAS	87500			81400			85400			85400			76400			77700			74800		
Cobalt	2200		U	(0.5)		U	(0.6)		U	(0.5)		U	(0.6)		U	(0.5)		U	(0.5)	1.4	B	
Iron	GRAS	1830			1720			1870			1800			309				U	(27.2)	1480		
Magnesium	GRAS	15400			14100			15700			15700			11600			20300			11600		
Manganese	180	***481***			***437***			***393***			***383***			***264***				U	(0.4)	***294***		
Nickel	100		U	(1.5)	1.7	B			U	(1.5)		U	(1.4)		U	(1.5)	2.9	B			U	(1.5)
Potassium	GRAS	11900	E		10700	E		10600	E		10800	E		11900			11800			10400		
Selenium	50		U	(4.4)		U	(4.4)		U	(4.4)		U	(4.4)		U	(4.4)	22.8				U	(4.4)
Silver	100		U	(0.6)		U	(0.5)		U	(0.6)		U	(0.5)		U	(0.6)		U	(0.6)		U	(0.6)
Sodium	GRAS	30700	E		27500			20800	E		20400			17400			15400			18800		
Vanadium	260		U	(0.5)		U	(0.4)		U	(0.5)		U	(0.4)	0.6	B		11.1	B		0.96	B	
Zinc	2000	5.3	B*		4.7	B		0.86	B*		3.9	B		1.4	B		1	B		1.2	B	
VOLATILES (UG/L)																						
Chloromethane	3		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Methylene chloride	5	4	B		0.8	JB		3	B		1	JB		3	B		0.6	J		1	J	
WATER QUALITY (mg/L)																						
Nitrite	1		U	(0.05)		NA			U	(0.05)		NA		0.042			***5.7***				U	(0.05)
Nitrate	10		U	(0.05)		NA			U	(0.05)		NA		0.4			***59***				U	(0.05)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-20

Analytical Data for Former Raw Products Igloo Storage Areas Confirmation and Additional Soil Sampling

Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	IGS-031			IGS-032			IGS-036			IGS-039												
		IGN-031-000 (0-1 ft)			IGN-032-000 (0-1 ft)			IGN-036-000 (0-1 ft)			IGN-039-000 (0-0.5 ft)			IGN-039-001 (1-2 ft)			IGN-039-004 (4-5 ft)			IGN-039-00A (0-0.5 ft)			IGN-039-01A (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.18	J		1.4				U	(0.75)	0.055	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	8550			6200			7900				NA			NA			NA			NA			NA	
Antimony	31		UJ	(12)		UJ	(11.4)		UJ	(11.8)		NA			NA			NA			NA			NA	
Arsenic	13.5	6.3			4.9			5.7				NA			NA			NA			NA			NA	
Barium	440	145			117			141				NA			NA			NA			NA			NA	
Calcium	GRAS	6180			2660			2140				NA			NA			NA			NA			NA	
Chromium	37	11			7.9			9.3				NA			NA			NA			NA			NA	
Cobalt	17.2	5.5	B		4.8	B		5.4	B			NA			NA			NA			NA			NA	
Copper	33.9	11.9			10.5			11				NA			NA			NA			NA			NA	
Iron	GRAS	12400			9630			11100				NA			NA			NA			NA			NA	
Lead	400	39.9			67.6			18.7				NA			NA			NA			NA			NA	
Magnesium	GRAS	2300			1710			1980				NA			NA			NA			NA			NA	
Manganese	1083	367			300			376				NA			NA			NA			NA			NA	
Mercury	23	0.44	J			UN	(0.1)	0.29	J			NA			NA			NA			NA			NA	
Nickel	39.3	20.5			13.5			14				NA			NA			NA			NA			NA	
Potassium	GRAS	1480			1010	B		1590				NA			NA			NA			NA			NA	
Selenium	390		U	(1.2)		U	(1.1)		U	(1.2)		NA			NA			NA			NA			NA	
Silver	380		U	(2.4)		U	(2.3)	25.2				NA			NA			NA			NA			NA	
Vanadium	72.5	21.1			16			18.4				NA			NA			NA			NA			NA	
Zinc	119.5	118			102			80.8				NA			NA			NA			NA			NA	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-20

Analytical Data for Former Raw Products Igloo Storage Areas Confirmation and Additional Soil Sampling

Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	IGS-040			IGS-056			IGS-060			IGS-073													IGS-080		
		IGN-040-000 (0-1 ft)			IGN-056-000 (0-1 ft)			IGN-060-000 (0-1 ft)			IGN-073-000 (0-0.5 ft)			IGN-073-001 (1-2 ft)			IGN-073-004 (4-5 ft)			IGN-073-00A (0-0.5 ft)			IGN-073-01A (1-2 ft)			IGN-080-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																												
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)	0.72	J		0.67	J			U	(0.75)		U	(0.75)		U	(0.75)	0.11	J	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)	0.27	J	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.087	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																												
Aluminum	33852	6500			15600			12900				NA			NA			NA			NA			NA		13900		
Antimony	31		UJ	(11.9)		UJ	(12.7)		UJ	(12.4)		NA			NA			NA			NA			NA			UJ	(12.5)
Arsenic	13.5	3.8			10.1			9.1				NA			NA			NA			NA			NA		7.8		
Barium	440	117			205			194				NA			NA			NA			NA			NA		225		
Calcium	GRAS	2460			7230			10400				NA			NA			NA			NA			NA		7200		
Chromium	37	9.1			17.4			15.6				NA			NA			NA			NA			NA		15.2		
Cobalt	17.2	6.1	B		10.7	B		8.2	B			NA			NA			NA			NA			NA		9.1	B	
Copper	33.9	8.3			20.4			22.8				NA			NA			NA			NA			NA		20		
Iron	GRAS	9400			19400			16800				NA			NA			NA			NA			NA		18300		
Lead	400	23.1			118			37.3				NA			NA			NA			NA			NA		64.8		
Magnesium	GRAS	1650			3440			3170				NA			NA			NA			NA			NA		3540		
Manganese	1083	294			608			524				NA			NA			NA			NA			NA		552		
Mercury	23	0.22	J		0.19	J		0.2	J			NA			NA			NA			NA			NA			UN	(0.1)
Nickel	39.3	14.9			19.7			23.6				NA			NA			NA			NA			NA		24.4		
Potassium	GRAS	1460			3200			2710				NA			NA			NA			NA			NA		2930		
Selenium	390		U	(1.2)		U	(1.3)		U	(1.2)		NA			NA			NA			NA			NA			U	(1.3)
Silver	380		U	(2.4)		U	(2.5)		U	(2.5)		NA			NA			NA			NA			NA			U	(2.5)
Vanadium	72.5	16.7			35.8			32.2				NA			NA			NA			NA			NA		32.1		
Zinc	119.5	73.8			***167***			82.3				NA			NA			NA			NA			NA		***199***		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-20

Analytical Data for Former Raw Products Igloo Storage Areas Confirmation and Additional Soil Sampling
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	IGS-081			IGS-084			IGS-106			IGS-107			IGS-109		
		IGN-081-000 (0-1 ft)			IGN-084-000 (0-1 ft)			IGN-106-000 (0-1 ft)			IGN-107-000 (0-1 ft)			IGN-109-000 (0-1 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8	0.16	J		0.17	J			U	(0.5)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343	0.1	J		0.097	J			R			U	(0.75)		R	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)	0.093	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																
Aluminum	33852	14600			14300			12300			11500			7640		
Antimony	31		UJ	(12.8)		UJ	(12.5)		UJ	(12.2)		R			R	
Arsenic	13.5	8.6			11			8.1			8.4			10.3		
Barium	440	202			281			182			203	*		242	*	
Calcium	GRAS	7640			4690			8280			5170			12100		
Chromium	37	17.6			17.4			15.3			16.6	*		24.2	*	
Cobalt	17.2	10.1	B		11	B		9.3	B		9.2	B		9.5	B	
Copper	33.9	20.3			20.7			17.5			22.6			***36.1***		
Iron	GRAS	19300			21100			16800			20100			48700		
Lead	400	22.7			45.7			24.6			20.8			64.1		
Magnesium	GRAS	3750			4280			3470			2940			2240		
Manganese	1083	594			628			474			585	J		635	J	
Mercury	23		UN	(0.11)	0.12	J			UN	(0.1)		U	(0.1)	0.19		
Nickel	39.3	26.1			24.2			22.5			24.1			***66.1***		
Potassium	GRAS	3420			2180			2620			2410			1920		
Selenium	390		U	(1.3)		U	(1.3)		U	(1.2)		U	(1.2)	1.3		
Silver	380		U	(2.6)		U	(2.5)		U	(2.4)		UJ	(2.4)		UJ	(2.4)
Vanadium	72.5	33.5			33.3			29.7			27			18.3		
Zinc	119.5	92			***168***			109			68.2	*		***133***	*	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-21
Analytical data for Surface Wipe Sampling at the Former Raw Products Igloo Storage Areas
Former Nebraska Ordnance Plant, Mead, Nebraska

	IGW-001			IGW-002			IGW-003			IGW-004			IGW-005			IGW-006		
	IGW-001-FLR			IGW-002-FLR			IGW-003-FLR			IGW-004-FLR			IGW-005-FLR			IGW-006-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
2,4,6-Trinitrotoluene (2,4,6-TNT)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.00039	J			U	(0.0005)
3-Nitrotoluene (3-NT)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		UJ	(0.001)		U	(0.001)	0.00056	J			U	(0.001)		U	(0.001)		U	(0.001)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		UJ	(0.0039)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.0011)		U	(0.0026)
Nitrobenzene (NB)		UJ	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00043	J			U	(0.0005)		U	(0.0005)	0.000063	J		0.00015	J		0.00027	J	

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-21
Analytical data for Surface Wipe Sampling at the Former Raw Products Igloo Storage Areas
Former Nebraska Ordnance Plant, Mead, Nebraska

	IGW-007			IGW-008			IGW-009			IGW-010			IGW-011			IGW-012		
	IGW-007-FLR			IGW-008-FLR			IGW-009-FLR			IGW-010-FLR			IGW-011-FLR			IGW-012-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)		U	(0.0005)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		U	(0.001)		U	(0.001)	0.0005	J			U	(0.001)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.0042)		U	(0.0013)	0.019			0.012				U	(0.00075)		U	(0.0019)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00055			0.00021	J		0.00047	J		0.003				U	(0.0005)	0.00052		

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-21
Analytical data for Surface Wipe Sampling at the Former Raw Products Igloo Storage Areas
Former Nebraska Ordnance Plant, Mead, Nebraska

	IGW-013			IGW-014			IGW-015			IGW-016			IGW-017			IGW-018		
	IGW-013-FLR			IGW-014-FLR			IGW-015-FLR			IGW-016-FLR			IGW-017-FLR			IGW-018-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.00093	J			UJ	(0.0005)	0.00021	J			UJ	(0.0005)	0.00062				U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)	0.00074		
3-Nitrotoluene (3-NT)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		UJ	(0.001)		UJ	(0.001)		UJ	(0.001)		UJ	(0.001)	0.00045	U	(0.001)		U	(0.001)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0062	J			UJ	(0.0027)		UJ	(0.00075)		UJ	(0.0022)	0.0006	J			U	(0.0042)
Nitrobenzene (NB)		UJ	(0.002)		UJ	(0.002)		UJ	(0.002)		UJ	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)	0.00019	J			U	(0.0005)	0.0003	J	

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-21
Analytical data for Surface Wipe Sampling at the Former Raw Products Igloo Storage Areas
Former Nebraska Ordnance Plant, Mead, Nebraska

	IGW-019			IGW-020			IGW-021			IGW-022			IGW-023			IGW-024		
	IGW-019-FLR			IGW-020-FLR			IGW-021-FLR			IGW-022-FLR			IGW-023-FLR			IGW-024-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
2,4,6-Trinitrotoluene (2,4,6-TNT)	0.0008	J			U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)	0.00071	J			UJ	(0.0005)		UJ	(0.0005)
3-Nitrotoluene (3-NT)		UJ	(0.0008)		U	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		UJ	(0.001)		U	(0.001)		UJ	(0.001)		UJ	(0.001)		UJ	(0.001)		UJ	(0.001)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.0064	J			U	(0.00075)		UJ	(0.00075)	0.00062	J		0.00062	J		0.00069	J	
Nitrobenzene (NB)		UJ	(0.002)		U	(0.002)	0.006	J		0.0062	J			UJ	(0.002)		UJ	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-21
Analytical data for Surface Wipe Sampling at the Former Raw Products Igloo Storage Areas
Former Nebraska Ordnance Plant, Mead, Nebraska

	IGW-025			IGW-026			IGW-027			IGW-028			IGW-029			IGW-030		
	IGW-025-FLR			IGW-026-FLR			IGW-027-FLR			IGW-028-FLR			IGW-029-FLR			IGW-030-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
2,4,6-Trinitrotoluene (2,4,6-TNT)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)	0.0021	J	
3-Nitrotoluene (3-NT)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		UJ	(0.00075)		U	(0.00075)		UJ	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		UJ	(0.001)		UJ	(0.001)		UJ	(0.001)		UJ	(0.001)	0.00059	J			UJ	(0.001)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.004	J		0.003	J			UJ	(0.00075)	0.0024	J			UJ	(0.0016)	0.0019	J	
Nitrobenzene (NB)		UJ	(0.002)		UJ	(0.002)		UJ	(0.002)		UJ	(0.002)		U	(0.002)		UJ	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-21
Analytical data for Surface Wipe Sampling at the Former Raw Products Igloo Storage Areas
Former Nebraska Ordnance Plant, Mead, Nebraska

	IGW-031			IGW-032			IGW-033			IGW-034			IGW-035			IGW-036		
	IGW-031-FLR			IGW-032-FLR			IGW-033-FLR			IGW-034-FLR			IGW-035-FLR			IGW-036-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																		
2,4,6-Trinitrotoluene (2,4,6-TNT)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)	0.00026	J			U	(0.0005)	0.00038	J	
2,4-Dinitrotoluene (2,4-DNT)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)	0.00077				U	(0.0005)		UJ	(0.0005)
3-Nitrotoluene (3-NT)		UJ	(0.00075)		U	(0.00075)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)		UJ	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		UJ	(0.001)		U	(0.001)		UJ	(0.001)		U	(0.001)	0.00057	J			UJ	(0.001)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		UJ	(0.00075)		U	(0.00075)		UJ	(0.00075)		U	(0.00075)		U	(0.00075)	0.0025	J	
Nitrobenzene (NB)		UJ	(0.002)		U	(0.002)		UJ	(0.002)		U	(0.002)		U	(0.002)		UJ	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		UJ	(0.0005)	0.00026	J			UJ	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-21
Analytical data for Surface Wipe Sampling at the Former Raw Products Igloo Storage Areas
Former Nebraska Ordnance Plant, Mead, Nebraska

	IGW-037			IGW-038			IGW-039			IGW-040			IGW-041			IGW-042			IGW-043		
	IGW-037-FLR			IGW-038-FLR			IGW-039-FLR			IGW-040-FLR			IGW-041-FLR			IGW-042-FLR			IGW-043-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																					
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		U	(0.00075)		UJ	(0.00075)		U	(0.00075)		UJ	(0.00075)		UJ	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	0.00094	J			U	(0.001)		U	(0.001)		UJ	(0.001)		U	(0.001)		UJ	(0.001)		UJ	(0.001)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		U	(0.00075)	0.0002	J			UJ	(0.00075)		U	(0.00075)		UJ	(0.00075)		UJ	(0.00075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		U	(0.002)		UJ	(0.002)		U	(0.002)		UJ	(0.002)		UJ	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		U	(0.0005)	0.000098	J			U	(0.0005)	0.00014	J			UJ	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-21
Analytical data for Surface Wipe Sampling at the Former Raw Products Igloo Storage Areas
Former Nebraska Ordnance Plant, Mead, Nebraska

	IGW-044			IGW-045			IGW-046			IGW-047			IGW-048			IGW-049			IGW-050			IGW-051		
	IGW-044-FLR			IGW-045-FLR			IGW-046-FLR			IGW-047-FLR			IGW-048-FLR			IGW-049-FLR			IGW-050-FLR			IGW-051-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)																								
2,4,6-Trinitrotoluene (2,4,6-TNT)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)
3-Nitrotoluene (3-NT)		U	(0.00075)		U	(0.00075)		UJ	(0.00075)		UJ	(0.00075)	0.00067	J			UJ	(0.00075)		U	(0.00075)		U	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		U	(0.001)		U	(0.001)		UJ	(0.001)		UJ	(0.001)		U	(0.001)		UJ	(0.001)		U	(0.001)		U	(0.001)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		U	(0.00075)		UJ	(0.0028)		UJ	(0.0016)		UJ	(0.00075)		U	(0.00075)		UJ	(0.00075)		UJ	(0.0018)		U	(0.0075)
Nitrobenzene (NB)		U	(0.002)		U	(0.002)		UJ	(0.002)		UJ	(0.002)		U	(0.002)		UJ	(0.002)		U	(0.002)		U	(0.002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)		U	(0.0005)		U	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)		U	(0.0005)		U	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-21
Analytical data for Surface Wipe Sampling at the Former Raw Products Igloo Storage Areas
Former Nebraska Ordnance Plant, Mead, Nebraska

	IGW-052			IGW-053			IGW-054			IGW-055			IGW-056		
	IGW-052-FLR			IGW-053-FLR			IGW-054-FLR			IGW-055-FLR			IGW-056-FLR		
	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/WIPE)															
2,4,6-Trinitrotoluene (2,4,6-TNT)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)
2,4-Dinitrotoluene (2,4-DNT)		UJ	(0.0005)		UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)
3-Nitrotoluene (3-NT)	0.0014	J			UJ	(0.00075)		UJ	(0.00075)		U	(0.00075)		UJ	(0.00075)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)		UJ	(0.001)		UJ	(0.001)		UJ	(0.001)		U	(0.001)		UJ	(0.001)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.00073	J			UJ	(0.00075)		UJ	(0.00075)	0.001	J			UJ	(0.00075)
Nitrobenzene (NB)		UJ	(0.002)		UJ	(0.002)		UJ	(0.002)		U	(0.002)		UJ	(0.0002)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.00058	J			UJ	(0.0005)		UJ	(0.0005)		U	(0.0005)		UJ	(0.0005)

Note: R=result, Q=qualifier, QL=quantitation limit(CRQL)

Table A-22
Analytical Data for Shallow Soil Sampling at the Former Tetryl Pelleting Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	TP-001						TP-002						TP-003						TP-004					
		TPA-001-000 (0-0.5 ft)			TPA-001-001 (1-2 ft)			TPA-002-000 (0-0.5 ft)			TPA-002-001 (1-2 ft)			TPA-003-000 (0-0.5 ft)			TPA-003-001 (1-2 ft)			TPA-004-000 (0-0.5 ft)			TPA-004-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343	0.000093				U	(0.75)		U	(0.00075)		U	(0.00075)	0.000046				U	(0.75)	0.000081				R	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)	0.22	J		0.47	J		0.37	J			U	(0.5)	0.28	J			U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	9000	J		18200	J		9690	J		13700	J		10000	J		17800	J		14600	J		16300		
Antimony	31	9.3	J			R		4	J		0.57	J		0.73	J			R			R			UJ	(0.46)
Arsenic	13.5	13			6.7	J		6.5	J		5.6	J		6.4	J		6.5	J		6.5	J		8.9		
Barium	440	242			216	J		***520***			225	J		183			187	J		191	J		252		
Beryllium	1.52	0.54			0.78			0.55			0.65			0.57			0.72			0.67			0.78		
Cadmium	39	0.13	J			U	(0.13)	1.4				U	(0.12)	0.13	J			U	(0.13)	0.36	J			U	(1.2)
Calcium	GRAS	3820			3430	J		7030			3390	J		10400			3630	J		5390	J		9750		
Chromium	37	11.5			18.5			18.4			14.7			13.8			18.3			20.5			18.5	J	
Cobalt	17.2	7.3			8.7			11.4			7.7			7.6			8.3			8			9.8		
Copper	33.9	***34.6***			15.3	J		25.2			13.8	J		17.3			13.8	J		20.9	J		20.1		
Iron	GRAS	13300			18400	J		13400			15400	J		13900			17200	J		16500	J		19400		
Lead	400	46.4			13.9			163			22.1			61.7			13.7			239			37.1		
Magnesium	GRAS	2220			3160			2390			2550			2440			2970			2940			3430		
Manganese	1083	440	J		500	J		476	J		435	J		465	J		483	J		477	J		575		
Mercury	23	0.6				U	(0.13)		U	(0.14)		U	(0.12)		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)
Nickel	39.3	15.9			18.4			16.2			16.3			17.3			17			22.5			29.3	J	
Potassium	GRAS	2700			3540			3030			3270			2750			3450			3170			3340		
Selenium	390		UJ	(1.1)		U	(1.1)		UJ	(1.2)		U	(1)	1.9	J		1.4	J			U	(1.1)		U	(1.1)
Sodium	GRAS		U	(340)	166	J			U	(363)	146	J			U	(333)	162	J		169	J			U	(326)
Vanadium	72.5	22			37.2			23.1			29.2			23.7			37.2			32.2			35.5		
Zinc	119.5	110			59.6			***275***			56.2			62.1			48.2			***135***			65.2		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-22
Analytical Data for Shallow Soil Sampling at the Former Tetryl Pelleting Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	TP-005						TP-006					
		TPA-005-000 (0-0.5 ft)			TPA-005-001 (1-2 ft)			TPA-006-000 (0-0.5 ft)			TPA-006-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)													
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)	0.000048				U	(0.00075)	0.000036		
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.1	J			U	(0.5)		U	(0.5)
METALS (MG/KG)													
Aluminum	33852	13800	J		14800	J		11100	J		11200	J	
Antimony	31		R			R			R			R	
Arsenic	13.5	6.3	J		6.6	J		6.9	J		6.7	J	
Barium	440	179	J		189			187			179		
Beryllium	1.52	0.66			0.73			0.63			0.65		
Cadmium	39		U	(0.13)		U	(0.12)		U	(0.13)		U	(0.12)
Calcium	GRAS	3610	J		3650			3440			3190		
Chromium	37	18.8			15.8			12.8			12.7		
Cobalt	17.2	7.9			9.4			8.6			8.5		
Copper	33.9	17.1	J		15.9			16.8			15.5		
Iron	GRAS	16400	J		17400			15300			15100		
Lead	400	248			18			25			16.3		
Magnesium	GRAS	2970			3070			2700			2570		
Manganese	1083	468	J		553	J		523	J		494	J	
Mercury	23		U	(0.13)		U	(0.13)		U	(0.13)		U	(0.13)
Nickel	39.3	18.3			19.3			19.8			18.3		
Potassium	GRAS	3020			2680			2580			2300		
Selenium	390	1.6	J			UJ	(1.1)		UJ	(1.1)		UJ	(1.1)
Sodium	GRAS	158	J			U	(337)		U	(340)		U	(332)
Vanadium	72.5	32			31.3			26.1			25.9		
Zinc	119.5	83.2			46.9			50.8			44.6		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-23
Analytical Data for Shallow and Deep Soil Sampling at North Burning Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	NG-001						NG-002						NG-003						NG-004					
		NGA-001-000 (0-0.5 ft)			NGA-001-001 (1-2 ft)			NGA-002-000 (0-0.5 ft)			NGA-002-001 (1-2 ft)			NGA-003-000 (0-0.5 ft)			NGA-003-001 (1-2 ft)			NGA-004-000 (0-0.5 ft)			NGA-004-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	15800			15100			12400			11000			9050			16900	J		12300			16200	J	
Antimony	31	2	J			R			R		***31.6***	R			R			UJ	(0.45)		R			UJ	(0.48)
Arsenic	13.5	7	J		5.3	J		6.7	J		13.4			4.2	J		7.2	J		5.7	J		6	J	
Barium	440	220			187			202			237			146			188			202			188		
Beryllium	1.52	0.71			0.67			0.65			***3.1***			0.46			0.76			0.66			0.74		
Cadmium	39	0.65	J			U	(0.08)	0.47	J		3.1			0.47	J		0.51	J		0.65	J		0.54	J	
Calcium	GRAS	6280			3260			3780			3480			48600			2920			15700			3060		
Chromium	37	18.9			15.2			14.7			19.6			11			17			14.9			16.8		
Cobalt	17.2	9			8.9			9.5			***37.7***			6.6			9.7			8.6			9.2		
Copper	33.9	20.6			14.3			***44.9***			***34.2***			17.7			16.8			28.6			14.3		
Iron	GRAS	17800			16400			15900			18000			11500			19000			15800			17900		
Lead	400	21.9			13.2	J		22.6			14.9			14.8			13			33.4			13.6		
Magnesium	GRAS	3570			3010			2720			3410			2850			3710			3310			3430		
Manganese	1083	513	J		521			564	J		596	J		408	J		556			486	J		517		
Nickel	39.3	20.2			17.5			18.2			***42.7***			13.7			20.6			17.9			18.4		
Potassium	GRAS	3440	J		2360			2760	J		2030	J		2600	J		2600			2850	J		2450		
Selenium	390	1.5	J		1.4	J		1.6	J		3.7	J			U	(1.1)	1.8	J		2.2	J		1.8	J	
Silver	380		UJ	(0.16)		UJ	(0.13)		UJ	(0.16)	1.2	J			UJ	(0.16)		U	(0.14)	1.8	J			U	(0.15)
Sodium	GRAS		U	(366)		U	(517)		U	(354)		U	(324)		U	(349)		U	(319)		U	(370)		U	(340)
Thallium	1.72		U	(1.5)		U	(1.2)		U	(1.4)	***4.4***	J			U	(1.4)		U	(1.3)		U	(1.5)		U	(1.4)
Vanadium	72.5	35.2			26.5			26.7			52.2			18.5			30.9			25.4			29.4		
Zinc	119.5	75.8			54.5			81.8			73.8			52.6			58.8			101			55.8		
SEMIVOLATILES (UG/KG)																									
Butylbenzylphthalate	13000000		U	(440)		U	(413)		U	(660)		U	(407)		U	(440)		U	(423)		U	(418)	57	J	
Di-n-butylphthalate	6500000		U	(440)		U	(412)		U	(660)		U	(407)		U	(440)		U	(423)		U	(418)	2055	J	
Diethylphthalate	52000000		U	(440)		U	(413)		U	(660)	31	J			U	(440)		U	(423)	27	J			UJ	(423)
Pyrene	2000000		U	(440)		U	(413)		U	(660)		U	(407)		U	(440)		U	(423)		U	(418)		UJ	(423)
bis(2-Ethylhexyl)phthalate	32000		U	(440)		U	(412)		U	(660)		U	(407)		U	(440)		U	(423)		U	(418)		UJ	(423)
VOLATILES (UG/KG)																									
Trichloroethene (TCE)	7100		NA			U	(13)		NA			U	(12)		NA			U	(13)		NA			U	(13)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-23
Analytical Data for Shallow and Deep Soil Sampling at North Burning Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	NG-005															NG-006					
		NGA-005-000 (0-0.5 ft)			NGA-005-001 (1-2 ft)			NGA-005-004 (4-5 ft)			NGA-005-009 (9-10 ft)			NGA-005-019 (19-20 ft)			NGA-006-000 (0-0.5 ft)			NGA-006-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																						
Aluminum	33852	11600			13400			17300			10800			589			13500			15700	J	
Antimony	31		R			R			UJ	(0.45)		UJ	(0.47)		UJ	(0.39)		R		0.92	J	
Arsenic	13.5	6	J		5.6	J		8.2	J		7.4	J			U	(0.72)	6.6	J		5.7	J	
Barium	440	223			244			161			191			7.5			214			205		
Beryllium	1.52	0.59			0.61			0.79			0.62			0.03	J		0.72			0.65		
Cadmium	39	0.43	J		0.58	J		0.31	J		0.41	J			U	(0.1)	0.43	J		0.63	J	
Calcium	GRAS	3040			2720			3660			3310			232			4130			2990		
Chromium	37	13.5			14.2			17.7			14			1.5	J		15.8			18.8		
Cobalt	17.2	7.5			8.5			9.2			8.4			0.24	J		8.2			9.5		
Copper	33.9	16.2			14.5			14.9			18			0.63	J		17.4			*57.9*		
Iron	GRAS	14900			15900			20500			17400			808			16700			18500		
Lead	400	23.7			12.6			14			10.9			1.1	J		15.5			16		
Magnesium	GRAS	2550			2760			4040			3520			184			3300			2840		
Manganese	1083	444			718			544			422			8			351	J		600		
Nickel	39.3	16.7			19.4			20.1			21.4			0.62	J		18.8			22.5		
Potassium	GRAS	2540			2200			2420			2270			179			2620	J		2970		
Selenium	390	1.3	J		1.8	J		1.8	J			U	(1.1)		U	(0.9)		U	(1.1)	1.4	J	
Silver	380		UJ	(0.15)		UJ	(0.15)		U	(0.14)		U	(0.15)		U	(0.12)		UJ	(0.15)		U	(0.15)
Sodium	GRAS		U	(345)		U	(338)		U	(322)		U	(330)		U	(277)		U	(345)		U	(342)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.1)		U	(1.4)		U	(1.4)
Vanadium	72.5	24.9			28.3			34.5			28.8			1.6			28.1			31		
Zinc	119.5	64.6	J		59.1	J		67.4	J		64	J		3.5	J		65.8			60.5		
SEMIVOLATILES (UG/KG)																						
Butylbenzylphthalate	13000000		U	(418)		U	(413)		U	(407)		U	(429)		U	(337)		U	(429)		U	(402)
Di-n-butylphthalate	6500000		UJ	(2700)		UJ	(413)		UJ	(407)		UJ	(429)		UJ	(337)	2252			1368		
Diethylphthalate	52000000		U	(418)		U	(413)		U	(407)		U	(429)		U	(337)		U	(429)		U	(402)
Pyrene	2000000		U	(418)		U	(413)		U	(407)		U	(429)		U	(337)		U	(429)		U	(402)
bis(2-Ethylhexyl)phthalate	32000		U	(418)		U	(413)		U	(407)		U	(429)		U	(337)	35	J			U	(402)
VOLATILES (UG/KG)																						
Trichloroethene (TCE)	7100		NA			U	(13)		U	(12)		U	(13)		U	(10)		NA		2	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-23
Analytical Data for Shallow and Deep Soil Sampling at North Burning Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	NG-007															NG-008						NG-009					
		NGA-007-000 (0-0.5 ft)			NGA-007-001 (1-2 ft)			NGA-007-004 (4-5 ft)			NGA-007-009 (9-10 ft)			NGA-007-019 (19-20 ft)			NGA-008-000 (0-0.5 ft)			NGA-008-001 (1-2 ft)			NGA-009-000 (0-0.5 ft)			NGA-009-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																												
Aluminum	33852	15100			13600			14000			10300			681	J		15800	J		15900	J		6730	J		12800	J	
Antimony	31		R			R			R			R			UJ	(0.39)		UJ	(0.48)		UJ	(0.48)		UJ	(0.44)		UJ	(0.45)
Arsenic	13.5	5.5	J		5.3	J		7.5	J		8.1	J			U	(0.72)	5.5	J		4.5	J		1.2	J		4	J	
Barium	440	195			185			200			231			9.3			196			204			70.7			209		
Beryllium	1.52	0.65			0.66			0.71			0.63			0.04	J		0.67			0.69			0.26			0.62		
Cadmium	39	0.12	J		0.32	J		0.35	J		0.48	J			U	(0.1)	0.6	J		0.47	J		0.35	J		0.53	J	
Calcium	GRAS	2710			2630			3460			3760			266			5620			2840			104000			5500		
Chromium	37	16.1			14.3			15			13.8			2.7	J		17.5			16.2			7.9			13.9		
Cobalt	17.2	7.9			8.6			10.5			10.1			0.53	J		8.7			8.5			3.4			8.3		
Copper	33.9	22.5	J		13.7			16.4			19			1.1	J		24.8			12.8			6.2			12.1		
Iron	GRAS	16400			15900			18900			17600			778			17800			16300			6340			14200		
Lead	400	17.1			12.3			13.8			12.7			1.3	J		18.8			12			8			12.9		
Magnesium	GRAS	2960			2830			3600			3550			204			3200			2950			3080			2540		
Manganese	1083	461	J		517			656			611			21.5			491			459			251			563		
Nickel	39.3	16.6			16.5			22.3			21.8			1.1	J		25.5			16.2			7.1			15.7		
Potassium	GRAS	2530	J		2080			1920			2070			194			3090			2600			1860			2700		
Selenium	390	1.6	J		1.3	J		1.1	J			UJ	(1.1)		U	(0.9)	1.5	J		1.3	J		1.1	J			U	(1.1)
Silver	380		UJ	(0.13)		UJ	(0.15)		UJ	(0.15)		UJ	(0.15)		U	(0.12)		U	(0.15)		U	(0.15)		U	(0.14)		U	(0.14)
Sodium	GRAS	266	J			U	(342)		U	(334)		U	(336)		U	(276)		U	(341)		U	(339)		U	(313)		U	(323)
Thallium	1.72		U	(1.1)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.1)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.3)
Vanadium	72.5	28.8			26.2			25			24.6			1.5			30.4			29.6			12.1			25.4		
Zinc	119.5	67.5	J		54.3	J		62.6	J		64.3	J			U	(3)	71.6			60.7			27.8			52.9		
SEMIVOLATILES (UG/KG)																												
Butylbenzylphthalate	13000000		U	(446)		U	(423)		U	(407)		U	(423)		U	(337)		U	(423)		U	(413)		U	(398)		U	(402)
Di-n-butylphthalate	6500000		U	(446)		U	(423)		U	(407)		U	(423)		U	(337)		U	(423)	3518				U	(398)		U	(402)
Diethylphthalate	52000000		U	(446)		U	(423)		U	(407)		U	(423)		U	(337)		U	(423)		U	(413)		U	(398)		U	(402)
Pyrene	2000000		U	(446)		U	(423)		U	(407)		U	(423)		U	(337)	54	J			U	(413)	50	J			U	(402)
bis(2-Ethylhexyl)phthalate	32000	1222				U	(423)		U	(407)		U	(423)	378				U	(423)		U	(413)		U	(398)		U	(402)
VOLATILES (UG/KG)																												
Trichloroethene (TCE)	7100		NA			U	(13)		U	(12)		U	(13)		U	(10)		NA			U	(13)		NA			U	(12)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-23
Analytical Data for Shallow and Deep Soil Sampling at North Burning Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	NG-010						NG-011						NG-012					
		NGA-010-000 (0-0.5 ft)			NGA-010-001 (1-2 ft)			NGA-011-000 (0-0.5 ft)			NGA-011-001 (1-2 ft)			NGA-012-000 (0-0.5 ft)			NGA-012-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																			
Aluminum	33852	13900	J		14400	J		13400	J		13800	J		4360	J		13900	J	
Antimony	31	1.1	UJ	(4.4)		UJ	(0.46)		UJ	(0.47)		UJ	(0.47)	0.7	J			UJ	(0.45)
Arsenic	13.5	5.7	J		6.5	J		5.2	J		4.8	J		1.3	J		4.2	J	
Barium	440	184			199			197			212			54.1			169		
Beryllium	1.52	0.62			0.7			0.64			0.65			0.19	J		0.66		
Cadmium	39	0.74	J		0.48	J		0.55	J		0.44	J		0.22	J		0.5	J	
Calcium	GRAS	6400			3340			3620			2780			14200			2790		
Chromium	37	16.6			15.1			14.5			15.4			6.1			14.5		
Cobalt	17.2	7.9			9.6			9.1			7.8			2.8			8.4		
Copper	33.9	22.8			15.2			***206***			13.2			8.7			11.2		
Iron	GRAS	15200			17700			15600			15000			5470			15600		
Lead	400	43			13.4			19.5			13.5			15.7			11.7		
Magnesium	GRAS	3060			3430			2760			2660			1820			2700		
Manganese	1083	472			566			590			504			169			519		
Nickel	39.3	17.3			18.9			17.2			15.9			6			16.4		
Potassium	GRAS	2840			2030			2770			2770			1050			2160		
Selenium	390	1.1	J		2.1	J		1.4	J		1.2	J			U	(0.94)	1.4	J	
Silver	380	17.1				U	(0.15)		U	(0.15)		U	(0.15)		U	(0.13)		U	(0.14)
Sodium	GRAS		U	(316)		U	(327)		U	(334)		U	(333)		U	(289)		U	(316)
Thallium	1.72		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.2)		U	(1.3)
Vanadium	72.5	27.6			26.5			26.7			28.3			9.3			26.1		
Zinc	119.5	94.6			55.9			57.8			54.6			31.7			53.5		
SEMIVOLATILES (UG/KG)																			
Butylbenzylphthalate	13000000		U	(423)		U	(407)		U	(418)		U	(413)		U	(359)		U	(384)
Di-n-butylphthalate	6500000		U	(423)		U	(407)		U	(418)		U	(412)	2989			2367		
Diethylphthalate	52000000		U	(423)		U	(407)		U	(418)		U	(413)		U	(359)		U	(384)
Pyrene	2000000		U	(423)		U	(407)		U	(418)		U	(413)		U	(359)		U	(384)
bis(2-Ethylhexyl)phthalate	32000		U	(423)		U	(407)		U	(418)		U	(413)		U	(359)		U	(384)
VOLATILES (UG/KG)																			
Trichloroethene (TCE)	7100		NA			U	(12)		NA			UJ	(13)		NA			UJ	(12)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-24
Analytical Data for Shallow Soil Sampling at South Burning Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	SGA-001									SGA-002									SGA-003								
		SGA-001-000 (0-0.5 ft)			SGA-001-001 (1-2 ft)			SGA-001-002 (2-3 ft)			SGA-002-000 (0-0.5 ft)			SGA-002-001 (1-2 ft)			SGA-002-002 (2-3 ft)			SGA-003-000 (0-0.5 ft)			SGA-003-001 (1-2 ft)			SGA-003-002 (2-3 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																												
Aluminum	33852	14300			18600			15900			13000			13700			13900			11800			18600			10500		
Antimony	31		R			R			R			R			R			R			R			R			R	
Arsenic	13.5	5.6	J		6.3	J		5	J		7	J		8.3	J		8.6	J		6.2	J		9.8			9		
Barium	440	180			179			175			189			222			240			177			195			241		
Beryllium	1.52	0.61			0.71			0.67			0.61			0.7			0.7			0.62			0.8			0.63		
Cadmium	39	0.66	J		0.6	J		0.59	J		0.77	J		0.59	J		0.79	J		0.75	J		0.76	J		0.89	J	
Calcium	GRAS	3290			2710			2670			3380			3620			3680			3520			3660			3680		
Chromium	37	15.7			18.5			16.6			14.2			14.6			16.4			13.2			20.7			12.2		
Cobalt	17.2	8.4			8.6			8.5			8.6			10.4			10.5			8.1			10			10.4		
Copper	33.9	13.7			14.2			13.8			16.8			20.2			19.5			17			21.6			21.1		
Iron	*GRAS*	*15300*			*17200*			*16600*			*16100*			*19000*			*19300*			*15100*			*22700*			*17500*		
Lead	400	14.2			12.2			12.1			14.1			13.9			14.2			14.7			14.3			13.9		
Magnesium	GRAS	2700			3130	J		2980			2960			3750			4160			2730	J		4660			3620		
Manganese	1083	515	J		464	J		483	J		514	J		625	J		659	J		420			538	J		604		
Nickel	39.3	16.4			18.5			18.2			19.6			24.3			25.7			18.3			26.3			25.9		
Potassium	GRAS	3230			3080			2630			3070			1990			2270			2760			2890			1660		
Selenium	390	1.6	J		1.7	J		1.4	J			UJ	(1.1)	1.5	J		1.6	J			UJ	(1.1)	1.1	J		1.3	J	
Sodium	GRAS		U	(346)		U	(349)		U	(344)		U	(339)		U	(344)		U	(342)		U	(346)		U	(343)		U	(343)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)
Vanadium	72.5	34			40.3			35			31.5			31			35.3			28.9			46.6			25.9		
Zinc	119.5	59.8			58.4			56.6			60.3			61.8			63.7			60.4			69.1			62.4	J	
SEMIVOLATILES (UG/KG)																												
1,2-Dichlorobenzene	2300000		U	(423)		U	(423)		U	(413)		U	(429)		U	(413)		U	(413)		U	(423)		U	(413)		U	(413)
2,4-Dimethylphenol	1300000		U	(423)		U	(423)		U	(413)		U	(429)		U	(413)		U	(413)		U	(423)		U	(413)		U	(413)
2,4-Dinitrotoluene (2,4-DNT)	900		U	(423)		U	(423)		U	(413)		U	(429)		U	(413)		U	(413)		U	(423)		U	(413)		U	(413)
2,6-Dinitrotoluene (2,6-DNT)	900		U	(423)		U	(423)		U	(413)		U	(429)		U	(413)		U	(413)		U	(423)		U	(413)		U	(413)
2-Methylphenol	3300000		U	(423)		U	(423)		U	(413)		U	(429)		U	(413)		U	(413)		U	(423)		U	(413)		U	(413)
4-Methylphenol	330000		U	(423)		U	(423)		U	(413)		U	(429)		U	(413)		U	(413)		U	(423)		U	(413)		U	(413)
Butylbenzylphthalate	13000000		U	(423)	486				U	(413)		U	(429)		U	(413)		U	(413)		U	(423)		U	(413)		U	(413)
Di-n-butylphthalate	6500000		U	(423)	1978			2426				U	(429)		U	(412)		U	(412)		U	(423)	3298				U	(412)
Diethylphthalate	52000000		U	(423)		U	(423)		U	(413)		U	(429)		U	(413)		U	(413)		U	(423)		U	(413)		U	(413)
N-Nitroso-di-n-propylamine	63		U	(423)		U	(423)		U	(413)		U	(429)		U	(413)		U	(413)		U	(423)		U	(413)		UJ	(413)
N-Nitrosodiphenylamine (1)	91000		U	(423)		U	(423)		U	(413)		U	(429)		U	(413)		U	(413)		U	(423)		U	(413)		U	(413)
Naphthalene	800000		U	(423)		U	(423)		U	(413)		U	(429)		U	(413)		U	(413)		U	(423)		U	(413)		U	(413)
Phenol	39000000		U	(423)		U	(423)		U	(413)		U	(429)		U	(413)		U	(413)		U	(423)		U	(413)		U	(413)
Pyrene	2000000		U	(423)		U	(423)		U	(413)		U	(429)		U	(413)		U	(413)		U	(423)		U	(413)		U	(413)
VOLATILES (UG/KG)																												
Acetone	2000000		NA			UJ	(13)		U	(13)		NA			U	(13)		U	(13)		NA			U	(13)		UJ	(13)
Trichloroethene (TCE)	7100		NA			U	(13)		U	(13)		NA			U	(13)		U	(13)		NA		42				U	(13)
Vinyl Chloride	5.2		NA			U	(13)		UJ	(13)		NA			UJ	(13)		UJ	(13)		NA			UJ	(13)		R	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-24
Analytical Data for Shallow Soil Sampling at South Burning Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	SGA-004									SGA-005									SGA-006								
		SGA-004-000 (0-0.5 ft)			SGA-004-001 (1-2 ft)			SGA-004-002 (2-3 ft)			SGA-005-000 (0-0.5 ft)			SGA-005-001 (1-2 ft)			SGA-005-002 (2-3 ft)			SGA-006-000 (0-0.5 ft)			SGA-006-001 (1-2 ft)			SGA-006-002 (2-3 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																												
Aluminum	33852	13900			17100			11800			9990			17400			18300			13300			10800			13500		
Antimony	31		R			R			R			R			R			R			R			R			R	
Arsenic	13.5	6.4	J		5.9	J		5.1	J		5.8	J		8.1	J		8.8			8.6	J		8.4			7.7	J	
Barium	440	178			184			211			156			183			200			191			212			277		
Beryllium	1.52	0.55			0.69			0.61			0.51			0.73			0.81			0.68			0.66			0.67		
Cadmium	39	0.72	J		0.63	J		0.51	J		0.72	J		0.87	J		0.88	J		1	J		1.1	J		1	J	
Calcium	GRAS	4020			2970			2710			3610			3060			3370			4060			3930			9570		
Chromium	37	11.9			17.2			12.7			10.1			16			17.7			14.9			13.3			16.6		
Cobalt	17.2	7.7			8.3			8.3			7.8			9.4			10.9			9.7			9.9			10.5		
Copper	33.9	19			14.7			14.3			14.5			14.8			18.6			19.1			20.2			19.2		
Iron	GRAS	13700			16700			14600			11900			18700			21000			17900			17800			18700		
Lead	400	15.8			12.4			11.8			13.8			13.8			15.9			14.7			13.6			13.8		
Magnesium	GRAS	2580			3020			2610			2210			3450			4260			3600			4130			6180		
Manganese	1083	490	J		460	J		483	J		471			539			650			571			608			533		
Nickel	39.3	17.3			17.8			17.8			15			19.7			24.2			23.1			27.1			22.2		
Potassium	GRAS	2750			2920			2110			2470			2440			2480			2850			1730			2410		
Selenium	390		UJ	(1.1)	1.3	J		1.8	J			U	(1.1)	1.5	J		1.4	J		1.6	J		1.5	J			U	(1.1)
Sodium	GRAS		U	(350)		U	(331)		U	(331)		U	(335)		U	(332)		U	(325)		U	(343)		U	(325)		U	(328)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.3)
Vanadium	72.5	25.6			36.1			26.6			23.1			30.6			35.1			31.9			27.9			35.9		
Zinc	119.5	62.9			59.6			52.5			52.1	J		61.2	J		66.5	J		66.9	J		61.6	J		66.5	J	
SEMIVOLATILES (UG/KG)																												
1,2-Dichlorobenzene	2300000		U	(835)		U	(418)		U	(413)		U	(418)		U	(413)		U	(413)		U	(413)		U	(413)		U	(407)
2,4-Dimethylphenol	1300000		U	(835)		U	(418)		U	(413)		U	(418)		U	(413)		U	(413)		U	(413)		U	(413)		U	(407)
2,4-Dinitrotoluene (2,4-DNT)	900	***48771***				U	(418)		U	(413)		U	(418)		U	(413)		U	(413)		U	(413)		U	(413)		U	(407)
2,6-Dinitrotoluene (2,6-DNT)	900	***4534***				U	(418)		U	(413)		U	(418)		U	(413)		U	(413)		U	(413)		U	(413)		U	(407)
2-Methylphenol	3300000		U	(835)		U	(418)		U	(413)		U	(418)		U	(413)		U	(413)		U	(413)		U	(413)		U	(407)
4-Methylphenol	330000		U	(835)		U	(418)		U	(413)		U	(418)		U	(413)		U	(413)		U	(413)		U	(413)		U	(407)
Butylbenzylphthalate	13000000		U	(835)		U	(418)		U	(413)		U	(418)		U	(413)	192	J			U	(413)		U	(413)		U	(407)
Di-n-butylphthalate	6500000	17826				U	(418)		U	(412)	1075			3104			1905				U	(412)	647			2202		
Diethylphthalate	52000000		U	(835)		U	(418)		U	(413)		U	(418)		U	(413)		U	(413)		U	(413)		U	(413)		U	(407)
N-Nitroso-di-n-propylamine	63		U	(835)		U	(418)		U	(413)		U	(418)		U	(413)		U	(413)		U	(413)		U	(413)		U	(407)
N-Nitrosodiphenylamine (1)	91000	4633				U	(418)		U	(413)		U	(418)		U	(413)		U	(413)		U	(413)		U	(413)		U	(407)
Naphthalene	800000		U	(835)		U	(418)		U	(413)		U	(418)		U	(413)		U	(413)		U	(413)		U	(413)		U	(407)
Phenol	39000000		U	(835)		U	(418)		U	(413)		U	(418)		U	(413)		U	(413)		U	(413)		U	(413)		U	(407)
Pyrene	2000000		U	(835)		U	(418)		U	(413)		U	(418)		U	(413)		U	(413)		U	(413)		U	(413)	89	J	
VOLATILES (UG/KG)																												
Acetone	2000000		NA			U	(13)		U	(13)		NA			U	(13)		U	(13)		NA			U	(13)		U	(12)
Trichloroethene (TCE)	7100		NA			U	(13)	38				NA			U	(13)		U	(13)		NA			U	(13)		U	(12)
Vinyl Chloride	5.2		NA			UJ	(13)		UJ	(13)		NA			U	(13)		U	(13)		NA			U	(13)		U	(12)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-24
Analytical Data for Shallow Soil Sampling at South Burning Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	SGA-007									SGA-008									SGA-009								
		SGA-007-000 (0-0.5 ft)			SGA-007-001 (1-2 ft)			SGA-007-002 (2-3 ft)			SGA-008-000 (0-0.5 ft)			SGA-008-001 (1-2 ft)			SGA-008-002 (2-3 ft)			SGA-009-000 (0-0.5 ft)			SGA-009-001 (1-2 ft)			SGA-009-002 (2-3 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																												
Aluminum	33852	13900			10000			13400			11100			21300			16800			11600			11500			14500		
Antimony	31		R			R			R			R			R			R			R			R			R	
Arsenic	13.5	7.1	J		7	J		5.3	J		5.5	J		7.7	J		8.3			6.9	J		5.1	J		5.7	J	
Barium	440	195			239			200			190			207			209			194			188			200		
Beryllium	1.52	0.69			0.6			0.72			0.6			0.85			0.78			0.62			0.61			0.69		
Cadmium	39	0.54	J		0.26	J		0.37	J		0.47	J		0.45	J		0.15	J		0.47	J		0.36	J		0.33	J	
Calcium	GRAS	4680			3850			2240			3510			3250			3340			3930			3190			2930		
Chromium	37	16			13.1			15			13.1			21.9			16.9			13.3			13.2			15.2		
Cobalt	17.2	9.3			9.1			10.2			8.9			9.5			9.7			8.8			7.9			9.1		
Copper	33.9	18.2			18.3			15.3			16			15.5			20.1			18.4			12.1			13.3		
Iron	GRAS	*17400*			*16900*			*15800*			*14600*			*20300*			*20000*			*15800*			*14200*			*16700*		
Lead	400	14.2			12.4	J		12.8			14.1			12.9			13.9	J		16	J		11.3			12.5		
Magnesium	GRAS	3230			3550			2640			2560			3770			3960			3080			2270			2840		
Manganese	1083	531	J		467	J		617	J		529	J		506	J		566			526	J		453	J		513	J	
Nickel	39.3	21.1			22.6			17.5			18.4			21.6			23.8			20.4			15.7			17.4		
Potassium	GRAS	2880	J		1610	J		2580	J		2670	J		3130	J		2260			2620	J		1910	J		2090	J	
Selenium	390	1.5	J		1.2	J		1.6	J		2.2	J		2.2	J		1.2	J			UJ	(1.2)	1.6	J			U	(1.1)
Sodium	GRAS		U	(351)		U	(516)		U	(336)		U	(355)		U	(365)		U	(500)		U	(529)		U	(326)		U	(331)
Thallium	1.72		U	(1.4)	1.3	J			U	(1.3)		U	(1.4)		U	(1.5)	1.4	J			U	(1.2)		U	(1.3)		U	(1.3)
Vanadium	72.5	30.6			19.4			27.2			25.3			42.9			30			24			25.7			26.9		
Zinc	119.5	63.5			60			59.6			56.3			61			62.1			62.6			47.6			56		
SEMIVOLATILES (UG/KG)																												
1,2-Dichlorobenzene	2300000		U	(434)		U	(407)		U	(413)		U	(452)		U	(423)		U	(407)		U	(434)		U	(413)		U	(423)
2,4-Dimethylphenol	1300000		U	(434)		U	(407)		U	(413)		U	(452)		U	(423)		U	(407)		U	(434)		U	(413)		U	(423)
2,4-Dinitrotoluene (2,4-DNT)	900		UJ	(434)		U	(407)		U	(413)		U	(452)		U	(423)		U	(407)		U	(434)		U	(413)		U	(423)
2,6-Dinitrotoluene (2,6-DNT)	900		U	(434)		U	(407)		U	(413)		U	(452)		U	(423)		U	(407)		UJ	(434)		U	(413)		U	(423)
2-Methylphenol	3300000		U	(434)		U	(407)		U	(413)		U	(452)		U	(423)		U	(407)		U	(434)		U	(413)		U	(423)
4-Methylphenol	330000		U	(434)		U	(407)		U	(413)		U	(452)		U	(423)		U	(407)		U	(434)		U	(413)		U	(423)
Butylbenzylphthalate	13000000		U	(434)		U	(407)		U	(413)		U	(452)		U	(423)	44	J			U	(434)		U	(413)		U	(423)
Di-n-butylphthalate	6500000		U	(434)		UJ	(407)		U	(412)		UJ	(452)		UJ	(423)		UJ	(407)		U	(434)		UJ	(412)		UJ	(423)
Diethylphthalate	52000000		U	(434)		U	(407)		U	(413)	53	J			U	(423)		U	(407)		U	(434)		U	(413)	871		
N-Nitroso-di-n-propylamine	63		U	(434)		U	(407)		U	(413)		U	(452)		U	(423)		U	(407)		UJ	(434)		U	(413)		U	(423)
N-Nitrosodiphenylamine (1)	91000		U	(434)		U	(407)		U	(413)		U	(452)		U	(423)		U	(407)		U	(434)		U	(413)		U	(423)
Naphthalene	800000		U	(434)		U	(407)		U	(413)		U	(452)		U	(423)		U	(407)		U	(434)		U	(413)		U	(423)
Phenol	39000000		U	(434)		U	(407)		U	(413)		U	(452)		U	(423)		U	(407)		U	(434)		U	(413)		U	(423)
Pyrene	2000000		U	(434)		U	(407)		U	(413)		U	(452)		U	(423)		U	(407)		U	(434)		U	(413)		U	(423)
VOLATILES (UG/KG)																												
Acetone	2000000		NA			U	(12)		U	(13)		NA			U	(13)		U	(12)		NA		17				U	(13)
Trichloroethene (TCE)	7100		NA			U	(12)		U	(13)		NA			U	(13)		U	(12)		NA			U	(13)		U	(13)
Vinyl Chloride	5.2		NA			U	(12)		U	(13)		NA			U	(13)		U	(12)		NA			U	(13)		U	(13)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-24
Analytical Data for Shallow Soil Sampling at South Burning Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	SGA-010									SGA-011									SGA-012								
		SGA-010-000 (0-0.5 ft)			SGA-010-001 (1-2 ft)			SGA-010-002 (2-3 ft)			SGA-011-000 (0-0.5 ft)			SGA-011-001 (1-2 ft)			SGA-011-002 (2-3 ft)			SGA-012-000 (0-0.5 ft)			SGA-012-001 (1-2 ft)			SGA-012-002 (2-3 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																												
Aluminum	33852	12900			16400			14400			17800			15800			15300			17900			18700			15800		
Antimony	31		R			R			R			UJ	(0.48)		UJ	(0.45)		UJ	(0.45)		UJ	(0.5)		UJ	(0.46)		UJ	(0.45)
Arsenic	13.5	6	J		9.5			5.6	J		8.3	J		9.5			8.6			8.3	J		9.1			10.1		
Barium	440	190			290			162			209			224			246			231			217			253		
Beryllium	1.52	0.66			0.8			0.62			0.78			0.81			0.76			0.79			0.85			0.79		
Cadmium	39	0.32	J		0.64	J		0.45	J		0.61	J		0.43	J		0.6	J		0.61	J		0.46	J		0.58	J	
Calcium	GRAS	4090			4250			11000			3940			3990			3930			3900			3610			3780		
Chromium	37	14.7			21.5			16.6			19.9			17.9			19.2			19.8			19.7			17.9		
Cobalt	17.2	8.5			10.6			7.9			10.2			10.4			10.9			10.3			10.4			10.2		
Copper	33.9	18.4			22.5			14.3			16.9			21.8			20.2			18.6			20.7			19.8		
Iron	GRAS	16700			21400			15300			19600			21400			20500			20300			21700			21300		
Lead	400	15.2	J		13.7			13.5			15.4			14.5			15.3			16			14.7			14.7		
Magnesium	GRAS	3100			4630			3470			3680			4240			4580			3690			4230			4280		
Manganese	1083	490			599	J		441	J		612			599			678			613			603			672		
Nickel	39.3	20.3			25.6			16.5			22.6			26.9			28.7			23.4			26.5			26.8		
Potassium	GRAS	2880			2740	J		2990	J		3490			2100			2350			3400			2480			2300		
Selenium	390	1.2	J		1.5	J		1.7	J			U	(1.1)	1.2	J		1.1	J		1.7	J		1.2	J		2.1	J	
Sodium	GRAS		U	(538)		U	(333)		U	(323)	197	J		237	J		246	J		191	J		228	J		251	J	
Thallium	1.72		U	(1.2)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.3)		U	(1.3)
Vanadium	72.5	27			42.6			29.5			43			34.2			39.7			43			40.5			38.1		
Zinc	119.5	65.3			74.1			60.6			67.3	J		65.5	J		66.9	J		70.8	J		67.2	J		69.6	J	
SEMIVOLATILES (UG/KG)																												
1,2-Dichlorobenzene	2300000		U	(440)		U	(418)		U	(418)		U	(429)		U	(407)		U	(407)		U	(440)		U	(418)	47	J	
2,4-Dimethylphenol	1300000		U	(440)		U	(418)		U	(418)	45	J			U	(407)		U	(407)		U	(440)		U	(418)	48	J	
2,4-Dinitrotoluene (2,4-DNT)	900		U	(440)		U	(418)		U	(418)		U	(429)		U	(407)		U	(407)		U	(440)		U	(418)		U	(418)
2,6-Dinitrotoluene (2,6-DNT)	900		U	(440)		U	(418)		U	(418)		U	(429)		U	(407)		U	(407)		U	(440)		U	(418)		U	(418)
2-Methylphenol	3300000		U	(440)		U	(418)		U	(418)	198	J			U	(407)		U	(407)		U	(440)		U	(418)	421		
4-Methylphenol	330000		U	(440)		U	(418)		U	(418)	306	J			U	(407)		U	(407)		U	(440)		U	(418)	597		
Butylbenzylphthalate	13000000		U	(440)		U	(418)		U	(418)		U	(429)		U	(407)		U	(407)		U	(440)		U	(418)		U	(418)
Di-n-butylphthalate	6500000		UJ	(440)	2363				UJ	(418)		U	(429)	2763				U	(407)		U	(440)		U	(418)		U	(418)
Diethylphthalate	52000000		U	(440)		U	(418)		U	(418)		U	(429)		U	(407)		U	(407)		U	(440)		U	(418)		U	(418)
N-Nitroso-di-n-propylamine	63		U	(440)		U	(418)		U	(418)		U	(429)		U	(407)		U	(407)		U	(440)		U	(418)		U	(418)
N-Nitrosodiphenylamine (1)	91000		U	(440)		U	(418)		U	(418)		U	(429)		U	(407)		U	(407)		U	(440)	29	J			U	(418)
Naphthalene	800000		U	(440)		U	(418)		U	(418)	16	J			U	(407)		U	(407)		U	(440)		U	(418)	21	J	
Phenol	39000000		U	(440)		U	(418)		U	(418)	230	J			U	(407)		U	(407)		U	(440)		U	(418)	47		
Pyrene	2000000					U	(418)		U	(418)		U	(429)		U	(407)		U	(407)		U	(440)		U	(418)		U	(418)
VOLATILES (UG/KG)																												
Acetone	2000000		NA			U	(13)		U	(13)		NA			UJ	(12)		UJ	(12)		NA			U	(13)		U	(13)
Trichloroethene (TCE)	7100		NA			U	(13)	2	J			NA			UJ	(12)		U	(12)		NA			U	(13)		U	(13)
Vinyl Chloride	5.2		NA			U	(13)		U	(13)		NA			UJ	(12)		U	(12)		NA			U	(13)		U	(13)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-24
Analytical Data for Shallow Soil Sampling at South Burning Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	SGA-013									SGA-014									SGA-015								
		SGA-013-000 (0-0.5 ft)			SGA-013-001 (1-2 ft)			SGA-013-002 (2-3 ft)			SGA-014-000 (0-0.5 ft)			SGA-014-001 (1-2 ft)			SGA-014-002 (2-3 ft)			SGA-015-000 (0-0.5 ft)			SGA-015-001 (1-2 ft)			SGA-015-002 (2-3 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																												
Aluminum	33852	15000			13700			12100			14500			13600			21300			16200	J		13000	J		10600	J	
Antimony	31		UJ	(0.48)		UJ	(0.47)		R			UJ	(0.47)		R			UJ	(0.47)		U	(0.46)		U	(0.47)		U	(0.47)
Arsenic	13.5	6.4	J		6	J		4.1	J		6.8	J		5.5	J		7.6	J		8	J		8.9			8.6	J	
Barium	440	181			197			210			177			162			211			204			219			218		
Beryllium	1.52	0.63			0.66			0.58			0.62			0.66			0.85			0.78			0.73			0.66		
Cadmium	39	0.51	J		0.39	J		0.12	J		0.52	J		0.29	J		0.55	J		0.49	J		0.42	J		0.51	J	
Calcium	GRAS	3680			2960			2650			3370			2690			3040			3490			3830			3750		
Chromium	37	16			15.5			13.2			16.8			13.6			21.8			16.9			14.5			13.5		
Cobalt	17.2	8.4			8.8			7.7			8.8			8.6			10.6			10.6			10.6			9.9		
Copper	33.9	15.1			12.9			12.1			13.7			15.4			17.4			16.7			20.6			19.5		
Iron	GRAS	*15700*			*16100*			*13800*			*15700*			*15200*			*20500*			*18900*			*19200*			*17800*		
Lead	400	14.9			12.3			18	J		14.4			11.4			14.5	J		15.7	J		14.1	J		13.3	J	
Magnesium	GRAS	2740			2700			2440			2750			2590			3780			3290			3970			3770		
Manganese	1083	523			534			457			542			471			580	J		604	J		648	J		567	J	
Nickel	39.3	17.6			17.3			14.9			17.3			17.9			22.3			20.6			25.5			24.7		
Potassium	GRAS	3250			2390			2120			3040			1900			3110			2820			1760			1640		
Selenium	390		U	(1.1)		U	(1.1)	1.3	J			U	(1.1)	1.3	J		1.6	J		2	J		1.2	J		1.4	J	
Sodium	GRAS		U	(340)	139	J			U	(461)	182	J			U	(341)		U	(336)		U	(329)		U	(335)		U	(336)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.3)		U	(1.4)		U	(1.4)
Vanadium	72.5	33.7			32.1			23.4			36.2			26.3			47.7			30.8			20.8			19.5		
Zinc	119.5	62.8	J		58.4	J		50.4			58.1	J		47.4	J		67.1			64.6			64.5			60.4		
SEMIVOLATILES (UG/KG)																												
1,2-Dichlorobenzene	2300000		U	(446)		U	(423)		U	(429)		U	(429)		UJ	(418)		U	(541)		U	(423)		U	(418)		U	(418)
2,4-Dimethylphenol	1300000		U	(446)		U	(423)		U	(429)		U	(429)		U	(418)		U	(541)		U	(423)		U	(418)		U	(418)
2,4-Dinitrotoluene (2,4-DNT)	900		U	(446)		U	(423)		U	(429)		U	(429)		U	(418)		U	(541)		U	(423)		U	(418)		U	(418)
2,6-Dinitrotoluene (2,6-DNT)	900		U	(446)		U	(423)		U	(429)		U	(429)		U	(418)		U	(541)		U	(423)		U	(418)		U	(418)
2-Methylphenol	3300000		U	(446)		U	(423)		U	(429)	118	J			U	(418)		U	(541)		U	(423)		U	(418)		U	(418)
4-Methylphenol	330000		U	(446)		U	(423)		U	(429)	161	J			U	(418)		U	(541)		U	(423)		U	(418)		U	(418)
Butylbenzylphthalate	13000000		U	(446)		U	(423)		U	(429)		U	(429)		U	(418)		U	(541)		U	(423)	284	J			U	(418)
Di-n-butylphthalate	6500000		U	(446)		U	(423)		U	(429)		U	(429)		UJ	(418)		UJ	(541)	592	J		3044	J		1041	J	
Diethylphthalate	52000000		U	(446)		U	(423)		U	(429)		U	(429)		U	(418)		U	(541)		U	(423)		U	(418)		U	(418)
N-Nitroso-di-n-propylamine	63		U	(446)		U	(423)		UJ	(429)		U	(429)		R			U	(541)		U	(423)		U	(418)		U	(418)
N-Nitrosodiphenylamine (1)	91000		U	(446)		U	(423)		U	(429)		U	(429)		U	(418)		U	(541)		U	(423)		U	(418)		U	(418)
Naphthalene	800000		U	(446)		U	(423)		U	(429)		U	(429)		U	(418)		U	(541)		U	(423)		U	(418)		U	(418)
Phenol	39000000		U	(446)		U	(423)		U	(429)	168	J			U	(418)		U	(541)		U	(423)		U	(418)		U	(418)
Pyrene	2000000		U	(446)		U	(423)		U	(429)		U	(429)		U	(418)		U	(541)		U	(423)		U	(418)		U	(418)
VOLATILES (UG/KG)																												
Acetone	2000000		NA			U	(13)		U	(13)		NA			UJ	(13)		UJ	(16)		NA			UJ	(13)		UJ	(13)
Trichloroethene (TCE)	7100		NA			U	(13)		U	(13)		NA			U	(13)		U	(16)		NA			U	(13)		U	(13)
Vinyl Chloride	5.2		NA			U	(13)		U	(13)		NA			U	(13)		U	(16)		NA			U	(13)		U	(13)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-24
Analytical Data for Shallow Soil Sampling at South Burning Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	SGA-016									SGA-017								
		SGA-016-000 (0-0.5 ft)			SGA-016-001 (1-2 ft)			SGA-016-002 (2-3 ft)			SGA-017-000 (0-0.5 ft)			SGA-017-001 (1-2 ft)			SGA-017-002 (2-3 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																			
Aluminum	33852	19800			12200	J		14200	J		16000			17400			22500		
Antimony	31		UJ	(0.48)		U	(0.48)		U	(0.47)	0.56	J			UJ	(0.49)	0.51	J	
Arsenic	13.5	6.6	J		5.3	J		5.7	J		6.7	J		6.3	J		7.3	J	
Barium	440	199			181			183			195			212			231		
Beryllium	1.52	0.74			0.64			0.7			0.67			0.75			0.86		
Cadmium	39	0.71	J		0.15	J		0.29	J		0.68	J		0.43	J		0.58	J	
Calcium	GRAS	3060			2770			2600			3260			3350			3080		
Chromium	37	22.1			13.1			14.6			18.6			19.2			24		
Cobalt	17.2	10.3			8			9			9.1			9.2			10.5		
Copper	33.9	15.3			10.8			12.3			15.4			15.5			17.2		
Iron	GRAS	17900			14400			16300			16900			17900			20500		
Lead	400	17.1	J		11	J		12.4	J		16.2	J		13.4	J		14	J	
Magnesium	GRAS	3140			2390			2800			2860			3070			3820		
Manganese	1083	588	J		455	J		494	J		548	J		537	J		570	J	
Nickel	39.3	18.3			15			16.3			18			19.9			22.8		
Potassium	GRAS	3840			1930			2090			3190			2850			3620		
Selenium	390		UJ	(1.1)		U	(1.1)	1.3	J		1.7	J		2.2	J		1.3	J	
Sodium	GRAS		U	(340)		U	(342)		U	(336)		U	(338)		U	(347)		U	(343)
Thallium	1.72		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)		U	(1.4)
Vanadium	72.5	47.2			24.8			26.3			40.3			41.4			52.7		
Zinc	119.5	89.7			48			53.6			67.9			62.1			69.9		
SEMIVOLATILES (UG/KG)																			
1,2-Dichlorobenzene	2300000		U	(413)		U	(423)		U	(418)		U	(402)		U	(337)		U	(413)
2,4-Dimethylphenol	1300000		U	(413)		U	(423)		U	(418)		U	(402)		U	(337)		U	(413)
2,4-Dinitrotoluene (2,4-DNT)	900		U	(413)		U	(423)		U	(418)		U	(402)		U	(337)		U	(413)
2,6-Dinitrotoluene (2,6-DNT)	900		U	(413)		U	(423)		U	(418)		U	(402)		U	(337)		U	(413)
2-Methylphenol	3300000		U	(413)		U	(423)		U	(418)		U	(402)		U	(337)		U	(413)
4-Methylphenol	330000		U	(413)		U	(423)		U	(418)		U	(402)		U	(337)		U	(413)
Butylbenzylphthalate	13000000		U	(413)		U	(423)		U	(418)		U	(402)		U	(337)		U	(413)
Di-n-butylphthalate	6500000		UJ	(412)		UJ	(423)		UJ	(418)		UJ	(402)	2239	J		1095	J	
Diethylphthalate	52000000		U	(413)		U	(423)		U	(418)		U	(402)		U	(337)		U	(413)
N-Nitroso-di-n-propylamine	63		U	(413)		U	(423)		U	(418)		U	(402)		U	(337)		U	(413)
N-Nitrosodiphenylamine (1)	91000		U	(413)		U	(423)		U	(418)		U	(402)		U	(337)		U	(413)
Naphthalene	800000		U	(413)		U	(423)		U	(418)		U	(402)		U	(337)		U	(413)
Phenol	39000000		U	(413)		U	(423)		U	(418)		U	(402)		U	(337)		U	(413)
Pyrene	2000000		U	(413)		U	(423)		U	(418)		U	(402)		U	(337)		U	(413)
VOLATILES (UG/KG)																			
Acetone	2000000		NA			UJ	(13)		UJ	(13)		NA			UJ	(10)		UJ	(13)
Trichloroethene (TCE)	7100		NA			U	(13)		U	(13)		NA			UJ	(10)		U	(13)
Vinyl Chloride	5.2		NA			U	(13)		U	(13)		NA			UJ	(10)		U	(13)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-25
Analytical Data for Shallow and Deep Soil Sampling at Proving Grounds
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	PG-001												PG-002						PG-003					
		PGA-001-000 (0-0.5 ft)			PGA-001-001 (1-2 ft)			PGA-001-004 (4-5 ft)			PGA-001-009 (9-10 ft)			PGA-002-000 (0-0.5 ft)			PGA-002-001 (1-2 ft)			PGA-003-000 (0-0.5 ft)			PGA-003-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	13000	J		13800			9090			10600			10700			10900			8840			12000		
Antimony	31		UJ	(0.46)		R			R			R		0.79	J			R			R			R	
Arsenic	13.5	5.4	J		7.4	J		8.7	J		7.8	J		6	J		6.6	J		5.6	J		7.8	J	
Barium	440	147			203			253			231			173			179			193			260		
Beryllium	1.52	0.53			0.7			0.57			0.61			0.55	J		0.62	J		0.54	J		0.65		
Cadmium	39	0.43	J		0.81	J		0.95	J		0.99	J		0.92			0.78			0.32	J		0.12	J	
Calcium	GRAS	4050	J		3370			3800			4270			4820			5600			3730			3280		
Chromium	37	14.3	J		13.8			11.4			13.8			13.5	J		12.7	J		10.7			13.3		
Cobalt	17.2	6.8			9.6			10.4			9.8			8			9			7.7			9.4		
Copper	33.9	13.4			15.1			20			19.6			21.7			20.8			15.9			19.4		
Iron	GRAS	13900			17200			16500			17700			14700			15900			12600			17600		
Lead	400	14.1			13.8			13			13.3			30			20.3			19.8	J		12.9	J	
Magnesium	GRAS	2650			3220			3560			4010			2650			2770			2350			3330		
Manganese	1083	384			542			791			555			502			562			507			542		
Nickel	39.3	14.6			19.6			28.3			22.7			17.8			21.5			15.8			22.8		
Potassium	GRAS	2570			2070			1690			2300			2760	J		2150	J		2330			2030		
Selenium	390	1.4	J		1.8	J			U	(1.1)	1.4	J			UJ	(1.2)	1.5	J			UJ	(1.2)	1.9	J	
Sodium	GRAS		U	(330)		U	(330)		U	(343)		U	(347)	120	J		191	J			U	(560)		U	(514)
Thallium	1.72		U	(1.3)		U	(1.3)		U	(1.4)		U	(1.4)		U	(1.2)		U	(1.1)		U	(1.2)		U	(1.1)
Vanadium	72.5	30.5			27.7			20.8			28.5			21.8	J		18.1	J		19.4			22.9		
Zinc	119.5	53.1			57.9	J		61.5	J		68.2	J		*127*			88.8			62.1			58.2		
SEMIVOLATILES (UG/KG)																									
4-Chloro-3-methylphenol	NA		U	(418)		UJ	(413)		U	(413)		U	(423)		U	(446)		U	(418)		U	(446)		U	(418)
Benzo(a)anthracene	610		U	(418)		U	(413)		U	(413)		U	(423)		U	(446)		U	(418)		U	(446)		U	(418)
Benzo(a)pyrene	61		U	(418)		U	(413)		U	(413)		U	(423)		U	(446)		U	(418)		U	(446)		U	(418)
Benzo(b)fluoranthene	610		U	(418)		U	(413)		U	(413)		U	(423)		U	(446)		U	(418)		U	(446)		U	(418)
Benzo(g,h,i)perylene	NA		U	(418)		U	(413)		U	(413)		U	(423)		UJ	(446)		UJ	(418)		UJ	(446)		U	(418)
Benzo(k)fluoranthene	6100		UJ	(418)		UJ	(413)		UJ	(413)		UJ	(423)		U	(446)		U	(418)		U	(446)		U	(418)
Butylbenzylphthalate	13000000		U	(418)		U	(413)		U	(413)		U	(423)	344	J			UJ	(418)		UJ	(446)	120	J	
Chrysene	24000		U	(418)		U	(413)		U	(413)		U	(423)		U	(446)		U	(418)		U	(446)		U	(418)
Di-n-butylphthalate	6500000	3542			175	J		50	J		56	J		2769	J		2384	J			UJ	(446)	3196		
Fluoranthene	2600000		U	(418)		U	(413)		U	(413)		U	(423)		U	(446)		U	(418)		U	(446)		U	(418)
Pentachlorophenol	2500		U	(1013)		U	(1000)		U	(1000)		U	(1026)		U	(1081)		U	(1013)		U	(1081)		U	(1013)
Pyrene	2000000	145	J		128	J			U	(413)		U	(423)		U	(446)		U	(418)		U	(446)		U	(418)
bis(2-Ethylhexyl)phthalate	32000		U	(418)		U	(413)		U	(413)		U	(423)	46	J		45	J			UJ	(446)	35	J	
VOLATILES (UG/KG)																									
2-Hexanone	NA		NA			U	(13)		U	(13)		U	(13)		NA			U	(13)		NA			U	(13)
Acetone	2000000		NA			U	(13)	11	J		18	J			NA		14	J			NA			UJ	(13)
Methylene Chloride	*11000*		NA			U	*(13)*		U	*(13)*		U	*(13)*		NA			UJ	*(13)*		NA			UJ	(13)
Toluene	1900000		NA			U	(13)		U	(13)		U	(13)		NA			U	(13)		NA			U	(13)
Trichloroethene (TCE)	7100		NA			U	(13)		U	(13)	1	J			NA			U	(13)		NA			U	(13)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-25
Analytical Data for Shallow and Deep Soil Sampling at Proving Grounds
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	PG-004						PG-005												PG-006					
		PGA-004-000 (0-0.5 ft)			PGA-004-001 (1-2 ft)			PGA-005-000 (0-0.5 ft)			PGA-005-001 (1-2 ft)			PGA-005-004 (4-5 ft)			PGA-005-009 (9-10 ft)			PGA-006-000 (0-0.5 ft)			PGA-006-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																									
Aluminum	33852	10200			9560			13100			11300			11100			1360			10400			12500		
Antimony	31		J		4.1	J		0.47	J			R			R			R		1.4	J		1.8	J	
Arsenic	13.5	4.5	J		5.4	J		6	J		6.5	J		6.9	J			U	(0.68)	4.8	J		4.9	J	
Barium	440	168			175			202			185			232			12.5			152			176		
Beryllium	1.52	0.5	J		0.53	J		0.6			0.59			0.6			0.06	J		0.51	J		0.54		
Cadmium	39	0.55	J		0.7	J		0.82	J		0.76	J		0.91	J			U	(0.1)	0.55	J		0.21	J	
Calcium	GRAS	2920			2840			3400			2870			3510			342			3570			2450		
Chromium	37	12.3	J		13	J		14.8			12			13.9			1.9	J		13.4	J		15.2		
Cobalt	17.2	7.4			8.6			8.8			8.6			9.6			0.52	J		6.6			7		
Copper	33.9	22.6			14.9			19.8			14.6			19			1.3	J		16.6			12.8	J	
Iron	GRAS	13200			14000			15600			14700			16500			1590			12800			13500		
Lead	400	15.3			21			20.4			14.8			13.1			3.4			24.7			17.1		
Magnesium	GRAS	2500			2530			2980			2680			3580			339			2260			2450		
Manganese	1083	461			538			524			556			509			15			401			374	J	
Nickel	39.3	15.5			18.2			18.6			18.6			23.8			0.96	J		14.3			14.5		
Potassium	GRAS	2310	J		1580	J		2790			2070			1950			323			2360	J		2460	J	
Selenium	390	1.6	J		1.3	J		1.2	J		1.8	J			U	(1)		U	(0.86)	1.7	J		1.5	J	
Sodium	GRAS	92.1	J		59.1	J			U	(334)		U	(336)		U	(317)		U	(264)		U	(505)	243	J	
Thallium	1.72		U	(1.1)		U	(1.1)		U	(1.4)		U	(1.4)	1.3	J			U	(1.1)		U	(1.1)		U	(1.1)
Vanadium	72.5	22.6	J		19.7	J		31			25.2			20.9			3.4			20.9	J		27		
Zinc	119.5	95.7			57			67.5	J		53.6	J		56.7	J		5.7	J		61.4			49.8	J	
SEMIVOLATILES (UG/KG)																									
4-Chloro-3-methylphenol	NA		U	(407)		U	(388)		U	(407)		U	(398)	93	J			U	(337)		U	(413)		U	(388)
Benzo(a)anthracene	610		U	(407)		U	(388)		U	(407)		U	(398)		U	(407)		U	(337)		U	(413)		U	(388)
Benzo(a)pyrene	61		U	(407)		U	(388)		U	(407)		U	(398)		U	(407)		U	(337)		U	(413)		U	(388)
Benzo(b)fluoranthene	610		U	(407)		U	(388)		U	(407)		U	(398)		U	(407)		U	(337)		U	(413)		U	(388)
Benzo(g,h,i)perylene	NA		UJ	(407)		UJ	(388)		U	(407)		U	(398)		U	(407)		U	(337)		U	(413)		UJ	(388)
Benzo(k)fluoranthene	6100		U	(407)		U	(388)		UJ	(407)		UJ	(398)		UJ	(407)		UJ	(337)		U	(413)		U	(388)
Butylbenzylphthalate	13000000		UJ	(407)		UJ	(388)		U	(407)		U	(398)		U	(407)		U	(337)		U	(413)		UJ	(388)
Chrysene	24000		U	(407)		U	(388)		U	(407)		U	(398)		U	(407)		U	(337)		U	(413)		U	(388)
Di-n-butylphthalate	6500000	2363	J			U	(388)	181	J		201	J		199	J		187	J			U	(413)		UJ	(388)
Fluoranthene	2600000		U	(407)		U	(388)		U	(407)		U	(398)		U	(407)		U	(337)		U	(413)		U	(388)
Pentachlorophenol	2500		U	(988)		U	(941)		U	(988)		U	(964)	14	J			U	(816)		U	(1000)		U	(941)
Pyrene	2000000		U	(407)		U	(388)		UJ	(407)		UJ	(398)	243	J			UJ	(337)		U	(413)		U	(388)
bis(2-Ethylhexyl)phthalate	32000		UJ	(407)	33	J			U	(407)		U	(398)		U	(407)		U	(337)	36	J		49	J	
VOLATILES (UG/KG)																									
2-Hexanone	NA		NA			UJ	(12)		NA			U	(12)		U	(12)		U	(10)		NA			UJ	(12)
Acetone	2000000		NA			UJ	(12)		NA			U	(12)	9	J			U	(10)		NA			UJ	(12)
Methylene Chloride	11000		NA			UJ	(12)		NA			U	(12)		U	(12)		U	(10)		NA			UJ	(12)
Toluene	1900000		NA			U	(12)		NA			U	(12)	0.5	J			U	(10)		NA			U	(12)
Trichloroethene (TCE)	7100		NA			U	(12)		NA		1	J			U	(12)		U	(10)		NA			U	(12)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-25
Analytical Data for Shallow and Deep Soil Sampling at Proving Grounds
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	PG-007												PG-008					
		PGA-007-000 (0-0.5 ft)			PGA-007-001 (1-2 ft)			PGA-007-004 (4-5 ft)			PGA-007-009 (9-10 ft)			PGA-008-000 (0-0.5 ft)			PGA-008-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																			
Aluminum	33852	19300			17400			14700			1780			18000			16900		
Antimony	31		U	(13.4)		U	(12.6)		U	(11.8)		U	(10.4)		U	(13.4)		U	(12.6)
Arsenic	13.5	11.2			9.9			11.1				U	(1)	9.1			9.6		
Barium	440	237			251			298			18.9	B		235			250		
Beryllium	1.52		U	(1.3)		U	(1.3)		U	(1.2)		U	(1)		U	(1.3)		U	(1.3)
Cadmium	39		U	(1.3)		U	(1.3)		U	(1.2)		U	(1)		U	(1.3)		U	(1.3)
Calcium	GRAS	3840			4000			4460			534	B		3640			3640		
Chromium	37	18.5	*		16.7	*		17.7	*			U*	(2.1)	18.2	*		17.8	*	
Cobalt	17.2	11.2	B		10.9	B		12				U	(2.1)	11.7	B		11.3	B	
Copper	33.9	23.3			22.7			23.5			2.2	B		26			22.9		
Iron	GRAS	22800			22900			22100			2200			20400			19800		
Lead	400	24.9			18.4			18.5			2			28.6			15.9		
Magnesium	GRAS	4460			4880			5090			526	B		4260			4900		
Manganese	1083	620			788			765				U	(35.3)	548			628		
Nickel	39.3	28			31.5			34.4				U	(4.2)	24.5			26.7		
Potassium	GRAS	4210			2770			2780			445	B		3580			2540		
Selenium	390	2.1	*			U*	(1.3)		U*	(1.2)		U*	(1)		U*	(1.3)		U*	(1.3)
Sodium	GRAS		U	(268)		U	(253)	352	B			U	(209)		U	(269)	270	B	
Thallium	1.72		U	(1.9)		U	(1.8)		U	(1.7)		U	(1.5)		U	(1.9)		U	(1.8)
Vanadium	72.5	41.5			33.1			35.4			4.1	B		38.6			36.4		
Zinc	119.5		U	(93.3)		U	(79.4)		U	(84.2)		U	(9.8)		U	(89.9)		U	(62.5)
SEMIVOLATILES (UG/KG)																			
4-Chloro-3-methylphenol	NA		U	(440)		U	(420)		U	(390)		U	(340)		U	(450)		U	(420)
Benzo(a)anthracene	610		U	(440)		U	(420)		U	(390)		U	(340)		U	(450)		U	(420)
Benzo(a)pyrene	61		U	(440)		U	(420)		U	(390)		U	(340)		U	(450)		U	(420)
Benzo(b)fluoranthene	610		U	(440)		U	(420)		U	(390)		U	(340)		U	(450)		U	(420)
Benzo(g,h,i)perylene	NA		U	(440)		U	(420)		U	(390)		U	(340)		U	(450)		U	(420)
Benzo(k)fluoranthene	6100		U	(440)		U	(420)		UJ	(390)		UJ	(340)		UJ	(450)		UJ	(420)
Butylbenzylphthalate	13000000		U	(440)		U	(420)		U	(390)		U	(340)		U	(450)		U	(420)
Chrysene	24000		U	(440)		U	(420)		U	(390)		U	(340)		U	(450)		U	(420)
Di-n-butylphthalate	6500000		U	(440)		U	(420)		U	(390)		U	(340)		U	(450)		U	(420)
Fluoranthene	2600000		U	(440)		U	(420)		U	(390)		U	(340)		U	(450)		U	(420)
Pentachlorophenol	2500		U	(1100)		U	(1000)		U	(950)		U	(830)		U	(1100)		U	(1000)
Pyrene	2000000		U	(440)		U	(420)		U	(390)		U	(340)		U	(450)		U	(420)
bis(2-Ethylhexyl)phthalate	32000		U	(440)		U	(420)		U	(390)		U	(340)		U	(450)		U	(420)
VOLATILES (UG/KG)																			
2-Hexanone	NA		NA			U	(13)		U	(12)		U	(10)		NA			U	(13)
Acetone	2000000		NA		10	J		5	J		5	J			NA		5	J	
Methylene Chloride	11000		NA		19			3	J		2	J			NA		7	J	
Toluene	1900000		NA		4	J			U	(12)		U	(10)		NA			U	(13)
Trichloroethene (TCE)	7100		NA			U	(13)		U	(12)		U	(10)		NA			U	(13)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-25
Analytical Data for Shallow and Deep Soil Sampling at Proving Grounds
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	PG-009												PG-010					
		PGA-009-000 (0-0.5 ft)			PGA-009-001 (1-2 ft)			PGA-009-004 (4-5 ft)			PGA-009-009 (9-10 ft)			PGA-010-000 (0-0.5 ft)			PGA-010-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)																			
Aluminum	33852	15300			9020			9050			583			7540			5470		
Antimony	31		U	(12.8)		U	(11.5)		UJ	(10.9)		UJ	(10.2)		U	(11.5)		U	(11.1)
Arsenic	13.5	7.6			4.5			6.2				U	(1)	1.8			2.2	B	
Barium	440	191			149			208			7.8	B		89.5			64.4		
Beryllium	1.52		U	(1.3)		U	(1.2)		U	(1.1)		U	(1)		U	(1.2)		U	(1.1)
Cadmium	39		U	(1.3)		U	(1.2)		U	(1.1)		U	(1)		U	(1.2)		U	(1.1)
Calcium	GRAS	9600			34000			11200	*		267	*B		1960			2800		
Chromium	37	17.5	*		12.7	*		13.4			2.1			7	*		6.4	*	
Cobalt	17.2	9.9	B		4.9	B		7.9	B			U	(2)	4	B		2.7	B	
Copper	33.9	22.8			18.5			19.1				U	(2)	9.9			5.3	B	
Iron	GRAS	17800			10400			14500			971			7470			4990		
Lead	400	37			83.5			17.5	J		1.1	J		21.3				U	(6.5)
Magnesium	GRAS	5430			7000			4090				U	(204)	1580			1210		
Manganese	1083	484			364			404	J		8	J		86.6			81.7		
Nickel	39.3	23.1			16.7			17.3				U	(4.1)	9.6				U	(4.4)
Potassium	GRAS	3470			1970			2060				U	(407)	1700			1160		
Selenium	390		U*	(1.3)		U*	(1.2)		U	(1.1)		U	(1)		U*	(1.2)		U*	(1.1)
Sodium	GRAS	373	B		342	B			U	(219)		U	(204)	273	B		264	B	
Thallium	1.72		U	(1.8)		U	(1.6)		U	(1.5)		U	(1.4)		U	(1.6)		U	(1.6)
Vanadium	72.5	31.2			18.3			23				U	(2)	14.6			10.5	B	
Zinc	119.5		U	(104)		U	(95.9)	60.1			10.5				U	(48.8)		U	(22.5)
SEMIVOLATILES (UG/KG)																			
4-Chloro-3-methylphenol	NA		U	(420)		U	(380)		U	(360)		U	(340)		U	(380)		U	(370)
Benzo(a)anthracene	610		U	(420)		U	(380)	18	J			U	(340)		U	(380)		U	(370)
Benzo(a)pyrene	61		U	(420)		U	(380)	18	J			U	(340)		U	(380)		U	(370)
Benzo(b)fluoranthene	610		U	(420)		U	(380)	25	J			U	(340)		U	(380)		U	(370)
Benzo(g,h,i)perylene	NA		U	(420)		U	(380)	26	J			U	(340)		U	(380)		U	(370)
Benzo(k)fluoranthene	6100		UJ	(420)		UJ	(380)	8	J			U	(340)		UJ	(380)		UJ	(370)
Butylbenzylphthalate	13000000		U	(420)		U	(380)		U	(360)		U	(340)		U	(380)		U	(370)
Chrysene	24000		U	(420)		U	(380)	16	J			U	(340)		U	(380)		U	(370)
Di-n-butylphthalate	6500000		U	(420)		U	(380)		U	(2800)		U	(340)		U	(380)		U	(370)
Fluoranthene	2600000		U	(420)		U	(380)	13	J			U	(340)		U	(380)		U	(370)
Pentachlorophenol	2500		U	(1000)		U	(920)		U	(880)		U	(820)		U	(920)		U	(890)
Pyrene	2000000		U	(420)		U	(380)	13	J			U	(340)		U	(380)		U	(370)
bis(2-Ethylhexyl)phthalate	32000		U	(420)		U	(380)		U	(360)		U	(340)		U	(380)		U	(370)
VOLATILES (UG/KG)																			
2-Hexanone	NA		NA			U	(11)		UJ	(11)		U	(10)		NA		1	J	
Acetone	2000000		NA			U	(11)		UJ	(11)		U	(10)		NA		4	J	
Methylene Chloride	11000		NA		2	J		2	J		3	J			NA		1	J	
Toluene	1900000		NA		2	J			U	(11)		U	(10)		NA			U	(11)
Trichloroethene (TCE)	7100		NA			U	(11)		U	(11)		U	(10)		NA			U	(11)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-26
Analytical Data for Groundwater Sampling of Newly Installed Monitoring Well at Proving Grounds
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	MW-64B BMW-064-065		
		R	Q	QL
DISSOLVED METALS (UG/L)				
Aluminum	37000	66.6	B	
Barium	2000	320	E	
Calcium	GRAS	51600		
Copper	1300	1.1	B	
Magnesium	GRAS	14100		
Manganese	180	54		
Nickel	100	5.1	B	
Potassium	GRAS	8770	E	
Sodium	GRAS	22500		
Zinc	2000	5.5	B	
TOTAL METALS (UG/L)				
Aluminum	37000	352		
Antimony	6	2.8	B	
Barium	2000	238		
Cadmium	5	0.4	B	
Calcium	GRAS	50300		
Copper	1300	4.5	B	
Iron	GRAS	212		
Magnesium	GRAS	13500		
Manganese	180	69.2		
Nickel	100	6.8	B	
Potassium	GRAS	7350	E	
Sodium	GRAS	22000		
Vanadium	260	0.67	B	
Zinc	2000	7.3	B	
VOLATILES (UG/L)				
Acetone	610	10	B	
Methylene chloride	5	1	J	
SEMIVOLATILES (UG/L)				
bis(2-Ethylhexyl)phthalate	6	2	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-27

Analytical Data for Shallow and Deep Soil Sampling at the Potential Landfill Area North of the Proving Grounds
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	PL-001												PL-002											
		PLA-001-000 (0-0.5 ft)			PLA-001-001 (1-2 ft)			PLA-001-004 (4-5 ft)			PLA-001-009 (9-10 ft)			PLA-002-000 (0-0.5 ft)			PLA-002-001 (1-2 ft)			PLA-002-004 (4-5 ft)			PLA-002-009 (9-10 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		NA			NA			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		NA			NA			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)	0.11	J			NA			NA			U	(1)		U	(1)		U	(1)		U	(1)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.068	J			U	(0.5)		NA			NA			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																									
Aluminum	33852	6240			14500			16800			14500			11600	J		17900			14800	J		924	J	
Antimony	31	0.5	J		***81.8***	J			U	(12.8)		U	(12.7)	0.5	J			UJ	(0.46)		UJ	(0.43)		UJ	(0.45)
Arsenic	13.5	2.3	J		8.4			9.3			10.5			5.3	J		9.1			6.1	J			U	(0.82)
Barium	440	74.4			347			328			270			152			272			190			19.8		
Beryllium	1.52	0.29	J		0.69				U	(1.3)		U	(1.3)	0.59			0.82			0.6			0.06	J	
Cadmium	39	0.85			1.2				U	(1.3)		U	(1.3)	0.64	J		0.46	J		0.62	J			U	(0.12)
Calcium	GRAS	136000			3900			4150			4270			3240	J		3930			2570	J		287	J	
Chromium	37	8.5	J		***688***			19.3	*		18.9	*		12.8	J		21.1			17.1	J		1.3	J	
Cobalt	17.2	4.7			***18.7***			12.9			8.7	B		6.1			12.6			8			0.45	J	
Copper	33.9	11.7			***47.9***	J		23.1			22.6			18.8			20.1			14.1			0.91	J	
Iron	GRAS	9540			20400			21600			21300			14600			21800			15400			1160		
Lead	400	15.3			***2910***			15.1			14.7			17.8			15.7	J		12.5			1.8	J	
Magnesium	GRAS	16700			3450			5440			5260			2560			4700			3100			245		
Manganese	1083	385			523	J		674			537			303			898	J		449			27.9		
Nickel	39.3	11.4			26.9			28.1			26.6			17.3			26.6			18.4			0.63	J	
Potassium	GRAS	2630	J		2450	J		3260			3320			2500			2960			2560			257		
Selenium	390	1.4	J			UJ	(1.1)		U*	(1.3)		U*	(1.3)	1.5	J			UJ	(1.1)		U	(1)		U	(1)
Silver	380		UJ	(0.12)		UJ	(0.12)		U	(2.6)		U	(2.5)		UJ	(0.16)		UJ	(0.15)		UJ	(0.14)		UJ	(0.14)
Sodium	GRAS	270	J		311	J		305	B		303	B			U	(353)		U	(327)		U	(306)		U	(316)
Thallium	1.72		U	(1.1)	1.4	J			U	(1.8)		U	(1.8)		U	(1.4)		U	(1.3)		U	(1.2)		U	(1.3)
Vanadium	72.5	12.7	J		30.6			37.8			37.7			26.2			42.5			35.3			2.3		
Zinc	119.5	42			***150***	J		81.8	*		85.2	*		70.4			71.8			51.7			4.7		
SEMIVOLATILES (UG/KG)																									
Benzo(b)fluoranthene	610	77	J			U	(398)		NA			NA			U	(423)		U	(402)		U	(388)		U	(398)
Butylbenzylphthalate	13000000		U	(388)		U	(398)		NA			NA			U	(423)		U	(402)		U	(388)	769		
Chrysene	24000	27	J			U	(398)		NA			NA			U	(423)		U	(402)		U	(388)		U	(398)
Di-n-butylphthalate	6500000		U	(388)	2674				NA			NA			U	(423)	441				U	(388)	2823		
Diethylphthalate	52000000		U	(388)		U	(398)		NA			NA			U	(423)		U	(402)		U	(388)		U	(398)
Phenol	39000000		U	(388)		U	(398)		NA			NA			U	(423)		U	(402)		U	(388)		U	(398)
Pyrene	2000000		U	(388)		U	(398)		NA			NA			U	(423)		U	(402)		U	(388)		U	(398)
bis(2-Ethylhexyl)phthalate	32000		U	(388)		U	(398)		NA			NA			U	(423)		U	(402)		U	(388)	91	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-27

Analytical Data for Shallow and Deep Soil Sampling at the Potential Landfill Area North of the Proving Grounds
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	PL-003						PL-004						PL-005					
		PLA-003-000 (0-0.5 ft)			PLA-003-001 (1-2 ft)			PLA-004-000 (0-0.5 ft)			PLA-004-001 (1-2 ft)			PLA-005-000 (0-0.5 ft)			PLA-005-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)	0.047	J		0.068	J			U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)	0.18	J		0.26	J			U	(0.5)		U	(0.5)		U	(0.5)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)	0.13	J			U	(1)		U	(1)		U	(1)		U	(1)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.047	J			U	(0.5)		U	(0.5)	0.022	J			U	(0.5)	0.014	J	
METALS (MG/KG)																			
Aluminum	33852	8520			12900			10200			4120			13300			10500		
Antimony	31	9.1	J		11.6	J		1.1	J			R		3.2	J			R	
Arsenic	13.5	5.4	J		7.5	J		5.6	J		1.6	J		8.2	J		7	J	
Barium	440	147			191			149			60.9			207			181		
Beryllium	1.52	0.45	J		0.65	J		0.5	J		0.23	J		0.64	J		0.6	J	
Cadmium	39	1.3			0.84			0.51	J		0.15	J		1			0.61	J	
Calcium	GRAS	15700			6010			2820			1080			4430			3040		
Chromium	37	13.1	J		17	J		11	J		4.7	J		18.1	J		12	J	
Cobalt	17.2	7.3			9.7			7.4			2.9			10			9.1		
Copper	33.9	30.4			25.4			14.2			4.7			22.1			16.5		
Iron	GRAS	23200			17700			12900			5290			23600			15000		
Lead	400	325			61.9			18.2			5.1			25.9			12.2		
Magnesium	GRAS	3090			3040			2240			1010			3210			2980		
Manganese	1083	385			565			456			205			644			527		
Nickel	39.3	20.4			19.6			15.9			6.6			21.7			19.9		
Potassium	GRAS	2440	J		2400	J		1910	J		735	J		3310	J		1700	J	
Selenium	390		UJ	(1.1)	1.9	J		1.3	J			UJ	(0.96)	3.1	J		1.7	J	
Silver	380		UJ	(0.12)		UJ	(0.12)		UJ	(0.12)		UJ	(0.11)		UJ	(0.14)		UJ	(0.13)
Sodium	GRAS	291	J		75.5	J		114	J		173	J		66	J		126	J	
Thallium	1.72		U	(1.1)		U	(1.1)		U	(1.1)		U	(0.98)		U	(1.2)		U	(1.1)
Vanadium	72.5	14.9	J		24.3	J		20.1	J		8.6	J		27.4	J		21.8	J	
Zinc	119.5	*728*			93.3			54.6			20.5			77.1			56.3		
SEMIVOLATILES (UG/KG)																			
Benzo(b)fluoranthene	610		U	(398)		U	(402)		U	(413)		U	(375)		U	(440)		U	(418)
Butylbenzylphthalate	13000000		UJ	(398)		U	(402)		UJ	(413)	1204	J			UJ	(440)		U	(418)
Chrysene	24000		U	(398)		U	(402)		U	(413)		U	(375)		U	(440)		U	(418)
Di-n-butylphthalate	6500000	2789	J			U	(402)		U	(413)	2700	J			U	(440)		U	(582)
Diethylphthalate	52000000		U	(398)	72	J			U	(413)		U	(375)		U	(440)		U	(418)
Phenol	39000000		U	(398)		U	(402)		U	(413)		U	(375)		U	(440)		U	(418)
Pyrene	2000000		U	(398)		U	(402)	89	J			U	(375)		U	(440)		U	(418)
bis(2-Ethylhexyl)phthalate	32000		U	(398)	701				U	(413)		U	(375)		U	(440)		U	(418)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-27

Analytical Data for Shallow and Deep Soil Sampling at the Potential Landfill Area North of the Proving Grounds
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	PL-006												PL-007											
		PLA-006-000 (0-0.5 ft)			PLA-006-001 (1-2 ft)			PLA-006-004 (4-5 ft)			PLA-006-009 (9-10 ft)			PLA-007-000 (0-0.5 ft)			PLA-007-001 (1-2 ft)			PLA-007-004 (4-5 ft)			PLA-007-009 (9-10 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		NA			NA			NA			NA	
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		NA			NA			NA			NA	
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		NA			NA			NA			NA	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		NA			NA			NA			NA	
METALS (MG/KG)																									
Aluminum	33852	12900	J		13100	J		907			636			13000			17000			14300			13500		
Antimony	31	2.1	J			UJ	(0.46)		R			R			U	(12)		U	(12.3)	23				UJ	(12.8)
Arsenic	13.5	6.8	J		6.5	J			U	(0.73)		U	(0.71)	6.6			9.4			8.9				U	(10.4)
Barium	440	195			213			14.7			12.3			151			250			321			296		
Beryllium	1.52	0.6			0.61			0.04	J		0.04	J			U	(1.2)		U	(1.2)		U	(1.2)		U	(1.3)
Cadmium	39	0.59	J		0.65	J			U	(0.1)		U	(0.1)		U	(1.2)		U	(1.2)	1.2				U	(1.3)
Calcium	GRAS	3030	J		2940	J		305			281			38000			4730			6000			4750	*	
Chromium	37	14.3	J		13.8	J		1.3	J		1.2	J		14	*		17.3	*		*37.5*	*		20.6		
Cobalt	17.2	8.1			8.2			0.36	J		0.36	J		7.8	B		8.9	B		14.3			11.9	B	
Copper	33.9	17.8			17				U	(1.7)		U	(1.6)	18.9			20.6			25.6			20.9		
Iron	GRAS	15700			15700			1100			845			13900			20600			21500			21800		
Lead	400	23.9			11.5				U	(3.3)		U	(3.3)	15.1			18.6			173			13.6	J	
Magnesium	GRAS	2900			3380			253			207			6610			4520			4660			5030		
Manganese	1083	488			624			35.4	J		26.7	J		430			622			744			720	J	
Nickel	39.3	18.5			21			0.75	J		0.65	J		17.6			27.6			29.9			30.5		
Potassium	GRAS	2520			1940			247			206			3380			3150			2510			2350		
Selenium	390		U	(1.1)	1.8	J			UJ	(0.92)		UJ	(0.9)		U*	(1.2)		U*	(1.2)		U*	(1.2)		U	(1.3)
Silver	380		UJ	(0.15)		UJ	(0.15)		UJ	(0.12)		UJ	(0.12)		U	(2.4)		U	(2.5)		U	(2.5)		UJ	(2.6)
Sodium	GRAS		U	(338)		U	(327)		U	(281)		U	(276)	284	B			U	(245)		U	(248)	289	B	
Thallium	1.72		U	(1.4)		U	(1.3)		U	(1.1)		U	(1.1)		U	(1.7)		U	(1.7)		U	(1.7)		U	(1.8)
Vanadium	72.5	28.4			29.3			2.4			1.8			25.6			37.6			31.8			35.8		
Zinc	119.5	63.8			47.3				U	(4.8)		U	(5.4)	64.6	*		78	*		96.3	*		75.2		
SEMIVOLATILES (UG/KG)																									
Benzo(b)fluoranthene	610		U	(418)		U	(402)		U	(347)		U	(344)		NA			NA			NA			NA	
Butylbenzylphthalate	13000000		U	(418)		U	(402)		U	(347)		U	(344)		NA			NA			NA			NA	
Chrysene	24000		U	(418)		U	(402)		U	(347)		U	(344)		NA			NA			NA			NA	
Di-n-butylphthalate	6500000		U	(418)		U	(402)		U	(347)		U	(344)		NA			NA			NA			NA	
Diethylphthalate	52000000		U	(418)		U	(402)		U	(347)		U	(344)		NA			NA			NA			NA	
Phenol	39000000	48	J			U	(402)		U	(347)		U	(344)		NA			NA			NA			NA	
Pyrene	2000000		U	(418)		U	(402)		U	(347)		U	(344)		NA			NA			NA			NA	
bis(2-Ethylhexyl)phthalate	32000		U	(418)		U	(402)		U	(347)		U	(344)		NA			NA			NA			NA	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-27

Analytical Data for Shallow and Deep Soil Sampling at the Potential Landfill Area North of the Proving Grounds
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	PL-008												PL-009											
		PLA-008-000 (0-0.5 ft)			PLA-008-001 (1-2 ft)			PLA-008-004 (4-5 ft)			PLA-008-009 (9-10 ft)			PLA-009-000 (0-0.5 ft)			PLA-009-001 (1-2 ft)			PLA-009-004 (4-5 ft)			PLA-009-009 (9-10 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																									
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		NA			NA			NA			NA			NA			NA			NA			NA	
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		NA			NA			NA			NA			NA			NA			NA			NA	
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		NA			NA			NA			NA			NA			NA			NA			NA	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		NA			NA			NA			NA			NA			NA			NA			NA	
METALS (MG/KG)																									
Aluminum	33852	14500			17300			14900			14600			17600			15200			15600			5630		
Antimony	31		UJ	(13.2)		UJ	(12.6)		UJ	(12.9)		UJ	(12.7)		UJ	(12.6)		UJ	(12.2)		UJ	(11.4)		UJ	(10.6)
Arsenic	13.5		U	(7.9)		U	(11.9)		U	(11.6)		U	(11.3)		U	(8.3)		U	(8.5)		U	(11.2)		U	(3.6)
Barium	440	190			325			320			295			237			245			353			115		
Beryllium	1.52		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.2)		U	(1.1)		U	(1.1)
Cadmium	39		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.2)	1.4				U	(1.1)
Calcium	GRAS	9240	*		4350	*		4440	*		5010	*		3870	*		3690	*		4370	*		1630	*	
Chromium	37	17.6			19.7			20.4			20.6			27.6			23.1			19.7			7.4		
Cobalt	17.2	9.6	B		14.6			10.9	B		12.1	B		12.7			11.1	B		12.2			3.2	B	
Copper	33.9	18.7			22.8			20.1			25.1			26.8			19.4			22.2			7.8		
Iron	GRAS	17700			23800			23000			23200			21900			20300			22800			8320		
Lead	400	17.9	J		17	J		14.1	J		14.7	J		83	J		30.6	J		15.2	J		5.2	J	
Magnesium	GRAS	4150			4850			4970			5150			3780			3980			5070			1790		
Manganese	1083	506	J		***1130***	J		577	J		744	J		690	J		581	J		796	J		411	J	
Nickel	39.3	22.1			37.3			29.6			27.6			31.2			29.9			32.9			9.1		
Potassium	GRAS	2970			2610			2590			2810			3080			2180			2620			1080		
Selenium	390		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.3)		U	(1.2)		U	(1.1)		U	(1.1)
Silver	380		UJ	(2.6)		UJ	(2.5)		UJ	(2.6)		UJ	(2.5)	6	J			UJ	(2.4)		UJ	(2.3)		UJ	(2.1)
Sodium	GRAS		U	(265)		U	(252)		U	(259)	273	B			U	(252)		U	(244)		U	(228)		U	(211)
Thallium	1.72		U	(1.9)		U	(1.8)		U	(1.8)		U	(1.8)		U	(1.8)		U	(1.7)		U	(1.6)		U	(1.5)
Vanadium	72.5	32.2			37.8			38			36.9			38.9			34.1			37.3			14.1		
Zinc	119.5	64.6			76.7			78.4			88.6			102			73.1			79.1			27.3		
SEMIVOLATILES (UG/KG)																									
Benzo(b)fluoranthene	610		NA			NA			NA			NA			NA			NA			NA			NA	
Butylbenzylphthalate	13000000		NA			NA			NA			NA			NA			NA			NA			NA	
Chrysene	24000		NA			NA			NA			NA			NA			NA			NA			NA	
Di-n-butylphthalate	6500000		NA			NA			NA			NA			NA			NA			NA			NA	
Diethylphthalate	52000000		NA			NA			NA			NA			NA			NA			NA			NA	
Phenol	39000000		NA			NA			NA			NA			NA			NA			NA			NA	
Pyrene	2000000		NA			NA			NA			NA			NA			NA			NA			NA	
bis(2-Ethylhexyl)phthalate	32000		NA			NA			NA			NA			NA			NA			NA			NA	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-28

Analytical Data for Shallow and Deep Soil Sampling at Potential Waste Disposal Areas North of the Former Nike Maintenance Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	NM-001																	
		NMA-001-000 (0-0.5 ft)			NMA-001-001 (1-2 ft)			NMA-001-002 (2-3 ft)			NMA-001-004 (4-5 ft)			NMA-001-009 (9-10 ft)			NMA-001-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																			
Aluminum	33852	11100			8530			8590			7440			6890			743		
Antimony	31		R			R			R			R			R			R	
Arsenic	13.5	6.8	J		6	J		8.7			8.5	J		6.3	J			U	(0.72)
Barium	440	226	J		207	J		260	J		223	J		189	J		15.1	J	
Beryllium	1.52	0.65			0.55			0.62			0.56			0.51			0.05	J	
Cadmium	39	0.75	J		0.56	J		0.74	J		0.51	J		0.64	J			U	(0.1)
Calcium	GRAS	4780			5200			4430			4560			4270			439		
Chromium	37	14.2			11.3			12.7			10.4			11.2			2.3	J	
Cobalt	17.2	9.2			8.2			10.3			7.7			6.8			0.62	J	
Copper	33.9	17.9	J		16.4	J		19.9	J		18.5	J		16.8	J		0.46	J	
Iron	GRAS	15700			13600			16600			15500			13800			1100		
Lead	400	18.4			20.3			14.5			14.8			12.3			2	J	
Magnesium	GRAS	2860			2700			3440			3510			3270			310		
Manganese	1083	549	J		489	J		722	J		489	J		498	J		32.9	J	
Nickel	39.3	20.4	J		18.3	J		27.7	J		22.5	J		22	J		1.2	J	
Potassium	GRAS	3010			2420			2080			1750			1740			238		
Selenium	390	1.3	J		1.2	J		1.5	J			U	(1.2)		U	(1.1)		U	(0.91)
Sodium	GRAS		U	(353)		U	(337)		U	(330)		U	(359)		U	(350)		U	(279)
Vanadium	72.5	27.3			22.5			22.9			23.2			19.2			2.1		
Zinc	119.5	72.5			64.2			63.6			63.8			61.8			4.6		
SEMIVOLATILES (UG/KG)																			
Butylbenzylphthalate	13000000		U	(446)	740			223	J		68	J			U	(429)		U	(347)
Di-n-butylphthalate	6500000		U	(446)	3150			3356			3593			3406			2204		
Pyrene	2000000	60	J			U	(413)		U	(418)		U	(434)		U	(429)		U	(347)
VOLATILES (UG/KG)																			
M/P-Xylenes	NA		NA			U	(13)		U	(13)		U	(13)		U	(13)		U	(11)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-28

Analytical Data for Shallow and Deep Soil Sampling at Potential Waste Disposal Areas North of the Former Nike Maintenance Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	NM-002																	
		NMA-002-000 (0-0.5 ft)			NMA-002-001 (1-2 ft)			NMA-002-002 (2-3 ft)			NMA-002-004 (4-5 ft)			NMA-002-009 (9-10 ft)			NMA-002-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)	0.033	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																			
Aluminum	33852	8400			9150			9180			7940			5930			1180		
Antimony	31		R			R		0.65	J			R			R			UJ	(0.38)
Arsenic	13.5	8.2	J		9.3			8.7	J		9.1			6	J			U	(0.71)
Barium	440	155	J		206	J		296	J		221	J		164	J		16.8		
Beryllium	1.52	0.65			0.61			0.62			0.63			0.46			0.05	J	
Cadmium	39	0.55	J		0.69	J		0.66	J		0.72	J		0.49	J			U	(0.1)
Calcium	GRAS	4000			11300			5300			3570			3000			349		
Chromium	37	12			12.6			13.3			11.2			9			3.4	J	
Cobalt	17.2	10.7			9.2			9.5			9.8			7.4			0.57	J	
Copper	33.9	18.1	J		20.4	J		20	J		22.5	J		15.2	J		1.8		
Iron	GRAS	16300			17300			17600			16100			12000			1400		
Lead	400	16			13.8			14.2			13.4			10.7			1.9	J	
Magnesium	GRAS	4380			4690			4370			3710			2730			382		
Manganese	1083	700	J		614	J		491	J		727	J		489	J		36.3		
Nickel	39.3	28	J		25.1	J		24.7	J		24.5	J		19.1	J		1.8	J	
Potassium	GRAS	1520			1870			1930			1730			1400			280		
Selenium	390	1.5	J		1.1	J		1.2	J		1.1	J		1.4	J			U	(0.89)
Sodium	GRAS		U	(354)	732			962			1090			590				U	(273)
Vanadium	72.5	22.4			26.7			25.8			25.2			17.6			2.9		
Zinc	119.5	62.9			61.3			66			64.5			44.3			6.3	J	
SEMIVOLATILES (UG/KG)																			
Butylbenzylphthalate	13000000		U	(423)		U	(423)		U	(413)		U	(418)		U	(355)		U	(340)
Di-n-butylphthalate	6500000		U	(1449)		U	(42)		U	(22)		U	(2828)		U	(388)		U	(1056)
Pyrene	2000000		U	(423)	164	J			U	(413)		U	(418)		U	(355)		U	(340)
VOLATILES (UG/KG)																			
M/P-Xylenes	NA		NA			U	(13)		U	(13)		U	(13)		U	(11)		U	(10)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-28

Analytical Data for Shallow and Deep Soil Sampling at Potential Waste Disposal Areas North of the Former Nike Maintenance Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	NM-003																	
		NMA-003-000 (0-0.5 ft)			NMA-003-001 (1-2 ft)			NMA-003-002 (2-3 ft)			NMA-003-004 (4-5 ft)			NMA-003-009 (9-10 ft)			NMA-003-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)	0.32	J			U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.058	J		0.05	J			U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																			
Aluminum	33852	9560			10100			10300			7920			6820			1580		
Antimony	31		R			R			R			R			R			UJ	(0.39)
Arsenic	13.5	4.4	J		5	J		6.6	J		9.8			8.1	J			U	(0.72)
Barium	440	206	J		222	J		216	J		326	J		185	J		17		
Beryllium	1.52	0.61			0.6			0.65			0.61			0.55			0.06	J	
Cadmium	39	0.55	J		0.48	J		0.54	J		0.6	J		0.71	J			U	(0.1)
Calcium	GRAS	3120			3040			3380			4310			4410			479		
Chromium	37	11.6			11.7			11.8			11.1			10.2			2.2	J	
Cobalt	17.2	8.8			9.5			11.1			10.7			10.3			0.88	J	
Copper	33.9	13.3	J		11.2	J		12.2	J		21.3	J		19	J		2		
Iron	GRAS	12900			13600			15700			16300			15100			1820		
Lead	400	14.3			13.8			15.1			15.3			13.5			2.2	J	
Magnesium	GRAS	2200			2380			3030			3400			3220			453		
Manganese	1083	537	J		563	J		713	J		753	J		690	J		49.3		
Nickel	39.3	15.6	J		16	J		19.6	J		25.9	J		24.1	J		2.1	J	
Potassium	GRAS	3080			2180			1600			1620			1650			379		
Selenium	390	2.1	J		1.1	J		2	J			U	(1.1)		U	(1.1)		U	(0.91)
Sodium	GRAS		U	(344)		U	(339)		U	(339)		U	(345)		U	(352)		U	(279)
Vanadium	72.5	24			22.7			23.1			23.7			21.7			3.8		
Zinc	119.5	65.7			53.1			52.8			60.3			62.5			6.7	J	
SEMIVOLATILES (UG/KG)																			
Butylbenzylphthalate	13000000		U	(429)		U	(418)		U	(418)		U	(434)		U	(429)		U	(344)
Di-n-butylphthalate	6500000		U	(36)		U	(2041)		U	(102)		U	(39)		U	(60)		U	(1501)
Pyrene	2000000		U	(429)		U	(418)		U	(418)		U	(434)		U	(429)		U	(344)
VOLATILES (UG/KG)																			
M/P-Xylenes	NA		NA			U	(13)		U	(13)		U	(13)		U	(13)		U	(10)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-28

Analytical Data for Shallow and Deep Soil Sampling at Potential Waste Disposal Areas North of the Former Nike Maintenance Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	NM-004																	
		NMA-004-000 (0-0.5 ft)			NMA-004-001 (1-2 ft)			NMA-004-002 (2-3 ft)			NMA-004-004 (4-5 ft)			NMA-004-009 (9-10 ft)			NMA-004-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.46	J	
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.22	J		0.041	J		0.13	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																			
Aluminum	33852	6310			4110			1770			2470			1540			1850		
Antimony	31		R			R		0.57	J			R			UJ	(0.39)		UJ	(0.4)
Arsenic	13.5	4.2	J		3.3	J			U	(0.76)	1.1	J			U	(0.71)		U	(0.73)
Barium	440	234	J		154	J		44.5	J		77.7	J		19.2			23.7		
Beryllium	1.52	0.48			0.3			0.12	J		0.18	J		0.07	J		0.07	J	
Cadmium	39	0.63	J		0.25	J			U	(0.11)	0.14	J			U	(0.1)		U	(0.1)
Calcium	GRAS	10500			4480			1370			2320			786			1150		
Chromium	37	9.5			6			3	J		3.8	J		3.1	J		3	J	
Cobalt	17.2	8.7			4.6			1.6			2.8			0.85	J		1		
Copper	33.9	20.8	J		10.2	J			U	(2.6)	5.7	J		2.2			1.9		
Iron	GRAS	10600			7480			2810			4450			1770			2290		
Lead	400	14.7			8.5			3.4			5.7			2.1	J		2.5	J	
Magnesium	GRAS	2830			1840			815			1170			534			602		
Manganese	1083	505	J		262	J		111	J		201	J		46.7			62.9		
Nickel	39.3	16.4	J		10.5	J		4	J		7.1	J		1.7	J		2.1	J	
Potassium	GRAS	3470			1860			773			907			465			452		
Selenium	390	1.7	J			U	(1)		U	(0.95)		U	(1)		U	(0.9)		U	(0.92)
Sodium	GRAS		U	(358)		U	(319)		U	(292)		U	(312)		U	(275)		U	(281)
Vanadium	72.5	17.8			12.3			5.2			7.4			4			5.5		
Zinc	119.5	94.7			40.2			12.3			20			7.1	J		9.5	J	
SEMIVOLATILES (UG/KG)																			
Butylbenzylphthalate	13000000		U	(440)		U	(407)		U	(359)		U	(398)		U	(347)		U	(347)
Di-n-butylphthalate	6500000		U	(209)		U	(374)		U	(25)		U	(2462)		U	(845)		U	(562)
Pyrene	2000000		U	(440)		U	(407)		U	(359)		U	(398)		U	(347)		U	(347)
VOLATILES (UG/KG)																			
M/P-Xylenes	NA		NA			U	(12)		U	(11)	1	J			U	(11)		U	(11)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-28

Analytical Data for Shallow and Deep Soil Sampling at Potential Waste Disposal Areas North of the Former Nike Maintenance Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	NM-005																	
		NMA-005-000 (0-0.5 ft)			NMA-005-001 (1-2 ft)			NMA-005-002 (2-3 ft)			NMA-005-004 (4-5 ft)			NMA-005-009 (9-10 ft)			NMA-005-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																			
Aluminum	33852	13600			20400			14000			15800			12500			798		
Antimony	31		UJ	(0.47)		UJ	(0.46)		UJ	(0.46)		UJ	(0.48)		UJ	(0.49)		UJ	(0.4)
Arsenic	13.5	5.7	J		6	J		7.4	J		8.9			10.7				U	(0.73)
Barium	440	230			368			211			227			248			12.3		
Beryllium	1.52	0.63			0.84			0.67			0.72			0.69			0.04	J	
Cadmium	39	0.99	J		1.3			1.1	J		1.1	J		0.87	J			U	(0.1)
Calcium	GRAS	4480			3940			3850			3930			4290			349		
Chromium	37	16.1			21			15.1			18.3			19.1			3.1	J	
Cobalt	17.2	8.8			11.1			11.2			10.3			6.3			0.46	J	
Copper	33.9	18.8			16.5			18.9			22.4			23.5			1	J	
Iron	GRAS	*16600*			*20900*			*18500*			*20900*			*21700*			1120		
Lead	400	16.7			17			15.3			14.8			16.2			1.9	J	
Magnesium	GRAS	3370			3990			3910			4370			4280			268		
Manganese	1083	504			647			780			703			285			27.8		
Nickel	39.3	20.1			21.7			27.1			27.4			20.1			1.3	J	
Potassium	GRAS	3780			3760			1960			2660			2620			251		
Selenium	390		U	(1.1)	1.3	J		1.3	J			U	(1.1)		U	(1.1)		U	(0.92)
Sodium	GRAS		U	(337)		U	(328)	552				U	(340)		U	(351)		U	(282)
Vanadium	72.5	31.7			39.9			23.5			35.1			32.5			2.5		
Zinc	119.5	75.7	J		86.4	J		65.6	J		73.4	J		75.9	J		4.1	J	
SEMIVOLATILES (UG/KG)																			
Butylbenzylphthalate	*13000000*		U	(402)		U	(402)		U	(407)		U	(418)		U	(429)		U	(347)
Di-n-butylphthalate	6500000		U	(402)		U	(402)		U	(407)		U	(418)		U	(429)	2264		
Pyrene	2000000		U	(402)		U	(402)		U	(407)		U	(418)		U	(429)		U	(347)
VOLATILES (UG/KG)																			
M/P-Xylenes	NA		NA			U	(12)		U	(12)		U	(13)		U	(13)		U	(11)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-28

Analytical Data for Shallow and Deep Soil Sampling at Potential Waste Disposal Areas North of the Former Nike Maintenance Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	NM-006																	
		NMA-006-000 (0-0.5 ft)			NMA-006-001 (1-2 ft)			NMA-006-002 (2-3 ft)			NMA-006-004 (4-5 ft)			NMA-006-009 (9-10 ft)			NMA-006-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.018	J			U	(0.5)	0.94			0.79			0.21	J		0.067	J	
METALS (MG/KG)																			
Aluminum	33852	9370			14800			9050			13900			9350			1120		
Antimony	31		R			R			R			R			R			R	
Arsenic	13.5	8.1	J		7.9	J		11.3			9.4			7	J			U	(0.74)
Barium	440	254			170			184			149			198			13.3		
Beryllium	1.52	0.63			0.73			0.63			0.79			0.59			0.07	J	
Cadmium	39	0.77	J		0.66	J		0.31	J		0.34	J		0.32	J			U	(0.11)
Calcium	GRAS	4820			3200			2850			4060			3450			402		
Chromium	37	13.5			14.8			10.8			13.5			11.2			2.6	J	
Cobalt	17.2	10.9			9.9			13.2			11.4			8.6			0.39	J	
Copper	33.9	19.3			17.3			11.4			19.2			17.8			2.6		
Iron	GRAS	16600			18300			15100			18300			14900			1450		
Lead	400	13.4			14			13.6			14.1			11.9			1.5	J	
Magnesium	GRAS	3420			3230			2280			3170			3090			284		
Manganese	1083	785	J		392	J		730	J		583	J		533	J		13.9	J	
Nickel	39.3	26.3			20.4			15.4			17.3			19			1.5	J	
Potassium	GRAS	1680			2190			1750			1860			1600			258		
Selenium	390	1.3	J		1.6	J		1.6	J		1.6	J		1.3	J			UJ	(0.94)
Sodium	GRAS		U	(331)		U	(329)		U	(349)		U	(354)		U	(320)		U	(287)
Vanadium	72.5	24.9			29.9			30.4			19.5			15.2			1.9		
Zinc	119.5	63.2			55.6			34.5			44.1			51.4			6.8		
SEMIVOLATILES (UG/KG)																			
Butylbenzylphthalate	13000000		U	(413)		U	(407)		U	(429)		U	(429)		U	(418)		U	(344)
Di-n-butylphthalate	6500000		U	(413)		U	(407)		U	(429)		U	(429)		U	(418)		U	(344)
Pyrene	2000000	56	J			U	(407)		U	(429)		U	(429)		U	(418)		U	(344)
VOLATILES (UG/KG)																			
M/P-Xylenes	NA		NA			U	(12)		U	(13)		U	(13)		U	(13)		U	(10)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-28

Analytical Data for Shallow and Deep Soil Sampling at Potential Waste Disposal Areas North of the Former Nike Maintenance Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	NM-007																	
		NMA-007-000 (0-0.5 ft)			NMA-007-001 (1-2 ft)			NMA-007-002 (2-3 ft)			NMA-007-004 (4-5 ft)			NMA-007-009 (9-10 ft)			NMA-007-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	5.8		U	(0.75)		U	(0.75)		U	(0.75)		U	(1)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																			
Aluminum	33852	12000			9930			8700			10300			8130			882		
Antimony	31		R			R			R			R			R			R	
Arsenic	13.5	8.7			8.9			4.7	J		2.6	J		9.1				U	(0.74)
Barium	440	187			265			199			141			327			14.3		
Beryllium	1.52	0.65			0.62			0.54			0.64			0.6			0.11	J	
Cadmium	39	0.6	J		0.64	J		0.34	J		0.24	J		0.49	J			U	(0.11)
Calcium	GRAS	4840			4080			2950			3810			4170			357		
Chromium	37	12.6			12.4			10.7			11.3			10.6			2.8	J	
Cobalt	17.2	8.8			9.8			6.2			4.8			15.8			0.61	J	
Copper	33.9	18.4			20.9			12			13.5			18.6			1	J	
Iron	GRAS	17700			17500			11200			10600			16700			1650		
Lead	400	14.1			14.2			12.1			12.9			14.3			1.4	J	
Magnesium	GRAS	2970			3600			2040			2620			3080			229		
Manganese	1083	488	J		782	J		497	J		119	J		392	J		18	J	
Nickel	39.3	20.9			26.4			12.5			10.9			20.6			1.5	J	
Potassium	GRAS	2020			1700			1770			1270			1500			241		
Selenium	390	1.5	J		1.5	J		1.8	J			UJ	(1.1)	1.4	J			UJ	(0.93)
Sodium	GRAS		U	(321)		U	(323)		U	(353)		U	(331)		U	(338)		U	(285)
Vanadium	72.5	26.2			24.3			23.9			16.3			21			2.3		
Zinc	119.5	57.2			62.1			41.7			43.7			58.1			4.5		
SEMIVOLATILES (UG/KG)																			
Butylbenzylphthalate	13000000		U	(407)		U	(402)		U	(418)		U	(407)		U	(418)		U	(347)
Di-n-butylphthalate	6500000	802				U	(402)		U	(418)		U	(407)	1947			877		
Pyrene	2000000		U	(407)		U	(402)		U	(418)		U	(407)		U	(418)		U	(347)
VOLATILES (UG/KG)																			
M/P-Xylenes	NA		NA			U	(12)		U	(13)		U	(12)		U	(13)		U	(11)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-29

Analytical Data for Groundwater Sampling of Existing Monitoring Wells
Potential Waste Disposal Areas North of the Former Nike Maintenance Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	MW-22A			MW-22B		
		AMW-022-114			BMW-022-114		
		R	Q	QL	R	Q	QL
DISSOLVED METALS (UG/L)							
Aluminum	37000	73.2	B		96.1	B	
Arsenic	50	5.9	B			U	(3.5)
Barium	2000	202			264		
Calcium	GRAS	86500			77900		
Cobalt	2200	1.2	B		0.79	B	
Copper	1300	1.3	B			U	(0.8)
Magnesium	GRAS	12200			15100		
Manganese	180	180			178		
Nickel	100		U	(1.5)	2.1	B	
Potassium	GRAS	17900			16300		
Selenium	50	12.2			23.6		
Sodium	GRAS	22400			18600		
Vanadium	260	1.3	B		2.2	B	
Zinc	2000	1.3	B		1	B	
EXPLOSIVES (UG/L)							
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2		U	(0.1)	1.3		
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	400		U	(0.1)	0.12		
TOTAL METALS (UG/L)							
Aluminum	37000	133	B		113	B	
Arsenic	50	5.2	B		4.1	B	
Barium	2000	192	B		253		
Calcium	GRAS	84800			82000		
Cobalt	2200		U	(0.5)	0.75	B	
Magnesium	GRAS	11800			15100		
Manganese	180	178			***185***		
Nickel	100		U	(1.5)	3.2	B	
Potassium	GRAS	14800			13400		
Selenium	50		U	(4.4)	10.4		
Sodium	GRAS	21000			17600		
Vanadium	260	1.1	B		2.9	B	
Zinc	2000	1.2	B		1.2	B	
VOLATILES (UG/L)							
Methylene chloride	5	3	B		0.7	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-30
Analytical Data for Shallow and Deep Soil Sampling
at Potential Waste Disposal Area Southeast of the Former Bomb Booster Assembly Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	BB-001																	
		BBA-001-000 (0-0.5 ft)			BBA-001-001 (1-2 ft)			BBA-001-002 (2-3 ft)			BBA-001-004 (4-5 ft)			BBA-001-009 (9-10 ft)			BBA-001-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.026	J		0.015	J		0.019	J			UJ	(0.5)	0.39	J	
METALS (MG/KG)																			
Aluminum	33852	12100			10900			11500			12300			9790			2130		
Antimony	31		R			R			R			R			R			R	
Arsenic	13.5	5.7	J		6	J		5.7	J		7.1	J		8.3	J			U	(0.76)
Barium	440	233			256			360			250			238			37.9		
Beryllium	1.52	0.62			0.67			0.71			0.62			0.53			0.11	J	
Cadmium	39	0.69	J		0.77	J		1.4			0.65	J		0.43	J			U	(0.11)
Calcium	GRAS	3790			3660			2980			2930			4000			689		
Chromium	37	13.9			13.2			14			13.7			13.5			4.6	J	
Cobalt	17.2	8.6			9.9			10.1			9.7			10.4			1.1		
Copper	33.9	17.7			18.1			16.5			16.1			18.6			2.8		
Iron	GRAS	14400			14300			17000			17400			17800			2570		
Lead	400	18.2			18.5			14.2			12.9			11.6			2.5	J	
Magnesium	GRAS	2610			2640			3190			3350			3580			631		
Manganese	1083	535	J		659	J		818	J		530	J		412	J		65.8	J	
Nickel	39.3	15.9			18.1			20.5			18.5			18.7			2.9	J	
Potassium	GRAS	3960			3870			4480			3680			2320			525		
Selenium	390	1.2	J		1.4	J		1.7	J		1.7	J		1.7	J			UJ	(0.95)
Vanadium	72.5	27.8			27.1			26.3			25.2			25.2			5		
Zinc	119.5	83.5			78.1			92.2			56.9			61.2			8.8		
PCBs (UG/KG)																			
Aroclor-1260	NA		U	(42.86)		U	(42.31)		U	(41.25)		U	(41.25)		U	(41.77)		U	(35.48)
SEMIVOLATILES (UG/KG)																			
2,4-Dimethylphenol	1300000		U	(429)		U	(423)		U	(413)		U	(413)		U	(418)		U	(355)
2-Methylphenol	3300000		U	(429)		U	(423)		U	(413)		U	(413)		U	(418)		U	(355)
4-Methylphenol	330000		U	(429)		U	(423)		U	(413)		U	(413)		U	(418)		U	(355)
Butylbenzylphthalate	13000000		U	(429)		U	(423)		U	(413)		U	(413)	401	J			U	(355)
Di-n-butylphthalate	6500000	1911				U	(423)	2459				U	(412)	3089				U	(355)
Phenol	39000000		U	(429)		U	(423)		U	(413)		U	(413)		U	(418)		U	(355)
Pyrene	2000000	123	J			U	(423)		U	(413)		U	(413)		U	(418)		U	(355)
VOLATILES (UG/KG)																			
Acetone	2000000		NA			UJ	(13)		UJ	(13)		UJ	(13)		UJ	(13)		U	(11)
Tetrachloroethene	7000		NA			U	(13)		U	(13)		U	(13)		U	(13)		U	(11)
Toluene	1900000		NA			U	(13)		U	(13)		U	(13)		U	(13)		U	(11)
Trichloroethene (TCE)	7100		NA			U	(13)		U	(13)		U	(13)		U	(13)		U	(11)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-30
Analytical Data for Shallow and Deep Soil Sampling at Potential Waste Disposal Area Southeast of the Former Bomb Booster Assembly Area Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	BB-002									BB-003								
		BBA-002-000 (0-0.5 ft)			BBA-002-001 (1-2 ft)			BBA-002-002 (2-3 ft)			BBA-003-000 (0-0.5 ft)			BBA-003-001 (1-2 ft)			BBA-003-002 (2-3 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.015	J		0.027	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																			
Aluminum	33852	12600	J		20700	J		15300	J		9210	J		17200	J		15000	J	
Antimony	31		UJ	(0.5)		UJ	(0.49)		UJ	(0.49)		U	(0.47)		U	(0.47)		U	(0.46)
Arsenic	13.5	4.5	J		5.5	J		6.8	J		5.1	J		7.9	J		8.2	J	
Barium	440	204			220			208			182			190			233		
Beryllium	1.52	0.59			0.79			0.74			0.55			0.85			0.79		
Cadmium	39	0.49	J		0.63	J		0.56	J		0.36	J		0.36	J		0.66	J	
Calcium	GRAS	5280			3170			4150			4460			3590			3790		
Chromium	37	14.4			20.7			16.2			11.3			17			16.2		
Cobalt	17.2	7.8			9.3			9.5			7.8			10.4			11		
Copper	33.9	16.2			13.7			15.4			15			21.1			22		
Iron	GRAS	14200			19100			17500			12300			21000			20000		
Lead	400	25.9			13.5			19.3			20	J		14.5	J		15.4	J	
Magnesium	GRAS	2500			3470			3230			2090			3690			3880		
Manganese	1083	440			491			534			471	J		565	J		648	J	
Nickel	39.3	14.5			17.1			16.7			14.2			23.8			30		
Potassium	GRAS	3750			4280			3300			3120			3160			2430		
Selenium	390	1.8	J		1.4	J		2.1	J		2.1	J		2	J		1.9	J	
Vanadium	72.5	25.3			38.8			28.4			21.1			29.8			26.9		
Zinc	119.5	84.9			68.7			70.8			64.1			62.8			64.6		
PCBs (UG/KG)																			
Aroclor-1260	NA		U	(42.84)		U	(41.21)		UJ	(41.25)		U	(40.71)		U	(40.74)		U	(39.75)
SEMIVOLATILES (UG/KG)																			
2,4-Dimethylphenol	1300000		U	(429)		UJ	(413)		U	(413)	63	J			UJ	(407)		UJ	(398)
2-Methylphenol	3300000		U	(429)		UJ	(413)		U	(413)	111	J			UJ	(407)		UJ	(398)
4-Methylphenol	330000		U	(429)		UJ	(413)		U	(413)	148	J			UJ	(407)		UJ	(398)
Butylbenzylphthalate	13000000		U	(429)		UJ	(413)		U	(413)		U	(407)		UJ	(407)		UJ	(398)
Di-n-butylphthalate	6500000		U	(429)		U	(412)		U	(412)		U	(407)		U	(3628)		U	(398)
Phenol	39000000		U	(429)		UJ	(413)		U	(413)	139	J			UJ	(407)		UJ	(398)
Pyrene	2000000		U	(429)		UJ	(413)		U	(413)		U	(407)		UJ	(407)		UJ	(398)
VOLATILES (UG/KG)																			
Acetone	2000000		NA			UJ	(13)		U	(13)		NA			U	(12)		U	(12)
Tetrachloroethene	7000		NA			U	(13)		U	(13)		NA			U	(12)		U	(12)
Toluene	1900000		NA			U	(13)		U	(13)		NA			U	(12)		U	(12)
Trichloroethene (TCE)	7100		NA			U	(13)		U	(13)		NA			U	(12)		U	(12)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-30
Analytical Data for Shallow and Deep Soil Sampling
at Potential Waste Disposal Area Southeast of the Former Bomb Booster Assembly Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	BB-004									BB-005								
		BBA-004-000 (0-0.5 ft)			BBA-004-001 (1-2 ft)			BBA-004-002 (2-3 ft)			BBA-005-000 (0-0.5 ft)			BBA-005-001 (1-2 ft)			BBA-005-002 (2-3 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.22	J	
METALS (MG/KG)																			
Aluminum	33852	9660			17200			14700			8330			11300	J		17000	J	
Antimony	31		R			R			R			R			U	(0.46)		U	(0.48)
Arsenic	13.5	5	J		7.6	J		7.6	J		4.4	J		7.3	J		6.7	J	
Barium	440	167			172			217			205			253			192		
Beryllium	1.52	0.54			0.84			0.78			0.58			0.65			0.74		
Cadmium	39	0.27	J		0.27	J		0.23	J		0.58	J		0.48	J		0.34	J	
Calcium	GRAS	3580			3350			3500			22400			6880			3080		
Chromium	37	11.5			17.2			15.8			11.1			13.7			16.9		
Cobalt	17.2	7.5			9.3			9.5			7.6			9.7			9.2		
Copper	33.9	14.2			17.9			19.7			19.7			20			13.1		
Iron	GRAS	12500			20100			19500			12700			17000			18000		
Lead	400	12.7			13.9			13.7			20.3			17.4	J		12.4	J	
Magnesium	GRAS	2190			3490			3730			3780			3550			3070		
Manganese	1083	464			519			599			472			526	J		491	J	
Nickel	39.3	13.6			20.6			23.4			15.4			22.2			17.3		
Potassium	GRAS	2850			2980			2090			3090			3350			3510		
Selenium	390	1.6	J		1.8	J		1.5	J		1.9	J		1.5	J		2.1	J	
Vanadium	72.5	21.8			30.4			26.3			18.3			23.6			31.3		
Zinc	119.5	56.2	J		59.1	J		60.4	J		103	J		75.1			59		
PCBs (UG/KG)																			
Aroclor-1260	NA		U	(43.93)		U	(42.27)		U	(40.18)	1105.7	J		311.16	J			U	(41.69)
SEMIVOLATILES (UG/KG)																			
2,4-Dimethylphenol	1300000		U	(440)		U	(423)		UJ	(402)		U	(423)		U	(407)		UJ	(418)
2-Methylphenol	3300000		U	(440)		U	(423)		UJ	(402)		U	(423)		U	(407)		UJ	(418)
4-Methylphenol	330000		U	(440)		U	(423)		UJ	(402)		U	(423)		U	(407)		UJ	(418)
Butylbenzylphthalate	13000000		U	(440)		U	(423)	19	J			U	(423)	95	J			UJ	(418)
Di-n-butylphthalate	6500000		U	(440)		U	(423)	2767	J			U	(4258)		U	(3805)		U	(418)
Phenol	39000000		U	(440)		U	(423)		UJ	(402)		U	(423)		U	(407)		UJ	(418)
Pyrene	2000000		U	(440)		U	(423)		UJ	(402)		UJ	(423)		U	(407)		UJ	(418)
VOLATILES (UG/KG)																			
Acetone	2000000		NA			U	(13)		U	(12)		NA			U	(12)		UJ	(13)
Tetrachloroethene	7000		NA			U	(13)		U	(12)		NA			U	(12)		U	(13)
Toluene	1900000		NA			U	(13)		U	(12)		NA			U	(12)		U	(13)
Trichloroethene (TCE)	7100		NA			U	(13)		U	(12)		NA			U	(12)		U	(13)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-30
Analytical Data for Shallow and Deep Soil Sampling
at Potential Waste Disposal Area Southeast of the Former Bomb Booster Assembly Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	BB-006																	
		BBA-006-000 (0-0.5 ft)			BBA-006-001 (1-2 ft)			BBA-006-002 (2-3 ft)			BBA-006-004 (4-5 ft)			BBA-006-009 (9-10 ft)			BBA-006-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)	0.0019	J	
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		UJ	(0.5)		UJ	(0.5)		UJ	(0.5)		UJ	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																			
Aluminum	33852	8190			10700			19700			10900			16800	J		1110	J	
Antimony	31		R			R			R			R			UJ	(0.49)		UJ	(0.39)
Arsenic	13.5	5.5	J		6.3	J		9.4			8.7	J		9.8				U	(0.72)
Barium	440	178			186			223			271			284			16.1		
Beryllium	1.52	0.52			0.59			0.85			0.65			0.72			0.07	J	
Cadmium	39	0.63	J		0.69	J		0.97	J		1	J		1	J			U	(0.1)
Calcium	GRAS	3440			5080			3480			4370			4570	J		732	J	
Chromium	37	9.8			11.5			19			13.9			21.4	J		2.3	J	
Cobalt	17.2	7.3			7.9			9.9			9.4			9.8			0.63	J	
Copper	33.9	15.6			16.5			20.8			22.2			21			1.2	J	
Iron	GRAS	11800			13900			21800			18300			21300			1420		
Lead	400	12.9			14.1			15.1			13.6			13			1.7	J	
Magnesium	GRAS	2060			2560			4120			4090			4900			463		
Manganese	1083	446			477			554			568			661			37.7		
Nickel	39.3	14.5			16.8			23.9			24.6			26.4			1.2	J	
Potassium	GRAS	3220			3190			3590			2060			3450			338		
Selenium	390		U	(1.1)	2.2	J		1.8	J			U	(1.1)	1.7	J			U	(0.91)
Vanadium	72.5	21.7			24.6			39			29.6			48.4			2.9		
Zinc	119.5	61.2	J		60.6	J		69.5	J		71.3	J		75.5			6.1		
PCBs (UG/KG)																			
Aroclor-1260	NA		U	(42.31)		U	(41.77)		U	(41.25)		U	(41.77)		U	(42.86)		U	(34.38)
SEMIVOLATILES (UG/KG)																			
2,4-Dimethylphenol	1300000		U	(423)		U	(418)		U	(413)		U	(418)		U	(429)		U	(344)
2-Methylphenol	3300000		U	(423)		U	(418)		U	(413)		U	(418)		U	(429)		U	(344)
4-Methylphenol	330000		U	(423)		U	(418)		U	(413)		U	(418)		U	(429)		U	(344)
Butylbenzylphthalate	13000000		U	(423)		U	(418)		U	(413)		U	(418)		U	(429)		U	(344)
Di-n-butylphthalate	6500000	1822			1828			1132			2140				U	(429)		U	(344)
Phenol	39000000	59	J			U	(418)		U	(413)		U	(418)		U	(429)		U	(344)
Pyrene	2000000		U	(423)		U	(418)		U	(413)		U	(418)		U	(429)		U	(344)
VOLATILES (UG/KG)																			
Acetone	2000000		NA			U	(13)		U	(13)		U	(13)		U	(13)		U	(10)
Tetrachloroethene	7000		NA			U	(13)		U	(13)		U	(13)	1	J			U	(10)
Toluene	1900000		NA			U	(13)		U	(13)		U	(13)		U	(13)		U	(10)
Trichloroethene (TCE)	7100		NA			U	(13)		U	(13)		U	(13)		U	(13)		U	(10)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-30
Analytical Data for Shallow and Deep Soil Sampling
at Potential Waste Disposal Area Southeast of the Former Bomb Booster Assembly Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	BB-007																	
		BBA-007-000 (0-0.5 ft)			BBA-007-001 (1-2 ft)			BBA-007-002 (2-3 ft)			BBA-007-004 (4-5 ft)			BBA-007-009 (9-10 ft)			BBA-007-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)	0.0014	J			U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2 6-DNT)	0.9		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)	0.0025	J			U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.0004	J			U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)	0.0014	J			U	(1)
4-Nitrotoluene (4-NT)	NA		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.0004	J			U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		UJ	(0.75)	0.00026	J			U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		UJ	(0.5)		UJ	(0.5)		UJ	(0.5)
METALS (MG/KG)																			
Aluminum	33852	9780	J		8410			3070	J		7550	J		13700	J		2080	J	
Antimony	31		UJ	(0.48)		R			UJ	(0.38)		UJ	(0.43)		UJ	(0.47)		UJ	(0.37)
Arsenic	13.5	5.4	J		7	J		2.2	J		5.5	J		7.7	J			U	(0.69)
Barium	440	185			315	J		65.2			193			242			20.5		
Beryllium	1.52	0.52			0.55			0.19	J		0.48			0.69			0.1	J	
Cadmium	39	0.63	J		0.31	J			U	(0.1)	0.83	J		0.65	J			U	(0.1)
Calcium	GRAS	5210	J		4600			2590	J		4110	J		3140	J		505	J	
Chromium	37	11.7	J		12.4			4.4	J		9.3	J		15.2	J		4.3	J	
Cobalt	17.2	7.3			8.6			2.8			12.7			11.5			1.1		
Copper	33.9	15.1			17.5			5.5			13.5			20			2.7		
Iron	GRAS	13100			14300			5070			11600			18600			2650		
Lead	400	14.6			13			4.6			13.1			28			3.2		
Magnesium	GRAS	2650			3220			1610			2310			4230			562		
Manganese	1083	444			562			165			761			686			48.7		
Nickel	39.3	15.2			19.1			6.9			23.6			23.1			2.4	J	
Potassium	GRAS	3080			2620			984			1610			2870			505		
Selenium	390	1.5	J			U	(1.1)		U	(0.89)	1.7	J		1.9	J			U	(0.86)
Vanadium	72.5	23.6			24.7			9.1			19.3			29			5.7		
Zinc	119.5	64			56			19.3			55.1			92.8			12		
PCBs (UG/KG)																			
Aroclor-1260	NA		U	(39.76)		U	(40.74)		U	(35.48)		U	(39.76)		U	(41.25)		U	(34.74)
SEMIVOLATILES (UG/KG)																			
2,4-Dimethylphenol	1300000		U	(398)		U	(407)		U	(355)		U	(398)		U	(413)		U	(347)
2-Methylphenol	3300000		U	(398)		U	(407)		U	(355)		U	(398)		U	(413)		U	(347)
4-Methylphenol	330000		U	(398)		U	(407)		U	(355)		U	(398)		U	(413)		U	(347)
Butylbenzylphthalate	13000000		U	(398)		U	(407)		U	(355)		U	(398)		U	(413)		U	(347)
Di-n-butylphthalate	6500000	2952				U	(407)		U	(355)		U	(398)		U	(412)		U	(347)
Phenol	39000000	44	J			U	(407)		U	(355)		U	(398)		U	(413)		U	(347)
Pyrene	2000000	39	J			U	(407)		U	(355)		U	(398)		U	(413)		U	(347)
VOLATILES (UG/KG)																			
Acetone	2000000		NA		17				U	(11)		U	(12)		U	(12)		U	(11)
Tetrachloroethene	7000		NA			U	(12)		U	(11)		U	(12)		U	(13)		U	(11)
Toluene	1900000		NA			U	(12)	0.4	J		0.6	J			U	(13)		U	(11)
Trichloroethene (TCE)	7100		NA			U	(12)		U	(11)	2	J			U	(13)		U	(11)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-30
Analytical Data for Shallow and Deep Soil Sampling
at Potential Waste Disposal Area Southeast of the Former Bomb Booster Assembly Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	BB-008																	
		BBA-008-000 (0-0.5 ft)			BBA-008-001 (1-2 ft)			BBA-008-002 (2-3 ft)			BBA-008-004 (4-5 ft)			BBA-008-009 (9-10 ft)			BBA-008-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2,6-Dinitrotoluene (2,6-DNT)	0.9	0.0025	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.002	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Nitrotoluene (2-NT)	NA	0.0024	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
4-Nitrotoluene (4-NT)	NA	0.0024	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		UJ	(0.5)		U	(0.5)		UJ	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																			
Aluminum	33852	20400	J		15400	J		19300	J		8950	J		9510	J		1060	J	
Antimony	31		UJ	(0.48)		UJ	(0.48)	0.54	J			UJ	(0.48)		UJ	(0.48)		UJ	(0.39)
Arsenic	13.5	7.8	J		8.4	J		9.5			8.6	J		8.1	J			U	(0.72)
Barium	440	294			263			264			287			221			15		
Beryllium	1.52	0.96			0.75			0.83			0.58			0.58			0.07	J	
Cadmium	39	0.93	J		0.65	J		0.9	J		0.7	J		0.68	J			U	(0.1)
Calcium	GRAS	10200	J		3900	J		3990	J		4180	J		4210	J		474	J	
Chromium	37	20.7	J		15.7	J		21.4	J		11.9	J		13.5	J		2.4	J	
Cobalt	17.2	9.6			9.6			10.4			11.2			9.2			0.57	J	
Copper	33.9	25.8			19.1			22.4			20.3			19.2			1.1	J	
Iron	GRAS	21200			19400			22000			17100			17400			1400		
Lead	400	17.2			14.2			15.9			13.1			12.6			1.7	J	
Magnesium	GRAS	3770			3460			4680			3710			3720			393		
Manganese	1083	544			566			595			678			489			29.8		
Nickel	39.3	21			22.1			24.9			23.9			20.6			1.1	J	
Potassium	GRAS	4790			3120			3400			1880			2150			336		
Selenium	390	1.8	J		1.9	J		1.8	J		1.4	J		1.2	J			U	(0.91)
Vanadium	72.5	44.7			29.1			46.7			24.3			27.7			3.1		
Zinc	119.5	83.3			65.6			69.4			64			61.3			5.5		
PCBs (UG/KG)																			
Aroclor-1260	NA		U	(41.77)		U	(41.25)		U	(40.24)		U	(42.31)		U	(41.77)		U	(34.38)
SEMIVOLATILES (UG/KG)																			
2,4-Dimethylphenol	1300000		U	(418)		U	(413)		U	(402)		U	(423)		U	(418)		U	(344)
2-Methylphenol	3300000		U	(418)		U	(413)		U	(402)		U	(423)		U	(418)		U	(344)
4-Methylphenol	330000		U	(418)		U	(413)		U	(402)		U	(423)		U	(418)		U	(344)
Butylbenzylphthalate	13000000		U	(418)		U	(413)		U	(402)		U	(423)		U	(418)		U	(344)
Di-n-butylphthalate	6500000		U	(418)		U	(412)	1614				U	(423)		U	(418)	682		
Phenol	39000000		U	(418)		U	(413)		U	(402)		U	(423)		U	(418)		U	(344)
Pyrene	2000000		U	(418)		U	(413)		U	(402)		U	(423)		U	(418)		U	(344)
VOLATILES (UG/KG)																			
Acetone	2000000		NA			U	(13)		U	(12)		U	(13)		U	(13)		U	(10)
Tetrachloroethene	7000		NA			U	(13)		U	(12)		U	(13)		U	(13)		U	(10)
Toluene	1900000		NA			U	(13)		U	(12)		U	(13)		U	(13)		U	(10)
Trichloroethene (TCE)	7100		NA			U	(13)		U	(12)		U	(13)		U	(13)		U	(10)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-31
Analytical Data for Groundwater Sampling of Existing Monitoring Well
Potential Waste Disposal Area Southeast of the Former Bomb Booster Assembly Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	MW-57B		
		BMW-057-114		
		R	Q	QL
DISSOLVED METALS (UG/L)				
Aluminum	37000	105	B	
Arsenic	50	5.9	B	
Barium	2000	722		
Calcium	GRAS	81400		
Chromium	100	2.5	B	
Magnesium	GRAS	26000		
Nickel	100	1.9	B	
Potassium	GRAS	17600		
Selenium	50	7.1		
Sodium	GRAS	16600		
Vanadium	260	1.7	B	
Zinc	2000	1.9	B	
TOTAL METALS (UG/L)				
Aluminum	37000	157	B	
Arsenic	50	3.6	B	
Barium	2000	662		
Calcium	GRAS	81500		
Chromium	100	2.6	B	
Magnesium	GRAS	25200		
Manganese	180	0.82	B	
Nickel	100	1.6	B	
Potassium	GRAS	14400		
Selenium	50	6.8		
Sodium	GRAS	15300		
Vanadium	260	2.4	B	
Zinc	2000	0.67	B	
VOLATILES (UG/L)				
Methylene chloride	5	0.8	JB	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-32

Analytical Data for Shallow and Deep Soil Sampling at Potential Waste Disposal Areas at the Former Atlas Missile Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	AM-001														
		AMA-001-000 (0-0.5 ft)			AMA-001-001 (1-2 ft)			AMA-001-004 (4-5 ft)			AMA-001-009 (9-10 ft)			AMA-001-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.057	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343	0.042	J		0.044	J			U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.079	J		0.081	J		0.089	J		0.027	J		0.07	J	
METALS (MG/KG)																
Aluminum	33852	18600			21000			18600			16300			1700		
Antimony	31		UJ	(0.49)		UJ	(0.47)		UJ	(4.8)		UJ	(0.48)		UJ	(0.4)
Arsenic	13.5	7	J		9.2			10			7	J			U	(0.73)
Barium	440	216			236			341			253			19.3		
Beryllium	1.52	0.77			0.92			0.87			0.77			0.09	J	
Cadmium	39	0.51	J		0.44	J		0.69	J		0.6	J			U	(0.1)
Calcium	GRAS	3400			3430			4550			4610			573		
Chromium	37	21			22			23.4			21.8			3.5	J	
Cobalt	17.2	9.7			11.3			11.8			7.9			0.89	J	
Copper	33.9	15.1			17.8			25.1			20.4			1.4	J	
Iron	GRAS	18700			22600			23300			20100			1990		
Lead	400	17.6	J		16.1	J		15.1	J		13.1	J		1.8	J	
Magnesium	GRAS	3360			4310			5210			4910			512		
Manganese	1083	574	J		656	J		706	J		384	J		43		
Nickel	39.3	19			24.8			29.5			24			1.8	J	
Potassium	GRAS	3720			2800			3120			3130			404		
Selenium	390	1.3	J		2.6	J		1.1	J		1.5	J			U	(0.92)
Sodium	GRAS		U	(348)		U	(336)		U	(344)		U	(344)		U	(281)
Vanadium	72.5	43.6			44.1			53			45.5			4.2		
Zinc	119.5	72.6			71.9			82.5			82.8			7.6	J	
SEMIVOLATILES (UG/KG)																
Butylbenzylphthalate	13000000		UJ	(429)	96	J			UJ	(418)		UJ	(423)		U	(344)
Di-n-butylphthalate	6500000		U	(429)	4247	J			UJ	(418)	3215	J			U	(344)
Diethylphthalate	52000000		UJ	(429)		UJ	(413)		UJ	(418)		UJ	(423)		U	(344)
Pyrene	2000000		UJ	(429)		UJ	(413)		UJ	(418)		UJ	(423)	54	J	
bis(2-Ethylhexyl)phthalate	32000		U	(429)		U	(412)		UJ	(418)		U	(423)		U	(344)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-32

Analytical Data for Shallow and Deep Soil Sampling at Potential Waste Disposal Areas at the Former Atlas Missile Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	AM-002														
		AMA-002-000 (0-0.5 ft)			AMA-002-001 (1-2 ft)			AMA-002-004 (4-5 ft)			AMA-002-009 (9-10 ft)			AMA-002-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.0037	J			U	(0.5)	0.039	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																
Aluminum	33852	14700			12500			12800			10200			1230		
Antimony	31		R			R			R			R			R	
Arsenic	13.5	5.1	J		4.2	J		7.4	J		6.8	J			U	(0.73)
Barium	440	209			220			237			194			11.7		
Beryllium	1.52	0.73			0.68			0.69			0.59			0.08	J	
Cadmium	39	0.26	J		0.31	J		0.73	J		0.31	J			U	(0.1)
Calcium	GRAS	2800			3420			3660			3830			384		
Chromium	37	15.5			14.6			13.3			12.9			3.1	J	
Cobalt	17.2	8.6			9.2			14.3			9.1			0.37	J	
Copper	33.9	13.3			14.6			18.6			17.6			1.2	J	
Iron	GRAS	16400			14600			17800			16700			1350		
Lead	400	12.5			12.2			15.7			11.8			1.5	J	
Magnesium	GRAS	2870			2570			3380			3460			344		
Manganese	1083	496			672			***1150***			253			25.6		
Nickel	39.3	16.2			14.3			35.1			19.4			1.6	J	
Potassium	GRAS	2580			2220			1720			2000			298		
Selenium	390	1.8	J		1.7	J		1.1	J			UJ	(1.1)		UJ	(0.91)
Sodium	GRAS		U	(357)		U	(354)		U	(331)		U	(339)		U	(280)
Vanadium	72.5	28.2			25.7			21.3			22			2.3		
Zinc	119.5	62.1	J		55.9	J		58.9	J		62.6	J		4.4	J	
SEMIVOLATILES (UG/KG)																
Butylbenzylphthalate	13000000		U	(429)		U	(429)		U	(407)		U	(423)		U	(344)
Di-n-butylphthalate	6500000	1006			2755				U	(407)	3108				U	(344)
Diethylphthalate	52000000		U	(429)		U	(429)		U	(407)		U	(423)	18	J	
Pyrene	2000000		U	(429)		U	(429)		U	(407)		U	(423)		U	(344)
bis(2-Ethylhexyl)phthalate	32000		U	(429)		U	(429)		U	(407)		U	(423)		U	(344)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-32
Analytical Data for Shallow and Deep Soil Sampling at Potential Waste Disposal Areas at the Former Atlas Missile Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	AM-003															AM-004						AM-005					
		AMA-003-000 (0-0.5 ft)			AMA-003-001 (1-2 ft)			AMA-003-004 (4-5 ft)			AMA-003-009 (9-10 ft)			AMA-003-019 (19-20 ft)			AMA-004-000 (0-0.5 ft)			AMA-004-001 (1-2 ft)			AMA-005-000 (0-0.5 ft)			AMA-005-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																												
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)	0.063	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		UJ	(0.75)		U	(0.75)	0.098	J			U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)	0.063	J		0.024	J		0.14	J			U	(0.5)	0.14	J		0.026	J			U	(0.5)	0.017	J	
METALS (MG/KG)																												
Aluminum	33852	13800	J		11400			10800	J		1280	J		999	J		15700	J		14600			12700			10400		
Antimony	31		U	(0.48)		R			U	(0.43)		U	(0.38)		U	(0.38)		UJ	(0.47)		R			R			R	
Arsenic	13.5	7.2	J		8.2	J		6.6	J			U	(0.7)		U	(0.7)	6.2	J		7.7	J		6.5	J		6.6	J	
Barium	440	220			242			209			16.7			17.6			221			228			186			221		
Beryllium	1.52	0.7			0.7			0.62			0.1	J		0.06	J		0.71			0.7	J		0.59	J		0.6	J	
Cadmium	39	0.43	J		0.6	J		0.31	J			U	(0.1)		U	(0.1)	0.63	J		0.85			0.68	J		0.59	J	
Calcium	GRAS	3730			3660			4040			400			319			3390			3760			3420			6980		
Chromium	37	15.9			15.3			15			1.6	J		3.8	J		17.1			17	J		15	J		13.9	J	
Cobalt	17.2	9.6			12.5			7.7			0.94	J		0.88	J		9.9			9.9			8.7			8.4		
Copper	33.9	18.6			20			19.1			1.7			1.2	J		17.4			18.7			17.2			18.9		
Iron	GRAS	18400			18800			17900			1510			1240			18300			19400			16500			16500		
Lead	400	13.9	J		13.9			12.6	J		1.9	J		1.7	J		14.6			14.4			13.9			13.8		
Magnesium	GRAS	3690			3580			3800			381			283			3670			3900			3280			3800		
Manganese	1083	571	J		613	J		166	J		71.5	J		53	J		596			563			499			217		
Nickel	39.3	22.5			22.7			17.7			2.9	J		1.4	J		22.3			22.8			21.1			20.2		
Potassium	GRAS	2690			2080	J		2210			335			265			2810			2330	J		2260	J		1570	J	
Selenium	390	2.4	J		1.5	J		1.7	J			U	(0.88)		U	(0.89)	1.1	J		1.6	J		1.4	J			UJ	(1.1)
Sodium	GRAS		U	(340)		U	(335)		U	(308)		U	(268)		U	(272)		U	(333)	122	J		89.6	J		176	J	
Vanadium	72.5	29.5			27.2			26.2			2.5			2.5			31.3			28	J		28.4	J		20.8	J	
Zinc	119.5	59.8			66.1			62.1			4.5			3.5			58.9			72.6			58.2			64.1		
SEMIVOLATILES (UG/KG)																												
Butylbenzylphthalate	13000000		U	(423)	311	J			U	(371)	22	J		265	J			U	(423)		U	(402)		U	(418)	97	J	
Di-n-butylphthalate	6500000	2488				U	(4198)		U	(371)	2723			2425			2999			1633				U	(418)	3412		
Diethylphthalate	52000000		U	(423)		U	(398)		U	(371)	16	J			U	(344)		U	(423)		U	(402)		U	(418)		U	(398)
Pyrene	2000000		U	(423)	125	J			U	(371)		U	(340)		U	(344)		U	(423)		U	(402)		U	(418)	154	J	
bis(2-Ethylhexyl)phthalate	32000	1107				U	(398)		U	(62)		U	(31)		U	(40)		U	(423)		U	(402)		U	(418)		U	(398)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-32

Analytical Data for Shallow and Deep Soil Sampling at Potential Waste Disposal Areas at the Former Atlas Missile Area Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	AM-006															AM-007					
		AMA-006-000 (0-0.5 ft)			AMA-006-001 (1-2 ft)			AMA-006-004 (4-5 ft)			AMA-006-009 (9-10 ft)			AMA-006-019 (19-20 ft)			AMA-007-000 (0-0.5 ft)			AMA-007-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																						
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)		UJ	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.088	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.012	J		0.078	J	
METALS (MG/KG)																						
Aluminum	33852	7300	J		11600	J		990	J		1440			499			9180			9850		
Antimony	31		U	(0.46)		U	(0.49)		U	(0.38)		R			R			R			R	
Arsenic	13.5	4.8	J		9.3				U	(0.71)		U	(0.72)		U	(0.72)	5.4	J		4.3	J	
Barium	440	169			221			14.3			21.3			8.6			198			157		
Beryllium	1.52	0.44			0.67			0.08	J		0.1	J		0.04	J		0.54	J		0.46	J	
Cadmium	39	0.35	J		0.73	J			U	(0.1)		U	(0.1)		U	(0.1)	0.61	J		0.38	J	
Calcium	GRAS	3130			4840			667			845			265			3850			2630		
Chromium	37	10.6			15.8			1.5	J		2	J		2.4	J		11.3	J		10.4	J	
Cobalt	17.2	7.2			10.5			0.58	J		0.8	J		0.29	J		8.3	J		6.6		
Copper	33.9	12.5			20.9			1.2	J		1.5	J		0.64	J		13.2			11.5		
Iron	GRAS	11800			20400			1290			1960			671			13100			11900		
Lead	400	10.6	J		12.4	J		1.5	J		2	J		1	J		15.4			9		
Magnesium	GRAS	2720			4790			378			574			178			2330			2720		
Manganese	1083	596	J		496	J		29.7	J		41.9			13.9			557			393		
Nickel	39.3	17.2			23.9			1.2	J		1.4	J		0.43	J		15.6			15.5		
Potassium	GRAS	1810			2240			270			378			163			2020	J		1160	J	
Selenium	390		U	(1.1)	1.6	J			U	(0.89)		UJ	(0.9)		UJ	(0.91)	1.6	J			UJ	(1)
Sodium	GRAS		U	(329)		U	(345)		U	(272)		U	(277)		U	(279)		U	(49.1)	94.2	J	
Vanadium	72.5	19.2			30.5			2.4			4			1.3			20.9	J		19.3	J	
Zinc	119.5	46.1			69.1			4.3			6.5	J		3.1	J		52.3			35.6		
SEMIVOLATILES (UG/KG)																						
Butylbenzylphthalate	13000000		U	(398)		U	(423)		U	(337)		U	(340)	403				U	(407)		U	(393)
Di-n-butylphthalate	6500000		U	(398)		U	(423)		U	(337)		U	(340)		U	(2838)		U	(407)	3304		
Diethylphthalate	52000000		U	(398)	30	J			U	(337)		U	(340)		U	(340)		U	(407)		U	(393)
Pyrene	2000000		U	(398)		U	(423)		U	(337)		U	(340)		U	(340)		U	(407)		U	(393)
bis(2-Ethylhexyl)phthalate	32000		U	(398)		U	(423)		U	(337)		U	(340)		U	(340)		U	(407)		U	(393)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-32

Analytical Data for Shallow and Deep Soil Sampling at Potential Waste Disposal Areas at the Former Atlas Missile Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	AM-008														
		AMA-008-000 (0-0.5 ft)			AMA-008-001 (1-2 ft)			AMA-008-004 (4-5 ft)			AMA-008-009 (9-10 ft)			AMA-008-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																
2,4,6-Trinitrotoluene (2,4,6-TNT)	17.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																
Aluminum	33852	19100			14200			25600			19300			1910		
Antimony	31		UJ	(0.51)	0.55	J		0.67	J			UJ	(0.45)		UJ	(0.43)
Arsenic	13.5	5.7	J		6.2	J		9.9			9.5				U	(0.8)
Barium	440	231			277			230			324			15.2		
Beryllium	1.52	0.75			0.73			1			0.84			0.1	J	
Cadmium	39	0.67	J		0.5	J		0.55	J		1.1	J			U	(0.11)
Calcium	GRAS	4510			3190			3440			4160			395		
Chromium	37	21.2			17.3			27.2			24.4			5		
Cobalt	17.2	9.3			9.1			12.1			13			0.63	J	
Copper	33.9	16.7			14.9			20.6			22.9			1.8		
Iron	GRAS	17900			16300			24800			22800			1960		
Lead	400	17.5	J		16.6	J		16.4	J		16.5	J		2	J	
Magnesium	GRAS	3420			2800			5120			5070			394		
Manganese	1083	563	J		680	J		684	J		983	J		27	J	
Nickel	39.3	18.1			17.7			26.2			37.6			1.8	J	
Potassium	GRAS	4290			3040			3830			3660			410		
Selenium	390	1.7	J		1.7	J		1.7	J		1.4	J			UJ	(1)
Sodium	GRAS		U	(360)		U	(337)		U	(324)		U	(320)		U	(308)
Vanadium	72.5	44			35.6			59.5			55.3			4.2		
Zinc	119.5	77.6			66.4			73.6			90.6			9.4		
SEMIVOLATILES (UG/KG)																
Butylbenzylphthalate	13000000		U	(429)		U	(402)		U	(398)		U	(398)		U	(375)
Di-n-butylphthalate	6500000		U	(429)		U	(402)		U	(398)		U	(398)		U	(375)
Diethylphthalate	52000000	161	J			U	(402)		U	(398)		U	(398)		U	(375)
Pyrene	2000000		U	(429)		U	(402)		U	(398)		U	(398)		U	(375)
bis(2-Ethylhexyl)phthalate	32000	2108				U	(402)		U	(398)		U	(398)		U	(375)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-33
Analytical Data for Groundwater Sampling of Existing Monitoring Wells
Potential Waste Disposal Areas at the Former Atlas Missile Area
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	MW-58A			MW-58B			MW-59A			MW-59B			MW-59D		
		AMW-058-114			BMW-058-114			AMW-059-114			BMW-059-114			DMW-059-114		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
DISSOLVED METALS (UG/L)																
Aluminum	37000	63.7	B		81.2	B		159	B		156	B		159	B	
Arsenic	50	11.1			4.8	B		7.6	B		3.3	B		23.8		
Barium	2000	48.8	B		246			71.5	B		813			69.2	B	
Calcium	GRAS	91500			69200			80500			76200			71300		
Iron	GRAS	1020				U	(27.2)		U	(7)		U	(7)		U	(7)
Magnesium	GRAS	16200			18200			14700			20500			12800		
Manganese	180	***195***				U	(0.4)	***989***			25.4			***450***		
Nickel	100		U	(1.5)		U	(1.5)	1.1	B		6.3	B		1.4	B	
Potassium	GRAS	16600	E		16300	E		10500			15900			11500		
Selenium	50	9.4			17.3			19.8			8			13.7		
Sodium	GRAS	38700			20600			32900	E		15900	E		28400	E	
Vanadium	260		U	(0.5)	5.6	B		3.2	B		2.7	B		3	B	
Zinc	2000	1.2	B		1	B		0.2	B		0.46	B		1.4	B	
SEMIVOLATILES (UG/L)																
bis(2-Ethylhexyl)phthalate	6	2	J		4	J			U	(10)		U	(10)		U	(10)
TOTAL METALS (UG/L)																
Aluminum	37000	126	B		131	B		133	B		176	B		320		
Arsenic	50	8.4	B			U	(3.5)	6.2	B		2.3	B		23.3		
Barium	2000	50.6	B		252			65	B		749			64	B	
Calcium	GRAS	96800			71700			75100			70800			65300		
Iron	GRAS	1110				U	(27.2)	62.2	B*		77.7	B*		233	*	
Magnesium	GRAS	17000			18600			14300			19800			12400		
Manganese	180	***208***			0.61	B		***931***	E		24.4	E		***421***	E	
Potassium	GRAS	14800			14200			7970			12800			9220		
Selenium	50		U	(4.4)	12				UWN	(2.7)		UWN	(2.7)		UWN	(2.7)
Sodium	GRAS	39000			20400			31500	E		14500	E		27200	E	
Vanadium	260		U	(0.5)	6.2	B		4.9	B		3.2	B		4	B	
Zinc	2000	3.9	B			U	(0.6)	13.6	B		30.4			20.4		
VOLATILES (UG/L)																
Methylene chloride	5		U	(2)	4	JB		0.7	JB			U	(2)	0.6	J	
Trichloroethene (TCE)	5		U	(1)	***57***				U	(1)		U	(1)		U	(1)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-34
Analytical Data for Shallow and Deep Soil Sampling at Potential Waste Disposal Area North of the Former Ammonium Nitrate Plant Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	AN-001																	
		ANA-001-000 (0-0.5 ft)			ANA-001-001 (1-2 ft)			ANA-001-002 (2-3 ft)			ANA-001-004 (4-5 ft)			ANA-001-009 (9-10 ft)			ANA-001-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)	0.1	J			U	(0.5)		U	(0.5)
METALS (MG/KG)																			
Aluminum	33852	10200			6750			15700			11100			8890			504		
Antimony	31		UJ	(0.51)		UJ	(0.47)		UJ	(0.48)		R			R			R	
Arsenic	13.5	3.9	J		2.9	J		3.6	J		3.9	J		2.9	J			U	(0.74)
Barium	440	205			212			236			199			167			18		
Beryllium	1.52	0.52			0.43			0.81			0.59			0.61			0.05	J	
Cadmium	39	0.72	J		0.34	J		0.81	J		0.44	J		0.5	J			U	(0.11)
Calcium	GRAS	2790			2220			3640			3350			3370			289		
Chromium	37	12.9			10.1			18.6			12.5			11			1.8	J	
Cobalt	17.2	6.7			5.3			11.1			4.6			9.4			0.25	J	
Copper	33.9	13			9.9			20.3			11.8			21			0.69	J	
Iron	GRAS	11800			10300			16800			12200			12900			2250		
Lead	400	15.6			12.6			11.7			11.5			11.9			1.3	J	
Magnesium	GRAS	1990			1630			3200			2410			2830			192		
Manganese	1083	400			173			395			112	J		134	J		34.6	J	
Nickel	39.3	12.3			9.6			19.8			10.3			17.7			0.76	J	
Potassium	GRAS	2830			1840			3110			1870			1810			193		
Selenium	390		U	(1.2)		U	(1.1)		U	(1.1)		UJ	(1.1)	1.3	J			UJ	(0.93)
Vanadium	72.5	24.9			21.9			25.8			21.1			20.6			1.5		
Zinc	119.5	52.2	J		29.9	J		72.7	J		52.7			64.4			2.9		
SEMIVOLATILES (UG/KG)																			
Butylbenzylphthalate	13000000		U	(446)		U	(413)		U	(418)		U	(407)		U	(423)		U	(351)
Di-n-butylphthalate	6500000		U	(446)		U	(412)		U	(418)		U	(407)		U	(423)		U	(351)
Diethylphthalate	52000000	527				U	(413)		U	(418)		U	(407)		U	(423)		U	(351)
Pyrene	2000000	105	J			U	(413)		U	(418)		U	(407)		U	(423)		U	(351)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-34
Analytical Data for Shallow and Deep Soil Sampling
at Potential Waste Disposal Area North of the Former Ammonium Nitrate Plant
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	AN-002																	
		ANA-002-000 (0-0.5 ft)			ANA-002-001 (1-2 ft)			ANA-002-002 (2-3 ft)			ANA-002-004 (4-5 ft)			ANA-002-009 (9-10 ft)			ANA-002-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																			
Aluminum	33852	18000			16200			13700			11300			16000			1650		
Antimony	31		UJ	(0.49)		UJ	(0.48)		UJ	(0.48)		UJ	(0.48)		UJ	(0.48)		UJ	(0.4)
Arsenic	13.5	6.7	J		8.2	J		8.8			10.1			8.2	J			U	(0.73)
Barium	440	246			213			303			302			283			19.5		
Beryllium	1.52	0.74			0.68			0.63			0.63			0.7			0.07	J	
Cadmium	39	1.1	J		0.82	J		0.82	J		1.2	J		1.2	J			U	(0.1)
Calcium	GRAS	2740			2610			3150			6910			16500			516		
Chromium	37	19.5			16.4			16.6			15.6			20.5			4.2	J	
Cobalt	17.2	9			9.1			9.4			12.1			9.2			0.74	J	
Copper	33.9	20.5			19.6			22.7			23.6			23			1.6	J	
Iron	GRAS	18900			19000			19200			19500			20100			1810		
Lead	400	30.2			14			14.3			15.4			15.6			2.1	J	
Magnesium	GRAS	3340			3610			4050			5560			9150			513		
Manganese	1083	499			500			582			708			499			40.4		
Nickel	39.3	20.3			21.9			25.3			30.2			23.5			1.7	J	
Potassium	GRAS	4200			3220			3330			2210			3290			410		
Selenium	390		U	(1.1)	1.2	J		1.1	J			U	(1.1)		U	(1.1)		U	(0.91)
Vanadium	72.5	41.3			33.7			34.2			30.7			43.8			4		
Zinc	119.5	87.4	J		62.8	J		67.2	J		75.5	J		78.8	J		7	J	
SEMIVOLATILES (UG/KG)																			
Butylbenzylphthalate	13000000		U	(429)		U	(429)		U	(418)		U	(423)		U	(429)	229	J	
Di-n-butylphthalate	6500000		U	(429)		U	(429)		U	(418)		U	(423)		U	(429)	2330		
Diethylphthalate	52000000		U	(429)		U	(429)		U	(418)		U	(423)		U	(429)		U	(344)
Pyrene	2000000		U	(429)		U	(429)		U	(418)		U	(423)		U	(429)		U	(344)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-35
Analytical Data for Shallow and Deep Soil Sampling at Demolition Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	DG-001														
		DGA-001-000 (0-0.5 ft)			DGA-001-001 (1-2 ft)			DGA-001-004 (4-5 ft)			DGA-001-009 (9-10 ft)			DGA-001-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																
Aluminum	33852	18100			16700			11100			8230			721		
Antimony	31		R			R			R			R			R	
Arsenic	13.5	7.2	J		7.7	J		9.4			6.4	J			U	(0.73)
Barium	440	221			207			258			171			9.6	J	
Beryllium	1.52	0.73			0.76			0.65			0.47			0.05	J	
Cadmium	39	0.7	J		0.47	J		0.82	J		0.58	J			U	(0.1)
Calcium	GRAS	3110			3180			3750			2890			244		
Chromium	37	18.5			16.6			13.4			10.1			2.1	J	
Cobalt	17.2	10.4			6.1			10.6			6.6			0.26	J	
Copper	33.9	15.1			14.8			21.3			15.6			0.67	J	
Iron	GRAS	19000			19900			18400			14100			820		
Lead	400	15.6			13.3			14.3			9.9			1.4	J	
Magnesium	GRAS	3380			3380			3620			2830			196		
Manganese	1083	653	J		253	J		715	J		407	J		22.2		
Mercury	23		U	(0.12)		U	(0.1)		U	(0.12)		U	(0.1)		U	(0.1)
Nickel	39.3	17.5			15.7			27.6			17.8			1.1	J	
Potassium	GRAS	3860			2500			2230			1860			200		
Selenium	390		UJ	(1.1)	1.8	J			UJ	(1.1)		UJ	(0.89)		U	(0.92)
Sodium	GRAS		U	(328)		U	(337)		U	(336)		U	(274)		U	(283)
Vanadium	72.5	40.1			27.9			27.8			22.2			1.6		
Zinc	119.5	68.4			64.4			66.4			56.2			3.1		
SEMIVOLATILES (UG/KG)																
Butylbenzylphthalate	13000000		U	(393)		U	(413)		U	(407)	337	J			U	(344)
Di-n-butylphthalate	6500000	2706				U	(413)		U	(407)	1491			1691		
Pyrene	2000000		U	(393)		U	(413)		U	(407)		U	(418)		U	(344)
VOLATILES (UG/KG)																
Toluene	1900000		NA			U	(13)		U	(12)		U	(13)		U	(10)
Trichloroethene (TCE)	7100		NA			U	(13)		U	(12)		U	(13)		U	(10)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-35
Analytical Data for Shallow and Deep Soil Sampling at Demolition Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	DG-002														
		DGA-002-000 (0-0.5 ft)			DGA-002-001 (1-2 ft)			DGA-002-004 (4-5 ft)			DGA-002-009 (9-10 ft)			DGA-002-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.066	J	
METALS (MG/KG)																
Aluminum	33852	13400	R		13500			9850			8280			309	J	
Antimony	31		U	(0.48)		R			R			R			U	(0.39)
Arsenic	13.5	5.3	J		5.8	J		9.4			9				U	(0.71)
Barium	440	205	J		153	J		222	J		232	J		6		
Beryllium	1.52	0.62			0.65			0.62			0.59			0.03	J	
Cadmium	39	0.33	J		0.22	J		0.4	J		0.71	J			U	(0.1)
Calcium	GRAS	3140			2420			3890			3870			181		
Chromium	37	14.3			14.2			13			11.6			1.9	J	
Cobalt	17.2	7.9			8.7			9.2			11.4			0.21	J	
Copper	33.9	13.2			11.8			20.2			20.7			0.95	J	
Iron	GRAS	14400			16200			17600			16600			560		
Lead	400	11.8			12.5			13.3			14.2			6.2	J	
Magnesium	GRAS	2820			2940			3670			3350			123		
Manganese	1083	470			514			644			889			24.5	J	
Mercury	23		U	(0.13)		U	(0.12)		U	(0.13)	0.13	J			U	(0.1)
Nickel	39.3	15			16.1			27.5			30.1			0.6	J	
Potassium	GRAS	3250			2240			2120			2000			105		
Selenium	390	1.5	J		1.1	J			U	(1.1)	1.1	J			U	(0.89)
Sodium	GRAS		U	(344)		U	(327)		U	(346)		U	(341)		U	(274)
Vanadium	72.5	30.1			29.1			27.8			25			1		
Zinc	119.5	59.5			56.7			64			62.6			2.9		
SEMIVOLATILES (UG/KG)																
Butylbenzylphthalate	13000000		U	(429)		U	(413)		U	(429)		U	(423)		U	(337)
Di-n-butylphthalate	6500000		UJ	(429)		UJ	(412)		UJ	(429)		UJ	(423)		UJ	(337)
Pyrene	2000000	153	J			U	(413)		U	(429)		U	(423)		U	(337)
VOLATILES (UG/KG)																
Toluene	1900000		NA		0.4	J			U	(13)		U	(13)		U	(10)
Trichloroethene (TCE)	7100		NA			U	(13)		U	(13)		U	(13)		U	(10)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-35
Analytical Data for Shallow and Deep Soil Sampling at Demolition Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	DG-003														
		DGA-003-000 (0-0.5 ft)			DGA-003-001 (1-2 ft)			DGA-003-004 (4-5 ft)			DGA-003-009 (9-10 ft)			DGA-003-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.02	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																
Aluminum	33852	13500			12400			9380			9690			492		
Antimony	31		R			R			R			R			R	
Arsenic	13.5	8.1	J		8.8			8.5	J		8.5	J			U	(0.72)
Barium	440	250	J		434	J		244	J		227	J		10.2	J	
Beryllium	1.52	0.74			0.71			0.62			0.62			0.04	J	
Cadmium	39	0.34	J		0.35	J		0.52	J		0.49	J			U	(0.1)
Calcium	GRAS	3190			3000			4230			4150			237		
Chromium	37	14.4			13.9			12.2			14.5			2	J	
Cobalt	17.2	10.3			10.8			10.4			8.8			0.25	J	
Copper	33.9	18			20.5			19.1			19.4			0.66	J	
Iron	GRAS	17700			18500			16700			17200			632		
Lead	400	14.1			14.3			13.3			12			1.3	J	
Magnesium	GRAS	3530			3660			3650			3900			179		
Manganese	1083	567			621			726			488			14.2		
Mercury	23		U	(0.12)		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.1)
Nickel	39.3	21.2			25.1			25.4			20.7			0.53	J	
Potassium	GRAS	4460			3940			2340			2190			170		
Selenium	390		U	(1.1)		U	(1.1)	1.3	J			U	(1.1)		U	(0.91)
Sodium	GRAS		U	(340)		U	(335)		U	(350)		U	(352)		U	(280)
Vanadium	72.5	28.3			28.7			25.8			29.2			1.4		
Zinc	119.5	63.3			62.3			64.1			59.3			2.4		
SEMIVOLATILES (UG/KG)																
Butylbenzylphthalate	13000000		U	(413)		UJ	(413)		UJ	(429)		U	(429)		U	(359)
Di-n-butylphthalate	6500000	884	J			UJ	(413)	1287	J			UJ	(429)	430	J	
Pyrene	2000000		U	(413)		UJ	(413)		UJ	(429)		U	(429)		U	(359)
VOLATILES (UG/KG)																
Toluene	1900000		NA			U	(13)		U	(13)		U	(13)		U	(11)
Trichloroethene (TCE)	7100		NA			U	(13)		U	(13)		U	(13)		U	(11)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-35
Analytical Data for Shallow and Deep Soil Sampling at Demolition Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	DG-004														
		DGA-004-000 (0-0.5 ft)			DGA-004-001 (1-2 ft)			DGA-004-004 (4-5 ft)			DGA-004-009 (9-10 ft)			DGA-004-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																
Aluminum	33852	10200			11100			11300			9510			843		
Antimony	31		R			R			R			R			R	
Arsenic	13.5	8.6			8.3	J		8.9			8.6				U	(0.73)
Barium	440	337	J		259	J		261	J		222	J		15.2	J	
Beryllium	1.52	0.61			0.65			0.67			0.62			0.06	J	
Cadmium	39	0.36	J		0.4	J		0.53	J		0.57	J			U	(0.1)
Calcium	GRAS	3740			3790			3850			3870			335		
Chromium	37	13.5			14.9			14.5			12.3			1.1	J	
Cobalt	17.2	10.2			9.4			9.6			9.9			0.52	J	
Copper	33.9	19.6			20.7			19.4			20.3			1.2	J	
Iron	GRAS	17800			18000			18000			16900			1000		
Lead	400	13.4			13.3			14.6			12.7			1.7	J	
Magnesium	GRAS	3580			3680			3970			3660			270		
Manganese	1083	556			549			625			600			51.2		
Mercury	23		U	(0.12)		U	(0.13)		U	(0.12)		U	(0.12)		U	(0.1)
Nickel	39.3	23.1			23.7			25.1			24			1.2	J	
Potassium	GRAS	2530			2560			2120			2090			241		
Selenium	390		U	(1.1)	1.2	J			U	(1.1)	1.3	J			U	(0.91)
Sodium	GRAS		U	(332)		U	(385)		U	(326)	750				U	(281)
Vanadium	72.5	26.8			26.1			30.5			27.9			2.1		
Zinc	119.5	67.4			65.7			59.2			64.9			4.5		
SEMIVOLATILES (UG/KG)																
Butylbenzylphthalate	13000000		UJ	(402)		U	(407)		U	(388)		U	(398)		U	(340)
Di-n-butylphthalate	6500000		UJ	(402)		U	(407)		UJ	(388)		UJ	(398)		UJ	(340)
Pyrene	2000000		UJ	(402)		U	(407)		U	(388)		U	(398)		U	(340)
VOLATILES (UG/KG)																
Toluene	1900000		NA			U	(12)	0.6	J			U	(12)		U	(10)
Trichloroethene (TCE)	7100		NA			U	(12)		U	(12)	2	J			U	(10)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-36
Analytical Data for Groundwater Sampling of Existing Monitoring Well at Demolition Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	MW-10A AMW-010-114			MW-10B BMW-010-114		
		R	Q	QL	R	Q	QL
DISSOLVED METALS (UG/L)							
Aluminum	37000	122	B		130	B	
Arsenic	50	5.4	B		4.6	B	
Barium	2000	167	B		182	B	
Calcium	GRAS	48800			27700		
Magnesium	GRAS	9080			7250		
Manganese	180		U	(0.2)	10.3	B	
Nickel	100	0.91	B		1.9	B	
Potassium	GRAS	10300			11000		
Selenium	*50*	*14.1*			*7.5*		
Sodium	GRAS	17300	E		13200	E	
Vanadium	260	2.3	B		2.3	B	
Zinc	2000		U	(0.2)	0.26	B	
EXPLOSIVES (UG/L)							
2,4,6-Trinitrotoluene (2,4,6-TNT)	2		U	(0.1)	0.32		
2-Amino-4,6-dinitrotoluene (2-Am-DNT)	NA	0.17			***0.43***		
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2	0.24			0.19		
TOTAL METALS (UG/L)							
Aluminum	37000	152	B		158	B	
Arsenic	50	3.8	B		2.9	B	
Barium	2000	159	B		171	B	
Calcium	GRAS	45100			25500		
Copper	1300		U	(2.5)	3.2	B	
Iron	GRAS	187	*		109	*	
Magnesium	GRAS	8980			7070		
Manganese	180	1.2	BE		10.9	BE	
Potassium	GRAS	8260			9650		
Sodium	GRAS	16900	E		12700	E	
Vanadium	260		U	(2.9)	4	B	
Zinc	2000	6	B		28.7		
VOLATILES (UG/L)							
Methylene chloride	5	0.5	JB			U	(2)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-37
Analytical Data for Shallow Soil Sampling at Detonation Craters West of the Demolition Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	DC-001						DC-002						DC-003									DC-004					
		DCA-001-000 (0-0.5 ft)			DCA-001-001 (1-2 ft)			DCA-002-000 (0-0.5 ft)			DCA-002-001 (1-2 ft)			DCA-003-000 (0-0.5 ft)			DCA-003-001 (1-2 ft)			DCA-003-002 (2-3 ft)			DCA-004-000 (0-0.5 ft)			DCA-004-001 (1-2 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																												
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)		U	(0.75)	0.074	J			U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.059	J			U	(0.5)	0.026	J			U	(0.5)	0.071	J			U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)
METALS (MG/KG)																												
Aluminum	33852	9120			5910			12600			9220			6370			7190			6480			5230			9010		
Antimony	31		R			R			R			R			R			R			R			R		0.48	R	
Arsenic	13.5	4.1	J		4.1	J		5.1	J		3.4	J		1.4	J		2	J		1.8	J		2.1	J		3.4	J	
Barium	440	167			178			184			175			100			102			87.4			75.7			142		
Beryllium	1.52	0.5	J		0.38	J		0.59			0.46	J		0.32	J		0.33	J		0.28	J		0.26	J		0.44	J	
Cadmium	39	0.13	J			U	(0.08)	0.2	J		0.11	J		0.08	J			U	(0.07)	2.2				U	(0.07)		U	(0.07)
Calcium	GRAS	3840			3240			3720			3640			1370			1290			1130			1150			1750		
Chromium	37	10.9			8.1			14.3			11.5			7.3			7.1			16.2			6.2			10.1		
Cobalt	17.2	6.2			7.2			6.7			7.2			4.6			3.7			3.7			4.4			6.4		
Copper	33.9	11.2			7.7			13.3			9.3			7			6.2			6.2			6.2			8.8		
Iron	GRAS	11900			9510			14800			12200			7670			7020			6400			6550			10400		
Lead	400	11.3	J		7.2	J		13	J		8.9	J		8.7	J		6	J		177	J		7.7	J		9.1	J	
Magnesium	GRAS	2280			1620			2720			2180			1310			1220			1120			1120			1730		
Manganese	1083	613			***1320***			645			1070			276			220			199			245			388		
Nickel	39.3	12.1			12.1			13.7			13.5			7.9			7.3			6.8			6.9			11.3		
Potassium	GRAS	2290			1190			2850			1650			1520			1200			1060			1290			1700		
Selenium	390	1.5	J		2.1	J		2.1	J			UJ	(1.2)	1.5	J			UJ	(1)	1	J		1.2	J		1.1	J	
Sodium	GRAS		U	(564)		U	(519)		U	(556)		U	(536)		U	(480)		U	(468)		U	(456)		U	(484)		U	(491)
Vanadium	72.5	18.3			11.6			25			18			13.7			12.6			11.7			12			19.7		
Zinc	119.5	45.7			30.6			55.3			38.9			31.2			25.7			30.1			24.1			34.8		
SEMIVOLATILES (UG/KG)																												
Butylbenzylphthalate	13000000		U	(440)		U	(434)		U	(458)		U	(440)		U	(393)		U	(384)		U	(379)		U	(393)	919		
Di-n-butylphthalate	6500000		U	(440)		U	(434)		U	(458)	1194				U	(393)		U	(384)	1477				U	(393)	2776		
Pyrene	2000000		U	(440)		U	(434)		U	(458)		U	(440)		U	(393)		U	(384)	67	J			U	(393)		U	(413)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-37
Analytical Data for Shallow Soil Sampling at Detonation Craters West of the Demolition Ground
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	DC-005					
		DCA-005-000 (0-0.5 ft)			DCA-005-001 (1-2 ft)		
		R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)							
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	343		U	(0.75)		U	(0.75)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.043	J		0.012	J	
METALS (MG/KG)							
Aluminum	33852	9220			10900		
Antimony	31		R			R	
Arsenic	13.5	4	J		3.4	J	
Barium	440	109			108		
Beryllium	1.52	0.43	J		0.46	J	
Cadmium	39		U	(0.07)	0.08	J	
Calcium	GRAS	1950			1640		
Chromium	37	9.6			11		
Cobalt	17.2	5.2			5.3		
Copper	33.9	8.5			8.8	J	
Iron	GRAS	9940			10800		
Lead	400	10.1	J		8.2		
Magnesium	GRAS	1810			1980		
Manganese	1083	264			268	J	
Nickel	39.3	10.7			11.9		
Potassium	GRAS	1800			1640	J	
Selenium	390	1.7	J		1.3	J	
Sodium	GRAS		U	(487)	258	J	
Vanadium	72.5	18.5			21.2		
Zinc	119.5	35.1			34.5	J	
SEMIVOLATILES (UG/KG)							
Butylbenzylphthalate	13000000		U	(393)		U	(384)
Di-n-butylphthalate	6500000		U	(393)		U	(384)
Pyrene	2000000		U	(393)		U	(384)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-38
Analytical Data for Shallow Soil Sampling at Bermed Area Southwest of Load Line 1
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	BR-001									BR-002									BR-003								
		BRA-001-000 (0-0.5 ft)			BRA-001-001 (1-2 ft)			BRA-001-002 (2-3 ft)			BRA-002-000 (0-0.5 ft)			BRA-002-001 (1-2 ft)			BRA-002-002 (2-3 ft)			BRA-003-000 (0-0.5 ft)			BRA-003-001 (1-2 ft)			BRA-003-002 (2-3 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																												
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)		U	(0.5)	0.022	J		0.027	J				U	(0.5)	0.016	J	
METALS (MG/KG)																												
Aluminum	33852	11600			10100			19200			13100			9940			19700			11400	J		5470			23100		
Antimony	31		R			R			UJ	(0.49)		R			R			UJ	(0.46)		U	(0.48)		R			UJ	(0.47)
Arsenic	13.5	6.9	J		4.9	J		6.7	J		7	J		5	J		7.2	J		4.5	J		1.8	J		7	J	
Barium	440	205	J		164			270			182	J		193	J		278			189			93.3			245		
Beryllium	1.52	0.63			0.57			0.82			0.66			0.59			0.85			0.58			0.28			0.88		
Cadmium	39	0.38	J		0.25	J		0.48	J		0.37	J		0.3	J		0.56	J		0.38	J		0.35	J		0.53	J	
Calcium	GRAS	3540			2760			3060			3490			2380			3320			2920			178000			2870		
Chromium	37	13.3			11.7			20.5			14.8			11.9			21.5			18.3			7.7			24.1		
Cobalt	17.2	8.6			8			10.9			8.6			8.2			11.5			7.7			3.9			10.3		
Copper	33.9	16.1			11.5			14.1			16.6			11.6			15.5			13.6			7.1			16.3		
Iron	GRAS	15800			12900			20300			15900			12500			21300			13900			6680			20600		
Lead	400	12.1			11.9			15.1	J		13			11.6			15.8	J		11.9	J		11			14.7	J	
Magnesium	GRAS	3270			2250			3780			3430			2130			4010			2740			2550			3810		
Manganese	1083	507			548			612	J		504			540			674	J		478	J		414			538	J	
Nickel	39.3	19.5			14.3			19.6			20.3			14.7			21.2			16.5			7.2			19		
Potassium	GRAS	1960			1930			3030			2250			1920			3070			2740			1950			3970		
Selenium	390	1.5	J		1.6	J		1.9	J			U	(1.1)	1.5	J		1.6	J		1.4	J			UJ	(1)	2	J	
Vanadium	72.5	27.7			22.1			41.2			30.1			24.1			42.9			24.3			11.9			49.8		
Zinc	119.5	52.9			46.5	J		77.5			54.6			49.3			78.7			54			31.6	J		82.4		
SEMIVOLATILES (UG/KG)																												
Di-n-butylphthalate	6500000	2331	J			U	(393)		U	(2399)		U	(402)		U	(407)		UJ	(688)		U	(418)		UJ	(79)		U	(407)
Diethylphthalate	52000000		UJ	(398)		U	(393)	22	J			U	(402)	18	J		18	J			U	(418)		UJ	(407)		UJ	(407)
Pyrene	2000000		UJ	(398)		U	(393)		U	(423)		U	(402)		U	(407)		UJ	(393)		U	(418)		UJ	(407)	121	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-39

Analytical Data for Groundwater Sampling of Newly Installed Monitoring Well at the Former Ammonium Nitrate Plant
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	MW-63B					
		BMW-063-035			BMW-063-065		
		R	Q	QL	R	Q	QL
DISSOLVED METALS (UG/L)							
Aluminum	37000		NA		150	B	
Arsenic	50		NA		4.3	B	
Barium	2000		NA		122	B	
Beryllium	4		NA		0.33	B	
Calcium	GRAS		NA		101000		
Chromium	100		NA		2.4	B	
Magnesium	GRAS		NA		23800		
Manganese	180		NA		7.7	B	
Potassium	GRAS		NA		7640	E	
Selenium	50		NA		8.5		
Sodium	GRAS		NA		19700	E	
Vanadium	260		NA		12.5	B	
Zinc	2000		NA		1.9	B	
TOTAL METALS (UG/L)							
Aluminum	37000		NA		534		
Arsenic	50		NA		4.5	B	
Barium	2000		NA		115	B	
Calcium	GRAS		NA		10300		
Chromium	100		NA		3.9	B	
Copper	1300		NA		1.7	B	
Iron	GRAS		NA		290		
Magnesium	GRAS		NA		23800		
Manganese	180		NA		15.6		
Potassium	GRAS		NA		6710	E	
Selenium	50		NA		4.5	B	
Sodium	GRAS		NA		19100	E	
Vanadium	260		NA		13.9	B	
Zinc	2000		NA		6.3	B	
WATER QUALITY (mg/L unless indicated)							
Nitrite	1	***5.8***				U	(0.02)
Nitrate	10	***40***			***41***		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-40
Analytical Data for Surface Water Sampling at Johnson and Clear Creeks
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	JC-001									JC-002									JC-003								
		JCW-001-035			JCW-001-056			JCW-001-076			JCW-002-035			JCW-002-056			JCW-002-076			JCW-003-035			JCW-003-056			JCW-003-076		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (UG/L)																												
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2	1.1				U	(0.8)		U	(0.8)	1.3				U	(0.8)		U	(0.8)	1.8				U	(0.8)		U	(0.8)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	400		U	(0.5)		U	(0.8)		U	(0.8)	0.44	J			U	(0.8)		U	(0.8)	0.54				U	(0.8)		U	(0.8)
METALS (UG/L)																												
Aluminum	37000	21000				NA			NA		2400				NA			NA		421			1310	J		7060	J	
Arsenic	50	11.2				NA			NA			U	(6)		NA			NA			U	(6)	7.5	B			U	(5)
Barium	2000	280				NA			NA		187				NA			NA		108			139	B		211	J	
Calcium	GRAS	32300				NA			NA		53800				NA			NA		68500			70100	J		54900	J	
Chromium	100	13.7				NA			NA			U	(10)		NA			NA			U	(10)		U	(10)		U	(6)
Cobalt	2200	10.1				NA			NA			U	(10)		NA			NA			U	(10)		U	(10)		U	(9)
Copper	12	***32.5***				NA			NA		6.5				NA			NA			U	(5)		U	(10)	2	J	
Iron	GRAS	18000				NA			NA		2690				NA			NA		528			1620	J		9670		
Lead	3.2	***10.9***				NA			NA			U	(2)		NA			NA			U	(2)		U	(2)		U*	(3)
Magnesium	GRAS	11700				NA			NA		15000				NA			NA		16300			17400			13900		
Manganese	180	***580***				NA			NA		***554***				NA			NA		171			***406***			***249***		
Mercury	0.012	***0.28***	J			NA			NA		***0.22***				NA			NA			U	(0.2)	***0.88***				U	(0.2)
Nickel	100	35.5				NA			NA			UJ	(15)		NA			NA			U	(15)		U	(20)		U	(20)
Potassium	GRAS	30400				NA			NA		12400				NA			NA		10400			9360			11800		
Selenium	5		U	(5)		NA			NA			U	(5)		NA			NA			U	(5)	***8.1***			***5.4***	*	
Sodium	GRAS	13700				NA			NA		27400				NA			NA		32100			31800			22200	J	
Thallium	2		U	(6)		NA			NA			U	(6)		NA			NA			U	(6)	***16.7***			***7.3***	B	
Vanadium	260	41				NA			NA		6				NA			NA			U	(5)		U	(10)	20.2	B	
Zinc	110	***442***				NA			NA		46.6				NA			NA			U	(5)	15.5	B			U	(21.2)
VOLATILES (UG/L)																												
1,1-Dichloroethene	7		J			U	(1)		U	(1)		J			U	(1)		U	(1)		J			U	(1)		U	(1)
1,2-Dibromo-3-chloropropane	0.2		R			U	(1)		U	(1)		R			U	(1)		U	(1)		R			U	(1)		U	(1)
2-Butanone	1900		R			R			R			R			R			R			R			R			R	
2-Hexanone	NA		R			R			U	(5)		R			R			U	(5)		R			R			U	(5)
Acetone	610		R			R			U	(5)		R			R			U	(5)		R			R			U	(5)
Chloroethane	710		R			U	(1)		U	(1)		R			U	(1)		U	(1)		R			U	(1)		U	(1)
Toluene	1000		U	(1)	0.13	J		0.08	J			U	(1)	1.3				U	(1)		U	(1)		U	(1)		U	(1)
Trichloroethene (TCE)	5		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)	4.51			***5.06***			2.96		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-40
Analytical Data for Surface Water Sampling at Johnson and Clear Creeks
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	JC-004									JC-005						JC-006						JC-007					
		JCW-004-035			JCW-004-056			JCW-004-076			JCW-005-056			JCW-005-076			JCW-006-056			JCW-006-076			JCW-007-056			JCW-007-076		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (UG/L)																												
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2	1.2				U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	400		U	(2.5)		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)
METALS (UG/L)																												
Aluminum	37000	401			2380	J		1470	J			NA			NA		1780	J		1490	J			NA			NA	
Arsenic	50	6.4			5.9	B		5.5	B			NA			NA		5.8	B		6	B			NA			NA	
Barium	2000	107			140	B		140	J			NA			NA		142	B		176	J			NA			NA	
Calcium	GRAS	86600			93200	J		70200	J			NA			NA		92100	J		71700	J			NA			NA	
Chromium	100		U	(10)		U	(10)		U	(6)		NA			NA			U	(10)		U	(6)		NA			NA	
Cobalt	2200		U	(10)		U	(10)		U	(9)		NA			NA			U	(10)		U	(9)		NA			NA	
Copper	12		U	(5)		U	(10)		UJ	(2)		NA			NA			U	(10)		UJ	(2)		NA			NA	
Iron	GRAS	438			2500	J		2080				NA			NA		1850	J		2130				NA			NA	
Lead	3.2		U	(2)		U	(2)		U*	(3)		NA			NA			U	(2)		U*	(3)		NA			NA	
Magnesium	GRAS	17900			19400			15200				NA			NA		19700			15100				NA			NA	
Manganese	180	109			***217***			104				NA			NA		***221***			161				NA			NA	
Mercury	0.012		U	(0.2)		U	(0.2)		U	(0.2)		NA			NA		***0.42***				U	(0.2)		NA			NA	
Nickel	100	***129***	J			U	(20)		U	(20)		NA			NA			U	(20)		U	(20)		NA			NA	
Potassium	GRAS	9060			9000			9990				NA			NA		9910			9230				NA			NA	
Selenium	5		U	(5)	***7.8***			***5.4***	*			NA			NA		***5.9***				U*	(5)		NA			NA	
Sodium	GRAS	44200			38400			40800	J			NA			NA		37500			36800	J			NA			NA	
Thallium	2		U	(6)		U	(7)	***8.1***	B			NA			NA			U	(7)		U	(7)		NA			NA	
Vanadium	260		U	(5)	10.6	B			U	(10)		NA			NA		11.8	B		10.1	B			NA			NA	
Zinc	110		U	(5)	14.9	B			U	(8)		NA			NA		12.5	B			U	(8)		NA			NA	
VOLATILES (UG/L)																												
1,1-Dichloroethene	7		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
1,2-Dibromo-3-chloropropane	0.2		R			U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
2-Butanone	1900		U	(5)		R			R			R			R			R			R			R			R	
2-Hexanone	NA		U	(5)		R			U	(5)		R			U	(5)		R			U	(5)		R			U	(5)
Acetone	610		U	(5)		R			U	(5)		R			U	(5)		R			U	(5)		R			U	(5)
Chloroethane	710		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Toluene	1000		U	(1)	0.14	J		0.1	J		0.17	J			U	(1)	0.11	J			U	(1)		U	(1)		U	(1)
Trichloroethene (TCE)	5	0.63	J		0.56	J		1.24			***6.92***			3.79			0.41	J		0.33	J			U	(1)		U	(1)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-40
Analytical Data for Surface Water Sampling at Johnson and Clear Creeks
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	JC-008					
		JCW-008-056			JCW-008-076		
		R	Q	QL	R	Q	QL
EXPLOSIVES (UG/L)							
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2		U	(0.8)		U	(0.8)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	400		U	(0.8)		U	(0.8)
METALS (UG/L)							
Aluminum	37000		NA			NA	
Arsenic	50		NA			NA	
Barium	2000		NA			NA	
Calcium	GRAS		NA			NA	
Chromium	100		NA			NA	
Cobalt	2200		NA			NA	
Copper	12		NA			NA	
Iron	GRAS		NA			NA	
Lead	3.2		NA			NA	
Magnesium	GRAS		NA			NA	
Manganese	180		NA			NA	
Mercury	0.012		NA			NA	
Nickel	100		NA			NA	
Potassium	GRAS		NA			NA	
Selenium	5		NA			NA	
Sodium	GRAS		NA			NA	
Thallium	2		NA			NA	
Vanadium	260		NA			NA	
Zinc	110		NA			NA	
VOLATILES (UG/L)							
1,1-Dichloroethene	7		U	(1)		U	(1)
1,2-Dibromo-3-chloropropane	0.2		U	(1)		U	(1)
2-Butanone	1900		R			R	
2-Hexanone	NA		R			U	(5)
Acetone	610		R			U	(5)
Chloroethane	710		U	(1)		U	(1)
Toluene	1000	0.24	J			U	(1)
Trichloroethene (TCE)	5		U	(1)		U	(1)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-41
Analytical Data for Sediment Sampling at Johnson and Clear Creeks
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	JC-001			JC-002			JC-003			JC-004		
		JCS-001-035			JCS-002-035			JCS-003-035			JCS-004-035		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
METALS (MG/KG)													
Aluminum	33852	15900			11400			1830			3080		
Arsenic	13.5	8.3			5.5				U	(1.6)		U	(1.7)
Barium	440	245			180			33			59.3		
Beryllium	1.52	0.82			0.6				U	(0.53)		U	(0.55)
Calcium	GRAS	3690			3160			821			2020		
Chromium	37	16.8			13.8			4.1			5.3		
Cobalt	17.2	12.6			7.8			3.2			2.9		
Copper	33.9	17.8			13			2.2			3.4		
Iron	GRAS	17400			13700			2520			3790		
Lead	400	18.3			11.2			2.4			2.9		
Magnesium	GRAS	3310			2890			469			838		
Manganese	1083	706			577			136			327		
Nickel	39.3	19.6	J		15.9				UJ	(4)		U	(4.1)
Potassium	GRAS	3900			2330			511			1020		
Silver	380	2.3			2.1				U	(1.3)		U	(1.4)
Sodium	GRAS	275			250			53.5			84.7		
Vanadium	72.5	38.8			27.7			5			7.4		
Zinc	119.5	90.2			64.5			20.1			32.1		
VOLATILES (UG/KG)													
Acetone	2000000	48	J			UJ	(15)		UJ	(13)	46	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-42
Analytical Data for Surface Water Sampling at Silver Creek
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	SC-001									SC-002									SC-003						SC-004					
		SCW-001-045			SCW-001-056			SCW-001-076			SCW-002-045			SCW-002-056			SCW-002-076			SCW-003-056			SCW-003-076			SCW-004-056			SCW-004-076		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (UG/L)																															
4-Amino-2,6-dinitrotoluene (4-Am-DNT)	NA		U	(3)		U	(0.8)		U	(0.8)	0.39	J			U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)		U	(0.8)
METALS (UG/L)																															
Aluminum	37000	596				NA			NA		213				NA			NA			NA			NA			NA			NA	
Barium	2000	174				NA			NA		171				NA			NA			NA			NA			NA			NA	
Calcium	GRAS	79700	J			NA			NA		78400	J			NA			NA			NA			NA			NA			NA	
Iron	GRAS	803				NA			NA		365				NA			NA			NA			NA			NA			NA	
Magnesium	GRAS	19100				NA			NA		19700				NA			NA			NA			NA			NA			NA	
Manganese	180	***281***				NA			NA		***249***				NA			NA			NA			NA			NA			NA	
Potassium	GRAS	10600				NA			NA		10900				NA			NA			NA			NA			NA			NA	
Selenium	5	5				NA			NA			U	(5)		NA			NA			NA			NA			NA			NA	
Sodium	GRAS	38400				NA			NA		40000				NA			NA			NA			NA			NA			NA	
Vanadium	260		U	(5)		NA			NA		6.8				NA			NA			NA			NA			NA			NA	
SEMIVOLATILES (UG/L)																															
Hexachlorocyclopentadiene	50		J			NA			NA			UJ	(10)		NA			NA			NA			NA			NA			NA	
VOLATILES (UG/L)																															
1,2-Dibromo-3-chloropropane	0.2		R			R			U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
2-Butanone	1900		R			R			R			R			U	(5)		R			R			R			R			R	
2-Hexanone	NA		R			R			U	(5)		R			U	(5)		U	(5)		R			U	(5)		R			U	(5)
4-Methyl-2-Pentanone	2900		U	(5)		U	(5)		U	(5)		R			U	(5)		U	(5)		U	(5)		U	(5)		U	(5)		U	(5)
Acetone	610		R			R			U	(5)		R			U	(5)		U	(5)		R			U	(5)		R			U	(5)
Chloroethane	710		R			U	(1)		U	(1)		R			U	(1)		U	(1)		U	(1)		U	(1)		U	(1)		U	(1)
Methylene Chloride	5		U	(2)		U	(2)		U	(2)		U	(2)		U	(2)	0.46	J			U	(2)		U	(2.92)		U	(2)		U	(3.23)
Toluene	1000		U	(1)	0.21	J		0.15	J		0.11	J			U	(1)	0.11	J		0.12	J		0.16	J		0.23	J			U	(1)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-43
Analytical Data for Sediment Sampling at Silver Creek
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	SC-001			SC-002		
		SCS-001-045			SCS-002-045		
		R	Q	QL	R	Q	QL
METALS (MG/KG)							
Aluminum	33852	8080			10000		
Arsenic	13.5	5.4			6.9		
Barium	440	177			237		
Calcium	GRAS	3160			6400		
Chromium	37	9.7			12.8		
Cobalt	17.2	4.9	J		6.5		
Copper	33.9	10.9			14.1		
Iron	GRAS	12100			14500		
Lead	400	9.1			11.3		
Magnesium	GRAS	2130			3020		
Manganese	1083	506			896		
Nickel	39.3	11.6			16.1		
Potassium	GRAS	1730			2220		
Selenium	390	2.2			2		
Silver	380	2.2			2.3		
Sodium	GRAS	133			286		
Vanadium	72.5	18			23.2		
Zinc	119.5	45.8			58.5		
SEMIVOLATILES (UG/KG)							
4-Methylphenol	330000	2444				U	(589)
Di-n-butylphthalate	6500000	575				U	(589)
Pyrene	2000000		U	(516)	107	J	
VOLATILES (UG/KG)							
Acetone	2000000	43	J			U	(18)
Toluene	1900000	246	J			U	(18)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-44

Analytical Data for Shallow and Deep Soil Sampling Near the Former Atlas Missile Area Underground Storage Tanks
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	UM-001																	
		UMA-001-001 (1-2 ft)			UMA-001-004 (4-5 ft)			UMA-001-009 (9-10 ft)			UMA-001-019 (19-20 ft)			UMA-001-029 (29-30 ft)			UMA-001-038 (38-39 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
SEMIVOLATILES (UG/KG)																			
Butylbenzylphthalate	13000000		U	(413)		U	(423)		U	(429)		U	(359)		U	(347)	1164		
Di-n-butylphthalate	6500000		U	(412)	599			1947				U	(359)		U	(347)	3327		
Pyrene	2000000		U	(413)		U	(423)		U	(429)		U	(359)		U	(347)		U	(344)
bis(2-Ethylhexyl)phthalate	32000		U	(412)		U	(423)		U	(429)		U	(359)		U	(347)	246	J	
TPH (MG/KG)																			
TRPH	10		U	(12)		U	(13)		U	(13)		U	(11)		U	(10)		U	(10)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-44

Analytical Data for Shallow and Deep Soil Sampling Near the Former Atlas Missile Area Underground Storage Tanks
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	UM-002																				
		UMA-002-000 (0-0 ft)			UMA-002-001 (1-2 ft)			UMA-002-004 (4-5 ft)			UMA-002-009 (9-10 ft)			UMA-002-019 (19-20 ft)			UMA-002-029 (29-30 ft)			UMA-002-038 (38-39 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
SEMIVOLATILES (UG/KG)																						
Butylbenzylphthalate	13000000		U	(413)		U	(388)		U	(398)		U	(388)		U	(388)		U	(344)		U	(344)
Di-n-butylphthalate	6500000		U	(412)		U	(388)		U	(398)		U	(388)		U	(388)		U	(344)		U	(344)
Pyrene	2000000	50	J			U	(388)		U	(398)		U	(388)		U	(388)		U	(344)		U	(344)
bis(2-Ethylhexyl)phthalate	32000		U	(412)		U	(388)		U	(398)		U	(388)		U	(388)	292	J			U	(344)
TPH (MG/KG)																						
TRPH	10	***21***				U	(12)		U	(12)		U	(12)		U	(12)		U	(10)		U	(10)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-45

Analytical Data for Shallow and Deep Soil Sampling Near the Former Administration Area Underground Storage Tanks

Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	UA-001																	
		UAA-001-000 (0-0 ft)			UAA-001-001 (1-2 ft)			UAA-001-004 (4-5 ft)			UAA-001-009 (9-10 ft)			UAA-001-019 (19-20 ft)			UAA-001-028 (28-29 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
SEMIVOLATILES (UG/KG)																			
Benzo(b)fluoranthene	610	32	J			U	(388)		U	(347)		U	(337)		U	(344)		U	(344)
Butylbenzylphthalate	13000000		U	(379)		U	(388)	196	J			U	(337)		U	(344)		U	(344)
Di-n-butylphthalate	6500000		U	(379)	3022	J		3206				U	(337)		U	(344)		U	(344)
Fluoranthene	2600000	26	J			U	(388)		U	(347)		U	(337)		U	(344)		U	(344)
Pyrene	2000000	94	J			U	(388)		U	(347)		U	(337)		U	(344)		U	(344)
TPH (MG/KG)																			
TRPH	10	***21***				U	(12)		U	(11)		U	(10)		U	(10)		U	(10)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-46

Analytical Data for Shallow and Deep Soil Sampling Near the Former Bomb Booster Assembly Area Underground Storage Tanks
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	UB-001																	
		UBA-001-000 (0-0 ft)			UBA-001-001 (1-2 ft)			UBA-001-004 (4-5 ft)			UBA-001-009 (9-10 ft)			UBA-001-019 (19-20 ft)			UBA-001-029 (29-30 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
SEMIVOLATILES (UG/KG)																			
Butylbenzylphthalate	13000000		U	(393)		U	(413)	633				U	(423)		U	(344)		U	(344)
Di-n-butylphthalate	6500000		U	(393)	1485			4222				U	(423)		U	(344)	3427		

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-47
Analytical Data for Shallow and Deep Soil Sampling
Near the Former Air Force Global Communications Center Underground Storage Tanks
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	AGR-001																							
		AGR-001-000 (0-0.5 ft)			AGR-001-001 (1-2 ft)			AGR-001-004 (4-5 ft)			AGR-001-009 (9-10 ft)			AGR-001-019 (19-20 ft)			AGR-001-029 (29-30 ft)			AGR-001-039 (39-40 ft)			AGR-001-045 (0-0 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
SEMIVOLATILES (UG/KG)																									
4-Chloro-3-methylphenol	NA		UJ	(370)		UJ	(390)		UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Acenaphthene	360000		UJ	(370)		UJ	(390)		UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Anthracene	19000	17	J		16	J			UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Benzo(a)anthracene	610	170	J		69	J			UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Benzo(a)pyrene	61	***140***	J		57	J			UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Benzo(b)fluoranthene	610	220	J		88	J			UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Benzo(g,h,i)perylene	NA	110	J		40	J			UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Benzo(k)fluoranthene	6100	85	J		31	J			UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Butylbenzylphthalate	13000000		UJ	(370)	16	J			UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Carbazole	22000		UJ	(370)		UJ	(390)		UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Chrysene	24000	170	J		71	J			UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Dibenzo(a,h)anthracene	61	30	J			UJ	(390)		UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Fluoranthene	2600000	300	J		180	J			UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Fluorene	300000		UJ	(370)		UJ	(390)		UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Indeno(1,2,3-cd)pyrene	610	96	J		34	J			UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Naphthalene	800000		UJ	(370)		UJ	(390)		UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Pentachlorophenol	2500		UJ	(890)	20	J			UJ	(1000)		U	(1000)		U	(830)		U	(820)		U	(880)		UJ	(910)
Phenanthrene	NA	71	J		93	J			UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
Pyrene	2000000	240	J		160	J			UJ	(410)		U	(410)		U	(340)		U	(340)		U	(360)		UJ	(370)
TPH (MG/KG)																									
TRPH	10	***13***				U	(8.35)		U	(8.71)		U	(8.73)		U	(7.31)		U	(7.13)		U	(7.69)		U	(8)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-47
Analytical Data for Shallow and Deep Soil Sampling
Near the Former Air Force Global Communications Center Underground Storage Tanks
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	AGR-002																							
		AGR-002-000 (0-0.5 ft)			AGR-002-001 (1-2 ft)			AGR-002-004 (4-5 ft)			AGR-002-009 (9-10 ft)			AGR-002-019 (19-20 ft)			AGR-002-029 (29-30 ft)			AGR-002-039 (39-40 ft)			AGR-002-046 (0-0 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
SEMIVOLATILES (UG/KG)																									
4-Chloro-3-methylphenol	NA	90	J			U	(410)		U	(410)		U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Acenaphthene	360000	180	J		70	J			U	(410)		U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Anthracene	19000	180	J		150	J			U	(410)		U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Benzo(a)anthracene	610	***1100***			530			25	J			U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Benzo(a)pyrene	61	***1100***			***460***				U	(410)		U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Benzo(b)fluoranthene	610	***1600***			***690***			23	J			U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Benzo(g,h,i)perylene	NA	720			310	J			U	(410)		U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Benzo(k)fluoranthene	6100	520			250	J		10	J			U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Butylbenzylphthalate	13000000		U	(420)	15	J			U	(410)		U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Carbazole	22000	230	J		120	J			U	(410)		U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Chrysene	24000	930			570			19	J			U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Dibenzo(a,h)anthracene	61	***170***	J		***79***	J			U	(410)		U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Fluoranthene	2600000	2800			1500			53	J			U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Fluorene	300000	87	J		54	J			U	(410)		U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Indeno(1,2,3-cd)pyrene	610	***650***			300	J			U	(410)		U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Naphthalene	800000	31	J			U	(410)		U	(410)		U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Pentachlorophenol	2500	110	J			U	(990)		U	(990)		U	(810)		U	(840)		U	(840)		U	(820)		U	(830)
Phenanthrene	NA	1500			830			31	J			U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
Pyrene	2000000	2200			1100			44	J			U	(330)		U	(350)		U	(350)		U	(340)		U	(340)
TPH (MG/KG)																									
TRPH	10		U	(8.86)		U	(8.67)		U	(8.61)		U	(7.09)		U	(7.39)		U	(7.38)		U	(7.2)		U	(7.33)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-48
Analytical Data for Hydropunch Groundwater Sampling Near the Former Atlas Missile Area Underground Storage Tanks
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	UM-001			UM-002		
		UMW-001-045			UMW-002-045		
		R	Q	QL	R	Q	QL
BTEX (UG/L)							
Toluene	1000	2.8				U	(1)
SEMIVOLATILES (UG/L)							
Butylbenzylphthalate	7300	0.3	J		0.4	J	
Di-n-butylphthalate	3700	0.5	J		0.5	J	
bis(2-Ethylhexyl)phthalate	6	0.6	J		0.7	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-49
Analytical Data for Hydropunch Groundwater Sampling Near the Former Administration Area Underground Storage Tanks
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	UA-001		
		UAW-001-045		
		R	Q	QL
BTEX (UG/L)				
Total Xylenes	10000	4.3	J	
SEMIVOLATILES (UG/L)				
Di-n-butylphthalate	3700	0.5	J	

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-52
Analytical Data for Shallow and Deep Soil Sampling at Geophysical Anomaly at Load Line 3
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	GA-001																	
		GAA-001-000 (0-0.5 ft)			GAA-001-001 (1-2 ft)			GAA-001-002 (2-3 ft)			GAA-001-004 (4-5 ft)			GAA-001-009 (9-10 ft)			GAA-001-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.019	J		0.032	J		0.048	J		0.023	J		0.062	J		0.016	J	
METALS (MG/KG)																			
Aluminum	33852	19100			10100			10400			8520			9490			1650		
Antimony	31		UJ	(0.48)		R			R			R			R			R	
Arsenic	13.5	7.3	J		3.5	J		8.8			9			7.8	J			U	(0.87)
Barium	440	215			137			343			257			231			24.1		
Beryllium	1.52	0.79			0.4			0.66			0.59			0.6			0.1	J	
Cadmium	39	0.52	J		0.21	J		0.52	J		0.61	J		0.56	J			U	(0.12)
Calcium	GRAS	3140			1580			8280			6260			10100			734		
Chromium	37	20.9			11.6			13.5			12.8			13.2			3.3	J	
Cobalt	17.2	9.6			4.7			10.3			10.3			9.7			1.2		
Copper	33.9	16.8			8.8			19.6			20.7			19.4			1.5	J	
Iron	GRAS	19800			10100			17900			16700			16700			1900		
Lead	400	15.6			5.8			12.8			12.9			12.5			2.1	J	
Magnesium	GRAS	3760			2340			4500			4120			6560			542		
Manganese	1083	561			230	J		645	J		724	J		623	J		66.1	J	
Nickel	39.3	22.4			10.9			24.6			25.8			23.1			1.8	J	
Potassium	GRAS	3190	J		1300	J		1820	J		1800	J		2150	J		430	J	
Selenium	390	2	J			U	(1.1)	2.1	J		1.2	J		1.3	J			U	(1.1)
Sodium	GRAS		U	(342)		U	(334)		U	(337)	705				U	(491)		U	(334)
Vanadium	72.5	45.5			25.7			25.2			23			25.1			3.7		
Zinc	119.5	64.9	J		31.4			67.5			61.2			65.2			7.2		
SEMIVOLATILES (UG/KG)																			
2-Methylphenol	3300000		U	(434)		U	(413)		U	(418)		U	(402)		U	(407)	69	J	
4-Methylphenol	330000		U	(434)		U	(413)		U	(418)		U	(402)		U	(407)	101	J	
Benzo(a)anthracene	610		U	(434)		U	(413)		U	(418)		U	(402)		U	(407)		U	(340)
Benzo(b)fluoranthene	610		U	(434)		U	(413)		U	(418)		U	(402)		U	(407)		U	(340)
Benzo(k)fluoranthene	6100		U	(434)		U	(413)		U	(418)		U	(402)		U	(407)		U	(340)
Chrysene	24000		U	(434)		U	(413)		U	(418)		U	(402)		U	(407)		U	(340)
Di-n-butylphthalate	6500000		U	(2936)		UJ	(413)		U	(418)	1425			2666				U	(340)
Fluoranthene	2600000		U	(434)		U	(413)		U	(418)		U	(402)		U	(407)		U	(340)
Phenol	39000000		U	(434)		U	(413)		U	(418)		U	(402)		U	(407)	86	J	
Pyrene	2000000		U	(434)		U	(413)	134	J			U	(402)		U	(407)		U	(340)
bis(2-Ethylhexyl)phthalate	32000		U	(434)		U	(413)		U	(418)		U	(402)		U	(407)		U	(340)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Table A-52
Analytical Data for Shallow and Deep Soil Sampling at Geophysical Anomaly at Load Line 3
Former Nebraska Ordnance Plant, Mead, Nebraska

	Screening Level	GA-002																	
		GAA-002-000 (0-0.5 ft)			GAA-002-001 (1-2 ft)			GAA-002-002 (2-3 ft)			GAA-002-004 (4-5 ft)			GAA-002-009 (9-10 ft)			GAA-002-019 (19-20 ft)		
		R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL	R	Q	QL
EXPLOSIVES (MG/KG)																			
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	1715.2	0.027	J		0.023	J			U	(0.5)		U	(0.5)		U	(0.5)	0.017	J	
METALS (MG/KG)																			
Aluminum	33852	16200			17700				NA		15300			10000			1330		
Antimony	31		UJ	(0.48)		U	(0.47)		NA			R			R			U	(0.4)
Arsenic	13.5	8.5	J		8.7				NA		8			8.5	J			U	(0.73)
Barium	440	208			214				NA		235			222			17		
Beryllium	1.52	0.76			0.79				NA		0.73	J		0.58			0.08	J	
Cadmium	39	0.43	J		0.6	J			NA		0.57	J		0.5	J			U	(0.1)
Calcium	GRAS	3300			3550				NA		3860			8050			472		
Chromium	37	18.2			19.7				NA		17.1	J		13.9			2	J	
Cobalt	17.2	10			10.1				NA		10			8.9			0.69	J	
Copper	33.9	17.8			18				NA		19.6			18.1			0.99	J	
Iron	GRAS	19700			20400				NA		19500			17600			1730		
Lead	400	14.8			15.8				NA		15.8			11.5			1.7	J	
Magnesium	GRAS	3680			3940				NA		3920			6080			497		
Manganese	1083	604			607				NA		631			460			38.6		
Nickel	39.3	23.3			24.4				NA		23.5			19.8			1.4	J	
Potassium	GRAS	3000			2960				NA		2470	J		2070			350		
Selenium	390		U	(1.1)	2	J			NA			UJ	(1.1)		UJ	(1.1)		U	(0.91)
Sodium	GRAS		U	(338)	150	J			NA		223	J			U	(339)	208	J	
Vanadium	72.5	38.2			42.1				NA		29.4	J		26.9			3.7		
Zinc	119.5	64.1	J		67.7				NA		72.1			59.8	J		5.8		
SEMIVOLATILES (UG/KG)																			
2-Methylphenol	3300000		U	(423)		U	(423)		U	(388)		U	(407)		U	(418)		U	(344)
4-Methylphenol	330000		U	(423)		U	(423)		U	(388)		U	(407)		U	(418)		U	(344)
Benzo(a)anthracene	610		U	(423)		U	(423)	69	J			U	(407)		U	(418)		U	(344)
Benzo(b)fluoranthene	610		U	(423)		U	(423)	140	J		49	J			U	(418)		U	(344)
Benzo(k)fluoranthene	6100		U	(423)		U	(423)	148	J		52	J			U	(418)		U	(344)
Chrysene	24000		U	(423)		U	(423)	76	J			U	(407)		U	(418)		U	(344)
Di-n-butylphthalate	6500000		U	(423)		U	(423)		U	(388)		U	(407)		U	(418)		U	(344)
Fluoranthene	2600000		U	(423)		U	(423)	56	J			U	(407)		U	(418)		U	(344)
Phenol	39000000		U	(423)		U	(423)		U	(388)		U	(407)		U	(418)		U	(344)
Pyrene	2000000		U	(423)		U	(423)	60	J			U	(407)		U	(418)		U	(344)
bis(2-Ethylhexyl)phthalate	32000		U	(423)		U	(423)	1691				U	(407)	531				U	(344)

Note: 1) NA=screening level is not available. 2) R=result, Q=qualifier, QL=quantitation limit(CRDL/CRQL) 3) Results above screening level are underlined and italicized.

Appendix B

B07NE003703-04897

UXO AVOIDANCE SURVEY REPORT
PROVIDED BY
UXB INTERNATIONAL, INC.
14800 CONFERENCE CENTER DR.
SUITE 100
CHANTILLY, VA. 22021
(703) 803-8904

AT
THE FORMER NEBRASKA ORDNANCE PLANT (NOP)

FOR

WOODWARD-CLYDE
100975 El Monte, Suite 100
Overland Park, KS

UXB International, Inc.
Ordnance and Explosive
Waste Services

1.0 INTRODUCTION

This project report is submitted by UXB International, Inc. to Woodward-Clyde Federal Services, Inc. on completion of UXO Ordnance and Explosive Waste services provided at the former Nebraska Ordnance Plant (NOP), near Mead, Nebraska during the period of March 1, 1995 thru March 24, 1995.

1.1 APPENDICES

The scope of work is included as Appendix (A) and is summarized in section 2.0. Appendix (B) is a copy of the daily work log submitted by the UXB Project Leader.

2.0 SCOPE OF WORK

The Scope of Work is included in this report as Appendix (A) and is summarized here. OEW Survey will consist of preliminary Clearance surveys, shallow soil sampling, location clearance and monitoring surveys, deep soil boring location clearance and monitoring surveys.

3.0 PERFORMANCE OF FIELD WORK

All UXO Services have been completed at the former NOP with no job related accidents. No ordnance items or explosive materials were found during the field work, therefore no support requests were made to The Cognizant Active Duty Military EOD Unit for the former Nebraska Ordnance Plant.

Tom Yancey
Project Manager

14800 Conference Center Drive • Suite 100 • Chantilly, Virginia 22021-3806
Phone: (703) 803-8904 • Fax: (703) 803-9355

APPENDIX A

SCOPE OF WORK

Page 1

1 MAR 95

0730 ARRIVE Woodward Clyde Site Trailer
Met with Lisa Travaglin WCC Site
supervisor. We discussed the work plan
and realized that we are expected
to perform a 100% visual surface
clearance of all appropriate areas,
totalling 104 acres. After a little
discussion I sent the UXB crew to
Site 1, WDA No. 3 of former Nike
Maintenance Area to perform a
100% clearance (surface) of approximately
1/2 acre. Schoenstdts were used
as the area ~~[illegible]~~ has tall grass
and some brush on it.
UXB safety brief completed (UXB only)
and crew is working. The only
other personnel on site is Lisa
of Woodward Clyde. However she
is not going to any site today. Therefore
no briefing for her.
I remained at the site trailer

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TO STRAIGHTEN OUT THE DIFFERENCES
OF OPINION ABOUT THE WORK PLAN,
1030 AFTER SPENDING 3 HRS TRYING TO
GET A PLAN OF ATTACK FOR 104 ACRE
CLEARANCE MANY OPTIONS WERE
DISCUSSED TO NO AVAIL I RETURNED 1200
TO CHECK ON MY CREW AT SITE 1.
WHEN I ARRIVED, THE AREA AROUND
THE PARKING PAD HAD JUST COMPLETED.
169 ANOMALIES WERE DISCOVERED IN
AN AREA SLIGHTLY LESS THAN ½ ACRE,
ALL BELOW SURFACE AND FLAGGED.
1045 AFTER A SHORT BREAK TO GET WARM
(-15 WIND CHILL) I HAD THE CREW 1230
MOVE TO SITE 1, WDA 1N (3.6 ACRES) 1315
AND BEGIN A 100% VISUAL
CLEARANCE. I RETURNED TO THE
W.C.C. SITE TRAILER TO LEARN THAT
NO [redacted] DECISION HAD BEEN MADE.
AFTER SEVERAL CONVERSATION WITH
TOM YANCY (UXB PROJECT MANAGER) AND

RICK NUEZ (W.C.C. PROJECT MANAGER) OPTIONS OF DEMOBING 1 CREW WERE DISCUSSED. HOWEVER THIS WILL MAKE IT DIFFICULT TO COMPLETE THE SCOPE OF WORK IN A TIMELY AND EFFICIENT MANNER.

1200 I RETURNED TO SITE 1 TO HAVE THE CREW BREAK FOR LUNCH AND DISCOVERED THAT THE 3 MAN TEAM HAD COMPLETED APPROXIMATELY 3/4 OF SITE 1, WDA 1N. WE ALL RETURNED TO THE SITE TRAILER AND INFORMED LISA OF THE AMOUNT OF GROUND COVERED IN THE 1 HOUR 15 MIN TIME PERIOD.

1230 WE DEPARTED FOR LUNCH

1315 RETURN FROM LUNCH AND W.C.C. WANTED US TO HAVE 1 TEAM START ON SITE 1, WDA 3N (APPROXIMATELY 13 ACRES) AS A TEST TO LEARN HOW MANY ACRES COULD BE COVERED UNTIL THE END OF THE DAY. THE OTHER TEAM WOULD FINISH SITE 1 WDA 2N

1345 SITE 1 WDA 2N completed AND THIS TEAM IS MOVING TO SITE 6 FORMER NORTH BURNING GROUND TO LOCATE AND MARK 10 SHALLOW SOIL SAMPLE POINTS AND 2 DEEP SOIL SAMPLE POINTS.

1545 AFTER POLLING POINTS (TRIANGULATION) WITH ONLY 2 MEN (GUSTY WINDS) WE FINALLY LAID IN 5 POINTS AT SITE 6 - THIS IS DIFFICULT WITH ONLY 2 MEN HENSE THE DELAY. 1615

WE RETURNED TO SITE 1, WDA 3N TO MEASURE THE AREA SWEPT BY THE OTHER TEAM AS THEY WERE STAKING THEIR STOPPING POINT. THE TEAM CLEARED 481 FT OF THE SHORTER LEG (481' X 700') OR 7.7 ACRES. WITH ANY SNOW COVERING THE GROUND THIS CLEARANCE WILL TAKE MUCH LONGER AS SCHOONSTEDTS WILL HAVE TO BE USED.

WE RETURNED TO THE SITE

TRAILER TO discuss with W.C.C. what The decission will be. We will possibly be dropping A TEAM ANY WAY - AS IT APPEARS 1 TEAM is covering ground Very FAST. Hope IT doesn't SNOW OR THAW OUT.

1615 VxB DEPART FOR The DAY.

EQUIPMENT USED: 2 Vehicles, 2 Schonstedts Miscellaneous hand Tools.

4 Personnels - 32 mhours

2 MAR 95

0730 ARRIVE SITE TRAILER - SAFETY BRIEF completed. ONE TEAM DISPATCHED TO SITE 1, WDA #1N + WDA #2N TO USE SCHONSTEDTS TO CLEAR ALL AREAS WITH SNOW COVER. SECOND TEAM RETURNED TO SITE 6, FORMER NORTH BURNING GROUND TO FINISH PULLING POINTS AND SET UP AND CLEAR SAMPLE POINTS (BOTH SHALLOW AND DEEP).

1200 LUNCH BREAK

1245 RETURN FROM LUNCH - TEAMS RETURNED TO ORIGINAL ASSIGNMENTS.

1630

1500 SITE 1 WDA #1 COMPLETED, - WDA #2 481'X700' COMPLETED AND TEAM IS SWEEPING REMAINING HALF OF WDA #2

1600 SITE 6 NORTH BURN AREA - ALL POINTS PULLED - ALL SAMPLE POINTS MARKED - BOTH ACCESS WAYS FOR THE DEEP SAMPLE POINTS ESTABLISHED AND CLEARED. SHALLOW SAMPLE POINTS ACCESS LANES CLEARED (5EA ONLY) ONE POINT HAD

To be moved 4' west of original position ~~to~~ Due to anomalies on the site this sample point does not have a numerical designation at this time but is marked on the North Burning area map. A sixth point is in a highly contaminated area but, has not been moved as time ran out today. Personnel returned to the site trailer and I briefed Lisa on the days happenings.

1630 Depart for the day

Equipment used: 2 vehicles, 2 schonstedts, 2 MK 26's (Forresters), miscellaneous hand tools and flagging material.

4 ea Personnel - 32 m. hours.

3 MAR 95

0730 ARRIVE SITE TRAILER - Pick up Radios - SAFETY BRIEF Completed. 1 TEAM TO SITE 1 WDA #2 (LARGE AREA) AND 1 TEAM TO FORMER NORTH BURNING GROUND (SITE 6).

0900 NORTH BURNING GROUND Completed with exception of DOWN HOLE CLEARANCE OF BOTH Deep Soil Sample LOCATIONS. 2nd TEAM moved TO SITE 1 WDA #2 LARGE AREA.

00 NORTH BURNING GROUND (SITE 6) MAP completed. AND WDA #3N (SITE 1) PARKING LOT GRID Completed. (169 ANOMALIES).

1200 SITE 1, WDA #2 (LARGE AREA) completed LUNCH BREAK

30 RETURN FROM LUNCH - CREW moved TO SITE 2, WDA SE Bomb Booster AREA. Due TO 1 vehicle HAVING ITS Keys Locked inside A THREE MAN CREW is working SITE 2. I'm TRYING TO FIND A LOCKSMITH.

1500 LOCKSMITH FINALLY ARRIVED + Vehicle + EQUIPMENT moved TO SITE 2.

1545 SITE 2 COMPLETED FOR THE DAY. ACRES CLEARED (572'X700')-9. RETURN TO SITE TRAILER TO BRIEF LISA.

1600 DEPART FOR THE DAY

EQUIPMENT USED: 2 VEHICLES, 2 SCHONSTEDTS MISCEL. HAND TOOLS.

4 PERSONNEL - 32 m HOURS.

4 MAR 95

0730 ARRIVE SITE TRAILER - Pick up Radios
SAFETY BRIEF complete - CREW clearing
SITE 2 (BOMB BOOSTER AREA) plowed FIELD.
900 SITE 2 completed (BOMB BOOSTER AREA)
SURFACE CLEARANCE ONLY. CREW moved
TO SITE 3 (AMMONIUM NITRATE PLANT)
1200 LUNCH
230 RETURN FROM LUNCH - Sweeping SITE 3
1430 SITE 3 completed - CREW moved TO SITE 7,
DEMO. GROUND
600 DEPART FOR THE DAY.
EQUIPMENT USED: 2 Vehicles, 2 Schonstedts
miscel. HAND TOOLS. 4 RADIOS.
4 personnel 32 m. HOURS

5 MAR 95

0730 ARRIVE SITE TRAILER - pickup RADIO - SAFETY BRIEF completed. CREW working SITE 7, Demo GROUND. AREA IS SNOW covered DUE TO LAST NIGHTS SNOW.

1200 LUNCH.

1230 RETURN FROM LUNCH - STILL WORKING SITE 7 Demo. GROUND.

1500 SITE 7 Demo GROUND completed. CREW moved ON TO DETONATION CRATER 1+2 - Slight Delay AS The CATTLE KNOCKED All The STAKES DOWN - HAD TO LOCATE AND REINSTALL Them.

1600 DEPART FOR The DAY.

EQUIPMENT USED: 2 Vehicles, 2 SCHONSTEDTS, 4 RADIOS, MISCEL. HAND TOOLS

4 PERSONNEL - 32 M.HOURS

6 MAR 95

0730 ARRIVE SITE TRAILER pick up RADIOS. -
SAFETY BRIEF Completed.
UXB CREW WORKING DETONATION
CRATERS 1+2 AT SITE 4.
1000 DETONATION CRATER 1+2 SITE 4 Completed.
CREW moved TO DET. CRATERS #3 AND
1030 Completed AT DET CRATER #3, SITE 4 AND
moved TO CRATERS 4+5.
1200 SITE 4 DET. CRATERS 4+5 completed.
LUNCH BREAK - HEAVY SNOW
230 RETURN FROM LUNCH - CREW HAS moved TO
SITE 5, WDA #1, FORMER ATLAS Missile AREA.
Woodward Clyde SITE MANAGER ARRIVED TODAY
Chris FITZGERALD. LISA TRAVAGLIN HAS
BOEN THE INTERUM SUPERVISOR.
1600 DEPART FOR THE DAY. 4 PERSONNEL 32 MHOURS
EQUIPMENT USED: 2 Vehicles, 2 SCHONSTEDS,
MISCEL HAND TOOLS, 4 RADIOS

7 MAR 95

0730 ARRIVE SITE TRAILER - Pickup Radio - SAFETY BRIEF completed. SAFETY BRIEF given TO 5 WOODWARD Clyde Personnel AS Today is Their FIRST DAY ON SITE.
UXB CREW WORKING SITE 5, WDA #1 FORMER ATLAS Missile AREA.
Temp 5° - WIND 20-25 GUSTING TO 31 KTS. Wind chill -35°F. SAFETY BRIEF CONSISTED OF CLEARANCE + ESCORT Procedures, AN ORDNANCE BRIEF AND HyperThermia (layered clothing, Frequent Breaks etc.

1200 LUNCH BREAK

1230 RETURN FROM LUNCH - STILL WORKING SITE 5 WDA #1. 8°F, WIND 25 KTS, ~~wt~~ WIND chill -31°F, CLEAR + SUNNY.

1600 CLEARANCE Sweeps completed FOR The DAY CREW TAKING TIME TO Clear equipment/Vehicles.

1700 DEPART FOR The DAY
EQUIPMENT USED: 2 Vehicles, 2 Schonstedts, 4 RADIOS, MISCEL. HAND TOOLS.
4 PERSONNEL - 36 M. HOURS

8 MAR 95

0730 ARRIVE SITE TRAILER, pick up RADIO-
Give SAFETY BRIEF AND CREW WORKING
SITE 5, WDA #1

0930 SITE 5, WDA #1 Completed, 100% Schongstedt
CLEARANCE. CREW MOVED TO SITE 5
WDA #2.

1200 LUNCH BREAK

1230 RETURN FROM LUNCH STILL CLEARING SITE 5
WDA #2.

1600 SITE 5 CLEARING COMPLETED FOR THE DAY
CREW IS CLEANING VEHICLES + EQUIP OF
ICE + SNOW

1700 DEPART FOR THE DAY.
EQUIPMENT USED: 2 VEHICLES, 2 SCHONGSTEDTS.
4 RADIOS, + MISCEL. HAND TOOLS.
4 PERSONNEL - 36 M-HOURS

9 MAR 95

0730 ARRIVE SITE TRAILER - pickup RADIO - SAFETY BRIEF Completed. CREW is BACK ON SITE 5 WDA #2. WIND chill -18°F.

1200 LUNCH BREAK

1230 RETURN FROM LUNCH, CREW sweeping SITE 5 WDA #2 AGAIN.

1600 SITE 5 WDA #1 CLEARANCE Complete. However we must RETURN TO FLAG A LARGE DISPOSAL AREA ON THE EAST END OF THE SITE (old CAR PARTS FENCE, WIRE etc).
CREW cleaning equip/vehicle, 1 hour.

~~1700~~ DEPART FOR THE DAY

EQUIPMENT USED: 2 Vehicles, 2 SCHONSTEDTS 4 RADIOS + MISCEL. HAND TOOLS.
4 PERSONNEL - 36 M HOURS

10 MAR 95

0730 ARRIVE SITE TRAILER - pickup Radio - SAFETY BRIEF completed. CREW HAS RETURNED TO SITE 5, WDA #1 TO FLAG The DUMP AREAS Called UXB OFFICE To make Flight ARRANGEMENTS FOR MARK HUGHES - iTENERARY will be FAXed To our MoTel.

0900 SITE 5, WDA #1 Dump AREA Flagged - CREW moved To The South Burning GROUND To START CLEARANCE

0915 START CLEARANCE OF The SOUTH BURNING GROUND SITE 6.

1200 SITE 6, SOUTH BURN AREA COMPLETED. LUNCH BREAK.

1230 RETURN FROM LUNCH - START CLEARANCE OF SITE 6 LANDFILL N. OF PROVING GROUNDS

1600 STOP WORK AT SITE 6 LANDFILL AREA. COMPLETED APPROXIMATELY 1/3 OF AREA AND ENCOUNTERED 288 ANOMALIES plus 2 LARGE AREAS OF Solid CONTACTS.

DEPART FOR 4 DAY BREAK - 2 personnel To Demob. SATURDAY MORNING - Vehicle

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CLEAN UP FOR TURN IN AT ~~[illegible]~~ AVIS
AND COMPANY VAN FOR DEPARTURE
BACK TO CHANTILLY VA.
4 PERSONNEL - 40 M.HOURS
EQUIPMENT USED: 2 VEHICLES, 2 SCHONSTEDTS
4 RADIOS AND MISCELL HAND TOOLS.

15 MAR 95

WEATHER: FOG 41° CALM — SUNNY 65-70°F

0730 ARRIVE SITE TRAILER - SAFETY BRIEF COMPLETED
PERSONNEL: BOOKER - PROJECT LEADER.
NORBERG - SUPERVISOR.
RETURN TO SITE & LANDFILL AREA NORTH 1230
OF THE PROVING GROUNDS - HEAVY GRASS AREA
0830 SITE & LANDFILL AREA IS SATURATED WITH
ANOMALIES. TO THE POINT THAT IT IS
ALMOST IMPOSSIBLE TO PROVIDE CLEAR LANES.
FOR VEHICLES. I'M GOING BACK TO THE 1300
SITE TRAILER TO DISCUSS THIS SITE WITH
LISA. THE ANOMALIES ARE SPACED SO
CLOSE TOGETHER THAT ~~IS~~ IT'S NOT
FEASIBLE TO TRY TO FLAG THEM ~~ALL~~ ALL.
0900 AFTER ~~[illegible]~~ A DISCUSSION WITH LISA (W.C.C)
WE DECIDED TO TRY AND LOCATE 9 CLEAR
POINTS TO TAKE SHALLOW SOIL SAMPLES.
1200 WE MARKED 12 SHALLOW SOIL SAMPLE POINTS
AND TRIED TO PROVIDE ACCESS LANES
FOR DEEP SOIL SAMPLE POINTS, BUT
COULD FIND NO CLEAR AREAS OF ACCESS

without intrusive work. Therefore on site 6, Landfill there remains 12 shallow soil sample points.

Lunch Break

1230 Return from lunch and flagged the 2 anomalies in site 6, South Burn Area. Last week the ground was frozen to hard to get pin flags in the earth. We painted the soil instead.

1300 Back at site 6 proving grounds area, trying to locate clear points for shallow soil sample points and possibly deep sample points. South Burn Area anomalies flagged + area completed.

1630 Completed shallow soil sample locations:

Site 6 - Landfill area - 12 shallow soil sample points. '0' deep sites, could not clear access lanes to any of the sample points

Site 6, Proving Ground - 3 shallow sample locations, "0" deep - again we could

NOT CLEAR ANY ACCESS LANES.

SITE 6; AREA immediately SOUTH of The PROVING GROUNDS - 6 SHALLOW SAMPLE POINTS AND AGAIN "0" Deep SAMPLE POINTS Due TO COUNTLESS ANOMALIES. 0730

DEPART WORK SITE FOR The SITE TRAILER TO BRIEF LISA TRAVAGLIN (W.C.C.) ON The days ACCOMPLISHMENTS

1700 DEPART FOR The DAY.

EQUIPMENT USED: 1 Vehicle, 1 MK26 FORRESTER ORDNANCE LOCATOR, 2 SCHONSTEDTS AND MISCEL. HAND TOOLS. 0900

2 PERSONNEL - 20 m hours

Jimmy J. Booker

1000

16 MAR 95

WEATHER: 41° Fog —— 71° SUNNY-CLEAR

Personnel: Booker - Project Leader

[redacted] NORBERG - Supervison

0730 ARRIVE PATTS RENTAL CENTER TO PICK UP POWER AUGER BUT, IT WASN'T READY - WANTED US TO RETURN AT 0900 & should be ready. yesterday - LISA TRAVAGLIN WANTED US TO START USING THE AUGER THIS MORNING INSTEAD OF FRIDAY AS ORIGINALLY PLANNED.

0900 RETURNED TO PATTS RENTAL AND picked up THE POWER AUGER. AND DEPARTED FOR N.O.P. MEAD - STOPPED TO FUEL AUGER AND FUEL CAN AND ARRIVED AT W.C.C. SITE TRAILER.

1000 LISA TRAVAGLIN CAME OUT TO SITE 6 NORTH BURN AREA. TO check THE AREA WE (UXB) LAID OUT & CLEARED FOR THEM - 10 SHALLOW SOIL SAMPLE SITES & 2 DEEP SITES. AFTER SOME DISCUSSION she DECIDED THAT THE MAP PROVIDED TO US. WAS NOT TO SCALE AS WE WERE TOLD.

1100 We Returned To The SITE TRAILER AND checked AN AERIAL VIEW photo AGAINST A TOPOGRAPHICAL MAP (THAT we did NOT have) AND decided THAT almost All OF SITE 6 NORTH BURN AREA WAS STAKED improperly.

AFTER LISA Called CHRIS AND Between Them decided TO Remark The Topo MAP. AND CHRIS FAXED US A copy. Once we had This copy (FAX) yes.. The AREA WAS STAKED out improperly

1200 DEPART FOR LUNCH.

1230 RETURN FROM LUNCH - Picked up 300' Surveyors TAPES AND RETURNED TO SITE 6 NORTH BURN AREA AND BEGAN All over AGAIN except 4 shallow Sample POINTS on The EAST END OF The SITE.

1640

1645

1700

1640 All Required Sample Points have been Relocated To The New Requirements and each Point cleared To Depth of 3' except The 2 Deep Sample Site. Access Lanes have NOT Been cleared as yet. Old Access Lanes have Been Removed. New Lanes will Be Restablished Tomorrow.

1645 Depart For Site Trailer To outbrief

1700 outbrief Completed. Depart For The Day

Equipment used: 1 Vehicle, 1 MK26 Forester ord. Locator, 2 schonstedts, 1 power auger + miscel hand tools

2 Personnel - 20 mhours

Jimmy J. [illegible]

17 MAR 95

WEATHER: Cloudy 65°

PERSONNEL: BOOKER - Project Leader 1600

NORBERG - Supervisor

0730 ARRIVE SITE TRAILER - Pickup Radio - SAFETY BRIEF Completed.

Depart for Site 6 NORTH BURN AREA.

0800 ARRIVE BURN AREA - Relocating ACCESS LANES

1030 All ACCESS LANES completed - START AUGER Hole FOR Down hole CLEARANCE OF Deep SAMPLE POINT A1 1700

1230 SAMPLE POINT A1 10' Downhole CLEARANCE completed. BREAK FOR LUNCH

1300 RETURN FROM LUNCH AND MOVED TO SAMPLE POINT A2, SITE 6 NORTH BURN AREA.

1330 STOP WORK AT SITE 6 AND proceeding TO The Bomb BOOSTER AREA, SITE 2 TO LOCATE 3 DEEP Soil SAMPLE POINTS AT The direction OF LISA TRAVAGLIN

1430 SAMPLE POINTS LOCATED. RETURN TO SITE 6, TO FINISH Downhole CLEARANCE

OF SITE A2, NORTH BURN AREA.

1600 FINALLY Completed SITE A2 N. BURN AREA
SITE A2 Downhole cleared TO 10' DEPTH.
BOTH sample POINTS (A1+A2 - see MAP)
were HEAVY clay - Rough AUGERING.
EQUIPMENT loaded + moved TO
SITE 2.

1700 Deep Soil Sample POINTS AT SITE 2
ACCESS LANES will Be Finished
TOMORROW. DEPART FOR The DAY
EQUIPMENT USED: 1 Vehicle, 1 MK26
ORDNANCE LOCATOR, 2 schonstedts
1 POWER AUGER, 1 HAND AUGER
AND MISCEL HAND Tools.
2 PERSONNEL - 20 MN hrs

18 MAR 95

WEATHER: Cloudy 41° 15-20 mph winds.
PERSONNEL: BOOKER - PROJECT LEADER.
NORBERG - SUPERVISOR.

0730 ARRIVE SITE TRAILER - pick up RADIO -
SAFETY BRIEF completed. START
ACCESS LANE + DOWNHOLE CLEARANCES
AT SITE BOMB BOOSTER AREA. BB008
000 Deep Soil SAMPLE BB008 ACCESS LANE
AND DOWNHOLE CLEARANCES completed.
DEPART FOR BANK + LUNCH AT FREMONT.
230 RETURN TO SITE 2 START Deep
Soil SAMPLE BB007
1430 SAMPLE POINT BB007 completed -
START BB006
1600 SAMPLE POINT BB006 ACCESS LANE +
DOWNHOLE CLEARANCES COMPLETED.
CHRIS FITSGERALD ARRIVED ON SITE AND
WANTED TO CLEAR THE LAST Deep
Soil SAMPLE SITE (BB001) AND 4EA
SHALLOW SAMPLE POINTS (BB002, 3, 4, + 5)
1630 SITE 2 BOMB BOOSTER AREA COMPLETED

1700

EXCEPT FOR ACCESS LANE & DOWNHOLE
CLEARANCES FOR DEEP SAMPLE POINT
BB001 - will be STARTED AND COMPLETED
TOMORROW.
RETURN TO SITE TRAILER FOR OUTBRIEF
1700 OUTBRIEF COMPLETED - DEPART FOR THE DAY
EQUIPMENT USED: 1 Vehicle, 1 MK26 ORDNANCE
LOCATOR, 2 SCHONSTEDTS, 1 POWER AUGER, +
1 HAND AUGER + MISCEL HAND TOOLS.
2 PERSONNEL - 20 MHOURS

Jimmy J. Booker

18 MAR 95

WEATHER: 36°F 15-25 mph WINDS Cloudy

PERSONNEL: BOOKER - Project Leader

NORBERG - Supervison

0730 ARRIVE SITE TRAILER - pickup RADIO - SAFETY BRIEF Completed. DEPART FOR SITE 2 BOMB BOOSTER AREA, Deep Soil Sample. BB001

0745 ARRIVE SAMPLE SITE - START CLEARANCE

0945 DOWNHOLE + ACCESS LANE CLEARANCES completed ON SAMPLE SITE BB001. BOMB BOOSTER AREA completed FOR UXB. RETURN TO SITE TRAILER.

1000 AWAITING LOCATION OF SOIL BORINGS AT SITE 1.

015 SITE 1 NOW HAS 3 SOIL BORINGS MARKED AND AM TRYING TO FIGURE AWAY TO THEM WITHOUT CARRYING ALL ~~our~~ OUR GEAR ALL THE WAY OUT. CHRIS FITZGERALD SAID THAT he HAS A 4 wheel DRIVE DUALLY THAT we COULD USE.

1100 ALL GEAR CHANGED OVER TO THE

1230

1300

1400

1500

1600

1700

4 wheel Drive and we started
Downhole clearance of Site 1
Area "B" (see map)

1230 Soil Boring Completed Site 1
Sample Point #NMA003. Depart for lunch.

1300 Return from lunch start Downhole
Clearance Site 1 Area "A" Sample Point
#NMA001

1400 Downhole clearance complete Sample Point
#NMA001. START Sample Point #NMA002.

1500 Downhole clearance complete Sample Point
#NMA002. START Sample Point
Site 1 Area "B" #NMA004

1600 Downhole clearance complete Site 1 Area "B"
Sample Point #NMA004. START sample Point
#NMA005, Site 1 Area B.

1700 Downhole clearance completed. Site 1 Area "B"
Sample Point #NMA005. - Site 1 Area "A" + B.
Nike Maintenance Area complete for UXB.
Equipment used: 1 vehicle 1 MK26 ordnance
Locator, 2 schonstedts. 1 Power Auger, 1 hand

PAGE 30

AUGER, MISCEL. HAND TOOLS.
2 PERSONNEL - 20 M HRS.

0730

0900

20 MAR 95

WEATHER: 41° Cloudy WINDS Gusty 30mph.
Personnel: Booker - Project Leader
NORBERG - Supervison

0730 ARRIVE SITE TRAILER - SAFETY BRIEF Completed. with exception of the Drill crew. The Drill crew doesn't arrive until 1200.

Called Tom Yancey To Request A New MK 26 Locator CABLE For The Downhole/WATER mode. The CABLE we have has A SHORT AT The probe CONNECTOR END. AND is unusable.

0900 SPENT The morning calling every Repair shop I could Find in The phone book. I Finally got A Lead ON A place in Bellvue Ne. (Suburb OF OMAHA). AFTER discribing The CABLE CONNECTOR To Them ON The phone - They thought They could Fix it.

0930 I departed for Computer Cable Company of Bellevue.

1045 Finally found the cable company. After examination of the connector and its design (waterproofing) and apparent military makeup the cable company refused to repair it. 1530

200 Returned to Mead. Lunch break

1230 Lunch break over - Returned to W.C.C. site trailer to discuss the situation with Chris Fitzgerald, and he isn't available so we are standing by.

430 Finally met with Chris and Lisa Traughin. Since they have not marked anymore sample sites and they are busy with the drill crew and utilities people, they won't have time to mark any

SAMPLE LOCATIONS AND THE MK26 CABLE WON'T ARRIVE UNTIL AROUND 1000 HRS. TOMORROW.

IT WAS decided THAT when The CABLE ARRIVES we will RETURN TO N.O.P. MEAD.

1530 DEPART FOR THE DAY

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21 MAR 95

WEATHER: 50° CLEAR SUNNY — 70° CLEAR WINDY

PERSONNEL: BOOKER - PROJECT LEADER

NORBERG: SUPERVISOR

1730

1030 RECEIVED MK26 LOCATOR CABLE FROM CORPORATE OFFICE - CHECKED OUT MK26 - FUNCTION TEST OKAY. DEPART FOR SITE TRAILER.

1130 FARLY LUNCH BREAK

1200 LUNCH BREAK COMPLETED. ARRIVE SITE TRAILER. LISA TRAVAGIN HAS MARKED THE AMMONIUM NITRATE SITE. DEPART FOR SITE 3.

1800

230 ARRIVE SITE 3 AMMONIUM NITRATE AREA. ACCESS LANE AND DOWNHOLE CLEARANCE START ON DEEP SAMPLE SITE #ANA002

415 DEEP SAMPLE SITE #ANA002 COMPLETED. MOVED TO SAMPLE SITE #ANA001 AND START ACCESS LANE + DOWNHOLE CLEARANCE

1545 COMPLETED SAMPLE SITE ANA001 - AMMONIUM NITRATE SITE 2 COMPLETED FOR UXB. MOVED TO SITE 7 DEMOLITION GROUNDS. ARRIVE DEMOLITION GROUNDS SITE 7 START

ACCESS LANE AND DOWNHOLE CLEARANCES OF
DEEP SAMPLE POINT # DGA004.
1730 DEEP SAMPLE POINT DGA004 COMPLETED.
THIS WILL BE THE ONLY SAMPLE POINT
AT THIS SITE TO HAVE AN ACCESS LANE.
AS THE REMAINDER OF THE SITE HAS
BEEN CLEARED WITH SCHONSTEDTS.
THE 3 REMAINING ~~use~~ SAMPLE POINTS
ARE IN THE CLEARED AREA.
RETURN TO SITE TRAILER FOR OUTBRIEF
1800 DEPART FOR THE DAY
EQUIPMENT USED: 1 VEHICLE, 1 MK26 LOCATOR,
2 SCHONSTEDTS, 1 POWER AUGER, 1 HAND AUGER
AND MISCEL. HAND TOOLS.
2 PERSONNEL: 16 MHRS.

22 MAR95

WEATHER: 40° Cloudy 15-25 winds

Personnel: Booker - Project Leader

NORBERG - Supervison

0730 ARRIVE SITE TRAILER - pick up Radio - Safety Brief completed. Depart for Demo Area Site 7

0800 ARRIVE SITE 7 DEMO AREA - START Deep Sample Point #DGA003 Downhole Clearance.

0930 Sample Point #DGA003 Completed - Cleared Through 10' Depth. START Sample Point #DGA002

1045 Sample Point #DGA002 Completed - Cleared Through 10' Depth. START Sample Point #DGA001

1200 Sample Point #DGA001 Cleared Through 10' Depth. Site 7 Demo. Area Downhole and Access Lane Clearances completed for VXB. LUNCH BREAK

1230 Return from Lunch - at this time we have no more sample locations marked so we are standing by. W.C.C. is awaiting interpretation of Geophysics from

1530

1600

Denver for placement of the remaining 7 sample points.

1530 I just received notification from Lisa Travaglin that there are no new sample point locations as yet, and therefore UXB is no longer required today.

1600 All equipment stowed - depart for the day

Equipment used: 1 vehicle, 1 MK26 locator, 2 schonstedts, 1 power auger, and 1 hand auger + miscel. hand tools.

2 personnel 16 m.hrs

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23 MAR 95

WEATHER: 34° Cloudy 10-15 winds

Personnel: Booker - Project Leader

NORBERG - Supervisor.

0730 ARRIVE SITE TRAILER - Pickup RADIO - SAFETY BRIEF Completed. DEPART FOR SITE 1 AREA C (PARKING LOT). CLEARED Deep SAMPLE POINT # NMA 006 + NMA 007. AND AM AWAITING ARRIVAL OF THE DRILL CREW To perFORM THE DOWN hole CLEARANCE.

0815 START Downhole CLEARANCE of Deep Sample Point # NMA 006

0915 Sample Point # NMA006 COMPLETED Downhole CLEARED THROUGH 10'.

1000 START Downhole CLEARANCE OF Deep SAMPLE POINT NMA007 AT SITE 1.

1045 Sample POINT NMA007 COMPLETED. Downhole CLEARED THRU 10'. ALL Deep Sample Points ON SITE 1 WERE CLEARED WITH The MK26 Ferrous ORDNANCE LOCATOR. SITE 1 Completed FOR UXB.

1100

1130

1230

1300

1350

1500

1610

1100 Returned To Trailer To Find out if Sample Point Locations have been Faxed in For Site 5. They have AND we are returning To Site 5 with Chris Fitzgerald To Assist in Their location.

1130 First Deep Sample Point Located AND UXB START Downhole Clearance of Sample Point AMA008

1230 Lunch Break.

1300 Return From Lunch - Resume work on Sample Point AMA008

1350 Deep Sample Point AMA008 Completed. Cleared Through 10' ~~Deept~~ Depth with MK26 Locator. Team moved To ~~AMA~~ Sample Site AMA006

1500 Sample site AMA006 completed. Cleared Through 10' Depth. with MK26 Locator. START Deep Sample Site AMA003

1610 Sample Site AMA003 Completed To A 10' Depth with The MK26 Locator Site 5 O-WDA #2 Completed For UXB

Team moved to site 5 WDA #1 to locate Deep Sample Points AMA001 and AMA002.

1630 Located both sample points but, will start tomorrow.

645 Return to site trailer - unload equipment and out brief.

1700 Depart for the day.

Equipment used: 1 Vehicle, 1 MK26 locator, 2 schonstedts, 1 power auger 1 hand auger, and miscel hand tools.

2 Personnel - 20 MHRS

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24 MAR 95

WEATHER:

PERSONNEL: Booker - Project Leader
Norberg - Supervison

0730 ARRIVE SITE TRAILER - Pickup Radio - Safety Brief Completed. ~~Do~~ Load Equipment, Depart for Site 5 WDA #1

0800 Arrive Site 1 Deep Sample Point #AMA001 START Downhole Clearance.

0900 Sample Point AMA001 completed - Cleared Through 10' Depth.

0915 Moved To Sample Point AMA002 AND START Downhole Clearance.

1015 Sample Point AMA002 completed - Downhole Cleared Through 10' Depth.

1030 Return To Site Trailer - Awaiting sample crew for Site 6 Potential Land Fill Area to Hand Auger To A 10' Depth in place of Drill Rig (20' Depth)

~~1115~~ 1100 Sample crew arrived - Depart for Site 6

1115 Cleared Sample Point #PGA001 and #PLA002 To A 5' Depth with MK26 ORD Locator.

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STANDING BY AT THIS TIME

1215 SAMPLE SITE PGA001 DOWNHOLE CLEARED AT 10' DEPTH. UXB COMPLETED THIS SAMPLE POINT.

1230 SAMPLE POINT PLA002 DOWNHOLE CLEARED AT 10' DEPTH UXB COMPLETED. THIS SAMPLE POINT.

1250 SAMPLE POINT PLA006 CLEARED TO 5' DEPTH.

1255 SAMPLE POINT PGA005 CLEARED TO 5' DEPTH

1315 SAMPLE POINT PLA006 CLEARED AT 5' DEPTH.

1340 SAMPLE POINT PGA005 CLEARED AT 5' DEPTH. UXB COMPLETED THIS SITE

UXB International, Inc.

Job Site Inventory Record

Contractor Name: Jim Booker

Contract Number: 425 (Employee #) (66610-005)

Location: Denmark Maine

Description: Hand Auger w/ Hard Plastic Case

Model Number: _____ Serial Number: _____

Manufacturer: _____

Date Received: _____ Property Number: _____

Quantity: 1 ea Unit Price: _____

Remarks: Auger Container also has:
1- Adjustable jaw pliers - 1 ea (water pumps)
2- 8" cresent - 1 ea
3- 12" cresent - 1 ea
4- wire brush - 1 ea
5- can grease - 1 ea (small)
6- Auger Handle - 1 ea
7- " extensions - 4 ea x 4 ft
8- " Head, 2" - 1 ea
9- " " 3" - 1 ea

I also still have a 250 gal water tank (Pickup Bed Type)

B FORM 1.0042

UXB International, Inc.

Job Site Inventory Record

Contractor Name: Jim Booker

Contract Number: 425 Employee # (6610-005)

Location: Denmark Maine

Description: MK26 ordnance locator

Model Number: 4.021-2111 Serial Number: 1392

Manufacturer: Foerster Instruments Inc

Date Received: 1 MAR 95 Property Number:

Quantity: 1 ea Unit Price:

Remarks: Used at N.O.P. Mead No. (6610-005)
1 MAR 95 thru 24 MAR 95

1. Control unit - Probe connecting plug (6") insulation pulled from control unit and plug. unit is still operable.
2. Probe rattles excessively

unitit operable - but must use great care not to damage wiring on control unit probe connecting plug.

UXB FORM 1.0042

ENVIRONMENTAL HAZARDS SPECIALISTS INTERNATIONAL, INC.

ROUTE 1, BOX 232

BELVIDERE, NORTH CAROLINA 27919

Office (919) 297-2991 Fax (919) 297-2992

DAILY JOB REPORT
FOR THE WEEK OF

5/13/96 1

CLIENT - WOODWARD-CLYDE SITE - MEAD NEBRASKA

SITE SUP. - W.J. ELLIOTT H&S - LISA TRAVAGLIN

PERSONNEL ON SITE

NAME	COMPANY
W. ELLIOTT	EHS
R. LARSON	EHS
L. TRAVAGLIN	WCFS
B. HEDENKAMP	WCFS
R. HEROLD	WCFS
T. KING	WCFS
WING HO HO	WCFS

EQUIPMENT & MATERIAL

ITEM	QUANITY
FOERESTER MAGNETIC LOCATOR	1.EA

JOB NOTES CONTINUED:

- 5/13/96

1200 ARRIVED FREMONT NEBRASKA STARTED MOBILIZATION
1500 MET WITH LISA TRAVAGLIN - WOODWARD - CLYDE AND DISCUSSED WORK TO BE ACCOMPLISHED. I WAS INFORMED THAT OUR SERVICES WOULD PROBABLY BE NEEDED FOR ONE (1) DAY. MEETING COMPLETED RETURNED TO THE MOTEL AND PREPARED GEAR.

5/14/96

0705 ARRIVED AT SITE TRAILER
0730 SET UP GEAR
0800 ARRIVED AT WORK SITE
0823 DID SURFACE CLEARANCE TO 2' ON SITES PL-001 PL-007 - PL-008 AND PL-009
0836 DID SURFACE CLEARANCE TO 2' ON SITES PG-007 PG-008 - PG-009 AND PG-010
0845 TWO FOOT (2') CLEARANCE AT PL-001 - CLEAR
0900 FOUR FOOT (4') CLEARANCE AT PL-001 - CLEAR
0945 SIX FOOT (6') CLEARANCE AT PL-001 - CLEAR
1010 EIGHT FOOT (8') CLEARANCE AT PL-001 - CLEAR
1015 TWO FOOT (2') CLEARANCE AT PG-007 - CLEAR
1030 FOUR FOOT (4') CLEARANCE AT PG-007 - CLEAR
1045 SIX FOOT (6') CLEARANCE AT PG-007 - CLEAR
1100 EIGHT FOOT (8') CLEARANCE AT PG-007 - CLEAR - BROKE FOR LUNCH
1130 RETURNED FROM LUNCH STANDING BY FOR WA PERSONNEL
1300 RETURNED TO WORK SITE, STANDING BY FOR WA PERSONNEL
1353 STARTED TO AUGER SITE PL-007
1407 TWO FOOT (2') CLEARANCE AT PL-007
1440 FOUR FOOT (4') CLEARANCE AT PL-007 POSITIVE CONTACT AT THIS DEPTH
1450 MOVED PL-007 APPROX 10' AND STARTED AUGER

JOB NOTES CONTINUED:

5/14/96 (CONT'D)

1515 TWO FOOT (2') CLEARANCE AT NEW PL-007 - CLEAR - STANDING BY FOR WC WHILE THEY FIND PINS FOR THE AUGER STEM

1515 FOUR FOOT (4') CLEARANCE AT NEW PL-007 - CLEAR

1600 SIX FOOT (6') CLEARANCE AT NEW PL-007 - POSITIVE CONTACT AT THIS DEPTH

1605 MOVED PL-007 APPROX TEN (10') AND STARTED AUGER

1620 TWO FOOT (2') CLEARANCE THIRD (3') PL-007 CLEAR

1630 FOUR FOOT (4') CLEARANCE THIRD (3) PL-007 CLEAR

1650 SIX FOOT (6') CLEARANCE THIRD (3) PL-007 CLEAR

1715 EIGHT FOOT (8') CLEARANCE THIRD (3) PL-007 CLEAR

1730 GATHERED GEAR AND PROCEEDED TO SITE TRAILER

1800 COMPLETED WORK FOR THE DAY

5/15/96

0720 ARRIVED AT SITE TRAILER

0803 ARRIVED AT WORK SITE

0850 TWO FOOT (2') CLEARANCE AT PL-009 POSITIVE CONTACT AT THIS DEPTH. MOVED PL-009 APPROX TEN (10') AND STARTED AUGER

0905 TWO FOOT (2') CLEARANCE AT NEW PL009

0908 FOUR FOOT (4') CLEARANCE AT NEW PL-009 POSITIVE CONTACT AT THIS DEPTH. MOVED PL-009 APPROX TEN (10') AND STARTED AUGER

0915 TWO FOOT (2') CLEARANCE AT THIRD PL-009 CLEAR

0928 FOUR FOOT (4') CLEARANCE AT THIRD PL-009 CLEAR

0940 SIX FOOT (6') CLEARANCE AT THIRD PL-009 CLEAR

0960 EIGHT FOOT (8') CLEARANCE AT THIRD PL009 CLEAR

1010 STARTED AUGER AT PL-008

1025 TWO FOOT (2') CLEARANCE AT PL-008 CLEAR

1033 FOUR FOOT (4') CLEARANCE AT PL-008 CLEAR

1055 SIX FOOT (6') CLEARANCE AT PL-008 CLEAR

1115 EIGHT FOOT (8') CLEARANCE AT PL-008 CLEAR

1156 BROKE FOR LUNCH

1324 BACK AT WORK SITE

1345 TWO FOOT (2') CLEARANCE AT PG-009 CLEAR

1405 FOUR FOOT (4') CLEARANCE AT PG-009 POSITIVE CONTACT AT THIS DEPTH MOVED PG-009 APPROX TEN (10') AND STARTED AUGER

JOB NOTES CONTINUED:

5/15/96 (CONT'D)

1410 TWO FOOT (2') CLEARANCE AT NEW PG-009 POSITIVE CONTACT AT THIS DEPTH, MOVED APPROX TEN (10') AND STARTED AUGER

1423 TWO FOOT (2') CLEARANCE AT THIRD PG-009 CLEAR

1430 FOUR FOOT (4') CLEARANCE AT THIRD PG-009 CLEAR

1440 SIX FOOT (6') CLEARANCE AT THIRD PG-009 CLEAR

1455 EIGHT FOOT (8') CLEARANCE AT THIRD PG-009 CLEAR

1530 RETURNED TO SITE TRAILER

1600 COMPLETED WORK AT SITE STARTED DE-MOB

1800 COMPLETED DE-MOB

C.E.W. [illegible] Sr.

May 24, 1996

SUMMARY OF OPERATIONS

13 May 1996

Traveling, arrived Fremont Nebraska, continued mobilization, met with Ms Liza Travaglin and discussed work to be accomplished, I was informed that our services would be required for (1) day. Completed the meeting returned to the motel.

14 may 1996

Departed the motel for the work site, arrived at the site trailer, set up the search equipment, conducted a safety brief and commenced a surface clearance to a depth of (2) feet at sites PL-001, PL-007, PL-008, PL-009, PG-007, PG-008, PG-009 and PG-0010. PL-007 was aborted and moved to as new location. PL-007 aborted again and relocated. Cleaned and stowed all of the equipment. Secured for the day.

15 May 1996

Departed the motel for the work site, arrived at the site trailer, set up the search equipment, conducted a safety brief and continued clearing sites. Moved PL-009 (3) times to locate a clear site. Completed clearing all auger sites. Deconned all of the equipment. Departed the site for the motel, all gear was repacked.

16 May 1996

Departed the motel for the airport, and flight to EHSI.

Sincerely

Charles E. Wharton, Sr.
President

SCOPE OF SERVICES FOR UXB INTERNATIONAL, INC.
OEW SURVEY FOR REMEDIAL INVESTIGATION
FORMER NEBRASKA ORDNANCE PLANT
OPERABLE UNIT N0. 3
MEAD, NEBRASKA

SCOPE OF SERVICES

The Scope of Services shall include providing all labor, equipment, health and safety equipment, and field supplies for the following Ordnance and Explosive Waste (OEW) surveying services at the Former Nebraska Ordnance Plant (NOP) near Mead Nebraska (Site). The work is to be provided by UXB International, Inc. (Subcontractor) under the direction of Woodward-Clyde Consultants (WCC) field personnel.

Mobilization

The subcontractor shall mobilize all of the equipment, supplies and personnel necessary to complete the work outlined in this scope of services.

OEW Survey

The OEW Survey will consist of the following tasks:

- Preliminary Clearance Surveys
- Shallow Soil Sampling Location Clearance and Monitoring Surveys
- Deep Soil Boring Location Clearance and Monitoring Surveys
- The shallow soil and deep soil sampling investigations will require two separate OEW survey crews, working simultaneously with separate geophysical equipment and supplies.

The tasks are described in the following paragraphs.

1.0 Preliminary Survey

The purpose of the Preliminary Clearance Survey is to allow 1 team of WCC personnel to enter an area and to perform geophysical surveys. The Preliminary Clearance Survey will clear the area for entry into each site by light duty vehicles (i.e. pickup trucks and vans) and for driving wooden stakes up to 10 inches in depth at the WCC geophysical grid nodes. The subcontractor shall escort the WCC field team for the duration of the WCC geophysical survey. The WCC geophysical survey is anticipated to require approximately 20 days to complete and will be completed prior to the shallow and deep soil sampling.

2.0 Shallow Soil Sampling Location Clearance and Monitoring

The purpose of the Shallow Soil Sampling Location Clearance is to allow WCC to drill hand auger borings to depths of either 2 or 3 feet (depending on site specific sampling requirements). Shallow soil sampling locations will be selected by WCC. The subcontractor shall escort the WCC field team for the duration of the shallow soil sampling. The shallow soil sampling is anticipated to require approximately 15 days to complete.

3.0 Soil Boring Location Clearance and Monitoring

The purpose of the Soil Boring Location Clearance is to allow WCC to drill soil borings (hollow stem augers or continuous flight augers) to a depth of 20 feet below ground surface. Soil boring locations will be selected by WCC following the WCC Geophysical Survey.

Prior to mobilization of the drill rig, the boring location will have been cleared to a depth of 2 to 3 feet during the shallow soil sampling. The contractor shall perform "down-hole" monitoring at four foot intervals to the completion depth of 20 feet. The drilling contractor will remove the augers from the borehole for the monitoring. Sampling and logging of the borehole will be conducted by WCC. The subcontractor shall escort the WCC field team for the duration of the deep soil sampling. The deep soil sampling is anticipated to require approximately 15 days to complete and will be performed at the same time as the shallow soil sampling. Therefore, it will be necessary for the subcontractor to furnish two separate crews for the shallow and deep soil sampling.

Decontamination of the equipment will be performed by the subcontractor in accordance with the CDAP for the project.

4.0 General

The following list provides some general requirements to be followed by the subcontractor during the performance of the work described in this scope of services:

- The OEW subcontractor shall provide a work plan which meets the requirements of USACE - Huntsville for performing an OEW survey.

- If UXO (unexploded ordnance) is encountered, the OEW subcontractor shall notify the appropriate contact at the USACE - Kansas City.

- If UXO is encountered at a boring location or during downhole magnetometer surveys, the UXO subcontractor will mark the location of the UXO and assist in identification of safe areas for relocation of investigation points.

- Upon completion of the field activities, the UXO subcontractor will prepare a report summarizing the results of the investigation.

- All UXO subcontract work will be performed in accordance with all relevant guidance and directives issued by USACE - Huntsville.

Health and Safety

All Subcontractor personnel on-site shall be trained in accordance with 29 CFR 1910.120, 40-hour course for hazardous waste site operations. The subcontractor shall provide all health and safety equipment for its personnel (Modified Level D).

The subcontractor shall conduct all work activities in accordance with the provisions of the Safety, Health and Emergency Response Plan (SHERP) (WCC, 1994). The subcontractor may develop its own SHERP or Site Health and Safety Plan, or may choose to use the WCC SHERP. The subcontractor SHERP may exceed but cannot be less stringent than WCC's and shall, at a minimum, be consistent with the requirements of Occupational Safety and Health Administration (OSHA) Standards and Regulations contained in Title 29, Code of Federal Regulations, Parts 1910.120 ("Hazardous Waste Operations and Emergency Response: Final Rule") and USACE procedures and guidelines.

Schedule

The WCC field crew will be working in shifts consisting of 10 consecutive working days followed by a 4 day break. The subcontractor shall follow the same schedule until the work described in this scope of services is completed. Work is planned to begin in March 1995 and be completed in April 1995.

APPENDIX B

DAILY WORK LOG

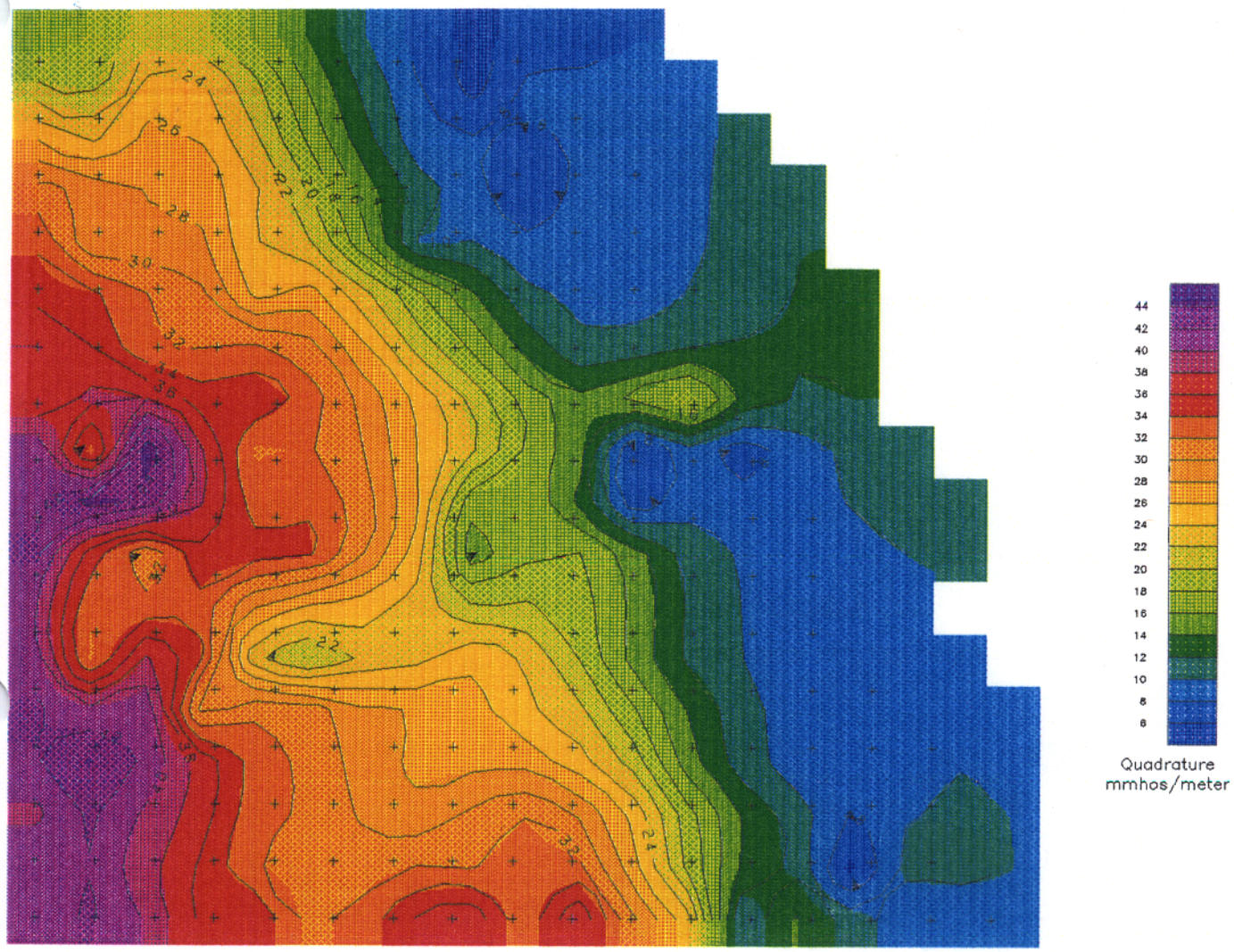
Appendix C

B07NE003703-04957

B07NE003703-04958

C-1A	Potential Landfill Area North Of The Proving Grounds Electromagnetics Contour Map (Quadrature Response)
C-1B	Potential Landfill Area North Of The Proving Grounds Electromagnetics Contour Map (Inphase Response)
C-2A	Waste Disposal Area North Of Nike Maintenance- West Disposal Area Electromagnetics Contour Map (Quadrature Response)
C-2B	Waste Disposal Area North Of Nike Maintenance- West Disposal Area Electromagnetics Contour Map (Inphase Response)
C-3A	Waste Disposal Area North Of Nike Maintenance-East Disposal Area Electromagnetics Contour Map (Quadrature Response)
C-3B	Waste Disposal Area North Of Nike Maintenance-East Disposal Area Electromagnetics Contour Map (Inphase Response)
C-4A	Waste Disposal Area North Of Nike Maintenance-South Disposal Area Electromagnetics Contour Map (Quadrature Response)
C-4B	Waste Disposal Area North Of Nike Maintenance-South Disposal Area Electromagnetics Contour Map (Inphase Response)
C-5A	Waste Disposal Area Southeast Bomb Booster Area Electromagnetics Contour Map (Quadrature Response)
C-5B	Waste Disposal Area Southeast Bomb Booster Area Electromagnetics Contour Map (Inphase Response)
C-6A	Waste Disposal Area At The Atlas Missile Area -Southwest Disposal Area Electromagnetics Contour Map (Quadrature Response)
C-6B	Waste Disposal Area At The Atlas Missile Area -Southwest Disposal Area Electromagnetics Contour Map (Inphase Response)
C-7A	Waste Disposal Area At The Atlas Missile Area -Northeast Disposal Area Electromagnetics Contour Map (Quadrature Response)
C-7B	Waste Disposal Area At The Atlas Missile Area -Northeast Disposal Area Electromagnetics Contour Map (Inphase Response)
C-8A	Potential Waste Disposal Area North Of The Ammonium Nitrate Plant Electromagnetics Contour Map (Quadrature Response)
C-8B	Potential Waste Disposal Area North Of The Ammonium Nitrate Plant Electromagnetics Contour Map (Inphase Response)
C-9A	Demolition Grounds Electromagnetics Contour Map (Quadrature Response)
C-9B	Demolition Grounds Electromagnetics Contour Map (Inphase Response)
C-10A	Detonation Craters 1 And 2 Electromagnetics Contour Map (Quadrature Response)
C-10B	Detonation Craters 1 And 2 Electromagnetics Contour Map (Inphase Response)
C-11A	Detonation Crater 3 Electromagnetics Contour Map (Quadrature Response)
C-11B	Detonation Crater 3 Electromagnetics Contour Map (Inphase Response)
C-12A	Detonation Craters 4 And 5 Electromagnetics Contour Map (Quadrature Response)

C-12B	Detonation Craters 4 And 5 Electromagnetics Contour Map (Inphase Response)
C-13A	Administration Area UST Electromagnetics Contour Map (Quadrature Response)
C-13B	Administration Area UST Electromagnetics Contour Map (Inphase Response)
C-14A	Atlas Missile Area UST (Launch Operations Building) Electromagnetics Contour Map (Quadrature Response)
C-14B	Atlas Missile Area UST (Launch Operations Building) Electromagnetics Contour Map (Inphase Response)
C-15A	Atlas Missile Area UST (Launch Operations Building) Electromagnetics Contour Map (Channel 2 Response)
C-15B	Atlas Missile Area UST (Launch Operations Building) Electromagnetics Contour Map (Channel 3 Response)
C-16	Agronomy Area UT (Air Force Global Communications Building) Electromagnetics Contour Map
C-17	Agronomy Area UST (Emergency Power Building) Electromagnetics Contour Map
C-18A	Geophysical Anomaly At Load Line 3 Electromagnetics Contour Map (Quadrature Response)
C-18B	Geophysical Anomaly At Load Line 3 Electromagnetics Contour Map (Inphase Response)



EM-31

QUADRATURE RESPONSE
CONTOUR INTERVAL = 2mmhos/meter
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-20-95

NOTE: SAMPLING LOCATIONS WERE PLACED ACCORDING TO OE CLEARANCE NOT GEOPHYSICAL SURVEY RESULTS. REFER TO DRAWING 2-78 (VOL. II) FOR SAMPLING LOCATIONS

N

MCS FILE: BORD-1A

Revisions			
Symbol	Descriptions	Date	Apprv'd

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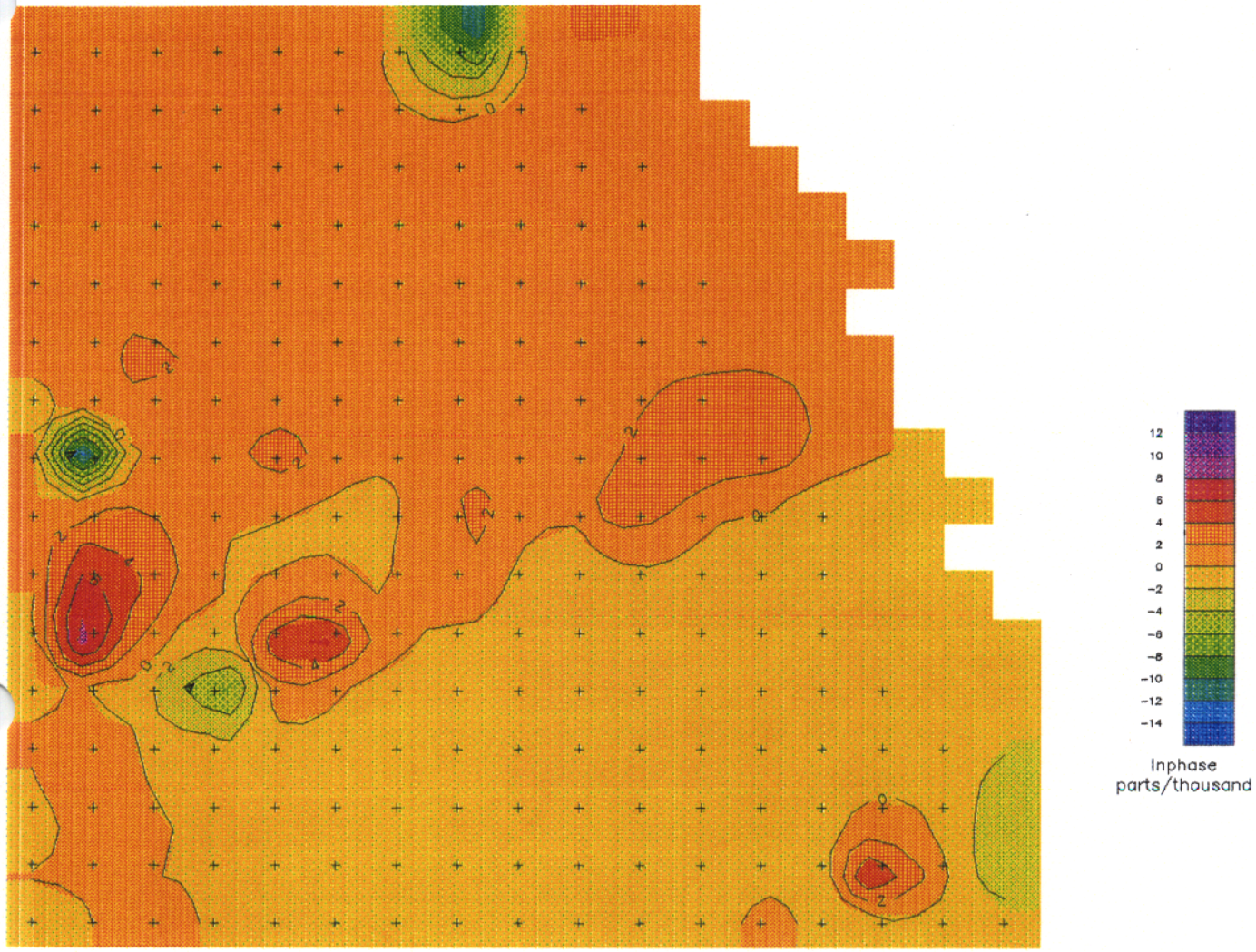
Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

POTENTIAL LANDFILL NORTH
OF THE PROVING GROUNDS
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-1A
Sheet number: 1



EM-31
INPHASE RESPONSE
CONTOUR INTERVAL = 2 parts/1000
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-20-95

NOTE: SAMPLING LOCATIONS WERE PLACED ACCORDING TO OE CLEARANCE NOT GEOPHYSICAL SURVEY RESULTS. REFER TO DRAWING 2-78 (VOL. II) FOR SAMPLING LOCATIONS

N

MCS FILE: BORD-1B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

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CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

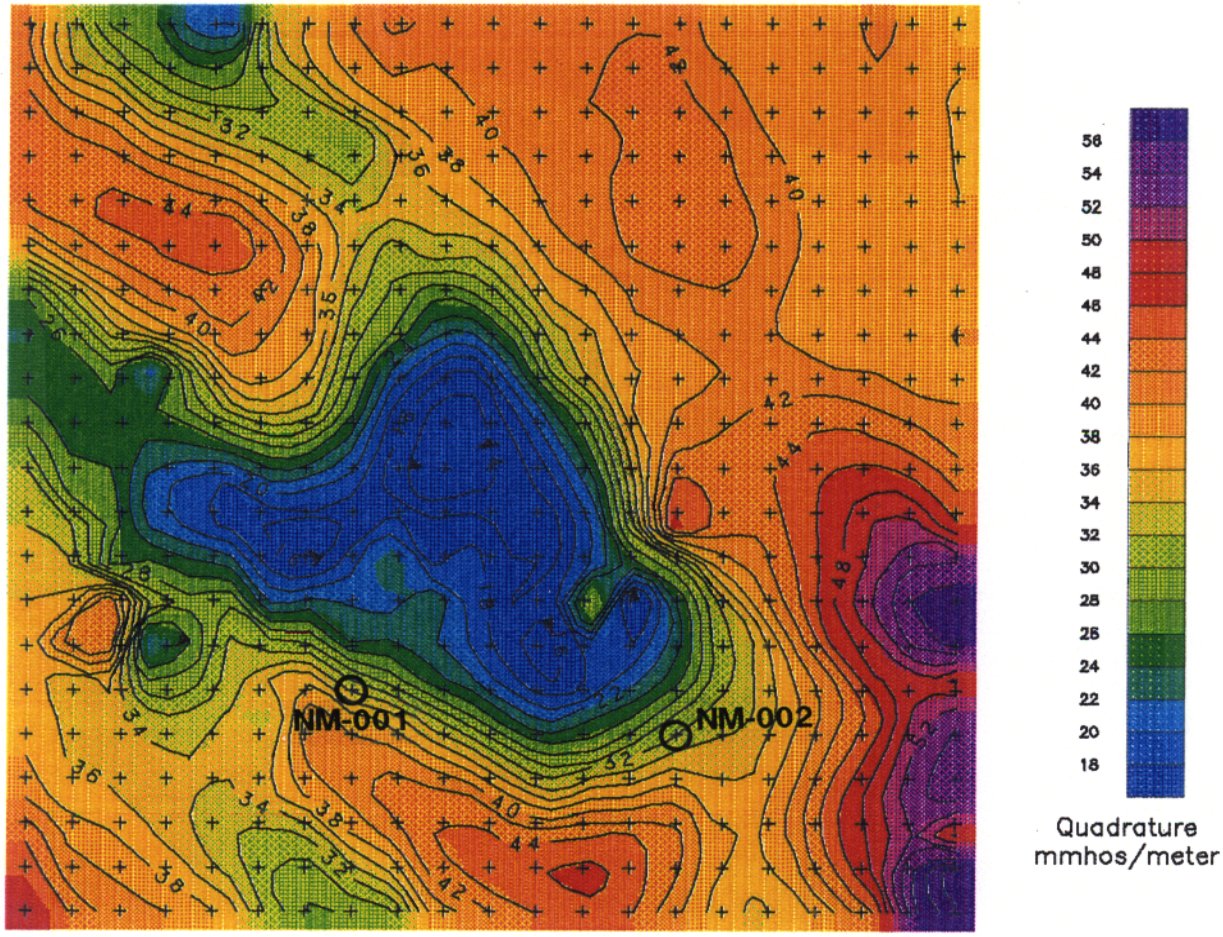
Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: RAV

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

POTENTIAL LANDFILL NORTH
OF THE PROVING GROUNDS
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-1B
Sheet number: 1



○ NM-001 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

FM-31

QUADRATURE RESPONSE
CONTOUR INTERVAL = 2mmhos/meter
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-8-95 - 3-11-95

N

MCS FILE: BORD-2A

Revisions			
Symbol	Descriptions	Date	Apprv'd

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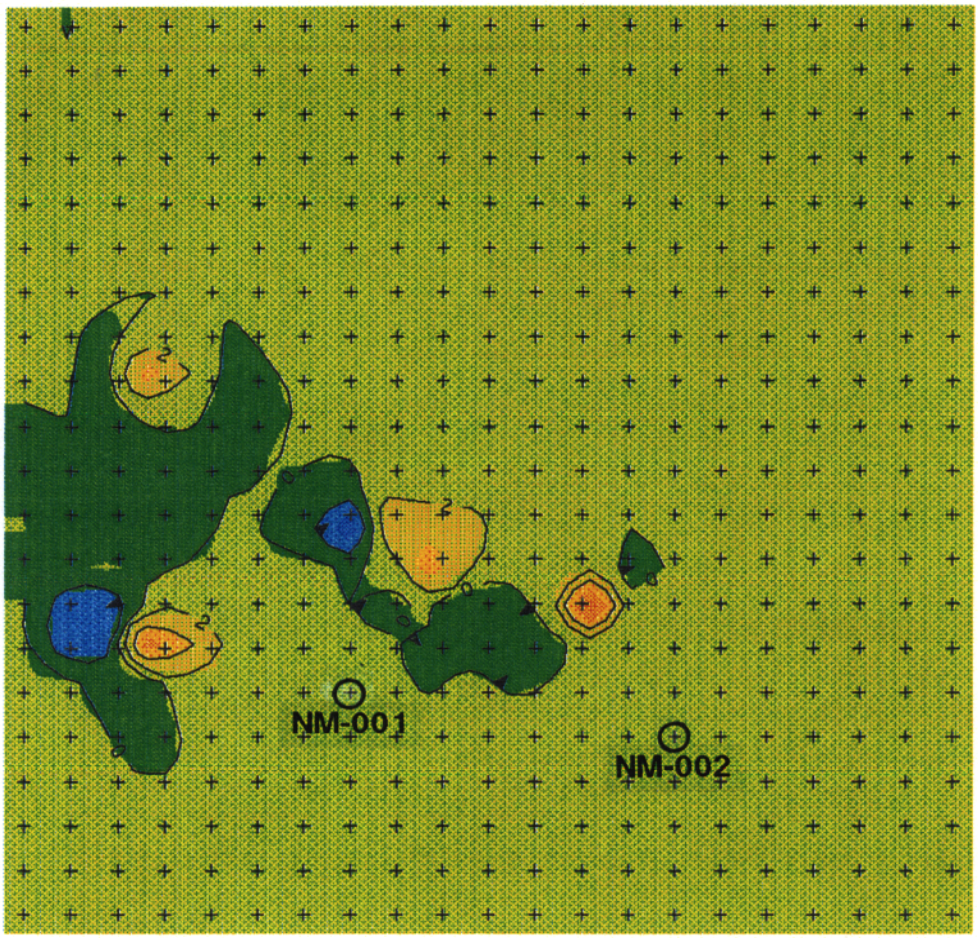
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: RAN

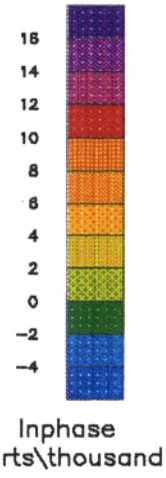
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

WASTE DISPOSAL AREA NORTH OF NIKE MAINTENANCE-WEST DISPOSAL AREA
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-2A
Sheet number: 1





○ NM-001 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

M-31
INPHASE RESPONSE
CONTOUR INTERVAL = 2 parts/1000
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-8-95 - 3-11-95

N

MCS FILE: BORD-2B

Revisions			
Symbol	Descriptions	Date	Apprv'd

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KANSAS CITY, MISSOURI

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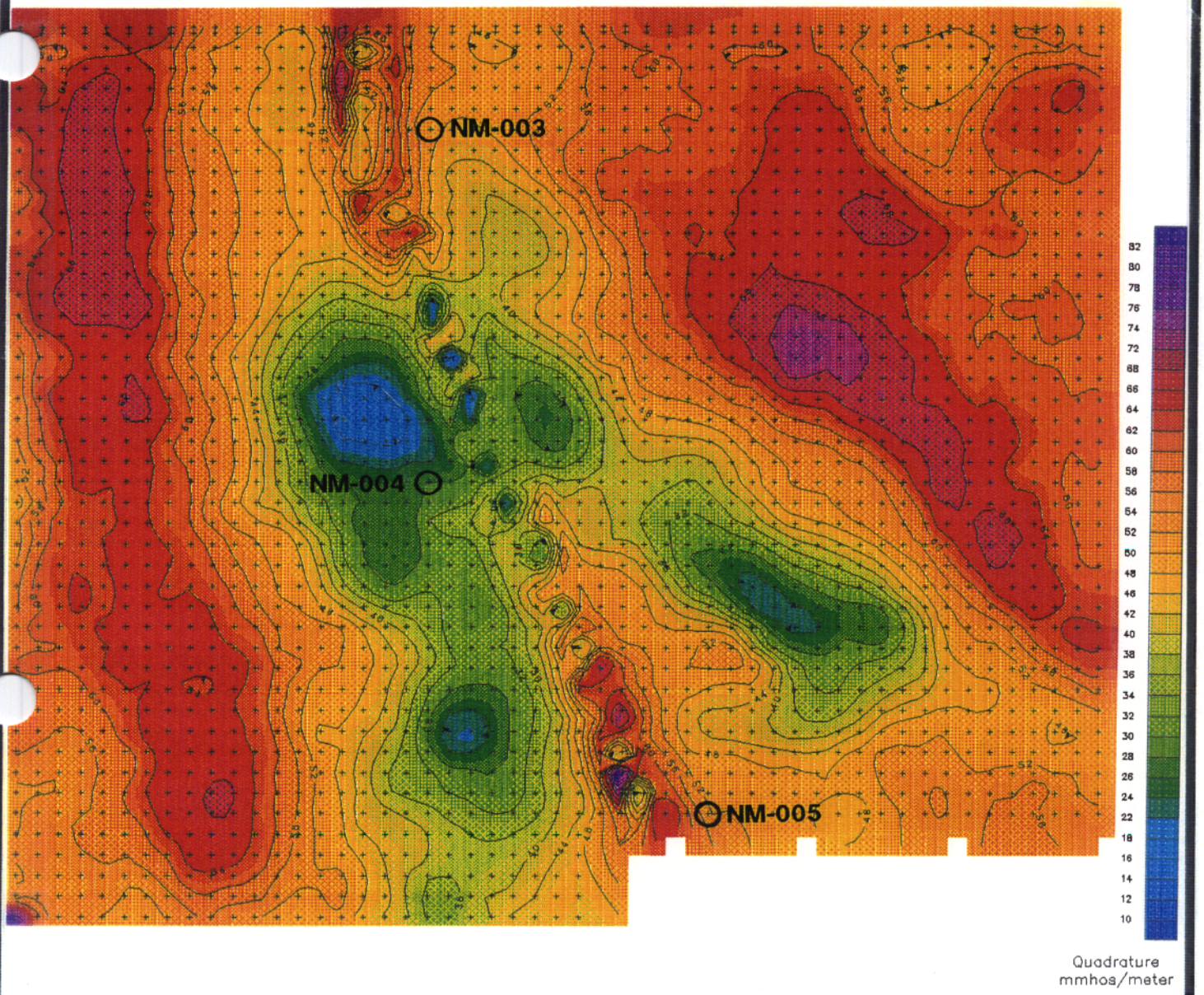
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Rax

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

WASTE DISPOSAL AREA NORTH
OF NIKE MAINTENANCE-
WEST DISPOSAL AREA
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-2B
Sheet number: 1



Revisions			
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Overland Park, Kansas

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KANSAS CITY, MISSOURI

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Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Rar

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

WASTE DISPOSAL AREA NORTH
OF NIKE MAINTENANCE-
EAST DISPOSAL AREA
ELECTROMAGNETICS CONTOUR MAP

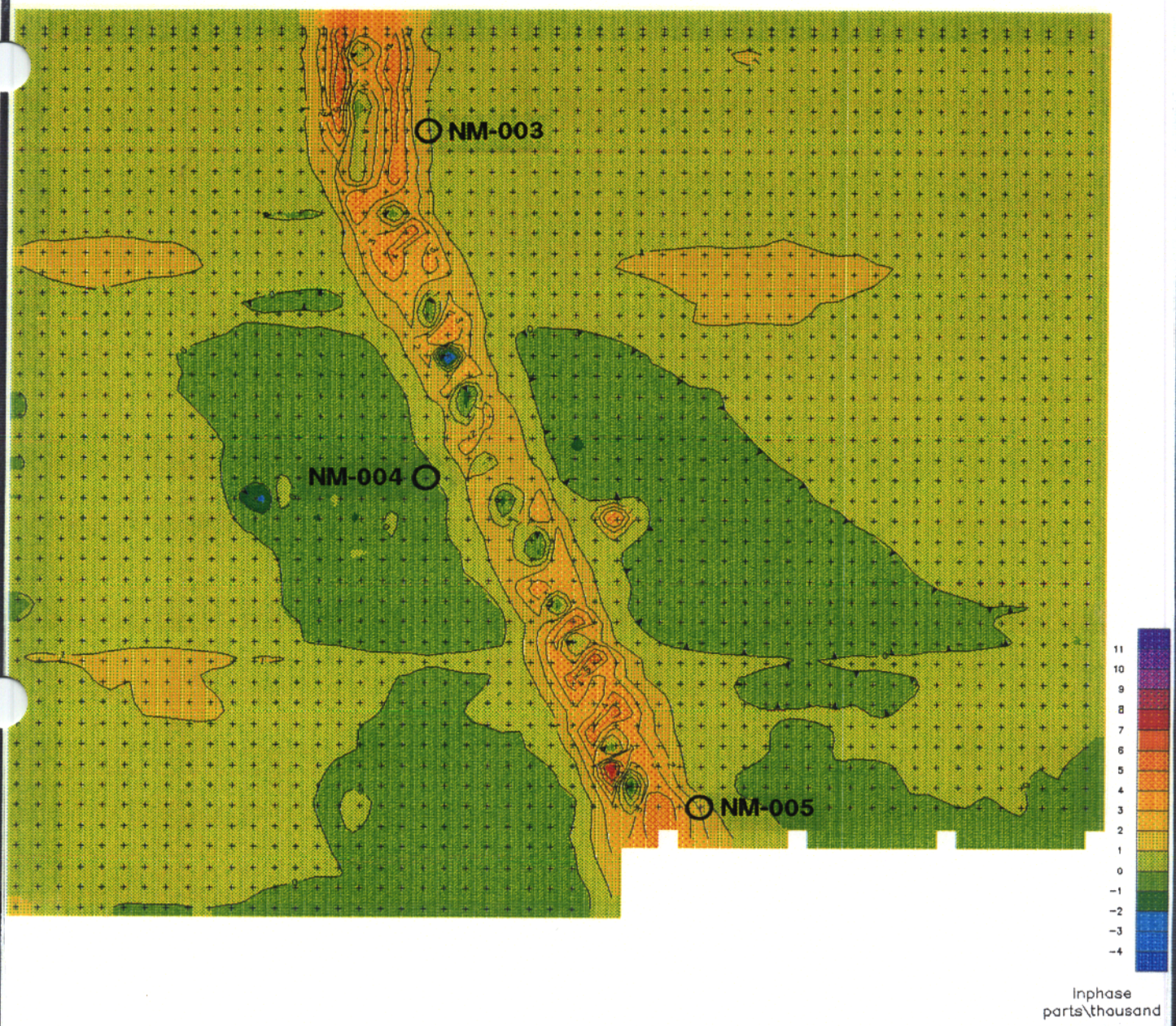
Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-3A
Sheet number: 1

MCS FILE: BORD-3A

○ NM-003 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

1-31

QUADRATURE RESPONSE
CONTOUR INTERVAL = 4mmhos/meter
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-8-95 - 3-11-95



○ NM-003 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

M-31
.NPHASE RESPONSE
CONTOUR INTERVAL = 1 parts/1000
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-8-95 - 3-11-95

N

MCS FILE: BORD-3B

Revisions			
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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

WASTE DISPOSAL AREA NORTH
OF NIKE MAINTENANCE-
EAST DISPOSAL AREA
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-3B
Sheet number: 1

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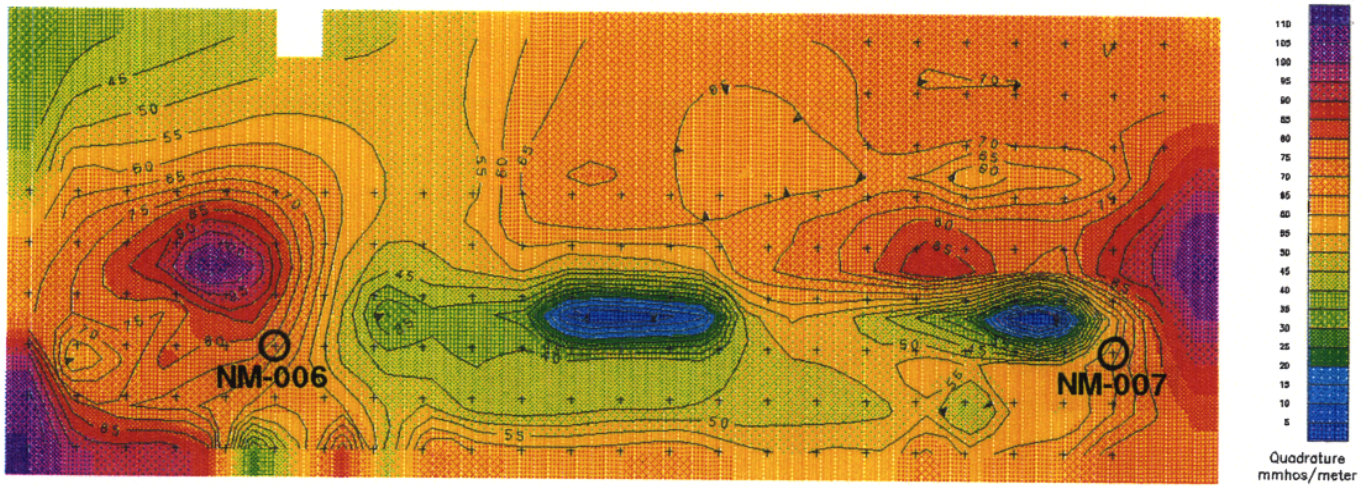

○ NM-006 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

EM-31

QUADRATURE RESPONSE
CONTOUR INTERVAL = 5mmhos/meter
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-8-95 - 3-11-95

N

MCS FILE: BORD-4A

Revisions			
Symbol	Descriptions	Date	Apprv'd

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KANSAS CITY, MISSOURI

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Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: RAN

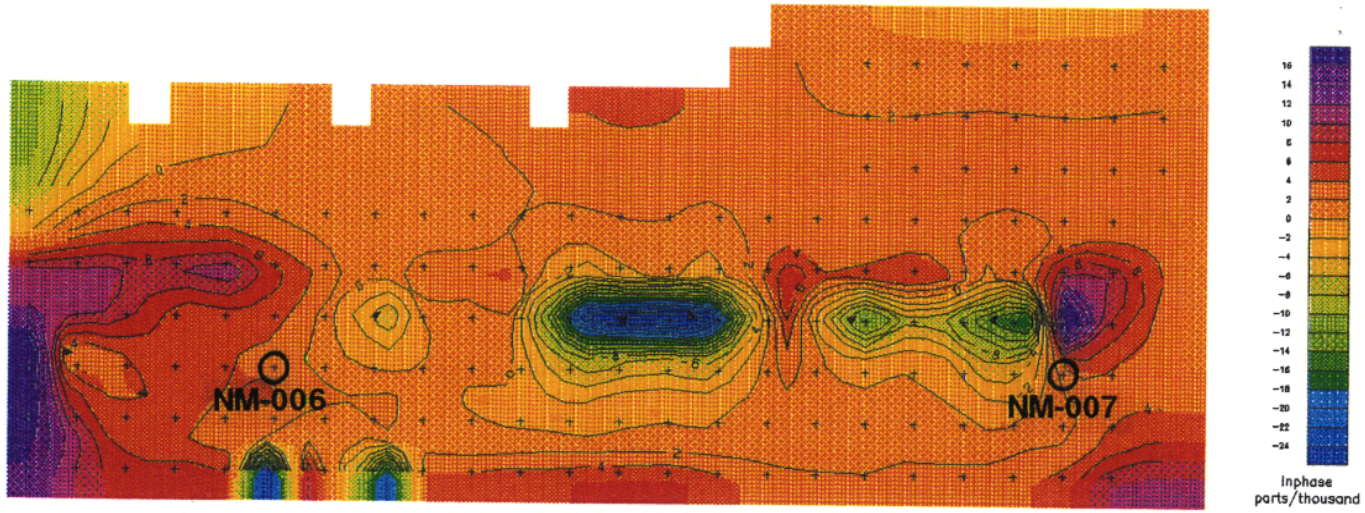
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

WASTE DISPOSAL AREA NORTH OF NIKE MAINTENANCE-SOUTH DISPOSAL AREA
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-4A
Sheet number: 1

B07NE003703-04967



○ NM-006 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

EM-31

INPHASE RESPONSE
CONTOUR INTERVAL = 2 parts/1000
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-8-95 - 3-11-95

N

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

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CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

U.S. Army Corps of Engineers

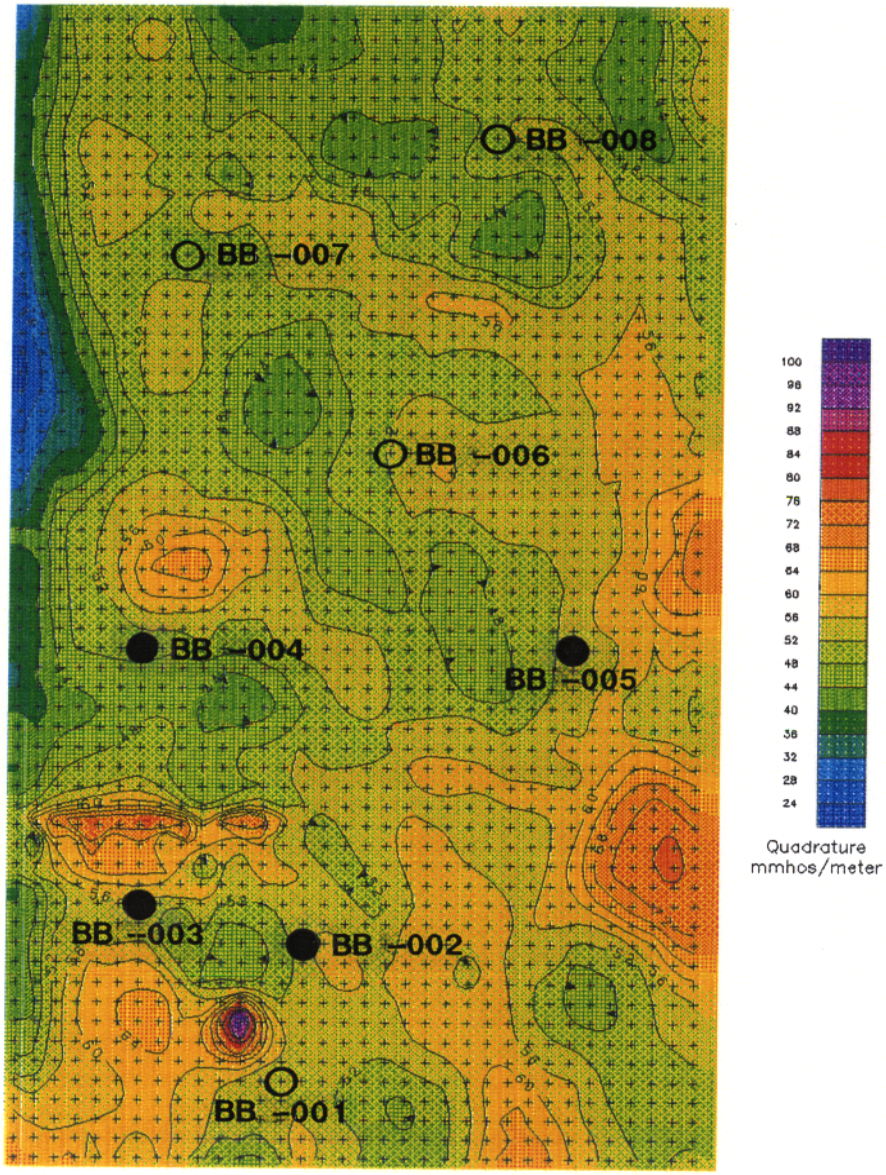
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

WASTE DISPOSAL AREA NORTH OF NIKE MAINTENANCE-SOUTH DISPOSAL AREA
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-4B
Sheet number: 1

MCS FILE: BORD-4B

B07NE003703-04968



○ BB-007 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

● BB-004 APPROXIMATE SHALLOW SOIL SAMPLE LOCATION

EM-31
QUADRATURE RESPONSE
CONTOUR INTERVAL = 4mmhos/meter
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-10-95 & 3-11-95

N

Revisions			
Symbol	Descriptions	Date	Apprv'd

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Overland Park, Kansas

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CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

U.S. Army Corps of Engineers

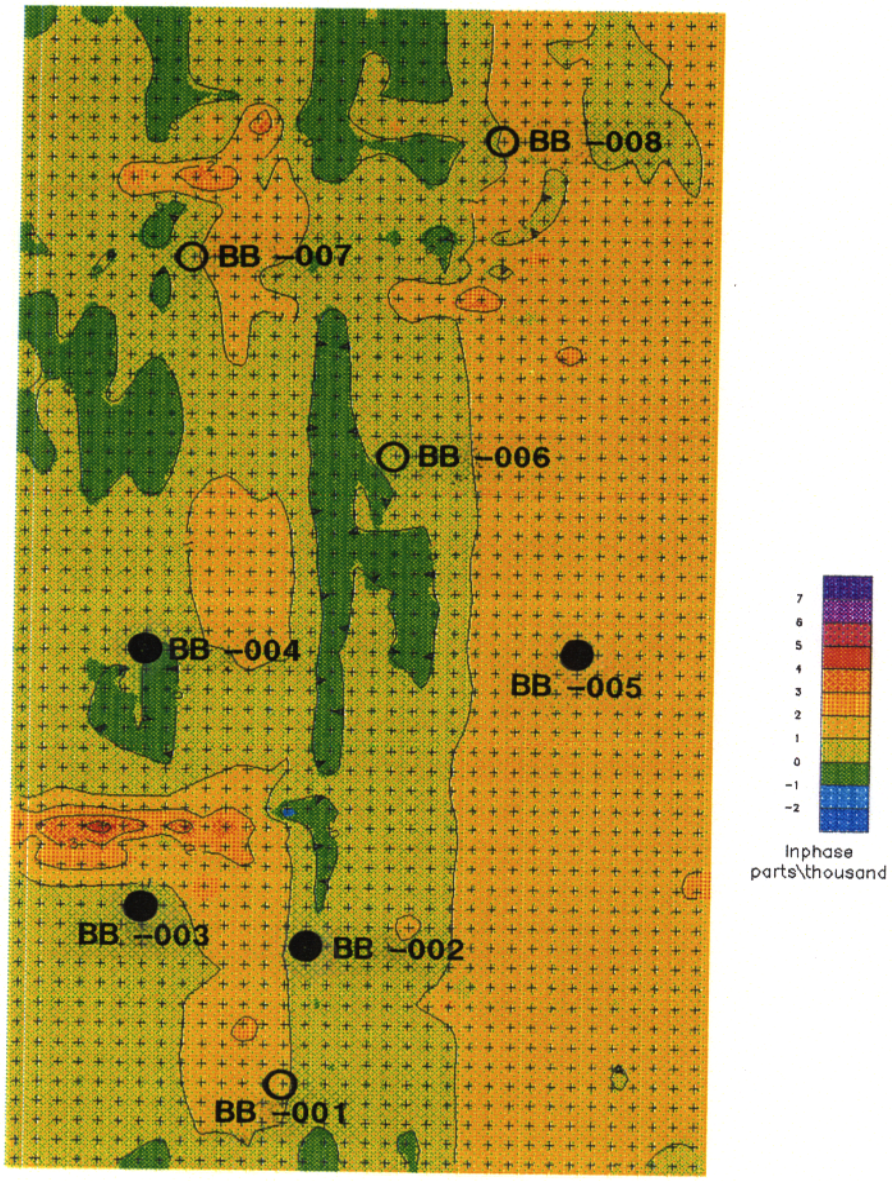
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

WASTE DISPOSAL AREA
SOUTHEAST OF BOMB BOOSTER AREA
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-5A
Sheet number: 1

MCS FILE: BORD-5A

B07NE003703-04969



○ BB-007 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

● BB-004 APPROXIMATE SHALLOW SOIL SAMPLE LOCATION

EM-31
INPHASE RESPONSE
CONTOUR INTERVAL = 1 parts/1000
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-10-95 & 3-11-95

N

MCS FILE: BORD-5B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

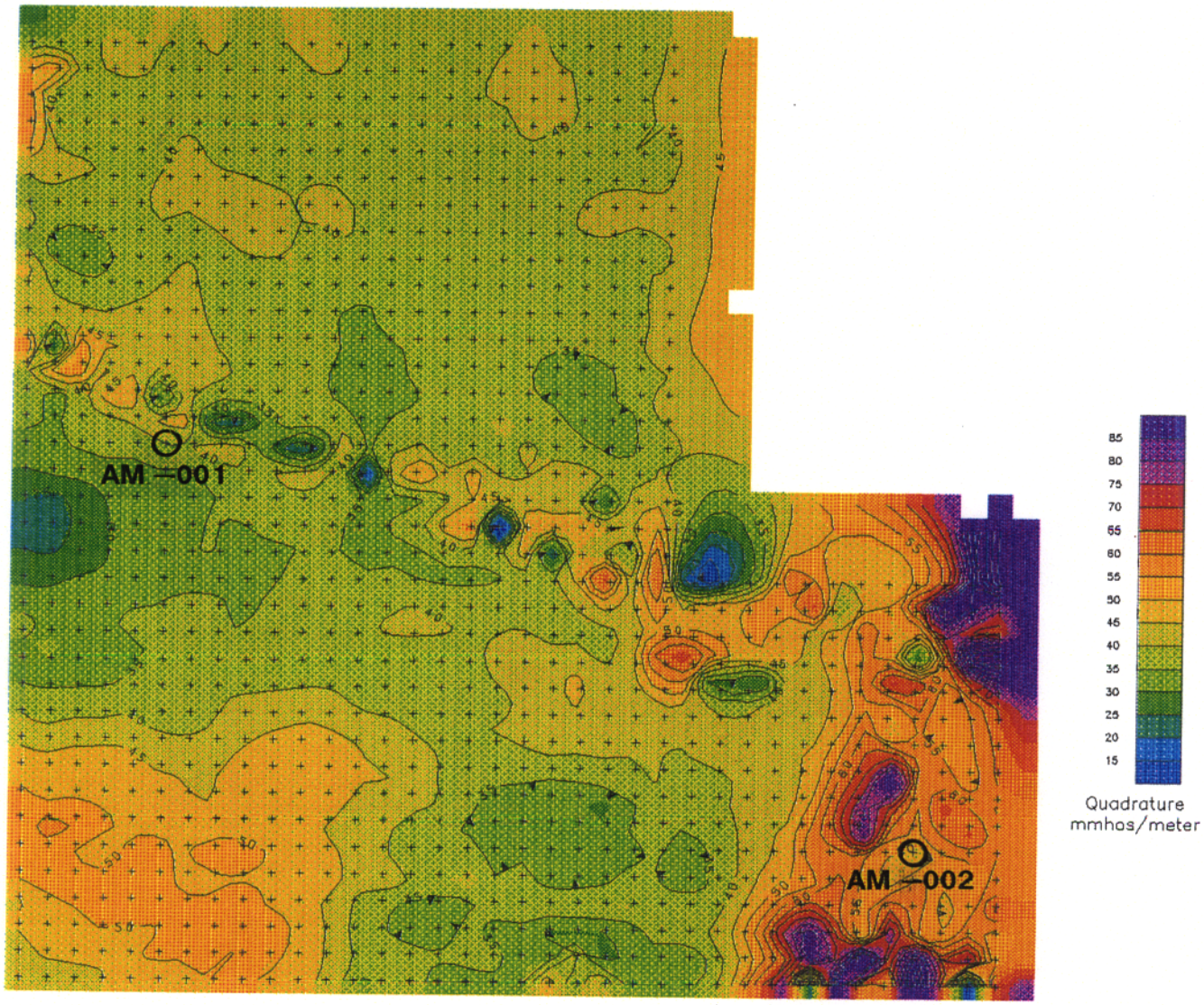
Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

WASTE DISPOSAL AREA SOUTHEAST OF BOMB BOOSTER AREA ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-5B
Sheet number: 1



○ AM-001 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

M-31

QUADRATURE RESPONSE
CONTOUR INTERVAL = 5mmhos/meter
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-20-95 & 3-21-95

N

MCS FILE: BORD-6A

Revisions			
Symbol	Descriptions	Date	Apprv'd

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Overland Park, Kansas

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CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

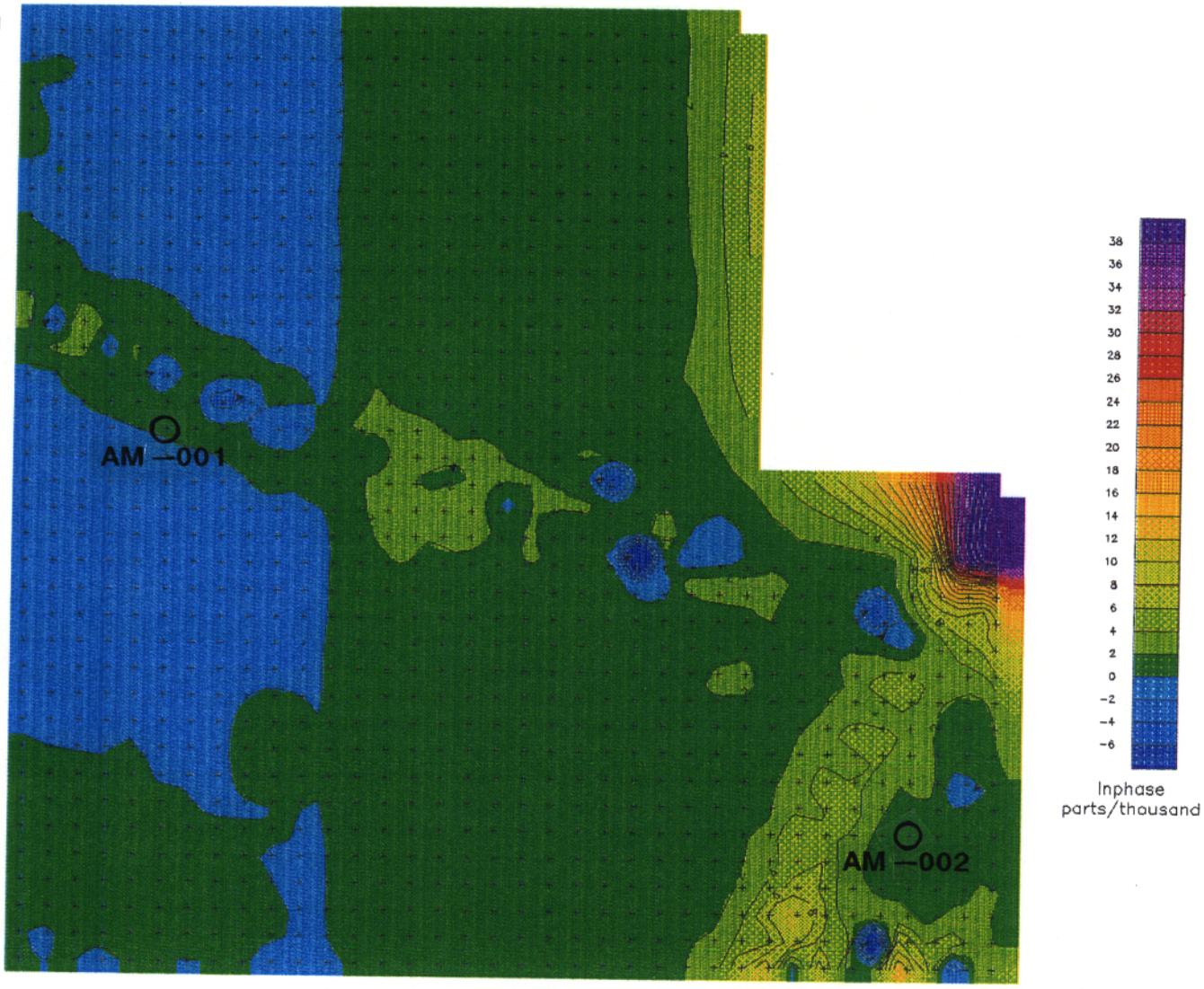
Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

WASTE DISPOSAL AREA AT THE
ATLAS MISSLE AREA-
SOUTHWEST DISPOSAL AREA
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-6A
Sheet number: 1



○ AM-001 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

M-31

.NPHASE RESPONSE
CONTOUR INTERVAL = 2 parts/1000
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-20-95 & 3-21-95

N

MCS FILE: BORD-6B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

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KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

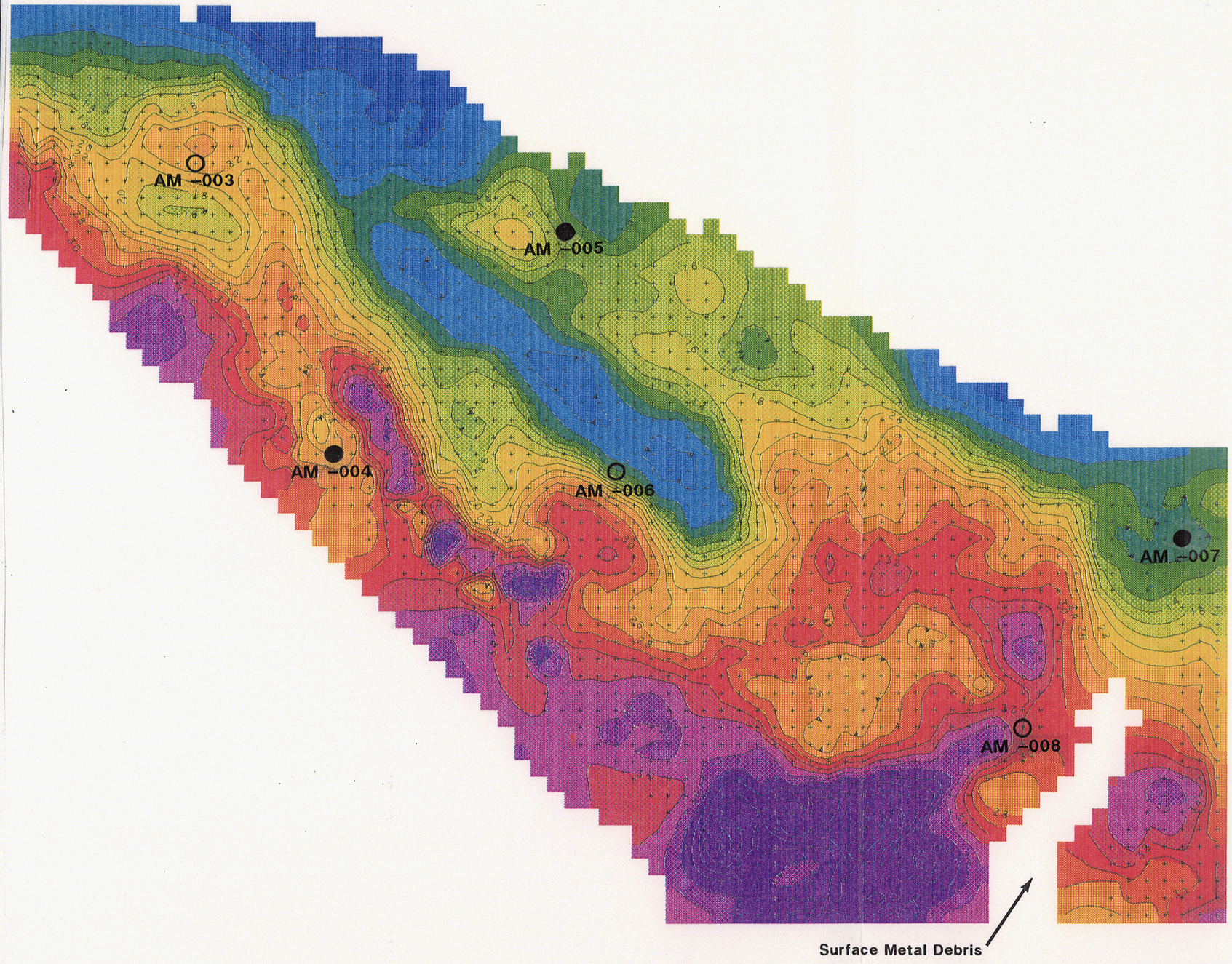
U.S. Army Corps of Engineers

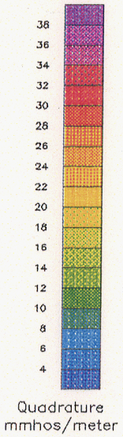
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

WASTE DISPOSAL AREA AT THE
ATLAS MISSLE AREA-
SOUTHWEST DISPOSAL AREA
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-6B
Sheet number: 1

B07NE003703-04972





○ AM-003 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

● AM-004 APPROXIMATE SHALLOW SOIL SAMPLE LOCATION

EM-31

QUADRATURE RESPONSE
CONTOUR INTERVAL = 2mmhos/meter
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-20-95 & 3-21-85

N

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

U.S. Army Corps of Engineers

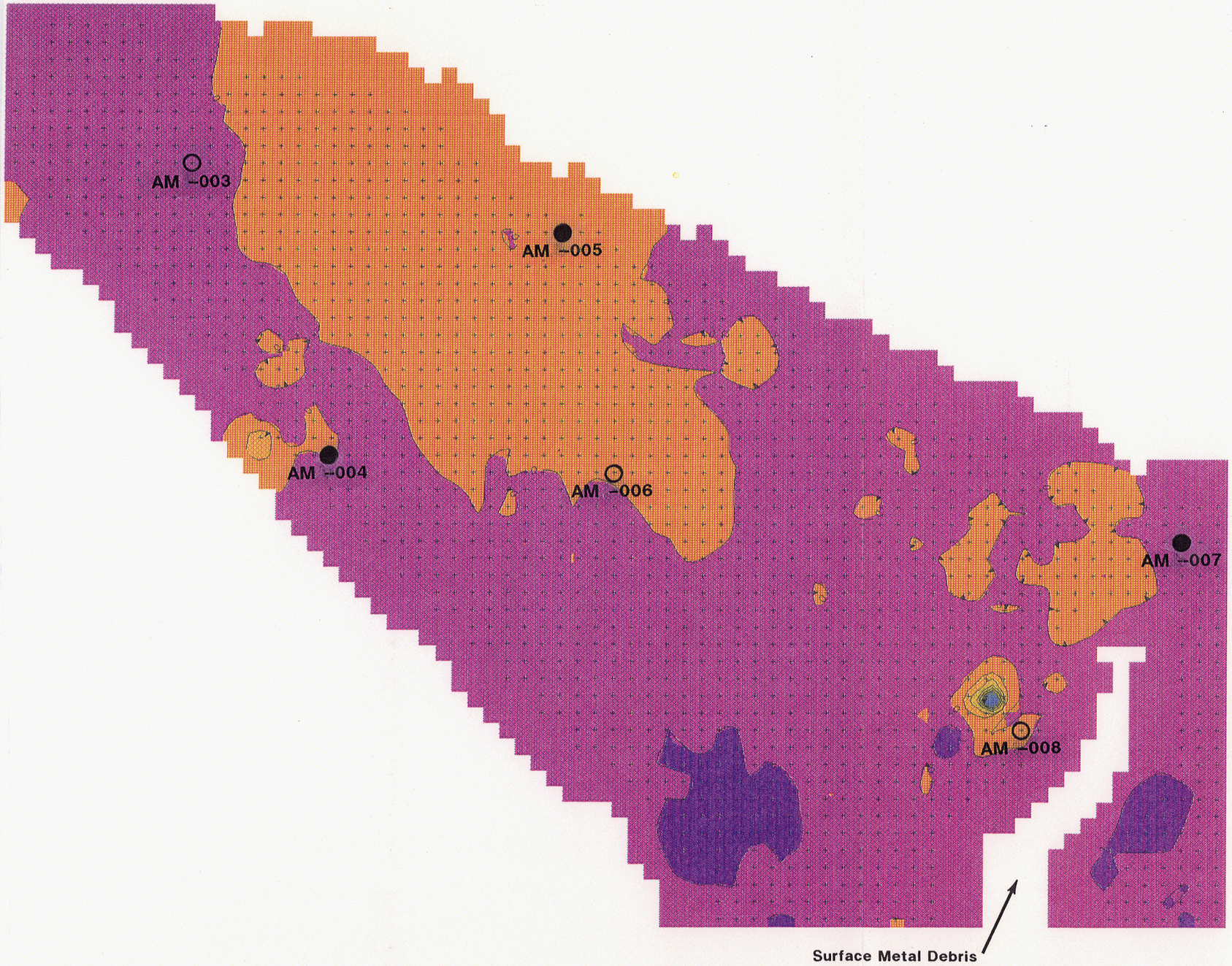
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

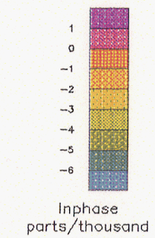
WASTE DISPOSAL AREA AT
THE ATLAS MISSLE AREA-
NORTHEAST DISPOSAL AREA
ELECTROMAGNETICS CONTOUR MAP

Designed by: S.J.F.	Scale: NOT TO SCALE	Sheet number: 1	
Drawn by: L.H.A.	Date: MAY, 1997		
Checked by: B.C.O.	Dwg. No.: C-7A		
Submitted by: Ran			

MCS FILE: BORD-7A

B07NE003703-04973





○ AM-003 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

● AM-004 APPROXIMATE SHALLOW SOIL SAMPLE LOCATION

EM-31
INPHASE RESPONSE
CONTOUR INTERVAL = 1 part/1000
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-20-95 & 3-21-85

N

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

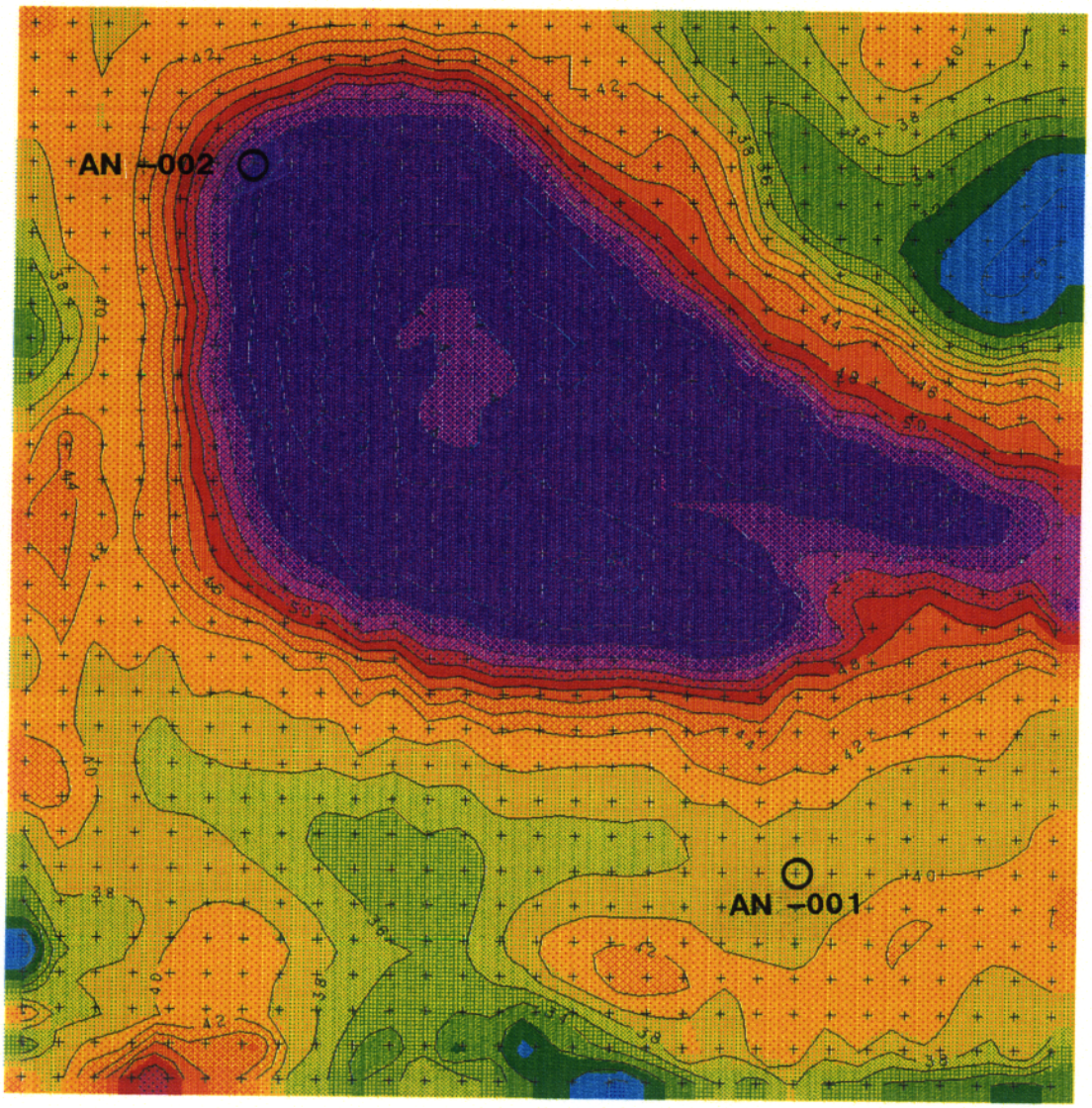
U.S. Army Corps of Engineers

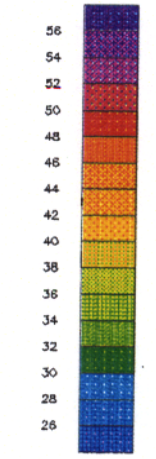
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

WASTE DISPOSAL AREA AT
THE ATLAS MISSLE AREA-
NORTHEAST DISPOSAL AREA
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-7B
Sheet number: 1

MCS FILE: BORD-7B





N

○ AN-001 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

M-31
QUADRATURE RESPONSE
CONTOUR INTERVAL = 2mmhos/meter
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-12-95

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

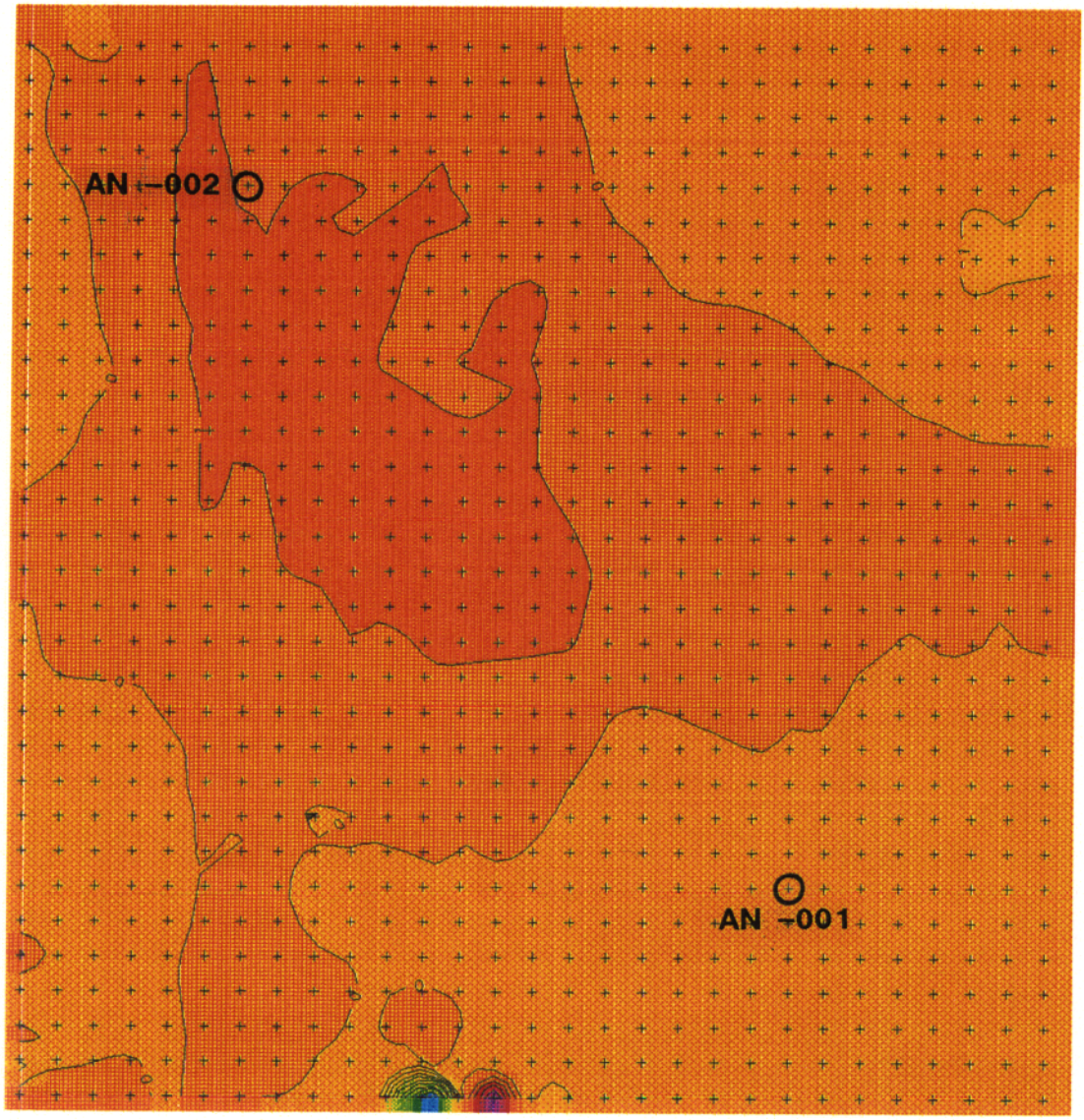
U.S. Army Corps of Engineers

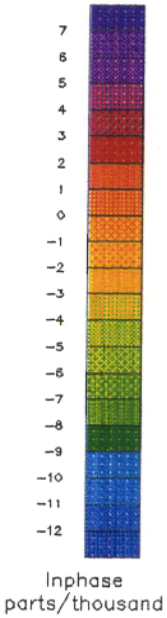
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

WASTE DISPOSAL AREA NORTH
OF THE AMMONIUM NITRATE PLANT
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-8A
Sheet number: 1

MCS FILE: BORD-8A





N

○ AN-001 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

M-31
INPHASE RESPONSE
CONTOUR INTERVAL = 1 parts/1000
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-12-95

MCS FILE: BORD-8B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

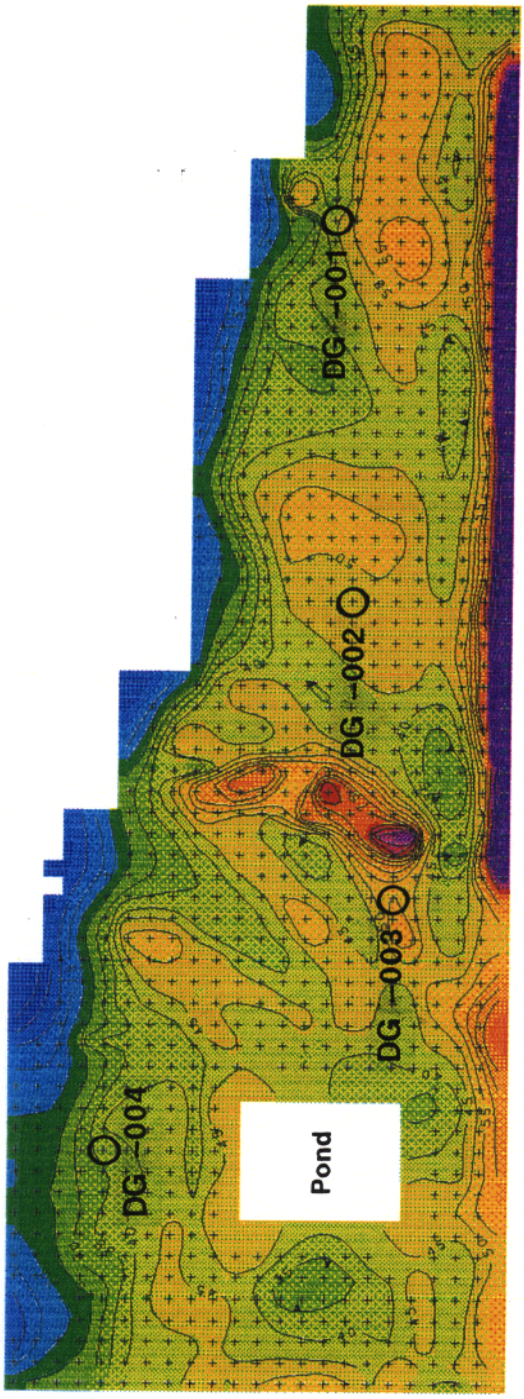
Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: RAM

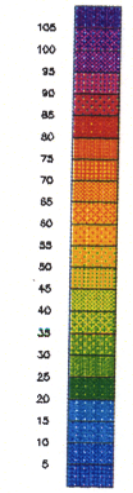
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

WASTE DISPOSAL AREA NORTH
OF THE AMMONIUM
NITRATE PLANT
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-8B
Sheet number: 1





N

○ DG-001 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

1-31
QUADRATURE RESPONSE
CONTOUR INTERVAL = 5mmhos/meter
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-12-95 & 3-13-95

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

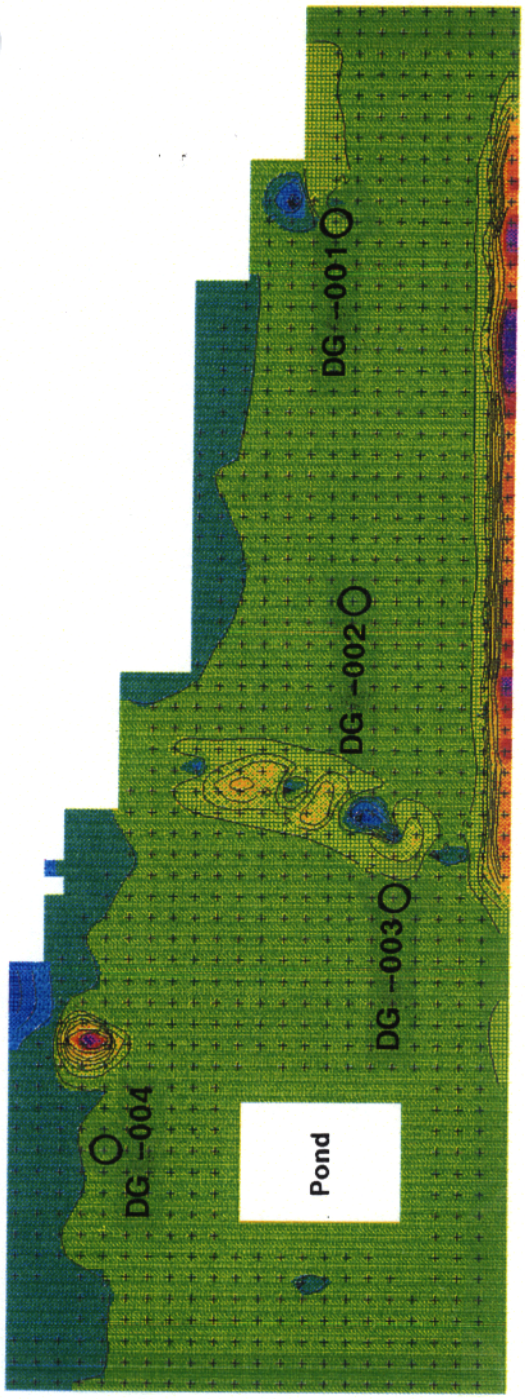
U.S. Army Corps of Engineers

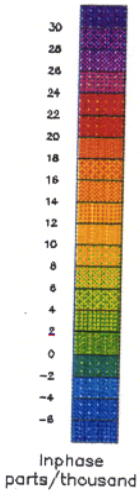
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

DEMOLITION GROUND
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-9A
Sheet number: 1

MCS FILE: BORD-9A





N

○ DG-001 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

1-31

INPHASE RESPONSE
CONTOUR INTERVAL = 2 parts/1000
GRID NODE SPACING = 20 FEET
SURVEY DATE = 3-12-95 & 3-13-95

MCS FILE: BORD-9B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

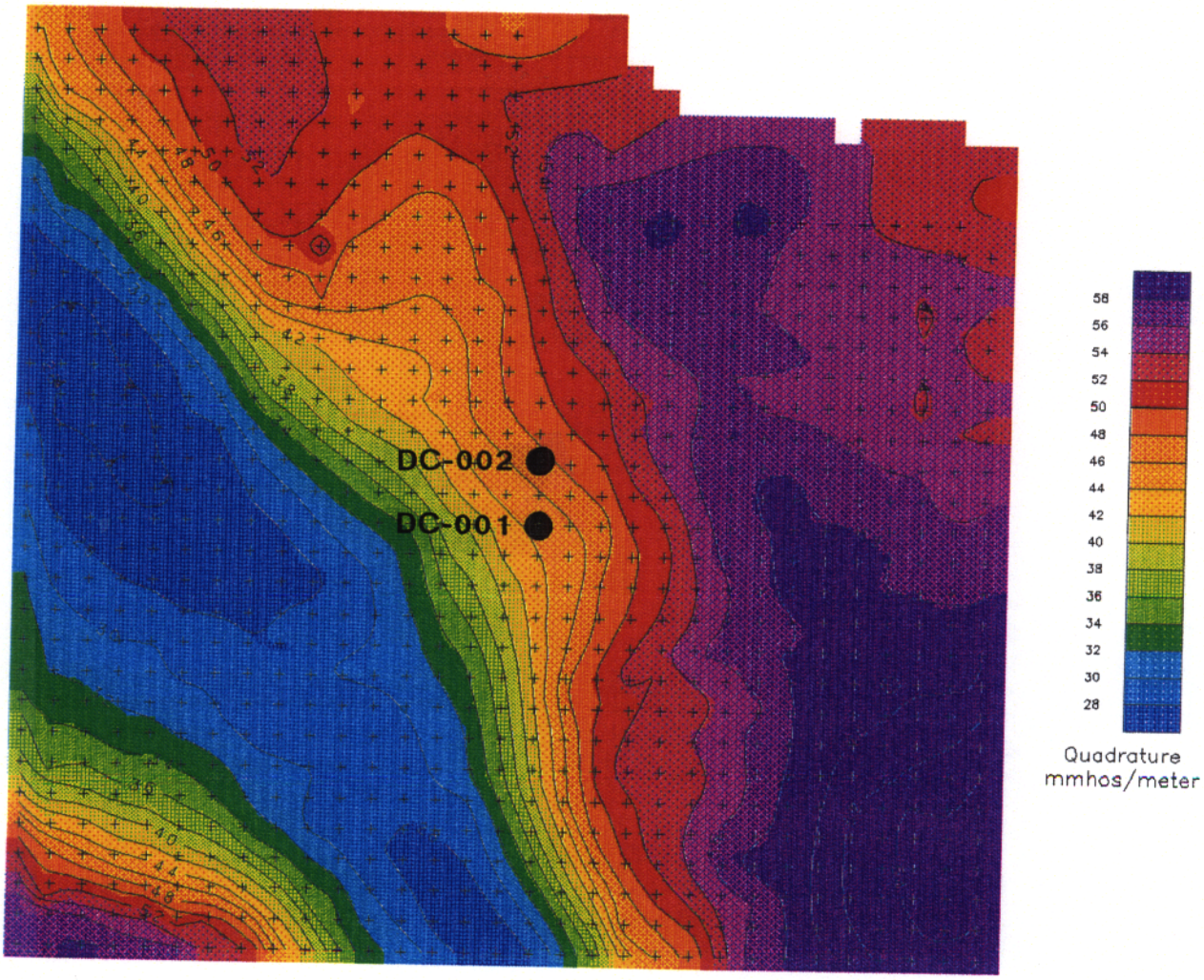
Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

DEMOLITION GROUND
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-9B
Sheet number: 1



● DC-002 APPROXIMATE SHALLOW SOIL SAMPLE LOCATION

M-31
QUADRATURE RESPONSE
CONTOUR INTERVAL = 2mmhos/meter
GRID NODE SPACING = 10 FEET
SURVEY DATE = 3-11-95 - 3-22-95

N

MCS FILE: BORD-10A

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

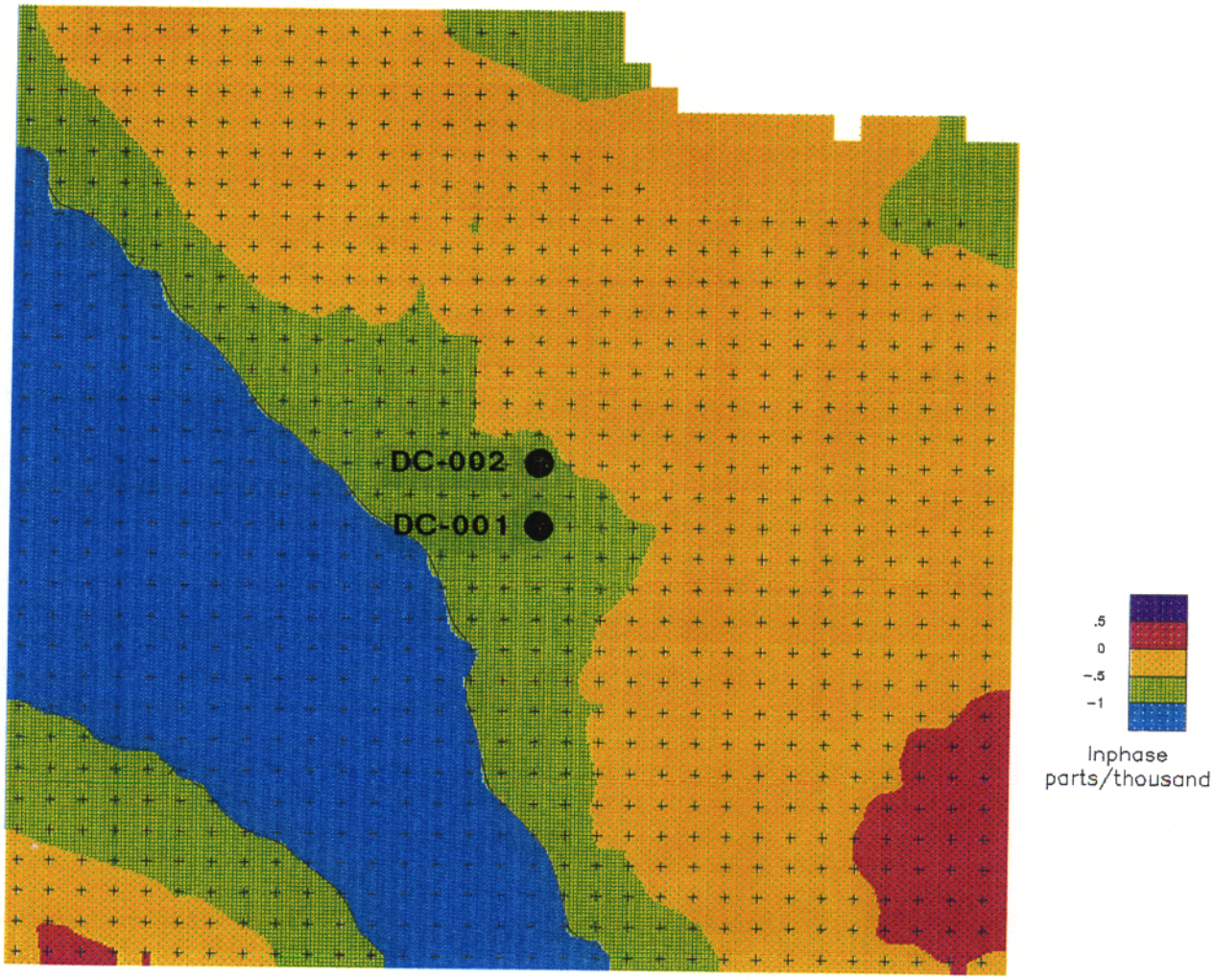
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

DETONATION CRATERS 1 AND 2
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-10A
Sheet number: 1

B07NE003703-04979



● DC-002 APPROXIMATE SHALLOW SOIL SAMPLE LOCATION

-31

INPHASE RESPONSE
CONTOUR INTERVAL = parts/1000
GRID NODE SPACING = 10 FEET
SURVEY DATE = 3-11-95 - 3-22-95

N

MCS FILE: BORD-10B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

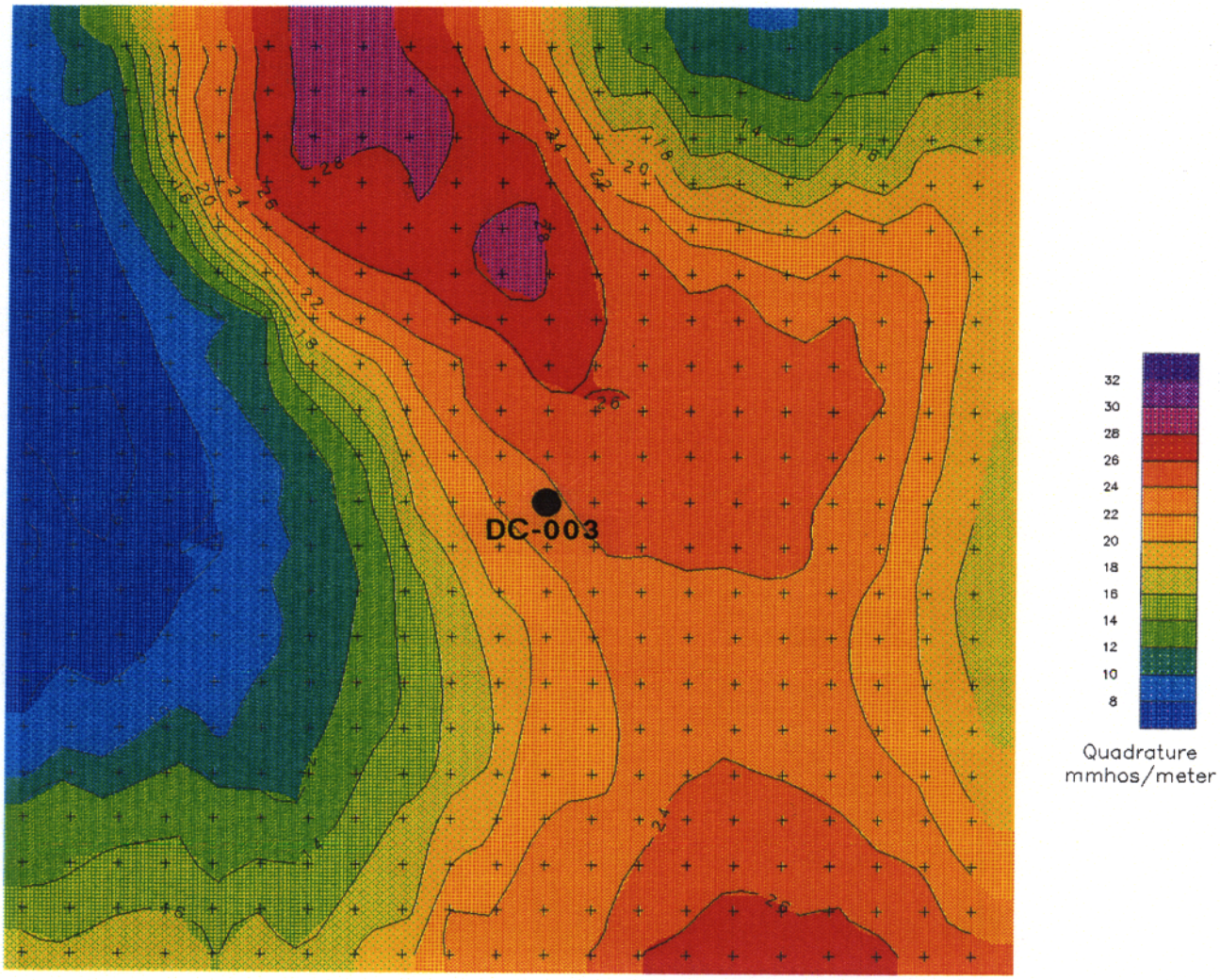
Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

DETONATION CRATERS 1 AND 2
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-10B
Sheet number: 1



● DC-003 APPROXIMATE SHALLOW SOIL SAMPLE LOCATION

M-31
QUADRATURE RESPONSE
CONTOUR INTERVAL = 2mmhos/meter
GRID NODE SPACING = 10 FEET
SURVEY DATE = 3-11-95 - 3-22-95

N

MCS FILE: BORD-11A

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

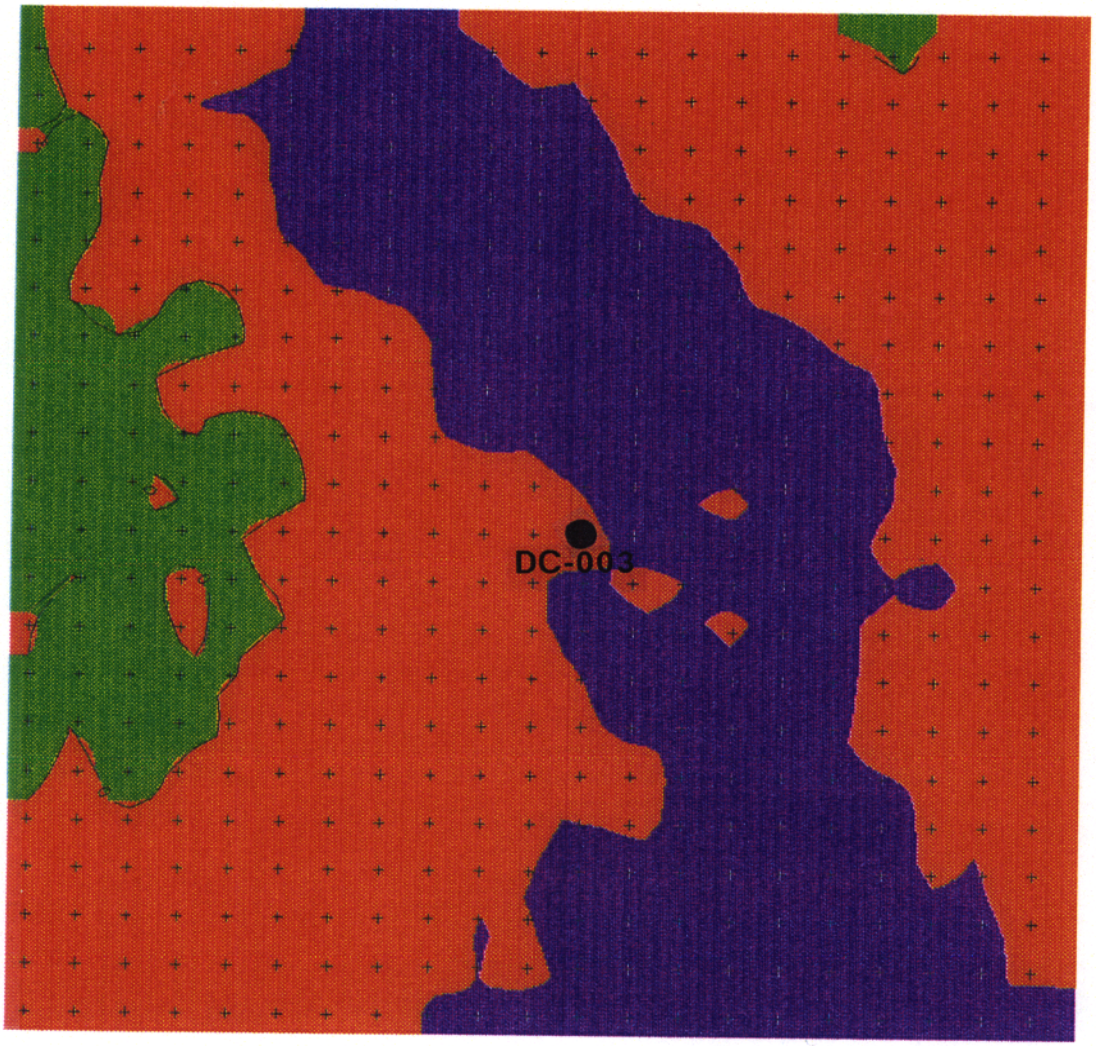
Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

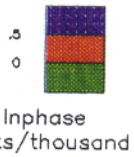
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

DETONATION CRATER 3
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-11A
Sheet number: 1





● DC-003 APPROXIMATE SHALLOW SOIL SAMPLE LOCATION

M-31
INPHASE RESPONSE
CONTOUR INTERVAL = parts/1000
GRID NODE SPACING = 10 FEET
SURVEY DATE = 3-11-95 - 3-22-95

N

MCS FILE: BORD-11B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

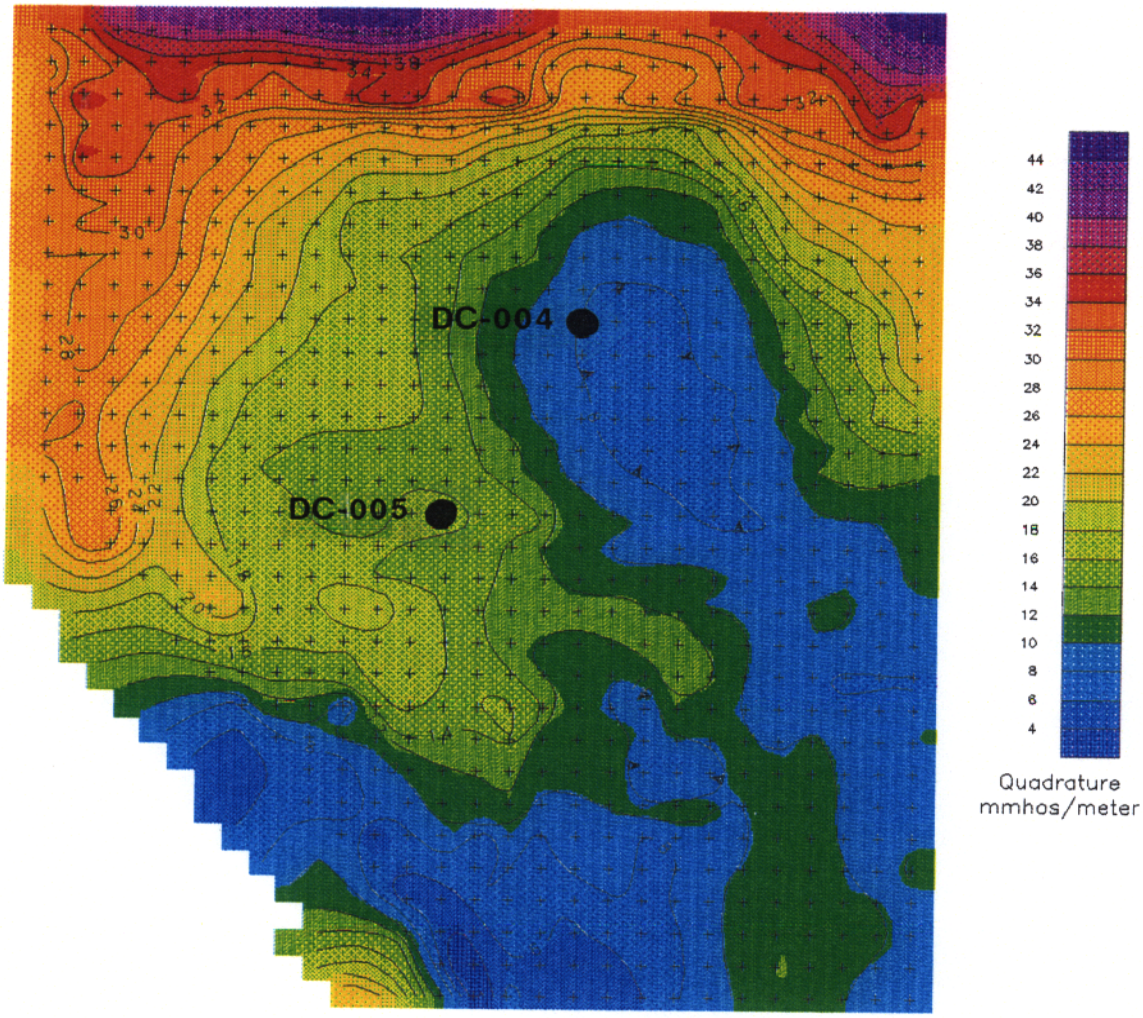
Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

DETONATION CRATER 3
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-11B
Sheet number: 1



● DC-005 APPROXIMATE SHALLOW SOIL SAMPLE LOCATION

M-31
QUADRATURE RESPONSE
CONTOUR INTERVAL = 2mmhos/meter
GRID NODE SPACING = 10 FEET
SURVEY DATE = 3-11-95 - 3-22-95

N

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

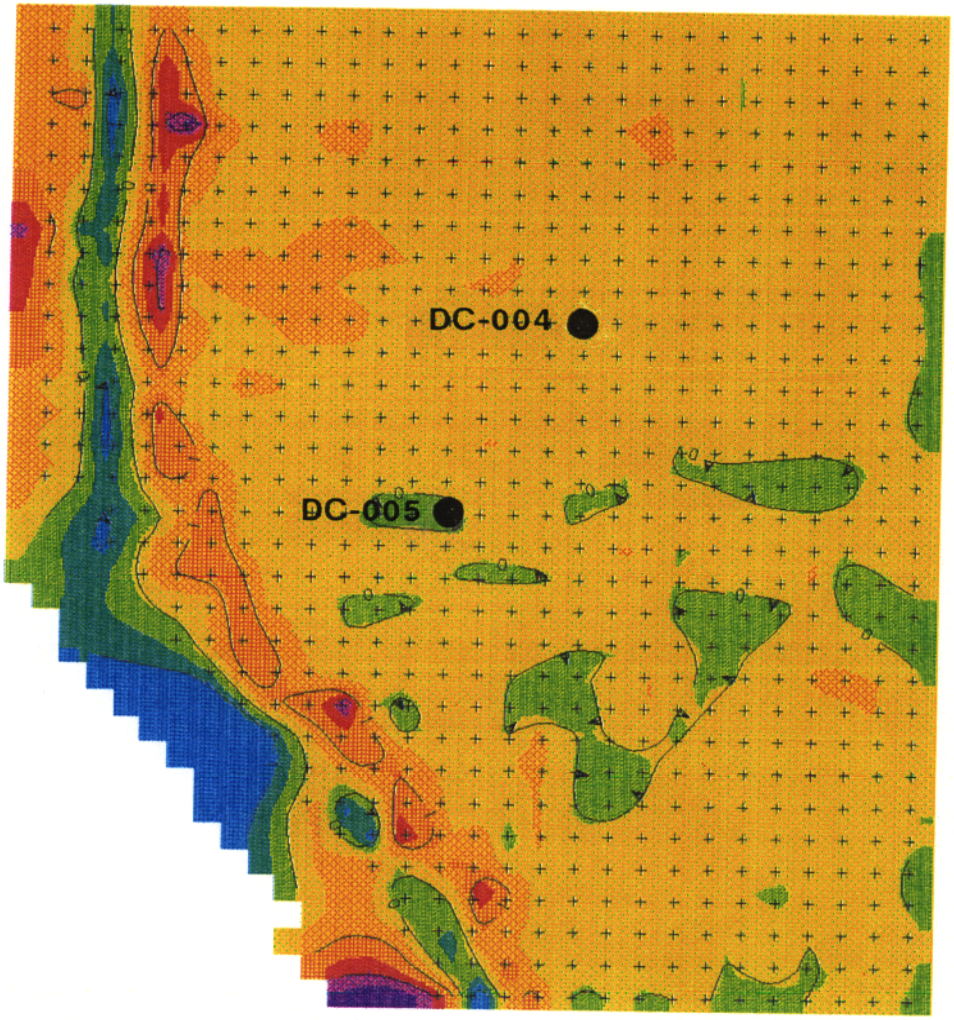
U.S. Army Corps of Engineers

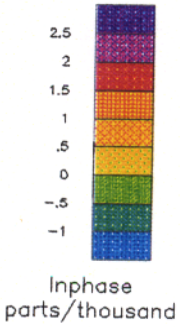
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

DETONATION CRATERS 4 AND 5
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Sheet number: 1
Date: MAY, 1997
Dwg. No.: C-12A

MCS FILE: BORD-12A





● DC-005 APPROXIMATE SHALLOW SOIL SAMPLE LOCATION

EM-31
INPHASE RESPONSE
CONTOUR INTERVAL = parts/1000
GRID NODE SPACING = 10 FEET
SURVEY DATE = 3-11-95 - 3-22-95

N

MCS FILE: BORD-12B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

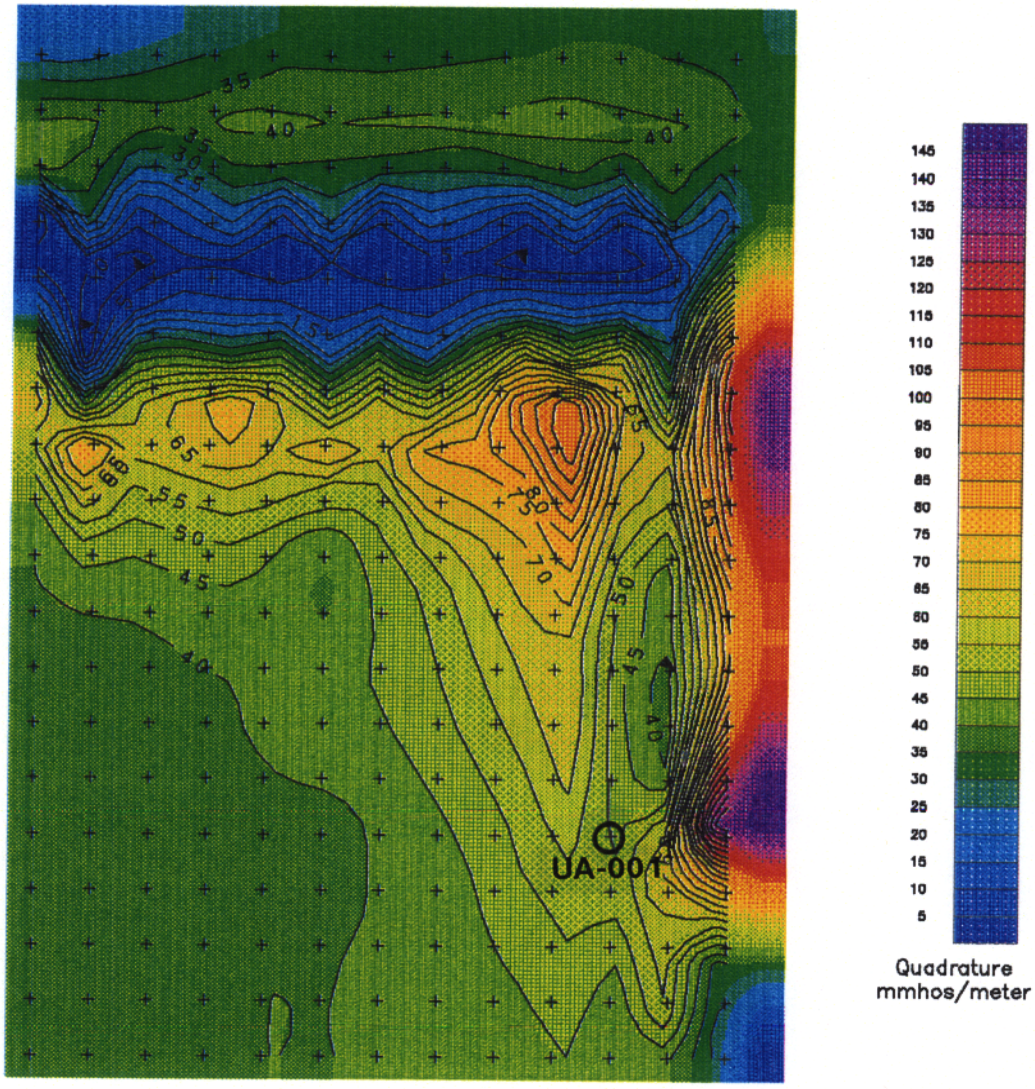
Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

DETONATION CRATERS 4 AND 5
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-12B
Sheet number: 1



○ UA-001 APPROXIMATE SHALLOW AND DEEP SOIL AND HYDROPUNCH SAMPLE LOCATION

1-31

QUADRATURE RESPONSE
CONTOUR INTERVAL = 5mmhos/meter
GRID NODE SPACING = 10 FEET
SURVEY DATE = 3-21-95

N

MCS FILE: BORD-13A

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

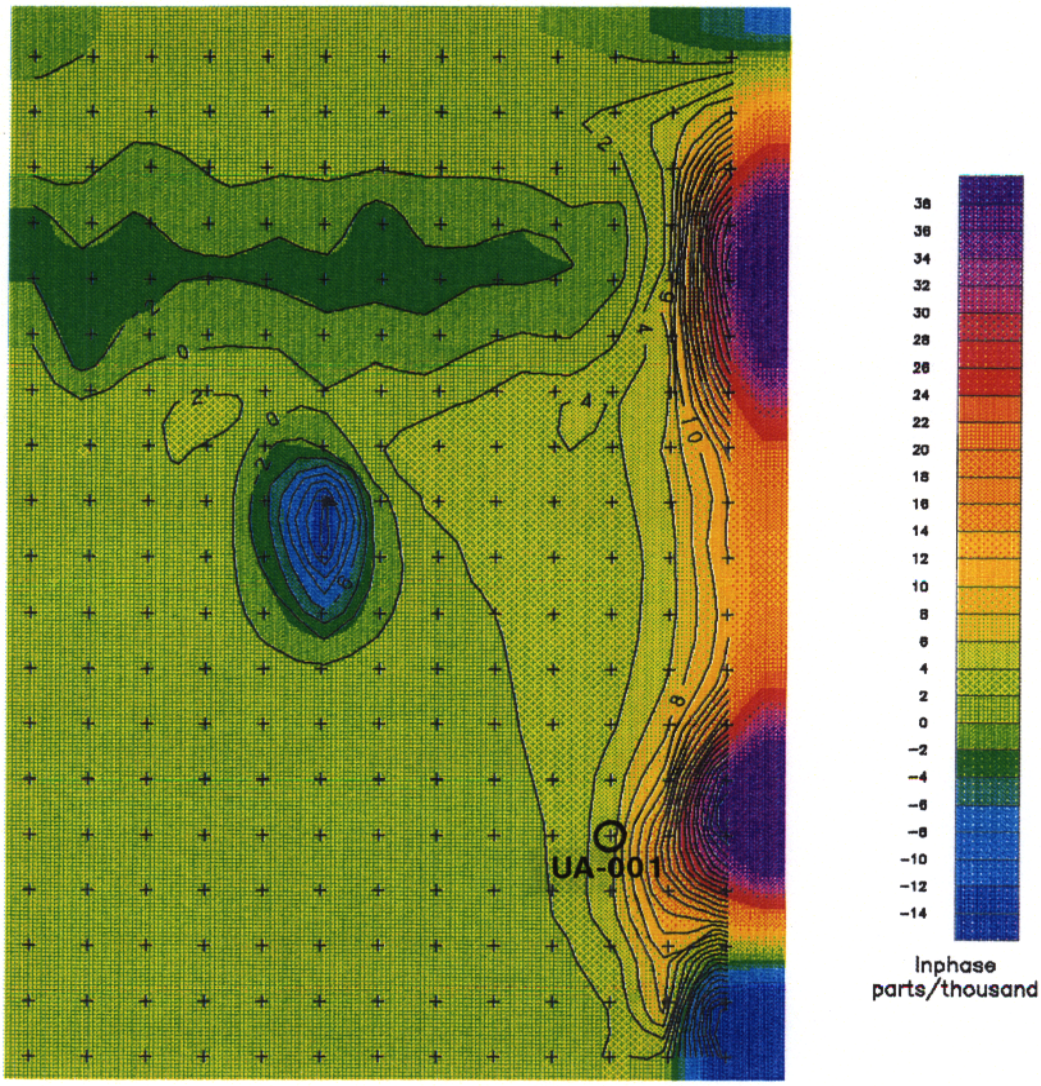
Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

ADMINISTRATION AREA UST
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-13A
Sheet number: 1



N

○ UA-001 APPROXIMATE SHALLOW AND DEEP SOIL AND HYDROPUNCH SAMPLE LOCATION

M-31
INPHASE RESPONSE
CONTOUR INTERVAL = 2 parts/1000
GRID NODE SPACING = 10 FEET
SURVEY DATE = 3-21-95

MCS FILE: BORD-13B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

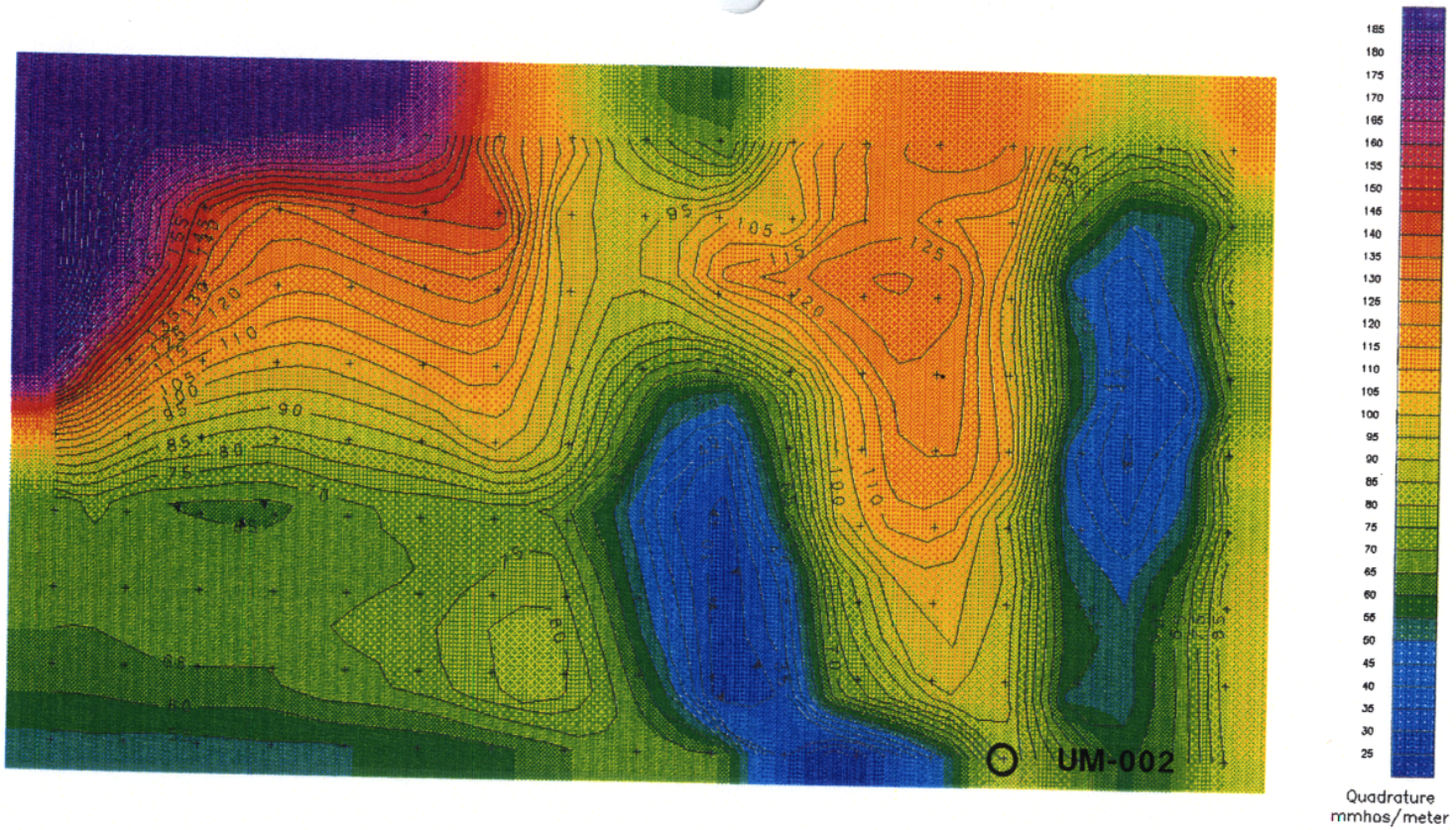
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

ADMINISTRATION AREA UST
ELECTROMAGNETICS CONTOUR MAP

Designed by: S.J.F.	Scale: NOT TO SCALE	Sheet number:	
Drawn by: L.H.A.	Date: MAY, 1997		
Checked by: B.C.O.	Dwg. No.: C-13B	1	
Submitted by: RAN			



○ UM-002 APPROXIMATE SHALLOW AND DEEP SOIL AND HYDROPUNCH SAMPLE LOCATION

EM-31

QUADRATURE RESPONSE
CONTOUR INTERVAL = 5mmhos/meter
GRID NODE SPACING = 5 FEET
SURVEY DATE = 3-9-95

N

MCS FILE: BORD-14A

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

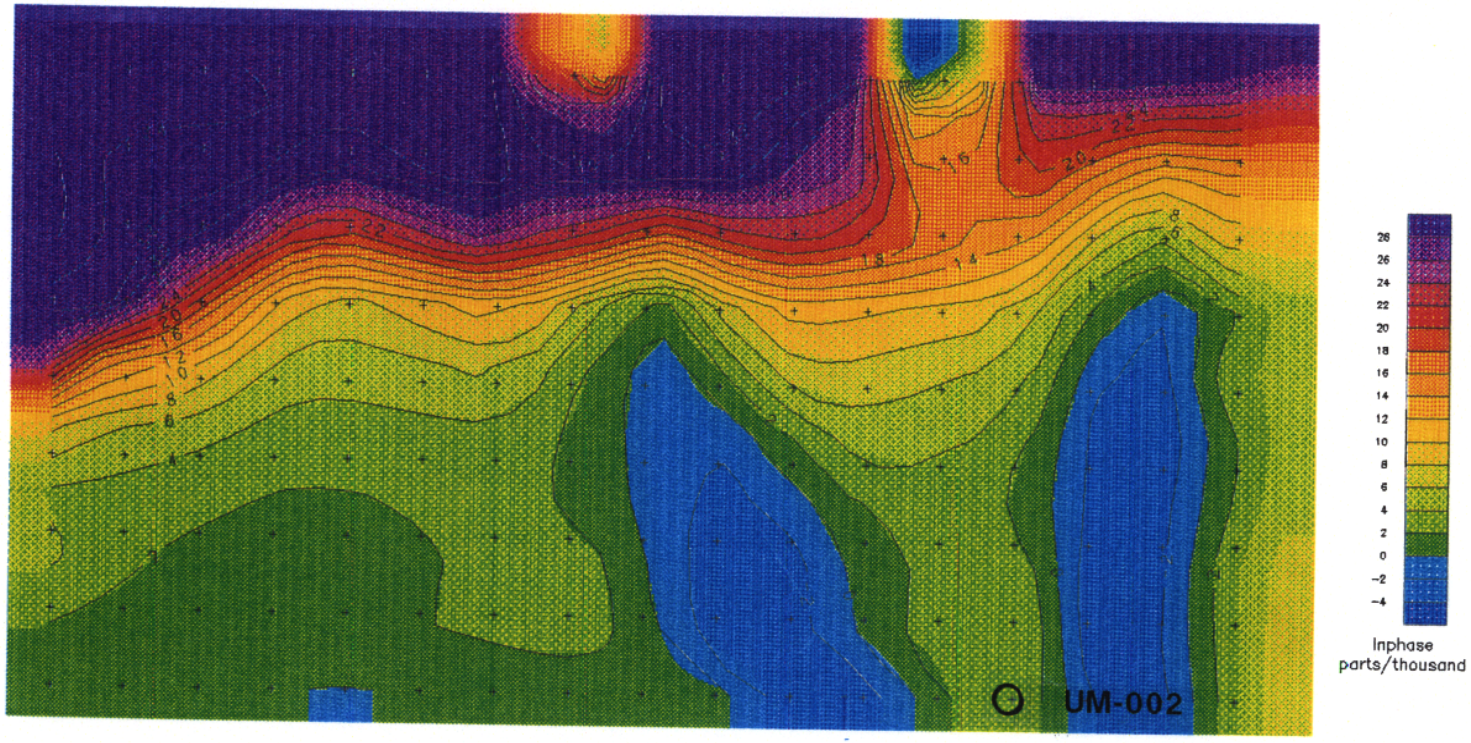
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

ATLAS MISSILE AREA UST
(LAUNCH OPERATIONS BUILDING)
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-14A
Sheet number: 1

B07NE003703-04987



○ UM-002 APPROXIMATE SHALLOW AND DEEP SOIL AND HYDROPUNCH SAMPLE LOCATION

EM-31
INPHASE RESPONSE
CONTOUR INTERVAL = 2 parts/1000
GRID NODE SPACING = 5 FEET
SURVEY DATE = 3-9-95

N

MCS FILE: BORD-14B

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

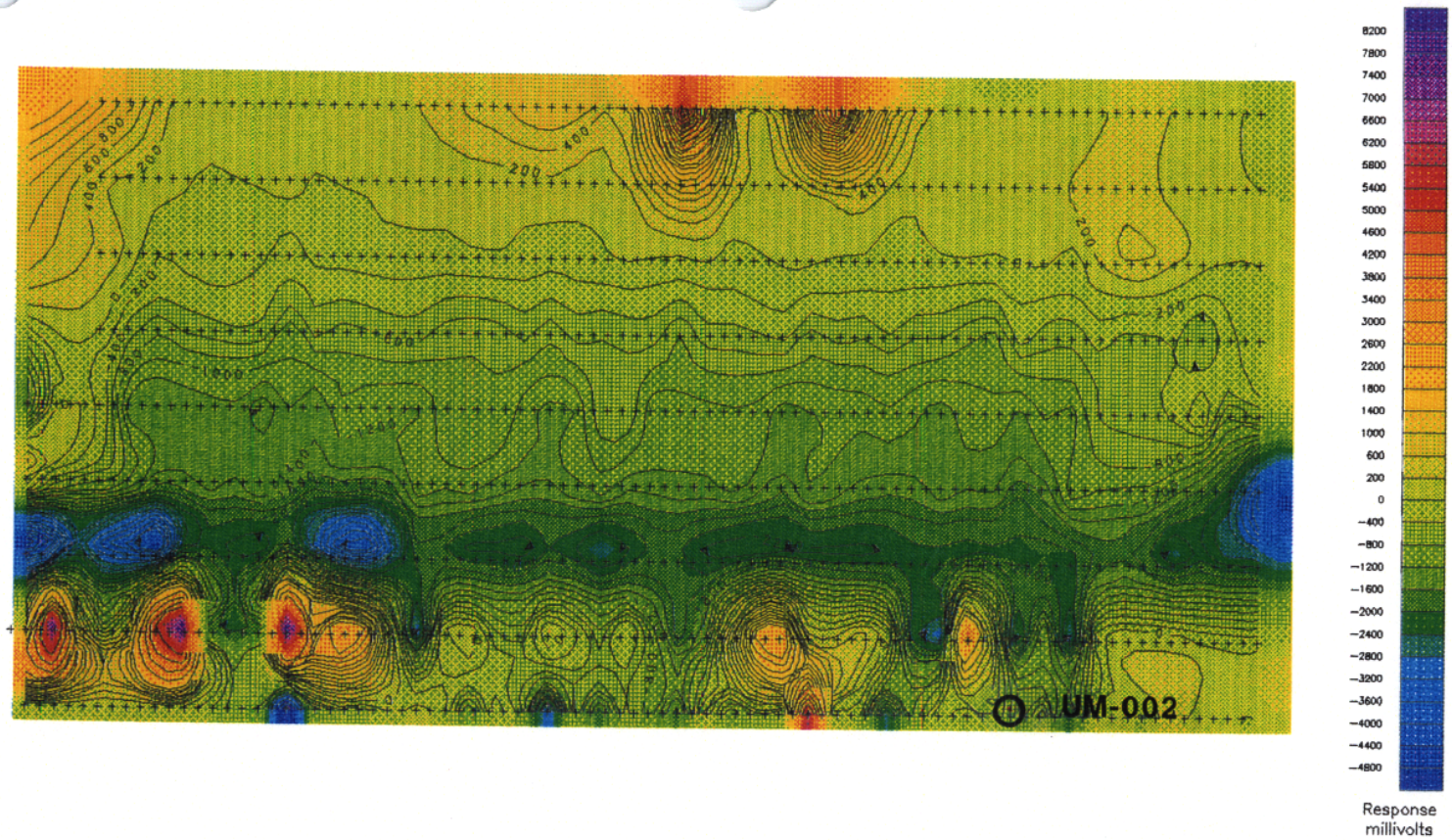
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

ATLAS MISSILE AREA UST
(LAUNCH OPERATIONS BUILDING)
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-14B
Sheet number: 1

B07NE003703-04988



○ UM-002 APPROXIMATE SHALLOW AND DEEP SOIL AND HYDROPUNCH SAMPLE LOCATION

EM-61

CHANNEL 2 RESPONSE
CONTOUR INTERVAL = 200 millivolts
LINE SPACING = 5 FEET
STATION SPACING = 1 FOOT
SURVEY DATE = 3-12-95

N

MCS FILE: BORD-15A

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

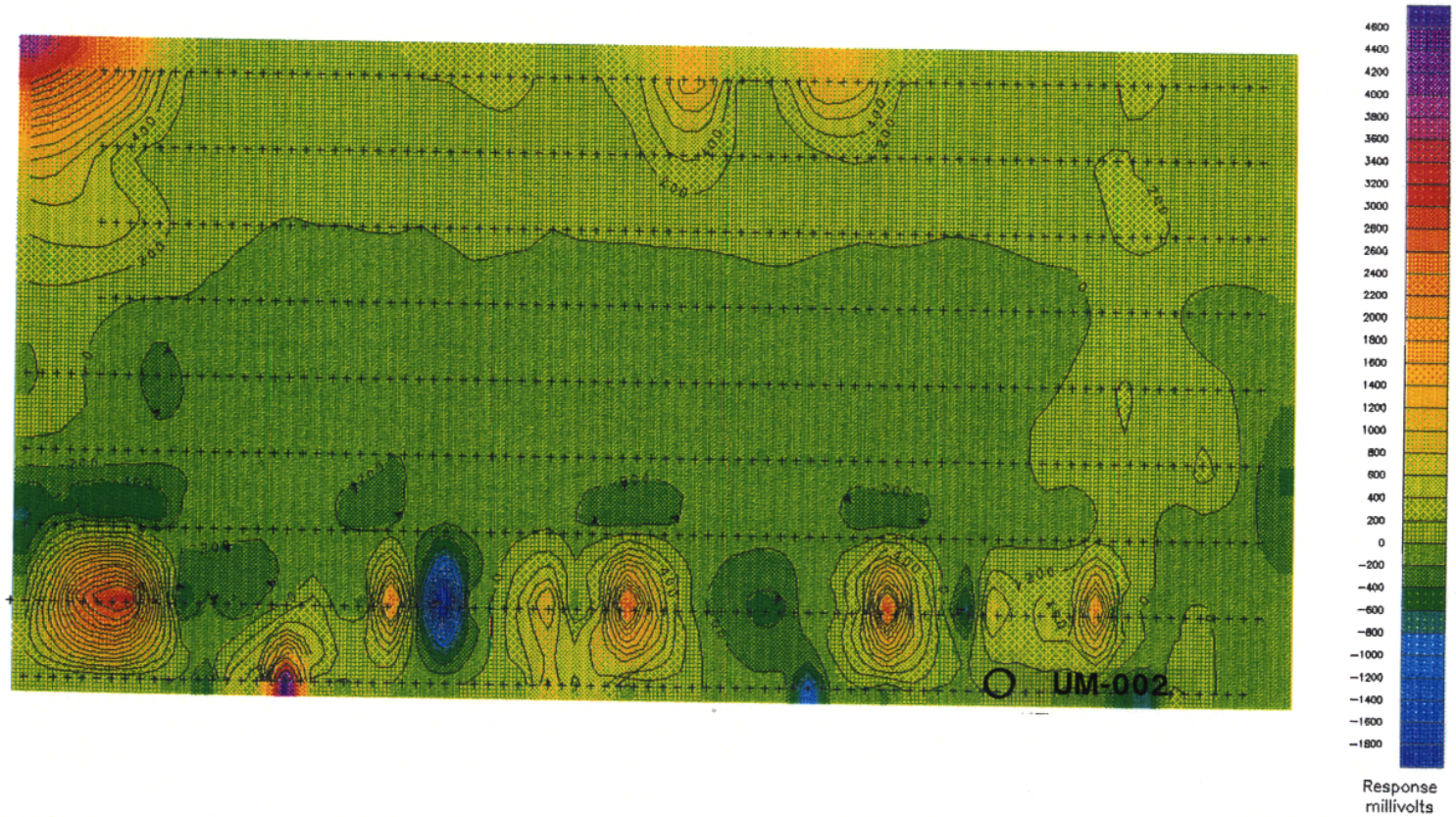
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

ATLAS MISSILE AREA UST
(LAUNCH OPERATIONS BUILDING)
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-15A
Sheet number: 1

B07NE003703-04989



○ UM-002 APPROXIMATE SHALLOW AND DEEP SOIL AND HYDROPUNCH SAMPLE LOCATION

EM-61

CHANNEL 3 RESPONSE
CONTOUR INTERVAL = 200 millivolts
LINE SPACING = 5 FEET
STATION SPACING = 1 FOOT
SURVEY DATE = 3-12-95

N

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

U.S. Army Corps of Engineers

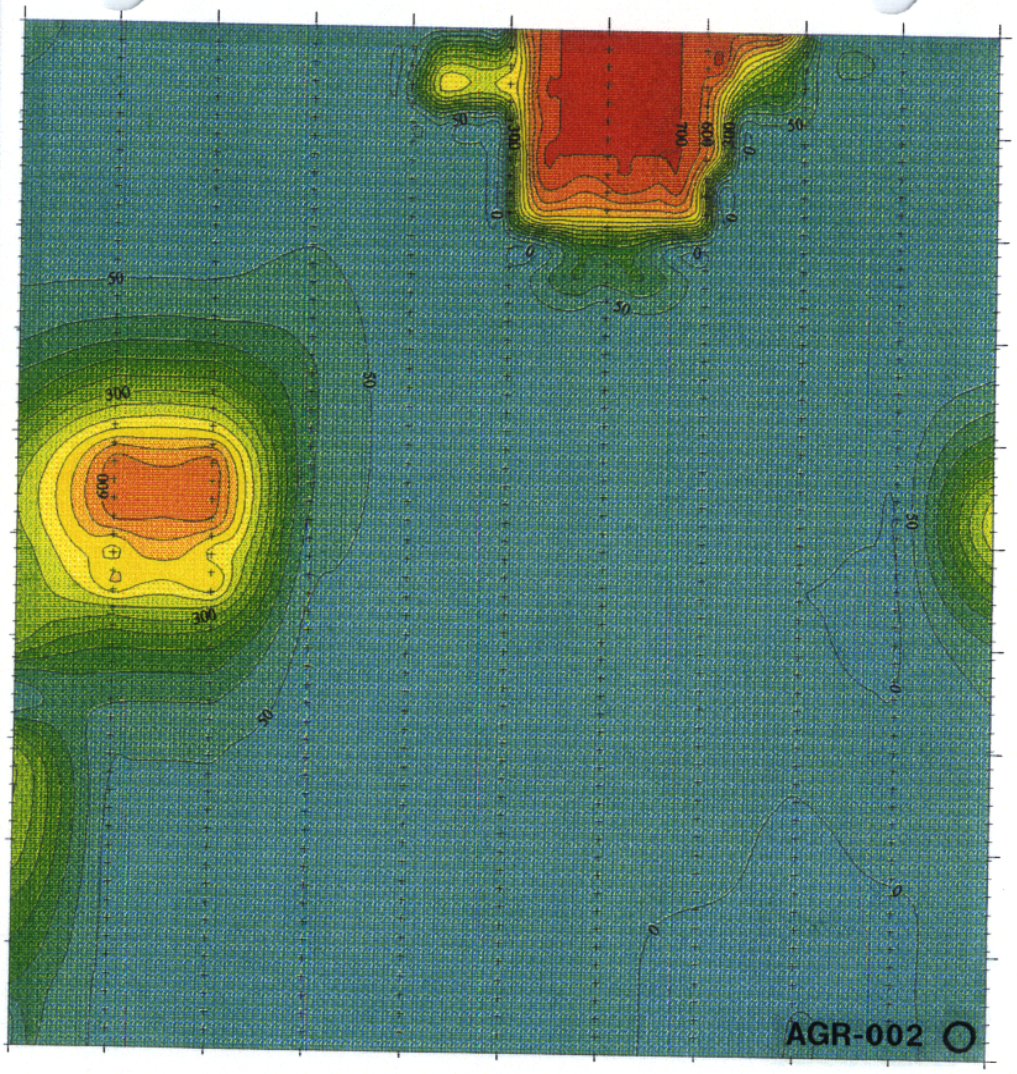
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

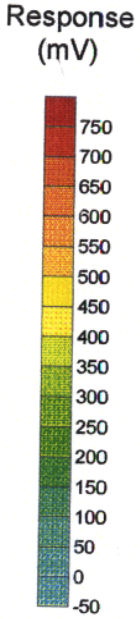
ATLAS MISSILE AREA UST
(LAUNCH OPERATIONS BUILDING)
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-15B
Sheet number: 1

MCS FILE: BORD-15B

B07NE003703-04990





○ AGR-002 APPROXIMATE SHALLOW AND DEEP SOIL AND HYDROPUNCH SAMPLE LOCATION

EM-61
CHANNEL 2 RESPONSE
CONTOUR INTERVAL = 50 millivolts
LINE SPACING = 5 FEET
STATION SPACING = 1 FOOT
SURVEY DATE = 5-14-96

N

MCS FILE: BORD-16A

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

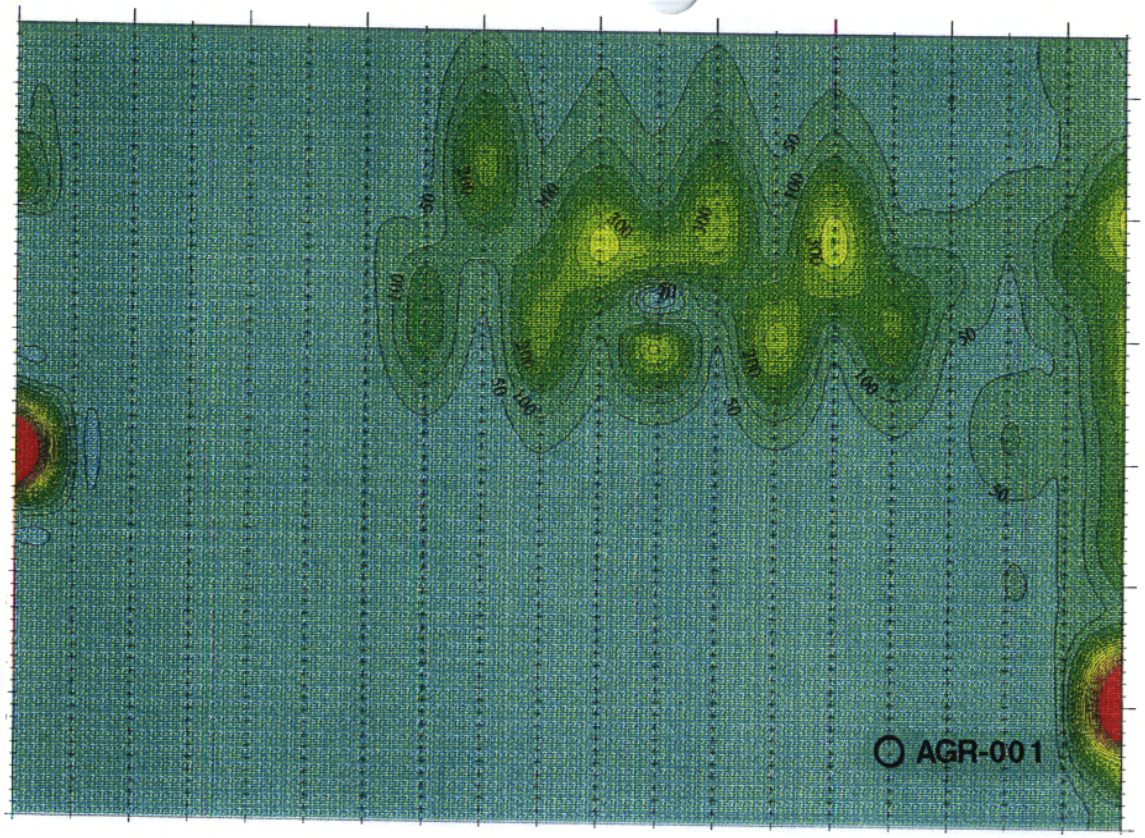
U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

AGRONOMY AREA UST
AIR FORCE GLOBAL
COMMUNICATIONS BLDG.
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-16
Sheet number: 1

B07NE003703-04991



Response (mV)

750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
-50

○ AGR-001 APPROXIMATE SHALLOW AND DEEP SOIL AND HYDROPUNCH SAMPLE LOCATION

EM-61

CHANNEL 2 RESPONSE
CONTOUR INTERVAL = 50 millivolts
LINE SPACING = 10 FEET
STATION SPACING = 1 FOOT
SURVEY DATE = 5-14-96

N

MCS FILE: BORD-17A

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: Ran

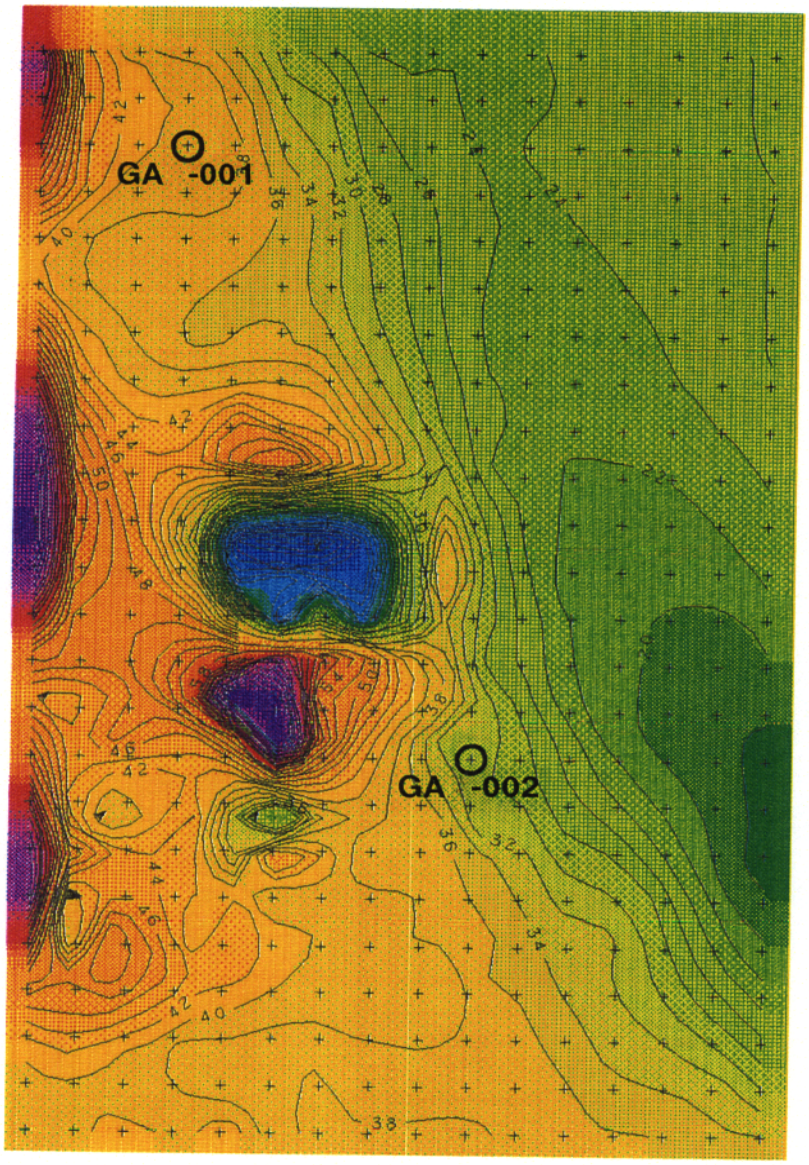
U.S. Army Corps of Engineers

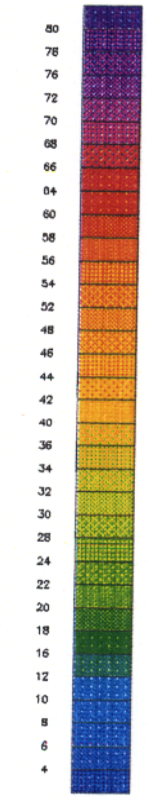
REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

AGRONOMY AREA UST
EMERGENCY POWER BLDG.
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-17
Sheet number: 1

B07NE003703-04992





○ GA-001 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

EM-31
QUADRATURE RESPONSE
CONTOUR INTERVAL = 2mmhos/meter
GRID NODE SPACING = 10 FEET
SURVEY DATE = 3-11-95

N

MCS FILE: BORD-18A

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward-Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

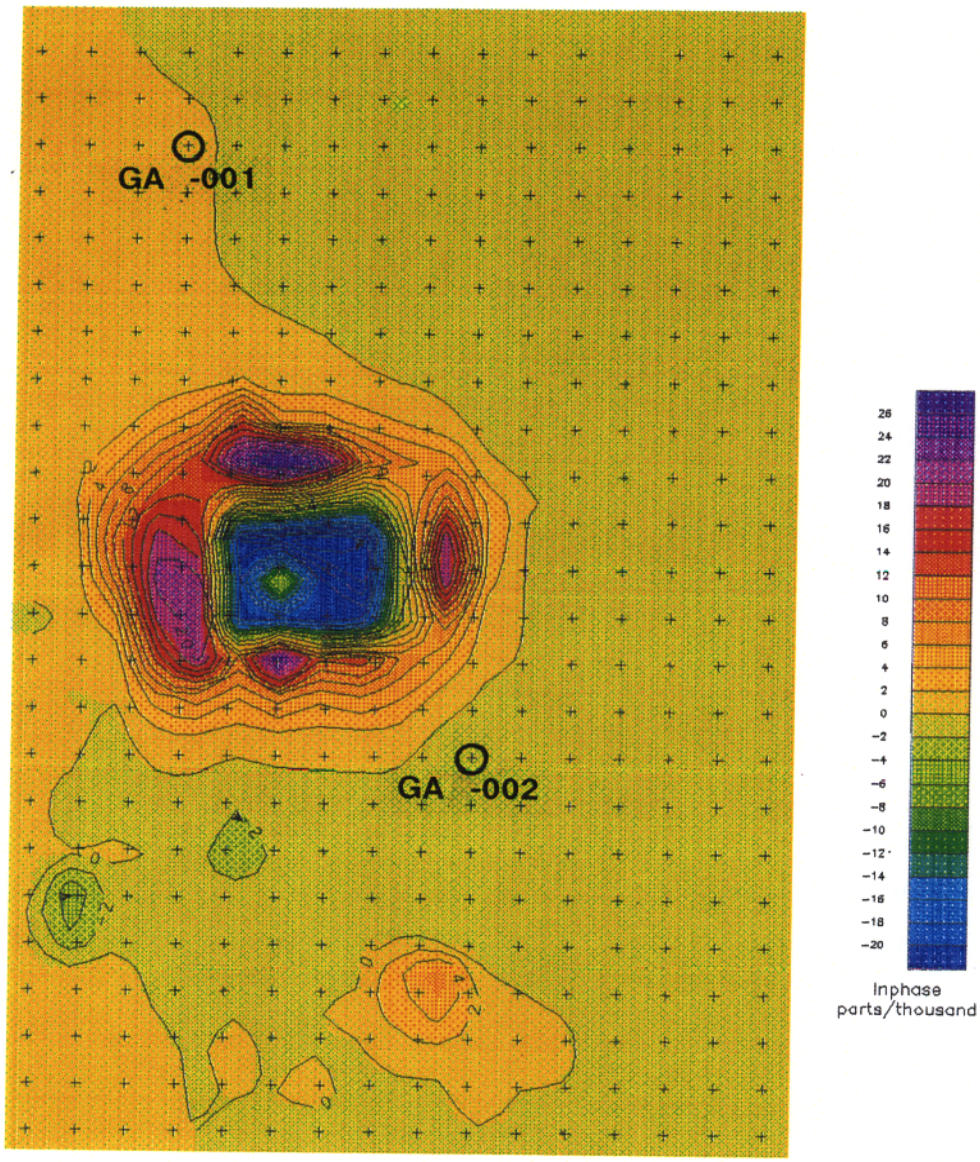
Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by: RAN

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

GEOPHYSICAL ANOMALY AT
LOAD LINE 3
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-18A
Sheet number: 1



○ GA-001 APPROXIMATE SHALLOW AND DEEP SOIL SAMPLE LOCATION

EM-31
INPHASE RESPONSE
CONTOUR INTERVAL = 2 parts/1000
GRID NODE SPACING = 10 FEET
SURVEY DATE = 3-11-95

N

Revisions			
Symbol	Descriptions	Date	Apprv'd

Woodward–Clyde
Overland Park, Kansas

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: S.J.F.
Drawn by: L.H.A.
Checked by: B.C.O.
Submitted by:

U.S. Army Corps of Engineers

REMEDIAL INVESTIGATION
FOR OPERABLE UNIT 3
FMR. NEBRASKA ORDNANCE PLANT - MEAD, NE.

GEOPHYSICAL ANOMALY
AT LOAD LINE 3
ELECTROMAGNETICS CONTOUR MAP

Scale: NOT TO SCALE
Date: MAY, 1997
Dwg. No.: C-18B
Sheet number: 1

MCS FILE: BORD-18B

Appendix D

B07NE003703-04995

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D-1	North Burning Ground Boring Logs
D-2	Potential Waste Disposal Area North Of Nike Maintenance Boring Logs
D-3	Potential Waste Disposal Area Southeast Of Bomb Booster Boring Logs
D-4	Potential Waste Disposal Areas At The Atlas Missile Are Boring Logs
D-5	Potential Waste Disposal Area North Of The Ammonium Nitrate Plant Boring Logs
D-6	Demolition Grounds Boring Logs
D-7	Underground Storage Tanks Boring Logs
D-8	Geophysical Anomaly At Load Line 3 Boring Logs
D-9	Monitoring Wells MW-63B And MW-64B Boring Logs

HTW DRILLING LOG

HOLE NO. NGA-005

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: John Coons	6. MANUFACTURER'S DESIGNATION OF DRILL: CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3 7/4" ID 7 7/8" OD HSA; 2" OD Steel Split Spoon; 3 1/2" OD · 5' Core Split Barrel	8. HOLE LOCATION: North Burning Ground Area
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3·28·95 / 11. DATE COMPLETED: 3·28·95
12. OVERBURDEN THICKNESS: ND	15. DEPTH GROUNDWATER ENCOUNTERED: NA
13. DEPTH DRILLED INTO ROCK: ND	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 21'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5			NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
5	CLP	CLP	CLP-SVOC	—	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay dark gray brown-gray, CL, silty, abundant roots & root hairs, soft, trace rust-brown oxidation staining, slightly moist (TOP SOIL)	0 ppm		NGA-005-000 0.5' Recovery		Started drilling @1530 on 3-28-95
				0.5' Recovery			Collected a split barrel sample from 0' to 4' @1531
	1	Clay medium to dark gray-brown to yellow gray-brown, CL, silty, soft, crumbly, ocassional rust-brown oxidation staining, abundant cracks, trace mica, slightly moist (LOESS)	0 ppm		NGA-005-001 1.0' Recovery		Collected sample @1535 from 0' to 0.5' Collected sample @1540 from 1' to 2'
	2		0 ppm	1.8' Recovery			
	3						
	4		0 ppm		NGA-005-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @1546 Collected sample @1550 from 4' to 5'
		Clay medium to dark yellow-brown with abundant rust-brown oxidation staining, leached, CL, black organic material, silty to very silty, trace mica, slightly moist (LOESS)					
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3 | HOLE NO.: NGA-005

HTW DRILLING LOG

HOLE NO. NGA-005

SHEET 2 OF 3 SHEETS

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR: David A. Kubeczko

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown with abundant rust-brown oxidation staining, leached, CL, scattered black organic material, silty to very silty in part, trace mica, soft to stiff, crumbly in part, slightly moist (LOESS)	0 ppm	4.0' Recovery			
	6						
	7						
	8						
	9		0 ppm		NGA-005-009		Collected a split barrel sample from 9' to 14' @ Collected sample @ 1555 from 9' to 11'
	10				NGA-205-009 NGA-405-009 2.0' Recovery		Collected duplicate sample from 9' to 11' @ 1555 Collected MRD duplicate sample from 9' to 11' @ 1555
	11		0 ppm				
	12						
	13						
	14						

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: NGA-005

ICORPS/4-15-82

HTW DRILLING LOG

HOLE NO. NGA-005

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Clay medium to dark yellow-brown with abundant rust-brown oxidation staining, CL, scattered black organic material, silty to very silty, soft, crumbly in part, trace mica, slightly moist (LOESS)	0 ppm	4.7' Recovery			Collected a split barrel sample from 14' to 19' @ 1557
	15						
	16						
	17	Silt medium to dark yellow-brown with scattered rust-brown oxidation staining, and thin clay streaks, very clayey, trace mica & sand, slightly moist, ML, (LOESS)					
	18	Sand light brown yellow-brown, gray-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, scattered rust-brown oxidation staining & banding, silty to very silty, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	19		0 ppm		NGA-005-019 1.7' Recovery	12	Collected a split spoon sample from 19' to 21' @ 1600
	20					16	Collected a rinsate sample from the decanned split spoon mixing bowl & spoon from sample collected @ 19' to 21' RIN-NGA-005-035 RIN-NGA-005-035-QA for MRD @ 1620
						12	
						16	
	21	Bottom of borehole - 21'					Finished drilling @ 1604 on 3-28-95 Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

HTW DRILLING LOG

HOLE NO.	NGA-007
1. COMPANY NAME	Woodward-Clyde Consultants
2. DRILLING SUBCONTRACTOR	J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT	Remedial Investigation, Mead NOP
4. LOCATION	Mead, Nebraska
5. NAME OF DRILLER	John Coors
6. MANUFACTURER'S DESIGNATION OF DRILL	CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	3 3/4" ID 7 7/8" OD HSA; 2" OD Steel Split Spoon; 3 1/2" OD · 5' Core Split Barrel
8. HOLE LOCATION	North Burning Ground Area
9. SURFACE ELEVATION	
10. DATE STARTED	3·28·95
11. DATE COMPLETED	3·28·95
12. OVERBURDEN THICKNESS	ND
15. DEPTH GROUNDWATER ENCOUNTERED	NA
13. DEPTH DRILLED INTO ROCK	ND
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	21'
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
5	CLP	CLP	CLP-SVOC	—	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesho

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay dark gray-brown, CL, abundant roots & root hairs, silty, slightly sandy, slightly moist (TOP SOIL)	0 ppm		NGA-007-000 0.5' Recovery		Started drilling @ 1410 on 3·28·95
				0.5' Recovery			Collected a split barrel sample from 0' to 4' @ 1412
	1		0 ppm		NGA-007-001 1.0' Recovery		Collected sample @ 1415 from 0' to 0.5'
		Clay very dark gray brown-gray to black, CL to CH, root hairs, silty to slightly silty, low to medium plastic, soft, trace mica, slightly moist (TOP SOIL)					Collected sample @ 1420 from 1' to 2'
	2		0 ppm	1.5' Recovery			
	3						
		Clay medium to dark yellow-brown with scattered rust-brown oxidation staining, CL to CH, soft, low to medium plastic, silty to slightly silty, trace mica & black organic material, slightly moist (LOESS)					
	4		0 ppm		NGA-007-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @ 1422
							Collected sample @ 1425 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: NGA-007

HTW DRILLING LOG

HOLE NO. NGA-007

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown with scattered rust-brown oxidation staining, CL, slightly silty to very silty in part, scattered black organic material, trace mica, slightly moist (LOESS)	0 ppm	1.7' Recovery			
	6						
	7						
	8						
	9		0 ppm		NGA-007-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 1432 Collected sample @ 1435 from 9' to 10'
		Becoming very silty with very thin silt streaks					
	10		0 ppm	3.9' Recovery			
	11						
	12						
	13						
	14						

/CORPS/4-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: NGA-007

HTW DRILLING LOG

HOLE NO. NGA-007

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 3 of 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Clay medium to dark yellow-brown with scattered rust-brown oxidation staining and ocassional gray-brown green-gray banding, CL, silty to very silty in part, scattered black organic material, soft, low plastic, trace mica, slightly moist (LOESS)	0 ppm	3.5' Recovery			Collected a split barrel sample from 14' to 19' @ 1437
	15						
	16	Increasing silt and rust-brown oxidation banding & staining					
	17	Sand light to medium yellow-brown to gray-brown tan-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, silty to very silty, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, ocassional rust-brown oxidation staining & banding, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	18						
	19		0 ppm		NGA-007-019 1.8' Recovery	8	Collected a split spoon sample from 19' to 21' @ 1440
						21	
	20					28	
						15	
	21	Bottom of borehole - 21'					Finished drilling @ 1444 on 3-28-95. Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: NGA-007

ICORPS/4-15-82

HTW DRILLING LOG

HOLE NO. NMA-001

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: Scott Wheeler	6. MANUFACTURER'S DESIGNATION OF DRILL: CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3¾" ID 7⅞" OD HSA; 2" OD Steel Split Spoon	8. HOLE LOCATION: WDA No. 3 North of Former Nike Maintenance Area
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3-20-95 / 11. DATE COMPLETED: 3-20-95
12. OVERBURDEN THICKNESS: ND	15. DEPTH GROUNDWATER ENCOUNTERED: NA
13. DEPTH DRILLED INTO ROCK: ND	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 21'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	—	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kubesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay, medium to dark brown, CL to CH plastic, soft, trace silt, slightly moist, roots & root hairs (TOP SOIL)	0 ppm		NMA-001-000 0.5' recovery		Started drilling @ 1433 on 3-20-95 Collected a split spoon sample from 0' to 1' @ 1435
				0.3' Recovery			
	1		0 ppm		NMA-001-001 0.7' recovery		Collected a split spoon sample from 1' to 2' @ 1442
			Resample 0 ppm		0.8' recovery 0.7' recovery		Recollected a split spoon sample from 1' to 2' (i.e., two ss collected) @ 1614
	2		0 ppm		NMA-001-002 1.3' recovery	1	Collected a split spoon sample from 2' to 4' @ 1450
	3					4	
						4	
						3	
	4	Clay, medium to dark yellow-brown, with occasional rust-brown oxidation CL to CH, medium plastic, soft, slightly moist, trace mica, rare black organic material (LOESS)	0 ppm		NMA-001-004 2' recovery	4	Collected a split spoon sample from 4' to 6' @ 1522
						4	
	5						

/CORPS/5-15-92

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 — 4E11043A

HOLE NO.: NMA-001

HTW DRILLING LOG

HOLE NO. NMA-001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay, medium to dark yellow-brown with gray-brown mottling and occassional rust-brown to red-brown oxidation, CL to CH, low to medium plastic, soft, slightly moist, trace mica, rare black organic material (LOESS)	0 ppm		NMA-001-004	4	
						3	
	6						
	7						
	8						
	9		0 ppm		NMA-001-009 1.9' recovery	4	Collected a split spoon sample from 9' to 11' @ 1536
						5	
	10					6	
						5	
	11						
	12						
	13						
	14						

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: NMA-001

/CORPS/4-15-82

HTW DRILLING LOG

HOLE NO. NMA-001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Clay, medium to dark yellow-brown with gray-brown mottling and ocassional rust-brown to red-brown oxidation, CL to CH, low plastic, soft, slightly moist, trace mica silt, rare sand (LOESS)					
	15						
	16	Sand light to medium brown yellow-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, slightly silty, predominantly quartz grains with rare orange grains and black material, very thin darker bedding features, slightly moist, medium dense (GLACIO-FLUVIAL SAND)					Change in drilling rate indicating change in lithology
	17						Sand showing up in auger cuttings
	18						
	19		0 ppm		NMA-001-019 1.5' recovery	6	Collected a split spoon sample from 19' to 21' @ 1554
						13	
	20					15	
						18	
	21	Bottom of borehole = 21'					Finished drilling @ 1556 on 3-20-95. Moved over 1' and drilled to 1' to recollect sample at 1' to 2' due to poor recovery. Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

ICORPS/4-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: NMA-001

HTW DRILLING LOG

HOLE NO. NMA-002

1. COMPANY NAME	Woodward-Clyde Consultants
2. DRILLING SUBCONTRACTOR	J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT	Remedial Investigation, Mead NOP
4. LOCATION	Mead, Nebraska
5. NAME OF DRILLER	Scott Wheeler
6. MANUFACTURER'S DESIGNATION OF DRILL	CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	3¼" ID 7⅞" OD HSA; 2" OD Steel Split Spoon
8. HOLE LOCATION	WDA No. 3 North of Former Nike Maintenance Area
9. SURFACE ELEVATION	
10. DATE STARTED	3.21.95
11. DATE COMPLETED	3.21.95
12. OVERBURDEN THICKNESS	ND
15. DEPTH GROUNDWATER ENCOUNTERED	NA
13. DEPTH DRILLED INTO ROCK	ND
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	21'
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
2	—	2	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/ cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesho

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay, medium to dark brown gray-brown, CL to CH, medium plastic, soft, trace silt, abundant roots & root hairs, slightly moist (TOP SOIL)	0 ppm		NMA-002-000 0.5' Recovery	2	Started drilling @ 844 on 3.21.95 Collected a split-spoon sample from 0' to 1' @ 845
				0.4' Recovery		2	
	1	Clay, medium to dark yellow-brown with gray-brown mottling and rust-brown oxidation staining, medium plastic, soft, CL to CH, trace mica, rare black organic material, slightly moist (LOESS)	0ppm		NMA-002-001 1.0' Recovery	2	Collected a split-spoon sample from 1' to 2' @ 855
						2	
	2		0 ppm		NMA-002-002 1.5' Recovery	2	Collected a split-spoon sample from 2' to 4' @ 912
						4	
	3					5	
						8	
	4		0 ppm		NMA-002-004 1.9' Recovery	3	Collected a split spoon sample from 4' to 6' @ 922
						4	
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: NMA-002

HTW DRILLING LOG

HOLE NO. NMA-002

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown with gray-brown mottling and rust-brown oxidation staining, CL to CH, medium plastic, soft, trace mica, rare black organic material, slightly moist (LOESS)	0 ppm		NMA-002-004	5	
						5	
	6						Collected a rinsate sample from the split spoon deconned after sample NMA-002-004 RIN-NMA-002-035 RIN-NMA-002-035-QA for MRD @ 945
	7						
	8						
	9		0 ppm		NMA-002-009 1.65' Recovery	1	Collected a split spoon sample from 9' to 11' @ 1010
						2	
	10					7	
		Silt, medium to dark yellow-brown, ML, clayey to very clayey, slightly sandy, predominantly quartz grains with rare orange grains and black specs, slightly moist, occasional banding of darker color, medium dense (LOESS)				9	
	11						
	12						
	13						
	14						

ICORPS/4-15-82

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: NMA-002

HTW DRILLING LOG

HOLE NO. NMA-002

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Sand light to medium yellow-brown with tan-brown gray-brown mottling, SM, very fine- to fine-grained, well sorted, subrounded to subangular, slightly silty to silty, predominantly quartz with trace orange grains and black specs/material, very thin bedding features, medium dense, slightly moist (GLACIO-FLUVIAL SAND)	0 ppm	1.2' Recovery		3	Collected a split spoon sample from 14' to 19.5' @ 1017
	15					5	
						7	
	16						
	17						
	18						
	19		0 ppm		NMA-002-019 1.6' Recovery	3	Collected a split spoon sample from 19' to 21' @ 1030
						7	
	20					9	
						9	
	21	Bottom of borehole - 21'					Finished drilling @ 1034 on 3-21-95. Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: NMA-002

ICORPS/4-15-92

HTW DRILLING LOG

HOLE NO. NMA-003

1. COMPANY NAME	Woodward-Clyde Consultants
2. DRILLING SUBCONTRACTOR	J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT	Remedial Investigation, Mead NOP
4. LOCATION	Mead, Nebraska
5. NAME OF DRILLER	Scott Wheeler
6. MANUFACTURER'S DESIGNATION OF DRILL	CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	3¾" ID 7⅞" OD HSA; 2" OD Steel Split Spoon
8. HOLE LOCATION	WDA No. 2 North of Former Nike
9. SURFACE ELEVATION	
10. DATE STARTED	3-21-95
11. DATE COMPLETED	3-21-95
12. OVERBURDEN THICKNESS	ND
15. DEPTH GROUNDWATER ENCOUNTERED	NA
13. DEPTH DRILLED INTO ROCK	ND
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	21'
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
2	—	2	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesho

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay dark to very dark brown gray-brown, CL to CH, medium plastic, soft, trace silt, abundant roots, slightly moist (TOP SOIL)	0 ppm		NMA-003-000 0.5' Recovery	1	Started drilling @ 1145 on 3-21-95 Collected a split spoon sample from 0' to 1' @ 1147
				0.4' Recovery		2	
	1		0ppm		NMA-003-001 0.9' Recovery	2	Collected a split spoon sample from 1' to 2' @ 1200
		Clay, medium to dark yellow-brown with gray-brown mottling and rust-brown to red-brown oxidation staining, medium plastic, soft, CL to CH, trace mica, rare black organic material, slightly moist (LOESS)				3	
	2		0ppm		NMA-003-002 1.2' Recovery	2	Collected a split spoon sample from 2' to 4' @ 1207
						2	
	3					3	
						3	
	4		0ppm		NMA-003-004	2	Collected a split spoon sample from 4' to 6' @ 1224
						3	
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: NMA-003

HTW DRILLING LOG

HOLE NO. NMA-003

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay, medium to dark yellow-brown with gray-brown mottling and rust-brown to red-brown oxidation staining, CL, medium to low plastic, soft, trace mica, rare black organic material, slightly moist (LOESS)	0 ppm		NMA-003-004	4	
						5	
	6						
	7						
	8						
	9	Increasing gray-brown mottling and rust-brown to red-brown oxidation staining	0 ppm		NMA-003-009 2.0' Recovery	2	Collected a split spoon sample from 9' to 11' @ 1243
						3	
	10					3	
						4	
	11						
	12						
	13						
	14						

ICORPS/4-15-82

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: NMA-003

HTW DRILLING LOG

HOLE NO. NMA-003

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Silt, medium to dark yellow-brown with gray-brown mottling, clayey, sandy, predominantly quartz grains with rare orange grains and black specs, ML, slightly moist, medium dense (LOESS)	0 ppm	1.4 Recovery		6	Collected a split spoon sample from 14' to 15' @ 1250
						13	
	15	Sand, light to medium yellow-brown with tan-brown gray-brown, SM, well sorted, very fine- to fine-grained subrounded to subangular, predominantly quartz grains with scattered orange grains and black specs/grains, slightly silty to very silty in part, medium dense, slightly moist (GLACIO-FLUVIAL SAND)				19	
	16						
	17						
	18						
	19	Very thin bedding features and banding of darker color	0 ppm		NMA-003-019 1.3 Recovery	4	Collected a split spoon sample from 19' to 21' @ 1300
						8	
	20					12	
						12	
	21	Bottom of borehole - 21'					Finished drilling @ 1303 on 3-21-95. Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: NMA-003

(CORPS/4-15-82)

HTW DRILLING LOG

HOLE NO. NMA-004

1. COMPANY NAME	Woodward-Clyde Consultants
2. DRILLING SUBCONTRACTOR	J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT	Remedial Investigation, Mead NOP
4. LOCATION	Mead, Nebraska
5. NAME OF DRILLER	Scott Wheeler
6. MANUFACTURER'S DESIGNATION OF DRILL	CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	3¾" ID 7⅞" OD HSA; 2" OD Steel Split Spoon
8. HOLE LOCATION	WDA No. 2 North of Former Nike Maintenance Area
9. SURFACE ELEVATION	
10. DATE STARTED	3-21-95
11. DATE COMPLETED	3-21-95
12. OVERBURDEN THICKNESS	ND
15. DEPTH GROUNDWATER ENCOUNTERED	NA
13. DEPTH DRILLED INTO ROCK	ND
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	21'
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
2	—	2	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/ cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay dark brown gray-brown, CL to CH, medium plastic, soft, trace silt, slightly moist, roots & root hairs (TOP SOIL)	0 ppm		NMA-004-000 0.6' Recovery		Started drilling @ 1424 on 3-21-95
				0.1' Recovery			Collected a split spoon sample from 0' to 0.1' @ 1425
	1		0 ppm		NMA-004-001 1.0' Recovery	2	Collected a split spoon sample from 1' to 2' @ 1435
						1	
	2		0 ppm		NMA-004-002 1.3' Recovery	2	Collected a split spoon sample from 2' to 4' @ 1447
		Silt, medium to dark yellow-brown, clay, sandy, occasional medium to dark gray-brown clay streaks, predominantly quartz with rare orange grains and black specs, ML, slightly moist, soft (FILL)				3	
	3					2	
						1	
	4		0 ppm		NMA-004-004 0.5' Recovery	6	Collected a split spoon sample from 4' to 6' @ 1500
			0 ppm		0.8' Recovery	8	Recollected sample from 4' to 5' @ 1608
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3 | HOLE NO.: NMA-004

HTW DRILLING LOG

HOLE NO. NMA-004

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Concrete and fill material (FILL)					
	6						
	7	Sand, light to medium yellow-brown, tan-brown gray-brown, SM, very fine- to fine-grained, well sorted, subrounded to sub angular, predominantly quartz grains with scattered orange grains and black specs/grains, slightly silty to very silty in part, loose to medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	8						
	9		0 ppm		NMA-004-009 1.6' Recovery	4	Collected a split spoon sample from 9' to 11' @ 1516
						6	
	10					8	
						6	
	11						
	12						
	13						
	14						

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: NMA-004

ICORPS/4-15-82

HTW DRILLING LOG

HOLE NO. NMA-004

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Sand, light to medium yellow-brown gray-brown, SM, well sorted, very fine-grained to fine-grained, subrounded to subangular, predominantly quartz grains with 5 to 10% orange grains and trace black specs/grains, silty to very silty in part, medium dense, occassional bedding and banding features darker in color, slightly moist (GLACIO-FLUVIAL SAND)	0 ppm	1.2' Recovery		6	Collected a split spoon sample from 14' to 18.5' @ 1525
						10	
	15					14	
	16						
	17						
	18						
	19		0 ppm		NMA-004-019 1.7' Recovery	5	Collected a split spoon sample from 19' to 21' @ 1530
						10	
	20					20	
						18	
	21	Bottom of borehole - 21'					Finished drilling @ 1550 on 3-21-95. Moved over 1' and drilled to 4' to collect sample at 4' to 5' due to poor recovery. Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

/CORPS/4-15-92

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: NMA-004

HTW DRILLING LOG

HOLE NO. NMA-005

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: J & R Drilling Services, Inc
SHEET 1 OF 3 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: Scott Wheeler	6. MANUFACTURER'S DESIGNATION OF DRILL: CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3¾" ID 7⅞" OD HSA; 2" OD Steel Split Spoon; 3½" OD 5' Core Split Barrel	8. HOLE LOCATION: WDA No. 3 North of Former Nike Maintenance Area
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3-22-95 / 11. DATE COMPLETED: 3-22-95
12. OVERBURDEN THICKNESS: ND	15. DEPTH GROUNDWATER ENCOUNTERED: NA
13. DEPTH DRILLED INTO ROCK: ND	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 21'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
4	4	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay, medium to dark brown, gray-brown, CL, slightly silty & sandy with scattered pebbles, root hairs, medium to low plastic, soft, slightly moist (TOP SOIL)	0 ppm		NMA-005-000 0.5' Recovery		Started drilling @ 828 on 3-22-95 Collected a split barrel sample from 0' to 4' @ 830
				0.5' Recovery			Collected sample @ 835 from 0' to 0.5'
	1		0 ppm		NMA-005-001 1.0' Recovery		Collected sample @ 840 from 1' to 2'
	2	Clay, medium to dark yellow-brown, with rust-brown oxidation staining, CH to CL, medium to high plastic, soft, trace mica, rare black organic material, slightly moist (LOESS)	0 ppm		NMA-005-002 1.4' Recovery		Collected sample @ 845 from 2' to 4'
	3						
	4	Becoming mottled with gray-brown and gray-green with trace silt to very silty in part	0 ppm		NMA-005-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @ 850 Collected sample @ 855 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3 | HOLE NO.: NMA-005

HTW DRILLING LOG

HOLE NO. NMA-005

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay, medium to dark yellow-brown with abundant gray-brown to gray-green mottling and rust brown oxidation staining, CH to CL, medium plastic, soft, black organic material scattered throughout, silty to very silty in part, trace mica, slightly moist (LOESS)	0 ppm	4.0' Recovery			
	6						
	7						
	8						
	9	Increasing gray-brown gray-green mottling and rust-brown oxidation staining	0 ppm		NMA-005-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 858 Collected sample @ 903 from 9' to 10'
	10		0 ppm	4.0' Recovery			
	11						
	12						
	13						
	14						

/CORPS/4-15-82

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: NMA-005

HTW DRILLING LOG

HOLE NO. NMA-005

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Silt, medium to dark yellow-brown with gray-brown mottling, clayey, sandy, ML, medium dense, predominantly quartz with trace orange, slightly moist (LOESS)	0 ppm	3.4' Recovery			Collected a split barrel sample from 14' to 19' @ 905
	15	Sand, medium to light yellow-brown to tan-brown, SM, well sorted, very-fine- to fine-grained, subrounded to subangular, slightly silty to very silty in part, predominantly quartz grains with scattered orange grains and black specs/grains medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	16						
	17						
	18	Thin (2") yellow-brown silt stringer					
	19	Thin (2") gray-brown silt stringer	0 ppm		NMA-005-019 1.6' Recovery	3	Collected a split spoon sample from 19' to 21' @ 910
	20					11	
						19	
						15	
	21	Bottom of borehole - 21'					Finished drilling @ 915 on 3-22-95. Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: NMA-005

/CORPS/4-15-92

HTW DRILLING LOG

HOLE NO.	NMA-006
1. COMPANY NAME	Woodward-Clyde Consultants
2. DRILLING SUBCONTRACTOR	J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT	Remedial Investigation, Mead NOP
4. LOCATION	Mead, Nebraska
5. NAME OF DRILLER	Scott Wheeler
6. MANUFACTURER'S DESIGNATION OF DRILL	CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	3 3/4" ID 7 3/4" OD HSA; 2" OD Steel Split Spoon; 3 1/6" OD 5' Core Split Barrel
8. HOLE LOCATION	WDA No. 1 North of Former Nike Maintenance Area
9. SURFACE ELEVATION	
10. DATE STARTED	3-23-95
11. DATE COMPLETED	3-23-95
12. OVERBURDEN THICKNESS	ND
15. DEPTH GROUNDWATER ENCOUNTERED	NA
13. DEPTH DRILLED INTO ROCK	ND
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	21'
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Gravel, parking lot	0 ppm		NMA-006-000 0.5' Recovery		Started drilling @ 810 on 3-23-95
		Clay, very dark gray brown-gray, CL to CH, silty to very silty in part, slightly sandy, ocassional brown mottling, slightly moist to moist, low to medium plastic, soft (TOP SOIL)		0.5' Recovery			Collected a split barrel sample from 0' to 4' @ 813
	1		0 ppm		NMA-006-001 1.0' Recovery		Collected sample @ 816 from 0' to 0.5' Collected sample @ 826 from 1' to 2'
	2		0 ppm		NMA-006-002 1.0' Recovery		Collected sample @ 830 from 2' to 3'
		Clay, medium to dark yellow-brown with rust-brown oxidation staining, CH to CL, medium to high plastic, soft, trace mica & silt, slightly moist to moist (LOESS)					Collected a rinsate sample from the deconned sample split barrel, mixing bowl & spoon
	3		0 ppm	0.2' Recovery			RIN-NMA-006-035 RIN-NMA-006-035-QA for MRD @ 900
	4	Becoming banded and mottled with gray-brown gray-green dark gray	0 ppm		NMA-006-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @ 910 Collected sample @ 915 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: NMA-006

HTW DRILLING LOG

HOLE NO. NMA-006

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay, medium to dark yellow-brown with thin (0.25" to 0.5") interbedded gray-green green-gray gray-brown layers, slightly silty, scattered rust-brown oxidation staining & black organic material, CH to CL, medium to low plastic, soft, slightly moist (LOESS)	0 ppm	3.3' Recovery			
	6						
	7						
	8						
	9	Increasing silt	0 ppm		NMA-006-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 921. Collected a sample @ 925 from 9' to 10'
	10		0 ppm	1.9' Recovery			
	11						
	12	Silt, medium to dark yellow-brown gray-brown with thin interbedded yellow-brown clay streaks, ML, clayey, sandy, predominantly quartz grains with 5-10% orange grains and trace black specs/grains, trace mica, slightly moist (LOESS)					
	13						
	14						

ICORPS/2-15-82

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: NMA-006

HTW DRILLING LOG

HOLE NO. NMA-006

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Sand, light to medium yellow-brown tan-brown gray-brown, very fine- to fine-grained, well sorted, subrounded to subangular, predominantly quartz grains with 10% orange grains & 5% black specs/grains, silty to very silty in part, SM, slightly moist (GLACIO-FLUVIAL SAND).	0 ppm	2.1' Recovery			Collected a split barrel sample from 14' to 19' @ 930
	15						
	16	Occasional rust-brown oxidation staining (banding)					
	17						
	18						
	19		0 ppm		NMA-006-019 1.7' Recovery	10	Collected a split spoon sample from 19' to 21' @ 935
	20					14	
						13	
						13	
	21	Bottom of borehole - 21'					Finished drilling @ 940 on 3-23-95. Backfilled borehole w/cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

ICORPS/4-15-92

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: NMA-006

HTW DRILLING LOG

HOLE NO. NMA-007

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: Scott Wheeler	6. MANUFACTURER'S DESIGNATION OF DRILL: CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3¾" ID 7⅞" OD HSA; 2" OD Steel Split Spoon; 3½" OD 5' Core Split Barrel	8. HOLE LOCATION: WDA No.1 North of Former Nike Maintenance Area
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3-23-95 / 11. DATE COMPLETED: 3-23-95
12. OVERBURDEN THICKNESS: ND	15. DEPTH GROUNDWATER ENCOUNTERED: NA
13. DEPTH DRILLED INTO ROCK: ND	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 21'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Rubezko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Gravel parking lot	0 ppm		NMA-007-000 0.5' Recovery		Started drilling @1030 on 3-23-95
		Clay, medium to dark yellow-brown, medium plastic, CH, soft, trace mica & silt, slightly moist (TOP SOIL)		0.5' Recovery			Collected a split barrel sample from 0' to 4' @1033
	1						Collected sample @1040 from 0' to 0.5' — 1
			0 ppm		NMA-007-001 NMA-207-001 NMA-407-001 1.0' Recovery		Collected sample @1045 from 1' to 2'
							Collected duplicate sample @1025 from 1' to 2'
	2						Collected MRD duplicate sample @1045 from 1' to 2' — 2
			0 ppm		NMA-007-002 1.0' Recovery		Collected sample @1050 from 2' to 3'
	3						3
		Clay very dark gray to black, CL, low plastic, silty to very silty, trace sand, soft, slightly moist (LOESS)	0 ppm	0.3' Recovery			
	4						4
		Becoming gray-brown brown-gray with decreasing silt	0 ppm		NMA-007-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @1105
							Collected sample @1110 from 4' to 5'
	5						5

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: NMA-007

B07NE003703-05024

HTW DRILLING LOG

HOLE NO. NMA-007

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kuberczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown with gray-green gray-brown mottling & banding, rust-brown oxidation staining, CH to CL, soft slightly silty to silty in part, scattered black organic material, slightly moist (LOESS)	0 ppm	0.5' Recovery			
	6						
	7						
	8						
	9		0 ppm		MA-007-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 1115 Collected sample @ 1118 from 9' to 10'
	10		0 ppm	3.8' Recovery			
	11						
	12	Becoming gray-green to gray-brown in color					
	13						
	14						

/CORPS/4-15-82

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: NMA-007

HTW DRILLING LOG

HOLE NO. NMA-007

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Clay gray-green green-gray with scattered rust-brown oxidation staining, CH to CL, trace silt & mica, medium to high plastic, soft to very soft, slightly moist to very moist (LOESS)	0 ppm	4.9' Recovery			Collected a split barrel sample from 14' to 19' @ 1120
	15						
	16						
	17						
	18	Highly oxidized layer, rust-brown					
	19	Sand medium to light yellow-brown tan-brown gray-brown, SM, very fine- to fine-grained, well sorted, subrounded and subangular, predominantly quartz grains with 5-10% orange grains and 5% black specs/grains, scattered rus. brown oxidation staining & banding, silty to very silty in part, medium dense, slightly moist (GLACIO-FLUVIAL SAND)	0 ppm		NMA-007-019 1.5' Recovery	4	Collected a split spoon sample from 19' to 21' @ 1125
	20					11	
						17	
						18	
	21	Bottom of borehole - 21'					Finished drilling @ 1128 on 3-23-95. Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

ICORPS/4-15-92

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: NMA-007

HTW DRILLING LOG

HOLE NO. BBA-001

1. COMPANY NAME	Woodward-Clyde Consultants
2. DRILLING SUBCONTRACTOR	J & R Drilling Servicer, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT	Remedial Investigation, Mead NOP
4. LOCATION	Mead, Nebraska
5. NAME OF DRILLER	Scott Wheeler
6. MANUFACTURER'S DESIGNATION OF DRILL	CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	3¾" ID 7⅝" OD HSA 2" OD Steel Split Spoon 3½" OD 5' Core Split Barrel
8. HOLE LOCATION	WDA Southeast of Bomb Booster Area
9. SURFACE ELEVATION	
10. DATE STARTED	3.23.95
11. DATE COMPLETED	3.23.95
12. OVERBURDEN THICKNESS	ND
15. DEPTH GROUNDWATER ENCOUNTERED	NA
13. DEPTH DRILLED INTO ROCK	ND
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	21'
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5		NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	CLP-PCBs	Explosives	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Back filled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay dark to very dark gray to black to brown-gray, silty to very silty in part, CL to CH low to medium plastic, soft, scattered roots & root hairs, slightly moist (TOP SOIL)	0 ppm		BBA-001-000 0.5' Recovery		Started drilling @ 1328 on 3.23.95 Collected a split barrel sample from 0' to 4' @ 1330
				0.5' Recovery			Collected sample @1330 from 0' to 0.5'
	1		0 ppm		BBA-001-001 1.0' Recovery		Collected sample @1335 from 1' to 2'
	2		0 ppm		BBA-001-002 1.0' Recovery		Collected sample @ 1340 from 2' to 3'
	3		0 ppm	0.8' Recovery			
	4	Clay medium to dark yellow-brown with scattered gray-green gray-brown banding, CL, silty to very silty in part, trace sand, low plastic, soft, scattered rust-brown oxidation staining, slightly moist	0 ppm		BBA-001-004 1.0' Recovery		Collected a split barrel sample from 4' to 5' @ 1342 Collected sample @1350 from 4' to 5'
	5						

/CORPS/S-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3 | HOLE NO.: BBA-001

B07NE003703-05028

HTW DRILLING LOG

HOLE NO. BBA-001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown with gray-green gray-brown banding and rust-brown oxidation staining, CL, silty to very silty in part, trace sand & black organic material, low plastic, soft, slightly moist (LOESS)	0 ppm	4.0' Recovery			
	6						
	7						
	8						
	9		0 ppm		BBA-001-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 1356 Collected sample @ 1400 from 9' to 10'
	10		0 ppm	1.4' Recovery			
	11						
	12						
	13						
	14						

/CORPS/4-15-82

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: BBA-001

HTW DRILLING LOG

HOLE NO. BBA-001

PROJECT: REMEDIAL INVESTIGATION MEAD NOP

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Clay medium to dark yellow-brown with gray-brown to green-brown to gray-green banding, CL, scattered rust-brown oxidation staining, scattered black organic material, low plastic, soft, slightly moist (LOESS)	0 ppm	5' Recovery			Collected a split barrel sample from 14' to 19' @ 1403
	15						
	16						
	17						
	18						
	19	Sand light to medium yellow-brown tan-brown gray-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, predominantly quartz grains with 5% orange grains and 5% black specs/grains, silty to very silty, slightly moist (GLACIO-FLUVIAL SAND)	0 ppm		BBA-001-019 1.7' Recovery	3	Collected a split spoon sample from 19' to 21' @ 1406
	20					12	
						16	
						18	
	21	Bottom of borehole - 21'					Finished drilling @ 1410 on 3-23-95. Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

/CORPS/4-15-92

PROJECT: REMEDIAL INVESTIGATION MEAD OU3 4F11043A

HOLE NO.: BBA-001

HTW DRILLING LOG

HOLE NO. BBA-006

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: Scott Wheeler	6. MANUFACTURER'S DESIGNATION OF DRILL: CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3¼" ID 7⅞" OD HSA; 2" OD Steel Split Spoon; 3½" OD 5' Core Split Barrel	8. HOLE LOCATION: WDA Southeast of Bomb Booster Area
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3-24-95 / 11. DATE COMPLETED: 3-24-95
12. OVERBURDEN THICKNESS: ND	15. DEPTH GROUNDWATER ENCOUNTERED: NA
13. DEPTH DRILLED INTO ROCK: ND	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 21'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	CLP-PCBs	Explosives	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay dark gray brown-gray to very dark gray, silty, slightly sandy in part, roots & root hairs, trace mica, slightly moist (TOP SOIL)	0 ppm		BBA-006-000 0.5' Recovery		Started drilling @ 828 on 3-24-95 Collected a split barrel sample from 0' to 4' @ 829
				0.5' Recovery			Collected sample @ 830 from 0' to 0.5'
	1		0 ppm		BBA-006-001 1.0' Recovery		Collected sample @ 835 from 1' to 2'
	2	Clay medium to dark yellow-brown, with occassional gray-brown mottling, CL, silty, low plastic, soft, scattered rust-brown oxidation staining, trace mica, slightly moist (LOESS)	0 ppm		BBA-006-002 0.8' Recovery		Collected sample @ 840 from 2' to 3'
	3		0 ppm	0' Recovery			
	4		0 ppm		BBA-006-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @ 850 Collected sample @ 855 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3 | HOLE NO.: BBA-006

HTW DRILLING LOG

HOLE NO. BBA-006

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay, medium to dark yellow-brown with occasional gray-brown mottling and scattered rust-brown oxidation staining, silty to very silty in part, low plastic, soft, CL, rare black organic material, trace mica, slightly moist (LOESS)	0 ppm	1.2' Recovery			Collected a rinsate sample from the decanned split barrel, mixing bowl & spoon used to collect sample BBA-006-004 RIN-BBA-006-035 RIN-BBA-006-035QA for MRD @ 915
	6						
	7						
	8						
	9	Scattered gray-brown green-gray banding and increased rust-brown oxidation staining & black organic material	0 ppm		BBA-006-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 942 Collected sample @ 945 from 9' to 10'
	10		0 ppm	1.4' Recovery			
	11	Becoming very silty					
	12	Sand, medium to light yellow-brown gray-brown tan-brown, very fine- to fine-grained, well sorted, sub-rounded to subangular, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, silty to very silty, slightly moist (GLACIO-FLUVIAL SAND)					
	13						
	14						

ICORPS/4-15-92

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: BBA-006

HTW DRILLING LOG

HOLE NO. BBA-006

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR: David A. Kuberczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Sand, medium to light gray-brown tan-brown, SM, very-fine- to fine-grained, well sorted, sub-rounded to subangular, predominantly quartz grains with 5-10% orange grains and 5% black specs/grains, silty to very silty in part, slightly moist (GLACIO-FLUVIAL SAND)	0 ppm	1.3' Recovery			Collected a split barrel sample from 14' to 16' @ 950
	15						
	16						
	17						
	18						
	19		0 ppm		BBA-006-019 1.7 Recovery	6	Collected a split spoon sample from 19' to 21' @ 1010
						8	
	20					10	
						12	
	21	Bottom of borehole - 21'					Finished drilling @ 1015 on 3-24-95 Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: BBA-006

ICORPS/4-15-82

HTW DRILLING LOG

HOLE NO. BBA-007

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: Scott Wheeler	6. MANUFACTURER'S DESIGNATION OF DRILL: CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3 1/4" ID 7 1/8" OD HSA; 2" OD Steel Split Spoon; 3 1/4" OD 5'-Core Split Barrel	8. HOLE LOCATION: WDA Southeast of Bomb Booster Area
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3-24-95 / 11. DATE COMPLETED: 3-24-95
12. OVERBURDEN THICKNESS: ND	15. DEPTH GROUNDWATER ENCOUNTERED: NA
13. DEPTH DRILLED INTO ROCK: ND	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 21'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	CLP-PCBs	Explosives	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 2' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay dark to very dark gray, CL, silty to very silty, sandy, abundant root & root hairs, soft, trace mica, slightly moist (TOP SOIL)	0 ppm		BBA-007-000 0.5' Recovery		Started drilling @ 1349 on 3-24-95
				0.5' Recovery			Collected a split barrel sample from 0' to 4' @ 1351
	1	Yellow-brown mottling	0 ppm		BBA-007-001 1.0' Recovery		Collected sample @1355 from 0' to 0.5' Collected sample @1400 from 1' to 2'
	2	Sand medium to light gray-brown, SM, thin interbedded (<0.25") clay and silt streaks, very fine- to fine-grained, well sorted, subrounded to subangular, predominantly quartz grains with 5% orange grains and 5% black specs/grains, medium dense, slightly moist (FILL)	0 ppm		BBA-007-002 0.8' Recovery		Collected sample @ 1405 from 2' to 3'
	3			0' Recovery			
	4	Clay medium to dark gray-brown to yellow-brown, CL, silty to very silty, slightly sandy, soft, slightly moist (FILL)	0 ppm		BBA-007-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @1410 Collected sample @1415 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3 | HOLE NO.: BBA-007

HTW DRILLING LOG

HOLE NO. BBA-007

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark gray-brown to yellow-brown, CL, silty to very silty, slightly sandy, soft, slightly moist (FILL)	0 ppm	1.6' Recovery			
	6	Fill material, predominantly clay rust-brown to black to dark yellow-brown, black friable material metal debris, steel cable, porcelain material (FILL)					
	7						
	8						
	9		0 ppm		BBA-007-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @1421 Collected sample @1425 from 9' to 10'
	10		0 ppm	2.6' Recovery			
	11	Clay medium to dark yellow-brown with thin (<0.25") interbedded green-gray gray-brown banding and scattered mottling, scattered rust-brown oxidation staining and black organic material, silty to very silty in part, CL, soft, low to medium plastic, slightly moist (LOESS)					
	12						
	13						
	14						

ICORPS/4-15-92

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: BBA-007

HTW DRILLING LOG

HOLE NO. BBA-007

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Clay medium to dark yellow-brown with green-gray mottling and scattered rust-brown oxidation staining, very silty, slightly sandy, CL, low plastic, soft, slightly moist (LOESS)	0 ppm	1.4' Recovery			Collected a split barrel sample from 14' to 19' @ 1430
	15	Sand medium to light yellow-brown gray-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, predominantly quartz with 5-10% orange grains and 5% black specs/grains, silty to very silty with ocassional very thin (<0.10") silt streaks, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	16						
	17						
	18						
	19		0 ppm		BBA-007-019 1.6' Recovery	8	Collected a split spoon sample from 19' to 21' @ 1435
						11	
	20					15	
						20	
	21	Bottom of borehole - 21'					Finished drilling @ 1440 on 3-24-95. Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

(CORPS/4-15-82)

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.:

HTW DRILLING LOG

HOLE NO. BBA · 008

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: Scott Wheeler	6. MANUFACTURER'S DESIGNATION OF DRILL: CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3¾" ID 7¼" OD HSA; 2" OD Steel Split Spoon; 3½" OD 5'-Core Split Barrel	8. HOLE LOCATION: WDA Southeast of Bomb Booster Area
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3·24·95 / 11. DATE COMPLETED: 3·24·95
12. OVERBURDEN THICKNESS: ND	15. DEPTH GROUNDWATER ENCOUNTERED: NA
13. DEPTH DRILLED INTO ROCK: ND	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 21'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	CLP-PCBs	Explosives	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/ cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesza

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay dark gray to brown gray, CL, soft, silty to very silty, sandy, trace mica, abundant roots & root hairs, slightly moist (TOP SOIL)	0 ppm		BBA-008-000 0.5' Recovery		Started drilling @ 1106 on 3-24-95 Collected a split barrel sample from 0' to 4' @ 1108 Collected sample @ 1110 from 0' to 0.5'
				0.5' Recovery			
	1	Clay medium to dark yellow-brown, CL, low plastic, soft, silty to very silty, slightly sandy, trace mica (LOESS)	0 ppm		BBA-008-001 1.0' Recovery		Collected sample @ 1115 from 1' to 2'
	2		0 ppm		BBA-008-002 1.0' Recovery		Collected sample @ 1120 from 2' to 3'
	3		0 ppm	0.7' Recovery			
	4		0 ppm		BBA-008-004 2.0' Recovery		Collected a split barrel sample from 4' to 9' @ 1125 Collected sample @ 1135 from 4' to 6'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: BBA-008

HTW DRILLING LOG

HOLE NO. BBA-008

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown with very thin (< 0.25") interbedded gray-brown, green-gray clay and thin banded rust-brown oxidation staining, CL, silty to very silty, slightly moist (LOESS)	0 ppm		BBA-208-004 BBA-408-004		Collected duplicate sample @ 1128 from 4' to 6' Collected MRD duplicate sample @ 1135 from 4' to 6'
	6		0 ppm	0.7' Recovery			
	7						
	8						
	9		0 ppm		BBA-008-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 11' Collected sample @ 1150 from 9' to 10'
	10		0 ppm	1.2' Recovery			
	11	Sand medium to light yellow-brown gray-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, predominantly quartz grains with 10% orange grains and 5% black specs/grains, medium dense, silty to very silty in part, slightly moist (GLACIO-FLUVIAL SAND)					
	12						
	13						
	14						

ICORPS/4-15-92

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: BBA-008

HTW DRILLING LOG

HOLE NO. BBA-008

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Sand, medium to light gray-brown tan-brown, SM, very fine to fine grained, well sorted, predominantly quartz grains with 10% orange grains & 5% black specs/grains, medium dense, silty to very silty in part, slightly moist (GLACIO-FLUVIAL SAND)	0 ppm	1.8' Recovery			Collected a split barrel sample from 14' to 19' @1157
	15						
	16						
	17						
	18						
	19		0 ppm		BBA-008-019 1.7' Recovery	6	Collected a split spoon sample from 19' to 21' @ 1202
						11	
	20					13	
						13	
	21	Bottom of borehole - 21'					Finished drilling @1205 on 3-24-95 Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

(CORPS/4-15-82)

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: BBA-008

HTW DRILLING LOG

HOLE NO. AMA-001

SHEET 1 OF 3 SHEETS

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: J & R Drilling Services, Inc.
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: John Coons	6. MANUFACTURER'S DESIGNATION OF DRILL: CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3 3/4" ID 7 7/8" OD HSA; 2" OD Steel Split Spoon; 3 1/2" OD 5' Core Split Barrel	8. HOLE LOCATION: WDA No. 1 at Former Atlas Missile Area
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3-27-95 / 11. DATE COMPLETED: 3-27-95
12. OVERBURDEN THICKNESS: ND	15. DEPTH GROUNDWATER ENCOUNTERED: NA
13. DEPTH DRILLED INTO ROCK: ND	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 21'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
5	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/ cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay dark gray brown-gray, CL, soft, low plastic, silty to very silty, roots & root hairs, slightly sandy, slightly moist (TOP SOIL)	0 ppm		AMA-001-000 0.5' Recovery		Started drilling @ 1008 on 3-27-95
				0.5' Recovery			Collected a split barrel sample from 0' to 4' @ 1011
	1		0 ppm		AMA-001-001 1.0' Recovery		Collected sample @ 1015 from 0' to 0.5'
		Clay medium to dark yellow-brown, CH to CL, soft, medium to low plastic, slightly silty to silty in part, scattered rust-brown oxidation staining, trace mica, slightly moist (LOESS)					Collected sample @ 1025 from 1' to 2'
	2		0 ppm	1.5' Recovery			
	3						
	4		0 ppm		AMA-001-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @ 1027
							Collect sample @ 1028 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: AMA-001

HTW DRILLING LOG

HOLE NO. AMA-001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown with abundant rust-brown oxidation staining & banding, scattered black organic material, occassional gray-brown gray-green mottling & banding, CH to CL, medium to low plastic, soft, slightly silty to silty, trace mica, slightly moist (LOESS)	0 ppm	1.5' Recovery			
	6						
	7						
	8						
	9		0 ppm		AMA-001-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 1030 Collected sample @ 1031 from 9' to 10'
	10		0 ppm	1.5' Recovery			
	11						
	12						
	13						
	14						

ICORPS/4-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: AMA-001

HTW DRILLING LOG

HOLE NO. AMA-001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Clay medium to dark yellow-brown with occassional rust-brown oxidation staining, CH to CL, soft medium to low plastic, trace mica, slightly silty to very silty, slightly moist (LOESS)	0 ppm	2.6' Recovery			Collected a split barrel sample from 14' to 19' @1035
	15	Sand light brown to tan-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, silty to very silty in part, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	16						
	17						
	18						
	19		0 ppm		AMA-001-019 1.7' Recovery	6	Collected a split spoon sample from 19' to 21' @1040
						8	
	20					10	
						12	
	21	Bottom of borehole - 21'					Finished drilling @1043 on 3-27-95. Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

ICORPS/4-15-92

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: AMA-001

HTW DRILLING LOG

HOLE NO. AMA-002

1. COMPANY NAME	Woodward-Clyde Consultants
2. DRILLING SUBCONTRACTOR	J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT	Remedial Investigation, Mead NOP
4. LOCATION	Mead, Nebraska
5. NAME OF DRILLER	John Coons
6. MANUFACTURER'S DESIGNATION OF DRILL	CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	3 3/4" ID 7 7/8" OD HSA; 2" OD Steel Split Spoon; 3 1/2" OD 5' Core Split Barrel
8. HOLE LOCATION	WDA No. 1 at Former Atlas Missile Area
9. SURFACE ELEVATION	
10. DATE STARTED	3-27-95
11. DATE COMPLETED	3-27-95
12. OVERBURDEN THICKNESS	ND
15. DEPTH GROUNDWATER ENCOUNTERED	NA
13. DEPTH DRILLED INTO ROCK	ND
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	21'
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
5	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay dark to very dark gray to black, CL, soft, low plastic, silty to very silty, trace mica, roots & roothairs, slightly moist (TOP SOIL)	0 ppm		AMA-002-000 0.5' Recovery		Started drilling @ 1128 on 3-27-95
				0.5' Recovery			Collected a split barrel sample from 0' to 4' @ 1130
	1						Collected sample @ 1133 from 0' to 0.5'
			0 ppm		AMA-002-001 1.0' Recovery		Collected sample @ 1145 from 1' to 2'
	2		0 ppm	1.7' Recovery			
	3	Becoming slightly mottled gray-brown					
		Clay medium to dark brown-gray, CL to CH, soft, low to medium plastic, slightly silty to very silty in part, trace mica, slightly moist (LOESS)					
	4		0 ppm		AMA-002-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @ 1147
							Collected sample @ 1150 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: AMA-002

HTW DRILLING LOG

HOLE NO. AMA-002

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown, CH to CL, soft, medium to high plastic, slightly silty to very silty in part, scattered rust-brown oxidation staining, trace black organic material, trace mica, slightly moist (LOESS)	0 ppm	4.0' Recovery			
	6						
		Becoming mottled gray-brown green-gray					
	7						
	8						
	9		0 ppm		AMA-002-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 1152 Collect sample @ 1155 from 9' to 10'
	10		0 ppm	1.4' Recovery			
	11						
	12						
	13						
	14						

/CORPS/4-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: AMA-002

HTW DRILLING LOG

HOLE NO. AMA-002

SHEET 3 OF 3 SHEETS

PROJECT: REMEDIAL INVESTIGATION MEAD NOP.

INSPECTOR: David A. Kubeczko

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Clay medium to dark yellow-brown with rust-brown oxidation staining, and ocassional gray-green gray-brown mottling, CL to CH, low to medium plastic, soft, silty to very silty in part, trace mica, slightly moist (LOESS)	0 ppm	4.9' Recovery			Collected a split barrel sample from 14' to 19' @ 1157
	15						
	16						
	17						
	18	Sand light brown tan-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, silty to very silty, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	19		0 ppm		AMA-002-019 1.8' Recovery	10	Collected a split spoon sample from 19' to 21' @ 1200
						28	
	20					24	
						28	
	21	Bottom of borehole - 21'					Finished drilling @ 1204 on 3-27-95 Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

PROJECT: REMEDIAL INVESTIGATION MEAD OU3 4F11043A

HOLE NO.: AMA-002

ICORPS/4-15-82

HTW DRILLING LOG

HOLE NO. AMA-003

1. COMPANY NAME	Woodward-Clyde Consultants
2. DRILLING SUBCONTRACTOR	J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT	Remedial Investigation, Mead NOP
4. LOCATION	Mead, Nebraska
5. NAME OF DRILLER	John Coons
6. MANUFACTURER'S DESIGNATION OF DRILL	CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	3 3/4" ID 7 7/8" OD HSA 2" OD Steel Split Spoon 3 1/2" OD 5' Core Split Barrel
8. HOLE LOCATION	WDA No. 2 at Former Atlas Missile Area
9. SURFACE ELEVATION	
10. DATE STARTED	3-27-95
11. DATE COMPLETED	3-27-95
12. OVERBURDEN THICKNESS	ND
15. DEPTH GROUNDWATER ENCOUNTERED	NA
13. DEPTH DRILLED INTO ROCK	ND
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	21'
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
5	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay yellow-brown, CL, slightly silty, roots & root hairs, occasional gray-brown mottling, trace sand, slightly moist (TOP SOIL)	0 ppm		AMA-003-000 0.5' Recovery		Started drilling @1350 on 3-27-95
				0.5' Recovery			Collected a split barrel sample from 0' to 4' @1351
	1						Collected sample @1355 from 0' to 0.5'
		Clay medium to dark yellow-brown with gray-brown gray-green mottling and rust brown oxidation staining, CL, scattered dessication cracks, black staining and/or black organic material, silty to very silty, trace mica, slightly moist (LOESS)	0 ppm		AMA-003-001 1.0' Recovery		Collected sample @1405 from 1' to 2'
	2		0 ppm	1.9' Recovery			
	3						
	4		0 ppm		AMA-003-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @1407
							Collected sample @1410 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: AMA-003

HTW DRILLING LOG

HOLE NO. AMA-003

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Sand light to medium brown tan-brown gray-brown, SM, very fine to fine-grained, well sorted, subrounded to subangular, silty to very silty, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, medium dense, ocassional silt streaks, slightly moist (GLACIO-FLUVIAL SAND)	0 ppm	1.7' Recovery			Collected a rinsate sample from the decorned split barrel, mixing bowl & spoon used to collect sample from 4' to 5' RIN-AMA-003-035 RIN-AMA-003-035-QA for MRD @ 1445
	6						
	7						
	8						
	9		0 ppm		AMA-003-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 1412 Collected sample @1415 from 9' to 10'
	10		0 ppm	1.4' Recovery			
	11						
	12						
	13						
	14						

ICORPS/4-15-82

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: AMA-003

HTW DRILLING LOG

HOLE NO. AMA-003

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Sand light brown, SM, very fine- to fine-grain, well sorted, subrounded to subangular, predominantly quartz grains with 5% orange grains and 5% black specs/grains, very silty with occassional silt streaks, medium dense, slightly moist (GLACIO-FLUVIAL SAND)	0 ppm	2.4' Recovery			Collected a split barrel sample from 14' to 19' @ 1417
	15						
		Sand tan-brown, SP, fine-grained, well sorted, subrounded, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, trace frosted quartz grains & silt, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	16						
		Sand light brown gray-brown tan-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, silty to very silty, predominantly quartz with 5-10% orange grains & 5% black specs/grains, occassional silt streaks, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	17						
	18						
	19		0 ppm		AMA-003-019 1.8' Recovery	8	Collected a split spoon sample from 19' to 21' @ 1420
						12	
	20					16	
						16	
	21	Bottom of borehole - 21'					Finished drilling @ 1424 on 3-27-95. Backfilled borehole w/ cuttings from 3' to 21' and Bentonite grout from 0' to 3'
	22						
	23						

ICORPS/4-15-82

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: AMA-003

HTW DRILLING LOG

HOLE NO. AMA - 006

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: John Coons	6. MANUFACTURER'S DESIGNATION OF DRILL: CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3 7/4" ID 7 7/8" OD HSA; 2" OD Steel Split Spoon; 3 1/2" OD · 5' Core Split Barrel	8. HOLE LOCATION: WDA No. 2 at Former Atlas Missile Area
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3·27·95 / 11. DATE COMPLETED: 3·27·95
12. OVERBURDEN THICKNESS: ND	15. DEPTH GROUNDWATER ENCOUNTERED: NA
13. DEPTH DRILLED INTO ROCK: ND	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 21'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
5	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesho

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay yellow-brown to gray-brown, CL, silty to very silty, abundant roots & root hairs, trace sand, slightly moist (TOP SOIL)	0 ppm		AMA-006-000 0.5' Recovery		Started drilling @ 1515 on 3·27·95
				0.5' Recovery			Collected a split barrel sample from 0' to 4' @ 1517
	1						Collected sample @ 1520 from 0' to 0.5'
		Clay medium to dark yellow-brown with green-gray mottling & rust-brown oxidation staining, CL, silty to very silty, soft, low plastic, trace mica, slightly moist (LOESS)	0 ppm		AMA-006-001 1.0' Recovery		Collected sample @ 1525 from 1' to 2'
	2		0 ppm	1.7' Recovery			
	3						
		Sand light brown gray-brown tan brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, silty to very silty, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	4		0 ppm		AMA-006-004 2.0' Recovery		Collected a split barrel sample from 4' to 9' @ 1527
							Collected sample @ 1530 from 4' to 6'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3 | HOLE NO.: AMA-006

HTW DRILLING LOG

HOLE NO. AMA-006

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kibeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Sand light brown tan-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, silty to very silty, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, medium dense, slightly moist (GLACIO-FLUVIAL SAND)			AMA-206-004 AMA-406-004		Collected duplicate sample from 4' to 6' @ 1505 Collected MRD duplicate sample from 4' to 6' @ 1530
	6		0 ppm	0.8' Recovery			
	7						
	8						
	9		0 ppm		AMA-006-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 1536 Collected sample @ 1540 from 9' to 10'
	10		0 ppm	3.0' Recovery			
	11						
	12						
	13						
	14						

ICORPS/6-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: AMA-006

HTW DRILLING LOG

HOLE NO. AMA-006

SHEET 3 OF 3 SHEETS

PROJECT: REMEDIAL INVESTIGATION MEAD NOP.

INSPECTOR: David A. Kuberzko

ELEV	DEPTH	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS	REMARKS
	14	Sand light brown tan-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, silty to very silty, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, medium dense, slightly moist (GLACIO-FLUVIAL SAND) Thin layer with medium to coarse sand grains scattered with trace frosted quartz grains	0 ppm	3.3' Recovery			Collected a split barrel sample from 14' to 19' @ 1545
	15						
	16						
	17						
	18						
	19		0 ppm		AMA-006-019 1.7' Recovery	6	Collected a split spoon sample from 19' to 21' @ 1550
						8	
	20					10	
						12	
	21	Bottom of borehole - 21'					Finished drilling @ 1554 on 3-27-95 Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: AMA-006

(CORPS/4-15-82)

HTW DRILLING LOG

HOLE NO. AMA-008

1. COMPANY NAME	Woodward-Clyde Consultants
2. DRILLING SUBCONTRACTOR	J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT	Remedial Investigation, Mead NOP
4. LOCATION	Mead, Nebraska
5. NAME OF DRILLER	John Coons
6. MANUFACTURER'S DESIGNATION OF DRILL	CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	3¾" ID 7⅝" OD HSA 2" OD Steel Split Spoon 3½" OD 5' Core Split Barrel
8. HOLE LOCATION	WDA No. 2 at Former Atlas Missile Area
9. SURFACE ELEVATION	
10. DATE STARTED	3-27-95
11. DATE COMPLETED	3-27-95
12. OVERBURDEN THICKNESS	ND
13. DEPTH DRILLED INTO ROCK	ND
14. TOTAL DEPTH OF HOLE	21'
15. DEPTH GROUNDWATER ENCOUNTERED	NA
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
5	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/ cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay very dark gray to black, CL, silty, soft, abundant roots & root hairs, trace sand, slightly moist (TOP SOIL)	0 ppm		AMA-008-000 0.5' Recovery		Started drilling @1639 on 3-27-95 Collected a split barrel sample from 0' to 4' @1641
				0.5' Recovery			
	1		0 ppm		AMA-008-001		Collected a sample @1645 from 0' to 0.5'
		Clay dark brown-gray gray with scattered rust-brown oxidation staining, CL, slightly silty to very silty, soft to brittle/crumbly, trace mica, slightly moist (LOESS)					Collected sample @1650 from 1' to 3' Collected duplicate sample from 1' to 3' @1625 Collected MRD duplicate sample from 1 to 3' @1650
	2				AMA-208-001 AMA-408-001 2.0' Recovery		
	3		0 ppm	0.7' Recovery			
	4		0 ppm		AMA-008-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @1652 Collected sample @1655 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: AMA-008

HTW DRILLING LOG

HOLE NO. AMA-008

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown, CL, silty to very silty, ocassional rust-brown oxidation staining & black organic material, soft, trace mica, slightly moist (LOESS)	0 ppm	2.7' Recovery			
	6						
	7						
	8						
	9	Silt medium to dark yellow-brown with interbedded yellow-brown clay, CL scattered rust-brown oxidation staining, clayey to very clayey, scattered black organic material, slightly moist (LOESS)	0 ppm		AMA-008-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 1656 Collected sample @ 1700 from 9' to 10'
	10		0 ppm	2.7' Recovery			
	11						
	12	Clay medium to dark yellow-brown with ocassional rust-brown oxidation staining, CL, very silty with thin silt streaks, scattered black organic material, trace mica, slightly moist to moist (LOESS)					
	13						
	14						

ICORPS/4-15-82

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 — 4F11043A

HOLE NO.: AMA-008

HTW DRILLING LOG

HOLE NO. AMA-008

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Clay medium to dark yellow-brown, CL, silty to very silty, trace mica, slightly moist to moist (LOESS)	0 ppm	2.4' Recovery			Collected a split barrel sample from 14' to 19' @ 1702
	15						
	16	Sand light brown tan-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, silty to very silty, medium dense, moist (GLACIO-FLUVIAL SAND)					
	17						
	18						
	19		0 ppm		AMA-008-019 1.6' Recovery	12	Collected a split sample from 19' to 21' @ 1705
						20	
	20					20	
						24	
	21	Bottom of borehole - 21'					Finished drilling @ 1709 on 3-27-95. Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

HTW DRILLING LOG

HOLE NO. ANA-001

1. COMPANY NAME	Woodward-Clyde Consultants
2. DRILLING SUBCONTRACTOR	J & R Drilling Services, Inc
SHEET 1 OF 3 SHEETS	
3. PROJECT	Remedial Investigation, Mead NOP
4. LOCATION	Mead, Nebraska
5. NAME OF DRILLER	Scott Wheeler
6. MANUFACTURER'S DESIGNATION OF DRILL	CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	3¼" ID 7⅞" OD HSA 2" OD Steel Split Spoon 3½" OD 5' Core Split Barrel
8. HOLE LOCATION	WDA North of Ammonium Nitrate Plant
9. SURFACE ELEVATION	
10. DATE STARTED	3-22-95
11. DATE COMPLETED	3-22-95
12. OVERBURDEN THICKNESS	ND
13. DEPTH DRILLED INTO ROCK	ND
14. TOTAL DEPTH OF HOLE	21'
15. DEPTH GROUNDWATER ENCOUNTERED	NA
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/ cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay, dark to very dark gray, CL, slightly silty & sandy, root hairs, ocassional pebbles, medium to low plastic, soft, slightly moist (TOP SOIL)	0 ppm		ANA-001-000 0.5' Recovery		Started drilling @1055 on 3-22-95 Collected a split barrel sample from 0' to 4' @1057 Collected sample @1100 from 0' to 0.5'
				0.5' Recovery			
	1		0 ppm		ANA-001-001 1' Recovery		Collected sample @1105 from 1' to 2'
		Clay, dark to very dark gray with scattered gray-brown to yellow-brown mottling, CH, medium to high plastic, soft, scattered rust-brown oxidation staining, slightly silty in part, trace mica, slightly moist (LOESS)					
	2		0 ppm		ANA-001-002 1.8' Recovery		Collected sample @1110 from 2' to 3'
	3			0' Recovery			
	4	Increasing gray-brown, yellow-brown and gray-green mottling	0 ppm		ANA-001-004 1.6' Recovery		Collected a split barrel sample from 4' to 9' @1118 Collected sample @1120 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: ANA-001

B07NE003703-05057

HTW DRILLING LOG

HOLE NO. ANA-001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay, medium to dark gray-brown gray-green with occassional very dark gray mottling and yellow-brown mottling, CL to CH, medium plastic, soft, slightly to some silt in part, scattered black organic material, trace mica, slightly moist (LOESS)	0 ppm	3.7' Recovery			Collected a rinsate sample from the deconned split barrel after sampling ANA-001-004 @ 1140 RIN-ANA-004-035 RIN-ANA-004-035-QA for MRD
	6						
	7						
	8	Clay, gray-green green-gray with scattered yellow-brown mottling and abundant rust-brown oxidation staining & pockets, scatter black organic material, CL to CH, medium plastic, soft, slightly silty to very silty in part, trace mica, slightly moist (LOESS)					
	9		0 ppm		ANA-001-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 1150 Collected sample @ 1200 from 9' to 10'
	10		0 ppm	3.85' Recovery			
	11						
	12						
	13						
	14						

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: ANA-001

/CORPS/4-15-82

HTW DRILLING LOG

HOLE NO. ANA-001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Clay, gray-green green-gray with yellow-brown mottling and abundant rust-brown oxidation staining and pockets, scattered black organic material, CL, silty to very silty in part, trace mica, slightly moist (LOESS)	0 ppm	4.8' Recovery			Collected a split spoon sample from 14' to 19' @1204
	15						
	16						
	17						
	18						
	19	Sand, orange to yellow-brown with abundant rust-brown oxidation staining in bands, very fine- to fine-grained, well sorted, subrounded to subangular, silty to very silty in part, predominantly quartz grains with 5 to 10% orange grains and scattered black specs/grains, slightly moist, SM, (GLACIO-FLUVIAL SAND)	0 ppm		ANA-001-019 1.6' Recovery	15	Collected a split spoon sample from 19' to 21' @1210
	20					25	
						23	
		Decreasing oxidation banding, becoming tan-brown in color				18	
	21	Bottom of borehole - 21'					Finished drilling @1215 on 3-22-95 Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

/CORPS/4-15-87

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: ANA-001

HTW DRILLING LOG

HOLE NO. ANA-002

1. COMPANY NAME	Woodward-Clyde Consultants
2. DRILLING SUBCONTRACTOR	J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT	Remedial Investigation, Mead NOP
4. LOCATION	Mead, Nebraska
5. NAME OF DRILLER	Scott Wheeler
6. MANUFACTURER'S DESIGNATION OF DRILL	CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	3 1/4" ID 7 7/8" OD HSA 2" OD Steel Split Spoon 3 1/2" OD 5' Core Split Barrel
8. HOLE LOCATION	WDA North of Ammonium Nitrate Plant
9. SURFACE ELEVATION	
10. DATE STARTED	3-22-95
11. DATE COMPLETED	3-22-95
12. OVERBURDEN THICKNESS	ND
13. DEPTH DRILLED INTO ROCK	ND
14. TOTAL DEPTH OF HOLE	21'
15. DEPTH GROUNDWATER ENCOUNTERED	NA
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay, dark to very dark gray, CL to CH, low to medium plastic, slightly silty, soft, root hairs, scattered sand grains, ocassional brown mottling, slightly moist (TOP SOIL)	0 ppm		ANA-002-000 0.5' Recovery		Started drilling @ 1435 on 3-22-95 Collected a split barrel sample from 0' to 4' @ 1438
				0.5' Recovery			Collected sample @ 1440 from 0' to 0.5'
	1	Clay, medium to dark yellow-brown, CH to CL, medium to high plastic, soft, trace mica & silt, slightly moist (LOESS)	0 ppm		ANA-002-001 1.0' Recovery		Collected sample @ 1445 from 1' to 2'
	2		0 ppm		ANA-002-002 0.8' Recovery		Collected sample @ 1450 from 2' to 3'
	3			0' Recovery			
	4	Becoming partly mottled gray-green to gray-brown with rust-brown oxidation staining	0 ppm		ANA-002-004 2.0' Recovery		Collected a split barrel sample from 4' to 9' @ 1455 Collected sample @ 1500 from 4' to 6'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3 | HOLE NO.: ANA-002

HTW DRILLING LOG

HOLE NO. ANA-002

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay, medium to dark yellow-brown with gray-green to gray-brown mottling and rust-brown oxidation staining, CH to CL, medium plastic, slightly silty, soft, trace mica, slightly moist (LOESS)	0 ppm		ANA-202-004 ANA-402-004 2.0' Recovery		Collected duplicate sample @ 1505 from 4' to 6' Collected MRD duplicate sample @ 1500 from 4' to 6'
	6		0 ppm	0.2' Recovery			
	7						
	8						
	9	Clay, medium to dark yellow-brown with abundant rust-brown oxidation staining in bands and pockets and occassional gray-green bands, scattered black organic material, slightly silty, very silty in part with very thin (<0.25") silt streaks, medium to low plastic, soft, CL to CH, trace mica, slightly moist (LOESS)	0 ppm		ANA-002-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 1520 Collected sample @ 1525 from 9' to 10'
	10		0 ppm	1.9' Recovery			
	11						
	12						
	13						
	14						

ICORPS/4-15-82

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: ANA-002

HTW DRILLING LOG

HOLE NO. ANA-002

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Silt, medium yellow-brown with rust-brown oxidation staining, clayey to very clayey, sandy, predominantly quartz with 5% orange grains and trace black specs/grains, thin yellow-brown clay streaks, slightly moist, ML (LOESS)	0 ppm	1.2' Recovery			Collected a split barrel sample from 14' to 19' @ 1528
	15						
		Sand, medium to light gray-brown to tan-brown to yellow-brown, SM, scattered rust-brown oxidation banding, very fine- to fine-grained, well sorted, subrounded to sub-angular, predominantly quartz with 5-10% orange grains and 5% black specs/grains, silty to very silty in part, slightly moist (GLACIO-FLUVIAL SAND)					
	16						
	17						
	18						
	19		0 ppm		ANA-002-019 1.6' Recovery	9	Collected a split spoon sample from 19' to 21' @ 1535
						19	
	20					19	
						24	
	21	Bottom of borehole - 21'					Finished drilling @ 1540 on 3-22-95. Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

ICORPS/4-15-82

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: ANA-002

HTW DRILLING LOG

HOLE NO. DGA-001

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: Scott Wheeler	6. MANUFACTURER'S DESIGNATION OF DRILL: CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3 3/4" ID 7 7/8" OD HSA; 2" OD Steel Split Spoon; 3 1/2" OD 5'-Core Split Barrel	8. HOLE LOCATION: Demolition Ground
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3-24-95 / 11. DATE COMPLETED: 3-24-95
12. OVERBURDEN THICKNESS: ND	15. DEPTH GROUNDWATER ENCOUNTERED: NA
13. DEPTH DRILLED INTO ROCK: ND	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 21'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
5	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kulesho

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay gray-brown, CL, silty, sandy, soft, low plastic, trace mica, slightly moist, roots & root hairs (TOP SOIL)	0 ppm		DGA-001-000 0.5' Recovery		Started drilling @ 1532 on 3-24-95 Collected a split barrel sample from 0' to 4' @ 1535
		Clay medium to dark yellow-brown, CH to CL, medium to high plastic, soft, slightly mottled with gray-brown, slightly silty, trace mica and black organic material or grains, slightly moist (LOESS)		0.5' Recovery			Collected sample @ 1535 from 0' to 0.5'
	1		0 ppm		DGA-001-001 1.0' Recovery		Collected sample @ 1540 from 1' to 2'
	2		0 ppm	2.0' Recovery			Collected sample @ 1545 from 2' to 3'
	3						
	4		0 ppm		DGA-001-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @ 1555 Collected sample @ 1600 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: DGA-001

HTW DRILLING LOG

HOLE NO. DGA-001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown with rust-brown oxidation staining and ocassional thin gray-brown green-brown banding & mottling, CH to CL, medium to low plastic, soft, slightly silty, trace mica & black organic material, slightly moist (LOESS)	0 ppm	2.4' Recovery			
	6						
	7						
	8						
	9		0 ppm		DGA-001-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 1606 Collected sample @ 1610 from 9' to 10'
	10		0 ppm	2.7' Recovery			
	11						
	12	Sand medium to light brown tan-brown, SM, fine-grained, wellsorted, subrounded, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, slightly silty, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	13						
	14						

ICORPS/4-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: DGA-001

HTW DRILLING LOG

HOLE NO. DGA-001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Sand light brown tan-brown, SM, very fine-grained, well sorted, subrounded to subangular, very silty, predominantly quartz grains with 5-10% orange grains & 5-10% black specs/grains, medium dense, slightly moist (GLACIO-FLUVIAL SAND)	0 ppm	2.1' Recovery			Collected a split barrel sample from 14' to 19' @ 1614
	15	Sand light to very light brown tan-brown, SP, fine-grained, well sorted, subrounded, predominantly quartz with 10% orange grains & 5% black specs/grains, trace silt, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	16						
	17						
	18						
	19	Sand light brown tan-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, silty to very silty, slightly moist (GLACIO-FLUVIAL SAND)	0 ppm		DGA-001-019 1.9' Recovery	3	Collected a split spoon sample from 19' to 21' @ 1620
	20					11	
						14	
						18	
	21	Bottom of borehole - 21'					Finished drilling @ 1625 on 3-24-95. Backfilled borehole w/cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

/CORPS/4-15-92

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: DGA-001

HTW DRILLING LOG

HOLE NO. DGA-002

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: Scott Wheeler	6. MANUFACTURER'S DESIGNATION OF DRILL: CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3 3/4" ID 7 7/8" OD HSA; 2" OD Steel Split Spoon; 3 1/2" OD 5' Core Split Barrel	8. HOLE LOCATION: Demolition Ground
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3-25-95 / 11. DATE COMPLETED: 3-25-95
12. OVERBURDEN THICKNESS: ND	15. DEPTH GROUNDWATER ENCOUNTERED: NA
13. DEPTH DRILLED INTO ROCK: ND	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 21'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
5	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kubesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay dark gray to dark brown-gray, CL, low plastic, soft, silty, sandy, abundant roots & root hairs, slightly moist (TOP SOIL)	0 ppm		DGA-002-000 0.5' Recovery		Started drilling @ 835 on 3-25-95
				0.5' Recovery			Collected a split spoon sample from 0' to 4' @ 837
	1		0 ppm		DGA-002-001 1.0' Recovery		Collected sample @ 840 from 0' to 0.5'
							Collected sample @ 845 from 1' to 2'
	2		0 ppm	1.2' Recovery			
		Clay medium to dark yellow-brown, CL, low plastic, soft, silty to very silty with occasional thin (<0.25") silt streaks, trace mica, scattered black organic material, slightly moist (LOESS)					
	3						
	4		0 ppm		DGA-002-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @ 851
							Collected sample @ 855 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3 | HOLE NO.: DGA-002

HTW DRILLING LOG

HOLE NO. DGA-002

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown, CL to CH, ocassional gray-brown to green-gray mottling and scattered rust-brown oxidation staining, scattered black organic material, very silty to slightly silty, low to medium plastic, soft, trace mica, slightly moist to moist in part (LOESS)	0 ppm	1.6' Recovery			
	6						
	7						
	8						
	9		0 ppm		DGA-002-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @906 Collected a sample @910 from 9' to 10'
	10		0 ppm	1.9' Recovery			
	11						
	12						
	13						
	14						

ICORPS/4-15-92

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: DGA-002

HTW DRILLING LOG

HOLE NO. DGA-002

PROJECT: REMEDIAL INVESTIGATION MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Silt, medium to dark yellow-brown to gray-brown, ML, thin yellow-brown clay streaks, very clayey, slightly sandy, predominantly quartz grains with trace orange grains, slightly moist (LOESS)	0 ppm	2.9' Recovery			Collected a split barrel sample from 14' to 19' @914
	15	Sand medium to dark yellow-brown to gray-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, predominantly quartz with 5% orange & 5% black specs/grains, very silty, trace clay, slightly moist (GLACIO-FLUVIAL SAND)					
	16						
	17	Sand, very light brown tan-brown, SP, fine-grained, well sorted, subrounded, predominantly quartz with 5% orange grains & 5-10% black specs/grains, trace silt, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	18	Sand light to medium brown gray-brown tan-brown, SM, very fine to fine-grained, well sorted, subrounded to subangular, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, silty to very silty, slightly moist, medium dense (GLACIO-FLUVIAL SAND)					
	19		0 ppm		DGA-002-019 1.7' Recovery	4	Collected a split sample from 19' to 21' @920
	20					8	
						13	
						18	
	21	Bottom of borehole - 21'					Finished drilling @925 on 3-25-95. Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

PROJECT: REMEDIAL INVESTIGATION MEAD OU3 4F11043A

HOLE NO.: DGA-002

(CORPS/4-15-92)

HTW DRILLING LOG

HOLE NO. DGA-003

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: Scott Wheeler	6. MANUFACTURER'S DESIGNATION OF DRILL: CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3¼" ID 7⅞" OD HSA; 2" OD Steel Split Spoon; 3½" OD 5' Core Split Barrel	8. HOLE LOCATION: Demolition Ground
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3-25-95 / 11. DATE COMPLETED: 3-25-95
12. OVERBURDEN THICKNESS: ND	15. DEPTH GROUNDWATER ENCOUNTERED: NA
13. DEPTH DRILLED INTO ROCK: ND	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 21'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
5	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Rubeglo

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay yellow-brown, CL, abundant roots & root hairs, slightly silty to silty, low plastic, soft, trace mica, slightly moist (TOP SOIL)	0 ppm		DGA-003-000 0.5' Recovery		Started drilling @ 1030 on 3-25-95
				0.5' Recovery			Collected a split barrel sample from 0' to 4' @ 1032
	1	Clay medium to dark yellow-brown with ocassional rust-brown oxidation staining, CL to CH, low to medium plastic, soft, very silty to slightly silty, ocassional gray-brown gray-green mottling, trace mica, slightly moist (LOESS)	0 ppm		DGA-003-001 1.0' Recovery		Collected sample @ 1035 from 0' to 0.5' Collected sample @ 1040 from 1' to 2'
	2		0 ppm	1.95' Recovery			
	3						
	4		0 ppm		DGA-003-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @ 1048 Collected sample @ 1055 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: DGA-003

HTW DRILLING LOG

HOLE NO. DGA-003

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown with occassional gray-brown green-gray mottling and rust-brown oxidation staining, scattered black organic material, CL to CH, low to medium plastic, soft, slightly silty to silty in part, trace mica, slightly moist (LOESS)	0 ppm	2.0' Recovery			Collected a rinsate sample from the decanted split barrel, mixing bowl & spoon from the 4' to 5' sample RIN-DGA-003-035 RIN-DGA-003-035-QA for MRD @ 1110
	6						
	7						
	8						
	9		0 ppm		DGA-003-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 1131 Collected sample @ 1135 from 9' to 10'
	10		0 ppm	2.9' Recovery			
	11	Increasing silt and slightly sandy					
	12	Sand light brown yellow-brown gray-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, silty to very silty in part, rare frosted quartz grains, slightly moist, occassional dark banding (GLACIO-FLUVIAL SAND)					
	13						
	14						

ICORPS/4-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: DGA-003

HTW DRILLING LOG

HOLE NO. DGA-003

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Sand light to medium brown gray-brown, SM, very-fine- to fine-grained well sorted, subrounded, predominantly quartz with orange grains & black specs/grains, silty to very silty, slightly moist (GLACIO-FLUVIAL SAND)	0 ppm	3.7' Recovery			Collected a split barrel sample from 14' to 19' @1137
	15						
	16	Sand light to very light brown tan-brown, SP, fine-grained, well sorted, subrounded, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, trace silty frosted quartz grains, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	17						
	18	Sand light brown gray-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, predominantly quartz with 5-10% orange grains & 5% black specs/grains, silty to very silty, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	19		0 ppm		DGA-003-019 1.7' Recovery	8	Collected a split spoon sample from 19' to 21' @1140
	20					12	
						10	
						10	
	21	Bottom of borehole - 21'					Finished drilling @ 1143 on 3-25-95 Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

ICORPS/4-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: DGA-003

HTW DRILLING LOG

HOLE NO. DGA-004

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: Scott Wheeler	6. MANUFACTURER'S DESIGNATION OF DRILL: CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3¾" ID 7⅞" OD HSA; 2" OD Steel Split Spoon; 3½" OD 5' Core Split Barrel	8. HOLE LOCATION: Demolition Ground
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3-25-95 / 11. DATE COMPLETED: 3-25-95
12. OVERBURDEN THICKNESS: ND	15. DEPTH GROUNDWATER ENCOUNTERED: NA
13. DEPTH DRILLED INTO ROCK: ND	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 21'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5			NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
5	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kubesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay yellow-brown, CL, abundant roots & root hairs, slightly silty to silty, low plastic, soft, trace mica, slightly moist (TOP SOIL)	0 ppm		DGA-004-000 0.5' Recovery		Started drilling @1250 on 3-25-95
				0.5' Recovery			Collected a split barrel sample from 0' to 4' @1251
	1		0 ppm		DGA-004-001 1.0' Recovery		Collected sample @1255 from 0' to 0.5'
							Collected sample @1300 from 1' to 2'
		Clay medium to dark yellow-brown with abundant rust-brown oxidation staining and scattered gray-brown mottling, slightly silty to very silty, CH to CL, medium to low plastic, soft, trace mica & black organic material, slightly moist (LOESS)					
	2		0 ppm	1.7' Recovery			
	3						
	4		0 ppm		DGA-004-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @1311
							Collected sample @1315 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3 | HOLE NO.: DGA-004

HTW DRILLING LOG

HOLE NO. DGA-004

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown with abundant rust-brown oxidation staining and scattered gray-brown green-gray mottling, CH to CL, medium to low plastic, soft, scatter black organic material, slightly silty to very silty in part, trace mica, slightly moist (LOESS)	0 ppm	2.7' Recovery			
	6						
	7						
	8						
	9		0 ppm		DGA-004-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 1320 Collected sample @ 1325 from 9' to 10'
	10			2.6' Recovery			
	11						
	12	Sand, light brown tan-brown, SM, very fine- to fine-grained, well sorted, sub-rounded to subangular, predominantly quartz grains with 5% orange grains & 5-10% black specs/grains, silty to very silty in part, occassional darker banding, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	13						
	14						

/CORPS/4-15-92

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: DGA-004

HTW DRILLING LOG

HOLE NO. DGA-004

SHEET 3 OF 3 SHEETS

PROJECT: REMEDIAL INVESTIGATION MEAD NOP.

INSPECTOR: David A. Kubeczko

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Sand light brown, very fine-grained, SM, well sorted, subrounded to sub angular, predominantly quartz grains with 5% orange grains & 5% black specs/grains, very silty, medium dense, slightly moist (GLACIO-FLUVIAL SAND)	0 ppm	22' Recovery			Collected a split barrel sample from 14' to 19' @
	15						
	16	Sand light brown tan-brown, SP, fine-grained, well sorted, subrounded, predominantly quartz grains with 5% orange grains & 5% black specs/grains, rare frosted quartz grains silty, slightly moist (GLACIO-FLUVIAL SAND)					
	17	Sand light brown tan-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, slightly silty to very silty in part, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	18						
	19		0 ppm		DGA-004-019		Collected a split barrel sample from 19' to 21' @ 1342 Collected sample @ 1345 from 19' to 21'
	20				DGA-204-019 DGA-404-019		Collected duplicate sample @ 1400 from 19' to 21' Collected MRD duplicate sample @ 1400 from 19' to 21'
	21	Bottom of borehole - 21'					Finished drilling @ 1348 on 3-25-95 Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

PROJECT: REMEDIAL INVESTIGATION MEAD OU3 4F11043A

HOLE NO.: DGA-004

ICORPS/4-15-82

HTW DRILLING LOG

HOLE NO. UMA - 001

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: WCC - OVERLAND PARK, KS
SHEET 1 OF 7 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: BOB Bolin	6. MANUFACTURER'S DESIGNATION OF DRILL: CME -75 (TRUCK-MOUNTED)
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 4 1/4" ID HSA; 3" stainless split spoon; 2" split spoon; Hydropunch	8. HOLE LOCATION: NW 1/4, SEC 17, T14N, R9E; NORTH SIDE OF GATE HOUSE - ATLAS MISSILE AREA
	9. SURFACE ELEVATION:
	10. DATE STARTED: 4-10-95 / 11. DATE COMPLETED: 4-11-95
12. OVERBURDEN THICKNESS: N.A.	15. DEPTH GROUNDWATER ENCOUNTERED: Approximately 48' bgs ATD
13. DEPTH DRILLED INTO ROCK: N.A.	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: Bot. of Auger hole = 49' bgs; HYDROPUNCH DRIVEN TO 52.4' bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None	N.A.	N.A.	N.A.

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	~~METALS~~	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC. %
	BTEX	N.A.	Semivolatiles	TPH (418.1)	N.A.	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Boring Grouted to 1' bgs, Concrete from 1-0' bgs	✓			Christopher J. Lafgeald

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Concrete (10" thick)					
	1	LEAN CLAY (FILL), STIFF, Low plastic, MOIST, DARK BROWN, with fine sand and trace fine gravel	BZ=BG	N.A.	UMA-001-001 (0955)	P	P = 0.75' R = 0.75'
	2						
	3	LEAN CLAY (CL), firm, Low to MEDIUM plastic, MOIST, DARK yellowish BROWN to yellowish BROWN, trace IRON STAINING (LOESS)					
	4		BZ=BG	N.A.	UMA-001-004 (1000)	P	P = 1.0 R = 1.0
	5						

HTW DRILLING LOG

HOLE NO. UMA - 001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: CHRIS FITZGERALD

SHEET 2 OF 7 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	6	SAME: LEAN CLAY (CL), firm, low to medium plastic, moist, dark yellowish brown to yellowish brown, trace iron staining (LOESS)					
	7						
	8						
	9		BZ=BG	N.A.	UMA-001-009 (1010)	P	P = 1.0 R = 1.0
	10						
	11						
	12						
	13						
	14						

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: UMA-001

ICORPS/4-15-82

HTW DRILLING LOG

HOLE NO. UMA-001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: CHRIS FITZGERALD

SHEET 3 OF 7 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		SAME: LEAN CLAY (CL), firm Low to MEDIUM plastic, MOIST, DARK yellowish BROWN to yellowish Brown, trace iron staining (LOESS)					
	15						
	16						
	17						
	18	SAND (SM), Loose, slightly moist, Light grayish Brown, with some silt and trace iron staining					Driller Reports Sand at approximately 18 feet bgs.
	19		B2=B6	N.A	UMA-001-019 (1025)	P	P=1.0 R=1.0
	20						
	21						
		BECOMING DENSE					
	22						
	23						

ICORPS/4-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: UMA-001

HTW DRILLING LOG

HOLE NO. UMA-001

REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR Chris Fitzgerald

SHEET 4 OF 7 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		SAME: SAND (SM), Dense, Slightly moist, Light grayish brown with some silt and trace iron staining					
	24						
	25						
	26						
	27	Becoming VERY DENSE					
	28						
	29		B2=BG	N.A.	UMA-001-029 (1055)	16 23	P=2.0 R=1.8
	30					25 30	CJF 4-6-95
	31						
	32						

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: UMA-001

/CORPS/4-15-92

HTW DRILLING LOG

HOLE NO. UMA-001

REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR CHRIS FITZGERALD

SHEET 5 OF 7 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	33	SAME: SAND (SM), VERY DENSE, SLIGHTLY MOIST, LIGHT GRAYISH BROWN WITH SOME SILT AND TRACE IRON STAINING					
	34						
	35		BZ=BG	N.A.	N.A.	21 28 40 63	P=2.0 R=2.0
	36						
	37		BZ=BG	N.A.	UMA-001-038	30 36 26 41	P=2.0 R=2.0 Analytical Sample from 38-39' bgs
	38						
	39		BZ=BG	N.A.	N.A.	30 44 49 50	P=2.0 R=2.0
	40						
	41						

CORPS/4-15-82

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: UMA-001

HTW DRILLING LOG

HOLE NO. UMA-001

SHEET 6 OF 7 SHEETS

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: CHRIS FITZGERALD

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	42	SAME: Sand (SM), VERY DENSE, SLIGHTLY MOIST, Light grayish Brown with SOME SILT and trace Iron staining	BZ=BG	N.A.	N.A.	16 23 29 17	P = 2.0 R = 2.0
	43 44		BZ=BG	N.A.	N.A.	40 45 57 77	P=2.0 R = 2.0
	45 46	Moisture content % Sand is increasing	BZ=BG	N.A.	N.A	33 47 49 61	
	47 48	Sand is SATURATED	BZ=BG	N.A.	N.A.	46 41 49 52	▽ ATD
	49 50						AUGERS ADVANCED to 49' bgs. HYDRO-punch DRIVEN below AUGERS to 52.4 feet bgs

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4E11043A

HOLE NO.: UMA-001

/CORPS/4-15-92

HTW DRILLING LOG

HOLE NO. UMA-001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR

SHEET 7 OF 7 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	51	SAME: Sand (SM), VERY DENSE, SATURATED, Light grayish Brown with SOME SILT and trace iron staining					
	52						
	53						Bottom of Hydropunch Sampler = 52.4' bgs. Ground water sample collected (called UMW-001-045) then the Hydropunch sampler and all augers removed. Boring backfilled to 1' bgs with Enviroplug grout through a 1" tremie pipe on 4-11-95. Upper 1' of Boring backfilled with Concrete.
	54						
	55						
	56						
	57						
	58						

(CORPS/4-15-82)

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.:

HTW DRILLING LOG

HOLE NO. UMA-002

SHEET 1 OF 6 SHEETS

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: WAC
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: Bob Boin	6. MANUFACTURER'S DESIGNATION OF DRILL: CME-75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3" SS Split Spoon; 2" SS Split Spoon; Hydropunch; 4¼" ID HSA	8. HOLE LOCATION: Atlas Missile Area
	9. SURFACE ELEVATION:
	10. DATE STARTED: 4-4-95 / 11. DATE COMPLETED: 4-6-95
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: 40.8'
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 41' ~~45.5'~~ 50.0' w/Hydropunch	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N.A.	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
	BTEX	None	TPH	SVOC		NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Boring backfilled with Grout	X		Hydropunch	[signature]

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Lean Clay, Stiff, Dk Brn, moist (Topsoil)	BZ=ND	NA	UMA-002-000	P	~~BZ=0.5~~ P=0.5' R=0.5'
	1	Lean clay, Stiff, Lt Brn, moist Loess	BZ=ND	NA	UMA-002-001	P	P=1.0' R=0.8'
	2						
	3	becoming Dk Gray, V. Stiff, Blocky w/ abundant Iron oxide staining					
	4		BZ=ND	NA	UMA-002-004	P	P=1.0' R=0.9'
	5						

/CORPS/5-15-92

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 — 4E11043A

HOLE NO.: UMA-002

HTW DRILLING LOG

HOLE NO. UMA-002

REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR

SHEET 2 OF 4 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Smc:					
	6						
	7						
	8	Becoming LT. Brn					
		NoT blocky					
	9		BZ=ND	NA	UMA-002-009	P	P= 1.0' R = 1.0'
	10						
	11						
	12						
	13						
	14						

ICORPS/4-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.:

HTW DRILLING LOG

HOLE NO. UMA-002

REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR

SHEET 3 OF 6 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Same:					
	15						
	16						
	17						
	18						
	19		BZ=ND	NA	UMA-002-019	P	P=1.0' R=0.8'
	20	Poorly Graded, Sand, Loose, Gray, fine grained, Dry					
	21						
	22	Becoming Dense					
	23						

CORPS/4-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: UMA-002

HTW DRILLING LOG

HOLE NO. UMA-002

REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR [illegible]

SHEET 4 OF 6 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Sm					
	24						
	25						
	26						
	27						
	28						
	29	w/trace of med grained Sand.	BZ=ND	NA	UMA-002-029	14/26	R=1.0' 3in. spoon
	30			NA	NA	50/50	3in. spoon R=1.0'
	31			NA	NA	17 16	2in. spoon R=2.0'
	32						

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: UMA-002

(CORPS/4-15-82)

B07NE003703-05087

HTW DRILLING LOG

HOLE NO. UMA-002

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR

SHEET 5 OF 6 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Sme:				14 27	
	33		BZ=ND	NA		15 38 44 46	R=2.0' 3in Spoon
	35			NA		17 19 28 34	R=2.0' 2in spoon
	37		BZ=ND		UMA-002-038	20 35 43 49	R=2.0' 3in. spoon
	39		BZ=ND			20 35 45 55	R=2.0' 3in. Spoon H2O encountered at 40.8' BGS
40.8'	41						

(CORPS/4-15-82)

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: UMA-002

HTW DRILLING LOG

HOLE NO. UMA - 002

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR

SHEET 6 OF 6 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
							BOH - 41.0'
	42						Advanced Hydropunch to 45.5' BGS and Attempted To collect water sample.
	43						Then advanced Hydropunch to 50.0' BGS and attempted to Collected water sample.
	44						After an unsucessful Attempt to collect the entire water sample, the boring was backfilled with grout. On 4-8-95 A new boring was Drilled (w/ no samples) Approximately 3 feet NORTH of the original boring. The Boring was Backfilled with Enviroplug grout through a 1" Tremie pipe on 4-9-95.
	45						
	46						
	47						
	48						
	49						
	50						

CORPS/4-15-82

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: UMA-002

HTW DRILLING LOG

HOLE NO. UAA-001

SHEET 1 OF 5 SHEETS

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: WCC
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: Bob Bolin	6. MANUFACTURER'S DESIGNATION OF DRILL: CME-75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3" Split Spoon; 2" Split Spoon; 4¼" ID HSA; Hydropunch	8. HOLE LOCATION: ADMINISTRATION AREA T14N R8E SEC. 2 NW 1/4
	9. SURFACE ELEVATION:
	10. DATE STARTED: 4-7-95
	11. DATE COMPLETED: 4-8-95
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~~43.8 BFL~~ 34.7'
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 35.75' feet @ 1000 on 4-8-95 after sampling
14. TOTAL DEPTH OF HOLE: Bottom of Hydropunch = 41.5' bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY):

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N.A.	N.A.	N.A.	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
	BTEX	None	TPH	SVOC		NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Boring BACKFILLED WITH GROUT.	X		Hydro punch	[signature]

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Lean clay, stiff, Dk Brn, moist mottled Lt Brn (Fill)	NA	NA	UAA-001 000	P	R=0.5'
	1		BZ=ND	NA	UAA-001-001 UAA-201-001	P	R=1.0'
	2						
	3	Lean clay, stiff, Lt Brn, moist Loess					
	4	Poorly Graded, Sand, ~~Dense~~ Loose, Gray, fine grained, dry	BZ=ND	NA	UAA-001-004	P	R=1.0'
	5						

/CORPS/5-15-92

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: UAA-001

HTW DRILLING LOG

HOLE NO. UAA-001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR

SHEET 2 OF 5 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Sand. Poorly Graded Sand, loose, gray, ~~dry~~ fine, dry					
	6						
	7						
	8						
	9		BZ=ND	NO	UAA-001-009	P	R=1.0'
	10						
	11						
	12						
	13						
	14						

/CORPS/4-15-92

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: UAA-001

HTW DRILLING LOG

HOLE NO. HAA-001

REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR [illegible]

SHEET 3 OF 5 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Smy - Poorly Graded Sand, Loose, Gray, fine grained, dry					
	15						
	16						
	17						
	18						
	19		BZ=ND	NA	HAA-001-019	P	R=1.0'
	20						
	21						
	22						
	23						

/CORPS/4-15-92

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: HAA-001

HTW DRILLING LOG

HOLE NO. HAA-001

REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR

SHEET 4 OF 5 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Sand: Poorly Graded Sand, Loose, Gray, Fine grained, dry.					
	24						
	25						
	26						
	27						
	28	Becoming dense					
	29		BZ=ND	NA	HAA-001-029	19 35 39	R=2.0' 3in. Spoon
	30					37	
	31			NA	NA	17 24	R=2.0' 2in. spoon
	32						

/CORPS/4-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: HAA-001

B07NE003703-05093

HTW DRILLING LOG

HOLE NO. NAA-001

SHEET 5 OF 5 SHEETS

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Sand: Poorly Graded Sand, dense, Gray, fine grained, dry				29 43	
	33					30 31	R = 2.0'
	34		BZ = ND	NA	NA	34 50	3 in. Spoon
							Groundwater encountered AT 34.7' BGS ATD
	35						BOH 35' Advanced to BGS for hydropunch sample
	36						
	37						
	38						
	39						HYDROPUNCH SAMPLER DRIVEN w/ 140lb HAMMER to 41.4' bgs. WATER SAMPLE collected on 4-8-95 Boring backfilled with Enviroplug GROUT through tremie pipe on 4-8-95
	40						
	41						

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: NAA-001

(CORPS/4-15-92

HTW DRILLING LOG

HOLE NO. UBA-001

1. COMPANY NAME	Woodward-Clyde Consultants
2. DRILLING SUBCONTRACTOR	WCC
SHEET 1 OF 5 SHEETS	
3. PROJECT	Remedial Investigation, Mead NOP
4. LOCATION	Mead, Nebraska
5. NAME OF DRILLER	Bob Bolin
6. MANUFACTURER'S DESIGNATION OF DRILL	CME-75
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	3" SS Split Spoon; 2" SS Split Spoon; Hydropunch; 4¼" ID HSA
8. HOLE LOCATION	Bomb booster area
9. SURFACE ELEVATION	
10. DATE STARTED	4-6-95
11. DATE COMPLETED	4-7-95
12. OVERBURDEN THICKNESS	NA
15. DEPTH GROUNDWATER ENCOUNTERED	~~37.25~~ ASE 37.0'
13. DEPTH DRILLED INTO ROCK	NA
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	39' / 43.2' HP
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES

20. SAMPLES FOR CHEMICAL ANALYSIS	BTEX ~~VOC~~	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
	X		TPH	SVOC		NA%

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X		Hydropunch	[signature]

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Lean clay, Stiff, Dk Brn, moist Topsoil	BZ=ND	NA	UBA-001-000	P	R=0.5'
	1	Lean clay, Stiff, Brn, moist Loess					
				NA	UBA-001-001	P	R=1.0'
	2	Becoming Lt Gray					
	3						
	4		BZ=ND	NA	UBA-001-004	P	R=1.0'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: UBA-001

HTW DRILLING LOG

HOLE NO. UBA-001

SHEET 2 OF 5 SHEETS

REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		See					
	6						
	7						
	8						
	9		BZ=ND	NA	UBA-001-009	P	R=1.0'
	10						
	11						
	12						
	13						
	14						

/CORPS/4-15-92

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.: UBA-001

HTW DRILLING LOG

HOLE NO. UBA-001

REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR

SHEET 3 OF 5 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	15						
	16						
	17	Poorly Graded, Sand, Loose, Gray, Fine Grained, Dry.					
	18	Becoming dense					
	19		BZ=ND	NA	UBA-001-019	18 22	R=1.0' 3in Spoon
	20					~~20~~ RDG	
	21						
	22						
	23						

/CORPS/4-15-82

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: UBA-001

B07NE003703-05097

HTW DRILLING LOG

HOLE NO. UBA-001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR

SHEET 4 OF 5 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH / SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Same:					
	24						
	25						
	26						
	27						
	28						
	29		BZ=ND		UMD-001-029	24 31	R=2.0'
	30					44 41	3" Spoon
	31					20 27	R=2.0'
	32						

CORPS/4-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: UBA-001

HTW DRILLING LOG

HOLE NO. UBA-001

REMEDIAL INVESTIGATION, MEAD NOP

INSPECTOR

SHEET 5 OF 5 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		SA w/ trace of med. sand.	BZ=ND	NA	NA	46 56	2in spoon
	33						
	34		NA	NA	NA	29 61 69 65	R=2.0' 3in. spoon
	35						
	36		BZ=ND	NA	NA	18 25 30 42	R=2.0' 2in. spoon
	37						water encountered at 37' BGS. ATD
	38		NA	NA	NA	17 28 46 50	R=2.0' 2in spoon
	39						BOH - 39' BGS Advanced to 43.2' BGS w/ hydropunch + collected Groundwater Sample UBW-001-045
	40						
	41						

/CORPS/4-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: UBA-001

HTW DRILLING LOG

HOLE NO. AGR-002

SHEET 1 OF SHEETS 4

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: Woodward-Clyde Consultants
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: Tom Payton	6. MANUFACTURER'S DESIGNATION OF DRILL: Acker AD II
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3" OD x 2ft split spoon; 7 3/4" OD HSA; 4" ID HSA	8. HOLE LOCATION: Agronomy Area - Mead, Ne
	9. SURFACE ELEVATION:
	10. DATE STARTED: 5/16/96 — 11. DATE COMPLETED: 5/16/96
12. OVERBURDEN THICKNESS:	15. DEPTH GROUNDWATER ENCOUNTERED: 47 1/2 ft bgs 2 1/2 hrs AD
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 46 1/2 ft bgs AD
14. TOTAL DEPTH OF HOLE: 51.5 ft bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
8 soil + 1 gw						N/A%

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	yes	N/A		Brett A Helenby

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	0	loose, wet, multi colored gravel fill (Fill) p-2"	Hnu=0	N/A	AGR-002-000, BTEX, TPH & semi-volatiles	21"/24"	
		soft, wet, brown, low plastic silty CLAY (CL) (topsoil) to 1ft w/ roots					
	1	stiff, moist, greyish brown, medium to high plastic CLAY w/ silt (CH)			AGR-002-001 BTEX TPH & semi-volatiles		
	2						
	3						
	4						
	5	stiff, dry, olive w/ yellow-brown mottling low plastic silty CLAY w/ fine sand (CL)	Hnu=0	N/A	AGR-002-004, BTEX TPH & SVOC	20"/24"	

PROJECT: Mead OU3 Agronomy Area UST

HOLE NO.: AGR-002

/CORPS/5-15-92

HTW DRILLING LOG

AGR-002

Formerly Investigation Mead VOP | NSF: Bat-14 Helen | Sheet 2/4

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	SAA	continued above			cont	
	6						
	7	becoming moist					
	8						
		w/ abundant very fine sand					
	9		Hnu = 0	N/A	AGR-002-009: BTEX, TPH, SVOCs	21/24"	
	10	medium dense, dry, tan, poorly graded, very fine to fine sand					
	11	w/ 2" well graded sand seam					
	12						
	13						
	14						
	15						
	16						
	17						
	18						
	19		Hnu=0	N/A	AGR-002-010: BTEX TPH, SVOCs	22/24"	
	20						
	21						
	22						
	23						

CORPS/4-16-82

PROJECT: Mead OU3 - Agronomy Area UST

HOLE NO.: AGR-002

B07NE003703-05101

HTW DRILLING LOG

AGR-002

Fernald Investigation Mead VOP

3/4

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	23	SAH					
	24						
	25						
	26						
	27						
	28						
	29	becoming w/ trace medium sand	Hm=0	N/A	AGR-002-029-GTEX, TPH; SVOCs	22'/24"	
	30						
	31						
	32						
	33						
	34						
	35						
	36						
	37						
	38						
	39		Hm=0	N/A	AGR-002-039-BTEX; SVOCs	/24"	
	40						
	41						

/CORPS/4-16-92

PROJECT: Mead OU3 Agronomy Area

HOLE NO.: AGR-002

ARMY DRILLING LOG

Fernald Investigation Mead VOP | NSE | HGR-002 | Sheet 4/4

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO e	ANALYTICAL SAMPLE NO f	BLOW COUNTS g	REMARKS h
	41						
	42						
	43						
	44	becoming moist					
	45		Hm=0	N/A	N/A	22"/24"	
	46						
	47	becoming wet at 46½ ft bgs	Hm=0	N/A	AGR-002-046	20"/24"	Water 46½ ATD Water 47.6' 2½ hrs AD
	48						
	49						Hydropunch II hammered from 48 - 51½ ft bgs
	50						
	51						Bottom of boring at 51½ ft
	52						boring backfilled with grout upon completion ~~at~~ from 5 ft bgs to surface

/CORPS/4-16-82

PROJECT: Mead OU3 Agronomy Area UST

HOLE NO.: AGR-002

HTW DRILLING LOG

HOLE NO. AGR-001

SHEET 1 OF SHEETS 4

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: Woodward-Clyde Consultants
3. PROJECT: Remedial Investigation Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: Tom Payton WCC-Omaha	6. MANUFACTURER'S DESIGNATION OF DRILL: Acker AD II
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3" OD x 2ft split spoon; 7 3/4" OD HSA; 4 1/4" ID HSA	8. HOLE LOCATION: Agronomy Area - Mead, Ne
	9. SURFACE ELEVATION:
	10. DATE STARTED: 5/15/96 — 11. DATE COMPLETED: 5/15/96
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 47 ft bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 47 ft bgs 2hrs AD
14. TOTAL DEPTH OF HOLE: 49.5 ft bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
8 soil 1 groundwater						N/A %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	yes	N/A		Beth Hedy

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	0	loose, wet, multi-colored, gravel fill (Gll)	Hnu = 0		switch	AGR-001-000, BTEX, TPH & semi-volatiles	0 0.5
	1	0.8 Very stiff, moist, olive, high plastic CLAY w/ silt, trace of very fine sand (CH) w/ trace manganese nodules w/ vertical fractures lined w/ black staining (Mn ?)			16"/24"	AGR-001-001, BTEX TPH & semi-volatiles 5/15/96 @ 1008	1
	2						2
	3	3.4 dense, moist, grey w/ yellowish brown mottling, low plastic silty CLAY w/ vertical roots lined w/ black staining (Mn ?), trace of manganese nodules (CL)					3
	4		Hnu = 0		22"/24"	AGR-001-004, BTEX TPH & semi-volatiles @ 1030	4
	5						5

/CORPS/5-15-92

PROJECT: Mead OU3 Agronomy Area NET

HOLE NO.: AGR-001

HYW DRILLING LOG

AGR-001

Remedial Investigation Work Plan | INSPECTOR: Butch Hedges | SHEET 2 OF 4

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Same as above			Analysis cont.		
	6						
	7						
	8						
	9	becoming w/ a trace of very fine to fine sand	Hmu = 0		AGR-001-009 @ 1110	18"/18"	
	10	loose, ~~moist~~ dry, light brown, poorly graded very fine to fine sand (SP) even bedded					
	11						
	12						
	13	becoming dense					
	14						
	15						
	16						
	17						
	18						
	19		Hmu = 0		AGR-001-019 @ 1120	24"/24"	
	20	becoming very dense w/ trace medium grained					
	21						
	22						
	23						

ICORPS/4-16-82

PROJECT: Mead OU3 Agronomy Area UST

HOLE NO.: AGR-001

HTW DRILLING LOG

AGR-001

Fernald Investigation Mead NOP | INSPECTOR: Brita Hedy | SHEET 3 OF 4 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	23	SAA					
	24						
	25						
	26						
	27	very dense, ~~moist~~ dry, lt brownish-grey well graded very fine to medium sand w/ trace coarse grained sand (SW)					
	28						
	29		Hnu = 0		AGR-001-029 @ 1130	24"/24"	
	30						
	31						
	32	very dense, ~~moist~~ dry, lt brownish-grey poorly graded very fine to fine SAND w/ trace medium sand and silt (SP)					
	33						
	34						
	35						
	36						
	37	becoming very fine w/ trace fine sand ~~[illegible]~~ and silt					
	38						
	39		Hnu = 0		AGR-001-039 @ 1145	23"/24"	
	40						
	41						

/CORPS/4-16-82

PROJECT: Mead OU3 Agronomy Area UST

HOLE NO.: AGR-001

HTW DRILLING LOG

AGR-001

Field Investigation Mead VOP | INSPECTOR: Brett Haley | SHEET 4 OF 4 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	41	SAA					
	42						
	43						
	44	becoming very moist	Hnu = 0		AGR-001-045 @ 1350	22"/24"	
	45						
	46						Hydra punch II driven from 46 to 49½ft bgs. Water detected at 47ft ATD
	47	becoming wet					
	48						
	49				@1500		Bottom of boring at 39½' boring backfilled w/ auger cuttings to 5 ft bgs and bentonite chips to surface
	50						

/CORPS/4-16-82

PROJECT: Mead OU 3 Agronomy Area IIST

HOLE NO.: AGR-001

HTW DRILLING LOG

HOLE NO.	GAA-001
1. COMPANY NAME	Woodward-Clyde Consultants
2. DRILLING SUBCONTRACTOR	J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT	Remedial Investigation, Mead NOP
4. LOCATION	Mead, Nebraska
5. NAME OF DRILLER	John Coons
6. MANUFACTURER'S DESIGNATION OF DRILL	CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	3 3/4" ID 7 7/8" OD HSA; 2" OD Steel Split Spoon; 3 1/2" OD · 5' Core Split Barrel
8. HOLE LOCATION	Geophysical Anamoly at Load Line #3
9. SURFACE ELEVATION	
10. DATE STARTED	3·28·95
11. DATE COMPLETED	3·28·95
12. OVERBURDEN THICKNESS	ND
13. DEPTH DRILLED INTO ROCK	ND
14. TOTAL DEPTH OF HOLE	21'
15. DEPTH GROUNDWATER ENCOUNTERED	NA
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Kubesko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay dark gray brown-gray, CL, silty to very silty, abundant roots & root hairs, soft, slightly moist (TOP SOIL)	0 ppm		GAA-001-000 0.5' Recovery		Started drilling @ 932 on 3·28·95
				0.5' Recovery			Collected a split barrel sample from 0' to 4' @ 933
	1		0 ppm		GAA-001-001 1.0' Recovery		Collected sample @ 935 from 0' to 0.5' Collected sample @ 940 from 1' to 2'
		Clay medium to dark yellow-brown with rust-brown oxidation staining, CL, silty to very silty, crumbly brittle stiff, scattered black organic material, slightly moist (LOESS)					
	2		0 ppm		GAA-001-002 1.0' Recovery		Collected sample @ 945 from 2' to 3'
	3		0 ppm	0.7' Recovery			
	4		0 ppm		GAA-001-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @ 951 Collected sample @ 955 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3 | HOLE NO.: GAA-001

HTW DRILLING LOG

HOLE NO. GAA-001

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown with rust-brown oxidation staining & gray-green gray-brown mottling & banding, scattered black organic material, CL, silty to very silty, stiff, crumbly, trace mica, slightly moist, scattered cracks (LOESS)	0 ppm	0.6' Recovery			
	6						
	7						
	8						
	9		0 ppm		GAA-001-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @957 Collected sample @ 1000 from 9' to 10'
	10		0 ppm	1.8' Recovery			Collected a rinsate sample from the decomned split barrel mixing bowl & spoon from sample collected at 9' to 10' RIN-GAA-001-035 RIN-GAA-001-035-QA for MRD @ 1030
	11						
	12						
	13						
	14						

ICORPS/4-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION, MEAD OU3

HOLE NO.: GAA-001

HTW DRILLING LOG

HOLE NO. GAA-001

PROJECT: REMEDIAL INVESTIGATION MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Sand light to medium brown tan-brown gray-brown, SM, very fine- to fine-grained, well sorted, subrounded to subangular, silty to very silty, predominantly quartz grains with 5% orange grains & 5% black spec/grains, medium dense, slightly moist (GLACIO-FLUVIAL SAND)	0 ppm	2D' Recovery			Collected a split barrel sample from 14' to 19' @ 1005
	15						
	16						
	17						
	18						
	19		0 ppm		GAA-001-019 1.7' Recovery	8	Collected a split spoon sample from 19' to 21' @ 1008
						12	
	20					12	
						16	
	21	Bottom of borehole - 21'					Finished drilling @ 1012 on 3-28-95 Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

ICORPS/4-15-82

PROJECT: 4F11043A REMEDIAL INVESTIGATION MEAD OU3

HOLE NO.:

HTW DRILLING LOG

HOLE NO. GAA-002

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: J & R Drilling Services, Inc.
SHEET 1 OF 3 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: John Coons	6. MANUFACTURER'S DESIGNATION OF DRILL: CME 750
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3¾" ID 7⅝" OD HSA; 2" OD Steel Split Spoon; 3½" OD · 5' Core Split Barrel	8. HOLE LOCATION: Geophysical Anomoly at Load Line #3
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3·28·95 / 11. DATE COMPLETED: 3·28·95
12. OVERBURDEN THICKNESS: ND	15. DEPTH GROUNDWATER ENCOUNTERED: NA
13. DEPTH DRILLED INTO ROCK: ND	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 21'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
5	5	—	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
6	CLP	CLP	CLP-SVOC	Explosives	—	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled w/cuttings 3' to 21'	Bentonite Grout 0' to 3'	—	—	David A. Rubezko

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Clay brown-gray to dark gray brown-gray, CL-FILL, silty to very silty, crumbly, stiff, trace mica, slightly moist (FILL)	0 ppm		GAA-002-000 0.5' Recovery		Started drilling @ 1130 on 3·28·95
				0.5' Recovery			Collected a split barrel sample from 0' to 4' @ 1132
	1		0 ppm		GAA-002-001 1.0' Recovery		Collected sample @ 1135 from 0' to 0.5'
							Collected sample @ 1140 from 1' to 2'
	2		0 ppm		GAA-002-002 1.0' Recovery		Collected sample @ 1145 from 2' to 3'
	3		0 ppm	0.7' Recovery			
	4	Scattered concrete & brick	0 ppm		GAA-002-004 1.0' Recovery		Collected a split barrel sample from 4' to 9' @ 1150
							Collected sample @ 1200 from 4' to 5'
	5						

/CORPS/5-15-92

PROJECT: 4E11043A REMEDIAL INVESTIGATION, MEAD OU3 | HOLE NO.: GAA-002

HTW DRILLING LOG

HOLE NO. GAA-002

PROJECT: REMEDIAL INVESTIGATION MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	5	Clay medium to dark yellow-brown, with rust-brown oxidation staining and abundant gray-brown brown-gray mottling, CL, silty to very silty, stiff, crumbly, scattered cracks, trace mica & black organic material, slightly moist (LOESS)	0 ppm	2.4' Recovery			
	6						
	7						
	8						
	9		0 ppm		GAA-002-009 1.0' Recovery		Collected a split barrel sample from 9' to 14' @ 1206 Collected sample @ 1210 from 9' to 10'
	10		0 ppm	4.0' Recovery			
	11						
	12						
	13						
	14						

ICORPS/4-15-82

PROJECT: REMEDIAL INVESTIGATION MEAD OU3 4F11043A

HOLE NO.: GAA-002

HTW DRILLING LOG

HOLE NO. GAA-002

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: David A. Kubeczko

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	14	Clay medium to dark yellow-brown with abundant rust-brown oxidation staining & scattered green-gray gray-brown mottling & banding, CL, silty to very silty with thin silt streaks, stiff, crumbly, scattered black organic material, trace mica, slightly moist (LOESS)	0 ppm	3.2' Recovery			Collected a split barrel sample from 14' to 19' @ 1215
	15						
	16	Sand light brown gray-brown tan-brown, SM, very fine- to fine-grained, well sorted, subrounded to sub-angular, silty to very silty, predominantly quartz grains with 5-10% orange grains & 5% black specs/grains, medium dense, slightly moist (GLACIO-FLUVIAL SAND)					
	17						
	18						
	19		0 ppm		GAA-002-019 GAA-202-019 GAA-402-019 2.0' Recovery		Collected a split barrel sample from 19' to 21' @ 1220 Collected duplicate sample from 19' to 21' @ 1225 Collected MRD duplicate sample from 19' to 21' @ 1220
	20						
	21	Bottom of borehole - 21'					Finished drilling @ 1230 on 3-28-95 Backfilled borehole w/ cuttings from 3' to 21' and bentonite grout from 0' to 3'
	22						
	23						

ICORPS/4-15-92

PROJECT: REMEDIAL INVESTIGATION, MEAD OU3 4F11043A

HOLE NO.:

HTW DRILLING LOG

HOLE NO. MW-63B

SHEET 1 OF SHEETS

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: WOODWARD Clyde - OMAHA
3. PROJECT: MEAD NOP OU-3	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: MATT Cooper	6. MANUFACTURER'S DESIGNATION OF DRILL: Failing 1500
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 6" Drag Bit; 3" Stainless Steel Split spoons	8. HOLE LOCATION: T14N, R 9E SEC 6 SW¼
	9. SURFACE ELEVATION: 2/20/95
	10. DATE STARTED: 2/20/95 / 11. DATE COMPLETED: 2/22/95
12. OVERBURDEN THICKNESS: UNKNOWN	15. DEPTH GROUNDWATER ENCOUNTERED: NONE ATD
13. DEPTH DRILLED INTO ROCK: NONE	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 20.0'
14. TOTAL DEPTH OF HOLE: 31.4 Ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 20.0' after development

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
SS collected to log only			

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC. %
NONE						

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		MW-63B		CM Hecht

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1	DARK Brown, very stiff, moist, low plastic silty CLAY w/ light brown (loess?) nodules (CL) Topsoil					Start 2/20/95 @1245. Direct Rotary Drilling w/ Pure water & 1 bag bentonite
	2						
	3						
	4						
	5						

/CORPS/5-15-92

PROJECT: MEAD NOP OU-3

HOLE NO.: MW-63B

HTW DRILLING LOG

HOLE NO. MW-63B

PROJECT MEAD NOP OU-3

INSPECTOR T. HECHT

SHEET 2 OF SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	6	Becoming gray w/ black and orange (iron) nodules Loess	None	3" SS NS retained	NS	10 12 11 13	D=1 P=2' R=1.75'
	7						
	8						
	9						
	10		NOR	3" SS NS retained	NS	2 4 3 4	D=2 P=2' R=1.6'
	11						
	12	HEAVY IRON STAINING					
	13	Tan to orange, very Dense, moist, fine to v. fine, Poorly sorted, SAND w/ some silt					Driller Reports sand @ 13'
	14						

PROJECT: MEAD NOP OU-3

HOLE NO.: MW-63B

/CORPS/4-15-82

HTW DRILLING LOG

HOLE NO. MW-63B

SHEET 3 OF SHEETS

SITE OU3

INSPECTOR T. Hechy

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Same					
	15						
	16		None	NS	NS	11 20 32 40	D=3 P=2' R=1.4
	17						
	18						
	19						
	20	Same	None	NS	NS	18 35 50 50/3"	D=4 P=2' R=1.45
	21						
	22						
	23						

/CORPS/4-15-82

PROJECT: MEAD NOD OU-3

HOLE NO.: MW-63B

HTW DRILLING LOG

HOLE NO. MW-63B

PROJECT OU-3

INSPECTOR I. Hecht

SHEET 4 OF SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Same					
	24						
	25						
	26						
	27						
	28						
	29						
	30	Becoming w/ trace coarse sand					No appreciable water loss
	31						MW-63B installed upon completion
							BOH = 31.4
	32						

PROJECT: OU-3

HOLE NO.: MW-63B

/CORPS/4-15-92

HTW DRILLING LOG

HOLE NO. MW-64B

1. COMPANY NAME: Woodward-Clyde Consultants	2. DRILLING SUBCONTRACTOR: WCC - OMAHA
SHEET 1 OF 4 SHEETS	
3. PROJECT: Remedial Investigation, Mead NOP	4. LOCATION: Mead, Nebraska
5. NAME OF DRILLER: TOM PATTON	6. MANUFACTURER'S DESIGNATION OF DRILL: FAILING 1900
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5 7/8 TRICONE; 2" SPLIT SPOON; 4 3/4 DRAG BIT	8. HOLE LOCATION: T14N R9E SEC 16 SE 1/4
	9. SURFACE ELEVATION:
	10. DATE STARTED: 3/10/95 0900 — 11. DATE COMPLETED: 3/10/95 1145
12. OVERBURDEN THICKNESS: —	15. DEPTH GROUNDWATER ENCOUNTERED: MASKED BY DRILLING FLUIDS
13. DEPTH DRILLED INTO ROCK: 0'	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: MASKED BY DRILLING FLUIDS
14. TOTAL DEPTH OF HOLE: 30.0'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY):

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA - TO LOG ONLY	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC.
NA	NA	NA	NA	NA	NA	NA %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
INSTALLED MONITORING WELL	NA	MW-64B	NA	[illegible]

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1	LEAN CLAY, FIRM, DARK BROWN, MOIST. TRACE V. FINE SAND. LOESS	HNu= BG	—	—	P	START DRILLING 3-10-95 WITH MUD ROTARY PURE WATER AND 1 BAG BENTONITE w/2" SPOON D=2.0' R=2.0'
	2						
	3		HNu= BG	—	—	P	w/2" SPOON D=2.0' R=2.0'
	4						
	5						

/CORPS/5-15-92

PROJECT: 92KW030 Remedial Investigation, Mead NOP

HOLE NO.: B1 MW-64B

B07NE003703-05120

HTW DRILLING LOG

HOLE NO. MW-64B

PROJECT: REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR: L. TRAVAGLIO

SHEET 2 OF 4 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		(SAME) CLAY. Firm DARK BROWN, moist. TRACE V. FINE SAND LOESS	HNu= BG	—	—	P	w/2" SPOON D=2.0' R=1.8'
	6						
	7		HNu= BG	—	—	P	w/2" SPOON D=2.0' R=1.9'
	8	POORLY GRADED SAND (SP) LOOSE, TAN VERY FINE TO FINE SAND (ALLUVIUM)	HNu= BG			8 12 20 23	w/2" SPOON D=2.0' R=1.6
	9						
	10		HNu= BG			12 20 23 23	w/2" SPOON D=2.0' R=1.7'
	11						
	12		HNu= BG			17 23 23 24	w/2" SPOON D=2.0' R=1.9'
	13						
	14						

CORPS/4-15-82

PROJECT: MEAD OU3 RI

HOLE NO.: MW-64B

HTW DRILLING LOG

HOLE NO. MW-64B

REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR L. TRAVAGLIA

SHEET 3 OF 4 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	15	(SAME) POORLY GRADED (SP) SAND, LOOSE, TAN V. FINE TO FINE GRAINED SAND. (ALLUVIUM)	HNu= BG	—	—	10 17 20 26	w/2" SPOON D=2.0' R=2.0'
	16 17		HNu= BG	—	—	8 15 19 24	w/2" SPOON D=2.0' R=1.9'
	18 19	BECOMING LT. BROWN	HNu= BG	—	—	10 14 17 20	w/2" SPOON D=2.0' R=1.9'
	20 21		HNu= BG	—	—	15 23 24 30	w/2" SPOON D=2.0' R=2.0'
	22 23		HNu= BG	—	—	17 21 29 32	w/2" SPOON D=2.0' R=1.5'

/CORPS/4-15-82

PROJECT: MEAD OU3 RI

HOLE NO.: MW-64B

HTW DRILLING LOG

HOLE NO. MW-64B

REMEDIAL INVESTIGATION, MEAD NOP.

INSPECTOR L. TRAVAGLIO

SHEET 4 OF SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		(SAME) POORLY GRADED (SP) SAND, LOOSE, TAN, V. FINE TO FINE GRAINED (ALLUVIUM)					~~W/LAP~~
	24						W/ 2" SPOON D = 2.0' R =
	25		HNU= BG				
	26						W/ 2" SPOON D = 2.0' R =
	27		HNU= BG				
	28						W/ 2" SPOON D = 2.0' R =
	29	W/SOME MED.	HNU= BG				
	30						B.O.B 30.0' BORING COMPLETED AS MONITORING WELL 3-10-95 NO H2O LOST IN SCREENED INTERVAL

/CORPS/4-15-92

PROJECT: MEAD OU3 RI

HOLE NO.: MW-64B

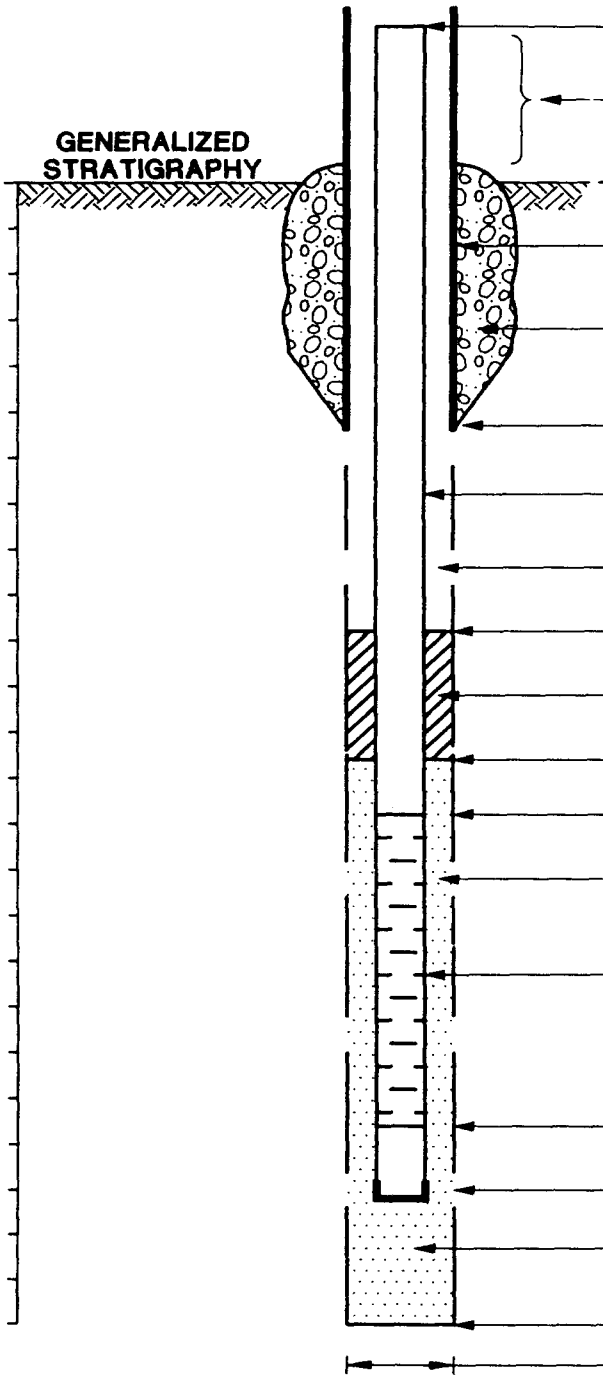
Appendix E

B07NE003703-05124

GROUND WATER MONITORING WELL REPORT

Project Name: MEAD NOD OU3
Location: MEAD, Nebraska
Installed by: WCC-Omaha MATT Cooper
Inspected by: WCC TERRI HECHT
Method of Installation: Direct Rotary
Remarks:

Monitor Well No. MW-63B
Project No. 4E11043A
Date 2/20/95
Time 4:00pm



Elevation of top of riser pipe _____

Height of riser above ground 1.9'

Ground Elevation _____

I.D./Type of surface casing 6" Rectangular Steel

Type of surface seal Cement

Depth of surface seal ≈ 5'

I.D./Type of riser pipe 2" Sch 40 PVC, Flush threaded

Type of backfill NONE

Depth of top of seal 5'

Type of seal Pure Gold Bentonite Grout

Depth of top of filter pack 13.0'

Depth of top of screen 18.5

Type of filter pack 10-20 Silica Sand

I.D./Type of screen 2" Sch 40 PVC, mill slotted, Flush thread

Screen slot size 0.010"

Depth of bottom of screen 28.5

Depth of bottom of plugged blank section 28.8

Type of backfill below monitoring well 10-20 Silica SAND

Depth of bottom of boring 31.4

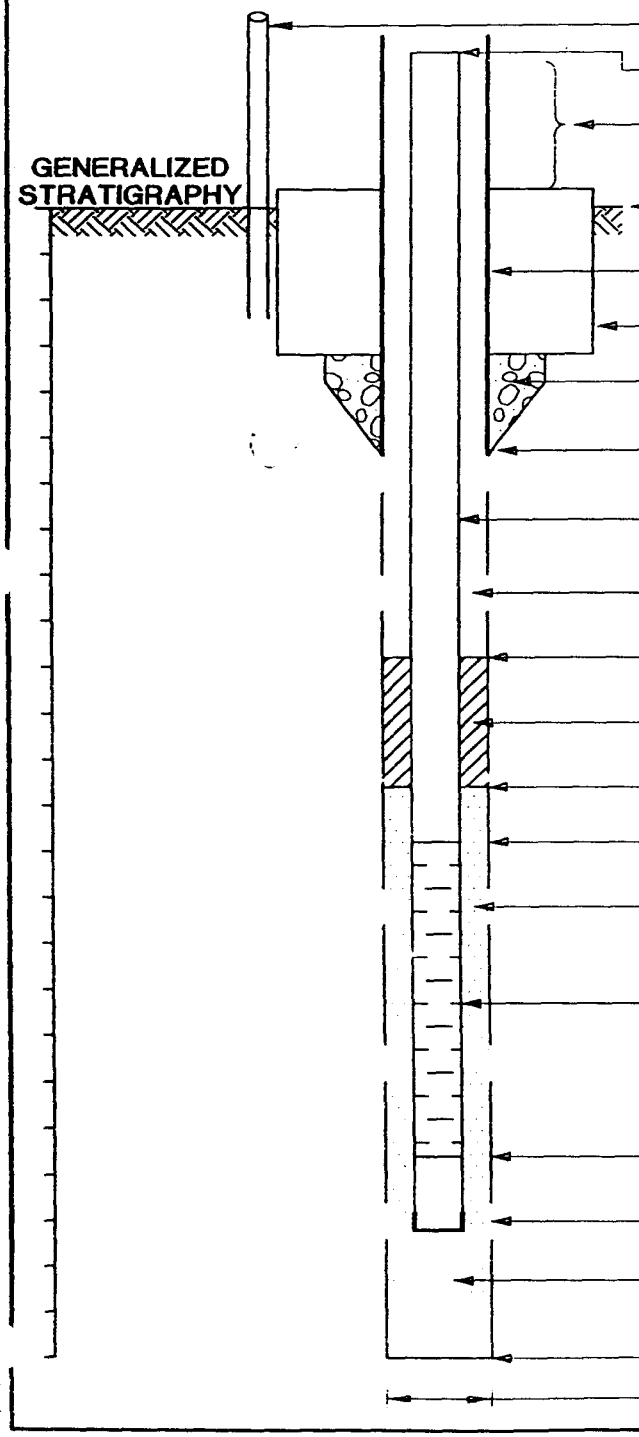
Diameter of boring 6"

Woodward-Clyde Consultants

GROUNDWATER MONITORING WELL INSTALLATION REPORT

Project Name: MEAD NOP - 003
Location: MEAD, NE.
Installed by: WCC - OMAHA
Inspected by: WCFS - LISA TRAVAGLIN
Method of Installation: HYDRAULIC ROTARY
Remarks: FILTER PACK AND VOLCLAY GROUT TREMIED WITH 1" TREMIE PIPE. ONE CENTRALIZER PLACED AT . NO WATER LOST DURING DRILLING.

Monitor Well No. MW-604B
Project No. 4E11C4.3 A
Date MARCH 10, 1995
Time 1145



Number/Type of protective post: 2 (UP AGAINST FENCE)
Elevation of top of riser pipe:
Height of riser above ground:
Ground Elevation:
I.D./Type of surface casing: 4" x 4" x 7 FT STEEL
Dimen./Type of surface pad: 3' x 3' x 4 IN
Type of surface seal: CEMENT
Depth of surface seal: ~5.0'
I.D./Type of riser pipe: 2" SCH 40 PVC ~~MILL SLOTTED~~ FLUCH THREADED
Type of backfill: ~~NONE~~
Depth of top of seal:
Type of seal: PURE GOLD BENTONITE GROUT
Depth of top of filter pack: 16.0'
Depth of top of screen: 19.0'
Type of filter pack: 10-20 SILICA SAND
I.D./Type of screen: 2" SCH 40 PVC, MILL SLOTTED, FLUSH THREAD
Screen slot size: 0.010"
Depth of bottom of screen: 29.0'
Depth of bottom of plugged blank section: 29.5'
Type of backfill below monitoring well: 20-40 ~~10-20~~ SILICA SAND
Depth of bottom of boring: 31'
Diameter of boring: 6"

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ACAD FILE: WELLRPT2

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Appendix F

B07NE003703-05128

WELL DEVELOPMENT DATA SHEET

SITE NAME: MEAD NOD WELL NUMBER: MW-63B

PROJECT NUMBER: 4E11043A DATE/TIME: 2/22/95 1519

DATE WELL INSTALLATION WAS COMPLETED: 2/22/95

TOTAL DEPTH OF WELL: 28.5 bgs

WATER LEVEL (MEASURED FROM TOP OF CASING) PRIOR TO DEVELOPMENT: 19.98

WATER LEVEL FOLLOWING DEVELOPMENT: 20.0

NUMBER OF WELL VOLUMES TO BE REMOVED: 3

3 (# VOLUMES) X 17.5 (1 WELL VOL.) = 52.4 gal (TOTAL NUMBER OF GALLONS TO BE REMOVED)

METHOD OF WELL DEVELOPMENT: SURGE & pump

DATE	TIME	VOLUME REMOVED	COMMENTS
2/22	1400	15 gal	V. Turbid
2/22	1432	40 gal	Sl. turbid
2/22	1512	56 gal	V. Clear (5.0 NTU)

PHOTOGRAPH TAKEN (FRAME NO.):

ADDITIONAL COMMENTS:

All parameters stabalized @ 1512, WATER very clear 5.0 NTU. Recovered very quickly

OMH

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04/08/94 08:06:

ACAD FILE: WDDS1

WELL DEVELOPMENT LOG

Project: Mead - OU3 - RI
Project No: 4E11043A

Well No: MW-6BB
Date: 5-18-95

WELL MEASUREMENTS

Well inside diameter: 0.16 ft.
Depth of well casing: 31.3 ft.
Initial water level: 26.50 ft. below MP
Measuring point (MP): TOC
Fluid well casing volume: 0.768 gal.
Air temperature: mid 50's To 60's
Weather conditions: Sunny, wind NW 5mph

SAMPLING MEASUREMENTS

DISCHARGE	surged				surged						
Water level (ft. BMP)	26.50	—	—	—	—	—	—	—			
Time	1624	1639	1648	1708	1719	1735	1750	1803			
Discharge (Gal.)	5	10	15	20	25	30	35	40			

WATER QUALITY DATA											
pH	7.16	7.06	6.85	6.81	6.83	7.35	7.20	7.23			
Conductivity (µMHOS/cm)	600	590	500	470	460	460	450	450			
Temperature (C)	13.6	12.3	11.9	11.4	11.1	10.8	11.7	11.3			
Color	Brown	lt. Brown	lt. Brown	lt. Brown	lt. Brown	cloudy	clear	clear			
Odor	None	None	None	None	None	None	None	None			
Turbidity	1716	577	122	71	665	52	28.4	15.3			

Total discharge: 40 gallons
Casing volumes removed: 52.1 gallons
Method of disposal of discharged water: discharge To the ground

QUALITY ASSURANCE

Sampling Method: Surge block, PVC bailer
Method to measure water level: slope Indicator
Bailer ropes new or cleaned? new
pH meter no: Orion 230A
Calibrated: 4.01 & 7.00 pH
Conductivity meter no. YSI 33
Calibrated:
Comments:

Collected by: A. Mallise

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WOODWARD-CLYDE

B07NE003703-05132

Appendix G

1.0
INTRODUCTION

This technical memorandum presents the results of the evaluation of potential metals groundwater contamination resulting from Department of Defense (DoD) related activities at the former Nebraska Ordnance Plant (NOP) near Mead, Nebraska (Site).

1.1 PURPOSE

The purpose of the analysis presented in this technical memorandum is to determine if metals concentrations measured in Site groundwater are the result of DoD-related activities.

2.0
METHOD

Unlike volatile organic compounds (VOCs), explosives, semi-volatile organic compounds (SVOCs), and pesticides and polychlorinated biphenyls (PCBs); metals naturally occur in groundwater. Certain activities associated with the former NOP may have released metals to the ground surface which could potentially result in elevated metals concentrations in the soil. Consequently, there is a potential that the metals could be transferred to water infiltrating through the soils, and as the infiltrating water enters the saturated zone, elevated concentrations of metals in groundwater could occur. During the development of the OU3 Remedial Investigation (RI) work plans, a number of site-specific investigation areas were identified where soils had the potential to be a source of groundwater metals contamination. The following steps describe the method that was used to establish the maximum assumed background concentration for each metal, and subsequently to compare that concentration to the maximum concentration that was initially excluded from the background sample set.

1. The OU3 RI Phase I Preliminary Data Package (PDP) (WCC, 1996) contained the results of the soils investigations at the site-specific investigation areas which had been identified as potential sources of groundwater metals contamination. Of those areas, the following areas were identified where the metals concentrations measured in soil samples exceeded the OU3 screening levels established in the PDP.

Areas where soil concentrations exceeded OU3 metals screening levels
Load Line Paint Operations Buildings
Proving Grounds
Waste Disposal Area North of Nike Maintenance Area
Waste Disposal Area Southeast of Bomb Booster Area
Waste Disposal Area at Atlas Missile Area
Demolition Ground

In general, the OU3 metals screening levels are equal to two times the background soil concentrations.

B07NE003703-05135

2. It was assumed that the soils at the OU3 site-specific investigation areas are the potential source of groundwater contamination, and only at sites where soil concentrations exceeded the screening levels would the potential exist to leach metals to groundwater at concentrations exceeding naturally-occurring concentrations. Therefore, the corresponding metals concentrations measured in groundwater at those sites were initially excluded from the background sample set.

The following tabulations list the groundwater monitoring wells associated with the OU3 site-specific investigation areas where soil concentrations exceeded the screening levels. The tabulations also list the metals which exceeded the soil screening levels. The results for all combinations of well and metals listed in each tabulation were excluded from the assumed background sample set.

Load Line Paint Operations Buildings	
Wells associated with site	**Metals initially excluded from background sample set at all wells**
MW-3A	Antimony
MW-3B	Barium
MW-4A	Cadmium
MW-4B	Chromium
MW-6A	Cobalt
MW-6B	Copper
MW-8A	Lead
MW-8B	Nickel
MW-12A	Selenium
MW-13A	Thallium
MW-14A	Zinc
MW-15A	

Proving Grounds	
Wells associated with site	**Metals initially excluded from background sample set at all wells**
MW-64B	Cadmium Selenium Zinc

Waste Disposal Area North of Nike Maintenance Area	
Wells associated with site	**Metals initially excluded from background sample set at each well**
MW-22A MW-22B	Cadmium Selenium

Waste Disposal Area Southeast of Bomb Booster Area	
Wells associated with site	**Metals initially excluded from background sample set at all wells**
MW-57B	Cadmium Selenium

Waste Disposal Area at Atlas Missile Area	
Wells associated with site	**Metals initially excluded from background sample set at each well**
MW-58A MW-58B MW-59A MW-59B MW-59D	Cadmium Manganese Selenium

Demolition Ground	
Wells associated with site	**Metals initially excluded from background sample set at each well**
MW-10A MW-10B	Cadmium Selenium

Although soils were not sampled for metals at the Landfill Area and the Ammonium Nitrate Plant, there is a potential that historical releases at these areas may be sources of metals in groundwater. Therefore, all of the metals concentrations measured in the monitoring wells associated with the Landfill Area and the Ammonium Nitrate Plant were initially excluded from the background sample set.

Wells associated with the Landfill Area
MW-52A
MW-52B
MW-53A
MW-53B
MW-54A
MW-54B
MW-55A
MW-55B
MW-56A
MW-56B

Wells associated with the Ammonium Nitrate Plant
MW-63B

3. The maximum measured background concentrations were determined for each total and dissolved metal using all of the concentrations measured at the Site which were not excluded during Step 2. Metals concentrations from the last eight groundwater sampling events were used during the analysis.

4. The metals concentrations excluded from background during Step 2 were compared to two times the concentrations selected during Step 3. Concentrations less than two times the maximum background concentrations were considered to be not significantly different from the assumed background sample set. The basis for that assumption is provided by EPA Supplemental Region IV Risk Assessment Guidance (EPA, 1991).

Database software was used to sort the data for each analyte into two groups: the assumed background sample set, and the samples initially excluded from the background sample set. The maximum assumed background concentration and the highest concentrations excluded from the assumed background sample set were tabulated. **Appendix A** contains those tabulations for the total metals, and **Appendix B** contains those tabulations for the dissolved metals.

All inorganic analytical results were included in the data evaluation. However, the results which were flagged with a "B" qualifier by the laboratory are considered to be estimated values. The "B" qualifier denotes that the result is above the instrument detection limit (IDL) and below the contract required detection limit (CRDL). The IDL is based on a statistical treatment of the variability of the measurement process using "clean" standards. The CRDL allows for an acceptable degree of uncertainty given the whole collection and analytical process (i.e., sampling, field filtration (dissolved metals), preparation, and analysis). During the evaluation of the data, a non-detect result and a result with a "B" qualifier were considered statistically indistinguishable. All results are included because the "B" qualified results may be the actual groundwater concentrations.

A list of the CRDL for each inorganic analyte is presented below.

Inorganic Target Analyte (TAL)	
Analyte	**Contract Required Detection Limit (µg/L)**
Aluminum	200
Antimony	60
Arsenic	10
Barium	200
Beryllium	5
Cadmium	5
Calcium	5000
Chromium	10
Cobalt	50
Copper	25
Iron	100

Inorganic Target Analyte (TAL) (Continued)	
Analyte	**Contract Required Detection Limit (µg/L)**
Lead	3
Magnesium	5000
Mercury	0.2
Nickel	40
Potassium	5000
Selenium	5
Silver	10
Sodium	5000
Thallium	10
Vanadium	50
Zinc	20

The results of the background comparisons are tabulated below.

Total Metals				
	Step 3. Maximum concentration at wells not excluded from background (µg/l)	**Step 4. Two times the maximum concentration at wells not excluded from background (µg/l)**	**Step 4. Maximum concentration at wells excluded from background (µg/l)**	**Concentration significantly different from assumed background?**
Aluminum	23,900	47,800	26,300	No
Antimony	24.5B	49*	3B	No
Arsenic	24.8	49.6	20.6	No
Barium	810	1,620	632	No
Beryllium	1.2B	2.4*	1.1B	No
Cadmium	0.76B	1.52*	0.81B	No
Calcium	169,000	338,000	127,000	No
Chromium	73.2	146.4	72	No
Cobalt	15.8B	31.6*	13.9B	No
Copper	23.7B	47.4*	31.3	No
Iron	29,100	58,200	24,000	No
Lead	46.6	93.2	33.2	No
Magnesium	34,800	69,600	40,100	No
Manganese	5,070	10,140	1,270	No
Mercury	0.31	0.62	0.33	No
Nickel	127	254	35.2B	No
Potassium	32,800	65,600	12,900	No
Selenium	53	106	19.1	No
Silver	32.4	64.8	U	No
Sodium	201,000	402,000	70,000	No
Thallium	5.5B	11*	4.6B	No
Vanadium	64.1	128.2	63.2	No
Zinc	181	362	117	No

Dissolved Metals				
	Step 3. Maximum concentration at wells not excluded from background (µg/l)	**Step 4. Two times the maximum concentration at wells not excluded from background (µg/l)**	**Step 4. Maximum concentration at wells excluded from background (µg/l)**	**Concentration significantly different from assumed background?**
Aluminum	313	626	244	No
Antimony	2.6B	5.2*	21B	Yes
Arsenic	40.1	80.2	11.8	No
Barium	813	1,626	699	No
Beryllium	1.2B	2.4*	2B	No
Cadmium	2.7B	5.4*	1.8B	No
Calcium	171,000	342,000	129,000	No
Chromium	5.1B	10.2*	4.4B	No
Cobalt	4.5B	9*	20.7B	Yes
Copper	7B	14*	14.4B	Yes
Iron	1,950	3,900	83.2B	No
Lead	36.5	73	3.6	No
Magnesium	35,200	70,400	40,800	No
Manganese	6,950	13,900	1,040	No
Mercury	0.32	0.64	U	No
Nickel	19.7B	39.4*	16.3B	No
Potassium	36,900	73,800	13,700	No
Selenium	47.4	94.8	31.6	No
Silver	2.5B	5*	4B	No
Sodium	205,000	410,000	68,300	No
Thallium	8.1B	16.2*	9.3B	No
Vanadium	17.5B	35*	23.2B	No
Zinc	28.1	56.2	50.4	No

Note: U = Not Detected above listed Detection Limit
* = Calculated from B qualified results

4.0
CONCLUSIONS

In summary, metals concentrations measured in Site groundwater are not significantly different from assumed background concentrations except for:

- Dissolved antimony (estimated values)
- Dissolved cobalt (estimated values)

Although dissolved copper and cobalt estimated concentrations exceeded the assumed background criteria, all of the measured concentrations are attributed to ubiquitous Site conditions for the following reasons:

- The estimated maximum copper concentration (14.4B µ/L) was measured during November 1994 and other sampling results at that well were below the maximum assumed background concentration

- The estimated maximum cobalt concentration (20.7B µ/L) was measured during September 1994 and other sampling results at that well were below the maximum assumed background concentration

Although the estimated maximum dissolved antimony concentration (21B µg/L) exceeded the assumed background criteria, all of the measured concentrations are attributed to ubiquitous Site conditions for the following reasons:

- Concentrations measured in the Landfill Area wells (other than MW-56A where the maximum was measured) did not exceed the background criteria

- The concentrations were qualified as B by the laboratory

Therefore, all of the measured metals concentrations belong to the background population, and there are no identifiable areas of metals contamination attributable to DoD activities. Because the measured metals concentrations are representative of ubiquitous Site conditions, additional comparisons of the measured concentrations to drinking water standards or other criteria such as the EPA Region IX PRGs are not appropriate.

5.0
REFERENCES

U.S. Environmental Protection Agency (EPA). 1991. Supplemental Region IV Risk Assessment Guidance. March.

Woodward-Clyde Consultants (WCC). 1996. Remedial Investigation Phase I Preliminary Data Package, Operable Unit No. 3. Contract No. DACA41-92-C-0023. Prepared for U.S. Army Corps of Engineers, Kansas City District. February.

Woodward-Clyde Consultants (WCC). 1995. Quarterly Groundwater Sampling Report, Operable Unit No. 2 (Groundwater). Contract No. DACA41-92-C-0023. Prepared for U.S. Army Corps of Engineers, Kansas City District. December.

APPENDIX A
TOTAL METALS BACKGROUND ANALYSIS

Total Metals Data
Aluminum

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-18C	CMW-018-114	23900			19.2

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-54B	BMW-054-114	26300			8.1
MW-54B	BMW-054-112	19700			
MW-54B	BMW-054-023	16000			
MW-54B	BMW-054-035	11100	*		19.2

Total Metals Data
Antimony

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-43B	BMW-043-114	24.5	B		1.2

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-54A	AMW-054-065	3	B		1.9
MW-54B	BMW-054-065	2.8	B		1.9
MW-55A	AMW-055-065	2.8	B		1.9
MW-03B	BMW-003-065	1.9	B		1.9
MW-06A	AMW-006-065	1.9	B		1.9
MW-08B	BMW-008-094	1.8	B		
MW-54B	BMW-054-114	1.8	B		1.2
MW-53B	BMW-053-094	1.7	B		
MW-03A	AMW-003-035			U	1.9

Total Metals Data
Arsenic

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-48D	DMW-048-023	24.8			

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-55B	BMW-055-053	20.6			
MW-54B	BMW-054-023	16.3			
MW-54B	BMW-054-112	13.7	S		
MW-54B	BMW-054-114	9.8	B		2.4
MW-53B	BMW-053-082	7.8	B		
MW-55B	BMW-055-112	7	B		

Total Metals Data
Barium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-18C	CMW-018-114	810			0.2

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56B	BMW-056-112	632			
MW-54B	BMW-054-114	609			0.1
MW-56B	BMW-056-053	597			
MW-54B	BMW-054-112	526			
MW-54B	BMW-054-035	460			0.2
MW-54B	BMW-054-023	452			
MW-56B	BMW-056-082	450			
MW-03B	BMW-003-094	448			
MW-03B	BMW-003-114	434			0.2
MW-54B	BMW-054-082	434			
MW-03B	BMW-003-065	419			0.2
MW-54B	BMW-054-094	413			
MW-54B	BMW-054-065	406			0.2
MW-03B	BMW-003-035	399			0.2
MW-56B	BMW-056-094	397			
MW-56B	BMW-056-114	386			0.1
MW-54B	BMW-054-053	381			
MW-56B	BMW-256-114	355			0.6
MW-56B	BMW-056-035	313			0.2

Total Metals Data
Beryllium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-18C	CMW-018-114	1.2	B		0.1

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-54B	BMW-054-114	1.1	B		0.1
MW-54B	BMW-054-023	1	B		
MW-54B	BMW-054-035	0.41	B		0.1
MW-52B	BMW-052-114	0.28	B		0.2
MW-54B	BMW-054-094	0.17	B		
MW-52A	AMW-052-023			U	1

Total Metals Data
Cadmium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-19C	CMW-019-065	0.76	B		0.3

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-54B	BMW-054-114	0.81	B		0.3
MW-54B	BMW-054-035	0.76	B		0.5
MW-64B	BMW-064-065	0.4	B		0.3
MW-54B	BMW-054-065	0.32	B		0.3
MW-03A	AMW-003-035			U	0.5

Total Metals Data
Calcium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-19A	AMW-019-035	169000			12

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56B	BMW-056-023	127000			
MW-56B	BMW-056-112	125000			
MW-56B	BMW-056-053	108000			
MW-63B	BMW-063-065	103000			14.5
MW-56B	BMW-056-082	99600			

Total Metals Data
Chromium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-41A	AMW-041-065	73.2			0.9

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-55A	AMW-055-065	72			0.9
MW-54B	BMW-054-114	26			0.7
MW-54B	BMW-054-023	25.2			
MW-52B	BMW-052-065	19.5			0.9
MW-54B	BMW-054-112	16.4			
MW-12A	AMW-012-114	12.6			5.7
MW-54B	BMW-054-035	12.2			2.2
MW-52A	AMW-052-023	7.1	B		

Total Metals Data
Cobalt

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-18C	CMW-018-114	15.8	B		0.5

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-54B	BMW-054-114	13.9	B		0.5
MW-54B	BMW-054-112	12.8	B		
MW-54B	BMW-054-023	12.7	B		
MW-54B	BMW-054-035	6.3	B		0.5
MW-54B	BMW-054-094	4.2	B		

Total Metals Data
Copper

Maximum concentration in wells not excluded from background.

Well	Sample Date	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-18C	CMW-018-114	23.7	B		0.8

Maximum concentrations in wells excluded from background.

Well	Sample Date	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-54B	BMW-054-114	31.3			0.3
MW-54B	BMW-054-112	24	B		
MW-54B	BMW-054-023	16.5	B		
MW-53B	BMW-053-114	14.1	B		0.3
MW-54B	BMW-054-035	13.8	B		0.8

Total Metals Data
Iron

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-18C	CMW-018-114	29100			27.2

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-54B	BMW-054-114	24000			7
MW-54B	BMW-054-112	16100			
MW-54B	BMW-054-023	13400			
MW-54B	BMW-054-035	10100			27.2
MW-54B	BMW-054-094	3720	N		
MW-54B	BMW-054-082	1280	*		
MW-54B	BMW-054-053	473			
MW-54B	BMW-054-065	471			15.7
MW-55A	AMW-055-065	304			15.7

Total Metals Data
Lead

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-34B	BMW-034-065	46.6			1.9

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-55A	AMW-055-112	33.2	S		
MW-54B	BMW-054-114	16.2			1.4
MW-12A	AMW-012-114	13.6			1.6
MW-54B	BMW-054-112	12.5	+		
MW-54B	BMW-054-023	10.9	N		
MW-15A	AMW-015-114	10.2	S		1.6
MW-54B	BMW-054-035	6.2			1.6
MW-14A	AMW-014-035	5.5			1.6

Total Metals Data
Magnesium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-02B	BMW-002-114	34800			3.5

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56B	BMW-056-023	40100			
MW-56B	BMW-056-112	39700			
MW-56B	BMW-056-053	34700			
MW-56B	BMW-056-082	31200			
MW-53B	BMW-053-114	29700			3.6
MW-53B	BMW-053-065	28800			4
MW-53B	BMW-253-065	28000			4
MW-53B	BMW-053-035	27800			3.5
MW-53B	BMW-053-094	25000			
MW-63B	BMW-063-065	23800			5.4
MW-56B	BMW-056-094	23100			
MW-56B	BMW-056-114	22400			3.6
MW-56B	BMW-256-114	21800			27.3
MW-53B	BMW-053-112	20000			
MW-53B	BMW-053-023	18300			
MW-53B	BMW-053-082	17900			
MW-53B	BMW-053-053	17800			
MW-54B	BMW-054-112	17200			

Total Metals Data
Manganese

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-11A	AMW-011-094	5070			

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-54B	BMW-054-023	1270			
MW-54B	BMW-054-112	1190			
MW-54B	BMW-054-082	1090			
MW-54B	BMW-054-114	1030			0.2
MW-59A	AMW-059-114	931	E		1
MW-54B	BMW-054-094	769			
MW-54B	BMW-054-035	765			0.4
MW-54B	BMW-054-053	651			
MW-54B	BMW-054-065	498			0.3
MW-59D	DMW-059-114	421	E		1
MW-58A	AMW-058-114	208			0.4

Total Metals Data
Mercury

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-43A	AMW-043-114	0.31			0.2

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-54B	BMW-054-023	0.33			
MW-55B	BMW-055-114	0.31			0.2
MW-54B	BMW-054-114	0.3			0.2
MW-55A	AMW-055-114	0.26			0.2
MW-53A	AMW-053-114	0.25			0.2
MW-54A	AMW-054-114	0.23			0.2
MW-56A	AMW-056-114	0.23			0.2
MW-53B	BMW-053-114	0.22			0.2
MW-52A	AMW-052-023			U	0.2

Total Metals Data
Nickel

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-41A	AMW-041-065	127			1.4

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-55A	AMW-055-065	35.2	B		1.4
MW-54B	BMW-054-114	31	B		0.7
MW-54B	BMW-054-023	30.1	B		
MW-12A	AMW-012-114	27.1	B		17.8
MW-54B	BMW-054-112	24.9	B		
MW-52B	BMW-052-065	17.5	B		1.4
MW-54B	BMW-054-035	16.8	B		1.5
MW-52A	AMW-052-023	15.6	B		
MW-53B	BMW-053-114	14.8	B		0.7
MW-54B	BMW-054-082	11.1	B		

Total Metals Data
Potassium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-19A	AMW-019-094	32800			

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-53B	BMW-053-114	12900			35.5
MW-52A	AMW-052-053	12800			
MW-54B	BMW-054-114	12300			35.5
MW-52A	AMW-052-094	12100			
MW-53B	BMW-053-094	12100			
MW-54B	BMW-054-112	11900			
MW-52A	AMW-052-023	11800			
MW-52A	AMW-052-114	11400			341
MW-52A	AMW-052-112	10900			

Total Metals Data
Selenium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-48B	BMW-048-023	53			

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-03A	AMW-003-035	19.1			4.4
MW-03A	AMW-003-065	17.8			4.4
MW-03A	AMW-003-094	17.1			
MW-03A	AMW-003-114	15.9			4.4
MW-06A	AMW-006-114	13.2			4.4
MW-58B	BMW-058-114	12			4.4
MW-22B	BMW-022-065	11.7			4.4
MW-22B	BMW-022-094	11.6			
MW-04B	BMW-004-114	10.6			4.4
MW-22B	BMW-022-114	10.4			4.4
MW-22B	BMW-022-035	10.2			4.4
MW-03B	BMW-003-094	9.5			
MW-06A	AMW-006-094	9.1			

Total Metals Data
Silver

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-43B	BMW-043-114	32.4			0.5

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-52A	AMW-052-023			U	5
MW-52A	AMW-052-035			U	0.6

Total Metals Data
Sodium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-19A	AMW-019-094	201000			

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56B	BMW-056-065	70000			202
MW-56B	BMW-056-035	55400	E		135
MW-56B	BMW-056-114	53000			213

Total Metals Data
Thallium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-43A	AMW-043-114	5.5	B		3

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56B	BMW-056-114	4.6	B		3
MW-54A	AMW-054-114	4.3	B		3
MW-56A	AMW-056-114	3.1	B		3
MW-55A	AMW-055-112	2.4	BW		
MW-03A	AMW-003-035			U	5.5

Total Metals Data
Vanadium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-18C	CMW-018-114	64.1			0.5

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-54B	BMW-054-114	63.2			0.4
MW-54B	BMW-054-112	53.7			
MW-54B	BMW-054-023	43.9	B		
MW-54B	BMW-054-035	29.6	B		0.5
MW-54B	BMW-054-094	14.4	B		
MW-63B	BMW-063-065	13.9	B		0.6
MW-54B	BMW-054-053	7.1	B		

Total Metals Data
Zinc

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-34B	BMW-034-065	181			1.4

Wells excluded from background exceeding concentration above.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-13A	AMW-013-035	117			0.6
MW-54B	BMW-054-114	98.6			0.2
MW-14A	AMW-014-114	92.6			3.1
MW-54B	BMW-054-112	92.3			
MW-54B	BMW-054-035	66.2			0.6
MW-54B	BMW-054-023	62.5	*		
MW-12A	AMW-012-114	50.5			3.1
MW-54B	BMW-054-082	47.1			
MW-13A	AMW-013-114	39.8			3.1
MW-14A	AMW-014-035	37.2			0.6
MW-54B	BMW-054-094	32.4			
MW-53B	BMW-053-082	30.6			
MW-15A	AMW-015-114	30.4			3.1
MW-12A	AMW-012-035	28.5			0.6
MW-08B	BMW-008-035	25.6			1.4

APPENDIX B
DISSOLVED METALS BACKGROUND ANALYSIS

Dissolved Metals Data
Aluminum

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-13A	AMW-013-114	313			8.1

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-53A	AMW-053-035	244			19.2
MW-54B	BMW-054-023	187	B		
MW-53B	BMW-053-035	180	B		19.2
MW-56A	AMW-056-094	156	B		
MW-63B	BMW-063-065	150	B		11.5
MW-52B	BMW-052-082	148	B		
MW-54A	AMW-254-112	146	B		
MW-56A	AMW-056-082	142	B		
MW-56B	BMW-056-112	140	B		

Dissolved Metals Data
Antimony

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-18A	AMW-018-035	2.6	B		1.9

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56A	AMW-056-094	21	B		
MW-03B	BMW-003-035	12.6	B		1.9
MW-53B	BMW-053-035	3.5	B		1.9
MW-53B	BMW-053-065	2.7	B		1.9
MW-03A	AMW-003-035			U	1.9

Dissolved Metals Data
Arsenic

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-48A	AMW-048-053	40.1	+		

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-55B	BMW-055-112	11.8			
MW-54B	BMW-054-053	10.9	+		
MW-56A	AMW-056-094	9.7	B		
MW-53B	BMW-053-082	8.6	BW		
MW-55A	AMW-055-114	8	B		2.4
MW-54A	AMW-054-053	7.4	BW		

Dissolved Metals Data
Barium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-59B	BMW-059-114	813			0.1

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56B	BMW-056-112	699			
MW-56B	BMW-056-023	688			
MW-56B	BMW-056-053	618			
MW-56B	BMW-056-082	483			
MW-03B	BMW-003-035	475			0.2
MW-03B	BMW-003-114	456			0.2
MW-03B	BMW-003-094	440			
MW-03B	BMW-003-065	433			0.2
MW-54B	BMW-054-082	413			

Dissolved Metals Data
Beryllium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-03B	BMW-003-035	1.2	B		0.1

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56A	AMW-056-094	2	B		
MW-63B	BMW-063-065	0.33	B		0.1
MW-53B	BMW-053-065	0.23	B		0.1
MW-52A	AMW-052-023			U	1

Dissolved Metals Data
Cadmium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-19A	AMW-019-065	2.7	B		0.3

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56A	AMW-056-094	1.8	B		
MW-03B	BMW-003-035	1.1	B		0.5
MW-54B	BMW-054-065	0.54	B		0.3
MW-53B	BMW-053-065	0.51	B		0.5
MW-54B	BMW-054-094	0.48	B		
MW-12A	AMW-012-094	0.41	B		
MW-12A	AMW-012-114	0.32	B		0.3
MW-03B	BMW-003-065	0.3	B		0.3
MW-03A	AMW-003-035			U	0.5

Dissolved Metals Data
Calcium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-19A	AMW-019-094	171000			

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56B	BMW-056-023	129000			
MW-56B	BMW-056-112	126000			
MW-56B	BMW-056-053	115000			
MW-56B	BMW-056-082	111000			
MW-63B	BMW-063-065	101000			14.5
MW-53B	BMW-053-114	88500			2.8
MW-53B	BMW-053-065	86400			14.5

Dissolved Metals Data
Chromium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-21B	BMW-021-094	5.1	B		

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-03B	BMW-003-035	4.4	B		2.2
MW-08B	BMW-008-114	3.3	B		2.2
MW-08B	BMW-008-035	3.1	B		2.2
MW-08B	BMW-008-094	3.1	B		
MW-56A	AMW-056-094	3.1	B		
MW-08B	BMW-008-065	2.9	B		0.9

Dissolved Metals Data
Cobalt

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-19B	BMW-019-065	4.5	B		0.6

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56A	AMW-056-094	20.7	B		
MW-03B	BMW-003-035	12.9	B		0.5
MW-52A	AMW-052-065	1.4	B		0.6
MW-53B	BMW-053-065	1.4	B		0.5
MW-52A	AMW-052-035	1.3	B		0.5
MW-54B	BMW-054-065	1.3	B		0.6
MW-56B	BMW-056-094	1.3	B		

Dissolved Metals Data
Copper

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-02B	BMW-002-114	7	B		0.8

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-53B	BMW-053-114	14.4	B		0.3
MW-56A	AMW-056-094	10.4	B		
MW-03B	BMW-003-035	6.1	B		0.8
MW-53B	BMW-053-094	4.8	B		
MW-53B	BMW-053-035	4.7	B		0.8
MW-13A	AMW-013-114	3	B		0.3
MW-52A	AMW-052-094	2.5	B		
MW-53B	BMW-053-065	2.5	B		0.5

Dissolved Metals Data
Iron

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-19A	AMW-019-094	1950			

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-54B	BMW-054-023	83.2	B		
MW-52A	AMW-052-023	33.3	B		
MW-53B	BMW-053-023	22	B		
MW-56A	AMW-056-094	12.4	B		
MW-52A	AMW-052-035			U	27.2

Dissolved Metals Data
Lead

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-09A	AMW-009-035	36.5			1.6

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-13A	AMW-013-114	3.6			1.4
MW-54B	BMW-054-065	2.7	B		1.9
MW-54A	AMW-054-053	2.4	BWN		
MW-56A	AMW-056-094	2.2	B		
MW-53B	BMW-053-035	2.1	B		1.6
MW-03B	BMW-003-035	2	B		1.6
MW-53A	AMW-053-035	1.9	B		1.6
MW-54B	BMW-054-035	1.9	B		1.6
MW-54A	AMW-054-035	1.8	B		1.6
MW-03B	BMW-003-114	1.7	B		1.6

Dissolved Metals Data
Magnesium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-02B	BMW-002-114	35200			3.5

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56B	BMW-056-112	40800			
MW-56B	BMW-056-023	40700			
MW-56B	BMW-056-053	36400			
MW-56B	BMW-056-082	33900			
MW-53B	BMW-053-114	29400			3.6
MW-53B	BMW-053-065	28900			5.4
MW-53B	BMW-053-035	27100			3.5

Dissolved Metals Data
Manganese

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-11A	AMW-011-114	6950			0.2

Maximum concentratins in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-54B	BMW-054-023	1040			
MW-54B	BMW-054-082	1010			
MW-59A	AMW-059-114	989			0.2
MW-54B	BMW-054-094	604			
MW-54B	BMW-054-114	595			0.2
MW-54B	BMW-054-035	472			0.4
MW-54B	BMW-054-053	465			

Dissolved Metals Data
Mercury

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-15A	AMW-015-035	0.32			0.2

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-52A	AMW-052-023			U	0.2

Dissolved Metals Data
Nickel

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-11A	AMW-011-114	19.7	B		0.7

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56A	AMW-056-094	16.3	B		
MW-53B	BMW-053-114	14.8	B		0.7
MW-03B	BMW-003-035	11.3	B		1.5
MW-52A	AMW-052-065	9.3	B		1.4
MW-52A	AMW-052-094	9.3	B		

Dissolved Metals Data
Potassium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-19A	AMW-019-094	36900			

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-53B	BMW-053-114	13700			35.5
MW-52A	AMW-052-053	13300			
MW-53B	BMW-053-094	13300			
MW-52A	AMW-052-114	13200			35.5
MW-52A	AMW-052-094	12600			
MW-52A	AMW-052-023	12500			

Dissolved Metals Data
Selenium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-48B	BMW-048-023	47.4	SN		

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-03A	AMW-003-035	31.6	*		4.4
MW-03A	AMW-003-114	28			4.4
MW-03B	BMW-003-035	25.9	*		4.4
MW-53B	BMW-053-035	25.4			4.4
MW-03A	AMW-003-094	25			
MW-22B	BMW-022-114	23.6			4.4

Dissolved Metals Data
Silver

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-03B	BMW-003-035	2.5	B		0.6

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56A	AMW-056-094	4	B		
MW-52A	AMW-052-023			U	5

Dissolved Metals Data
Sodium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-19A	AMW-019-065	205000			202

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56B	BMW-056-065	68300			202
MW-56B	BMW-056-035	60500			135
MW-56B	BMW-056-114	52200			213
MW-56B	BMW-056-053	42600			
MW-56B	BMW-056-112	40100			
MW-56B	BMW-056-023	39500			

Dissolved Metals Data
Thallium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-07B	BMW-007-114	8.1	B		5.5

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-53B	BMW-053-035	9.3	B		5.5
MW-03B	BMW-003-114	8.7	B		5.5
MW-03B	BMW-003-035	8	B		5.5
MW-08B	BMW-008-035	7.5	B		5.5
MW-08B	BMW-008-114	7.5	B		5.5
MW-04A	AMW-004-114	6.7	B		5.5
MW-52A	AMW-052-035	6.6	B		5.5
MW-52B	BMW-052-035	6.1	B		5.5

Dissolved Metals Data
Vanadium

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-03B	BMW-003-035	17.5	B		0.5

Maximum concentrations in wells excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-56A	AMW-056-094	23.2	B		
MW-63B	BMW-063-065	12.5	B		0.6
MW-54B	BMW-054-023	7	B		
MW-54B	BMW-054-053	6.7	B		
MW-54B	BMW-054-112	5.8	B		
MW-54B	BMW-054-094	4.7	B		
MW-54B	BMW-054-035	4.5	B		0.5
MW-53B	BMW-053-035	4.4	B		0.5
MW-55B	BMW-055-035	4.3	B		0.5

Dissolved Metals Data
Zinc

Maximum concentration in wells not excluded from background.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-09A	AMW-009-035	28.1			0.6

Wells excluded from background exceeding concentration above.

Well	Field ID	Concentration (µg/L)	Qualifier (Lab)	Qualifier (Detection Limit)	Detection Limit
MW-54B	BMW-054-082	50.4			
MW-54B	BMW-054-035	34.6			0.6
MW-08B	BMW-008-035	25			0.6
MW-08A	AMW-008-035	23.7			0.6
MW-54B	BMW-054-094	21.2			
MW-54B	BMW-054-053	20.9			
MW-54B	BMW-054-065	20.2			1.4

Appendix H

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APPENDIX H
Section 5.2.3 Calculations

The Wilcoxon rank sum test is used to test for a shift in location between two independent populations. The procedure is taken from Section 18.2.1 of

Gilbert, R.O. Statistical methods for environmental pollution monitoring. New York: Van Nostrand Reinhold; 1987.

The two hypotheses which are being tested are:

H_0: The average concentrations for the on-site metals (population 1) and the off-site metals (population 2) are equal.
H_A: The on-site metals have larger concentrations than the off-site metals.

STEP 1: Rank the data.

1) All of the zinc soils data were ranked according to descending concentration value. All of the concentration data were used including those which were qualified and those which were non-detect. The qualified data were treated in the same manner as non-qualified data, and non-detect data were treated as ties with a value less than the lowest detect value. The ranking was performed using an Excel spreadsheet.
2) When more than one concentration occurred, assign those data the average of the ranks, also known as the midrank, that would otherwise be assigned to the data.

STEP 2: Sum the ranks.

1) The spreadsheet was used to sort the data according to population.
2) The ranks assigned to population 1, the on-site population, were summed.

$W_{rs} = 861952$

STEP 3: Not applicable.

Step 3 as presented in Section 18.2.1 of Gilbert (1987) is applicable to populations with small numbers of individuals.

STEP 4: Not applicable.

Step 4 as presented in Section 18.2.1 of Gilbert (1987) is applicable to populations which do not contain any tied ranks.

STEP 5: Calculate Z_{rs}

1) g is the number of tied groups
2) t_j is the number of tied data in the jth group
3) m is the number of data in both populations
4) n_1 is the number of data in population 1
5) n_2 is the number of data in population 2

APPENDIX H
Section 5.2.3 Calculations

$g = 314 \qquad m = 1318 \qquad n_1 = 1308 \qquad n_2 := m - n_1$

$i := 1..g$

$t_i := \mathrm{READ}(zinc)$

$$Z_{rs} := \frac{W_{rs} - n_1 \cdot \frac{m+1}{2}}{\left[\frac{n_1 \cdot n_2}{12} \cdot \left[m + 1 - \frac{\left[\sum_{j=1}^{g} \left[t_j \cdot \left[(t_j)^2 - 1\right]\right]\right]}{m \cdot (m-1)}\right]\right]^{\frac{1}{2}}}$$

$Z_{rs} = -0.56$

STEP 6: No applicable.

Step 6 as presented in Gilbert (1987) is applicable to an α level two-tailed test.

STEP 7: Compare Z_{rs} to the cumulative normal distribution at the α significance level.

$\alpha := 0.05$

$Z_{1\_\alpha} := \mathrm{qnorm}(1 - \alpha, 0, 1) \qquad Z_{1\_\alpha} = 1.645$

Since Z_{rs} is not greater than or equal to Z_{1_α}, we cannot reject H_0.

APPENDIX H
Section 5.2.3 Calculations

CHROMIUM

$W_{rs} = 864265.5$

$g = 174 \qquad m = 1318 \qquad n_1 = 1308 \qquad n_2 = m - n_1$

$i = 1..g$

$t_i = \mathrm{READ}(\mathrm{chrome})$

$$Z_{rs} = \frac{W_{rs} - n_1 \cdot \frac{m+1}{2}}{\left[\frac{n_1 \cdot n_2}{12} \cdot \left[m + 1 - \frac{\left[\sum_{j=1}^{g} \left[t_j \cdot \left[(t_j)^2 - 1\right]\right]\right]}{m \cdot (m-1)}\right]\right]^{\frac{1}{2}}}$$

$Z_{rs} = 1.37$

$\alpha = 0.05$

$Z_{1\_\alpha} = \mathrm{qnorm}(1 - \alpha, 0, 1) \qquad Z_{1\_\alpha} = 1.645$

Since Z_{rs} is not greater than or equal to Z_{1_α}, we cannot reject H_0.

APPENDIX H
Section 5.2.3 Calculations

LEAD

$W_{rs} = 859791$

$g = 195 \qquad m = 1318 \qquad n_1 = 1308 \qquad n_2 = m - n_1$

$i = 1..g$

$t_i = \mathrm{READ}(lead)$

$$Z_{rs} = \frac{W_{rs} - n_1 \cdot \frac{m+1}{2}}{\left[\frac{n_1 \cdot n_2}{12} \cdot \left[m + 1 - \frac{\left[\sum_{j=1}^{g} \left[t_j \cdot \left[(t_j)^2 - 1\right]\right]\right]}{m \cdot (m-1)}\right]\right]^{\frac{1}{2}}}$$

$Z_{rs} = -2.36$

$\alpha = 0.05$

$Z_{1\_\alpha} = \mathrm{qnorm}(1 - \alpha, 0, 1) \qquad Z_{1\_\alpha} = 1.645$

Since Z_{rs} is not greater than or equal to Z_{1_α}, we cannot reject H_0.

APPENDIX H
Section 5.2.3 Calculations

BARIUM

$W_{rs} = 861917.5$

$g = 174 \qquad m = 1318 \qquad n_1 = 1308 \qquad n_2 = m - n_1$

$i = 1..g$

$t_i = \mathrm{READ}(\mathrm{barium})$

$$Z_{rs} = \frac{W_{rs} - n_1 \cdot \frac{m+1}{2}}{\left[\frac{n_1 \cdot n_2}{12} \cdot \left[m + 1 - \frac{\left[\sum_{j=1}^{g} \left[t_j \cdot \left[(t_j)^2 - 1\right]\right]\right]}{m \cdot (m-1)}\right]\right]^{\frac{1}{2}}}$$

$Z_{rs} = -0.59$

$\alpha = 0.05$

$Z_{1\_\alpha} = \mathrm{qnorm}(1 - \alpha, 0, 1) \qquad Z_{1\_\alpha} = 1.645$

Since Z_{rs} is not greater than or equal to Z_{1_α}, we cannot reject H_0.

APPENDIX H
Section 5.2.3 Calculations

COPPER

$W_{rs} := 860160.5$

$g := 189 \qquad m := 1318 \qquad n_1 := 1308 \qquad n_2 := m - n_1$

$i := 1..g$

$t_i := \mathrm{READ}(cop)$

$$Z_{rs} := \frac{W_{rs} - n_1 \cdot \frac{m+1}{2}}{\left[\frac{n_1 \cdot n_2}{12} \cdot \left[m + 1 - \frac{\left[\sum_{j=1}^{g} \left[t_j \cdot \left[\left(t_j\right)^2 - 1\right]\right]\right]}{m \cdot (m-1)}\right]\right]^{\frac{1}{2}}}$$

$Z_{rs} = -2.06$

$\alpha := 0.05$

$Z_{1\_\alpha} := \mathrm{qnorm}(1 - \alpha, 0, 1) \qquad Z_{1\_\alpha} = 1.645$

Since Z_{rs} is not greater than or equal to Z_{1_α}, we cannot reject H_0.

APPENDIX H
Section 5.2.3 Calculations

NICKEL

$W_{rs} = 860632.5$

$g = 195 \qquad m = 1318 \qquad n_1 = 1308 \qquad n_2 = m - n_1$

$i = 1..g$

$t_i = \mathrm{READ}(\mathrm{nickel})$

$$Z_{rs} := \frac{W_{rs} - n_1 \cdot \frac{m+1}{2}}{\left[\frac{n_1 \cdot n_2}{12} \cdot \left[m + 1 - \frac{\left[\sum_{j=1}^{g} \left[t_j \cdot \left[(t_j)^2 - 1\right]\right]\right]}{m \cdot (m-1)}\right]\right]^{\frac{1}{2}}}$$

$Z_{rs} = -1.66$

$\alpha = 0.05$

$Z_{1\_\alpha} = \mathrm{qnorm}(1 - \alpha, 0, 1) \qquad Z_{1\_\alpha} = 1.645$

Since Z_{rs} is not greater than or equal to Z_{1_α}, we cannot reject H_0.

APPENDIX H
Section 5.2.5 Calculations

STEP 1: Estimate the upstream and downstream flowrates.

Assumptions:

1) Previously measured low flows are indicative of the streamflow at the time that the samples were collected.
2) The upstream flow will be estimated for Clear Creek at the junction with Johnson Creek which is designated Station 8 on WCC (1993) Drawing 4-2, and the downstream flow will be estimated approximately 1 mile downstream at Station 7.
3) The arithmetic average of the measured flows is representative of normal conditions.

The estimate will use low flows presented in:

Woodward-Clyde. 1993. Groundwater Flow Net Analysis for Operable Unit No. 2 (Groundwater), Former Nebraska Ordnance Plant, Mead, Nebraska. Draft technical memorandum. Contract No. DACA 41-92-C-0023. Prepared for the U.S. Army Corps of Engineers, Kansas City District. June.

$$Q_u = \frac{3.0 + 1.90 + 3.0 + 6.12}{4} \cdot \frac{ft^3}{sec} \qquad Q_u = 3.5 \cdot \frac{ft^3}{sec}$$

$$Q_d = \frac{6.7 + 6.3 + 6.2 + 10.8}{4} \cdot \frac{ft^3}{sec} \qquad Q_d = 7.5 \cdot \frac{ft^3}{sec}$$

STEP 2: Calculate the downstream concentration using a mass balance approach.

Assumptions:

1) The stream does not gain or lose water through infiltration or evaporation.
2) TCE is not lost through volitilization or sorption with stream sediments, neither is TCE released to the stream below the upstream station.
3) The maximum concentration of TCE measured upstream of Station 6 is representative of TCE at Station 6.

$$C_u = 6.92 \cdot 10^{-3} \cdot \frac{mg}{liter}$$

$$C_d = \frac{C_u \cdot Q_u}{Q_d} \qquad C_d = 3.23 \cdot 10^{-3} \cdot \frac{mg}{liter}$$