FINAL
2010 GROUNDWATER MODEL UPDATE

OPERABLE UNIT No. 2 (GROUNDWATER)

Former Nebraska Ordnance Plant
Mead, Nebraska

Prepared for

United States Army Corps of Engineers
Kansas City District

August 2011

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August 2011

I hereby certify that the enclosed *2010 Groundwater Model Update, Operable Unit No 2, (Groundwater), Former Nebraska Ordnance Plant, Mead, Nebraska*, shown and marked in this submittal, is in compliance with the contract specifications and is submitted for government approval for the former Nebraska Ordnance Plant near Mead, Nebraska.

Approved by:

8/23/11

ECC Project Manager **Date**

Accepted by:

USACE Contracting Officer **Date**

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LIST OF ACRONYMS AND ABBREVIATIONS

µg/l	microgram per liter
AMA	Atlas Missile Area
ARDC	Agricultural Research and Development Center
ASTM	American Society for Testing and Materials
AWDN	Automated Weather Data Network
BAZE	Biologically Active Zone Enhancement
BMcD	Burns & McDonnell
bgs	below ground surface
CAI	Chatman & Associates, Inc.
CALMIT	Center for Advanced Land Management Information Technologies
CE	Containment Evaluation
CEC	cation exchange capacity
CENWK	Northwestern Division, Kansas City District
cfs	cubic feet per second
COC	contaminant of concern
CSD	Conservation and Survey Division, University of Nebraska - Lincoln
DCE	dichloroethene
DNAPL	dense non-aqueous phase liquid
DNX	hexahydro-1,3-dinitroso-5-nitro-1,3,5-triazine
ECC	Environmental Chemical Corporation
ET	evapotranspiration
EW	extraction well
FEW	focused extraction well
f_{oc}	Fraction of Organic Carbon Content
ft	feet
ft/day	feet per day
ft/mi	feet per mile
GCW	groundwater circulation well
GHB	General Head Boundary
GMP	Groundwater Monitoring Program
gpd	gallons per day
gpm	gallons per minute
GTP	groundwater treatment plant
GWM05	2005 Groundwater Model
GWM06	2006 Groundwater Model
GWM08	2008 Groundwater Model
GWM10	2010 Groundwater Model
HA	Health Advisory Level
HMOC	Hybrid Method of Characteristics
HMX	1,3,5,7-tetranitrol-1,3,5,7-tetrazine
HPRCC	High Plains Regional Climate Center
K	Hydraulic Conductivity
Kd	Soil-Water Distribution Coefficient
Kz	Vertical Hydraulic Conductivity
k_{oc}	Organic Carbon Partition Coefficient

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

L/kg	liters per kilogram
LL	Load Line
LPNNRD	Lower Platte North Natural Resource District
LWS	Lincoln Water System
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MGD	million gallons per day
MNX	hexahydro-1-nitroso-3,5-dinitro-1,3,5-triazine
MOC	Method of Characteristics
MMOC	Modified Method of Characteristics
M.U.D	Omaha Metropolitan Utilities District
MW	monitoring well
NAD 27	North American Datum of 1927
NAD 83	North American Datum of 1983
NAVD 88	North American Vertical Datum of 1988
NDNR	Nebraska Department of Natural Resources
NOP	Nebraska Ordnance Plant
NWS	National Weather Service
OU2	Operable Unit No. 2
PEST	automated Parameter Estimation Code
PET	potential evapotranspiration
RDGM I	Remedial Design Groundwater Model, Version I
RDGM II	Remedial Design Groundwater Model, Version II
RDGM III	Remedial Design Groundwater Model, Version III
RDGM IV	Remedial Design Groundwater Model, Version IV
RDX	hexahydro-1,3,5-trinitro-1,3,5-triazine
ROD	Record of Decision
SW	surface water
TCE	trichloroethene
TNT	2,4,6-trinitrotoluene
TNX	hexahydro-1,3,5-trinitroso-1,3,5-triazine
TOC	Total Organic Carbon
URS	URS Group, Inc.
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey
WCC	Woodward-Clyde Consultants, Inc.

1.0 INTRODUCTION

This document presents the 2010 Groundwater Model Update (GWM10), prepared as a part of Operable Unit 2 (OU2) activities for the former Nebraska Ordnance Plant (NOP) (Site) near Mead, Nebraska. Figure 1-1 shows the general location of the Site, and Figure 1-2 is a site map.

GWM10 is an updated version of the 2008 Groundwater Model (GWM08) (URS, 2009a) and incorporates new data collected since GWM08. The conceptual model for GWM10 was refined based on the new information collected since GWM08.

Additional data and refinements to GWM10 include:

- Updated aquifer characterization of the Load Line (LL)1 hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX), LL1 trichloroethene (TCE), LL3 RDX, LL3 TCE, LL4/Atlas Missile Area (AMA) RDX, and LL4/AMA TCE plumes, based on direct-push data collected as part of the Aquifer Characterization in 2010 (ECC, 2011b). Additional refinement of the LL2 TCE and LL2 RDX plumes were based on data collected as part of the Pre-Pilot Study Investigation (ECC and Burns & McDonnell [BMcD], 2011a), as well as data collected as part of the Site-Wide Groundwater Monitoring Program (GMP) (ECC, 2010a and 2011c).
- Refined hydraulic conductivity distribution based on data collected from pumping tests at focused extraction well (FEW) 11, FEW-15, the shutdown of extraction well (EW)-10; and slug tests in new and existing wells conducted as part of the Aquifer Characterization (ECC, 2011b).
- Refined bedrock surface elevation based on stratigraphic data from the monitoring wells (MW) installed in 2010.
- Operation of the Metropolitan Utilities District (M.U.D) Platte West Well Field since February 2009.
- Operational changes of the Site extraction system.
- Refined recharge values based on varied precipitation and higher observed water levels in Site wells in 2009 and 2010.
- Refined model grid near the extraction and focused extraction wells to better simulate the capture zones.
- Updated water levels measurements from March 2009, August 2009, October 2009, March 2010, and August 2010 that were coordinated by the Lower Platte North Natural Resources District (LPNNRD) with cooperation from the Lincoln Water System (LWS), M.U.D, United States Army Corps of Engineers (USACE) Northwestern Division, Kansas City District (CENWK), and the United States Geological Survey (USGS).

1.1 Purpose and Objectives

The purpose of this report is to provide documentation of major changes to the Site regional groundwater model that were implemented since the GWM08. The objective of GWM10 is to evaluate and support groundwater containment and focused extraction. Model development is an iterative process that utilizes geologic, hydraulic, and chemical data into a dynamic system that is governed by groundwater flow and fate and transport principles. The development of the regional model enables continuous improvement of the understanding of Site hydrogeologic

conditions and plume fate and transport behavior. The numerical model itself, can be used as an effective tool to assess containment and remedial alternatives.

GWM10 is the latest in a succession of groundwater models (Section 1.2) that have been developed and used as an effective tool to:

- Assess regional-scale groundwater flow patterns;
- Monitor general plume trajectory;
- Evaluate plume containment design and containment performance assessment (including the impacts of groundwater extraction stress on the performance of neighboring plume extraction wells and focused extraction wells);
- Assess transient impacts of local and more regional-scale irrigation and municipal pumping on the groundwater flow regime and containment compliance; and
- Support future Containment Evaluations (CE).

1.2 Summary of Previous Models

The design of the OU2 containment system was accomplished by developing a site-specific groundwater model. The current model is the culmination of groundwater modeling that started with the Removal Action Groundwater Modeling (WCC, 1994) and the Conceptual Groundwater Model (WCC, 1996a). The groundwater modeling efforts to date have resulted in the following model versions and reports:

- Remedial Design Groundwater Model (RDGM I) (WCC, 1998);
- Remedial Design Groundwater Model Part II (RDGM II) (WCC, 1999);
- Remedial Design Groundwater Model III (RDGM III) (URS, 2002);
- Remedial Design Groundwater Model IV (RDGM IV) (URS, 2004);
- 2005 Groundwater Model (GWM05) Updates to RDGM IV described in the Load Line 1 Remedial Design (URS, 2005);
- 2006 Groundwater Model (GWM06) Groundwater Modeling Report (URS, 2007); and
- 2008 Groundwater Model (GWM08) Update (URS, 2009a).

1.2.1 Remedial Design Groundwater Models I, II, and III

The primary purposes of the RDGM I and II modeling activities were to provide a basis of design for the hydraulic containment system. The containment system was designed to hydraulically contain the area of attainment boundary as defined in the Record of Decision (ROD) (WCC, 1996b). The area of attainment is defined on Figure 3 of the 1997 OU2 ROD.

The total pumping rate for the initial RDGM I containment system design was 7,680 gallons per minute (gpm), 5,000 gpm of which was generated by focused extraction wells in higher concentration areas. The revisions incorporated in RDGM II were a response to public perception that the RDGM I design would create potential water supply problems by increasing drawdowns in private wells. The RDGM II design targeted an extraction flow rate less than 4,000 gpm by limiting the focused extraction wells to the LL1 RDX plume and the AMA/TCE plume, while keeping the total pumping rate of the hydraulic containment wells similar to the RDGM I design rate. The RDGM II design included alternatives for focused extraction wells

(total pumping rate of 800 gpm), or the use of groundwater circulation wells (GCWs) instead of extraction wells in areas with higher concentrations.

RDGM III (URS, 2002) used the same model grid as RDGM II, however, the bedrock surface was modified using new pilot-hole data. The hydraulic conductivity distribution was modified using data from tests of the newly installed extraction wells. The initial total pumping rate at start-up was 2,610 gpm (not including FEW-11).

1.2.2 Remedial Design Groundwater Model IV

In 2003-2004, significant revisions were incorporated in RDGM IV and included:

- Expansion of the model domain to nearby physical boundaries of the aquifer (e.g., the Platte River, Silver Creek, and the loess-mantled till uplands).
- Refinement of the model grid dimensions to place observation wells in cells separate from pumping wells.
- Re-characterization of initial contaminant concentrations near LL1 using data collected by direct-push methods near Silver Creek in 2004.

The RDGM IV modeling simulated the first year and a half of pumping through October 2003, at which time the total pumping rate was 2,345 gpm.

1.2.3 Groundwater Model Update 05

The groundwater model was further updated in 2005 to support the design of the LL1 treatment system including extraction wells EW-12 and EW-13. The Draft Final LL1 Containment System Remedial Design (URS, 2005) documents the changes to RDGM IV that resulted in GWM05 (a separate groundwater model report was not issued), and how the model was used during the design process. GWM05 used the same model grid and surfaces as RDGM IV but incorporated the following changes:

- Inclusion of Wahoo Creek by expanding the active part of the model from Silver Creek to the southwest edge of the Todd Valley (i.e., to the loess-mantled till uplands south of Wahoo Creek).
- Adjustment of drain cell elevations in the Platte River valley to generally within 1 to 5 feet (ft) of ground surface.
- Addition of registered irrigation and municipal supply wells. This includes use of LWS wells in the history matching and future predictions, and the use of Omaha M.U.D Platte West wells in future predictions.

1.2.4 Groundwater Model 06

The GWM06 model was an expansion and refinement of the GWM05. GWM06 was extended farther south to include all of the LWS water supply wells near Ashland, and farther east to include the east valley wall of the Platte and Elkhorn rivers. During the acquisition of data to define the GWM06 model layers in the new areas, new data were also incorporated into the existing portions of the model previously covered by GWM05. As in the previous model revisions, the conceptual model was re-evaluated based on the new information.

Major refinements in GWM06 included:

- The expansion and update of the bedrock and the base of the loess surfaces.
- Conversion of model coordinates from North American Datum of 1927 (NAD 27) to North American Datum of 1983 (NAD 83).
- Incorporation of additional characterization of direct-push data collected in Fall 2005 and Spring 2006 (URS, 2006); as well as data collected as part of the Site-Wide GMP (URS, 2007).
- Replacing the regions of constant hydraulic conductivity with a more detailed hydraulic conductivity distribution created using MODAC, an automated parameter estimation tool (Guo and Zhang, 2000).
- Detailed calibration consisting of a quasi-steady state calibration, five-year transient calibration (since the beginning of the Site pumping in 2002), short-term transient calibration using December 2006 system-wide shutdown water levels, quasi-steady state verification using October 2006 regional water levels, history matching of plume migration pathways using particle tracking, and history matching of plume migration using transport modeling.
- Additional hydrologic parameter adjustments to improve the model capability to accurately simulate all available Site data.

1.2.5 **Groundwater Model Update 08**

The GWM08 used the same grid and covered the same area as GWM06. Between GWM06 and GWM08, the LL1, LL2, and LL3 plumes were further characterized; and stream-aquifer interaction data were collected near Johnson Creek and the Platte River. Incorporation of these data and the revised conceptual model necessitated an extensive update and recalibration.

Major refinements in the GWM08 include but were not limited to the following:

- Refining the model based on new plume characterization data,
- Revisiting the Soil-Water Distribution Coefficient (Kd) based on new Total Organic Carbon (TOC) data,
- Refining hydraulic conductivity data based on aquifer tests and slug tests,
- Revising the TCE source area simulation based on new analytical data,
- Refining the bedrock surface,
- Revising the simulation of the Johnson Creek seep and drainage tiles based on measured flow rates, and
- Conducting fate and transport modeling of a combined TCE and RDX plume.

2.0 SITE DATA AND GROUNDWATER FLOW CONCEPTUAL MODEL

Section 2.0 presents a general description of the physiography, geology, hydrogeology, and aquifer withdrawals within the groundwater model area. A conceptual model for the site geology and hydrology is presented and forms the current basis for the development of the GW010 numerical flow and transport model.

2.1 Physiography and Topography

The physiography of eastern Saunders County where the Site is located can be divided into three regions: flood plain, terrace plain, and uplands. Figure 2-1 shows the ground surface elevations developed as described in the GWM08.

The flood plain primarily consists of the flood plains of the Platte River and Wahoo Creek. Elevations range from 1,050 ft (North American Vertical Datum [NAVD] 88) near the LWS well field in the southeast, to 1,130 ft near Ithaca in the Wahoo valley, and 1,120 ft near Leshara in the Platte Valley. The topography is flat, sloping 4 ft per mile (ft/mi) in the Platte Valley and 6 ft/mi in the Wahoo Valley.

The terrace plain is known as Todd Valley, and is a stream terrace abandoned when the ancestral Platte pirated a tributary of the Elkhorn River. The terrace is generally 50 ft higher in elevation than the Wahoo Creek and Platte River flood plains. Elevations range from 1,220 ft near Colon in the northwest corner of the model area to 1,100 ft in the southeast, with a slope of approximately 9 ft/mi.

There are two areas of till uplands in the model area. One area is between the Todd Valley and the Platte Valley, and the other is southwest of Wahoo Creek. In contrast to the relatively flat Todd Valley terrace plain, the uplands are hilly with elevations ranging between 50 and 200 ft higher than the Todd Valley.

2.2 Geology

The geology of the Site consists of Cretaceous age bedrock, Quaternary-age glacial deposits, and Quaternary-age alluvial deposits. These are described in greater detail in Section 2.2 of the GWM08. The following subsections describe updates to the geologic model since the GWM08 Update.

2.2.1 Bedrock

The Cretaceous Omadi Formation, approximately equivalent to and often called the Dakota Formation, underlies all but the southeastern portion of Saunders County (Souders, 1967). The formation consists of sandstone, siltstone, and shale and about half the unit is poorly cemented sandstone. In general, the uppermost unit in the Omadi is shale in the northwestern portion of the Site, and sandstone in the southeastern portion. Cores of the upper portion of bedrock, however, often contain interbedded sandstone and shale.

In southeastern Saunders County, including the area of the LWS Ashland well field, the uppermost bedrock consists of Pennsylvanian limestones and shales.

Figure 2-2 shows the interpreted bedrock surface. The surface was developed using data presented in Table 2-1 from the following sources:

- Nebraska Department of Natural Resources (NDNR) registered well database (through January 2010);
- Souders (1967);
- Piskin (1971);
- USACE boring logs;
- "Configuration of the Base of the Principal Aquifer, 1979" (Conservation and Survey Division, University of Nebraska [CSD], 1996); and
- Selected direct push locations.

The boring log data in the NDNR registered well database varies in quality. Many of the logs are drillers' logs based on cuttings rather than discrete samples. The top of bedrock contour map was generated by compiling data from the posted sources, and outliers were removed by comparing the elevations to each other and a digitized contour of the statewide "Configuration of the Base of the Principal Aquifer, 1979" map (CSD, 1996). Where nearby data points conflicted, preference was given to data from borings with discrete samples such as the monitoring well borings, extraction well or focused extraction wells pilot holes, and municipal well field test holes. Among borings sampled from cuttings, preference was given to the USGS (Souders, 1967) and Piskin (1971) over irrigation well logs. The bedrock surface was contoured using a kriging algorithm and the program Surfer® developed by Golden Software.

2.2.2 Loess and Alluvial Overbank Fines

During Wisconsinan time the Todd Valley and the surrounding uplands were covered by the light brown and light gray mottled Peoria Loess. The loess typically ranges between 10 and 20 ft in thickness in the Todd Valley. The loess is absent in the Platte River and Wahoo Creek valleys. The silts and clays overlying the Platte River sands and gravels are alluvial overbank deposits, which are not related to the Peoria Loess. The thickness of the overbank fines typically ranges from 0 to 20 ft. Figure 2-3 represents the base of the loess in the Todd Valley and the overbank fines in the Platte Valley. The surface was contoured using a kriging algorithm and the program Surfer® developed by Golden Software. The surface was developed using data presented in Table 2-1 from the following sources:

- NDNR registered well database (through January 2010); and
- CENWK boring logs.

2.3 Hydrogeology

The hydrogeology of the Site modeled area consists of three major alluvial aquifers: the Todd Valley aquifer, the Platte Valley aquifer, and the Wahoo Valley aquifer; and one minor aquifer, the till Uplands aquifer. All four aquifers are underlain by the Omadi Formation (as discussed above in Section 2.2.1), except where the Omadi is absent and the subcrop consists of Pennsylvanian strata near the LWS/Ashland well field. Slug tests performed as part of the Aquifer Characterization (ECC, 2011a) indicated the range of hydraulic conductivity values for wells in the Omadi formation was 1 to 31 feet per day (ft/day). For regional modeling purposes, it was assumed that there is a sufficient vertical permeability contrast between the Omadi

Formation and the unconsolidated alluvial aquifers so that the Omadi Formation forms a relatively impermeable base and has negligible hydraulic communication with the overlying alluvial aquifer system, as discussed in detail in GWM08.

2.3.1 **Platte Valley Aquifer**

The hydrostratigraphy of the Platte Valley consists of two principal layers:

1. Silt and clay overbank deposits approximately 5 to 20 ft thick (partially to fully saturated); and
2. Coarse grained sand and gravel alluvium (fully saturated).

The low permeability, saturated overbank fines act as an upper leaky confining unit over the Platte Valley aquifer, which impedes but does not prevent groundwater discharge from the aquifer to the ground surface (WCC, 1996a). As part of the 2010 Aquifer Characterization, (ECC, 2011b) slug tests were in conducted in wells in the Platte Valley. The range of hydraulic conductivity values for wells in the Platte Valley was 93 to 328 ft/day (ECC, 2011b) (Table 2-2). Previous hydraulic conductivity estimates in the Platte West Well Field range between 450 ft/day to 600 ft/day (Chatman and Associates [CAI, 2005]).

2.3.2 **Todd Valley Aquifer**

The hydrostratigraphy of the Todd Valley consists of two principal sedimentary units:

1. The Peoria Loess, ranges from 4 to 23 ft thick at the Site, and is unsaturated.
2. The Todd Valley sands and gravels, which are partially saturated, are typically between 80 and 110 ft thick, but can be as thick as 157 ft (near LL1), and as thin as 48 ft (southwest of the former Landfill area). The Landfill area is located approximately one mile east of LL4, south of the Natural Resources District (NRD) Reservoir.
   The water-bearing portions of the unconsolidated material in the Todd Valley are generally divided into an upper fine sand unit (12 to 77 ft thick) and a lower sand and gravel unit (18 to 72 ft thick).

The Todd Valley aquifer is unconfined in nearly all of the model area; however, it may be confined in the northwest corner of the model where the groundwater elevation is higher than the estimated base of the loess. The saturated thickness of the aquifer is controlled by the eroded bedrock surface at its base and the elevation of the potentiometric surface, except where it is confined. Throughout the modeled area the saturated thickness of the aquifer ranges from approximately 30 ft in the southeast to over 100 ft near LL1 and near the Village of Mead.

Slug tests were conducted in wells screened in the Todd Valley Aquifer as part of the 2010 Aquifer Characterization (ECC, 2011b). The average hydraulic conductivity value of the Todd Valley Aquifer was approximately 70 ft/day and ranged between 3 and 268 ft/day.

South of the Landfill area a silty clay zone was encountered in two borings at a depth of approximately 55 to 75 ft below ground surface (bgs) (ECC, 2011b). Slug tests from MW-152, MW-154 and MW-156 along the eastern portion of the LL4/AMA contaminant plumes, south of the Landfill, have an average hydraulic conductivity of 33 ft/day. The wells along the western portion of the LL4/AMA plume (MW-151, MW-153, MW-155 and MW-157) have an average

hydraulic conductivity of 124 ft/day, approximately an order of magnitude larger than the eastern side of the plume. This difference in the average hydraulic conductivity shows the localized variability in the Todd Valley Aquifer, especially between the western and eastern sides of the LL4/AMA plumes.

2.3.2.1 Todd Valley Pumping Tests

EW-10 Shutdown Pumping Tests

EW-10, located adjacent to the leading edge of the LL2 RDX contaminant plume, was deactivated on February 23, 2010 (CENWK, 2010). Recovery water levels were recorded in adjacent observation wells following the shutdown. The recovery test results are provided in Appendix A. The most representative estimate of hydraulic conductivity derived from the recovery test was approximately 186 ft/day.

FEW-11 Pumping Tests

A constant rate pumping test and a recovery test were conducted at FEW-11 at the center of the combined RDX/TE LL1 contaminant plume and the results were reported as part of the Aquifer Characterization (ECC, 2011b). The values for transmissivity, hydraulic conductivity, and storativity were calculated using several different methods (Hantush, Theis, and Neuman). Transmissivity values ranged from 8,000 to 18,500 square feet per day. Assuming a saturated aquifer thickness of 95 feet (based on depth to water measurements and borehole logs), hydraulic conductivity values ranged from 84 to 194 ft/day. The dimensionless storativity values ranged from 1×10^{-8} to 2.6×10^{-4}. Based upon a detailed review of the data from the pumping and recovery tests, a range of hydraulic conductivity values between 145 to 163 ft/day was calculated using a best fit solution (ECC, 2011b).

FEW-15 Pumping Test

Aquifer testing was completed to refine the understanding of hydraulic conductivity west of the LPNNRD reservoir in the near the distal edge of the LL4/AMA TCE plume. The values for transmissivity, hydraulic conductivity, and storativity were calculated using several different methods (Hantush, Theis, and Neuman). Transmissivity values ranged from approximately 11,000 to 49,000 square feet per day. Assuming a saturated aquifer thickness of 70 feet (based on borehole logs and water level measurements), hydraulic conductivity values ranged from 160 to 705 ft/day. The dimensionless storativity values ranged from 3×10^{-6} to 3×10^{-4}. The most representative estimates of hydraulic conductivity ranged between 160 ft/day and 230 ft/day (ECC, 2011b).

2.3.3 **Wahoo Valley Aquifer**

The hydrostratigraphy of the Wahoo Valley consists of two principal sedimentary units:

1. Silt and clay overbank deposits typically 2 to 15 ft thick (partially to fully saturated); and
2. Sand and gravel alluvium, interlayered with silt and clay, typically 30 to 80 ft thick (fully saturated).

Where present, the low permeability saturated overbank fines act as a leaky confining layer over the Wahoo Valley aquifer that impedes but does not prevent groundwater discharge from the aquifer to the ground surface. The Wahoo Valley aquifer is distinguished from the Todd Valley aquifer by greater heterogeneity. As shown on cross sections by Souders (1967), the Wahoo Valley sediments are stratigraphically distinct from the Todd Valley, possibly representing finer grained Wahoo Creek and Silver Creek sediments filling the last channel of the ancestral Platte River through the Todd Valley. Boring logs in the EW 12/EW 13 area show the sediments to be more stratigraphically complex than the sediments in the Todd Valley, with interbedded fine and coarse-grained materials. Slug tests conducted during the Aquifer Characterization the Wahoo Valley indicated significant heterogeneity. Hydraulic conductivity values ranged two orders of magnitude from 1 ft/day to 417 ft/day along a 4,000 ft transect. The higher values of hydraulic conductivity values reported from slug tests at direct-push locations in the Wahoo Valley Aquifers within the LL1 plume are likely associated with the sands and gravel zones that have been noted in nearby boring logs (ECC, 2011b).

2.3.4 **Till Uplands Aquifer**

The hydrostratigraphy of the Uplands Aquifer consists of:

1. The Peoria Loess (unsaturated);
2. Till interlayered with silt and clay (partially saturated with local, perched water tables inferred by Souders (1967) from intermittent stream flow); and
3. Possible buried Quaternary sand and gravel alluvium in channels beneath the till inferred by Souders (1967) (saturated).

The transmissivities in the till uplands (CSD, 2005) are generally lower than those in the Todd Valley, despite the greater saturated thickness (CSD, 1996). Souders (1967) used the configuration of the bedrock surface and data on the ease or difficulty in obtaining water supplies to infer the presence of buried Quaternary channels beneath the till uplands. Clays, silts, and sands near the margins of Todd Valley, such as those near the Landfill in the northeastern portion of the Site, may be remnant of Early or Medial-Pleistocene fluvio-glacial deposits.

Souders (1967) infers, based on limited data, a southeast trending channel along the Todd Valley side of the till uplands. The sediments composing this terrace have a lower transmissivity than the surrounding material, despite the greater thickness as illustrated on the “Transmissivity of the Principal Aquifer, 2005” map (CSD, 2005).

2.3.5 **Potentiometric Surface**

Regional water-levels were measured in March 2009, August 2009, October 2009, March 2010 and August 2010 (Figures 2-4 through 2-8). In August 2010, water levels also were measured in the new wells installed as part of the Aquifer Characterization (ECC, 2011b). Water levels recorded during these monitoring events are presented in Table 2-3. Monitoring well construction details are provided in Table 2-4.

The water levels used in creating the potentiometric surface are from the deepest well in the unconsolidated aquifer in each cluster, which is typically the intermediate zone well. These

interpretations, based on water levels from the following sources, were contoured using a kriging algorithm and the program Surfer® developed by Golden Software:

- CENWK monitoring wells, observation wells, and piezometers;
- LPNNRD piezometers and irrigation wells (LPNNRD, 2010);
- M.U.D piezometers (LPNNRD, 2010);
- LWS piezometers (LPNNRD, 2010);
- USGS piezometers and irrigation wells (USGS, 2011a); and
- USGS surface water (SW)-gauging stations (USGS, 2011b).

The USGS wells in Table 2-3 were mainly used to establish regional water levels along the margins of GWM10. Some of the USGS wells not in the LPNNRD Wann Basin network are not surveyed, and water levels are measured from ground surface. Where nearby data points conflicted, preference was given to data from surveyed wells such as CENWK monitoring wells, observation wells, and piezometers. To improve the quality of the USGS water level elevations, 11 USGS wells were surveyed in March 2009.

Historically the shallow zone potentiometric surface has had essentially the same flow directions (southeast) and hydraulic gradients as the intermediate zone potentiometric surface; therefore, only the intermediate zone potentiometric surfaces were produced for this report. Groundwater flow in the Todd Valley aquifer is to the south-southeast. The depth to groundwater in the Todd Valley ranges from approximately 40 to 70 ft bgs. East of Johnson Creek, the groundwater flow direction in the Platte River alluvial aquifer is to the south, paralleling the Platte River Valley with depths to groundwater in the Platte Valley ranging up to 10 feet.

The intermediate zone potentiometric surfaces for 2009 and 2010 presented in Figures 2-4 through 2-8 are similar to historical potentiometric surfaces. The interpretations suggest that the groundwater level elevations in August and October 2009 within the Site groundwater plumes are similar. Site-Wide monitoring well groundwater elevations recorded during March, August, and October 2010 were an average of 0.06 ft, 0.73 ft, and 1.04 ft higher than to those measured during their respective 2009 monitoring events.

2.4 Surface Water

The location of USGS, M.U.D, and CENWK surface water gauges and measurement locations for the Site are shown on Figure 2-1. Flow statistics are presented in Table 2-5. The stream gauge elevations from March 2009 through October 2010 are presented in Table 2-6.

2.4.1 Platte River

The gradient of the Platte River is approximately 4 ft/mi between Venice and Ashland. A discussion of the flow in the Platte River was summarized in the M.U.D Phase II Platte West Well Field/Groundwater Modeling Study (CAI, 2005). River flow statistics are presented in Table 2-5. The 50% exceedance frequency (calculated using the daily mean flows for the water years 2001 to 2010) was 3,400 cubic feet per second (cfs) at Leshara and 4,700 cfs at Ashland.

The lowest seven-day average flow from October 30, 2000 to September 1, 2010 was calculated for the Platte River at Leshara and Ashland, and the Elkhorn River at Waterloo. This low flow can be considered to be a low estimate for groundwater baseflow, and generally reflective of the

stream flow without significant surface runoff. The average monthly flow over the period was also calculated and is summarized in Table 2-5.

The Elkhorn River enters the Platte River between Leshara and Ashland. The combined flow of the Platte River at Leshara and the flow of the Elkhorn at Waterloo is less than the flow measured at the Platte River at Ashland. The larger flow observed at Ashland suggests there are additional inflows from surface runoff and tributary flow to both the Platte River between Leshara and Ashland and to the Elkhorn River south of Waterloo. Table 2-5 suggests that under very low flow conditions, at least 45 cfs (equivalent to 20,200 gpm) is gained through additional surface water contributions of the minor tributaries in this reach (e.g., Otoe Creek and Upper Clear Creek). It is possible that there are portions of the Platte River that are gaining along this stretch since there is likely to be losses due to evaporation and the M.U.D well field pumping. The 2009 USGS Water Data Reports from these stations are included in Appendix B.

Ninety percent of the time, the flow in the Platte River exceeds by 10 times the maximum average annual pumping rate for which the M.U.D Platte West field is permitted (approximately 52 million gallons per day [MGD]).

Figure 2-9 shows the stage at the Venice Station. A review of this data suggests that the difference in stage is minimal except in June 2010. Upon review of this data it is reasonable to simulate the Platte River using river cells, where the head in the river cells is constant and is insensitive to pumping from the Platte West field.

2.4.2 **Elkhorn River**

The Elkhorn River is a major tributary to the lower Platte River. Flow statistics are provided in Table 2-5. The 50% exceedance frequency was 1,145 cfs at Waterloo.

The Waterloo Gauging Station is located in an entrenched portion of the Elkhorn River that has a flatter gradient than the Platte River. The gradient of the Elkhorn River is approximately 2 ft/mi between Waterloo and the Platte River. It is difficult to determine if the Elkhorn River is a losing or gaining stream in the reach below Waterloo, however; previous reports have suggested that it might be a gaining stream (GWM08).

2.4.3 **Clear Creek**

Clear Creek once flowed through Yutan in the till uplands, and then through the Platte Valley to Wahoo Creek. At one point Clear Creek flows within half a mile of the Platte River, and at that location, a diversion channel has been cut to divert the flow into the Platte River, dividing Clear Creek into Upper Clear Creek and Lower Clear Creek. In this report, Clear Creek is used interchangeably with Lower Clear Creek.

The gradient of Clear Creek is steeper (approximately 6-7 ft/mi) between the origin of Lower Clear Creek near the Platte River and the section of Clear Creek above Johnson Creek (approximately 3 ft/mi) (GWM08). This may result in seepage from the Platte River to the aquifer that subsequently discharges to Clear Creek. Below the confluence of Clear Creek and Johnson Creek the gradient of Clear Creek is approximately 1.3 ft/mi.

Base flows above the Johnson Creek confluence are typically 2 to 3 cfs, but can exceed 6 cfs after rainfall events (WCC, 1993a). Base flows below the Johnson Creek confluence are approximately 6 cfs (WCC, 1993a).

The Site Main Groundwater Treatment Plant (GTP) discharges treated groundwater to Clear Creek downstream of the Johnson Creek confluence. Part of the treated groundwater from the Main GTP is also discharged to Wahoo Creek. The amount discharged to Clear Creek averaged 3 cfs (660 gpm) in 2010 (ECC, 2011b).

2.4.4 **Johnson Creek**

Johnson Creek originates in the till uplands north of the town of Mead, flows through the Todd Valley and into the NRD Reservoir north of the former Landfill area. Souders' (1967) interpretation of the potentiometric surface is not affected by the upper portion of Johnson Creek in Todd Valley indicating that the creek bed is above the groundwater surface. Johnson Creek is usually dry between the NRD Reservoir and the Platte Valley. The USGS measured flow at the outlet of the NRD Reservoir 29 times between March 1990 and October 1992, and flow was zero on all but one occasion. Where Johnson Creek enters the Platte Valley, the highest flow was less than 0.05 cfs during the five occasions the USGS measured flow (GWM08). Field observations of Johnson Creek in the Todd Valley suggest it is a losing stream and any water in the creek recharges the groundwater until Johnson Creek reaches the Platte Valley. Johnson Creek is a gaining stream in the Platte Valley. Upstream of the confluence with Clear Creek, Johnson Creek flows through an area of silty clay loam that is drained by agricultural tiles.

The gradient of Johnson Creek in the Platte Valley is steeper than the gradients of other streams in the model area. Upstream of the Memphis gauge, gradients are greater than 10 ft/mi. The gradients of other streams in the Platte Valley and the Wahoo Creek Valley range from 2 to 8 ft/mi (GWM08).

Flow statistics through 2009 at the Johnson Creek Memphis Gauging Station are presented in Table 2-5. The 50% exceedance frequency was 1.4 cfs and the minimum seven-day average flow was 0.30 cfs. Flows were measured by field personnel in October 2009 along Johnson Creek at surface water sampling locations SW-05 Upstream (0.32 cfs), SW-05 Downstream (2 cfs), SW-08 section 2 (1.24 cfs), SW-08 section 1 (2.6 cfs) and SW-12 (12 cfs). In October 2010 flows were measured at SW-05 Ski Lake (0.56 cfs) and SW-08 (3.23 cfs) (Table 2-7). These measurements suggest variability in the flow in Johnson Creek.

2.4.5 **Wahoo Creek**

Wahoo Creek originates in western Saunders County and flows out of the till uplands near the town of Wahoo. The Wahoo Creek valley below Wahoo is closer in elevation to the Platte Valley than it is to Todd Valley. Souders' (1967) interpreted potentiometric surface suggests that Wahoo Creek is a gaining stream. The gradient of Wahoo Creek is approximately 3.5 ft/mi.

Two USGS gauges are located on Wahoo Creek (Ithaca and Ashland) as shown on Figure 2-1. The flow statistics for these gauges are presented in Table 2-5. The 50% exceedance frequency was 37 cfs at Ithaca and 61 cfs at Ashland.

Downstream of Ithaca, the combined effluent of the Main GTP (average 1,382 gpm) and the LL1 GTP discharged an average of 3.8 cfs (1,690 gpm) to Wahoo Creek in 2010. Approximately 0.69 cfs (308 gpm) of that amount is from the LL1 GTP.

2.4.6 **Silver Creek**

Silver Creek originates in the Todd Valley near Cedar Bluffs, and flows south approximately 14 miles where it enters the Wahoo Creek Valley near Ithaca. Souders (1967) shows that Silver Creek is a gaining stream throughout most of its reach. In the Wahoo Creek Valley, Silver Creek is an entrenched stream. Silver Creek once flowed into Memphis Lake, and the outlet stream that drains Memphis Lake was the original channel of Silver Creek. However, a diversion channel redirected the upper portion of Silver Creek to Wahoo Creek near Memphis. In this report, Silver Creek refers to the stream that discharges to Wahoo Creek, and the smaller stream which is often dry, that drains Memphis Lake is called Lower Silver Creek.

The gradient of Silver Creek is generally steeper than other streams in the model area at approximately 7 ft/mi. A USGS gauge was located on Silver Creek near Ithaca from 1949 until destroyed in a flood in 1958. The flow duration statistics for Silver Creek are presented in Table 2-5 (stage data was not available). The 50% exceedance frequency was 5.0 cfs. As part of the annual GMP, surface water levels are collected at several locations along Silver Creek.

2.5 **Climate**

Climatic factors must be accounted for in groundwater models. Precipitation and evapotranspiration (ET) are described for the Site model area below.

2.5.1 **Precipitation**

Monthly precipitation for National Weather Service (NWS) cooperative stations at Mead and Ashland and the High Plains Regional Climate Center (HPRCC) Automated Weather Data Network (AWDN) stations at Mead, Mead Turf Farm, and Mead Agro Farm are presented in Tables 2-8 through 2-12, respectively and on Figure 2-10. The long-term mean annual precipitation from these stations ranges between 27.3 and 28.6 inches (NWS, 2011a, NWS 2011b, HPRCC, 2011a and HRPCC 2011b).

2.5.1.1 Increased Precipitation during Summer Months (2009 and 2010)

In 2009 and 2010 an increase in precipitation compared to recent years was observed during the summer (irrigation season) months of June, July, and August. Figure 2-11 illustrates the summer precipitation compared to total annual precipitation from 2005 to 2010 at the NWS Mead and Ashland stations. Precipitation at the NWS Mead station from June through August 2009 was 5.75 inches above normal and was 8.92 inches above normal for June through August 2010.

2.5.2 **Evapotranspiration**

ET from groundwater occurs in areas in which groundwater is shallow, such as the Platte Valley and Wahoo Valley and is represented as a loss from groundwater. Potential ET (PET) which is estimated based upon several parameters (including temperature, wind speed and solar radiation), at the Mead, Mead Turf Farm, and Mead Agro Farm HPRCC AWDN stations

averages 54.4 inches per year (Tables 2-13 through 2-15). Figure 2-12 shows the variability in measured PET over the year and the increase in PET higher during the summer months.

2.6 Aquifer Withdrawals

In the GWM10 model, aquifer withdrawals include extraction wells, municipal water supplies, and irrigation wells. The withdrawal and use of groundwater within the Site GWM10 model boundary is described in the following subsections.

2.6.1 Former Nebraska Ordnance Plant Containment System

Site extraction well EW-1 and focused extraction well EW-8 began pumping in October 1998 as part of the initial Containment Removal Action. Extraction wells EW-2 through EW-7, and EW-9 and EW-10 began operation in February 2002 (Figure 1-2). The total pumping rate for these wells gradually declined from approximately 2,600 gpm in February 2002 to 2,200 gpm in March 2006 as the saturated thickness of the aquifer decreased approximately 4%, partially due to a multi-year drought. In February 2006, EW-12 at the leading edge of the LL1 plume was added to the containment system. Use of EW-8 in LL1, which had been pumping at approximately 290 gpm, was stopped in August 2007, and replaced by FEW-11 with a pumping rate of approximately 550 gpm in March 2008. Pumping at EW-2 and EW-5 was discontinued in late February 2009, based upon the recommendations of previous groundwater models which demonstrated turning these wells off did not impact containment of the plumes. FEW-14 and EW-16 in the LL3 plume were installed between April and May 2009 and brought online in June 2009. FEW-15 near the AMA plume was brought on line in May 2010 at 375 gpm and then increased to 500 gpm end of August 2010.

Pumping rates since February 2002 through December 2010 are detailed in Table 2-16. The pumping rates in these tables represent cumulative flow for each extraction well or focused extraction well for that particular month divided by the number of days in the month. This provides a slightly different estimate than presented before where the average pumping rate was calculated based on average rate only during operations which overestimates the long term average pumping rate if a well was down for any significant period of time. The method presented in Table 2-16 provides a conservative approach when evaluating containment.

2.6.2 Municipal Water Supplies and Irrigation Wells

Five municipal water supply systems are in the Site groundwater model area. A description of each supply system and their pumping rates are described below.

2.6.2.1 Metropolitan Utility District (Omaha) Platte West Field

The M.U.D Platte West Field is located on both sides of the Platte River in Saunders and Douglas counties. Construction began in 2004 and the well field began intermittent pumping in July 2008 related to preliminary operations, and shakedown testing through October 2008. The well field did not operate from mid-November to mid-February 2009 (HDR, 2011). Full scale operations began in mid-February 2009. The Platte West Field is permitted to pump up to 104 million gallons on any given day but is restricted to an annual average of 52 MGD. For the 2010 water year, the total daily pumping rate fluctuated between a low of 15 MGD to a high of 71 MGD (HDR, 2011). The average daily pumping rate over the 2010 water year was

32.6 MGD. Omaha M.U.D also operates large well fields near the Platte River in Sarpy County and near the Missouri River in Douglas County.

The Platte West Field is located in a north-south trending area of increased saturated thickness of the Platte River alluvial aquifer, and in an area where the Platte River recharges the aquifer. The field has 42 production wells classified as either "storage wells" (over 500 ft from the river) that will produce groundwater from aquifer storage, or "river wells" (within 500 ft of the river) that are expected to produce groundwater derived largely from recharge from the river (CAI, 2005). During average river stage, the base well field production will be provided by the river wells to minimize the number of wells operating and to preserve groundwater available from aquifer storage for use during low river flow conditions (CAI, 2005). Monthly pumping rates for individual wells from 2009 through 2010 are presented in Table 2-17 (Saunders County Well Field).

2.6.2.2 Lincoln Water System Ashland Field

The well field near Ashland supplies nearly all the water for the LWS. Therefore, the future total pumping rate of the well field can be estimated using the projected water demand for the entire system provided in the "Lincoln Water System Facilities Master Plan" (Black & Veatch, 2003). In 2009 and 2010, the average annual pumping rate for the LWS Ashland well field was approximately 40 MGD. The summer seasonal average pumping rate is approximately 62 MGD with a maximum daily demand of approximately 114 MGD. According to the Master Plan, the average daily pumping rate will increase to 52 MGD in 2025, and 76 MGD in 2050. The Master Plan projects the summer seasonal yield will increase to 81 MGD in 2025, and 118 MGD in 2050. The LWS monthly pumping rates for the well field from 2002 to August 2010 (LWS, 2011) are presented in Table 2-18.

2.6.2.3 Other Municipal Water Supplies

<u>Ashland</u>

The City of Ashland has four registered municipal water supply wells, the newest of which was installed in 2006. According to "Estimated Water Use in Nebraska, 1995" (NNRC, 1998) the per capita public water supply use in Saunders County was approximately 100 gallons per day (gpd). With a 2005 population of 2,493 (NDNR, 2006), average water use based on per capita usage is approximately 249,300 gpd, or 173 gpm, or less than one-tenth the registered pumping capacity. From 2005 to 2010, the annual average pumping rate ranged from 217 gpm to 274 gpm. Average monthly pumping rates typically increase during the summer months as shown on Figure 2-13. The maximum monthly average pumping rate was 549 gpm in July 2006 (City of Ashland, 2011).

Memphis

The Village of Memphis has two registered public supply wells with a total pumping rate of 500 gpm according to registration records. Assuming a 100 gpd per capita water use (NNRC, 1998), and a 2005 population of 109 (NDNR, 2006), the average water use based on per capita usage is approximately 10,900 gpd, or 8 gpm.

Mead

The Village of Mead has four registered public supply wells with a total pumping rate of 1,050 gpm according to registration records. Assuming a 100 gpd per capita water use (NNRC, 1998), and a 2005 population of 623 (NDNR, 2006), the average water use based on per capita usage is approximately 62,300 gpd, or 44 gpm. From 2005 to 2010, the annual average pumping rate ranged from 42 gpm to 49 gpm (Village of Mead, 2011).

The pumping rates for the City of Ashland (City of Ashland, 2011) and the Village of Mead (Village of Mead, 2011) are presented in Table 2-19.

2.6.2.4 Irrigation

As of October 2010, approximately 431 irrigation wells are registered in Townships 13 through 15 North, Ranges 8 through 10 East, and the Saunders County portion of Township 12 North, Range 9 East (NDNR, 2010). Of these, 356 are registered as "active", and 340 of the active wells are within the Site model domain. The registered pumping rate, which in most cases is intended as a maximum pumping rate, averaged 750 gpm for these wells. The average acreage on the registration is 135 acres, which is close to the size of a quarter-section center pivot (NDNR, 2010).

In irrigated fields identified on the 2005 Nebraska Land Use Map (Center for Advanced Land Management Information Technologies [CALMIT], 2007) (Figure 2-14) with more than one registered active irrigation well, it is assumed that only one well is active. The existence of dormant wells still registered as "active" is evident in the Agricultural Research and Development Center (ARDC) pumping records, which show many wells that are not used every year. Dormant, backup, or underused wells are also evident in the registration records, which list sections with total registered acreage greater than 640 acres. In irrigated fields with more than one well, the newest well is assumed to be active. Of the 340 active wells in the model domain, 20 are within the no flow boundaries, 43 are not pumping in the model because they are located within the same irrigated well as another well and the remaining 277 active wells are assumed to be pumping.

The average pumping rates from 1996 to 2010 were used for the ARDC irrigation wells (ARDC, 2007a and 2010). Pumping rates for other irrigation wells were initially estimated using the registered acreage, and the average net irrigation requirement as described in GWM08. Pumping rates for non-metered irrigation wells subsequent to 2006 were estimated based on measured irrigation pumping rates from the ARDC wells.

The estimated irrigation pumping rates during a three-month irrigation season and the annual average irrigation rate are presented in Table 2-20. In 2009, irrigation rates in metered ARDC

wells were 90% of the 2008 average, and in 2010 were 62% of the 2008 average (GWM08 and ARDC, 2010). For non-ARDC wells (i.e., wells without meters), irrigation rates for 2009 were estimated to be 90% of the 2008 rate, and irrigation rates for 2010 were estimated to be 62% of the 2008 rate, based on the reductions observed in the ARDC metered wells. The reduction in pumping rates in 2009 can be compared with a 12-23% increase in precipitation in 2009 compared to 2008. The reduction in 2010 pumping rates can be compared to an approximately 33% increase in precipitation between 2010 and 2008. The increase in precipitation suggests that the decreased average irrigation rates for non-metered wells are reasonable.

2.7 Conceptual Model

The Todd Valley aquifer is an abandoned stream terrace of the ancestral Platte River bounded by till uplands to the northeast, the Wahoo Valley to the west and south, and the Platte Valley to the southeast, and the Wahoo Valley is incised into the Todd Valley terrace. The Todd Valley aquifer is unconfined and has approximately 20 to 70 ft of unsaturated thickness; the saturated thickness of the Todd Valley aquifer ranges between 30 to 100 ft. Bedrock beneath the alluvium consists of poorly cemented sandstone interbedded with shale and siltstone of the Cretaceous age Omadi Formation. The vertical hydraulic communication between the bedrock and the alluvium is limited due to the small vertical gradient and the two-orders of magnitude difference in vertical hydraulic conductivities estimated from a number of slug test locations.

Generally, the Platte River is a losing stream in the model area, whereas the Elkhorn River and Clear, Johnson, Silver, and Wahoo creeks are gaining streams. The overbank fine grained deposits (fines) in the Platte Valley and Wahoo Valley act as leaky confining layers over the aquifers because of their low hydraulic conductivity. The transition from unconfined conditions to confined conditions is evident along Johnson Creek. The portion of Johnson Creek that is in the Todd Valley is typically dry except during precipitation events. The portion of Johnson Creek in the Platte Valley, however, typically flows because of groundwater discharge through the agricultural drain tiles and seeps as water flows from the unconfined Todd Valley aquifer into the Platte Valley aquifer. The upward leakage from the sand and gravel aquifer to the overlying overbank fines in the Platte Valley results in significant ET. Figure 2-15 presents this conceptual model.

A water budget is presented in Section 5, the primary inflows include the Platte River and the NRD reservoir, and recharge. The primary outflows include rivers and creeks, ET and aquifer withdrawals from wells.

2.7.1 Groundwater Flow Directions

The groundwater flow direction in the Todd Valley is generally southeast, along the axis of the valley. Groundwater in the Todd Valley discharges into Silver Creek to the southwest of the Site into the Wahoo Valley aquifer to the south, and into the Platte Valley aquifer to the southeast. Locally, the aquifer discharge zones alter the groundwater flow direction. Specifically, in the southwestern portion of the model area, the influence of Silver Creek and Wahoo Creek creates a more southerly groundwater flow direction than observed in the axis of the Todd Valley. Along the eastern boundary of the Site, the groundwater flow direction in the Todd Valley becomes more easterly as it discharges into the Platte Valley aquifer at the contact between the Todd and Platte Valley aquifers.

Groundwater flow in the Wahoo Valley aquifer is generally southeast with a southerly component near Silver and Wahoo creeks. The Wahoo Valley aquifer receives a large amount of groundwater flux from the Todd Valley aquifer where the two aquifers join.

The Platte Valley aquifer also receives a large amount of groundwater flux from the Todd Valley aquifer at the contact between the two valleys. The general groundwater flow direction of the Platte Valley aquifer is southeast as groundwater exits the Todd Valley and enters the Platte Valley. The groundwater flow directions from the Todd Valley side and the Platte River side of the aquifer converge on Clear Creek near the confluence with Johnson Creek.

2.7.2 Groundwater Gradients

The groundwater gradient in Todd Valley between MW-08A and MW-87A is approximately 12 ft/mi (ECC, 2011c). Generally groundwater gradients in the Todd Valley range from approximately 10 ft/mi in the western portion to 15 ft/mi in the southeastern portion (Figure 2-4 through 2-8). Horizontal groundwater gradients in the Platte Valley and Wahoo Creek valley are approximately 5 ft/mi.

Both upward and downward vertical gradients are distributed in all parts of the monitoring well network, with the exception of the NRD Reservoir, where vertical hydraulic gradients are generally downward. The median vertical gradients between the deep ("D") wells and the intermediate ("A") wells were 0.04 (downward) in March 2009, -0.02 (upward) in August, and 0.02 (downward) in October 2009. The median vertical gradients between the intermediate ("A") wells and the shallow ("B") wells were 0.03 (downward) in March and August 2009 and 0.02 (downward) in October 2009. The median vertical gradient between the intermediate ("A") wells and the shallow ("B") wells was 0.01 (downward) in March, August, and October 2010. These median gradients are consistent with vertical gradient data from 2008. The most significant upward gradient was observed in the MW-44 well cluster which is near the groundwater discharge area near Johnson Creek. During the March 2010 measurement event, the MW-44 well cluster indicated the most significant downward gradient (0.24). The MW-104 cluster, also in the groundwater discharge area had an upward gradient in March 2009. The largest downward gradient (0.25) observed in March 2009 was at the MW-111 well cluster located between Johnson Creek and Clear Creek. Downward gradients in March 2010 were also observed in the MW-46 well cluster, near Clear Creek, and the MW-73 well cluster, immediately downgradient of GCW-1.

2.8 Groundwater Recharge

Sources of water as shown in the conceptual model presented in Figure 2-15 include localized groundwater recharge from the surface water bodies (NRD reservoir and Platte River) and recharge derived from precipitation.

A significant source of recharge to the Platte Valley aquifer is the Platte River. According to Layne Christensen (2008), 80% of the 2,300 gpm pumped from M.U.D well PW04 39 during a 2008 pumping test was induced outflow from the Platte River. Data collected from a well point installed in the riverbed indicated that the river is losing even under non-pumping conditions (Layne Christensen, 2008).

According to Szilagyi *et al.* (2003), the long-term mean annual base groundwater recharge in the study area ranges from 3.5 to 4.3 inches/year, and the long-term mean total recharge ranges from 3.9 to 5.9 inches/year (Szilagyi *et al*., 2005). Base recharge is defined by Szilagyi *et al* (2005) as the total recharge minus any potential losses from groundwater storage other than discharge to streams. The amount of precipitation attributed to recharge is discussed in Section 5.

2.9 Groundwater Discharge

Groundwater discharges as shown in the Site conceptual model presented in Figure 2-15 include wells, evapotranspiration and localized groundwater discharge to surface water bodies.

2.9.1 Wells

According to "Water Use in Nebraska, 2005" (USGS, 2005), the major uses of groundwater in Saunders County are irrigation and public water supply. The major public water supply fields are the M.U.D Platte West and the LWS Ashland well fields. The water use rates by category are summarized in Table 2-21.

In the model area, the primary uses of groundwater include municipal water supply, irrigation and extraction from the Site hydraulic containment system.

2.9.2 Evapotranspiration

ET from groundwater occurs in areas in which groundwater is shallow, such as the Platte Valley and Wahoo Valley and is represented as a loss from groundwater. Studies conducted by Szilagyi *et al* (2003) and Suyker and Verma (2009) estimate total annual ET between 21.7 inches to 29.4 inches. The areal effective groundwater ET, which can be considered the difference between total recharge and base recharge, is 0.4 to 1.6 inches per year.

ET from groundwater is greatest in riparian forest areas with phreatophytes. Areas of riparian forest are identified in a band ranging from 0 to 0.5 miles wide along the Platte River on the 2005 Nebraska Land Use Map (CALMIT, 2007), and are presented on Figure 2-14.

2.9.3 Localized Groundwater Discharge

As discussed in Section 2.4, groundwater discharges to Silver Creek and the Elkhorn River under normal conditions (i.e., gaining streams). Groundwater also discharges through drain tiles, seeps, and wetlands near the confluence of Johnson Creek and Clear Creek in the Platte Valley (Figure 2-16). GWM08 describes in detail a series of field investigations conducted in 2007 and 2008, including stream/drain-tile flow measurement, surface water sampling, and the EW-1 pumping test to improve the conceptual model in near Johnson Creek.

In general the overbank fines present in the Platte Valley act as a leaky upper confining unit over the underlying sand/gravel unit, which impedes but does not prevent upward groundwater flow from the sand/gravel unit. Figure 2-17 depicts the hydrogeologic conditions at the boundary of the Todd Valley and Platte Valley. Static hydraulic heads in the overbank fines illustrate the sand and gravel unit is confined by the overbank fines. The potentiometric surface of the hydraulic head of the sand and gravel unit is several feet above the interface between the overbank fines and the sand and gravel unit. The vertical hydraulic gradient between the

overbank fines and the sand and gravel unit is upward. The head difference between MW-104B and MW-104O, located west of Johnson Creek, is 1.25 feet. The head difference between MW-111B and MW-111O, located between Johnson Creek and Clear Creek, is about 2.5 feet.

These gradient observations are consistent with those observed as part of the 1993 groundwater flow net analysis (WCC, 1993a). The 1993 flow net analysis was based on a temporary east-west piezometer alignment located approximately one-half mile north of the MW-157 to MW-46 cross section along the half-section road. The 1993 analysis reported hydraulic heads in the sand/gravel unit several feet higher than the water levels in the overbank fines, indicating an upward vertical hydraulic gradient.

2.9.3.1 Drain Tiles

In the Platte Valley, Johnson Creek and Clear Creek flow through the overbank fines with relatively constant base flow rate (as discussed in Section 2.4.4). This relatively constant base flow in both creeks is mainly sustained by discharge from agricultural drain tiles and seeps along the creeks.

The farmlands in the vicinity, including the east portion of Section 34 and the portion between Johnson Creek and Clear Creek in Section 35, are sub-irrigated by upward flowing groundwater. Drain tiles were installed in the farmlands to drain excess water to keep the water level below the desired elevation. There are approximately 21 drain tiles along Johnson Creek (Figure 2-16) that primarily discharge along the west side of Johnson Creek, however, some drain tiles discharge along the east side of Johnson Creek. The drain tiles flow all year.

In GWM08 Update, a detailed discussion was provided on measurements from drain tiles. The total drain tile flow rates from the areas east and west of Johnson Creek were 180 gpm and 1,450 gpm, respectively, based on the December 2007 measurements.

Surficial groundwater discharge from the drain tiles is greater during non irrigation season when the groundwater levels are higher, and less during irrigation season when pumping and high ET lower the groundwater table. Precipitation amounts have a significant influence on the drain tile flow rates. During rainfall or snow melt, the drain tiles and culverts convey precipitation infiltration, as well as groundwater flow, and overland flow.

2.9.3.2 Johnson Creek Flow Measurements and Sampling Results

In October 2009 and 2010 flows were measured along Johnson Creek (Table 2-7). The flow measured near where Johnson Creek flows out of the Todd Valley into the Platte Valley (Figure 2-16) was relatively minor (between 0.32 cfs and 0.56 cfs at SW-05). Approximately two miles downstream (SW-08) the flow increased to between 2.6 cfs and 3.23 cfs. Drain tiles and seeps along Johnson Creek are the primary reason for the increase in flow.

Additional evidence of groundwater discharge to surface water is the TCE and RDX detections in surface water samples. Historical surface water and drain tile sample results were discussed in GWM08 and indicate that the TCE detections in Johnson Creek are a result of groundwater discharging to the ground surface and flowing into Johnson Creek through ditches, drain tiles, or seeps. Surface water sample locations SW-08, SW-10 and SW-16 along Johnson Creek indicate

the presence of both TCE and RDX. Surface water sample results are provided in Tables 2-23 and 2-24.

2.9.3.3 Summary of Groundwater Discharge Conceptual Model near Johnson Creek

It has been known that the Johnson Creek area is a groundwater discharge zone and that Johnson Creek and Clear Creek are gaining creeks within the area (GWM08). A summary of findings from previous investigations is as follows:

Groundwater from the sand/gravel unit discharges upward through the overbank fines to the ground surface. Direct evidence of groundwater discharge in this zone includes:

- Direct hydraulic communication between groundwater and Johnson Creek and Clear Creek is limited because of the low permeability of the overbank fines adjacent to and below the creeks.
- A strong upward hydraulic gradient between the sand and gravel unit and the overbank fines causes surficial groundwater discharge over a large area. This area most likely covers the portions between the valley wall and Johnson Creek and the portion east of Johnson Creek within Sections 27 and 34, as evidenced by the distributed seeps and drain tiles. Monitoring wells MW-105B/O, MW-109B/O, MW-111B/O and MW-140B/O (Table 2-3) show this strong upward gradient between the sand and the overbank fines.
- The wetland and small ponds on the artesian property area (Figure 2-16) is sustained by groundwater discharge. The small ponds do not freeze in winter even though the surrounding area is frozen. An artesian well and sustained seeps are also found on the artesian property area (Figure 2-16).
- The gaining reaches of Johnson Creek and Clear Creek are primarily supplied by groundwater discharge to drain tiles, seeps, and drainage ditches that subsequently flow to the creeks. Because the surficial groundwater discharge occurs over a large area, even though the rate of leakage per unit area is small, the overall volume of flow to Johnson Creek sourced from the seeps, drain tiles, and ditches is large and sustained.

The AMA TCE plume discharges upward to the ground surface in this area, especially on the artesian property (Figure 2-16). Some groundwater is captured by the drain tiles, seeps, and ditches and subsequently discharged to Johnson Creek, where it is diluted, evaporated, or transpired. Because the upward vertical hydraulic gradient is greatest west of Johnson Creek, and is less on the east side of Johnson Creek, the majority of the groundwater discharges to the ground surface instead of flowing beneath Johnson Creek.

3.0 GROUNDWATER CONTAMINANT CONCEPTUAL MODEL

The following sections describe the Site groundwater contaminant conceptual model including the contaminant plumes characterization and interpretations, and focused remediation. It also details the LL2 Pre-Pilot Study Investigation and Bench Scale Study and interpretation, and the fate and transport of the contaminant plumes.

3.1 Plume Characterization

The Site areal distributions of the main COCs, RDX and TCE, were interpreted based on recently collected groundwater data from the 2010 GMP and from multiple investigations, the largest and most recent of which were:

- Spring 2006 M.U.D Baseline Groundwater Investigation (URS, 2006);
- Spring 2007 and Fall 2007 Groundwater Investigations (URS, 2008);
- FEW-14 Investigation (ECC, 2008);
- 2008 Groundwater Investigation (URS, 2009b);
- 2010 Pre-Pilot Study Investigation (ECC/BMcD, 2011a); and
- 2010 Aquifer Characterization (ECC, 2011b).

The Spring 2006 investigation focused on the LL4/AMA plume. The Spring 2007 and Fall 2007 investigations targeted the LL2 and LL3 plumes. The FEW-14 investigation focused on delineating the leading edge of the LL3 RDX plume in the vicinity of the proposed location of FEW-14. The LL1 plume was the subject of the 2008 investigation, with additional samples collected near EW-10 in the LL2 plume. Three areas of higher concentration of RDX or TCE in the LL2 plumes were the focus of the Pre-Pilot Study Investigation. The 2010 Aquifer Characterization focused on the LL1, LL3 and LL4/AMA plumes (ECC, 2011b). The analytical results used in the characterization are presented in Tables 3-1 and 3-2.

3.2 Plume Interpretation

Figures 3-1 through 3-4 were prepared to define the initial concentrations for contaminant transport simulations. For the purpose of this regional groundwater model, the saturated thickness of the sand and gravel aquifer is divided approximately equally into the shallow layer (Layer 2), which contains the shallow monitoring wells, and the intermediate layer (Layer 3), which contains the intermediate monitoring wells. TCE and RDX distributions were evaluated using data collected from the aquifer characterization, the Pre-Pilot study, the most recent monitoring well data collected as part of the GMP, the *2008 Groundwater Investigation* (URS, 2009b), and to a lesser extent, direct-push data collected since 2006. The groundwater data obtained over these five years were used to create a representation of the current distribution of TCE and RDX in groundwater based on the maximum concentration at each location within the shallow zone or the intermediate zone. The maximum concentration of TCE or RDX at each location in the shallow or intermediate zone was used in a contouring program using kriging with anisotropy to create a two-dimensional representation of contaminant levels; these contours were then adjusted based on professional judgment using historical information and groundwater flow directions. The depicted plume concentrations and extents are presented as Figures 3-1 through 3-4.

Direct push sampling accounts for a significant number of sampling points and depths. At locations where more than one direct-push sample was collected in a layer, the highest concentration was used in the interpretation. The most recent groundwater sample from each monitoring well was used. The figures show the maximum constituent concentration at each location in each layer used to characterize the plume concentration and extent.

Long-term data within the interior and high concentration areas of the contaminant plumes are limited, therefore graphs of concentration over time for selected wells are provided on Figures 3-1 through 3-4. The wells shown have more than four years of monitoring well data. These graphs show varying constituent concentration trends compared to overall plume extent.

3.3 Historic Activities

The Nebraska Defense Corporation operated the Site for the Army from 1942 until 1945. During World War II, bombs, shells, and rockets were assembled at the Site. Ordnance production was terminated in 1945 and the facility was placed on inactive status. Between 1945 and 1949, the buildings on the Site were decontaminated and used primarily for storage and disposal of bulk explosives and munitions.

In addition, ammonium nitrate was produced for use as fertilizer. In 1950, the plant was temporarily reactivated and produced an assortment of weapons for use in the Korean Conflict. The Site was placed on standby status in 1956. In 1959, approximately 17,250-acres were determined to be surplus and were transferred to the General Services Administration for disposition.

From 1959 to 1960, the AMA was built north of LL4. TCE was used during construction to degrease and clean pipelines used to carry liquid oxygen fuel for missiles. The northern end of LL1 was formerly used as the Air Force Ballistic Missile Division Tech Area.

Since the 1960's, private individuals, government agencies, and corporations including the University of Nebraska, the Nebraska Army National Guard, the United States Air Force, the United States Army Reserves, and the United States Department of Commerce have conducted operations at the Site.

3.3.1 Historic Activities Related to the Use of Explosives

The explosive assembly and load lines were active during World War II and the Korean Conflict. The load lines are numbered 1 through 4 from west to east, and are identifiable on maps by the diamond-shaped roads surrounding their former locations. Based on the available data, the RDX plumes appear to emanate from the load line areas, and from a cluster of potential sites including the former Burning Grounds and former Proving Grounds near the former Landfill area, as well as the Landfill area itself. The Landfill area is located approximately one mile east of LL4, south of the NRD Reservoir. 2,4,6-trinitrotoluene (TNT) and/or Composition B, which consists of RDX and TNT, were handled at all four load lines (WCC. 1993b). 1,3,5,7-tetranitrol-1,3,5,7-tetrazine (HMX) is a by-product of RDX production, and was detected primarily in Remedial Investigation soil samples near LL2 (WCC, 1993b). TNT and HMX are almost universally co-located with the more prevalent RDX in groundwater.

3.3.2 Historic Activities Related to the Use of TCE at LL1

The northern end of LL1 was formerly used as the Air Force Ballistic Missile Division Tech Area. TCE, as a dense non-aqueous-phase liquid (DNAPL), was allegedly disposed in ditches, possibly between 1959 and 1964 (WCC, 1993b). The high soil gas concentrations located at the northwestern end of Load Line 1 (WCC, 1993b), and the soil vapor extraction pilot test results (WCC, 1996c) support the possibility of this location as a possible release area of TCE. These soil gas concentrations are about one order of magnitude higher than soil gas concentrations found in the AMA area.

3.3.3 Historic Activities Related to the Use of TCE at LL2 and LL3

Historic activities associated with TCE at LL2 and LL3 are unknown. The historic source area of the LL2 TCE plume is assumed to be in the vicinity of the LL2 area, although the location of any releases is unknown. The LL2 and LL3 TCE plumes are much shorter than the LL1 TCE plume or the AMA TCE plume. This may be due to TCE being released at a later date and/or because a smaller amount of TCE solvent was released as compared to the LL1 and AMA sites.

3.3.4 Historic Activities Related to the Use of TCE at LL4/AMA and Landfill area

Based on the available data, separate TCE plumes appear to emanate from the AMA, LL4, and from a cluster of potential sites including the former Burning Grounds, former Proving Grounds and the former Landfill area. TCE solvent was allegedly used to clean liquid oxygen pipelines at the AMA around 1959 and allegedly disposed on the ground. Similar to LL1, the areal distribution of TCE concentrations suggests that a cluster of multiple release areas within the AMA cannot be ruled out. The upgradient extent of the TCE plume near the AMA forms two lobes, one of which is in the center of the ring road connecting the former silos, and the other of which is near a holding pond northeast of the former silos near direct-push location GP-T33-05. The southwestern lobe is located approximately 400 feet south-southeast from the area with the highest soil gas concentrations in 1992 (WCC, 1993b).

The concentrations of TCE in groundwater near the former Burning Grounds, former Proving Grounds and the former Landfill area suggest historic activities related to TCE were minimal as concentrations in groundwater are below 100 µg/L.

3.4 Focused Remediation

Focused remediation at the Site was conducted as two separate pilot studies; one utilizing groundwater recirculation wells and one conducted investigating the use of biologically active zone enhancement.

3.4.1 Groundwater Circulation Wells

Two pilot GCWs were installed in 2000. One GCW system, GCW 1, is located near MW-40 in an area of elevated TCE concentrations north of LL4 and southeast of the former AMA. TCE is extracted from groundwater with an air stripper, and the treated groundwater is returned to the aquifer at a rate of approximately 25 gpm. In 2010, GCW-1 removed approximately 24 lbs of TCE (ECC, 2011d). GCW-1 is still in operation at the Site.

GCW-2 was located in the center of the RDX plume southeast of LL2 (URS, 2001). Groundwater was extracted with a submersible pump and RDX was treated with ultraviolet light. The treated groundwater was returned to the aquifer at a rate of approximately 20 gpm. From 2005 to 2007, GCW-2 removed approximately 1.82 pounds of RDX. The system was shut down in July 2008.

3.4.2 Biologically Active Zone Enhancement

Although it was not part of focused extraction, a Biologically Active Zone Enhancement (BAZE) Pilot Study involving injection of acetate to enhance in-situ RDX degradation was implemented in the LL2 plume approximately 1 mile southeast of GCW-2.

3.4.3 Focused Extraction Wells

FEW-11 is a focused extraction well that extracts TCE mass from the middle portion of the LL1 plume where TCE concentrations exceed 10,000 µg/L, and minimizes the TCE concentrations in the portion of the plume migrating south to EW-12. FEW-14 was installed in 2009 to extract RDX mass from the portion of the LL3 RDX plume where RDX concentrations exceed 10 µg/L. FEW-15 was also installed downgradient of GCW-1 in 2009 to extract TCE mass from the portion of the AMA plume above 10,000 µg/L. Figure 3-3 and 3-4 shows the influent concentration from each of these wells since they began operations.

3.5 LL2 Pre-Pilot Study Investigation and Bench Scale Testing

As part of the Site Pre-Pilot Study Investigation, data was collected to assess physical, geochemical, and biological aquifer conditions and conduct bench-scale treatability studies (ECC and BMcD, 2011a).

3.5.1 TCE

Based on the data gathered at the Site to date, the presence of TCE degradation products and dissolved gases data do not indicate significant reductive dechlorination occurring at LL2. The genetic (microbial) assay results indicated that the organisms required for complete dechlorination are present in the groundwater around the high TCE concentration area at LL2, although in relatively low numbers.

Bench-scale laboratory treatability studies were conducted and the results suggested no significant indications of reductive dechlorination over the course of the laboratory study (approximately 90 days). While the absence of dechlorination over this time period is not unusual, the complete absence of microbial activity and TCE degradation was considered atypical. Based on (1) Pilot Study Investigation results; (2) the observed reactivity of aquifer material collected at LL2 during laboratory and field tests; and (3) literary precedence, at least some TCE degradation (to dichloroethene [DCE]) is expected based on the reducing conditions in this area found during the Pre-Pilot Study Investigation (ECC & BMcD, 2011). The observed lack of reactivity for the Pilot Treatment Area-1 samples may be attributed to aquifer heterogeneity, resulting in treatability sediment samples that were not representative of overall Site conditions (ECC & BMcD, 2011a).

Overall, the laboratory treatability study results indicate that the aquifer may require an extended period of time to develop reducing conditions and the development of an effective dechlorinating microbial community may not be feasible. In general, the results of the bench scale testing further indicate that significant TCE dechlorination is not occurring under natural (unamended) conditions, nor has it been observed based on daughter product detections elsewhere at the Site.

3.5.2 RDX

During the Pre-Pilot Study Investigation, hexahydro-1-nitroso-3,5-dinitro-1,3,5-triazine (MNX), hexahydro-1,3-dinitroso-5-nitro-1,3,5-triazine (DNX), hexahydro-1,3,5-trinitroso-1,3,5-triazine (TNX), formaldehyde, and 4-nitro-diazabutanal detections, were detected in low concentrations. Although concentrations are low, these detections provide direct evidence that some in-situ RDX transformation is occurring via biotic and abiotic processes. In addition, the ferrous iron and dissolved manganese concentrations observed also demonstrate that reductive processes are occurring in the aquifer. These processes are key for both biotic and abiotic RDX degradation.

3.6 Fate and Transport

Advection, dispersion, and retardation are the primary processes controlling contaminant transport. The following section describes the Site plumes and the primary transport mechanisms.

3.6.1 LL1 TCE Plume

The chlorinated solvent TCE is believed to have been released into the subsurface between 1959 and 1964 at LL1, as evidenced by the large-scale TCE plumes with concentrations greater than 1% of TCE solubility. The solubility of TCE is 1,100 milligrams per liter (mg/L) or 1,100,000 µg/L, and 1% of the solubility is 11 mg/L, or 11,000 µg/L. The specific density of TCE solvent is 1.4642 kilograms per liter, which is heavier than water. Thus, TCE solvent is classified as a DNAPL. Although DNAPLs have not been found at the site, United States Environmental Protection Agency (EPA) guidance (EPA, 1992) suggests that TCE concentrations greater than 1% of its aqueous solubility may indicate the possible presence of DNAPL in the subsurface. The extent of the 10,000 µg/L TCE isoconcentration contour within the shallow zone in 2010 was approximately one mile long. The extent of the LL1 TCE plume over 5 µg/L in 2010 was approximately 3.4 miles long and varies in width up to 2,700 ft.

Figures 3-1 and 3-2 show the distribution of TCE as well as concentration trends in interior plume wells. There are some partially interior wells that indicate decreasing concentrations that could be due to slight shifts in the plume (due to turning off EW-8 or the variable operation and pumping rate of irrigation wells) or a natural downgradient migration of the plume. MW-90 in the downgradient portion of the LL1 plume shows a “first arrival” of TCE in the downgradient portion of the plume.

The overall conceptual model for TCE transport is that groundwater flowing past the DNAPL residuals has leached dissolved TCE and created the large-scale TCE plume downgradient of the former source area. This conceptual model is consistent with the extensive field investigation results (Brown and Caldwell, 2007), which did not find any direct evidence of DNAPL in the subsurface. In Section 6 of this modeling report, history matching model simulations are presented using decreasing concentrations in the high concentration area to simulate the presence

of DNAPL residuals. The results of the model simulations produced simulated plumes comparable to the depicted plumes.

3.6.2 LL2 and LL3 TCE Plumes

As discussed in Section 3.3.3, little is known about historic activities using solvents at LL2 or LL3. The maximum concentrations at the LL2 and LL3 TCE plumes are below 200 µg/L. The extent of the LL2 TCE plume over 5 µg/L in 2010 was approximately 1.2 miles long and varies in width up to 1,400 ft. The extent of the LL3 plume over 5 µg/L in 2010 was approximately 2,600 feet long and 800 feet wide. The conceptual understanding of transport of the LL2 and LL3 plumes is that the plumes are generally advecting with groundwater flow and there is no longer a continuing high concentration zone.

3.6.3 LL4/AMA and Landfill TCE Plumes

The TCE plume that emanates from the LL4/AMA areas is approximately 5 miles long. The original TCE solvent release in the suspected AMA historic high concentration area probably has been dissolved and flushed downgradient. The plume that emanates from the Landfill area is approximately two miles long before becoming comingled with LL4/AMA plume for approximately one mile. A bedrock high between LL4 and the former Landfill area and the distribution of contaminants suggest that TCE was released both at the LL4/AMA area and near the Landfill which is east of the bedrock high. Data indicate that these plumes do comingle when the plumes reach the Platte Valley.

Data gathered within the LL4/AMA TCE plume during the Aquifer Characterization indicates TCE is present at high concentrations in the upper portion of the saturated zone along direct push points labeled T79 (Figure 3-1), however, further downgradient, the high concentration core has migrated to the lower portion of the aquifer (ECC, 2011b). The higher concentration core of TCE in groundwater over 500 µg/L is less than 800 feet measured perpendicular to the plume. The analytical data suggest that the TCE elevated concentration core vertically descends within the aquifer as the plume migrates downgradient.

The recent increase in TCE concentrations between 2004 and 2010 at MW-9A and MW-42A (Figure 3-4) resulted from Site pumping at EW-2 through EW-7, EW-9, and EW-10 between 2002 and 2010 which caused a south-southwestward shift in the LL4/AMA plume. Based upon previous groundwater modeling, several of these extraction wells are now turned off (EW-2, EW-5 and EW-10) and the pumping rate has been reduced at other wells.

The conceptual model of the LL4/AMA plume is that because concentrations above 1% of the solubility of TCE are not widely present in these plumes, the primary transport mechanisms are advection and retardation.

3.6.4 RDX Plumes

The distribution of RDX based on the monitoring well and direct-push data (Figures 3-3 and 3-4) provides information to support the fate and transport model assumptions (Section 7.0).

The extents and the level of RDX concentration at each of the RDX plumes are different. The LL1 plume is the shortest RDX plume at approximately 2 miles long and is largely present

only in the shallow layer, which is different from the other RDX plumes. This may be related to the difference of the saturated thickness in different plumes. The lower RDX concentrations in the LL1 RDX plume may be diluted below the Health Advisory (HA) level (2 μg/L) before moving downgradient and/or getting to the intermediate layer.

The LL1 and LL2 RDX plumes have not completely detached from their suspected release areas yet, even though shallow soil associated with production activities was excavated in 1997 as part of the OU1 ROD (OHM Remedial Services, 1998). Within the RDX plumes, there are no strong concentration gradients, (i.e., the concentrations at the suspected release area or upgradient are not higher than the concentrations in the downgradient area.)

The LL2 RDX plume has the highest maximum RDX concentrations (994 μg/L in pre-BAZE pilot sampling in 2003 and 380 μg/L in 2010). The leading edge of the LL2 RDX plume has travelled approximately 3 miles from the center of the load line. This is similar to the leading edge of the LL3 RDX plume indicating that RDX was released at roughly the same time period.

The LL3 and LL4 plumes have the lowest maximum RDX concentrations (49.8 μg/L and 13 μg/L in 2010, respectively). The areal concentration distributions of the LL3 RDX plumes (Figures 3-3 and 3-4) suggest that there is no longer a high concentration area contributing RDX as the current depiction of the RDX plume appears to have detached from the load line.

Analytical data collected at LL3 during the Aquifer Characterization at point GP-T75 show that the highest concentrations of RDX in groundwater are approximately at the midpoint of the saturated thickness of the aquifer. Further downgradient along points GP-T76 and GP-T77, RDX concentrations suggest the contamination is vertically stratified. For example, the maximum concentration at T76-003 was detected at the base of the aquifer, whereas the maximum concentration at T76-001 and T76-002 was detected near the top of the aquifer (ECC, 2011b).

The LL4 and Burning Grounds/Proving Grounds area RDX plumes are not as long as the LL2 and LL3 plumes. This difference in length may result from a change in regional flow direction at the transition from the Todd Valley, where flow is generally to the southeast, to the Platte Valley, where the flow direction is locally to the south.

In general, the RDX plumes are longer or the same length in the shallow layer as they are in intermediate layer, and the concentrations in the shallow layer are higher in the upgradient portions of the plumes than in the downgradient portions, while the intermediate layer concentrations are higher in the downgradient portions than in the upgradient portions. This can also be observed from the concentration temporal trend charts (Figures 3-3 and 3-4). In the upgradient portion of the plume the shallow RDX concentrations are usually higher than the intermediate concentrations in the same well cluster, while in the downgradient portion, the shallow RDX concentrations are generally lower than the intermediate concentrations. This may indicate that the initial RDX plumes originated in the shallow portion of the aquifer in the upgradient area, as would be characteristic of a surface release of RDX as indicated in the conceptual model. Along with the horizontal migration downgradient, the plumes have gradually migrated to the lower portion of the aquifer, due to:

(1) minor downward hydraulic gradients between the shallow and intermediate layers as the result of areal groundwater recharge and seasonal irrigation pumping; and
(2) groundwater containment extraction near the front of the plumes, which has created a downward gradient in the area near the extraction wells.

The LL1 and LL4 RDX plumes are shorter in length than the LL1 and LL4 TCE plumes suggesting that although the plumes are being transported through advection, a higher retardation factor is a component in the overall fate and transport of RDX.

3.6.5 **Retardation**

Dissolved-phase contaminants can be adsorbed to and desorbed from soil during contaminant plume migration; another term for this process is retardation. Adsorption removes dissolved contaminants from groundwater whereas desorption releases soluble contaminants to groundwater. Adsorption/desorption can be an important fate and transport mechanism, and has an effect on the rate of plume migration and the longevity of the contaminant plume. It is also an important consideration for selection of remedial technologies.

The retardation factor depends on both the chemical properties and the aquifer properties. The retardation factor can be expressed as follows:

$$R = 1 + \frac{\rho_b}{n} K_d$$

Where: R is the retardation factor
ρ_b is the bulk density
n is the porosity
K_d is the distribution coefficient.

The bulk density and porosity are aquifer properties. The coefficient of distribution (K_d) is directly proportional to the fraction of TOC (f_{oc}) in saturated soils and to the organic carbon partition coefficient (k_{oc}) for the chemical. If K_d is greater than zero the chemicals in groundwater will migrate at a slower velocity than groundwater or be retarded (Bedient, 1999).

<u>TCE</u>

The adsorption and desorption of dissolved TCE is commonly related to TOC content in the saturated soil and, in some situations, cation exchange capacity (CEC). The GWM08 discussed available TOC data across the Site, although TOC data was collected as part of the Aquifer Characterization the data suggested low concentrations of TOC (below the quantification limit) (ECC, 2011b). As presented previously, the detected TOC concentrations from the analysis of sand and gravel samples ranged between 68 milligrams per kilogram (mg/kg) and 3,690 mg/kg, with a geometric mean of 224 mg/kg, and a standard deviation of 673 mg/kg. The TOC concentrations in clay and silt samples are much higher than those in the sand and gravel samples. The TOC concentration in soil samples collected from the overbank fines ranged between 810 mg/kg and 43,400 mg/kg (in highly organic clay) with the detections having a geometric mean of 4,200 mg/kg and a standard deviation of 17,000 mg/kg. With a typical k_{oc} of 107 liters per kilogram (L/kg) (Knox *et al*., 1993) and a f_{oc} of 2.24E-04 for sands and the average

f_{oc} of 4.2E-03 for clays and silts, the average TCE K_d within the sands is approximately equal to 0.024 L/kg and within the overbank fines or clay zones is estimated to be 0.4 L/kg. The low TOC concentrations in the sands and gravels and the low K_d value are consistent with the fast advective transport as observed at the TCE plumes. The low K_d value implies that the sorption is reversible and desorption and adsorption may occur at similar rates.

RDX

According to Yamamoto *et al*. (2004), adsorption and desorption of RDX is not only proportional to the soil TOC but also depends on soil particle size distribution, pH, CEC, and total iron content. A K_d value for RDX was estimated based on comparison with literature values, the observed RDX concentration distribution at the Site, and historical plume matching model simulations.

Yamamoto, *et al*. (2004) reported that the estimated RDX K_d values in a sandy alluvial aquifer at the Massachusetts Military Reservation varied between 0.072 L/kg in the deep soil to 0.37 (adsorption) and 1.5 (desorption) L/kg in the surficial soil, respectively. The f_{oc} in the deep soil at MMR is 0.04%, which is similar to the f_{oc} value (0.022%) in the sand and gravel unit at the Site.

The transport of RDX at the Site is limited by retardation.

3.6.6 **Biodegradation**

TCE

Biodegradation of TCE at the Site is limited based on data gathered during the Pre-Pilot Study (Section 3.3) and the limited presence of the degradation product, cis-1,2-DCE. Where cis-1,2-DCE is detected in monitoring wells it is found at low concentrations. These observations suggest that biodegradation of TCE is not an important component in TCE fate and transport and therefore a long half-life (in other words low biodegradation rate) of 65 years was used in the model based on professional judgment, this is the same as estimated for the Blaine Naval Ammunition Depot site in Hastings, Nebraska (URS, 2004b).

RDX

McCormick, Cornell, and Kaplan (1981) noted that RDX is resistant to microbial transformation in aerobic soils, but reported RDX biodegradation within anaerobic sludge and described a potential pathway based on the sequential reduction of RDX to MNX, DNX, and TNX. Freedman and Sutherland (1998) subsequently found that RDX biodegrades after nitrate is completely consumed. Bernstein *et al* (2010) estimated RDX biodegradation half lives ranging from 4.4 to 31.2 years based on isotope analysis in the upper 49 feet of aquifer material studied.

As discussed in Section 3.5, low concentrations of MNX, DNX, and TNX were detected and provide direct evidence that some in-situ RDX transformation is occurring via biotic and abiotic processes. In general, the large-scale RDX plumes in the subsurface are not undergoing significant natural biodegradation, a long half-life was used of 65 years based on professional

judgment, this is the same as estimated for the Blaine Naval Ammunition Depot site in Hastings, Nebraska (URS, 2004b).

4.0 GROUNDWATER MODEL CONSTRUCTION

A description of the GWM10 follows including details of the code, model domain and grid, model layers and boundary conditions. Details of the current model and comparison to previous models and data utilized for the 2010 update are documented.

4.1 Code Selection

The MODFLOW-2000 code (Harbaugh *et al*, 2000), a three-dimensional, finite difference groundwater flow computer code, was selected to update the Site groundwater flow model (the MODFLOW-96 code was used for GWM08 and previous model versions). MODFLOW-2000 is a widely used, public domain groundwater flow code that is accepted by academia, industry, and regulatory agencies. MODPATH (Pollock, 1989), a particle tracking code, was selected to evaluate flow paths during flow model calibration and to assist in the transport model history matching. The three-dimensional finite difference groundwater fate and transport code, MT3DMS, (Zheng and Wang, 1998), was selected to simulate plume migration. Pre- and post-processing was performed using Groundwater Vistas V (Rumbaugh, 2007).

4.2 Model Domain and Grid

The numerical model domain covers a rectangular area of 200 square miles as shown on Figure 4-1. The model domain is much larger than the 40 square mile area encompassing the Site plumes. The selection of a larger model domain allows:

- Use of the natural boundaries as model boundaries to reduce potential boundary effects on simulation of remedial alternatives in the plume area.
- Simulation of stream-aquifer interactions that have a significant impact on the groundwater system.
- Simulation of contingency scenarios related to the increase of groundwater extraction at the M.U.D and LWS well fields in the future.

The model origin (left-bottom corner) is located at X= 2,590,000 ft and Y = 460,000 ft in Nebraska State Plane NAD 83 coordinates. There is no rotation of the model grid.

The active model domain comprises portions of the Platte Valley Aquifer, the Todd Valley Aquifer, the Wahoo Valley Aquifer, and the uplands aquifer. Areas outside of these permeable units, the uplands southwest of Wahoo Creek and the uplands east of the Platte River are defined as inactive areas using no-flow model cells.

4.2.1 Refined Grid

The model grid has been further refined in GWM10. Smaller cells were placed around the Site extraction wells and focused extraction wells to better simulate the effects of groundwater extraction. The model cell size ranges from 50 ft by 50 ft around the Site extraction wells and focused extraction wells to 100 ft by 100 ft in the plume areas, and increases to 400 ft by 400 ft in the area near the model boundaries. The model has 442 rows and 521 columns with a total of 631,068 active model cells.

4.3 Model Layers

The vertical discretization of the model generally reflects the subsurface geometry of the principal geologic units that overlie the bedrock. There are three layers in the model. Layer 1, the uppermost layer, simulates the low permeability materials immediately below ground surface, including the Peoria Loess in Todd Valley (loess) and the till uplands; and the Platte Valley and Wahoo Valley overbank fines (fines). Layers 2 and 3 simulate the principal aquifer, which in various portions of the model consists of the Todd Valley alluvium, the Platte Valley alluvium, the Wahoo Valley alluvium, or the uplands aquifer. Figure 4-2 shows three cross-sections of the vertical discretization along two model rows and one model column.

4.3.1 Layer 1

The topographic surface (Figure 2-2) is used as the top of Layer 1 and is the same as that presented in GWM08.

The bottom of the loess and the bottom of the overbank fines (Figure 2-5) are used to define the bottom of Layer 1. In most of the Platte Valley the overbank fines are saturated. The low permeability overbank fines act as a leaky confining unit that impedes but does not prevent upward groundwater flow from the Platte Valley aquifer to the ground surface.

In the Todd Valley and the till uplands area, the bottom of the loess/fine alluvium is much higher than the groundwater table (Figure 4-2), thus, the loess/fine alluvium is unsaturated (i.e., Layer 1 is dry in these areas). In the Wahoo Valley, the fine alluvium is relatively thick in the area south and southeast of the LL1 TCE plume, thus, Layer 1 in this area is saturated; however, Layer 1 in most of the Wahoo Valley is unsaturated.

4.3.2 Layers 2 and 3

Layers 2 and 3 simulate the Platte Valley alluvium, Todd Valley alluvium, Wahoo Valley alluvium, and the till and fluvio-glacial deposits in the uplands. The underlying bedrock surface (Figure 2-3), which was revised based on the borings drilled during 2010 (Section 2.2.1), is set as the bottom of Layer 3. There is no distinct geologic characteristic that distinguishes the upper from the lower portion of the aquifers. The bottom of Layer 2 separates the shallow and intermediate-depth monitoring intervals in the plume area, and is approximately at the middle of the saturated thickness of the alluvial aquifer.

4.4 Boundary Conditions

The model boundary conditions (Figures 4-3 through 4-5) represent the hydrologic interactions between areas inside and outside of the model domain and the interactions between surface water and groundwater.

4.4.1 Rivers

The Platte River, the Elkhorn River, Wahoo Creek, and Silver Creek (Section 2.4) are simulated in Layer 2 (Figure 4-4) using the MODFLOW River package (Harbaugh *et al*, 2000).

4.4.1.1 Platte River

A detailed description of the development of the Platte River boundary conditions is presented in GWM08. There were no changes to the simulation of the Platte River as part of this 2010 model update. During model runs for GWM10, the width of Platte River varies from 1,500 ft to 3,000 ft in the study area, as shown on Figure 1-2. The river width is simulated using three to seven model cells. Each river cell is approximately 400 ft wide. The riverbed of the Platte River is sandy, and is assumed to be physically connected to the sand and gravel beds in the Platte Valley alluvium. Thus, the river cells are specified and simulated in Layer 2 (Figure 4-4), and Layer 1 is not relevant in the area of the Platte River.

The LWS well field, located near Ashland next to the Platte River, extracts approximately 40 MGD of groundwater (Table 2-17), most of which is derived indirectly from the Platte River. The M.U.D Platte West well field near Venice also indirectly derives much of its supply from the Platte River. As the amount of water lost from or gained by the river because of well field pumping is only a small fraction of the total river flow (Section 2.4.1), pumping in these well fields is not expected to significantly change the stage of the Platte River. The minimal change in river stage (Figure 2-6) during well field pumping is not expected to have a significant impact on the groundwater elevations in the plume area, as the distance between the river and the plume area is approximately three miles. Thus, the river stage in the model is assumed to be constant over time.

4.4.1.2 Elkhorn River

The Elkhorn River (Section 2.4.2) has a sandy/silty riverbed, and is specified and simulated with river cells in Layer 2 (Figure 4-4). The river width is generally simulated using one or two river cells. The river stage is also assumed to be constant. Flow statistics presented in Section 2.4.2 did not indicate any particular change from GWM08 therefore the riverbed conductance was not revised during this 2010 model update.

4.4.1.3 Wahoo Creek

Wahoo Creek, because of its relatively high flow rate (Section 2.4.5), is simulated using the MODFLOW River package. Along its course, Wahoo Creek may vary between a gaining or losing stream. Using the river package allows the stream-aquifer interactions to be simulated in two directions (gaining or losing). The riverbed conductance was previously calibrated to approximately match the estimated rate of base flow along the creek used in GWM06 (URS, 2007).

4.4.1.4 Silver Creek

Silver Creek is also simulated using the MODFLOW River package. In GWM08, Silver Creek was simulated using the Drain Package because most of the time the creek is a gaining stream. Occasional flooding has occurred along portions of Silver Creek and has been observed by field crews near the LL1 GTP. These flood events indicates that Silver Creek sometimes provide an intermittent recharge event to the local groundwater. The modeling of Silver Creek was modified to allow for future contingency modeling of flood events. Silver Creek is simulated in Layer 2 as the creek and aquifer are thought to directly communicate. The stream stage

elevations used were based on measured stages in 2009 and 2010. The conductance of Silver Creek remains the same as was presented in GWM06 and GWM08.

4.4.1.5 Open Water Bodies

Other water bodies, such as sand pits near the LWS Ashland well field, Memphis Lake, and NRD Reservoir (Figure 1-2), are simulated using river cells (Figure 4-4). The surface water stages and the conductance were calibrated using the available groundwater elevations in the surrounding areas. The head of the NRD Reservoir was increased by one foot in GWM10 to allow for better calibration of water levels in wells adjacent to the reservoir.

4.4.2 **Creeks**

Clear Creek and Johnson Creek (Sections 2.4.3 and 2.4.4) are simulated using the MODFLOW Drain package. They are simulated in Layer 1 (Figure 4-3) because it was determined that the creeks directly communicate with the overbank fines, rather than the underlying aquifer. This suggests that Johnson Creek and Clear Creek flow through the overbank fines without direct communication with the underlying sand and gravel aquifer.

The streambed conductance of the creeks was calibrated in the GWM08 based on an understanding that the direct hydraulic communication between the creeks and the overbank fines is limited as the leakage rate from the clay silty loam is small because of the low permeability of the overbank fines and the small creek dimensions and was not updated in GWM010.

The bottom elevations of the drain cells of the creeks were specified using the surface water stages measured in March 2007 but are similar to the values measured in 2009 and 2010 (Table 2-4).

4.4.3 **Drain Tiles and Seeps**

The agricultural drain tiles and seeps (Section 2.7) in the Johnson Creek area are simulated in Layer 1 using the MODFLOW Drain package (Figure 4-3).

The simulated drain and seep area remains the same as presented in GWM08. The area east of Johnson Creek, where field observations indicate that culverts connected to drain tiles on the east side of Johnson Creek discharge to the creek, is simulated as drain cells. As indicated by the field drain tile and seep flow measurements presented in the GWM08, most of the upward groundwater flow discharges in the area west of Johnson Creek and only minor flow discharges in the area east of Johnson Creek.

The conductance of the drain cells is assumed to be generally proportional to the size of the model cell and the vertical hydraulic conductivity of the overbank fines. The drain tile elevations are not known exactly but are generally 2 to 3 ft bgs. Both conductance and the bottom of the drain cells were calibrated as part of GWM08 to match the measured drain tile flow rates and were not updated in GWM10.

4.4.4 General Head Boundaries

The northern and southern model boundaries for Layers 2 and 3 are simulated using general head boundaries as shown on Figures 4-4 and 4-5. Use of general head boundaries instead of constant head boundaries provides reasonable boundary fluxes in and out of the model domain when stresses within the model domain increase. The general head values are specified using the interpreted groundwater elevation contours from CENWK and M.U.D. Minor changes to the general head boundaries were implemented during the GWM10 calibration process. These changes were implemented because supplementary-monitoring well measurements from M.U.D and LPNNRD provided additional information on the water levels in the northern portion of the model boundary. Along portion of the northern general head boundary, some of the heads were adjusted; however, no changes to the conductance of the boundary were made.

The external boundaries for Layer 1 are not specified (Figure 4-3), meaning they are no-flow boundaries by default. The flow in the silt/clay overbank deposits is primarily vertical, either downward in the upland groundwater recharge areas, or upward in the valley lowlands because of discharge from the Platte Valley alluvium and the Wahoo Valley alluvium.

4.4.5 No-Flow Boundaries

The loess-mantled till uplands southwest of the Wahoo Valley and east of the Platte and Elkhorn rivers are the natural boundaries of the Wahoo Valley aquifer and the Platte Valley aquifer (Figures 4-4 through 4-5). Thus, they are excluded from the active model domain. There is no hydraulic data available in the loess mantled till uplands, but the very few irrigation wells in the area indicates that the permeability in the uplands is much lower than the major alluvial aquifers included in the active model domain, this is consistent with GWM08.

The loess-mantled till uplands southwest of the Wahoo Valley are separated from the area of interest (i.e., the area encompassing the Site contaminant plumes) by Wahoo Creek and Silver Creek, which are largely gaining streams. The potentiometric surface in the Wahoo Valley shows that groundwater flow is primarily parallel to the axis of the valley and therefore largely perpendicular to the valley walls. Flow from the loess-mantled till uplands, if any, would likely discharge to Wahoo Creek. The amount of flow is expected to be limited based on the relatively low transmissivity postulated by the University of Nebraska Conservation and Survey Division (2005). Consistent with GWM06 and GWM08, the loess-mantled till uplands southwest of Wahoo Creek, and east of the Elkhorn and Platte Rivers are simulated as an inactive area using no-flow cells in GWM10.

The western edge of the model in the northwest corner is defined as a no-flow boundary. Flow is generally parallel to this edge of the model in this area. Furthermore, the western edge of the model is separated from the area of interest by Sand Creek, a gaining stream which parallels the edge of the model.

In addition to the No-Flow boundaries, Layer 1 contains multiple cells that start out “dry” for each simulation. These “dry” cells were converted to no-flow cells during the 2010 model simulations to enhance model convergence and processing.

5.0 GROUNDWATER FLOW MODEL CALIBRATION

Groundwater flow model calibration is the process of adjusting model parameters (such as hydraulic conductivity, recharge, or boundary conditions) until simulated observations (water levels, drawdown, etc.) match measured observations as closely as possible. The following sections describe the 2010 flow model calibration process.

5.1 Groundwater Flow Model Calibration Approach

The groundwater flow model calibration approach requires estimation of hydrologic and hydraulic parameters. The hydrologic parameters estimated include groundwater recharge and evapotranspiration rates. The hydraulic parameters estimated primarily included horizontal hydraulic conductivity distribution, and vertical anisotropy or vertical hydraulic conductivity (Kz).

The calibration process involved adjusting hydraulic parameters within the model domain to match measured calibration targets. Compared to GWM08, the Site-Wide water level measurements include an additional 39 new monitoring wells and four new piezometers that were installed in 2010 as part of the Aquifer Characterization (ECC, 2011b). The total number of water levels from observation and monitoring wells that are included in the 2010 calibration is 439, with over twenty of those wells used for qualitative drawdown comparisons as well as measured head.

The calibration targets for this 2010 model update include:

- Measured groundwater elevations.
- Transient variation of groundwater elevations, including responses to the M.U.D well operations and responses to Site extraction well and focused extraction well operations (e.g. EW-10 shutdown).
- Measured vertical gradients at monitoring well clusters and piezometers.
- Flow direction based on plume orientation.
- Plume migration directions as the direction relates to advection.

The model was run using MODFLOW-2000 (Harbaugh *et al.,* 2000) which allows for simulating steady-state and transient stress periods in one continuous model run, thereby eliminating the need to iterate between a steady-state and transient flow model. The steady state stress period allows for a primary estimation of hydraulic conductivity. The transient stress periods focus on the calibration of storage values and recharge, in addition to further refining the hydraulic conductivity. Calibration starting with a steady-state scenario and followed by transient scenario is recommended in the “Standard Guide for Calibrating a Groundwater Flow Model” (American Society of Testing and Materials [ASTM], 2008).

5.3 Calibration

Flow model calibration goals included:

1. A mass balance error less than 1% of the water budget.
2. An absolute residual mean error of less than 5% of the range of water level measurements.
3. No trend or spatial bias with the residuals.
4. A reasonable qualitative match of model-simulated potentiometric surface and observed potentiometric surface within the area of the plumes (evaluated by comparing contours).
5. A qualitative similarity between water level changes observed in monitoring and observation wells and simulated water levels over time (evaluated graphically).

5.3.1 Calibration Procedure

The model was calibrated under steady-state and transient conditions using a mix of professional judgment and the automated parameter estimation code (PEST) (Doherty, 2010). PEST is a model-independent parameter estimator that is used in the calibration of ground water flow models. PEST has the ability to analyze the range of model prediction values, under the condition that model parameters satisfy constraints imposed by the calibration process. Groundwater Vistas provides an interface to allow PEST use of "pilot points" in conjunction with geostatistically-based regularization criteria in characterizing a three-dimensional model domain. Although PEST can estimate multiple parameters, if the parameter is determined by PEST to be insensitive, no optimization of the parameter will be conducted. Hydraulic conductivity is a very sensitive parameter in this model; therefore, the PEST calibration focused on estimating hydraulic conductivity. Upper and lower limits were placed on the hydraulic conductivity pilot points based on known aquifer hydrostratigraphic characteristics. PEST results were compared to both analytically estimated hydraulic conductivity (K) data and the water table configuration and minor adjustments were made in order to achieve one or more of the calibration goals.

Recharge values for each stress period were adjusted manually based upon precipitation data and changes in observed water levels. Evapotranspiration was adjusted based upon the seasonal variation of ET data as discussed in Section 2.5. Storage coefficients were adjusted based upon aquifer test results and water level changes over the model simulation periods.

5.3.2 Simulation Periods

GWM08 was calibrated to measured groundwater elevations that were not under steady-state conditions. In general, water levels in the Todd Valley have experienced substantial increases between March 2007 and October 2010 as shown in Figures 5-1 (a) through 5-1 (l) as the aquifer recovered from a long multi-year drought. Figure 5-2 illustrates the impact of greater than average summer precipitation on water levels.

The calibration time frame for the GWM10 update overlaps with the GWM08 timeframe in order to more accurately represent the impact of recharge on groundwater levels over time. The simulation time frame for GWM10 calibration starts on March 29, 2007, and ends on August 27, 2010. The entire period includes 22 stress periods. The multiplier for the time steps

is 1.2 (the time step multiplier is the ratio of the length of each time step to that of the preceding time step). The simulation periods and the dates are provided in Table 5-1.

5.3.2.1 Groundwater Extraction

Pumping rates for the initial stress period (March 2007) are consistent to those simulated in the GWM08. For the remainder of the stress periods, actual extraction well and focused extraction wells rates were averaged for each stress period as discussed in Section 2.7. The exceptions to this are the irrigation wells without measured pumping rates. For these wells, the rates presented in Table 2-15 were used.

5.3.3 Calibration Targets

Calibration targets primarily included measured water levels between March 29, 2007 and August 26, 2010. Measured water levels from 2009 to 2010 are shown on Table 2-5. Measured vertical gradients at monitoring well clusters and piezometers, flow direction based on plume orientation, and transient variations of groundwater elevations (including responses to the M.U.D well operations and responses to Site extraction well and focused extraction wells operations) were included as flow model calibration criteria.

5.4 Calibration Results

GWM10 calibration results were detailed using a model water budget, and comparison to hydraulic heads as described below.

5.4.1 Model Water Budget

The first model calibration goal is to evaluate the mass balance error. A model-simulated water budget provides a “big picture” allocation of flow rates and volumes from various sources within the simulated hydrogeologic system. Even though there is limited direct measurement of the water budget component for comparison, the simulated water budget can be evaluated as to whether it is reasonable compared to the conceptual model understanding of inflow and outflow. The water budget for the initial steady-state time step of GWM10 is presented in Table 5-2.

Major inflows to the aquifer consist of flow from the Platte River, precipitation recharge, and flow from the northern portion of the model (represented as the general head boundary). Major outflows from the aquifer include municipal supply well pumpage, extraction well pumpage and irrigation well pumpage (in only transient time steps), flow from the aquifer to the rivers and drains, evapotranspiration, and flow to the southern model boundary (also a general head boundary). The percent error in the water budget is significantly less than 1% indicating a stable model. Therefore, the model meets the first calibration goal.

The transient water budget for the period March 2007 to August 2010 is presented on Figure 5-3. Positive values represent inflow to the water budget domain and negative values represent outflow from the water budget domain.

The most significant outflow from the model domain is from wells. During non-irrigation season, the well outflow primarily includes pumping at M.U.D and LWS well fields and the Site extraction and focused extraction wells. During irrigation season, the total well outflow more

than doubles as the result of irrigation pumping. The next major outflow is ET, which includes ET from the phreatophyte zone along the rivers and the ET from the Platte Valley. Other minor outflows include general head boundary (GHB) cell outflow, drain cell outflow, and river cell outflow.

Groundwater recharge is the largest source of inflow to the aquifer. The GWM10 recharge rate was varied by season (winter/spring) based on changes in precipitation. The other major source of water to the aquifer is river inflow, primarily from the Platte River. The rate of river cell inflow varies with time, increasing during irrigation season and decreasing during non-irrigation season.

In Figure 5-3, storage inflow refers to the amount of water that is released from aquifer storage, while storage outflow refers to the amount of water that goes into aquifer storage. At the beginning of irrigation season, storage inflow increases sharply and then decreases with time, meaning the amount of water coming out of aquifer storage increases sharply as water levels drop suddenly when irrigation pumping starts. Once pumping stabilizes, additional water coming out of storage is reduced. Immediately after the end of irrigation season, the amount of storage outflow (the amount of water going into aquifer storage) increases sharply, meaning aquifer storage and water levels recover quickly. During the non-irrigation season recovery period, the rate of storage outflow gradually decreases. Figure 5-3 presents the simulated transient water budget for GWM10 (March 2007-August 2010), the mass balance error for each of the stress periods was less than 1%.

5.4.2 **Comparison of Hydraulic Heads**

Comparison of observed heads and simulated heads was completed in several different manners including, direct measurements versus simulated value, changes over time and an evaluation of the simulated potentiometric surface and measured potentiometric surface.

5.4.2.1 Residuals

Evaluation of an absolute residual mean error is the second criteria used to evaluate flow model calibration listed in Section 5.2. Water level measurements from over 400 wells, including CENWK monitoring and observation wells (in shallow and intermediate layers), LPNNRD, LWS, M.U.D, and USGS monitoring wells were used as the calibration targets. Well locations are shown on Figures 1-2 and 1-3. The observed water levels at these wells are listed in Table 2-5.

Simulated and observed hydraulic heads for the initial steady-state stress period is compared in Table 5-3 and graphed on Figure 5-4. One of the industry standard goals for groundwater flow model calibration (the second calibration goal) is absolute residual mean error is less than 5% of the range in water level measurements. As shown in Table 5-3, the absolute value of the residual mean divided by the range of hydraulic head values within the model domain (denoted as "Scaled Abs. Mean" in Table 5-3) is less than 1% for the steady state GWM10 time step. The residual mean for this time step is below 0.05 ft. These statistics indicate an acceptable calibration. However, these are not the only goals or criteria for evaluating the calibration results (Section 5.2). Given the complexity of the system and the uncertainties of the data, the initial

time step representing March 2007 steady-state results are considered only one part of the model calibration.

Calibration statistics for the August 2010 time step is provided in Table 5-4 and graphed on Figure 5-5. Calibration statistics for the remaining transient time step results are presented in Appendix C. For each measurement event of GWM10, the absolute residual mean error met the goal of being under 5% of the range of water level measurements. The actual values range between less than 1% and 1.2%.

The third calibration goal is to verify there is no spatial trend or bias to the residuals. Residuals of simulated and observed hydraulic heads are graphed and posted for March 2007 on Figure 5-6. The matches between the observed and simulated heads at CENWK wells are reasonable. The head matches at the other wells vary, depending on their locations. Some wells are located in the heavy pumping area, such as the LWS well field, where the simulated groundwater elevations may not match the observed elevations because the assumed average pumping rate distribution to individual wells may not be the same at the time of the water level measurements.

In addition, simulated and observed heads in some wells located in the northern uplands aquifer may not match well, because there are only a small number of measurements and the information on the lithology and/or hydrostratigraphy is limited. Some measurements from wells that are close to each other have large differences in groundwater elevations, such as several monitoring wells in the southern end of LWS well field. At the margins of the model the residuals are larger therefore the model may be less accurate at the model margins. However, within the Site boundary where model accuracy is most important the majority of the residuals are small indicating a reasonable calibration of GWM10.

The fourth calibration goal is to compare the model-simulated potentiometric surface and observed potentiometric surface within the area of the plumes. The simulated and observed potentiometric surfaces of the intermediate aquifer from August 2010 are presented on Figure 5-7. The overall simulated surface is similar to the observed, with some differences due to data density, such as in the Till Upland where observed water level data is sparse. This comparison also indicates an acceptable calibration of GWM10.

5.4.2.2 Comparison of Simulated Hydrographs

The fifth calibration goal is to compare observed and simulated water levels over time. For GWM10, the simulated and observed groundwater hydrographs were compared at three types of wells:

1. CENWK monitoring wells;
2. CENWK observation wells; and
3. M.U.D monitoring wells.

Comparison at CENWK monitoring wells focused on evaluating the change of regional groundwater levels in relation to the estimated seasonal groundwater recharge and changes in pumping. Comparison at CENWK observation wells and M.U.D hydrographs focused on

verification of the calibrated hydraulic conductivities in the vicinity of the Site extraction wells, focused extraction wells, or the M.U.D water supply wells.

CENWK hydrographs for selected monitoring wells are presented in Figure 5-8a through Figure 5-8o. The simulated and observed water level changes over time have a close match in many of the wells, suggesting GWM10 accurately represents changes in recharge and extraction well pumping. Selected M.U.D hydrographs are presented in Figures 5-9a through 5-9d. The observed water levels taken by a transducer show variations due to Platte River stage and daily changes in M.U.D pumping rates. However, the simulated water levels follow the general trend of the M.U.D water levels indicating an acceptable calibration.

5.5 Calibrated Hydraulic Parameters

During the process of calibration for GWM10 hydraulic conductivity, transient values for recharge, and to a lesser extent ET and storage were varied within reasonable ranges. Hydraulic conductivity values were varied during calibration over the range 0.1 ft/day to 1,000 ft/day depending on location and existing aquifer test data. As part of the calibration process recharge values were varied between 15% and 30% of the total precipitation in a stress period which is between 0.0004 ft/day to 0.00755 ft/day (0.0048 inches per day to 0.09 inches per day). ET values during calibration were varied in the Todd and Platte Valley between 0.001 ft/day to 0.02 ft/day, which is within the range of values presented in Tables 2-13 to 2-15. ET values were higher in the phreatophyte zone and were varied during calibration between 27 inches per year to 41 inches per year (0.006 ft/day to 0.0094 ft/day) as presented by Szilagyi (2009 and 2010). The range of storage parameters tested during calibration was from 0.01 to 0.001.

5.5.1 Calibrated Hydraulic Conductivity Distribution

No changes were made to the hydraulic conductivity of Layer 1 from GWM08. The hydraulic conductivity of overbank fines of Layer 1 is 1 ft/day. Layer 1 is only active in a small portion of the model domain, to represent shallow groundwater in the Platte Valley, and there are few targets. The model calibration was based on the reasonableness of the simulated flow rates at the drain tiles discussed in GWM08.

The GWM10 calibrated hydraulic conductivity distribution of the aquifers (which is assumed to be the same for Layers 2 and 3 as it was in previous versions of the model) is presented with Figure 5-10. The estimated hydraulic conductivities vary between 10 ft/day and 600 ft/day over the entire model domain. The hydraulic conductivity in the Platte Valley is high, ranging from 240 ft/day to 600 ft/day with a majority of the area ranging between 550 and 600 ft/day. These values are consistent with the LWS pumping and the M.U.D pumping results, as well as previous versions of the Site model and other modeling reports. Near the eastern boundary of the Todd Valley aquifer near the confluence of Johnson and Clear Creeks (partly in the Platte Valley and partly in the Todd Valley), the hydraulic conductivity is also high, approximately 400 ft/day, and is consistent with previous pumping test results at EW-1 and EW-2.

In the Todd Valley aquifer, hydraulic conductivity generally varies from 55 ft/day to 350 ft/day. The hydraulic conductivity array for GWM10 was updated near FEW-11, FEW-14, FEW-15, and FEW-16 during the calibration process. As discussed in Section 2, aquifer tests were conducted at FEW-11 and FEW-15 in 2010. In addition FEW-14 operations have provided

additional data on water levels in the area of FEW-14 and the hydraulic conductivity was adjusted accordingly.

In the Wahoo Valley aquifer, the estimated hydraulic conductivity ranges between 80 ft/day and 150 ft/day. However, the numerous drawdowns measured at the observation and monitoring wells near EW-12 and EW-13 (located at the boundary of the Wahoo Valley aquifer and the Todd Valley aquifer) result in an estimated hydraulic conductivity value as low as 20 ft/day and 10 ft/day, respectively. These values are consistent with the various field test results, including some of the slug tests presented in Table 2-2. However, the observed heterogeneity in this area is not fully represented in GWM10 for simplicity, and the hydraulic conductivities used are considered areal estimates.

The hydraulic conductivity was adjusted during the calibration process for GWM10 in the Till Uplands. The amount of stratigraphic and hydraulic data is a small compared to the other aquifers in the model area. The hydraulic conductivity estimated for the Till Uplands aquifer range between 25 ft/day and 230 ft/day, and these values should be considered approximate for these heterogeneous strata.

The horizontal to vertical anisotropy ratio was assumed to be 10:1 for all layers in the calibrated model. Sensitivity analysis was conducted for GWM10 using a horizontal to vertical hydraulic conductivity ratio of 1:1 and 100:1 for model Layers 2 and 3 (see Table 5-5). It was found that the simulated hydraulic heads and fluxes in the steady-state model are relatively insensitive to changes in the ratio for Layers 2 and 3. The insensitivity of the model results to vertical anisotropy ratio is primarily because Layers 2 and 3 are one aquifer and the vertical head difference between the two layers is minor (a few percent of a foot) . Relatively strong and consistent vertical hydraulic gradients in the Todd Valley Aquifer only exist in a few locations (Section 2.7.2), including downward gradients south of the NRD reservoir as observed at MW-53, MW-54, and MW-55 and downward gradients in some wells in the vicinity of the extraction wells. With an increase of vertical anisotropy ratio in this area to 100:1, the simulation results are slightly improved, but still do not closely match the observed heads at these well clusters.

The steady-state time step simulated groundwater discharge rates at the drain tile area along Johnson Creek are sensitive to the variation of vertical anisotropy ratio in Layer 1. This is because the simulated drain flux is sensitive to the vertical hydraulic conductivity of Layer 1 (overbank deposits).

5.5.2 **Calibrated Recharge**

The amount of precipitation that recharges the aquifer is equal to the total precipitation minus runoff, evaporation to the atmosphere, transpiration by plants, and the amount of moisture captured and stored in the unsaturated zone. The percentage of total precipitation that results in recharge is also a function of rate of rainfall, terrain, soil parameters, and vegetation type, and climatic variables (solar intensity, temperature, relative humidity, etc). Direct measurement of the recharge to groundwater is generally not possible on a regional scale. However, published studies provide estimates for the Saunders County area ranging from 3.5 to 4.3 inches/year, with the long-term mean total recharge ranging from 3.9 to 5.9 inches/year (Szilagyi *et al*., 2009). This is compared to the total annual precipitation at the Ashland and Mead stations of

approximately 28 inches per year (Section 2.5.1). This suggests that the long-term average recharge is approximately between 12 and 21 percent of precipitation. It is likely that the percentage of recharge exceeds the mean in wet years, because although there may be more runoff, a smaller percentage of infiltration is evaporated, absorbed as soil moisture, or transpired by vegetation.

Review of the Site-Wide groundwater hydrographs (Figures 5-1a through 5-1J and Figures 5-2) suggest that groundwater recharge for 2007 through 2010 has been higher than average. The percentage of recharge varied between 20% and 27% of precipitation based on model calibration during these stress periods. Groundwater recharge rates were varied during each stress period to account for changes in precipitation in order to match observed increases in water levels for GWM10. Recharge rates were initially estimated based on the precipitation data (Table 5-5) and adjusted through trial and error by comparison of simulated and observed Site-Wide groundwater level fluctuations. Seasonal recharge rates were initially estimated in the Todd Valley, and applied to the Platte Valley based upon professional judgment and model calibration results. The estimated recharge rates for the 22 stress periods are presented in Table 5-6.

5.5.3 Evapotranspiration

Groundwater ET occurs in the overbank fines of the Platte Valley and the Wahoo Valley because of the shallow depth to groundwater. The low permeability of the overbank fines also enhances groundwater ET (Bouwer, 1979). The depth to groundwater in the Platte Valley and the Wahoo Valley varies from less than one foot to a few ft bgs. The depths to water in the Todd Valley are much deeper (approximately 40 to 70 ft bgs) and therefore ET is not a significant water budget parameter because the extinction depth (i.e., the depth at which groundwater ET is zero) is assumed to be 6 ft bgs (Bouwer, 1978). A phreatophyte zone along the Platte River and the Elkhorn River is simulated in GMW10 and corresponds to a higher ET rate and is assumed to be approximately 2.4 inches/month (6.67E-03 ft/day). The distribution of ET is similar to the regional scale ET estimation produced by Szilagyi (2009 and 2010). As shown in Figure 2-12, the ET varies over the course of the year with the highest ET in the summer months. Groundwater ET was varied for by stress period and is presented in Table 5-6.

5.5.4 Calibrated Storage Coefficient

The estimated specific yield, specific storage, and effective porosity from the calibration are summarized in Table 5-7. These values of specific yield and effective porosity are within published ranges for similar materials (Freeze and Cherry, 1979). The value for specific storage is similar to pumping test results analysis conducted at EW-1, EW-13, EW-14, FEW-15 and EW-16 (GWM08). Decreases in the storage values tend to cause more rapid increases and decreases in groundwater levels in transient simulations.

5.5.5 Calibrated River Boundary Conductance

As mentioned in Section 4.4.1 the boundary conductance for the Platte River, Elkhorn River, and Wahoo Creek were not modified during this 2010 model update. The conductance of Silver Creek using the MODFLOW river package was estimated to be approximately that of Silver Creek when it was represented as a drain boundary condition in previous simulations.

Sensitivity analyses conducted on previous versions of the Site groundwater models suggest that conductance is a relatively insensitive parameter and therefore it was not modified for GWM10.

5.6 Sensitivity Analysis

Based on the "Standard Guide for Conducting a Sensitivity Analysis for a Ground-Water Flow Model Application" (ASTM, 1994), the purpose of a sensitivity analysis is to assess the adequacy of the model with respect to its intended function. In general, the sensitivity process identifies model inputs that are likely to affect calibration residuals and/or the model results based on the predictive simulations. The model calibration process described in the previous sections of this groundwater model update is actually a continuous sensitivity analysis process to identify the sensitive input parameters that reduce the model calibration residuals. For the GWM08 calibration, the more sensitive parameters were hydraulic conductivity in Layers 2 and 3, followed by the ET extinction depth, and groundwater recharge respectively. The less sensitive parameters included general head boundary conductance and the riverbed conductance of Wahoo Creek and the Elkhorn River because of their significant distance from the area of interest where data are most concentrated. The GWM08 sensitivity analysis was the rational for not modifying the conductance of the river cells and GHB cells during the GWM10 calibration process.

To quantify the effect of change in model parameters on the GWM10 calibration results, systematic sensitivity analyses were conducted. Sensitivity analysis conducted on GWM06 suggested that general head boundary conductance was relatively insensitive; however, it was found during this calibration process that the general head boundary conductance impacts the overall water budget, but does not impact the simulated versus observed water levels. In addition, the GWM10 PEST analyses provided information on sensitive parameters and confirmed hydraulic conductivity is a sensitive parameter (Appendix D provides a PEST output file).

The GWM10 parameters selected for systematic sensitivity analysis included recharge, hydraulic conductivity, storage, and anisotropy. Sensitivity analysis of anisotropy was discussed in Section 5.4.1. Typically hydraulic conductivity is one of the most sensitive parameters, as is the case for this model. Modifying the entire hydraulic conductivity array by 10% did not significantly change the model calibration; however, PEST simulations indicated that modifying the distribution of hydraulic conductivity has a much greater impact on model calibration.

During the GWM10 calibration it was determined that recharge is a very sensitive parameter. Table 5-4 shows the sensitivity of recharge on the initial time step and the final transient time step. In general, decreases in recharge decrease groundwater levels and vice versa.

The sensitivity of the storage coefficients is relevant only to the transient time steps. Decreases in storage values cause more rapid increases and decreases in groundwater levels. Table 5-4 shows the relative sensitivity of storage changes for GWM10.

Further sensitivity analysis related to predictive simulations is discussed in Section 7.

6.0 GROUNDWATER SOLUTE TRANSPORT MODEL

There is a great deal of uncertainty associated with the timing and quantity of contaminant releases at the Site. A quasi-calibration of the groundwater plumes using history matching was performed to address some of this uncertainty; however, because of the number of unknowns this history matching provides an estimate given current data.

The previous model updates have used a combination of particle tracking and transport simulations for history matching of plume migration pathways and plume migration on a Site-Wide scale and in specific areas of the Site. The current understanding of the plume migration pathways is generally consistent with GWM08, thus the GWM10 groundwater solute transportation model primarily focused on history matching transport simulations for prediction of future transport, with emphasis on LL1. LL1 was selected for history matching because it has the most data available for plume characterization and it also has the highest TCE concentrations, in some cases approximately 1% of the solubility limit, indicating high concentration areas remain.

6.1 Computation Algorithm

The hybrid method of characteristics (HMOC) was used during transport simulations. MT3DMS offers five computation algorithms and states that "no single numerical technique has been shown to be effective for all transport conditions" (Zheng and Wang, 1998). HMOC is a hybrid of the method of characteristics (MOC) (which was used in GWM08) and the modified method of characteristics (MMOC). The HMOC solution combines the strength of the MOC for eliminating numerical dispersion with the computational efficiency of the MMOC. The mass budget error for the HMOC runs was approximately one percent, which is acceptable based on industry standards. Under most algorithms some numerical dispersion and therefore error is expected. However, according to Konikow (Konikow, 2011) errors in the conceptual model of transport (i.e. uncertainty in historic high concentration area simulation as discussed below) are likely to be the predominant source of predictive error.

6.2 Quasi-Calibration

A series of solute transport simulations were conducted using a steady-state model to verify the fate and transport parameters used in GWM08 and to attempt to simulate the historical migration directions, extents, and contaminant distribution within each of the Site contaminant plumes. The model used for the solute transport simulations was similar to the GWM08 steady- state model.

The advection of the plumes is dependent upon calibrated parameters of the flow field such as hydraulic conductivity, recharge, and boundary conditions. However, the simulated extents and concentrations of the plumes are highly dependent on the assumed number, location, extent, timing, volume, and concentrations of the assumed releases to groundwater, as well as the assumed retardation and dispersion.

In order to perform the history matching of the plume migration in GWM10, assumptions were needed to be made about the high concentration (release) areas. Because the actual history and conditions near the releases are uncertain, the locations, timing, and concentrations of

hypothetical sources had to be assumed in order to perform transport calibration through history matching. In the history matching simulations, constant or decreasing concentrations were applied in the vicinity of the potential areas of historic contaminant releases discussed in Section 3.0. Based on the assumed release time, the Kd was adjusted to simulate retardation.

It should be noted that assumptions about the high concentration areas were selected based only on the general comparison of simulation results. It is likely the history matching results can be re-created using several different assumptions of specified concentration cells with different locations, levels, and timing. Thus, the specified concentration cells cannot be considered to represent the actual historic high concentration areas, but are only hypothetical starting conditions that present one of many possible non-unique solutions for approximating the observed plumes. The actual historic high concentration area conditions are complex, and the precise location, quantity, and variation over time of the historic high concentration areas can most likely not be known with certainty. Thus, history matching is not an attempt to identify the exact historic high concentration area conditions through modeling, but rather an attempt to calibrate the transport model via simulating the current plumes (extent, concentrations, etc.) through a best estimate of the release(s) based on site specific knowledge and professional judgment.

Multiple history matching simulations were evaluated for this quasi-calibration exercise for GWM10. A summary of the history matching simulations evaluated is included in Appendix E.

Quasi-calibration goals during the history matching were to:

1) approximate 2010 TCE and RDX isocontour concentrations in the downgradient direction,
2) match “first arrival” time at monitoring wells if available, and
3) generally match the downgradient travel distance of the observed concentration distributions.

6.2.1 **History Matching Simulation Results**

The GWM10 history matching simulation results generally match the observed migration directions, extents, and concentration distribution of the plumes. However, due to the complexity of field conditions and variations of irrigation well pumping over 50 years, the simulated plumes can only mimic the general shape of the observed concentration distributions.

<u>LL1 TCE</u>

As discussed in Section 3.6.1, the conceptual model for TCE transport at LL1 is that groundwater flowing past high concentration zone DNAPL residuals has leached dissolved TCE and created the large-scale TCE plume downgradient of the suspected historic high concentration area. Based on the understanding of historic activities related to the use of TCE at LL1, the GWM10 simulations assumed TCE use at LL1 from 1959 to 1964.

A decreasing concentration (Figure 6-1) was used for history matching of the LL1 TCE plume, similar to the approach used in GWM08. Consistent with GWM08, the potential area of historic contaminant release was assumed in the southwest side of LL1. In GWM10, the decreasing

concentration was applied in Layers 2 and 3 in the model across an area extending approximately 800 feet (north/south) by 400 feet (east/west). History matching simulations suggested that retardation limits the advective transport of the LL1 TCE plume as well as the other plumes, therefore a Kd value was applied. Consistent with GWM08, a Kd value for LL1 in both Layers 2 and 3 was used in GWM10 to simulate the equivalent effect of TCE solvent residual with a finite mass that is slowly dissolved or desorbed. GWM10 used Kd values of 0.2 L/kg and 1.0 L/kg at the LL1 potential area of historic contaminant release while a uniform Kd value of 0.1 L/kg was used downgradient of the LL1 potential area of historic contaminant release.

The simulated LL1 TCE plume migration after 52 years is shown on Figure 6-2. Comparison of the simulated plume (shown as filled color contours) and the depicted plume (the contours from Figures 3-1 and 3-2 shown as unfilled black contour lines) indicates that the contaminant distribution and shape of the simulated plumes are similar to the observed plumes.

As depicted on Figure 6-2, the simulated plumes have a long and narrow central zone of high concentrations similar to the interpreted TCE plumes. The highest observed concentrations and the highest simulated concentrations are presented below:

	Observed	Simulated
Layer 2	16,000 µg/L	15,000 µg/L
Layer 3	13,000 µg/L	17,000 µg/L

The MW-90 monitoring well cluster near the southern extent of the LL1 TCE plume was used as a “first arrival” point of the TCE plume during the history matching simulations. Figure 6-3 illustrates the observed concentrations and the simulated concentrations at the MW-90 monitoring well cluster. TCE was detected above the Final Target Groundwater Cleanup Goals in MW-90B at 5.4 µg/L in September 2005 and serves as a marker to indicate the approximate arrival of the TCE plume at this location. Monitoring events through 2010 have generally shown a continued increase in TCE concentration (450 µg/L in the Third Quarter 2010, with a maximum of 560 µg/L in the First Quarter 2010). MW-90A has exhibited the same general increase in TCE concentration as MW-90B. The history matching simulations indicated TCE arrival at MW-90B around 1999 (TCE concentration greater than 1 µg/L) and TCE concentrations reaching greater than 5 µg/L around 2001.

<u>LL1 RDX</u>

As discussed in Section 3.6.4, the LL1 RDX plume has not completely detached from the suspected historic high concentration area, and there are no strong concentration gradients throughout the plume, i.e., the concentrations at the suspected release area or upgradient are not higher than the concentrations in the downgradient area.

A decreasing concentration (Figure 6-4) was used for history matching of the LL1 RDX plume for GWM10. A high concentration area was assumed in the southwestern portion of LL1.

The decreasing concentration was applied in Layer 2 across an area extending 500 feet (north/south) by 200 feet (east/west). A Kd value was assumed for LL1 in both Layers 2 and 3 to simulate the equivalent effect of RDX sorbing to available organic carbon and RDX that is slowly introduced into the groundwater by infiltration. A Kd of 1.0 L/kg was used in the vicinity of the potential area of historic contaminant release and a Kd of 0.2 L/kg was used throughout the rest of the RDX plume area.

The simulated LL1 RDX plume migration after 47 years is shown on Figure 6-5. Comparison of the simulated plume (shown as filled color contours) and the interpreted plume (the contours from Figures 3-3 and 3-4 shown as unfilled black contour lines) indicates that the length of the simulated plume is similar to the observed plume and the simulated plume generally matches the downgradient travel distance of the observed concentration distributions.

As depicted on Figure 6-5, the simulated plumes have a contaminant distribution similar to the interpreted plumes. The highest observed concentrations and the highest simulated concentrations are presented below:

	Observed	Simulated
Layer 2	61.6 µg/L	66 µg/L
Layer 3	29.8 µg/L	15 µg/L

LL2

Current LL2 TCE plume interpretations show the high concentration zones of TCE are located downgradient of the LL2 suspected source area, indicating that the plumes have detached from the potential area of historic contaminant release and are generally advecting with groundwater flow and there is no longer a continuing high concentration zone. Since little is known about historic activities using TCE at LL2, history matching simulations were not performed for GWM10 for the LL2 TCE plume.

As discussed in Section 3.6.4, the LL2 RDX plume has not completely detached from the potential area of historic contaminant release however there are no strong concentration gradients throughout the plume. Appendix E describes RDX history matching iterations performed for GWM10. It was determined through history matching that the GWM08 assumptions of transport for LL2 were valid.

LL3

Current LL3 TCE plume interpretations show the highest concentration zones of TCE (~100 µg/l) are located downgradient of LL3, indicating that the plume has detached from the potential release area and the plume is generally advecting with groundwater flow. Since there is no high concentration zone and little is known about historic activities using TCE at LL3, history matching simulations were not performed for GWM10 for the LL3 TCE plume.

As discussed in Section 3.6.4 the areal concentration distributions of the LL3 RDX plume suggest that there is no longer a high concentration area contributing the LL3 RDX plume, as the RDX plume appears to have detached from the load line area. The history matching of the LL3 RDX plume for GWM10 is included in Appendix E and the best fit results suggest there is no need for a continual mass input (i.e., specified concentration cells).

LL4/AMA TCE

Current LL4/AMA TCE plume interpretations show the highest concentration zones (>1000 µg/l) are located in the upper portion of the aquifer near the AMA and migrate to the lower portion of the aquifer further downgradient. The TCE plume emanating from the Landfill area is characterized by low level concentrations (<100 µg/l) throughout its extent.

As discussed in Section 3.6.3, the conceptual model for TCE transport at LL4/AMA is advection and retardation. Based on the understanding of historic activities related to the use of TCE at LL4/AMA, the simulations assumed TCE use at LL4/AMA in the late 1950s and early 1960s. For GWM10, concentrations in specified cells at the AMA and the Landfill area were decreased over time until they were reduced to 0 µg/l in the 1980s and provided the best match. This simulation is discussed in more detail in Appendix E.

LL4 RDX

As discussed in Section 3.6.4, LL4 and Burning Grounds/Proving Grounds area RDX plumes are shorter and lower in concentration than the RDX plumes at the other load lines. The LL4 RDX plume appears to have detached from the LL4 area. Relatively low concentrations (just above the HA for RDX) remain in the upper portion of the aquifer at the Burning Grounds/Grounds area and downgradient throughout the plume in the upper and lower portion of the aquifer. Monitoring well results throughout the plume generally show decreasing concentrations. Due to the relatively low concentrations that are present and the decreasing concentration trends, history matching simulations were not performed for GWM10 for the LL4 and Burning Grounds/Proving Grounds area RDX plumes.

6.2.2 **Transport Parameters**

The fate and transport parameters include dispersivity, soil-water distribution coefficient (Kd), and rate of biodegradation (half-life). The values used for these parameters in GWM10 are consistent with GWM08 and are presented in Table 6-1.

As discussed in GWM08, because the observed plumes, especially the high concentration zones, are very narrow in comparison to their lengths, small transverse dispersivity values were required to match the plume shapes. Consistent with GWM08, a biodegradation half-life of 65 years was used in GWM10 for TCE which is also consistent with Site data discussed in Section 3.6.6 that indicates degradation is not occurring within the TCE plumes which is consistent with field data.

Consistent with GMW08 and discussed in the preceding section, the retardation of the plumes is significant, and variations in Kd were made in GWM10 to match observed data. As discussed in Section 3.6.5, based on f_{oc} values the estimated Kd for TCE at the Site ranges between 0.024 L/kg and 0.4 L/kg, the TCE Kd values used in the leading edge of the plume are within this

range. Yamamoto, et al. (2004) reported that the estimated RDX K_d values in a sandy alluvial aquifer at the Massachusetts Military Reservation varied between 0.072 L/kg in the deep soil to 0.37 (adsorption) and 1.5 (desorption) L/kg in the surficial soil, respectively. The Kd values used for the RDX simulations are within this published range. Local variations in Kd simulate possible remaining historic high concentration area residuals and heterogeneous geologic conditions.

7.0 GROUNDWATER MODEL FOR PREDICTION

The previously developed optimal Site extraction well pumping schedule (GWM08) needed to be updated in GWM10 because of the various updates to GWM10, including the following:

1. the revised hydraulic conductivity array
2. the revised extent of contamination, and
3. revised high concentration area assumptions at LL1

The groundwater transport model was run in a predictive (forward in time) simulation starting from August 2010 for 100 years. Analysis of predictive model runs indicated the GWM08 pumping schedule required modification. The proposed pumping rates were developed for overall capture of the current depicted extent of TCE over 5 µg/L and RDX above 2 µg/L. These are not necessarily minimum pumping rates in order to maintain capture.

This GWM10 predictive model was also used to conduct uncertainty analyses to evaluate the sensitivity of the model prediction results to reasonable parameter changes.

This predictive model is used as a tool to:

- Support the annual CE;
- Design and/or modify a real-time operational rule for the Site operation based on results from the CE;
- Modify the Site pumping schedule if irrigation practice changes near a plume; and
- Develop an optimal long-term monitoring plan.

However, the predictive model is developed based on the long-term average conditions for many stresses to the aquifer. If some of the stresses change from the assumptions in this model update, the predictive model will need to be modified. This predictive model is also subject to the limitations discussed in Section 8.

7.1 Groundwater Flow Model for Predictive Simulation

The model used for predictive simulations is a modification of the calibrated model. A groundwater flow and contaminant transport model that simulates the next 100 years was developed for use in predictive simulations. The boundary conditions for the predictive model are the same as in the calibrated model. The predictive model's hydrologic and groundwater extraction conditions for next 100 years are specified as follows:

- Two stress periods for each year; a non-irrigation season of 273 days and an irrigation season of 92 days; 201 stress periods total;
- Groundwater recharge and ET rates are assumed to be the estimated long-term average;
- Irrigation pumping rates are assumed to be the long-term average which is the same assumption used in the GWM08;
- LWS pumping rates are increased following the projected growth in demand as shown in Table 7-2 (Black & Veatch, 2003);
- M.U.D pumping rates are specified at the maximum permitted annual average rate of 52 MGD (Table 7-3);

- Municipal pumping rates for Ashland, Ithaca, Mead, and Memphis are assumed to be the average rates from 2010 (Section 2.6.2).;
- Former NOP pumping rates are assumed to be the proposed optimized pumping rates (Section 7.1.1); and
- The calibration model simulated hydraulic heads for August 2010 are used as the initial heads.

7.1.1 Proposed former Nebraska Ordnance Plant Pumping Schedule

Groundwater optimization modeling was conducted using the predictive model described above to optimize pumping rates for both containment wells and focused extraction wells. Several model runs were performed to estimate pumping rates that would result in plume containment over the next 30 years. These suggested pumping rates were developed for overall capture of the current depicted extent of TCE over 5 µg/L and RDX above 2 µg/L. These are not necessarily minimum pumping rates in order to maintain capture. The proposed pumping schedule developed during the optimization process is presented in Table 7-1. The proposed optimized pumping schedule developed using the GWM08 model was applied to the GWM10 model update for the 30-year predictive simulation to estimate if the proposed extraction well pumping rates would yield similar results. Compared to GWM08, the pumping rates were increased in future management periods at EW-4, EW-12 and EW-13 to maintain capture of the TCE and RDX plumes in future time periods.

7.2 Fate and Transport Model for Predictive Simulation

Predictive fate and transport modeling is described below including both the assumed initial Site contaminant plume conditions, and the assumptions about the high concentration areas within the contaminant plumes.

7.2.1 Initial Plume Conditions in 2010

The depicted TCE and RDX plumes (Figures 3-1 through 3-4) were used as the initial plume conditions for the predictive transport simulation. These plumes were interpreted based on data from various investigations (see Section 3.2).

7.2.2 High Concentration Area Assumptions

<u>LL1 TCE Plume</u>

As discussed in Section 6, the history matching simulation of the LL1 TCE plume from the 1960s through 2010 conservatively assumed that there are still some high concentration areas existing on the southwest side of LL1 in 2010. For GWM10, there are specified concentration cells in the area of highest concentration at LL1 that decrease over the next 20 years (Table 7-4).

<u>LL2, LL3, LL4/AMA and Landfill TCE Plumes</u>

The original TCE solvent release in the suspected AMA historic high concentration area (Section 3.6.3) probably has been dissolved and flushed downgradient. The TCE plumes emanating from LL2, LL3 and the Landfill suggest low concentrations. Thus, for the GWM10 predictive

simulation, no specified concentration cells are assigned for these plumes. This is the same assumption that was assumed in GWM08.

LL1 RDX Plume

As discussed in Section 6, the history matching simulation of the LL1 RDX plume from the 1960s through 2010 conservatively assumed that there is still some mass loading at the southwest side of LL1 in 2010. For GWM10, there are specified concentration cells in the area of highest concentration at LL1 that decrease over the next 12 years (Table 7-4).

LL2, LL3, LL4/AMA and Landfill RDX Plumes

RDX has not been detected recently in groundwater in the LL3 and LL4 former area of operations. RDX groundwater concentrations in the LL2 and the Landfill/Burning/Proving Grounds (Figure 3-3 and 3-4) have been low and decreasing. Thus, in the predictive model, it is assumed that there are no specified concentration cells for the RDX plumes.

7.3 Predicted Fate and Transport of Plume Migration

The predicted fate and transport of the TCE and RDX plumes starting from 2010 over the next 40 years are shown on Figures 7-1 through 7-24. The plumes are predicted to be contained for the next 20 years using the pumping rates in Table 7-1. Predictive simulation results starting at 50 years into the future are shown in Appendix F. The minor differences in the GWM10 simulations and the GWM08 include:

- Additional interior plume concentration data gathered since GWM08 are reflected in predictive simulations, especially in the shape of the plumes over time.
- The predicted TCE concentrations upgradient of FEW-11 in the LL1 plume are higher than the TCE concentrations in GWM08. Recent monitoring well data confirms high concentrations are present in groundwater upgradient of FEW-11 therefore specified concentration cells were included in these simulations.
- There are slight differences in the RDX concentrations at LL3 because of recent data collected showed higher concentrations and the lower hydraulic conductivity zone around EW-4 was expanded towards FEW-14.

The GWM10 predicted LL4/AMA TCE plume in year 5 (2015) and year 30 (2040) in the overbank fines in the Platte Valley is shown on Figure 7-25. The predicted plume has migrated to the southern portion of the Johnson Creek area. By 2040, the axis of the predicted plume, which was located in the artesian property area in 2010, has moved south. This is consistent with the predicted plumes in Layers 2 and 3.

7.4 Uncertainty Analysis of Predictive Simulations

The model predictions are subject to uncertainties in hydraulic, hydrologic and fate and transport parameters. Because the objective of the modeling is to focus on containment of the plumes and focused extraction, the focus of the uncertainty analyses is on whether change of a parameter will cause changes in containment of the plume.

Uncertainty analyses were conducted to evaluate the sensitivity of the model predictions to a prolonged drought or several years of higher than normal precipitation. The uncertainty analyses were also conducted on irrigation pumping rates and recharge rates, because these parameters are difficult to estimate and may change in the future depending on climate conditions.

7.4.1 **Drought Simulation**

The Site experienced a drought from 2001 through 2006. This long-term drought, as discussed in GWM08, caused water levels to drop throughout the Todd Valley aquifer. A long-term drought is likely to occur in the future; therefore a simulation was run to predict the impact to the containment of the contaminant plumes. A drought will cause long term recharge to decrease and irrigation flow rates are likely to increase. In this simulation, a 20% decrease in long-term average recharge was assumed and a corresponding 20% increase in irrigation rates was implemented to predict the effect on containment of a long-term drought. This decrease in precipitation is similar to what was observed in 2003 and 2005. The model was run for 30 years.

Figure 7-26 compares the drought simulation results using these revised recharge and irrigation pumping rates to the predictive results. This comparison suggests that model predictions are sensitive to a decrease in groundwater recharge rates and increase in irrigation flow. There are several irrigation pumping wells in close proximity to the plumes or within the plumes that are predicted to impact plume migration at higher rates. The extent of the predicted LL4/AMA TCE plume in year 30 (2040) is larger. In addition, at these higher irrigation pumping rates the wells west of FEW-15 are predicted to pull the TCE plume towards them and a portion of the AMA plume travels downgradient of FEW-15. Additionally, due to increased pumping at irrigation well G-054654 (just east of MW-142) the predicted extent of the LL1 TCE plume area near EW-12/EW-13 is predicted to move eastward over 30 years. Under these simulated drought conditions, the LL4 plume appears to move downgradient of EW-1. These simulations indicate the pumping rate at EW-1 may need to be increased to compensate for increased irrigation well pumping during prolonged periods of drought.

7.4.2 **Higher than Normal Precipitation Simulation**

A 20% increase in long-term average recharge and corresponding 20% decrease in irrigation pumping were assumed to analyze the sensitivity of the model predictions to an extended period of higher than normal rainfall. In addition the stage in Silver Creek was increased by 1 ft. No other river boundary conditions were modified because of the distance between the extent of contamination and the other rivers.

Figure 7-27 compares the predicted results using these revised recharge and irrigation pumping rates. The extent of the predicted plume in year 30 is smaller in the AMA plume area, which may result from greater dilution by the increased groundwater levels. However, the predicted extent of the LL1 TCE plume area near EW-12/EW-13 is predicted to be larger and constituent concentrations are higher, which likely results from reduced pumping at irrigation well G-054654. Under this simulated higher precipitation scenario the LL-1 plume appears to move south of EW-13. This simulation indicates the pumping rate at EW-13 may need to be increased during prolonged periods of higher than normal precipitation in order to maintain containment.

This comparison suggests that the 2010 model predictions are sensitive to groundwater recharge rates and suggests that the assumed groundwater recharge rate used in the model and/or natural changes in groundwater recharge rates in the future may have an impact on the predicted future plume extents.

8.0 CONCLUSIONS

GWM10 compiled and evaluated a large quantity of data relevant to the natural hydrologic system and contaminant migration within the Site model boundary, including geology, hydrogeology, hydrology, water supply, irrigation, groundwater contaminant sampling results, and containment system operation. The contours, tables and graphs summarizing the data in this report provided a scientific basis for developing the conceptual model and the numerical models.

The model prediction results suggest that the proposed optimal Site pumping schedule (Table 7-1) effectively contains all plumes over the next 20 years when applied to this updated model, GWM10. The pumping schedule should be evaluated in future model updates.

The regional groundwater model simulates this hydrogeologic system with adequate detail for containment evaluation. The model was developed through an iterative calibration process. The aquifer hydraulic conductivity distribution, which is the most critical parameter that affects groundwater flow, is considered to be well calibrated in the vicinity of the Site containment system. The groundwater fate and transport model provides a reasonable estimate of the predicted extent of the plume. The horizontal and vertical cell spacing in these simulations are appropriate for analyzing regional ground-water flow and plume migration.

Updates to GWM10 include:

- Updated plume distributions as a result of Aquifer Characterization (ECC, 2011b), Pre-Pilot Study Investigation (ECC and BMcD, 2011a), and GMP (ECC, 2010a and 2011c).
- Refined hydraulic conductivity distribution based on new data collected from pumping tests, slug tests and water levels since GWM08.
- Refined bedrock surface elevation based on stratigraphic data from the monitoring wells installed in 2010.
- Changes to the Site extraction system.
- Refined recharge values based on varied precipitation and higher observed water levels in Site wells in 2009 and 2010.
- Refined model grid near the extraction wells to better simulate the capture zones.
- Revised the conceptual models of the high concentration areas at LL1 based on data collected during the Aquifer Characterization and ongoing monitoring well trends.

The GWM10 model update reflects the improved the understanding of the hydrogeologic conditions at the Site. The improved conceptual model may be the most valuable part of this model update. The principal findings of conceptual model update are:

- The extensive additional characterization of the TCE concentration distributions and the changes of the TCE concentrations over the past several years in the LL1 TCE plume area indicate that long-term groundwater flushing in the relatively homogeneous sand and gravel unit has formed a large-scale dissolved TCE plume downgradient of the suspected historic high concentration areas and the heterogeneity.

- The recent three-dimensional TCE concentration distributions in the LL4/AMA plume suggest that the highest concentrations are approximately one mile downgradient of the suspected historic high concentration area, indicating that TCE solvent in the suspected historic high concentration area have probably been dissolved and transported downgradient. No residual historic high concentration area is assumed to remain.
- The Platte River is well connected to the underlying aquifer based on the results of the M.U.D conductance test, and this model update (GWM10) calibration process. The mutual interference of the water supply well fields and the Site containment system appears to be limited.
- The zone of low hydraulic conductivity in the vicinity of EW-4 extends towards FEW-14.

8.1 Limitations

Site conditions and hydrogeologic properties were estimated through extrapolation of measured or estimated properties or inferences from data measured or estimated, based on existing site conditions and professional judgment. In addition, changes in the hydrogeologic system occur due to the passage of time, human activities, and climatic conditions and uncertainties are therefore inherent in this groundwater model. Groundwater models are by definition a simplified version of the aquifer system. Therefore, these simplifications provide some model limitations.

GWM10 has been prepared in accordance with generally accepted hydrogeological and engineering practices for specific application to the Site. With future concentration trend data collected from the monitoring wells recently installed in the axes of the plumes, the understanding of the plume migration behavior can be further improved, and the limitations of the current model can be further reduced.

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TABLES

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Table 2-1
Elevation of Top of Bedrock and Base of Loess/Overbank Fines
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Boring Name	Easting (NAD 83)	Northing (NAD 83)	Ground Surface Elev. (ft NAVD 88)	Thickness of Loess or Overbank Fines (ft)	Bottom Elev. of Loess or Overbank Fines (ft NAVD 88)	Top of Bedrock Depth (ft bgs)	Bedrock Elevation (ft NAVD 88)	Bedrock Type
ADS-003	2,604,191.65	522,957.92	1201.93	5	1196.9	NA	NA	NA
ADS-005	2,604,579.81	522,582.63	1199.11	17.5	1181.6	NA	NA	NA
ADS-022	2,604,081.81	522,345.32	1203.37	15.5	1187.9	NA	NA	NA
ATL-006	2,621,936.33	515,640.34	1167.00	12	1155.0	NA	NA	NA
ATL-048	2,621,739.52	515,431.35	1172.01	16	1156.0	NA	NA	NA
ATL-058	2,619,307.93	516,416.41	1171.69	16	1155.7	NA	NA	NA
ATL-059	2,619,543.24	516,171.11	1172.53	19.8	1152.7	NA	NA	NA
ATL-060	2,619,778.55	515,925.82	1173.17	18.5	1154.7	NA	NA	NA
ATL-063	2,620,484.51	515,189.89	1174.71	18	1156.7	NA	NA	NA
ATL-065	2,620,955.10	514,699.21	1176.83	17	1159.8	NA	NA	NA
ATL-083	2,621,415.65	513,727.92	1173.50	16	1157.5	NA	NA	NA
ATL-086	2,618,346.66	516,436.42	1174.06	16	1158.1	NA	NA	NA
ATL-099	2,618,336.70	515,955.84	1179.81	16	1163.8	NA	NA	NA
ATL-105	2,619,748.59	514,484.00	1176.19	16	1160.2	NA	NA	NA
ATL-113	2,618,562.01	515,229.98	1181.92	8	1173.9	NA	NA	NA
G-000350	2,599,733.62	502,608.44	1168.50	18	1150.5	119	1049.9	NA
G-000690	2,655,460.02	552,313.11	1120.50	15	1105.5	87	1033.9	NA
G-003472	2,654,224.11	550,920.09	1121.50	15	1106.5	86.1	1035.3	NA
G-003473	2,659,344.14	555,181.84	1120.50	28	1092.5	83.1	1037.3	NA
G-004183	2,657,610.02	504,779.32	1090.40	4	1086.4	57	1033.5	NA
G-004921	2,601,875.74	541,071.31	1224.50	22	1202.5	123.6	1100.9	NA
G-008876	2,597,949.09	520,804.23	1191.50	18	1173.5	121.1	1070.4	NA
G-009033	2,661,046.11	500,312.11	1088.60	17	1071.5	50.4	1038.2	NA
G-009205	2,631,136.05	497,961.73	1132.50	37	1095.4	88.3	1044.1	NA
G-010673	2,587,704.25	512,975.76	1190.47	18	1172.5	NA	NA	NA
G-010674	2,588,887.51	509,759.28	1185.44	18	1167.4	NA	NA	NA
G-011280	2,659,537.66	513,492.85	1097.80	5	1092.8	60	1038.1	NA
G-013220	2,592,858.69	515,723.27	1185.90	18	1167.9	112.9	1073.1	NA
G-014161	2,659,433.21	507,749.20	1094.20	27	1067.2	67	1027.6	NA
G-014821	2,635,340.52	503,188.21	1088.50	17	1071.5	47.0	1041.5	NA
G-015211	2,654,848.71	519,216.97	1104.40	9	1095.4	54	1050.8	NA
G-015507	2,605,366.44	536,524.14	1210.49	19	1191.5	NA	NA	NA
G-015644	2,598,458.65	538,277.86	1216.70	18.1	1198.6	129.0	1087.8	NA
G-017656	2,661,194.44	533,428.03	1110.40	15	1095.4	NA	NA	NA
G-017694	2,659,305.65	551,006.10	1128.44	22	1106.4	NA	NA	NA
G-018141	2,660,938.09	548,651.40	1120.46	20	1100.5	NA	NA	NA
G-018285	2,628,140.31	485,091.21	1133.30	19	1114.3	101.6	1031.7	NA
G-018285	2,628,772.67	485,732.47	1138.80	23	1115.8	107	1031.7	NA
G-018747	2,619,687.95	474,325.66	1104.50	15	1089.5	60	1044.9	NA
G-020313	2,608,603.32	531,249.30	1204.60	17.5	1187.1	121.9	1082.6	NA
G-021194	2,648,203.31	495,778.62	1080.40	15	1065.4	NA	NA	NA
G-022336	2,651,807.20	523,684.22	1101.40	12	1089.4	82.4	1019.0	NA
G-022518	2,621,284.20	553,501.50	1274.00	45	1229.0	235.0	1039.0	NA
G-023385	2,600,716.47	524,443.93	1200.20	17	1183.2	124.7	1075.6	NA
G-026970	2,606,230.93	534,127.40	1196.50	18	1178.5	118.6	1077.9	NA
G-028138	2,630,732.73	501,664.51	1136.40	15	1121.4	89.9	1046.5	NA

Table 2-1
Elevation of Top of Bedrock and Base of Loess/Overbank Fines
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Former NOP, Mead, Nebraska

Boring Name	Easting (NAD 83)	Northing (NAD 83)	Ground Surface Elev. (ft NAVD 88)	Thickness of Loess or Overbank Fines (ft)	Bottom Elev. of Loess or Overbank Fines (ft NAVD 88)	Top of Bedrock Depth (ft bgs)	Bedrock Elevation (ft NAVD 88)	Bedrock Type
G-028139	2,630,785.69	500,386.02	1134.40	15	1119.4	87.2	1047.2	NA
G-030678	2,617,221.28	478,589.42	1094.50	18.1	1076.4	65.1	1029.4	NA
G-033471	2,627,210.21	555,126.32	1152.20	22	1130.2	95.1	1057.1	NA
G-033472	2,629,665.10	478,469.34	1119.90	19	1100.9	90.5	1029.4	NA
G-033505	2,590,137.22	524,023.80	1191.50	18.1	1173.4	120.8	1070.7	NA
G-033607	2,588,112.57	524,692.07	1190.88	17	1173.9	NA	NA	NA
G-033747	2,613,731.62	499,751.97	1162.23	18	1144.2	NA	NA	NA
G-033748	2,619,817.35	510,500.86	1173.70	19	1154.7	119.1	1054.6	NA
G-033749	2,609,160.16	510,252.38	1180.40	12	1168.4	110.5	1070.0	NA
G-033750	2,619,965.44	504,947.20	1160.40	19	1141.4	113.6	1046.9	NA
G-033751	2,605,844.55	500,782.59	1160.40	18	1142.4	121.4	1039.1	NA
G-033752	2,626,343.31	505,454.68	1158.70	12	1146.7	95.7	1063.1	NA
G-033753	2,613,379.01	506,052.58	1170.40	18	1152.4	102	1068.4	NA
G-033754	2,627,929.44	506,174.88	1150.40	16	1134.4	101.2	1049.2	NA
G-035207	2,602,747.33	533,823.04	1210.44	18	1192.4	NA	NA	NA
G-035213	2,622,683.46	483,847.53	1137.40	19	1118.4	105.3	1032.1	NA
G-035237	2,603,499.16	518,054.60	1190.40	19	1171.4	116.6	1073.9	NA
G-035273	2,595,860.81	509,939.73	1179.40	19	1160.4	122.7	1056.7	NA
G-035300	2,611,836.02	528,694.57	1191.80	19	1172.8	110.5	1081.3	NA
G-035461	2,663,380.18	494,451.54	1119.72	14	1105.7	NA	NA	NA
G-035753	2,599,880.39	535,157.19	1211.00	18	1192.9	126.3	1084.7	NA
G-035976	2,608,882.60	523,412.00	1196.70	20	1176.7	129.2	1067.6	NA
G-036098	2,629,416.12	502,905.35	1140.40	16	1124.4	94.0	1046.4	NA
G-036211	2,615,973.87	510,693.52	1170.50	18	1152.5	105	1065.9	NA
G-036211	2,615,761.67	510,836.23	1175.80	18	1157.8	110	1065.9	NA
G-036213	2,628,061.43	502,884.05	1141.70	17	1124.7	94.9	1046.8	NA
G-036214	2,618,122.65	499,787.71	1160.40	17	1143.4	113.2	1047.3	NA
G-037636	2,611,046.64	530,993.22	1206.78	18.1	1188.7	NA	NA	NA
G-037637	2,598,547.22	509,986.60	1178.98	17	1162.0	NA	NA	NA
G-037677	2,608,866.02	529,287.45	1200.40	19	1181.4	114.8	1085.6	NA
G-037678	2,608,047.93	535,357.34	1210.50	20	1190.5	128.1	1082.4	NA
G-037681	2,597,429.90	528,395.98	1205.93	17	1188.9	NA	NA	NA
G-037707	2,600,800.75	515,355.34	1185.34	19	1166.3	NA	NA	NA
G-037709	2,600,750.11	516,588.35	1187.50	13	1174.5	117	1070.9	NA
G-037709	2,600,719.09	516,647.25	1187.50	17	1170.5	117	1070.9	NA
G-037726	2,594,338.31	525,421.68	1200.90	19	1181.9	129.5	1071.3	NA
G-037984	2,596,927.10	504,903.15	1167.40	24	1143.4	103.3	1064.1	NA
G-039551	2,586,293.51	552,666.07	1232.10	18	1214.1	NA	NA	NA
G-040328	2,590,041.50	517,726.29	1181.71	15	1166.7	NA	NA	NA
G-040351	2,608,787.32	518,096.33	1188.80	18	1170.8	128.5	1060.3	NA
G-041584	2,660,658.59	480,471.69	1062.40	20	1042.3	54.1	1008.2	NA
G-041786	2,658,404.46	501,520.11	1087.30	14	1073.3	36.7	1050.6	NA
G-042325	2,614,743.71	517,723.70	1178.10	19	1159.1	114.9	1063.2	NA
G-042325	2,613,567.34	517,457.86	1182.20	18	1164.2	119.0	1063.3	NA
G-042792	2,598,118.35	528,432.48	1210.50	18	1192.5	132.4	1078.0	NA
G-042956	2,598,645.67	525,681.78	1197.70	17	1180.7	120.8	1076.9	NA

Table 2-1
Elevation of Top of Bedrock and Base of Loess/Overbank Fines
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Boring Name	Easting (NAD 83)	Northing (NAD 83)	Ground Surface Elev. (ft NAVD 88)	Thickness of Loess or Overbank Fines (ft)	Bottom Elev. of Loess or Overbank Fines (ft NAVD 88)	Top of Bedrock Depth (ft bgs)	Bedrock Elevation (ft NAVD 88)	Bedrock Type
G-044312	2,627,937.48	504,594.86	1146.50	15	1131.5	96.3	1050.1	NA
G-046472	2,629,998.64	504,936.47	1143.40	15	1128.4	96.2	1047.2	NA
G-046551	2,602,589.61	536,411.83	1210.80	17	1193.8	127.1	1083.7	NA
G-046552	2,603,346.66	531,038.89	1210.90	18	1192.9	132.8	1078.2	NA
G-046830	2,597,352.86	536,303.76	1218.10	18	1200.1	131.7	1086.4	NA
G-046970	2,615,222.83	477,870.27	1102.20	15	1087.2	65.3	1036.9	NA
G-047016	2,639,785.06	523,855.79	1115.10	22	1093.1	38.8	1076.3	NA
G-047077	2,597,761.66	511,903.41	1180.47	18	1162.5	NA	NA	NA
G-047089	2,596,053.32	524,934.68	1200.50	17	1183.5	125.5	1074.9	NA
G-047357	2,642,895.49	480,344.37	1070.40	18	1052.3	68.6	1001.8	NA
G-047358	2,638,305.48	499,293.87	1080.40	15	1065.4	50.3	1030.1	NA
G-047789	2,639,385.80	484,836.22	1070.80	18	1052.8	NA	NA	NA
G-047830	2,641,390.95	515,996.27	1100.40	11	1089.4	62.1	1038.3	NA
G-048014	2,593,461.07	554,116.10	1252.06	22	1230.1	NA	NA	NA
G-048035	2,618,596.04	476,047.37	1096.60	12	1084.6	64.0	1032.6	NA
G-048035	2,618,596.04	476,047.37	1096.60	12	1084.6	64.0	1032.6	NA
G-048064	2,593,464.85	552,796.62	1244.58	22	1222.6	NA	NA	NA
G-048065	2,593,464.85	552,796.62	1244.58	20	1224.6	NA	NA	NA
G-048297	2,630,379.95	510,943.12	1158.50	21	1137.5	114.5	1044.0	NA
G-048312	2,605,586.17	516,107.67	1187.60	23	1164.6	128.7	1058.8	NA
G-048425A	2,614,062.79	522,185.57	1182.60	20	1162.6	116.4	1066.2	NA
G-048425B	2,614,021.82	523,422.84	1187.30	18	1169.3	121.5	1065.8	NA
G-048932	2,617,658.21	545,432.68	1273.50	84	1189.5	125.6	1147.9	NA
G-049256	2,601,806.92	510,731.72	1179.30	17	1162.3	131.8	1047.6	NA
G-049353	2,663,534.53	475,317.53	1069.40	34	1035.4	48.6	1020.8	NA
G-049439	2,632,495.39	509,006.54	1154.90	25	1129.9	116.4	1038.5	NA
G-049891	2,629,190.10	537,368.21	1207.70	64	1143.7	144.6	1063.1	NA
G-050151	2,657,610.02	504,779.32	1090.40	5	1085.4	NA	NA	NA
G-050177	2,641,513.55	481,601.55	1070.35	20	1050.3	NA	NA	NA
G-050796	2,658,584.98	543,213.25	1113.70	11	1102.6	61.2	1052.5	NA
G-050878	2,660,583.77	530,339.32	1102.40	5	1097.4	43.2	1059.2	NA
G-050879	2,655,264.24	527,177.34	1106.40	6	1100.4	NA	NA	NA
G-050988	2,661,467.26	552,294.47	1122.17	12	1110.2	NA	NA	NA
G-050989	2,662,390.84	546,050.27	1113.50	17	1096.5	61.1	1052.4	NA
G-051683	2,626,817.52	545,846.88	1187.90	35	1152.9	80.4	1107.5	NA
G-051685	2,623,868.37	492,824.33	1140.40	16	1124.4	96.9	1043.5	NA
G-051686	2,604,941.27	531,839.24	1211.40	15	1196.4	132.9	1078.6	NA
G-051762	2,589,200.79	528,683.40	1192.50	16	1176.5	113.3	1079.2	NA
G-051786	2,625,896.50	492,252.06	1140.40	15	1125.4	94.2	1046.2	NA
G-051787	2,624,230.42	482,238.13	1134.80	12	1122.8	104.8	1030.1	NA
G-051833	2,664,662.60	494,552.30	1141.40	40	1101.4	147.0	994.4	NA
G-051860	2,631,579.06	481,916.72	1127.90	10	1117.9	98.6	1029.3	NA
G-051879	2,647,399.14	467,328.45	1060.40	17	1043.3	62.7	997.7	NA
G-051927	2,611,950.23	526,043.14	1190.63	16	1174.6	NA	NA	NA
G-052170	2,630,238.02	498,343.58	1130.40	13	1117.4	86.3	1044.1	NA
G-052189	2,605,250.80	539,160.21	1243.99	23	1221.0	NA	NA	NA

Table 2-1
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Boring Name	Easting (NAD 83)	Northing (NAD 83)	Ground Surface Elev. (ft NAVD 88)	Thickness of Loess or Overbank Fines (ft)	Bottom Elev. of Loess or Overbank Fines (ft NAVD 88)	Top of Bedrock Depth (ft bgs)	Bedrock Elevation (ft NAVD 88)	Bedrock Type
G-052390	2,592,955.51	548,170.94	1230.51	16	1214.5	NA	NA	NA
G-052415	2,661,759.52	470,642.20	1061.53	14.4	1047.1	67.0	994.5	NA
G-052563	2,658,141.95	477,739.39	1062.40	16	1046.3	40.4	1021.9	NA
G-052786	2,651,936.14	483,456.38	1067.80	5	1062.8	37.6	1030.3	NA
G-053077	2,629,633.70	481,169.38	1130.40	21	1109.3	100.9	1029.4	NA
G-053078	2,618,627.04	523,015.74	1187.40	30	1157.4	121.2	1066.2	NA
G-053202	2,585,803.37	544,519.97	1224.16	26	1198.2	NA	NA	NA
G-053273	2,596,059.83	522,439.32	1196.90	16	1180.9	123.9	1073.0	NA
G-053429	2,598,336.00	541,604.09	1220.50	19	1201.5	122.2	1098.3	NA
G-053470	2,590,009.34	507,833.04	1147.50	19	1128.5	93.6	1053.9	NA
G-053471	2,596,781.33	509,910.03	1179.82	16	1163.8	NA	NA	NA
G-053628	2,635,178.89	457,916.42	1070.26	15	1055.3	NA	NA	NA
G-053629	2,638,289.83	462,980.82	1085.60	19	1066.6	93.4	992.1	NA
G-053630	2,635,395.12	501,244.47	1083.50	16	1067.5	42.1	1041.3	NA
G-053658	2,633,230.51	490,577.44	1116.80	17	1099.8	83.8	1033.0	NA
G-053659	2,591,683.05	544,010.47	1223.58	15	1208.6	NA	NA	NA
G-053764	2,592,943.73	505,359.31	1171.24	15	1156.2	NA	NA	NA
G-053801	2,633,419.20	485,275.89	1129.27	15	1114.3	NA	NA	NA
G-053963	2,633,076.81	519,051.47	1172.10	38	1134.1	127.0	1045.1	NA
G-054293	2,652,941.81	549,534.27	1125.50	11	1114.5	77.7	1047.8	NA
G-054297	2,643,724.79	547,822.74	1130.46	13	1117.5	NA	NA	NA
G-054356	2,588,338.77	548,565.36	1229.64	17	1212.6	NA	NA	NA
G-054568	2,665,058.21	546,181.30	1111.76	18	1093.8	NA	NA	NA
G-054654	2,611,239.70	495,610.60	1160.44	13	1147.4	NA	NA	NA
G-054655	2,620,045.68	507,873.19	1170.40	12	1158.4	114.8	1055.7	NA
G-054892	2,647,311.47	557,235.89	1133.50	4	1129.4	66.9	1066.6	NA
G-055915	2,655,022.08	472,990.39	1060.35	13	1047.3	NA	NA	NA
G-056090	2,596,862.15	532,933.87	1210.30	16	1194.3	112.6	1097.7	NA
G-056450	2,593,525.99	548,747.94	1230.51	25	1205.5	NA	NA	NA
G-056513	2,660,041.17	508,906.91	1097.40	12	1085.4	54.2	1043.2	NA
G-056514	2,659,904.23	511,554.07	1096.60	24	1072.6	56	1040.5	NA
G-056690	2,589,817.69	510,466.42	1187.40	21	1166.3	109.0	1078.4	NA
G-056838	2,664,819.91	490,597.92	1127.80	13	1114.8	144.9	983.0	NA
G-057184	2,616,731.87	520,942.25	1173.70	12	1161.7	100.9	1072.8	NA
G-057314	2,608,488.21	520,361.38	1190.40	18	1172.4	118.2	1072.2	NA
G-057315	2,603,019.79	514,751.39	1187.10	17	1170.1	111.9	1075.2	NA
G-057497	2,613,898.94	479,132.83	1098.00	22	1076.0	66.2	1031.8	NA
G-057498	2,630,731.82	486,524.07	1131.70	15	1116.7	96.2	1035.4	NA
G-057632	2,608,559.24	543,861.57	1312.30	10	1302.3	218.6	1093.7	NA
G-057633	2,605,005.20	486,102.40	1131.70	30	1101.7	52.5	1079.2	NA
G-057881	2,667,855.03	511,905.13	1282.10	60	1222.1	223.3	1058.8	NA
G-058057	2,657,858.14	528,629.21	1102.41	10	1092.4	NA	NA	NA
G-058058	2,657,816.79	529,947.94	1106.09	10	1096.1	NA	NA	NA
G-058233	2,658,175.36	551,148.27	1126.20	15	1111.2	90.6	1035.7	NA
G-058325	2,613,262.11	525,422.78	1188.90	20	1168.9	122.5	1066.3	NA
G-058543	2,596,691.69	507,872.67	1180.43	22	1158.4	95.0	1085.4	NA

Table 2-1
Elevation of Top of Bedrock and Base of Loess/Overbank Fines
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Boring Name	Easting (NAD 83)	Northing (NAD 83)	Ground Surface Elev. (ft NAVD 88)	Thickness of Loess or Overbank Fines (ft)	Bottom Elev. of Loess or Overbank Fines (ft NAVD 88)	Top of Bedrock Depth (ft bgs)	Bedrock Elevation (ft NAVD 88)	Bedrock Type
G-058723	2,597,411.16	517,229.41	1190.50	17	1173.5	112.8	1077.6	NA
G-058774	2,626,998.04	481,045.04	1126.00	16	1110.0	93.3	1032.7	NA
G-058820	2,620,523.59	476,762.06	1090.30	20	1070.3	55.3	1035.0	NA
G-058833	2,626,077.48	547,759.61	1228.10	75	1153.1	125.8	1102.3	NA
G-058958	2,633,279.62	521,723.06	1191.10	36	1155.1	140.0	1051.1	NA
G-058997	2,600,817.59	533,085.83	1208.00	20	1188.0	129.6	1078.4	NA
G-059114	2,594,054.02	507,950.82	1151.50	18	1133.5	96.1	1055.3	NA
G-059115	2,596,796.11	506,557.25	1174.50	12	1162.5	132.9	1041.6	NA
G-059358D	2,641,545.01	543,766.01	1125.50	10	1115.5	67.9	1057.6	NA
G-059681	2,616,593.26	476,599.48	1107.00	29	1078.0	70.6	1036.4	NA
G-060250	2,633,385.86	519,681.22	1165.70	37.3	1128.4	139.0	1026.7	NA
G-060417	2,607,909.54	527,879.24	1192.80	10	1182.8	105.5	1087.3	NA
G-060475	2,609,542.66	520,085.09	1190.40	18	1172.4	123.0	1067.4	NA
G-060476	2,610,862.08	520,088.27	1180.40	15	1165.4	117.0	1063.4	NA
G-060476	2,608,223.54	520,081.64	1191.40	17	1174.4	128	1063.4	NA
G-060916	2,594,626.82	536,214.84	1220.50	20	1200.5	138.9	1081.6	NA
G-060987	2,596,159.38	515,890.76	1190.40	18	1172.4	116.0	1074.5	NA
G-061009	2,654,791.26	478,245.32	1067.40	6	1061.3	42.0	1025.3	NA
G-061620	2,658,047.14	495,572.46	1080.40	10	1070.4	54.5	1025.9	NA
G-062103	2,664,844.22	550,157.70	1129.47	9	1120.5	NA	NA	NA
G-062352	2,597,904.71	539,619.63	1213.50	15	1198.5	122.3	1091.3	NA
G-062375	2,595,874.22	527,567.47	1200.50	10	1190.5	126	1074.8	NA
G-062375	2,596,171.02	527,475.51	1200.50	18	1182.5	125.7	1074.8	NA
G-062411	2,586,796.60	522,137.46	1202.47	15	1187.5	NA	NA	NA
G-062530A	2,621,960.46	474,183.01	1090.30	12	1078.3	44.8	1045.5	NA
G-062530B	2,622,002.02	474,004.64	1090.90	10	1080.9	44.5	1046.4	NA
G-062880	2,656,858.38	551,072.14	1121.80	23	1098.8	89.7	1032.1	NA
G-063202	2,608,142.94	483,511.40	1108.30	18	1090.3	46.9	1061.5	NA
G-063312	2,662,751.20	544,567.71	1110.50	29	1081.5	50.5	1060.0	NA
G-063973	2,613,172.50	544,570.00	1282.50	80	1202.5	180.0	1102.4	NA
G-064175	2,649,834.01	532,236.66	1115.95	7	1109.0	NA	NA	NA
G-064207	2,612,237.29	518,747.52	1180.70	15	1165.7	117.7	1063.0	NA
G-064243	2,656,633.00	525,900.41	1102.61	5	1097.6	NA	NA	NA
G-064906	2,603,229.28	510,775.44	1180.50	20	1160.5	129.8	1050.7	NA
G-065589	2,606,725.03	521,388.79	1191.80	18	1173.8	126.9	1065.0	NA
G-065681	2,608,858.44	520,742.55	1190.40	15	1175.4	120.0	1070.5	NA
G-065682	2,606,137.69	518,093.14	1197.60	15	1182.6	134.6	1063.0	NA
G-065683	2,606,422.58	512,830.86	1180.40	20	1160.4	105.2	1075.2	NA
G-065684	2,614,307.76	515,515.26	1188.80	15	1173.8	125.9	1062.9	NA
G-065856	2,596,381.58	544,833.15	1228.45	18	1210.5	NA	NA	NA
G-065871	2,610,763.21	522,725.01	1194.40	20	1174.4	136.2	1058.2	NA
G-065908	2,656,540.59	528,562.61	1105.72	4	1101.7	NA	NA	NA
G-065978	2,644,102.08	539,925.32	1121.98	8	1114.0	NA	NA	NA
G-065987	2,598,695.62	525,023.62	1200.48	20	1180.5	NA	NA	NA
G-066364	2,612,993.72	530,713.79	1212.50	26	1186.4	130.8	1081.7	NA
G-066614	2,646,091.69	467,269.56	1065.10	16	1049.0	78.3	986.8	NA

Table 2-1
Elevation of Top of Bedrock and Base of Loess/Overbank Fines
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Boring Name	Easting (NAD 83)	Northing (NAD 83)	Ground Surface Elev. (ft NAVD 88)	Thickness of Loess or Overbank Fines (ft)	Bottom Elev. of Loess or Overbank Fines (ft NAVD 88)	Top of Bedrock Depth (ft bgs)	Bedrock Elevation (ft NAVD 88)	Bedrock Type
G-066924	2,591,359.24	535,435.62	1207.00	18	1189.0	106.2	1100.8	NA
G-067472	2,599,552.47	505,296.16	1170.50	16	1154.5	101.6	1068.9	NA
G-067505	2,589,240.95	499,678.05	1139.60	17	1122.6	57.3	1082.3	NA
G-068383	2,634,969.59	513,113.89	1142.60	19	1123.6	96.6	1046.0	NA
G-069208	2,625,120.06	525,947.76	1255.40	50	1205.4	186.9	1068.5	NA
G-070210	2,595,398.27	517,865.85	1190.50	20	1170.5	119.3	1071.1	NA
G-070398	2,621,507.69	523,813.68	1221.10	30	1191.1	164.8	1056.3	NA
G-070581	2,610,561.33	479,696.49	1136.50	17	1119.5	82	1054.7	NA
G-070581	2,610,552.65	479,665.88	1136.50	17	1119.5	81.7	1054.7	NA
G-070615	2,591,394.10	517,768.35	1161.60	16	1145.6	85.9	1075.7	NA
G-071170	2,618,515.57	525,629.73	1262.50	68	1194.5	199.6	1062.9	NA
G-071362	2,601,248.98	508,781.85	1173.30	15	1158.3	130.1	1043.2	NA
G-071506	2,591,980.88	538,754.11	1220.50	16	1204.5	126.2	1094.3	NA
G-071585	2,587,226.93	528,095.03	1207.50	15	1192.5	120.9	1086.6	NA
G-072063	2,586,655.53	535,880.93	1212.90	15	1197.9	53.9	1159.0	NA
G-072122	2,596,136.58	524,212.97	1200.50	20	1180.5	125.1	1075.3	NA
G-072123	2,592,558.10	528,251.25	1203.50	17	1186.5	135.8	1067.7	NA
G-072842	2,616,353.96	518,252.02	1177.40	15	1162.4	115	1062.8	NA
G-072842	2,616,352.71	518,282.22	1174.40	15	1159.4	111.6	1062.8	NA
G-072863	2,599,803.25	484,547.70	1227.00	65	1162.0	104.2	1122.8	NA
G-072864	2,601,676.02	484,632.75	1198.00	78	1119.8	80.2	1117.8	NA
G-072920	2,626,205.98	461,153.26	1103.20	38	1065.2	53.1	1050.1	NA
G-073294	2,659,468.34	506,910.36	1090.40	24	1066.4	55.2	1035.2	NA
G-073751	2,599,297.31	528,293.15	1206.50	17	1189.5	128.9	1077.6	NA
G-073751	2,599,167.17	528,472.60	1209.90	15	1194.9	132.0	1077.9	NA
G-073793	2,665,408.35	552,155.19	1120.46	10	1110.5	NA	NA	NA
G-073894	2,662,990.66	472,648.07	1067.56	15	1052.6	NA	NA	NA
G-074298	2,586,617.15	538,611.58	1210.10	20	1190.1	92.3	1117.9	NA
G-074511	2,599,802.48	485,900.46	1207.20	68	1139.2	91.3	1116.0	NA
G-074621	2,660,763.50	558,114.66	1122.46	15	1107.5	NA	NA	NA
G-074622	2,660,499.99	554,063.38	1120.46	13	1107.5	NA	NA	NA
G-075119	2,585,155.94	549,233.50	1228.10	20	1208.0	132.6	1095.5	NA
G-075904	2,653,309.89	555,870.66	1130.50	15	1115.5	84.6	1045.8	NA
G-076173	2,607,066.68	529,965.85	1200.44	19	1181.4	NA	NA	NA
G-076174	2,607,007.05	529,916.40	1200.46	15	1185.5	NA	NA	NA
G-076181	2,607,005.65	529,964.46	1200.44	15	1185.4	NA	NA	NA
G-076183	2,607,002.16	530,009.52	1200.44	18.5	1181.9	NA	NA	NA
G-076184	2,606,853.81	530,057.44	1200.44	16.5	1183.9	NA	NA	NA
G-076185	2,607,012.94	529,825.86	1200.59	12	1188.6	NA	NA	NA
G-076186	2,606,953.85	529,248.94	1203.11	13.5	1189.6	NA	NA	NA
G-076188	2,607,046.33	529,877.53	1200.45	15	1185.5	NA	NA	NA
G-076189	2,607,156.39	529,702.29	1201.13	14.5	1186.6	NA	NA	NA
G-076190	2,607,366.81	529,698.09	1199.47	18.5	1181.0	NA	NA	NA
G-076193	2,607,958.54	529,473.57	1198.03	18	1180.0	NA	NA	NA
G-076194	2,607,112.57	529,311.53	1201.34	15	1186.3	NA	NA	NA
G-076195	2,607,345.59	529,272.90	1199.58	17	1182.6	NA	NA	NA

Table 2-1
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Boring Name	Easting (NAD 83)	Northing (NAD 83)	Ground Surface Elev. (ft NAVD 88)	Thickness of Loess or Overbank Fines (ft)	Bottom Elev. of Loess or Overbank Fines (ft NAVD 88)	Top of Bedrock Depth (ft bgs)	Bedrock Elevation (ft NAVD 88)	Bedrock Type
G-076196	2,607,616.43	529,264.97	1196.44	15	1181.4	NA	NA	NA
G-076201	2,607,416.66	528,960.10	1197.92	15	1182.9	NA	NA	NA
G-076589	2,648,402.25	472,601.68	1063.00	5	1058.0	78.9	984.1	NA
G-076735	2,610,545.27	528,000.95	1199.10	20	1179.1	114.9	1084.3	NA
G-077970	2,623,023.29	489,506.63	1140.50	17	1123.5	97.5	1043.0	NA
G-078377	2,632,967.62	516,292.66	1174.60	38	1136.6	148.0	1026.6	NA
G-079184	2,657,808.45	498,845.61	1081.40	6	1075.4	45.5	1035.9	NA
G-079185	2,659,232.76	498,922.62	1084.40	9	1075.4	49.5	1034.9	NA
G-080536	2,653,251.37	495,307.27	1075.40	8	1067.4	NA	NA	NA
G-081125	2,655,608.12	467,993.04	1055.37	55	1000.4	NA	NA	NA
G-081204	2,605,570.17	523,544.43	1193.01	21	1172.0	NA	NA	NA
G-081447	2,662,563.30	511,929.66	1200.00	46	1154.0	93.0	1031.9	NA
G-081628	2,662,036.13	512,197.93	1140.50	14	1126.5	107.2	1033.3	NA
G-081652	2,658,832.39	491,033.57	1073.40	10	1063.4	NA	NA	NA
G-081653	2,660,838.01	489,060.75	1072.35	10	1062.3	NA	NA	NA
G-081660	2,658,249.50	548,650.06	1120.46	20	1100.5	NA	NA	NA
G-081736	2,640,919.83	453,093.07	1107.61	20	1087.6	NA	NA	NA
G-081826	2,667,315.27	486,381.58	1185.00	59	1126.0	217.1	967.9	NA
G-081932	2,640,617.30	451,715.82	1157.00	4	1153.0	78.5	1078.6	NA
G-081992	2,652,123.93	546,198.52	1123.74	23	1100.7	NA	NA	NA
G-082077	2,641,569.63	452,663.20	1159.90	30	1129.9	79.8	1080.1	NA
G-082274	2,640,702.08	452,340.59	1148.00	8	1140.0	70.2	1077.7	NA
G-082283	2,645,274.37	542,186.40	1126.18	12	1114.2	NA	NA	NA
G-082391	2,658,967.28	488,378.32	1072.35	13	1059.3	NA	NA	NA
G-082411A	2,606,874.84	529,872.01	1200.44	21	1179.4	NA	NA	NA
G-082411C	2,606,960.57	529,638.54	1200.72	19	1181.7	NA	NA	NA
G-082635	2,649,679.52	537,334.85	1120.42	3.1	1117.3	NA	NA	NA
G-082948	2,667,309.73	533,531.24	1255.40	83	1172.4	213.8	1041.6	NA
G-082992	2,665,130.91	526,902.36	1230.06	8	1222.1	39.0	1191.1	NA
G-083027	2,656,430.55	521,467.26	1100.40	8	1092.4	NA	NA	NA
G-083073	2,650,960.27	552,623.82	1130.44	5.3	1125.1	NA	NA	NA
G-083197	2,662,031.43	512,082.88	1140.60	17	1123.6	107.6	1033.0	NA
G-083231	2,641,634.71	452,454.86	1170.50	40	1130.5	90.0	1080.5	NA
G-083550	2,589,448.81	544,334.80	1224.52	15	1209.5	NA	NA	NA
G-083583	2,647,714.54	457,610.09	1211.60	16	1195.6	104.1	1107.5	NA
G-083790	2,651,993.28	545,863.01	1121.47	12	1109.5	NA	NA	NA
G-083866	2,625,208.56	508,095.15	1161.20	20	1141.2	90.2	1071.0	NA
G-084119	2,667,651.82	481,528.97	1225.26	50	1175.3	NA	NA	NA
G-084290	2,657,840.52	518,702.48	1213.30	97	1116.2	136.8	1076.5	NA
G-084296	2,667,966.26	486,587.23	1219.40	50	1169.3	234.8	984.5	NA
G-084434	2,593,795.06	476,644.87	1293.70	125	1168.7	129.6	1164.1	NA
G-084524	2,611,211.24	527,288.49	1190.40	18	1172.4	109.7	1080.8	NA
G-084655	2,610,568.00	529,331.38	1199.60	25	1174.6	115.3	1084.3	NA
G-084699	2,626,450.03	488,539.42	1140.45	10	1130.5	NA	NA	NA
G-084775	2,651,211.41	547,430.19	1127.06	24	1103.1	NA	NA	NA
G-084822	2,650,587.89	458,357.70	1149.00	3	1146.0	120.2	1028.9	NA

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G-084915	2,660,783.81	511,116.40	1099.40	24	1075.4	60.6	1038.8	NA
G-084917	2,634,272.62	517,886.01	1177.30	45	1132.3	153.1	1024.3	NA
G-085604	2,598,696.17	475,275.98	1239.70	30	1209.7	104.4	1135.3	NA
G-085725	2,641,280.46	476,472.93	1070.40	27	1043.3	57.4	1012.9	NA
G-085814	2,658,009.04	496,231.08	1080.40	11	1069.4	NA	NA	NA
G-085815	2,657,350.04	496,198.16	1080.40	11	1069.4	NA	NA	NA
G-085835	2,601,523.07	476,640.65	1181.00	57	1124.0	74.1	1106.9	NA
G-085892	2,635,148.02	536,573.30	1212.70	42	1170.7	105.2	1107.5	NA
G-085969	2,668,349.77	489,614.13	1276.90	65	1211.9	322.2	954.7	NA
G-086054A	2,644,924.65	461,963.30	1059.85	5	1055.2	NA	NA	NA
G-086054B	2,645,252.02	461,426.26	1075.24	9	1066.0	NA	NA	NA
G-086054C	2,645,218.01	460,609.66	1091.63	14	1078.1	NA	NA	NA
G-086247	2,661,789.72	549,619.54	1120.46	20	1100.5	NA	NA	NA
G-086282	2,650,978.69	557,536.54	1134.84	18.5	1116.3	NA	NA	NA
G-086558	2,644,340.34	533,410.33	1112.39	5	1107.4	NA	NA	NA
G-087076	2,599,993.84	518,611.26	1190.50	14	1176.5	117.3	1073.2	NA
G-087126	2,616,412.61	546,469.99	1257.68	55	1202.7	NA	NA	NA
G-087127	2,614,927.91	546,595.64	1223.25	60	1163.3	NA	NA	NA
G-087283	2,630,812.52	500,317.51	1134.40	15	1119.4	87.2	1047.2	NA
G-087550	2,664,801.31	477,062.54	1095.40	37	1058.4	49.5	1046.0	NA
G-087554	2,586,315.47	500,924.49	1147.12	22	1125.1	NA	NA	NA
G-087555	2,586,283.70	501,723.37	1148.68	14	1134.7	NA	NA	NA
G-087787	2,666,145.41	474,178.27	1179.99	44.3	1135.7	96.1	1083.9	NA
G-087839	2,665,323.87	519,626.34	1253.50	92	1161.5	142.1	1111.4	NA
G-087861	2,638,581.70	532,464.36	1121.13	22.4	1098.7	215.0	906.1	NA
G-087929	2,614,696.32	511,214.57	1174.40	22	1152.4	105.3	1069.1	NA
G-088058	2,657,776.71	485,695.53	1072.40	9	1063.3	53.7	1018.6	NA
G-088059	2,660,413.60	485,788.72	1072.40	11	1061.3	56.1	1016.3	NA
G-088279	2,599,120.15	462,891.20	1264.40	35	1229.4	97.6	1166.8	NA
G-088299	2,657,561.96	517,149.13	1118.40	15.7	1102.7	56.8	1061.6	NA
G-088403	2,666,512.95	537,691.34	1110.50	8	1102.5	46.9	1063.6	NA
G-088662	2,634,931.94	504,630.45	1090.40	25	1065.4	51.5	1039.0	NA
G-088853	2,597,520.88	479,180.25	1218.60	40	1178.6	80.5	1138.1	NA
G-088993	2,661,652.28	507,981.86	1139.90	20	1119.9	61.4	1078.4	NA
G-089152	2,669,207.09	488,948.28	1273.20	65	1208.2	314.2	959.0	NA
G-089221	2,599,239.57	508,963.19	1180.48	22	1158.5	NA	NA	NA
G-089241	2,590,478.92	545,154.29	1238.06	15	1223.1	NA	NA	NA
G-089253	2,668,713.65	497,778.97	1239.80	33	1206.8	163.3	1076.5	NA
G-089306	2,663,120.06	483,261.70	1072.35	16	1056.3	NA	NA	NA
G-089357	2,667,009.74	484,706.64	1161.90	68	1093.9	191.7	970.2	NA
G-089499	2,662,203.82	526,832.79	1101.40	14	1087.4	48.1	1053.3	NA
G-089690	2,669,007.86	489,149.66	1278.50	70	1208.5	327.8	950.7	NA
G-089816	2,663,985.01	520,049.15	1243.40	68	1175.4	135.7	1107.7	NA
G-089868	2,643,620.41	499,225.08	1084.31	11	1073.3	NA	NA	NA
G-089876B	2,652,342.38	464,397.58	1060.35	7	1053.4	NA	NA	NA
G-089876C	2,652,323.01	464,385.82	1060.34	5	1055.3	NA	NA	NA

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G-089876D	2,652,635.98	463,333.85	1060.14	5	1055.1	NA	NA	NA
G-089876E	2,652,706.46	463,279.61	1060.34	9	1051.3	NA	NA	NA
G-089876F	2,652,708.21	463,283.70	1060.34	7.5	1052.8	NA	NA	NA
G-089876G	2,652,690.93	463,196.92	1060.26	6	1054.3	NA	NA	NA
G-089876H	2,652,777.45	463,206.80	1060.36	8.5	1051.9	NA	NA	NA
G-089876I	2,652,780.31	463,210.93	1060.36	7.5	1052.9	NA	NA	NA
G-089876J	2,652,808.02	463,149.77	1060.34	6	1054.3	NA	NA	NA
G-089876K	2,652,864.60	463,182.43	1060.34	8	1052.3	NA	NA	NA
G-089876M	2,652,320.64	464,389.73	1060.37	5	1055.4	NA	NA	NA
G-089876N	2,652,452.34	463,673.85	1059.00	5.5	1053.5	NA	NA	NA
G-089876O	2,652,785.43	463,044.90	1060.21	5	1055.2	NA	NA	NA
G-090203	2,663,089.08	511,130.87	1212.10	35	1177.1	180.5	1031.6	NA
G-090219	2,642,390.33	456,331.64	1167.40	15	1152.4	89.7	1077.7	NA
G-090439	2,647,524.94	531,058.05	1112.79	8	1104.8	NA	NA	NA
G-090524	2,666,311.50	537,303.47	1110.40	8	1102.4	52	1058.8	NA
G-090568	2,664,784.79	476,811.73	1094.70	30	1064.7	50.2	1044.5	NA
G-090605	2,589,944.66	526,396.87	1192.30	18	1174.3	123.7	1068.6	NA
G-090605	2,589,745.45	526,289.35	1193.50	17	1176.5	124.5	1069.0	NA
G-090720	2,629,488.17	526,884.95	1178.00	40	1138.0	111.3	1066.6	NA
G-090726C	2,654,596.19	541,733.32	1118.46	5.5	1113.0	NA	NA	NA
G-090726D	2,656,261.64	541,823.84	1115.46	8	1107.5	NA	NA	NA
G-090726E	2,656,310.19	539,743.82	1115.46	7.5	1108.0	NA	NA	NA
G-090726F	2,654,649.48	539,513.50	1117.46	13	1104.5	NA	NA	NA
G-090726G	2,656,269.84	537,851.02	1113.43	6	1107.4	NA	NA	NA
G-090726H	2,654,712.88	537,816.55	1117.03	8	1109.0	NA	NA	NA
G-090726I	2,657,838.84	537,932.05	1111.22	6	1105.2	NA	NA	NA
G-090802	2,650,588.36	483,471.32	1065.40	14	1051.3	50.7	1014.6	NA
G-090820	2,641,194.13	468,720.91	1061.98	28	1034.0	NA	NA	NA
G-091074	2,663,009.41	520,209.12	1230.70	70	1160.7	129.9	1100.8	NA
G-091118	2,666,102.24	541,937.05	1117.40	13	1104.4	43	1074.8	NA
G-091525	2,601,041.77	526,743.45	1201.31	17	1184.3	NA	NA	NA
G-091614	2,597,943.59	523,229.29	1200.00	16	1184.0	121	1079.0	NA
G-092071	2,637,986.69	531,351.50	1170.20	15	1155.2	76.3	1093.9	NA
G-092506	2,663,064.95	542,699.25	1110.50	15	1095.5	43.1	1067.3	NA
G-092572	2,632,805.98	541,313.78	1241.30	72	1169.3	176.9	1064.4	NA
G-092687	2,668,014.33	489,222.30	1281.45	70	1211.4	NA	NA	NA
G-092765	2,660,445.37	549,166.88	1120.46	13	1107.5	NA	NA	NA
G-092775	2,662,811.70	512,757.36	1206.40	38	1168.4	169.6	1036.8	NA
G-093052	2,644,200.88	534,027.48	1120.14	6	1114.1	NA	NA	NA
G-093177	2,666,351.28	537,166.28	1110.40	10	1100.4	40	1070.8	NA
G-093301	2,624,905.28	467,126.59	1157.20	25	1132.2	99.1	1058.1	NA
G-093417	2,635,346.50	532,321.32	1205.50	58	1147.5	112.8	1092.7	NA
G-093462	2,668,925.25	489,995.56	1241.00	50	1191.0	316	925.4	NA
G-093498	2,664,869.98	478,171.99	1108.80	49.5	1059.3	72	1037.2	NA
G-093538	2,646,994.53	547,135.06	1130.46	13	1117.5	NA	NA	NA
G-093587	2,662,851.73	505,792.35	1179.40	25	1154.4	120	1059.8	NA

Table 2-1
Elevation of Top of Bedrock and Base of Loess/Overbank Fines
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Boring Name	Easting (NAD 83)	Northing (NAD 83)	Ground Surface Elev. (ft NAVD 88)	Thickness of Loess or Overbank Fines (ft)	Bottom Elev. of Loess or Overbank Fines (ft NAVD 88)	Top of Bedrock Depth (ft bgs)	Bedrock Elevation (ft NAVD 88)	Bedrock Type
G-093612	2,646,376.44	453,797.82	1233.96	10	1224.0	NA	NA	NA
G-093659	2,657,126.28	494,855.71	1080.40	8	1072.4	53.0	1028.4	NA
G-093759	2,663,894.17	470,897.55	1191.94	45	1146.9	50.0	1141.9	NA
G-093915	2,635,331.68	478,018.67	1117.16	19	1098.2	NA	NA	NA
G-093916	2,635,433.97	477,973.36	1117.51	19	1098.5	NA	NA	NA
G-093944	2,638,121.02	533,087.00	1152.50	30	1122.5	48	1104.9	NA
G-094011	2,592,367.88	530,855.16	1209.10	23	1186.1	145	1064.5	NA
G-094022	2,659,782.69	474,253.18	1060.30	21	1039.3	44	1016.8	NA
G-094377	2,656,921.99	478,945.04	1060.35	15	1045.3	NA	NA	NA
G-094464	2,634,784.85	546,477.52	1131.44	21	1110.4	NA	NA	NA
G-094500	2,665,854.98	468,864.81	1225.40	63	1162.4	99	1126.4	NA
G-094585	2,661,238.02	497,689.93	1086.37	19	1067.4	NA	NA	NA
G-094600	2,663,759.02	516,613.09	1262.50	75	1187.5	160	1102.9	NA
G-094632	2,593,543.44	471,548.49	1241.60	45	1196.6	61.3	1180.3	NA
G-094642	2,654,577.75	532,011.46	1110.40	7	1103.4	58.6	1051.8	NA
G-095065	2,669,095.59	489,830.84	1244.50	65	1179.5	322	922.9	NA
G-095212	2,668,373.06	481,695.00	1255.84	35	1220.8	NA	NA	NA
G-095489	2,621,261.07	554,859.24	1293.32	45	1248.3	NA	NA	NA
G-095562	2,634,642.91	507,819.57	1102.70	40	1062.7	68.3	1034.4	NA
G-095729	2,664,989.02	518,617.32	1237.40	76	1161.4	117.6	1119.8	NA
G-095825A	2,652,606.28	463,279.36	1059.84	6.5	1053.3	NA	NA	NA
G-095825B	2,652,614.80	463,247.64	1059.79	6	1053.8	NA	NA	NA
G-095862	2,666,997.85	530,794.68	1273.83	89	1184.8	NA	NA	NA
G-096067	2,662,778.40	498,575.66	1090.40	20	1070.4	56.2	1034.2	NA
G-096225	2,666,723.28	491,277.13	1262.43	55	1207.4	285.0	977.4	NA
G-096299	2,623,523.25	539,623.93	1240.30	53	1187.3	140.5	1099.8	NA
G-096372	2,608,351.92	470,331.89	1153.30	45	1108.3	49.0	1104.3	NA
G-096373	2,585,883.61	511,097.02	1170.86	12	1158.9	NA	NA	NA
G-096401	2,642,654.75	453,904.21	1170.70	6	1164.7	87.2	1083.5	NA
G-096433	2,599,850.67	538,963.63	1213.50	17	1196.5	121.4	1092.0	NA
G-096581	2,610,586.42	508,924.83	1173.80	15	1158.8	105.3	1068.5	NA
G-096582	2,604,918.30	506,540.49	1173.60	16	1157.6	133.6	1040.0	NA
G-096584	2,609,425.47	507,511.90	1171.10	15	1156.1	111.1	1060.0	NA
G-096588	2,613,313.38	510,348.63	1178.10	25	1153.1	109.8	1068.3	NA
G-096589	2,625,428.46	502,779.58	1150.40	20	1130.4	100.4	1050.0	NA
G-096590	2,621,694.75	501,434.23	1156.80	10	1146.8	105.2	1051.7	NA
G-096593	2,611,337.35	494,197.24	1142.30	16	1126.3	119.2	1023.2	NA
G-096904	2,627,303.92	521,421.63	1232.20	35	1197.2	198.3	1033.9	NA
G-096933	2,608,645.02	520,266.50	1190.20	13	1177.2	118.0	1072.2	NA
G-097059	2,633,958.18	506,380.10	1110.00	10	1100.0	75.8	1034.2	NA
G-097207	2,591,407.07	524,631.96	1177.30	14	1163.3	108.2	1069.1	NA
G-097299	2,593,716.08	467,752.60	1270.60	18	1252.6	75	1196.0	NA
G-097771	2,634,826.26	504,785.71	1090.40	25	1065.4	51.7	1038.7	NA
G-098488	2,607,359.44	522,562.19	1196.44	18	1178.4	NA	NA	NA
G-098489	2,618,650.02	493,174.60	1150.44	17	1133.4	NA	NA	NA
G-098490	2,623,184.88	493,275.84	1143.03	12	1131.0	NA	NA	NA

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Boring Name	Easting (NAD 83)	Northing (NAD 83)	Ground Surface Elev. (ft NAVD 88)	Thickness of Loess or Overbank Fines (ft)	Bottom Elev. of Loess or Overbank Fines (ft NAVD 88)	Top of Bedrock Depth (ft bgs)	Bedrock Elevation (ft NAVD 88)	Bedrock Type
G-098491	2,626,758.00	493,346.43	1144.73	12	1132.7	NA	NA	NA
G-098592	2,640,901.42	483,829.54	1070.88	20	1050.9	NA	NA	NA
G-098837	2,618,604.05	547,520.43	1222.00	47	1175.0	108.5	1113.6	NA
G-099221	2,612,424.23	541,982.03	1289.90	65	1224.9	199.6	1090.3	NA
G-099245	2,638,624.89	529,151.18	1120.30	27	1093.3	39.8	1080.6	NA
G-099462	2,604,342.44	525,180.96	1200.44	15	1185.4	NA	NA	NA
G-099950	2,667,172.31	487,573.05	1197.00	35	1162.0	237	960.0	NA
G-099973	2,668,535.27	475,071.03	1186.70	15	1171.7	106.5	1080.2	NA
G-100078	2,638,605.43	529,450.40	1120.70	20	1100.7	39.6	1081.1	NA
G-100441	2,658,928.36	552,947.34	1128.20	20	1108.2	NA	NA	NA
G-100517	2,588,174.56	541,341.36	1214.70	15	1199.7	127.1	1087.6	NA
G-100704	2,639,554.67	515,230.35	1100.40	15	1085.4	58.6	1041.8	NA
G-100706	2,643,623.90	494,234.70	1080.40	11	1069.4	87	993.8	NA
G-100729	2,622,410.03	551,070.16	1301.65	40	1261.6	NA	NA	NA
G-100738	2,634,732.18	495,218.28	1081.00	20	1061.0	45.1	1035.9	NA
G-100739	2,608,042.88	499,498.34	1152.00	20	1132.0	145.7	1006.4	NA
G-100754	2,656,220.41	526,465.36	1104.40	13	1091.4	NA	NA	NA
G-100841	2,633,769.55	515,375.75	1143.16	42	1101.2	NA	NA	NA
G-101180	2,631,871.11	540,506.96	1192.00	28	1164.0	117.1	1074.9	NA
G-101180	2,631,870.48	540,521.88	1193.10	28	1165.1	117.9	1075.1	NA
G-101231	2,642,751.29	453,322.42	1109.60	14	1095.6	26.2	1083.4	NA
G-101457	2,669,123.47	481,051.85	1254.30	70	1184.3	252.3	1002.0	NA
G-101460	2,635,292.29	481,943.68	1098.50	25	1073.5	100	998.9	NA
G-101556	2,622,307.96	509,882.88	1168.66	17	1151.7	112.0	1056.7	NA
G-101602	2,629,373.79	509,380.67	1155.80	25	1130.8	115.0	1040.8	NA
G-101822A	2,650,858.52	522,395.56	1103.40	12	1091.4	98.2	1005.2	NA
G-101822B	2,650,858.73	522,390.47	1103.39	12	1091.4	NA	NA	NA
G-101822C	2,650,859.21	522,385.75	1103.39	12	1091.4	NA	NA	NA
G-102395	2,622,695.05	451,247.44	1144.50	15	1129.5	50.8	1093.7	NA
G-102451	2,650,941.15	484,651.46	1070.40	6	1064.3	70	1000.7	NA
G-102455	2,663,521.81	520,114.15	1224.00	65	1159.0	118.5	1105.5	NA
G-102604	2,658,939.03	547,943.92	1120.50	17	1103.5	90.2	1030.3	NA
G-102608	2,650,858.30	522,400.66	1103.39	12	1091.4	69.0	1034.4	NA
G-102911	2,667,934.14	467,058.25	1228.60	60	1168.6	104	1124.8	NA
G-102944	2,609,982.79	476,892.56	1151.30	20	1131.3	80	1071.7	NA
G-103092	2,664,696.41	517,573.31	1256.80	76	1180.8	125	1132.2	NA
G-103207	2,642,471.17	502,745.36	1088.40	22	1066.3	62.1	1026.3	NA
G-103856	2,646,410.76	457,425.22	1194.70	28	1166.7	80.1	1114.7	NA
G-104085	2,586,001.90	512,519.39	1192.30	18	1174.3	101.2	1091.1	NA
G-104810	2,661,498.06	525,608.08	1101.8	5	1096.4	37	1064.8	NA
G-105029	2,643,276.95	499,181.43	1080.90	16	1064.9	64.4	1016.5	NA
G-105055	2,632,112.92	542,680.00	1220.13	60	1160.1	NA	NA	NA
G-105056	2,632,061.39	542,708.48	1223.38	60	1163.4	NA	NA	NA
G-105129	2,628,401.76	540,312.76	1221.90	65	1156.9	140	1082.3	NA
G-105130	2,628,402.17	540,302.93	1221.80	65	1156.8	140	1082.2	NA
G-105158	2,646,034.32	455,132.99	1219.60	28	1191.6	122.5	1097.1	NA

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G-105159	2,642,968.13	453,405.55	1109.69	24	1085.9	55.0	1055.0	NA
G-105161	2,631,663.22	540,814.72	1190.50	42	1148.5	106	1084.9	NA
G-105269	2,651,134.54	547,627.07	1129.40	32	1097.4	99	1030.8	NA
G-105467	2,642,522.73	503,339.59	1089.40	10	1079.4	62.3	1027.1	NA
G-105544	2,667,361.77	510,430.23	1249.50	75	1174.5	200.3	1049.2	NA
G-105692	2,635,111.42	544,735.45	1130.49	13	1117.5	NA	NA	NA
G-105776	2,589,912.28	484,135.72	1262.42	25	1237.4	95.8	1107.4	NA
G-105801	2,617,284.51	504,943.72	1169.10	14	1155.1	106.7	1062.4	NA
G-105802	2,622,725.02	505,249.59	1162.40	14	1148.4	118.5	1043.9	NA
G-105827	2,635,901.60	531,322.34	1184.60	40	1144.6	92.2	1092.4	NA
G-105896	2,640,455.42	488,890.60	1080.40	20	1060.3	86.5	993.9	NA
G-105898	2,640,691.71	483,550.58	1071.40	19	1052.4	98	973.8	NA
G-105902	2,641,208.48	472,922.36	1063.90	22	1041.9	52	1012.3	NA
G-105906	2,641,545.34	467,809.69	1062.74	28	1034.7	NA	NA	NA
G-105910	2,653,200.86	465,471.63	1069.70	10	1059.7	95.9	973.9	NA
G-105912	2,655,933.49	464,937.59	1058.70	10	1048.7	65.7	993.0	NA
G-105923	2,620,367.93	531,322.74	1265.00	45	1220.0	201.4	1063.6	NA
G-105924	2,620,507.80	531,494.38	1260.20	45	1215.2	196.3	1064.0	NA
G-105933	2,641,165.39	484,640.85	1070.49	20	1050.5	NA	NA	NA
G-105953	2,637,883.29	467,587.13	1070.90	12	1058.9	75	996.3	NA
G-106148	2,637,011.20	532,214.67	1230.00	45	1185.0	132.0	1098.0	NA
G-106260	2,632,992.79	540,635.48	1239.80	75	1164.8	197	1043.2	NA
G-106605	2,605,285.38	523,629.83	1194.16	14	1180.2	NA	NA	NA
G-106702	2,649,996.78	555,551.18	1131.32	25	1106.3	NA	NA	NA
G-106887	2,668,363.91	482,283.77	1237.37	20	1217.4	NA	NA	NA
G-107100	2,657,444.39	496,157.71	1080.40	14	1066.4	NA	NA	NA
G-107101	2,657,463.35	495,733.43	1080.40	13	1067.4	53.2	1027.2	NA
G-107189	2,628,831.05	515,020.03	1200.15	33	1167.2	NA	NA	NA
G-107303	2,666,421.01	503,311.64	1197.20	50	1147.2	128	1069.6	NA
G-107434	2,645,380.18	504,893.65	1090.40	5	1085.4	NA	NA	NA
G-107795	2,662,912.06	518,951.87	1167.80	64.7	1103.0	66.7	1101.0	NA
G-107804	2,667,270.37	514,764.81	1286.60	74	1212.6	195	1092.0	NA
G-107901	2,666,374.10	497,295.14	1210.50	95	1115.5	203	1007.9	NA
G-108002	2,666,770.19	524,507.08	1239.30	50	1189.3	132	1107.7	NA
G-108016	2,665,889.91	495,924.95	1184.20	73	1111.2	182	1002.6	NA
G-108472	2,603,451.68	524,381.49	1200.44	24	1176.4	NA	NA	NA
G-108620A	2,640,842.68	460,420.05	1095.17	17	1078.2	NA	NA	NA
G-108620B	2,640,873.01	460,401.27	1095.13	14.5	1080.6	NA	NA	NA
G-108620C	2,640,824.11	460,369.32	1095.11	17	1078.1	NA	NA	NA
G-109003	2,639,439.93	494,276.27	1080.40	10	1070.4	NA	NA	NA
G-109009	2,605,250.44	523,439.58	1193.45	15	1178.5	NA	NA	NA
G-109088	2,638,852.93	504,527.54	1070.42	15	1055.4	NA	NA	NA
G-109089	2,638,880.97	504,548.77	1070.40	15	1055.4	NA	NA	NA
G-109131	2,642,148.03	454,050.60	1151.70	26	1125.7	69.3	1082.5	NA
G-109248	2,643,538.61	498,831.91	1081.43	10	1071.4	NA	NA	NA
G-109287	2,634,768.61	518,456.88	1148.10	25	1123.1	123.5	1024.6	NA

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G-109356	2,631,741.13	517,744.55	1215.55	40	1175.6	120.0	1095.5	NA
G-109425	2,657,086.17	488,362.40	1073.10	10	1063.1	51	1022.5	NA
G-109448	2,608,890.59	525,971.08	1190.40	20	1170.4	98	1092.8	NA
G-109464E	2,659,604.55	458,812.45	1050.35	0.5	1049.8	NA	NA	NA
G-109464K	2,655,552.98	465,071.58	1059.40	10	1049.4	69.1	990.3	NA
G-109464L	2,655,802.23	464,481.75	1057.40	10	1047.4	62.9	994.4	NA
G-109464M	2,655,857.14	464,359.05	1056.80	8	1048.8	61.7	995.1	NA
G-109464N	2,655,895.84	464,635.95	1051.60	10	1041.6	57.7	993.9	NA
G-109504	2,663,737.18	509,417.17	1262.30	78	1184.3	214.9	1047.5	NA
G-110126	2,667,300.86	490,459.51	1249.30	50	1199.3	294	955.7	NA
G-110149	2,643,570.92	535,351.59	1120.40	10	1110.4	67.4	1053.0	NA
G-110225	2,656,443.46	492,830.13	1075.56	7	1068.6	NA	NA	NA
G-110548	2,643,845.16	475,800.73	1068.46	15	1053.5	NA	NA	NA
G-110571	2,645,848.75	454,283.38	1218.90	25	1193.9	126.3	1092.6	NA
G-110974	2,617,887.46	527,362.11	1311.30	71	1240.3	247.0	1064.3	NA
G-111009	2,638,003.89	514,999.78	1111.80	28	1083.8	85.8	1026.0	NA
G-111009	2,638,171.00	515,068.69	1100.90	12	1088.8	73.4	1027.4	NA
G-111534	2,629,844.37	499,439.46	1135.50	15	1120.5	88.5	1047.0	NA
G-111654	2,662,705.60	510,715.17	1149.00	8	1141.0	120	1029.4	NA
G-111826	2,626,287.61	555,013.24	1191.69	15	1176.7	NA	NA	NA
G-111906	2,606,672.10	526,507.40	1200.44	15	1185.4	NA	NA	NA
G-111907	2,606,600.60	526,526.36	1200.44	15	1185.4	NA	NA	NA
G-111937	2,646,427.60	553,371.47	1133.46	22	1111.5	NA	NA	NA
G-112045	2,593,197.94	486,970.77	1217.00	38	1179.0	81	1136.4	NA
G-112285A	2,606,623.66	512,152.24	1180.44	18	1162.4	NA	NA	NA
G-112285B	2,606,583.75	512,246.49	1180.44	18	1162.4	NA	NA	NA
G-112285C	2,606,584.43	512,046.75	1180.44	18	1162.4	NA	NA	NA
G-112393	2,669,130.46	484,962.44	1264.90	65	1199.9	288.2	976.7	NA
G-112438	2,597,988.38	520,526.22	1190.50	20	1170.5	120.5	1069.9	NA
G-112950	2,643,532.00	531,729.13	1120.40	12	1108.4	58	1062.8	NA
G-113122	2,666,722.44	466,722.73	1211.10	55	1156.1	103	1108.6	NA
G-113706	2,665,211.86	507,275.75	1256.70	88	1168.6	191.7	1065.0	NA
G-113882	2,646,418.10	469,230.12	1062.20	12	1050.2	66	996.6	NA
G1-14	2,604,789.88	522,888.56	1197.06	17.5	1179.6	NA	NA	NA
G-114279	2,665,985.56	474,567.89	1182.90	57	1125.9	116.8	1066.1	NA
G-114521	2,633,107.50	511,056.86	1149.50	15	1134.5	106.8	1042.6	NA
G1-15	2,605,212.50	522,700.67	1196.13	17	1179.1	NA	NA	NA
G-115119	2,591,136.14	537,381.29	1219.52	18	1201.5	NA	NA	NA
G-115162	2,638,558.06	506,130.54	1070.59	30	1040.6	102.0	968.6	NA
G-115212	2,666,131.64	496,043.81	1200.90	81	1119.9	199	1002.3	NA
G-115367	2,593,796.59	530,096.96	1210.47	20	1190.5	NA	NA	NA
G-116034	2,656,045.21	526,215.02	1104.30	13	1091.3	56	1048.7	NA
G-116094	2,638,537.62	529,605.77	1120.40	26	1094.4	40	1080.8	NA
G-116108	2,662,286.84	491,289.61	1076.55	25	1051.5	NA	NA	NA
G-116412	2,663,132.67	510,599.09	1201.40	25	1176.4	167.5	1033.8	NA
G-116437	2,667,193.04	506,925.76	1217.50	38	1179.5	181	1036.9	NA

Table 2-1
Elevation of Top of Bedrock and Base of Loess/Overbank Fines
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Boring Name	Easting (NAD 83)	Northing (NAD 83)	Ground Surface Elev. (ft NAVD 88)	Thickness of Loess or Overbank Fines (ft)	Bottom Elev. of Loess or Overbank Fines (ft NAVD 88)	Top of Bedrock Depth (ft bgs)	Bedrock Elevation (ft NAVD 88)	Bedrock Type
G-116922B	2,639,748.89	491,855.43	1080.39	17.5	1062.9	NA	NA	NA
G-116922C	2,640,074.04	491,937.26	1080.39	16.5	1063.9	NA	NA	NA
G-116922D	2,639,856.77	491,748.04	1080.38	16.5	1063.9	NA	NA	NA
G-116922E	2,640,128.71	491,863.00	1080.39	20.5	1059.9	NA	NA	NA
G-116922F	2,640,105.38	491,788.38	1080.39	20	1060.4	NA	NA	NA
G-116930	2,656,352.07	457,850.45	1123.40	56	1067.4	62.8	1060.6	NA
G-117043	2,648,924.52	458,334.91	1154.20	15	1139.2	65.6	1088.6	NA
G-117114	2,665,395.99	477,581.66	1130.00	55	1075.0	62	1068.0	NA
G-117225	2,627,639.62	548,997.57	1243.14	85	1158.1	NA	NA	NA
G-117227	2,640,398.09	478,401.04	1070.35	27	1043.3	NA	NA	NA
G-117496	2,663,757.11	492,346.40	1132.87	51	1081.9	80.0	1052.9	NA
G-117775	2,621,650.19	471,889.36	1120.50	15	1105.5	59.6	1060.9	NA
G-117776	2,599,646.46	470,283.98	1190.60	20	1170.6	42.0	1148.6	NA
G-117985	2,638,290.83	531,822.29	1139.60	16	1123.6	45.5	1094.2	NA
G-118079	2,668,710.51	487,749.54	1256.50	55	1201.5	307	949.9	NA
G-118081	2,667,219.19	506,320.26	1211.70	35	1176.6	190	1022.0	NA
G-118091	2,640,932.95	485,724.88	1073.34	27	1046.3	NA	NA	NA
G-118340	2,606,423.43	512,823.61	1180.40	20	1160.4	105.3	1075.2	NA
G-118819	2,665,839.97	479,726.47	1115.00	40	1075.0	94.3	1020.7	NA
G-119146	2,663,932.80	492,000.52	1133.93	52	1081.9	NA	NA	NA
G-119147	2,661,813.55	505,681.34	1208.50	30	1178.4	152.6	1055.9	NA
G-119229	2,651,158.48	543,809.97	1130.54	10	1120.5	NA	NA	NA
G-119231	2,667,038.81	512,286.55	1260.40	80	1180.4	201	1059.8	NA
G-120070	2,650,379.71	542,359.04	1123.00	13	1110.0	105	1018.4	NA
G-120168	2,638,125.01	479,257.57	1070.24	27	1043.2	NA	NA	NA
G-120369	2,606,366.60	485,947.32	1121.10	35	1086.1	52.9	1068.2	NA
G-120841	2,594,457.74	544,096.46	1229.20	20	1209.1	142.3	1086.9	NA
G-121593	2,652,678.91	464,885.21	1060.50	10	1050.5	69.0	991.5	NA
G-121796	2,632,693.70	475,385.99	1119.50	20	1099.5	95.6	1023.8	NA
G-121797	2,632,468.07	517,503.29	1213.86	40	1173.9	110.0	1103.9	NA
G-121798	2,633,590.54	490,613.29	1110.87	15	1095.9	NA	NA	NA
G-122118	2,640,451.07	495,365.53	1080.40	14	1066.4	59.4	1021.0	NA
G-122122	2,649,368.01	482,242.93	1070.40	16	1054.3	52	1018.7	NA
G-122338	2,664,700.32	523,934.28	1174.14	20	1154.1	53.8	1120.4	NA
G-122568	2,637,761.76	529,875.97	1180.00	54	1126.0	82	1098.4	NA
G-122717	2,653,365.01	470,382.92	1060.35	8	1052.3	NA	NA	NA
G-122799	2,635,001.05	531,886.84	1206.20	60	1146.2	115.1	1091.1	NA
G-122977	2,602,432.54	539,080.12	1217.80	20	1197.8	121.4	1096.4	NA
G-123375	2,639,807.06	472,037.93	1091.20	20	1071.2	75	1016.6	NA
G-123715	2,647,051.66	546,977.39	1130.46	12	1118.5	NA	NA	NA
G1-24	2,604,191.65	522,957.92	1201.93	4	1197.9	NA	NA	NA
G-124180	2,657,872.77	497,613.26	1080.40	8	1072.4	NA	NA	NA
G-124271	2,665,372.23	483,453.37	1121.14	40	1081.1	NA	NA	NA
G-124396	2,648,896.83	543,107.18	1117.46	20	1097.5	NA	NA	NA
G-124398	2,650,075.32	542,347.11	1124.05	21	1103.0	NA	NA	NA
G-124651	2,647,953.67	531,116.26	1117.42	6	1111.4	NA	NA	NA

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G-124901	2,637,540.70	515,081.61	1137.00	15	1122.0	NA	NA	NA
G-125693	2,648,849.64	544,218.14	1111.50	14	1097.5	106	1005.9	NA
G-125697	2,663,173.06	504,322.98	1192.00	66	1126.0	151	1041.4	NA
G-125698	2,666,604.58	513,483.07	1266.00	93	1173.0	213	1053.4	NA
G-125812	2,665,985.97	504,746.94	1236.40	53	1183.4	155	1081.8	NA
G-125924	2,637,981.65	526,897.03	1152.90	65	1087.9	72.8	1080.1	NA
G-126119	2,608,131.54	533,940.11	1200.40	20	1180.4	119.8	1080.6	NA
G-126187A	2,616,150.11	499,805.14	1160.44	25	1135.4	NA	NA	NA
G-126187B	2,616,067.17	502,162.55	1162.08	25	1137.1	NA	NA	NA
G-126187C	2,616,076.87	502,168.05	1162.11	25	1137.1	NA	NA	NA
G-126187D	2,616,086.84	502,173.56	1162.13	25	1137.1	NA	NA	NA
G-126187E	2,616,083.86	502,118.39	1161.54	25	1136.5	NA	NA	NA
G-126187F	2,616,103.73	502,124.31	1161.49	25	1136.5	NA	NA	NA
G-126187G	2,616,113.43	502,129.81	1161.56	25	1136.6	NA	NA	NA
G-126187H	2,616,142.07	502,036.20	1161.45	25	1136.4	NA	NA	NA
G-126187I	2,616,152.03	502,041.72	1161.46	25	1136.5	NA	NA	NA
G-126187J	2,616,161.73	502,047.22	1161.48	25	1136.5	NA	NA	NA
G-126187K	2,616,278.34	501,877.75	1161.26	25	1136.3	NA	NA	NA
G-126187L	2,616,040.79	502,201.20	1162.57	25	1137.6	NA	NA	NA
G-126187M	2,616,060.18	502,212.20	1162.80	25	1137.8	NA	NA	NA
G-126187N	2,616,050.49	502,206.70	1162.66	25	1137.7	NA	NA	NA
G-126288	2,637,482.06	514,674.08	1139.70	20	1119.7	NA	NA	NA
G-126644	2,640,634.88	497,894.82	1081.20	16	1065.2	53.8	1027.3	NA
G1-27	2,605,356.11	521,831.92	1196.09	15	1181.1	NA	NA	NA
G-127035	2,637,393.53	474,771.20	1104.40	22	1082.4	94.3	1010.0	NA
G-127071	2,644,877.95	468,099.33	1063.50	23	1040.5	75	988.9	NA
G-127250	2,597,926.88	528,135.60	1211.20	18	1193.2	133.7	1077.5	NA
G-127389	2,632,646.01	461,814.43	1116.90	38	1078.9	99.7	1017.3	NA
G-127393	2,636,477.07	529,519.28	1192.20	58	1134.2	108	1084.6	NA
G-127394	2,632,950.35	540,712.58	1238.09	71	1167.1	NA	NA	NA
G-127514	2,647,711.28	513,383.81	1098.40	14	1084.4	93	1005.8	NA
G-127515	2,647,786.89	513,387.02	1098.40	16	1082.4	94	1004.8	NA
G-127516	2,648,016.00	513,396.73	1098.40	5	1093.4	93.6	1004.8	NA
G-127603	2,664,229.25	508,216.77	1233.20	40	1193.2	180	1053.6	NA
G-127649	2,647,507.15	514,590.39	1099.40	18	1081.4	88	1011.8	NA
G-127650	2,647,358.70	514,482.83	1099.40	6	1093.4	80	1019.8	NA
G-127687	2,638,423.12	530,511.36	1125.90	34	1091.9	37.6	1088.3	NA
G-127699	2,647,582.75	514,593.59	1099.40	17	1082.4	89	1010.8	NA
G-127725	2,655,873.25	470,894.82	1060.30	10	1050.3	59.1	1001.2	NA
G-127738	2,646,130.13	509,164.83	1098.50	7	1091.4	93.7	1004.7	NA
G-127739	2,646,130.09	509,165.85	1098.50	6	1092.4	93.7	1004.7	NA
G-127740	2,646,202.19	509,270.16	1098.10	5	1093.1	93.5	1004.6	NA
G-127741	2,647,045.95	509,203.59	1095.00	5	1090.0	93.6	1001.4	NA
G-128002	2,665,039.49	505,415.04	1221.40	50	1171.4	171	1050.8	NA
G-128091	2,648,025.03	491,524.02	1078.40	9	1069.4	93.3	985.0	NA
G-128147	2,641,794.38	492,172.37	1080.40	10	1070.4	NA	NA	NA

Table 2-1
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G-128171	2,666,240.19	513,062.25	1262.50	92	1170.5	210	1052.9	NA
G-128715	2,664,058.61	505,069.99	1234.10	63	1171.1	165	1069.5	NA
G-128779	2,664,289.51	496,166.99	1149.30	60	1089.3	155	994.7	NA
G-128997	2,598,307.98	514,885.79	1180.50	15	1165.5	118.7	1061.8	NA
G-129063	2,625,213.57	507,985.42	1161.50	16	1145.5	90.7	1070.7	NA
G-129154	2,668,380.31	507,787.24	1287.80	80	1207.8	248.9	1038.9	NA
G-129323A	2,628,147.84	485,221.18	1136.46	15	1121.5	NA	NA	NA
G-129323B	2,628,211.72	485,527.63	1138.58	14	1124.6	NA	NA	NA
G-129323C	2,628,126.87	485,726.64	1133.04	14	1119.0	NA	NA	NA
G-129323D	2,628,292.37	485,429.71	1140.29	14	1126.3	NA	NA	NA
G-129323E	2,628,131.06	485,625.55	1135.22	14	1121.2	NA	NA	NA
G-129323F	2,628,135.26	485,524.45	1136.38	12	1124.4	NA	NA	NA
G-129442	2,623,011.64	522,375.20	1224.70	15	1209.7	157.4	1067.3	NA
G-129537B	2,587,908.12	462,929.52	1209.94	9.4	1200.5	245.0	965.0	NA
G-129537D	2,587,908.12	462,929.52	1209.94	9.4	1200.5	NA	NA	NA
G-129948	2,653,212.97	544,565.93	1120.46	16	1104.5	NA	NA	NA
G-130357	2,662,456.87	503,178.20	1113.50	18	1095.5	70	1043.9	NA
G-130797	2,637,988.66	519,189.35	1148.40	28	1120.4	105.8	1042.6	NA
G-130942E	2,642,392.81	460,270.10	1070.50	9	1061.5	24.2	1046.3	NA
G-130942H	2,642,524.10	460,193.60	1070.40	20	1050.5	21.9	1048.5	NA
G-130942I	2,642,502.67	460,138.74	1070.30	20	1050.8	21.5	1048.8	NA
G-131057	2,619,782.99	483,762.59	1102.60	20	1082.6	72.2	1030.4	NA
G-131161	2,659,674.99	514,502.45	1100.40	18	1082.4	78.0	1022.0	NA
G-131162	2,660,120.21	514,824.35	1100.20	8	1092.2	46	1054.2	NA
G-131282A	2,625,587.68	478,978.43	1124.24	21.5	1102.7	NA	NA	NA
G-131301	2,647,701.75	459,307.00	1170.60	30	1140.6	55.7	1114.9	NA
G-131316	2,605,286.55	523,876.59	1193.61	18	1175.6	NA	NA	NA
G-131386	2,665,628.85	505,946.81	1230.30	63	1167.3	149	1081.3	NA
G-131387	2,662,194.21	553,700.80	1120.46	15	1105.5	93.0	1027.5	NA
G-132159	2,663,194.84	503,816.55	1156.00	45	1111.0	111.9	1044.1	NA
G-132163	2,664,334.94	509,334.30	1273.20	80	1193.2	223.8	1049.4	NA
G-132237	2,639,705.16	477,241.24	1070.40	16	1054.3	59.0	1011.4	NA
G-132238	2,636,845.72	476,874.86	1109.87	20	1089.9	NA	NA	NA
G-132249	2,642,426.72	474,359.30	1068.10	23	1045.1	56.6	1011.6	NA
G-132495	2,668,174.68	466,460.27	1231.40	60	1171.4	112	1119.8	NA
G-132687A	2,659,100.03	459,674.59	1050.40	1	1049.3	77.8	972.5	NA
G-132687F	2,661,058.04	458,657.38	1050.35	1.5	1048.8	NA	NA	NA
G-132687G	2,659,230.95	460,996.30	1050.40	2.5	1047.8	92.0	958.5	NA
G-132687H	2,660,000.73	458,489.25	1050.35	5	1045.3	84.0	966.4	NA
G-132687I	2,660,249.42	459,657.41	1050.40	4.5	1045.8	86.6	963.8	NA
G-132687J	2,659,486.31	459,162.85	1050.40	1.5	1048.8	82.1	968.3	NA
G-133109	2,667,940.18	507,364.14	1275.76	96	1179.8	NA	NA	NA
G-133469	2,647,633.38	517,027.21	1100.40	17	1083.4	91	1009.8	NA
G-133470	2,648,073.66	517,449.95	1100.50	19	1081.5	91	1009.9	NA
G-133500	2,647,925.23	517,342.38	1100.90	17	1083.9	93	1008.3	NA
G-133835	2,661,572.34	525,520.25	1100.40	10	1090.4	50	1050.8	NA

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G-133956	2,664,076.01	504,665.65	1223.80	75	1148.8	163	1061.2	NA
G-133995	2,656,858.35	538,526.62	1114.10	27	1087.1	45	1069.5	NA
G-134121	2,636,529.23	489,924.99	1070.30	20	1050.3	47	1023.7	NA
G-134158	2,662,311.80	533,478.27	1110.40	27	1083.4	45	1065.8	NA
G-134224	2,664,330.54	509,436.40	1275.80	80	1195.8	227.2	1048.7	NA
G-134247	2,638,709.89	472,598.49	1099.80	15	1084.8	NA	NA	NA
G-134801	2,668,464.38	484,599.46	1256.10	45	1211.1	278	978.5	NA
G-134895	2,664,350.98	498,296.35	1162.30	40	1122.3	154.8	1007.5	NA
G1-35	2,603,907.67	522,663.73	1202.78	23.5	1179.3	NA	NA	NA
G-135021	2,666,969.73	536,893.93	1129.60	32	1097.6	58	1072.0	NA
G-135038	2,657,630.60	508,641.42	1090.99	10	1081.0	NA	NA	NA
G-135345	2,584,677.91	551,472.04	1229.90	18	1211.8	124.2	1105.7	NA
G-135395	2,586,888.56	530,640.57	1210.50	14	1196.5	105.2	1105.2	NA
G-135522	2,611,269.18	500,044.06	1162.30	19	1143.3	124.9	1037.5	NA
G-135525	2,586,967.10	549,679.80	1224.68	17	1207.7	NA	NA	NA
G-135560	2,635,846.11	537,458.18	1133.90	18	1115.9	35.8	1098.1	NA
G-135565	2,595,221.66	494,610.90	1156.91	14	1142.9	NA	NA	NA
G-135638	2,659,144.78	550,025.15	1121.46	25	1096.5	NA	NA	NA
G-135639	2,659,149.12	549,924.07	1121.46	25	1096.5	NA	NA	NA
G-135640	2,659,140.44	550,126.24	1121.44	25	1096.4	NA	NA	NA
G-135792	2,659,140.44	550,126.24	1121.44	25	1096.4	NA	NA	NA
G-135838	2,666,566.50	500,002.06	1227.40	30	1197.4	200	1027.8	NA
G-135845A	2,612,342.28	514,007.48	1180.44	16	1164.4	NA	NA	NA
G-135845B	2,612,829.07	512,579.33	1178.32	17	1161.3	NA	NA	NA
G-135845C	2,612,785.48	513,083.86	1178.45	16	1162.5	NA	NA	NA
G-135892	2,599,345.20	496,081.04	1119.50	15	1104.5	73.3	1046.2	NA
G-135893	2,588,695.62	550,650.02	1231.51	16	1215.5	NA	NA	NA
G-135895	2,646,668.35	498,251.59	1081.40	20	1061.4	89.3	992.1	NA
G-135936A	2,642,244.57	460,244.18	1071.18	8	1063.2	NA	NA	NA
G-135936B	2,642,241.72	460,279.06	1071.72	11	1060.7	NA	NA	NA
G-135936C	2,642,211.07	460,226.73	1071.62	11.5	1060.1	NA	NA	NA
G-136000	2,635,492.49	516,515.79	1141.10	40	1101.0	123.7	1017.4	NA
G-136010	2,663,278.88	483,839.81	1072.40	16	1056.3	104	968.1	NA
G-136134	2,585,260.27	550,195.04	1230.28	17	1213.3	NA	NA	NA
G-136275	2,588,800.22	516,258.33	1191.40	17	1174.4	109.4	1082.0	NA
G-136279	2,608,826.59	516,828.58	1189.90	18	1171.9	129.9	1059.9	NA
G-136373	2,632,852.72	539,392.02	1241.10	50	1191.1	175	1066.5	NA
G-136409	2,635,905.06	495,672.08	1086.60	19	1067.6	46.1	1040.5	NA
G-136421	2,608,726.64	516,828.52	1190.40	20	1170.4	130.5	1059.9	NA
G-136422	2,621,505.64	497,706.70	1151.60	20	1131.6	98.6	1053.0	NA
G-136423	2,625,089.74	510,731.06	1160.50	18	1142.5	86.4	1074.1	NA
G-136517	2,631,126.11	514,814.38	1172.00	45	1127.0	138.5	1033.5	NA
G-136539	2,665,694.23	504,430.54	1221.00	40	1181.0	157	1064.4	NA
G1-37	2,604,372.91	522,022.90	1204.63	16.5	1188.1	NA	NA	NA
G-137471	2,664,804.36	469,959.83	1164.80	25	1139.8	54	1111.2	NA
G-137569	2,660,472.66	554,213.15	1120.46	5	1115.5	NA	NA	NA

Table 2-1
Elevation of Top of Bedrock and Base of Loess/Overbank Fines
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Boring Name	Easting (NAD 83)	Northing (NAD 83)	Ground Surface Elev. (ft NAVD 88)	Thickness of Loess or Overbank Fines (ft)	Bottom Elev. of Loess or Overbank Fines (ft NAVD 88)	Top of Bedrock Depth (ft bgs)	Bedrock Elevation (ft NAVD 88)	Bedrock Type
G-137827	2,664,791.31	470,263.08	1152.30	20	1132.3	49	1103.7	NA
G-137968	2,664,713.56	541,353.80	1120.45	29	1091.4	NA	NA	NA
G-138258	2,636,235.21	529,810.99	1193.10	55	1138.1	106.9	1086.3	NA
G-138415	2,665,895.18	506,869.74	1267.5	80	1187.1	179	1088.5	NA
G-138488A	2,642,382.87	460,230.68	1070.42	7	1063.4	NA	NA	NA
G-138488D	2,642,253.02	460,266.41	1071.52	10	1061.5	NA	NA	NA
G-138821	2,614,205.10	520,797.49	1188.60	17	1171.6	122.1	1066.5	NA
G-138924	2,639,972.44	502,152.41	1076.40	23	1053.4	43.5	1032.9	NA
G-138925	2,595,275.57	544,636.66	1221.90	15	1206.9	133.2	1088.7	NA
G-139010	2,666,597.95	508,318.89	1296.40	55	1241.4	234	1062.8	NA
G-139125	2,654,872.13	537,385.74	1116.30	28	1088.3	58.2	1058.0	NA
G-139140	2,632,824.45	517,709.92	1208.00	47	1161.0	181.5	1026.5	NA
G-139162	2,665,772.15	506,155.53	1238.40	73	1165.4	174	1064.8	NA
G-139266	2,637,586.97	534,020.62	1208.40	50	1158.4	107.5	1100.9	NA
G-139291	2,664,560.96	507,622.41	1250.40	50	1200.4	195.1	1055.4	NA
G-139351	2,669,593.65	467,330.71	1221.60	48	1173.6	134	1088.0	NA
G-139424	2,636,331.60	482,136.61	1070.20	20	1050.2	60	1010.6	NA
G1-47	2,604,073.83	522,023.30	1200.44	14.5	1185.9	NA	NA	NA
G2-02	2,617,342.65	516,195.96	1188.31	15	1173.3	NA	NA	NA
G2-03	2,618,199.46	517,875.80	1163.49	11	1152.5	NA	NA	NA
G2-04	2,617,482.72	512,662.81	1174.96	19	1156.0	NA	NA	NA
G2-08	2,624,880.84	514,649.89	1161.32	16	1145.3	NA	NA	NA
G2-12	2,624,516.94	512,019.68	1164.05	25	1139.0	NA	NA	NA
G2-14	2,619,251.33	509,115.56	1166.84	18	1148.8	NA	NA	NA
G2-18	2,628,776.47	509,528.26	1151.51	30	1121.5	NA	NA	NA
G2-20	2,624,861.48	504,537.13	1147.84	15	1132.8	NA	NA	NA
G2-21	2,626,613.71	505,871.77	1155.34	17	1138.3	NA	NA	NA
G2-22	2,628,300.09	508,223.79	1115.03	14	1101.0	NA	NA	NA
G2-25	2,626,906.41	501,541.52	1143.81	20	1123.8	NA	NA	NA
G2-26	2,629,241.84	504,303.36	1140.78	15	1125.8	NA	NA	NA
G2-27	2,631,610.92	505,688.40	1143.95	17	1127.0	NA	NA	NA
G2-30	2,629,407.58	500,378.92	1139.44	15	1124.4	NA	NA	NA
G2-31	2,632,100.02	501,708.76	1122.72	7	1115.7	NA	NA	NA
G2-32	2,633,343.39	504,358.43	1105.31	12	1093.3	NA	NA	NA
G2-34	2,632,709.15	496,465.34	1088.57	25	1063.6	NA	NA	NA
G2-35	2,632,814.94	498,254.30	1090.30	20	1070.3	NA	NA	NA
G2-36	2,634,931.90	499,248.41	1075.10	10	1065.1	NA	NA	NA
G2-37	2,634,854.10	501,835.47	1084.68	15.5	1069.2	NA	NA	NA
G2-38	2,634,612.13	504,462.41	1091.20	15	1076.2	NA	NA	NA
G2-39	2,634,873.46	497,422.92	1070.77	25	1045.8	NA	NA	NA
G3-01	2,605,859.44	512,043.57	1178.12	16	1162.1	NA	NA	NA
G3-02	2,607,701.02	512,271.24	1176.68	18.5	1158.2	NA	NA	NA
G3-04	2,605,425.21	508,782.15	1173.08	13	1160.1	NA	NA	NA
G3-05	2,607,191.85	508,980.59	1174.98	18	1157.0	NA	NA	NA
G3-07	2,610,433.32	508,885.07	1175.70	16	1159.7	NA	NA	NA
G3-08	2,605,044.23	505,615.49	1167.62	21	1146.6	NA	NA	NA

Table 2-1
Elevation of Top of Bedrock and Base of Loess/Overbank Fines
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Boring Name	Easting (NAD 83)	Northing (NAD 83)	Ground Surface Elev. (ft NAVD 88)	Thickness of Loess or Overbank Fines (ft)	Bottom Elev. of Loess or Overbank Fines (ft NAVD 88)	Top of Bedrock Depth (ft bgs)	Bedrock Elevation (ft NAVD 88)	Bedrock Type
G3-12	2,611,896.15	506,279.04	1166.25	14	1152.2	NA	NA	NA
G3-13	2,605,706.80	501,382.46	1157.58	20	1137.6	NA	NA	NA
G3-15	2,610,482.55	501,762.47	1165.86	17	1148.9	NA	NA	NA
G3-16	2,612,511.58	501,810.77	1161.50	22	1139.5	NA	NA	NA
G3-19	2,608,510.23	498,292.41	1159.93	19.5	1140.4	NA	NA	NA
GCW-1	2,622,991.70	511,987.67	1169.49	15	1154.5	NA	NA	NA
GCW-2	2,613,252.36	506,039.55	1170.44	11.5	1158.9	NA	NA	NA
H-01	2,629,721.25	493,738.95	1138.29	26	1112.3	NA	NA	NA
H-02	2,638,383.56	499,425.65	1081.15	13	1068.1	NA	NA	NA
H-03	2,637,359.79	501,924.85	1082.50	13	1069.5	NA	NA	NA
H-04	2,631,087.41	488,498.28	1143.28	7	1136.3	NA	NA	NA
H-05	2,638,133.05	496,237.51	1079.55	19	1060.6	NA	NA	NA
H-06	2,640,063.71	499,294.15	1081.61	13	1068.6	NA	NA	NA
H-07	2,640,042.56	500,739.32	1082.91	15	1067.9	NA	NA	NA
H2-01	2,603,683.70	522,077.52	1200.44	14	1186.4	NA	NA	NA
H2-02	2,604,184.32	522,045.36	1201.03	16	1185.0	NA	NA	NA
H2-03	2,605,033.15	521,570.05	1201.43	15	1186.4	NA	NA	NA
H2-04	2,604,469.42	522,502.36	1201.13	12	1189.1	NA	NA	NA
LL1-002	2,605,362.62	510,372.94	1179.90	13	1166.9	NA	NA	NA
LL1-039	2,606,129.33	509,640.37	1178.07	16	1162.1	NA	NA	NA
LL1-047	2,606,341.82	509,594.76	1173.00	2	1171.0	NA	NA	NA
LL1-048	2,606,436.15	509,735.37	1174.21	12	1162.2	NA	NA	NA
LL1-055	2,606,432.60	509,497.27	1170.59	11	1159.6	NA	NA	NA
LL1-068	2,606,079.17	509,217.02	1178.81	15	1163.8	NA	NA	NA
LL1-069	2,606,174.50	509,102.13	1180.32	14	1166.3	NA	NA	NA
LL1-075	2,606,242.94	508,772.14	1175.79	15	1160.8	NA	NA	NA
LL1-080	2,606,619.37	508,779.48	1171.54	14	1157.5	NA	NA	NA
LL1-094	2,606,323.60	507,699.06	1171.23	13	1158.2	NA	NA	NA
SB-T59-07	2,611,706.60	497,243.01	1175.00	15.1	1159.9	134.8	1040.2	SH/SS
SB-T60-02	2,609,527.00	495,561.00	1156.00	11	1145.0	137.0	1019.0	SS
SB-T61-05	2,619,654.48	496,031.17	1149.70	17.7	1132.0	96.1	1053.6	SS
SB-T62-01	2,618,413.40	494,621.64	1152.70	13.5	1139.2	101.0	1051.7	SS
SB-T63-03	2,619,609.67	494,392.92	1148.50	16.3	1132.2	101.0	1047.5	SS

Notes: NA - Information Not Available
SS - Sandstone
SH - Shale
NAD 83 - North American Datum of 1983
NAVD 88 - North American Vertical Datum of 1988
ft - Feet
bgs - Below Ground Surface
LL - Load Line
GCW - Groundwater Circulation Well
This list does not include all wells in the NDNR database because of duplicate wells with conflicting logs
This list does not include wells installed by USACE, these are detailed on Table 2-4

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Table 2-2
Aquifer Characterization Slug Test Results
2010 Groundwater Model Report
Former NOP, Mead, Nebraska

Load Line	Transect or Well	Formation	K (ft/day)	Ss	Solution Method
LL1	MW-101A	Wahoo Valley	6	1.69E-06	KGS
	MW-101B	Wahoo Valley	50	1.69E-06	KGS
	MW-119A	Todd Valley	51	4.94E-06	KGS
	MW-120B	Todd Valley	33	3.90E-05	KGS
	MW-121B	Todd Valley	49	1.47E-06	KGS
	MW-122A	Todd Valley	59	NA	Springer-Gelhar
	MW-122B	Todd Valley	268	NA	Springer-Gelhar
	MW-123A	Todd Valley	157	NA	Springer-Gelhar
	MW-123B	Todd Valley	157	NA	Springer-Gelhar
	MW-124A	Todd Valley	232	NA	Springer-Gelhar
	MW-124B	Todd Valley	71	1.00E-06	KGS
	MW-125A	Todd Valley	232	NA	Springer-Gelhar
	MW-125B	Todd Valley	91	1.00E-06	KGS
	MW-126A	Todd Valley	6	7.25E-06	KGS
	MW-126B	Todd Valley	20	3.69E-04	KGS
	MW-127A	Todd Valley	93	NA	Springer-Gelhar
	MW-127B	Todd Valley	55	2.04E-05	KGS
	MW-141A	Todd Valley	48	1.00E-06	KGS
	MW-141B	Todd Valley	43	2.03E-06	KGS
	MW-141E	Todd Valley	44	4.96E-06	KGS
	MW-142A	Todd Valley	55	1.00E-06	KGS
	MW-79A	Wahoo Valley	35	1.68E-06	KGS
	MW-79B	Wahoo Valley	91	1.00E-06	KGS
	MW-80A	Wahoo Valley	94	NA	Springer-Gelhar
	MW-80B	Wahoo Valley	57	1.69E-06	KGS
	MW-89A	Todd Valley	10	1.00E-06	KGS
	MW-89B	Todd Valley	5	7.82E-06	KGS
	MW-89E	Todd Valley	144	NA	Springer-Gelhar
	MW-90A	Todd Valley	15	1.64E-05	KGS
	MW-90B	Todd Valley	17	1.09E-05	KGS
	MW-90D	Omadi	2	2.31E-05	KGS
	MW-91A	Todd Valley	102	NA	Springer-Gelhar
	MW-91B	Todd Valley	11	4.88E-06	KGS
	MW-91D	Omadi	0.9	4.20E-05	KGS
	MW-92A	Wahoo Valley	83	NA	Springer-Gelhar
	MW-92B	Wahoo Valley	43	1.93E-06	KGS
	MW-93A	Todd Valley	3	1.37E-05	KGS
	MW-93B	Todd Valley	77	NA	Springer-Gelhar
	T74-001	Wahoo Valley	8	1.00E-06	KGS
	T74-001	Wahoo Valley	86	NA	Springer-Gelhar
	T74-002	Wahoo Valley	8	9.83E-05	KGS
	T74-002	Wahoo Valley	13	1.00E-06	KGS
	T74-003	Wahoo Valley	37	1.00E-06	KGS
	T74-003	Wahoo Valley	417	NA	Springer-Gelhar
	T74-004	Wahoo Valley	1	5.33E-06	KGS
	T74-004	Wahoo Valley	9	8.58E-05	KGS
	T74-005	Wahoo Valley	2	1.60E-02	KGS

Table 2-2
Aquifer Characterization Slug Test Results
2010 Groundwater Model Report
Former NOP, Mead, Nebraska

Load Line	Transect or Well	Formation	K (ft/day)	Ss	Solution Method
LL1	T74-005	Wahoo Valley	98	NA	Springer-Gelhar
	T74-006	Wahoo/Todd Valley	2	1.56E-02	KGS
	T74-006	Wahoo/Todd Valley	145	NA	Springer-Gelhar
	T74-007	Todd Valley	10	3.16E-05	KGS
	T74-007	Todd Valley	15	7.42E-05	KGS
	T74-008	Todd Valley	12	1.70E-05	KGS
	T74-008	Todd Valley	104	NA	Springer-Gelhar
LL2	MW-144A	Todd Valley	52	1.47E-06	KGS
	MW-144E	Todd Valley	62	1.00E-06	KGS
	MW-145A	Todd Valley	21	3.82E-05	KGS
	MW-145E	Todd Valley	18	7.12E-06	KGS
	MW-146A	Todd Valley	57	1.00E-06	KGS
	MW-146B	Todd Valley	17	2.58E-04	KGS
	MW-147B	Todd Valley	33	1.42E-05	KGS
	MW-147D	Omadi	7	1.87E-06	KGS
LL3	MW-143B	Todd Valley	45	3.52E-05	KGS
	MW-148B	Todd Valley	43	1.92E-05	KGS
	MW-149A	Todd Valley	90	1.16E-05	KGS
	MW-150A	Todd Valley	55	1.95E-05	KGS
	MW-150B	Todd Valley	43	2.17E-06	KGS
LL4/AMA	MW-104A	Platte Valley	328	NA	Springer-Gelhar
	MW-104B	Platte Valley	93	NA	Springer-Gelhar
	MW-104D	Omadi	31	1.00E-06	KGS
	MW-133A	Todd Valley	34	1.00E-06	KGS
	MW-134A	Todd Valley	133	NA	Springer-Gelhar
	MW-134B	Todd Valley	4	2.92E-05	KGS
	MW-135A	Todd Valley	144	NA	Springer-Gelhar
	MW-135B	Todd Valley	29	1.57E-06	KGS
	MW-136A	Todd Valley	168	NA	Springer-Gelhar
	MW-136B	Todd Valley	74	1.00E-06	KGS
	MW-137A	Todd Valley	147	NA	Springer-Gelhar
	MW-137B	Todd Valley	39	6.27E-06	KGS
	MW-137E	Todd Valley	67	4.67E-05	KGS
	MW-138A	Todd Valley	153	NA	Springer-Gelhar
	MW-139A	Todd Valley	2	2.46E-04	KGS
	MW-151B	Todd Valley	42	1.00E-06	KGS
	MW-152B	Todd Valley	7	1.16E-05	KGS
	MW-153B	Todd Valley	103	NA	Springer-Gelhar
	MW-154A	Todd Valley	31	1.00E-06	KGS
	MW-154B	Todd Valley	4	1.00E-06	KGS
	MW-155A	Todd Valley	215	NA	Springer-Gelhar
	MW-155E	Todd Valley	117	NA	Springer-Gelhar
	MW-156A	Todd Valley/Platte Valley	127	NA	Springer-Gelhar
	MW-156B	Todd Valley/Platte Valley	0.2	1.03E-02	KGS
	MW-157A	Todd Valley/Platte Valley	251	NA	Springer-Gelhar
	MW-157B	Todd Valley/Platte Valley	21	4.36E-06	KGS
	MW-158A	Platte Valley	151	1.00E-06	KGS

Table 2-2
Aquifer Characterization Slug Test Results
2010 Groundwater Model Report
Former NOP, Mead, Nebraska

Load Line	Transect or Well	Formation	K (ft/day)	Ss	Solution Method
LL4/AMA	MW-158B	Platte Valley	189	NA	Springer-Gelhar
	MW-158D	Omadi	3	5.08E-07	KGS
	PZ-13	Platte Valley	42	1.69E-06	KGS
	PZ-14	Omadi	2	1.23E-05	KGS
	MW-159A	Till Upland	16	1.05E-06	KGS
	MW-159B	Till Upland	73	1.00E-06	KGS

Notes:
AMA - Atlas Missile Area
ft - Feet
ft/day - Feet per day
K - Hydraulic Conductivity
KGS - Kansas Geologic Survey
LL - Load Line
MW - Monitoring Well
NA - Information not available
NOP - Nebraska Ordnance Plant
PZ - Piezometer
Ss - Specific Storage

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Table 2-3
Groundwater Elevations March 2009 through October 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Sample ID	Top of Casing (TOC) Elevation (fteet AMSL)	Groundwater Elevation (ft AMSL) March 2009	Groundwater Elevation (ft AMSL) August 2009	Groundwater Elevation (ft AMSL) October 2009	Groundwater Elevation (ft AMSL) March 2010	Groundwater Elevation (ft AMSL) August 2010	Groundwater Elevation (ft AMSL) October 2010
EW-1	1079.43	1058.59	1068.20	1068.60	1068.20	1068.70	1067.80
EW-2	1104.28	1080.23	NM	NM	1080.20	NM	NM
EW-3	1150.01	1078.70	1078.00	1078.10	1078.00	1077.70	1078.10
EW-4	1148.68	1064.79	1064.80	1064.80	1064.80	1064.80	1064.80
EW-5	1153.98	1095.30	NM	NM	1095.70	NM	NM
EW-6	1147.98	1073.39	1090.20	1090.20	1090.20	1091.40	1091.40
EW-7	1148.38	1073.10	1075.80	1075.80	1075.80	1075.80	1077.30
EW-8	1160.39	1110.90	NM	NM	NM	NM	NM
EW-9	1154.67	1074.33	1077.80	1077.80	1077.80	1078.80	1079.40
EW-10	1150.64	1074.30	1075.00	1072.70	1075.00	1099.00	1099.40
FEW-11	1162.77	1110.45	1098.70	1097.80	1098.70	1097.60	1097.00
EW-12	1113.72	1052.54	1069.54	1050.71	1069.54	1038.94	1037.64
EW-13	NA	NM	NM	NM	NM	NM	NM
FEW-14	1155.99	NM	1073.40	1073.70	1073.40	1073.70	1074.20
FEW-15	1169.64	NM	NM	NM	1125.20	1114.50	1111.50
EW-16	1146.97	NM	1079.40	1079.40	1079.40	1078.30	1079.00
MW-01A	1176.88	1135.52	1135.13	1132.86	1133.98	Abandoned	Abandoned
MW-01B	1176.73	1135.53	1135.17	1131.46	1133.82	Abandoned	Abandoned
MW-02A	1174.77	1133.69	1132.94	1133.16	1133.37	1133.94	1134.66
MW-02B	1175.18	1133.66	1132.88	1133.16	1133.38	1133.92	1134.67
MW-03A	1177.06	1132.79	1131.96	1132.17	1132.51	1132.96	1133.69
MW-03B	1177.23	1132.86	1132.05	1132.28	1132.58	1132.99	1133.72
MW-04A	1168.73	1131.48	1130.31	1130.62	1130.92	1132.01	1132.48
MW-04B	1168.85	1131.49	1130.30	1130.59	1130.89	1132.00	1132.49
MW-05A	1168.12	1132.61	1132.08	1131.96	1132.15	1133.22	1133.56
MW-05B	1168.18	1132.50	1131.13	1131.83	1132.00	1133.17	1133.50
MW-06A	1165.46	1125.77	1125.06	1125.17	1125.45	Abandoned	Abandoned
MW-06B	1165.61	1125.73	1125.11	1125.15	1125.42	Abandoned	Abandoned
MW-07A	1164.85	1126.15	1125.48	1125.49	1125.82	1126.24	1126.78
MW-07B	1164.64	1126.18	1125.29	1125.54	1125.85	1126.26	1126.81
MW-08A	1165.92	1119.41	1118.39	1118.60	1118.85	1119.45	1119.45
MW-08B	1165.92	1119.41	1118.42	1118.61	1118.83	1119.49	1119.43
MW-09A	1171.46	NM	1118.96	1119.07	1119.26	1119.84	1119.88
MW-09B	1171.60	1120.10	1119.12	1119.26	1119.46	1120.03	1120.06
MW-09D	1171.28	1119.98	1119.04	1119.17	1119.35	1119.90	1119.91
MW-10A	1150.35	1110.03	1109.33	1109.39	1110.30	1110.31	1110.52
MW-10B	1150.31	1109.93	1109.34	1109.40	1110.31	1110.34	1110.55
MW-11	1153.22	1124.70	1123.70	1123.60	1125.54	1125.92	1125.24
MW-12	1178.55	1140.50	NM	NM	NM	Abandoned	Abandoned
MW-13	1175.20	1137.92	1137.45	1137.50	NM	Abandoned	Abandoned
MW-14	1178.94	1132.84	1132.36	1132.18	NM	Abandoned	Abandoned
MW-15	1170.06	1134.25	1124.30	1124.27	NM	Abandoned	Abandoned
MW-16B	1188.68	1153.28	1152.41	1152.81	1153.23	1154.48	1153.14
MW-16C	1189.40	1153.26	1152.48	1152.78	1153.18	1154.43	1155.10
MW-17A	1128.60	1120.54	1120.10	1120.04	1120.43	Abandoned	Abandoned

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Sample ID	Top of Casing (TOC) Elevation (fteet AMSL)	Groundwater Elevation (ft AMSL) March 2009	Groundwater Elevation (ft AMSL) August 2009	Groundwater Elevation (ft AMSL) October 2009	Groundwater Elevation (ft AMSL) March 2010	Groundwater Elevation (ft AMSL) August 2010	Groundwater Elevation (ft AMSL) October 2010
MW-17B	1128.50	1120.01	1119.45	1119.49	1120.35	1120.48	1120.62
MW-17C	1128.40	1120.64	1119.42	1119.60	1121.70	Abandoned	Abandoned
MW-18A	1145.43	1102.68	1102.21	1102.41	1102.74	1103.72	1104.35
MW-18B	1145.57	1103.32	1102.37	1102.06	1102.37	1103.38	1104.04
MW-18C	1146.05	1106.47	1105.75	1105.44	1105.45	1106.95	1107.30
MW-19A	1158.65	1146.30	1145.85	1146.36	1146.93	Abandoned	Abandoned
MW-19B	1158.59	1145.99	1145.74	1146.12	1146.68	1147.61	1147.99
MW-19C	1159.26	1145.81	NM	NM	NM	Abandoned	Abandoned
MW-20A	1160.42	1098.60	1098.32	1098.29	1099.01	1100.16	1100.70
MW-20B	1160.29	1098.59	1098.39	1098.29	1099.26	1100.18	1100.72
MW-20C	1160.29	NM	1100.65	1100.47	1100.53	1101.84	1102.40
MW-21A	1165.63	1128.00	1127.81	1127.72	1127.88	1128.69	1129.19
MW-21B	1165.59	1127.99	1127.80	1127.77	1127.84	1128.65	1129.10
MW-21D	1165.57	1127.93	1127.74	1127.67	1127.83	1128.61	1129.09
MW-22A	1176.78	1144.23	1143.88	1143.85	1144.11	Abandoned	Abandoned
MW-22B	1176.67	1144.10	1143.77	1143.73	1143.98	1145.06	1145.57
MW-23A	1173.56	1141.25	1140.91	1140.84	1141.34	#VALUE!	Abandoned
MW-23B	1173.93	1141.26	1140.88	1140.86	1141.34	#VALUE!	Abandoned
MW-24A	1163.41	1121.16	1120.98	1120.83	1120.90	1121.88	1122.16
MW-24B	1163.46	1121.43	1121.26	1121.10	1121.14	1122.15	1122.47
MW-25A	1175.25	1129.55	1128.59	1128.93	1129.20	1129.55	1130.53
MW-25B	1174.71	1129.58	1128.65	NM	1129.26	1129.60	1130.55
MW-25D	1175.46	1129.43	1128.49	1128.85	1129.16	1129.42	1130.42
MW-26A	1174.15	NM	1138.73	1139.02	1139.33	1140.23	1140.84
MW-26B	1174.16	NM	1138.70	1138.97	1139.30	1140.14	1140.80
MW-27A	1176.05	1136.63	NM	NM	1136.16	1137.35	1137.71
MW-27B	1176.06	1136.67	NM	NM	1136.43	1137.35	1137.77
MW-28A	1172.22	1120.40	1119.80	1119.75	1119.88	1120.52	1121.00
MW-28B	1172.52	1121.12	1119.52	1119.50	1119.61	1120.21	1120.71
MW-28D	1171.99	1120.40	1119.76	1119.73	1119.87	1120.46	1121.01
MW-29A	1160.06	1109.10	1108.72	1108.59	1107.91	1109.62	1110.08
MW-29B	1161.03	1109.16	1108.78	1108.75	1109.79	1109.68	1110.12
MW-30A	1168.55	1128.23	1127.75	1127.68	1127.91	NM	1128.94
MW-30B	1168.38	1128.24	1127.76	1127.68	1127.92	NM	1128.96
MW-31A	1167.38	1117.59	1117.11	1117.27	1117.40	1118.43	1118.81
MW-31B	1166.95	1117.00	1116.61	1116.78	1116.81	1117.83	1118.23
MW-32A	1154.17	1102.84	1103.19	1103.30	1103.31	1104.25	1104.76
MW-32B	1154.10	1102.82	1103.17	1103.29	1103.32	1104.22	1104.74
MW-32D	1154.02	1102.79	1103.16	1103.27	1103.31	1104.21	1104.72
MW-33A	1160.32	1107.42	1107.06	1107.15	1107.41	1107.87	1108.19
MW-33B	1160.37	1107.95	1107.12	1107.21	1107.41	1107.90	1108.30
MW-33D	1160.24	1107.57	1107.19	1107.44	NM	1108.03	1108.42
MW-34A	1156.79	1095.60	1095.23	1095.23	1095.39	1095.97	1096.49
MW-34B	1157.00	1095.60	1095.24	1095.24	1095.39	1096.13	1096.50
MW-34D	1156.73	1095.55	1095.17	1095.17	1095.33	1095.91	1096.48

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MW-35A	1139.81	1085.07	1084.27	1084.33	1084.40	1085.24	1085.71
MW-35B	1139.57	1085.03	1084.23	1084.27	1084.27	1085.20	1085.67
MW-35D	1139.67	1085.07	1084.28	1084.32	1084.45	1085.25	1085.74
MW-36A	1076.62	NM	NM	NM	NM	Abandoned	Abandoned
MW-36B	1076.65	NM	NM	NM	NM	Abandoned	Abandoned
MW-36D	1076.79	NM	NM	NM	NM	Abandoned	Abandoned
MW-37A	1085.20	1078.65	1077.97	1078.07	NM	Abandoned	Abandoned
MW-37B	1085.19	1078.72	1078.03	1077.98	NM	Abandoned	Abandoned
MW-37D	1085.06	1078.61	1077.95	1077.96	NM	Abandoned	Abandoned
MW-38A	1082.32	1076.28	1076.76	1076.51	1077.57	1076.08	1075.90
MW-38D	1081.92	1076.35	1076.83	1076.57	1077.62	1076.12	1075.95
MW-39A	1082.82	1079.27	1077.99	1078.96	1080.51	1078.61	1078.39
MW-39D	1082.95	1079.33	1077.99	1078.97	1080.51	1078.64	1078.43
MW-40A	1172.09	1130.87	1130.68	1130.70	1130.90	1131.40	1131.52
MW-40B	1172.34	1130.86	1130.66	1130.73	1130.83	1131.34	1131.58
MW-41A	1168.63	1130.34	1129.78	1129.93	1130.33	NM	1131.05
MW-41B	1168.68	1130.35	1129.78	1129.94	1130.34	NM	1131.06
MW-41D	1168.61	1130.28	1129.71	1129.87	1130.26	NM	1131.02
MW-42A	1146.53	1094.50	1093.45	1093.55	1093.78	1095.33	1095.69
MW-42B	1146.64	1094.49	NM	1093.56	1093.78	1095.29	1095.70
MW-42D	1146.20	1094.35	1093.35	1093.41	1093.52	1095.20	1095.55
MW-43A	1142.90	1098.51	1097.25	1097.37	1097.56	1098.96	1099.51
MW-43B	1142.74	1098.49	1097.26	1097.36	1097.51	1099.09	1099.57
MW-43D	1142.95	1098.50	1097.25	1097.36	1097.55	1098.95	1099.52
MW-44A	1093.66	1085.59	1084.08	1084.09	1084.23	1084.64	1084.94
MW-44B	1094.14	1084.88	1083.69	1084.08	1087.12	1084.62	1084.06
MW-44D	1092.43	1082.36	1084.07	1084.07	1084.23	1084.63	1084.92
MW-45A	1081.53	NM	NM	NM	NM	Abandoned	Abandoned
MW-45B	1081.54	NM	NM	NM	NM	Abandoned	Abandoned
MW-45D	1081.44	NM	NM	NM	NM	Abandoned	Abandoned
MW-46A	1082.70	1078.81	1077.69	1078.99	1079.58	1078.32	1078.48
MW-46B	1082.81	1078.83	1077.68	1079.02	1080.57	1078.33	1078.49
MW-46D	1082.65	1078.80	1077.68	1079.03	1079.58	1078.34	1078.49
MW-47A	1201.73	1173.58	1174.10	1174.25	1174.74	Abandoned	Abandoned
MW-47B	1201.67	1173.61	1174.17	1174.31	1174.80	Abandoned	Abandoned
MW-52A	1155.22	1118.75	1117.82	1117.67	1118.79	1119.77	1119.43
MW-52B	1155.65	1118.61	1117.67	1117.53	1118.54	1119.58	1119.29
MW-53A	1136.36	1110.29	1108.91	1109.07	1109.46	1110.36	1110.88
MW-53B	1136.91	1112.26	1111.51	1111.30	1111.25	1112.61	1112.87
MW-54A	1121.58	1112.24	1110.88	1110.93	1111.52	1112.36	1112.77
MW-54B	1121.59	1114.66	1113.60	1113.59	1114.30	1114.97	1115.16
MW-55A	1126.49	1110.41	1108.98	1109.13	1109.62	1110.44	1110.98
MW-55B	1127.27	1110.66	1109.25	1109.38	1109.87	1110.62	1111.22
MW-56A	1125.96	1109.75	1108.31	1108.46	1108.91	1109.81	1110.34
MW-56B	1126.24	1111.54	1110.83	1110.65	1110.77	1111.96	1112.14

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MW-57B	1196.27	1156.15	1155.31	1155.73	1156.44	1155.73	1158.32
MW-60A	1145.83	1090.96	1090.13	1090.12	1090.12	1091.43	1092.48
MW-60B	1146.15	1090.96	1090.20	1090.14	1090.14	Abandoned	Abandoned
MW-61A	1108.96	1102.24	1102.36	1102.15	1103.25	1102.73	1102.75
MW-61B	1108.96	1102.18	1102.31	1102.08	1103.19	1102.66	1102.69
MW-61D	1108.96	1102.49	1102.54	1102.35	1103.43	1102.96	1102.97
MW-62A	1078.66	1074.58	1074.95	1074.86	NM	1074.48	1074.44
MW-62B	1078.57	1074.52	1074.96	1074.85	NM	1074.47	1074.45
MW-62D	1078.89	1074.54	1074.87	1074.72	NM	1074.47	1074.44
MW-63B	1177.45	1157.34	1150.30	1156.98	1157.57	1152.05	1152.18
MW-64B	1144.20	NM	NM	1117.12	NM	Abandoned	Abandoned
MW-65A	1165.02	1130.42	1129.57	1129.61	1129.80	1131.04	1131.39
MW-65B	1165.01	1130.39	1129.57	1129.58	1129.77	1131.00	1131.32
MW-66B	1163.08	NM	1128.43	1128.44	1128.65	1129.90	1130.21
MW-71B	1166.34	1130.22	1129.43	1129.43	1129.59	1130.83	1131.16
MW-72A	1170.37	1130.40	NM	1130.68	1140.42	1130.92	1131.09
MW-72B	1169.92	1130.35	NM	1130.23	1140.42	1130.93	1131.11
MW-73A	1166.95	1130.05	1129.81	1129.82	1127.05	1130.54	1130.65
MW-73B	1166.90	1130.15	1129.81	1129.88	1130.02	1130.45	1130.71
MW-74A	1166.94	1130.06	1129.78	1129.81	1129.94	1130.53	1130.64
MW-74B	1167.04	1130.05	1129.82	1129.86	1130.13	1130.53	1130.70
MW-75A	1167.13	NM	1129.81	1129.90	1130.08	1130.54	1130.74
MW-75B	1167.30	NM	1129.85	1129.90	1130.08	1130.57	1130.74
MW-76A	1166.24	1130.09	1129.83	1129.92	1130.06	1130.56	1130.72
MW-76B	1166.48	1130.10	1129.88	1129.94	1130.13	1130.71	1130.78
MW-77A	1165.73	1130.09	1129.86	1129.90	1130.08	1130.62	1130.75
MW-77B	1165.79	1130.12	1129.88	1129.94	1130.13	1130.64	1130.78
MW-78A	1165.27	1130.16	1129.93	1129.96	1130.16	1130.67	1130.84
MW-78B	1165.35	1130.13	1129.90	1129.95	1130.14	1130.64	1130.81
MW-79A	1109.34	1099.63	1100.23	1099.62	1100.62	1100.37	1100.39
MW-79B	1109.39	1099.61	1100.20	1099.59	1100.60	1100.38	1100.36
MW-80A	1107.43	1099.40	1099.92	1099.41	1100.39	1100.13	1099.78
MW-80B	1107.65	1099.35	1099.90	1099.37	1100.34	1100.08	1100.08
MW-80D	1107.40	1099.42	1099.89	1099.44	1100.43	1100.16	1100.15
MW-81A	1108.48	1099.49	1099.93	1099.53	1100.58	1100.30	1100.42
MW-81B	1108.47	1099.47	1099.92	1099.48	1098.52	1100.39	1100.33
MW-81D	1108.53	1099.73	1099.95	1099.67	1100.64	1100.49	1100.51
MW-82A	1149.14	1095.64	1095.29	1095.43	1096.17	1098.21	1098.84
MW-82B	1149.12	1095.64	1095.28	1095.48	1096.20	1098.26	1098.82
MW-82D	1149.22	1095.64	1095.46	1095.47	1096.31	1097.82	1098.42
MW-83A	1152.41	1092.56	1093.02	1093.06	1094.38	1094.74	1095.46
MW-83B	1152.28	1092.44	1092.93	1092.95	1093.28	1094.66	1095.37
MW-83D	1152.32	1092.48	1092.97	1092.99	1093.33	1094.70	1095.42
MW-84A	1145.34	1091.60	1092.03	1092.14	1092.34	1093.90	1094.14
MW-84B	1145.62	1092.02	1092.51	1092.59	1092.78	1094.37	1094.59

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MW-84D	1145.37	1091.41	1091.85	1091.97	1092.17	1093.72	1093.97
MW-85A	1132.58	1086.90	1086.58	1086.41	1086.51	1087.57	1088.13
MW-85B	1132.39	1086.94	1086.59	1086.47	1086.57	1087.62	1088.17
MW-85D	1132.59	1086.90	1086.59	1086.42	1086.57	1087.58	1088.13
MW-86A	1114.15	1081.26	NM	1080.78	1081.23	1081.80	1082.13
MW-86B	1114.58	1081.30	NM	1080.80	1081.23	1081.80	1082.17
MW-86D	1113.90	1081.29	NM	1080.79	1081.20	1081.80	1082.15
MW-87A	1078.38	1074.35	1074.34	1074.12	1074.53	1074.14	1074.14
MW-87B	1078.38	1074.33	1074.32	1074.12	1074.50	1074.13	1074.12
MW-87D	1078.39	1074.32	1074.33	1074.11	1074.50	1074.11	1074.12
MW-88A	1081.22	1075.32	1075.48	1075.55	1076.72	1075.22	1074.95
MW-88B	1081.27	NM	1075.30	1075.55	1076.77	1075.22	1074.95
MW-88D	1081.30	1075.25	1075.39	1075.47	1076.66	1075.12	1074.86
MW-89A	1160.99	1104.27	1103.87	1103.85	1104.54	1104.92	1105.18
MW-89B	1161.37	1104.12	1103.67	1103.70	1104.50	1104.77	1105.03
MW-89D	1160.65	1104.34	1103.80	1103.88	1104.57	1104.94	1105.21
MW-89E	1157.24	NM	NM	NM	NM	NM	1104.85
MW-90A	1151.11	1104.98	1104.13	1104.43	1104.95	1105.40	1105.86
MW-90B	1150.77	1104.50	1103.87	1104.01	1104.57	1105.06	1105.41
MW-90D	1151.44	1104.84	1104.15	1104.28	1104.84	1105.36	1105.69
MW-91A	1152.04	1104.74	1103.97	1104.17	1104.57	1105.27	1105.66
MW-91B	1151.87	1104.52	1103.82	1103.98	1104.37	1105.12	1105.44
MW-91D	1151.95	1104.68	1104.00	1104.14	1104.64	1105.18	1105.64
MW-92A	1108.78	1100.13	1100.66	1100.11	1101.37	1100.88	1100.90
MW-92B	1108.65	1100.24	1100.79	1100.21	1101.00	1101.03	1101.04
MW-93A	1124.26	1103.39	1102.95	1102.95	1103.48	1104.14	1104.29
MW-93B	1123.90	1103.33	1102.90	1102.88	1103.44	1104.10	1104.24
MW-94A	1153.06	1101.81	1101.76	1101.87	1101.96	NM	1104.01
MW-94B	1153.09	1101.89	1101.81	1101.91	1102.00	NM	1104.09
MW-94D	1153.25	1101.41	1101.25	1102.06	1101.74	NM	1103.62
MW-95A	1156.81	1099.46	1099.31	1099.41	1099.65	1101.27	1101.79
MW-95B	1156.46	1099.46	1099.34	1099.44	1099.63	1101.33	1101.81
MW-95D	1156.82	1098.45	1098.15	1098.27	1098.47	1100.37	1100.91
MW-96A	1148.56	1093.36	1093.36	1093.53	1093.62	1095.37	1096.15
MW-96B	1148.56	1093.36	1093.36	1093.53	1093.64	1095.43	1096.15
MW-96D	1148.58	1093.38	1093.38	1093.50	1093.64	1095.42	1096.17
MW-97A	1143.08	1091.64	1091.63	1091.61	1092.31	1093.52	1093.98
MW-97B	1143.18	1091.82	1091.68	1091.62	1091.89	1093.60	1093.98
MW-97D	1143.18	1091.68	1091.65	1091.59	1091.84	1093.50	1093.96
MW-98A	1141.52	1089.70	1089.42	1089.31	1089.53	1090.97	1091.50
MW-98B	1141.58	1089.77	1089.48	1089.38	1089.57	1091.05	1091.56
MW-98D	1141.58	1089.68	1089.35	1089.30	1089.47	1090.95	1091.47
MW-99A	1163.04	1091.90	1091.33	1091.29	1091.42	1092.41	1092.88
MW-99B	1163.19	1091.89	1091.33	1091.28	1091.37	1092.41	1092.87
MW-99D	1162.76	1091.82	1091.24	1091.20	1091.34	1091.33	1092.76

Table 2-3
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Sample ID	Top of Casing (TOC) Elevation (fteet AMSL)	Groundwater Elevation (ft AMSL) March 2009	Groundwater Elevation (ft AMSL) August 2009	Groundwater Elevation (ft AMSL) October 2009	Groundwater Elevation (ft AMSL) March 2010	Groundwater Elevation (ft AMSL) August 2010	Groundwater Elevation (ft AMSL) October 2010
MW-100A	1141.18	1085.16	1084.68	1084.53	1084.75	1086.08	1086.40
MW-100B	1141.12	1085.14	1084.66	1084.51	1084.75	1086.04	1086.44
MW-100D	1141.22	1085.14	1084.66	1084.51	1084.71	1086.07	1086.44
MW-101A	1107.43	1099.09	1099.49	1099.10	1100.17	1099.83	1099.75
MW-101B	1107.44	1099.10	1099.50	1099.13	1100.17	1099.84	1099.77
MW-101D	1107.45	1099.09	1099.47	1099.10	1100.15	1099.83	1099.76
MW-102A	1170.90	1134.98	1134.86	1134.05	1135.27	1135.90	1136.28
MW-102B	1171.13	1134.34	1134.42	NM	1134.65	1135.38	1135.64
MW-102D	1171.08	1135.14	1135.01	1134.18	1135.42	1136.08	1136.46
MW-103A	1173.58	1131.88	1131.62	1131.73	1131.98	1132.58	1132.82
MW-103B	1173.80	1132.23	1131.99	1132.11	1132.34	1132.95	1133.20
MW-103D	1173.22	1131.87	1131.59	1131.66	1131.99	1132.57	1132.80
MW-104A	1081.26	1078.66	1078.29	1078.89	1078.78	1078.41	1078.60
MW-104B	1081.27	1078.63	1078.35	1078.85	1078.77	1078.38	1078.60
MW-104D	1081.87	1079.69	1078.35	1078.90	1078.85	1078.43	1078.64
MW-104O	1081.69	1077.39	1077.63	1077.19	1077.47	1077.13	1077.21
MW-105A	1079.60	1075.70	1076.06	1076.08	1076.38	1075.65	1075.77
MW-105B	1079.77	1075.72	1076.09	1076.09	1076.38	1075.67	1075.76
MW-105O	1080.04	1072.80	1073.16	1075.18	1073.60	1072.44	1072.21
MW-106A	1118.06	1100.78	1099.25	1099.64	1100.12	1100.77	1101.56
MW-106B	1117.98	1101.06	1099.63	1099.97	1100.46	1101.33	1101.91
MW-106D	1118.18	1101.64	1099.07	1099.52	1099.99	1098.58	1101.42
MW-107A	1135.79	1097.02	1095.37	1095.92	1096.46	1096.79	1097.75
MW-107B	1136.72	1097.12	1096.34	1096.01	1095.93	1097.61	1098.11
MW-107D	1136.35	1097.00	1096.19	1095.92	1097.45	1096.81	1097.76
MW-108A	1126.74	1095.91	1094.20	1094.84	1095.44	1095.65	NM
MW-108B	1126.98	1096.34	1094.67	1095.22	1095.26	1096.70	1097.09
MW-108D	1126.87	1095.85	1094.20	1094.82	1095.42	1095.55	1096.59
MW-109A	1086.25	1084.17	1083.81	1083.83	1084.25	1083.70	1084.06
MW-109B	1085.98	1083.67	1083.80	1083.77	1084.27	1083.84	1084.05
MW-109O	1085.88	1079.46	1080.17	1082.72	1080.56	1079.02	1079.52
MW-110A	1094.10	1088.39	1087.61	1087.87	1088.61	1088.05	1088.63
MW-110B	1094.49	1088.44	1087.66	1087.92	1088.65	1088.27	1088.70
MW-110D	1094.36	1088.41	1087.64	1087.92	1088.66	1088.15	1088.68
MW-111A	1082.82	1076.64	1077.80	1078.94	1080.31	1078.61	1078.54
MW-111B	1082.61	1080.71	1077.82	1078.94	1080.34	1078.13	1078.58
MW-111O	1082.48	1080.33	1074.90	1078.07	1077.53	1075.78	1076.22
MW-112A	1082.03	1081.98	1080.35	1081.70	NM	1081.25	1081.42
MW-112B	1082.02	Flowing	1080.41	1081.78	1082.50	1081.30	1081.47
MW-113A	1080.47	Flowing	1079.04	1080.43	1080.96	1079.75	1079.92
MW-113B	1080.42	Flowing	1078.96	1080.34	1080.95	1079.77	1079.89
MW-113D	1080.49	1080.39	1078.77	1080.32	1080.85	1079.77	1079.88
MW-114A	1080.32	1076.89	1077.44	1077.03	1077.71	1076.60	1076.56
MW-114B	1080.43	1076.85	1077.41	1077.11	1077.68	1076.55	1076.52
MW-114D	1080.23	1076.92	1077.45	1077.20	1077.76	1076.64	1076.61

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MW-115A	1081.67	1075.90	1076.27	1076.16	1077.22	1075.76	1075.55
MW-115B	1081.77	1075.89	1076.27	1076.15	1077.22	1075.76	1075.54
MW-115D	1081.66	1075.91	1076.16	1076.13	1077.21	1075.79	1075.56
MW-116A	1080.53	1075.23	NM	1075.58	1076.31	1074.88	1075.27
MW-116B	1080.49	1075.14	NM	1075.56	NM	1075.01	1075.25
MW-116D	1080.46	1075.25	NM	1075.64	1076.35	1075.11	1075.19
MW-117A	1122.26	1083.06	NM	1082.62	1082.88	1083.73	1084.01
MW-117B	1122.06	1083.06	NM	1082.50	1082.84	1083.76	1084.04
MW-117D	1122.41	1083.03	NM	1082.52	1082.83	1083.70	1084.00
MW-118A	1143.87	1090.53	1090.58	1090.58	1090.87	1091.97	1092.22
MW-118B	1143.91	1090.56	1090.62	1090.59	1090.90	1092.01	1092.24
MW-119A	1159.14	1114.55	1114.14	1114.03	1114.16	1115.39	1115.53
MW-119B	1159.28	1114.63	1114.28	1114.07	1114.23	1115.44	1115.56
MW-120A	1166.32	1113.02	1112.57	1112.37	1112.63	1113.68	1113.85
MW-120B	1166.33	1113.01	1112.58	1112.37	1112.59	1113.73	1113.82
MW-120D	1166.62	1112.92	1112.47	1112.29	1112.52	1113.55	1113.72
MW-120E	1166.43	1112.99	1112.56	1112.37	1112.55	1113.70	1113.78
MW-121A	1170.04	1114.21	1113.72	1113.46	1113.68	1114.80	1114.83
MW-121B	1170.13	1114.16	1113.74	1113.47	1113.69	1114.82	1114.87
MW-121E	1170.07	1114.41	1113.95	1113.70	1113.95	1115.04	1115.06
MW-122A	1165.76	1111.27	1110.72	1110.65	1111.04	1111.76	1112.08
MW-122B	1166.52	1111.27	1110.70	1110.68	1111.01	1111.72	1112.07
MW-123A	1168.99	1113.64	1113.09	1112.87	1112.97	1114.38	1114.26
MW-123B	1168.97	1113.67	1113.17	1112.88	1113.03	1114.47	1114.32
MW-124A	1161.89	1118.42	1118.17	1117.94	1118.21	1119.02	1119.33
MW-124B	1161.59	1118.40	1118.15	1117.93	1118.19	1119.05	1119.30
MW-124D	1161.82	1118.07	1117.81	1117.57	1117.86	1118.67	1118.94
MW-125A	1162.05	1115.49	1115.08	1114.82	1115.00	1116.19	1116.18
MW-125B	1162.14	1115.39	1115.01	1114.73	1114.93	1116.14	1116.12
MW-125D	1161.52	1115.20	1114.84	1114.55	1114.72	1115.93	1116.23
MW-126A	1170.87	1129.44	1128.85	1129.00	1129.17	1129.67	1130.41
MW-126B	1171.29	1129.48	1128.90	1129.05	1129.26	1129.76	1130.43
MW-126D	1170.26	1129.56	1128.95	1129.11	1129.26	1129.85	1130.85
MW-127A	1168.95	1135.25	1134.40	1134.61	1134.79	1135.48	1136.32
MW-127B	1169.37	1135.33	1134.50	1134.69	1135.05	1135.53	1136.40
MW-127E	1169.40	1135.25	1134.39	1134.60	1134.89	1135.40	1136.22
MW-128A	1156.97	1094.28	1093.95	1093.91	1094.03	1094.90	1095.22
MW-128B	1156.94	1094.26	1093.92	1093.88	1093.99	1094.87	1095.23
MW-128D	1156.84	1094.32	1094.02	1093.94	1094.09	1094.97	1095.29
MW-129A	1149.77	1087.95	1087.36	1087.28	1087.42	1088.11	1088.65
MW-129B	1149.72	1087.98	1087.32	1087.27	1087.37	1088.06	1088.64
MW-129D	1149.46	1088.11	1087.51	1087.46	1087.51	1088.24	1088.86
MW-130A	1145.47	1085.96	1085.06	1085.07	1085.23	1085.88	1086.37
MW-130B	1145.92	1086.01	1085.14	1085.12	1085.20	1085.98	1086.47
MW-130D	1145.15	1085.96	1085.11	1085.12	1085.19	1086.01	1086.45

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MW-131A	1148.09	1090.46	1090.10	1090.07	1090.28	1091.09	1091.54
MW-131B	1147.94	1090.11	1090.13	1090.10	1090.28	1091.27	1091.59
MW-131D	1148.10	1090.35	1090.14	1090.11	1090.30	1091.37	1091.63
MW-132A	1160.09	1092.07	1092.15	1092.19	1092.23	1093.35	1093.67
MW-132B	1159.81	1092.07	1092.14	1092.11	1092.32	1093.35	1093.70
MW-132D	1160.44	1092.13	1092.12	1092.12	1092.16	1093.34	1093.68
MW-133A	1167.41	1125.10	1125.33	1125.29	1125.48	1124.06	1124.40
MW-133B	1167.55	NM	1125.54	1125.44	1125.64	1124.25	1124.57
MW-133D	1167.19	1124.30	1125.11	1125.03	1125.22	1123.83	1124.15
MW-134A	1168.44	1123.45	1123.03	1122.96	1123.13	1122.49	1123.01
MW-134B	1168.55	1123.53	1123.06	1123.00	1123.18	1122.60	1123.10
MW-134D	1168.68	1123.78	1123.17	1123.15	1123.33	1122.88	1123.36
MW-135A	1165.77	1125.09	1124.97	1123.89	1125.02	1123.27	1123.54
MW-135B	1165.71	1125.12	1124.91	1124.85	1124.99	1123.35	1123.53
MW-135D	1165.51	1125.33	1124.86	1124.87	1125.00	1123.81	1124.11
MW-136A	1167.96	1127.16	1126.66	1126.64	1126.74	1125.79	1126.07
MW-136B	1168.14	1127.32	1126.84	1126.81	1126.94	1126.04	1126.40
MW-136D	1167.61	1127.19	1126.71	1125.67	1126.79	1125.85	1126.21
MW-136E	1168.29	1127.32	1126.84	1126.79	1126.94	1126.09	1126.41
MW-137A	1166.31	1130.67	1130.38	1130.43	1130.61	1130.93	1131.25
MW-137B	1166.04	1130.49	1130.22	1130.25	1130.42	1130.71	1131.05
MW-137D	1165.98	1130.58	1130.32	1130.41	1130.52	1130.82	#VALUE!
MW-137E	1166.17	1130.52	1130.23	1130.28	1130.43	1130.74	1131.07
MW-138A	1175.83	NM	1132.63	1132.86	1133.03	1133.63	1133.91
MW-138B	1176.22	NM	1132.81	1132.91	1133.02	1133.67	1133.96
MW-139A	1180.32	1135.44	1135.45	1135.56	1135.74	1136.44	1136.76
MW-139B	1180.61	1135.40	1135.50	1135.57	1135.70	1136.40	1136.73
MW-140A	1092.50	1086.73	NM	1086.28	1086.80	1086.40	1086.76
MW-140B	1092.42	1086.82	NM	1086.39	1086.92	1086.50	1086.88
MW-140D	1092.30	1086.75	NM	1086.28	1086.84	1086.42	1086.79
MW-140O	1092.60	1083.40	NM	1083.62	1084.31	1083.00	1083.12
MW-141A	1162.07	NM	NM	NM	NM	1123.85	1124.46
MW-141B	1162.10	NM	NM	NM	NM	1123.90	1124.52
MW-141E	1162.07	NM	NM	NM	NM	1123.85	1124.50
MW-142A	1154.43	NM	NM	NM	NM	1107.21	1107.78
MW-142E	1154.15	NM	NM	NM	NM	1107.21	1107.77
MW-143B	1155.87	NM	NM	NM	NM	1109.43	1109.83
MW-144A	1164.17	NM	NM	NM	NM	1123.03	1123.83
MW-144E	1164.47	NM	NM	NM	NM	1123.73	1123.85
MW-145A	1160.75	NM	NM	NM	NM	1111.35	1112.14
MW-145E	1160.89	NM	NM	NM	NM	1111.64	1112.14
MW-146A	1148.18	NM	NM	NM	NM	1098.78	1099.44
MW-146B	1148.01	NM	NM	NM	NM	1098.81	1099.46
MW-147A	1148.92	NM	NM	NM	NM	1096.97	1097.63
MW-147B	1148.74	NM	NM	NM	NM	1096.94	1097.60

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MW-147D	1148.52	NM	NM	NM	NM	1096.98	1097.65
MW-148B	1160.53	NM	NM	NM	NM	1116.71	1117.30
MW-149A	1152.23	NM	NM	NM	NM	1106.03	1102.50
MW-150A	1147.59	NM	NM	NM	NM	1098.59	1099.01
MW-150B	1147.51	NM	NM	NM	NM	1098.55	1099.07
MW-151A	1158.65	NM	NM	NM	NM	1115.25	1116.00
MW-151B	1158.72	NM	NM	NM	NM	1115.26	1116.01
MW-152B	1148.37	NM	NM	NM	NM	1108.62	1109.14
MW-153A	1146.17	NM	NM	NM	NM	1102.07	1102.58
MW-153B	1146.28	NM	NM	NM	NM	1102.03	1102.60
MW-154A	1141.11	NM	NM	NM	NM	1094.51	1095.36
MW-154B	1141.16	NM	NM	NM	NM	1095.06	1096.13
MW-155A	1141.95	NM	NM	NM	NM	1095.95	1096.43
MW-155E	1141.78	NM	NM	NM	NM	1095.93	1096.41
MW-156A	1093.89	NM	NM	NM	NM	1088.39	1088.95
MW-156B	1093.96	NM	NM	NM	NM	1089.06	1088.92
MW-157A	1102.64	NM	NM	NM	NM	1083.64	1084.01
MW-157B	1101.91	NM	NM	NM	NM	1083.61	1084.03
MW-158A	1076.69	NM	NM	NM	NM	1074.34	1074.42
MW-158B	1076.36	NM	NM	NM	NM	1074.26	1074.40
MW-158D	1076.63	NM	NM	NM	NM	1074.28	1074.38
MW-159A	1163.51	NM	NM	NM	NM	1116.01	1116.49
MW-159B	1163.57	NM	NM	NM	NM	1115.92	1116.41
OW-01	1161.41	1114.71	1114.36	1114.13	1114.26	NM	1115.60
OW-02	1161.57	1114.82	1114.42	1114.22	1114.37	1115.56	1115.70
OW-03	1161.69	1114.89	1114.54	1114.31	1114.44	1115.66	1115.75
OW-04	1161.75	1114.72	1114.35	1114.17	1114.30	1115.78	1115.61
OW-05	1080.35	1070.44	1071.35	1074.33	1072.26	1070.88	1071.16
OW-06	1079.22	1072.19	1073.01	1073.94	1073.73	1072.52	1072.80
OW-07	1079.06	1072.82	1073.54	1073.45	1074.17	1073.06	1073.28
OW-08	1078.43	1073.36	1074.01	1073.91	1074.57	1073.51	1073.72
OW-09	1080.96	1072.35	1073.16	1073.06	1073.85	1072.66	1072.89
OW-10	1079.79	1073.14	NM	1073.95	1074.56	1073.57	1073.70
OW-11	1078.66	1073.91	NM	1074.53	1075.08	1074.15	1074.21
OW-12	1080.19	1075.24	NM	1075.64	1076.43	1075.18	1075.10
OW-13	1081.25	1072.49	1073.24	1073.16	1073.95	1072.74	1072.98
OW-14	1080.52	1073.64	1074.23	1074.11	1074.81	1073.72	1073.89
OW-15	1080.66	1035.54	1074.58	1074.44	1075.06	1074.05	1074.17
OW-16	1078.22	1076.99	NM	1076.47	1076.75	1076.57	1076.70
OW-17	1161.58	1115.13	1114.73	1114.55	1114.66	1115.94	1116.06
OW-18	1162.21	1114.86	1114.51	1114.27	1114.39	1115.72	1115.74
OW-19	1172.28	1113.72	1113.25	1112.91	1113.03	1114.46	1114.32
OW-20	1162.79	1114.79	1114.39	1114.22	1114.34	1115.57	1115.68
OW-21	1159.81	1114.36	1113.96	1113.78	1113.92	1115.11	1115.24
OW-22	1161.24	1114.45	1114.09	1113.89	1114.12	1115.20	1115.38

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OW-23	1162.08	1115.65	1115.31	1115.11	1115.19	NM	1116.56
OW-24	1153.07	1084.39	1083.56	1083.77	1083.61	1084.36	1084.90
OW-25	1155.71	1084.89	1084.05	1084.12	1084.14	1084.86	1085.43
OW-26	1148.64	1086.15	1085.28	1085.33	1085.35	1086.14	1086.64
OW-27	1153.30	1084.56	1083.72	1083.81	1083.76	1084.59	1085.13
OW-28	1153.81	1084.66	1083.79	1083.92	1083.91	1084.45	1085.26
OW-30	1131.58	1085.44	1084.58	1084.69	1084.76	1085.17	1086.09
OW-31	1155.78	1094.27	1094.58	1094.72	1094.81	1095.89	1096.23
OW-32	1153.87	1094.16	1094.54	1094.68	1094.75	1095.94	1096.27
OW-33	1154.67	1093.57	1094.33	1094.53	1094.68	1095.92	1096.17
OW-34	1154.70	1093.86	1094.12	1094.25	1094.37	1095.41	1096.25
OW-35	1154.10	1093.84	1094.15	1094.26	1094.41	1095.44	1095.80
OW-36	1157.23	1093.10	1093.53	1093.69	1093.86	1095.08	1095.33
OW-37	1157.36	1094.27	1093.92	1093.91	1094.01	1094.86	1095.26
OW-38	1151.19	1088.47	1093.44	1089.49	1089.83	1091.10	1092.19
OW-39	1151.39	1091.10	1093.57	1093.21	1089.94	1093.50	1094.49
OW-40	1157.66	1092.77	1093.74	1093.34	1093.67	1095.06	1095.85
OW-41	1150.22	1087.45	1093.32	1088.60	1088.94	1090.22	1091.37
OW-42	1151.21	1090.17	1093.03	1090.92	1091.22	1092.58	1093.61
OW-43	1156.74	1092.05	1092.88	1092.73	1093.03	1094.35	1095.04
OW-44	1147.84	1092.34	1093.48	1093.73	1094.05	1095.48	1095.81
OW-45	1152.47	1090.26	1089.87	1090.43	1096.79	1098.84	1099.34
OW-46	1151.55	1093.90	1093.47	1093.83	1097.06	1099.12	1099.64
OW-47	1153.44	1096.19	1095.87	1096.11	1097.60	1099.70	1100.16
OW-48	1153.38	1091.19	1090.78	1091.23	1096.73	1098.83	1099.33
OW-49	1154.09	1093.29	1092.85	1093.19	1096.48	1098.58	1099.09
OW-50	1151.16	1094.55	1094.18	1094.46	1096.06	1098.46	1098.91
OW-51	1149.86	1094.24	1094.08	1094.31	1095.90	1097.91	1098.46
OW-52	1107.14	1092.66	1095.63	1092.44	1093.53	1094.64	1095.15
OW-53	1107.13	1094.51	1097.12	1094.32	1095.40	1096.33	1096.75
OW-54	1115.39	1102.49	1102.49	1102.18	1102.94	1103.39	1103.51
OW-55	1107.05	1091.30	1094.93	1091.14	1092.24	1093.57	1094.12
OW-56	1112.15	1102.20	1102.34	1101.90	1102.72	1103.04	1103.16
OW-57	1114.84	1102.51	1102.43	1102.16	1102.93	1103.34	1103.45
OW-58	1109.00	1100.15	1100.89	1100.05	1100.98	1101.10	1101.21
OW-59	1110.50	1101.20	1101.73	1101.02	1101.93	1102.12	1102.19
OW-60	1149.15	1088.66	1088.89	1088.24	1088.96	1089.35	1089.75
OW-61	1148.81	1089.34	1088.91	1088.87	1089.01	1089.91	1090.40
OW-62	1151.40	1090.29	1089.73	1089.67	1089.79	1090.74	1091.25
OW-63	1152.90	1089.85	1089.31	1089.24	1089.40	1090.29	1090.79
OW-64	1148.12	1088.77	1088.33	1088.26	1088.41	1089.11	1089.75
OW-65	1147.36	1088.46	1087.84	1087.76	1087.91	1088.65	1089.16
OW-66	1147.09	1090.65	1093.30	1093.63	1094.04	1095.41	1095.66
OW-67	1149.64	1091.43	NM	1093.72	1094.05	1095.49	1095.72
OW-68	1146.89	1091.85	1092.99	1093.20	1093.51	1094.94	1095.27

Table 2-3
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Sample ID	Top of Casing (TOC) Elevation (fteet AMSL)	Groundwater Elevation (ft AMSL) March 2009	Groundwater Elevation (ft AMSL) August 2009	Groundwater Elevation (ft AMSL) October 2009	Groundwater Elevation (ft AMSL) March 2010	Groundwater Elevation (ft AMSL) August 2010	Groundwater Elevation (ft AMSL) October 2010
OW-69	1147.02	1091.38	1093.32	1093.62	1094.00	1095.34	1095.59
OW-70	1146.14	1091.95	NM	1093.48	1093.80	1095.26	1095.44
OW-71	1158.23	1092.92	1093.69	1093.89	1094.08	1095.38	1095.61
OW-72	1156.05	1092.16	1092.56	1092.70	1093.41	1095.15	1095.76
OW-73	1157.61	1093.00	1093.22	1093.39	1095.18	1095.99	1096.61
OW-74	1148.38	1093.72	1093.50	1093.70	1095.38	1097.36	1097.94
OW-75	1154.51	1092.91	1093.17	1093.31	1094.05	1095.80	1096.41
OW-76	1148.68	1093.41	1093.51	1093.67	1094.38	1096.12	1096.77
OW-77	1157.82	1101.42	1093.18	1092.91	1093.23	1094.65	1095.42
OW-78	1163.94	1110.62	1109.50	1109.29	1109.37	1110.73	1110.56
OW-79	1167.29	1112.29	1111.56	1111.26	1111.39	NM	1112.59
OW-80	1169.30	1113.60	1113.12	1112.83	1112.98	1114.38	1114.27
OW-81	1164.13	1112.83	1112.30	1112.04	1112.23	1113.59	1113.45
OW-82	1169.05	1113.16	1112.69	1112.47	1112.70	1113.82	1113.92
OW-83	1173.20	1114.39	1113.95	1113.68	1113.90	1115.01	1115.03
OW-89	1092.56	1079.78	NM	1079.62	1079.95	1079.91	1080.20
OW-90	1153.30	NM	1091.92	1091.82	1091.89	1092.60	1092.93
OW-92	1154.30	NM	1093.62	1093.51	1093.60	1094.39	1094.70
OW-93	1156.87	NM	1091.69	1091.62	1091.67	1092.23	1092.58
OW-94	1153.21	NM	1093.46	1093.36	1093.43	1094.20	1094.51
OW-95	1150.04	NM	1093.18	1093.02	1093.13	1093.89	1094.24
OW-96	1146.64	NM	1086.62	1086.62	1086.69	1087.28	1087.84
OW-97	1146.21	1086.27	1086.22	1086.20	1086.29	1086.99	1087.51
OW-98	1150.67	1087.51	1086.61	1086.62	1086.69	1087.47	1088.04
OW-99	1146.97	1088.08	NM	NM	1085.94	1086.63	1087.17
OW-100	1147.39	NM	1085.37	1085.37	1085.44	1086.22	1080.74
OW-101	1168.26	NM	1122.67	1125.61	1125.74	1122.26	1113.28
OW-102	1166.49	NM	1125.79	1125.77	1125.86	1123.79	1123.90
OW-103	1169.13	NM	1126.53	1126.50	1126.62	1126.04	1126.22
OW-104	1167.73	NM	1125.01	1124.95	1125.06	1123.08	1123.18
OW-105	1165.40	NM	1124.15	1124.13	1124.29	1123.29	1123.51
PZ-01	1116.38	1074.67	1083.27	1083.49	1083.83	1083.91	1084.49
PZ-02	1130.80	1108.18	1088.17	1088.18	1086.25	1087.31	1087.37
PZ-03	1087.47	1086.80	1085.82	1086.26	1086.62	1086.82	1087.11
PZ-04	1086.65	1082.51	1081.24	1082.48	1083.04	1082.07	1082.33
PZ-05	1085.66	1081.84	NM	1081.35	1082.87	1081.15	1080.96
PZ-06	1088.42	1085.47	NM	1085.17	1086.06	1084.99	1085.26
PZ-11	1094.18	NM	NM	NM	NM	1088.53	1089.06
PZ-12	1101.36	NM	NM	NM	NM	1083.46	1083.93
PZ-13	1081.23	NM	NM	NM	NM	1079.53	1079.83
PZ-14	1080.52	NM	NM	NM	NM	1079.52	1079.73
TH-EW-12	1107.37	1079.47	1087.01	1079.06	1080.09	1082.87	1083.97
TH-EW-13	1111.04	1101.05	1101.62	1100.87	1101.78	1101.97	1102.06
TH-EW-14R1	1156.72	NM	1091.82	1091.76	1091.80	1092.59	1092.72
TH-EW-14R2	1151.08	NM	1092.68	1092.63	1092.76	1093.64	1094.03

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Sample ID	Top of Casing (TOC) Elevation (fteet AMSL)	Groundwater Elevation (ft AMSL) March 2009	Groundwater Elevation (ft AMSL) August 2009	Groundwater Elevation (ft AMSL) October 2009	Groundwater Elevation (ft AMSL) March 2010	Groundwater Elevation (ft AMSL) August 2010	Groundwater Elevation (ft AMSL) October 2010
TH-EW-15	1172.51	1125.74	1129.19	1129.15	1129.24	1123.86	1123.85
TH-EW-16	1147.71	1086.58	1085.68	1085.70	1085.72	1086.21	1086.86
Brabec	1150.00	1097.36	1096.83	1097.07	1097.39	1099.32	1099.77
D.Starns	1064.50	1054.35	1048.30	1047.60	1055.81	1051.48	1046.71
Frahm	1146.00	1089.78	1089.39	1089.30	1089.40	1091.04	1091.52
Hanson	1144.40	1092.43	1092.44	1092.49	1092.64	1094.27	1094.76
LPN 06-01	1066.68	1064.85	1064.42	1065.74	1065.95	1064.59	1064.45
LPN 06-18	1088.45	1086.82	1086.23	1086.70	1087.09	1086.26	1086.64
LPN 06-19	1140.81	1105.04	1102.17	1103.82	1105.01	1103.86	1105.12
LPN 06-20	1208.77	1145.04	1145.25	1145.67	1146.16	1147.41	1148.05
LPN 06-21	1204.53	1152.86	1149.46	1150.95	1152.20	1152.30	1153.74
M90-01	1074.38	1071.92	1071.95	1072.82	1073.69	1071.82	1071.23
M90-02	1075.70	1071.00	1071.27	1071.46	1072.05	1071.29	1071.17
M90-04	1071.08	1067.64	1068.15	1069.38	1069.38	1067.78	1067.38
M90-05R	1076.50	1065.44	1065.49	1066.12	1066.99	1065.95	1065.61
M90-09	1067.97	1064.45	1064.11	1065.58	1065.50	1064.13	1064.01
M90-12R	1070.00	1063.92	1062.13	1064.03	1064.71	1062.60	1062.63
M90-15	1065.39	1060.66	1059.89	1060.60	1062.80	1060.08	1059.78
M90-16R	1063.57	1061.32	1060.03	1060.41	1061.85	1060.77	1059.10
M90-17R	1067.54	1059.64	1058.51	1058.62	1060.07	1059.14	1057.60
M90-20R	1066.45	1058.15	1057.91	1057.82	1058.21	1057.76	1057.65
M90-21	1064.09	1057.46	1057.98	1058.47	1060.49	1058.40	1057.77
M90-22R	1063.17	1056.53	1050.87	1051.31	1058.45	1055.58	1051.73
M90-23R	1056.70	1050.34	1045.18	1041.94	1050.21	1042.91	1039.32
M90-24R	1059.05	1049.09	1046.24	1044.57	1047.66	1045.42	1042.61
M90-26R	1057.07	1052.42	1051.09	1050.58	1052.86	1050.40	1048.93
M90-36R	1059.30	1052.65	1052.33	1052.55	1053.48	1052.67	1051.18
M90-37	1054.19	1051.50	1050.80	1051.01	1052.56	1051.15	1050.23
MUD 4-17		NM	NM	NM	NM	1097.13	NM
MUD 5-22		NM	NM	NM	1086.62	1083.89	NM
MUD 5-23		NM	NM	NM	1086.17	1082.52	NM
MUD 5-24		NM	NM	NM	1098.16	1097.53	NM
MUD 5-25		NM	NM	NM	1104.39	1101.94	NM
MUD 5-26		NM	NM	NM	1109.19	1107.78	NM
MUD 6-18	1089.79	NM	NM	NM	1087.15	1086.18	NM
MUD 6-19	1142.20	NM	NM	NM	1105.38	1103.89	NM
MUD 6-20	1210.13	NM	NM	NM	1146.14	1147.46	NM
MUD 6-21	1205.86	NM	NM	NM	NM	1152.41	NM
MUD 6-27		NM	NM	NM	1086.95	1085.66	NM
MUD 6-28		NM	NM	NM	1088.72	1087.17	NM
MUD 6-29		NM	NM	NM	1096.38	1095.19	NM
MUD 6-30A		NM	NM	NM	1129.27	NM	NM
MUD 6-31A		NM	NM	NM	1099.48	NM	NM
MUD 90-4		NM	NM	NM	1118.63	1118.86	NM
MUD 90-5		NM	NM	NM	1101.51	1097.45	NM

Table 2-3
Groundwater Elevations March 2009 through October 2010
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Former NOP, Mead, Nebraska

Sample ID	Top of Casing (TOC) Elevation (fteet AMSL)	Groundwater Elevation (ft AMSL) March 2009	Groundwater Elevation (ft AMSL) August 2009	Groundwater Elevation (ft AMSL) October 2009	Groundwater Elevation (ft AMSL) March 2010	Groundwater Elevation (ft AMSL) August 2010	Groundwater Elevation (ft AMSL) October 2010
MUD 90-6		NM	NM	NM	1104.61	1103.20	NM
MUD 90-7		NM	NM	NM	1106.45	1104.50	NM
MUD 90-10	1099.56	1093.32	1089.55	1090.40	1094.12	1090.21	1090.38
MUD 90-12		NM	NM	NM	1099.10	1097.48	NM
MUD 90-13		NM	NM	NM	1092.21	1090.28	NM
MUD 94-1		NM	NM	NM	1106.52	1104.25	NM
MUD 94-2		NM	NM	NM	1103.67	1101.47	NM
MUD 94-3	1085.52	1080.64	1079.44	1079.14	1082.11	1079.86	1079.24
MUD 94-4	1094.81	1086.92	1080.93	1081.44	1089.41	1084.18	1082.49
MUD 94-5	1097.79	1094.09	1092.38	1093.29	1094.47	1093.01	1093.26
MUD 94-6	1085.55	1083.79	1083.37	1083.38	1084.63	1082.86	1082.62
MUD 94-7	1083.07	1076.49	1077.31	1076.84	1078.20	1076.20	1075.74
N.Keiser	1104.20	1080.74	1080.34	1080.47	1080.82	1081.29	1081.45
N.Wann	1107.30	1103.84	1103.55	1104.51	1104.33	1103.92	1104.03
PV-37	1100.90	1093.48	1089.40	1089.97	1094.11	1090.26	1090.12
PV-38	1100.00	1095.45	1094.02	1094.90	1095.94	1094.31	1094.55
PV-39	1084.00	1083.08	1082.89	1083.23	1083.36	1082.64	1082.91
PV-40	1088.90	1082.77	1080.35	1079.88	1084.55	1081.65	1080.94
PV-41	1096.20	1092.55	1090.09	1090.47	1093.03	1090.60	1090.38
S.Keiser	1114.20	1079.88	1079.38	1079.57	1079.93	1080.41	1080.62
S.Wann	1078.00	1072.63	1072.29	1073.06	NM	NM	NM
TV-16	1140.30	1091.97	1091.53	1091.56	1091.70	1093.33	1093.94
TV-17A	1137.75	1086.32	1085.09	1085.51	1085.54	1086.18	1087.51
14N 8E26CC 1	1123.28	1113.66	NM	NM	NM	NM	NM
UGSG 14N9E20DD1	1160.64	1114.86	NM	NM	NM	NM	NM
USGS 411005096281502 14N 8E24ACD 2 MEAD	1175.09	1132.66	1131.83	1131.90	1132.22	1133.35	1133.67
USGS 411040096295801 14N 8E14CC 1	1175.85	1141.73	NM	NM	NM	NM	NM
USGS 411552096295701 15N 8E14CC 1	1226.36	1209.34	NM	NM	NM	NM	NM
USGS 411923096353201 16N 7E26CDBB1	1265.57	1243.33	NM	NM	NM	NM	NM

Notes:

March 2009 data collected from 3/30/09 to 3/31/09
August 2009 data collected from 8/26/09 to 8/28/09
October 2009 data collected from 10/28/09 to 10/29/09
NM = Not Measured
ft = feet
AMSL = Above Mean Sea Level

EW = Extraction Well
FEW = Focused Extraction Well
ID = Identification
LPN = Lower Platte North
MW = Monitoring well
MUD = Metropolitan Utilities District

OW = Observation Well
PZ = Piezometer
TH = Test Hole
TOC = Top of Casing
USGS = United States Geological Survey

* Groundwater elevation needs to be evaluated prior to use because elevation may not reflect actual conditions; instead, may be water collected in bottom of casing.

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Table 2-4
USACE Monitoring Well and Observation Well Construction Details
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

						Bottom of Well		Top of Screen		Bottom of Screen		Bottom of Boring		Top of Bedrock			
ID	DNR registration No.	Easting (NAD 83)	Northing (NAD 83)	TOC Elev (ft NAVD 88)	Ground Surface Elev (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Bedrock Type	Aquifer Designation
MW-01A (Abandoned)	G-154545BQ	2618459.72	511743.03	1176.88	1174.40	111.50	1062.90	79.00	1095.40	109.00	1065.40	114.00	1060.40	109.00	1065.40	SH	Intermediate
MW-01B (Abandoned)	G-154545BR	2618469.56	511743.23	1176.73	1174.21	79.50	1094.71	39.00	1135.21	79.00	1095.21	81.00	1093.21	NP	NP	NP	Shallow
MW-02A	G-154545BP	2606800.10	506250.32	1174.77	1172.62	99.20	1073.42	67.70	1104.92	96.90	1075.72	101.70	1070.92	99.50	1073.12	SS	Intermediate
MW-02B	G-154545BO	2606808.90	506255.48	1175.18	1172.73	64.00	1108.73	34.30	1138.43	63.50	1109.23	67.00	1105.73	NP	NP	NP	Shallow
MW-03A	G-154545BN	2607532.26	506223.42	1177.06	1177.65	148.50	1029.15	97.00	1080.65	145.80	1031.85	171.50	1006.15	146.00	1031.65	SH	Intermediate
MW-03B	G-154545BM	2607542.05	506225.42	1177.23	1177.60	98.90	1078.70	39.90	1137.70	98.40	1079.20	99.50	1078.10	NP	NP	NP	Shallow
MW-04A	G-154545BL	2612041.94	506256.77	1168.73	1166.51	105.80	1060.71	74.20	1092.31	103.50	1063.01	109.00	1057.51	103.50	1063.01	SH	Intermediate
MW-04B	G-154545BK	2612051.44	506259.36	1168.85	1166.43	71.70	1094.73	32.10	1134.33	71.20	1095.23	75.00	1091.43	NP	NP	NP	Shallow
MW-05A	G-154545FG	2613044.09	507097.63	1168.12	1166.10	103.00	1063.10	61.80	1104.30	100.80	1065.30	107.20	1058.90	100.80	1065.30	SH	Intermediate
MW-05B	G-154545FH	2613053.87	507097.47	1168.18	1165.88	59.80	1106.08	30.00	1135.88	59.30	1106.58	65.00	1100.88	NP	NP	NP	Shallow
MW-06A (Abandoned)	G-154545BS	2617375.69	506522.12	1165.46	1163.40	102.20	1061.20	61.00	1102.40	100.00	1063.40	105.00	1058.40	100.00	1063.40	SH	Intermediate
MW-06B (Abandoned)	G-154545BT	2617384.61	506525.48	1165.61	1163.55	64.50	1099.05	34.80	1128.75	64.00	1099.55	68.00	1095.55	NP	NP	NP	Shallow
MW-07A	G-154545BJ	2618267.10	507274.83	1164.85	1162.69	102.00	1060.69	70.20	1092.49	99.50	1063.19	104.00	1058.69	99.50	1063.19	SH	Intermediate
MW-07B	G-154545BI	2618276.53	507276.12	1164.64	1162.34	74.20	1088.14	34.70	1127.64	73.70	1088.64	78.00	1084.34	NP	NP	NP	Shallow
MW-08A	G-154545BH	2622863.97	506814.76	1165.92	1163.62	125.50	1038.12	84.00	1079.62	123.00	1040.62	131.00	1032.62	123.00	1040.62	SS	Intermediate
MW-08B	G-154545BG	2622872.08	506820.56	1165.92	1163.60	81.50	1082.10	42.10	1121.50	81.00	1082.60	83.60	1080.00	NP	NP	NP	Shallow
MW-09A	G-154545BF	2623570.81	507435.84	1171.46	1168.78	130.50	1038.28	89.00	1079.78	128.00	1040.78	134.00	1034.78	127.70	1041.08	SS	Intermediate
MW-09B	G-154545BE	2623580.33	507436.09	1171.60	1169.00	85.80	1083.20	46.30	1122.70	85.30	1083.70	89.00	1080.00	NP	NP	NP	Shallow
MW-09D	G-154545BD	2623593.10	507436.00	1171.28	1169.31	136.79	1032.52	131.00	1038.31	136.00	1033.31	139.00	1030.31	121.60	1047.71	SS	Deep
MW-10A	G-154545BB	2607883.83	496858.27	1150.35	1147.91	102.70	1045.21	61.40	1086.51	100.40	1047.51	103.00	1044.91	100.00	1047.91	SS	Intermediate
MW-10B	G-154545BA	2607893.74	496858.92	1150.31	1147.74	62.70	1085.04	33.00	1114.74	62.20	1085.54	65.00	1082.74	NP	NP	NP	Shallow
MW-11	G-154545AZ	2626486.32	509499.80	1153.22	1150.76	50.20	1100.56	18.80	1131.96	48.00	1102.76	50.50	1100.26	48.00	1102.76	SS	Shallow
MW-12 (Abandoned)	abandoned	2606856.25	509013.88	1178.55	1176.27	37.80	1138.47	27.60	1148.67	37.30	1138.97	42.00	1134.27	NP	NP	NP	Shallow
MW-13 (Abandoned)	abandoned	2612231.38	509178.55	1175.20	1172.84	39.70	1133.14	29.50	1143.34	39.20	1133.64	42.00	1130.84	NP	NP	NP	Shallow
MW-14 (Abandoned)	abandoned	2617504.71	509391.07	1178.94	1176.80	48.80	1128.00	38.60	1138.20	48.30	1128.50	50.00	1126.80	NP	NP	NP	Shallow
MW-15 (Abandoned)	abandoned	2622745.33	509482.90	1170.06	1167.71	47.20	1120.51	37.00	1130.71	46.70	1121.01	50.00	1117.71	NP	NP	NP	Shallow
MW-16B	G-154545Q	2604911.66	514026.38	1188.68	1186.48	NA	NA	NA	1186.48	NA	NA	NA	NA	106.80	1079.68	SH	Intermediate
MW-16C	G-154545AY	2604917.63	514034.74	1189.40	1186.74	41.90	1144.84	31.50	1155.24	41.50	1145.24	45.00	1141.74	NP	NP	NP	Shallow
MW-17A (Abandoned)	G-154545AX	2603293.03	499100.33	1128.60	1126.40	78.30	1048.10	72.10	1054.30	77.10	1049.30	78.30	1048.10	57.00	1069.40	SH	Deep
MW-17B	G-154545AW	2603293.03	499101.48	1128.50	1126.20	56.20	1070.00	50.40	1075.80	55.80	1070.40	59.00	1067.20	56.80	1069.40	SH	Intermediate
MW-17C (Abandoned)	G-154545AV	2603293.48	499090.31	1128.40	1126.20	17.60	1108.60	7.20	1119.00	17.20	1109.00	22.00	1104.20	NP	NP	NP	Shallow
MW-18A	G-154545FI	2629150.33	506832.34	1145.43	1142.80	125.00	1017.80	122.00	1020.80	125.00	1017.80	140.60	1002.20	100.80	1042.00	SS/SH	Deep
MW-18B	G-154545FJ	2629156.57	506827.46	1145.57	1142.96	NA	NA	NA	1142.96	NA	NA	NA	NA	NP	NP	NP	Intermediate
MW-18C	G-154545AU	2629148.53	506821.93	1146.05	1143.38	47.10	1096.28	36.70	1106.68	46.70	1096.68	51.00	1092.38	NP	NP	NP	Shallow
MW-19A (Abandoned)	G-154545AT	2618421.42	517577.13	1158.65	1156.25	128.00	1028.25	125.00	1031.25	128.00	1028.25	138.00	1018.25	115.00	1041.25	SS/SH	Deep
MW-19B	G-154545AS	2618429.63	517576.97	1158.59	1156.27	103.40	1052.87	98.00	1058.27	103.00	1053.27	105.00	1051.27	104.20	1052.07	SH	Intermediate
MW-19C (Abandoned)	G-154545AR	2618426.14	517568.83	1159.26	1156.64	20.70	1135.94	10.20	1146.44	20.25	1136.39	27.00	1129.64	NP	NP	NP	Shallow
MW-20A	G-154545AQ	2616622.54	493189.94	1160.42	1157.97	150.40	1007.57	145.00	1012.97	150.40	1007.57	153.30	1004.67	138.50	1019.47	SS	Deep
MW-20B	G-154545AP	2616633.43	493191.47	1160.29	1157.72	134.00	1023.72	128.60	1029.12	133.60	1024.12	138.00	1019.72	111.60	1046.12	SS/SH	Intermediate
MW-20C	G-154545AO	2616611.43	493187.61	1160.29	1157.84	60.70	1097.14	50.30	1107.54	60.30	1097.54	62.00	1095.84	NP	NP	NP	Shallow
MW-21A	G-154545AN	2607121.37	503524.81	1165.63	1163.72	126.81	1036.91	116.00	1047.72	126.00	1037.72	128.50	1035.22	NP	NP	NP	Intermediate
MW-21B	G-154545AM	2607111.29	503524.05	1165.59	1163.67	76.53	1087.14	66.00	1097.67	76.00	1087.67	79.00	1084.67	NP	NP	NP	Shallow
MW-21D	sent	2607131.41	503525.83	1165.57	1163.67	138.69	1024.98	133.00	1030.67	138.00	1025.67	139.00	1024.67	127.30	1036.37	SH/SS	Deep
MW-22A (Abandoned)	G-154545AL	2606598.39	510402.07	1176.78	1174.93	99.07	1075.86	87.80	1087.13	97.80	1077.13	106.00	1068.93	99.50	1075.43	SH	Intermediate
MW-22B	G-154545AK	2606604.48	510403.43	1176.67	1174.81	68.65	1106.16	58.00	1116.81	68.00	1106.81	70.00	1104.81	NP	NP	NP	Shallow
MW-23A (Abandoned)	G-154545AJ	2606402.57	509376.37	1173.56	1171.88	100.00	1071.88	88.50	1083.38	98.50	1073.38	105.00	1066.88	99.30	1072.58	SH	Intermediate
MW-23B (Abandoned)	G-154545AI	2606393.06	509383.87	1173.93	1172.05	78.00	1094.05	67.50	1104.55	77.50	1094.55	79.00	1093.05	NP	NP	NP	Shallow
MW-24A	G-154545AH	2608476.90	501919.83	1163.41	1161.37	121.50	1039.87	111.50	1049.87	121.50	1039.87	140.80	1020.57	125.00	1036.37	SH	Intermediate
MW-24B	G-154545AG	2608477.73	501909.01	1163.46	1161.27	66.50	1094.77	56.00	1105.27	66.00	1095.27	67.50	1093.77	NP	NP	NP	Shallow

Table 2-4
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						Bottom of Well		Top of Screen		Bottom of Screen		Bottom of Boring		Top of Bedrock			
ID	DNR registration No.	Easting (NAD 83)	Northing (NAD 83)	TOC Elev (ft NAVD 88)	Ground Surface Elev (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Bedrock Type	Aquifer Designation
MW-25A	G-154545AF	2608308.41	504875.16	1175.25	1173.23	156.06	1017.17	145.00	1028.23	155.00	1018.23	156.60	1016.63	NP	NP	NP	Intermediate
MW-25B	G-154545AE	2608308.27	504885.58	1174.71	1172.93	84.82	1088.11	74.00	1098.93	84.00	1088.93	85.00	1087.93	NP	NP	NP	Shallow
MW-25D	G-154545AD	2608308.83	504864.77	1175.46	1173.54	168.84	1004.70	163.20	1010.34	168.20	1005.34	170.00	1003.54	156.80	1016.74	SS	Deep
MW-26A (Abandoned)	G-154545AC	2609860.44	508825.09	1174.15	1172.44	103.59	1068.85	92.50	1079.94	102.50	1069.94	120.00	1052.44	103.80	1068.64	SS/SH	Intermediate
MW-26B (Abandoned)	G-154545AB	2609849.90	508824.87	1174.16	1172.42	76.64	1095.78	66.00	1106.42	76.00	1096.42	77.50	1094.92	NP	NP	NP	Shallow
MW-27A (Abandoned)	G-154545AA	2611434.64	508103.04	1176.05	1174.14	107.00	1067.14	96.00	1078.14	106.00	1068.14	121.90	1052.24	106.80	1067.34	SH	Intermediate
MW-27B	G-154545Z	2611427.01	508110.55	1176.06	1174.12	72.00	1102.12	61.50	1112.62	71.50	1102.62	73.00	1101.12	NP	NP	NP	Shallow
MW-28A	G-154545Y	2612951.02	502242.71	1172.22	1170.29	138.10	1032.19	127.60	1042.69	137.60	1032.69	138.60	1031.69	138.00	1032.29	SS	Intermediate
MW-28B	G-154545X	2612936.01	502242.26	1172.52	1170.43	78.03	1092.40	67.50	1102.93	77.50	1092.93	79.00	1091.43	NP	NP	NP	Shallow
MW-28D	G-154545W	2612969.60	502242.92	1171.99	1169.84	149.50	1020.34	144.00	1025.84	149.00	1020.84	149.50	1020.34	138.00	1031.84	SS	Deep
MW-29A	G-154545V	2614469.84	498383.11	1160.06	1158.50	134.10	1024.40	122.60	1035.90	132.60	1025.90	143.00	1015.50	137.10	1021.40	SH	Intermediate
MW-29B	G-154545FK	2614460.98	498382.37	1161.03	1158.75	75.00	1083.75	64.50	1094.25	74.50	1084.25	76.00	1082.75	NP	NP	NP	Shallow
MW-30A (Abandoned)	G-154545U	2616288.05	507064.55	1168.55	1166.61	99.50	1067.11	94.00	1072.61	99.00	1067.61	110.00	1056.61	101.50	1065.11	SH/SS	Intermediate
MW-30B (Abandoned)	G-154545FL	2616281.84	507065.86	1168.38	1166.45	71.00	1095.45	59.50	1106.95	69.50	1096.95	71.00	1095.45	NP	NP	NP	Shallow
MW-31A	G-154545T	2617943.95	503233.70	1167.38	1165.35	105.00	1060.35	94.50	1070.85	104.50	1060.85	112.00	1053.35	106.00	1059.35	SH	Intermediate
MW-31B	G-154545S	2617935.17	503238.63	1166.95	1165.06	60.90	1104.16	50.00	1115.06	60.00	1105.06	62.00	1103.06	NP	NP	NP	Shallow
MW-32A	G-154545R	2619697.25	499062.26	1154.17	1152.35	99.37	1052.98	88.50	1063.85	98.50	1053.85	99.50	1052.85	99.55	1052.80	SH	Intermediate
MW-32B	G-154545P	2619696.91	499069.08	1154.10	1152.31	81.50	1070.81	71.00	1081.31	81.00	1071.31	82.00	1070.31	NP	NP	NP	Intermediate
MW-32D	G-154545O	2619697.54	499055.63	1154.02	1152.07	112.13	1039.94	106.50	1045.57	111.50	1040.57	113.00	1039.07	99.50	1052.57	SH	Deep
MW-33A	sent	2622410.84	502847.91	1160.32	1158.43	111.00	1047.43	100.50	1057.93	110.50	1047.93	112.00	1046.43	NP	NP	NP	Intermediate
MW-33B	G-154545N	2622401.05	502854.78	1160.37	1158.53	84.26	1074.27	73.50	1085.03	83.50	1075.03	84.50	1074.03	NP	NP	NP	Shallow
MW-33D	G-154545M	2622421.53	502856.97	1160.24	1158.29	125.50	1032.79	120.00	1038.29	125.00	1033.29	127.00	1031.29	116.50	1041.79	SS	Deep
MW-34A	G-154545L	2624442.78	498806.30	1156.79	1155.05	112.50	1042.55	102.00	1053.05	112.00	1043.05	113.00	1042.05	113.00	1042.05	SS	Intermediate
MW-34B	G-154545K	2624443.06	498814.11	1157.00	1155.00	75.50	1079.50	65.00	1090.00	75.00	1080.00	76.00	1079.00	NP	NP	NP	Shallow
MW-34D	G-154545J	2624442.36	498796.40	1156.73	1154.83	126.04	1028.79	120.00	1034.83	125.00	1029.83	127.50	1027.33	112.90	1041.93	SS	Deep
MW-35A	G-154545I	2629595.76	496323.64	1139.81	1137.80	92.00	1045.80	81.50	1056.30	91.50	1046.30	92.50	1045.30	NP	NP	NP	Intermediate
MW-35B	G-154545H	2629595.84	496329.37	1139.57	1137.76	67.60	1070.16	57.00	1080.76	67.00	1070.76	68.00	1069.76	NP	NP	NP	Shallow
MW-35D	G-154545FM	2629595.80	496317.10	1139.67	1137.78	106.50	1031.28	100.50	1037.28	105.50	1032.28	117.00	1020.78	93.00	1044.78	SS	Deep
MW-36A (Abandoned)	G-154545G	2634814.84	496694.95	1076.62	1076.84	38.72	1038.12	28.00	1048.84	38.00	1038.84	39.00	1037.84	NP	NP	NP	Intermediate
MW-36B (Abandoned)	G-154545F	2634805.75	496692.86	1076.65	1076.80	27.50	1049.30	17.00	1059.80	27.00	1049.80	28.50	1048.30	NP	NP	NP	Shallow
MW-36D (Abandoned)	G-154545FG	2634824.46	496697.59	1076.79	1076.93	49.00	1027.93	43.00	1033.93	48.00	1028.93	49.00	1027.93	39.00	1037.93	SS	Deep
MW-37A (Abandoned)	G-154545E	2633418.32	491651.94	1085.20	1083.05	41.00	1042.05	30.50	1052.55	40.50	1042.55	48.00	1035.05	41.40	1041.65	SS	Intermediate
MW-37B (Abandoned)	G-154545D	2633416.51	491631.65	1085.19	1083.07	29.50	1053.57	24.00	1059.07	29.00	1054.07	30.00	1053.07	NP	NP	NP	Shallow
MW-37D (Abandoned)	abandoned	2633413.67	491666.00	1085.06	1082.98	51.00	1031.98	45.50	1037.48	50.50	1032.48	51.80	1031.18	41.50	1041.48	SS	Deep
MW-38A	G-154545C	2638131.88	496248.57	1082.32	1079.98	50.90	1029.08	44.70	1035.28	49.20	1030.78	51.00	1028.98	49.20	1030.78	SS	Intermediate
MW-38D	G-154545B	2638138.80	496250.60	1081.92	1079.98	64.00	1015.98	58.50	1021.48	63.50	1016.48	65.00	1014.98	49.20	1030.78	SS	Deep
MW-39A	G-154545A	2640062.25	499304.69	1082.82	1081.00	49.60	1031.40	44.00	1037.00	48.50	1032.50	49.60	1031.40	48.50	1032.50	SS	Intermediate
MW-39D	G-154545FF	2640059.10	499298.90	1082.95	1081.00	55.50	1025.50	52.50	1028.50	55.30	1025.70	59.00	1022.00	48.50	1032.50	SS/SH	Deep
MW-40A	G-154545FE	2623018.62	511963.35	1172.09	1170.09	126.14	1043.95	120.50	1049.59	125.50	1044.59	145.00	1025.09	127.60	1042.49	SS/SH	Intermediate
MW-40B	G-154545FD	2623006.75	511962.76	1172.34	1170.38	64.75	1105.63	54.00	1116.38	64.00	1106.38	65.50	1104.88	NP	NP	NP	Shallow
MW-41A	G-154545FN	2624371.47	512001.33	1168.63	1166.32	83.30	1083.02	71.50	1094.82	81.50	1084.82	83.30	1083.02	82.30	1084.02	SS	Intermediate
MW-41B	G-154545FC	2624361.83	512001.37	1168.68	1166.27	46.50	1119.77	36.00	1130.27	46.00	1120.27	47.00	1119.27	NP	NP	NP	Shallow
MW-41D	G-154545FB	2624353.22	512000.98	1168.61	1166.41	92.50	1073.91	87.00	1079.41	92.00	1074.41	93.00	1073.41	82.00	1084.41	SS	Deep
MW-42A	G-154545FA	2629385.20	501582.56	1146.53	1144.54	96.71	1047.83	86.00	1058.54	96.00	1048.54	97.50	1047.04	NP	NP	NP	Intermediate
MW-42B	G-154545EZ	2629385.28	501592.64	1146.64	1144.51	63.50	1081.01	53.00	1091.51	63.00	1081.51	64.50	1080.01	NP	NP	NP	Shallow
MW-42D	G-154545EY	2629384.99	501572.17	1146.20	1144.41	109.23	1035.18	103.20	1041.21	108.20	1036.21	109.20	1035.21	97.80	1046.61	SS	Deep
MW-43A	G-154545EX	2629243.07	504317.91	1142.90	1141.02	101.51	1039.51	90.50	1050.52	100.50	1040.52	102.00	1039.02	NP	NP	NP	Intermediate
MW-43B	G-154545EW	2629244.24	504328.20	1142.74	1140.90	50.95	1089.95	40.00	1100.90	50.00	1090.90	52.00	1088.90	NP	NP	NP	Shallow
MW-43D	G-154545EV	2629242.21	504308.09	1142.95	1140.95	111.90	1029.05	106.40	1034.55	111.40	1029.55	114.00	1026.95	101.50	1039.45	SS	Deep

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						Bottom of Well		Top of Screen		Bottom of Screen		Bottom of Boring		Top of Bedrock			
ID	DNR registration No.	Easting (NAD 83)	Northing (NAD 83)	TOC Elev (ft NAVD 88)	Ground Surface Elev (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Bedrock Type	Aquifer Designation
MW-44A	G-154545EU	2632953.68	500415.12	1093.66	1091.91	40.00	1051.91	29.50	1062.41	39.50	1052.41	42.50	1049.41	NP	NP	NP	Intermediate
MW-44B	G-154545ET	2632954.90	500426.32	1094.14	1090.62	26.50	1064.12	16.00	1074.62	26.00	1064.62	30.00	1060.62	NP	NP	NP	Shallow
MW-44D	G-154545ES	2632952.84	500403.76	1092.43	1092.31	56.60	1035.71	50.80	1041.51	55.80	1036.51	57.00	1035.31	44.00	1048.31	SS	Deep
MW-45A (Abandoned)	G-154545ER	2635043.54	499241.12	1081.53	1079.57	38.50	1041.07	28.00	1051.57	38.00	1041.57	39.00	1040.57	NP	NP	NP	Intermediate
MW-45B (Abandoned)	G-154545EQ	2635053.92	499241.15	1081.54	1079.54	27.52	1052.02	17.00	1062.54	27.00	1052.54	28.50	1051.04	NP	NP	NP	Shallow
MW-45D (Abandoned)	G-154545EP	2635032.46	499241.76	1081.44	1079.66	48.50	1031.16	43.00	1036.66	48.00	1031.66	49.70	1029.96	39.00	1040.66	SS	Deep
MW-46A	G-154545EO	2637464.94	499387.37	1082.70	1080.71	44.26	1036.45	33.20	1047.51	43.20	1037.51	48.00	1032.71	47.50	1033.21	NA	Intermediate
MW-46B	G-154545EN	2637464.42	499396.68	1082.81	1080.77	31.76	1049.01	21.00	1059.77	31.00	1049.77	34.00	1046.77	NP	NP	NP	Shallow
MW-46D	G-154545EM	2637465.40	499375.99	1082.65	1080.71	58.00	1022.71	52.50	1028.21	57.50	1023.21	58.50	1022.21	47.50	1033.21	SS	Deep
MW-47A (Abandoned)	G-154545EL	2603834.71	524480.73	1201.73	1199.76	123.30	1076.46	112.80	1086.96	122.80	1076.96	135.30	1064.46	126.00	1073.76	SH	Intermediate
MW-47B (Abandoned)	G-154545EK	2603819.42	524480.21	1201.67	1199.77	85.60	1114.17	74.80	1124.97	84.80	1114.97	86.60	1113.17	NP	NP	NP	Shallow
MW-48A (Abandoned)	abandoned	2607436.75	519363.04	1193.44	1191.36	121.20	1070.16	110.70	1080.66	120.70	1070.66	124.00	1067.36	122.00	1069.36	SS	Intermediate
MW-48B (Abandoned)	abandoned	2607442.66	519367.88	1193.35	1191.35	83.50	1107.85	73.00	1118.35	83.00	1108.35	83.50	1107.85	NP	NP	NP	Shallow
MW-48D (Abandoned)	abandoned	2607427.86	519358.29	1193.65	1191.64	131.00	1060.64	125.50	1066.14	130.50	1061.14	133.00	1058.64	119.40	1072.24	SS	Deep
MW-52A	G-154545EJ	2627012.55	508784.57	1155.22	1153.51	58.89	1094.62	48.00	1105.51	58.00	1095.51	65.00	1088.51	60.00	1093.51	SH	Intermediate
MW-52B	G-154545EI	2627004.24	508778.94	1155.65	1153.91	53.11	1100.80	42.50	1111.41	52.50	1101.41	54.00	1099.91	NP	NP	NP	Shallow
MW-53A	G-154545EH	2627897.77	508169.88	1136.36	1134.42	97.70	1036.72	87.00	1047.42	97.00	1037.42	101.00	1033.42	99.90	1034.52	SS	Intermediate
MW-53B	G-154545EG	2627885.40	508166.61	1136.91	1134.89	38.10	1096.79	27.50	1107.39	37.50	1097.39	39.00	1095.89	NP	NP	NP	Shallow
MW-54A	G-154545EF	2627893.82	508858.25	1121.58	1119.72	76.96	1042.76	66.00	1053.72	76.00	1043.72	83.50	1036.22	81.50	1038.22	SS	Intermediate
MW-54B	G-154545FO	2627883.88	508855.98	1121.59	1119.72	31.00	1088.72	24.00	1095.72	29.00	1090.72	31.00	1088.72	NP	NP	NP	Shallow
MW-55A	G-154545EE	2628135.40	508377.66	1126.49	1124.52	84.53	1039.99	74.00	1050.52	84.00	1040.52	87.00	1037.52	85.00	1039.52	SS	Intermediate
MW-55B	G-154545ED	2628125.88	508374.22	1127.27	1125.08	66.50	1058.58	56.00	1069.08	66.00	1059.08	68.00	1057.08	NP	NP	NP	Shallow
MW-56A	G-154545EC	2628206.01	508215.32	1125.96	1124.17	79.50	1044.67	69.00	1055.17	79.00	1045.17	82.00	1042.17	81.00	1043.17	SS	Intermediate
MW-56B	G-154545FP	2628195.32	508217.29	1126.24	1124.44	31.50	1092.94	21.00	1103.44	31.00	1093.44	32.70	1091.74	NP	NP	NP	Shallow
MW-57B	G-154545EB	2607621.51	516363.44	1196.27	1194.32	65.50	1128.82	55.00	1139.32	65.00	1129.32	67.00	1127.32	NP	NP	NP	Shallow
MW-58A (Abandoned)	abandoned	2620357.49	515008.03	1175.37	1173.48	133.00	1040.48	122.50	1050.98	132.50	1040.98	144.50	1028.98	135.00	1038.48	SS/SH	Intermediate
MW-58B (Abandoned)	abandoned	2620346.02	515009.76	1175.39	1173.40	82.65	1090.75	70.70	1102.70	80.70	1092.70	135.00	1038.40	134.00	1039.40	SS	Shallow
MW-59A (Abandoned)	abandoned	2621708.41	515882.45	1162.95	1161.06	127.80	1033.26	113.10	1047.96	123.10	1037.96	124.00	1037.06	NP	NP	NP	Intermediate
MW-59B (Abandoned)	abandoned	2621700.91	515887.73	1163.04	1161.29	51.79	1109.50	38.00	1123.29	48.00	1113.29	49.00	1112.29	NP	NP	NP	Shallow
MW-59D (Abandoned)	abandoned	2621717.33	515878.49	1162.57	1160.85	142.00	1018.85	132.20	1028.65	137.20	1023.65	139.00	1021.85	125.00	1035.85	SS	Deep
MW-60A	G-154545EA	2624702.83	489585.15	1145.83	1143.95	102.50	1041.45	92.00	1051.95	102.00	1041.95	115.00	1028.95	102.50	1041.45	SH	Intermediate
MW-60B (Abandoned)	G-154545DZ	2624703.22	489598.70	1146.15	1144.12	80.50	1063.62	70.00	1074.12	80.00	1064.12	83.00	1061.12	NP	NP	NP	Shallow
MW-61A	G-154545DY	2608656.02	492900.05	1108.96	1106.91	86.00	1020.91	75.70	1031.21	85.70	1021.21	87.00	1019.91	NP	NP	NP	Intermediate
MW-61B	G-154545DX	2608644.38	492898.60	1108.96	1106.84	35.30	1071.54	25.00	1081.84	35.00	1071.84	38.00	1068.84	NP	NP	NP	Shallow
MW-61D	G-154545DW	2608667.93	492901.85	1108.96	1106.85	102.50	1004.35	97.00	1009.85	102.00	1004.85	103.00	1003.85	87.50	1019.35	SH	Deep
MW-62A (Abandoned)	G-154545DV	2635396.62	493874.24	1078.66	1076.62	37.50	1039.12	27.00	1049.62	37.00	1039.62	37.50	1039.12	NP	NP	NP	Intermediate
MW-62B (Abandoned)	G-154545DU	2635385.06	493871.95	1078.57	1076.52	24.50	1052.02	17.00	1059.52	24.00	1052.52	25.00	1051.52	NP	NP	NP	Shallow
MW-62D (Abandoned)	G-154545DT	2635407.14	493876.96	1078.89	1076.90	49.50	1027.40	44.00	1032.90	49.00	1027.90	50.00	1026.90	37.60	1039.30	SS	Deep
MW-63B (Abandoned)	G-154545DS	2613167.91	519473.60	1177.45	1175.66	28.80	1146.86	18.50	1157.16	28.50	1147.16	31.40	1144.26	NP	NP	NP	Shallow
MW-64B (Abandoned)	G-154545DR	2628038.55	510106.02	1144.20	1142.35	29.50	1112.85	19.00	1123.35	29.00	1113.35	31.00	1111.35	NP	NP	NP	Shallow
MW-65A	G-154545DQ	2613203.05	506090.52	1165.02	1164.83	103.00	1061.83	92.50	1072.33	102.50	1062.33	107.50	1057.33	NA	NA	NA	Intermediate
MW-65B	G-154545DP	2613193.30	506091.23	1165.01	1164.86	66.20	1098.66	35.40	1129.46	65.40	1099.46	66.50	1098.36	NA	NA	NA	Shallow
MW-66A (Abandoned)	abandoned	2613278.51	506026.73	1163.09	1163.93	99.50	1064.43	89.00	1074.93	99.00	1064.93	104.50	1059.43	NA	NA	NA	Intermediate
MW-66B (Abandoned)	abandoned	2613268.32	506027.61	1163.08	1163.92	64.50	1099.42	34.00	1129.92	64.00	1099.92	98.00	1065.92	NA	NA	NA	Shallow
MW-67A (Abandoned)	abandoned	2613306.23	506004.48	1162.44	1163.28	98.50	1064.78	88.00	1075.28	98.00	1065.28	102.50	1060.78	NA	NA	NA	Intermediate
MW-67B (Abandoned)	abandoned	2613314.55	505999.49	1162.68	1163.52	64.50	1099.02	34.00	1129.52	64.00	1099.52	66.00	1097.52	NA	NA	NA	Shallow
MW-68B (Abandoned)	abandoned	2613320.78	506024.53	1164.06	1164.90	66.50	1098.40	36.00	1128.90	66.00	1098.90	68.50	1096.40	NA	NA	NA	Shallow
MW-69B (Abandoned)	abandoned	2613341.62	506046.74	1165.08	1165.92	66.50	1099.42	36.00	1129.92	66.00	1099.92	68.00	1097.92	NA	NA	NA	Shallow
MW-70B (Abandoned)	abandoned	2613362.30	506068.63	1165.27	1166.11	66.50	1099.61	36.00	1130.11	66.00	1100.11	68.00	1098.11	NA	NA	NA	Shallow

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						Bottom of Well		Top of Screen		Bottom of Screen		Bottom of Boring		Top of Bedrock			
ID	DNR registration No.	Easting (NAD 83)	Northing (NAD 83)	TOC Elev (ft NAVD 88)	Ground Surface Elev (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Bedrock Type	Aquifer Designation
MW-71B	G-154545DO	2613382.62	506090.27	1166.34	1166.22	66.50	1099.72	36.00	1130.22	66.00	1100.22	68.00	1098.22	NA	NA	NA	Shallow
MW-72A	G-154545DN	2622930.98	512064.69	1170.37	1171.21	108.50	1062.71	88.00	1083.21	108.00	1063.21	110.00	1061.21	NA	NA	NA	Intermediate
MW-72B	G-154545DM	2622921.73	512064.19	1169.92	1170.76	70.50	1100.26	40.00	1130.76	70.00	1100.76	71.20	1099.56	NA	NA	NA	Shallow
MW-73A	G-154545DL	2623060.93	511909.15	1166.95	1167.79	108.50	1059.29	88.00	1079.79	108.00	1059.79	109.00	1058.79	NA	NA	NA	Intermediate
MW-73B	G-154545DK	2623052.30	511908.70	1166.90	1167.74	70.50	1097.24	40.00	1127.74	70.00	1097.74	72.00	1095.74	NA	NA	NA	Shallow
MW-74A	G-154545DJ	2623093.85	511934.84	1166.94	1167.78	108.60	1059.18	88.10	1079.68	108.10	1059.68	110.00	1057.78	NA	NA	NA	Intermediate
MW-74B	G-154545DI	2623085.26	511934.80	1167.04	1167.88	70.50	1097.38	40.00	1127.88	70.00	1097.88	71.00	1096.88	NA	NA	NA	Shallow
MW-75A	G-154545DH	2623130.00	511962.35	1167.13	1167.97	107.60	1060.37	87.10	1080.87	107.10	1060.87	110.00	1057.97	NA	NA	NA	Intermediate
MW-75B	G-154545DG	2623120.34	511961.81	1167.30	1168.14	70.50	1097.64	40.00	1128.14	70.00	1098.14	71.00	1097.14	NA	NA	NA	Shallow
MW-76A	G-154545FQ	2623158.64	511983.32	1166.24	1167.08	108.50	1058.58	88.00	1079.08	108.50	1058.58	110.00	1057.08	NA	NA	NA	Intermediate
MW-76B	G-154545DF	2623148.91	511982.59	1166.48	1167.32	71.00	1096.32	40.50	1126.82	70.50	1096.82	71.00	1096.32	NA	NA	NA	Shallow
MW-77A	G-154545DE	2623192.11	512008.01	1165.73	1166.57	104.00	1062.57	83.50	1083.07	103.50	1063.07	107.00	1059.57	NA	NA	NA	Intermediate
MW-77B	G-154545DD	2623180.56	512007.28	1165.79	1166.63	70.50	1096.13	40.00	1126.63	70.00	1096.63	71.00	1095.63	NA	NA	NA	Shallow
MW-78A	G-154545DC	2623223.84	512032.75	1165.27	1166.11	105.50	1060.61	85.00	1081.11	105.00	1061.11	106.90	1059.21	NA	NA	NA	Intermediate
MW-78B	G-154545DB	2623213.77	512031.30	1165.35	1166.19	70.50	1095.69	40.00	1126.19	70.00	1096.19	71.00	1095.19	NA	NA	NA	Shallow
MW-79A	G-141658A	2610432.14	492336.21	1109.34	1107.15	86.00	1021.15	76.00	1031.15	86.00	1021.15	86.00	1021.15	85.70	1021.45	SH	Intermediate
MW-79B	G-141658B	2610428.14	492345.18	1109.39	1107.17	40.40	1066.77	30.20	1076.97	40.20	1066.97	40.40	1066.77	NP	NP	NP	Shallow
MW-80A	G-141658C	2610925.54	492067.12	1107.43	1105.27	79.17	1026.10	69.17	1036.10	79.17	1026.10	79.17	1026.10	82.50	1022.77	SS	Intermediate
MW-80B	G-141658D	2610916.24	492064.59	1107.65	1105.46	40.00	1065.46	30.00	1075.46	40.00	1065.46	40.40	1065.06	NP	NP	NP	Shallow
MW-80D	G-141658E	2610935.55	492068.65	1107.40	1105.22	92.70	1012.52	87.70	1017.52	92.70	1012.52	92.80	1012.42	82.50	1022.72	SS	Deep
MW-81A	G-141658F	2611637.99	492369.38	1108.48	1106.30	92.00	1014.30	79.00	1027.30	92.00	1014.30	92.00	1014.30	94.20	1012.10	SS	Intermediate
MW-81B	G-141658G	2611635.91	492360.36	1108.47	1106.29	38.40	1067.89	28.20	1078.09	38.20	1068.09	38.40	1067.89	NP	NP	NP	Shallow
MW-81D	G-141658H	2611633.37	492349.85	1108.53	1106.40	104.60	1001.80	99.10	1007.30	104.10	1002.30	104.60	1001.80	94.20	1012.20	SS	Deep
MW-82A	G-141124A	2619288.65	493318.05	1149.14	1147.10	94.50	1052.60	89.50	1057.60	94.50	1052.60	94.75	1052.35	NP	NP	NP	Intermediate
MW-82B	G-141124B	2619284.94	493325.47	1149.12	1147.20	66.50	1080.70	61.20	1086.00	65.70	1081.50	66.40	1080.80	NP	NP	NP	Shallow
MW-82D	G-141124C	2619293.00	493310.90	1149.22	1147.10	125.50	1021.60	120.00	1027.10	125.00	1022.10	125.75	1021.35	112.00	1035.10	SS	Deep
MW-83A	G-141124D	2621924.08	495274.66	1152.41	1150.20	109.00	1041.20	103.50	1046.70	108.50	1041.70	110.00	1040.20	NP	NP	NP	Intermediate
MW-83B	G-141124E	2621921.79	495302.77	1152.28	1150.40	80.00	1070.40	75.00	1075.40	80.00	1070.40	80.00	1070.40	NP	NP	NP	Shallow
MW-83D	G-141124F	2621922.97	495288.85	1152.32	1150.30	122.50	1027.80	116.00	1034.30	121.00	1029.30	122.50	1027.80	111.00	1039.30	SS	Deep
MW-84A	G-141124G	2624277.77	495685.51	1145.34	1143.20	91.65	1051.55	87.13	1056.07	91.13	1052.07	91.65	1051.55	NP	NP	NP	Intermediate
MW-84AR	abandoned	2624273.89	495704.26	1145.26	1143.20	103.00	1040.20	97.50	1045.70	102.50	1040.70	103.00	1040.20	102.50	1040.70	SS	Intermediate
MW-84B	G-141124I	2624272.04	495712.90	1145.62	1143.30	72.00	1071.30	66.50	1076.80	71.50	1071.80	72.00	1071.30	NP	NP	NP	Shallow
MW-84D	G-141124J	2624275.75	495695.58	1145.37	1143.20	110.00	1033.20	103.50	1039.70	108.50	1034.70	110.00	1033.20	97.50	1045.70	SS	Deep
MW-85A	G-141124K	2628326.53	494439.02	1132.58	1130.50	86.00	1044.50	81.00	1049.50	86.00	1044.50	87.00	1043.50	86.00	1044.50	SS	Intermediate
MW-85B	G-141124L	2628315.15	494449.81	1132.39	1130.40	66.30	1064.10	62.00	1068.40	67.00	1063.40	66.30	1064.10	NP	NP	NP	Shallow
MW-85D	G-141124M	2628338.54	494428.03	1132.59	1130.40	96.00	1034.40	90.00	1040.40	95.00	1035.40	96.35	1034.05	84.50	1045.90	SS	Deep
MW-86A	G-144684A	2631939.21	493759.74	1114.15	1111.78	62.50	1049.28	52.50	1059.28	62.50	1049.28	63.50	1048.28				Intermediate
MW-86B	G-144684B	2631933.61	493758.65	1114.58	1112.08	54.00	1058.08	43.00	1069.08	53.00	1059.08	54.00	1058.08				Shallow
MW-86D	G-144684C	2631944.47	493760.43	1113.90	1111.48	74.50	1036.98	68.98	1042.50	74.50	1036.98	75.20	1036.28	63.00	1048.48	SS	Deep
MW-87A	G-144683A	2635039.81	491898.03	1078.38	1075.83	46.00	1029.83	36.00	1039.83	46.00	1029.83	47.00	1028.83				Intermediate
MW-87B	G-144683B	2635035.21	491900.97	1078.38	1075.83	27.00	1048.83	17.00	1058.83	27.00	1048.83	28.00	1047.83				Shallow
MW-87D	G-144683C	2635044.01	491895.21	1078.39	1075.83	55.60	1020.23	50.10	1025.73	55.60	1020.23	65.00	1010.83	46.00	1029.83	SS	Deep
MW-88A	G-144663A	2637643.92	494045.13	1081.22	1078.71	45.00	1033.71	35.00	1043.71	45.00	1033.71	46.00	1032.71				Intermediate
MW-88B	G-144663B	2637639.18	494044.21	1081.27	1078.71	30.00	1048.71	20.00	1058.71	30.00	1048.71	31.00	1047.71				Shallow
MW-88D	G-144663C	2637648.62	494046.08	1081.30	1078.71	57.50	1021.21	50.50	1028.21	55.50	1023.21	57.50	1021.21	45.00	1033.71	SS	Deep
MW-89A	G-141658I	2610430.84	494253.88	1160.99	1158.81	139.20	1019.61	129.20	1029.61	139.20	1019.61	139.20	1019.61	NP	NP	NP	Intermediate
MW-89B	G-141658J	2610408.69	494254.10	1161.37	1159.20	75.70	1083.50	65.00	1094.20	75.70	1083.50	75.70	1083.50	NP	NP	NP	Shallow
MW-89D	G-141658K	2610451.41	494254.27	1160.65	1158.55	150.60	1007.95	145.00	1013.55	150.60	1007.95	150.60	1007.95	125.00	1033.55	SS	Deep
MW-89E	G-157027A	2610466.38	494253.06	1157.24	1157.79	95.00	1062.79	85.00	1072.79	95.00	1062.79	95.00	1062.79	NP	NP	NP	Intermediate

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						Bottom of Well		Top of Screen		Bottom of Screen		Bottom of Boring		Top of Bedrock			
ID	DNR registration No.	Easting (NAD 83)	Northing (NAD 83)	TOC Elev (ft NAVD 88)	Ground Surface Elev (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Bedrock Type	Aquifer Designation
MW-90A	G-141658L	2611235.54	494302.04	1151.11	1148.94	123.40	1025.54	112.20	1036.74	123.40	1025.54	123.40	1025.54	NP	NP	NP	Intermediate
MW-90B	G-141658M	2611226.60	494297.96	1150.77	1148.60	75.45	1073.15	65.35	1083.25	75.45	1073.15	75.45	1073.15	NP	NP	NP	Shallow
MW-90D	G-141658N	2611244.85	494306.05	1151.44	1149.25	135.20	1014.05	130.20	1019.05	135.20	1014.05	135.20	1014.05	125.20	1024.05	SS	Deep
MW-91A	G-141658O	2612076.97	494323.00	1152.04	1149.85	119.20	1030.65	109.20	1040.65	119.20	1030.65	119.20	1030.65	NA	NP	NA	Intermediate
MW-91B	G-141658P	2612067.85	494317.53	1151.87	1149.66	77.60	1072.06	67.60	1082.06	77.60	1072.06	78.10	1071.56	NA	NP	NA	Shallow
MW-91D	G-141658Q	2612085.70	494327.97	1151.95	1149.78	130.20	1019.58	125.20	1024.58	130.20	1019.58	130.60	1019.18	120.00	1029.78	SH	Deep
MW-92A	G-141658R	2610047.26	492722.58	1108.78	1106.58	82.16	1024.42	72.16	1034.42	82.16	1024.42	82.16	1024.42	82.50	1024.08	SH	Intermediate
MW-92B	G-141658S	2610047.80	492733.82	1108.65	1106.44	40.10	1066.34	30.10	1076.34	40.10	1066.34	40.80	1065.64	NP	NP	NP	Shallow
MW-93A	G-141658T	2612162.89	493551.29	1124.26	1122.07	94.20	1027.87	84.20	1037.87	94.20	1027.87	94.20	1027.87	95.00	1027.07	SH	Intermediate
MW-93B	G-141658U	2612154.07	493546.80	1123.90	1121.70	70.00	1051.70	60.00	1061.70	70.00	1051.70	70.30	1051.40	NP	NP	NP	Shallow
MW-94A	G-144677A	2617023.16	496428.72	1153.06	1150.75	94.00	1056.75	84.00	1066.75	94.00	1056.75	95.00	1055.75				Intermediate
MW-94B	G-144677B	2617023.07	496434.50	1153.09	1150.56	74.00	1076.56	64.00	1086.56	74.00	1076.56	75.00	1075.56				Shallow
MW-94D	G-144677C	2617023.47	496422.56	1153.25	1150.82	121.40	1029.42	115.90	1034.92	121.40	1029.42	125.00	1025.82	110.50	1040.32	SH	Deep
MW-95A	G-144678A	2617552.81	494508.64	1156.81	1154.32	104.00	1050.32	93.00	1061.32	103.00	1051.32	104.00	1050.32				Intermediate
MW-95B	G-144678B	2617546.97	494508.01	1156.46	1154.15	76.00	1078.15	65.00	1089.15	75.00	1079.15	76.00	1078.15				Shallow
MW-95D	G-144678C	2617558.46	494509.13	1156.82	1154.45	130.00	1024.45	124.50	1029.95	129.50	1024.95	130.00	1024.45	118.00	1036.45	SH	Deep
MW-96A	G-144679A	2621468.23	493387.73	1148.56	1146.00	92.50	1053.50	82.50	1063.50	92.50	1053.50	93.50	1052.50				Intermediate
MW-96B	G-144679B	2621468.23	493387.80	1148.56	1146.00	81.00	1065.00	71.00	1075.00	81.00	1065.00	82.50	1063.50				Shallow
MW-96D	G-144679C	2621476.25	493387.89	1148.58	1146.00	106.50	1039.50	101.50	1044.50	106.00	1040.00	110.00	1036.00	96.50	1049.50	SS	Deep
MW-97A	G-144680A	2623938.04	493492.83	1143.08	1140.60	93.00	1047.60	83.00	1057.60	93.00	1047.60	94.00	1046.60				Intermediate
MW-97B	G-144680B	2623932.70	493492.45	1143.18	1140.60	73.00	1067.60	68.00	1072.60	73.00	1067.60	74.00	1066.60				Shallow
MW-97D	G-144680C	2623943.48	493493.13	1143.18	1140.60	105.50	1035.10	99.98	1040.62	105.50	1035.10	106.00	1034.60	94.00	1046.60	SS	Deep
MW-98A	G-144681A	2626495.30	493604.94	1141.52	1139.00	92.00	1047.00	82.00	1057.00	92.00	1047.00	94.00	1045.00				Intermediate
MW-98B	G-144681B	2626488.71	493605.28	1141.58	1139.00	69.00	1070.00	64.00	1075.00	69.00	1070.00	75.00	1064.00				Shallow
MW-98D	G-144681C	2626502.36	493605.21	1141.58	1139.00	105.00	1034.00	97.00	1042.00	102.00	1037.00	105.00	1034.00	92.00	1047.00	SS	Deep
MW-99A	G-144682A	2627117.43	498780.95	1163.04	1160.69	112.00	1048.69	102.00	1058.69	112.00	1048.69	112.00	1048.69				Intermediate
MW-99B	G-144682B	2627118.41	498787.93	1163.19	1160.87	86.00	1074.87	75.00	1085.87	85.00	1075.87	86.00	1074.87				Shallow
MW-99D	G-144682C	2627116.78	498773.69	1162.76	1160.38	125.00	1035.38	118.50	1041.88	123.50	1036.88	125.00	1035.38	112.00	1048.38	SS	Deep
MW-100A	G-144662A	2629718.84	493770.41	1141.18	1138.60	93.00	1045.60	83.00	1055.60	93.00	1045.60	105.00	1033.60	94.00	1044.60	SS	Intermediate
MW-100B	G-144662B	2629718.07	493777.19	1141.12	1138.60	75.00	1063.60	65.00	1073.60	75.00	1063.60	76.00	1062.60				Shallow
MW-100D	G-144662C	2629718.36	493783.73	1141.22	1138.60	104.90	1033.70	99.90	1038.70	104.90	1033.70	110.00	1028.60	94.00	1044.60	SS	Deep
MW-101A	G-143845A	2610929.39	491574.12	1107.43	1104.99	93.00	1011.99	83.00	1021.99	93.00	1011.99	105.00	999.99				Intermediate
MW-101B	G-143845C	2610923.62	491573.82	1107.44	1104.99	40.00	1064.99	30.00	1074.99	40.00	1064.99	41.00	1063.99				Shallow
MW-101D	G-144676	2610935.30	491574.49	1107.45	1104.99	96.20	1008.79	90.00	1014.99	95.00	1009.99	96.20	1008.79	83.00	1021.99	SS	Deep
MW-102A	G-144675A	2622929.38	514541.24	1170.90	1168.76	127.00	1041.76	117.00	1051.76	127.00	1041.76	128.00	1040.76				Intermediate
MW-102B	G-144675B	2622923.37	514540.93	1171.13	1168.76	60.00	1108.76	50.00	1118.76	60.00	1108.76	61.00	1107.76				Shallow
MW-102D	G-154545BC	2622935.91	514541.49	1171.08	1168.76	139.50	1029.26	134.50	1034.26	139.50	1029.26	141.50	1027.26	128.00	1040.76	SS	Deep
MW-103A	G-143845D	2623590.77	513115.79	1173.58	1171.11	126.50	1044.61	116.00	1055.11	126.00	1045.11	126.50	1044.61				Intermediate
MW-103B	G-143845E	2623591.23	513110.25	1173.80	1171.36	60.00	1111.36	50.00	1121.36	60.00	1111.36	60.00	1111.36				Shallow
MW-103D	G-144661	2623589.45	513132.90	1173.22	1170.78	135.70	1035.08	130.00	1040.78	135.00	1035.78	135.70	1035.08	126.00	1040.76	SS	Deep
MW-104O	G-152732A	2634073.87	499205.00	1081.69	1078.59	7.50	1071.09	5.30	1073.29	7.30	1071.29	7.50	1071.09	NP	NP	NP	Shallow
MW-104B	G-152732B	2634082.83	499205.61	1081.27	1078.38	25.10	1053.28	15.10	1063.28	24.60	1053.78	25.50	1052.88	NP	NP	NP	Shallow
MW-104A	G-152732C	2634092.18	499205.59	1081.26	1078.50	41.20	1037.30	31.10	1047.40	40.60	1037.90	41.40	1037.10	40.50	1038.00	SS	Intermediate
MW-104D	G-152732D	2634100.80	499205.35	1081.87	1078.81	49.60	1029.21	44.60	1034.21	49.10	1029.71	50.30	1028.51	40.50	1038.31	SS	Deep
MW-105O	G-152732E	2635040.67	496662.29	1080.04	1076.73	6.70	1070.03	5.00	1071.73	6.60	1070.13	7.10	1069.63	NP	NP	NP	Shallow
MW-105B	G-152732F	2635042.34	496652.98	1079.77	1076.72	24.95	1051.77	14.75	1061.97	24.25	1052.47	25.10	1051.62	NP	NP	NP	Shallow
MW-105A	G-152732G	2635041.98	496642.99	1079.60	1076.84	40.26	1036.58	30.17	1046.67	39.67	1037.17	40.50	1036.34	40.30	1036.54	SS	Intermediate
MW-106A	G-144674A	2630544.55	506843.26	1118.06	1115.50	67.00	1048.50	57.00	1058.50	67.00	1048.50	68.00	1047.50				Intermediate
MW-106B	G-144674B	2630539.26	506844.10	1117.98	1115.50	35.00	1080.50	25.00	1090.50	35.00	1080.50	36.00	1079.50				Shallow

Table 2-4
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						Bottom of Well		Top of Screen		Bottom of Screen		Bottom of Boring		Top of Bedrock			
ID	DNR registration No.	Easting (NAD 83)	Northing (NAD 83)	TOC Elev (ft NAVD 88)	Ground Surface Elev (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Bedrock Type	Aquifer Designation
MW-106D	G-144674C	2630549.50	506842.72	1118.18	1115.50	79.00	1036.50	74.00	1041.50	79.00	1036.50	80.00	1035.50	68.00	1047.50	SS	Deep
MW-107A	G-144667A	2631375.72	506138.76	1135.79	1136.12	88.00	1048.12	78.00	1058.12	88.00	1048.12	89.00	1047.12				Intermediate
MW-107B	G-144667B	2631374.08	506125.16	1136.72	1136.95	55.00	1081.95	45.00	1091.95	55.00	1081.95	56.00	1080.95				Shallow
MW-107D	G-144667C	2631375.03	506131.87	1136.35	1136.70	100.50	1036.20	95.50	1041.20	100.50	1036.20	101.50	1035.20	89.20	1047.50	SS	Deep
MW-108A	G-144666A	2631915.55	505912.28	1126.74	1126.95	81.00	1045.95	71.00	1055.95	81.00	1045.95	82.00	1044.95				Intermediate
MW-108B	G-144666B	2631917.07	505899.47	1126.98	1127.28	45.00	1082.28	35.00	1092.28	45.00	1082.28	46.00	1081.28				Shallow
MW-108D	G-144666C	2631916.34	505906.33	1126.87	1127.11	93.50	1033.61	88.50	1038.61	93.50	1033.61	95.50	1031.61	81.50	1045.61	SS	Deep
MW-109O	G-152732H	2634805.17	501911.81	1085.88	1083.06	9.50	1073.56	6.70	1076.36	9.20	1073.86	9.50	1073.56	NP	NP	NP	Shallow
MW-109B	G-152732I	2634805.75	501904.25	1085.98	1083.11	29.30	1053.81	19.20	1063.91	28.70	1054.41	30.50	1052.61	NP	NP	NP	Intermediate
MW-109A	G-152732J	2634807.18	501896.06	1086.25	1083.19	46.95	1036.24	36.85	1046.34	46.35	1036.84	46.95	1036.24	46.70	1036.49	SS	Intermediate
MW-110A	G-143845F	2634397.71	504432.79	1094.10	1091.71	45.00	1046.71	39.50	1052.21	44.50	1047.21	45.00	1046.71				Intermediate
MW-110B	G-143845G	2634397.16	504438.89	1094.49	1092.01	28.50	1063.51	23.00	1069.01	28.00	1064.01	28.50	1063.51				Shallow
MW-110D	G-144670	2634398.64	504425.93	1094.36	1091.71	55.00	1036.71	50.00	1041.71	55.00	1036.71	57.00	1034.71	44.75	1046.96	SS	Deep
MW-111O	G-152732K	2636152.14	499356.67	1082.48	1079.40	6.80	1072.60	5.00	1074.40	6.50	1072.90	7.00	1072.40	NP	NP	NP	Shallow
MW-111B	G-152732L	2636151.75	499348.24	1082.61	1079.42	24.60	1054.82	14.50	1064.92	24.00	1055.42	25.00	1054.42	NP	NP	NP	Shallow
MW-111A	G-152732M	2636151.56	499337.97	1082.82	1079.82	41.33	1038.49	31.23	1048.59	40.73	1039.09	41.33	1038.49	40.20	1039.62	SS	Intermediate
MW-112A	G-144669	2637365.72	501825.77	1082.03	1082.38	48.00	1034.38	42.50	1039.88	47.50	1034.88	56.00	1026.38	48.00	1034.38	SH	Intermediate
MW-112B	G-143845H	2637365.30	501832.67	1082.02	1082.38	26.00	1056.38	21.00	1061.38	26.00	1056.38	26.50	1055.88				Shallow
MW-113A	G-143845I	2637420.11	500472.22	1080.47	1080.82	41.00	1039.82	36.00	1044.82	41.00	1039.82	42.00	1038.82				Intermediate
MW-113B	G-143845J	2637419.51	500477.68	1080.42	1080.82	31.00	1049.82	26.00	1054.82	31.00	1049.82	32.00	1048.82				Shallow
MW-113D	G-144668	2637420.34	500466.05	1080.49	1080.82	55.50	1025.32	48.70	1032.12	53.70	1027.12	55.50	1025.32	41.50	1039.32	SS	Deep
MW-114A	G-144665A	2637470.60	497206.93	1080.32	1077.87	47.00	1030.87	37.00	1040.87	47.00	1030.87	48.00	1029.87				Intermediate
MW-114B	G-144665B	2637465.73	497204.32	1080.43	1077.87	30.00	1047.87	20.00	1057.87	30.00	1047.87	31.00	1046.87				Shallow
MW-114D	G-144665C	2637475.70	497209.79	1080.23	1077.87	58.00	1019.87	52.44	1025.43	58.00	1019.87	60.00	1017.87	48.00	1029.87	SS	Deep
MW-115A	G-144672A	2637702.52	495346.88	1081.67	1079.36	48.00	1031.36	43.00	1036.36	48.00	1031.36	49.00	1030.36				Intermediate
MW-115B	G-144672B	2637696.42	495346.87	1081.77	1079.36	33.00	1046.36	28.00	1051.36	33.00	1046.36	34.00	1045.36				Shallow
MW-115D	G-144672C	2637708.86	495346.84	1081.66	1079.36	59.40	1019.96	53.89	1025.47	59.40	1019.96	60.00	1019.36	49.00	1030.36	SS	Deep
MW-116A	G-144673A	2636335.80	495297.60	1080.53	1078.07	42.50	1035.57	37.50	1040.57	42.50	1035.57	43.50	1034.57				Intermediate
MW-116B	G-144673B	2636331.54	495297.24	1080.49	1078.07	32.00	1046.07	27.00	1051.07	32.00	1046.07	33.00	1045.07				Shallow
MW-116D	G-144673C	2636334.22	495293.68	1080.46	1078.07	53.50	1024.57	47.98	1030.09	53.50	1024.57	55.00	1023.07	43.00	1035.07	SS	Deep
MW-117A	G-144664A	2631041.42	495048.00	1122.26	1122.36	76.00	1046.36	66.00	1056.36	76.00	1046.36	76.00	1046.36				Intermediate
MW-117B	G-144664B	2631040.50	495053.98	1122.06	1122.36	53.00	1069.36	43.00	1079.36	53.00	1069.36	54.00	1068.36				Shallow
MW-117D	G-144664C	2631042.35	495042.20	1122.41	1122.36	86.50	1035.86	81.50	1040.86	86.50	1035.86	95.00	1027.36	76.00	1046.36	SS	Deep
MW-118A	G-144671A	2625890.45	496207.70	1143.87	1141.67	95.25	1046.42	84.75	1056.92	95.25	1046.42	105.00	1036.67	97.00	1044.67	SH	Intermediate
MW-118B	G-144671B	2625884.54	496207.84	1143.91	1141.81	75.00	1066.81	70.00	1071.81	75.00	1066.81	76.00	1065.81				Shallow
MW-119B	G-152732N	2607941.55	499593.35	1159.28	1159.66	84.10	1075.56	74.00	1085.66	83.50	1076.16	84.50	1075.16	NP	NP	NP	Shallow
MW-119A	G-152733	2607952.61	499580.81	1159.14	1159.38	129.60	1029.78	119.70	1039.68	129.20	1030.18	137.00	1022.38	129.90	1029.48	SS	Intermediate
MW-120B	G-152732O	2609372.70	499438.97	1166.33	1166.51	75.60	1090.91	65.50	1101.01	75.00	1091.51	77.00	1089.51	NP	NP	NP	Shallow
MW-120E	G-152732P	2609372.68	499430.79	1166.43	1166.76	105.20	1061.56	95.30	1071.46	104.80	1061.96	105.50	1061.26	NP	NP	NP	Intermediate
MW-120A	G-152765	2609372.30	499419.07	1166.32	1166.72	138.60	1028.12	128.70	1038.02	138.20	1028.52	148.00	1018.72	138.10	1028.62	SS	Intermediate
MW-120D	G-152766	2609371.09	499409.47	1166.62	1166.88	148.80	1018.08	144.00	1022.88	148.40	1018.48	150.00	1016.88	138.00	1028.88	SS	Deep
MW-121B	G-152732Q	2609779.26	500071.59	1170.13	1170.48	85.80	1084.68	75.70	1094.78	85.20	1085.28	86.60	1083.88	NP	NP	NP	Shallow
MW-121E	G-152732R	2609763.30	500071.29	1170.07	1170.27	115.60	1054.67	105.50	1064.77	115.00	1055.27	116.00	1054.27	NP	NP	NP	Intermediate
MW-121A	G-152767	2609752.79	500071.02	1170.04	1170.27	142.50	1027.77	132.60	1037.67	142.10	1028.17	152.00	1018.27	141.80	1028.47	SS	Intermediate
MW-122B	G-152732S	2609232.29	498114.61	1166.52	1166.89	107.80	1059.09	97.60	1069.29	107.10	1059.79	108.50	1058.39	NP	NP	NP	Intermediate
MW-122A	G-152734	2609240.41	498101.34	1165.76	1166.25	138.40	1027.85	128.50	1037.75	138.00	1028.25	142.00	1024.25	138.00	1028.25	SH	Intermediate
MW-123B	G-152732T	2608666.00	499909.02	1168.97	1169.33	100.20	1069.13	90.10	1079.23	99.60	1069.73	100.40	1068.93	NP	NP	NP	Shallow
MW-123A	G-152735	2608677.91	499909.07	1168.99	1169.28	141.70	1027.58	131.80	1037.48	141.30	1027.98	147.00	1022.28	141.90	1027.38	SS	Intermediate
MW-124B	G-152732U	2609107.79	501496.31	1161.59	1162.12	79.80	1082.32	69.70	1092.42	79.20	1082.92	80.50	1081.62	NP	NP	NP	Shallow

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USACE Monitoring Well and Observation Well Construction Details
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						Bottom of Well		Top of Screen		Bottom of Screen		Bottom of Boring		Top of Bedrock			
ID	DNR registration No.	Easting (NAD 83)	Northing (NAD 83)	TOC Elev (ft NAVD 88)	Ground Surface Elev (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Bedrock Type	Aquifer Designation
MW-124A	G-152732V	2609115.81	501486.16	1161.89	1162.25	110.40	1051.85	100.30	1061.95	109.80	1052.45	110.50	1051.75	NP	NP	NP	Intermediate
MW-124D	G-152736	2609125.65	501475.69	1161.82	1162.24	126.10	1036.14	121.30	1040.94	125.70	1036.54	127.00	1035.24	115.10	1047.14	SH	Deep
MW-125B	G-152732W	2609468.11	500661.63	1162.14	1162.54	86.80	1075.74	76.70	1085.84	86.20	1076.34	87.30	1075.24	NP	NP	NP	Shallow
MW-125A	G-152732X	2609457.06	500663.23	1162.05	1162.35	128.00	1034.35	117.90	1044.45	127.40	1034.95	128.50	1033.85	127.50	1034.85	SH	Intermediate
MW-125D	G-152737	2609446.30	500664.74	1161.52	1161.80	139.20	1022.60	134.40	1027.40	138.80	1023.00	140.00	1021.80	127.50	1034.30	SH	Deep
MW-126B	G-152732Y	2607482.56	504514.66	1171.29	1171.60	92.50	1079.10	82.30	1089.30	91.80	1079.80	93.20	1078.40	NP	NP	NP	Shallow
MW-126A	G-152732Z	2607483.63	504504.82	1170.87	1171.21	122.40	1048.81	112.30	1058.91	121.80	1049.41	123.10	1048.11	NP	NP	NP	Intermediate
MW-126D	G-152768	2607483.02	504494.77	1170.26	1170.71	153.60	1017.11	148.80	1021.91	153.20	1017.51	154.00	1016.71	141.50	1029.21	SS	Deep
MW-127E	G-152732AA	2606121.31	506941.60	1169.40	1169.84	61.70	1108.14	51.60	1118.24	61.10	1108.74	61.90	1107.94	NP	NP	NP	Shallow
MW-127B	G-152732AB	2606121.65	506931.42	1169.37	1169.66	82.00	1087.66	71.90	1097.76	81.40	1088.26	82.80	1086.86	NP	NP	NP	Shallow
MW-127A	G-152738	2606121.55	506918.35	1168.95	1169.30	128.40	1040.90	118.50	1050.80	128.00	1041.30	137.00	1032.30	128.50	1040.80	SH	Intermediate
MW-128A	G-152715D	2624836.13	498190.80	1156.97	1154.26	106.20	1048.06	96.20	1058.06	106.20	1048.06	106.20	1048.06	NP	NP	NP	Intermediate
MW-128B	G-152715E	2624838.49	498197.84	1156.94	1154.30	90.10	1064.20	79.50	1074.80	90.10	1064.20	90.10	1064.20	NP	NP	NP	Intermediate
MW-128D	G-152957A	2624833.49	498183.94	1156.84	1154.10	117.00	1037.10	112.00	1042.10	117.00	1037.10	117.00	1037.10	107.40	1046.70	SS	Deep
MW-129A	G-152715F	2627766.39	496542.43	1149.77	1146.77	99.50	1047.27	89.50	1057.27	99.50	1047.27	99.50	1047.27	NP	NP	NP	Intermediate
MW-129B	G-152715G	2627771.40	496545.39	1149.72	1146.79	84.10	1062.69	74.10	1072.69	84.10	1062.69	84.10	1062.69	NP	NP	NP	Shallow
MW-129D	G-152957B	2627759.96	496536.62	1149.46	1146.52	112.00	1034.52	106.00	1040.52	111.00	1035.52	112.00	1034.52	101.00	1045.52	SS	Deep
MW-130A	G-152715H	2629053.38	496650.27	1145.47	1143.16	99.00	1044.16	89.00	1054.16	99.00	1044.16	99.00	1044.16	NP	NP	NP	Intermediate
MW-130B	G-152715I	2629059.01	496659.85	1145.92	1143.22	79.90	1063.32	69.90	1073.32	79.90	1063.32	79.90	1063.32	NP	NP	NP	Shallow
MW-130D	G-152957C	2629047.82	496641.12	1145.15	1142.69	106.00	1036.69	101.00	1041.69	106.00	1036.69	117.00	1025.69	98.00	1044.69	SS/SH	Deep
MW-131A	G-152715J	2626341.54	496939.83	1148.09	1145.38	99.00	1046.38	88.50	1056.88	98.50	1046.88	99.00	1046.38	NP	NP	NP	Intermediate
MW-131B	G-152715K	2626348.52	496944.69	1147.94	1145.27	80.50	1064.77	70.50	1074.77	80.50	1064.77	80.50	1064.77	NP	NP	NP	Shallow
MW-131D	G-152957D	2626333.42	496933.31	1148.10	1145.22	107.00	1038.22	102.00	1043.22	107.00	1038.22	107.00	1038.22	98.00	1047.22	SS	Deep
MW-132A	G-152715L	2625254.59	497254.40	1160.09	1157.28	105.50	1051.78	95.40	1061.88	105.40	1051.88	105.50	1051.78	NP	NP	NP	Intermediate
MW-132B	G-152715M	2625258.17	497261.76	1159.81	1157.00	91.50	1065.50	81.30	1075.70	91.30	1065.70	91.50	1065.50	NP	NP	NP	Shallow
MW-132D	G-152957E	2625250.89	497247.01	1160.44	1157.27	117.00	1040.27	112.00	1045.27	117.00	1040.27	117.00	1040.27	107.50	1049.77	SS	Deep
MW-133A	G-152715N	2622522.67	509720.93	1167.41	1167.03	106.50	1060.53	96.50	1070.53	106.50	1060.53	106.50	1060.53	NP	NP	NP	Intermediate
MW-133B	G-152715O	2622522.69	509729.90	1167.55	1167.03	76.00	1091.03	66.00	1101.03	76.00	1091.03	76.00	1091.03	NP	NP	NP	Shallow
MW-133D	G-152957F	2622523.17	509713.15	1167.19	1167.05	117.50	1049.55	111.00	1056.05	117.00	1050.05	117.50	1049.55	106.50	1060.55	SS	Deep
MW-134A	G-152715P	2623417.21	509045.74	1168.44	1168.62	113.00	1055.62	103.00	1065.62	113.00	1055.62	113.00	1055.62	NP	NP	NP	Intermediate
MW-134B	G-152715Q	2623413.31	509052.47	1168.55	1168.71	78.00	1090.71	68.00	1100.71	78.00	1090.71	78.00	1090.71	NP	NP	NP	Shallow
MW-134D	G-152957G	2623421.55	509039.29	1168.68	1168.85	127.00	1041.85	123.00	1045.85	127.00	1041.85	127.00	1041.85	114.00	1054.85	SH/SS	Deep
MW-135A	G-152715R	2623150.45	509762.33	1165.77	1165.62	110.00	1055.62	99.70	1065.92	109.70	1055.92	110.00	1055.62	NP	NP	NP	Intermediate
MW-135B	G-152715S	2623151.02	509772.44	1165.71	1165.69	70.00	1095.69	60.00	1105.69	70.00	1095.69	70.00	1095.69	NP	NP	NP	Shallow
MW-135D	G-152957H	2623149.03	509752.68	1165.51	1165.67	122.00	1043.67	117.00	1048.67	122.00	1043.67	122.00	1043.67	110.00	1055.67	SS	Deep
MW-136E	G-152732AC	2623075.88	510559.75	1168.29	1168.69	60.60	1108.09	40.50	1128.19	60.00	1108.69	61.00	1107.69	NP	NP	NP	Shallow
MW-136B	G-152732AD	2623064.05	510560.70	1168.14	1168.34	75.10	1093.24	65.00	1103.34	74.50	1093.84	75.35	1092.99	NP	NP	NP	Shallow
MW-136A	G-152732AE	2623054.23	510561.26	1167.96	1168.40	109.60	1058.80	99.50	1068.90	109.00	1059.40	110.00	1058.40	109.10	1059.30	SS	Intermediate
MW-136D	G-152769	2623043.85	510561.58	1167.61	1168.07	124.80	1043.27	120.00	1048.07	124.40	1043.67	127.00	1041.07	109.10	1058.97	SS	Deep
MW-137E	G-152732AF	2622857.08	511706.78	1166.17	1166.44	62.75	1103.69	42.35	1124.09	62.05	1104.39	62.75	1103.69	NP	NP	NP	Shallow
MW-137B	G-152732AG	2622846.21	511704.35	1166.04	1166.43	72.70	1093.73	62.60	1103.83	72.10	1094.33	75.30	1091.13	NP	NP	NP	Shallow
MW-137A	G-152732AH	2622837.54	511702.36	1166.31	1166.48	103.20	1063.28	93.20	1073.28	102.70	1063.78	103.60	1062.88	NP	NP	NP	Intermediate
MW-137D	G-152739	2622826.93	511700.85	1165.98	1166.54	117.00	1049.54	112.20	1054.34	116.60	1049.94	117.00	1049.54	104.20	1062.34	SS	Deep
MW-138B	G-152732AI	2622378.08	512817.20	1176.22	1173.22	74.59	1098.63	64.49	1108.73	73.99	1099.23	75.50	1097.72	NP	NP	NP	Shallow
MW-138A	G-152740	2622366.41	512816.57	1175.83	1173.35	127.00	1046.35	117.10	1056.25	126.60	1046.75	137.00	1036.35	127.20	1046.15	SS	Intermediate
MW-139B	G-152732AJ	2621297.04	514275.44	1180.61	1177.86	81.75	1096.11	71.33	1106.53	81.20	1096.66	82.67	1095.19	NP	NP	NP	Shallow
MW-139A	G-152741	2621290.29	514264.29	1180.32	1177.69	141.40	1036.29	131.50	1046.19	141.00	1036.69	142.00	1035.69	139.90	1037.79	SS	Intermediate
MW-140O	G-152732AK	2634717.20	503393.26	1092.60	1089.93	9.30	1080.63	6.50	1083.43	9.00	1080.93	9.40	1080.53	NP	NP	NP	Shallow
MW-140B	G-152732AL	2634717.22	503383.63	1092.42	1089.89	23.10	1066.79	13.00	1076.89	22.50	1067.39	23.10	1066.79	NP	NP	NP	Shallow

Table 2-4
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						Bottom of Well		Top of Screen		Bottom of Screen		Bottom of Boring		Top of Bedrock			
ID	DNR registration No.	Easting (NAD 83)	Northing (NAD 83)	TOC Elev (ft NAVD 88)	Ground Surface Elev (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Bedrock Type	Aquifer Designation
MW-140A	G-152732AM	2634717.63	503375.83	1092.50	1089.68	47.20	1042.48	37.00	1052.68	46.50	1043.18	47.50	1042.18	46.70	1042.98	SS	Intermediate
MW-140D	G-152742	2634718.42	503365.40	1092.30	1090.06	61.90	1028.16	57.10	1032.96	61.50	1028.56	62.00	1028.06	46.70	1043.36	SS	Deep
MW-141A	G-157069	2608446.60	502590.64	1162.07	1162.42	115.00	1047.42	105.00	1057.42	115.00	1047.42	145.00	1017.42	125.00	1037.42	SS	Intermediate
MW-141B	G-157027B	2608446.50	502597.16	1162.10	1162.42	60.00	1102.42	50.00	1112.42	60.00	1102.42	60.00	1102.42	NP	NP	NP	Shallow
MW-141E	G-157027C	2608446.50	502604.35	1162.07	1162.35	90.00	1072.35	80.00	1082.35	90.00	1072.35	90.00	1072.35	NP	NP	NP	Intermediate
MW-142A	G-157070	2610572.95	495594.89	1154.43	1154.81	135.00	1019.81	115.00	1039.81	125.00	1029.81	135.00	1019.81	131.00	1023.81	SS	Intermediate
MW-142E	G-157027D	2610563.98	495595.06	1154.15	1154.55	100.00	1054.55	90.00	1064.55	100.00	1054.55	100.00	1054.55	NP	NP	NP	Shallow
MW-143B	G-157071/G-157027E	2621339.98	502719.77	1155.87	1156.44	62.00	1094.44	52.00	1104.44	62.00	1094.44	62.00	1094.44	NP	NP	NP	Shallow
MW-144A	G-157072	2614012.25	503570.97	1164.17	1164.51	101.00	1063.51	91.00	1073.51	101.00	1063.51	105.00	1059.51	101.00	1063.51	SH	Intermediate
MW-144E	G-157027F	2614019.84	503573.10	1164.47	1164.78	85.00	1079.78	75.00	1089.78	85.00	1079.78	85.00	1079.78	NP	NP	NP	Intermediate
MW-145A	G-157073	2617407.83	500652.84	1160.75	1161.08	95.70	1065.38	85.70	1075.38	95.70	1065.38	96.00	1065.08	NP	NP	NP	Intermediate
MW-145E	G-157027G	2617414.44	500652.99	1160.89	1161.26	82.00	1079.26	72.00	1089.26	82.00	1079.26	82.00	1079.26	NP	NP	NP	Intermediate
MW-146A	Awaiting # from DNR	2618871.66	494899.38	1148.18	1148.50	97.00	1051.50	87.00	1061.50	97.00	1051.50	125.00	1023.50	97.00	1051.50	SS	Intermediate
MW-146B	G-157027H	2618871.66	494899.37	1148.01	1148.44	77.00	1071.44	67.00	1081.44	77.00	1071.44	77.00	1071.44	NP	NP	NP	Shallow
MW-147A	G-157027I	2620042.45	494474.75	1148.92	1149.17	100.00	1049.17	90.00	1059.17	100.00	1049.17	100.00	1049.17	NP	NP	NP	Intermediate
MW-147B	G-157027J	2620045.18	494471.71	1148.74	1149.06	77.00	1072.06	67.00	1082.06	77.00	1072.06	77.00	1072.06	NP	NP	NP	Shallow
MW-147D	G-157074	2620047.88	494467.74	1148.52	1148.87	125.00	1023.87	115.00	1033.87	125.00	1023.87	132.00	1016.87	100.00	1048.87	SS	Deep
MW-148B	Awaiting # from DNR	2620179.92	504425.78	1160.53	1161.01	75.00	1086.01	65.00	1096.01	75.00	1086.01	75.00	1086.01	NP	NP	NP	Shallow
MW-149A	G-157075	2622398.38	502086.76	1152.23	1152.64	90.00	1062.64	80.00	1072.64	90.00	1062.64	100.00	1052.64	NP	NP	NP	Intermediate
MW-150A	G-157076	2624201.15	499856.55	1147.59	1147.93	90.00	1057.93	80.00	1067.93	90.00	1057.93	90.00	1057.93	NP	NP	NP	Intermediate
MW-150B	G-157027K	2624200.78	499864.11	1147.51	1147.88	75.00	1072.88	65.00	1082.88	75.00	1072.88	75.00	1072.88	NP	NP	NP	Shallow
MW-151A	G-157077	2624392.64	506668.08	1158.65	1159.08	104.00	1055.08	94.00	1065.08	104.00	1055.08	104.00	1055.08	NP	NP	NP	Intermediate
MW-151B	G-157027L	2624386.31	506667.26	1158.72	1159.12	80.00	1079.12	70.00	1089.12	80.00	1079.12	80.00	1079.12	NP	NP	NP	Shallow
MW-152B	G-157078/G-157027M	2627865.21	506805.72	1148.37	1148.71	70.00	1078.71	60.00	1088.71	70.00	1078.71	75.00	1073.71	NP	NP	NP	Shallow
MW-153A	Awaiting # from DNR	2627200.19	504130.22	1146.17	1146.55	99.50	1047.05	89.50	1057.05	99.50	1047.05	100.00	1046.55	97.00	1049.55	SH	Intermediate
MW-153B	G-157027N	2627192.86	504129.53	1146.28	1146.62	79.00	1067.62	69.00	1077.62	79.00	1067.62	79.00	1067.62	NP	NP	NP	Shallow
MW-154A	G-157079	2631170.17	504308.25	1141.11	1141.43	86.00	1055.43	76.00	1065.43	86.00	1055.43	86.00	1055.43	NP	NP	NP	Intermediate
MW-154B	G-157027O	2631165.22	504308.20	1141.16	1141.48	65.00	1076.48	55.00	1086.48	65.00	1076.48	65.00	1076.48	NP	NP	NP	Shallow
MW-155A	G-157027P	2629444.96	502435.45	1141.95	1142.39	99.00	1043.39	89.00	1053.39	99.00	1043.39	99.00	1043.39	NP	NP	NP	Intermediate
MW-155E	G-157027Q	2629444.89	502444.32	1141.78	1142.23	79.00	1063.23	69.00	1073.23	79.00	1063.23	79.00	1063.23	NP	NP	NP	Intermediate
MW-156A	G-157027R	2633019.60	501928.83	1093.89	1094.35	46.00	1051.05	36.00	1061.05	46.00	1051.05	46.00	1051.05	NP	NP	NP	Intermediate
MW-156B	G-157027S	2633018.32	501922.48	1093.96	1094.47	26.00	1068.32	16.00	1078.32	26.00	1068.32	26.00	1068.32	NP	NP	NP	Shallow
MW-157A	G-157027T	2632549.30	499117.46	1102.64	1102.90	55.00	1047.90	45.00	1057.90	55.00	1047.90	55.00	1047.90	NP	NP	NP	Intermediate
MW-157B	G-157027U	2632559.03	499118.08	1101.91	1102.36	37.00	1065.36	27.00	1075.36	37.00	1065.36	37.00	1065.36	NP	NP	NP	Shallow
MW-158A	G-157027V	2635279.53	493887.42	1076.69	1077.02	37.00	1040.02	27.00	1050.02	37.00	1040.02	37.00	1040.02	NP	NP	NP	Intermediate
MW-158B	G-157027W	2635272.00	493887.38	1076.36	1076.72	24.00	1052.72	14.00	1062.72	24.00	1052.72	24.00	1052.72	NP	NP	NP	Shallow
MW-158D	Awaiting # from DNR	2635266.75	493887.31	1076.63	1076.98	49.00	1027.98	44.00	1032.98	49.00	1027.98	50.00	1026.98	34.00	1042.98	SS	Deep
MW-159A	G-157080	2629111.80	510307.65	1163.51	1164.03	120.00	1044.03	110.00	1054.03	120.00	1044.03	127.00	1037.03	122.00	1042.03	SH	Deep
MW-159B	G-157027X	2629111.63	510300.52	1163.57	1163.86	85.00	1078.86	75.00	1088.86	85.00	1078.86	85.00	1078.86	NP	NP	NP	Shallow
OW-01	G-154545DA	2607922.86	499747.98	1161.41	1159.51	152.30	1007.21	62.00	1097.51	152.00	1007.51	152.50	1007.01	152.50	1007.01	SH	Intermediate
OW-02	G-154545CZ	2607882.80	499737.42	1161.57	1159.42	151.30	1008.12	61.00	1098.42	151.00	1008.42	151.50	1007.92	151.00	1008.42	SH	Intermediate
OW-03	G-154545CY	2607936.15	499790.42	1161.69	1159.38	152.00	1007.38	61.70	1097.68	151.70	1007.68	152.00	1007.38	152.00	1007.38	SH	Intermediate
OW-04	G-154545CX	2607936.23	499764.72	1161.75	1159.50	152.30	1007.20	62.00	1097.50	152.00	1007.50	152.60	1006.90	152.50	1007.00	SH	Intermediate
OW-05	Awaiting # from DNR	2634934.82	495184.29	1080.35	1078.11	39.00	1039.11	18.50	1059.61	38.50	1039.61	55.20	1022.91	39.00	1039.11	SS	Intermediate
OW-06	G-154545CW	2634884.33	495208.11	1079.22	1076.55	70.30	1006.25	60.00	1016.55	70.00	1006.55	122.00	954.55	39.50	1037.05	SS	Intermediate
OW-07	G-154545CV	2634884.15	495203.34	1079.06	1076.66	39.00	1037.66	18.70	1057.96	38.70	1037.96	39.50	1037.16	39.50	1037.16	SS	Intermediate
OW-08	G-154545FR	2634786.34	495194.19	1078.43	1075.64	39.70	1035.94	19.40	1056.24	39.40	1036.24	39.70	1035.94	39.70	1035.94	SS	Intermediate
OW-09	G-154545CU	2634937.80	495134.36	1080.96	1078.72	39.30	1039.42	19.00	1059.72	39.00	1039.72	40.00	1038.72	40.00	1038.72	SS	Intermediate
OW-10	G-154545CT	2635084.86	495206.73	1079.79	1076.84	39.50	1037.34	19.00	1057.84	39.00	1037.84	39.50	1037.34	39.00	1037.84	SS	Intermediate

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						Bottom of Well		Top of Screen		Bottom of Screen		Bottom of Boring		Top of Bedrock			
ID	DNR registration No.	Easting (NAD 83)	Northing (NAD 83)	TOC Elev (ft NAVD 88)	Ground Surface Elev (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Bedrock Type	Aquifer Designation
OW-11	G-097847H	2635254.36	495167.81	1078.66	1075.87	43.00	1032.87	23.00	1052.87	43.00	1032.87	45.00	1030.87	44.00	1031.87	SS	Intermediate
OW-12	G-097847I	2636332.13	495279.48	1080.19	1077.53	41.00	1036.53	21.00	1056.53	41.00	1036.53	42.00	1035.53	41.00	1036.53	SS	Intermediate
OW-13	G-097847J	2634929.33	495121.80	1081.25	1078.32	38.50	1039.82	18.50	1059.82	38.50	1039.82	40.00	1038.32	39.00	1039.32	SS	Intermediate
OW-14	G-097847K	2634937.07	494987.77	1080.52	1077.67	39.00	1038.67	19.00	1058.67	39.00	1038.67	40.00	1037.67	39.00	1038.67	SS	Intermediate
OW-15	G-097847L	2634948.12	494788.06	1080.66	1078.15	41.00	1037.15	21.00	1057.15	41.00	1037.15	43.00	1035.15	42.00	1036.15	SS	Intermediate
OW-16	G-097847M	2633480.01	495159.25	1078.22	1075.13	38.00	1037.13	18.00	1057.13	38.00	1037.13	40.00	1035.13	39.00	1036.13	SS	Intermediate
OW-17	G-097847A	2607999.94	499877.66	1161.58	1159.10	138.00	1021.10	48.00	1111.10	138.00	1021.10	150.50	1008.60	150.00	1009.10	SH	Shallow
OW-18	G-097847B	2608114.43	499884.02	1162.21	1159.80	138.00	1021.80	48.00	1111.80	138.00	1021.80	150.00	1009.80	149.50	1010.30	SS	Shallow
OW-19	G-097847C	2608709.98	499902.62	1172.28	1169.49	144.00	1025.49	49.00	1120.49	144.00	1025.49	150.00	1019.49	149.00	1020.49	SS	Shallow
OW-20	G-097847D	2607954.58	499696.42	1162.79	1160.12	139.00	1021.12	49.00	1111.12	139.00	1021.12	149.00	1011.12	148.00	1012.12	SS	Shallow
OW-21	G-097847E	2607936.83	499559.45	1159.81	1156.90	147.00	1009.90	47.00	1109.90	147.00	1009.90	155.00	1001.90	154.00	1002.90	SS	Shallow
OW-22	G-097847F	2608019.74	499355.14	1161.24	1158.59	140.00	1018.59	45.00	1113.59	140.00	1018.59	153.00	1005.59	152.50	1006.09	SS	Shallow
OW-23	G-097847G	2607158.35	499656.44	1162.08	1158.88	130.00	1028.88	50.00	1108.88	130.00	1028.88	137.50	1021.38	136.50	1022.38	SS	Intermediate
OW-24	G-154545CS	2629552.06	496984.50	1153.07	1149.56	100.00	1049.56	50.00	1099.56	95.00	1054.56	103.00	1046.56	101.00	1048.56	SH	Shallow
OW-25	G-154545CR	2629511.42	496932.08	1155.71	1152.33	110.00	1042.33	50.00	1102.33	105.00	1047.33	113.00	1039.33	111.00	1041.33	SH	Shallow
OW-26	G-154545CQ	2629214.17	496664.05	1148.64	1145.12	100.00	1045.12	50.00	1095.12	95.00	1050.12	103.00	1042.12	101.00	1044.12	SH	Shallow
OW-27	G-154545CP	2629582.05	496942.21	1153.30	1149.80	95.00	1054.80	50.00	1099.80	90.00	1059.80	100.00	1049.80	98.00	1051.80	SH	Shallow
OW-28	G-154545CO	2629581.52	496898.00	1153.81	1150.76	100.00	1050.76	50.00	1100.76	95.00	1055.76	103.00	1047.76	101.00	1049.76	SH	Shallow
OW-30	G-154545CN	2629965.06	497303.88	1131.58	1128.69	85.00	1043.69	50.00	1078.69	80.00	1048.69	88.00	1040.69	87.00	1041.69	SH	Shallow
OW-31	G-154545CM	2624242.96	497898.99	1155.78	1152.35	105.00	1047.35	47.00	1105.35	97.00	1055.35	105.00	1047.35	104.00	1048.35	SS	Shallow
OW-32	G-154545CL	2624139.95	497845.07	1153.87	1151.31	100.00	1051.31	50.00	1101.31	95.00	1056.31	105.00	1046.31	104.00	1047.31	SH	Shallow
OW-33	G-154545FS	2623750.57	497669.79	1154.67	1152.38	113.39	1038.99	50.00	1102.38	110.00	1042.38	119.00	1033.38	118.50	1033.88	SS/SH	Shallow
OW-34	G-154545FT	2624320.18	497868.57	1154.70	1151.61	93.00	1058.61	48.00	1103.61	93.00	1058.61	102.50	1049.11	102.00	1049.61	SS/SH	Shallow
OW-35	G-154545CK	2624360.77	497738.45	1154.10	1150.66	100.00	1050.66	50.00	1100.66	95.00	1055.66	105.00	1045.66	104.00	1046.66	SS/SH	Shallow
OW-36	G-154545CJ	2624413.00	497337.59	1157.23	1153.96	110.00	1043.96	50.00	1103.96	105.00	1048.96	113.25	1040.71	113.00	1040.96	SS/SH	Shallow
OW-37	G-154545CI	2624838.27	498178.35	1157.36	1154.41	105.00	1049.41	50.00	1104.41	100.00	1054.41	109.00	1045.41	108.75	1045.66	SS/SH	Shallow
OW-38	G-154545CH	2621733.08	496294.86	1151.19	1147.66	90.00	1057.66	50.00	1097.66	90.00	1057.66	99.00	1048.66	98.00	1049.66	SS/SH	Shallow
OW-39	G-154545CG	2621620.02	496212.33	1151.39	1147.82	100.00	1047.82	50.00	1097.82	95.00	1052.82	98.00	1049.82	97.00	1050.82	SH	Shallow
OW-40	G-154545CF	2621297.36	495975.58	1157.66	1154.21	105.00	1049.21	50.00	1104.21	100.00	1054.21	105.00	1049.21	104.00	1050.21	SH	Shallow
OW-41	G-154545CE	2621816.64	496281.90	1150.22	1146.75	95.00	1051.75	50.00	1096.75	90.00	1056.75	97.00	1049.75	95.00	1051.75	SH	Shallow
OW-42	G-154545CD	2621899.70	496169.43	1151.21	1147.71	95.00	1052.71	50.00	1097.71	90.00	1057.71	97.00	1050.71	95.00	1052.71	SH	Shallow
OW-43	G-154545CC	2622135.38	495845.76	1156.74	1153.24	105.00	1048.24	50.00	1103.24	100.00	1053.24	105.00	1048.24	103.00	1050.24	SH	Shallow
OW-44	G-154545CB	2622302.63	496682.05	1147.84	1144.63	95.00	1049.63	50.00	1094.63	90.00	1054.63	95.00	1049.63	94.00	1050.63	SH	Shallow
OW-45	G-154545CA	2619203.17	494842.21	1152.47	1149.11	108.00	1041.11	44.00	1105.11	104.00	1045.11	117.00	1032.11	114.00	1035.11	SS	Shallow
OW-46	G-154545BZ	2619059.00	494783.36	1151.55	1148.16	100.00	1048.16	46.00	1102.16	96.00	1052.16	106.00	1042.16	105.50	1042.66	SS	Shallow
OW-47	G-154545BY	2618684.83	494630.88	1153.44	1149.85	100.00	1049.85	47.00	1102.85	97.00	1052.85	115.00	1034.85	100.00	1049.85	SH	Shallow
OW-48	G-154545BX	2619283.37	494800.47	1153.38	1150.11	114.50	1035.61	48.50	1101.61	113.50	1036.61	118.50	1031.61	118.00	1032.11	SS	Shallow
OW-49	G-154545BW	2619315.78	494671.87	1154.09	1150.81	110.50	1040.31	50.00	1100.81	110.00	1040.81	114.50	1036.31	114.00	1036.81	SS	Shallow
OW-50	G-154545BV	2619465.62	494300.16	1151.16	1147.70	97.50	1050.20	47.00	1100.70	97.00	1050.70	105.00	1042.70	104.50	1043.20	SS	Shallow
OW-51	G-154545BU	2619790.64	495096.02	1149.86	1146.50	105.00	1041.50	50.00	1096.50	100.00	1046.50	105.00	1041.50	NP	NP	NP	Shallow
OW-52	G-141658V	2610585.60	493033.91	1107.14	1104.93	86.00	1018.93	55.65	1049.28	86.00	1018.93	86.40	1018.53	NA	NA	NA	Intermediate
OW-53	G-141658W	2610555.96	493019.67	1107.13	1104.92	82.00	1022.92	51.65	1053.27	82.00	1022.92	82.20	1022.72	NA	NA	NA	Intermediate
OW-54	G-141658X	2611356.56	493520.93	1115.39	1113.19	86.50	1026.69	56.15	1057.04	86.50	1026.69	86.70	1026.49	NA	NA	NA	Intermediate
OW-55	G-141658Y	2610821.53	492991.93	1107.05	1104.87	88.00	1016.87	57.17	1047.70	87.60	1017.27	88.00	1016.87	NA	NA	NA	Intermediate
OW-56	G-141658Z	2611642.99	493196.43	1112.15	1109.96	83.00	1026.96	52.67	1057.29	83.00	1026.96	83.50	1026.46	NA	NA	NA	Intermediate
OW-57	G-141658AA	2611768.76	493277.87	1114.84	1112.62	83.00	1029.62	52.65	1059.97	83.00	1029.62	83.40	1029.22	NA	NA	NA	Intermediate
OW-58	G-141658AB	2611366.56	493009.96	1109.00	1106.77	86.00	1020.77	55.67	1051.10	86.00	1020.77	86.50	1020.27	NA	NA	NA	Intermediate
OW-59	G-141658AC	2611579.97	493019.21	1110.50	1108.33	84.50	1023.83	54.17	1054.16	84.50	1023.83	84.90	1023.43	NA	NA	NA	Intermediate
OW-60	G-143845B	2627137.87	497440.67	1149.15	1146.66	101.00	1045.66	81.00	1065.66	101.00	1045.66	101.00	1045.66	NA	NA	NA	Intermediate

Table 2-4
USACE Monitoring Well and Observation Well Construction Details
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						Bottom of Well		Top of Screen		Bottom of Screen		Bottom of Boring		Top of Bedrock			
ID	DNR registration No.	Easting (NAD 83)	Northing (NAD 83)	TOC Elev (ft NAVD 88)	Ground Surface Elev (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Bedrock Type	Aquifer Designation
OW-61	G-143845K	2627191.65	497571.53	1148.81	1146.51	101.30	1045.21	81.00	1065.51	101.30	1045.21	101.30	1045.21	NA	NA	NA	Intermediate
OW-62	G-143845L	2627351.22	497954.27	1151.40	1149.12	101.30	1047.82	81.00	1068.12	101.30	1047.82	101.30	1047.82	NA	NA	NA	Intermediate
OW-63	G-143845M	2627527.96	497841.89	1152.90	1150.58	101.30	1049.28	81.00	1069.58	101.30	1049.28	101.30	1049.28	NA	NA	NA	Intermediate
OW-64	G-143845N	2627299.94	497308.27	1148.12	1145.62	101.30	1044.32	81.00	1064.62	101.30	1044.32	101.30	1044.32	NA	NA	NA	Intermediate
OW-65	G-143845O	2627672.94	497146.26	1147.36	1144.93	101.30	1043.63	81.00	1063.93	101.30	1043.63	101.30	1043.63	NA	NA	NA	Intermediate
OW-66	G-143845P	2622938.07	497314.20	1147.09	1144.70	86.00	1058.70	71.00	1073.70	86.00	1058.70	86.00	1058.70	NA	NA	NA	Intermediate
OW-67	G-143845Q	2622730.72	497150.23	1149.64	1147.31	86.00	1061.31	71.00	1076.31	86.00	1061.31	86.00	1061.31	NA	NA	NA	Intermediate
OW-68	G-143845R	2622418.58	496526.17	1146.89	1144.49	77.20	1067.29	62.20	1082.29	77.20	1067.29	77.20	1067.29	NA	NA	NA	Shallow
OW-69	G-143845S	2623044.57	497134.81	1147.02	1144.82	86.00	1058.82	71.00	1073.82	86.00	1058.82	86.00	1058.82	NA	NA	NA	Intermediate
OW-70	G-143845T	2623340.91	496845.85	1146.14	1143.72	86.00	1057.72	71.00	1072.72	86.00	1057.72	86.00	1057.72	NA	NA	NA	Intermediate
OW-71	G-143845U	2623796.31	497474.10	1158.23	1155.75	109.00	1046.75	78.50	1077.25	108.50	1047.25	109.00	1046.75	NA	NA	NA	Intermediate
OW-72	G-143845V	2620345.78	495292.98	1156.05	1153.61	97.00	1056.61	77.00	1076.61	97.00	1056.61	97.00	1056.61	NA	NA	NA	Intermediate
OW-73	G-143845W	2620217.61	495239.66	1157.61	1154.97	97.00	1057.97	77.00	1077.97	97.00	1057.97	97.00	1057.97	NA	NA	NA	Intermediate
OW-74	G-143845X	2619854.18	494895.06	1148.38	1146.17	85.80	1060.37	65.80	1080.37	85.80	1060.37	86.00	1060.17	NA	NA	NA	Shallow
OW-75	G-143845Y	2620487.46	495139.42	1154.51	1152.14	97.00	1055.14	77.00	1075.14	97.00	1055.14	97.00	1055.14	NA	NA	NA	Intermediate
OW-76	G-143845Z	2620657.85	494777.17	1148.68	1146.27	97.00	1049.27	77.00	1069.27	97.00	1049.27	97.00	1049.27	NA	NA	NA	Intermediate
OW-77	G-143845AA	2621414.78	495808.38	1157.82	1155.32	85.00	1070.32	65.00	1090.32	85.00	1070.32	85.00	1070.32	NA	NA	NA	Shallow
OW-78	G-143845AB	2609111.28	499977.47	1163.94	1161.86	137.00	1024.86	97.00	1064.86	137.00	1024.86	137.00	1024.86	NA	NA	NA	Intermediate
OW-79	G-143845AC	2608989.60	499915.27	1167.29	1167.59	135.50	1032.09	95.50	1072.09	135.50	1032.09	137.00	1030.59	NA	NA	NA	Intermediate
OW-80	G-143845AD	2608751.82	499731.59	1169.30	1166.93	113.00	1053.93	73.00	1093.93	113.00	1053.93	113.00	1053.93	NA	NA	NA	Shallow
OW-81	G-143845AE	2609233.49	499803.10	1164.13	1161.98	137.00	1024.98	97.00	1064.98	137.00	1024.98	137.20	1024.78	NA	NA	NA	Intermediate
OW-82	G-143845AF	2609366.00	499415.33	1169.05	1166.76	137.00	1029.76	97.00	1069.76	137.00	1029.76	137.00	1029.76	NA	NA	NA	Intermediate
OW-83	G-143845AG	2609754.89	500075.01	1173.20	1170.94	137.10	1033.84	97.00	1073.94	137.10	1033.84	137.10	1033.84	NA	NA	NA	Intermediate
OW-89	G-143845AH	2632605.05	496433.60	1092.56	1092.96	47.30	1045.66	37.30	1055.66	47.30	1045.66	47.80	1045.16	NA	NA	NA	Intermediate
OW-90	G-153176	2625244.14	498690.84	1153.30	1152.00	103.00	1049.00	88.00	1064.00	103.00	1049.00	103.00	1049.00	NA	NA	NA	Intermediate
OW-91(Abandoned)	G-151349	2625889.66	497888.61	1150.12	1147.35	105.00	1042.35	85.00	1062.35	105.00	1042.35	105.00	1042.35	NA	NA	NA	Intermediate
OW-92	G-152715A	2625155.78	498583.33	1154.30	1151.63	104.10	1047.53	89.10	1062.53	104.10	1047.53	104.10	1047.53	NA	NA	NA	Intermediate
OW-93	G-152615I	2625291.12	498721.87	1156.87	1153.90	97.00	1056.90	87.00	1066.90	97.00	1056.90	97.00	1056.90	NA	NA	NA	Intermediate
OW-94	G-152715B	2625433.51	498611.46	1153.21	1150.48	105.00	1045.48	90.00	1060.48	105.00	1045.48	105.00	1045.48	NA	NA	NA	Intermediate
OW-95	G-152715C	2625755.73	498358.54	1150.04	1147.57	104.00	1043.57	89.00	1058.57	104.00	1043.57	104.00	1043.57	NA	NA	NA	Intermediate
OW-96	G-151351	2628354.01	496783.72	1146.64	1143.33	94.00	1049.33	74.00	1069.33	94.00	1049.33	94.00	1049.33	NA	NA	NA	Intermediate
OW-97	G-152615A	2628422.98	496909.51	1146.21	1143.71	103.00	1040.71	83.00	1060.71	103.00	1040.71	103.00	1040.71	NA	NA	NA	Intermediate
OW-98	G-152615B	2628617.39	497268.67	1150.67	1148.38	104.00	1044.38	84.00	1064.38	104.00	1044.38	104.00	1044.38	NA	NA	NA	Intermediate
OW-99	G-152615C	2628520.49	496667.07	1146.97	1144.12	99.50	1044.62	79.50	1064.62	99.50	1044.62	99.50	1044.62	NA	NA	NA	Intermediate
OW-100	G-152615D	2628885.60	496489.50	1147.39	1144.96	98.00	1046.96	78.00	1066.96	98.00	1046.96	98.00	1046.96	NA	NA	NA	Intermediate
OW-101	G-151347	2622907.33	509987.52	1168.26	1168.27	109.00	1059.27	79.00	1089.27	109.00	1059.27	109.00	1059.27	NA	NA	NA	Intermediate
OW-102	G-152615E	2623025.62	510070.30	1166.49	1166.47	109.50	1056.97	79.00	1087.47	109.50	1056.97	109.50	1056.97	NA	NA	NA	Intermediate
OW-103	G-152615F	2623370.57	510291.27	1169.13	1169.11	112.00	1057.11	82.00	1087.11	112.00	1057.11	112.00	1057.11	NA	NA	NA	Intermediate
OW-104	G-152615G	2622969.37	509760.45	1167.73	1167.73	109.00	1058.73	79.00	1088.73	109.00	1058.73	109.00	1058.73	NA	NA	NA	Intermediate
OW-105	G-152615H	2623170.60	509450.30	1165.40	1165.34	114.00	1051.34	84.00	1081.34	114.00	1051.34	114.00	1051.34	NA	NA	NA	Intermediate
TH-EW-12	G-154545FU	2610738.32	493102.14	1107.37	1105.17	87.50	1017.67	57.17	1048.00	87.50	1017.67	93.00	1012.17	90.50	1014.67	SH	Intermediate
TH-EW-13	G-154545FV	2611511.12	493072.65	1111.04	1108.85	84.83	1024.02	53.50	1055.35	83.83	1025.02	84.50	1024.35	84.00	1024.85	SH	Intermediate
TH-EW-14R1	G-152958A	2625268.99	498721.42	1156.72	1154.02	103.00	1154.02	88.00	1154.02	103.00	1154.02	103.00	1154.02	103.00	1154.02	SS	Intermediate
TH-EW-14R2	G-152958B	2625871.91	497850.00	1151.08	1147.74	105.00	1147.74	85.00	1147.74	105.00	1147.74	105.50	1147.74	105.00	1147.74	SS	Intermediate
TH-EW-15	G-151348	2622870.43	509960.21	1172.51	1168.34	109.00	1168.34	79.00	1168.34	109.00	1168.34	109.00	1168.34	109.00	1168.34	SS	Intermediate
TH-EW-16	G-151352	2628310.33	496736.54	1147.71	1144.38	99.00	1144.38	74.00	1144.38	99.00	1144.38	99.00	1144.38	99.00	1144.38	SS	Intermediate
PZ-01		2632385.13	499049.59	1116.38	1114.43	67.80	1046.63	47.80	1066.63	67.80	1046.63	69.00	1045.43	NP	NP	NP	Intermediate
PZ-02		2631558.74	499022.44	1130.80	1128.98	78.90	1050.08	58.70	1070.28	78.70	1050.28	80.00	1048.98	NP	NP	NP	Intermediate
PZ-03		2633505.55	501788.92	1087.47	1085.73	30.10	1055.63	10.10	1075.63	30.10	1055.63	31.00	1054.73	NP	NP	NP	Shallow

Table 2-4
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Former NOP, Mead, Nebraska

						Bottom of Well		Top of Screen		Bottom of Screen		Bottom of Boring		Top of Bedrock			
ID	DNR registration No.	Easting (NAD 83)	Northing (NAD 83)	TOC Elev (ft NAVD 88)	Ground Surface Elev (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Bedrock Type	Aquifer Designation
PZ-04		2636059.39	501690.72	1086.65	1084.66	33.70	1050.96	13.70	1070.96	33.70	1050.96	34.00	1050.66	NP	NP	NP	Shallow
PZ-05		2639988.15	502024.73	1085.66	1084.19	33.90	1050.29	13.90	1070.29	33.90	1050.29	35.00	1049.19	NP	NP	NP	Shallow
PZ-06		2636834.71	504539.69	1088.42	1086.41	29.70	1056.71	9.70	1076.71	29.70	1056.71	31.00	1055.41	NP	NP	NP	Shallow
PZ-11	G-157081	2633021.33	501935.48	1094.18	1094.49	60.00	1034.49	55.00	1039.49	60.00	1034.49	65.00	1029.49	46.00	1048.49	NP	deep
PZ-12	G-157082	2632569.72	499118.82	1101.36	1101.72	68.00	1033.72	63.00	1038.72	68.00	1033.72	70.00	1031.72	NP	NP	SS	deep
PZ-13	G-157083	2633396.43	499150.91	1081.23	1081.54	40.00	1041.54	35.00	1046.54	40.00	1041.54	40.00	1041.54	NP	NP	NP	Intermediate
PZ-14	G-157084	2633403.55	499154.07	1080.52	1080.89	54.00	1026.89	49.00	1031.89	54.00	1026.89	57.00	1023.89	NP	NP	SS	deep
EW-1	G-100738	2634923.15	495188.01	1079.43	1078.08	39.00	1039.08	23.00	1055.08	39.00	1039.08	39.00	1039.08	39.00	1039.08	SS	Intermediate
EW-2	G-127291A	2632445.94	496479.68	1104.28	1101.00	57.85	1043.15	46.85	1054.15	56.85	1044.15	58.80	1042.20	58.00	1043.00	SH	Intermediate
EW-3	G-127291B	2629583.28	497009.50	1150.01	1148.00	103.04	1044.96	87.04	1060.96	102.04	1045.96	103.80	1044.20	102.80	1045.20	SS	Intermediate
EW-4	G-127291C	2627116.15	497384.35	1148.68	1146.00	102.25	1043.75	82.25	1063.75	101.25	1044.75	103.00	1043.00	102.80	1043.20	SS	Intermediate
EW-5	G-127291D	2624295.95	497923.55	1153.98	1151.00	103.10	1047.90	81.10	1069.90	102.10	1048.90	104.50	1046.50	103.50	1047.50	SH	Intermediate
EW-6	G-127291E	2622893.13	497269.21	1147.98	1144.00	87.30	1056.70	71.30	1072.70	86.30	1057.70	89.50	1054.50	88.50	1055.50	SS	Intermediate
EW-7	G-127291F	2621781.70	496331.02	1148.38	1146.00	92.21	1053.79	76.21	1069.79	91.21	1054.79	92.50	1053.50	91.50	1054.50	SS	Intermediate
EW-8	G-100739	2607941.21	499754.08	1160.39	1159.03	152.00	1007.03	72.00	1087.03	152.00	1007.03	156.00	1003.03	152.00	1007.03	SH	Intermediate
EW-9	G-127291G	2620401.52	495319.73	1154.67	1152.00	98.23	1053.77	77.23	1074.77	97.23	1054.77	104.00	1048.00	103.00	1049.00	SS	Intermediate
EW-10	G-127291H	2619241.53	494857.11	1150.64	1148.00	99.77	1048.23	78.77	1069.23	98.77	1049.23	104.00	1044.00	99.50	1048.50	SS	Intermediate
FEW-11	G-127291I	2609168.88	499998.83	1162.77	1161.00	138.05	1022.95	92.05	1068.95	137.05	1023.95	140.00	1021.00	139.00	1022.00	SS	Intermediate
EW-12	G-140506A	2610718.18	493104.87	1113.72	1110.80	90.50	1020.30	60.50	1050.30	90.50	1020.30	92.50	1018.30	91.50	1019.30	SH	Intermediate
EW-13	G-140506B	2611520.73	493092.65	NA	1109.39	83.00	1026.39	53.00	1056.39	83.00	1026.39	85.00	1024.39	84.00	1025.39	SH	Intermediate
FEW-14	G-153001	2625283.55	498733.83	1155.99	1154.01	108.00	1046.01	87.00	1067.01	104.10	1049.91	108.00	1046.01	105.00	1154.01	SS	Intermediate
FEW-15	G-153002	2622859.07	509950.92	1169.64	1167.62	111.00	1056.62	79.90	1087.72	110.00	1057.62	111.00	1056.62	109.00	1167.62	SS	Intermediate
EW-16	G-153003	2628322.89	496730.64	1146.97	1144.95	102.00	1042.95	80.00	1064.95	100.00	1044.95	102.00	1042.95	99.00	1144.95	SS	Intermediate
NLF-MW01S	UNL	2627482.80	508537.55	1151.59	1148.91	44.70	1104.21	34.40	1114.51	44.40	1104.51	46.00	1102.91	NP	NP	NP	Shallow
NLF-MW01I	UNL	2627492.64	508537.67	1151.47	1148.90	64.70	1084.20	54.40	1094.50	64.40	1084.50	66.00	1082.90	63.20	1085.70	SH	Intermediate
NLF-MW02S	UNL	2627651.96	508654.32	1146.71	1144.07	40.30	1103.77	30.00	1114.07	40.00	1104.07	41.20	1102.87	NP	NP	NP	Shallow
NLF-MW02I	UNL	2627655.27	508651.08	1146.66	1143.97	58.50	1085.47	48.20	1095.77	58.20	1085.77	59.30	1084.67	57.20	1086.77	SH	Intermediate
NLF-MW03S	UNL	2627718.61	508563.28	1149.38	1146.67	43.70	1102.97	33.40	1113.27	43.40	1103.27	44.40	1102.27	NP	NP	NP	Shallow
NLF-MW03I	UNL	2627718.46	508576.40	1148.89	1146.21	62.00	1084.21	52.40	1093.81	62.40	1083.81	65.00	1081.21	62.00	1084.21	SH	Intermediate
NLF-MW04S	UNL	2627719.69	508471.47	1151.54	1148.83	44.90	1103.93	34.60	1114.23	44.60	1104.23	46.00	1102.83	NP	NP	NP	Shallow
NLF-MW04I	UNL	2627719.58	508481.31	1151.22	1148.63	56.80	1091.83	46.50	1102.13	56.50	1092.13	58.00	1090.63	56.00	1092.63	SH	Intermediate
NLF-MW05S	UNL	2627687.94	508382.55	1149.23	1146.51	44.50	1102.01	34.20	1112.31	44.20	1102.31	44.90	1101.61	NP	NP	NP	Shallow
NLF-MW05I	UNL	2627691.34	508372.75	1148.65	1146.03	54.40	1091.63	44.20	1101.83	54.20	1091.83	60.00	1086.03	59.70	1086.33	SH	Intermediate
NLF-MW06S	UNL	2627629.12	508365.46	1150.94	1148.24	45.50	1102.74	35.20	1113.04	42.20	1106.04	46.00	1102.24	NP	NP	NP	Shallow
NLF-MW06I	UNL	2627639.03	508359.02	1150.51	1147.88	62.70	1085.18	52.40	1095.48	62.40	1085.48	64.00	1083.88	62.10	1085.78	SH	Intermediate
NLF-MW07S	UNL	2627553.24	508403.93	1152.38	1149.79	48.30	1101.49	38.00	1111.79	48.00	1101.79	49.30	1100.49	NP	NP	NP	Shallow
NLF-MW07I	UNL	2627559.79	508404.00	1152.38	1149.72	65.60	1084.12	55.30	1094.42	65.30	1084.42	66.30	1083.42	64.70	1085.02	SH	Intermediate
NPR-MW01S	UNL	2626816.17	504709.21	1150.69	1148.19	56.30	1091.89	46.10	1102.09	56.10	1092.09	56.90	1091.29	NP	NP	NP	Shallow
NPR-MW01I	UNL	2626822.73	504709.28	1150.61	1147.90	91.40	1056.50	81.10	1066.80	91.10	1056.80	91.50	1056.40	89.00	1058.90	SS	Intermediate
NPR-MW02S	UNL	2626883.56	504555.87	1149.23	1146.63	55.30	1091.33	45.10	1101.53	55.10	1091.53	56.30	1090.33	NP	NP	NP	Shallow
NPR-MW02I	UNL	2626890.12	504555.94	1149.17	1146.42	90.70	1055.72	80.40	1066.02	90.40	1056.02	91.50	1054.92	89.80	1056.62	SS	Intermediate
BAZE-EW-01	UNL	2616100.05	502126.72	1163.30	NA	75.50	NA	53.00	NA	73.00	NA	75.50	NA	NP	NP	NP	Shallow
BAZE-IW-01	UNL	2616088.45	502117.03	1163.06	NA	73.00	NA	53.00	NA	73.00	NA	75.00	NA	NP	NP	NP	Shallow
BAZE-IW-02	UNL	2616111.13	502135.81	1163.49	NA	73.00	NA	53.00	NA	73.00	NA	75.00	NA	NP	NP	NP	Shallow
BAZE-MW-01	UNL	2616042.51	502209.13	1165.18	NA	78.00	NA	55.00	NA	75.00	NA	78.00	NA	NP	NP	NP	Shallow
BAZE-MW-02	UNL	2616116.85	502075.19	1163.66	NA	73.00	NA	53.00	NA	73.00	NA	75.00	NA	NP	NP	NP	Shallow
BAZE-MW-03	UNL	2616128.60	502084.65	1163.66	NA	73.00	NA	53.00	NA	73.00	NA	75.00	NA	NP	NP	NP	Shallow
BAZE-MW-04	UNL	2616140.55	502094.05	1163.65	NA	73.00	NA	53.00	NA	73.00	NA	75.00	NA	NP	NP	NP	Shallow

Table 2-4
USACE Monitoring Well and Observation Well Construction Details
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

						Bottom of Well		Top of Screen		Bottom of Screen		Bottom of Boring		Top of Bedrock			
ID	DNR registration No.	Easting (NAD 83)	Northing (NAD 83)	TOC Elev (ft NAVD 88)	Ground Surface Elev (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Depth (ft bgs)	Elevation (ft NAVD 88)	Bedrock Type	Aquifer Designation
BAZE-MW-05	UNL	2616145.22	502038.03	1165.35	NA	78.00	NA	58.00	NA	78.00	NA	78.00	NA	NP	NP	NP	Shallow
BAZE-MW-06	UNL	2616157.13	502044.01	1165.82	NA	76.00	NA	56.00	NA	76.00	NA	78.00	NA	NP	NP	NP	Shallow
BAZE-MW-07	UNL	2616168.23	502053.89	1167.10	NA	79.00	NA	59.00	NA	79.00	NA	79.00	NA	NP	NP	NP	Shallow
BAZE-MW-08	UNL	2616202.28	501950.73	1166.37	NA	76.00	NA	56.00	NA	76.00	NA	78.00	NA	NP	NP	NP	Shallow
BAZE-MW-09	UNL	2616214.12	501959.62	1166.81	NA	76.00	NA	56.00	NA	76.00	NA	78.00	NA	NP	NP	NP	Shallow
BAZE-MW-10	UNL	2616225.63	501970.02	1166.96	NA	76.00	NA	56.00	NA	76.00	NA	76.00	NA	NP	NP	NP	Shallow
BAZE-MW-11	UNL	2616437.05	501626.79	1161.20	NA	72.00	NA	52.00	NA	72.00	NA	75.00	NA	NP	NP	NP	Shallow
GCW-2 (Abandoned)	abandoned	2613252.36	506039.55	1163.17	NA	60.00	NA	NA	NA	60.00	NA	62.00	NA	NP	NP	NP	Shallow
GCW-2 PZ N (Abandoned)	abandoned	2613252.84	506040.07	1162.59	NA	37.00	NA	35.00	NA	37.00	NA	62.00	NA	NP	NP	NP	Shallow
GCW-2 PZ S (Abandoned)	abandoned	2613252.39	506039.09	1162.56	NA	56.00	NA	54.00	NA	56.00	NA	62.00	NA	NP	NP	NP	Shallow
GCW-1	Awaiting # from DNR	2622991.70	511987.67	1167.69	NA	108.00	NA	NA	NA	108.00	NA	110.30	NA	NP	NP	NP	Intermediate
GCW-1 PZ N	NA	2622990.98	511987.59	1166.89	NA	66.00	NA	64.00	NA	66.00	NA	110.30	NA	NP	NP	NP	Shallow
GCW-1 PZ S	NA	2622992.24	511987.34	1166.93	NA	99.50	NA	97.50	NA	99.50	NA	110.30	NA	NP	NP	NP	Intermediate
MW-06-30A	MUD	2628947.80	514835.86	1199.31	1197.00												Intermediate
MW-06-30B	MUD	2628942.36	514835.12	1199.37	1197.04												Shallow
MW-06-31A	MUD	2633854.92	509717.60	1149.98	1147.74												Intermediate
MW-06-31B	MUD	2633861.66	509718.75	1150.02	1147.66												Shallow
KM-01 (Abandoned)	abandoned	2633083.28	503038.31					42.0		46.0		68.00		67			Intermediate
KM-02 (Abandoned)	abandoned	2634645.89	503202.13					24.3		34.3		47.60		46			Shallow
KM-03 (Abandoned)	abandoned	2632919.45	502798.88					91.0		101.0		152.4		79			Deep

Notes:

ft = feet
bgs = below ground surface
NGVD = National Geodetic Vertical Datum
DNR = Department of Natural Resources
EW = Extraction Well
FEW = Focused Extraction Well
GCW = Groundwater Circulation Well
BAZE = Biologically Active Zone Enhancement
ECC = Environmental Chemical Corporation
ID = Identification
LL = Load Line
MW = Monitoring Well
NA = Information not available
NAD 83 = North American Datum of 1983
TOC = Top of Casing
USACE = U.S. Army Corps of Engineers
* = Historical well installed but construction details are not available
UNL = University of Nebraska - Lincoln
MUD = Metropolitan Utilities District
TH = Test Hole

Table 2-5
Platte River Flow Statistics
2010 Groundwater Model Report
Former NOP, Mead, Nebraska

	Platte at Ashland (cfs)	**Platte at Leshara (cfs)**	**Elkhorn at Waterloo (cfs)**	**Leshara + Waterloo (cfs)**
Average Monthly Flow (Sept. 2000- Sept. 2010)	6031	4110	1895	6005
Lowest seven-day Average Flow	603	363	195	558

Notes:
cfs - cubic feet per second
NOP - Nebraska Ordnance Plant

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Table 2-6
USGS Stream Gauge Statistics
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Stream	USGS Gauge Location	Period of Record	Exceedance Frequency (percent)	Flow (cfs)	Flow (MGD)
Platte River	Leshara	1993 to 2010	99	528.13	341
			90	1,380	892
			50	3,400	2,197
	Ashland	1988-2010	99	828.06	535
			90	1,860	1,202
			50	4,700	3,038
Elkhorn River	Waterloo	1928 to 2010	99	293.06	189
			90	552	357
			50	1,145	740
Johnson Creek	Memphis	1990 to 2009	99	0.5	0.3
			90	0.8	0.5
			50	1.4	0.9
Wahoo Creek	Ithaca	1949 to 2010	99	13	8.4
			90	17	11.0
			50	37	23.9
	Ashland	1990 to 2010	99	22	14.2
			90	31	20.0
			50	61	39.4
Silver Creek - Ithaca	Ithaca	1949 to 1958	99	1.6	1.0
			90	2.7	1.7
			50	5.0	3.2

Notes: USGS - U.S. Geological Survey
cfs - Cubic feet per second
MGD - Million Gallons per Day
ft - Feet
NAVD - North American Vertical Datum
NA - Not Available
NOP - Nebraska Ordnance Plant

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Table 2-7
Surface Water Elevation Measurements March 2009 - October 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Description	Easting (NAD 83)	Northing (NAD 83)	Monitoring Point (NAVD88)*	Date	Measurment to Water (feet) March 2009	Water Elevation (ft AMSL) March 2009	Date	Measurment to Water (feet) August 2009	Water Elevation (ft AMSL) August 2009	Date	Measurment to Water (feet) October 2009	Water Elevation (ft AMSL) October 2009	Date	Measurment to Water (feet) March 2010	Water Elevation (ft AMSL) March 2010	Date	Measurment to Water (feet) August 2010	Water Elevation (ft AMSL) August 2010	Date	Measurment to Water (feet) October 2010	Water Elevation (ft AMSL) October 2010
Platte River																					
USGS 06796550 Platte River near Venice, Nebr*	2647109.184	518421.66	1090.00	3/30/09	11.65	1101.65	8/27/09	11.52	1101.52	10/28/10	12.03	1102.03	3/30/10	12.05	1102.05	8/26/10	11.56	1101.56	10/28/10	11.75	1101.75
USGS 06801000 Platte River near Ashland, Nebr.*	2653340.911	469165.64	1040.34	3/30/09	15.76	1056.10	8/27/09	15.63	1055.97	10/28/10	16.09	1056.43	3/30/10	NM	NM	8/26/10	NM	NM	10/28/10	15.82	1056.16
Elkhorn River																					
USGS 06800500 Elkhorn River at Waterloo, Nebr*	2660970.08	553789.85	1105.13	3/30/09	4.89	1110.02	8/26/09	NM	NM	10/28/09	NM	NM	3/30/10	NM	NM	8/26/10	NM	NM	10/28/10	3.29	1108.42
MUD Elk Horn River-1	2658801.153	521384.22	1117.50	3/29/09	25.12	1092.38	8/26/09	25.90	1091.60	10/28/09	25.20	1092.30	3/30/10	23.50	1094.00	8/26/10	24.80	1092.70	10/28/10	25.62	1091.88
Wahoo Creek																					
USGS 06804000 Wahoo Creek at Ithaca, Nebr.*	2593410.593	497778.58	1110.90	3/30/09	4.30	1115.20	8/27/09	7.17	1118.07	10/28/10	3.88	1114.78	3/30/10	NM	NM	8/26/10	NM	NM	10/28/10	4.36	1115.26
MUD Wahoo Creek-2	2603461.177	492183.23	1122.52	3/29/09	22.80	1099.72	8/26/09	NM	NM	10/28/09	24.22	1098.30	3/30/10	NC	NC	8/26/10	23.50	1099.02	10/28/10	23.00	1099.52
MUD Wahoo-1	2621893.97	477485.72	1097.78	3/29/09	22.35	1075.43	8/26/09	NM	NM	10/28/09	NM	NM	3/30/10	22.00	1075.78	8/26/10	21.90	1075.88	10/28/10	22.00	1075.78
USGS 06804700 Wahoo Creek at Ashland, Nebr.*	2641613.334	465530.43	1049.11	3/30/09	4.71	1053.82	8/27/09	7.99	1057.10	10/28/10	4.39	1053.50	3/30/10	NM	NM	8/26/10	NM	NM	10/28/10	5.17	1054.28
Silver Creek																					
MUD Silver Creek-5	2584075.71	555659.62	1224.91	3/29/09	10.10	1214.81	8/26/09	9.68	1215.23	10/28/09	10.21	1214.70	3/30/10	9.63	1215.28	8/26/10	10.30	1214.61	10/28/10	10.70	1214.21
MUD Silver Creek-4	2589964.552	534711.4	1195.72	3/29/09	NM	NM	8/26/09	NM	NM	10/28/09	NM	NM	3/30/10	13.61	1182.11	8/26/10	NM	NM	10/28/10	12.90	1182.82
Gauge-4 Silver Creek Guard-Rail-S	2590016.262	529380.83	1187.27	3/29/09	12.20	1175.07	8/26/09	NM	NM	10/28/09	12.05	1175.22	3/30/10	NM	NM	8/26/10	12.00	1175.27	10/28/10	NM	NM
Gauge-3 Silver Creek Bridge-Deck-N	2593062.033	508611.85	1153.30	3/29/09	18.70	1134.60	8/26/09	NM	NM	10/28/09	18.40	1134.90	3/30/10	NM	NM	8/26/10	NC	NC	10/28/10	NM	NM
MUD Silver Creek-2	2599185.424	497967.86	1125.99	3/29/09	12.2*	1113.79	8/26/09	NM	NM	10/28/09	8.75	1117.24	3/30/10	11.99	1114.00	8/26/10	NM	NM	10/28/10	11.65	1114.34
Gauge-2 Silver Creek Steel-Border-E	2597941.776	498699.95	1124.80	3/29/09	12.2*	1112.60	8/26/09	NM	NM	10/28/09	NM	NM	3/30/10	NM	NM	8/26/10	NM	NM	10/28/10	NM	NM
Gauge-1 Silver Creek	2609218.053	492882.27	1103.88	3/29/09	11.25	1092.63	8/26/09	NM	NM	10/28/09	10.95	1092.93	3/30/10	NM	NM	8/26/10	11.55	1092.33	10/28/10	10.30	1093.58
Clear Creek																					
CC-2-Bridge-Rail-N	2641598.786	520655.68	1108.00	3/29/09	7.97	1100.03	8/26/09	7.93	1100.07	10/28/09	NM	NM	3/30/10	NM	NM	8/26/10	7.40	1100.60	10/28/10	NM	NM
CC-1-Bridge-Deck-N	2638802.492	504656.44	1088.80	3/29/09	10.65	1078.15	8/26/09	NM	NM	10/28/09	10.45	1078.35	3/30/10	NM	NM	8/26/10	9.30	NC	10/28/10	NM	NM
MUD Clear Creek-1	2637598.46	499320.48	1084.68	3/29/09	11.91	1072.77	8/26/09	NM	NM	10/28/09	NM	NM	3/30/10	11.81	1072.87	8/26/10	11.70	1072.98	10/28/10	11.50	1073.18
CC-3-Bridge-Deck-N	2635065.119	493906.86	1082.90	3/29/09	14.52	1068.38	8/26/09	NM	NM	10/28/09	13.71	1069.19	3/30/10	NM	NM	8/26/10	14.10	1068.80	10/28/10	NM	NM
CC-4-Bridge-Deck-N	2637618.41	478158.5	1078.50	3/29/09	15.65	1062.85	8/26/09	NM	NM	10/28/09	NM	NM	3/30/10	14.00	NC	8/26/10	16.50	1062.00	10/28/10	15.60	1062.90
Johnson Creek																					
USGS 06804900 Johnson Creek Near Memphis, NE*	2634921.48	499072.98	1070.38	3/30/09	2.76	1073.14	8/27/09	3.89	1074.27	10/28/10	2.77	NC	3/30/10	14.01	NC	8/26/10	NM	NM	10/28/10	14.42	NC
JC-2 Bridge Deck below BM#1	2634263.817	504476.59	1098.35	3/29/09	14.02	1084.33	8/26/09	NM	NM	10/28/09	NM	NM	3/30/10	NM	NM	8/26/10	13.90	1084.45	10/28/10	NM	NM

Notes:

AMSL = Above Mean Sea Level
ft = feet
CC = Clear Creek
JC = Johnson Creek
MUD = Omaha Metropolitan Utilities District
NAD 83 = North American Datum of 1983
NAVD 88 = North American Vertical Datum of 1988
NC = Data was not consistent with other elevations - data not used
NM = Not Measured
USGS = United States Geological Survey
*USGS Gauging data from http://waterdata.usgs.gov/ne/nwis/sw (Accessed January 11, 2010)
Ground Surface Elevations taken from 2008 GWM Update Report Table 2.5-2
USGS Stream gage data is a stage elevation measured above the Gage Height (instead of below bridge deck)
Platte River at Leshara a did not have stage data for these corresponding dates
CC-1-Bridge Deck-N measurment on 8/26/10 is likely not representative due to a log jam at the gauging point.

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Table 2-8
Monthly Total Precipitation (inches)
MEAD_6_S, NE (NWS Station 255362)
November 1968 to December 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1968	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	0.95	1.88	2.83(1)
1969	0.55	1.01	0.67	3.21	3.29	4.37	2.37	2.71	0.83	2.34	0.15	1.19	22.69
1970	0.07	0.10	0.58	2.23	2.68	4.48	1.53	4.06	4.22	4.22	1.33	0.19	25.69
1971	0.01	1.22	0.31	0.97	7.78	2.83	1.50	1.00	0.71	4.41	2.40	0.59	23.73
1972	0.04	0.18	0.76	4.85	8.56	1.95	2.43	3.06	2.65	3.07	3.51	1.34	32.40
1973	1.05	0.35	5.09	2.34	4.96	1.95	5.72	0.53	6.30	4.15	1.90	1.36	35.70
1974	0.26	0.07	0.67	2.37	4.07	1.10	0.11	5.81	1.76	3.15	0.84	0.65	20.86
1975	0.61	0.97	1.38	2.71	2.73	3.45	0.93	2.13	1.21	0.00	2.51	0.76	19.39
1976	0.21	1.31	2.14	3.02	3.00	2.46	2.43	1.66	2.93	0.35	0.00	0.04	19.55
1977	0.33	0.27	2.60	2.20	4.54	1.69	1.54	6.84	3.54	5.30	1.84	0.31	31.00
1978	0.15	0.45	0.81	6.54	3.48	3.48	3.96	1.56	5.52	0.82	1.32	0.28	28.37
1979	0.90	0.27	3.40	3.12	3.04	2.46	2.82	2.73	0.74	5.02	1.20	NP	25.7(2)
1980	0.53	0.37	0.76	1.54	1.78	3.58	1.73	6.83	0.16	2.05	0.04	0.29	19.66
1981	0.07	0.09	0.66	2.02	4.33	1.57	3.29	7.51	2.31	1.25	3.31	0.31	26.72
1982	0.80	0.13	2.80	1.79	8.80	5.43	3.22	7.58	4.56	1.79	1.39	1.50	39.79
1983	1.09	0.41	3.75	0.87	4.87	7.03	0.78	2.42	2.83	1.62	3.47	0.18	29.32
1984	0.33	0.67	1.97	5.95	4.90	6.55	1.64	0.97	1.71	5.54	0.52	3.48	34.23
1985	0.12	0.55	0.85	2.96	NP	2.29	3.65	3.01	3.35	2.35	0.86	0.19	20.18(2)
1986	0.00	0.43	2.94	5.29	2.74	3.19	4.40	5.60	7.60	4.65	0.50	0.73	38.07
1987	0.00	0.09	4.13	1.41	6.22	1.67	3.84	8.68	1.86	0.68	1.23	0.58	30.39
1988	0.46	0.09	0.05	1.43	3.28	1.02	3.57	0.72	4.80	0.07	1.60	0.48	17.57
1989	0.80	0.60	0.06	0.99	0.85	4.14	4.16	1.62	4.48	0.85	0.05	0.66	19.26
1990	0.52	0.26	3.24	0.34	4.55	4.42	7.09	0.80	0.71	1.50	0.88	0.93	25.24
1991	0.85	0.28	3.49	2.65	2.89	9.94	3.05	1.80	2.52	1.03	2.59	2.01	33.10
1992	0.76	1.08	2.57	1.43	1.69	1.82	7.18	1.78	2.24	2.07	2.06	0.51	25.19
1993	0.84	0.56	1.70	3.41	4.02	7.94	9.85	7.14	3.70	1.34	0.70	0.21	41.41
1994	0.49	0.23	0.01	1.27	1.43	9.07	4.23	1.68	3.73	1.32	2.43	0.64	26.53
1995	0.77	0.41	2.44	4.29	5.70	1.31	1.03	1.34	2.49	1.36	0.48	0.35	21.97
1996	0.51	0.06	0.90	3.22	7.30	5.50	1.46	3.01	1.99	0.67	2.32	0.38	27.32
1997	0.24	0.95	0.72	2.45	1.12	2.53	3.03	2.03	4.24	3.46	2.44	0.42	23.63
1998	0.65	1.29	2.31	2.87	5.03	7.65	3.94	6.16	0.87	2.45	2.44	0.14	35.80
1999	0.32	0.84	1.31	5.61	6.16	5.06	2.84	3.64	3.17	0.00	0.98	0.68	30.61
2000	0.07	0.79	1.60	2.28	2.29	5.63	3.83	1.17	0.80	2.13	1.78	0.75	23.12
2001	1.13	1.25	1.04	2.15	8.84	1.82	0.87	2.50	2.90	2.40	2.21	0.24	27.35
2002	0.37	0.66	0.88	3.31	3.29	0.50	2.52	8.26	1.33	4.06	0.26	0.00	25.44
2003	0.42	1.00	0.75	2.87	5.17	4.05	0.95	1.70	3.58	1.72	2.83	0.59	25.63
2004	0.98	0.64	3.32	0.99	4.77	3.09	3.00	1.94	4.03	0.86	3.15	0.31	27.08
2005	0.95	2.85	0.66	3.61	2.74	3.47	3.97	0.77	0.99	1.69	1.15	1.02	23.87
2006	1.59	0.11	3.52	4.20	1.38	0.97	3.03	6.14	6.26	0.77	0.20	2.17	30.34
2007	0.53	1.83	2.45	4.65	6.87	2.45	1.65	10.15	2.99	4.75	0.00	2.08	40.40
2008	0.23	0.39	0.65	4.64	5.96	9.89	3.73	1.01	4.33	5.06	1.78	1.19	38.86
2009	0.27	0.47	0.32	1.63	1.20	6.49	2.62	7.27	1.55	4.34	0.00	2.65	28.81
2010	0.90	0.68	1.63	4.03	2.66	9.82	7.22	2.51	5.84	0.23	1.93	0.33	37.78
Avg	0.52	0.63	1.71	2.85	4.17	4.05	3.16	3.57	2.96	2.31	1.49	0.80	28.35

Notes:

Avg - Average
(1) - Annual precipitation based on two months
(2) - Annual precipitation based on 11 months
NP - Not Provided
Data Source (1968-2008) - 2008 Groundwater Model Update
Data Source (2009-2010) - National Climatic Data Center
Station - 255362 MEAD_6_S, NE

NOP - Nebraska Ordnance Plant
NWS - National Weather Service

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Table 2-9
Monthly Total Precipitation (inches)
ASHLAND_2, NE (NWS Station 250375)
January 1893 to December 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1893	0.05	NP	0.85	NP	4.71	7.27	3.92	6.43	2.35	0.05	NP	0.65	26.28(2)
1894	0.26	0.72	0.62	2.01	0.92	5.03	NP	0.12	0.52	2.52	0.25	NP	12.97(3)
1895	0.14	0.38	0.48	2.31	2.62	NP	2.00	6.36	0.97	0.00	0.82	0.26	16.34(4)
1896	0.21	0.30	0.98	2.97	10.57	1.80	5.56	2.85	5.45	3.28	1.88	0.35	36.20
1897	0.32	0.43	1.23	7.29	2.12	2.31	1.66	1.44	NP	3.39	0.25	NP	20.44(3)
1898	0.31	NP	1.51	NP	NP	2.21	1.18	2.95	2.90	1.53	0.44	0.16	13.19(2)
1899	0.03	10.65	0.45	NP	4.34	10.65	3.54	NP	0.58	2.47	0.96	1.74	35.41(3)
1900	0.10	0.62	0.44	NP	2.27	3.15	6.52	6.07	2.76	4.27	0.00	0.68	26.88(4)
1901	0.13	0.42	NP	NP	NP	3.20	5.63	1.12	5.29	2.16	0.71	0.28	18.94(2)
1902	1.31	0.02	0.40	0.94	3.22	8.72	13.86	5.41	2.70	2.67	1.49	1.79	42.53
1903	0.00	1.16	0.50	3.88	NP	2.30	5.92	5.77	2.84	NP	0.50	0.00	22.87(3)
1904	0.50	0.05	0.74	4.46	5.96	2.74	3.40	3.71	2.36	1.44	0.27	0.30	25.93
1905	0.95	0.70	0.56	5.04	3.77	2.54	2.73	5.54	5.62	1.75	2.52	0.14	31.86
1906	0.48	1.05	2.00	3.74	1.90	5.93	4.68	3.09	5.74	2.05	0.40	1.94	33.00
1907	0.50	1.46	0.39	1.35	5.13	6.96	7.11	2.73	3.03	1.42	0.79	0.21	31.08
1908	0.35	2.00	0.69	1.13	5.20	11.86	6.80	3.59	0.31	2.61	0.63	0.16	35.33
1909	0.67	0.86	0.35	1.54	3.76	4.99	3.33	0.96	5.09	0.98	7.66	2.53	32.72
1910	0.87	0.23	0.09	0.11	2.74	1.42	0.67	5.55	2.69	0.88	0.02	0.39	15.66
1911	0.21	2.30	0.44	2.04	4.68	0.54	1.90	1.76	1.84	0.93	0.16	2.18	18.98
1912	0.17	1.14	2.07	1.46	0.40	3.65	2.00	3.43	5.31	3.04	0.68	0.09	23.44
1913	0.72	0.96	1.93	2.62	8.06	2.31	3.45	0.25	3.67	0.71	1.65	3.06	29.39
1914	0.30	0.54	2.21	2.64	4.35	7.72	2.02	1.00	3.72	2.58	0.05	0.88	28.01
1915	1.72	2.45	1.68	1.15	5.08	4.30	7.41	4.01	3.11	1.06	1.49	0.68	34.14
1916	1.26	0.40	0.64	1.13	3.25	3.15	1.66	4.45	0.76	0.98	0.86	0.37	18.91
1917	0.59	0.04	1.42	4.31	3.81	7.53	0.71	3.26	0.92	0.41	0.13	0.76	23.89
1918	0.62	0.86	0.23	0.66	3.39	1.94	3.83	1.06	1.09	4.49	2.61	0.77	21.55
1919	0.11	1.90	1.05	2.24	2.00	6.49	1.47	3.15	5.40	1.78	2.94	0.72	29.25
1920	0.24	0.71	0.59	3.00	3.11	3.21	3.64	2.74	0.78	3.56	1.43	1.00	24.01
1921	0.33	0.42	0.64	2.09	4.40	3.43	3.43	2.88	4.21	1.04	0.14	0.06	23.07
1922	0.80	0.32	1.38	1.81	2.25	2.44	4.48	1.73	1.95	1.23	2.81	0.08	21.28
1923	0.56	0.02	1.22	2.83	3.96	5.04	2.93	4.07	4.67	0.53	0.01	0.50	26.34
1924	0.38	0.96	1.20	0.33	1.84	5.48	5.78	1.17	2.18	0.79	0.31	1.36	21.78
1925	0.67	0.83	0.57	1.73	1.15	4.61	1.85	5.69	2.62	1.71	0.04	0.78	22.25
1926	0.82	0.60	0.85	0.46	2.31	2.74	2.05	5.17	8.34	1.20	2.11	1.09	27.74
1927	0.10	1.05	1.18	5.15	1.41	2.05	2.50	2.63	4.06	0.52	0.00	0.43	21.08
1928	0.05	0.81	0.48	1.25	2.09	5.46	4.51	4.76	3.29	2.44	3.56	0.08	28.78
1929	0.80	1.66	0.17	3.00	2.33	2.84	3.87	1.70	1.80	4.01	1.44	0.12	23.74
1930	0.84	0.35	0.47	2.51	2.57	3.32	1.96	5.50	1.32	0.47	1.78	0.23	21.32
1931	0.20	0.05	0.75	1.72	5.13	5.62	2.89	2.80	4.85	2.37	4.67	2.04	33.09
1932	2.93	0.64	0.59	1.11	3.06	6.26	1.67	7.29	2.14	1.61	0.05	0.52	27.87
1933	0.10	0.19	1.52	1.28	1.26	1.32	4.12	2.05	6.63	0.14	0.88	1.50	20.99
1934	0.98	0.43	0.62	0.00	0.38	2.34	0.47	1.46	2.43	1.71	2.84	0.77	14.43
1935	0.08	NP	NP	1.64	4.69	5.57	3.44	2.03	3.56	2.70	1.88	0.40	25.99(3)
1936	2.87	0.89	0.10	0.90	1.69	NP	0.05	1.74	5.48	0.23	0.15	0.73	14.83(4)
1937	0.79	0.09	1.95	NP	3.93	3.51	4.46	4.73	1.17	2.21	0.35	0.09	23.28(4)
1938	0.18	0.77	1.32	2.94	5.20	3.86	4.52	4.65	3.58	1.84	1.13	0.15	30.14

Table 2-9
Monthly Total Precipitation (inches)
ASHLAND_2, NE (NWS Station 250375)
January 1893 to December 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1939	0.28	1.07	0.60	1.08	1.71	4.61	NP	2.08	0.61	2.61	0.00	2.12	16.77(4)
1940	0.94	1.12	1.16	1.95	0.78	5.43	0.93	5.21	1.27	1.99	1.67	1.25	23.70
1941	1.11	0.78	0.40	4.13	2.18	5.01	1.22	2.11	NP	1.25	1.28	2.49	21.96(4)
1942	0.27	0.88	2.72	0.39	3.56	3.20	1.94	2.60	4.81	0.95	0.18	1.08	22.58
1943	NP	0.63	0.89	1.69	3.66	6.37	5.36	2.61	1.83	1.25	0.55	0.00	24.84(4)
1944	0.75	1.08	1.63	9.76	4.58	5.45	NP	NP	NP	1.39	1.97	NP	26.61(1)
1945	0.52	2.52	1.83	4.73	6.55	6.56	6.18	1.63	NP	NP	NP	NP	30.52(1)
1946	NP	0.03	2.77	0.78	4.97	9.76	NP	NP	NP	3.81	2.13	0.06	24.31(1)
1947	NP	0.12	1.00	6.35	3.31	11.71	2.00	0.91	1.30	1.61	1.04	1.46	30.81(4)
1948	0.38	1.88	1.93	2.07	2.08	2.58	9.41	5.85	3.82	1.77	2.16	0.83	34.76
1949	2.94	0.89	1.13	0.96	4.70	7.13	2.65	2.56	3.51	1.68	0.03	0.21	28.39
1950	0.73	1.46	0.56	1.18	3.54	1.00	5.20	4.06	0.60	2.64	0.50	0.13	21.60
1951	0.58	2.03	3.21	5.19	4.90	7.92	3.56	7.24	2.06	1.97	0.28	0.95	39.89
1952	0.48	0.83	2.83	3.75	3.48	5.08	1.65	6.48	0.81	0.00	3.95	1.16	30.50
1953	0.63	1.08	2.14	3.63	2.12	3.43	3.05	1.92	0.70	0.32	2.12	1.30	22.44
1954	0.11	2.38	0.80	2.24	4.84	NP	0.45	9.18	1.47	3.04	0.00	NP	24.51(3)
1955	1.20	0.62	0.62	2.28	1.02	4.72	0.63	1.02	4.69	0.51	0.11	0.19	17.61
1956	NP	NP	0.12	1.22	1.12	4.36	2.93	3.10	2.93	1.32	1.36	0.11	18.57(3)
1957	0.31	0.15	3.02	1.85	3.24	6.21	3.86	5.71	1.26	3.56	2.27	0.52	31.96
1958	0.96	1.51	1.05	2.96	1.60	0.99	11.20	5.29	6.06	0.10	0.83	0.00	32.55
1959	0.45	0.58	3.79	2.68	10.70	2.10	5.64	5.24	3.06	2.31	0.34	0.60	37.49
1960	1.57	1.30	0.85	2.58	3.93	5.73	4.23	6.55	4.15	0.86	0.27	0.24	32.26
1961	0.23	0.55	2.89	2.00	3.11	1.57	2.88	4.41	5.04	2.50	1.71	0.71	27.60
1962	0.38	1.51	0.97	0.85	4.72	3.18	7.60	3.93	2.95	2.53	0.74	0.53	29.89
1963	0.65	0.28	2.20	1.71	2.71	6.73	2.14	3.18	5.19	0.39	0.28	0.38	25.84
1964	0.20	0.30	1.29	5.54	4.16	10.38	5.01	3.85	4.37	0.36	1.06	0.65	37.17
1965	0.29	2.05	2.95	3.61	9.18	8.11	6.02	2.49	11.63	0.50	1.07	1.08	48.98
1966	0.65	0.49	0.70	1.08	2.66	NP	4.96	3.46	2.04	0.59	0.24	0.53	17.4(4)
1967	0.42	0.13	1.36	2.19	2.62	13.29	1.72	1.32	3.34	3.23	NP	0.77	30.39(4)
1968	NP	NP	0.31	3.10	3.89	2.34	3.63	5.51	5.33	4.01	0.79	1.44	30.35(3)
1969	0.71	0.94	0.84	4.74	4.60	3.57	2.78	2.26	1.30	2.00	0.22	1.46	25.42
1970	0.13	0.10	0.68	2.39	2.39	2.66	2.56	2.85	5.59	3.42	1.14	0.17	24.08
1971	0.64	2.57	0.46	0.46	9.79	2.56	1.22	2.75	0.75	4.61	2.91	0.96	29.68
1972	0.03	0.23	0.91	5.45	7.68	2.01	2.25	3.51	2.70	3.41	3.59	1.40	33.17
1973	1.86	0.65	5.66	2.74	5.76	1.68	5.24	0.28	7.78	3.62	2.10	1.75	39.12
1974	0.55	0.28	0.80	2.52	3.83	1.34	0.27	5.42	0.75	2.24	1.25	0.54	19.79
1975	1.18	1.01	1.62	2.60	2.68	4.34	1.05	5.36	1.53	0.08	3.40	0.52	25.37
1976	0.40	1.36	2.46	4.08	3.71	1.02	2.32	0.96	3.09	0.71	0.00	0.07	20.18
1977	0.51	0.22	2.18	2.34	5.77	2.13	1.84	10.41	1.80	3.16	1.72	0.24	32.32
1978	0.29	0.94	1.15	7.25	4.43	2.18	6.62	2.10	4.17	1.18	1.41	0.30	32.02
1979	1.31	0.37	3.53	2.68	1.93	3.54	3.14	2.33	1.01	4.63	1.27	0.37	26.11
1980	NP	0.42	1.46	1.78	0.97	5.70	2.07	8.13	0.39	2.11	0.07	0.81	23.91(4)
1981	0.00	0.45	0.96	1.99	3.56	2.13	2.63	8.59	1.35	2.38	2.77	1.39	28.20
1982	0.79	0.23	2.34	1.83	9.68	3.11	3.30	7.60	3.61	1.82	1.96	1.90	38.17
1983	0.94	0.69	3.96	1.42	3.73	8.22	0.28	2.89	2.79	1.78	2.58	0.63	29.91
1984	0.47	0.78	2.74	5.43	4.87	6.62	1.69	1.01	1.22	4.34	1.12	4.03	34.32

Table 2-9
Monthly Total Precipitation (inches)
ASHLAND_2, NE (NWS Station 250375)
January 1893 to December 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1985	0.29	0.68	1.60	2.63	6.08	1.89	4.37	3.28	3.98	1.91	0.57	0.36	27.64
1986	0.00	0.76	2.75	6.17	3.11	3.54	4.95	6.96	7.13	5.64	0.83	1.09	42.93
1987	0.03	0.19	5.05	1.86	7.96	3.15	2.08	11.86	1.45	0.75	1.88	0.72	36.98
1988	0.49	0.19	0.02	2.08	3.43	2.06	3.04	1.60	4.03	0.10	1.82	0.73	19.59
1989	0.98	0.85	0.16	1.07	0.56	5.08	2.78	2.47	5.11	1.47	0.00	0.41	20.94
1990	0.58	0.24	2.54	0.52	4.79	3.41	7.10	1.98	0.61	1.65	1.28	1.17	25.87
1991	1.35	0.25	2.65	3.98	3.78	4.84	3.20	2.61	1.13	1.61	3.01	1.70	30.11
1992	1.52	0.81	2.68	2.98	1.81	1.62	7.66	2.58	2.93	2.39	2.17	1.20	30.35
1993	1.66	0.94	2.36	2.93	6.21	6.54	15.81	8.81	3.21	1.82	1.01	0.50	51.80
1994	0.58	0.79	0.00	1.23	2.10	8.66	4.68	1.07	2.90	1.63	1.90	1.41	26.95
1995	1.16	0.52	2.90	4.27	7.70	1.73	1.16	1.08	2.80	1.13	1.00	0.35	25.80
1996	1.21	0.05	0.99	3.65	7.85	3.56	2.97	3.08	2.70	1.04	2.48	0.53	30.11
1997	0.48	0.85	0.55	2.91	1.67	3.84	3.82	1.90	2.43	5.32	2.54	0.55	26.86
1998	0.89	1.09	3.40	2.83	7.91	6.76	2.78	4.83	0.75	2.71	2.38	0.30	36.63
1999	0.55	1.25	1.40	6.08	7.40	3.72	4.91	4.16	2.45	0.00	0.90	0.70	33.52
2000	0.10	1.39	1.33	1.36	2.24	5.09	3.61	1.12	0.88	2.53	2.83	1.25	23.73
2001	1.32	2.58	0.88	1.72	10.07	1.25	0.60	1.62	2.88	2.85	1.86	0.50	28.13
2002	0.61	0.68	1.20	2.44	4.60	1.43	0.78	9.06	1.14	3.66	0.33	0.00	25.93
2003	0.51	1.45	0.83	2.59	3.56	3.42	0.98	1.46	2.57	1.47	2.68	1.09	22.61
2004	1.70	0.94	3.74	1.20	3.45	3.35	3.72	1.55	4.30	0.43	2.71	0.28	27.37
2005	1.28	2.65	0.65	4.46	2.21	3.51	6.15	0.55	0.35	1.79	1.14	0.86	25.60
2006	1.05	0.17	1.92	3.93	1.26	0.88	1.77	8.41	4.14	0.68	0.02	2.25	26.48
2007	1.08	1.73	3.27	5.06	5.24	2.23	1.51	8.37	2.66	4.96	0.08	2.05	38.24
2008	0.35	0.69	1.05	4.23	6.30	8.62	4.36	0.68	3.92	4.97	1.08	0.80	37.05
2009	0.35	0.68	0.53	1.98	1.95	8.78	2.46	5.56	1.60	3.83	0.04	2.36	30.12
2010	0.94	0.76	1.65	NP	3.21	8.94	6.83	2.45	6.00	NP	2.09	0.32	33.19(3)
Avg	0.67	0.93	1.42	2.67	3.92	4.43	3.61	3.70	3.02	1.97	1.31	0.83	28.63

Notes:

(1) - Annual precipitation based on eight months
(2) - Annual precipitation based on nine months
(3) - Annual precipitation based on 10 months
(4) - Annual precipitation based on 11 months
NP - Not Provided
Avg - Average
Data Source (1968-2008) - 2008 Groundwater Model Update
Data Source (2009-2010) - National Climatic Data Center
NOP - Nebraska Ordnance Plant
NWS - National Weather Service
Station - 250375 ASHLAND_2, NE

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Table 2-10
Monthly Total Precipitation (inches)
MEAD (AWDN Station a255369) May 1981 to December 2010
2010 Groundwater Model Update
Former NOP, Mead Nebraska

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1981	NM	NM	NM	NM	0.43	1.85	3.35	5.13	1.69	1.08	3.41	0.59	17.54
1982	0.71	0.32	0.04	0.00	8.77	3.48	2.78	6.77	4.53	3.50	1.12	1.29	33.30
1983	0.97	0.96	2.09	0.12	3.86	4.61	1.50	2.13	3.07	1.68	0.13	0.27	21.36
1984	0.00	0.67	2.69	6.05	4.76	7.62	1.54	1.30	1.97	5.83	0.66	3.03	36.12
1985	0.18	0.67	1.61	4.68	4.53	3.06	5.03	2.27	4.49	2.05	0.70	0.00	29.25
1986	0.00	1.00	3.22	6.66	4.65	3.98	6.10	6.02	8.31	5.12	0.83	0.15	46.03
1987	0.00	0.00	5.96	1.69	4.27	1.73	3.07	10.04	1.73	1.62	0.84	0.86	31.80
1988	0.86	0.00	0.00	1.47	4.51	0.75	3.94	0.43	6.62	0.24	1.77	0.34	20.92
1989	0.72	0.49	0.00	0.61	1.56	5.39	2.87	1.69	4.61	1.14	0.00	0.21	19.30
1990	0.32	0.12	0.59	0.00	1.22	4.14	7.48	0.84	0.59	1.69	0.73	0.81	18.53
1991	0.89	0.47	1.66	2.44	2.87	9.24	2.73	1.38	2.72	2.52	1.92	2.07	30.90
1992	0.85	0.95	2.95	1.10	1.89	1.57	7.28	1.69	2.16	2.29	1.90	1.01	25.65
1993	0.97	1.19	1.92	1.97	2.64	7.72	6.81	5.13	3.49	1.30	0.40	0.20	33.73
1994	0.44	0.32	0.00	1.26	1.38	8.41	3.50	1.61	3.70	1.06	2.11	0.60	24.39
1995	0.74	0.30	2.13	4.71	5.31	0.99	1.10	1.42	2.28	1.31	0.26	0.27	20.81
1996	0.42	0.00	0.70	3.47	6.81	4.77	1.47	2.63	1.85	0.67	2.12	0.21	25.12
1997	0.00	0.74	0.67	1.89	1.18	2.01	2.87	2.08	4.61	3.43	2.38	0.23	22.08
1998	1.33	0.00	2.19	2.63	5.08	6.92	3.72	3.72	1.02	2.20	2.35	0.00	31.17
1999	0.27	0.65	1.33	5.34	6.51	5.76	1.77	2.62	3.70	0.00	0.97	0.49	29.40
2000	0.00	1.45	0.67	2.13	2.50	5.75	3.98	1.10	0.59	2.48	1.46	0.49	22.59
2001	0.96	1.19	0.85	2.32	8.35	1.61	0.79	2.20	2.16	2.09	2.16	0.16	24.85
2002	0.65	0.39	0.87	2.79	2.95	0.51	1.42	7.36	1.14	3.27	0.16	0.00	21.52
2003	0.32	0.92	0.64	2.64	4.92	3.50	0.31	1.30	2.91	1.61	2.38	0.58	22.04
2004	0.89	1.11	2.75	0.90	4.29	3.27	2.32	1.57	3.98	0.67	2.86	0.32	24.92
2005	0.77	2.76	0.43	3.17	3.21	2.56	3.95	0.52	1.19	1.55	1.44	0.54	22.08
2006	1.48	0.00	3.13	4.15	1.19	0.91	3.25	5.84	5.43	0.74	0.18	2.35	28.65
2007	0.16	2.08	2.35	3.47	6.28	1.58	1.35	9.11	2.51	4.22	0.41	1.61	35.13
2008	0.13	0.35	1.51	3.89	5.38	9.21	4.41	0.75	3.86	4.65	1.39	1.12	36.66
2009	0.00	0.40	0.25	1.39	1.00	4.22	2.80	5.46	1.15	4.08	0.00	2.54	23.29
2010	0.78	0.00	0.00	3.20	2.24	8.35	6.51	2.63	4.82	0.01	1.90	0.00	30.44
AVERAGE	0.54	0.67	1.49	2.63	3.82	4.18	3.33	3.23	3.10	2.14	1.30	0.74	27.31

Notes:
Annual precipitation for 1981 represents May-December.
Average annual precipitation for station represents 1982-2010.
AWDN - Automated Weather Data Network
NM - not measured
NOP - Nebraska Ordnance Plant
Source - High Plains Regional Climate Center, Automated Weather Data Network (awdn) Station a255369

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Table 2-11
Monthly Total Precipitation (inches)
MEADTURFFARM (AWDN Station a255368) January 1986 to December 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1986	0.00	0.54	2.74	5.44	2.93	3.24	4.54	7.66	10.01	6.67	1.05	0.57	45.38
1987	0.00	0.00	4.77	2.52	5.47	1.54	3.27	8.82	1.54	1.34	0.92	0.82	31.01
1988	0.56	0.00	0.11	1.44	4.13	1.32	4.78	0.69	5.44	0.67	1.82	0.41	21.35
1989	0.74	0.65	0.00	0.68	0.91	6.26	2.13	1.77	4.41	0.84	0.00	0.21	18.60
1990	0.41	0.27	2.83	0.28	4.57	6.26	7.60	0.71	0.97	1.76	0.88	0.85	27.37
1991	0.92	0.56	3.42	2.53	6.24	6.56	2.76	1.62	2.60	3.14	1.49	2.12	33.96
1992	0.68	0.93	2.78	1.69	2.32	2.58	6.89	1.65	2.30	2.20	2.20	0.72	26.95
1993	0.88	0.80	2.38	3.04	4.11	7.45	9.24	5.28	2.76	3.78	0.41	0.31	40.44
1994	0.47	0.35	0.00	1.98	1.79	9.19	3.98	1.46	3.56	1.38	2.08	0.84	27.07
1995	0.77	0.25	1.99	4.22	5.28	1.03	0.91	1.53	1.69	0.91	0.40	0.35	19.32
1996	0.46	0.00	0.94	2.91	7.05	4.45	1.18	2.56	1.50	0.61	2.22	0.10	23.98
1997	0.00	0.71	0.61	2.09	0.67	2.32	3.23	1.99	4.60	3.50	2.29	0.21	22.21
1998	1.36	0.10	2.40	2.60	3.90	6.58	2.91	4.41	0.47	1.97	2.07	0.11	28.87
1999	0.27	1.00	1.49	5.31	4.93	5.42	1.97	2.87	3.11	0.00	0.97	0.42	27.78
2000	0.00	1.59	0.83	1.81	2.13	5.71	4.49	1.06	0.59	2.95	1.38	0.66	23.20
2001	0.90	1.53	0.79	2.17	9.17	1.57	0.22	2.30	2.37	1.93	2.10	0.28	25.31
2002	0.75	0.43	0.91	3.58	2.87	0.43	1.89	8.40	1.34	3.66	0.16	0.00	24.42
2003	0.34	0.95	0.69	2.36	4.72	2.72	0.67	1.26	2.56	1.46	1.66	0.68	20.06
2004	1.33	1.17	2.80	0.98	4.41	3.50	3.17	1.73	3.98	0.35	2.89	0.32	26.63
2005	0.82	2.72	0.44	3.52	3.16	2.74	3.87	0.87	1.48	1.69	1.42	0.53	23.25
2006	1.31	0.00	2.89	3.81	1.19	0.80	3.06	5.63	5.43	0.68	0.17	2.32	27.29
2007	0.31	2.06	2.73	3.49	7.18	1.85	2.11	7.01	2.39	4.19	0.34	1.67	35.34
2008	0.14	0.41	1.39	3.71	5.59	9.15	4.33	0.96	3.92	4.96	1.46	1.04	37.06
2009	0.00	0.44	0.37	1.44	1.35	5.33	2.67	5.32	1.22	4.39	0.00	2.55	25.07
2010	0.77	0.00	0.00	3.34	2.08	8.53	6.16	2.81	5.28	0.23	1.60	0.00	30.80
AVERAGE	0.57	0.70	1.61	2.68	3.93	4.26	3.52	3.21	3.02	2.21	1.28	0.72	27.71

Notes:
Source - High Plains Regional Climate Center, Automated Weather Data Network (awdn) Station a255368
AWDN - Automated Weather Data Network
NOP - Nebraska Ordnance Plant

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Table 2-12
Monthly Total Precipitation (inches)
MEADAGROFARM (AWDN Station a255367) January 1994 to December 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1994	0.48	0.41	0.00	3.43	1.69	11.56	1.68	2.12	7.79	1.12	1.98	0.96	33.22
1995	0.81	0.24	2.06	4.68	5.66	1.31	0.81	1.34	2.25	1.30	0.56	0.12	21.13
1996	0.51	0.00	0.85	3.04	7.00	2.71	0.35	1.00	2.05	0.80	2.40	0.00	20.70
1997	0.23	0.72	0.60	2.25	0.71	2.88	5.52	2.27	4.01	3.76	2.48	0.24	25.67
1998	1.69	0.24	2.66	1.95	4.01	6.31	3.87	6.16	0.89	2.43	2.00	0.23	32.44
1999	0.37	1.25	1.38	5.56	5.86	5.03	2.19	3.16	2.76	0.00	0.67	0.54	28.77
2000	0.00	1.49	0.66	2.01	2.77	5.99	3.47	1.33	0.61	2.55	1.52	0.72	23.12
2001	1.02	1.59	0.76	1.80	9.04	1.58	0.98	3.11	2.63	2.10	2.08	0.36	27.05
2002	0.75	0.45	1.02	2.72	2.96	0.80	1.24	6.59	1.41	3.65	0.25	0.00	21.84
2003	0.36	1.14	0.65	2.95	4.62	2.60	1.26	1.14	2.09	1.54	2.28	0.81	21.44
2004	1.32	1.18	2.65	1.13	3.94	2.67	2.33	1.00	3.51	0.71	3.05	0.29	23.77
2005	0.89	2.97	0.47	3.25	3.54	3.27	4.12	1.20	1.25	1.78	1.39	0.54	24.67
2006	1.16	0.00	2.55	3.76	0.89	1.17	3.11	5.58	5.29	0.76	0.11	2.37	26.75
2007	0.40	1.94	2.74	3.39	5.68	1.44	1.91	8.43	3.34	4.58	0.26	1.74	35.86
2008	0.14	0.46	1.96	3.99	5.61	11.31	4.33	0.56	3.78	4.51	1.07	0.87	38.59
2009	0.00	0.45	0.41	1.52	1.61	5.48	2.80	6.09	1.89	3.71	0.00	2.51	26.47
2010	0.76	0.00	0.00	3.59	2.48	8.75	6.87	3.81	4.21	0.23	1.79	0.00	32.49
AVERAGE	0.64	0.85	1.26	3.00	4.00	4.40	2.76	3.23	2.93	2.09	1.41	0.72	27.29

Notes:
Source - High Plains Regional Climate Center, Automated Weather Data Network (awdn) Station a255367
AWDN- Automated Weather Data Network
NOP - Nebraska Ordnance Plant

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Table 2-13
Total Potential Evapotranspiration (inches)
MEAD (AWDN Station a255369) May 1981 to December 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1981	NM	NM	NM	NM	3.59	7.17	7.10	5.95	4.89	3.84	2.90	1.07	36.52
1982	2.31	2.97	3.79	6.01	6.22	8.79	6.86	6.40	5.47	4.32	2.04	0.87	56.06
1983	1.03	1.89	4.43	5.05	6.03	7.37	7.03	6.36	5.65	4.02	0.98	0.93	50.79
1984	1.67	2.16	4.06	5.72	7.04	7.08	5.25	5.34	5.09	2.93	1.02	0.86	48.20
1985	0.96	0.94	2.47	4.35	5.75	6.85	5.70	5.67	4.28	3.38	1.60	1.44	43.38
1986	8.02	7.79	4.68	5.39	4.60	2.97	0.88	0.76	0.87	1.96	5.89	7.59	51.39
1987	7.64	7.28	6.23	3.77	3.39	2.46	1.10	0.86	0.75	2.22	2.65	5.72	44.06
1988	6.52	8.15	7.58	6.03	3.88	1.13	0.46	0.45	0.98	1.42	2.64	5.38	44.60
1989	6.60	7.89	8.97	7.06	4.12	2.88	1.70	1.30	1.42	3.32	5.41	6.18	56.85
1990	7.69	8.88	5.67	4.92	3.16	1.99	0.81	1.98	1.65	2.49	5.81	6.74	51.79
1991	7.20	7.79	7.06	4.35	3.64	2.13	1.39	1.13	2.81	3.39	4.49	10.04	55.41
1992	7.87	7.54	7.92	4.66	5.45	3.00	1.67	1.41	1.63	4.61	7.76	10.16	63.68
1993	10.54	8.19	8.46	7.38	4.95	3.41	1.77	1.96	2.01	2.06	6.21	8.99	65.91
1994	1.25	1.67	5.04	7.22	9.59	7.32	7.22	5.86	5.89	3.45	2.31	0.70	57.52
1995	0.84	2.32	3.14	4.47	4.79	7.90	8.68	7.30	5.40	5.00	2.26	1.20	53.28
1996	1.36	2.94	4.32	7.19	4.03	7.57	6.34	4.47	3.91	4.55	1.27	0.93	48.88
1997	1.40	1.38	5.03	4.21	7.72	7.69	7.13	5.35	4.91	3.90	1.58	0.90	51.20
1998	0.72	1.19	1.75	5.36	7.14	6.50	5.94	5.10	5.70	3.24	2.07	2.01	46.71
1999	1.19	2.43	4.14	4.15	6.35	5.79	7.80	5.27	4.98	5.54	3.55	1.49	52.67
2000	1.82	2.51	3.93	6.13	7.96	8.73	6.54	6.09	7.53	4.31	1.59	1.06	58.20
2001	1.18	1.11	2.68	6.55	7.56	8.63	6.97	7.06	4.79	4.50	2.81	1.65	55.48
2002	2.41	2.16	3.25	6.14	7.76	10.24	8.87	6.90	5.70	2.99	2.26	1.92	60.60
2003	1.75	1.44	4.33	6.15	6.48	6.68	7.87	6.85	5.59	4.66	2.39	1.43	55.64
2004	1.42	1.70	4.09	7.10	7.69	6.68	5.74	6.07	7.18	4.08	1.83	1.76	55.31
2005	0.82	1.77	4.71	6.00	8.20	8.18	8.38	5.68	6.21	4.32	2.88	0.87	58.02
2006	2.34	2.73	3.37	6.23	8.79	9.09	7.97	5.26	4.45	3.91	2.52	1.85	58.50
2007	1.29	1.30	3.75	5.79	7.09	7.20	7.24	5.47	5.38	3.64	2.88	0.71	51.73
2008	1.07	1.34	3.50	5.23	7.09	7.38	7.15	6.37	4.36	4.01	2.27	1.61	51.37
2009	1.65	2.38	4.23	5.84	8.35	6.05	5.77	5.66	4.09	2.02	2.27	0.72	49.03
2010	0.48	0.88	3.04	5.96	6.97	7.15	6.48	6.53	4.75	5.21	2.74	1.16	51.35
AVERAGE	3.14	3.54	4.68	5.67	6.18	6.20	5.46	4.69	4.28	3.64	2.96	2.93	53.37

Notes:
Annual evapotranspiration for 1981 represents May-December.
Average annual evapotranspiration for station represents 1982-2010.
ADWN - Automated Weather Data Network
NM - not measured
NOP - Nebraska Ordnance Plant
Source - High Plains Regional Climate Center, Automated Weather Data Network (AWDN) Station a255369

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Table 2-14
Total Potential Evapotranspiration (inches)
MEADTURFFARM (AWDN Station a255368) August 1990 to December 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1990	NM	NM	NM	NM	NM	NM	NM	1.50	1.72	2.75	6.12	7.21	19.30
1991	7.64	7.92	6.94	4.13	2.97	1.95	1.22	0.93	2.71	3.24	4.49	9.90	54.03
1992	7.64	7.64	8.03	4.92	5.53	2.82	1.56	1.26	1.54	4.31	7.59	9.48	62.32
1993	10.33	7.98	8.28	7.23	4.80	3.20	1.52	1.76	1.95	2.00	6.10	8.22	63.37
1994	1.32	1.75	5.09	7.44	7.06	6.40	6.69	5.58	5.49	3.22	2.06	0.74	52.86
1995	0.89	2.25	3.00	4.63	4.55	7.64	8.52	6.77	4.91	4.58	2.01	1.04	50.77
1996	1.24	2.71	4.15	6.65	3.47	6.69	6.15	4.52	4.32	4.79	1.20	0.85	46.73
1997	1.32	1.32	5.05	4.06	7.65	8.11	7.79	5.67	5.05	3.86	1.55	0.66	52.09
1998	0.73	1.29	1.83	5.03	6.86	7.02	6.29	5.40	5.82	2.96	1.80	1.73	46.75
1999	1.02	2.24	4.11	4.02	5.91	5.89	8.04	5.75	5.43	5.56	3.58	1.67	53.22
2000	1.94	2.62	4.21	6.36	7.89	8.29	6.15	5.73	7.15	3.76	1.46	0.93	56.47
2001	0.98	0.91	2.25	6.23	6.39	7.79	6.60	6.67	4.70	4.58	2.72	1.67	51.46
2002	2.43	2.20	3.33	6.16	7.52	9.86	8.56	6.62	5.69	2.90	2.07	1.82	59.14
2003	1.65	1.38	4.10	5.84	5.96	6.33	7.94	6.58	5.38	4.19	2.10	1.25	52.71
2004	1.29	1.52	3.77	6.42	7.11	6.18	5.45	5.77	6.48	3.53	1.61	1.63	50.76
2005	0.74	1.57	4.42	5.42	7.59	8.49	8.80	5.90	6.43	4.20	2.88	0.91	57.35
2006	2.36	2.76	3.40	6.19	8.60	9.07	8.54	5.68	4.69	3.76	2.40	1.79	59.24
2007	1.26	1.27	3.70	5.86	7.07	7.70	7.85	5.84	5.86	3.94	2.92	0.72	53.98
2008	1.04	1.30	3.47	5.18	6.95	7.20	7.11	6.55	4.44	3.92	2.13	1.58	50.86
2009	1.62	2.29	4.05	5.63	8.12	6.07	5.66	5.96	4.28	2.12	2.21	0.79	48.77
2010	0.53	0.98	3.12	6.10	7.05	7.43	6.95	7.12	5.09	5.11	2.75	1.18	53.41
AVERAGE	2.40	2.69	4.31	5.67	6.45	6.71	6.37	5.12	4.72	3.77	2.94	2.65	53.81

Notes:
Annual evapotranspiration for 1990 represents August-December.
Average annual evapotranspiration for station represents 1991-2010.
ADWN - Automated Weather Data Network
NM - not measured
Source - High Plains Regional Climate Center, Automated Weather Data Network (AWDN) Station a255368
NOP - Nebraska Ordnance Plant

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Table 2-15
Total Potential Evapotranspiration (inches)
MEADAGROFARM (AWDN Station a255367) January 1994 to December 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1994	1.45	2.01	5.69	7.60	9.10	7.34	7.63	6.50	6.44	3.65	2.43	0.78	60.62
1995	0.94	2.48	2.95	4.24	4.43	7.43	9.33	7.43	5.03	4.75	2.03	1.02	52.06
1996	1.08	2.82	4.52	7.53	4.26	7.79	7.28	5.18	4.68	5.34	1.36	0.90	52.74
1997	1.36	1.41	5.29	4.39	8.41	8.90	7.95	5.66	5.14	4.03	1.74	0.75	55.02
1998	0.85	1.42	1.98	5.49	7.26	7.44	6.77	5.60	6.26	3.41	2.21	2.10	50.77
1999	1.33	2.69	4.80	4.69	6.43	6.21	7.74	5.65	5.57	5.88	3.74	1.55	56.26
2000	1.91	2.55	4.27	6.46	8.14	8.48	6.40	6.52	8.28	4.50	1.73	1.18	60.42
2001	1.23	1.14	2.82	6.73	7.73	8.57	7.54	7.63	5.12	4.98	3.12	1.83	58.42
2002	2.74	2.29	3.55	6.32	7.95	9.94	9.22	7.04	5.97	2.96	2.16	1.89	62.03
2003	1.74	1.41	4.28	6.12	6.29	7.00	9.08	7.39	6.02	4.87	2.28	1.33	57.79
2004	1.40	1.58	3.98	7.13	7.68	6.63	5.47	6.09	6.94	4.11	1.90	1.78	54.69
2005	0.86	1.78	4.81	6.01	8.22	8.70	9.25	6.05	6.98	4.48	3.10	0.95	61.17
2006	2.47	3.00	3.47	6.49	8.94	9.24	8.33	5.50	4.50	3.70	2.53	1.87	60.03
2007	1.26	1.28	3.80	5.84	7.24	7.99	8.05	5.60	5.74	3.93	3.07	0.71	54.49
2008	1.08	1.33	3.50	5.22	6.84	6.83	6.97	6.74	4.58	4.03	2.29	1.64	51.05
2009	1.62	2.39	4.18	5.79	8.36	6.09	5.95	5.92	4.30	2.09	2.24	0.82	49.73
2010	0.52	0.98	3.21	6.30	7.36	7.53	7.27	7.58	4.95	5.27	2.88	1.22	55.07
AVERAGE	1.40	1.91	3.95	6.02	7.33	7.77	7.66	6.36	5.68	4.23	2.40	1.31	56.02

Notes:
Source - High Plains Regional Climate Center, Automated Weather Data Network (AWDN) Station a255367
AWDN - Automated Weather Data Network
NOP - Nebraska Ordnance Plant

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Table 2-16
Former NOP Extraction Well Pumping Rates
2010 Groundwater Model Update
Former NOP, Mead, Nebraska
(gallons per minute)

Month	EW-01	EW-02	EW-03	EW-04	EW-05	EW-06	EW-07	EW-08	EW-09	EW-10	FEW-11	EW-12	EW-13	FEW-14	FEW-15	EW-16	Total
Feb-02	185	175	236	132	252	306	331	316	268	428	0	0	0	0	0	0	2,629
Mar-02	181	175	227	132	251	305	329	322	263	420	0	0	0	0	0	0	2,605
Apr-02	180	175	228	124	250	307	328	324	261	419	0	0	0	0	0	0	2,596
May-02	179	175	220	119	251	310	328	319	250	418	0	0	0	0	0	0	2,569
Jun-02	177	174	220	120	249	309	328	320	250	414	0	0	0	0	0	0	2,561
Jul-02	175	176	220	123	250	311	330	321	231	410	0	0	0	0	0	0	2,547
Aug-02	174	175	221	120	250	309	330	322	231	409	0	0	0	0	0	0	2,541
Nov-02	171	175	220	115	250	314	320	323	226	376	0	0	0	0	0	0	2,490
Feb-03	168	175	220	110	249	294	315	319	221	379	0	0	0	0	0	0	2,450
May-03	164	174	219	109	250	290	314	312	216	380	0	0	0	0	0	0	2,428
Aug-03	160	173	218	105	251	292	299	310	215	392	0	0	0	0	0	0	2,415
Nov-03	154	169	221	107	249	280	300	312	215	396	0	0	0	0	0	0	2,403
Mar-04	148	168	220	117	245	264	299	310	210	375	0	0	0	0	0	0	2,356
Apr-04	148	168	219	116	244	253	280	310	185	374	0	0	0	0	0	0	2,297
Aug-04	198	150	220	122	250	276	298	335	194	401	0	0	0	0	0	0	2,444
Oct-04	200	150	220	119	248	260	302	336	185	400	0	0	0	0	0	0	2,420
Jan-05	197	151	220	115	249	240	274	338	180	406	0	0	0	0	0	0	2,370
May-05	200	151	219	110	252	233	264	333	180	409	0	0	0	0	0	0	2,351
Aug-05	197	150	219	105	251	276	305	305	178	401	0	0	0	0	0	0	2,387
Oct-05	187	150	220	104	249	276	304	304	171	396	0	0	0	0	0	0	2,361
Jan-06	177	149	219	105	229	252	308	305	158	345	0	0	0	0	0	0	2,247
Feb-06	163	143	209	95	210	231	294	291	143	228	0	0	0	0	0	0	2,006
Mar-06	171	153	223	89	225	255	316	314	152	270	0	350	0	0	0	0	2,517
Apr-06	156	142	207	98	221	243	294	292	141	276	0	275	0	0	0	0	2,343
May-06	157	148	216	103	229	250	312	306	145	308	0	303	0	0	0	0	2,477
Jun-06	85	111	208	90	210	215	284	277	138	289	0	268	0	0	0	0	2,174
Jul-06	134	99	215	83	211	275	302	295	144	351	0	323	0	0	0	0	2,434
Aug-06	74	54	215	102	201	245	308	296	125	289	0	321	0	0	0	0	2,230
Sep-06	220	119	205	109	191	252	300	281	129	284	0	306	0	0	0	0	2,395
Oct-06	234	149	217	115	201	268	303	299	137	303	0	318	0	0	0	0	2,543
Nov-06	204	148	122	96	128	168	194	298	86	181	0	316	0	0	0	0	1,943
Dec-06	183	138	130	81	76	268	281	269	148	260	0	263	0	0	0	0	2,096
Jan-07	211	151	168	84	155	260	294	297	137	273	0	307	0	0	0	0	2,336
Feb-07	198	147	243	81	194	250	290	290	129	255	0	300	0	0	0	0	2,377
Mar-07	187	140	186	79	149	253	288	279	121	248	0	280	0	0	0	0	2,210
Apr-07	188	148	253	81	181	261	308	287	96	195	0	313	0	0	0	0	2,310
May-07	140	139	139	72	181	253	269	281	109	274	0	249	0	0	0	0	2,106
Jun-07	202	153	261	80	218	270	321	278	157	398	0	182	0	0	0	0	2,519
Jul-07	202	149	247	65	214	264	310	290	154	402	0	329	0	0	0	0	2,624
Aug-07	184	137	231	73	191	231	274	255	127	214	0	238	0	0	0	0	2,156
Sep-07	190	145	247	79	199	251	292	0	146	381	0	315	0	0	0	0	2,245
Oct-07	190	152	255	81	131	232	296	0	148	405	0	320	0	0	0	0	2,211
Nov-07	116	154	261	77	207	259	301	0	151	402	0	325	0	0	0	0	2,252
Dec-07	193	154	262	70	204	255	299	0	150	401	0	324	0	0	0	0	2,312
Jan-08	168	138	238	59	185	231	286	36	138	387	0	313	0	0	0	0	2,178
Feb-08	177	148	258	64	193	244	293	63	147	395	0	324	0	0	0	0	2,306
Mar-08	181	152	263	65	183	145	177	0	87	391	236	305	0	0	0	0	2,185
Apr-08	181	156	266	68	169	256	314	0	156	418	441	325	0	0	0	0	2,752
May-08	167	147	249	64	148	239	292	0	143	380	459	323	0	0	0	0	2,612
Jun-08	160	148	246	69	186	238	277	0	144	351	328	320	0	0	0	0	2,465
Jul-08	166	159	279	78	210	270	304	0	160	414	277	321	0	0	0	0	2,639
Aug-08	160	156	266	77	210	267	309	0	161	418	542	324	0	0	0	0	2,889
Sep-08	156	154	270	73	206	263	245	0	160	414	545	323	0	0	0	0	2,808
Oct-08	96	154	272	66	202	258	261	0	159	388	495	320	0	0	0	0	2,672
Nov-08	48	160	282	44	205	264	319	0	164	417	562	324	0	0	0	0	2,789
Dec-08	81	156	280	61	203	254	313	0	158	267	548	314	0	0	0	0	2,635

Table 2-16
Former NOP Extraction Well Pumping Rates
2010 Groundwater Model Update
Former NOP, Mead, Nebraska
(gallons per minute)

Month	EW-01	EW-02	EW-03	EW-04	EW-05	EW-06	EW-07	EW-08	EW-09	EW-10	FEW-11	EW-12	EW-13	FEW-14	FEW-15	EW-16	Total
Jan-09	185	151	279	93	200	265	322	0	166	419	542	308	0	0	0	0	2,932
Feb-09	185	85	260	86	118	245	314	0	159	442	585	313	0	0	0	0	2,794
Mar-09	169	0	201	93	0	184	231	0	112	268	467	321	0	0	0	0	2,044
Apr-09	189	0	233	92	0	212	237	0	134	304	476	307	0	0	0	0	2,183
May-09	178	0	217	93	0	203	227	0	125	305	379	301	0	0	0	0	2,028
Jun-09	186	0	276	91	0	259	298	0	165	399	480	317	0	165	0	140	2,776
Jul-09	172	0	290	88	0	65	302	0	139	406	520	212	0	184	0	94	2,470
Aug-09	168	0	274	73	0	63	216	0	137	569	441	175	0	186	0	90	2,391
Sep-09	169	0	263	77	0	74	278	0	131	203	491	196	0	176	0	88	2,145
Oct-09	177	0	275	78	0	68	293	0	142	385	530	269	0	188	0	90	2,495
Nov-09	173	0	257	81	0	70	288	0	126	386	526	321	0	188	0	90	2,505
Dec-09	147	0	263	68	0	63	254	0	122	345	426	260	0	164	0	81	2,192
Jan-10	160	0	286	76	0	76	277	0	133	376.55	477	273	0	179	9	88	2,411
Feb-10	155	0	294	79	0	78	287	0	135	315	533	303	0	187	0	87	2,454
Mar-10	151	0	290	77	0	62	282	0	140	0	506	320	0	185	0	84	2,098
Apr-10	148	0	299	78	0	56	288	0	144	0	523	322	0	191	110	85	2,244
May-10	143	0	302	77	0	57	292	0	147	0	533	320	0	194	329	87	2,482
Jun-10	140	0	302	76	0	48	261	0	131	0	173	306	0	195	340	92	2,066
Jul-10	131	0	297	75	0	53	294	0	140	0	347	294	0	194	345	105	2,275
Aug-10	109	0	303	76	0	53	300	0	146	0	391	277	0	204	372	105	2,335
Sep-10	138	0	294	75	0	54	292	0	144	0	285	291	0	202	246	117	2,137
Oct-10	166	0	273	71	0	59	274	0	126	0	536	237	0	205	221	111	2,279
Nov-10	121	0	177	39	0	45	292	0	146	0	547	120	0	205	495	105	2,292
Dec-10	168	0	229	78	0	50	288	0	142	0	534	255	0	171	480	90	2,485

Notes:
NOP - Nebraska Ordnance Plant
EW - Extraction Well
FEW - Focused Extraction Well
Values reported from 2006 -2010 are the cumulative monthly average, calculated by the total gallons pumped in a time period divided by the total number of minutes in that time period

Table 2-17
MUD Platte West Well Field - Saunders County Monthly Pumping Rates (2009-2010)
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

	Monthly Pumpage (MG)																							
	2009												2010											
WELL #	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUNE**	**JULY**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUNE**	**JULY**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
PW91-30	0.00	0.35	0.00	20.63	51.73	23.45	35.66	25.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.84	94.32	107.94	12.11	21.60	37.32	10.66	0.00	0.00
PW94-31	0.00	10.88	97.03	30.09	7.12	29.48	55.88	44.75	0.00	63.27	81.41	9.00	83.75	83.50	19.43	0.00	13.84	8.22	0.00	22.50	80.90	2.41	0.00	68.71
PW94-32	0.00	0.00	0.00	26.34	34.91	59.52	24.30	47.82	69.58	0.01	0.00	0.00	0.00	6.27	15.66	7.01	80.79	32.36	48.31	40.94	44.10	50.37	24.81	103.24
PW94-33	0.00	0.00	0.00	3.74	45.63	52.52	0.00	54.16	98.59	40.03	21.29	63.05	0.00	0.00	66.29	52.61	63.20	42.30	94.24	76.44	62.30	35.98	0.38	0.00
PW94-34	0.00	0.02	0.00	26.24	77.39	56.21	71.58	53.73	0.00	15.21	62.27	7.45	79.29	0.00	31.03	46.14	29.98	91.74	61.36	43.03	41.02	72.67	92.92	99.25
PW94-35	0.00	0.00	0.00	31.91	67.52	54.03	31.79	36.55	52.67	94.34	0.00	3.72	106.84	100.74	77.59	0.00	0.04	2.83	45.96	107.02	57.30	54.57	106.39	108.85
PW94-36	0.00	19.46	26.61	66.90	23.45	62.54	55.40	79.45	31.34	0.02	65.31	0.00	0.00	4.67	47.81	41.11	121.37	6.66	16.30	0.00	41.11	36.72	6.55	99.33
PW94-37	0.00	37.68	24.72	55.87	66.46	31.14	32.91	0.00	77.05	64.85	43.73	27.88	0.00	0.00	59.85	56.07	11.89	109.45	62.52	58.45	92.10	44.33	113.35	24.10
PW04-38	0.00	33.74	62.78	10.26	0.01	11.23	23.17	40.21	26.66	72.35	0.00	0.00	94.83	99.47	24.83	0.00	6.81	0.00	52.50	87.61	2.12	35.20	0.00	8.27
PW04-39	0.00	5.47	0.00	0.00	41.71	54.70	0.00	48.98	0.00	15.78	99.35	65.31	0.00	0.00	0.01	38.02	36.41	16.33	42.28	99.71	73.02	45.30	24.14	102.12
PW04-40	0.00	24.42	83.23	11.17	25.21	15.15	61.78	4.69	80.06	2.03	50.40	45.99	64.66	16.51	0.00	0.00	48.14	88.44	73.93	30.46	77.73	35.90	0.00	0.67
PW04-41	0.00	36.86	0.00	26.05	15.06	51.95	37.81	42.36	12.93	3.28	0.00	0.00	0.00	0.00	6.50	12.79	2.15	0.00	10.26	40.73	72.83	53.63	95.92	85.03
PW04-42	0.00	9.96	0.00	0.00	56.00	23.01	58.41	24.68	0.00	55.06	48.39	67.78	0.00	0.00	0.00	33.83	45.04	5.27	8.63	47.20	24.75	0.01	0.00	11.08
PW04-43	0.00	33.77	0.00	0.00	24.12	29.18	29.46	23.79	69.39	26.54	50.08	0.00	0.00	0.00	0.00	0.00	0.33	43.86	99.02	55.54	0.00	64.97	100.94	36.75
PW04-44	0.00	20.68	0.00	9.90	22.59	55.06	62.22	36.56	27.31	0.00	49.33	37.43	0.00	64.31	33.74	21.32	32.99	37.21	0.00	29.89	0.00	0.00	0.00	0.00
PW04-45	0.00	33.90	0.00	28.75	53.19	74.30	67.22	38.79	9.84	48.95	2.55	28.12	0.00	0.00	20.54	0.00	50.72	86.31	106.29	87.81	39.57	95.81	103.58	89.84
PW04-46	0.00	0.00	0.00	25.57	41.95	21.69	22.30	18.38	45.10	32.01	10.91	0.00	0.00	14.22	37.30	25.96	39.39	89.35	42.84	75.91	60.93	55.12	19.05	54.35
PW04-47	0.00	0.00	42.93	36.46	30.15	49.01	34.40	41.86	0.00	23.78	0.00	0.00	0.00	0.00	23.26	26.22	1.70	27.95	32.32	24.07	4.82	1.49	0.97	46.80
PW04-48	0.00	9.31	68.22	0.00	36.92	52.53	39.14	39.88	39.66	24.72	0.00	3.18	0.00	0.00	8.73	0.00	26.43	19.58	25.86	36.03	10.99	7.64	27.05	11.69
PW04-49	0.00	28.44	23.06	48.05	23.23	21.23	21.91	52.39	45.87	16.93	33.10	38.56	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
PW04-50	0.00	17.90	44.18	0.00	14.75	3.12	53.93	17.98	35.18	6.80	0.00	0.00	0.00	0.00	2.98	36.26	20.86	19.93	0.00	23.59	50.33	3.22	0.00	0.00
PW04-51	0.00	8.33	23.12	0.00	0.00	0.00	0.00	53.77	96.92	68.29	0.00	0.00	0.00	0.00	24.67	47.42	18.06	1.64	45.13	52.30	0.08	4.85	0.00	0.00
PW04-52	0.00	0.00	0.00	0.00	0.00	14.46	46.23	0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.84
PW04-53	0.00	0.00	0.00	22.80	70.65	75.36	18.92	37.89	0.00	0.01	3.06	0.00	0.00	0.00	14.34	0.00	8.69	9.71	44.53	27.01	4.66	9.86	21.56	57.25
PW04-54	0.00	0.00	19.50	47.36	16.51	54.14	16.93	34.29	50.66	6.83	0.00	0.00	0.00	0.00	4.26	43.00	0.00	0.00	26.23	6.42	28.03	13.85	16.81	23.37
PW04-55	0.00	7.85	20.28	21.27	53.88	37.82	36.80	33.86	25.65	40.46	0.00	0.00	0.00	0.00	0.00	13.57	44.40	10.28	0.00	17.18	1.68	20.20	12.75	22.77
Monthly Totals, MG =	0.00	339.02	535.66	549.36	900.14	1012.83	938.15	932.74	894.52	721.58	621.18	397.47	429.37	389.69	518.82	563.17	797.55	857.38	950.62	1111.44	907.69	754.76	767.17	1064.31
Daily Average, MGD =	0.00	12.11	17.28	18.31	29.04	33.76	30.26	30.09	29.82	23.28	20.71	12.82	13.85	13.92	16.74	18.77	25.73	28.58	30.67	35.85	30.26	24.35	25.57	34.33

Notes:
MG = Million Gallons
MGD = Million Gallons per Day
NOP = Nebraska Ordnance Plant

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Table 2-18
Lincoln Water System Well Field Monthly Pumping Rates (2009-2010)
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Group A-10367 2009 Flow (MG)																								
DNR#	**Jan-09**	**Feb-09**	**Mar-09**	**Apr-09**	**May-09**	**Jun-09**	**Jul-09**	**Aug-09**	**Sep-09**	**Oct-09**	**Nov-09**	**Dec-09**	**Jan-10**	**Feb-10**	**Mar-10**	**Apr-10**	**May-10**	**Jun-10**	**Jul-10**	**Aug-10**	**Sep-10**	**Oct-10**	**Nov-10**	**Dec-10**
A-010367Q(1R)	0	3.8232396	2.0179841	31.31634536	82.6178299	66.386427	48.113114	36.078111	43.0479921	28.317462	0.000121543	0.03145549	1.687	1.2559986	2.0925342	11.42491683	52.926494	39.69615689	35.0399721	50.64813	20.50667224	3.29479	4.6740241	0.0971237
A-010367L	0	0	0	19.46120316	37.497433	23.819929	31.496253	21.9914467	10.90005845	8.942838	0	0	0.000	0	0.416689	5.89953	12.7405382	16.907792	13.161187	26.28744642	14.96984414	17.685343	23.40663	0
A-010367K	0	0	0.00468018	3.428058897	12.4805533	10.724381	23.774632	7.932002	10.43140391	5.7133689	0	0	0.000	0	0.205831	11.448696	16.23987141	19.46905341	8.22748	24.47891785	18.45540624	46.186	0	0
A-010367H	0	0.0138792	0.3732354	18.47804898	10.1599625	11.2849367	5.67358832	0.003724586	1.628850689	6.5474109	0	0	0.000	0	0.116994	2.04734725	16.207663	10.920035	1.38684149	6.709911594	0.81831812	0.788928848	0	0
A-010367E(1R)	0	0	0.59857649	54.886497	3.5969442	3.9277791	6.737198	4.0224319	6.69179329	5.3712036	0	0	0.000	0	0.171717	8.010009	10.599086	14.15827648	14.933027	17.0989146	11.92252281	25.77003749	11.022	0
A-010367P	0	0	1.4406966	104.30885	61.14825786	15.92315035	25.2446572	10.635935	5.54011942	25.460244	0	0	0	0	0.518736	23.623776	32.966122	10.8263687	2.89818982	0	11.7611379	68.487595	10.442627	0
A-010367N	0	0	0.0196889	74.0929669	56.2968976	20.493197	30.14636345	8.71318197	6.1421219	19.7806109	0	0	0	0	1.01944	29.533488	36.33713	10.892266	5.795714	13.975839	10.2011757	74.23882778	37.02266	0
A-010367J	0	15.760281	12.929336	4.3998251	10.690293	7.8312232	2.863526604	9.831793	7.636453761	12.445526	25.537626	24.2969282	14.6789931	28.4182332	19.2683338	13.455194	16.882213	11.591765	5.9490487	7.928758	5.00683816	6.4964252	20.381205	5.411382
A-010367I	0	0	0.37403855	21.45237493	17.464206	6.614878788	2.4862324	0.25764657	5.88286981	6.8727244	0	0	0	0	0.135518	12.28992	6.342161	4.837634	1.842089	3.10591942	2.19981217	2.466004	0	0
A-010367T	0	20.51375	14.668279	43.633257	48.56254168	33.742732	37.22809993	21.985806	36.9602502	46.12739	46.13159	58.004532	57.95124	45.99855	29.05477	28.488253	33.530146	48.7458935	42.3733074	43.253965	33.0605334	41.041668	40.920734	12.76203
A-010367R	0	10.3764612	14.4417348	24.806947	39.095144	22.122527	35.49518	8.924181	20.03496475	35.2560471	44.88054	56.2390917	41.6697306	45.4031	16.253604	29.755619	43.163355	11.45753	0.082148304	20.436219	28.1142363	35.82259377	29.856105	13.96754
A-010367S(1R)	0	0	0.5028558	12.85108	44.4995891	48.250808	0.00255585	17.512327	32.76568031	13.896362	0	0	0	0	1.16648	8.695269	11.705716	35.4211487	28.54355953	43.277672	50.8579748	52.237088	31.064	0
A-010367X(1R)	0	0	0.0102058	9.73514078	66.90188139	37.62465704	16.55214799	22.44848	46.08285715	20.78852	0	0	0	0	1.10444	66.22782	63.44576479	62.187869	53.09792	65.50347348	51.33656	57.580551	12.298953	0
A-010367Y	0.0776717	6.9584936	18.6851717	47.4316601	39.276122	41.89273	7.11884	26.3948454	37.0385286	22.6899574	19.263978	0	0	0	0	0	6.6881244	0.29049627	20.852329	11.00859107	34.641958	33.478394	57.97674	13.71739
A-010367CC	0.0254023	7.3394765	14.534472	11.6625865	36.303503	35.51403678	17.75490201	10.9228254	9.215715	29.1368715	34.763324	39.886909	43.810429	46.290875	18.6112781	28.2769877	34.690333	18.053527	19.274915	30.1975293	35.214936	0	0	0
G-070412	0.0552287	7.675463	16.320779	32.39528623	41.15638003	23.71600721	25.5001328	22.7992487	15.18773119	15.5279862	15.41008822	52.37092	29.119401	8.232622	12.069425	20.6163407	30.290424	33.50954	2.71274	31.1114247	33.9650354	34.480364	53.148821	52.205297
A-010367DD	0.0595674	8.863323	7.39743	15.72294973	22.5485648	10.463648	0.035353627	1.819592	13.956518	18.355796	35.630839	39.587284	42.7347	30.553024	15.9812258	17.096368	4.480338	28.8849661	31.251193	27.829151	19.2269956	25.4299425	8.162854	32.134799
A-010367JJ	0.0962108	0	0	3.523468	30.164046	12.9849588	9.938362	22.059934	20.66895379	11.2253304	18.127948	52.021385	0	34.757891	25.878944	8.877558	10.955044	31.6963605	26.56386413	27.342013	28.243779	42.14667	43.6668774	46.775493
A-010367EE	0.0393657	6.77085732	4.541198	10.720603	9.563123998	9.5855569	12.36587134	16.028554	3.9661979	4.7696968	12.002709	42.288413	46.6956291	9.486534	16.2595379	10.895797	13.716129	19.188298	10.435823	19.775042	11.1352008	18.19767689	23.604209	22.082327
A-010367KK	0.0671067	27.714558	20.697117	14.63419856	43.27643	23.86566	0.003609602	0	0	0	6.249998	0	0	39.860805	9.68691	22.385741	24.027119	22.071976	43.494412	30.157094	29.142529	41.047089	0	0
A-010367HH	0.4712685	7.407124	12.603213	12.418827	28.82414	24.3396804	18.739669	16.265821	11.71931699	17.486688	15.244419	2.7453379	46.1573952	35.229011	19.64061915	24.3351951	24.35355	40.6006459	22.197492	35.194056	33.6434233	34.427448	53.55504	12.79246
A-010367MM	0.396027	62.83764438	14.844979	31.334614	14.951014	24.943692	27.4158158	27.65854	5.121413	48.472969	56.42902	12.322698	0	70.54632	66.18641	30.1807	40.88874	31.5461	57.127841	60.2375604	60.597255	62.937072	23.06751	0
A-010367QQ	3.7519414	4.765809	8.881813	9.80734934	10.322062	7.719796917	31.1723728	18.151722	14.5492659	14.591705	7.937337	3.0310838	36.1232503	9.546777	4.070715	5.8843778	17.8577598	9.852359	2.966027	8.35790943	6.31312008	41.2421509	46.77145	0.15954
A-010367C	0	17.60469959	20.319635	56.45478	25.109621	40.909129	34.231835	24.803044	16.06270512	3.966466	16.085433	54.698965	39.2882695	4.199865	16.1129332	13.55728	15.87396	40.4545405	19.0701414	30.05441	41.8940804	32.412288	40.57363	0.81331
A-010367D	0	0.39506604	0.343732	11.69475	10.168237	11.042872	21.460254	5.007945	14.68734411	8.70942887	19.200088	15.3716135	31.59833	24.49768	13.2133808	17.340653	4.9434007	24.1625838	12.498369	19.41869052	0.58404385	6.01056	12.12263323	0
A-010367A	0	0.31234806	0.324419	13.82644	0	4.444476	3.10332	11.470201	1.33827689	4.15285	5.946515	6.153238	0	9.221	0	0	0	0	0	0	0.23813322	0	0	0
A-010367B	0	4.51179874	4.96144188	27.651	37.360743	33.191282	38.262541	9.864714	21.84072188	14.490623	7.347188	42.20137	44.98512	26.485371	24.23946	21.5135666	9.580436	29.904785	19.233215	30.734818	39.56714405	40.9330563	37.902902	13.22651
Monthly Total =	**5.0397902**	**213.6442722**	**191.8367122**	**722.1289606**	**840.0355204**	**613.3601522**	**512.9164277**	**383.5840532**	**419.0981041**	**449.096076**	**386.1887618**	**501.2512246**	**476.500**	**469.984**	**313.476**	**471.860**	**591.432**	**627.328**	**501.009**	**684.123**	**633.619**	**844.839**	**621.642**	**226.145**
Group A-10367 Total (MG) =	**5238.180055**												**6461.956**											

Note:
MG = Million Gallons
NOP = Nebraska Ordnance Plant

Group A-16917 2009 Flow (MG)																				
DNR#	**Jan-09**	**Feb-09**	**Mar-09**	**Apr-09**	**May-09**	**Jun-09**	**Jul-09**	**Aug-09**	**Sep-09**	**Oct-09**	**Nov-09**	**Dec-09**	**Jan-10**	**Feb-10**	**Mar-10**	**Apr-10**	**May-10**	**Jun-10**	**Jul-10**	**Aug-10**
G-070300	0	0	0.0118663	4.40713379	0.75557866	0.18475745	0.000903888	17.423508	3.31643613	0	0	0	0	0	0.177436	4.524843799	3.596678	4.2661203	2.874003	3.02589
G-070304	0	0	0.82880517	8.91607237	13.520232	13.204121	1.0525408	8.4909418	7.2734233	3.084159	0	0	0	0	0	5.97043462	2.79561157	26.0770393	8.2255734	17.738006
G-070306	0	0	1.30944305	11.48357445	19.803559	7.19063	0.208538	3.533741	3.05293332	9.517525	0	0	0	0	0.234562	11.1393608	1.746899	0.0572718	0	0
G-070307	0	0	0.02997706	2.70897	11.1161781	1.638337	2.11075654	4.790348	0.75898551	0.746254232	0	0	0	0	0.0808885	6.666337	4.83031	11.03404	19.766274	19.957035
G-070310(1R)	0	0	0.0159851	0.00273188	8.3765514	38.00845	28.278846	10.64902	42.766378	34.33532	0	0	0	0	0.398367	11.805896	9.044443	31.003797	15.012856	15.21136566
G-070303	0.780844	149.2189	116.64645	43.54957	77.05974	79.603699	43.49954	42.58106	48.94628623	117.55715	155.46222	131.408633	140.331289	51.4837	172.26629	105.8217	84.84443	79.73082841	18.58558	66.08104
G-070305	0.679795	76.65583	101.36528	28.03273	65.07735	29.417118	1.14690241	21.123893	41.07660335	72.276032	132.81361	111.60003	108.05196	44.868182	153.69908	97.894354	94.215789	24.53414	74.321789	92.904507
G-070308	0.451326	57.904178	30.490985	15.47012	30.85722705	0.00503139	0	0	0	0	56.003663	0.011779	0	113.67801	92.22516	73.156443	21.18546	13.78297	50.957208	34.989448
G-070309	0.629251	34.63816	8.7351	19.89344282	31.6318917	27.169981	24.705473	7.84269594	13.4874825	62.62691	76.2940798	36.82555	38.49659	39.65502	114.86913	72.54546	48.23822	41.378919	3.029	62.204
G-070311	0.627109	111.23022	32.7084459	3.16912027	25.884706	12.9807602	15.15739867	10.75049	22.26327376	41.421875	116.0428	33.70823	83.89534	1.620293	115.7033764	45.23743	35.09894	32.489512	2.186104	10.90589611
G-070312	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.5886095
G-072911	0	303.15174	224.237379	5.38772578	42.055308	27.094481	3.83118365	10.10585	14.9155536	105.11369	232.81967	372.24678	262.07302	355.49962	426.52385	220.859075	56.86709	73.060768	42.506922	68.840635
G-072912	0.910412	41.190426	48.33262	16.74272982	43.0006561	29.31503	16.03165199	11.04193	29.619014	99.9953497	112.15472	0	12.30695	49.525862	157.18524	73.40754	61.69166	57.51571247	46.082162	31.50032092
G-076884	415.11246	80.8380782	213.49444	28.841484	42.75664	208.69104	485.6513	504.6857	283.39366	0	4.83285	0	0	0	0.449105	9.924644	82.889221	250.407033	310.99535	364.78831
G-077983	441.70531	61.4072294	188.82816	26.46804513	43.43662	129.06091	489.1717	440.41892	274.90775	0	0.147884	0	0	0	0.489406	9.82692	46.00855	99.355984	275.66442	385.3395
Monthly Total =	**860.896507**	**916.2347616**	**967.0349366**	**215.0734503**	**455.332238**	**603.564346**	**1110.846735**	**1093.438098**	**785.7777797**	**546.6742649**	**886.5714968**	**685.801002**	**645.155149**	**656.330687**	**1234.301891**	**748.7804382**	**553.0533016**	**744.6941353**	**870.2073994**	**1195.074951**
Group A-16917 Total (MG) =	**9127.245616**												**6647.597953**							

Note:
MG = Million Gallons
NOP = Nebraska Ordnance Plant

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Table 2-19
Mead and Ashland Total Municipal Pumping Rates
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Village of Mead	Total Gallons						gpm					
	2005	2006	2007	2008	2009	2010	2005	2006	2007	2008	2009	2010
January	1,787,000	1,555,000	1,646,000	1,851,000	1,725,000	2,095,000	40	35	37	41	39	47
February	1,478,000	1,404,000	1,539,000	1,630,000	1,423,000	1,563,000	37	35	38	39	35	39
March	1,712,000	1,520,000	1,659,000	1,682,000	1,567,000	1,668,000	38	34	37	38	35	37
April	1,832,000	1,614,000	1,696,000	1,628,000	1,621,000	1,950,000	42	37	39	38	38	45
May	2,142,000	2,340,000	1,804,000	1,888,000	2,167,000	1,768,000	48	52	40	42	49	40
June	2,736,000	4,423,000	3,587,000	1,806,000	2,124,000	2,124,000	63	102	83	42	49	49
July	4,043,000	3,556,000	3,757,000	2,192,000	2,586,000	2,050,000	91	80	84	49	58	46
August	2,424,000	2,104,000	2,166,000	2,675,000	2,234,000	3,074,000	54	47	49	60	50	69
September	2,413,000	1,752,000	1,986,000	1,803,000	2,126,000	2,517,000	56	41	46	42	49	58
October	2,036,000	1,915,000	1,772,000	1,661,000	1,990,000	2,350,000	46	43	40	37	45	53
November	1,679,000	1,593,000	1,740,000	1,594,000	2,189,000	1,995,000	39	37	40	37	51	46
December	1,569,000	1,563,000	1,744,000	1,767,000	2,234,000	2,033,600	35	35	39	40	50	46
June-August Average	3,068,000	3,361,000	3,170,000	2,224,000	2,315,000	2,416,000	69	76	72	50	52	55
September-May Average	1,850,000	1,695,000	1,732,000	1,723,000	1,894,000	1,993,000	42	39	40	39	43	46
Annual Average	2,154,000	2,112,000	2,091,000	1,848,000	1,999,000	2,099,000	49	48	48	42	46	48

City of Ashland	Total Gallons						gpm					
	2005	2006	2007	2008	2009	2010	2005	2006	2007	2008	2009	2010
January	7,130,000	7,601,000	7,920,000	7,224,000	7,788,000	9,733,000	160	170	177	162	174	218
February	6,425,000	7,066,000	7,386,000	6,878,000	6,705,000	7,594,000	159	175	183	165	166	188
March	6,965,000	8,608,000	7,899,000	8,515,000	7,599,000	7,523,000	156	193	177	191	170	169
April	8,346,000	9,632,000	8,577,000	7,482,000	8,243,000	8,795,000	193	223	199	173	191	204
May	11,938,000	14,620,000	11,308,000	9,476,000	11,144,000	10,459,000	267	328	253	212	250	234
June	14,281,000	22,389,000	15,706,000	9,431,000	11,457,000	10,105,000	331	518	364	218	265	234
July	20,439,000	24,513,000	20,316,000	13,785,000	14,469,000	12,847,000	458	549	455	309	324	288
August	16,994,000	14,704,000	14,695,000	17,208,000	12,728,000	18,211,000	381	329	329	385	285	408
September	19,414,000	10,341,000	14,325,000	10,137,000	10,783,000	12,453,000	449	239	332	235	250	288
October	13,685,000	9,523,000	11,040,000	8,977,000	8,436,000	9,699,000	307	213	247	201	189	217
November	8,399,000	7,593,000	7,259,000	7,401,000	7,543,000	7,830,000	194	176	168	171	175	181
December	7,773,000	8,079,000	6,963,000	8,276,000	7,628,000	7,570,000	174	181	156	185	171	170
June-August Average	17,238,000	20,535,000	16,906,000	13,475,000	12,885,000	13,721,000	390	466	383	304	291	310
September-May Average	10,008,000	9,229,000	9,186,000	8,263,000	8,430,000	9,073,000	229	211	210	188	193	208
Annual Average	11,816,000	12,056,000	11,116,000	9,566,000	9,544,000	10,235,000	269	275	253	217	217	233

Notes:
gpm - Gallons per minute
NOP - Nebraska Ordnance Plant

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Table 2-20
Irrigation Wells and Estimated Pumping Rates, 2002 - 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Easting (ft NAD 83)	Northing (ft NAD 83)	NDNR Well ID	NDNR Registration Code	Use ID	Acres on Registration	Photo Est. Acres (6)	ARDC ID (5)	Registration Pumping Rate (gpm)	Township	Range	Section	Sub-Section	Peak Irrigation Rate (gpm) (2)	Avg. Pumping Rate Over Irrigation Season Based on 3/8 of Peak Irrigation Rate (gpm)	Pumping Rate Based on Average Net Irrig. Req. Over Irrigation Season (gpm) (3)	2007 Irrigation Season Avg. Pumping Rate (gpm) (7)	2007-2008 Non-Irrigation Season Avg. Pumping Rate (gpm)	2008 Irrigation Season Avg. Pumping Rate (gpm) (8)	2008-2009 Non-Irrigation Season Avg. Pumping Rate (gpm)	2009 Irrigation Season Avg. Pumping Rate (gpm) (8)	2009-2010 Non-Irrigation Season Avg. Pumping Rate (gpm)	2010 Irrigation Season Avg. Pumping Rate (gpm) (8)	Notes:
2,599,734	502,608	3620	G-000350	I	160	NA	NA	850	14	8	27	BA	848	318	219	153	0	164	0	148	0	102	OK
2,661,697	501,034	3650	G-000377	I	186	NA	NA	1000	14	10	27	CC	986	370	255	178	0	191	0	172	0	118	
2,662,132	491,793	4083	G-000744	I	160	NA	NA	NA	13	10	3	CB	848	318	219	0	0	0	0	0	0	0	Possibly redundant
2,662,357	486,519	4084	G-000745	I	80	NA	NA	NA	13	10	10	CB	424	159	110	77	0	82	0	74	0	51	
2,659,212	498,273	4331	G-000961	I	154	NA	NA	NA	14	10	33	AC	816	306	211	148	0	158	0	142	0	98	
2,641,811	490,245	5723	G-002172	I	160	NA	NA	NA	13	9	1	CO	848	318	219	153	0	164	0	148	0	102	
2,631,364	503,696	5922	G-002341	I	85	NA	NA	940	14	9	27	BA	451	169	116	0	0	0	0	0	0	0	Possibly redundant
2,642,547	488,271	7643	G-003848	I	80	NA	NA	1000	13	9	12	BA	424	159	110	77	0	82	0	74	0	51	
2,637,438	484,094	7820	G-004004	I	50	NA	NA	1000	13	9	11	CD	265	99	68	48	0	51	0	46	0	32	
2,644,277	479,087	8001	G-004168	I	35	NA	NA	700	13	9	13	DC	186	70	48	34	0	36	0	32	0	22	
2,644,379	476,422	8002	G-004169	I	35	NA	NA	700	13	9	24	AC	186	70	48	34	0	36	0	32	0	22	
2,657,610	504,779	8018	G-004183	I	240	NA	NA	1500	14	10	28	BA	1272	477	329	0	0	0	0	0	0	0	Possibly redundant
2,597,949	520,804	13478	G-008876	I	120	NA	NA	500	14	8	3	CB	500	188	164	0	0	0	0	0	0	0	Possibly redundant
2,661,046	500,312	13661	G-009033	I	160	NA	NA	1500	14	10	33	AA	848	318	219	153	0	164	0	148	0	102	
2,631,136	497,962	13866	G-009205	I	80	NA	NA	900	14	9	34	BA	424	159	110	77	0	82	0	74	0	51	
2,659,538	513,493	16269	G-011280	I	70	NA	NA	1000	14	10	16	DA	371	139	96	67	0	72	0	65	0	45	
2,592,859	515,723	18508	G-013220	I	160	NA	NA	1000	14	8	9	CA	848	318	219	153	0	164	0	148	0	102	
2,659,433	507,749	19586	G-014161	I	225	NA	NA	1000	14	10	21	DB	1000	375	308	0	0	0	0	0	0	0	Possibly redundant
2,635,341	503,188	20347	G-014821	I	280	NA	NA	1000	14	9	26	BB	1000	375	383	0	0	0	0	0	0	0	Possibly redundant
2,636,659	503,244	20348	G-014822	I	280	NA	NA	1000	14	9	26	BA	1000	375	383	0	0	0	0	0	0	0	Possibly redundant
2,654,509	514,556	20395	G-014865	I	126	NA	NA	1000	14	10	17	NA	668	250	173	121	0	129	0	116	0	80	
2,654,612	511,906	20396	G-014866	I	105	NA	NA	1000	14	10	17	DA	557	209	144	101	0	108	0	97	0	67	
2,654,849	519,217	20787	G-015211	I	320	160	NA	1200	14	10	8	AD	848	318	219	153	0	164	0	148	0	102	
2,643,489	470,451	21909	G-016190	I	200	NA	NA	700	13	9	25	CA	700	263	274	192	0	205	0	185	0	127	
2,650,680	527,623	23048	G-017199	I	160	NA	NA	1100	15	10	32	CO	848	318	219	153	0	164	0	148	0	102	
2,661,214	526,813	23050	G-017201	I	220	160	NA	1100	15	10	34	NA	848	318	219	153	0	164	0	148	0	102	
2,628,140	485,091	24278	G-018285	I	100	NA	NA	700	13	9	9	DB	530	199	137	96	0	103	0	93	0	64	
2,665,577	488,332	25201	G-019114	I	153	NA	NA	1000	13	10	10	NA	811	304	209	147	0	157	0	141	0	97	
2,608,603	531,249	26529	G-020313	I	200	NA	NA	1200	15	8	25	CA	1060	398	274	192	0	205	0	185	0	127	
2,655,955	511,295	26786	G-020550	I	NA	130	NA	800	14	10	16	CC	689	258	178	125	0	134	0	121	0	83	
2,648,203	495,779	27484	G-021194	I	160	NA	NA	800	14	10	31	NA	800	300	219	153	0	164	0	148	0	102	
2,661,154	528,096	27800	G-021492	I	134	NA	NA	650	15	10	34	CC	650	244	183	128	0	138	0	124	0	86	
2,600,716	524,444	29812	G-023385	I	80	NA	NA	600	15	8	34	NA	424	159	110	77	0	82	0	74	0	51	
2,644,712	483,745	37552	G-030654	I	220	NA	NA	1200	13	9	12	NA	1166	437	301	211	0	226	0	203	0	140	
2,617,221	478,589	37578	G-030678	I	180	NA	NA	750	13	9	18	DC	750	281	246	173	0	185	0	167	0	115	
2,662,677	489,787	38884	G-031913	I	160	NA	NA	1100	13	10	10	BB	848	318	219	153	0	164	0	148	0	102	
2,629,665	478,469	40499	G-033472	I	120	NA	NA	500	13	9	16	DD	500	188	164	115	0	123	0	111	0	76	
2,590,137	524,024	40531	G-033505	I	170	NA	NA	1000	14	8	5	AA	901	338	233	163	0	175	0	158	0	109	
2,613,776	499,678	40778	G-033747	I	500	64	NA	1200	14	9	30	CB	339	127	88	0	0	0	0	0	0	0	
2,609,163	510,257	132307	G-033749	I	90	89	3R	430	14	8	13	CB	430	161	122	90(7)	0	110(7)	0	86	0	53	ARDC well with 2006-2010 data
2,619,957	506,332	40781	G-033750	I	500	100	IR 4	1100	14	9	20	CC	530	199	137	0(7)	0	74(7)	0	84	0	81	ARDC well with 2006-2010 data
2,605,997	500,166	40782	G-033751	I	80	No Data	NA	450	14	8	26	OO	424	159	110	0	0	0	0	0	0	0	
2,625,321	506,092	40783	G-033752	I	400	97	6	750	14	9	21	NA	514	193	133	93	0	100	0	90	0	62	Agronomy well.
2,612,200	504,918	116317	G-033753	I	130	130	25	725	14	8	24	DA	689	258	178	272(7)	0	230(7)	0	206	0	146	ARDC well with 2006-2010 data
2,626,694	506,075	40785	G-033754	I	200	0	7	400	14	9	21	NA	0	0	0	0	0	0	0	0	0	0	Agronomy well.
2,624,963	505,301	40786	G-033755	I	300	99	IR9	400	14	9	21	CC	400	150	136	18	0	20	0	18	0	12	Agronomy well.
2,622,683	483,848	42290	G-035213	I	135	NA	NA	800	13	9	8	DC	716	268	185	129	0	139	0	125	0	86	
2,603,499	518,055	42314	G-035237	I	160	NA	NA	650	14	8	11	BO	650	244	219	153	0	164	0	148	0	102	
2,595,861	509,940	42355	G-035273	I	140	NA	NA	1000	14	8	16	DB	742	278	192	134	0	144	0	130	0	89	
2,611,836	528,695	42382	G-035300	I	68	NA	NA	900	15	8	36	AA	360	135	93	65	0	70	0	63	0	43	Listed as Replacement well, original well not yet abandoned in database 10-10
2,663,380	494,452	42554	G-035461	I	85	NA	NA	1000	13	10	3	BA	451	169	116	81	0	87	0	78	0	54	
2,652,217	527,684	42969	G-035862	I	130	NA	NA	1250	15	10	32	DC	689	258	178	125	0	134	0	121	0	83	
2,608,883	523,412	43086	G-035976	I	204	NA	NA	1200	14	8	1	BA	1081	405	279	196	0	209	0	188	0	130	
2,629,416	502,905	43211	G-036098	I	80	NA	NA	1000	14	9	27	BC	424	159	110	77	0	82	0	74	0	51	
2,603,182	506,566	43335	G-036212	I	100	120	12	1000	14	8	23	BC	530	199	137	10(7)	0(7)	0(7)	0(7)	0(7)	0(7)	0(7)	ARDC "Municipal" Well
2,627,623	503,066	43336	G-036213	I	75	110	13	800	14	9	28	AO	583	219	151	105	0	113	0	102	0	70	Agronomy well.
2,618,137	499,804	43337	G-036214	I	200	0	14	400	14	9	30	DD	400	150	274	0	0	0	0	0	0	0	Agronomy well.
2,598,547	509,987	44795	G-037637	I	140	NA	NA	1000	14	8	15	CA	742	278	192	134	0	144	0	130	0	89	
2,600,801	515,355	44866	G-037707	I	160	NA	NA	650	14	8	10	NA	650	244	219	153	0	164	0	148	0	102	
2,600,719	516,647	44868	G-037709	I	120	NA	NA	700	14	8	10	DB	636	239	164	115	0	123	0	111	0	76	
2,596,927	504,903	45147	G-037984	I	145	NA	NA	900	14	8	21	DA	769	288	199	139	0	149	0	134	0	92	
2,590,041	517,726	47566	G-040328	I	240	NA	NA	700	14	8	8	AC	700	263	329	230	0	246	0	221	0	153	

Table 2-20
Irrigation Wells and Estimated Pumping Rates, 2002 - 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Easting (ft NAD 83)	Northing (ft NAD 83)	NDNR Well ID	NDNR Registration Code	Use ID	Acres on Registration	Photo Est. Acres (6)	ARDC ID (5)	Registration Pumping Rate (gpm)	Township	Range	Section	Sub-Section	Peak Irrigation Rate (gpm) (2)	Avg. Pumping Rate Over Irrigation Season Based on 3/8 of Peak Irrigation Rate (gpm)	Pumping Rate Based on Average Net Irrig. Req. Over Irrigation Season (gpm) (3)	2007 Irrigation Season Avg. Pumping Rate (gpm) (7)	2007-2008 Non-Irrigation Season Avg. Pumping Rate (gpm)	2008 Irrigation Season Avg. Pumping Rate (gpm) (8)	2008-2009 Non-Irrigation Season Avg. Pumping Rate (gpm)	2009 Irrigation Season Avg. Pumping Rate (gpm) (8)	2009-2010 Non-Irrigation Season Avg. Pumping Rate (gpm)	2010 Irrigation Season Avg. Pumping Rate (gpm) (8)	Notes:
2,608,787	518,096	47589	G-040351	I	240	NA	NA	900	14	8	12	BC	900	338	329	230	0	246	0	221	0	153	
2,660,659	480,472	48849	G-041584	I	154	NA	NA	1000	13	10	16	DO	816	306	211	148	0	158	0	142	0	98	
2,658,404	501,520	49065	G-041786	I	140	NA	NA	1250	14	10	28	NA	742	278	192	134	0	144	0	130	0	89	
2,613,567	517,458	49612	G-042325	I	160	NA	NA	900	14	9	7	BC	848	318	219	153	0	164	0	148	0	102	
2,590,307	520,329	51519	G-044173	I	151	NA	NA	900	14	8	5	DD	800	300	207	145	0	155	0	140	0	96	
2,628,012	504,591	51659	G-044312	I	75	58	16	1000	14	9	21	DC	307	115	79	95	0	102	0	92	0	63	Agronomy well.
2,629,999	504,936	53886	G-046472	I	80	NA	NA	800	14	9	22	CC	424	159	110	77	0	82	0	74	0	51	
2,603,347	531,039	53968	G-046552	I	115	NA	NA	700	15	8	26	CD	610	229	157	110	0	118	0	106	0	73	
2,603,776	520,760	54074	G-046657	I	160	NA	NA	900	14	8	2	CA	848	318	219	153	0	164	0	148	0	102	
2,639,785	523,856	54445	G-047016	I	40	NA	NA	500	14	9	1	BC	212	80	55	38	0	41	0	37	0	25	
2,596,053	524,935	54518	G-047089	I	153	NA	NA	900	15	8	33	DD	811	304	209	147	0	157	0	141	0	97	
2,642,895	480,344	54796	G-047357	I	137	NA	NA	1000	13	9	13	CA	726	272	188	131	0	141	0	127	0	87	
2,639,386	484,836	55242	G-047789	I	80	NA	NA	800	13	9	11	DO	424	159	110	77	0	82	0	74	0	51	
2,641,391	515,996	55286	G-047830	I	120	NA	NA	900	14	9	12	CD	636	239	164	115	0	123	0	111	0	76	
2,605,586	516,108	55772	G-048312	I	220	NA	NA	1100	14	8	11	DB	1100	413	301	211	0	226	0	203	0	140	
2,614,022	523,423	158572	G-048425B	I	160	NA	NA	1000	14	9	6	BC	848	318	219	153	0	164	0	148	0	102	
2,601,807	510,732	56737	G-049256	I	160	NA	NA	900	14	8	15	DA	848	318	219	153	0	164	0	148	0	102	
2,663,535	475,318	56836	G-049353	I	137	NA	NA	650	13	10	22	CO	650	244	188	131	0	141	0	127	0	87	
2,632,495	509,007	56923	G-049439	I	240	NA	NA	950	14	9	22	AB	950	356	329	230	0	246	0	221	0	153	
2,645,404	483,101	57677	G-050176	I	160	NA	NA	900	13	9	13	AA	848	318	219	153	0	164	0	148	0	102	
2,641,514	481,602	57678	G-050177	I	160	NA	NA	1000	13	9	13	BC	848	318	219	153	0	164	0	148	0	102	
2,660,932	530,075	58400	G-050878	I	20	NA	NA	900	15	10	34	BC	106	40	27	19	0	21	0	19	0	13	
2,646,782	510,920	58520	G-050995	I	150	NA	NA	800	14	10	18	CD	795	298	205	144	0	154	0	139	0	95	
2,623,868	492,824	59223	G-051685	I	80	NA	NA	800	13	9	5	AA	424	159	110	77	0	82	0	74	0	51	
2,604,941	531,839	59224	G-051686	I	40	NA	NA	800	15	8	26	DB	212	80	55	38	0	41	0	37	0	25	
2,625,896	492,252	59327	G-051786	I	160	NA	NA	850	13	9	4	BO	848	318	219	153	0	164	0	148	0	102	
2,624,230	482,238	59328	G-051787	I	160	NA	NA	650	13	9	17	AA	650	244	219	153	0	164	0	148	0	102	
2,631,579	481,917	59402	G-051860	I	160	NA	NA	850	13	9	15	BO	848	318	219	153	0	164	0	148	0	102	
2,647,399	467,328	59421	G-051879	I	160	NA	NA	950	13	10	31	BB	848	318	219	153	0	164	0	148	0	102	
2,611,950	526,043	59472	G-051927	I	151	NA	NA	850	15	8	36	DA	800	300	207	145	0	155	0	140	0	96	
2,630,238	498,344	59723	G-052170	I	60	NA	NA	500	14	9	34	BB	318	119	82	58	0	62	0	56	0	38	
2,633,146	493,215	59908	G-052354	I	160	NA	NA	900	13	9	3	AB	848	318	219	153	0	164	0	148	0	102	
2,660,606	497,022	59969	G-052414	I	160	NA	NA	850	14	10	33	DA	848	318	219	153	0	164	0	148	0	102	
2,661,760	470,642	59970	G-052415	I	110	NA	NA	600	13	10	28	DA	583	219	151	105	0	113	0	102	0	70	
2,658,142	477,739	60120	G-052563	I	160	NA	NA	800	13	10	21	BO	800	300	219	153	0	164	0	148	0	102	
2,655,259	482,919	60342	G-052785	I	160	NA	NA	800	13	10	17	AO	800	300	219	153	0	164	0	148	0	102	
2,629,634	481,169	60636	G-053077	I	160	NA	NA	850	13	9	16	AD	848	318	219	153	0	164	0	148	0	102	
2,642,763	514,727	60991	G-053428	I	160	NA	NA	600	14	9	13	AB	600	225	219	153	0	164	0	148	0	102	
2,590,009	507,833	61033	G-053470	I	180	NA	NA	650	14	8	20	AB	650	244	246	173	0	185	0	167	0	115	
2,638,290	462,981	61192	G-053629	I	80	NA	NA	700	13	9	35	CD	424	159	110	77	0	82	0	74	0	51	
2,635,395	501,244	61193	G-053630	I	76	NA	NA	600	14	9	26	CB	403	151	104	73	0	78	0	70	0	48	
2,657,971	496,890	61220	G-053656	I	160	NA	NA	900	14	10	33	CA	848	318	219	153	0	164	0	148	0	102	
2,633,231	490,577	61222	G-053658	I	100	NA	NA	900	13	9	3	DB	530	199	137	96	0	103	0	93	0	64	
2,592,944	505,359	61336	G-053764	I	100	NA	NA	400	14	8	21	CB	400	150	137	96	0	103	0	93	0	64	
2,633,419	485,276	61375	G-053801	I	160	NA	NA	600	13	9	10	DB	600	225	219	153	0	164	0	148	0	102	
2,633,077	519,051	61539	G-053963	I	70	NA	NA	900	14	9	10	AA	371	139	96	67	0	72	0	65	0	45	
2,611,474	495,720	62244	G-054654	I	200	158	IR19	800	14	8	36	NA	800	300	216	154(7)	0	157(7)	0	166	0	78	ARDC well with 2006-2010 data
2,620,043	507,869	132304	G-054655	I	130	121	17R	787	14	9	20	BA	641	240	166	148(7)	0	164(7)	0	145	0	108	ARDC well with 2006-2010 data
2,606,504	503,377	62246	G-054656	I	200	NA	10A	800	14	8	26	AB	800	300	274	74(7)	44(7)	47(7)	41(7)	41(7)	41(7)	41(7)	ARDC "Municipal" Well (estimated rate for 2009-2010)
2,655,527	480,289	63526	G-055912	I	135	NA	NA	800	13	10	17	NA	716	268	185	129	0	139	0	125	0	86	
2,658,246	471,310	63528	G-055914	I	200	NA	NA	900	13	10	28	BC	900	338	274	192	0	205	0	185	0	127	
2,655,022	472,990	63529	G-055915	I	150	NA	NA	800	13	10	29	AB	795	298	205	144	0	154	0	139	0	95	
2,660,875	490,422	63905	G-056278	I	40	NA	NA	700	13	10	4	DD	212	80	55	38	0	41	0	37	0	25	
2,660,041	508,907	64148	G-056513	I	30	NA	NA	750	14	10	21	AD	159	60	41	29	0	31	0	28	0	19	
2,659,904	511,554	64149	G-056514	I	40	NA	NA	750	14	10	16	DD	212	80	55	38	0	41	0	37	0	25	
2,635,152	507,801	64375	G-056729	I	120	NA	NA	900	14	9	23	BC	636	239	164	115	0	123	0	111	0	76	
2,616,732	520,942	64848	G-057184	I	140	NA	NA	800	14	9	6	DO	742	278	192	134	0	144	0	130	0	89	
2,608,488	520,361	64983	G-057314	I	144	NA	NA	950	14	8	1	CC	763	286	197	0	0	0	0	0	0	0	Possibly redundant
2,603,020	514,751	64984	G-057315	I	100	NA	NA	950	14	8	11	CC	530	199	137	96	0	103	0	93	0	64	
2,613,899	479,133	65173	G-057497	I	160	NA	NA	700	13	8	13	DA	700	263	219	153	0	164	0	148	0	102	
2,630,732	486,524	65174	G-057498	I	160	NA	NA	900	13	9	10	BC	848	318	219	153	0	164	0	148	0	102	
2,633,844	476,036	65313	G-057634	I	320	200	NA	1000	13	9	22	AC	1000	375	274	192	0	205	0	185	0	127	

Table 2-20
Irrigation Wells and Estimated Pumping Rates, 2002 - 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Easting (ft NAD 83)	Northing (ft NAD 83)	NDNR Well ID	NDNR Registration Code	Use ID	Acres on Registration	Photo Est. Acres (6)	ARDC ID (5)	Registration Pumping Rate (gpm)	Township	Range	Section	Sub-Section	Peak Irrigation Rate (gpm) (2)	Avg. Pumping Rate Over Irrigation Season Based on 3/8 of Peak Irrigation Rate (gpm)	Pumping Rate Based on Average Net Irrig. Req. Over Irrigation Season (gpm) (3)	2007 Irrigation Season Avg. Pumping Rate (gpm) (7)	2007-2008 Non-Irrigation Season Avg. Pumping Rate (gpm)	2008 Irrigation Season Avg. Pumping Rate (gpm) (8)	2008-2009 Non-Irrigation Season Avg. Pumping Rate (gpm)	2009 Irrigation Season Avg. Pumping Rate (gpm) (8)	2009-2010 Non-Irrigation Season Avg. Pumping Rate (gpm)	2010 Irrigation Season Avg. Pumping Rate (gpm) (8)	Notes:
2,657,858	528,629	65751	G-058057	I	40	NA	NA	700	15	10	33	DB	212	80	55	38	0	41	0	37	0	25	
2,657,817	529,948	65752	G-058058	I	60	NA	NA	1000	15	10	33	AC	318	119	82	58	0	62	0	56	0	38	
2,613,262	525,423	66030	G-058325	I	40	NA	NA	1000	15	9	31	CC	212	80	55	38	0	41	0	37	0	25	
2,660,354	472,541	66145	G-058437	I	60	NA	NA	700	13	10	28	AC	318	119	82	58	0	62	0	56	0	38	
2,596,692	507,873	66257	G-058543	I	130	NA	NA	700	14	8	21	AA	689	258	178	125	0	134	0	121	0	83	
2,597,411	517,229	66423	G-058723	I	80	NA	NA	700	14	8	10	BC	424	159	110	77	0	82	0	74	0	51	
2,620,524	476,762	66524	G-058820	I	175	NA	NA	900	13	9	20	BB	900	338	240	168	0	180	0	162	0	112	
2,633,280	521,723	66668	G-058958	I	160	NA	NA	550	14	9	3	DA	550	206	219	153	0	164	0	148	0	102	
2,594,054	507,951	66829	G-059114	I	40	NA	NA	600	14	8	21	BA	212	80	55	38	0	41	0	37	0	25	
2,596,796	506,557	66830	G-059115	I	160	80	NA	1100	14	8	21	AD	424	159	110	77	0	82	0	74	0	51	
2,619,338	474,071	66950	G-059231	I	100	NA	NA	300	13	9	19	DA	300	113	137	96	0	103	0	93	0	64	
2,630,445	462,658	67297	G-059549	I	80	NA	NA	NA	13	9	33	DD	424	159	110	77	0	82	0	74	0	51	
2,616,593	476,599	67438	G-059681	I	75	NA	NA	1100	13	9	19	BA	398	149	103	72	0	77	0	69	0	48	
2,633,386	519,681	68020	G-060250	I	5	NA	NA	100	14	9	10	AA	27	10	7	5	0	5	0	5	0	3	
2,607,910	527,879	68196	G-060417	I	53	NA	NA	800	15	8	36	BC	281	105	73	51	0	54	0	49	0	33	
2,655,831	484,957	68690	G-060900	I	65	NA	NA	700	13	10	8	DD	345	129	89	62	0	67	0	60	0	42	
2,597,672	513,220	68797	G-060988	I	100	NA	NA	800	14	8	15	BB	530	199	137	96	0	103	0	93	0	64	
2,654,791	478,245	68825	G-061009	I	240	NA	NA	800	13	10	20	AB	800	300	329	230	0	246	0	221	0	153	
2,658,047	495,572	69456	G-061620	I	40	NA	NA	400	14	10	33	CD	212	80	55	38	0	41	0	37	0	25	
2,653,362	480,869	69538	G-061703	I	105	NA	NA	600	13	10	17	CA	557	209	144	101	0	108	0	97	0	67	
2,605,010	530,522	69919	G-062082	I	77	NA	NA	700	15	8	26	DC	408	153	105	74	0	79	0	71	0	49	
2,596,171	527,476	70227	G-062375	I	60	NA	NA	750	15	8	33	AD	318	119	82	58	0	62	0	56	0	38	
2,594,840	515,888	71086	G-063187	I	80	NA	NA	850	14	8	9	DB	424	159	110	77	0	82	0	74	0	51	
2,608,143	483,511	71102	G-063202	I	133	NA	NA	480	13	8	11	NA	480	180	182	127	0	137	0	123	0	85	
2,631,146	477,249	71989	G-064065	I	150	NA	NA	700	13	9	22	BB	700	263	205	144	0	154	0	139	0	95	
2,612,237	518,748	72149	G-064207	I	160	NA	NA	800	14	8	12	AA	800	300	219	153	0	164	0	148	0	102	
2,656,633	525,900	72185	G-064243	I	101	NA	NA	600	14	10	4	BA	535	201	138	97	0	104	0	94	0	64	
2,654,149	523,139	72669	G-064703	I	50	NA	NA	500	14	10	5	DA	265	99	68	48	0	51	0	46	0	32	
2,603,229	510,775	72875	G-064906	I	150	NA	NA	700	14	8	14	CB	700	263	205	144	0	154	0	139	0	95	
2,625,241	523,320	73575	G-065584	I	160	NA	NA	900	14	9	4	BD	848	318	219	153	0	164	0	148	0	102	
2,606,725	521,389	73580	G-065589	I	160	NA	NA	900	14	8	2	DA	848	318	219	153	0	164	0	148	0	102	
2,606,138	518,093	73673	G-065682	I	130	NA	NA	800	14	8	11	AO	689	258	178	125	0	134	0	121	0	83	
2,606,423	512,831	73674	G-065683	I	85	NA	NA	700	14	8	14	AO	451	169	116	81	0	87	0	78	0	54	
2,614,308	515,515	73675	G-065684	I	170	NA	NA	1000	14	9	7	CO	901	338	233	163	0	175	0	158	0	109	
2,656,541	528,563	73905	G-065908	I	60	NA	NA	600	15	10	33	CA	318	119	82	58	0	62	0	56	0	38	
2,598,696	525,024	73985	G-065987	I	155	NA	NA	700	15	8	34	CD	700	263	212	149	0	159	0	143	0	99	
2,593,326	526,170	74254	G-066246	I	160	NA	NA	800	15	8	33	CA	800	300	219	153	0	164	0	148	0	102	
2,612,994	530,714	74376	G-066364	I	160	NA	NA	800	15	9	30	CC	800	300	219	153	0	164	0	148	0	102	
2,644,045	514,693	74550	G-066531	I	115	NA	NA	600	14	9	13	AA	600	225	157	110	0	118	0	106	0	73	
2,642,592	466,295	186197	G-066614	I	122	NA	NA	900	13	9	36	AB	647	242	167	117	0	125	0	113	0	78	Registered since 2006
2,619,945	523,080	75350	G-067290	I	65	NA	NA	1000	14	9	5	BD	345	129	89	62	0	67	0	60	0	42	
2,599,552	505,296	75535	G-067472	I	160	NA	NA	900	14	8	22	CA	848	318	219	153	0	164	0	148	0	102	
2,647,861	487,194	75689	G-067620	I	220	NA	NA	1000	13	10	7	BD	1000	375	301	211	0	226	0	203	0	140	
2,606,303	497,012	76137	G-068060	I	110	57	IR22	1000	14	8	35	AB	302	113	78	64(7)	0	76(7)	0	47	0	52	ARDC well with 2006-2010 data
2,634,970	513,114	76467	G-068383	I	80	NA	NA	850	14	9	14	BC	424	159	110	77	0	82	0	74	0	51	
2,629,953	506,255	77324	G-069184	I	80	NA	NA	900	14	9	22	CB	424	159	110	77	0	82	0	74	0	51	
2,625,120	525,948	77350	G-069208	I	235	NA	NA	1000	15	9	33	CD	1000	375	322	225	0	241	0	217	0	149	
2,595,398	517,866	78376	G-070210	I	153	NA	NA	800	14	8	9	AO	800	300	209	147	0	157	0	141	0	97	
2,621,508	523,814	78560	G-070398	I	160	NA	NA	900	14	9	5	AB	848	318	219	153	0	164	0	148	0	102	
2,591,394	517,768	78777	G-070615	I	160	NA	NA	1000	14	8	9	BC	848	318	219	153	0	164	0	148	0	102	
2,618,516	525,630	79331	G-071170	I	110	NA	NA	700	15	9	32	CC	583	219	151	105	0	113	0	102	0	70	
2,601,249	508,782	79524	G-071362	I	90	NA	NA	600	14	8	15	DC	477	179	123	86	0	92	0	83	0	57	
2,603,064	528,589	79525	G-071363	I	130	NA	NA	700	15	8	35	BB	689	258	178	125	0	134	0	121	0	83	
2,596,137	524,213	80285	G-072122	I	120	NA	NA	600	14	8	4	AA	600	225	164	115	0	123	0	111	0	76	
2,592,558	528,251	80286	G-072123	I	230	NA	NA	850	15	8	33	BA	850	319	315	220	0	236	0	212	0	146	
2,600,705	523,226	80302	G-072139	I	120	NA	NA	650	14	8	3	AA	636	239	164	115	0	123	0	111	0	76	
2,628,706	487,137	80939	G-072751	I	340	65	NA	900	13	9	9	AB	345	129	89	62	0	67	0	60	0	42	
2,616,353	518,282	150951	G-072842	I	60	NA	NA	900	14	9	7	AC	318	119	82	58	0	62	0	56	0	38	
2,659,468	506,910	81487	G-073294	I	80	NA	NA	800	14	10	21	DB	424	159	110	77	0	82	0	74	0	51	
2,658,523	504,371	81662	G-073449	I	160	NA	NA	800	14	10	28	AB	800	300	219	153	0	164	0	148	0	102	
2,620,667	489,385	81881	G-073545	I	65	NA	NA	900	13	9	5	NA	345	129	89	62	0	67	0	60	0	42	
2,599,167	528,473	82087	G-073751	I	130	NA	NA	700	15	8	34	AB	689	258	178	125	0	134	0	121	0	83	

Table 2-20
Irrigation Wells and Estimated Pumping Rates, 2002 - 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Easting (ft NAD 83)	Northing (ft NAD 83)	NDNR Well ID	NDNR Registration Code	Use ID	Acres on Registration	Photo Est. Acres (6)	ARDC ID (5)	Registration Pumping Rate (gpm)	Township	Range	Section	Sub-Section	Peak Irrigation Rate (gpm) (2)	Avg. Pumping Rate Over Irrigation Season Based on 3/8 of Peak Irrigation Rate (gpm)	Pumping Rate Based on Average Net Irrig. Req. Over Irrigation Season (gpm) (3)	2007 Irrigation Season Avg. Pumping Rate (gpm) (7)	2007-2008 Non-Irrigation Season Avg. Pumping Rate (gpm)	2008 Irrigation Season Avg. Pumping Rate (gpm) (8)	2008-2009 Non-Irrigation Season Avg. Pumping Rate (gpm)	2009 Irrigation Season Avg. Pumping Rate (gpm) (8)	2009-2010 Non-Irrigation Season Avg. Pumping Rate (gpm)	2010 Irrigation Season Avg. Pumping Rate (gpm) (8)	Notes:
2,663,276	472,486	178675	G-073894	I	147	NA	NA	1000	13	10	27	BC	779	292	201	141	0	151	0	136	0	94	Registered since 2006
2,635,914	505,838	82694	G-074349	I	120	NA	NA	1000	14	9	23	CD	636	239	164	115	0	123	0	111	0	76	
2,636,320	495,923	82696	G-074351	I	80	NA	NA	1000	14	9	35	DB	424	159	110	77	0	82	0	74	0	51	
2,597,603	530,967	84869	G-076374	I	132	NA	NA	650	15	8	27	CC	650	244	181	127	0	136	0	122	0	84	
2,610,545	528,001	85302	G-076735	I	76	NA	NA	750	15	8	36	AC	403	151	104	73	0	78	0	70	0	48	
2,623,023	489,507	86633	G-077970	I	227.1	130	NA	800	13	9	5	DB	689	258	178	125	0	134	0	121	0	83	
2,628,551	492,400	87038	G-078375	I	275	130	NA	750	13	9	4	AB	689	258	178	125	0	134	0	121	0	83	
2,627,455	483,026	87039	G-078376	I	80	NA	NA	400	13	9	16	BA	400	150	110	77	0	82	0	74	0	51	
2,657,101	504,927	90371	G-081565	I	125	NA	NA	1000	14	10	28	BB	663	248	171	120	0	128	0	115	0	79	
2,658,832	491,034	90565	G-081652	I	135	NA	NA	850	13	10	4	CA	716	268	185	129	0	139	0	125	0	86	
2,660,838	489,061	90566	G-081653	I	78	NA	NA	1035	13	10	9	AA	413	155	107	75	0	80	0	72	0	50	
2,658,967	488,378	91816	G-082391	I	157	NA	NA	800	13	10	9	NA	800	300	215	150	0	161	0	145	0	100	
2,610,568	529,331	95399	G-084655	I	39	NA	NA	400	15	8	36	AB	207	78	53	37	0	40	0	36	0	25	
2,621,351	473,531	96480	G-085344	I	137	NA	NA	500	13	9	20	CA	500	188	188	131	0	141	0	127	0	87	
2,620,398	527,781	96791	G-085522	I	240	NA	NA	1200	15	9	32	BD	1200	450	329	230	0	246	0	221	0	153	
2,599,994	518,611	98823	G-087076	I	94	NA	NA	750	14	8	10	AB	498	187	129	90	0	97	0	87	0	60	
2,630,813	500,318	99112	G-087283	I	75	NA	NA	1200	14	9	27	CD	398	149	103	72	0	77	0	69	0	48	
2,619,232	491,940	99532	G-087637	I	120	NA	NA	600	13	9	6	AA	600	225	164	115	0	123	0	111	0	76	
2,614,733	511,212	99912	G-087929	I	150	124	IR24	720	14	9	18	CA	657	246	170	204(7)	0	201(7)	0	161	0	153	ARDC well with 2006-2010 data
2,626,046	484,318	100360	G-088331	I	135	NA	NA	800	13	9	9	CC	716	268	185	129	0	139	0	125	0	86	
2,663,120	483,262	101558	G-089306	I	65	NA	NA	850	13	10	15	BB	345	129	89	62	0	67	0	60	0	42	
2,629,488	526,885	106078	G-090720	I	135	NA	NA	800	15	9	34	CB	716	268	185	129	0	139	0	125	0	86	
2,618,510	511,668	106430	G-091546	P	0	NA	9	650	14	9	17	CB	0	0	0	0(7)	0(7)	5(7)	4(7)	4(7)	4(7)	4(7)	ARDC "Municipal" Well (estimated rate for 2009-2010)
2,597,944	523,229	104851	G-091614	I	120	NA	NA	750	14	8	3	BB	636	239	164	115	0	123	0	111	0	76	
2,592,368	530,855	109399	G-094011	I	NA	130	NA	800	15	8	28	CC	689	258	178	125	0	134	0	121	0	83	
2,661,238	497,690	110243	G-094585	I	80	NA	NA	900	14	10	34	CB	424	159	110	77	0	82	0	74	0	51	
2,610,644	508,919	113182	G-096581	I	65	30	IR21	900	14	8	13	CD	159	60	41	0(7)	0	0(7)	0	0	0	0	ARDC well with 2006-2008 data
2,604,932	506,494	113183	G-096582	I	55	53	IRR18	671	14	8	23	BD	281	105	73	137(7)	0	134(7)	0	128	0	73	ARDC well with 2006-2010 data
2,609,434	507,530	113185	G-096584	I	130	132	IR20	850	14	8	24	BD	700	262	181	118(7)	0	191(7)	0	125	0	108	ARDC well with 2006-2010 data
2,613,352	510,409	113196	G-096588	I	200	NA	27	460	14	9	18	CB	460	173	274	62(7)	50(7)	59(7)	57(7)	57(7)	57(7)	57(7)	ARDC "Municipal" Well (estimated rate for 2009-2010)
2,625,333	502,770	113197	G-096589	I	100	150	15	800	14	9	28	BO	795	298	205	72	0	77	0	69	0	48	Agronomy well.
2,656,449	521,093	113269	G-096627	I	60	NA	NA	130	14	10	9	BA	130	49	82	58	0	62	0	56	0	38	
2,627,304	521,422	113075	G-096904	I	130	NA	NA	800	14	9	4	DO	689	258	178	125	0	134	0	121	0	83	
2,608,645	520,267	107409	G-096933	I	180	NA	NA	500	14	8	1	CC	500	188	246	173	0	185	0	167	0	115	
2,591,407	524,632	113193	G-097207	I	35	NA	NA	350	15	8	32	DD	186	70	48	34	0	36	0	32	0	22	
2,655,591	474,984	115706	G-098758	I	135	NA	NA	1000	13	10	20	DO	716	268	185	129	0	139	0	125	0	86	
2,656,877	509,493	119284	G-101198	I	100	NA	NA	700	14	10	21	BA	530	199	137	96	0	103	0	93	0	64	
2,645,496	529,372	124031	G-104278	I	139	NA	NA	NA	15	10	31	NA	737	276	190	133	0	143	0	129	0	89	
2,657,890	475,255	125702	G-105704	I	50	NA	NA	800	13	10	21	CB	265	99	68	48	0	51	0	46	0	32	
2,635,263	521,766	122511	G-105753	I	240	200	NA	650	14	9	2	CO	650	244	274	192	0	205	0	185	0	127	
2,635,926	503,312	125873	G-105797	I	130	NA	NA	650	14	9	26	BB	650	244	178	125	0	134	0	121	0	83	
2,609,646	504,886	125876	G-105800	I	130	125	26	810	14	8	24	CA	663	248	171	293(7)	0	222(7)	0	207	0	113	ARDC well with 2006-2010 data
2,617,260	504,910	125877	G-105801	I	130	142	28	850	14	9	19	DC	753	282	194	140(7)	0	146(7)	0	176	0	102	ARDC well with 2006-2010 data
2,622,698	505,266	125878	G-105802	I	NA	120	29	740	14	9	20	DD	636	239	164	150(7)	0	209(7)	0	145	0	103	ARDC well with 2006-2010 data
2,653,492	525,227	128037	G-107321	I	110	NA	NA	1000	14	10	5	AA	583	219	151	105	0	113	0	102	0	70	
2,644,478	531,589	128080	G-108180	I	10	NA	NA	35	15	10	30	CC	35	13	14	10	0	10	0	9	0	6	
2,644,241	530,762	130103	G-108647	I	85	NA	NA	500	15	10	31	BB	451	169	116	81	0	87	0	78	0	54	
2,634,769	518,457	130341	G-109287	I	40	NA	NA	400	14	9	11	BC	212	80	55	38	0	41	0	37	0	25	
2,608,891	525,971	121253	G-109448	I	150	NA	NA	750	15	8	36	CA	750	281	205	144	0	154	0	139	0	95	
2,644,164	481,003	130750	G-109619	I	26	NA	NA	670	13	9	13	DB	138	52	36	25	0	27	0	24	0	17	
2,647,294	485,182	113192	G-110360	I	100	NA	NA	700	13	10	7	CO	530	199	137	96	0	103	0	93	0	64	
2,597,988	520,526	121252	G-112438	I	120	NA	NA	750	14	8	3	CB	636	239	164	115	0	123	0	111	0	76	
2,646,554	503,655	136953	G-113392	I	NA	130	NA	400	14	10	30	BO	400	150	178	125	0	134	0	121	0	83	
2,646,418	469,230	136179	G-113882	I	85	NA	NA	800	13	9	25	DD	451	169	116	81	0	87	0	78	0	54	
2,630,350	510,942	166039	G-114521	I	133	NA	NA	900	14	9	15	DD	705	264	182	127	0	137	0	123	0	85	
2,662,287	491,290	140664	G-116108	I	90	NA	NA	700	13	10	3	CB	477	179	123	86	0	92	0	83	0	57	
2,645,742	483,954	141459	G-116504	I	90	NA	NA	800	13	9	12	DD	477	179	123	86	0	92	0	83	0	57	
2,637,394	474,771	154861	G-127035	I	100	NA	NA	400	13	9	23	CA	400	150	137	96	0	103	0	93	0	64	
2,644,878	468,099	154862	G-127071	I	150	NA	NA	700	13	9	25	DC	700	263	205	144	0	154	0	139	0	95	
2,627,701	513,550	157447	G-127133	I	160	NA	NA	900	14	9	16	AA	848	318	219	153	0	164	0	148	0	102	
2,597,927	528,136	157787	G-127250	I	110	NA	NA	550	15	8	34	BD	550	206	151	105	0	113	0	102	0	70	
2,600,659	518,630	151643	G-127321	I	280	100	NA	1200	14	8	10	AA	530	199	137	96	0	103	0	93	0	64	

Table 2-20
Irrigation Wells and Estimated Pumping Rates, 2002 - 2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Easting (ft NAD 83)	Northing (ft NAD 83)	NDNR Well ID	NDNR Registration Code	Use ID	Acres on Registration	Photo Est. Acres (6)	ARDC ID (5)	Registration Pumping Rate (gpm)	Township	Range	Section	Sub-Section	Peak Irrigation Rate (gpm) (2)	Avg. Pumping Rate Over Irrigation Season Based on 3/8 of Peak Irrigation Rate (gpm)	Pumping Rate Based on Average Net Irrig. Req. Over Irrigation Season (gpm) (3)	2007 Irrigation Season Avg. Pumping Rate (gpm) (7)	2007-2008 Non-Irrigation Season Avg. Pumping Rate (gpm)	2008 Irrigation Season Avg. Pumping Rate (gpm) (8)	2008-2009 Non-Irrigation Season Avg. Pumping Rate (gpm)	2009 Irrigation Season Avg. Pumping Rate (gpm) (8)	2009-2010 Non-Irrigation Season Avg. Pumping Rate (gpm)	2010 Irrigation Season Avg. Pumping Rate (gpm) (8)	Notes:
2,629,718	465,845	159089	G-127545	I	65	NA	NA	500	13	9	33	AC	345	129	89	62	0	67	0	60	0	42	
2,598,308	514,886	159821	G-128997	I	75	NA	NA	500	14	8	10	CD	398	149	103	72	0	77	0	69	0	48	
2,625,209	508,095	186812	G-129063	I	309	NA	NA	900	14	9	21	BO	900	338	423	296	0	317	0	285	0	197	Registered since 2006
2,637,989	519,189	159820	G-130797	I	80	NA	NA	1100	14	9	11	AB	424	159	110	77	0	82	0	74	0	51	
2,611,774	512,551	163675	G-131085	I	177	NA	NA	780	14	8	13	AC	780	293	242	170	0	182	0	164	0	113	
2,630,320	512,147	146189	G-133366	I	110	NA	NA	800	14	9	15	CB	583	219	151	105	0	113	0	102	0	70	
2,636,529	489,925	166038	G-134121	I	150	NA	NA	800	13	9	2	CC	795	298	205	144	0	154	0	139	0	95	
2,633,275	487,156	167378	G-134176	I	70	NA	NA	800	13	9	10	AC	371	139	96	67	0	72	0	65	0	45	
2,611,295	500,037	169687	G-135522	I	75	No Data	30	450	14	8	25	DB	398	149	103	86(7)	0	45(7)	0	99	0	38	ARDC well with 2006-2010 data
2,630,812	515,004	167115	G-135542	I	80	NA	NA	200	14	9	10	CD	200	75	110	77	0	82	0	74	0	51	
2,629,846	516,179	167117	G-135543	I	8	NA	NA	200	14	9	10	CD	42	16	11	8	0	8	0	7	0	5	
2,646,668	498,252	169693	G-135895	I	65	NA	NA	800	14	10	31	BC	345	129	89	62	0	67	0	60	0	42	
2,635,492	516,516	170362	G-136000	I	68	NA	NA	700	14	9	11	CB	360	135	93	65	0	70	0	63	0	43	
2,618,921	481,253	171088	G-136149	I	89	NA	NA	600	13	9	18	AD	472	177	122	85	0	91	0	82	0	56	
2,626,510	473,638	171089	G-136150	I	260	NA	NA	800	13	9	21	CC	800	300	356	249	0	267	0	240	0	166	
2,618,041	489,262	171258	G-136318	I	140	NA	NA	950	13	9	6	DO	742	278	192	134	0	144	0	130	0	89	
2,594,241	492,568	170410	G-136326	I	65	NA	NA	1000	14	8	33	CD	345	129	89	62	0	67	0	60	0	42	
2,595,476	493,878	170409	G-136327	I	87	NA	NA	850	14	8	33	DB	461	173	119	83	0	89	0	80	0	55	
2,636,623	494,993	177104	G-136409	I	90	NA	NA	800	14	9	35	CD	477	179	123	86	0	92	0	83	0	57	
2,631,126	514,814	170356	G-136517	I	80	NA	NA	200	14	9	15	BA	200	75	110	77	0	82	0	74	0	51	
2,635,080	511,738	169010	G-136617	I	100	NA	NA	1000	14	9	14	CB	530	199	137	96	0	103	0	93	0	64	
2,633,043	512,445	172606	G-137529	I	140	NA	NA	800	14	9	15	AD	742	278	192	134	0	144	0	130	0	89	
2,653,212	530,397	173328	G-137912	I	78	NA	NA	800	15	10	32	AA	413	155	107	75	0	80	0	72	0	50	
2,614,205	520,797	170711	G-138821	I	100	NA	NA	1000	14	9	6	CA	530	199	137	96	0	103	0	93	0	64	
2,632,824	517,710	170351	G-139140	I	136	NA	NA	700	14	9	10	DB	700	263	186	130	0	140	0	126	0	87	
2,627,189	524,061	176541	G-140041	I	160	NA	NA	750	14	9	4	AA	750	281	219	153	0	164	0	148	0	102	
2,611,211	530,658	176565	G-140862	I	3	NA	NA	75	15	8	25	DD	16	6	4	3	0	3	0	3	0	2	
2,619,388	521,052	175462	G-140863	I	80	NA	NA	800	14	9	5	CD	424	159	110	77	0	82	0	74	0	51	
2,638,335	499,295	165141	G-144326	I	67	NA	NA	1000	14	9	35	AB	355	133	92	64	0	69	0	62	0	43	
2,610,706	520,351	186125	G-146158	I	140	NA	NA	600	14	8	1	DC	600	225	192	134	0	144	0	130	0	89	Registered since 2006
2,617,134	479,701	185006	G-146939	I	110	NA	NA	800	13	9	18	CA	583	219	151	105	0	113	0	102	0	70	Registered since 2006
2,599,970	519,207	192140	G-149433	I	120	NA	NA	700	14	8	3	DC	636	239	164	115	0	123	0	111	0	76	Registered since 2006
2,594,745	519,805	187727	G-151522	I	40	NA	NA	885	14	8	4	DC	212	80	55	38	0	41	0	37	0	25	Registered since 2006
2,606,811	529,609	183872	G-152097	I	3	NA	NA	200	15	8	35	AA	16	6	4	3	0	3	0	3	0	2	Registered since 2006
2,642,253	495,525	183845	G-152423	I	35	NA	NA	250	14	9	36	CB	186	70	48	NA	0	36	0	32	0	22	Newly registered since 2008
2,643,557	498,322	175697	G-152424	I	80	NA	NA	250	14	9	36	BB	250	94	110	NA	0	82	0	74	0	51	Newly registered since 2008
2,641,518	486,272	183844	G-152458	I	44	NA	NA	250	13	9	12	BC	233	87	60	NA	0	45	0	41	0	28	Newly registered since 2008

Notes:

1) Pumping simulated for only one well per quarter section if total acreage for quarter section exceeds 160 acres or total acreage of section exceeds 640 acres.
2) "Peak Irrigation Rate" is the peak pumping rate (during reproductive stage of development, typically in July)
assuming that all of the water will come from irrigation and none will come from precipitation or soil water storage.
The rate is based on a peak Crop Water Use of 0.33 inches per day, or 4.24gpm/acre, and an 80% water application efficiency.
The 4.24gpm/acre value is from "Minimum Center Pivot Design Capacities in Nebraska" (IANR, 1989).
This rate is a peak rate, and when used as an average rate over the season, results in greater dewatering than is supported by groundwater level observations.
3) The average net irrigation requirement is 6.68 inches for fully irrigated corn based on temperature and precipitation data for Wahoo for the period 1949-2004.
From "2006 Annual Evaluation of Hydrologically Connected Water Supplies" (NDNR, 2005).
The estimated rate assumes a 92-day (June, July, and August) irrigation season, and assumes 100% water application efficiency.
Although the pumping rate must be higher than 6.68 inches due to inefficiencies in water application,
the reduction in rate due to the assumption of 100% efficiency is meant to compensate for the unknown number of unused wells in fallow fields or pasture.
4) The total registered acreage of wells in a section often exceed 640 acres. Aerial photos and NDNR 2005 irrigation map were used
in some instances to estimate acreage for wells having registered acreage greater than 160, or to identify older, redundant wells that have remained registered but unused.
5) Location from ARDC survey. All other locations from registration coordinates.
6) Location in inactive area of model.
7) Measured ARDC pumping rate.
8) 2007 pumping rates for non-ARDC wells are 70% of 2002-2005 rates, based on measured reduction in ARDC wells.
2008 pumping rates for non-ARDC wells are 75% of 2002-2005 rates, based on measured reduction in ARDC wells.
2009 pumping rates for non-ARDC wells are 90% of 2008 rates, based on the ARDC pumping data. Precipitation data indicate 12-23% increase in precipitation from 2008 to 2009
2010 pumping rates for non-ARDC wells are 62% of 2008 rates, based on the ARDC pumping data. Precipitation data indicate ~33% increase in precipitation between 2008 to 2010

ARDC - Agricultural Research and Development Center
Avg. - Average
Cr. - Creek
Est. - Estimated
ft - Feet
gpm - Gallons per minute
I - Irrigation
ID - Identification
Irrig. Req. - Irrigation Requirement
NA - Not Available or Not Applicable
NAD 83 - North American Datum of 1983
NDNR - Nebraska Department of Natural Resources
NOP - Nebraska Ordnance Well
P - Public
SW - Southwest

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Table 2-21
Groundwater Use Statistics, Saunders County
2010 Groundwater Model Report
Former NOP, Mead, Nebraska

	Public Supply	**Domestic**	**Irrigation**	**Aquaculture**	**Industrial**	**Live-stock**	**Total**
Average Volume (MGD)	43.52	1.29	96.86	0.6	0.09	0.87	143.23
Percent of Total	30.40%	0.90%	67.60%	0.40%	0.06%	0.60%	

From: *Water Use in Nebraska, 2005* (USGS, 2005)

Notes:
MGD -million gallons per day
NOP - Nebraska Ordnance Plant

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Table 2-22
Johnson Creek Surface Water Flow Measurements
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Location	Date Measured	Flow (cfs)
SW-12	October-09	14.2
SW-08 sect 1	October-09	2.6
SW-08 sect 2	October-09	1.2
SW-05 DnStrm	October-09	2.0
SW-05 UpStrm	October-09	0.3
SW-08 Culvert	October-09	Negligible
SW-05 Culvert	October-09	Negligible
SW-08	October 2010	3.2
SW-05 ski lake culvert	October 2010	0.6

Notes:
cfs- Cubic feet per second
NOP - Nebraska Ordnance Plant
SW - Surface Water

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Table 2-23

RDX Surface Water Sampling Results - 2009 and 2010

2010 Groundwater Model Update

Former NOP, Mead, Nebraska

Explosives			
Location	**Zone Designation**	**Event**	**RDX**
ARTESIAN		First Quarter 2009	2.7
		Second Quarter 2009	2.5
		Third Quarter 2009	2.6
		Fourth Quarter 2009	2.4
		First Quarter 2010	2.2
		Second Quarter 2010	2.3
		Third Quarter 2010	2.1
		Fourth Quarter 2010	2.4
SCW-04		First Quarter 2009	ND
		Second Quarter 2009	ND
		Third Quarter 2009	ND
		Fourth Quarter 2009	ND
		First Quarter 2010	ND
		Second Quarter 2010	ND
		Third Quarter 2010	ND
		Fourth Quarter 2010	ND
SCW-05		First Quarter 2009	ND
		Second Quarter 2009	ND
		Third Quarter 2009	ND
		Fourth Quarter 2009	ND
		First Quarter 2010	ND
		Second Quarter 2010	ND
		Third Quarter 2010	ND
		Fourth Quarter 2010	ND
SCW-06		First Quarter 2009	ND
		Second Quarter 2009	ND
		Third Quarter 2009	ND
		Fourth Quarter 2009	ND

Table 2-23

RDX Surface Water Sampling Results - 2009 and 2010

2010 Groundwater Model Update

Former NOP, Mead, Nebraska

Explosives			
Location	**Zone Designation**	**Event**	**RDX**
		First Quarter 2010	ND
		Second Quarter 2010	ND
		Third Quarter 2010	ND
		Fourth Quarter 2010	ND
SW-05		First Quarter 2009	0.092 J
		Second Quarter 2009	ND
		Third Quarter 2009	ND
		Fourth Quarter 2009	ND
		First Quarter 2010	ND
		Second Quarter 2010	ND
		Third Quarter 2010	0.055 J
		Fourth Quarter 2010	ND
SW-06		First Quarter 2009	0.13 J
		Second Quarter 2009	ND
		Third Quarter 2009	ND
		Fourth Quarter 2009	0.14 J
		First Quarter 2010	ND
		Second Quarter 2010	0.094 J
		Third Quarter 2010	ND
		Fourth Quarter 2010	ND
SW-08		First Quarter 2009	1.2
		Second Quarter 2009	1.5
		Third Quarter 2009	1.8
		Fourth Quarter 2009	1.6
		First Quarter 2010	1.2
		Second Quarter 2010	0.90
		Third Quarter 2010	0.62
		Fourth Quarter 2010	1.4

Table 2-23

RDX Surface Water Sampling Results - 2009 and 2010

2010 Groundwater Model Update

Former NOP, Mead, Nebraska

Explosives			
Location	**Zone Designation**	**Event**	**RDX**
SW-09		First Quarter 2009	ND
		Second Quarter 2009	ND
		Third Quarter 2009	ND
		Fourth Quarter 2009	ND
		First Quarter 2010	ND
		Second Quarter 2010	ND
		Third Quarter 2010	ND
		Fourth Quarter 2010	ND
SW-10		First Quarter 2009	1.3
		Second Quarter 2009	1.3
		Third Quarter 2009	1.3
		Fourth Quarter 2009	1.2
		First Quarter 2010	1.2
		Second Quarter 2010	1.3
		Third Quarter 2010	ND
		Fourth Quarter 2010	1.2
SW-11		First Quarter 2009	ND
		Second Quarter 2009	ND
		Third Quarter 2009	ND
		Fourth Quarter 2009	ND
		First Quarter 2010	ND
		Second Quarter 2010	ND
		Third Quarter 2010	ND
		Fourth Quarter 2010	ND
SW-12		First Quarter 2009	0.24 J
		Second Quarter 2009	0.25
		Third Quarter 2009	0.49
		Fourth Quarter 2009	0.34

Table 2-23

RDX Surface Water Sampling Results - 2009 and 2010

2010 Groundwater Model Update

Former NOP, Mead, Nebraska

Explosives			
Location	**Zone Designation**	**Event**	**RDX**
		First Quarter 2010	0.58 J
		Second Quarter 2010	0.28
		Third Quarter 2010	0.34
		Fourth Quarter 2010	0.48
SW-13		First Quarter 2009	0.15 J
		Second Quarter 2009	0.15 J
		Third Quarter 2009	ND
		Fourth Quarter 2009	0.36
		First Quarter 2010	0.50 J
		Second Quarter 2010	0.24
		Third Quarter 2010	0.25
		Fourth Quarter 2010	0.49
SW-15		First Quarter 2009	0.089 J
		Second Quarter 2009	0.081 J
		Third Quarter 2009	1.3
SW-16		First Quarter 2009	1.3
		Second Quarter 2009	1.4
		Third Quarter 2009	1.8
SKI-001		Third Quarter 2009	ND
		Fourth Quarter 2010	ND

Notes:

J - Qualified as estimate by the laboratory

ND - Not Detected

NOP - Nebraska Ordnance Plant

RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine

TCE - trichloroethene

SW- Surface Water

Table 2-24

TCE Surface Water Sampling Results -2009 and 2010

2010 Groundwater Model Update

Former NOP, Mead, Nebraska

Volatile Organic Compounds			
Location	**Zone Designation**	**Event**	**TCE**
ARTESIAN		First Quarter 2009	120
		Second Quarter 2009	93.0
		Third Quarter 2009	93.0
		Fourth Quarter 2009	100
		First Quarter 2010	110
		Second Quarter 2010	130
		Third Quarter 2010	140
		Fourth Quarter 2010	130
SCW-04		First Quarter 2009	ND
		Second Quarter 2009	ND
		Third Quarter 2009	ND
		Fourth Quarter 2009	ND
		First Quarter 2010	ND
		Second Quarter 2010	ND
		Third Quarter 2010	ND
		Fourth Quarter 2010	ND
SCW-05		First Quarter 2009	ND
		Second Quarter 2009	ND
		Third Quarter 2009	ND
		Fourth Quarter 2009	ND
		First Quarter 2010	ND
		Second Quarter 2010	ND
		Third Quarter 2010	ND
		Fourth Quarter 2010	ND
SCW-06		First Quarter 2009	ND
		Second Quarter 2009	ND
		Third Quarter 2009	ND
		Fourth Quarter 2009	ND
		First Quarter 2010	ND

Table 2-24

TCE Surface Water Sampling Results -2009 and 2010

2010 Groundwater Model Update

Former NOP, Mead, Nebraska

Volatile Organic Compounds			
Location	**Zone Designation**	**Event**	**TCE**
		Second Quarter 2010	ND
		Third Quarter 2010	ND
		Fourth Quarter 2010	ND
SW-05		First Quarter 2009	ND
		Second Quarter 2009	ND
		Third Quarter 2009	ND
		Fourth Quarter 2009	ND
		First Quarter 2010	ND
		Second Quarter 2010	ND
		Third Quarter 2010	ND
		Fourth Quarter 2010	ND
SW-06		First Quarter 2009	0.40 J
		Second Quarter 2009	ND
		Third Quarter 2009	ND
		Fourth Quarter 2009	0.56 J
		First Quarter 2010	0.28 J
		Second Quarter 2010	0.27 J
		Third Quarter 2010	ND
		Fourth Quarter 2010	0.21 J
SW-08		First Quarter 2009	24.0
		Second Quarter 2009	16.0
		Third Quarter 2009	28.0
		Fourth Quarter 2009	39.0
		First Quarter 2010	20.0
		Second Quarter 2010	18.0
		Third Quarter 2010	1.5
		Fourth Quarter 2010	25.0
SW-09		First Quarter 2009	ND
		Second Quarter 2009	ND

Table 2-24

TCE Surface Water Sampling Results -2009 and 2010

2010 Groundwater Model Update

Former NOP, Mead, Nebraska

Volatile Organic Compounds			
Location	**Zone Designation**	**Event**	**TCE**
		Third Quarter 2009	ND
		Fourth Quarter 2009	ND
		First Quarter 2010	ND
		Second Quarter 2010	ND
		Third Quarter 2010	ND
		Fourth Quarter 2010	ND
SW-10		First Quarter 2009	20.0
		Second Quarter 2009	11.0
		Third Quarter 2009	16.0
		Fourth Quarter 2009	16.0
		First Quarter 2010	15.0
		Second Quarter 2010	13.0
		Third Quarter 2010	0.86 J
		Fourth Quarter 2010	17.0
SW-11		First Quarter 2009	ND
		Second Quarter 2009	ND
		Third Quarter 2009	ND
		Fourth Quarter 2009	ND
		First Quarter 2010	ND
		Second Quarter 2010	ND
		Third Quarter 2010	ND
		Fourth Quarter 2010	ND
SW-12		First Quarter 2009	3.5
		Second Quarter 2009	2.3
		Third Quarter 2009	3.4
		Fourth Quarter 2009	4.1
		First Quarter 2010	2.3
		Second Quarter 2010	2.6 J
		Third Quarter 2010	4.9

Table 2-24

TCE Surface Water Sampling Results -2009 and 2010

2010 Groundwater Model Update

Former NOP, Mead, Nebraska

Volatile Organic Compounds			
Location	**Zone Designation**	**Event**	**TCE**
		Fourth Quarter 2010	3.9
SW-13		First Quarter 2009	1.7
		Second Quarter 2009	1.2
		Third Quarter 2009	ND
		Fourth Quarter 2009	3.9
		First Quarter 2010	1.8
		Second Quarter 2010	1.6
		Third Quarter 2010	2.7
		Fourth Quarter 2010	3.6
SW-15		First Quarter 2009	0.30 J
		Second Quarter 2009	0.56 J
		Third Quarter 2009	4.5
SW-16		First Quarter 2009	18.0
		Second Quarter 2009	12.0
		Third Quarter 2009	24.0
SKI-001		Third Quarter 2009	ND
		Fourth Quarter 2010	ND

Notes:

J - Qualified as estimate by the laboratory

ND - Not Detected

NOP - Nebraska Ordnance Plant

TCE - trichloroethene

SW- Surface Water

Table 3-1
RDX in Monitoring Wells and Direct-Push Samples (2006-2010)
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Former NOP, Mead, Nebraska

Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-115	LL1	492224.62	2610824.29	2/7/2006	Shallow	24	25	ND
GP-115	LL1	492224.62	2610824.29	2/7/2006	Shallow	44	45	ND
GP-115	LL1	492224.62	2610824.29	2/7/2006	Intermediate	64	65	ND
GP-115	LL1	492224.62	2610824.29	2/7/2006	Intermediate	84	85	ND
GP-117	LL1	492239.94	2611209.46	2/8/2006	Shallow	24	25	ND
GP-117	LL1	492239.94	2611209.46	2/8/2006	Shallow	44	45	ND
GP-117	LL1	492239.94	2611209.46	2/7/2006	Intermediate	64	65	ND
GP-117	LL1	492239.94	2611209.46	2/7/2006	Intermediate	84	85	ND
GP-118	LL1	492036.6	2610808.42	2/7/2006	Shallow	64	65	ND
GP-118	LL1	492036.6	2610808.42	2/7/2006	Intermediate	73	74	ND
GP-118	LL1	492036.6	2610808.42	2/7/2006	Intermediate	81	82	2.6
GP-118	LL1	492036.6	2610808.42	2/7/2006	Intermediate	83	84	ND
GP-123	LL1	491841.51	2611010.12	2/4/2006	Shallow	24	25	ND
GP-123	LL1	491841.51	2611010.12	2/4/2006	Shallow	44	45	ND
GP-123	LL1	491841.51	2611010.12	2/4/2006	Intermediate	64	65	ND
GP-123	LL1	491841.51	2611010.12	2/4/2006	Intermediate	84	85	ND
GP-128	LL1	491577.18	2610777.19	2/3/2006	Shallow	73	74	0.51
GP-128	LL1	491577.18	2610777.19	2/3/2006	Shallow	77	78	2.6
GP-128	LL1	491577.18	2610777.19	2/3/2006	Shallow	87	88	2.4
GP-128	LL1	491577.18	2610777.19	2/3/2006	Intermediate	106	107	1.5
GP-129	LL1	491591.47	2611241.73	2/4/2006	Shallow	50	51	0.044 J
GP-129	LL1	491591.47	2611241.73	2/3/2006	Shallow	60	61	0.055 J
GP-129	LL1	491591.47	2611241.73	2/3/2006	Intermediate	90	91	0.22
GP-129	LL1	491591.47	2611241.73	2/4/2006	Intermediate	97	98	3.3
GP-T35-01	LL1	505839.76	2611101.27	5/21/2007	Shallow	55	56	ND
GP-T35-01	LL1	505839.76	2611101.27	5/21/2007	Intermediate	97	98	ND
GP-T35-02	LL1	506277.43	2611662.59	5/21/2007	Shallow	53	54	ND
GP-T35-02	LL1	506277.43	2611662.59	5/21/2007	Intermediate	92	93	ND
GP-T36-01	LL1	503579.35	2611414.1	5/30/2007	Shallow	58	59	ND
GP-T36-01	LL1	503579.35	2611414.1	5/30/2007	Intermediate	111	112	ND
GP-T46-01	LL1	502182.66	2612159.83	11/12/2007	Shallow	68	69	ND
GP-T46-01	LL1	502182.66	2612159.83	11/12/2007	Shallow	85	86	ND
GP-T46-01	LL1	502182.66	2612159.83	11/12/2007	Intermediate	102	103	ND
GP-T46-01	LL1	502182.66	2612159.83	11/12/2007	Intermediate	119	120	ND
GP-T53-03	LL1	506959.98	2606501.18	12/6/2008	Shallow	41	42	12
GP-T53-03	LL1	506959.98	2606501.18	12/6/2008	Shallow	51	52	ND
GP-T53-03	LL1	506959.98	2606501.18	12/6/2008	Shallow	61	62	0.3 J
GP-T53-03	LL1	506959.98	2606501.18	12/6/2008	Shallow	61	62	ND
GP-T53-03	LL1	506959.98	2606501.18	12/6/2008	Shallow	71	72	ND
GP-T53-03	LL1	506959.98	2606501.18	12/5/2008	Shallow	81	82	ND
GP-T53-03	LL1	506959.98	2606501.18	12/5/2008	Shallow	91	92	ND
GP-T53-03	LL1	506959.98	2606501.18	12/5/2008	Intermediate	101	102	ND
GP-T53-03	LL1	506959.98	2606501.18	12/5/2008	Intermediate	111	112	ND
GP-T53-03	LL1	506959.98	2606501.18	12/5/2008	Intermediate	121	122	ND
GP-T53-03	LL1	506959.98	2606501.18	12/5/2008	Intermediate	131	132	ND
GP-T53-04	LL1	507089.22	2606946.91	12/9/2008	Shallow	49	50	ND
GP-T53-04	LL1	507089.22	2606946.91	12/9/2008	Shallow	59	60	ND

Table 3-1
RDX in Monitoring Wells and Direct-Push Samples (2006-2010)
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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T53-04	LL1	507089.22	2606946.91	12/9/2008	Shallow	69	70	ND
GP-T53-04	LL1	507089.22	2606946.91	12/9/2008	Shallow	79	80	ND
GP-T53-04	LL1	507089.22	2606946.91	12/9/2008	Intermediate	89	90	ND
GP-T53-04	LL1	507089.22	2606946.91	12/9/2008	Intermediate	99	100	ND
GP-T53-04	LL1	507089.22	2606946.91	12/9/2008	Intermediate	109	110	ND
GP-T53-04	LL1	507089.22	2606946.91	12/9/2008	Intermediate	119	120	ND
GP-T53-04	LL1	507089.22	2606946.91	12/9/2008	Intermediate	129	130	ND
GP-T53-05	LL1	507214.37	2607362.06	12/9/2008	Shallow	53	54	ND
GP-T53-05	LL1	507214.37	2607362.06	12/9/2008	Shallow	63	64	ND
GP-T53-05	LL1	507214.37	2607362.06	12/9/2008	Shallow	73	74	ND
GP-T53-05	LL1	507214.37	2607362.06	12/9/2008	Shallow	83	84	ND
GP-T53-05	LL1	507214.37	2607362.06	12/9/2008	Intermediate	93	94	ND
GP-T53-05	LL1	507214.37	2607362.06	12/9/2008	Intermediate	103	104	ND
GP-T53-05	LL1	507214.37	2607362.06	12/9/2008	Intermediate	113	114	ND
GP-T53-05	LL1	507214.37	2607362.06	12/9/2008	Intermediate	123	124	ND
GP-T53-05	LL1	507214.37	2607362.06	12/9/2008	Intermediate	133	134	ND
GP-T54-01	LL1	505750.14	2607306.85	12/17/2008	Shallow	51	52	ND
GP-T54-01	LL1	505750.14	2607306.85	12/17/2008	Shallow	61	62	ND
GP-T54-01	LL1	505750.14	2607306.85	12/17/2008	Shallow	71	72	ND
GP-T54-01	LL1	505750.14	2607306.85	12/17/2008	Shallow	81	82	ND
GP-T54-01	LL1	505750.14	2607306.85	12/17/2008	Intermediate	91	92	ND
GP-T54-01	LL1	505750.14	2607306.85	12/17/2008	Intermediate	101	102	ND
GP-T54-01	LL1	505750.14	2607306.85	12/17/2008	Intermediate	111	112	ND
GP-T54-01	LL1	505750.14	2607306.85	12/17/2008	Intermediate	121	122	ND
GP-T54-01	LL1	505750.14	2607306.85	12/17/2008	Intermediate	131	132	ND
GP-T54-02	LL1	505900.47	2607762.52	12/10/2008	Shallow	51	52	ND
GP-T54-02	LL1	505900.47	2607762.52	12/10/2008	Shallow	61	62	ND
GP-T54-02	LL1	505900.47	2607762.52	12/10/2008	Shallow	71	72	ND
GP-T54-02	LL1	505900.47	2607762.52	12/10/2008	Shallow	81	82	ND
GP-T54-02	LL1	505900.47	2607762.52	12/10/2008	Shallow	91	92	ND
GP-T54-02	LL1	505900.47	2607762.52	12/10/2008	Intermediate	101	102	ND
GP-T54-02	LL1	505900.47	2607762.52	12/10/2008	Intermediate	111	112	ND
GP-T54-02	LL1	505900.47	2607762.52	12/10/2008	Intermediate	121	122	ND
GP-T54-02	LL1	505900.47	2607762.52	12/10/2008	Intermediate	131	132	ND
GP-T54-02	LL1	505900.47	2607762.52	12/10/2008	Intermediate	141	142	ND
GP-T54-03	LL1	506024.71	2608101.97	12/10/2008	Shallow	50	51	ND
GP-T54-03	LL1	506024.71	2608101.97	12/10/2008	Shallow	60	61	ND
GP-T54-03	LL1	506024.71	2608101.97	12/10/2008	Shallow	70	71	ND
GP-T54-03	LL1	506024.71	2608101.97	12/10/2008	Shallow	80	81	ND
GP-T54-03	LL1	506024.71	2608101.97	12/9/2008	Shallow	90	91	ND
GP-T54-03	LL1	506024.71	2608101.97	12/9/2008	Intermediate	100	101	ND
GP-T54-03	LL1	506024.71	2608101.97	12/9/2008	Intermediate	110	111	ND
GP-T54-03	LL1	506024.71	2608101.97	12/9/2008	Intermediate	120	121	ND
GP-T54-03	LL1	506024.71	2608101.97	12/9/2008	Intermediate	130	131	ND
GP-T54-03	LL1	506024.71	2608101.97	12/9/2008	Intermediate	140	141	0.2 J
GP-T55-01	LL1	504273.64	2607044.95	12/7/2008	Shallow	43	44	ND
GP-T55-01	LL1	504273.64	2607044.95	12/7/2008	Shallow	53	54	1.2

Table 3-1
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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T55-01	LL1	504273.64	2607044.95	12/7/2008	Shallow	63	64	ND
GP-T55-01	LL1	504273.64	2607044.95	12/7/2008	Shallow	73	74	3.5
GP-T55-01	LL1	504273.64	2607044.95	12/7/2008	Shallow	83	84	ND
GP-T55-01	LL1	504273.64	2607044.95	12/7/2008	Intermediate	93	94	ND
GP-T55-01	LL1	504273.64	2607044.95	12/7/2008	Intermediate	103	104	ND
GP-T55-01	LL1	504273.64	2607044.95	12/7/2008	Intermediate	113	114	ND
GP-T55-01	LL1	504273.64	2607044.95	12/7/2008	Intermediate	123	124	ND
GP-T55-01	LL1	504273.64	2607044.95	12/7/2008	Intermediate	133	134	ND
GP-T55-02	LL1	504353.04	2607241.04	12/7/2008	Shallow	44	45	ND
GP-T55-02	LL1	504353.04	2607241.04	12/7/2008	Shallow	54	55	0.2 J
GP-T55-02	LL1	504353.04	2607241.04	12/7/2008	Shallow	64	65	ND
GP-T55-02	LL1	504353.04	2607241.04	12/7/2008	Shallow	74	75	ND
GP-T55-02	LL1	504353.04	2607241.04	12/6/2008	Shallow	84	85	ND
GP-T55-02	LL1	504353.04	2607241.04	12/6/2008	Shallow	94	95	ND
GP-T55-02	LL1	504353.04	2607241.04	12/6/2008	Intermediate	104	105	ND
GP-T55-02	LL1	504353.04	2607241.04	12/6/2008	Intermediate	114	115	ND
GP-T55-02	LL1	504353.04	2607241.04	12/6/2008	Intermediate	124	125	ND
GP-T55-02	LL1	504353.04	2607241.04	12/6/2008	Intermediate	134	135	ND
GP-T55-03	LL1	504487.13	2607494.36	12/8/2008	Shallow	51	52	6.3
GP-T55-03	LL1	504487.13	2607494.36	12/8/2008	Shallow	61	62	0.5 J
GP-T55-03	LL1	504487.13	2607494.36	12/8/2008	Shallow	71	72	ND
GP-T55-03	LL1	504487.13	2607494.36	12/8/2008	Shallow	81	82	ND
GP-T55-03	LL1	504487.13	2607494.36	12/8/2008	Shallow	91	92	ND
GP-T55-03	LL1	504487.13	2607494.36	12/8/2008	Intermediate	101	102	ND
GP-T55-03	LL1	504487.13	2607494.36	12/8/2008	Intermediate	111	112	ND
GP-T55-03	LL1	504487.13	2607494.36	12/8/2008	Intermediate	121	122	ND
GP-T55-03	LL1	504487.13	2607494.36	12/8/2008	Intermediate	131	132	ND
GP-T55-03	LL1	504487.13	2607494.36	12/8/2008	Intermediate	141	142	ND
GP-T55-04	LL1	504669.64	2607856.5	12/17/2008	Shallow	55	56	ND
GP-T55-04	LL1	504669.64	2607856.5	12/17/2008	Shallow	65	66	ND
GP-T55-04	LL1	504669.64	2607856.5	12/17/2008	Shallow	75	76	ND
GP-T55-04	LL1	504669.64	2607856.5	12/17/2008	Shallow	85	86	ND
GP-T55-04	LL1	504669.64	2607856.5	12/17/2008	Intermediate	95	96	0.4 J
GP-T55-04	LL1	504669.64	2607856.5	12/17/2008	Intermediate	105	106	ND
GP-T55-04	LL1	504669.64	2607856.5	12/17/2008	Intermediate	115	116	ND
GP-T55-04	LL1	504669.64	2607856.5	12/17/2008	Intermediate	125	126	ND
GP-T55-04	LL1	504669.64	2607856.5	12/17/2008	Intermediate	135	136	ND
GP-T55-05	LL1	504804.03	2608116.05	12/7/2008	Shallow	54	55	ND
GP-T55-05	LL1	504804.03	2608116.05	12/7/2008	Shallow	64	65	ND
GP-T55-05	LL1	504804.03	2608116.05	12/7/2008	Shallow	74	75	ND
GP-T55-05	LL1	504804.03	2608116.05	12/7/2008	Shallow	84	85	ND
GP-T55-05	LL1	504804.03	2608116.05	12/7/2008	Shallow	94	95	ND
GP-T55-05	LL1	504804.03	2608116.05	12/7/2008	Intermediate	104	105	ND
GP-T55-05	LL1	504804.03	2608116.05	12/7/2008	Intermediate	114	115	ND
GP-T55-05	LL1	504804.03	2608116.05	12/7/2008	Intermediate	124	125	ND
GP-T55-05	LL1	504804.03	2608116.05	12/7/2008	Intermediate	134	135	ND
GP-T55-05	LL1	504804.03	2608116.05	12/7/2008	Intermediate	144	145	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T56-01	LL1	501192.67	2608792.24	12/18/2008	Shallow	49	50	ND
GP-T56-01	LL1	501192.67	2608792.24	12/18/2008	Shallow	59	60	ND
GP-T56-01	LL1	501192.67	2608792.24	12/18/2008	Shallow	69	70	ND
GP-T56-01	LL1	501192.67	2608792.24	12/18/2008	Intermediate	79	80	ND
GP-T56-01	LL1	501192.67	2608792.24	12/18/2008	Intermediate	89	90	ND
GP-T56-01	LL1	501192.67	2608792.24	12/18/2008	Intermediate	99	100	ND
GP-T56-01	LL1	501192.67	2608792.24	12/18/2008	Intermediate	109	110	ND
GP-T56-02	LL1	501614.9	2609130.77	12/15/2008	Shallow	49	50	26
GP-T56-02	LL1	501614.9	2609130.77	12/15/2008	Shallow	59	60	1.8
GP-T56-02	LL1	501614.9	2609130.77	12/15/2008	Shallow	69	70	ND
GP-T56-02	LL1	501614.9	2609130.77	12/15/2008	Shallow	79	80	ND
GP-T56-02	LL1	501614.9	2609130.77	12/15/2008	Intermediate	89	90	ND
GP-T56-02	LL1	501614.9	2609130.77	12/15/2008	Intermediate	99	100	ND
GP-T56-02	LL1	501614.9	2609130.77	12/15/2008	Intermediate	109	110	ND
GP-T56-02	LL1	501614.9	2609130.77	12/15/2008	Intermediate	119	120	ND
GP-T56-03	LL1	501678.16	2609313.55	12/16/2008	Shallow	57	58	0.4 J
GP-T56-03	LL1	501678.16	2609313.55	12/16/2008	Shallow	67	68	ND
GP-T56-03	LL1	501678.16	2609313.55	12/15/2008	Shallow	77	78	3.7
GP-T56-03	LL1	501678.16	2609313.55	12/15/2008	Shallow	87	88	ND
GP-T56-03	LL1	501678.16	2609313.55	12/15/2008	Intermediate	97	98	1.5
GP-T56-03	LL1	501678.16	2609313.55	12/15/2008	Intermediate	107	108	1.2
GP-T56-03	LL1	501678.16	2609313.55	12/15/2008	Intermediate	117	118	ND
GP-T56-03	LL1	501678.16	2609313.55	12/15/2008	Intermediate	127	128	ND
GP-T56-04	LL1	501902.04	2609518.35	12/16/2008	Shallow	54	55	ND
GP-T56-04	LL1	501902.04	2609518.35	12/16/2008	Shallow	64	65	ND
GP-T56-04	LL1	501902.04	2609518.35	12/16/2008	Shallow	74	75	ND
GP-T56-04	LL1	501902.04	2609518.35	12/16/2008	Shallow	84	85	ND
GP-T56-04	LL1	501902.04	2609518.35	12/16/2008	Intermediate	94	95	ND
GP-T56-04	LL1	501902.04	2609518.35	12/16/2008	Intermediate	104	105	ND
GP-T56-04	LL1	501902.04	2609518.35	12/16/2008	Intermediate	114	115	ND
GP-T56-04	LL1	501902.04	2609518.35	12/16/2008	Intermediate	124	125	ND
GP-T57-03	LL1	499962.08	2608852.45	11/20/2008	Shallow	64	65	ND
GP-T57-03	LL1	499962.08	2608852.45	11/20/2008	Shallow	74	75	ND
GP-T57-03	LL1	499962.08	2608852.45	11/20/2008	Shallow	84	85	ND
GP-T57-03	LL1	499962.08	2608852.45	11/20/2008	Shallow	94	95	1.2
GP-T57-03	LL1	499962.08	2608852.45	11/20/2008	Intermediate	104	105	ND
GP-T57-03	LL1	499962.08	2608852.45	11/20/2008	Intermediate	114	115	ND
GP-T57-03	LL1	499962.08	2608852.45	11/20/2008	Intermediate	124	125	ND
GP-T57-03	LL1	499962.08	2608852.45	11/20/2008	Intermediate	134	135	ND
GP-T57-03	LL1	499962.08	2608852.45	11/20/2008	Intermediate	139	140	ND
GP-T57-04	LL1	500019.47	2609705.13	11/18/2008	Shallow	64	65	0.5 J
GP-T57-04	LL1	500019.47	2609705.13	11/18/2008	Shallow	74	75	ND
GP-T57-04	LL1	500019.47	2609705.13	11/18/2008	Shallow	84	85	0.3 J
GP-T57-04	LL1	500019.47	2609705.13	11/18/2008	Shallow	84	85	1.2
GP-T57-04	LL1	500019.47	2609705.13	11/18/2008	Shallow	94	95	1.1
GP-T57-04	LL1	500019.47	2609705.13	11/18/2008	Intermediate	104	105	ND
GP-T57-04	LL1	500019.47	2609705.13	11/18/2008	Intermediate	114	115	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T57-04	LL1	500019.47	2609705.13	11/18/2008	Intermediate	124	125	ND
GP-T57-04	LL1	500019.47	2609705.13	11/18/2008	Intermediate	134	135	ND
GP-T57-04	LL1	500019.47	2609705.13	11/18/2008	Intermediate	140	141	ND
GP-T57-05	LL1	500036.53	2610331.29	11/18/2008	Shallow	63	64	ND
GP-T57-05	LL1	500036.53	2610331.29	11/18/2008	Shallow	73	74	ND
GP-T57-05	LL1	500036.53	2610331.29	11/17/2008	Shallow	83	84	ND
GP-T57-05	LL1	500036.53	2610331.29	11/17/2008	Shallow	93	94	ND
GP-T57-05	LL1	500036.53	2610331.29	11/17/2008	Intermediate	103	104	ND
GP-T57-05	LL1	500036.53	2610331.29	11/17/2008	Intermediate	113	114	ND
GP-T57-05	LL1	500036.53	2610331.29	11/17/2008	Intermediate	123	124	ND
GP-T57-05	LL1	500036.53	2610331.29	11/17/2008	Intermediate	130	131	ND
GP-T58-04	LL1	498196.08	2610169.39	12/8/2008	Shallow	59	60	ND
GP-T58-04	LL1	498196.08	2610169.39	12/8/2008	Shallow	69	70	ND
GP-T58-04	LL1	498196.08	2610169.39	12/8/2008	Shallow	79	80	ND
GP-T58-04	LL1	498196.08	2610169.39	12/8/2008	Shallow	89	90	ND
GP-T58-04	LL1	498196.08	2610169.39	12/8/2008	Intermediate	99	100	ND
GP-T58-04	LL1	498196.08	2610169.39	12/8/2008	Intermediate	109	110	ND
GP-T58-04	LL1	498196.08	2610169.39	12/8/2008	Intermediate	119	120	ND
GP-T58-04	LL1	498196.08	2610169.39	12/8/2008	Intermediate	129	130	ND
GP-T58-04	LL1	498196.08	2610169.39	12/8/2008	Intermediate	139	140	ND
GP-T58-05	LL1	498212.55	2610636.72	12/9/2008	Shallow	59	60	ND
GP-T58-05	LL1	498212.55	2610636.72	12/9/2008	Shallow	69	70	ND
GP-T58-05	LL1	498212.55	2610636.72	12/9/2008	Shallow	79	80	ND
GP-T58-05	LL1	498212.55	2610636.72	12/9/2008	Shallow	89	90	ND
GP-T58-05	LL1	498212.55	2610636.72	12/8/2008	Intermediate	99	100	ND
GP-T58-05	LL1	498212.55	2610636.72	12/8/2008	Intermediate	109	110	ND
GP-T58-05	LL1	498212.55	2610636.72	12/8/2008	Intermediate	119	120	ND
GP-T58-05	LL1	498212.55	2610636.72	12/8/2008	Intermediate	129	130	ND
GP-T58-05	LL1	498212.55	2610636.72	12/8/2008	Intermediate	139	140	ND
GP-T58-06	LL1	498154.73	2611022.78	11/19/2008	Shallow	65	66	ND
GP-T58-06	LL1	498154.73	2611022.78	11/19/2008	Shallow	75	76	ND
GP-T58-06	LL1	498154.73	2611022.78	11/19/2008	Shallow	85	86	ND
GP-T58-06	LL1	498154.73	2611022.78	11/19/2008	Shallow	95	96	ND
GP-T58-06	LL1	498154.73	2611022.78	11/19/2008	Intermediate	105	106	ND
GP-T58-06	LL1	498154.73	2611022.78	11/18/2008	Intermediate	115	116	ND
GP-T58-06	LL1	498154.73	2611022.78	11/18/2008	Intermediate	125	126	ND
GP-T58-06	LL1	498154.73	2611022.78	11/18/2008	Intermediate	135	136	ND
GP-T58-07	LL1	498159.36	2611284.99	11/18/2008	Shallow	61	62	ND
GP-T58-07	LL1	498159.36	2611284.99	11/18/2008	Shallow	71	72	ND
GP-T58-07	LL1	498159.36	2611284.99	11/18/2008	Shallow	81	82	ND
GP-T58-07	LL1	498159.36	2611284.99	11/18/2008	Shallow	91	92	ND
GP-T58-07	LL1	498159.36	2611284.99	11/18/2008	Intermediate	101	102	ND
GP-T58-07	LL1	498159.36	2611284.99	11/18/2008	Intermediate	111	112	ND
GP-T58-07	LL1	498159.36	2611284.99	11/18/2008	Intermediate	121	122	ND
GP-T58-07	LL1	498159.36	2611284.99	11/18/2008	Intermediate	131	132	ND
GP-T70-007	LL1	505289.926	2608115.537	4/12/2010	Shallow	49	50	0.36 J
GP-T70-007	LL1	505289.926	2608115.537	4/12/2010	Shallow	59	60	0.12 J

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T70-007	LL1	505289.926	2608115.537	4/12/2010	Shallow	69	70	ND
GP-T70-007	LL1	505289.926	2608115.537	4/12/2010	Shallow	79	80	0.21 J
GP-T70-007	LL1	505289.926	2608115.537	4/12/2010	Intermediate	89	90	0.054 J
GP-T70-007	LL1	505289.926	2608115.537	4/12/2010	Intermediate	99	100	0.49
GP-T70-007	LL1	505289.926	2608115.537	4/12/2010	Intermediate	109	110	ND
GP-T70-007	LL1	505289.926	2608115.537	4/12/2010	Intermediate	119	120	0.31 J
GP-T70-007	LL1	505289.926	2608115.537	4/12/2010	Intermediate	119	120	ND
GP-T70-009	LL1	507053.799	2607911.333	4/13/2010	Shallow	57	58	0.044 J
GP-T70-009	LL1	507053.799	2607911.333	4/13/2010	Shallow	67	68	0.21 J
GP-T70-009	LL1	507053.799	2607911.333	4/13/2010	Shallow	67	68	0.22 J
GP-T70-009	LL1	507053.799	2607911.333	4/13/2010	Shallow	77	78	ND
GP-T70-009	LL1	507053.799	2607911.333	4/13/2010	Shallow	87	88	ND
GP-T70-009	LL1	507053.799	2607911.333	4/13/2010	Intermediate	97	98	ND
GP-T70-009	LL1	507053.799	2607911.333	4/13/2010	Intermediate	107	108	ND
GP-T70-009	LL1	507053.799	2607911.333	4/13/2010	Intermediate	117	118	ND
GP-T70-009	LL1	507053.799	2607911.333	4/13/2010	Intermediate	127	128	ND
GP-T70-009	LL1	507053.799	2607911.333	4/13/2010	Intermediate	137	138	ND
GP-T70-010	LL1	506879.311	2607373.052	4/13/2010	Shallow	50	51	0.17 J
GP-T70-010	LL1	506879.311	2607373.052	4/13/2010	Shallow	60	61	0.54
GP-T70-010	LL1	506879.311	2607373.052	4/13/2010	Shallow	70	71	0.14 J
GP-T70-010	LL1	506879.311	2607373.052	4/13/2010	Shallow	80	81	ND
GP-T70-010	LL1	506879.311	2607373.052	4/13/2010	Intermediate	90	91	ND
GP-T70-010	LL1	506879.311	2607373.052	4/13/2010	Intermediate	100	101	ND
GP-T70-010	LL1	506879.311	2607373.052	4/13/2010	Intermediate	110	111	0.18 J
GP-T70-010	LL1	506879.311	2607373.052	4/13/2010	Intermediate	120	121	ND
GP-T70-010	LL1	506879.311	2607373.052	4/13/2010	Intermediate	130	131	ND
GP-T70-011	LL1	506854.342	2606882.14	4/14/2010	Shallow	48	49	0.2
GP-T70-011	LL1	506854.342	2606882.14	4/14/2010	Shallow	58	59	0.17 J
GP-T70-011	LL1	506854.342	2606882.14	4/14/2010	Shallow	68	69	0.054 J
GP-T70-011	LL1	506854.342	2606882.14	4/14/2010	Shallow	78	79	ND
GP-T70-011	LL1	506854.342	2606882.14	4/14/2010	Intermediate	88	89	ND
GP-T70-011	LL1	506854.342	2606882.14	4/14/2010	Intermediate	98	99	ND
GP-T70-011	LL1	506854.342	2606882.14	4/14/2010	Intermediate	108	109	ND
GP-T70-011	LL1	506854.342	2606882.14	4/14/2010	Intermediate	118	119	ND
GP-T70-011	LL1	506854.342	2606882.14	4/14/2010	Intermediate	128	129	ND
GP-T71-001	LL1	502130.692	2608467.684	4/22/2010	Shallow	49	50	15
GP-T71-001	LL1	502130.692	2608467.684	4/22/2010	Shallow	59	60	23
GP-T71-001	LL1	502130.692	2608467.684	4/22/2010	Shallow	69	70	16 J
GP-T71-001	LL1	502130.692	2608467.684	4/22/2010	Shallow	79	80	ND
GP-T71-001	LL1	502130.692	2608467.684	4/22/2010	Intermediate	89	90	0.069 J
GP-T71-001	LL1	502130.692	2608467.684	4/22/2010	Intermediate	99	100	ND
GP-T71-001	LL1	502130.692	2608467.684	4/22/2010	Intermediate	109	110	ND
GP-T71-001	LL1	502130.692	2608467.684	4/22/2010	Intermediate	119	120	ND
GP-T71-002	LL1	502592.588	2608446.423	4/26/2010	Shallow	49	50	51
GP-T71-002	LL1	502592.588	2608446.423	4/26/2010	Shallow	59	60	12
GP-T71-002	LL1	502592.588	2608446.423	4/26/2010	Shallow	69	70	0.39
GP-T71-002	LL1	502592.588	2608446.423	4/26/2010	Shallow	79	80	0.49 J

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T71-002	LL1	502592.588	2608446.423	4/26/2010	Intermediate	89	90	25
GP-T71-002	LL1	502592.588	2608446.423	4/26/2010	Intermediate	99	100	0.081 J
GP-T71-002	LL1	502592.588	2608446.423	4/26/2010	Intermediate	109	110	ND
GP-T71-002	LL1	502592.588	2608446.423	4/26/2010	Intermediate	119	120	ND
GP-T71-003	LL1	503110.918	2608423.335	4/27/2010	Shallow	59	60	2.4
GP-T71-003	LL1	503110.918	2608423.335	4/27/2010	Shallow	69	70	0.8
GP-T71-003	LL1	503110.918	2608423.335	4/27/2010	Shallow	79	80	3 J
GP-T71-003	LL1	503110.918	2608423.335	4/27/2010	Intermediate	89	90	1.5
GP-T71-003	LL1	503110.918	2608423.335	4/27/2010	Intermediate	99	100	ND
GP-T71-003	LL1	503110.918	2608423.335	4/26/2010	Intermediate	109	110	ND
GP-T71-003	LL1	503110.918	2608423.335	4/26/2010	Intermediate	119	120	ND
GP-T71-004	LL1	503609.315	2608372.077	4/22/2010	Shallow	58	59	0.13 J
GP-T71-004	LL1	503609.315	2608372.077	4/22/2010	Shallow	58	59	0.15 J
GP-T71-004	LL1	503609.315	2608372.077	4/22/2010	Shallow	68	69	0.058 J
GP-T71-004	LL1	503609.315	2608372.077	4/22/2010	Shallow	78	79	ND
GP-T71-004	LL1	503609.315	2608372.077	4/22/2010	Intermediate	88	89	ND
GP-T71-004	LL1	503609.315	2608372.077	4/22/2010	Intermediate	98	99	0.25 J
GP-T71-004	LL1	503609.315	2608372.077	4/22/2010	Intermediate	108	109	ND
GP-T71-004	LL1	503609.315	2608372.077	4/22/2010	Intermediate	118	119	0.48 J
GP-T71-005	LL1	504092.32	2608344.531	4/23/2010	Shallow	59	60	0.42 J
GP-T71-005	LL1	504092.32	2608344.531	4/23/2010	Shallow	69	70	0.2 J
GP-T71-005	LL1	504092.32	2608344.531	4/23/2010	Shallow	79	80	ND
GP-T71-005	LL1	504092.32	2608344.531	4/23/2010	Intermediate	89	90	ND
GP-T71-005	LL1	504092.32	2608344.531	4/23/2010	Intermediate	99	100	0.17 J
GP-T71-005	LL1	504092.32	2608344.531	4/23/2010	Intermediate	109	110	ND
GP-T71-005	LL1	504092.32	2608344.531	4/22/2010	Intermediate	119	120	ND
GP-T71-006	LL1	504581.038	2608320.233	4/23/2010	Shallow	49	50	ND
GP-T71-006	LL1	504581.038	2608320.233	4/23/2010	Shallow	59	60	0.16 J
GP-T71-006	LL1	504581.038	2608320.233	4/23/2010	Shallow	69	70	ND
GP-T71-006	LL1	504581.038	2608320.233	4/23/2010	Shallow	79	80	0.078 J
GP-T71-006	LL1	504581.038	2608320.233	4/23/2010	Intermediate	89	90	ND
GP-T71-006	LL1	504581.038	2608320.233	4/23/2010	Intermediate	99	100	ND
GP-T71-006	LL1	504581.038	2608320.233	4/23/2010	Intermediate	109	110	ND
GP-T71-006	LL1	504581.038	2608320.233	4/23/2010	Intermediate	119	120	ND
GP-T71-007	LL1	504854.891	2608308.072	6/23/2010	Shallow	48	49	ND
GP-T71-007	LL1	504854.891	2608308.072	6/23/2010	Shallow	58	59	0.081 J
GP-T71-007	LL1	504854.891	2608308.072	6/23/2010	Shallow	68	69	0.058 J
GP-T71-007	LL1	504854.891	2608308.072	6/23/2010	Shallow	68	69	0.3
GP-T71-007	LL1	504854.891	2608308.072	6/23/2010	Intermediate	78	79	0.08 J
GP-T71-007	LL1	504854.891	2608308.072	6/23/2010	Intermediate	88	89	ND
GP-T71-007	LL1	504854.891	2608308.072	6/23/2010	Intermediate	98	99	ND
GP-T71-007	LL1	504854.891	2608308.072	6/23/2010	Intermediate	108	109	0.37
GP-T72-001	LL1	500418.64	2607636.812	4/22/2010	Shallow	57	58	0.31 J
GP-T72-001	LL1	500418.64	2607636.812	4/22/2010	Shallow	67	68	0.29 J
GP-T72-001	LL1	500418.64	2607636.812	4/22/2010	Shallow	77	78	0.11 J
GP-T72-001	LL1	500418.64	2607636.812	4/22/2010	Intermediate	87	88	0.059 J
GP-T72-001	LL1	500418.64	2607636.812	4/22/2010	Intermediate	97	98	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T72-001	LL1	500418.64	2607636.812	4/22/2010	Intermediate	107	108	0.041 J
GP-T72-002	LL1	500944.101	2607749.514	4/21/2010	Shallow	50	51	ND
GP-T72-002	LL1	500944.101	2607749.514	4/21/2010	Shallow	60	61	0.25 J
GP-T72-002	LL1	500944.101	2607749.514	4/21/2010	Shallow	70	71	0.096 J
GP-T72-002	LL1	500944.101	2607749.514	4/21/2010	Intermediate	80	81	ND
GP-T72-002	LL1	500944.101	2607749.514	4/21/2010	Intermediate	90	91	ND
GP-T72-002	LL1	500944.101	2607749.514	4/21/2010	Intermediate	100	101	ND
GP-T72-002	LL1	500944.101	2607749.514	4/21/2010	Intermediate	110	111	0.073 J
GP-T72-002	LL1	500944.101	2607749.514	4/21/2010	Intermediate	110	111	0.2 J
GP-T72-003	LL1	501090.705	2608067.525	4/22/2010	Shallow	59	60	1.7
GP-T72-003	LL1	501090.705	2608067.525	4/22/2010	Shallow	69	70	ND
GP-T72-003	LL1	501090.705	2608067.525	4/21/2010	Shallow	79	80	0.23 J
GP-T72-003	LL1	501090.705	2608067.525	4/21/2010	Intermediate	89	90	ND
GP-T72-003	LL1	501090.705	2608067.525	4/21/2010	Intermediate	99	100	0.32
GP-T72-003	LL1	501090.705	2608067.525	4/21/2010	Intermediate	109	110	0.047 J
GP-T72-003	LL1	501090.705	2608067.525	4/21/2010	Intermediate	119	120	ND
GP-T72-004	LL1	501339.419	2608501.282	4/27/2010	Shallow	52	53	0.36 J
GP-T72-004	LL1	501339.419	2608501.282	4/27/2010	Shallow	62	63	0.21 J
GP-T72-004	LL1	501339.419	2608501.282	4/27/2010	Shallow	72	73	0.17 J
GP-T72-004	LL1	501339.419	2608501.282	4/27/2010	Intermediate	82	83	1.9
GP-T72-004	LL1	501339.419	2608501.282	4/27/2010	Intermediate	92	93	ND
GP-T72-004	LL1	501339.419	2608501.282	4/27/2010	Intermediate	102	103	0.11 J
GP-T72-004	LL1	501339.419	2608501.282	4/27/2010	Intermediate	112	113	ND
MW-02A	LL1	506250.32	2606800.1	7/1/2010	Intermediate	-1	0	2.2 J
MW-02B	LL1	506255.48	2606808.89	7/1/2010	Shallow	-1	0	3 J
MW-03A	LL1	506223.41	2607532.26	7/1/2010	Intermediate	97	145.8	ND
MW-03B	LL1	506225.42	2607542.05	7/1/2010	Shallow	39.9	98.4	6.1
MW-101A	LL1	491574.11	2610929.39	7/19/2010	Intermediate	83	93	ND
MW-101B	LL1	491573.81	2610923.62	7/26/2010	Shallow	30	40	ND
MW-10A	LL1	496858.26	2607883.83	2/19/2010	Intermediate	61.4	100.4	0.12 J
MW-10B	LL1	496858.92	2607893.73	2/19/2010	Shallow	33	62.2	0.12 J
MW-119A	LL1	499580.81	2607952.6	8/2/2010	Intermediate	119.7	129.2	ND
MW-119B	LL1	499593.34	2607941.55	8/2/2010	Shallow	74	83.5	ND
MW-12	LL1	509013.88	2606856.24	4/3/2009	Shallow	27.6	37.3	0.17 J
MW-120A	LL1	499419.07	2609372.3	8/2/2010	Intermediate	128.7	138.2	ND
MW-120B	LL1	499438.96	2609372.69	8/2/2010	Shallow	65.5	75	6.42
MW-120E	LL1	499430.79	2609372.68	8/2/2010	Shallow	95.3	104.8	6.85
MW-121A	LL1	500071.01	2609752.78	7/15/2010	Intermediate	132.6	142.1	ND
MW-121B	LL1	500071.58	2609779.25	7/15/2010	Shallow	75.7	85.2	0.83
MW-121E	LL1	500071.28	2609763.3	7/15/2010	Intermediate	105.5	115	ND
MW-122A	LL1	498101.34	2609240.41	7/29/2010	Intermediate	128.5	138	ND
MW-122B	LL1	498114.6	2609232.28	7/29/2010	Shallow	97.6	107.1	0.92
MW-123A	LL1	499909.06	2608677.91	7/15/2010	Intermediate	131.8	141.3	ND
MW-123B	LL1	499909.02	2608666	7/15/2010	Shallow	90.1	99.6	0.66
MW-124A	LL1	501486.16	2609115.81	8/2/2010	Intermediate	100.3	109.8	ND
MW-124B	LL1	501496.31	2609107.78	8/2/2010	Shallow	69.7	79.2	61.6
MW-125A	LL1	500663.23	2609457.05	7/29/2010	Intermediate	117.9	127.4	ND

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MW-125B	LL1	500661.63	2609468.11	7/29/2010	Shallow	76.7	86.2	9.82 J
MW-125B	LL1	500661.63	2609468.11	7/29/2010	Shallow	76.7	86.2	10.1 J
MW-126A	LL1	504504.81	2607483.63	8/3/2010	Intermediate	112.3	121.8	ND
MW-126B	LL1	504514.65	2607482.55	8/3/2010	Shallow	82.3	91.8	20.1 J
MW-127A	LL1	506918.35	2606121.55	8/3/2010	Intermediate	118.5	128	0.092 J
MW-127B	LL1	506931.42	2606121.65	8/3/2010	Shallow	71.9	81.4	0.52 J
MW-127E	LL1	506941.6	2606121.3	8/3/2010	Shallow	51.6	61.1	19.9 J
MW-141A	LL1	502590.64	2608446.6	9/24/2010	Intermediate	105	115	0.54 J
MW-141B	LL1	502597.16	2608446.5	9/24/2010	Shallow	50	60	58
MW-141E	LL1	502604.35	2608446.5	9/24/2010	Intermediate	80	90	29.8
MW-142A	LL1	495599.01	2610571.098	9/24/2010	Intermediate	115	125	0.49
MW-142B	LL1	496389.813	2610647.806	9/24/2010	Shallow	90	100	1.05
MW-16C	LL1	514034.73	2604917.62	3/16/2007	Shallow	#N/A	#N/A	ND
MW-21A	LL1	503524.8	2607121.36	7/6/2010	Intermediate	116	126	ND
MW-21B	LL1	503524.04	2607111.29	7/6/2010	Shallow	66	76	9.8
MW-22A	LL1	510402.06	2606598.39	9/27/2007	Intermediate	87.8	97.8	ND
MW-22B	LL1	510403.43	2606604.48	9/27/2007	Shallow	58	68	ND
MW-23A	LL1	509376.37	2606402.57	9/27/2007	Intermediate	88.5	98.5	ND
MW-23B	LL1	509383.86	2606393.05	9/27/2007	Shallow	67.5	77.5	ND
MW-24A	LL1	501919.83	2608476.89	7/15/2010	Intermediate	111.5	121.5	ND
MW-24B	LL1	501909.01	2608477.73	7/15/2010	Shallow	56	66	8.9
MW-25A	LL1	504875.16	2608308.4	8/3/2010	Intermediate	145	155	ND
MW-25B	LL1	504885.57	2608308.27	1/12/2010	Shallow	74	84	ND
MW-26A	LL1	508825.08	2609860.44	7/1/2010	Intermediate	92.5	102.5	ND
MW-26B	LL1	508824.87	2609849.89	7/1/2010	Shallow	66	76	ND
MW-27A	LL1	508103.03	2611434.64	4/2/2007	Intermediate	#N/A	#N/A	ND
MW-27B	LL1	508110.54	2611427	4/2/2007	Shallow	#N/A	#N/A	ND
MW-61A	LL1	492900.04	2608656.02	8/4/2010	Intermediate	75.7	85.7	0.46
MW-61A	LL1	492900.04	2608656.02	8/4/2010	Intermediate	75.7	85.7	1.67
MW-61B	LL1	492898.59	2608644.38	8/4/2010	Shallow	25	35	ND
MW-79A	LL1	492336.2	2610432.13	12/4/2006	Intermediate	76	86	ND
MW-79B	LL1	492345.18	2610428.13	12/4/2006	Shallow	30.2	40.2	ND
MW-80A	LL1	492067.12	2610925.53	12/4/2006	Intermediate	69.17	79.17	ND
MW-80B	LL1	492064.59	2610916.24	12/4/2006	Shallow	30	40	ND
MW-81A	LL1	492369.38	2611637.99	7/19/2010	Intermediate	79	92	ND
MW-81B	LL1	492360.36	2611635.91	7/19/2010	Shallow	28.2	38.2	ND
MW-89A	LL1	494253.87	2610430.84	3/8/2007	Intermediate	129.2	139.2	ND
MW-89B	LL1	494254.09	2610408.68	3/8/2007	Shallow	65	75.7	ND
MW-89E	LL1	494253.06	2610466.38	9/24/2010	Shallow	85	95	0.32 J
MW-90A	LL1	494302.03	2611235.53	7/19/2010	Intermediate	112.2	123.4	ND
MW-90B	LL1	494297.96	2611226.6	7/19/2010	Shallow	65.35	75.45	0.26
MW-91A	LL1	494322.99	2612076.97	3/9/2007	Intermediate	109.2	119.2	ND
MW-91B	LL1	494317.52	2612067.84	3/9/2007	Shallow	67.6	77.6	ND
MW-92A	LL1	492722.58	2610047.26	3/13/2007	Intermediate	72.16	82.16	ND
MW-92B	LL1	492733.82	2610047.79	3/13/2007	Shallow	30.1	40.1	ND
MW-93A	LL1	493551.29	2612162.88	3/13/2007	Intermediate	84.2	94.2	ND
MW-93B	LL1	493546.79	2612154.06	3/14/2007	Shallow	60	70	ND

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BAZE-EW-01	LL2	502126.71	2616100.04	3/10/2010	Shallow	53	73	1.1 J
BAZE-EW-01	LL2	502126.71	2616100.04	3/10/2010	Shallow	53	73	1.1 J
BAZE-EW-01	LL2	502126.71	2616100.04	3/10/2010	Shallow	53	73	0.88 J
BAZE-EW-01	LL2	502126.71	2616100.04	3/10/2010	Shallow	53	73	0.92 J
BAZE-MW-01	LL2	502209.12	2616042.51	3/1/2010	Shallow	55	75	100
BAZE-MW-01	LL2	502209.12	2616042.51	3/1/2010	Shallow	55	75	130
BAZE-MW-03	LL2	502084.64	2616128.6	3/4/2010	Shallow	53	73	48
BAZE-MW-03	LL2	502084.64	2616128.6	3/4/2010	Shallow	53	73	82
BAZE-MW-03	LL2	502084.64	2616128.6	3/4/2010	Shallow	53	73	78
BAZE-MW-06	LL2	502044.01	2616157.12	3/2/2010	Shallow	56	76	320
BAZE-MW-06	LL2	502044.01	2616157.12	4/19/2010	Shallow	56	76	320
BAZE-MW-06	LL2	502044.01	2616157.12	3/2/2010	Shallow	56	76	380
BAZE-MW-09	LL2	501959.61	2616214.12	3/3/2010	Shallow	56	76	99
BAZE-MW-09	LL2	501959.61	2616214.12	3/3/2010	Shallow	56	76	87
BAZE-MW-11	LL2	501626.78	2616437.04	3/3/2010	Shallow	52	72	53
BAZE-MW-11	LL2	501626.78	2616437.04	4/19/2010	Shallow	52	72	45
BAZE-MW-11	LL2	501626.78	2616437.04	3/3/2010	Shallow	52	72	55
GP-130	LL2	496650.27	2629053.38	2/12/2009	Shallow	82	83	2
GP-130	LL2	496650.27	2629053.38	2/12/2009	Shallow	90	91	0.13 J
GP-130	LL2	496650.27	2629053.38	2/12/2009	Intermediate	98	99	2.1
GP-130	LL2	496650.27	2629053.38	2/12/2009	Intermediate	106	107	1.5
GP-131	LL2	497675	2628329	2/11/2009	Shallow	73	74	0.51
GP-131	LL2	497675	2628329	2/11/2009	Shallow	77	78	2.6
GP-131	LL2	497675	2628329	2/11/2009	Intermediate	87	88	2.2
GP-131	LL2	497675	2628329	2/11/2009	Intermediate	87	88	2.4
GP-131	LL2	497675	2628329	2/11/2009	Intermediate	97	98	3.3
GP-MW-129	LL2	496536.62	2627759.96	2/12/2009	Shallow	73	74	ND
GP-MW-129	LL2	496536.62	2627759.96	2/12/2009	Shallow	81	82	RDX
GP-MW-129	LL2	496536.62	2627759.96	2/12/2009	Intermediate	89	90	RDX
GP-MW-129	LL2	496536.62	2627759.96	2/12/2009	Intermediate	97	98	RDX
GP-MW-144	LL2	504219.095	2614425.592	6/23/2010	Shallow	50	51	0.044 J
GP-MW-144	LL2	504219.095	2614425.592	6/23/2010	Shallow	60	61	0.055 J
GP-MW-144	LL2	504219.095	2614425.592	6/23/2010	Shallow	70	71	1.1
GP-MW-144	LL2	504219.095	2614425.592	6/23/2010	Intermediate	80	81	27
GP-MW-144	LL2	504219.095	2614425.592	6/23/2010	Intermediate	90	91	0.22
GP-MW-144	LL2	504219.095	2614425.592	6/23/2010	Intermediate	100	101	9
GP-MW-144	LL2	504219.095	2614425.592	6/23/2010	Intermediate	100	101	0.49
GP-MW-146	LL2	495349.499	2618922.972	6/16/2010	Shallow	61	62	0.072 J
GP-MW-146	LL2	495349.499	2618922.972	6/16/2010	Shallow	71	72	0.17 J
GP-MW-146	LL2	495349.499	2618922.972	6/16/2010	Shallow	71	72	0.14 J
GP-MW-146	LL2	495349.499	2618922.972	6/16/2010	Shallow	81	82	0.15 J
GP-MW-146	LL2	495349.499	2618922.972	6/16/2010	Intermediate	91	92	ND
GP-MW-146	LL2	495349.499	2618922.972	6/15/2010	Intermediate	101	102	ND
GP-MW-147	LL2	494876.817	2620075.302	6/17/2010	Shallow	52	53	ND
GP-MW-147	LL2	494876.817	2620075.302	6/17/2010	Shallow	62	63	ND
GP-MW-147	LL2	494876.817	2620075.302	6/16/2010	Shallow	72	73	ND
GP-MW-147	LL2	494876.817	2620075.302	6/16/2010	Intermediate	82	83	ND

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GP-MW-147	LL2	494876.817	2620075.302	6/16/2010	Intermediate	92	93	ND
GP-MW-147	LL2	494876.817	2620075.302	6/16/2010	Intermediate	102	103	ND
GP-T35-03	LL2	506989.68	2612280.72	5/21/2007	Shallow	51	52	ND
GP-T35-03	LL2	506989.68	2612280.72	5/21/2007	Intermediate	87	88	ND
GP-T35-04	LL2	507460.6	2612983.48	5/30/2007	Shallow	50	51	1
GP-T35-04	LL2	507460.6	2612983.48	5/30/2007	Shallow	50	51	1.4
GP-T35-04	LL2	507460.6	2612983.48	5/30/2007	Intermediate	88	89	ND
GP-T35-05	LL2	507780.7	2613396.4	5/30/2007	Shallow	50	51	ND
GP-T35-05	LL2	507780.7	2613396.4	5/30/2007	Intermediate	87	88	1.2
GP-T36-02	LL2	503584.4	2612477.21	5/22/2007	Shallow	57	58	ND
GP-T36-02	LL2	503584.4	2612477.21	5/22/2007	Intermediate	107	108	ND
GP-T36-03	LL2	504979.87	2613110.21	5/9/2007	Shallow	56	57	3.2
GP-T36-03	LL2	504979.87	2613110.21	5/9/2007	Shallow	69	70	ND
GP-T36-03	LL2	504979.87	2613110.21	5/8/2007	Shallow	82	83	ND
GP-T36-03	LL2	504979.87	2613110.21	5/8/2007	Intermediate	94	95	ND
GP-T36-03	LL2	504979.87	2613110.21	5/8/2007	Intermediate	107	108	ND
GP-T36-04	LL2	505429	2613501.19	5/21/2007	Shallow	55	56	0.9 J
GP-T36-04	LL2	505429	2613501.19	5/21/2007	Intermediate	91	92	ND
GP-T36-05	LL2	505640.57	2614239.46	5/21/2007	Shallow	56	57	ND
GP-T36-05	LL2	505640.57	2614239.46	5/21/2007	Intermediate	90	91	ND
GP-T36-06	LL2	506302.27	2615033.88	5/21/2007	Shallow	55	56	ND
GP-T36-06	LL2	506302.27	2615033.88	5/21/2007	Intermediate	88	89	ND
GP-T36-07	LL2	503600.61	2613364.02	5/25/2007	Shallow	60	61	3.2
GP-T36-07	LL2	503600.61	2613364.02	5/25/2007	Intermediate	105	106	ND
GP-T37-01	LL2	501762.21	2612475.22	5/16/2007	Shallow	71	72	ND
GP-T37-01	LL2	501762.21	2612475.22	5/16/2007	Intermediate	114	115	ND
GP-T37-02	LL2	502259.54	2613629.63	5/16/2007	Shallow	73	74	ND
GP-T37-02	LL2	502259.54	2613629.63	5/16/2007	Intermediate	113	114	ND
GP-T37-03	LL2	502529.8	2614098.09	5/7/2007	Shallow	57	58	ND
GP-T37-03	LL2	502529.8	2614098.09	5/7/2007	Shallow	69	70	0.3 J
GP-T37-03	LL2	502529.8	2614098.09	5/7/2007	Intermediate	81	82	0.2 J
GP-T37-03	LL2	502529.8	2614098.09	5/7/2007	Intermediate	93	94	0.3 J
GP-T37-03	LL2	502529.8	2614098.09	5/7/2007	Intermediate	105	106	ND
GP-T37-04	LL2	503088.23	2614343.6	5/31/2007	Shallow	64	65	ND
GP-T37-04	LL2	503088.23	2614343.6	5/31/2007	Intermediate	98	99	ND
GP-T37-05	LL2	503699.23	2615363.81	5/15/2007	Shallow	63	64	ND
GP-T37-05	LL2	503699.23	2615363.81	5/15/2007	Intermediate	93	94	ND
GP-T37-06	LL2	504280.01	2615966.7	5/15/2007	Shallow	62	63	ND
GP-T37-06	LL2	504280.01	2615966.7	5/15/2007	Intermediate	91	92	ND
GP-T37-07	LL2	503809.58	2617614.79	5/30/2007	Shallow	62	63	ND
GP-T37-07	LL2	503809.58	2617614.79	5/30/2007	Intermediate	90	91	ND
GP-T37-08	LL2	503132.19	2614920.16	11/17/2007	Shallow	58	59	ND
GP-T37-08	LL2	503132.19	2614920.16	11/17/2007	Shallow	71	72	ND
GP-T37-08	LL2	503132.19	2614920.16	11/17/2007	Intermediate	84	85	ND
GP-T37-08	LL2	503132.19	2614920.16	11/17/2007	Intermediate	97	98	ND
GP-T37-09	LL2	503373.84	2615136.13	11/16/2007	Shallow	61	62	ND
GP-T37-09	LL2	503373.84	2615136.13	11/16/2007	Shallow	73	74	ND

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GP-T37-09	LL2	503373.84	2615136.13	11/16/2007	Intermediate	86	87	ND
GP-T37-09	LL2	503373.84	2615136.13	11/16/2007	Intermediate	98	99	ND
GP-T37-10	LL2	504352.22	2615659.73	11/14/2007	Shallow	61	62	ND
GP-T37-10	LL2	504352.22	2615659.73	11/14/2007	Shallow	73	74	ND
GP-T37-10	LL2	504352.22	2615659.73	11/14/2007	Intermediate	84	85	ND
GP-T37-10	LL2	504352.22	2615659.73	11/14/2007	Intermediate	96	97	ND
GP-T37-11	LL2	504350.43	2614925.33	11/16/2007	Shallow	62	63	ND
GP-T37-11	LL2	504350.43	2614925.33	11/16/2007	Shallow	75	76	ND
GP-T37-11	LL2	504350.43	2614925.33	11/16/2007	Intermediate	87	88	ND
GP-T37-11	LL2	504350.43	2614925.33	11/16/2007	Intermediate	100	101	ND
GP-T37-12	LL2	503159.57	2615758.31	11/16/2007	Shallow	60	61	ND
GP-T37-12	LL2	503159.57	2615758.31	11/16/2007	Shallow	72	73	ND
GP-T37-12	LL2	503159.57	2615758.31	11/16/2007	Intermediate	83	84	ND
GP-T37-12	LL2	503159.57	2615758.31	11/16/2007	Intermediate	95	96	ND
GP-T38-01	LL2	500935.82	2613182.7	5/24/2007	Shallow	70	71	10
GP-T38-01	LL2	500935.82	2613182.7	5/24/2007	Intermediate	114	115	ND
GP-T38-02	LL2	501409.9	2613665.11	5/25/2007	Shallow	69	70	ND
GP-T38-02	LL2	501409.9	2613665.11	5/25/2007	Intermediate	104	105	ND
GP-T38-03	LL2	501836.4	2614527.86	5/23/2007	Shallow	63	64	ND
GP-T38-03	LL2	501836.4	2614527.86	5/23/2007	Intermediate	99	100	7.2 J
GP-T38-03	LL2	501836.4	2614527.86	5/23/2007	Intermediate	99	100	ND
GP-T38-04	LL2	501872.18	2615639.04	5/23/2007	Shallow	72	73	13
GP-T38-04	LL2	501872.18	2615639.04	5/23/2007	Intermediate	95	96	0.5 J
GP-T38-05	LL2	502206.11	2616051.76	5/23/2007	Shallow	70	71	60
GP-T38-05	LL2	502206.11	2616051.76	5/23/2007	Intermediate	92	93	6.6
GP-T38-06	LL2	502747.71	2616629.67	5/24/2007	Shallow	68	69	ND
GP-T38-06	LL2	502747.71	2616629.67	5/24/2007	Intermediate	88	89	ND
GP-T38-07	LL2	503205.52	2617226.86	5/15/2007	Shallow	64	65	ND
GP-T38-07	LL2	503205.52	2617226.86	5/15/2007	Intermediate	84	85	ND
GP-T39-01	LL2	500178.83	2614137.21	5/23/2007	Shallow	70	71	ND
GP-T39-01	LL2	500178.83	2614137.21	5/23/2007	Intermediate	110	111	ND
GP-T39-02	LL2	500563.62	2615480.77	5/8/2007	Shallow	59	60	ND
GP-T39-02	LL2	500563.62	2615480.77	5/8/2007	Shallow	70	71	ND
GP-T39-02	LL2	500563.62	2615480.77	5/8/2007	Intermediate	81	82	ND
GP-T39-02	LL2	500563.62	2615480.77	5/8/2007	Intermediate	92	93	ND
GP-T39-02	LL2	500563.62	2615480.77	5/8/2007	Intermediate	103	104	ND
GP-T39-03	LL2	501009.77	2616088.88	5/23/2007	Shallow	72	73	31
GP-T39-03	LL2	501009.77	2616088.88	5/23/2007	Intermediate	94	95	ND
GP-T39-04	LL2	501467.58	2616610.56	5/8/2007	Shallow	59	60	32
GP-T39-04	LL2	501467.58	2616610.56	5/8/2007	Shallow	70	71	49 J
GP-T39-04	LL2	501467.58	2616610.56	5/8/2007	Shallow	70	71	3.9 J
GP-T39-04	LL2	501467.58	2616610.56	5/8/2007	Intermediate	82	83	ND
GP-T39-04	LL2	501467.58	2616610.56	5/8/2007	Intermediate	94	95	ND
GP-T39-04	LL2	501467.58	2616610.56	5/8/2007	Intermediate	106	107	ND
GP-T39-05	LL2	501929.5	2617331.96	5/24/2007	Shallow	68	69	ND
GP-T39-05	LL2	501929.5	2617331.96	5/24/2007	Intermediate	89	90	ND
GP-T40-01	LL2	498855.51	2615325.3	5/23/2007	Shallow	82	83	ND

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GP-T40-01	LL2	498855.51	2615325.3	5/23/2007	Intermediate	104	105	ND
GP-T40-02	LL2	499102.3	2615966.23	5/23/2007	Shallow	75	76	ND
GP-T40-02	LL2	499102.3	2615966.23	5/23/2007	Intermediate	94	95	ND
GP-T40-03	LL2	499481.32	2616735.61	5/14/2007	Shallow	63	64	2.9
GP-T40-03	LL2	499481.32	2616735.61	5/14/2007	Shallow	73	74	5.2
GP-T40-03	LL2	499481.32	2616735.61	5/14/2007	Shallow	83	84	8.3
GP-T40-03	LL2	499481.32	2616735.61	5/14/2007	Intermediate	94	95	ND
GP-T40-03	LL2	499481.32	2616735.61	5/14/2007	Intermediate	101	102	ND
GP-T40-04	LL2	499867.89	2617012.14	5/22/2007	Shallow	76	77	ND
GP-T40-04	LL2	499867.89	2617012.14	5/22/2007	Intermediate	95	96	20 J
GP-T40-05	LL2	500631.53	2617941.08	5/24/2007	Shallow	76	77	ND
GP-T40-05	LL2	500631.53	2617941.08	5/24/2007	Intermediate	95	96	ND
GP-T40-06	LL2	500876.06	2618881.07	5/22/2007	Shallow	76	77	ND
GP-T40-06	LL2	500876.06	2618881.07	5/22/2007	Intermediate	95	96	ND
GP-T40-07	LL2	501374.46	2619508.77	5/23/2007	Shallow	75	76	ND
GP-T40-07	LL2	501374.46	2619508.77	5/23/2007	Intermediate	94	95	ND
GP-T40-08	LL2	501899.98	2620213.14	5/23/2007	Shallow	73	74	ND
GP-T40-08	LL2	501899.98	2620213.14	5/23/2007	Shallow	73	74	ND
GP-T40-08	LL2	501899.98	2620213.14	5/23/2007	Intermediate	92	93	ND
GP-T40-09	LL2	500223.33	2617267.83	11/18/2007	Shallow	64	65	ND
GP-T40-09	LL2	500223.33	2617267.83	11/18/2007	Shallow	75	76	ND
GP-T40-09	LL2	500223.33	2617267.83	11/18/2007	Intermediate	86	87	ND
GP-T40-09	LL2	500223.33	2617267.83	11/18/2007	Intermediate	97	98	ND
GP-T40-10	LL2	500622.85	2617511.3	11/18/2007	Shallow	63	64	ND
GP-T40-10	LL2	500622.85	2617511.3	11/18/2007	Shallow	75	76	ND
GP-T40-10	LL2	500622.85	2617511.3	11/18/2007	Intermediate	86	87	ND
GP-T40-10	LL2	500622.85	2617511.3	11/18/2007	Intermediate	97	98	110
GP-T40-10	LL2	500622.85	2617511.3	11/18/2007	Intermediate	97	98	98
GP-T41-01	LL2	495179.18	2618918.54	5/30/2007	Shallow	71	72	ND
GP-T41-01	LL2	495179.18	2618918.54	5/30/2007	Intermediate	96	97	ND
GP-T41-02	LL2	495768.48	2619781.46	5/9/2007	Shallow	69	70	ND
GP-T41-02	LL2	495768.48	2619781.46	5/9/2007	Shallow	76	77	ND
GP-T41-02	LL2	495768.48	2619781.46	5/9/2007	Intermediate	83	84	0.3 J
GP-T41-02	LL2	495768.48	2619781.46	5/9/2007	Intermediate	91	92	1.5 J
GP-T41-02	LL2	495768.48	2619781.46	5/9/2007	Intermediate	91	92	62 J
GP-T41-02	LL2	495768.48	2619781.46	5/9/2007	Intermediate	98	99	34
GP-T41-03	LL2	496365.63	2620632.39	5/25/2007	Shallow	82	83	ND
GP-T41-03	LL2	496365.63	2620632.39	5/25/2007	Intermediate	95	96	ND
GP-T41-04	LL2	496788.94	2621200.72	5/9/2007	Shallow	70	71	ND
GP-T41-04	LL2	496788.94	2621200.72	5/9/2007	Shallow	76	77	2.4
GP-T41-04	LL2	496788.94	2621200.72	5/9/2007	Shallow	83	84	ND
GP-T41-04	LL2	496788.94	2621200.72	5/9/2007	Intermediate	89	90	ND
GP-T41-04	LL2	496788.94	2621200.72	5/9/2007	Intermediate	96	97	ND
GP-T41-05	LL2	497352.02	2621875.48	5/25/2007	Shallow	68	69	ND
GP-T41-05	LL2	497352.02	2621875.48	5/25/2007	Intermediate	92	93	ND
GP-T41-06	LL2	497773.34	2622428.13	5/9/2007	Shallow	68	69	ND
GP-T41-06	LL2	497773.34	2622428.13	5/9/2007	Shallow	75	76	0.6 J

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T41-06	LL2	497773.34	2622428.13	5/9/2007	Intermediate	82	83	ND
GP-T41-06	LL2	497773.34	2622428.13	5/9/2007	Intermediate	89	90	ND
GP-T41-06	LL2	497773.34	2622428.13	5/9/2007	Intermediate	96	97	1.4
GP-T41-07	LL2	498218.59	2623091.33	5/24/2007	Shallow	70	71	ND
GP-T41-07	LL2	498218.59	2623091.33	5/24/2007	Intermediate	101	102	ND
GP-T41-08	LL2	498644.72	2623785.6	5/24/2007	Shallow	70	71	ND
GP-T41-08	LL2	498644.72	2623785.6	5/24/2007	Intermediate	103	104	ND
GP-T42-01	LL2	504382.16	2618761.34	5/15/2007	Shallow	65	66	ND
GP-T42-01	LL2	504382.16	2618761.34	5/15/2007	Intermediate	92	93	ND
GP-T42-02	LL2	505535.87	2618707.45	5/15/2007	Shallow	63	64	ND
GP-T42-02	LL2	505535.87	2618707.45	5/15/2007	Intermediate	90	91	0.3 J
GP-T42-03	LL2	506036.23	2619516.01	5/15/2007	Shallow	66	67	ND
GP-T42-03	LL2	506036.23	2619516.01	5/15/2007	Intermediate	93	94	1.8 J
GP-T42-03	LL2	506036.23	2619516.01	5/15/2007	Intermediate	93	94	1.2 J
GP-T42-04	LL2	506524.99	2620153.36	5/14/2007	Shallow	71	72	ND
GP-T42-04	LL2	506524.99	2620153.36	5/14/2007	Intermediate	98	99	ND
GP-T43-01	LL2	502743.1	2619686.24	5/12/2007	Shallow	71	72	ND
GP-T43-01	LL2	502743.1	2619686.24	5/12/2007	Intermediate	98	99	ND
GP-T43-02	LL2	503311.16	2620188.97	5/12/2007	Shallow	72	73	0.5 J
GP-T43-02	LL2	503311.16	2620188.97	5/12/2007	Intermediate	99	100	ND
GP-T43-03	LL2	503872.73	2620546.78	5/7/2007	Shallow	57	58	2.3
GP-T43-03	LL2	503872.73	2620546.78	5/7/2007	Shallow	70	71	14
GP-T43-03	LL2	503872.73	2620546.78	5/7/2007	Intermediate	83	84	ND
GP-T43-03	LL2	503872.73	2620546.78	5/7/2007	Intermediate	97	98	8.4
GP-T43-03	LL2	503872.73	2620546.78	5/7/2007	Intermediate	105	106	ND
GP-T43-04	LL2	504472.3	2621093.75	5/14/2007	Shallow	75	76	ND
GP-T43-04	LL2	504472.3	2621093.75	5/14/2007	Intermediate	102	103	ND
GP-T43-05	LL2	505241.43	2621454.43	5/14/2007	Shallow	73	74	ND
GP-T43-05	LL2	505241.43	2621454.43	5/14/2007	Intermediate	95	96	ND
GP-T44-01	LL2	499998.93	2622869.73	5/22/2007	Shallow	82	83	ND
GP-T44-01	LL2	499998.93	2622869.73	5/22/2007	Intermediate	99	100	0.4 J
GP-T44-02	LL2	500397.48	2623282.13	5/22/2007	Shallow	72	73	0.7 J
GP-T44-02	LL2	500397.48	2623282.13	5/22/2007	Intermediate	89	90	1.1
GP-T44-03	LL2	501002.17	2623693.65	5/14/2007	Shallow	62	63	1.5
GP-T44-03	LL2	501002.17	2623693.65	5/14/2007	Shallow	70	71	1.2
GP-T44-03	LL2	501002.17	2623693.65	5/14/2007	Intermediate	77	78	6.4
GP-T44-03	LL2	501002.17	2623693.65	5/14/2007	Intermediate	85	86	0.8 J
GP-T44-03	LL2	501002.17	2623693.65	5/14/2007	Intermediate	92	93	ND
GP-T44-04	LL2	501439.19	2624187.22	5/22/2007	Shallow	73	74	ND
GP-T44-04	LL2	501439.19	2624187.22	5/22/2007	Intermediate	91	92	ND
GP-T44-05	LL2	501703.03	2624796.35	5/22/2007	Shallow	71	72	ND
GP-T44-05	LL2	501703.03	2624796.35	5/22/2007	Intermediate	88	89	0.8 J
GP-T45-01	LL2	499153.05	2624853.56	5/29/2007	Shallow	88	89	ND
GP-T45-01	LL2	499153.05	2624853.56	5/29/2007	Intermediate	112	113	6.1
GP-T45-01	LL2	499153.05	2624853.56	5/29/2007	Intermediate	112	113	5.9
GP-T45-02	LL2	499747.6	2625373.92	5/11/2007	Shallow	70	71	ND
GP-T45-02	LL2	499747.6	2625373.92	5/11/2007	Shallow	78	79	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T45-02	LL2	499747.6	2625373.92	5/11/2007	Intermediate	87	88	ND
GP-T45-02	LL2	499747.6	2625373.92	5/11/2007	Intermediate	96	97	3.2
GP-T45-02	LL2	499747.6	2625373.92	5/11/2007	Intermediate	105	106	ND
GP-T45-03	LL2	500266.39	2625870.74	5/29/2007	Shallow	68	69	ND
GP-T45-03	LL2	500266.39	2625870.74	5/29/2007	Intermediate	91	92	ND
GP-T45-04	LL2	500703.12	2626294.06	5/30/2007	Shallow	63	64	ND
GP-T45-04	LL2	500703.12	2626294.06	5/30/2007	Intermediate	86	87	ND
GP-T45-05	LL2	498093.29	2627666.17	5/11/2007	Shallow	72	73	ND
GP-T45-05	LL2	498093.29	2627666.17	5/11/2007	Shallow	81	82	ND
GP-T45-05	LL2	498093.29	2627666.17	5/11/2007	Intermediate	90	91	1.3
GP-T45-05	LL2	498093.29	2627666.17	5/11/2007	Intermediate	99	100	ND
GP-T45-05	LL2	498093.29	2627666.17	5/11/2007	Intermediate	106	107	1.6
GP-T45-06	LL2	497911.58	2626373.45	5/11/2007	Shallow	69	70	ND
GP-T45-06	LL2	497911.58	2626373.45	5/11/2007	Shallow	78	79	ND
GP-T45-06	LL2	497911.58	2626373.45	5/11/2007	Intermediate	87	88	0.4 J
GP-T45-06	LL2	497911.58	2626373.45	5/11/2007	Intermediate	96	97	ND
GP-T45-06	LL2	497911.58	2626373.45	5/11/2007	Intermediate	105	106	ND
GP-T45-07	LL2	497354.63	2626003.12	5/30/2007	Shallow	67	68	ND
GP-T45-07	LL2	497354.63	2626003.12	5/30/2007	Intermediate	90	91	ND
GP-T45-08	LL2	496505.9	2628235.3	5/30/2007	Shallow	68	69	ND
GP-T45-08	LL2	496505.9	2628235.3	5/30/2007	Intermediate	94	95	ND
GP-T45-09	LL2	496763.13	2630965.38	5/29/2007	Shallow	57	58	ND
GP-T45-09	LL2	496763.13	2630965.38	5/29/2007	Shallow	64	65	ND
GP-T45-09	LL2	496763.13	2630965.38	5/29/2007	Shallow	71	72	ND
GP-T45-09	LL2	496763.13	2630965.38	5/29/2007	Intermediate	78	79	ND
GP-T45-09	LL2	496763.13	2630965.38	5/29/2007	Intermediate	85	86	ND
GP-T45-10	LL2	497359.31	2630935.57	5/29/2007	Shallow	57	58	ND
GP-T45-10	LL2	497359.31	2630935.57	5/29/2007	Shallow	64	65	ND
GP-T45-10	LL2	497359.31	2630935.57	5/29/2007	Shallow	71	72	ND
GP-T45-10	LL2	497359.31	2630935.57	5/29/2007	Intermediate	78	79	ND
GP-T45-10	LL2	497359.31	2630935.57	5/29/2007	Intermediate	85	86	ND
GP-T45-11	LL2	497958.67	2625052.85	11/13/2007	Shallow	68	69	ND
GP-T45-11	LL2	497958.67	2625052.85	11/13/2007	Shallow	77	78	0.2 J
GP-T45-11	LL2	497958.67	2625052.85	11/13/2007	Shallow	77	78	ND
GP-T45-11	LL2	497958.67	2625052.85	11/13/2007	Intermediate	86	87	ND
GP-T45-11	LL2	497958.67	2625052.85	11/13/2007	Intermediate	95	96	ND
GP-T45-12	LL2	498242.35	2625574.3	11/26/2007	Shallow	66	67	ND
GP-T45-12	LL2	498242.35	2625574.3	11/26/2007	Shallow	75	76	ND
GP-T45-12	LL2	498242.35	2625574.3	11/26/2007	Intermediate	85	86	2.9
GP-T45-12	LL2	498242.35	2625574.3	11/26/2007	Intermediate	85	86	3.8
GP-T45-12	LL2	498242.35	2625574.3	11/26/2007	Intermediate	94	95	2.8
GP-T45-13	LL2	498590.29	2626255.49	11/28/2007	Shallow	77	78	1.8
GP-T45-13	LL2	498590.29	2626255.49	11/28/2007	Shallow	87	88	ND
GP-T45-13	LL2	498590.29	2626255.49	11/28/2007	Intermediate	96	97	4.1
GP-T45-13	LL2	498590.29	2626255.49	11/28/2007	Intermediate	106	107	ND
GP-T45-14	LL2	496812.09	2626551.5	11/14/2007	Shallow	62	63	ND
GP-T45-14	LL2	496812.09	2626551.5	11/14/2007	Shallow	71	72	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T45-14	LL2	496812.09	2626551.5	11/14/2007	Intermediate	80	81	0.8 J
GP-T45-14	LL2	496812.09	2626551.5	11/14/2007	Intermediate	89	90	ND
GP-T45-14	LL2	496812.09	2626551.5	11/14/2007	Intermediate	89	90	1.3
GP-T46-02	LL2	500856.38	2612675.02	11/13/2007	Shallow	67	68	ND
GP-T46-02	LL2	500856.38	2612675.02	11/13/2007	Shallow	84	85	ND
GP-T46-02	LL2	500856.38	2612675.02	11/13/2007	Intermediate	101	102	ND
GP-T46-02	LL2	500856.38	2612675.02	11/13/2007	Intermediate	117	118	ND
GP-T46-03	LL2	500443.68	2612905.93	11/13/2007	Shallow	69	70	ND
GP-T46-03	LL2	500443.68	2612905.93	11/13/2007	Shallow	85	86	ND
GP-T46-03	LL2	500443.68	2612905.93	11/13/2007	Intermediate	102	103	ND
GP-T46-03	LL2	500443.68	2612905.93	11/13/2007	Intermediate	118	119	ND
GP-T46-04	LL2	500462.93	2613180.37	11/28/2007	Shallow	66	67	ND
GP-T46-04	LL2	500462.93	2613180.37	11/28/2007	Shallow	82	83	ND
GP-T46-04	LL2	500462.93	2613180.37	11/28/2007	Intermediate	99	100	ND
GP-T46-04	LL2	500462.93	2613180.37	11/28/2007	Intermediate	115	116	ND
GP-T46-05	LL2	500472.93	2613732.95	11/28/2007	Shallow	67	68	ND
GP-T46-05	LL2	500472.93	2613732.95	11/28/2007	Shallow	83	84	ND
GP-T46-05	LL2	500472.93	2613732.95	11/28/2007	Intermediate	100	101	ND
GP-T46-05	LL2	500472.93	2613732.95	11/28/2007	Intermediate	116	117	ND
GP-T46-06	LL2	499856.12	2613240.53	11/13/2007	Shallow	65	66	ND
GP-T46-06	LL2	499856.12	2613240.53	11/13/2007	Shallow	82	83	ND
GP-T46-06	LL2	499856.12	2613240.53	11/13/2007	Intermediate	99	100	ND
GP-T46-06	LL2	499856.12	2613240.53	11/13/2007	Intermediate	115	116	ND
GP-T46-07	LL2	499866.35	2613765.62	11/28/2007	Shallow	67	68	ND
GP-T46-07	LL2	499866.35	2613765.62	11/28/2007	Shallow	84	85	ND
GP-T46-07	LL2	499866.35	2613765.62	11/28/2007	Intermediate	101	102	ND
GP-T46-07	LL2	499866.35	2613765.62	11/28/2007	Intermediate	117	118	8.1
GP-T46-07	LL2	499866.35	2613765.62	11/28/2007	Intermediate	117	118	8.7
GP-T46-08	LL2	499417.97	2613755.76	11/26/2007	Shallow	68	69	ND
GP-T46-08	LL2	499417.97	2613755.76	11/26/2007	Shallow	85	86	ND
GP-T46-08	LL2	499417.97	2613755.76	11/26/2007	Intermediate	101	102	0.3 J
GP-T46-08	LL2	499417.97	2613755.76	11/26/2007	Intermediate	101	102	1.8
GP-T46-08	LL2	499417.97	2613755.76	11/26/2007	Intermediate	118	119	ND
GP-T46-09	LL2	498958.01	2613246.24	11/12/2007	Shallow	67	68	ND
GP-T46-09	LL2	498958.01	2613246.24	11/12/2007	Shallow	84	85	ND
GP-T46-09	LL2	498958.01	2613246.24	11/12/2007	Intermediate	101	102	ND
GP-T46-09	LL2	498958.01	2613246.24	11/12/2007	Intermediate	118	119	ND
GP-T46-10	LL2	498932.3	2614221.47	11/20/2007	Shallow	68	69	ND
GP-T46-10	LL2	498932.3	2614221.47	11/20/2007	Shallow	85	86	ND
GP-T46-10	LL2	498932.3	2614221.47	11/20/2007	Intermediate	102	103	ND
GP-T46-10	LL2	498932.3	2614221.47	11/20/2007	Intermediate	119	120	ND
GP-T46-11	LL2	499108.82	2614699.13	11/12/2007	Shallow	67	68	0.4 J
GP-T46-11	LL2	499108.82	2614699.13	11/12/2007	Shallow	83	84	ND
GP-T46-11	LL2	499108.82	2614699.13	11/12/2007	Intermediate	99	100	ND
GP-T46-11	LL2	499108.82	2614699.13	11/12/2007	Intermediate	114	115	ND
GP-T46-12	LL2	498623.91	2614317.9	11/19/2007	Shallow	69	70	ND
GP-T46-12	LL2	498623.91	2614317.9	11/19/2007	Shallow	86	87	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T46-12	LL2	498623.91	2614317.9	11/19/2007	Intermediate	103	104	ND
GP-T46-12	LL2	498623.91	2614317.9	11/19/2007	Intermediate	120	121	ND
GP-T46-13	LL2	498698.57	2614779.86	11/19/2007	Shallow	69	70	ND
GP-T46-13	LL2	498698.57	2614779.86	11/19/2007	Shallow	84	85	ND
GP-T46-13	LL2	498698.57	2614779.86	11/19/2007	Intermediate	100	101	ND
GP-T46-13	LL2	498698.57	2614779.86	11/19/2007	Intermediate	116	117	ND
GP-T46-14	LL2	499616.34	2614197.26	11/27/2007	Shallow	66	67	ND
GP-T46-14	LL2	499616.34	2614197.26	11/27/2007	Shallow	83	84	ND
GP-T46-14	LL2	499616.34	2614197.26	11/27/2007	Intermediate	99	100	ND
GP-T46-14	LL2	499616.34	2614197.26	11/27/2007	Intermediate	116	117	ND
GP-T46-15	LL2	498484.04	2613824.03	11/13/2007	Shallow	69	70	ND
GP-T46-15	LL2	498484.04	2613824.03	11/13/2007	Shallow	86	87	ND
GP-T46-15	LL2	498484.04	2613824.03	11/13/2007	Intermediate	103	104	ND
GP-T46-15	LL2	498484.04	2613824.03	11/13/2007	Intermediate	120	121	ND
GP-T46-16	LL2	497921.34	2614773.71	11/18/2007	Shallow	70	71	ND
GP-T46-16	LL2	497921.34	2614773.71	11/18/2007	Shallow	86	87	ND
GP-T46-16	LL2	497921.34	2614773.71	11/18/2007	Intermediate	102	103	ND
GP-T46-16	LL2	497921.34	2614773.71	11/18/2007	Intermediate	117	118	ND
GP-T46-17	LL2	497395.57	2615004.43	11/13/2007	Shallow	70	71	ND
GP-T46-17	LL2	497395.57	2615004.43	11/13/2007	Shallow	85	86	ND
GP-T46-17	LL2	497395.57	2615004.43	11/13/2007	Intermediate	100	101	ND
GP-T46-17	LL2	497395.57	2615004.43	11/13/2007	Intermediate	115	116	ND
GP-T46-18	LL2	500931.02	2613165.83	11/28/2007	Shallow	66	67	ND
GP-T46-18	LL2	500931.02	2613165.83	11/28/2007	Shallow	83	84	ND
GP-T46-18	LL2	500931.02	2613165.83	11/28/2007	Intermediate	100	101	ND
GP-T46-18	LL2	500931.02	2613165.83	11/28/2007	Intermediate	116	117	ND
GP-T46-19	LL2	501792.45	2613051.72	11/29/2007	Shallow	68	69	1.8
GP-T46-19	LL2	501792.45	2613051.72	11/29/2007	Shallow	85	86	2.6
GP-T46-19	LL2	501792.45	2613051.72	11/29/2007	Intermediate	102	103	ND
GP-T46-19	LL2	501792.45	2613051.72	11/29/2007	Intermediate	118	119	ND
GP-T47-01	LL2	500769.64	2619624.32	11/16/2007	Shallow	66	67	ND
GP-T47-01	LL2	500769.64	2619624.32	11/16/2007	Shallow	76	77	5.5
GP-T47-01	LL2	500769.64	2619624.32	11/16/2007	Intermediate	87	88	ND
GP-T47-01	LL2	500769.64	2619624.32	11/16/2007	Intermediate	98	99	ND
GP-T47-02	LL2	501309.98	2620243.86	11/16/2007	Shallow	66	67	ND
GP-T47-02	LL2	501309.98	2620243.86	11/16/2007	Shallow	76	77	ND
GP-T47-02	LL2	501309.98	2620243.86	11/16/2007	Intermediate	87	88	ND
GP-T47-02	LL2	501309.98	2620243.86	11/16/2007	Intermediate	98	99	ND
GP-T47-03	LL2	500689.65	2620760.35	11/17/2007	Shallow	67	68	ND
GP-T47-03	LL2	500689.65	2620760.35	11/17/2007	Shallow	77	78	ND
GP-T47-03	LL2	500689.65	2620760.35	11/17/2007	Intermediate	87	88	ND
GP-T47-03	LL2	500689.65	2620760.35	11/17/2007	Intermediate	97	98	ND
GP-T47-04	LL2	500915.64	2620953.87	11/17/2007	Shallow	66	67	ND
GP-T47-04	LL2	500915.64	2620953.87	11/17/2007	Shallow	76	77	ND
GP-T47-04	LL2	500915.64	2620953.87	11/17/2007	Intermediate	86	87	ND
GP-T47-04	LL2	500915.64	2620953.87	11/17/2007	Intermediate	96	97	ND
GP-T47-05	LL2	500285.76	2621479.22	11/17/2007	Shallow	63	64	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T47-05	LL2	500285.76	2621479.22	11/17/2007	Shallow	72	73	ND
GP-T47-05	LL2	500285.76	2621479.22	11/17/2007	Intermediate	81	82	ND
GP-T47-05	LL2	500285.76	2621479.22	11/17/2007	Intermediate	91	92	ND
GP-T47-06	LL2	500050.81	2620292.96	11/15/2007	Shallow	66	67	5
GP-T47-06	LL2	500050.81	2620292.96	11/15/2007	Shallow	76	77	1.5
GP-T47-06	LL2	500050.81	2620292.96	11/15/2007	Intermediate	86	87	1.2
GP-T47-06	LL2	500050.81	2620292.96	11/15/2007	Intermediate	96	97	ND
GP-T47-07	LL2	499971.52	2621118.07	11/17/2007	Shallow	59	60	4.6
GP-T47-07	LL2	499971.52	2621118.07	11/17/2007	Shallow	68	69	2.2
GP-T47-07	LL2	499971.52	2621118.07	11/17/2007	Intermediate	78	79	ND
GP-T47-07	LL2	499971.52	2621118.07	11/17/2007	Intermediate	87	88	ND
GP-T47-08	LL2	498939.69	2621247.92	11/13/2007	Shallow	63	64	ND
GP-T47-08	LL2	498939.69	2621247.92	11/13/2007	Shallow	72	73	ND
GP-T47-08	LL2	498939.69	2621247.92	11/13/2007	Intermediate	81	82	ND
GP-T47-08	LL2	498939.69	2621247.92	11/13/2007	Intermediate	90	91	ND
GP-T47-09	LL2	499012.01	2621642.22	11/13/2007	Shallow	68	69	ND
GP-T47-09	LL2	499012.01	2621642.22	11/13/2007	Shallow	76	77	ND
GP-T47-09	LL2	499012.01	2621642.22	11/13/2007	Intermediate	85	86	ND
GP-T47-09	LL2	499012.01	2621642.22	11/13/2007	Intermediate	94	95	2.6
GP-T47-09	LL2	499012.01	2621642.22	11/13/2007	Intermediate	94	95	2.5
GP-T47-10	LL2	500797.36	2620025.34	11/16/2007	Shallow	66	67	ND
GP-T47-10	LL2	500797.36	2620025.34	11/16/2007	Shallow	77	78	ND
GP-T47-10	LL2	500797.36	2620025.34	11/16/2007	Intermediate	87	88	ND
GP-T47-10	LL2	500797.36	2620025.34	11/16/2007	Intermediate	98	99	0.3 J
GP-T47-11	LL2	500258.58	2619826.56	11/16/2007	Shallow	67	68	0.5 J
GP-T47-11	LL2	500258.58	2619826.56	11/16/2007	Shallow	67	68	0.9 J
GP-T47-11	LL2	500258.58	2619826.56	11/16/2007	Shallow	77	78	ND
GP-T47-11	LL2	500258.58	2619826.56	11/16/2007	Intermediate	88	89	ND
GP-T47-11	LL2	500258.58	2619826.56	11/16/2007	Intermediate	98	99	ND
GP-T47-12	LL2	500353.3	2620504.75	11/16/2007	Shallow	68	69	1.5
GP-T47-12	LL2	500353.3	2620504.75	11/16/2007	Shallow	78	79	ND
GP-T47-12	LL2	500353.3	2620504.75	11/16/2007	Intermediate	88	89	ND
GP-T47-12	LL2	500353.3	2620504.75	11/16/2007	Intermediate	98	99	0.8 J
GP-T47-13	LL2	499436.9	2620821.65	11/18/2007	Shallow	60	61	ND
GP-T47-13	LL2	499436.9	2620821.65	11/18/2007	Shallow	69	70	ND
GP-T47-13	LL2	499436.9	2620821.65	11/18/2007	Intermediate	79	80	ND
GP-T47-13	LL2	499436.9	2620821.65	11/18/2007	Intermediate	88	89	ND
GP-T47-14	LL2	499274.64	2621497.09	11/18/2007	Shallow	64	65	1
GP-T47-14	LL2	499274.64	2621497.09	11/18/2007	Shallow	73	74	2
GP-T47-14	LL2	499274.64	2621497.09	11/18/2007	Intermediate	82	83	ND
GP-T47-14	LL2	499274.64	2621497.09	11/18/2007	Intermediate	91	92	1
GP-T47-15	LL2	499247.69	2621948.87	11/18/2007	Shallow	70	71	0.8 J
GP-T47-15	LL2	499247.69	2621948.87	11/18/2007	Shallow	79	80	ND
GP-T47-15	LL2	499247.69	2621948.87	11/18/2007	Intermediate	88	89	ND
GP-T47-15	LL2	499247.69	2621948.87	11/18/2007	Intermediate	97	98	ND
GP-T48-01	LL2	500804.05	2622343	11/15/2007	Shallow	68	69	ND
GP-T48-01	LL2	500804.05	2622343	11/15/2007	Shallow	78	79	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T48-01	LL2	500804.05	2622343	11/15/2007	Intermediate	87	88	0.6 J
GP-T48-01	LL2	500804.05	2622343	11/15/2007	Intermediate	97	98	ND
GP-T48-02	LL2	501259.56	2622824.58	11/19/2007	Shallow	69	70	ND
GP-T48-02	LL2	501259.56	2622824.58	11/19/2007	Shallow	79	80	3.3
GP-T48-02	LL2	501259.56	2622824.58	11/19/2007	Intermediate	89	90	12
GP-T48-02	LL2	501259.56	2622824.58	11/19/2007	Intermediate	89	90	9
GP-T48-02	LL2	501259.56	2622824.58	11/19/2007	Intermediate	99	100	ND
GP-T48-03	LL2	501700.88	2623716.39	11/19/2007	Shallow	63	64	ND
GP-T48-03	LL2	501700.88	2623716.39	11/19/2007	Shallow	74	75	0.9 J
GP-T48-03	LL2	501700.88	2623716.39	11/19/2007	Intermediate	84	85	ND
GP-T48-03	LL2	501700.88	2623716.39	11/19/2007	Intermediate	94	95	ND
GP-T48-04	LL2	501983.46	2624186.51	11/15/2007	Shallow	61	62	ND
GP-T48-04	LL2	501983.46	2624186.51	11/15/2007	Shallow	72	73	ND
GP-T48-04	LL2	501983.46	2624186.51	11/15/2007	Intermediate	82	83	ND
GP-T48-04	LL2	501983.46	2624186.51	11/15/2007	Intermediate	92	93	ND
GP-T49-01	LL2	498873.32	2623178.8	11/14/2007	Shallow	66	67	ND
GP-T49-01	LL2	498873.32	2623178.8	11/14/2007	Shallow	75	76	ND
GP-T49-01	LL2	498873.32	2623178.8	11/14/2007	Intermediate	85	86	1.8 J
GP-T49-01	LL2	498873.32	2623178.8	11/14/2007	Intermediate	94	95	0.5 J
GP-T49-02	LL2	499278.69	2623955.79	11/18/2007	Shallow	70	71	ND
GP-T49-02	LL2	499278.69	2623955.79	11/18/2007	Shallow	80	81	ND
GP-T49-02	LL2	499278.69	2623955.79	11/18/2007	Intermediate	90	91	1
GP-T49-02	LL2	499278.69	2623955.79	11/18/2007	Intermediate	100	101	ND
GP-T49-03	LL2	499764.68	2624216.55	11/14/2007	Shallow	64	65	ND
GP-T49-03	LL2	499764.68	2624216.55	11/14/2007	Shallow	74	75	ND
GP-T49-03	LL2	499764.68	2624216.55	11/14/2007	Intermediate	84	85	1.9
GP-T49-03	LL2	499764.68	2624216.55	11/14/2007	Intermediate	84	85	2.1
GP-T49-03	LL2	499764.68	2624216.55	11/14/2007	Intermediate	94	95	ND
GP-T50-01	LL2	495820.13	2618358.34	11/15/2007	Shallow	75	76	ND
GP-T50-01	LL2	495820.13	2618358.34	11/15/2007	Shallow	86	87	ND
GP-T50-01	LL2	495820.13	2618358.34	11/15/2007	Intermediate	96	97	ND
GP-T50-01	LL2	495820.13	2618358.34	11/15/2007	Intermediate	102	103	ND
GP-T50-02	LL2	496272.41	2619162.18	11/15/2007	Shallow	66	67	ND
GP-T50-02	LL2	496272.41	2619162.18	11/15/2007	Shallow	75	76	ND
GP-T50-02	LL2	496272.41	2619162.18	11/15/2007	Intermediate	85	86	20
GP-T50-02	LL2	496272.41	2619162.18	11/15/2007	Intermediate	85	86	7.2
GP-T50-02	LL2	496272.41	2619162.18	11/15/2007	Intermediate	94	95	ND
GP-T50-03	LL2	496669.84	2619838.18	11/15/2007	Shallow	72	73	ND
GP-T50-03	LL2	496669.84	2619838.18	11/15/2007	Shallow	81	82	ND
GP-T50-03	LL2	496669.84	2619838.18	11/15/2007	Intermediate	89	90	ND
GP-T50-03	LL2	496669.84	2619838.18	11/15/2007	Intermediate	98	99	ND
GP-T50-04	LL2	497272.14	2620376.74	11/16/2007	Shallow	70	71	ND
GP-T50-04	LL2	497272.14	2620376.74	11/16/2007	Shallow	78	79	ND
GP-T50-04	LL2	497272.14	2620376.74	11/16/2007	Intermediate	86	87	2.4
GP-T50-04	LL2	497272.14	2620376.74	11/16/2007	Intermediate	86	87	3
GP-T50-04	LL2	497272.14	2620376.74	11/16/2007	Intermediate	94	95	ND
GP-T50-05	LL2	497743.21	2620860.2	11/15/2007	Shallow	64	65	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T50-05	LL2	497743.21	2620860.2	11/15/2007	Shallow	72	73	ND
GP-T50-05	LL2	497743.21	2620860.2	11/15/2007	Intermediate	80	81	3.9
GP-T50-05	LL2	497743.21	2620860.2	11/15/2007	Intermediate	88	89	5.8
GP-T51-01	LL2	502872.63	2618914.03	11/14/2007	Shallow	60	61	ND
GP-T51-01	LL2	502872.63	2618914.03	11/14/2007	Shallow	71	72	ND
GP-T51-01	LL2	502872.63	2618914.03	11/14/2007	Intermediate	83	84	ND
GP-T51-01	LL2	502872.63	2618914.03	11/14/2007	Intermediate	94	95	ND
GP-T51-02	LL2	503597.9	2619536.49	11/14/2007	Shallow	60	61	ND
GP-T51-02	LL2	503597.9	2619536.49	11/14/2007	Shallow	72	73	ND
GP-T51-02	LL2	503597.9	2619536.49	11/14/2007	Intermediate	84	85	ND
GP-T51-02	LL2	503597.9	2619536.49	11/14/2007	Intermediate	96	97	ND
GP-T51-03	LL2	503780.92	2620353.89	11/20/2007	Shallow	62	63	ND
GP-T51-03	LL2	503780.92	2620353.89	11/20/2007	Shallow	74	75	ND
GP-T51-03	LL2	503780.92	2620353.89	11/20/2007	Intermediate	87	88	ND
GP-T51-03	LL2	503780.92	2620353.89	11/20/2007	Intermediate	100	101	ND
GP-T51-04	LL2	503828.2	2621178.67	11/19/2007	Shallow	64	65	ND
GP-T51-04	LL2	503828.2	2621178.67	11/19/2007	Shallow	76	77	ND
GP-T51-04	LL2	503828.2	2621178.67	11/19/2007	Intermediate	89	90	ND
GP-T51-04	LL2	503828.2	2621178.67	11/19/2007	Intermediate	102	103	ND
GP-T52-01	LL2	498557.83	2624658.41	5/19/2008	Shallow	65	66	1.6
GP-T52-01	LL2	498557.83	2624658.41	5/19/2008	Shallow	75	76	1.9
GP-T52-01	LL2	498557.83	2624658.41	5/17/2008	Intermediate	85	86	3.7
GP-T52-01	LL2	498557.83	2624658.41	5/16/2008	Intermediate	95	96	1.6
GP-T52-01	LL2	498557.83	2624658.41	5/15/2008	Intermediate	105	106	0.41
GP-T52-02	LL2	497858.66	2625156.21	5/27/2008	Shallow	75	76	0.92
GP-T52-02	LL2	497858.66	2625156.21	5/27/2008	Shallow	83	84	3.7
GP-T52-02	LL2	497858.66	2625156.21	5/21/2008	Intermediate	93	94	6.3
GP-T52-02	LL2	497858.66	2625156.21	5/20/2008	Intermediate	103	104	5.4
GP-T52-03	LL2	497739.83	2626040.53	5/30/2008	Shallow	68	69	5.2
GP-T52-03	LL2	497739.83	2626040.53	5/30/2008	Shallow	76	77	5.9
GP-T52-03	LL2	497739.83	2626040.53	5/29/2008	Intermediate	84	85	3.1
GP-T52-03	LL2	497739.83	2626040.53	5/29/2008	Intermediate	84	85	3.9
GP-T52-03	LL2	497739.83	2626040.53	5/29/2008	Intermediate	94	95	1.1
GP-T52-04	LL2	498041.1	2624535.78	5/20/2008	Shallow	72	73	1.5
GP-T52-04	LL2	498041.1	2624535.78	5/19/2008	Shallow	80	81	1.4
GP-T52-04	LL2	498041.1	2624535.78	5/19/2008	Intermediate	90	91	3.2
GP-T52-04	LL2	498041.1	2624535.78	5/19/2008	Intermediate	100	101	1.9
GP-T52-05	LL2	497648.8	2624848.57	5/28/2008	Shallow	70	71	1.3
GP-T52-05	LL2	497648.8	2624848.57	5/27/2008	Shallow	80	81	3.4
GP-T52-05	LL2	497648.8	2624848.57	5/27/2008	Intermediate	90	91	2.4
GP-T52-05	LL2	497648.8	2624848.57	5/21/2008	Intermediate	100	101	1.2
GP-T52-06	LL2	497432.19	2625762.39	5/29/2008	Shallow	75	76	2
GP-T52-06	LL2	497432.19	2625762.39	5/29/2008	Shallow	85	86	6.3
GP-T52-06	LL2	497432.19	2625762.39	5/28/2008	Intermediate	87	88	6.6
GP-T52-06	LL2	497432.19	2625762.39	5/28/2008	Intermediate	97	98	0.22 J
GP-T52-07	LL2	497345.17	2626470.44	6/4/2008	Shallow	70	71	2.5 J
GP-T52-07	LL2	497345.17	2626470.44	6/4/2008	Shallow	79	80	2.9

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T52-07	LL2	497345.17	2626470.44	6/3/2008	Intermediate	87	88	3
GP-T52-07	LL2	497345.17	2626470.44	6/3/2008	Intermediate	97	98	0.15 J
GP-T52-08	LL2	497242.94	2625252.22	5/28/2008	Shallow	75	76	0.43
GP-T52-08	LL2	497242.94	2625252.22	5/28/2008	Shallow	85	86	1.1
GP-T52-08	LL2	497242.94	2625252.22	5/28/2008	Intermediate	95	96	2.1
GP-T52-08	LL2	497242.94	2625252.22	5/28/2008	Intermediate	95	96	2
GP-T52-08	LL2	497242.94	2625252.22	5/28/2008	Intermediate	105	106	1.3
GP-T52-09	LL2	497049.05	2626158.56	6/2/2008	Shallow	70	71	0.12 J
GP-T52-09	LL2	497049.05	2626158.56	5/30/2008	Shallow	79	80	1
GP-T52-09	LL2	497049.05	2626158.56	5/30/2008	Intermediate	87	88	2.4
GP-T52-09	LL2	497049.05	2626158.56	5/29/2008	Intermediate	97	98	0.31
GP-T52-10	LL2	497040.98	2627054.07	6/4/2008	Shallow	73	74	ND
GP-T52-10	LL2	497040.98	2627054.07	6/4/2008	Shallow	81	82	0.15 J
GP-T52-10	LL2	497040.98	2627054.07	6/4/2008	Intermediate	89	90	1.5
GP-T52-10	LL2	497040.98	2627054.07	6/3/2008	Intermediate	99	100	1
GP-T52-11	LL2	496708.94	2626102.82	6/3/2008	Shallow	70	71	0.38
GP-T52-11	LL2	496708.94	2626102.82	6/2/2008	Shallow	78	79	0.55
GP-T52-11	LL2	496708.94	2626102.82	6/2/2008	Intermediate	86	87	1.6
GP-T52-11	LL2	496708.94	2626102.82	6/2/2008	Intermediate	96	97	1
GP-T52-12	LL2	498725.71	2625276.98	5/15/2008	Shallow	63	64	ND
GP-T52-12	LL2	498725.71	2625276.98	5/14/2008	Shallow	72	73	2.3
GP-T52-12	LL2	498725.71	2625276.98	5/14/2008	Intermediate	80	81	ND
GP-T52-12	LL2	498725.71	2625276.98	5/13/2008	Intermediate	90	91	8.3
GP-T52-12	LL2	498725.71	2625276.98	5/13/2008	Intermediate	100	101	ND
GP-T52-13	LL2	498183.03	2624846.43	5/15/2008	Shallow	66	67	1.1
GP-T52-13	LL2	498183.03	2624846.43	5/15/2008	Shallow	74	75	0.63
GP-T52-13	LL2	498183.03	2624846.43	5/15/2008	Intermediate	86	87	6.3
GP-T52-13	LL2	498183.03	2624846.43	5/14/2008	Intermediate	96	97	5.1
GP-T52-14	LL2	498744.43	2623928.84	6/16/2008	Shallow	69	70	0.71
GP-T52-14	LL2	498744.43	2623928.84	6/16/2008	Shallow	77	78	0.7
GP-T52-14	LL2	498744.43	2623928.84	6/16/2008	Intermediate	87	88	0.93
GP-T52-14	LL2	498744.43	2623928.84	6/16/2008	Intermediate	97	98	0.53
GP-T52-15	LL2	498331.75	2624273.51	6/13/2008	Shallow	69	70	1.1
GP-T52-15	LL2	498331.75	2624273.51	6/13/2008	Shallow	77	78	0.83
GP-T52-15	LL2	498331.75	2624273.51	6/13/2008	Intermediate	87	88	1
GP-T52-15	LL2	498331.75	2624273.51	6/13/2008	Intermediate	97	98	0.19 J
GP-T52-15	LL2	498331.75	2624273.51	6/13/2008	Intermediate	97	98	0.18 J
GP-T52-16	LL2	497024.98	2624867.95	6/13/2008	Shallow	80	81	ND
GP-T52-16	LL2	497024.98	2624867.95	6/13/2008	Shallow	90	91	ND
GP-T52-16	LL2	497024.98	2624867.95	6/12/2008	Intermediate	100	101	1.2
GP-T52-16	LL2	497024.98	2624867.95	6/12/2008	Intermediate	110	111	ND
GP-T52-17	LL2	496415.64	2625425.96	6/12/2008	Shallow	62	63	0.43
GP-T52-17	LL2	496415.64	2625425.96	6/12/2008	Shallow	70	71	0.77
GP-T52-17	LL2	496415.64	2625425.96	6/12/2008	Intermediate	80	81	0.66
GP-T52-17	LL2	496415.64	2625425.96	6/12/2008	Intermediate	90	91	1.5
GP-T61-01	LL2	494941.57	2617796.29	12/1/2008	Shallow	67	68	ND
GP-T61-01	LL2	494941.57	2617796.29	12/1/2008	Shallow	77	78	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T61-01	LL2	494941.57	2617796.29	12/1/2008	Shallow	87	88	ND
GP-T61-01	LL2	494941.57	2617796.29	12/1/2008	Intermediate	97	98	ND
GP-T61-01	LL2	494941.57	2617796.29	12/1/2008	Intermediate	107	108	ND
GP-T61-01	LL2	494941.57	2617796.29	12/1/2008	Intermediate	117	118	ND
GP-T61-01	LL2	494941.57	2617796.29	12/1/2008	Intermediate	127	128	ND
GP-T61-02	LL2	495335.35	2618465.35	12/2/2008	Shallow	75	76	ND
GP-T61-02	LL2	495335.35	2618465.35	12/2/2008	Shallow	85	86	ND
GP-T61-02	LL2	495335.35	2618465.35	12/2/2008	Intermediate	95	96	ND
GP-T61-02	LL2	495335.35	2618465.35	12/2/2008	Intermediate	105	106	ND
GP-T61-03	LL2	495517.18	2618815.26	12/3/2008	Shallow	77	78	ND
GP-T61-03	LL2	495517.18	2618815.26	12/3/2008	Shallow	87	88	ND
GP-T61-03	LL2	495517.18	2618815.26	12/3/2008	Intermediate	97	98	ND
GP-T61-03	LL2	495517.18	2618815.26	12/3/2008	Intermediate	107	108	ND
GP-T61-04	LL2	495757.41	2619171.07	12/6/2008	Shallow	65	66	ND
GP-T61-04	LL2	495757.41	2619171.07	12/6/2008	Shallow	75	76	11
GP-T61-04	LL2	495757.41	2619171.07	12/6/2008	Intermediate	85	86	ND
GP-T61-04	LL2	495757.41	2619171.07	12/6/2008	Intermediate	95	96	20
GP-T61-04	LL2	495757.41	2619171.07	12/6/2008	Intermediate	95	96	19
GP-T61-05	LL2	496031.15	2619654.4	12/6/2008	Shallow	68	69	ND
GP-T61-05	LL2	496031.15	2619654.4	12/6/2008	Shallow	78	79	ND
GP-T61-05	LL2	496031.15	2619654.4	12/6/2008	Intermediate	88	89	ND
GP-T61-05	LL2	496031.15	2619654.4	12/6/2008	Intermediate	98	99	ND
GP-T62-01	LL2	494621.62	2618413.32	12/2/2008	Shallow	70	71	ND
GP-T62-01	LL2	494621.62	2618413.32	12/2/2008	Shallow	80	81	ND
GP-T62-01	LL2	494621.62	2618413.32	12/2/2008	Intermediate	90	91	ND
GP-T62-01	LL2	494621.62	2618413.32	12/1/2008	Intermediate	100	101	ND
GP-T62-01	LL2	494621.62	2618413.32	12/1/2008	Intermediate	110	111	ND
GP-T62-02	LL2	494922.84	2618922.05	12/2/2008	Shallow	69	70	ND
GP-T62-02	LL2	494922.84	2618922.05	12/2/2008	Shallow	77	78	ND
GP-T62-02	LL2	494922.84	2618922.05	12/2/2008	Intermediate	87	88	ND
GP-T62-02	LL2	494922.84	2618922.05	12/2/2008	Intermediate	97	98	ND
GP-T62-03	LL2	495230.49	2619448.37	12/6/2008	Shallow	68	69	ND
GP-T62-03	LL2	495230.49	2619448.37	12/6/2008	Shallow	78	79	ND
GP-T62-03	LL2	495230.49	2619448.37	12/6/2008	Intermediate	88	89	20
GP-T62-03	LL2	495230.49	2619448.37	12/6/2008	Intermediate	98	99	3.2
GP-T62-04	LL2	495557.45	2620015.63	12/7/2008	Shallow	71	72	0.8 J
GP-T62-04	LL2	495557.45	2620015.63	12/7/2008	Shallow	81	82	35
GP-T62-04	LL2	495557.45	2620015.63	12/7/2008	Intermediate	91	92	17 J
GP-T62-04	LL2	495557.45	2620015.63	12/7/2008	Intermediate	101	102	ND
GP-T63-01	LL2	493923.76	2618427.02	12/2/2008	Shallow	71	72	ND
GP-T63-01	LL2	493923.76	2618427.02	12/2/2008	Shallow	78	79	ND
GP-T63-01	LL2	493923.76	2618427.02	12/2/2008	Shallow	88	89	ND
GP-T63-01	LL2	493923.76	2618427.02	12/2/2008	Intermediate	98	99	ND
GP-T63-01	LL2	493923.76	2618427.02	12/1/2008	Intermediate	108	109	ND
GP-T63-01	LL2	493923.76	2618427.02	12/1/2008	Intermediate	118	119	ND
GP-T63-01	LL2	493923.76	2618427.02	12/1/2008	Intermediate	128	129	ND
GP-T63-02	LL2	494223.74	2619137.76	12/1/2008	Shallow	64	65	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T63-02	LL2	494223.74	2619137.76	12/1/2008	Shallow	74	75	ND
GP-T63-02	LL2	494223.74	2619137.76	12/1/2008	Shallow	84	85	ND
GP-T63-02	LL2	494223.74	2619137.76	12/1/2008	Intermediate	94	95	ND
GP-T63-02	LL2	494223.74	2619137.76	12/1/2008	Intermediate	104	105	ND
GP-T63-03	LL2	494392.9	2619609.59	12/2/2008	Shallow	71	72	ND
GP-T63-03	LL2	494392.9	2619609.59	12/2/2008	Shallow	81	82	ND
GP-T63-03	LL2	494392.9	2619609.59	12/2/2008	Intermediate	91	92	ND
GP-T63-03	LL2	494392.9	2619609.59	12/2/2008	Intermediate	101	102	ND
GP-T63-04	LL2	494610.85	2620063.67	12/3/2008	Shallow	74	75	ND
GP-T63-04	LL2	494610.85	2620063.67	12/3/2008	Shallow	84	85	ND
GP-T63-04	LL2	494610.85	2620063.67	12/3/2008	Intermediate	94	95	ND
GP-T66-001	LL2	502285.35	2616003.82	3/3/2010	Shallow	73	74	2.1
GP-T66-001	LL2	502285.35	2616003.82	3/3/2010	Intermediate	94	95	0.72
GP-T66-002	LL2	501841.9	2616302.13	3/3/2010	Shallow	69	70	3.3
GP-T66-002	LL2	501841.9	2616302.13	3/3/2010	Intermediate	97	98	ND
GP-T66-003	LL2	501718.1	2616394.46	3/2/2010	Shallow	57	58	18
GP-T66-003	LL2	501718.1	2616394.46	3/2/2010	Shallow	71	72	1.4
GP-T66-003	LL2	501718.1	2616394.46	3/2/2010	Intermediate	92	93	ND
GP-T66-004	LL2	501593.73	2616473.03	3/9/2010	Shallow	55	56	36
GP-T66-004	LL2	501593.73	2616473.03	3/9/2010	Shallow	62	63	25
GP-T66-004	LL2	501593.73	2616473.03	3/9/2010	Intermediate	76	77	ND
GP-T66-004	LL2	501593.73	2616473.03	3/9/2010	Intermediate	97	98	0.058 J
GP-T66-005	LL2	502001.77	2616052.19	3/7/2010	Shallow	59	60	57
GP-T66-005	LL2	502001.77	2616052.19	3/7/2010	Shallow	59	60	28
GP-T66-005	LL2	502001.77	2616052.19	3/7/2010	Shallow	73	74	25
GP-T66-005	LL2	502001.77	2616052.19	3/7/2010	Intermediate	87	88	42
GP-T66-006	LL2	502167.38	2616238.26	3/4/2010	Shallow	69	70	17
GP-T66-006	LL2	502167.38	2616238.26	3/4/2010	Intermediate	97	98	19
GP-T66-007	LL2	502257.56	2616363.13	3/4/2010	Shallow	55	56	5.6
GP-T66-007	LL2	502257.56	2616363.13	3/4/2010	Shallow	76	77	27
GP-T66-007	LL2	502257.56	2616363.13	3/3/2010	Intermediate	97	98	1.3 J
GP-T66-008	LL2	502039.855	2616150.804	5/17/2010	Shallow	59	60	ND
GP-T66-008	LL2	502039.855	2616150.804	5/17/2010	Intermediate	69	70	ND
GP-T66-008	LL2	502039.855	2616150.804	5/17/2010	Intermediate	79	80	ND
GP-T66-009	LL2	502029.8	2616142.88	3/9/2010	Shallow	55	56	4.2
GP-T66-009	LL2	502029.8	2616142.88	3/9/2010	Shallow	62	63	46
GP-T66-009	LL2	502029.8	2616142.88	3/7/2010	Shallow	76	77	7.3
GP-T66-010	LL2	502092.14	2616181.65	3/16/2010	Shallow	60	61	58
GP-T66-010	LL2	502092.14	2616181.65	3/16/2010	Shallow	67	68	100 J
GP-T66-010	LL2	502092.14	2616181.65	3/16/2010	Shallow	74	75	44
GP-T66-010	LL2	502092.14	2616181.65	3/15/2010	Intermediate	81	82	17
GP-T66-010	LL2	502092.14	2616181.65	3/15/2010	Intermediate	88	89	0.074 J
GP-T66-010	LL2	502092.14	2616181.65	3/15/2010	Intermediate	95	96	14
GP-T66-011	LL2	501908.11	2616138.69	3/11/2010	Shallow	58	59	35
GP-T66-011	LL2	501908.11	2616138.69	3/11/2010	Shallow	65	66	66
GP-T66-011	LL2	501908.11	2616138.69	3/11/2010	Shallow	72	73	7.1
GP-T66-011	LL2	501908.11	2616138.69	3/11/2010	Intermediate	79	80	1.3

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T66-011	LL2	501908.11	2616138.69	3/11/2010	Intermediate	86	87	44
GP-T66-012	LL2	502064.26	2616242.49	4/14/2010	Shallow	54	55	7.1
GP-T66-012	LL2	502064.26	2616242.49	4/14/2010	Shallow	61	62	1.5
GP-T66-012	LL2	502064.26	2616242.49	4/14/2010	Shallow	68	69	41
GP-T66-012	LL2	502064.26	2616242.49	4/14/2010	Shallow	75	76	16 J
GP-T66-012	LL2	502064.26	2616242.49	4/14/2010	Shallow	75	76	50
GP-T66-012	LL2	502064.26	2616242.49	4/14/2010	Intermediate	82	83	17
GP-T66-012	LL2	502064.26	2616242.49	4/14/2010	Intermediate	89	90	6.5
GP-T66-013	LL2	501881.749	2616258.357	5/17/2010	Shallow	59	60	ND
GP-T66-013	LL2	501881.749	2616258.357	5/17/2010	Shallow	69	70	ND
GP-T66-013	LL2	501881.749	2616258.357	5/17/2010	Intermediate	79	80	ND
GP-T67-001	LL2	500697.66	2617437.46	3/4/2010	Shallow	75	76	0.16 J
GP-T67-001	LL2	500697.66	2617437.46	3/4/2010	Shallow	82	83	74
GP-T67-001	LL2	500697.66	2617437.46	3/4/2010	Intermediate	96	97	ND
GP-T67-002	LL2	500597.18	2617505.88	3/5/2010	Shallow	62	63	14
GP-T67-002	LL2	500597.18	2617505.88	3/5/2010	Shallow	69	70	37
GP-T67-002	LL2	500597.18	2617505.88	3/5/2010	Intermediate	97	98	1.1 J
GP-T67-003	LL2	500461.44	2617603.3	3/5/2010	Intermediate	83	84	55
GP-T67-003	LL2	500461.44	2617603.3	3/5/2010	Intermediate	104	105	ND
GP-T67-007	LL2	499975.52	2618050.36	3/6/2010	Shallow	63	64	3.5
GP-T67-007	LL2	499975.52	2618050.36	3/6/2010	Intermediate	97	98	ND
GP-T67-009	LL2	500648.38	2617421.11	3/10/2010	Shallow	55	56	ND
GP-T67-009	LL2	500648.38	2617421.11	3/10/2010	Shallow	62	63	19
GP-T67-009	LL2	500648.38	2617421.11	3/10/2010	Shallow	69	70	46
GP-T67-009	LL2	500648.38	2617421.11	3/10/2010	Intermediate	76	77	19
GP-T67-009	LL2	500648.38	2617421.11	3/10/2010	Intermediate	83	84	1.2
GP-T67-010	LL2	500702.18	2617547.49	3/11/2010	Shallow	62	63	20
GP-T67-010	LL2	500702.18	2617547.49	3/11/2010	Shallow	69	70	21
GP-T67-010	LL2	500702.18	2617547.49	3/11/2010	Shallow	69	70	28
GP-T67-010	LL2	500702.18	2617547.49	3/11/2010	Intermediate	76	77	0.48
GP-T67-010	LL2	500702.18	2617547.49	3/11/2010	Intermediate	83	84	ND
GP-T67-012	LL2	500641.98	2617265.24	3/26/2010	Shallow	52	53	30
GP-T67-012	LL2	500641.98	2617265.24	3/26/2010	Shallow	59	60	59
GP-T67-012	LL2	500641.98	2617265.24	3/26/2010	Shallow	66	67	50
GP-T67-012	LL2	500641.98	2617265.24	3/26/2010	Shallow	73	74	9.8
GP-T67-012	LL2	500641.98	2617265.24	3/26/2010	Intermediate	80	81	4
GP-T67-012	LL2	500641.98	2617265.24	3/26/2010	Intermediate	87	88	2.8
GP-T67-012	LL2	500641.98	2617265.24	3/26/2010	Intermediate	94	95	ND
GP-T67-012	LL2	500641.98	2617265.24	3/26/2010	Intermediate	101	102	ND
GP-T75-001	LL3	504421.935	2619749.723	4/16/2010	Shallow	60	61	2.2
GP-T75-001	LL3	504421.935	2619749.723	4/16/2010	Shallow	70	71	1.5
GP-T75-001	LL3	504421.935	2619749.723	4/16/2010	Intermediate	80	81	9.5
GP-T75-001	LL3	504421.935	2619749.723	4/16/2010	Intermediate	90	91	4.6
GP-T75-001	LL3	504421.935	2619749.723	4/16/2010	Intermediate	100	101	0.11 J
GP-T75-001	LL3	504421.935	2619749.723	4/16/2010	Intermediate	100	101	0.23
GP-T75-002	LL3	504432.795	2620165.965	4/15/2010	Shallow	57	58	6
GP-T75-002	LL3	504432.795	2620165.965	4/15/2010	Shallow	67	68	23

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T75-002	LL3	504432.795	2620165.965	4/15/2010	Intermediate	77	78	11
GP-T75-002	LL3	504432.795	2620165.965	4/15/2010	Intermediate	87	88	6.3
GP-T75-002	LL3	504432.795	2620165.965	4/15/2010	Intermediate	97	98	0.1 J
GP-T75-002	LL3	504432.795	2620165.965	4/15/2010	Intermediate	97	98	0.045 J
GP-T75-003	LL3	504449.197	2620630.744	4/15/2010	Shallow	57	58	2.2
GP-T75-003	LL3	504449.197	2620630.744	4/15/2010	Shallow	67	68	13
GP-T75-003	LL3	504449.197	2620630.744	4/15/2010	Intermediate	77	78	2.8
GP-T75-003	LL3	504449.197	2620630.744	4/15/2010	Intermediate	87	88	2.7
GP-T75-003	LL3	504449.197	2620630.744	4/15/2010	Intermediate	97	98	0.092 J
GP-T75-004	LL3	504403.322	2619340.827	6/30/2010	Shallow	50	51	ND
GP-T75-004	LL3	504403.322	2619340.827	6/30/2010	Shallow	60	61	0.17 J
GP-T75-004	LL3	504403.322	2619340.827	6/30/2010	Shallow	70	71	0.53
GP-T75-004	LL3	504403.322	2619340.827	6/30/2010	Intermediate	80	81	0.68
GP-T75-004	LL3	504403.322	2619340.827	6/30/2010	Intermediate	90	91	ND
GP-T75-004	LL3	504403.322	2619340.827	6/30/2010	Intermediate	100	101	ND
GP-T75-005	LL3	504468.957	2621073.187	6/30/2010	Shallow	55	56	0.05 J
GP-T75-005	LL3	504468.957	2621073.187	6/30/2010	Shallow	65	66	ND
GP-T75-005	LL3	504468.957	2621073.187	6/30/2010	Shallow	75	76	ND
GP-T75-005	LL3	504468.957	2621073.187	6/30/2010	Intermediate	85	86	ND
GP-T75-005	LL3	504468.957	2621073.187	7/1/2010	Intermediate	95	96	ND
GP-T75-005	LL3	504468.957	2621073.187	7/1/2010	Intermediate	105	106	0.054 J
GP-T76-001	LL3	502703.393	2620984.625	4/16/2010	Shallow	57	58	3.5
GP-T76-001	LL3	502703.393	2620984.625	4/16/2010	Shallow	67	68	6.7
GP-T76-001	LL3	502703.393	2620984.625	4/16/2010	Intermediate	77	78	0.31 J
GP-T76-001	LL3	502703.393	2620984.625	4/16/2010	Intermediate	87	88	0.073 J
GP-T76-001	LL3	502703.393	2620984.625	4/16/2010	Intermediate	97	98	3
GP-T76-001	LL3	502703.393	2620984.625	4/16/2010	Intermediate	97	98	0.56
GP-T76-002	LL3	502722.876	2621347.692	4/19/2010	Shallow	51	52	10
GP-T76-002	LL3	502722.876	2621347.692	4/19/2010	Shallow	61	62	2.9
GP-T76-002	LL3	502722.876	2621347.692	4/19/2010	Shallow	71	72	3.8
GP-T76-002	LL3	502722.876	2621347.692	4/16/2010	Intermediate	81	82	ND
GP-T76-002	LL3	502722.876	2621347.692	4/16/2010	Intermediate	91	92	0.059 J
GP-T76-002	LL3	502722.876	2621347.692	4/16/2010	Intermediate	101	102	ND
GP-T76-003	LL3	502772.934	2621869.897	4/16/2010	Shallow	52	53	0.83
GP-T76-003	LL3	502772.934	2621869.897	4/16/2010	Shallow	62	63	1.3
GP-T76-003	LL3	502772.934	2621869.897	4/16/2010	Shallow	72	73	2.3
GP-T76-003	LL3	502772.934	2621869.897	4/16/2010	Intermediate	82	83	7
GP-T76-003	LL3	502772.934	2621869.897	4/16/2010	Intermediate	92	93	0.038 J
GP-T76-003	LL3	502772.934	2621869.897	4/16/2010	Intermediate	102	103	7.5
GP-T76-004	LL3	503043.104	2622153.675	4/16/2010	Shallow	53	54	0.079 J
GP-T76-004	LL3	503043.104	2622153.675	4/16/2010	Shallow	63	64	0.063 J
GP-T76-004	LL3	503043.104	2622153.675	4/16/2010	Shallow	63	64	0.27 J
GP-T76-004	LL3	503043.104	2622153.675	4/16/2010	Shallow	73	74	ND
GP-T76-004	LL3	503043.104	2622153.675	4/15/2010	Intermediate	83	84	1.8 J
GP-T76-004	LL3	503043.104	2622153.675	4/15/2010	Intermediate	93	94	1.5 J
GP-T76-004	LL3	503043.104	2622153.675	4/15/2010	Intermediate	103	104	ND
GP-T76-005	LL3	503385.326	2622409.452	4/19/2010	Shallow	54	55	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T76-005	LL3	503385.326	2622409.452	4/19/2010	Shallow	64	65	ND
GP-T76-005	LL3	503385.326	2622409.452	4/19/2010	Intermediate	74	75	ND
GP-T76-005	LL3	503385.326	2622409.452	4/19/2010	Intermediate	84	85	ND
GP-T76-005	LL3	503385.326	2622409.452	4/19/2010	Intermediate	94	95	0.088 J
GP-T76-005	LL3	503385.326	2622409.452	4/19/2010	Intermediate	94	95	ND
GP-T76-006	LL3	502670.326	2620654.912	7/2/2010	Shallow	55	56	ND
GP-T76-006	LL3	502670.326	2620654.912	7/2/2010	Shallow	65	66	0.65 J
GP-T76-006	LL3	502670.326	2620654.912	7/2/2010	Intermediate	75	76	0.078 J
GP-T76-006	LL3	502670.326	2620654.912	7/1/2010	Intermediate	85	86	3.1
GP-T76-006	LL3	502670.326	2620654.912	7/1/2010	Intermediate	95	96	1 J
GP-T77-001	LL3	501499.478	2621839.213	6/11/2010	Shallow	57	58	2.5
GP-T77-001	LL3	501499.478	2621839.213	6/11/2010	Shallow	67	68	2.1
GP-T77-001	LL3	501499.478	2621839.213	6/11/2010	Intermediate	77	78	0.16 J
GP-T77-001	LL3	501499.478	2621839.213	6/11/2010	Intermediate	87	88	0.17 J
GP-T77-001	LL3	501499.478	2621839.213	6/11/2010	Intermediate	87	88	1.1 J
GP-T77-001	LL3	501499.478	2621839.213	6/10/2010	Intermediate	97	98	0.57 J
GP-T77-002	LL3	501780.572	2622117.619	6/9/2010	Shallow	60	61	0.45
GP-T77-002	LL3	501780.572	2622117.619	6/9/2010	Shallow	70	71	4.7
GP-T77-002	LL3	501780.572	2622117.619	6/9/2010	Intermediate	80	81	0.079 J
GP-T77-002	LL3	501780.572	2622117.619	6/9/2010	Intermediate	90	91	5
GP-T77-002	LL3	501780.572	2622117.619	6/9/2010	Intermediate	100	101	2.6
GP-T77-003	LL3	502087.429	2622404.857	6/9/2010	Shallow	59	60	0.59
GP-T77-003	LL3	502087.429	2622404.857	6/9/2010	Shallow	69	70	1.9
GP-T77-003	LL3	502087.429	2622404.857	6/9/2010	Intermediate	79	80	12
GP-T77-003	LL3	502087.429	2622404.857	6/9/2010	Intermediate	89	90	7.7
GP-T77-003	LL3	502087.429	2622404.857	6/9/2010	Intermediate	99	100	ND
GP-T77-004	LL3	502392.295	2622715.226	4/28/2010	Shallow	46	47	ND
GP-T77-004	LL3	502392.295	2622715.226	4/28/2010	Shallow	56	57	0.13 J
GP-T77-004	LL3	502392.295	2622715.226	4/28/2010	Shallow	66	67	0.21
GP-T77-004	LL3	502392.295	2622715.226	4/28/2010	Intermediate	76	77	ND
GP-T77-004	LL3	502392.295	2622715.226	4/28/2010	Intermediate	86	87	ND
GP-T77-004	LL3	502392.295	2622715.226	4/28/2010	Intermediate	96	97	0.55
GP-T77-005	LL3	502656.594	2623010.8	4/28/2010	Shallow	50	51	ND
GP-T77-005	LL3	502656.594	2623010.8	4/28/2010	Shallow	60	61	ND
GP-T77-005	LL3	502656.594	2623010.8	4/28/2010	Shallow	70	71	ND
GP-T77-005	LL3	502656.594	2623010.8	4/28/2010	Intermediate	80	81	ND
GP-T77-005	LL3	502656.594	2623010.8	4/28/2010	Intermediate	90	91	ND
GP-T77-005	LL3	502656.594	2623010.8	4/28/2010	Intermediate	100	101	ND
GP-T77-008	LL3	501140.05	2621640	8/17/2010	Shallow	57	58	0.49
GP-T77-008	LL3	501140.05	2621640	8/17/2010	Shallow	67	68	0.47
GP-T77-008	LL3	501140.05	2621640	8/17/2010	Intermediate	77	78	0.43
GP-T77-008	LL3	501140.05	2621640	8/17/2010	Intermediate	77	78	0.62
GP-T77-008	LL3	501140.05	2621640	8/17/2010	Intermediate	87	88	1.3 J
GP-T77-008	LL3	501140.05	2621640	8/17/2010	Intermediate	97	98	0.73
GP-T78-001	LL3	499247.034	2624247.805	6/8/2010	Shallow	69	70	0.24 J
GP-T78-001	LL3	499247.034	2624247.805	6/8/2010	Shallow	69	70	0.53
GP-T78-001	LL3	499247.034	2624247.805	6/8/2010	Shallow	79	80	2

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T78-001	LL3	499247.034	2624247.805	6/8/2010	Intermediate	89	90	1.1
GP-T78-001	LL3	499247.034	2624247.805	6/8/2010	Intermediate	99	100	ND
GP-T78-001	LL3	499247.034	2624247.805	6/8/2010	Intermediate	109	110	0.19 J
GP-T78-002	LL3	499858.239	2624220.087	6/7/2010	Shallow	56	57	0.12 J
GP-T78-002	LL3	499858.239	2624220.087	6/7/2010	Shallow	66	67	5.4
GP-T78-002	LL3	499858.239	2624220.087	6/7/2010	Intermediate	76	77	4.6
GP-T78-002	LL3	499858.239	2624220.087	6/7/2010	Intermediate	86	87	5.8
GP-T78-002	LL3	499858.239	2624220.087	6/7/2010	Intermediate	96	97	ND
GP-T78-003	LL3	500318.831	2624202.251	6/7/2010	Shallow	56	57	ND
GP-T78-003	LL3	500318.831	2624202.251	6/7/2010	Shallow	66	67	0.13 J
GP-T78-003	LL3	500318.831	2624202.251	6/7/2010	Intermediate	76	77	2.8
GP-T78-003	LL3	500318.831	2624202.251	6/4/2010	Intermediate	86	87	4.7
GP-T78-003	LL3	500318.831	2624202.251	6/4/2010	Intermediate	96	97	ND
GP-T78-004	LL3	500780.903	2624185.49	6/4/2010	Shallow	55	56	0.061 J
GP-T78-004	LL3	500780.903	2624185.49	6/4/2010	Shallow	65	66	0.26
GP-T78-004	LL3	500780.903	2624185.49	6/4/2010	Intermediate	75	76	ND
GP-T78-004	LL3	500780.903	2624185.49	6/4/2010	Intermediate	85	86	0.89
GP-T78-004	LL3	500780.903	2624185.49	6/3/2010	Intermediate	95	96	0.76
GP-T78-005	LL3	501267.036	2624164.108	6/3/2010	Shallow	57	58	0.057 J
GP-T78-005	LL3	501267.036	2624164.108	6/3/2010	Shallow	67	68	ND
GP-T78-005	LL3	501267.036	2624164.108	6/3/2010	Intermediate	77	78	ND
GP-T78-005	LL3	501267.036	2624164.108	6/3/2010	Intermediate	87	88	ND
GP-T78-005	LL3	501267.036	2624164.108	6/3/2010	Intermediate	97	98	0.88
MW-04A	LL3	506256.76	2612041.93	4/2/2007	Intermediate	74.2	103.5	ND
MW-04B	LL3	506259.36	2612051.43	2/9/2009	Shallow	32.1	71.2	0.79
MW-05A	LL3	507097.62	2613044.09	4/2/2007	Intermediate	61.8	100.8	ND
MW-05B	LL3	507097.47	2613053.87	5/4/2010	Shallow	30	59.3	0.42
MW-06A	LL3	506522.12	2617375.69	4/4/2008	Intermediate	61	100	ND
MW-06B	LL3	506525.48	2617384.6	4/4/2008	Shallow	34.8	64	ND
MW-07A	LL3	507274.82	2618267.09	4/2/2007	Intermediate	70.2	99.5	ND
MW-07B	LL3	507276.11	2618276.52	4/2/2007	Shallow	34.7	73.7	0.215 J
MW-07B	LL3	507276.11	2618276.52	4/2/2007	Shallow	34.7	73.7	0.834 J
MW-100A	LL3	493770.41	2629718.84	7/7/2010	Intermediate	83	93	0.059 J
MW-100B	LL3	493777.18	2629718.06	7/7/2010	Shallow	65	75	0.08 J
MW-100B	LL3	493777.18	2629718.06	7/7/2010	Shallow	65	75	0.087 J
MW-117A	LL3	495048	2631041.42	7/22/2010	Intermediate	66	76	ND
MW-117B	LL3	495053.97	2631040.5	7/22/2010	Shallow	43	53	ND
MW-118A	LL3	496207.69	2625890.44	7/29/2010	Intermediate	84.75	95.25	0.37
MW-118B	LL3	496207.84	2625884.53	7/29/2010	Shallow	70	75	0.91
MW-118B	LL3	496207.84	2625884.53	7/29/2010	Shallow	70	75	0.89
MW-128A	LL3	498190.8	2624836.13	4/15/2010	Intermediate	96.2	106.2	2.5
MW-128B	LL3	498197.84	2624838.49	4/15/2010	Shallow	79.5	90.1	4.8
MW-128B	LL3	498197.84	2624838.49	4/15/2010	Shallow	79.5	90.1	4.6
MW-129A	LL3	496542.43	2627766.39	4/15/2010	Intermediate	89.5	99.5	0.29 J
MW-129B	LL3	496545.39	2627771.4	4/15/2010	Shallow	74.1	84.1	ND
MW-130A	LL3	496650.27	2629053.38	4/20/2010	Intermediate	89	99	1.4
MW-130B	LL3	496659.85	2629059.01	4/20/2010	Shallow	69.9	79.9	0.63

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
MW-131A	LL3	496939.83	2626341.54	4/15/2010	Intermediate	88.5	98.5	2.1
MW-131B	LL3	496944.69	2626348.52	4/15/2010	Shallow	70.5	80.5	2.8
MW-132A	LL3	497254.4	2625254.59	4/14/2010	Intermediate	95.4	105.4	1.8
MW-132B	LL3	497261.76	2625258.17	4/14/2010	Shallow	81.3	91.3	3.3
MW-143B	LL3	502719.77	2621339.98	9/24/2010	Shallow	52	62	16.2
MW-144A	LL3	503570.97	2614012.25	9/24/2010	Intermediate	91	101	21.4
MW-144E	LL3	503573.1	2614019.84	9/24/2010	Intermediate	75	85	47.3
MW-145A	LL3	500652.84	2617407.83	9/24/2010	Intermediate	85.7	95.7	63.2
MW-145E	LL3	500652.99	2617414.44	9/24/2010	Intermediate	72	82	97
MW-146A	LL3	494899.38	2618871.66	9/24/2010	Intermediate	87	97	ND
MW-146B	LL3	494899.37	2618871.66	9/24/2010	Shallow	67	77	ND
MW-147A	LL3	494474.75	2620042.45	9/24/2010	Intermediate	90	100	ND
MW-147B	LL3	494471.71	2620045.18	9/24/2010	Shallow	67	77	ND
MW-148B	LL3	504425.78	2620179.92	9/24/2010	Shallow	65	75	49.8
MW-149A	LL3	502086.76	2622398.38	9/24/2010	Intermediate	80	90	12
MW-150A	LL3	499856.55	2624201.15	9/24/2010	Intermediate	80	90	12.8
MW-150B	LL3	499864.11	2624200.78	9/24/2010	Shallow	65	75	9.5
MW-20A	LL3	493189.94	2616622.54	1/14/2010	Intermediate	145	150.4	ND
MW-20B	LL3	493191.47	2616633.42	1/14/2010	Intermediate	128.6	133.6	ND
MW-20C	LL3	493187.6	2616611.42	7/12/2010	Shallow	50.3	60.3	ND
MW-27A	LL3	508103.03	2611434.64	4/2/2007	Intermediate	96	106	ND
MW-27B	LL3	508110.54	2611427	4/2/2007	Shallow	61.5	71.5	ND
MW-28A	LL3	502242.7	2612951.02	4/26/2010	Intermediate	127.6	137.6	ND
MW-28B	LL3	502242.25	2612936	4/26/2010	Shallow	67.5	77.5	2
MW-29A	LL3	498383.1	2614469.83	4/27/2010	Intermediate	122.6	132.6	2.8
MW-29B	LL3	498382.36	2614460.97	4/27/2010	Shallow	64.5	74.5	ND
MW-30A	LL3	507064.54	2616288.05	4/3/2007	Intermediate	94	99	ND
MW-30B	LL3	507065.86	2616281.83	4/3/2007	Shallow	59.5	69.5	ND
MW-31A	LL3	503233.69	2617943.94	2/19/2009	Intermediate	94.5	104.5	ND
MW-31B	LL3	503238.63	2617935.16	2/19/2009	Shallow	50	60	0.33
MW-32A	LL3	499062.26	2619697.25	4/26/2010	Intermediate	88.5	98.5	5.5
MW-32B	LL3	499069.07	2619696.91	4/26/2010	Shallow	71	81	7.9
MW-33A	LL3	502847.9	2622410.84	4/26/2010	Intermediate	100.5	110.5	0.21
MW-33B	LL3	502854.78	2622401.05	4/26/2010	Shallow	73.5	83.5	0.045 J
MW-34A	LL3	498806.3	2624442.78	2/6/2009	Intermediate	102	112	0.25
MW-34B	LL3	498814.11	2624443.06	2/6/2009	Shallow	65	75	1.6
MW-35A	LL3	496323.63	2629595.75	7/14/2010	Intermediate	81.5	91.5	0.2 J
MW-35B	LL3	496329.36	2629595.84	7/14/2010	Shallow	57	67	0.096 J
MW-35B	LL3	496329.36	2629595.84	7/14/2010	Shallow	57	67	0.1 J
MW-65A	LL3	506090.52	2613203.05	2/20/2009	Intermediate	92.5	102.5	ND
MW-65B	LL3	506091.22	2613193.3	5/4/2010	Shallow	35.4	65.4	22
MW-66A	LL3	506026.7276	2613278.509	12/10/2007	Intermediate	89	99	0.92
MW-66B	LL3	506027.6145	2613268.319	12/10/2007	Shallow	34	64	0.98
MW-67A	LL3	506004.4759	2613306.229	12/10/2007	Intermediate	88	98	ND
MW-67B	LL3	505999.4862	2613314.552	12/10/2007	Shallow	34	64	1.5
MW-68B	LL3	506024.531	2613320.778	12/10/2007	Shallow	36	66	1.5
MW-69B	LL3	506046.742	2613341.617	12/10/2007	Shallow	36	66	47

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
MW-70B	LL3	506068.6278	2613362.295	12/10/2007	Shallow	36	66	42
MW-71B	LL3	506090.26	2613382.61	2/20/2009	Shallow	36	66	50
MW-82A	LL3	493318.05	2619288.64	7/8/2010	Intermediate	89.5	94.5	ND
MW-82B	LL3	493325.46	2619284.94	7/8/2010	Shallow	61.2	65.7	ND
MW-83A	LL3	495274.66	2621924.07	7/7/2010	Intermediate	103.5	108.5	0.16 J
MW-83B	LL3	495302.77	2621921.78	7/7/2010	Shallow	75	80	ND
MW-84A	LL3	495685.5	2624277.77	7/7/2010	Intermediate	87.13	91.13	0.18 J
MW-84B	LL3	495712.89	2624272.03	7/7/2010	Shallow	66.5	71.5	ND
MW-85A	LL3	494439.02	2628326.52	7/7/2010	Intermediate	81	86	0.88
MW-85B	LL3	494449.81	2628315.15	7/7/2010	Shallow	62	67	1.4
MW-94A	LL3	496428.72	2617023.16	4/22/2010	Intermediate	84	94	ND
MW-94B	LL3	496434.49	2617023.06	4/22/2010	Shallow	64	74	ND
MW-95A	LL3	494508.64	2617552.81	7/29/2010	Intermediate	93	103	ND
MW-95B	LL3	494508	2617546.97	7/29/2010	Shallow	65	75	ND
MW-96A	LL3	493387.72	2621468.22	7/8/2010	Intermediate	82.5	92.5	ND
MW-96B	LL3	493387.79	2621468.22	7/8/2010	Shallow	71	81	ND
MW-97A	LL3	493492.82	2623938.03	7/8/2010	Intermediate	83	93	ND
MW-97B	LL3	493492.44	2623932.69	7/8/2010	Shallow	68	73	ND
MW-98A	LL3	493604.93	2626495.29	7/8/2010	Intermediate	82	92	ND
MW-98B	LL3	493605.27	2626488.7	7/8/2010	Shallow	64	69	ND
MW-99A	LL3	498780.94	2627117.43	4/20/2010	Intermediate	102	112	1.9
MW-99B	LL3	498787.92	2627118.4	4/20/2010	Shallow	75	85	2.9 J
GP-T02-06	LL4	501941.94	2629369.6	4/7/2006	Shallow	64	65	ND
GP-T02-06	LL4	501941.94	2629369.6	4/7/2006	Intermediate	83	84	0.59 J
GP-T02-06	LL4	501941.94	2629369.6	4/7/2006	Intermediate	102	103	2.2
GP-T02-06	LL4	501941.94	2629369.6	4/7/2006	Intermediate	102	103	2.3
GP-T02-07	LL4	502468.62	2629364	4/7/2006	Shallow	59	60	ND
GP-T02-07	LL4	502468.62	2629364	4/7/2006	Intermediate	79	80	0.3 J
GP-T02-07	LL4	502468.62	2629364	4/7/2006	Intermediate	99	100	ND
GP-T02-08	LL4	502902.68	2629339.51	4/7/2006	Shallow	59	60	ND
GP-T02-08	LL4	502902.68	2629339.51	4/7/2006	Intermediate	79	80	ND
GP-T02-08	LL4	502902.68	2629339.51	4/7/2006	Intermediate	97	98	ND
GP-T02-09	LL4	503325.07	2629316.81	4/7/2006	Shallow	59	60	ND
GP-T02-09	LL4	503325.07	2629316.81	4/7/2006	Intermediate	79	80	ND
GP-T02-09	LL4	503325.07	2629316.81	4/7/2006	Intermediate	96	97	ND
GP-T08-08	LL4	499275.67	2627824.81	4/10/2006	Shallow	64	65	ND
GP-T08-08	LL4	499275.67	2627824.81	4/10/2006	Intermediate	83	84	ND
GP-T08-08	LL4	499275.67	2627824.81	4/10/2006	Intermediate	101	102	ND
GP-T08-09	LL4	499899.82	2628520.87	4/13/2006	Shallow	64	65	ND
GP-T08-09	LL4	499899.82	2628520.87	4/13/2006	Intermediate	78	79	ND
GP-T08-09	LL4	499899.82	2628520.87	4/13/2006	Intermediate	92	93	ND
GP-T13-10	LL4	501518.82	2632669.14	4/9/2006	Shallow	36	37	ND
GP-T13-10	LL4	501518.82	2632669.14	4/9/2006	Intermediate	49	50	ND
GP-T13-10	LL4	501518.82	2632669.14	4/9/2006	Intermediate	61	62	ND
GP-T13-11	LL4	501983.37	2632896.92	4/9/2006	Shallow	39	40	8.7 J
GP-T13-11	LL4	501983.37	2632896.92	4/9/2006	Shallow	39	40	5.1 J
GP-T13-11	LL4	501983.37	2632896.92	4/9/2006	Intermediate	51	52	4.1

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T13-11	LL4	501983.37	2632896.92	4/9/2006	Intermediate	64	65	1.3
GP-T13-12	LL4	502540.34	2633148.93	4/9/2006	Shallow	23	24	ND
GP-T13-12	LL4	502540.34	2633148.93	4/9/2006	Intermediate	40	41	0.65 J
GP-T13-12	LL4	502540.34	2633148.93	4/9/2006	Intermediate	56	57	2.9
GP-T13-12	LL4	502540.34	2633148.93	4/9/2006	Intermediate	56	57	2.6
GP-T16-11	LL4	505770.2	2629677.71	4/7/2006	Shallow	55	56	3.6
GP-T16-12	LL4	506202.03	2629950.19	4/12/2006	Shallow	59	60	ND
GP-T16-12	LL4	506202.03	2629950.19	4/13/2006	Intermediate	79	80	ND
GP-T16-12	LL4	506202.03	2629950.19	4/13/2006	Intermediate	99	100	ND
GP-T16-13	LL4	506691.28	2630554.47	4/7/2006	Shallow	44	45	ND
GP-T16-13	LL4	506691.28	2630554.47	4/7/2006	Intermediate	60	61	ND
GP-T16-13	LL4	506691.28	2630554.47	4/7/2006	Intermediate	77	78	ND
GP-T19-01	LL4	507534.43	2622762.92	3/19/2006	Shallow	64	65	ND
GP-T19-02	LL4	507839.28	2623161.28	3/16/2006	Shallow	64	65	ND
GP-T19-03	LL4	508151.69	2623576.43	3/27/2006	Shallow	64	65	ND
GP-T19-04	LL4	508440.31	2623950.09	3/15/2006	Shallow	59	60	ND
GP-T19-05	LL4	508771.15	2624374.54	3/15/2006	Shallow	59	60	ND
GP-T19-06	LL4	509053.25	2624727.52	3/15/2006	Shallow	59	60	ND
GP-T19-07	LL4	509334.73	2625143.02	3/15/2006	Shallow	59	60	ND
GP-T19-08	LL4	509630.56	2625458.31	3/18/2006	Shallow	44	45	ND
GP-T19-09	LL4	509964.93	2625793.51	3/18/2006	Shallow	41	42	ND
GP-T19-10	LL4	510332.85	2626216.61	3/18/2006	Shallow	39	40	ND
GP-T19-11	LL4	510919.84	2627092.46	3/17/2006	Shallow	34	35	ND
GP-T20-01	LL4	505463.91	2623130.49	3/29/2006	Shallow	69	70	ND
GP-T20-02	LL4	505819.31	2623536.32	3/29/2006	Shallow	64	65	ND
GP-T20-03	LL4	506156.46	2623909.92	3/29/2006	Shallow	54	55	0.98 J
GP-T20-04	LL4	506626.63	2624237.72	3/31/2006	Shallow	64	65	ND
GP-T20-05	LL4	506791.18	2624645.79	3/16/2006	Shallow	54	55	ND
GP-T20-06	LL4	507062.7	2625085.72	3/16/2006	Shallow	58	59	ND
GP-T20-07	LL4	507317.68	2625465.24	3/16/2006	Shallow	59	60	ND
GP-T20-08	LL4	507579.81	2625859.1	3/16/2006	Shallow	59	60	ND
GP-T20-09	LL4	507906.86	2626355.84	3/18/2006	Shallow	59	60	ND
GP-T20-10	LL4	508238.88	2626762.96	3/18/2006	Shallow	54	55	0.29 J
GP-T20-11	LL4	508559.67	2627149.05	3/18/2006	Shallow	54	55	ND
GP-T20-13	LL4	509096.7	2628017.96	3/17/2006	Shallow	34	35	ND
GP-T20-14	LL4	509356.13	2628408.81	3/17/2006	Shallow	38	39	ND
GP-T21-01	LL4	505245.83	2630721.19	4/13/2006	Shallow	64	65	ND
GP-T21-02	LL4	505824.13	2631110.35	4/7/2006	Shallow	54	55	0.5 J
GP-T21-03	LL4	506054.56	2631437.37	4/8/2006	Shallow	54	55	ND
GP-T21-04	LL4	506273.77	2631674.44	4/13/2006	Shallow	64	65	ND
GP-T22-01	LL4	504375.77	2631531.82	4/8/2006	Shallow	55	56	0.67 J
GP-T22-01	LL4	504375.77	2631531.82	4/8/2006	Shallow	55	56	0.47 J
GP-T22-02	LL4	504870.51	2631979.58	4/8/2006	Shallow	55	56	ND
GP-T22-03	LL4	505446.21	2631945.48	4/8/2006	Shallow	57	58	ND
GP-T22-04	LL4	505672.31	2632383.92	4/11/2006	Shallow	54	55	ND
GP-T23-01	LL4	503142.89	2633127.11	4/9/2006	Shallow	32	33	0.52 J
GP-T23-02	LL4	503711.37	2633201.39	4/9/2006	Shallow	31	32	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T23-03	LL4	504359.25	2633324.9	4/9/2006	Shallow	23	24	ND
GP-T23-04	LL4	504676.61	2633152	4/9/2006	Shallow	43	44	ND
GP-T25-01	LL4	501884.99	2635697.45	4/8/2006	Shallow	23	24	ND
GP-T25-02	LL4	502542.11	2636032.57	4/8/2006	Shallow	23	24	ND
GP-T25-03	LL4	502908.74	2636333.74	4/11/2006	Shallow	23	24	ND
GP-T26-01	LL4	500854.83	2636851.73	4/11/2006	Shallow	23	24	ND
GP-T26-02	LL4	500908.7	2637375.89	4/8/2006	Shallow	23	24	ND
GP-T27-01	LL4	498418.2	2636047.9	4/12/2006	Shallow	23	24	ND
GP-T27-02	LL4	498454	2636546.24	4/10/2006	Shallow	19	20	ND
GP-T27-03	LL4	498491.2	2637038.44	4/12/2006	Shallow	23	24	ND
GP-T27-04	LL4	498517.45	2637547.05	4/10/2006	Shallow	19	20	ND
GP-T64-01	LL4	501910.25	2635794.25	12/18/2008	Shallow	13	14	ND
GP-T64-01	LL4	501910.25	2635794.25	12/18/2008	Shallow	23	24	ND
GP-T64-01	LL4	501910.25	2635794.25	12/18/2008	Intermediate	33	34	ND
GP-T64-01	LL4	501910.25	2635794.25	12/18/2008	Intermediate	43	44	ND
GP-T64-02	LL4	502506.5	2636022.76	12/18/2008	Shallow	16	17	ND
GP-T64-02	LL4	502506.5	2636022.76	12/18/2008	Shallow	26	27	ND
GP-T64-02	LL4	502506.5	2636022.76	12/18/2008	Intermediate	36	37	ND
GP-T64-02	LL4	502506.5	2636022.76	12/18/2008	Intermediate	46	47	ND
GP-T64-03	LL4	503094.46	2636328.38	12/18/2008	Shallow	16	17	ND
GP-T64-03	LL4	503094.46	2636328.38	12/18/2008	Shallow	26	27	ND
GP-T64-03	LL4	503094.46	2636328.38	12/18/2008	Intermediate	36	37	ND
GP-T64-03	LL4	503094.46	2636328.38	12/18/2008	Intermediate	46	47	ND
GP-T79-001	LL4	506618.756	2623987.34	5/18/2010	Shallow	57	58	1.2 J
GP-T79-001	LL4	506618.756	2623987.34	5/18/2010	Shallow	67	68	0.17 J
GP-T79-001	LL4	506618.756	2623987.34	5/18/2010	Shallow	77	78	ND
GP-T79-001	LL4	506618.756	2623987.34	5/17/2010	Intermediate	87	88	0.85 J
GP-T79-001	LL4	506618.756	2623987.34	5/17/2010	Intermediate	97	98	ND
GP-T79-001	LL4	506618.756	2623987.34	5/17/2010	Intermediate	107	108	ND
GP-T79-002	LL4	506668.076	2624392.642	5/17/2010	Shallow	54	55	0.086 J
GP-T79-002	LL4	506668.076	2624392.642	5/17/2010	Shallow	64	65	ND
GP-T79-002	LL4	506668.076	2624392.642	5/17/2010	Shallow	74	75	ND
GP-T79-002	LL4	506668.076	2624392.642	5/17/2010	Intermediate	84	85	ND
GP-T79-002	LL4	506668.076	2624392.642	5/17/2010	Intermediate	94	95	ND
GP-T79-002	LL4	506668.076	2624392.642	5/17/2010	Intermediate	104	105	ND
GP-T79-003	LL4	506690.253	2624885.435	5/10/2010	Shallow	52	53	ND
GP-T79-003	LL4	506690.253	2624885.435	5/10/2010	Shallow	62	63	ND
GP-T79-003	LL4	506690.253	2624885.435	5/10/2010	Intermediate	72	73	ND
GP-T79-003	LL4	506690.253	2624885.435	5/7/2010	Intermediate	82	83	ND
GP-T79-003	LL4	506690.253	2624885.435	5/7/2010	Intermediate	92	93	ND
GP-T79-004	LL4	506703.161	2625371.06	5/10/2010	Shallow	53	54	ND
GP-T79-004	LL4	506703.161	2625371.06	5/10/2010	Intermediate	63	64	ND
GP-T79-004	LL4	506703.161	2625371.06	5/10/2010	Intermediate	73	74	ND
GP-T79-005	LL4	506731.227	2625899.358	5/14/2010	Shallow	56	57	ND
GP-T79-005	LL4	506731.227	2625899.358	5/14/2010	Intermediate	66	67	ND
GP-T79-006	LL4	506743.811	2626358.81	5/14/2010	Shallow	60	61	ND
GP-T79-006	LL4	506743.811	2626358.81	5/14/2010	Intermediate	70	71	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T79-007	LL4	506763.848	2626834.452	5/15/2010	Shallow	52	53	ND
GP-T79-007	LL4	506763.848	2626834.452	5/15/2010	Intermediate	62	63	ND
GP-T79-008	LL4	506789.669	2627308.306	5/3/2010	Shallow	54	55	1.4
GP-T79-008	LL4	506789.669	2627308.306	4/30/2010	Intermediate	64	65	0.1 J
GP-T79-008	LL4	506789.669	2627308.306	4/30/2010	Intermediate	74	75	1 J
GP-T79-009	LL4	506806.946	2627862.387	4/30/2010	Shallow	49	50	12
GP-T79-009	LL4	506806.946	2627862.387	4/30/2010	Shallow	59	60	13
GP-T79-009	LL4	506806.946	2627862.387	4/30/2010	Shallow	69	70	2.8
GP-T79-009	LL4	506806.946	2627862.387	4/30/2010	Intermediate	79	80	1.4 J
GP-T79-009	LL4	506806.946	2627862.387	4/29/2010	Intermediate	91	92	0.93
GP-T79-009	LL4	506806.946	2627862.387	4/29/2010	Intermediate	101	102	1.2
GP-T79-010	LL4	506826.096	2628389.574	4/30/2010	Shallow	54	55	6.1
GP-T79-010	LL4	506826.096	2628389.574	4/30/2010	Shallow	54	55	6.5
GP-T79-010	LL4	506826.096	2628389.574	4/30/2010	Shallow	64	65	5.9
GP-T79-010	LL4	506826.096	2628389.574	4/29/2010	Intermediate	74	75	0.87 J
GP-T79-010	LL4	506826.096	2628389.574	4/29/2010	Intermediate	84	85	0.13 J
GP-T79-010	LL4	506826.096	2628389.574	4/29/2010	Intermediate	94	95	0.49
GP-T79-011	LL4	506850.554	2628859.564	5/15/2010	Shallow	53	54	1.8
GP-T79-011	LL4	506850.554	2628859.564	5/15/2010	Shallow	63	64	1.2
GP-T79-011	LL4	506850.554	2628859.564	5/15/2010	Shallow	63	64	0.69
GP-T79-011	LL4	506850.554	2628859.564	5/15/2010	Shallow	73	74	0.38 J
GP-T79-011	LL4	506850.554	2628859.564	5/15/2010	Intermediate	83	84	0.051 J
GP-T79-011	LL4	506850.554	2628859.564	5/15/2010	Intermediate	93	94	0.3 J
GP-T79-011	LL4	506850.554	2628859.564	5/15/2010	Intermediate	103	104	1.8
GP-T79-014	LL4	507692.4072	2629154.493	6/24/2010	Shallow	57	58	0.55 J
GP-T79-014	LL4	507692.4072	2629154.493	6/24/2010	Intermediate	67	68	0.044 J
GP-T79-014	LL4	507692.4072	2629154.493	6/24/2010	Intermediate	67	68	0.042 J
GP-T79-014	LL4	507692.4072	2629154.493	6/24/2010	Intermediate	77	78	0.046 J
GP-T80-001	LL4	504073.763	2625275.64	5/18/2010	Shallow	52	53	0.85
GP-T80-001	LL4	504073.763	2625275.64	5/18/2010	Shallow	62	63	3.1
GP-T80-001	LL4	504073.763	2625275.64	5/18/2010	Intermediate	72	73	1.1
GP-T80-001	LL4	504073.763	2625275.64	5/18/2010	Intermediate	82	83	ND
GP-T80-001	LL4	504073.763	2625275.64	5/18/2010	Intermediate	92	93	0.096 J
GP-T80-001	LL4	504073.763	2625275.64	5/18/2010	Intermediate	92	93	ND
GP-T80-002	LL4	504092.078	2625748.988	5/19/2010	Shallow	44	45	ND
GP-T80-002	LL4	504092.078	2625748.988	5/19/2010	Shallow	54	55	3.5 J
GP-T80-002	LL4	504092.078	2625748.988	5/19/2010	Shallow	54	55	3.2
GP-T80-002	LL4	504092.078	2625748.988	5/19/2010	Shallow	64	65	2.8
GP-T80-002	LL4	504092.078	2625748.988	5/19/2010	Intermediate	74	75	6.8
GP-T80-002	LL4	504092.078	2625748.988	5/19/2010	Intermediate	84	85	ND
GP-T80-002	LL4	504092.078	2625748.988	5/19/2010	Intermediate	94	95	ND
GP-T80-003	LL4	504110.834	2626209.324	5/20/2010	Shallow	51	52	0.05 J
GP-T80-003	LL4	504110.834	2626209.324	5/20/2010	Shallow	61	62	0.27
GP-T80-003	LL4	504110.834	2626209.324	5/19/2010	Intermediate	71	72	0.18 J
GP-T80-003	LL4	504110.834	2626209.324	5/19/2010	Intermediate	81	82	0.35
GP-T80-003	LL4	504110.834	2626209.324	5/19/2010	Intermediate	91	92	ND
GP-T80-004	LL4	503909.447	2626689.886	5/24/2010	Shallow	48	49	ND

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GP-T80-004	LL4	503909.447	2626689.886	5/24/2010	Shallow	58	59	0.06 J
GP-T80-004	LL4	503909.447	2626689.886	5/24/2010	Shallow	58	59	4.2
GP-T80-004	LL4	503909.447	2626689.886	5/24/2010	Intermediate	68	69	0.051 J
GP-T80-004	LL4	503909.447	2626689.886	5/24/2010	Intermediate	78	79	1.3
GP-T80-004	LL4	503909.447	2626689.886	5/24/2010	Intermediate	88	89	0.23
GP-T80-005	LL4	504146.517	2627183.481	5/25/2010	Shallow	58	59	ND
GP-T80-005	LL4	504146.517	2627183.481	5/25/2010	Shallow	68	69	ND
GP-T80-005	LL4	504146.517	2627183.481	5/25/2010	Intermediate	78	79	0.073 J
GP-T80-005	LL4	504146.517	2627183.481	5/25/2010	Intermediate	88	89	0.12 J
GP-T80-005	LL4	504146.517	2627183.481	5/25/2010	Intermediate	98	99	0 J
GP-T80-006	LL4	504167.043	2627718.092	5/25/2010	Shallow	57	58	0.044 J
GP-T80-006	LL4	504167.043	2627718.092	5/25/2010	Shallow	57	58	ND
GP-T80-006	LL4	504167.043	2627718.092	5/25/2010	Shallow	67	68	0.092 J
GP-T80-006	LL4	504167.043	2627718.092	5/25/2010	Intermediate	77	78	ND
GP-T80-006	LL4	504167.043	2627718.092	5/25/2010	Intermediate	87	88	ND
GP-T80-006	LL4	504167.043	2627718.092	5/25/2010	Intermediate	97	98	ND
GP-T80-007	LL4	504259.2321	2628204.093	5/26/2010	Shallow	47	48	ND
GP-T80-007	LL4	504259.2321	2628204.093	5/26/2010	Shallow	57	58	ND
GP-T80-007	LL4	504259.2321	2628204.093	5/26/2010	Shallow	67	68	ND
GP-T80-007	LL4	504259.2321	2628204.093	5/26/2010	Intermediate	77	78	ND
GP-T80-007	LL4	504259.2321	2628204.093	5/26/2010	Intermediate	87	88	ND
GP-T80-007	LL4	504259.2321	2628204.093	5/26/2010	Intermediate	97	98	ND
GP-T80-008	LL4	504268.7156	2628697.73	5/26/2010	Shallow	53	54	4.3
GP-T80-008	LL4	504268.7156	2628697.73	5/26/2010	Shallow	63	64	3.5
GP-T80-008	LL4	504268.7156	2628697.73	5/26/2010	Shallow	73	74	5.2
GP-T80-008	LL4	504268.7156	2628697.73	5/26/2010	Shallow	73	74	5.8
GP-T80-008	LL4	504268.7156	2628697.73	5/26/2010	Intermediate	83	84	3.1
GP-T80-008	LL4	504268.7156	2628697.73	5/26/2010	Intermediate	93	94	0.084 J
GP-T80-008	LL4	504268.7156	2628697.73	5/26/2010	Intermediate	103	104	ND
GP-T80-009	LL4	504223.703	2629090.592	6/2/2010	Shallow	55	56	8.9
GP-T80-009	LL4	504223.703	2629090.592	6/1/2010	Shallow	65	66	5.6
GP-T80-009	LL4	504223.703	2629090.592	6/1/2010	Intermediate	75	76	1.5
GP-T80-009	LL4	504223.703	2629090.592	6/1/2010	Intermediate	85	86	0.058 J
GP-T80-009	LL4	504223.703	2629090.592	6/1/2010	Intermediate	95	96	0.087 J
GP-T80-010	LL4	504254.677	2629751.507	6/3/2010	Shallow	50	51	1.8
GP-T80-010	LL4	504254.677	2629751.507	6/3/2010	Shallow	60	61	0.33 J
GP-T80-010	LL4	504254.677	2629751.507	6/2/2010	Intermediate	70	71	0.65 J
GP-T80-010	LL4	504254.677	2629751.507	6/2/2010	Intermediate	80	81	ND
GP-T80-010	LL4	504254.677	2629751.507	6/2/2010	Intermediate	90	91	ND
GP-T80-011	LL4	504271.871	2630182.534	6/3/2010	Shallow	51	52	1.7
GP-T80-011	LL4	504271.871	2630182.534	6/3/2010	Shallow	61	62	0.84
GP-T80-011	LL4	504271.871	2630182.534	6/3/2010	Intermediate	71	72	ND
GP-T80-011	LL4	504271.871	2630182.534	6/3/2010	Intermediate	81	82	ND
GP-T80-011	LL4	504271.871	2630182.534	6/3/2010	Intermediate	91	92	ND
GP-T80-012	LL4	504290.525	2630714.462	6/14/2010	Shallow	54	55	1.9
GP-T80-012	LL4	504290.525	2630714.462	6/14/2010	Shallow	64	65	0.97
GP-T80-012	LL4	504290.525	2630714.462	6/14/2010	Intermediate	74	75	1.1

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GP-T80-012	LL4	504290.525	2630714.462	6/14/2010	Intermediate	84	85	1.2
GP-T80-012	LL4	504290.525	2630714.462	6/14/2010	Intermediate	94	95	0.18 J
GP-T80-013	LL4	504310.398	2631167.793	6/11/2010	Shallow	54	55	0.047 J
GP-T80-013	LL4	504310.398	2631167.793	6/11/2010	Shallow	64	65	0.67 J
GP-T80-013	LL4	504310.398	2631167.793	6/11/2010	Intermediate	74	75	3
GP-T80-013	LL4	504310.398	2631167.793	6/11/2010	Intermediate	84	85	3.4
GP-T80-013	LL4	504310.398	2631167.793	6/11/2010	Intermediate	94	95	0.078 J
GP-T80-014	LL4	504330.063	2631636.53	6/14/2010	Shallow	62	63	0.14 J
GP-T80-014	LL4	504330.063	2631636.53	6/14/2010	Shallow	72	73	0.47 J
GP-T80-014	LL4	504330.063	2631636.53	6/14/2010	Shallow	72	73	0.35 J
GP-T80-014	LL4	504330.063	2631636.53	6/14/2010	Intermediate	82	83	0.45 J
GP-T80-014	LL4	504330.063	2631636.53	6/14/2010	Intermediate	92	93	0.14 J
GP-T80-015	LL4	504352.47	2632215.128	6/15/2010	Shallow	57	58	ND
GP-T80-015	LL4	504352.47	2632215.128	6/15/2010	Shallow	67	68	0.84
GP-T80-015	LL4	504352.47	2632215.128	6/15/2010	Intermediate	77	78	0.33 J
GP-T80-015	LL4	504352.47	2632215.128	6/15/2010	Intermediate	87	88	0.059 J
GP-T80-015	LL4	504352.47	2632215.128	6/15/2010	Intermediate	97	98	ND
GP-T80-016	LL4	504383.104	2632780.641	6/14/2010	Shallow	58	59	ND
GP-T80-016	LL4	504383.104	2632780.641	6/14/2010	Shallow	68	69	ND
GP-T80-016	LL4	504383.104	2632780.641	6/14/2010	Intermediate	78	79	ND
GP-T80-016	LL4	504383.104	2632780.641	6/14/2010	Intermediate	88	89	ND
GP-T80-016	LL4	504383.104	2632780.641	6/14/2010	Intermediate	98	99	ND
GP-T80-017	LL4	504399.21	2633310.557	6/14/2010	Shallow	21	22	ND
GP-T80-017	LL4	504399.21	2633310.557	6/14/2010	Shallow	31	32	ND
GP-T80-017	LL4	504399.21	2633310.557	6/14/2010	Intermediate	41	42	ND
GP-T80-017	LL4	504399.21	2633310.557	6/14/2010	Intermediate	51	52	ND
GP-T80-017	LL4	504399.21	2633310.557	6/14/2010	Intermediate	61	62	ND
GP-T80-018	LL4	504049.974	2624785.346	7/2/2010	Shallow	53	54	ND
GP-T80-018	LL4	504049.974	2624785.346	7/2/2010	Shallow	63	64	0.15 J
GP-T80-018	LL4	504049.974	2624785.346	7/2/2010	Intermediate	73	74	0.05 J
GP-T80-018	LL4	504049.974	2624785.346	7/2/2010	Intermediate	83	84	0.038 J
GP-T80-018	LL4	504049.974	2624785.346	7/2/2010	Intermediate	83	84	0.066 J
GP-T80-018	LL4	504049.974	2624785.346	7/2/2010	Intermediate	93	94	0.039 J
GP-T81-001	LL4	501588.715	2628299.945	6/22/2010	Shallow	51	52	0.045 J
GP-T81-001	LL4	501588.715	2628299.945	6/22/2010	Shallow	61	62	ND
GP-T81-001	LL4	501588.715	2628299.945	6/22/2010	Shallow	71	72	2.6
GP-T81-001	LL4	501588.715	2628299.945	6/22/2010	Intermediate	81	82	2.5
GP-T81-001	LL4	501588.715	2628299.945	6/22/2010	Intermediate	91	92	0.4
GP-T81-001	LL4	501588.715	2628299.945	6/22/2010	Intermediate	91	92	0.45
GP-T81-001	LL4	501588.715	2628299.945	6/22/2010	Intermediate	101	102	ND
GP-T81-002	LL4	501605.575	2628859.692	6/22/2010	Shallow	65	66	ND
GP-T81-002	LL4	501605.575	2628859.692	6/22/2010	Shallow	75	76	1.8
GP-T81-002	LL4	501605.575	2628859.692	6/22/2010	Intermediate	85	86	3
GP-T81-002	LL4	501605.575	2628859.692	6/22/2010	Intermediate	95	96	3.2
GP-T81-003	LL4	501622.435	2629419.438	6/21/2010	Shallow	56	57	ND
GP-T81-003	LL4	501622.435	2629419.438	6/21/2010	Shallow	66	67	0.24 J
GP-T81-003	LL4	501622.435	2629419.438	6/21/2010	Intermediate	76	77	0.59

Table 3-1
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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T81-003	LL4	501622.435	2629419.438	6/21/2010	Intermediate	86	87	2
GP-T81-003	LL4	501622.435	2629419.438	6/21/2010	Intermediate	96	97	0.74
GP-T81-004	LL4	501639.295	2629979.184	6/17/2010	Shallow	46	47	ND
GP-T81-004	LL4	501639.295	2629979.184	6/17/2010	Shallow	56	57	0.84
GP-T81-004	LL4	501639.295	2629979.184	6/17/2010	Intermediate	66	67	1.9
GP-T81-004	LL4	501639.295	2629979.184	6/17/2010	Intermediate	76	77	0.9
GP-T81-004	LL4	501639.295	2629979.184	6/17/2010	Intermediate	86	87	0.043 J
GP-T81-005	LL4	501656.155	2630538.93	6/17/2010	Shallow	49	50	ND
GP-T81-005	LL4	501656.155	2630538.93	6/17/2010	Shallow	59	60	0.61
GP-T81-005	LL4	501656.155	2630538.93	6/17/2010	Shallow	59	60	0.51
GP-T81-005	LL4	501656.155	2630538.93	6/17/2010	Intermediate	69	70	0.75
GP-T81-005	LL4	501656.155	2630538.93	6/17/2010	Intermediate	79	80	0.061 J
GP-T81-005	LL4	501656.155	2630538.93	6/17/2010	Intermediate	89	90	0.18 J
GP-T81-006	LL4	501673.014	2631098.676	6/18/2010	Shallow	53	54	ND
GP-T81-006	LL4	501673.014	2631098.676	6/18/2010	Shallow	63	64	ND
GP-T81-006	LL4	501673.014	2631098.676	6/18/2010	Intermediate	73	74	ND
GP-T81-006	LL4	501673.014	2631098.676	6/18/2010	Intermediate	83	84	ND
GP-T81-006	LL4	501673.014	2631098.676	6/18/2010	Intermediate	93	94	0.048 J
GP-T81-007	LL4	501689.874	2631658.422	6/18/2010	Shallow	57	58	ND
GP-T81-007	LL4	501689.874	2631658.422	6/18/2010	Shallow	67	68	ND
GP-T81-007	LL4	501689.874	2631658.422	6/18/2010	Intermediate	77	78	ND
GP-T81-007	LL4	501689.874	2631658.422	6/18/2010	Intermediate	87	88	ND
GP-T81-010	LL4	501740.454	2633337.661	6/17/2010	Shallow	4	5	ND
GP-T81-010	LL4	501740.454	2633337.661	6/17/2010	Shallow	14	15	ND
GP-T81-010	LL4	501740.454	2633337.661	6/17/2010	Intermediate	24	25	3.8
GP-T81-010	LL4	501740.454	2633337.661	6/16/2010	Intermediate	34	35	5.2
GP-T81-010	LL4	501740.454	2633337.661	6/16/2010	Intermediate	44	45	11
GP-T81-011	LL4	501757.313	2633897.407	6/17/2010	Shallow	5	6	ND
GP-T81-011	LL4	501757.313	2633897.407	6/17/2010	Shallow	15	16	0.058 J
GP-T81-011	LL4	501757.313	2633897.407	6/17/2010	Intermediate	25	26	3.2
GP-T81-011	LL4	501757.313	2633897.407	6/17/2010	Intermediate	35	36	0.26
GP-T81-011	LL4	501757.313	2633897.407	6/17/2010	Intermediate	45	46	3
GP-T81-012	LL4	501774.173	2634457.153	6/17/2010	Shallow	11	12	2.1
GP-T81-012	LL4	501774.173	2634457.153	6/17/2010	Shallow	21	22	1.6
GP-T81-012	LL4	501774.173	2634457.153	6/17/2010	Intermediate	31	32	3.4
GP-T81-012	LL4	501774.173	2634457.153	6/17/2010	Intermediate	31	32	3.5
GP-T81-012	LL4	501774.173	2634457.153	6/17/2010	Intermediate	41	42	1.2
GP-T81-013	LL4	501791.033	2635016.899	6/18/2010	Shallow	5	6	ND
GP-T81-013	LL4	501791.033	2635016.899	6/18/2010	Shallow	15	16	0.096 J
GP-T81-013	LL4	501791.033	2635016.899	6/18/2010	Intermediate	25	26	0.65
GP-T81-013	LL4	501791.033	2635016.899	6/18/2010	Intermediate	35	36	0.87
GP-T81-013	LL4	501791.033	2635016.899	6/18/2010	Intermediate	35	36	0.72
GP-T81-013	LL4	501791.033	2635016.899	6/18/2010	Intermediate	45	46	0.83
GP-T81-014	LL4	501807.893	2635576.645	6/18/2010	Shallow	13	14	0.08 J
GP-T81-014	LL4	501807.893	2635576.645	6/18/2010	Shallow	23	24	0.094 J
GP-T81-014	LL4	501807.893	2635576.645	6/18/2010	Intermediate	33	34	0.12 J
GP-T81-014	LL4	501807.893	2635576.645	6/18/2010	Intermediate	43	44	0.1 J

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T81-015	LL4	501820.487	2635994.779	6/18/2010	Shallow	12	13	ND
GP-T81-015	LL4	501820.487	2635994.779	6/18/2010	Shallow	22	23	ND
GP-T81-015	LL4	501820.487	2635994.779	6/18/2010	Intermediate	32	33	0.18 J
GP-T81-015	LL4	501820.487	2635994.779	6/18/2010	Intermediate	42	43	ND
GP-T81-015	LL4	501820.487	2635994.779	6/18/2010	Intermediate	52	53	ND
GP-T81-018	LL4	501727.21	2627722.81	8/16/2010	Shallow	64	65	0.28 J
GP-T81-018	LL4	501727.21	2627722.81	8/16/2010	Shallow	74	75	0.46
GP-T81-018	LL4	501727.21	2627722.81	8/16/2010	Intermediate	84	85	0.051 J
GP-T81-018	LL4	501727.21	2627722.81	8/16/2010	Intermediate	94	95	ND
GP-T81-018	LL4	501727.21	2627722.81	8/16/2010	Intermediate	104	105	0.16 J
GP-T82-003	LL4	498680.479	2632826.05	6/21/2010	Shallow	12	13	ND
GP-T82-003	LL4	498680.479	2632826.05	6/21/2010	Shallow	22	23	ND
GP-T82-003	LL4	498680.479	2632826.05	6/21/2010	Intermediate	32	33	0.59
GP-T82-003	LL4	498680.479	2632826.05	6/21/2010	Intermediate	32	33	0.55
GP-T82-003	LL4	498680.479	2632826.05	6/21/2010	Intermediate	42	43	1.4
GP-T82-004	LL4	499238.982	2632866.974	6/21/2010	Shallow	15	16	ND
GP-T82-004	LL4	499238.982	2632866.974	6/21/2010	Shallow	25	26	0.31
GP-T82-004	LL4	499238.982	2632866.974	6/21/2010	Intermediate	35	36	1.7
GP-T82-004	LL4	499238.982	2632866.974	6/21/2010	Intermediate	45	46	1.8
GP-T82-005	LL4	499797.484	2632907.899	6/21/2010	Shallow	31	32	ND
GP-T82-005	LL4	499797.484	2632907.899	6/21/2010	Intermediate	41	42	0.35
GP-T82-005	LL4	499797.484	2632907.899	6/21/2010	Intermediate	41	42	0.44
GP-T82-005	LL4	499797.484	2632907.899	6/21/2010	Intermediate	51	52	0.44
GP-T82-006	LL4	500355.987	2632948.824	6/22/2010	Shallow	24	25	ND
GP-T82-006	LL4	500355.987	2632948.824	6/22/2010	Intermediate	34	35	ND
GP-T82-006	LL4	500355.987	2632948.824	6/22/2010	Intermediate	44	45	0.038 J
GP-T82-007	LL4	500914.489	2632989.749	6/22/2010	Shallow	28	29	0.085 J
GP-T82-007	LL4	500914.489	2632989.749	6/22/2010	Intermediate	38	39	0.055 J
GP-T82-007	LL4	500914.489	2632989.749	6/22/2010	Intermediate	48	49	ND
GP-T82-008	LL4	501472.992	2633030.673	6/22/2010	Shallow	23	24	0.88
GP-T82-008	LL4	501472.992	2633030.673	6/22/2010	Intermediate	33	34	3.1
GP-T82-008	LL4	501472.992	2633030.673	6/22/2010	Intermediate	43	44	2.5
GP-T82-009	LL4	501924.53	2633036.74	7/28/2010	Shallow	16	17	ND
GP-T82-009	LL4	501924.53	2633036.74	7/28/2010	Shallow	26	27	2.29
GP-T82-009	LL4	501924.53	2633036.74	7/28/2010	Intermediate	36	37	10.3
GP-T82-009	LL4	501924.53	2633036.74	7/27/2010	Intermediate	46	47	9.45
GP-T82-010	LL4	502388.94	2633082.66	7/30/2010	Shallow	14	15	ND
GP-T82-010	LL4	502388.94	2633082.66	7/29/2010	Shallow	24	25	1.21 J
GP-T82-010	LL4	502388.94	2633082.66	7/28/2010	Intermediate	34	35	ND
GP-T82-010	LL4	502388.94	2633082.66	7/28/2010	Intermediate	44	45	1.58
GP-T82-010	LL4	502388.94	2633082.66	7/28/2010	Intermediate	44	45	1.25
GP-T82-010	LL4	502388.94	2633082.66	7/28/2010	Intermediate	54	55	2.18
GP-T83-001	LL4	499521.824	2632578.532	5/12/2010	Shallow	35	36	0.066 J
GP-T83-001	LL4	499521.824	2632578.532	5/12/2010	Shallow	45	46	0.084 J
GP-T83-001	LL4	499521.824	2632578.532	5/12/2010	Intermediate	55	56	2.1
GP-T83-001	LL4	499521.824	2632578.532	5/12/2010	Intermediate	65	66	1.6
GP-T83-002	LL4	499548.156	2632662.103	5/13/2010	Shallow	20	21	0.1 J

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	RDX Result (µg/L)
GP-T83-002	LL4	499548.156	2632662.103	5/13/2010	Shallow	30	31	1.2
GP-T83-002	LL4	499548.156	2632662.103	5/13/2010	Intermediate	40	41	4.5 J
GP-T83-002	LL4	499548.156	2632662.103	5/12/2010	Intermediate	50	51	2.7 J
GP-T83-002	LL4	499548.156	2632662.103	5/12/2010	Intermediate	60	61	1.1
GP-T83-003	LL4	499568.387	2632803.934	5/13/2010	Shallow	16	17	0.11 J
GP-T83-003	LL4	499568.387	2632803.934	5/13/2010	Shallow	26	27	ND
GP-T83-003	LL4	499568.387	2632803.934	5/13/2010	Intermediate	36	37	1.9
GP-T83-003	LL4	499568.387	2632803.934	5/13/2010	Intermediate	36	37	1.6
GP-T83-003	LL4	499568.387	2632803.934	5/13/2010	Intermediate	46	47	0.72
MW-01A	LL4	511743.02	2618459.71	7/1/2010	Intermediate	79	109	ND
MW-01B	LL4	511743.23	2618469.56	7/1/2010	Shallow	39	79	ND
MW-08A	LL4	506814.75	2622863.97	2/19/2010	Intermediate	84	123	ND
MW-08B	LL4	506820.56	2622872.07	2/19/2010	Shallow	42.1	81	1.1
MW-09A	LL4	507435.83	2623570.81	7/6/2010	Intermediate	89	128	ND
MW-09B	LL4	507436.09	2623580.33	7/6/2010	Shallow	46.3	85.3	ND
MW-102A	LL4	514541.23	2622929.37	7/20/2010	Intermediate	117	127	ND
MW-102B	LL4	514540.92	2622923.36	7/20/2010	Shallow	50	60	ND
MW-103A	LL4	513115.78	2623590.76	7/20/2010	Intermediate	116	126	ND
MW-103B	LL4	513110.25	2623591.23	7/20/2010	Shallow	50	60	ND
MW-104A	LL4	499205.59	2634092.17	7/27/2010	Intermediate	31.1	40.6	4.57
MW-104B	LL4	499205.6	2634082.83	7/27/2010	Shallow	15.1	24.6	8.39
MW-104O	LL4	499204.99	2634073.86	7/27/2010	Shallow	5.3	7.3	ND
MW-105A	LL4	496642.99	2635041.97	7/27/2010	Intermediate	30.17	39.67	ND
MW-105B	LL4	496652.98	2635042.33	7/27/2010	Shallow	14.75	24.25	ND
MW-105O	LL4	496662.28	2635040.67	7/27/2010	Shallow	5	6.6	ND
MW-106A	LL4	506843.25	2630544.54	7/13/2010	Intermediate	57	67	0.12 J
MW-106B	LL4	506844.1	2630539.26	7/13/2010	Shallow	25	35	ND
MW-107A	LL4	506138.75	2631375.71	7/13/2010	Intermediate	78	88	0.088 J
MW-107B	LL4	506125.15	2631374.07	7/13/2010	Shallow	45	55	ND
MW-108A	LL4	505912.27	2631915.55	7/13/2010	Intermediate	71	81	ND
MW-108B	LL4	505899.46	2631917.07	7/13/2010	Shallow	35	45	ND
MW-109A	LL4	501896.05	2634807.18	7/28/2010	Intermediate	36.85	46.35	1.69
MW-109B	LL4	501904.25	2634805.74	7/28/2010	Shallow	19.2	28.7	1.76
MW-109B	LL4	501904.25	2634805.74	7/28/2010	Shallow	19.2	28.7	1.72
MW-109O	LL4	501911.8	2634805.16	7/28/2010	Shallow	6.7	9.2	ND
MW-11	LL4	509499.79	2626486.32	2/19/2010	Shallow	18.8	48	4.4
MW-110A	LL4	504432.79	2634397.71	7/27/2010	Intermediate	39.5	44.5	ND
MW-110B	LL4	504438.88	2634397.15	7/27/2010	Shallow	23	28	ND
MW-111A	LL4	499337.97	2636151.56	7/28/2010	Intermediate	31.23	40.73	ND
MW-111B	LL4	499348.23	2636151.74	7/28/2010	Shallow	14.5	24	0.069 J
MW-111O	LL4	499356.67	2636152.14	7/28/2010	Shallow	5	6.5	ND
MW-112A	LL4	501825.76	2637365.71	7/12/2010	Intermediate	42.5	47.5	ND
MW-112B	LL4	501832.67	2637365.3	7/12/2010	Shallow	21	26	ND
MW-113A	LL4	500472.21	2637420.11	7/12/2010	Intermediate	36	41	ND
MW-113B	LL4	500477.67	2637419.51	7/12/2010	Shallow	26	31	ND
MW-114A	LL4	497206.93	2637470.6	7/22/2010	Intermediate	37	47	ND
MW-114B	LL4	497204.31	2637465.73	7/22/2010	Shallow	20	30	ND

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MW-115A	LL4	495346.87	2637702.52	7/21/2010	Intermediate	43	48	ND
MW-115B	LL4	495346.86	2637696.41	7/21/2010	Shallow	28	33	ND
MW-116A	LL4	495297.6	2636335.8	7/22/2010	Intermediate	37.5	42.5	ND
MW-116B	LL4	495297.23	2636331.53	7/22/2010	Shallow	27	32	ND
MW-151A	LL4	506668.08	2624392.64	9/24/2010	Intermediate	94	104	ND
MW-151B	LL4	506667.26	2624386.31	9/24/2010	Shallow	70	80	ND
MW-152B	LL4	506805.72	2627865.21	9/23/2010	Shallow	60	70	1.48
MW-153A	LL4	504130.22	2627200.19	9/23/2010	Intermediate	89.5	99.5	ND
MW-153B	LL4	504129.53	2627192.86	9/23/2010	Shallow	69	79	0.38 J
MW-154A	LL4	504308.25	2631170.17	9/23/2010	Intermediate	76	86	4.84
MW-154B	LL4	504308.2	2631165.22	9/23/2010	Shallow	55	65	3.17
MW-155A	LL4	502435.45	2629444.96	9/23/2010	Intermediate	89	99	0.13 J
MW-155E	LL4	502444.32	2629444.89	9/23/2010	Intermediate	69	79	0.25 J
MW-156A	LL4	501928.83	2633019.6	9/23/2010	Intermediate	36	46	9.48
MW-156B	LL4	501922.48	2633018.32	9/23/2010	Shallow	16	26	ND
MW-156B	LL4	501922.48	2633018.32	9/23/2010	Shallow	16	26	ND
MW-157A	LL4	499117.46	2632549.3	9/23/2010	Intermediate	45	55	1.51
MW-157B	LL4	499118.08	2632559.03	9/23/2010	Shallow	27	37	0.26 J
MW-158A	LL4	493887.89	2635279.61	9/23/2010	Intermediate	27	37	ND
MW-158B	LL4	493887.64	2635271.87	9/23/2010	Shallow	14	24	ND
MW-159A	LL4	510307.81	2629111.84	9/23/2010	Intermediate	110	120	ND
MW-159B	LL4	510300.62	2629111.64	9/23/2010	Shallow	75	85	ND
MW-18A	LL4	506832.33	2629150.32	2/22/2010	Intermediate	122	125	ND
MW-18B	LL4	506827.45	2629156.56	2/22/2010	Intermediate	NA	NA	0.3 J
MW-18C	LL4	506821.93	2629148.52	2/22/2010	Shallow	36.7	46.7	4
MW-36A	LL4	496694.94	2634814.83	3/20/2007	Intermediate	28	38	ND
MW-36B	LL4	496692.86	2634805.75	3/20/2007	Shallow	17	27	ND
MW-37A	LL4	491651.93	2633418.32	3/15/2007	Intermediate	30	40	ND
MW-37B	LL4	491631.64	2633416.51	3/15/2007	Shallow	24	29	ND
MW-38A	LL4	496248.57	2638131.87	7/21/2010	Intermediate	44.7	49.2	ND
MW-39A	LL4	499304.69	2640062.25	3/13/2006	Intermediate	44	48.5	ND
MW-41A	LL4	512001.33	2624371.47	7/20/2010	Intermediate	71.5	81.5	ND
MW-41B	LL4	512001.37	2624361.82	7/20/2010	Shallow	36	46	ND
MW-42A	LL4	501582.56	2629385.19	7/2/2010	Intermediate	86	96	3.3
MW-42B	LL4	501592.64	2629385.28	7/2/2010	Shallow	53	63	0.58
MW-43A	LL4	504317.91	2629243.06	1/12/2010	Intermediate	90.5	100.5	0.24 J
MW-43B	LL4	504328.19	2629244.24	1/12/2010	Shallow	40	50	2.3
MW-44A	LL4	500415.11	2632953.68	1/26/2010	Intermediate	29.5	39.5	ND
MW-44B	LL4	500426.32	2632954.9	1/26/2010	Shallow	16	26	ND
MW-45A	LL4	499241.12	2635043.53	9/13/2006	Intermediate	28	38	4
MW-45A	LL4	499241.12	2635043.53	9/13/2006	Intermediate	28	38	4.02
MW-45B	LL4	499241.14	2635053.92	9/13/2006	Shallow	17	27	4.9 J
MW-46A	LL4	499387.37	2637464.93	7/12/2010	Intermediate	33.2	43.2	ND
MW-46B	LL4	499396.67	2637464.42	7/12/2010	Shallow	21	31	ND
MW-52A	LL4	508784.56	2627012.54	2/18/2009	Intermediate	48	58	ND
MW-52B	LL4	508778.93	2627004.23	2/18/2009	Shallow	42.5	52.5	ND
MW-53A	LL4	508169.87	2627897.77	2/6/2009	Intermediate	87	97	2.5

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MW-53B	LL4	508166.61	2627885.39	2/6/2009	Shallow	27.5	37.5	5.2
MW-54A	LL4	508858.25	2627893.82	2/5/2010	Intermediate	66	76	1.6 J
MW-54B	LL4	508855.98	2627883.87	2/5/2010	Shallow	24	29	ND
MW-55A	LL4	508377.66	2628135.4	8/4/2010	Intermediate	74	84	0.26
MW-55B	LL4	508374.22	2628125.87	8/4/2010	Shallow	56	66	0.043 J
MW-56A	LL4	508215.31	2628206.01	8/14/2008	Intermediate	69	79	1
MW-56B	LL4	508217.29	2628195.32	8/14/2008	Shallow	21	31	ND
MW-62A	LL4	493874.24	2635396.62	7/6/2010	Intermediate	27	37	ND
MW-62B	LL4	493871.95	2635385.05	7/6/2010	Shallow	17	24	ND
MW-64B	LL4	510106.02	2628038.55	2/5/2010	Shallow	19	29	ND
MW-72A	LL4	512064.68	2622930.98	12/11/2007	Intermediate	88	108	ND
MW-72B	LL4	512064.18	2622921.73	12/11/2007	Shallow	40	70	ND
MW-87A	LL4	491898.02	2635039.8	2/15/2010	Intermediate	36	46	ND
MW-87B	LL4	491900.96	2635035.21	2/15/2010	Shallow	17	27	0.19 J
MW-87B	LL4	491900.96	2635035.21	2/15/2010	Shallow	17	27	0.21
MW-88A	LL4	494045.12	2637643.91	7/21/2010	Intermediate	35	45	ND
MW-88B	LL4	494044.2	2637639.18	7/21/2010	Shallow	20	30	ND

Notes:
µg/L - Micrograms per liter
bgs = below ground surface
ft = feet
ft bgs = Feet below ground surface
BAZE = Biologically Active Zone Enhancement
EW = Extraction Well
GP = Direct Push
J = Estimated from Laboratory
LL = Load Line
MW = Monitoring Well
NA = Information Not Available
NAD 83- North American Datum of 1983
ND = Not Detected
NOP = Nebraska Ordnance Plant
OW = Observation Well
PZ = Piezometer
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine

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Table 3-2
TCE in Monitoring Wells and Direct-Push Samples (2006-2010)
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-109	LL1	492595.5	2610440	2/6/2006	Shallow	24	25	2
GP-109	LL1	492595.5	2610440	2/6/2006	Shallow	44	45	4
GP-109	LL1	492595.5	2610440	2/6/2006	Intermediate	64	65	1
GP-109	LL1	492595.5	2610440	2/7/2006	Intermediate	82	83	2
GP-110	LL1	492617	2611128	2/8/2006	Shallow	24	25	ND
GP-110	LL1	492617	2611128	2/8/2006	Shallow	44	45	ND
GP-110	LL1	492617	2611128	2/8/2006	Intermediate	64	65	ND
GP-110	LL1	492617	2611128	2/8/2006	Intermediate	84	85	4
GP-111	LL1	492632.4	2611628	2/9/2006	Shallow	24	25	ND
GP-111	LL1	492632.4	2611628	2/9/2006	Shallow	44	45	ND
GP-111	LL1	492632.4	2611628	2/9/2006	Shallow	44	45	ND
GP-111	LL1	492632.4	2611628	2/9/2006	Intermediate	64	65	ND
GP-111	LL1	492632.4	2611628	2/9/2006	Intermediate	84	85	ND
GP-112	LL1	492447.4	2610158	2/10/2006	Shallow	24	25	ND
GP-112	LL1	492447.4	2610158	2/10/2006	Shallow	44	45	ND
GP-112	LL1	492447.4	2610158	2/10/2006	Intermediate	64	65	ND
GP-112	LL1	492447.4	2610158	2/10/2006	Intermediate	84	85	ND
GP-113	LL1	492472.6	2610856	2/8/2006	Shallow	24	25	3
GP-113	LL1	492472.6	2610856	2/8/2006	Shallow	44	45	33
GP-113	LL1	492472.6	2610856	2/8/2006	Shallow	44	45	35
GP-113	LL1	492472.6	2610856	2/8/2006	Shallow	44	45	36
GP-113	LL1	492472.6	2610856	2/8/2006	Intermediate	64	65	34
GP-113	LL1	492472.6	2610856	2/8/2006	Intermediate	81	82	ND
GP-114	LL1	492492.6	2611423	2/9/2006	Shallow	24	25	ND
GP-114	LL1	492492.6	2611423	2/9/2006	Shallow	44	45	ND
GP-114	LL1	492492.6	2611423	2/9/2006	Intermediate	64	65	ND
GP-114	LL1	492492.6	2611423	2/9/2006	Intermediate	84	85	ND
GP-115	LL1	492224.6	2610824	2/7/2006	Shallow	24	25	4
GP-115	LL1	492224.6	2610824	2/7/2006	Shallow	44	45	32
GP-115	LL1	492224.6	2610824	2/7/2006	Intermediate	64	65	16
GP-115	LL1	492224.6	2610824	2/7/2006	Intermediate	81	82	5
GP-116	LL1	492289.6	2610580	2/10/2006	Shallow	24	25	ND
GP-116	LL1	492289.6	2610580	2/10/2006	Shallow	44	45	4
GP-116	LL1	492289.6	2610580	2/10/2006	Intermediate	64	65	2
GP-116	LL1	492289.6	2610580	2/10/2006	Intermediate	84	85	ND
GP-117	LL1	492239.9	2611209	2/7/2006	Shallow	24	25	ND
GP-117	LL1	492239.9	2611209	2/7/2006	Shallow	44	45	ND
GP-117	LL1	492239.9	2611209	2/8/2006	Intermediate	64	65	ND
GP-117	LL1	492239.9	2611209	2/8/2006	Intermediate	78	79	2
GP-118	LL1	492036.6	2610808	2/7/2006	Shallow	24	25	4
GP-118	LL1	492036.6	2610808	2/7/2006	Shallow	44	45	7
GP-118	LL1	492036.6	2610808	2/7/2006	Intermediate	64	65	3
GP-118	LL1	492036.6	2610808	2/7/2006	Intermediate	82	83	3
GP-119	LL1	492016.2	2611361	2/9/2006	Shallow	24	25	ND
GP-119	LL1	492016.2	2611361	2/9/2006	Shallow	44	45	ND
GP-119	LL1	492016.2	2611361	2/9/2006	Intermediate	64	65	ND

Table 3-2
TCE in Monitoring Wells and Direct-Push Samples (2006-2010)
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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-119	LL1	492016.2	2611361	2/9/2006	Intermediate	81	82	ND
GP-120	LL1	492124.1	2610404	2/6/2006	Shallow	24	25	2
GP-120	LL1	492124.1	2610404	2/6/2006	Intermediate	44	45	2
GP-120	LL1	492124.1	2610404	2/6/2006	Intermediate	64	65	2
GP-121	LL1	491985.9	2610169	2/6/2006	Shallow	24	25	ND
GP-121	LL1	491985.9	2610169	2/6/2006	Shallow	44	45	ND
GP-121	LL1	491985.9	2610169	2/6/2006	Intermediate	64	65	ND
GP-121	LL1	491985.9	2610169	2/6/2006	Intermediate	84	85	ND
GP-122	LL1	491897.8	2610705	2/5/2006	Shallow	24	25	2
GP-122	LL1	491897.8	2610705	2/5/2006	Shallow	44	45	ND
GP-122	LL1	491897.8	2610705	2/5/2006	Intermediate	64	65	ND
GP-122	LL1	491897.8	2610705	2/5/2006	Intermediate	84	85	ND
GP-123	LL1	491841.5	2611010	2/4/2006	Shallow	24	25	ND
GP-123	LL1	491841.5	2611010	2/4/2006	Shallow	44	45	8.3
GP-123	LL1	491841.5	2611010	2/4/2006	Intermediate	64	65	ND
GP-123	LL1	491841.5	2611010	2/4/2006	Intermediate	84	85	ND
GP-124	LL1	491860	2611330	2/5/2006	Shallow	24	25	ND
GP-124	LL1	491860	2611330	2/5/2006	Shallow	44	45	ND
GP-124	LL1	491860	2611330	2/5/2006	Intermediate	64	65	ND
GP-124	LL1	491860	2611330	2/5/2006	Intermediate	80	81	ND
GP-125	LL1	491778.3	2610236	2/5/2006	Shallow	24	25	ND
GP-125	LL1	491778.3	2610236	2/5/2006	Shallow	44	45	ND
GP-125	LL1	491778.3	2610236	2/6/2006	Intermediate	64	65	ND
GP-125	LL1	491778.3	2610236	2/6/2006	Intermediate	84	85	ND
GP-126	LL1	491738.7	2611497	2/4/2006	Shallow	24	25	ND
GP-126	LL1	491738.7	2611497	2/4/2006	Shallow	44	45	ND
GP-126	LL1	491738.7	2611497	2/4/2006	Intermediate	64	65	ND
GP-126	LL1	491738.7	2611497	2/4/2006	Intermediate	81	82	ND
GP-127	LL1	491567.7	2610302	2/3/2006	Shallow	24	25	ND
GP-127	LL1	491567.7	2610302	2/3/2006	Shallow	44	45	ND
GP-127	LL1	491567.7	2610302	2/3/2006	Intermediate	64	65	ND
GP-127	LL1	491567.7	2610302	2/3/2006	Intermediate	82	83	ND
GP-128	LL1	491577.2	2610777	2/3/2006	Shallow	24	25	ND
GP-128	LL1	491577.2	2610777	2/3/2006	Shallow	44	45	ND
GP-128	LL1	491577.2	2610777	2/3/2006	Intermediate	64	65	ND
GP-128	LL1	491577.2	2610777	2/3/2006	Intermediate	84	85	ND
GP-129	LL1	491591.5	2611242	2/4/2006	Shallow	24	25	ND
GP-129	LL1	491591.5	2611242	2/4/2006	Shallow	44	45	0.61 J
GP-129	LL1	491591.5	2611242	2/3/2006	Intermediate	64	65	ND
GP-129	LL1	491591.5	2611242	2/3/2006	Intermediate	83	84	ND
GP-MW-142	LL1	495599	2610571	5/11/2010	Shallow	58	59	220
GP-MW-142	LL1	495599	2610571	5/11/2010	Shallow	68	69	160
GP-MW-142	LL1	495599	2610571	5/11/2010	Shallow	78	79	450
GP-MW-142	LL1	495599	2610571	5/11/2010	Shallow	88	89	1000
GP-MW-142	LL1	495599	2610571	5/11/2010	Intermediate	98	99	1300
GP-MW-142	LL1	495599	2610571	5/11/2010	Intermediate	108	109	330

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-MW-142	LL1	495599	2610571	5/11/2010	Intermediate	118	119	670
GP-MW-142	LL1	495599	2610571	5/11/2010	Intermediate	128	129	470
GP-T53-01	LL1	506839.5	2605789	12/4/2008	Shallow	35	36	ND
GP-T53-01	LL1	506839.5	2605789	12/4/2008	Shallow	45	46	ND
GP-T53-01	LL1	506839.5	2605789	12/4/2008	Shallow	55	56	ND
GP-T53-01	LL1	506839.5	2605789	12/4/2008	Shallow	65	66	ND
GP-T53-01	LL1	506839.5	2605789	12/4/2008	Shallow	75	76	ND
GP-T53-01	LL1	506839.5	2605789	12/4/2008	Intermediate	85	86	ND
GP-T53-01	LL1	506839.5	2605789	12/4/2008	Intermediate	95	96	ND
GP-T53-01	LL1	506839.5	2605789	12/3/2008	Intermediate	105	106	ND
GP-T53-01	LL1	506839.5	2605789	12/3/2008	Intermediate	115	116	ND
GP-T53-01	LL1	506839.5	2605789	12/3/2008	Intermediate	125	126	6.9
GP-T53-01	LL1	506839.5	2605789	12/4/2008	Intermediate	135	136	ND
GP-T53-02	LL1	506871.1	2605996	12/5/2008	Shallow	40	41	1700
GP-T53-02	LL1	506871.1	2605996	12/5/2008	Shallow	50	51	6300
GP-T53-02	LL1	506871.1	2605996	12/5/2008	Shallow	50	51	7200
GP-T53-02	LL1	506871.1	2605996	12/5/2008	Shallow	60	61	8100
GP-T53-02	LL1	506871.1	2605996	12/5/2008	Shallow	70	71	1700
GP-T53-02	LL1	506871.1	2605996	12/5/2008	Shallow	80	81	1600
GP-T53-02	LL1	506871.1	2605996	12/5/2008	Intermediate	90	91	500
GP-T53-02	LL1	506871.1	2605996	12/5/2008	Intermediate	100	101	73
GP-T53-02	LL1	506871.1	2605996	12/5/2008	Intermediate	110	111	3 J
GP-T53-02	LL1	506871.1	2605996	12/4/2008	Intermediate	120	121	2.6
GP-T53-02	LL1	506871.1	2605996	12/4/2008	Intermediate	130	131	9.6
GP-T53-03	LL1	506960	2606501	12/6/2008	Shallow	41	42	18
GP-T53-03	LL1	506960	2606501	12/6/2008	Shallow	51	52	170
GP-T53-03	LL1	506960	2606501	12/6/2008	Shallow	61	62	140
GP-T53-03	LL1	506960	2606501	12/6/2008	Shallow	61	62	160
GP-T53-03	LL1	506960	2606501	12/6/2008	Shallow	71	72	180
GP-T53-03	LL1	506960	2606501	12/5/2008	Shallow	81	82	82
GP-T53-03	LL1	506960	2606501	12/5/2008	Intermediate	91	92	26
GP-T53-03	LL1	506960	2606501	12/5/2008	Intermediate	101	102	51
GP-T53-03	LL1	506960	2606501	12/5/2008	Intermediate	111	112	51
GP-T53-03	LL1	506960	2606501	12/5/2008	Intermediate	121	122	91
GP-T53-03	LL1	506960	2606501	12/5/2008	Intermediate	131	132	50
GP-T53-04	LL1	507089.2	2606947	12/9/2008	Shallow	49	50	ND
GP-T53-04	LL1	507089.2	2606947	12/9/2008	Shallow	59	60	ND
GP-T53-04	LL1	507089.2	2606947	12/9/2008	Shallow	69	70	ND
GP-T53-04	LL1	507089.2	2606947	12/9/2008	Shallow	79	80	ND
GP-T53-04	LL1	507089.2	2606947	12/9/2008	Intermediate	89	90	ND
GP-T53-04	LL1	507089.2	2606947	12/9/2008	Intermediate	99	100	ND
GP-T53-04	LL1	507089.2	2606947	12/9/2008	Intermediate	109	110	ND
GP-T53-04	LL1	507089.2	2606947	12/9/2008	Intermediate	119	120	ND
GP-T53-04	LL1	507089.2	2606947	12/9/2008	Intermediate	129	130	1.1
GP-T54-01	LL1	505750.1	2607307	12/17/2008	Shallow	51	52	2.6
GP-T54-01	LL1	505750.1	2607307	12/17/2008	Shallow	61	62	1.3

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T54-01	LL1	505750.1	2607307	12/17/2008	Shallow	71	72	4.2
GP-T54-01	LL1	505750.1	2607307	12/17/2008	Shallow	81	82	2.3
GP-T54-01	LL1	505750.1	2607307	12/17/2008	Intermediate	91	92	2.1
GP-T54-01	LL1	505750.1	2607307	12/17/2008	Intermediate	101	102	4.2
GP-T54-01	LL1	505750.1	2607307	12/17/2008	Intermediate	111	112	0.3 J
GP-T54-01	LL1	505750.1	2607307	12/17/2008	Intermediate	121	122	ND
GP-T54-01	LL1	505750.1	2607307	12/17/2008	Intermediate	131	132	ND
GP-T54-02	LL1	505900.5	2607763	12/10/2008	Shallow	51	52	ND
GP-T54-02	LL1	505900.5	2607763	12/10/2008	Shallow	61	62	ND
GP-T54-02	LL1	505900.5	2607763	12/10/2008	Shallow	71	72	ND
GP-T54-02	LL1	505900.5	2607763	12/10/2008	Shallow	81	82	ND
GP-T54-02	LL1	505900.5	2607763	12/10/2008	Shallow	91	92	ND
GP-T54-02	LL1	505900.5	2607763	12/10/2008	Intermediate	101	102	ND
GP-T54-02	LL1	505900.5	2607763	12/10/2008	Intermediate	111	112	ND
GP-T54-02	LL1	505900.5	2607763	12/10/2008	Intermediate	121	122	ND
GP-T54-02	LL1	505900.5	2607763	12/10/2008	Intermediate	131	132	ND
GP-T54-02	LL1	505900.5	2607763	12/10/2008	Intermediate	141	142	ND
GP-T54-03	LL1	506024.7	2608102	12/10/2008	Shallow	50	51	1.9
GP-T54-03	LL1	506024.7	2608102	12/10/2008	Shallow	60	61	18
GP-T54-03	LL1	506024.7	2608102	12/10/2008	Shallow	70	71	14
GP-T54-03	LL1	506024.7	2608102	12/10/2008	Shallow	80	81	22
GP-T54-03	LL1	506024.7	2608102	12/9/2008	Shallow	90	91	2.7
GP-T54-03	LL1	506024.7	2608102	12/9/2008	Intermediate	100	101	ND
GP-T54-03	LL1	506024.7	2608102	12/9/2008	Intermediate	110	111	ND
GP-T54-03	LL1	506024.7	2608102	12/9/2008	Intermediate	120	121	ND
GP-T54-03	LL1	506024.7	2608102	12/9/2008	Intermediate	130	131	ND
GP-T54-03	LL1	506024.7	2608102	12/9/2008	Intermediate	140	141	ND
GP-T54-04	LL1	505450.3	2608622	12/22/2008	Shallow	47	48	1.3
GP-T54-04	LL1	505450.3	2608622	12/22/2008	Shallow	57	58	44
GP-T54-04	LL1	505450.3	2608622	12/22/2008	Shallow	67	68	0.7 J
GP-T54-04	LL1	505450.3	2608622	12/22/2008	Shallow	77	78	ND
GP-T54-04	LL1	505450.3	2608622	12/22/2008	Shallow	87	88	ND
GP-T54-04	LL1	505450.3	2608622	12/22/2008	Intermediate	97	98	0.4 J
GP-T54-04	LL1	505450.3	2608622	12/22/2008	Intermediate	107	108	ND
GP-T54-04	LL1	505450.3	2608622	12/22/2008	Intermediate	117	118	0.5 J
GP-T54-04	LL1	505450.3	2608622	12/22/2008	Intermediate	127	128	ND
GP-T54-04	LL1	505450.3	2608622	12/21/2008	Intermediate	137	138	ND
GP-T54-05	LL1	506213.6	2608598	12/21/2008	Shallow	53	54	ND
GP-T54-05	LL1	506213.6	2608598	12/21/2008	Shallow	63	64	1.8
GP-T54-05	LL1	506213.6	2608598	12/21/2008	Shallow	73	74	6.3
GP-T54-05	LL1	506213.6	2608598	12/21/2008	Shallow	83	84	35
GP-T54-05	LL1	506213.6	2608598	12/21/2008	Shallow	93	94	22
GP-T54-05	LL1	506213.6	2608598	12/21/2008	Intermediate	103	104	18
GP-T54-05	LL1	506213.6	2608598	12/21/2008	Intermediate	113	114	0.2 J
GP-T54-05	LL1	506213.6	2608598	12/20/2008	Intermediate	123	124	ND
GP-T54-05	LL1	506213.6	2608598	12/20/2008	Intermediate	133	134	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T54-05	LL1	506213.6	2608598	12/20/2008	Intermediate	143	144	ND
GP-T54-06	LL1	506225.8	2607927	12/20/2008	Shallow	53	54	ND
GP-T54-06	LL1	506225.8	2607927	12/20/2008	Shallow	63	64	ND
GP-T54-06	LL1	506225.8	2607927	12/20/2008	Shallow	73	74	ND
GP-T54-06	LL1	506225.8	2607927	12/20/2008	Shallow	83	84	ND
GP-T54-06	LL1	506225.8	2607927	12/20/2008	Shallow	93	94	ND
GP-T54-06	LL1	506225.8	2607927	12/20/2008	Intermediate	103	104	ND
GP-T54-06	LL1	506225.8	2607927	12/20/2008	Intermediate	113	114	ND
GP-T54-06	LL1	506225.8	2607927	12/19/2008	Intermediate	123	124	ND
GP-T54-06	LL1	506225.8	2607927	12/19/2008	Intermediate	133	134	ND
GP-T54-06	LL1	506225.8	2607927	12/19/2008	Intermediate	143	144	ND
GP-T55-01	LL1	504273.6	2607045	12/7/2008	Shallow	43	44	300
GP-T55-01	LL1	504273.6	2607045	12/7/2008	Shallow	53	54	3300 J
GP-T55-01	LL1	504273.6	2607045	12/7/2008	Shallow	63	64	3000 J
GP-T55-01	LL1	504273.6	2607045	12/7/2008	Shallow	73	74	3600
GP-T55-01	LL1	504273.6	2607045	12/7/2008	Shallow	83	84	1600 J
GP-T55-01	LL1	504273.6	2607045	12/7/2008	Intermediate	93	94	1300 J
GP-T55-01	LL1	504273.6	2607045	12/7/2008	Intermediate	103	104	810 J
GP-T55-01	LL1	504273.6	2607045	12/7/2008	Intermediate	113	114	660 J
GP-T55-01	LL1	504273.6	2607045	12/7/2008	Intermediate	123	124	1900 J
GP-T55-01	LL1	504273.6	2607045	12/7/2008	Intermediate	133	134	1700 J
GP-T55-02	LL1	504353	2607241	12/7/2008	Shallow	44	45	1200 J
GP-T55-02	LL1	504353	2607241	12/7/2008	Shallow	54	55	3800 J
GP-T55-02	LL1	504353	2607241	12/7/2008	Shallow	64	65	9000 J
GP-T55-02	LL1	504353	2607241	12/7/2008	Shallow	74	75	11000 J
GP-T55-02	LL1	504353	2607241	12/6/2008	Shallow	84	85	4100 J
GP-T55-02	LL1	504353	2607241	12/6/2008	Intermediate	94	95	7000 J
GP-T55-02	LL1	504353	2607241	12/6/2008	Intermediate	104	105	8300 J
GP-T55-02	LL1	504353	2607241	12/6/2008	Intermediate	114	115	11000 J
GP-T55-02	LL1	504353	2607241	12/6/2008	Intermediate	124	125	11000 J
GP-T55-02	LL1	504353	2607241	12/6/2008	Intermediate	124	125	8300
GP-T55-02	LL1	504353	2607241	12/6/2008	Intermediate	134	135	4200 J
GP-T55-03	LL1	504487.1	2607494	12/8/2008	Shallow	51	52	1300 J
GP-T55-03	LL1	504487.1	2607494	12/8/2008	Shallow	61	62	7000 J
GP-T55-03	LL1	504487.1	2607494	12/8/2008	Shallow	71	72	7200 J
GP-T55-03	LL1	504487.1	2607494	12/8/2008	Shallow	81	82	8800 J
GP-T55-03	LL1	504487.1	2607494	12/8/2008	Shallow	91	92	11000 J
GP-T55-03	LL1	504487.1	2607494	12/8/2008	Intermediate	101	102	9600 J
GP-T55-03	LL1	504487.1	2607494	12/8/2008	Intermediate	111	112	12000
GP-T55-03	LL1	504487.1	2607494	12/8/2008	Intermediate	121	122	10000
GP-T55-03	LL1	504487.1	2607494	12/8/2008	Intermediate	131	132	6500
GP-T55-03	LL1	504487.1	2607494	12/8/2008	Intermediate	131	132	6700
GP-T55-03	LL1	504487.1	2607494	12/8/2008	Intermediate	141	142	6000
GP-T55-04	LL1	504669.6	2607857	12/17/2008	Shallow	55	56	2.1
GP-T55-04	LL1	504669.6	2607857	12/17/2008	Shallow	65	66	1.6
GP-T55-04	LL1	504669.6	2607857	12/17/2008	Shallow	75	76	4.5

Table 3-2
TCE in Monitoring Wells and Direct-Push Samples (2006-2010)
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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T55-04	LL1	504669.6	2607857	12/17/2008	Shallow	85	86	6.3
GP-T55-04	LL1	504669.6	2607857	12/17/2008	Intermediate	95	96	9.8
GP-T55-04	LL1	504669.6	2607857	12/17/2008	Intermediate	105	106	26
GP-T55-04	LL1	504669.6	2607857	12/17/2008	Intermediate	115	116	45
GP-T55-04	LL1	504669.6	2607857	12/17/2008	Intermediate	125	126	120
GP-T55-04	LL1	504669.6	2607857	12/17/2008	Intermediate	135	136	520
GP-T55-05	LL1	504804	2608116	12/7/2008	Shallow	54	55	0.3 J
GP-T55-05	LL1	504804	2608116	12/7/2008	Shallow	64	65	ND
GP-T55-05	LL1	504804	2608116	12/7/2008	Shallow	74	75	ND
GP-T55-05	LL1	504804	2608116	12/7/2008	Shallow	84	85	ND
GP-T55-05	LL1	504804	2608116	12/7/2008	Shallow	94	95	ND
GP-T55-05	LL1	504804	2608116	12/7/2008	Intermediate	104	105	ND
GP-T55-05	LL1	504804	2608116	12/7/2008	Intermediate	114	115	ND
GP-T55-05	LL1	504804	2608116	12/7/2008	Intermediate	124	125	ND
GP-T55-05	LL1	504804	2608116	12/7/2008	Intermediate	134	135	ND
GP-T55-05	LL1	504804	2608116	12/7/2008	Intermediate	144	145	ND
GP-T56-01	LL1	501192.7	2608792	12/18/2008	Shallow	49	50	53
GP-T56-01	LL1	501192.7	2608792	12/18/2008	Shallow	59	60	280
GP-T56-01	LL1	501192.7	2608792	12/18/2008	Shallow	69	70	560
GP-T56-01	LL1	501192.7	2608792	12/18/2008	Intermediate	79	80	790
GP-T56-01	LL1	501192.7	2608792	12/18/2008	Intermediate	89	90	820
GP-T56-01	LL1	501192.7	2608792	12/18/2008	Intermediate	99	100	390
GP-T56-01	LL1	501192.7	2608792	12/18/2008	Intermediate	109	110	330
GP-T56-01	LL1	501192.7	2608792	12/18/2008	Intermediate	109	110	360
GP-T56-02	LL1	501614.9	2609131	12/15/2008	Shallow	49	50	3000
GP-T56-02	LL1	501614.9	2609131	12/15/2008	Shallow	59	60	14000
GP-T56-02	LL1	501614.9	2609131	12/15/2008	Shallow	69	70	16000
GP-T56-02	LL1	501614.9	2609131	12/15/2008	Shallow	79	80	15000
GP-T56-02	LL1	501614.9	2609131	12/15/2008	Intermediate	89	90	13000
GP-T56-02	LL1	501614.9	2609131	12/15/2008	Intermediate	99	100	13000
GP-T56-02	LL1	501614.9	2609131	12/15/2008	Intermediate	109	110	9700
GP-T56-02	LL1	501614.9	2609131	12/15/2008	Intermediate	109	110	9800
GP-T56-02	LL1	501614.9	2609131	12/15/2008	Intermediate	119	120	2800
GP-T56-03	LL1	501678.2	2609314	12/16/2008	Shallow	57	58	43
GP-T56-03	LL1	501678.2	2609314	12/16/2008	Shallow	67	68	91
GP-T56-03	LL1	501678.2	2609314	12/15/2008	Shallow	77	78	300
GP-T56-03	LL1	501678.2	2609314	12/15/2008	Intermediate	87	88	920
GP-T56-03	LL1	501678.2	2609314	12/15/2008	Intermediate	97	98	7800
GP-T56-03	LL1	501678.2	2609314	12/15/2008	Intermediate	107	108	7700
GP-T56-03	LL1	501678.2	2609314	12/15/2008	Intermediate	117	118	9500
GP-T56-03	LL1	501678.2	2609314	12/15/2008	Intermediate	117	118	10000
GP-T56-03	LL1	501678.2	2609314	12/15/2008	Intermediate	127	128	7300
GP-T56-04	LL1	501902	2609518	12/16/2008	Shallow	54	55	5.7
GP-T56-04	LL1	501902	2609518	12/16/2008	Shallow	64	65	15
GP-T56-04	LL1	501902	2609518	12/16/2008	Shallow	74	75	24
GP-T56-04	LL1	501902	2609518	12/16/2008	Shallow	84	85	82

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T56-04	LL1	501902	2609518	12/16/2008	Intermediate	94	95	410
GP-T56-04	LL1	501902	2609518	12/16/2008	Intermediate	104	105	1000
GP-T56-04	LL1	501902	2609518	12/16/2008	Intermediate	114	115	270
GP-T56-04	LL1	501902	2609518	12/16/2008	Intermediate	124	125	48
GP-T56-04	LL1	501902	2609518	12/16/2008	Intermediate	124	125	52
GP-T57-01	LL1	499270.2	2607902	11/22/2008	Shallow	53	54	ND
GP-T57-01	LL1	499270.2	2607902	11/22/2008	Shallow	63	64	ND
GP-T57-01	LL1	499270.2	2607902	11/22/2008	Shallow	73	74	ND
GP-T57-01	LL1	499270.2	2607902	11/22/2008	Shallow	83	84	ND
GP-T57-01	LL1	499270.2	2607902	12/3/2008	Intermediate	93	94	ND
GP-T57-01	LL1	499270.2	2607902	11/22/2008	Intermediate	103	104	ND
GP-T57-01	LL1	499270.2	2607902	12/3/2008	Intermediate	113	114	ND
GP-T57-01	LL1	499270.2	2607902	11/22/2008	Intermediate	123	124	ND
GP-T57-01	LL1	499270.2	2607902	11/21/2008	Intermediate	133	134	ND
GP-T57-02	LL1	499877.5	2608331	11/21/2008	Shallow	56	57	29
GP-T57-02	LL1	499877.5	2608331	11/21/2008	Shallow	63	64	11
GP-T57-02	LL1	499877.5	2608331	11/21/2008	Shallow	73	74	14
GP-T57-02	LL1	499877.5	2608331	11/21/2008	Shallow	83	84	16
GP-T57-02	LL1	499877.5	2608331	11/21/2008	Shallow	83	84	17
GP-T57-02	LL1	499877.5	2608331	11/21/2008	Shallow	93	94	42
GP-T57-02	LL1	499877.5	2608331	11/21/2008	Intermediate	103	104	120
GP-T57-02	LL1	499877.5	2608331	11/21/2008	Intermediate	113	114	190
GP-T57-02	LL1	499877.5	2608331	11/20/2008	Intermediate	123	124	140
GP-T57-02	LL1	499877.5	2608331	11/20/2008	Intermediate	133	134	140
GP-T57-03	LL1	499962.1	2608852	11/20/2008	Shallow	64	65	13
GP-T57-03	LL1	499962.1	2608852	11/20/2008	Shallow	74	75	36
GP-T57-03	LL1	499962.1	2608852	11/20/2008	Shallow	84	85	61
GP-T57-03	LL1	499962.1	2608852	11/20/2008	Shallow	94	95	63
GP-T57-03	LL1	499962.1	2608852	11/20/2008	Intermediate	104	105	40
GP-T57-03	LL1	499962.1	2608852	11/20/2008	Intermediate	114	115	91
GP-T57-03	LL1	499962.1	2608852	11/20/2008	Intermediate	124	125	28
GP-T57-03	LL1	499962.1	2608852	11/20/2008	Intermediate	134	135	69
GP-T57-03	LL1	499962.1	2608852	11/20/2008	Intermediate	139	140	120
GP-T57-04	LL1	500019.5	2609705	11/18/2008	Shallow	64	65	120
GP-T57-04	LL1	500019.5	2609705	11/18/2008	Shallow	74	75	420
GP-T57-04	LL1	500019.5	2609705	11/18/2008	Shallow	84	85	410
GP-T57-04	LL1	500019.5	2609705	11/18/2008	Shallow	84	85	460
GP-T57-04	LL1	500019.5	2609705	11/18/2008	Shallow	94	95	240
GP-T57-04	LL1	500019.5	2609705	11/18/2008	Intermediate	104	105	680
GP-T57-04	LL1	500019.5	2609705	11/18/2008	Intermediate	114	115	720
GP-T57-04	LL1	500019.5	2609705	11/18/2008	Intermediate	124	125	96
GP-T57-04	LL1	500019.5	2609705	11/18/2008	Intermediate	134	135	5.3
GP-T57-04	LL1	500019.5	2609705	11/18/2008	Intermediate	140	141	12
GP-T57-05	LL1	500036.5	2610331	11/18/2008	Shallow	63	64	ND
GP-T57-05	LL1	500036.5	2610331	11/18/2008	Shallow	73	74	ND
GP-T57-05	LL1	500036.5	2610331	11/17/2008	Shallow	83	84	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T57-05	LL1	500036.5	2610331	11/17/2008	Shallow	93	94	ND
GP-T57-05	LL1	500036.5	2610331	11/17/2008	Intermediate	103	104	ND
GP-T57-05	LL1	500036.5	2610331	11/17/2008	Intermediate	113	114	ND
GP-T57-05	LL1	500036.5	2610331	11/17/2008	Intermediate	123	124	ND
GP-T57-05	LL1	500036.5	2610331	11/17/2008	Intermediate	130	131	ND
GP-T58-01	LL1	498149.8	2608172	11/19/2008	Shallow	56	57	ND
GP-T58-01	LL1	498149.8	2608172	11/19/2008	Shallow	66	67	ND
GP-T58-01	LL1	498149.8	2608172	11/19/2008	Shallow	76	77	ND
GP-T58-01	LL1	498149.8	2608172	11/19/2008	Shallow	86	87	ND
GP-T58-01	LL1	498149.8	2608172	11/19/2008	Intermediate	96	97	ND
GP-T58-01	LL1	498149.8	2608172	11/19/2008	Intermediate	106	107	ND
GP-T58-01	LL1	498149.8	2608172	11/19/2008	Intermediate	116	117	ND
GP-T58-01	LL1	498149.8	2608172	11/19/2008	Intermediate	126	127	ND
GP-T58-02	LL1	498185.6	2609247	11/20/2008	Shallow	66	67	160
GP-T58-02	LL1	498185.6	2609247	11/20/2008	Shallow	76	77	370
GP-T58-02	LL1	498185.6	2609247	11/20/2008	Shallow	76	77	390
GP-T58-02	LL1	498185.6	2609247	11/20/2008	Shallow	86	87	420
GP-T58-02	LL1	498185.6	2609247	11/20/2008	Shallow	96	97	3500
GP-T58-02	LL1	498185.6	2609247	11/20/2008	Intermediate	106	107	4400 J
GP-T58-02	LL1	498185.6	2609247	11/20/2008	Intermediate	116	117	2700 J
GP-T58-02	LL1	498185.6	2609247	11/20/2008	Intermediate	126	127	1200 J
GP-T58-02	LL1	498185.6	2609247	11/19/2008	Intermediate	136	137	910 J
GP-T58-03	LL1	498187.1	2609656	11/20/2008	Shallow	65	66	350
GP-T58-03	LL1	498187.1	2609656	11/20/2008	Shallow	75	76	200
GP-T58-03	LL1	498187.1	2609656	11/20/2008	Shallow	85	86	260
GP-T58-03	LL1	498187.1	2609656	11/20/2008	Shallow	85	86	280
GP-T58-03	LL1	498187.1	2609656	11/20/2008	Shallow	95	96	480
GP-T58-03	LL1	498187.1	2609656	11/20/2008	Intermediate	105	106	500
GP-T58-03	LL1	498187.1	2609656	11/20/2008	Intermediate	115	116	300
GP-T58-03	LL1	498187.1	2609656	11/20/2008	Intermediate	125	126	150 J
GP-T58-03	LL1	498187.1	2609656	11/20/2008	Intermediate	135	136	200
GP-T58-04	LL1	498196.1	2610169	12/8/2008	Shallow	59	60	ND
GP-T58-04	LL1	498196.1	2610169	12/8/2008	Shallow	69	70	2.9
GP-T58-04	LL1	498196.1	2610169	12/8/2008	Shallow	79	80	2.1
GP-T58-04	LL1	498196.1	2610169	12/8/2008	Shallow	79	80	9.1
GP-T58-04	LL1	498196.1	2610169	12/8/2008	Shallow	89	90	8.5
GP-T58-04	LL1	498196.1	2610169	12/8/2008	Intermediate	99	100	36
GP-T58-04	LL1	498196.1	2610169	12/8/2008	Intermediate	109	110	73
GP-T58-04	LL1	498196.1	2610169	12/8/2008	Intermediate	119	120	51
GP-T58-04	LL1	498196.1	2610169	12/8/2008	Intermediate	129	130	56
GP-T58-04	LL1	498196.1	2610169	12/8/2008	Intermediate	139	140	7.6
GP-T58-05	LL1	498212.6	2610637	12/9/2008	Shallow	59	60	ND
GP-T58-05	LL1	498212.6	2610637	12/9/2008	Shallow	69	70	ND
GP-T58-05	LL1	498212.6	2610637	12/9/2008	Shallow	79	80	ND
GP-T58-05	LL1	498212.6	2610637	12/9/2008	Shallow	89	90	ND
GP-T58-05	LL1	498212.6	2610637	12/8/2008	Intermediate	99	100	18

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T58-05	LL1	498212.6	2610637	12/8/2008	Intermediate	109	110	12
GP-T58-05	LL1	498212.6	2610637	12/8/2008	Intermediate	119	120	8.5
GP-T58-05	LL1	498212.6	2610637	12/8/2008	Intermediate	129	130	ND
GP-T58-05	LL1	498212.6	2610637	12/8/2008	Intermediate	139	140	1.5
GP-T58-06	LL1	498154.7	2611023	11/19/2008	Shallow	65	66	ND
GP-T58-06	LL1	498154.7	2611023	11/19/2008	Shallow	75	76	ND
GP-T58-06	LL1	498154.7	2611023	11/19/2008	Shallow	85	86	ND
GP-T58-06	LL1	498154.7	2611023	11/19/2008	Shallow	95	96	ND
GP-T58-06	LL1	498154.7	2611023	11/19/2008	Intermediate	105	106	ND
GP-T58-06	LL1	498154.7	2611023	11/18/2008	Intermediate	115	116	ND
GP-T58-06	LL1	498154.7	2611023	12/9/2008	Intermediate	125	126	ND
GP-T58-06	LL1	498154.7	2611023	11/18/2008	Intermediate	135	136	ND
GP-T58-07	LL1	498159.4	2611285	11/18/2008	Shallow	61	62	ND
GP-T58-07	LL1	498159.4	2611285	11/18/2008	Shallow	71	72	ND
GP-T58-07	LL1	498159.4	2611285	11/18/2008	Shallow	81	82	ND
GP-T58-07	LL1	498159.4	2611285	11/18/2008	Shallow	91	92	ND
GP-T58-07	LL1	498159.4	2611285	11/18/2008	Intermediate	101	102	ND
GP-T58-07	LL1	498159.4	2611285	11/18/2008	Intermediate	111	112	ND
GP-T58-07	LL1	498159.4	2611285	11/18/2008	Intermediate	121	122	ND
GP-T58-07	LL1	498159.4	2611285	11/18/2008	Intermediate	131	132	ND
GP-T59-01	LL1	496934.8	2608755	11/19/2008	Shallow	65	66	ND
GP-T59-01	LL1	496934.8	2608755	11/19/2008	Shallow	75	76	ND
GP-T59-01	LL1	496934.8	2608755	11/19/2008	Shallow	85	86	ND
GP-T59-01	LL1	496934.8	2608755	11/19/2008	Intermediate	95	96	0.8 J
GP-T59-01	LL1	496934.8	2608755	11/19/2008	Intermediate	105	106	0.9 J
GP-T59-01	LL1	496934.8	2608755	11/19/2008	Intermediate	115	116	2.5
GP-T59-01	LL1	496934.8	2608755	11/19/2008	Intermediate	125	126	4.2 J
GP-T59-01	LL1	496934.8	2608755	11/19/2008	Intermediate	125	126	4.5 J
GP-T59-02	LL1	496945	2609472	11/22/2008	Shallow	63	64	230
GP-T59-02	LL1	496945	2609472	12/16/2008	Shallow	73	74	710
GP-T59-02	LL1	496945	2609472	11/22/2008	Shallow	83	84	1700
GP-T59-02	LL1	496945	2609472	11/22/2008	Shallow	93	94	2100
GP-T59-02	LL1	496945	2609472	11/22/2008	Intermediate	103	104	2500
GP-T59-02	LL1	496945	2609472	12/16/2008	Intermediate	113	114	2600
GP-T59-02	LL1	496945	2609472	11/22/2008	Intermediate	123	124	3000
GP-T59-02	LL1	496945	2609472	12/16/2008	Intermediate	133	134	3200
GP-T59-03	LL1	496876.6	2609885	11/23/2008	Shallow	62	63	180
GP-T59-03	LL1	496876.6	2609885	11/23/2008	Shallow	72	73	350
GP-T59-03	LL1	496876.6	2609885	11/23/2008	Shallow	82	83	1400
GP-T59-03	LL1	496876.6	2609885	11/23/2008	Shallow	92	93	1800
GP-T59-03	LL1	496876.6	2609885	12/16/2008	Intermediate	102	103	2000
GP-T59-03	LL1	496876.6	2609885	11/23/2008	Intermediate	112	113	2100
GP-T59-03	LL1	496876.6	2609885	12/16/2008	Intermediate	122	123	1900
GP-T59-03	LL1	496876.6	2609885	11/23/2008	Intermediate	132	133	3500
GP-T59-04	LL1	497005	2610377	11/24/2008	Shallow	65	66	2.9
GP-T59-04	LL1	497005	2610377	11/24/2008	Shallow	75	76	11

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T59-04	LL1	497005	2610377	11/24/2008	Shallow	85	86	42
GP-T59-04	LL1	497005	2610377	11/24/2008	Shallow	95	96	64
GP-T59-04	LL1	497005	2610377	11/24/2008	Intermediate	105	106	77
GP-T59-04	LL1	497005	2610377	11/24/2008	Intermediate	115	116	92
GP-T59-04	LL1	497005	2610377	12/10/2008	Intermediate	125	126	65
GP-T59-04	LL1	497005	2610377	11/24/2008	Intermediate	135	136	7.9
GP-T59-05	LL1	497002.3	2610688	11/25/2008	Shallow	61	62	ND
GP-T59-05	LL1	497002.3	2610688	11/24/2008	Shallow	69	70	ND
GP-T59-05	LL1	497002.3	2610688	11/24/2008	Shallow	79	80	0.4 J
GP-T59-05	LL1	497002.3	2610688	11/24/2008	Shallow	89	90	ND
GP-T59-05	LL1	497002.3	2610688	12/16/2008	Shallow	99	100	ND
GP-T59-05	LL1	497002.3	2610688	11/25/2008	Intermediate	109	110	ND
GP-T59-05	LL1	497002.3	2610688	11/25/2008	Intermediate	119	120	ND
GP-T59-05	LL1	497002.3	2610688	11/25/2008	Intermediate	129	130	ND
GP-T59-05	LL1	497002.3	2610688	12/16/2008	Intermediate	139	140	ND
GP-T59-06	LL1	497095.2	2611229	11/25/2008	Shallow	61	62	ND
GP-T59-06	LL1	497095.2	2611229	11/25/2008	Shallow	67	68	ND
GP-T59-06	LL1	497095.2	2611229	11/25/2008	Shallow	77	78	ND
GP-T59-06	LL1	497095.2	2611229	11/25/2008	Shallow	87	88	ND
GP-T59-06	LL1	497095.2	2611229	11/25/2008	Shallow	97	98	ND
GP-T59-06	LL1	497095.2	2611229	11/25/2008	Intermediate	107	108	ND
GP-T59-06	LL1	497095.2	2611229	11/25/2008	Intermediate	117	118	ND
GP-T59-06	LL1	497095.2	2611229	11/25/2008	Intermediate	127	128	ND
GP-T59-06	LL1	497095.2	2611229	11/25/2008	Intermediate	137	138	ND
GP-T59-07	LL1	497172.1	2611693	11/17/2008	Shallow	61	62	ND
GP-T59-07	LL1	497172.1	2611693	11/17/2008	Shallow	71	72	ND
GP-T59-07	LL1	497172.1	2611693	11/17/2008	Shallow	81	82	ND
GP-T59-07	LL1	497172.1	2611693	11/17/2008	Shallow	91	92	ND
GP-T59-07	LL1	497172.1	2611693	11/17/2008	Intermediate	101	102	ND
GP-T59-07	LL1	497172.1	2611693	11/17/2008	Intermediate	111	112	ND
GP-T59-07	LL1	497172.1	2611693	11/17/2008	Intermediate	121	122	ND
GP-T59-07	LL1	497172.1	2611693	11/17/2008	Intermediate	131	132	ND
GP-T60-01	LL1	495500	2609281	11/19/2008	Shallow	55	56	ND
GP-T60-01	LL1	495500	2609281	11/19/2008	Shallow	65	66	ND
GP-T60-01	LL1	495500	2609281	11/19/2008	Shallow	75	76	ND
GP-T60-01	LL1	495500	2609281	11/19/2008	Shallow	85	86	ND
GP-T60-01	LL1	495500	2609281	11/19/2008	Intermediate	95	96	ND
GP-T60-01	LL1	495500	2609281	11/19/2008	Intermediate	105	106	ND
GP-T60-01	LL1	495500	2609281	11/19/2008	Intermediate	115	116	ND
GP-T60-01	LL1	495500	2609281	12/3/2008	Intermediate	123	124	ND
GP-T60-02	LL1	495519.9	2609527	11/25/2008	Shallow	55	56	ND
GP-T60-02	LL1	495519.9	2609527	11/25/2008	Shallow	65	66	0.3 J
GP-T60-02	LL1	495519.9	2609527	11/25/2008	Shallow	75	76	1.1
GP-T60-02	LL1	495519.9	2609527	11/25/2008	Shallow	75	76	1.3
GP-T60-02	LL1	495519.9	2609527	11/25/2008	Shallow	85	86	1.3
GP-T60-02	LL1	495519.9	2609527	11/25/2008	Intermediate	95	96	0.8 J

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T60-02	LL1	495519.9	2609527	12/4/2008	Intermediate	105	106	ND
GP-T60-02	LL1	495519.9	2609527	12/4/2008	Intermediate	115	116	ND
GP-T60-02	LL1	495519.9	2609527	12/4/2008	Intermediate	125	126	1.3
GP-T60-02	LL1	495519.9	2609527	11/24/2008	Intermediate	135	136	2.1
GP-T60-03	LL1	495522.7	2609872	11/24/2008	Shallow	62	63	0.7 J
GP-T60-03	LL1	495522.7	2609872	11/24/2008	Shallow	72	73	ND
GP-T60-03	LL1	495522.7	2609872	11/24/2008	Shallow	82	83	1.4
GP-T60-03	LL1	495522.7	2609872	11/24/2008	Shallow	92	93	14
GP-T60-03	LL1	495522.7	2609872	12/4/2008	Intermediate	102	103	2.4
GP-T60-03	LL1	495522.7	2609872	12/4/2008	Intermediate	112	113	0.8 J
GP-T60-03	LL1	495522.7	2609872	12/4/2008	Intermediate	122	123	10
GP-T60-03	LL1	495522.7	2609872	11/24/2008	Intermediate	132	133	5.3
GP-T60-04	LL1	495533.3	2610237	11/23/2008	Shallow	59	60	4
GP-T60-04	LL1	495533.3	2610237	11/23/2008	Shallow	69	70	7.6
GP-T60-04	LL1	495533.3	2610237	11/23/2008	Shallow	79	80	16
GP-T60-04	LL1	495533.3	2610237	11/23/2008	Shallow	89	90	180
GP-T60-04	LL1	495533.3	2610237	11/23/2008	Intermediate	99	100	180
GP-T60-04	LL1	495533.3	2610237	12/5/2008	Intermediate	109	110	5.5
GP-T60-04	LL1	495533.3	2610237	12/5/2008	Intermediate	119	120	9.9
GP-T60-04	LL1	495533.3	2610237	12/5/2008	Intermediate	129	130	100
GP-T60-05	LL1	495572.8	2610687	12/5/2008	Shallow	63	64	300
GP-T60-05	LL1	495572.8	2610687	11/22/2008	Shallow	73	74	800
GP-T60-05	LL1	495572.8	2610687	11/22/2008	Shallow	83	84	1300
GP-T60-05	LL1	495572.8	2610687	11/22/2008	Shallow	93	94	1600
GP-T60-05	LL1	495572.8	2610687	12/5/2008	Intermediate	103	104	1100 J
GP-T60-05	LL1	495572.8	2610687	12/5/2008	Intermediate	113	114	390
GP-T60-05	LL1	495572.8	2610687	12/5/2008	Intermediate	123	124	710 J
GP-T60-05	LL1	495572.8	2610687	11/22/2008	Intermediate	133	134	690
GP-T60-05	LL1	495572.8	2610687	11/22/2008	Intermediate	133	134	710
GP-T60-06	LL1	495597.1	2611146	11/22/2008	Shallow	68	69	ND
GP-T60-06	LL1	495597.1	2611146	11/22/2008	Shallow	78	79	ND
GP-T60-06	LL1	495597.1	2611146	12/5/2008	Shallow	88	89	1
GP-T60-06	LL1	495597.1	2611146	12/5/2008	Shallow	98	99	0.4 J
GP-T60-06	LL1	495597.1	2611146	11/21/2008	Intermediate	108	109	ND
GP-T60-06	LL1	495597.1	2611146	11/21/2008	Intermediate	118	119	ND
GP-T60-06	LL1	495597.1	2611146	11/21/2008	Intermediate	128	129	0.7 J
GP-T60-06	LL1	495597.1	2611146	11/21/2008	Intermediate	138	139	0.7 J
GP-T60-06	LL1	495597.1	2611146	11/21/2008	Intermediate	138	139	0.8 J
GP-T60-07	LL1	495700.5	2611605	11/21/2008	Shallow	63	64	0.2 J
GP-T60-07	LL1	495700.5	2611605	11/21/2008	Shallow	73	74	ND
GP-T60-07	LL1	495700.5	2611605	11/21/2008	Shallow	83	84	ND
GP-T60-07	LL1	495700.5	2611605	11/21/2008	Shallow	93	94	ND
GP-T60-07	LL1	495700.5	2611605	11/21/2008	Intermediate	103	104	ND
GP-T60-07	LL1	495700.5	2611605	11/21/2008	Intermediate	113	114	ND
GP-T60-07	LL1	495700.5	2611605	11/21/2008	Intermediate	123	124	ND
GP-T60-07	LL1	495700.5	2611605	11/21/2008	Intermediate	133	134	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T70-001	LL1	504677.9	2609311	4/6/2010	Shallow	47	48	ND
GP-T70-001	LL1	504677.9	2609311	4/6/2010	Shallow	57	58	ND
GP-T70-001	LL1	504677.9	2609311	4/6/2010	Shallow	67	68	ND
GP-T70-001	LL1	504677.9	2609311	4/6/2010	Shallow	77	78	ND
GP-T70-001	LL1	504677.9	2609311	4/6/2010	Shallow	87	88	ND
GP-T70-001	LL1	504677.9	2609311	4/6/2010	Intermediate	97	98	ND
GP-T70-001	LL1	504677.9	2609311	4/5/2010	Intermediate	107	108	ND
GP-T70-001	LL1	504677.9	2609311	4/5/2010	Intermediate	117	118	ND
GP-T70-001	LL1	504677.9	2609311	4/5/2010	Intermediate	127	128	ND
GP-T70-001	LL1	504677.9	2609311	4/5/2010	Intermediate	137	138	ND
GP-T70-002	LL1	504382.7	2608935	4/7/2010	Shallow	55	56	0.31 J
GP-T70-002	LL1	504382.7	2608935	4/7/2010	Shallow	65	66	0.54 J
GP-T70-002	LL1	504382.7	2608935	4/7/2010	Shallow	75	76	0.91 J
GP-T70-002	LL1	504382.7	2608935	4/7/2010	Shallow	85	86	1.3
GP-T70-002	LL1	504382.7	2608935	4/7/2010	Intermediate	95	96	7
GP-T70-002	LL1	504382.7	2608935	4/7/2010	Intermediate	105	106	6.4
GP-T70-002	LL1	504382.7	2608935	4/7/2010	Intermediate	115	116	2
GP-T70-002	LL1	504382.7	2608935	4/7/2010	Intermediate	125	126	2.7
GP-T70-002	LL1	504382.7	2608935	4/7/2010	Intermediate	135	136	6.1
GP-T70-003	LL1	505474.2	2609278	4/8/2010	Shallow	47	48	1
GP-T70-003	LL1	505474.2	2609278	4/8/2010	Shallow	57	58	1
GP-T70-003	LL1	505474.2	2609278	4/8/2010	Shallow	67	68	1.2
GP-T70-003	LL1	505474.2	2609278	4/8/2010	Shallow	77	78	1.6
GP-T70-003	LL1	505474.2	2609278	4/8/2010	Shallow	77	78	1.7
GP-T70-003	LL1	505474.2	2609278	4/8/2010	Shallow	87	88	2
GP-T70-003	LL1	505474.2	2609278	4/8/2010	Intermediate	97	98	1.8
GP-T70-003	LL1	505474.2	2609278	4/8/2010	Intermediate	107	108	2.9
GP-T70-003	LL1	505474.2	2609278	4/8/2010	Intermediate	117	118	0.78 J
GP-T70-003	LL1	505474.2	2609278	4/8/2010	Intermediate	127	128	1.3
GP-T70-003	LL1	505474.2	2609278	4/8/2010	Intermediate	137	138	1.7
GP-T70-003	LL1	505474.2	2609278	4/8/2010	Intermediate	137	138	2.1
GP-T70-004	LL1	505474.2	2608990	4/9/2010	Shallow	49	50	0.59 J
GP-T70-004	LL1	505474.2	2608990	4/9/2010	Shallow	59	60	0.91 J
GP-T70-004	LL1	505474.2	2608990	4/9/2010	Shallow	69	70	1.2
GP-T70-004	LL1	505474.2	2608990	4/9/2010	Shallow	79	80	1.4
GP-T70-004	LL1	505474.2	2608990	4/9/2010	Intermediate	89	90	1.1
GP-T70-004	LL1	505474.2	2608990	4/9/2010	Intermediate	99	100	0.66 J
GP-T70-004	LL1	505474.2	2608990	4/8/2010	Intermediate	109	110	ND
GP-T70-004	LL1	505474.2	2608990	4/8/2010	Intermediate	119	120	ND
GP-T70-004	LL1	505474.2	2608990	4/8/2010	Intermediate	129	130	ND
GP-T70-005	LL1	506270.6	2609233	4/9/2010	Shallow	57	58	ND
GP-T70-005	LL1	506270.6	2609233	4/9/2010	Shallow	67	68	ND
GP-T70-005	LL1	506270.6	2609233	4/9/2010	Shallow	77	78	ND
GP-T70-005	LL1	506270.6	2609233	4/9/2010	Shallow	87	88	ND
GP-T70-005	LL1	506270.6	2609233	4/9/2010	Intermediate	97	98	ND
GP-T70-005	LL1	506270.6	2609233	4/9/2010	Intermediate	107	108	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T70-005	LL1	506270.6	2609233	4/9/2010	Intermediate	117	118	ND
GP-T70-005	LL1	506270.6	2609233	4/9/2010	Intermediate	127	128	ND
GP-T70-005	LL1	506270.6	2609233	4/9/2010	Intermediate	137	138	ND
GP-T70-006	LL1	506273.1	2608924	4/12/2010	Shallow	57	58	0.64 J
GP-T70-006	LL1	506273.1	2608924	4/12/2010	Shallow	67	68	ND
GP-T70-006	LL1	506273.1	2608924	4/12/2010	Shallow	77	78	1.1
GP-T70-006	LL1	506273.1	2608924	4/12/2010	Shallow	87	88	ND
GP-T70-006	LL1	506273.1	2608924	4/12/2010	Intermediate	97	98	ND
GP-T70-006	LL1	506273.1	2608924	4/12/2010	Intermediate	107	108	ND
GP-T70-006	LL1	506273.1	2608924	4/12/2010	Intermediate	117	118	0.78 J
GP-T70-006	LL1	506273.1	2608924	4/12/2010	Intermediate	127	128	1.3
GP-T70-006	LL1	506273.1	2608924	4/12/2010	Intermediate	137	138	0.93 J
GP-T70-006	LL1	506273.1	2608924	4/12/2010	Intermediate	137	138	3.1
GP-T70-007	LL1	505300.3	2608106	4/12/2010	Shallow	49	50	ND
GP-T70-007	LL1	505300.3	2608106	4/12/2010	Shallow	59	60	ND
GP-T70-007	LL1	505300.3	2608106	4/12/2010	Shallow	69	70	ND
GP-T70-007	LL1	505300.3	2608106	4/12/2010	Shallow	79	80	ND
GP-T70-007	LL1	505300.3	2608106	4/12/2010	Intermediate	89	90	ND
GP-T70-007	LL1	505300.3	2608106	4/12/2010	Intermediate	99	100	ND
GP-T70-007	LL1	505300.3	2608106	4/12/2010	Intermediate	109	110	ND
GP-T70-007	LL1	505300.3	2608106	4/12/2010	Intermediate	119	120	ND
GP-T70-007	LL1	505300.3	2608106	4/12/2010	Intermediate	119	120	ND
GP-T70-008	LL1	507179.5	2608315	4/12/2010	Shallow	45	46	ND
GP-T70-008	LL1	507179.5	2608315	4/12/2010	Shallow	55	56	0.63 J
GP-T70-008	LL1	507179.5	2608315	4/12/2010	Shallow	65	66	0.83 J
GP-T70-008	LL1	507179.5	2608315	4/12/2010	Shallow	75	76	ND
GP-T70-008	LL1	507179.5	2608315	4/12/2010	Intermediate	85	86	ND
GP-T70-008	LL1	507179.5	2608315	4/12/2010	Intermediate	95	96	ND
GP-T70-008	LL1	507179.5	2608315	4/12/2010	Intermediate	105	106	ND
GP-T70-008	LL1	507179.5	2608315	4/12/2010	Intermediate	115	116	ND
GP-T70-009	LL1	507053.8	2607911	4/13/2010	Shallow	57	58	ND
GP-T70-009	LL1	507053.8	2607911	4/13/2010	Shallow	67	68	ND
GP-T70-009	LL1	507053.8	2607911	4/13/2010	Shallow	77	78	ND
GP-T70-009	LL1	507053.8	2607911	4/13/2010	Shallow	87	88	ND
GP-T70-009	LL1	507053.8	2607911	4/13/2010	Intermediate	97	98	ND
GP-T70-009	LL1	507053.8	2607911	4/13/2010	Intermediate	107	108	ND
GP-T70-009	LL1	507053.8	2607911	4/13/2010	Intermediate	117	118	ND
GP-T70-009	LL1	507053.8	2607911	4/13/2010	Intermediate	127	128	ND
GP-T70-009	LL1	507053.8	2607911	4/13/2010	Intermediate	137	138	ND
GP-T70-010	LL1	506882.9	2607359	4/13/2010	Shallow	50	51	ND
GP-T70-010	LL1	506882.9	2607359	4/13/2010	Shallow	60	61	ND
GP-T70-010	LL1	506882.9	2607359	4/13/2010	Shallow	70	71	ND
GP-T70-010	LL1	506882.9	2607359	4/13/2010	Shallow	80	81	ND
GP-T70-010	LL1	506882.9	2607359	4/13/2010	Intermediate	90	91	ND
GP-T70-010	LL1	506882.9	2607359	4/13/2010	Intermediate	100	101	ND
GP-T70-010	LL1	506882.9	2607359	4/13/2010	Intermediate	110	111	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T70-010	LL1	506882.9	2607359	4/13/2010	Intermediate	120	121	ND
GP-T70-010	LL1	506882.9	2607359	4/13/2010	Intermediate	130	131	ND
GP-T70-011	LL1	506854.3	2606882	4/14/2010	Shallow	48	49	7.7
GP-T70-011	LL1	506854.3	2606882	4/14/2010	Shallow	58	59	8.5
GP-T70-011	LL1	506854.3	2606882	4/14/2010	Shallow	68	69	ND
GP-T70-011	LL1	506854.3	2606882	4/14/2010	Shallow	78	79	ND
GP-T70-011	LL1	506854.3	2606882	4/14/2010	Intermediate	88	89	ND
GP-T70-011	LL1	506854.3	2606882	4/14/2010	Intermediate	98	99	ND
GP-T70-011	LL1	506854.3	2606882	4/14/2010	Intermediate	108	109	ND
GP-T70-011	LL1	506854.3	2606882	4/14/2010	Intermediate	118	119	ND
GP-T70-011	LL1	506854.3	2606882	4/14/2010	Intermediate	128	129	ND
GP-T70-012	LL1	503951.6	2609322	4/15/2010	Shallow	59	60	2
GP-T70-012	LL1	503951.6	2609322	4/15/2010	Shallow	69	70	1.7
GP-T70-012	LL1	503951.6	2609322	4/15/2010	Shallow	79	80	4.6
GP-T70-012	LL1	503951.6	2609322	4/15/2010	Shallow	89	90	4
GP-T70-012	LL1	503951.6	2609322	4/15/2010	Intermediate	99	100	6.3
GP-T70-012	LL1	503951.6	2609322	4/15/2010	Intermediate	109	110	4.3
GP-T70-012	LL1	503951.6	2609322	4/15/2010	Intermediate	119	120	2.2
GP-T70-012	LL1	503951.6	2609322	4/15/2010	Intermediate	129	130	0.63 J
GP-T70-012	LL1	503951.6	2609322	4/14/2010	Intermediate	139	140	0.32 J
GP-T70-013	LL1	503559.4	2609831	6/24/2010	Shallow	54	55	ND
GP-T70-013	LL1	503559.4	2609831	6/24/2010	Shallow	64	65	ND
GP-T70-013	LL1	503559.4	2609831	6/24/2010	Shallow	74	75	ND
GP-T70-013	LL1	503559.4	2609831	6/24/2010	Intermediate	84	85	ND
GP-T70-013	LL1	503559.4	2609831	6/24/2010	Intermediate	94	95	ND
GP-T70-013	LL1	503559.4	2609831	6/24/2010	Intermediate	104	105	ND
GP-T71-001	LL1	502130.7	2608468	4/22/2010	Shallow	49	50	800
GP-T71-001	LL1	502130.7	2608468	4/22/2010	Shallow	59	60	800
GP-T71-001	LL1	502130.7	2608468	4/22/2010	Shallow	69	70	3200
GP-T71-001	LL1	502130.7	2608468	4/22/2010	Shallow	79	80	7000
GP-T71-001	LL1	502130.7	2608468	4/22/2010	Intermediate	89	90	5300
GP-T71-001	LL1	502130.7	2608468	4/22/2010	Intermediate	99	100	5100
GP-T71-001	LL1	502130.7	2608468	4/22/2010	Intermediate	109	110	2200
GP-T71-001	LL1	502130.7	2608468	4/22/2010	Intermediate	119	120	2000
GP-T71-002	LL1	502592.6	2608446	4/26/2010	Shallow	49	50	1400
GP-T71-002	LL1	502592.6	2608446	4/26/2010	Shallow	59	60	11000
GP-T71-002	LL1	502592.6	2608446	4/26/2010	Shallow	69	70	11000
GP-T71-002	LL1	502592.6	2608446	4/26/2010	Shallow	79	80	11000
GP-T71-002	LL1	502592.6	2608446	4/26/2010	Intermediate	89	90	10000
GP-T71-002	LL1	502592.6	2608446	4/26/2010	Intermediate	99	100	8000
GP-T71-002	LL1	502592.6	2608446	4/26/2010	Intermediate	109	110	8500
GP-T71-002	LL1	502592.6	2608446	4/26/2010	Intermediate	119	120	1400
GP-T71-003	LL1	503110.9	2608423	4/27/2010	Shallow	59	60	360 J
GP-T71-003	LL1	503110.9	2608423	4/27/2010	Shallow	69	70	2400
GP-T71-003	LL1	503110.9	2608423	4/27/2010	Shallow	79	80	6000
GP-T71-003	LL1	503110.9	2608423	4/27/2010	Intermediate	89	90	7000

Table 3-2
TCE in Monitoring Wells and Direct-Push Samples (2006-2010)
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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T71-003	LL1	503110.9	2608423	4/27/2010	Intermediate	99	100	7500
GP-T71-003	LL1	503110.9	2608423	4/26/2010	Intermediate	109	110	12000
GP-T71-003	LL1	503110.9	2608423	4/26/2010	Intermediate	119	120	11000
GP-T71-004	LL1	503609.3	2608372	4/22/2010	Shallow	58	59	260
GP-T71-004	LL1	503609.3	2608372	4/22/2010	Shallow	68	69	1300
GP-T71-004	LL1	503609.3	2608372	4/22/2010	Shallow	78	79	1800
GP-T71-004	LL1	503609.3	2608372	4/22/2010	Intermediate	88	89	1900
GP-T71-004	LL1	503609.3	2608372	4/22/2010	Intermediate	98	99	1900
GP-T71-004	LL1	503609.3	2608372	4/22/2010	Intermediate	108	109	830
GP-T71-004	LL1	503609.3	2608372	4/22/2010	Intermediate	118	119	490
GP-T71-005	LL1	504092.3	2608345	4/23/2010	Shallow	59	60	26
GP-T71-005	LL1	504092.3	2608345	4/23/2010	Shallow	69	70	11 J
GP-T71-005	LL1	504092.3	2608345	4/23/2010	Shallow	79	80	16
GP-T71-005	LL1	504092.3	2608345	4/23/2010	Intermediate	89	90	110 J
GP-T71-005	LL1	504092.3	2608345	4/23/2010	Intermediate	99	100	110
GP-T71-005	LL1	504092.3	2608345	4/23/2010	Intermediate	109	110	190
GP-T71-005	LL1	504092.3	2608345	4/22/2010	Intermediate	119	120	600
GP-T71-006	LL1	504581	2608320	4/23/2010	Shallow	49	50	2.1
GP-T71-006	LL1	504581	2608320	4/23/2010	Shallow	59	60	ND
GP-T71-006	LL1	504581	2608320	4/23/2010	Shallow	69	70	6
GP-T71-006	LL1	504581	2608320	4/23/2010	Shallow	79	80	16
GP-T71-006	LL1	504581	2608320	4/23/2010	Intermediate	89	90	13
GP-T71-006	LL1	504581	2608320	4/23/2010	Intermediate	99	100	11
GP-T71-006	LL1	504581	2608320	4/23/2010	Intermediate	109	110	65
GP-T71-006	LL1	504581	2608320	4/23/2010	Intermediate	119	120	180
GP-T71-007	LL1	504854.9	2608308	6/23/2010	Shallow	48	49	0.7 J
GP-T71-007	LL1	504854.9	2608308	6/23/2010	Shallow	58	59	6.1
GP-T71-007	LL1	504854.9	2608308	6/23/2010	Shallow	68	69	31
GP-T71-007	LL1	504854.9	2608308	6/23/2010	Shallow	68	69	32
GP-T71-007	LL1	504854.9	2608308	6/23/2010	Intermediate	78	79	18
GP-T71-007	LL1	504854.9	2608308	6/23/2010	Intermediate	88	89	18
GP-T71-007	LL1	504854.9	2608308	6/23/2010	Intermediate	98	99	23
GP-T71-007	LL1	504854.9	2608308	6/23/2010	Intermediate	108	109	1.6
GP-T72-001	LL1	500418.6	2607637	4/22/2010	Shallow	57	58	ND
GP-T72-001	LL1	500418.6	2607637	4/22/2010	Shallow	67	68	ND
GP-T72-001	LL1	500418.6	2607637	4/22/2010	Shallow	77	78	ND
GP-T72-001	LL1	500418.6	2607637	4/22/2010	Intermediate	87	88	ND
GP-T72-001	LL1	500418.6	2607637	4/22/2010	Intermediate	97	98	ND
GP-T72-001	LL1	500418.6	2607637	4/22/2010	Intermediate	107	108	ND
GP-T72-002	LL1	500944.1	2607750	4/21/2010	Shallow	50	51	2.2
GP-T72-002	LL1	500944.1	2607750	4/21/2010	Shallow	60	61	9.4
GP-T72-002	LL1	500944.1	2607750	4/21/2010	Shallow	70	71	2.2
GP-T72-002	LL1	500944.1	2607750	4/21/2010	Intermediate	80	81	ND
GP-T72-002	LL1	500944.1	2607750	4/21/2010	Intermediate	90	91	ND
GP-T72-002	LL1	500944.1	2607750	4/21/2010	Intermediate	100	101	ND
GP-T72-002	LL1	500944.1	2607750	4/21/2010	Intermediate	110	111	ND

Table 3-2
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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T72-003	LL1	501090.7	2608068	4/22/2010	Shallow	59	60	46
GP-T72-003	LL1	501090.7	2608068	4/22/2010	Shallow	69	70	43
GP-T72-003	LL1	501090.7	2608068	4/21/2010	Shallow	79	80	22
GP-T72-003	LL1	501090.7	2608068	4/21/2010	Intermediate	89	90	20
GP-T72-003	LL1	501090.7	2608068	4/21/2010	Intermediate	99	100	14
GP-T72-003	LL1	501090.7	2608068	4/21/2010	Intermediate	109	110	9.5
GP-T72-003	LL1	501090.7	2608068	4/21/2010	Intermediate	119	120	9.1
GP-T72-004	LL1	501339.4	2608501	4/27/2010	Shallow	52	53	42
GP-T72-004	LL1	501339.4	2608501	4/27/2010	Shallow	62	63	200
GP-T72-004	LL1	501339.4	2608501	4/27/2010	Shallow	72	73	510
GP-T72-004	LL1	501339.4	2608501	4/27/2010	Intermediate	82	83	110
GP-T72-004	LL1	501339.4	2608501	4/27/2010	Intermediate	92	93	27
GP-T72-004	LL1	501339.4	2608501	4/27/2010	Intermediate	102	103	26 J
GP-T72-004	LL1	501339.4	2608501	4/27/2010	Intermediate	112	113	32
GP-T73-001	LL1	494211.5	2609681	4/20/2010	Shallow	38	39	ND
GP-T73-001	LL1	494211.5	2609681	4/20/2010	Shallow	48	49	ND
GP-T73-001	LL1	494211.5	2609681	4/20/2010	Shallow	58	59	ND
GP-T73-001	LL1	494211.5	2609681	4/20/2010	Shallow	68	69	ND
GP-T73-001	LL1	494211.5	2609681	4/20/2010	Intermediate	78	79	ND
GP-T73-001	LL1	494211.5	2609681	4/20/2010	Intermediate	88	89	ND
GP-T73-001	LL1	494211.5	2609681	4/20/2010	Intermediate	98	99	ND
GP-T73-001	LL1	494211.5	2609681	4/20/2010	Intermediate	108	109	ND
GP-T73-001	LL1	494211.5	2609681	4/19/2010	Intermediate	118	119	ND
GP-T73-002	LL1	494222	2610082	4/20/2010	Shallow	49	50	ND
GP-T73-002	LL1	494222	2610082	4/20/2010	Shallow	59	60	ND
GP-T73-002	LL1	494222	2610082	4/20/2010	Shallow	69	70	ND
GP-T73-002	LL1	494222	2610082	4/20/2010	Shallow	79	80	ND
GP-T73-002	LL1	494222	2610082	4/20/2010	Intermediate	89	90	ND
GP-T73-002	LL1	494222	2610082	4/20/2010	Intermediate	99	100	ND
GP-T73-002	LL1	494222	2610082	4/20/2010	Intermediate	109	110	ND
GP-T73-002	LL1	494222	2610082	4/20/2010	Intermediate	119	120	ND
GP-T73-003	LL1	494229.8	2610487	4/21/2010	Shallow	59	60	6.5
GP-T73-003	LL1	494229.8	2610487	4/21/2010	Shallow	69	70	11
GP-T73-003	LL1	494229.8	2610487	4/21/2010	Shallow	79	80	12
GP-T73-003	LL1	494229.8	2610487	4/21/2010	Intermediate	89	90	44
GP-T73-003	LL1	494229.8	2610487	4/21/2010	Intermediate	99	100	14
GP-T73-003	LL1	494229.8	2610487	4/21/2010	Intermediate	109	110	20
GP-T73-003	LL1	494229.8	2610487	4/21/2010	Intermediate	119	120	12
GP-T73-004	LL1	494230.5	2610863	4/20/2010	Shallow	49	50	20
GP-T73-004	LL1	494230.5	2610863	4/20/2010	Shallow	59	60	150
GP-T73-004	LL1	494230.5	2610863	4/20/2010	Shallow	69	70	300
GP-T73-004	LL1	494230.5	2610863	4/20/2010	Shallow	79	80	320
GP-T73-004	LL1	494230.5	2610863	4/20/2010	Intermediate	89	90	80
GP-T73-004	LL1	494230.5	2610863	4/20/2010	Intermediate	99	100	65
GP-T73-004	LL1	494230.5	2610863	4/20/2010	Intermediate	109	110	45
GP-T73-004	LL1	494230.5	2610863	4/20/2010	Intermediate	119	120	27

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T73-004	LL1	494230.5	2610863	4/20/2010	Intermediate	119	120	42
GP-T73-005	LL1	494243.6	2611321	4/20/2010	Shallow	49	50	70
GP-T73-005	LL1	494243.6	2611321	4/20/2010	Shallow	59	60	310
GP-T73-005	LL1	494243.6	2611321	4/20/2010	Shallow	69	70	350
GP-T73-005	LL1	494243.6	2611321	4/20/2010	Shallow	79	80	400
GP-T73-005	LL1	494243.6	2611321	4/20/2010	Intermediate	89	90	100
GP-T73-005	LL1	494243.6	2611321	4/20/2010	Intermediate	99	100	18
GP-T73-005	LL1	494243.6	2611321	4/19/2010	Intermediate	109	110	100
GP-T73-005	LL1	494243.6	2611321	4/19/2010	Intermediate	119	120	130
GP-T73-005	LL1	494243.6	2611321	4/19/2010	Intermediate	119	120	150
GP-T73-006	LL1	494251.1	2611705	4/21/2010	Shallow	43	44	1.3
GP-T73-006	LL1	494251.1	2611705	4/21/2010	Shallow	53	54	2.3
GP-T73-006	LL1	494251.1	2611705	4/21/2010	Shallow	63	64	4.4
GP-T73-006	LL1	494251.1	2611705	4/21/2010	Shallow	73	74	16
GP-T73-006	LL1	494251.1	2611705	4/21/2010	Intermediate	83	84	30
GP-T73-006	LL1	494251.1	2611705	4/21/2010	Intermediate	93	94	34
GP-T73-006	LL1	494251.1	2611705	4/21/2010	Intermediate	103	104	54
GP-T73-006	LL1	494251.1	2611705	4/21/2010	Intermediate	113	114	79
GP-T73-007	LL1	494249.8	2612029	7/1/2010	Shallow	48	49	ND
GP-T73-007	LL1	494249.8	2612029	7/1/2010	Shallow	58	59	ND
GP-T73-007	LL1	494249.8	2612029	7/1/2010	Shallow	68	69	ND
GP-T73-007	LL1	494249.8	2612029	7/1/2010	Shallow	78	79	ND
GP-T73-007	LL1	494249.8	2612029	7/1/2010	Intermediate	88	89	ND
GP-T73-007	LL1	494249.8	2612029	7/1/2010	Intermediate	98	99	ND
GP-T73-007	LL1	494249.8	2612029	7/1/2010	Intermediate	108	109	ND
GP-T73-007	LL1	494249.8	2612029	7/1/2010	Intermediate	118	119	ND
MW-02A	LL1	506250.3	2606800	7/1/2010	Intermediate	67.7	96.9	ND
MW-02B	LL1	506255.5	2606809	7/1/2010	Shallow	34.3	63.5	ND
MW-03A	LL1	506223.4	2607532	2/18/2009	Intermediate	97	145.8	ND
MW-03B	LL1	506225.4	2607542	2/17/2009	Shallow	39.9	98.4	ND
MW-101A	LL1	491574.1	2610929	7/19/2010	Intermediate	83	93	ND
MW-101B	LL1	491573.8	2610924	7/19/2010	Shallow	30	40	ND
MW-10A	LL1	496858.3	2607884	2/19/2010	Intermediate	61.4	100.4	ND
MW-10B	LL1	496858.9	2607894	2/19/2010	Shallow	33	62.2	ND
MW-119A	LL1	499580.8	2607953	8/2/2010	Intermediate	119.7	129.2	ND
MW-119B	LL1	499593.3	2607942	8/2/2010	Shallow	74	83.5	ND
MW-12	LL1	509013.9	2606856	4/3/2009	Shallow	27.6	37.3	1.3
MW-120A	LL1	499419.1	2609372	8/2/2010	Intermediate	128.7	138.2	340
MW-120B	LL1	499439	2609373	8/2/2010	Shallow	65.5	75	11000
MW-120E	LL1	499430.8	2609373	8/2/2010	Shallow	95.3	104.8	15000
MW-121A	LL1	500071	2609753	7/15/2010	Intermediate	132.6	142.1	0.85 J
MW-121B	LL1	500071.6	2609779	7/15/2010	Shallow	75.7	85.2	0.52 J
MW-121E	LL1	500071.3	2609763	7/15/2010	Intermediate	105.5	115	0.89 J
MW-122A	LL1	498101.3	2609240	7/29/2010	Intermediate	128.5	138	180
MW-122B	LL1	498114.6	2609232	7/29/2010	Shallow	97.6	107.1	940
MW-122B	LL1	498114.6	2609232	7/29/2010	Shallow	97.6	107.1	950

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
MW-123A	LL1	499909.1	2608678	7/15/2010	Intermediate	131.8	141.3	6.7
MW-123B	LL1	499909	2608666	7/15/2010	Shallow	90.1	99.6	11
MW-124A	LL1	501486.2	2609116	8/2/2010	Intermediate	100.3	109.8	3100
MW-124B	LL1	501496.3	2609108	8/2/2010	Shallow	69.7	79.2	16000
MW-125A	LL1	500663.2	2609457	7/29/2010	Intermediate	117.9	127.4	710
MW-125B	LL1	500661.6	2609468	7/29/2010	Shallow	76.7	86.2	2000
MW-125B	LL1	500661.6	2609468	7/29/2010	Shallow	76.7	86.2	2000
MW-126A	LL1	504504.8	2607484	8/3/2010	Intermediate	112.3	121.8	8000
MW-126B	LL1	504514.7	2607483	8/3/2010	Shallow	82.3	91.8	11000
MW-127A	LL1	506918.4	2606122	8/3/2010	Intermediate	118.5	128	28
MW-127B	LL1	506931.4	2606122	8/3/2010	Shallow	71.9	81.4	160
MW-127E	LL1	506941.6	2606121	8/3/2010	Shallow	51.6	61.1	21
MW-141A	LL1	502590.6	2608447	9/24/2010	Intermediate	105	115	6300
MW-141B	LL1	502597.2	2608447	9/24/2010	Shallow	50	60	8800
MW-141E	LL1	502604.4	2608447	9/24/2010	Intermediate	80	90	10000
MW-142A	LL1	495599	2610571	9/24/2010	Intermediate	115	125	900
MW-142B	LL1	495599	2610571	9/24/2010	Shallow	90	100	1800
MW-21A	LL1	503524.8	2607121	7/6/2010	Intermediate	116	126	33
MW-21B	LL1	503524	2607111	7/6/2010	Shallow	66	76	53
MW-22A	LL1	510402.1	2606598	9/27/2007	Intermediate	87.8	97.8	ND
MW-22B	LL1	510403.4	2606604	9/27/2007	Shallow	58	68	ND
MW-23A	LL1	509376.4	2606403	9/27/2007	Intermediate	88.5	98.5	ND
MW-23B	LL1	509383.9	2606393	2/25/2009	Shallow	67.5	77.5	0.36 J
MW-24A	LL1	501919.8	2608477	7/15/2010	Intermediate	111.5	121.5	930
MW-24B	LL1	501909	2608478	7/15/2010	Shallow	56	66	49
MW-25A	LL1	504875.2	2608308	8/3/2010	Intermediate	145	155	ND
MW-25B	LL1	504885.6	2608308	1/12/2010	Shallow	74	84	20
MW-26A	LL1	508825.1	2609860	7/1/2010	Intermediate	92.5	102.5	ND
MW-26B	LL1	508824.9	2609850	7/1/2010	Shallow	66	76	ND
MW-61A	LL1	492900	2608656	8/4/2010	Intermediate	75.7	85.7	0.38 J
MW-61A	LL1	492900	2608656	8/4/2010	Intermediate	75.7	85.7	ND
MW-61B	LL1	492898.6	2608644	8/4/2010	Shallow	25	35	ND
MW-79A	LL1	492336.2	2610432	7/19/2010	Intermediate	76	86	ND
MW-79B	LL1	492345.2	2610428	7/19/2010	Shallow	30.2	40.2	ND
MW-80A	LL1	492067.1	2610926	2/16/2010	Intermediate	69.17	79.17	ND
MW-80B	LL1	492064.6	2610916	2/16/2010	Shallow	30	40	0.77 J
MW-81A	LL1	492369.4	2611638	7/19/2010	Intermediate	79	92	ND
MW-81B	LL1	492360.4	2611636	7/19/2010	Shallow	28.2	38.2	ND
MW-89A	LL1	494253.9	2610431	1/22/2010	Intermediate	129.2	139.2	0.82 J
MW-89B	LL1	494254.1	2610409	1/22/2010	Shallow	65	75.7	1.7
MW-89E	LL1	494253.1	2610466	9/24/2010	Shallow	85	95	190
MW-90A	LL1	494302	2611236	7/19/2010	Intermediate	112.2	123.4	120
MW-90B	LL1	494298	2611227	7/19/2010	Shallow	65.35	75.45	450
MW-91A	LL1	494323	2612077	7/20/2010	Intermediate	109.2	119.2	ND
MW-91B	LL1	494317.5	2612068	7/20/2010	Shallow	67.6	77.6	ND
MW-92A	LL1	492722.6	2610047	1/13/2010	Intermediate	72.16	82.16	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
MW-92B	LL1	492733.8	2610048	1/13/2010	Shallow	30.1	40.1	ND
MW-93A	LL1	493551.3	2612163	2/16/2010	Intermediate	84.2	94.2	ND
MW-93B	LL1	493546.8	2612154	2/16/2010	Shallow	60	70	ND
BAZE-MW-06	LL2	502044	2616157	3/18/2010	Shallow	56	76	ND
GP-MW-144	LL2	504219.1	2614426	6/23/2010	Shallow	50	51	ND
GP-MW-144	LL2	504219.1	2614426	6/23/2010	Shallow	60	61	ND
GP-MW-144	LL2	504219.1	2614426	6/23/2010	Shallow	70	71	ND
GP-MW-144	LL2	504219.1	2614426	6/23/2010	Intermediate	80	81	ND
GP-MW-144	LL2	504219.1	2614426	6/23/2010	Intermediate	90	91	ND
GP-MW-144	LL2	504219.1	2614426	6/23/2010	Intermediate	100	101	ND
GP-MW-144	LL2	504219.1	2614426	6/23/2010	Intermediate	100	101	ND
GP-MW-146	LL2	495349.5	2618923	6/16/2010	Shallow	61	62	ND
GP-MW-146	LL2	495349.5	2618923	6/16/2010	Shallow	71	72	ND
GP-MW-146	LL2	495349.5	2618923	6/16/2010	Shallow	71	72	ND
GP-MW-146	LL2	495349.5	2618923	6/16/2010	Shallow	81	82	ND
GP-MW-146	LL2	495349.5	2618923	6/16/2010	Intermediate	91	92	ND
GP-MW-146	LL2	495349.5	2618923	6/15/2010	Intermediate	101	102	ND
GP-MW-147	LL2	494876.8	2620075	6/17/2010	Shallow	52	53	ND
GP-MW-147	LL2	494876.8	2620075	6/17/2010	Shallow	62	63	ND
GP-MW-147	LL2	494876.8	2620075	6/16/2010	Shallow	72	73	ND
GP-MW-147	LL2	494876.8	2620075	6/16/2010	Intermediate	82	83	ND
GP-MW-147	LL2	494876.8	2620075	6/16/2010	Intermediate	92	93	ND
GP-MW-147	LL2	494876.8	2620075	6/16/2010	Intermediate	102	103	ND
GP-T36-08	LL2	505276.9	2613515	11/20/2007	Shallow	59	60	ND
GP-T36-08	LL2	505276.9	2613515	11/20/2007	Shallow	72	73	ND
GP-T36-08	LL2	505276.9	2613515	11/20/2007	Intermediate	85	86	ND
GP-T36-08	LL2	505276.9	2613515	11/20/2007	Intermediate	98	99	ND
GP-T36-09	LL2	505838.8	2613504	11/19/2007	Shallow	56	57	ND
GP-T36-09	LL2	505838.8	2613504	11/19/2007	Shallow	68	69	ND
GP-T36-09	LL2	505838.8	2613504	11/19/2007	Intermediate	80	81	ND
GP-T36-09	LL2	505838.8	2613504	11/19/2007	Intermediate	92	93	ND
GP-T36-10	LL2	506218.8	2613818	11/19/2007	Shallow	56	57	6
GP-T36-10	LL2	506218.8	2613818	11/19/2007	Shallow	67	68	7
GP-T36-10	LL2	506218.8	2613818	11/19/2007	Shallow	67	68	8
GP-T36-10	LL2	506218.8	2613818	11/19/2007	Shallow	67	68	11
GP-T36-10	LL2	506218.8	2613818	11/19/2007	Shallow	67	68	12
GP-T36-10	LL2	506218.8	2613818	11/19/2007	Intermediate	79	80	11
GP-T36-10	LL2	506218.8	2613818	11/19/2007	Intermediate	90	91	9
GP-T36-11	LL2	506609.5	2614446	11/20/2007	Shallow	59	60	ND
GP-T36-11	LL2	506609.5	2614446	11/20/2007	Shallow	71	72	ND
GP-T36-11	LL2	506609.5	2614446	11/20/2007	Intermediate	83	84	ND
GP-T36-11	LL2	506609.5	2614446	11/20/2007	Intermediate	94	95	ND
GP-T36-12	LL2	506974.9	2614630	11/20/2007	Shallow	55	56	ND
GP-T36-12	LL2	506974.9	2614630	11/20/2007	Shallow	67	68	ND
GP-T36-12	LL2	506974.9	2614630	11/20/2007	Intermediate	79	80	ND
GP-T36-12	LL2	506974.9	2614630	11/20/2007	Intermediate	91	92	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T36-13	LL2	507258.7	2615189	11/20/2007	Shallow	55	56	ND
GP-T36-13	LL2	507258.7	2615189	11/20/2007	Shallow	67	68	ND
GP-T36-13	LL2	507258.7	2615189	11/20/2007	Intermediate	79	80	ND
GP-T36-13	LL2	507258.7	2615189	11/20/2007	Intermediate	91	92	ND
GP-T36-14	LL2	507728.3	2613411	11/27/2007	Shallow	53	54	ND
GP-T36-14	LL2	507728.3	2613411	11/27/2007	Shallow	65	66	ND
GP-T36-14	LL2	507728.3	2613411	11/27/2007	Intermediate	78	79	ND
GP-T36-14	LL2	507728.3	2613411	11/27/2007	Intermediate	90	91	ND
GP-T36-15	LL2	506755.3	2612730	11/27/2007	Shallow	54	55	ND
GP-T36-15	LL2	506755.3	2612730	11/27/2007	Shallow	67	68	ND
GP-T36-15	LL2	506755.3	2612730	11/27/2007	Intermediate	80	81	ND
GP-T36-15	LL2	506755.3	2612730	11/27/2007	Intermediate	92	93	ND
GP-T36-16	LL2	506454.5	2612237	11/26/2007	Shallow	55	56	ND
GP-T36-16	LL2	506454.5	2612237	11/26/2007	Shallow	68	69	ND
GP-T36-16	LL2	506454.5	2612237	11/26/2007	Intermediate	81	82	ND
GP-T36-16	LL2	506454.5	2612237	11/26/2007	Intermediate	94	95	ND
GP-T37-02	LL2	502259.5	2613630	5/16/2007	Shallow	73	74	ND
GP-T37-02	LL2	502259.5	2613630	5/16/2007	Intermediate	113	114	ND
GP-T37-03	LL2	502529.8	2614098	5/7/2007	Shallow	57	58	ND
GP-T37-03	LL2	502529.8	2614098	5/7/2007	Shallow	69	70	ND
GP-T37-03	LL2	502529.8	2614098	5/7/2007	Intermediate	81	82	ND
GP-T37-03	LL2	502529.8	2614098	5/7/2007	Intermediate	93	94	ND
GP-T37-03	LL2	502529.8	2614098	5/7/2007	Intermediate	105	106	ND
GP-T37-04	LL2	503088.2	2614344	5/31/2007	Shallow	64	65	ND
GP-T37-04	LL2	503088.2	2614344	5/31/2007	Intermediate	98	99	ND
GP-T37-05	LL2	503699.2	2615364	5/15/2007	Shallow	63	64	38
GP-T37-05	LL2	503699.2	2615364	5/15/2007	Intermediate	93	94	47
GP-T37-06	LL2	504280	2615967	5/15/2007	Shallow	62	63	ND
GP-T37-06	LL2	504280	2615967	5/15/2007	Intermediate	91	92	1.4
GP-T37-08	LL2	503132.2	2614920	11/17/2007	Shallow	58	59	0.4 J
GP-T37-08	LL2	503132.2	2614920	11/17/2007	Shallow	58	59	ND
GP-T37-08	LL2	503132.2	2614920	11/17/2007	Shallow	71	72	ND
GP-T37-08	LL2	503132.2	2614920	11/17/2007	Intermediate	84	85	3
GP-T37-08	LL2	503132.2	2614920	11/17/2007	Intermediate	97	98	1
GP-T37-09	LL2	503373.8	2615136	11/16/2007	Shallow	61	62	9
GP-T37-09	LL2	503373.8	2615136	11/16/2007	Shallow	73	74	8
GP-T37-09	LL2	503373.8	2615136	11/16/2007	Intermediate	86	87	1
GP-T37-09	LL2	503373.8	2615136	11/16/2007	Intermediate	98	99	ND
GP-T37-10	LL2	504352.2	2615660	11/14/2007	Shallow	61	62	ND
GP-T37-10	LL2	504352.2	2615660	11/14/2007	Shallow	73	74	ND
GP-T37-10	LL2	504352.2	2615660	11/14/2007	Intermediate	84	85	13
GP-T37-10	LL2	504352.2	2615660	11/14/2007	Intermediate	96	97	37
GP-T37-11	LL2	504350.4	2614925	11/16/2007	Shallow	62	63	30
GP-T37-11	LL2	504350.4	2614925	11/16/2007	Shallow	75	76	130 J
GP-T37-11	LL2	504350.4	2614925	11/16/2007	Shallow	75	76	140 J
GP-T37-11	LL2	504350.4	2614925	11/16/2007	Shallow	75	76	95

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GP-T37-11	LL2	504350.4	2614925	11/16/2007	Shallow	75	76	98
GP-T37-11	LL2	504350.4	2614925	11/16/2007	Intermediate	87	88	40
GP-T37-11	LL2	504350.4	2614925	11/16/2007	Intermediate	100	101	18
GP-T37-12	LL2	503159.6	2615758	11/16/2007	Shallow	60	61	3
GP-T37-12	LL2	503159.6	2615758	11/16/2007	Shallow	72	73	ND
GP-T37-12	LL2	503159.6	2615758	11/16/2007	Intermediate	83	84	1
GP-T37-12	LL2	503159.6	2615758	11/16/2007	Intermediate	95	96	ND
GP-T37-12	LL2	503159.6	2615758	11/16/2007	Intermediate	95	96	4.5
GP-T37-13	LL2	504533.1	2615699	11/27/2007	Shallow	60	61	5.8
GP-T37-13	LL2	504533.1	2615699	11/27/2007	Shallow	72	73	26
GP-T37-13	LL2	504533.1	2615699	11/27/2007	Intermediate	83	84	21 J
GP-T37-13	LL2	504533.1	2615699	11/27/2007	Intermediate	95	96	24
GP-T37-14	LL2	503663.8	2614256	11/28/2007	Shallow	64	65	ND
GP-T37-14	LL2	503663.8	2614256	11/28/2007	Shallow	78	79	0.3 J
GP-T37-14	LL2	503663.8	2614256	11/28/2007	Intermediate	91	92	ND
GP-T37-14	LL2	503663.8	2614256	11/28/2007	Intermediate	102	103	ND
GP-T37-15	LL2	504907.1	2615568	11/28/2007	Shallow	57	58	0.4 J
GP-T37-15	LL2	504907.1	2615568	11/28/2007	Shallow	68	69	0.4 J
GP-T37-15	LL2	504907.1	2615568	11/27/2007	Intermediate	80	81	1
GP-T37-15	LL2	504907.1	2615568	11/27/2007	Intermediate	92	93	2.8
GP-T37-16	LL2	504900.7	2614884	11/28/2007	Shallow	59	60	55
GP-T37-16	LL2	504900.7	2614884	11/28/2007	Shallow	71	72	180 D
GP-T37-16	LL2	504900.7	2614884	11/28/2007	Intermediate	83	84	120 D
GP-T37-16	LL2	504900.7	2614884	11/28/2007	Intermediate	95	96	110
GP-T39-06	LL2	500553.5	2615272	11/17/2007	Shallow	63	64	ND
GP-T39-06	LL2	500553.5	2615272	11/17/2007	Shallow	77	78	ND
GP-T39-06	LL2	500553.5	2615272	11/17/2007	Intermediate	90	91	ND
GP-T39-06	LL2	500553.5	2615272	11/17/2007	Intermediate	104	105	ND
GP-T39-07	LL2	501008.2	2615601	11/17/2007	Shallow	61	62	ND
GP-T39-07	LL2	501008.2	2615601	11/17/2007	Shallow	74	75	ND
GP-T39-07	LL2	501008.2	2615601	11/17/2007	Intermediate	87	88	ND
GP-T39-07	LL2	501008.2	2615601	11/17/2007	Intermediate	100	101	ND
GP-T39-08	LL2	501422.3	2616077	11/17/2007	Shallow	60	61	ND
GP-T39-08	LL2	501422.3	2616077	11/17/2007	Shallow	72	73	ND
GP-T39-08	LL2	501422.3	2616077	11/17/2007	Intermediate	84	85	ND
GP-T39-08	LL2	501422.3	2616077	11/17/2007	Intermediate	96	97	ND
GP-T39-09	LL2	501893.2	2616474	11/17/2007	Shallow	59	60	ND
GP-T39-09	LL2	501893.2	2616474	11/17/2007	Shallow	70	71	ND
GP-T39-09	LL2	501893.2	2616474	11/17/2007	Intermediate	81	82	ND
GP-T39-09	LL2	501893.2	2616474	11/17/2007	Intermediate	81	82	1.3
GP-T39-09	LL2	501893.2	2616474	11/17/2007	Intermediate	92	93	ND
GP-T39-10	LL2	502321.1	2616718	11/20/2007	Shallow	60	61	ND
GP-T39-10	LL2	502321.1	2616718	11/20/2007	Shallow	70	71	ND
GP-T39-10	LL2	502321.1	2616718	11/20/2007	Intermediate	81	82	2
GP-T39-10	LL2	502321.1	2616718	11/20/2007	Intermediate	92	93	8
GP-T39-11	LL2	502757.8	2616987	11/19/2007	Shallow	57	58	ND

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GP-T39-11	LL2	502757.8	2616987	11/19/2007	Shallow	67	68	ND
GP-T39-11	LL2	502757.8	2616987	11/19/2007	Intermediate	77	78	ND
GP-T39-11	LL2	502757.8	2616987	11/19/2007	Intermediate	87	88	ND
GP-T39-12	LL2	503202.9	2617539	11/27/2007	Shallow	56	57	ND
GP-T39-12	LL2	503202.9	2617539	11/27/2007	Shallow	66	67	ND
GP-T39-12	LL2	503202.9	2617539	11/27/2007	Intermediate	77	78	ND
GP-T39-12	LL2	503202.9	2617539	11/27/2007	Intermediate	87	88	ND
GP-T39-13	LL2	503720.6	2617088	11/26/2007	Shallow	55	56	ND
GP-T39-13	LL2	503720.6	2617088	11/26/2007	Shallow	66	67	ND
GP-T39-13	LL2	503720.6	2617088	11/26/2007	Intermediate	77	78	ND
GP-T39-13	LL2	503720.6	2617088	11/26/2007	Intermediate	87	88	ND
GP-T39-14	LL2	501912.3	2617041	11/27/2007	Shallow	60	61	0.3 J
GP-T39-14	LL2	501912.3	2617041	11/27/2007	Shallow	70	71	2.4
GP-T39-14	LL2	501912.3	2617041	11/27/2007	Intermediate	81	82	5.5
GP-T39-14	LL2	501912.3	2617041	11/27/2007	Intermediate	92	93	3.8
GP-T39-15	LL2	501501.8	2617580	11/27/2007	Shallow	61	62	0.5 J
GP-T39-15	LL2	501501.8	2617580	11/27/2007	Shallow	72	73	1.5
GP-T39-15	LL2	501501.8	2617580	11/27/2007	Intermediate	83	84	1.6
GP-T39-15	LL2	501501.8	2617580	11/27/2007	Intermediate	94	95	1
GP-T40-09	LL2	500223.3	2617268	11/18/2007	Shallow	64	65	ND
GP-T40-09	LL2	500223.3	2617268	11/18/2007	Shallow	75	76	ND
GP-T40-09	LL2	500223.3	2617268	11/18/2007	Intermediate	86	87	ND
GP-T40-09	LL2	500223.3	2617268	11/18/2007	Intermediate	97	98	ND
GP-T40-10	LL2	500622.9	2617511	11/18/2007	Shallow	63	64	ND
GP-T40-10	LL2	500622.9	2617511	11/18/2007	Shallow	75	76	ND
GP-T40-10	LL2	500622.9	2617511	11/18/2007	Intermediate	86	87	ND
GP-T40-10	LL2	500622.9	2617511	11/18/2007	Intermediate	97	98	ND
GP-T50-01	LL2	495820.1	2618358	11/15/2007	Shallow	75	76	ND
GP-T50-01	LL2	495820.1	2618358	11/15/2007	Shallow	86	87	ND
GP-T50-01	LL2	495820.1	2618358	11/15/2007	Intermediate	96	97	ND
GP-T50-01	LL2	495820.1	2618358	11/15/2007	Intermediate	102	103	ND
GP-T50-02	LL2	496272.4	2619162	11/15/2007	Shallow	66	67	ND
GP-T50-02	LL2	496272.4	2619162	11/15/2007	Shallow	75	76	ND
GP-T50-02	LL2	496272.4	2619162	11/15/2007	Intermediate	85	86	ND
GP-T50-02	LL2	496272.4	2619162	11/15/2007	Intermediate	94	95	ND
GP-T50-03	LL2	496669.8	2619838	11/15/2007	Shallow	72	73	ND
GP-T50-03	LL2	496669.8	2619838	11/15/2007	Shallow	81	82	ND
GP-T50-03	LL2	496669.8	2619838	11/15/2007	Intermediate	89	90	ND
GP-T50-03	LL2	496669.8	2619838	11/15/2007	Intermediate	98	99	ND
GP-T50-04	LL2	497272.1	2620377	11/16/2007	Shallow	70	71	ND
GP-T50-04	LL2	497272.1	2620377	11/16/2007	Shallow	78	79	ND
GP-T50-04	LL2	497272.1	2620377	11/16/2007	Intermediate	86	87	ND
GP-T50-04	LL2	497272.1	2620377	11/16/2007	Intermediate	94	95	ND
GP-T50-05	LL2	497743.2	2620860	11/15/2007	Shallow	64	65	ND
GP-T50-05	LL2	497743.2	2620860	11/15/2007	Shallow	72	73	ND
GP-T50-05	LL2	497743.2	2620860	11/15/2007	Intermediate	80	81	ND

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GP-T50-05	LL2	497743.2	2620860	11/15/2007	Intermediate	88	89	ND
GP-T65-001	LL2	504912.3	2614872	3/12/2010	Shallow	51	52	2.5 J
GP-T65-001	LL2	504912.3	2614872	3/12/2010	Shallow	58	59	7.3
GP-T65-001	LL2	504912.3	2614872	3/12/2010	Shallow	65	66	23
GP-T65-001	LL2	504912.3	2614872	3/12/2010	Shallow	72	73	110 J
GP-T65-001	LL2	504912.3	2614872	3/12/2010	Intermediate	79	80	53 J
GP-T65-001	LL2	504912.3	2614872	3/12/2010	Intermediate	86	87	34 J
GP-T65-001	LL2	504912.3	2614872	3/12/2010	Intermediate	93	94	56 J
GP-T65-001	LL2	504912.3	2614872	3/12/2010	Intermediate	100	101	57 J
GP-T65-002	LL2	505081.6	2614751	3/18/2010	Shallow	51	52	36
GP-T65-002	LL2	505081.6	2614751	3/18/2010	Shallow	58	59	37
GP-T65-002	LL2	505081.6	2614751	3/18/2010	Shallow	65	66	100 J
GP-T65-002	LL2	505081.6	2614751	3/17/2010	Shallow	72	73	34
GP-T65-002	LL2	505081.6	2614751	3/17/2010	Intermediate	79	80	28
GP-T65-002	LL2	505081.6	2614751	3/17/2010	Intermediate	86	87	52
GP-T65-002	LL2	505081.6	2614751	3/17/2010	Intermediate	93	94	51
GP-T65-003	LL2	504325.3	2614928	3/15/2010	Shallow	55	56	2 J
GP-T65-003	LL2	504325.3	2614928	3/15/2010	Shallow	62	63	24 J
GP-T65-003	LL2	504325.3	2614928	3/15/2010	Shallow	69	70	42 J
GP-T65-003	LL2	504325.3	2614928	3/15/2010	Shallow	76	77	36 J
GP-T65-003	LL2	504325.3	2614928	3/14/2010	Intermediate	83	84	26
GP-T65-003	LL2	504325.3	2614928	3/14/2010	Intermediate	90	91	18 J
GP-T65-003	LL2	504325.3	2614928	3/14/2010	Intermediate	97	98	0.46 J
GP-T65-004	LL2	504691.2	2614665	3/25/2010	Shallow	50	51	4 J
GP-T65-004	LL2	504691.2	2614665	3/25/2010	Shallow	57	58	11 J
GP-T65-004	LL2	504691.2	2614665	3/25/2010	Shallow	64	65	68
GP-T65-004	LL2	504691.2	2614665	3/25/2010	Shallow	71	72	110 J
GP-T65-004	LL2	504691.2	2614665	3/25/2010	Intermediate	78	79	35 J
GP-T65-004	LL2	504691.2	2614665	3/25/2010	Intermediate	85	86	22 J
GP-T65-004	LL2	504691.2	2614665	3/25/2010	Intermediate	92	93	1.6 J
GP-T65-004	LL2	504691.2	2614665	3/25/2010	Intermediate	99	100	ND
GP-T65-005	LL2	504912.8	2614587	3/24/2010	Shallow	49	50	0.89 J
GP-T65-005	LL2	504912.8	2614587	3/23/2010	Shallow	56	57	3.4 J
GP-T65-005	LL2	504912.8	2614587	3/23/2010	Shallow	63	64	19 J
GP-T65-005	LL2	504912.8	2614587	3/23/2010	Shallow	70	71	110
GP-T65-005	LL2	504912.8	2614587	3/23/2010	Intermediate	77	78	29 J
GP-T65-005	LL2	504912.8	2614587	3/23/2010	Intermediate	84	85	13
GP-T65-005	LL2	504912.8	2614587	3/23/2010	Intermediate	91	92	20 J
GP-T65-005	LL2	504912.8	2614587	3/23/2010	Intermediate	99	100	5.2
GP-T65-006	LL2	504921.3	2615239	3/24/2010	Shallow	49	50	0.89 J
GP-T65-006	LL2	504921.3	2615239	3/24/2010	Shallow	56	57	0.93 J
GP-T65-006	LL2	504921.3	2615239	3/24/2010	Shallow	63	64	2.4 J
GP-T65-006	LL2	504921.3	2615239	3/24/2010	Shallow	63	64	2.5 J
GP-T65-006	LL2	504921.3	2615239	3/24/2010	Shallow	70	71	2.9
GP-T65-006	LL2	504921.3	2615239	3/24/2010	Shallow	70	71	3.2
GP-T65-006	LL2	504921.3	2615239	3/24/2010	Intermediate	78	79	2.9 J

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TCE in Monitoring Wells and Direct-Push Samples (2006-2010)
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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T65-006	LL2	504921.3	2615239	3/24/2010	Intermediate	85	86	14
GP-T65-006	LL2	504921.3	2615239	3/24/2010	Intermediate	92	93	34
GP-T65-006	LL2	504921.3	2615239	3/24/2010	Intermediate	99	100	43
GP-T65-007	LL2	504727.1	2614949	3/19/2010	Shallow	54	55	5.3
GP-T65-007	LL2	504727.1	2614949	3/19/2010	Shallow	61	62	8.5 J
GP-T65-007	LL2	504727.1	2614949	3/19/2010	Shallow	68	69	52 J
GP-T65-007	LL2	504727.1	2614949	3/19/2010	Shallow	75	76	75
GP-T65-007	LL2	504727.1	2614949	3/19/2010	Intermediate	82	83	41
GP-T65-007	LL2	504727.1	2614949	3/19/2010	Intermediate	89	90	31
GP-T65-007	LL2	504727.1	2614949	3/18/2010	Intermediate	96	97	58 J
GP-T65-007	LL2	504727.1	2614949	3/18/2010	Intermediate	103	104	39
GP-T65-008	LL2	504913	2615037	3/23/2010	Shallow	51	52	4.6
GP-T65-008	LL2	504913	2615037	3/22/2010	Shallow	58	59	5.1 J
GP-T65-008	LL2	504913	2615037	3/22/2010	Shallow	65	66	6.1
GP-T65-008	LL2	504913	2615037	3/22/2010	Shallow	72	73	31
GP-T65-008	LL2	504913	2615037	3/22/2010	Intermediate	79	80	110 J
GP-T65-008	LL2	504913	2615037	3/22/2010	Intermediate	86	87	51 J
GP-T65-008	LL2	504913	2615037	3/22/2010	Intermediate	93	94	48 J
GP-T65-008	LL2	504913	2615037	3/22/2010	Intermediate	93	94	49
GP-T65-008	LL2	504913	2615037	3/22/2010	Intermediate	100	101	37
GP-T65-009	LL2	505238.4	2614675	3/23/2010	Shallow	51	52	1.5
GP-T65-009	LL2	505238.4	2614675	3/23/2010	Shallow	58	59	4.3
GP-T65-009	LL2	505238.4	2614675	3/23/2010	Shallow	65	66	23
GP-T65-009	LL2	505238.4	2614675	3/23/2010	Shallow	72	73	60
GP-T65-009	LL2	505238.4	2614675	3/23/2010	Intermediate	79	80	31
GP-T65-009	LL2	505238.4	2614675	3/23/2010	Intermediate	86	87	29
GP-T65-009	LL2	505238.4	2614675	3/23/2010	Intermediate	93	94	27
GP-T65-009	LL2	505238.4	2614675	3/23/2010	Intermediate	100	101	4.1
GP-T65-009	LL2	505238.4	2614675	3/23/2010	Intermediate	100	101	4.5
GP-T65-010	LL2	504904	2614372	3/24/2010	Shallow	46	47	1 J
GP-T65-010	LL2	504904	2614372	3/24/2010	Shallow	53	54	0.69 J
GP-T65-010	LL2	504904	2614372	3/24/2010	Shallow	60	61	3.6 J
GP-T65-010	LL2	504904	2614372	3/24/2010	Shallow	67	68	2.3
GP-T65-010	LL2	504904	2614372	3/24/2010	Intermediate	74	75	4.4 J
GP-T65-010	LL2	504904	2614372	3/24/2010	Intermediate	81	82	5.7 J
GP-T65-010	LL2	504904	2614372	3/24/2010	Intermediate	88	89	5.9
GP-T65-010	LL2	504904	2614372	3/24/2010	Intermediate	95	96	3 J
GP-T65-011	LL2	504475.1	2614582	3/26/2010	Shallow	50	51	1.3
GP-T65-011	LL2	504475.1	2614582	3/26/2010	Shallow	57	58	7.7
GP-T65-011	LL2	504475.1	2614582	3/26/2010	Shallow	64	65	7.7
GP-T65-011	LL2	504475.1	2614582	3/26/2010	Shallow	71	72	33
GP-T65-011	LL2	504475.1	2614582	3/26/2010	Shallow	71	72	34
GP-T65-011	LL2	504475.1	2614582	3/26/2010	Intermediate	78	79	10
GP-T65-011	LL2	504475.1	2614582	3/26/2010	Intermediate	85	86	8.1
GP-T65-011	LL2	504475.1	2614582	3/26/2010	Intermediate	92	93	0.47 J
GP-T65-011	LL2	504475.1	2614582	3/26/2010	Intermediate	99	100	ND

Table 3-2
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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T65-012	LL2	504089.4	2615103	3/29/2010	Shallow	58	59	30
GP-T65-012	LL2	504089.4	2615103	3/29/2010	Shallow	65	66	37
GP-T65-012	LL2	504089.4	2615103	3/29/2010	Shallow	72	73	110
GP-T65-012	LL2	504089.4	2615103	3/29/2010	Shallow	79	80	150
GP-T65-012	LL2	504089.4	2615103	3/29/2010	Intermediate	86	87	99
GP-T65-012	LL2	504089.4	2615103	3/29/2010	Intermediate	93	94	43
GP-T65-012	LL2	504089.4	2615103	3/29/2010	Intermediate	100	101	5.7
GP-T65-012	LL2	504089.4	2615103	3/29/2010	Intermediate	100	101	6.4
GP-T65-013	LL2	504128.8	2614730	3/30/2010	Shallow	51	52	0.5 J
GP-T65-013	LL2	504128.8	2614730	3/30/2010	Shallow	58	59	1.9
GP-T65-013	LL2	504128.8	2614730	3/30/2010	Shallow	65	66	5.5 J
GP-T65-013	LL2	504128.8	2614730	3/30/2010	Shallow	72	73	7
GP-T65-013	LL2	504128.8	2614730	3/30/2010	Intermediate	79	80	14
GP-T65-013	LL2	504128.8	2614730	3/30/2010	Intermediate	86	87	13 J
GP-T65-013	LL2	504128.8	2614730	3/30/2010	Intermediate	93	94	0.48 J
GP-T65-013	LL2	504128.8	2614730	3/30/2010	Intermediate	100	101	0.61 J
GP-T65-014	LL2	504363.2	2615262	4/1/2010	Shallow	58	59	9.7
GP-T65-014	LL2	504363.2	2615262	4/1/2010	Shallow	65	66	28
GP-T65-014	LL2	504363.2	2615262	4/1/2010	Shallow	74	75	94
GP-T65-014	LL2	504363.2	2615262	4/1/2010	Intermediate	79	80	82
GP-T65-014	LL2	504363.2	2615262	4/1/2010	Intermediate	79	80	82
GP-T65-014	LL2	504363.2	2615262	4/1/2010	Intermediate	86	87	72
GP-T65-014	LL2	504363.2	2615262	4/1/2010	Intermediate	93	94	53
GP-T65-015	LL2	503895.4	2615263	5/4/2010	Shallow	50	51	12 J
GP-T65-015	LL2	503895.4	2615263	4/13/2010	Shallow	52	53	12
GP-T65-015	LL2	503895.4	2615263	4/13/2010	Shallow	59	60	34
GP-T65-015	LL2	503895.4	2615263	4/13/2010	Shallow	66	67	110
GP-T65-015	LL2	503895.4	2615263	4/13/2010	Intermediate	73	74	69
GP-T65-015	LL2	503895.4	2615263	4/13/2010	Intermediate	80	81	66
GP-T65-015	LL2	503895.4	2615263	4/13/2010	Intermediate	87	88	52
GP-T65-015	LL2	503895.4	2615263	4/13/2010	Intermediate	94	95	55
GP-T65-016	LL2	504080	2615466	4/14/2010	Shallow	54	55	6.4
GP-T65-016	LL2	504080	2615466	4/14/2010	Shallow	61	62	14
GP-T65-016	LL2	504080	2615466	4/14/2010	Shallow	68	69	120
GP-T65-016	LL2	504080	2615466	4/14/2010	Shallow	75	76	130
GP-T65-016	LL2	504080	2615466	4/14/2010	Intermediate	82	83	110
GP-T65-016	LL2	504080	2615466	4/14/2010	Intermediate	89	90	84
GP-T65-016	LL2	504080	2615466	4/14/2010	Intermediate	94	95	6.3
GP-T65-016	LL2	504080	2615466	4/14/2010	Intermediate	96	97	5
GP-T65-016	LL2	504080	2615466	4/14/2010	Intermediate	96	97	5.2
GP-T65-017	LL2	503697.7	2615401	5/4/2010	Shallow	57	58	30 J
GP-T65-017	LL2	503697.7	2615401	5/4/2010	Shallow	64	65	120 J
GP-T65-017	LL2	503697.7	2615401	5/4/2010	Shallow	71	72	150 J
GP-T65-017	LL2	503697.7	2615401	5/4/2010	Intermediate	78	79	130
GP-T65-017	LL2	503697.7	2615401	5/4/2010	Intermediate	85	86	110 J
GP-T65-017	LL2	503697.7	2615401	5/3/2010	Intermediate	99	100	83 J

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T65-018	LL2	503144.5	2615767	5/6/2010	Shallow	56	57	1.4
GP-T65-018	LL2	503144.5	2615767	5/6/2010	Shallow	63	64	2.2
GP-T65-018	LL2	503144.5	2615767	5/6/2010	Shallow	70	71	5.2
GP-T65-018	LL2	503144.5	2615767	5/6/2010	Shallow	70	71	5.3
GP-T65-018	LL2	503144.5	2615767	5/6/2010	Shallow	70	71	5.4
GP-T65-018	LL2	503144.5	2615767	5/6/2010	Shallow	77	78	5.3
GP-T65-018	LL2	503144.5	2615767	5/6/2010	Shallow	77	78	5.5
GP-T65-018	LL2	503144.5	2615767	5/6/2010	Intermediate	84	85	11
GP-T65-018	LL2	503144.5	2615767	5/6/2010	Intermediate	91	92	6.9
GP-T65-018	LL2	503144.5	2615767	5/6/2010	Intermediate	98	99	12
GP-T65-018	LL2	503144.5	2615767	5/6/2010	Intermediate	105	106	14
GP-T65-019	LL2	502667.6	2616140	5/7/2010	Shallow	56	57	ND
GP-T65-019	LL2	502667.6	2616140	5/7/2010	Shallow	63	64	1.2
GP-T65-019	LL2	502667.6	2616140	5/7/2010	Shallow	70	71	1.6
GP-T65-019	LL2	502667.6	2616140	5/7/2010	Shallow	77	78	ND
GP-T65-019	LL2	502667.6	2616140	5/7/2010	Intermediate	84	85	2.2
GP-T65-019	LL2	502667.6	2616140	5/7/2010	Intermediate	91	92	2.9
GP-T65-019	LL2	502667.6	2616140	5/7/2010	Intermediate	98	99	0.57 J
GP-T66-010	LL2	502092.1	2616182	3/16/2010	Shallow	60	61	ND
GP-T66-010	LL2	502092.1	2616182	3/16/2010	Shallow	67	68	ND
GP-T66-010	LL2	502092.1	2616182	3/16/2010	Shallow	74	75	ND
GP-T66-010	LL2	502092.1	2616182	3/15/2010	Intermediate	81	82	1.2
GP-T66-010	LL2	502092.1	2616182	3/15/2010	Intermediate	88	89	1.9
GP-T66-010	LL2	502092.1	2616182	3/15/2010	Intermediate	95	96	3.2
GP-T67-009	LL2	500648.4	2617421	3/10/2010	Shallow	56	57	ND
GP-T67-009	LL2	500648.4	2617421	3/10/2010	Shallow	62	63	ND
GP-T67-009	LL2	500648.4	2617421	3/10/2010	Shallow	69	70	ND
GP-T67-009	LL2	500648.4	2617421	3/10/2010	Shallow	76	77	ND
GP-T67-009	LL2	500648.4	2617421	3/10/2010	Intermediate	83	84	ND
GP-T67-009	LL2	500648.4	2617421	3/10/2010	Intermediate	90	91	ND
GP-T67-009	LL2	500648.4	2617421	3/10/2010	Intermediate	97	98	ND
GP-T67-009	LL2	500648.4	2617421	3/10/2010	Intermediate	103	104	0.3 J
GP-T67-010	LL2	500702.2	2617547	3/11/2010	Shallow	62	63	ND
GP-T67-010	LL2	500702.2	2617547	3/11/2010	Shallow	76	77	0.36 J
GP-T67-010	LL2	500702.2	2617547	3/11/2010	Shallow	76	77	0.44 J
GP-T67-010	LL2	500702.2	2617547	3/11/2010	Shallow	83	84	1.2
GP-T67-010	LL2	500702.2	2617547	3/11/2010	Intermediate	90	91	3.3
GP-T67-010	LL2	500702.2	2617547	3/11/2010	Intermediate	97	98	1.9
GP-T67-010	LL2	500702.2	2617547	3/11/2010	Intermediate	103	104	2
MW-05A	LL2	507097.6	2613044	5/4/2010	Intermediate	61.8	100.8	1.1
MW-05B	LL2	507097.5	2613054	5/4/2010	Shallow	30	59.3	1.3
MW-144A	LL2	503571	2614012	9/24/2010	Intermediate	91	101	0.35 J
MW-144E	LL2	503573.1	2614020	9/24/2010	Intermediate	75	85	ND
MW-145A	LL2	500652.8	2617408	9/24/2010	Intermediate	85.7	95.7	0.58 J
MW-145E	LL2	500653	2617414	9/24/2010	Intermediate	72	82	0.23 J
MW-146A	LL2	494899.4	2618872	9/24/2010	Intermediate	87	97	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
MW-146B	LL2	494899.4	2618872	9/24/2010	Shallow	67	77	ND
MW-147A	LL2	494474.8	2620042	9/24/2010	Intermediate	90	100	ND
MW-147B	LL2	494471.7	2620045	9/24/2010	Shallow	67	77	ND
MW-20A	LL2	493189.9	2616623	7/12/2010	Intermediate	145	150.4	ND
MW-20B	LL2	493191.5	2616633	7/12/2010	Intermediate	128.6	133.6	ND
MW-20C	LL2	493187.6	2616611	7/12/2010	Shallow	50.3	60.3	1.8
MW-29A	LL2	498383.1	2614470	9/13/2006	Intermediate	122.6	132.6	ND
MW-29B	LL2	498382.4	2614461	3/9/2007	Shallow	64.5	74.5	ND
MW-31A	LL2	503233.7	2617944	2/19/2009	Intermediate	94.5	104.5	ND
MW-31B	LL2	503238.6	2617935	2/19/2009	Shallow	50	60	0.33 J
MW-32A	LL2	499062.3	2619697	2/17/2009	Intermediate	88.5	98.5	2.5
MW-32B	LL2	499069.1	2619697	3/29/2006	Shallow	71	81	0.5 J
MW-66A	LL2	506026.7	2613279	2/20/2009	Intermediate	89	99	0.21 J
MW-67A	LL2	506004.5	2613306	12/10/2007	Intermediate	88	98	ND
MW-67B	LL2	505999.5	2613315	12/10/2007	Shallow	34	64	ND
MW-71B	LL2	506090.3	2613383	2/20/2009	Shallow	36	66	0.41 J
MW-71B	LL2	506090.3	2613383	2/20/2009	Shallow	36	66	0.55 J
MW-82A	LL2	493318.1	2619289	7/8/2010	Intermediate	89.5	94.5	ND
MW-82B	LL2	493325.5	2619285	7/8/2010	Shallow	61.2	65.7	ND
MW-83A	LL2	495274.7	2621924	7/7/2010	Intermediate	103.5	108.5	ND
MW-83B	LL2	495302.8	2621922	7/7/2010	Shallow	75	80	ND
MW-84A	LL2	495685.5	2624278	7/7/2010	Intermediate	87.13	91.13	ND
MW-84B	LL2	495712.9	2624272	7/7/2010	Shallow	66.5	71.5	ND
MW-95A	LL2	494508.6	2617553	7/29/2010	Intermediate	93	103	ND
MW-95B	LL2	494508	2617547	7/29/2010	Shallow	65	75	ND
MW-96A	LL2	493387.7	2621468	7/8/2010	Intermediate	82.5	92.5	ND
MW-96B	LL2	493387.8	2621468	7/8/2010	Shallow	71	81	ND
MW-97A	LL2	493492.8	2623938	7/8/2010	Intermediate	83	93	ND
MW-97B	LL2	493492.4	2623933	7/8/2010	Shallow	68	73	ND
GP-T45-14	LL3	496812.1	2626552	11/14/2007	Shallow	62	63	ND
GP-T45-14	LL3	496812.1	2626552	11/14/2007	Shallow	71	72	ND
GP-T45-14	LL3	496812.1	2626552	11/14/2007	Intermediate	80	81	ND
GP-T45-14	LL3	496812.1	2626552	11/14/2007	Intermediate	89	90	ND
GP-T48-01	LL3	500804.1	2622343	11/15/2007	Shallow	68	69	ND
GP-T48-01	LL3	500804.1	2622343	11/15/2007	Shallow	78	79	ND
GP-T48-01	LL3	500804.1	2622343	11/15/2007	Intermediate	87	88	ND
GP-T48-01	LL3	500804.1	2622343	11/15/2007	Intermediate	97	98	ND
GP-T48-02	LL3	501259.6	2622825	11/19/2007	Shallow	69	70	ND
GP-T48-02	LL3	501259.6	2622825	11/19/2007	Shallow	79	80	ND
GP-T48-02	LL3	501259.6	2622825	11/19/2007	Intermediate	89	90	ND
GP-T48-02	LL3	501259.6	2622825	11/19/2007	Intermediate	99	100	ND
GP-T48-03	LL3	501700.9	2623716	11/19/2007	Shallow	63	64	ND
GP-T48-03	LL3	501700.9	2623716	11/19/2007	Shallow	74	75	ND
GP-T48-03	LL3	501700.9	2623716	11/19/2007	Intermediate	84	85	ND
GP-T48-03	LL3	501700.9	2623716	11/19/2007	Intermediate	94	95	ND
GP-T48-04	LL3	501983.5	2624187	11/15/2007	Shallow	61	62	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T48-04	LL3	501983.5	2624187	11/15/2007	Shallow	72	73	ND
GP-T48-04	LL3	501983.5	2624187	11/15/2007	Intermediate	82	83	ND
GP-T48-04	LL3	501983.5	2624187	11/15/2007	Intermediate	92	93	ND
GP-T49-01	LL3	498873.3	2623179	11/14/2007	Shallow	66	67	ND
GP-T49-01	LL3	498873.3	2623179	11/14/2007	Shallow	75	76	ND
GP-T49-01	LL3	498873.3	2623179	11/14/2007	Intermediate	85	86	ND
GP-T49-01	LL3	498873.3	2623179	11/14/2007	Intermediate	94	95	ND
GP-T49-02	LL3	499278.7	2623956	11/18/2007	Shallow	70	71	ND
GP-T49-02	LL3	499278.7	2623956	11/18/2007	Shallow	80	81	ND
GP-T49-02	LL3	499278.7	2623956	11/18/2007	Intermediate	90	91	ND
GP-T49-02	LL3	499278.7	2623956	11/18/2007	Intermediate	100	101	ND
GP-T49-03	LL3	499764.7	2624217	11/14/2007	Shallow	64	65	ND
GP-T49-03	LL3	499764.7	2624217	11/14/2007	Shallow	74	75	ND
GP-T49-03	LL3	499764.7	2624217	11/14/2007	Intermediate	84	85	ND
GP-T49-03	LL3	499764.7	2624217	11/14/2007	Intermediate	94	95	ND
GP-T51-01	LL3	502872.6	2618914	11/14/2007	Shallow	60	61	ND
GP-T51-01	LL3	502872.6	2618914	11/14/2007	Shallow	71	72	ND
GP-T51-01	LL3	502872.6	2618914	11/14/2007	Intermediate	83	84	ND
GP-T51-01	LL3	502872.6	2618914	11/14/2007	Intermediate	94	95	ND
GP-T51-02	LL3	503597.9	2619536	11/14/2007	Shallow	60	61	ND
GP-T51-02	LL3	503597.9	2619536	11/14/2007	Shallow	72	73	ND
GP-T51-02	LL3	503597.9	2619536	11/14/2007	Intermediate	84	85	ND
GP-T51-02	LL3	503597.9	2619536	11/14/2007	Intermediate	96	97	ND
GP-T51-03	LL3	503780.9	2620354	11/20/2007	Shallow	62	63	ND
GP-T51-03	LL3	503780.9	2620354	11/20/2007	Shallow	74	75	ND
GP-T51-03	LL3	503780.9	2620354	11/20/2007	Intermediate	87	88	ND
GP-T51-03	LL3	503780.9	2620354	11/20/2007	Intermediate	100	101	ND
GP-T51-04	LL3	503828.2	2621179	11/19/2007	Shallow	64	65	ND
GP-T51-04	LL3	503828.2	2621179	11/19/2007	Shallow	76	77	ND
GP-T51-04	LL3	503828.2	2621179	11/19/2007	Intermediate	89	90	ND
GP-T51-04	LL3	503828.2	2621179	11/19/2007	Intermediate	102	103	ND
GP-T75-001	LL3	504421.9	2619750	4/16/2010	Shallow	60	61	ND
GP-T75-001	LL3	504421.9	2619750	4/16/2010	Intermediate	80	81	ND
GP-T75-001	LL3	504421.9	2619750	4/16/2010	Intermediate	100	101	ND
GP-T75-002	LL3	504432.8	2620166	4/15/2010	Shallow	67	68	ND
GP-T75-002	LL3	504432.8	2620166	4/15/2010	Intermediate	87	88	ND
GP-T75-003	LL3	504449.2	2620631	4/15/2010	Shallow	67	68	ND
GP-T75-003	LL3	504449.2	2620631	4/15/2010	Intermediate	97	98	ND
GP-T76-001	LL3	502703.4	2620985	4/16/2010	Shallow	57	58	ND
GP-T76-001	LL3	502703.4	2620985	4/16/2010	Intermediate	77	78	ND
GP-T76-001	LL3	502703.4	2620985	4/16/2010	Intermediate	97	98	ND
GP-T76-002	LL3	502722.9	2621348	4/19/2010	Shallow	61	62	ND
GP-T76-002	LL3	502722.9	2621348	4/16/2010	Intermediate	81	82	ND
GP-T76-002	LL3	502722.9	2621348	4/16/2010	Intermediate	101	102	ND
GP-T76-003	LL3	502772.9	2621870	4/16/2010	Shallow	62	63	ND
GP-T76-003	LL3	502772.9	2621870	4/16/2010	Intermediate	82	83	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T76-003	LL3	502772.9	2621870	4/16/2010	Intermediate	102	103	ND
GP-T76-004	LL3	503043.1	2622154	4/16/2010	Shallow	53	54	ND
GP-T76-004	LL3	503043.1	2622154	4/16/2010	Shallow	63	64	3
GP-T76-004	LL3	503043.1	2622154	4/16/2010	Shallow	73	74	2.8
GP-T76-004	LL3	503043.1	2622154	4/15/2010	Intermediate	83	84	ND
GP-T76-004	LL3	503043.1	2622154	4/15/2010	Intermediate	103	104	0.44 J
GP-T76-005	LL3	503385.3	2622409	4/19/2010	Shallow	64	65	2.7
GP-T76-005	LL3	503385.3	2622409	4/19/2010	Intermediate	84	85	ND
GP-T76-005	LL3	503385.3	2622409	4/19/2010	Intermediate	94	95	ND
GP-T77-004	LL3	502392.3	2622715	4/28/2010	Shallow	46	47	ND
GP-T77-004	LL3	502392.3	2622715	4/28/2010	Shallow	56	57	ND
GP-T77-004	LL3	502392.3	2622715	4/28/2010	Shallow	66	67	ND
GP-T77-004	LL3	502392.3	2622715	4/28/2010	Intermediate	76	77	2.1 J
GP-T77-004	LL3	502392.3	2622715	4/28/2010	Intermediate	86	87	0.86 J
GP-T77-004	LL3	502392.3	2622715	4/28/2010	Intermediate	96	97	ND
GP-T77-005	LL3	502656.6	2623011	4/28/2010	Shallow	50	51	110
GP-T77-005	LL3	502656.6	2623011	4/28/2010	Shallow	60	61	100
GP-T77-005	LL3	502656.6	2623011	4/28/2010	Shallow	60	61	95
GP-T77-005	LL3	502656.6	2623011	4/28/2010	Shallow	70	71	26
GP-T77-005	LL3	502656.6	2623011	4/28/2010	Intermediate	80	81	3.7
GP-T77-005	LL3	502656.6	2623011	4/28/2010	Intermediate	90	91	ND
GP-T77-005	LL3	502656.6	2623011	4/28/2010	Intermediate	100	101	ND
GP-T77-006	LL3	503029.4	2623352	6/29/2010	Shallow	59	60	ND
GP-T77-006	LL3	503029.4	2623352	6/29/2010	Shallow	69	70	ND
GP-T77-006	LL3	503029.4	2623352	6/29/2010	Intermediate	79	80	ND
GP-T77-006	LL3	503029.4	2623352	6/29/2010	Intermediate	89	90	ND
GP-T77-006	LL3	503029.4	2623352	6/29/2010	Intermediate	99	100	ND
GP-T77-007	LL3	503339	2623594	6/29/2010	Shallow	53	54	ND
GP-T77-007	LL3	503339	2623594	6/29/2010	Shallow	63	64	ND
GP-T77-007	LL3	503339	2623594	6/29/2010	Intermediate	73	74	ND
GP-T77-007	LL3	503339	2623594	6/29/2010	Intermediate	83	84	ND
GP-T77-007	LL3	503339	2623594	6/29/2010	Intermediate	93	94	ND
GP-T77-008	LL3	501140.1	2621640	8/17/2010	Shallow	57	58	ND
GP-T77-008	LL3	501140.1	2621640	8/17/2010	Shallow	57	58	ND
GP-T77-008	LL3	501140.1	2621640	8/17/2010	Shallow	67	68	ND
GP-T77-008	LL3	501140.1	2621640	8/17/2010	Shallow	67	68	ND
GP-T77-008	LL3	501140.1	2621640	8/17/2010	Intermediate	77	78	ND
GP-T77-008	LL3	501140.1	2621640	8/17/2010	Intermediate	77	78	ND
GP-T77-008	LL3	501140.1	2621640	8/17/2010	Intermediate	87	88	ND
GP-T77-008	LL3	501140.1	2621640	8/17/2010	Intermediate	87	88	ND
GP-T77-008	LL3	501140.1	2621640	8/17/2010	Intermediate	97	98	ND
GP-T77-008	LL3	501140.1	2621640	8/17/2010	Intermediate	97	98	ND
GP-T78-003	LL3	500318.8	2624202	7/30/2010	Shallow	56	57	ND
GP-T78-003	LL3	500318.8	2624202	7/30/2010	Shallow	66	67	ND
GP-T78-003	LL3	500318.8	2624202	7/30/2010	Intermediate	76	77	ND
GP-T78-003	LL3	500318.8	2624202	7/30/2010	Intermediate	86	87	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T78-003	LL3	500318.8	2624202	7/30/2010	Intermediate	96	97	ND
GP-T78-004	LL3	500780.9	2624185	6/4/2010	Shallow	55	56	0.86 J
GP-T78-004	LL3	500780.9	2624185	6/4/2010	Shallow	65	66	4.1
GP-T78-004	LL3	500780.9	2624185	6/4/2010	Intermediate	75	76	5.9
GP-T78-004	LL3	500780.9	2624185	6/4/2010	Intermediate	85	86	5.4
GP-T78-004	LL3	500780.9	2624185	6/3/2010	Intermediate	95	96	3
GP-T78-005	LL3	501267	2624164	6/3/2010	Shallow	57	58	0.46 J
GP-T78-005	LL3	501267	2624164	6/3/2010	Shallow	67	68	1.1 J
GP-T78-005	LL3	501267	2624164	6/3/2010	Intermediate	77	78	0.45 J
GP-T78-005	LL3	501267	2624164	6/3/2010	Intermediate	87	88	1.1 J
GP-T78-005	LL3	501267	2624164	6/3/2010	Intermediate	97	98	2
GP-T85-001	LL3	501488.1	2623133	8/18/2010	Shallow	57	58	ND
GP-T85-001	LL3	501488.1	2623133	8/18/2010	Shallow	57	58	ND
GP-T85-001	LL3	501488.1	2623133	8/18/2010	Shallow	67	68	ND
GP-T85-001	LL3	501488.1	2623133	8/18/2010	Shallow	67	68	ND
GP-T85-001	LL3	501488.1	2623133	8/18/2010	Intermediate	77	78	ND
GP-T85-001	LL3	501488.1	2623133	8/18/2010	Intermediate	77	78	ND
GP-T85-001	LL3	501488.1	2623133	8/18/2010	Intermediate	87	88	ND
GP-T85-001	LL3	501488.1	2623133	8/18/2010	Intermediate	87	88	ND
GP-T85-001	LL3	501488.1	2623133	8/18/2010	Intermediate	97	98	ND
GP-T85-001	LL3	501488.1	2623133	8/18/2010	Intermediate	97	98	ND
GP-T85-002	LL3	501746	2623523	8/18/2010	Shallow	59	60	0.34 J
GP-T85-002	LL3	501746	2623523	8/18/2010	Shallow	59	60	0.34 J
GP-T85-002	LL3	501746	2623523	8/18/2010	Shallow	69	70	2.8
GP-T85-002	LL3	501746	2623523	8/18/2010	Shallow	69	70	2.8
GP-T85-002	LL3	501746	2623523	8/18/2010	Intermediate	79	80	16
GP-T85-002	LL3	501746	2623523	8/18/2010	Intermediate	79	80	16
GP-T85-002	LL3	501746	2623523	8/18/2010	Intermediate	89	90	0.75 J
GP-T85-002	LL3	501746	2623523	8/18/2010	Intermediate	89	90	0.75 J
GP-T85-002	LL3	501746	2623523	8/18/2010	Intermediate	99	100	0.67 J
GP-T85-002	LL3	501746	2623523	8/18/2010	Intermediate	99	100	0.67 J
GP-T85-003	LL3	502024.1	2623825	8/19/2010	Shallow	53	54	ND
GP-T85-003	LL3	502024.1	2623825	8/19/2010	Shallow	63	64	ND
GP-T85-003	LL3	502024.1	2623825	8/19/2010	Shallow	73	74	ND
GP-T85-003	LL3	502024.1	2623825	8/19/2010	Intermediate	83	84	ND
GP-T85-003	LL3	502024.1	2623825	8/19/2010	Intermediate	93	94	ND
GP-T85-003	LL3	502024.1	2623825	8/19/2010	Intermediate	103	104	ND
GP-T85-004	LL3	502263.8	2624103	8/19/2010	Shallow	47	48	ND
GP-T85-004	LL3	502263.8	2624103	8/19/2010	Shallow	57	58	ND
GP-T85-004	LL3	502263.8	2624103	8/19/2010	Shallow	67	68	ND
GP-T85-004	LL3	502263.8	2624103	8/19/2010	Intermediate	77	78	ND
GP-T85-004	LL3	502263.8	2624103	8/19/2010	Intermediate	87	88	ND
GP-T85-004	LL3	502263.8	2624103	8/19/2010	Intermediate	97	98	ND
MW-06A	LL3	506522.1	2617376	5/4/2010	Intermediate	61	100	ND
MW-06B	LL3	506525.5	2617385	5/4/2010	Shallow	34.8	64	ND
MW-100A	LL3	493770.4	2629719	7/7/2010	Intermediate	83	93	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
MW-100B	LL3	493777.2	2629718	7/7/2010	Shallow	65	75	ND
MW-117A	LL3	495048	2631041	7/22/2010	Intermediate	66	76	ND
MW-117B	LL3	495054	2631041	7/22/2010	Shallow	43	53	ND
MW-118A	LL3	496207.7	2625890	7/29/2010	Intermediate	84.75	95.25	ND
MW-118B	LL3	496207.8	2625885	7/29/2010	Shallow	70	75	ND
MW-143B	LL3	502719.8	2621340	9/24/2010	Shallow	52	62	0.22 J
MW-148B	LL3	504425.8	2620180	9/24/2010	Shallow	65	75	ND
MW-149A	LL3	502086.8	2622398	9/24/2010	Intermediate	80	90	ND
MW-150A	LL3	499856.6	2624201	9/24/2010	Intermediate	80	90	ND
MW-150B	LL3	499864.1	2624201	9/24/2010	Shallow	65	75	ND
MW-33A	LL3	502847.9	2622411	8/15/2008	Intermediate	100.5	110.5	0.54 J
MW-33B	LL3	502854.8	2622401	8/15/2008	Shallow	73.5	83.5	1.1 J
MW-34A	LL3	498806.3	2624443	3/29/2006	Intermediate	102	112	ND
MW-34B	LL3	498814.1	2624443	3/29/2006	Shallow	65	75	ND
MW-35A	LL3	496323.6	2629596	7/14/2010	Intermediate	81.5	91.5	ND
MW-35B	LL3	496329.4	2629596	7/14/2010	Shallow	57	67	ND
MW-85A	LL3	494439	2628327	7/7/2010	Intermediate	81	86	ND
MW-85B	LL3	494449.8	2628315	7/7/2010	Shallow	62	67	ND
MW-98A	LL3	493604.9	2626495	7/8/2010	Intermediate	82	92	ND
MW-98B	LL3	493605.3	2626489	7/8/2010	Shallow	64	69	ND
EW-1	LL4	495188	2634923	8/2/2010	Intermediate			5.4
GP-MW-157	LL4	499117.6	2632549	8/5/2010	Shallow	26	27	3.2
GP-MW-157	LL4	499117.6	2632549	8/5/2010	Shallow	36	37	5.2
GP-MW-157	LL4	499117.6	2632549	8/5/2010	Intermediate	46	47	22
GP-MW-157	LL4	499117.6	2632549	8/5/2010	Intermediate	46	47	24
GP-MW-157	LL4	499117.6	2632549	8/5/2010	Intermediate	56	57	93
GP-T01-17	LL4	496431.7	2632681	3/15/2006	Shallow	24	25	ND
GP-T01-17	LL4	496431.7	2632681	3/15/2006	Shallow	34	35	ND
GP-T01-17	LL4	496431.7	2632681	3/15/2006	Intermediate	44	45	ND
GP-T01-18	LL4	496201.5	2632725	3/15/2006	Shallow	24	25	ND
GP-T01-18	LL4	496201.5	2632725	3/15/2006	Intermediate	34	35	ND
GP-T01-18	LL4	496201.5	2632725	3/15/2006	Intermediate	42	43	ND
GP-T01-19	LL4	496215.6	2632979	3/15/2006	Shallow	19	20	ND
GP-T01-19	LL4	496215.6	2632979	3/15/2006	Intermediate	27	28	ND
GP-T01-19	LL4	496215.6	2632979	3/15/2006	Intermediate	37	38	ND
GP-T02-06	LL4	501941.9	2629370	4/7/2006	Intermediate	64	65	5.7
GP-T02-06	LL4	501941.9	2629370	4/7/2006	Shallow	64	65	1
GP-T02-06	LL4	501941.9	2629370	4/7/2006	Intermediate	83	84	4
GP-T02-06	LL4	501941.9	2629370	4/7/2006	Intermediate	102	103	26
GP-T02-07	LL4	502468.6	2629364	4/7/2006	Shallow	59	60	17
GP-T02-07	LL4	502468.6	2629364	4/7/2006	Intermediate	79	80	110
GP-T02-07	LL4	502468.6	2629364	4/7/2006	Intermediate	99	100	118
GP-T02-08	LL4	502902.7	2629340	4/7/2006	Shallow	59	60	68
GP-T02-08	LL4	502902.7	2629340	4/7/2006	Intermediate	79	80	980 D
GP-T02-08	LL4	502902.7	2629340	4/7/2006	Intermediate	79	80	305
GP-T02-08	LL4	502902.7	2629340	4/7/2006	Intermediate	97	98	252

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T02-09	LL4	503325.1	2629317	4/7/2006	Shallow	59	60	29
GP-T02-09	LL4	503325.1	2629317	4/7/2006	Intermediate	79	80	55
GP-T02-09	LL4	503325.1	2629317	4/7/2006	Intermediate	96	97	49
GP-T13-10	LL4	501518.8	2632669	4/9/2006	Shallow	36	37	27
GP-T13-10	LL4	501518.8	2632669	4/9/2006	Intermediate	49	50	31
GP-T13-10	LL4	501518.8	2632669	4/9/2006	Intermediate	61	62	30
GP-T13-11	LL4	501983.4	2632897	4/9/2006	Shallow	39	40	3
GP-T13-11	LL4	501983.4	2632897	4/9/2006	Intermediate	51	52	7
GP-T13-11	LL4	501983.4	2632897	4/9/2006	Intermediate	64	65	4
GP-T13-12	LL4	502540.3	2633149	4/9/2006	Shallow	23	24	ND
GP-T13-12	LL4	502540.3	2633149	4/9/2006	Intermediate	40	41	3
GP-T13-12	LL4	502540.3	2633149	4/9/2006	Intermediate	56	57	6
GP-T16-11	LL4	505770.2	2629678	4/7/2006	Shallow	55	56	13
GP-T16-11	LL4	505770.2	2629678	4/7/2006	Shallow	55	56	28
GP-T16-12	LL4	506202	2629950	4/13/2006	Shallow	59	60	ND
GP-T16-12	LL4	506202	2629950	4/13/2006	Intermediate	79	80	ND
GP-T16-12	LL4	506202	2629950	4/13/2006	Intermediate	99	100	ND
GP-T16-13	LL4	506691.3	2630554	4/7/2006	Shallow	44	45	ND
GP-T16-13	LL4	506691.3	2630554	4/7/2006	Intermediate	60	61	ND
GP-T16-13	LL4	506691.3	2630554	4/7/2006	Intermediate	77	78	ND
GP-T17-01	LL4	512412.5	2618955	3/27/2006	Shallow	59	60	ND
GP-T17-01	LL4	512412.5	2618955	3/27/2006	Shallow	68	69	ND
GP-T17-01	LL4	512412.5	2618955	3/27/2006	Intermediate	82	83	ND
GP-T17-02	LL4	512715.2	2619392	3/28/2006	Shallow	54	55	ND
GP-T17-02	LL4	512715.2	2619392	3/28/2006	Intermediate	67	68	ND
GP-T17-02	LL4	512715.2	2619392	3/28/2006	Intermediate	80	81	ND
GP-T17-03	LL4	513014.4	2619804	3/28/2006	Shallow	49	50	ND
GP-T17-03	LL4	513014.4	2619804	3/28/2006	Intermediate	68	69	ND
GP-T17-03	LL4	513014.4	2619804	3/28/2006	Intermediate	87	88	ND
GP-T17-04	LL4	513293.4	2620180	3/28/2006	Shallow	49	50	ND
GP-T17-04	LL4	513293.4	2620180	3/28/2006	Intermediate	69	70	ND
GP-T17-04	LL4	513293.4	2620180	3/28/2006	Intermediate	88	89	ND
GP-T17-05	LL4	513603.5	2620595	3/28/2006	Shallow	54	55	1
GP-T17-05	LL4	513603.5	2620595	3/28/2006	Intermediate	63	64	6
GP-T17-05	LL4	513603.5	2620595	3/28/2006	Intermediate	72	73	7
GP-T17-06	LL4	513740.3	2620785	3/29/2006	Shallow	54	55	4
GP-T17-06	LL4	513740.3	2620785	3/29/2006	Intermediate	61	62	2
GP-T17-06	LL4	513740.3	2620785	3/29/2006	Intermediate	68	69	ND
GP-T17-07	LL4	513870.2	2620964	3/29/2006	Shallow	51	52	16
GP-T17-07	LL4	513870.2	2620964	3/29/2006	Intermediate	59	60	244
GP-T17-07	LL4	513870.2	2620964	3/29/2006	Intermediate	67	68	216
GP-T17-08	LL4	514035.4	2621183	3/29/2006	Shallow	51	52	138
GP-T17-08	LL4	514035.4	2621183	3/29/2006	Intermediate	63	64	329
GP-T17-08	LL4	514035.4	2621183	3/29/2006	Intermediate	75	76	133
GP-T17-08	LL4	514035.4	2621183	3/29/2006	Intermediate	75	76	140
GP-T17-09	LL4	514176.2	2621363	3/29/2006	Shallow	49	50	430

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T17-09	LL4	514176.2	2621363	3/29/2006	Intermediate	61	62	800
GP-T17-09	LL4	514176.2	2621363	3/29/2006	Intermediate	72	73	1400 D
GP-T17-09	LL4	514176.2	2621363	3/29/2006	Intermediate	72	73	900 J
GP-T17-10	LL4	514334.7	2621568	3/29/2006	Shallow	49	50	310
GP-T17-10	LL4	514334.7	2621568	3/29/2006	Intermediate	62	63	770
GP-T17-10	LL4	514334.7	2621568	3/29/2006	Intermediate	76	77	216
GP-T17-11	LL4	514642.2	2621937	3/31/2006	Shallow	48	49	30
GP-T17-11	LL4	514642.2	2621937	3/31/2006	Intermediate	63	64	17
GP-T17-11	LL4	514642.2	2621937	3/31/2006	Intermediate	78	79	ND
GP-T17-12	LL4	514869.2	2622316	3/31/2006	Shallow	46	47	ND
GP-T17-12	LL4	514869.2	2622316	3/31/2006	Intermediate	59	60	ND
GP-T17-12	LL4	514869.2	2622316	3/31/2006	Intermediate	72	73	ND
GP-T17-13	LL4	515121.5	2622675	3/31/2006	Shallow	44	45	ND
GP-T17-13	LL4	515121.5	2622675	3/31/2006	Intermediate	59	60	ND
GP-T17-13	LL4	515121.5	2622675	3/31/2006	Intermediate	74	75	ND
GP-T18-01	LL4	509406.8	2621319	3/27/2006	Shallow	59	60	ND
GP-T18-01	LL4	509406.8	2621319	3/27/2006	Intermediate	85	86	ND
GP-T18-01	LL4	509406.8	2621319	3/27/2006	Intermediate	112	113	ND
GP-T18-02	LL4	509659.1	2621937	3/27/2006	Shallow	59	60	ND
GP-T18-02	LL4	509659.1	2621937	3/27/2006	Intermediate	85	86	0.28 J
GP-T18-02	LL4	509659.1	2621937	3/27/2006	Intermediate	85	86	ND
GP-T18-02	LL4	509659.1	2621937	3/27/2006	Intermediate	111	112	ND
GP-T18-03	LL4	510041.3	2622105	3/27/2006	Shallow	59	60	39
GP-T18-03	LL4	510041.3	2622105	3/27/2006	Intermediate	84	85	150 D
GP-T18-03	LL4	510041.3	2622105	3/27/2006	Intermediate	84	85	93
GP-T18-03	LL4	510041.3	2622105	3/27/2006	Intermediate	110	111	6
GP-T18-04	LL4	510350.9	2622591	3/28/2006	Shallow	59	60	16
GP-T18-04	LL4	510350.9	2622591	3/28/2006	Intermediate	84	85	260 D
GP-T18-04	LL4	510350.9	2622591	3/28/2006	Intermediate	84	85	300 D
GP-T18-04	LL4	510350.9	2622591	3/28/2006	Intermediate	84	85	246
GP-T18-04	LL4	510350.9	2622591	3/28/2006	Intermediate	109	110	52
GP-T18-05	LL4	510659.8	2622933	3/28/2006	Shallow	59	60	10000 D
GP-T18-05	LL4	510659.8	2622933	3/28/2006	Shallow	59	60	1500 J
GP-T18-05	LL4	510659.8	2622933	3/28/2006	Intermediate	84	85	1100 J
GP-T18-05	LL4	510659.8	2622933	3/28/2006	Intermediate	108	109	820 J
GP-T18-05	LL4	510659.8	2622933	3/28/2006	Intermediate	108	109	1300 J
GP-T18-06	LL4	510825.6	2623131	3/28/2006	Shallow	59	60	6200 D
GP-T18-06	LL4	510825.6	2623131	3/28/2006	Shallow	59	60	1700 J
GP-T18-06	LL4	510825.6	2623131	3/28/2006	Intermediate	84	85	58
GP-T18-06	LL4	510825.6	2623131	3/28/2006	Intermediate	107	108	52
GP-T18-07	LL4	510995.5	2623320	3/28/2006	Shallow	59	60	175
GP-T18-07	LL4	510995.5	2623320	3/28/2006	Intermediate	84	85	18
GP-T18-07	LL4	510995.5	2623320	3/28/2006	Intermediate	109	110	5
GP-T18-08	LL4	511165	2623509	3/19/2006	Shallow	54	55	61
GP-T18-08	LL4	511165	2623509	3/19/2006	Intermediate	79	80	190
GP-T18-08	LL4	511165	2623509	3/19/2006	Intermediate	79	80	216

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T18-08	LL4	511165	2623509	3/19/2006	Intermediate	105	106	13
GP-T18-09	LL4	511321.4	2623680	3/19/2006	Shallow	54	55	67
GP-T18-09	LL4	511321.4	2623680	3/19/2006	Shallow	54	55	70
GP-T18-09	LL4	511321.4	2623680	3/19/2006	Intermediate	78	79	150 D
GP-T18-09	LL4	511321.4	2623680	3/19/2006	Intermediate	78	79	160 D
GP-T18-09	LL4	511321.4	2623680	3/19/2006	Intermediate	78	79	170
GP-T18-09	LL4	511321.4	2623680	3/19/2006	Intermediate	102	103	3
GP-T18-10	LL4	511626.9	2624021	3/19/2006	Shallow	54	55	7
GP-T18-10	LL4	511626.9	2624021	3/19/2006	Intermediate	72	73	ND
GP-T18-10	LL4	511626.9	2624021	3/19/2006	Intermediate	91	92	ND
GP-T18-11	LL4	512302.1	2624630	3/18/2006	Shallow	49	50	1
GP-T18-11	LL4	512302.1	2624630	3/18/2006	Intermediate	66	67	ND
GP-T18-11	LL4	512302.1	2624630	3/18/2006	Intermediate	83	84	ND
GP-T18-12	LL4	513015.5	2625276	3/17/2006	Shallow	39	40	ND
GP-T18-12	LL4	513015.5	2625276	3/17/2006	Intermediate	62	63	ND
GP-T18-12	LL4	513015.5	2625276	3/17/2006	Intermediate	85	86	ND
GP-T19-01	LL4	507534.4	2622763	3/19/2006	Shallow	64	65	ND
GP-T19-01	LL4	507534.4	2622763	3/19/2006	Intermediate	86	87	ND
GP-T19-01	LL4	507534.4	2622763	3/19/2006	Intermediate	108	109	ND
GP-T19-02	LL4	507839.3	2623161	3/19/2006	Shallow	64	65	ND
GP-T19-02	LL4	507839.3	2623161	3/19/2006	Intermediate	87	88	9
GP-T19-02	LL4	507839.3	2623161	3/19/2006	Intermediate	111	112	65
GP-T19-02	LL4	507839.3	2623161	3/19/2006	Intermediate	111	112	82
GP-T19-03	LL4	508151.7	2623576	3/27/2006	Shallow	64	65	200
GP-T19-03	LL4	508151.7	2623576	3/27/2006	Intermediate	90	91	630 D
GP-T19-03	LL4	508151.7	2623576	3/27/2006	Intermediate	90	91	490
GP-T19-03	LL4	508151.7	2623576	3/27/2006	Intermediate	115	116	1
GP-T19-04	LL4	508440.3	2623950	3/15/2006	Shallow	59	60	150
GP-T19-04	LL4	508440.3	2623950	3/15/2006	Intermediate	75	76	250 D
GP-T19-04	LL4	508440.3	2623950	3/15/2006	Intermediate	75	76	151
GP-T19-04	LL4	508440.3	2623950	3/15/2006	Intermediate	92	93	107
GP-T19-05	LL4	508771.2	2624375	3/15/2006	Shallow	59	60	75
GP-T19-05	LL4	508771.2	2624375	3/15/2006	Intermediate	64	65	56
GP-T19-05	LL4	508771.2	2624375	3/15/2006	Intermediate	64	65	63
GP-T19-05	LL4	508771.2	2624375	3/15/2006	Intermediate	69	70	63
GP-T19-06	LL4	509053.3	2624728	3/15/2006	Shallow	59	60	2
GP-T19-06	LL4	509053.3	2624728	3/15/2006	Intermediate	64	65	5
GP-T19-06	LL4	509053.3	2624728	3/15/2006	Intermediate	69	70	2
GP-T19-06	LL4	509053.3	2624728	3/15/2006	Intermediate	69	70	8
GP-T19-07	LL4	509334.7	2625143	3/15/2006	Shallow	59	60	ND
GP-T19-07	LL4	509334.7	2625143	3/15/2006	Intermediate	64	65	ND
GP-T19-07	LL4	509334.7	2625143	3/15/2006	Intermediate	69	70	ND
GP-T19-08	LL4	509630.6	2625458	3/18/2006	Shallow	44	45	ND
GP-T19-08	LL4	509630.6	2625458	3/18/2006	Intermediate	51	52	ND
GP-T19-08	LL4	509630.6	2625458	3/18/2006	Intermediate	57	58	ND
GP-T19-09	LL4	509964.9	2625794	3/18/2006	Shallow	41	42	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T19-09	LL4	509964.9	2625794	3/18/2006	Intermediate	47	48	ND
GP-T19-09	LL4	509964.9	2625794	3/18/2006	Intermediate	53	54	ND
GP-T19-10	LL4	510332.9	2626217	3/18/2006	Shallow	39	40	ND
GP-T19-10	LL4	510332.9	2626217	3/18/2006	Intermediate	45	46	ND
GP-T19-10	LL4	510332.9	2626217	3/18/2006	Intermediate	52	53	ND
GP-T19-11	LL4	510919.8	2627092	3/17/2006	Shallow	34	35	ND
GP-T19-11	LL4	510919.8	2627092	3/17/2006	Intermediate	57	58	ND
GP-T19-11	LL4	510919.8	2627092	3/17/2006	Intermediate	80	81	ND
GP-T20-01	LL4	505463.9	2623130	3/29/2006	Shallow	69	70	ND
GP-T20-01	LL4	505463.9	2623130	3/29/2006	Intermediate	90	91	ND
GP-T20-01	LL4	505463.9	2623130	3/29/2006	Intermediate	111	112	ND
GP-T20-02	LL4	505819.3	2623536	3/29/2006	Shallow	64	65	ND
GP-T20-02	LL4	505819.3	2623536	3/29/2006	Intermediate	86	87	ND
GP-T20-02	LL4	505819.3	2623536	3/29/2006	Intermediate	107	108	ND
GP-T20-03	LL4	506156.5	2623910	3/29/2006	Shallow	54	55	ND
GP-T20-03	LL4	506156.5	2623910	3/29/2006	Intermediate	77	78	1
GP-T20-03	LL4	506156.5	2623910	3/29/2006	Intermediate	99	100	3
GP-T20-04	LL4	506626.6	2624238	3/31/2006	Shallow	64	65	243
GP-T20-04	LL4	506626.6	2624238	3/31/2006	Intermediate	87	88	2600 D
GP-T20-04	LL4	506626.6	2624238	3/31/2006	Intermediate	87	88	1450
GP-T20-04	LL4	506626.6	2624238	3/31/2006	Intermediate	87	88	1470
GP-T20-04	LL4	506626.6	2624238	3/31/2006	Intermediate	110	111	1400
GP-T20-05	LL4	506791.2	2624646	3/16/2006	Shallow	54	55	3
GP-T20-05	LL4	506791.2	2624646	3/16/2006	Intermediate	76	77	310 D
GP-T20-05	LL4	506791.2	2624646	3/16/2006	Intermediate	76	77	195
GP-T20-05	LL4	506791.2	2624646	3/16/2006	Intermediate	98	99	77
GP-T20-06	LL4	507062.7	2625086	3/16/2006	Shallow	58	59	9
GP-T20-06	LL4	507062.7	2625086	3/16/2006	Shallow	64	65	47
GP-T20-06	LL4	507062.7	2625086	3/16/2006	Intermediate	73	74	190 D
GP-T20-06	LL4	507062.7	2625086	3/16/2006	Intermediate	73	74	137
GP-T20-07	LL4	507317.7	2625465	3/16/2006	Shallow	59	60	5
GP-T20-07	LL4	507317.7	2625465	3/16/2006	Shallow	59	60	7
GP-T20-07	LL4	507317.7	2625465	3/16/2006	Intermediate	64	65	59
GP-T20-07	LL4	507317.7	2625465	3/16/2006	Intermediate	69	70	98
GP-T20-08	LL4	507579.8	2625859	3/16/2006	Shallow	59	60	2
GP-T20-08	LL4	507579.8	2625859	3/16/2006	Intermediate	66	67	3
GP-T20-08	LL4	507579.8	2625859	3/16/2006	Intermediate	73	74	24
GP-T20-09	LL4	507906.9	2626356	3/18/2006	Shallow	59	60	ND
GP-T20-09	LL4	507906.9	2626356	3/18/2006	Intermediate	67	68	ND
GP-T20-09	LL4	507906.9	2626356	3/18/2006	Intermediate	75	76	ND
GP-T20-10	LL4	508238.9	2626763	3/18/2006	Shallow	54	55	ND
GP-T20-10	LL4	508238.9	2626763	3/18/2006	Intermediate	62	63	ND
GP-T20-10	LL4	508238.9	2626763	3/18/2006	Intermediate	69	70	ND
GP-T20-11	LL4	508559.7	2627149	3/18/2006	Shallow	54	55	ND
GP-T20-11	LL4	508559.7	2627149	3/18/2006	Intermediate	72	73	4
GP-T20-11	LL4	508559.7	2627149	3/18/2006	Intermediate	90	91	19

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T20-13	LL4	509096.7	2628018	3/17/2006	Shallow	34	35	ND
GP-T20-13	LL4	509096.7	2628018	3/17/2006	Intermediate	50	51	ND
GP-T20-13	LL4	509096.7	2628018	3/17/2006	Intermediate	65	66	ND
GP-T20-14	LL4	509356.1	2628409	3/17/2006	Shallow	38	39	ND
GP-T20-14	LL4	509356.1	2628409	3/17/2006	Intermediate	52	53	ND
GP-T20-14	LL4	509356.1	2628409	3/17/2006	Intermediate	71	72	ND
GP-T21-01	LL4	505245.8	2630721	4/13/2006	Shallow	64	65	ND
GP-T21-01	LL4	505245.8	2630721	4/13/2006	Intermediate	80	81	ND
GP-T21-01	LL4	505245.8	2630721	4/13/2006	Intermediate	96	97	ND
GP-T21-02	LL4	505824.1	2631110	4/7/2006	Shallow	54	55	5
GP-T21-02	LL4	505824.1	2631110	4/7/2006	Intermediate	75	76	1
GP-T21-02	LL4	505824.1	2631110	4/7/2006	Intermediate	96	97	ND
GP-T21-03	LL4	506054.6	2631437	4/8/2006	Shallow	54	55	ND
GP-T21-03	LL4	506054.6	2631437	4/8/2006	Intermediate	74	75	ND
GP-T21-03	LL4	506054.6	2631437	4/7/2006	Intermediate	94	95	ND
GP-T21-04	LL4	506273.8	2631674	4/13/2006	Shallow	64	65	ND
GP-T21-04	LL4	506273.8	2631674	4/13/2006	Intermediate	79	80	ND
GP-T21-04	LL4	506273.8	2631674	4/13/2006	Intermediate	95	96	ND
GP-T22-01	LL4	504375.8	2631532	4/8/2006	Shallow	55	56	13
GP-T22-01	LL4	504375.8	2631532	4/8/2006	Shallow	55	56	27
GP-T22-01	LL4	504375.8	2631532	4/8/2006	Intermediate	75	76	5
GP-T22-01	LL4	504375.8	2631532	4/8/2006	Intermediate	95	96	2
GP-T22-02	LL4	504870.5	2631980	4/8/2006	Shallow	55	56	ND
GP-T22-02	LL4	504870.5	2631980	4/8/2006	Intermediate	75	76	ND
GP-T22-02	LL4	504870.5	2631980	4/8/2006	Intermediate	95	96	ND
GP-T22-03	LL4	505446.2	2631945	4/8/2006	Shallow	57	58	6
GP-T22-03	LL4	505446.2	2631945	4/8/2006	Intermediate	64	65	4
GP-T22-03	LL4	505446.2	2631945	4/8/2006	Intermediate	72	73	ND
GP-T22-04	LL4	505672.3	2632384	4/11/2006	Shallow	54	55	ND
GP-T22-04	LL4	505672.3	2632384	4/11/2006	Intermediate	74	75	ND
GP-T22-04	LL4	505672.3	2632384	4/11/2006	Intermediate	93	94	ND
GP-T23-01	LL4	503142.9	2633127	4/9/2006	Shallow	32	33	14
GP-T23-01	LL4	503142.9	2633127	4/9/2006	Shallow	32	33	16
GP-T23-01	LL4	503142.9	2633127	4/9/2006	Intermediate	49	50	20
GP-T23-01	LL4	503142.9	2633127	4/9/2006	Intermediate	67	68	19
GP-T23-02	LL4	503711.4	2633201	4/9/2006	Shallow	31	32	12
GP-T23-02	LL4	503711.4	2633201	4/9/2006	Intermediate	46	47	2
GP-T23-02	LL4	503711.4	2633201	4/9/2006	Intermediate	61	62	ND
GP-T23-03	LL4	504359.3	2633325	4/9/2006	Shallow	23	24	ND
GP-T23-03	LL4	504359.3	2633325	4/9/2006	Intermediate	41	42	ND
GP-T23-03	LL4	504359.3	2633325	4/9/2006	Intermediate	59	60	ND
GP-T23-04	LL4	504676.6	2633152	4/9/2006	Shallow	43	44	ND
GP-T23-04	LL4	504676.6	2633152	4/9/2006	Intermediate	61	62	ND
GP-T23-04	LL4	504676.6	2633152	4/9/2006	Intermediate	79	80	ND
GP-T24-01	LL4	504124.2	2635695	4/11/2006	Shallow	23	24	ND
GP-T24-01	LL4	504124.2	2635695	4/11/2006	Intermediate	33	34	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T24-01	LL4	504124.2	2635695	4/11/2006	Intermediate	44	45	ND
GP-T24-02	LL4	504503	2635954	4/8/2006	Shallow	23	24	ND
GP-T24-02	LL4	504503	2635954	4/8/2006	Intermediate	35	36	ND
GP-T24-02	LL4	504503	2635954	4/8/2006	Intermediate	46	47	ND
GP-T25-01	LL4	501885	2635697	4/8/2006	Shallow	23	24	13
GP-T25-01	LL4	501885	2635697	4/8/2006	Intermediate	39	40	4
GP-T25-01	LL4	501885	2635697	4/8/2006	Intermediate	53	54	7
GP-T25-02	LL4	502542.1	2636033	4/8/2006	Shallow	23	24	ND
GP-T25-02	LL4	502542.1	2636033	4/8/2006	Intermediate	35	36	ND
GP-T25-02	LL4	502542.1	2636033	4/8/2006	Intermediate	47	48	ND
GP-T25-03	LL4	502908.7	2636334	4/11/2006	Shallow	23	24	ND
GP-T25-03	LL4	502908.7	2636334	4/11/2006	Intermediate	33	34	ND
GP-T25-03	LL4	502908.7	2636334	4/11/2006	Intermediate	44	45	ND
GP-T26-01	LL4	500854.8	2636852	4/11/2006	Shallow	23	24	ND
GP-T26-01	LL4	500854.8	2636852	4/11/2006	Intermediate	35	36	ND
GP-T26-01	LL4	500854.8	2636852	4/11/2006	Intermediate	48	49	ND
GP-T26-02	LL4	500908.7	2637376	4/8/2006	Shallow	23	24	ND
GP-T26-02	LL4	500908.7	2637376	4/8/2006	Intermediate	39	40	ND
GP-T26-02	LL4	500908.7	2637376	4/8/2006	Intermediate	55	56	ND
GP-T27-01	LL4	498418.2	2636048	4/12/2006	Shallow	23	24	4
GP-T27-01	LL4	498418.2	2636048	4/12/2006	Shallow	23	24	8
GP-T27-01	LL4	498418.2	2636048	4/12/2006	Shallow	23	24	9.5
GP-T27-01	LL4	498418.2	2636048	4/12/2006	Intermediate	33	34	3
GP-T27-01	LL4	498418.2	2636048	4/12/2006	Intermediate	42	43	3
GP-T27-01	LL4	498418.2	2636048	4/12/2006	Intermediate	42	43	4
GP-T27-02	LL4	498454	2636546	4/10/2006	Shallow	19	20	2
GP-T27-02	LL4	498454	2636546	4/10/2006	Intermediate	32	33	7
GP-T27-02	LL4	498454	2636546	4/10/2006	Intermediate	32	33	8.5
GP-T27-02	LL4	498454	2636546	4/10/2006	Intermediate	32	33	9.1
GP-T27-02	LL4	498454	2636546	4/10/2006	Intermediate	46	47	2
GP-T27-03	LL4	498491.2	2637038	4/12/2006	Shallow	23	24	ND
GP-T27-03	LL4	498491.2	2637038	4/12/2006	Intermediate	33	34	ND
GP-T27-03	LL4	498491.2	2637038	4/12/2006	Intermediate	42	43	ND
GP-T27-04	LL4	498517.5	2637547	4/10/2006	Shallow	19	20	ND
GP-T27-04	LL4	498517.5	2637547	4/10/2006	Intermediate	31	32	ND
GP-T27-04	LL4	498517.5	2637547	4/10/2006	Intermediate	43	44	ND
GP-T28-01	LL4	496494	2635337	4/12/2006	Shallow	23	24	28
GP-T28-01	LL4	496494	2635337	4/12/2006	Intermediate	35	36	21
GP-T28-01	LL4	496494	2635337	4/12/2006	Intermediate	47	48	12
GP-T28-02	LL4	496520.8	2635802	4/12/2006	Shallow	23	24	4
GP-T28-02	LL4	496520.8	2635802	4/12/2006	Intermediate	44	45	10
GP-T28-03	LL4	496550.6	2636264	4/10/2006	Shallow	19	20	4
GP-T28-03	LL4	496550.6	2636264	4/10/2006	Intermediate	30	31	6
GP-T28-03	LL4	496550.6	2636264	4/10/2006	Intermediate	41	42	2
GP-T28-04	LL4	496588.9	2636662	4/10/2006	Shallow	19	20	ND
GP-T28-04	LL4	496588.9	2636662	4/10/2006	Intermediate	30	31	0.38 J

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T28-04	LL4	496588.9	2636662	4/10/2006	Intermediate	30	31	ND
GP-T28-04	LL4	496588.9	2636662	4/10/2006	Intermediate	42	43	ND
GP-T29-01	LL4	495506.6	2633708	3/16/2006	Shallow	19	20	ND
GP-T29-01	LL4	495506.6	2633708	3/16/2006	Intermediate	27	28	ND
GP-T29-01	LL4	495506.6	2633708	3/16/2006	Intermediate	35	36	ND
GP-T29-02	LL4	495499.3	2634211	3/16/2006	Shallow	19	20	ND
GP-T29-02	LL4	495499.3	2634211	3/16/2006	Intermediate	29	30	ND
GP-T29-02	LL4	495499.3	2634211	3/16/2006	Intermediate	39	40	ND
GP-T29-03	LL4	495492.7	2634704	3/15/2006	Shallow	19	20	ND
GP-T29-03	LL4	495492.7	2634704	3/15/2006	Intermediate	31	32	ND
GP-T29-03	LL4	495492.7	2634704	3/15/2006	Intermediate	43	44	ND
GP-T29-04	LL4	495494.7	2635234	4/12/2006	Shallow	23	24	12
GP-T29-04	LL4	495494.7	2635234	4/12/2006	Intermediate	31	32	17
GP-T29-04	LL4	495494.7	2635234	4/12/2006	Intermediate	37	38	8
GP-T29-04	LL4	495494.7	2635234	4/12/2006	Intermediate	37	38	16
GP-T29-05	LL4	495523.6	2635612	3/17/2006	Shallow	19	20	4
GP-T29-05	LL4	495523.6	2635612	3/17/2006	Intermediate	30	31	6
GP-T29-05	LL4	495523.6	2635612	3/17/2006	Intermediate	41	42	5
GP-T29-06	LL4	495540.6	2636034	3/17/2006	Shallow	19	20	2
GP-T29-06	LL4	495540.6	2636034	3/17/2006	Intermediate	31	32	3.4
GP-T29-06	LL4	495540.6	2636034	3/17/2006	Intermediate	31	32	4
GP-T29-06	LL4	495540.6	2636034	3/17/2006	Intermediate	42	43	ND
GP-T29-06	LL4	495540.6	2636034	3/17/2006	Intermediate	42	43	3
GP-T29-07	LL4	495559.6	2636467	3/17/2006	Shallow	19	20	ND
GP-T29-07	LL4	495559.6	2636467	3/17/2006	Intermediate	31	32	ND
GP-T29-07	LL4	495559.6	2636467	3/17/2006	Intermediate	43	44	ND
GP-T30-01	LL4	494135.8	2634228	3/16/2006	Shallow	19	20	ND
GP-T30-01	LL4	494135.8	2634228	3/16/2006	Intermediate	27	28	ND
GP-T30-01	LL4	494135.8	2634228	3/16/2006	Intermediate	35	36	ND
GP-T30-02	LL4	494124.9	2634668	3/16/2006	Shallow	19	20	ND
GP-T30-02	LL4	494124.9	2634668	3/16/2006	Intermediate	29	30	ND
GP-T30-02	LL4	494124.9	2634668	3/16/2006	Intermediate	41	42	ND
GP-T30-03	LL4	494162.1	2635526	3/18/2006	Shallow	19	20	ND
GP-T30-03	LL4	494162.1	2635526	3/18/2006	Intermediate	30	31	ND
GP-T30-03	LL4	494162.1	2635526	3/18/2006	Intermediate	41	42	ND
GP-T30-04	LL4	494180.4	2635930	3/17/2006	Shallow	19	20	ND
GP-T30-04	LL4	494180.4	2635930	3/17/2006	Shallow	19	20	2
GP-T30-04	LL4	494180.4	2635930	3/17/2006	Intermediate	29	30	ND
GP-T30-04	LL4	494180.4	2635930	3/17/2006	Intermediate	40	41	ND
GP-T31-01	LL4	512663.5	2621808	5/16/2007	Shallow	68	69	920 D
GP-T31-01	LL4	512663.5	2621808	5/16/2007	Intermediate	100	101	320 D
GP-T31-02	LL4	512856.2	2622081	5/16/2007	Shallow	69	70	330
GP-T31-02	LL4	512856.2	2622081	5/16/2007	Intermediate	101	102	110
GP-T31-03	LL4	513029.2	2622269	5/8/2007	Shallow	50	51	580
GP-T31-03	LL4	513029.2	2622269	5/8/2007	Shallow	67	68	2800 D
GP-T31-03	LL4	513029.2	2622269	5/8/2007	Shallow	67	68	2900 D

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T31-03	LL4	513029.2	2622269	5/8/2007	Intermediate	83	84	1900 D
GP-T31-03	LL4	513029.2	2622269	5/8/2007	Intermediate	99	100	62
GP-T31-03	LL4	513029.2	2622269	5/8/2007	Intermediate	115	116	12
GP-T31-04	LL4	513181.7	2622496	5/16/2007	Shallow	66	67	59
GP-T31-04	LL4	513181.7	2622496	5/16/2007	Intermediate	98	99	4.8
GP-T31-05	LL4	513323.8	2622727	5/13/2007	Shallow	66	67	81
GP-T31-05	LL4	513323.8	2622727	5/13/2007	Shallow	66	67	99
GP-T31-05	LL4	513323.8	2622727	5/13/2007	Intermediate	98	99	ND
GP-T31-06	LL4	512939.8	2622174	5/16/2007	Shallow	68	69	4700 D
GP-T31-06	LL4	512939.8	2622174	5/16/2007	Intermediate	100	101	2300 D
GP-T31-07	LL4	513114.2	2622398	5/16/2007	Shallow	66	67	780
GP-T31-07	LL4	513114.2	2622398	5/16/2007	Intermediate	98	99	8
GP-T32-01	LL4	514571.3	2619647	5/10/2007	Shallow	71	72	ND
GP-T32-01	LL4	514571.3	2619647	5/10/2007	Intermediate	128	129	ND
GP-T32-02	LL4	514839.6	2619966	5/10/2007	Shallow	72	73	ND
GP-T32-02	LL4	514839.6	2619966	5/10/2007	Intermediate	130	131	ND
GP-T32-03	LL4	515047.4	2620621	5/11/2007	Shallow	75	76	100
GP-T32-03	LL4	515047.4	2620621	5/11/2007	Shallow	75	76	110
GP-T32-03	LL4	515047.4	2620621	5/11/2007	Intermediate	131	132	6.4
GP-T32-04	LL4	515398.5	2620851	5/10/2007	Shallow	67	68	0.4 J
GP-T32-04	LL4	515398.5	2620851	5/10/2007	Intermediate	116	117	2.8
GP-T32-05	LL4	515635.7	2621220	5/10/2007	Shallow	66	67	74
GP-T32-05	LL4	515635.7	2621220	5/10/2007	Intermediate	121	122	0.7 J
GP-T32-06	LL4	515034.7	2620218	5/10/2007	Shallow	72	73	25
GP-T32-06	LL4	515034.7	2620218	5/10/2007	Intermediate	131	132	0.9 J
GP-T32-07	LL4	515296.2	2620688	5/10/2007	Shallow	70	71	110
GP-T32-07	LL4	515296.2	2620688	5/10/2007	Intermediate	130	131	0.7 J
GP-T32-08	LL4	515941.4	2621580	5/31/2007	Shallow	58	59	ND
GP-T32-08	LL4	515941.4	2621580	5/31/2007	Intermediate	119	120	ND
GP-T33-01	LL4	515207	2619202	5/11/2007	Shallow	53	54	ND
GP-T33-01	LL4	515207	2619202	5/11/2007	Intermediate	109	110	ND
GP-T33-02	LL4	515480.7	2619516	5/12/2007	Shallow	53	54	12
GP-T33-02	LL4	515480.7	2619516	5/12/2007	Intermediate	108	109	ND
GP-T33-03	LL4	515764.2	2619817	5/8/2007	Shallow	47	48	1.2
GP-T33-03	LL4	515764.2	2619817	5/8/2007	Shallow	64	65	ND
GP-T33-03	LL4	515764.2	2619817	5/8/2007	Intermediate	81	82	ND
GP-T33-03	LL4	515764.2	2619817	5/8/2007	Intermediate	98	99	ND
GP-T33-03	LL4	515764.2	2619817	5/8/2007	Intermediate	115	116	ND
GP-T33-04	LL4	516068.3	2620193	5/12/2007	Shallow	43	44	ND
GP-T33-04	LL4	516068.3	2620193	5/12/2007	Intermediate	102	103	ND
GP-T33-05	LL4	516325.2	2620503	5/13/2007	Shallow	35	36	190 D
GP-T33-05	LL4	516325.2	2620503	5/13/2007	Intermediate	96	97	ND
GP-T33-06	LL4	515627.4	2619654	5/12/2007	Shallow	51	52	100
GP-T33-06	LL4	515627.4	2619654	5/12/2007	Intermediate	109	110	0.2 J
GP-T33-07	LL4	515942.4	2620026	5/12/2007	Shallow	44	45	0.9 J
GP-T33-07	LL4	515942.4	2620026	5/12/2007	Intermediate	104	105	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T33-08	LL4	516424.8	2620693	5/31/2007	Shallow	29	30	0.9 J
GP-T33-08	LL4	516424.8	2620693	5/31/2007	Intermediate	90	91	ND
GP-T33-09	LL4	516585.1	2620907	5/31/2007	Shallow	14	15	ND
GP-T33-09	LL4	516585.1	2620907	5/31/2007	Intermediate	77	78	ND
GP-T33-10	LL4	516645.2	2620064	5/31/2007	Shallow	27	28	ND
GP-T33-10	LL4	516645.2	2620064	5/31/2007	Intermediate	85	86	ND
GP-T33-11	LL4	516935.1	2619763	5/31/2007	Shallow	25	26	ND
GP-T33-11	LL4	516935.1	2619763	5/31/2007	Intermediate	82	83	ND
GP-T34-01	LL4	516849.9	2618706	5/14/2007	Shallow	39	40	ND
GP-T34-01	LL4	516849.9	2618706	5/14/2007	Intermediate	93	94	ND
GP-T34-02	LL4	516520.1	2619078	5/13/2007	Shallow	41	42	ND
GP-T34-02	LL4	516520.1	2619078	5/13/2007	Intermediate	96	97	ND
GP-T34-03	LL4	516110.2	2619453	5/13/2007	Shallow	45	46	ND
GP-T34-03	LL4	516110.2	2619453	5/13/2007	Intermediate	102	103	ND
GP-T34-04	LL4	515495.3	2620227	5/10/2007	Shallow	64	65	ND
GP-T34-04	LL4	515495.3	2620227	5/10/2007	Intermediate	124	125	ND
GP-T34-05	LL4	514571.7	2621088	5/7/2007	Shallow	54	55	330
GP-T34-05	LL4	514571.7	2621088	5/7/2007	Shallow	54	55	350
GP-T34-05	LL4	514571.7	2621088	5/7/2007	Shallow	75	76	740
GP-T34-05	LL4	514571.7	2621088	5/7/2007	Intermediate	96	97	4.4
GP-T34-05	LL4	514571.7	2621088	5/7/2007	Intermediate	117	118	4.7
GP-T34-05	LL4	514571.7	2621088	5/7/2007	Intermediate	136	137	28
GP-T34-06	LL4	515901.9	2619063	5/31/2007	Shallow	49	50	0.2 J
GP-T34-06	LL4	515901.9	2619063	5/31/2007	Intermediate	105	106	ND
GP-T34-07	LL4	516370.6	2618567	5/31/2007	Shallow	46	47	ND
GP-T34-07	LL4	516370.6	2618567	5/31/2007	Intermediate	84	85	ND
GP-T64-01	LL4	501910.3	2635794	12/18/2008	Shallow	13	14	ND
GP-T64-01	LL4	501910.3	2635794	12/18/2008	Shallow	23	24	4
GP-T64-01	LL4	501910.3	2635794	12/18/2008	Intermediate	33	34	ND
GP-T64-01	LL4	501910.3	2635794	12/18/2008	Intermediate	43	44	ND
GP-T64-02	LL4	502506.5	2636023	12/18/2008	Shallow	16	17	ND
GP-T64-02	LL4	502506.5	2636023	12/18/2008	Shallow	26	27	ND
GP-T64-02	LL4	502506.5	2636023	12/18/2008	Intermediate	36	37	ND
GP-T64-02	LL4	502506.5	2636023	12/18/2008	Intermediate	46	47	ND
GP-T64-03	LL4	503094.5	2636328	12/18/2008	Shallow	16	17	ND
GP-T64-03	LL4	503094.5	2636328	12/18/2008	Shallow	26	27	ND
GP-T64-03	LL4	503094.5	2636328	12/18/2008	Intermediate	36	37	ND
GP-T64-03	LL4	503094.5	2636328	12/18/2008	Intermediate	46	47	ND
GP-T79-001	LL4	506618.8	2623987	5/18/2010	Shallow	57	58	35 J
GP-T79-001	LL4	506618.8	2623987	5/18/2010	Shallow	67	68	69
GP-T79-001	LL4	506618.8	2623987	5/18/2010	Shallow	77	78	480
GP-T79-001	LL4	506618.8	2623987	5/17/2010	Intermediate	87	88	320
GP-T79-001	LL4	506618.8	2623987	5/17/2010	Intermediate	97	98	330
GP-T79-001	LL4	506618.8	2623987	5/17/2010	Intermediate	107	108	260
GP-T79-002	LL4	506668.1	2624393	5/17/2010	Shallow	54	55	52
GP-T79-002	LL4	506668.1	2624393	5/17/2010	Shallow	64	65	750

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T79-002	LL4	506668.1	2624393	5/17/2010	Shallow	74	75	1100
GP-T79-002	LL4	506668.1	2624393	5/17/2010	Intermediate	84	85	400
GP-T79-002	LL4	506668.1	2624393	5/17/2010	Intermediate	94	95	58
GP-T79-002	LL4	506668.1	2624393	5/17/2010	Intermediate	104	105	57
GP-T79-003	LL4	506690.3	2624885	5/10/2010	Shallow	52	53	6.4
GP-T79-003	LL4	506690.3	2624885	5/10/2010	Shallow	62	63	57
GP-T79-003	LL4	506690.3	2624885	5/10/2010	Intermediate	72	73	120
GP-T79-003	LL4	506690.3	2624885	5/7/2010	Intermediate	82	83	130
GP-T79-003	LL4	506690.3	2624885	5/7/2010	Intermediate	92	93	100
GP-T79-004	LL4	506703.2	2625371	5/10/2010	Shallow	53	54	2.7
GP-T79-004	LL4	506703.2	2625371	5/10/2010	Intermediate	63	64	34
GP-T79-004	LL4	506703.2	2625371	5/10/2010	Intermediate	73	74	120
GP-T79-005	LL4	506731.2	2625899	5/14/2010	Shallow	56	57	5.6
GP-T79-005	LL4	506731.2	2625899	5/14/2010	Intermediate	66	67	79
GP-T79-006	LL4	506743.8	2626359	5/14/2010	Shallow	60	61	ND
GP-T79-006	LL4	506743.8	2626359	5/14/2010	Intermediate	70	71	ND
GP-T79-007	LL4	506763.8	2626834	5/15/2010	Shallow	52	53	ND
GP-T79-007	LL4	506763.8	2626834	5/15/2010	Intermediate	62	63	ND
GP-T79-008	LL4	506789.7	2627308	5/3/2010	Shallow	54	55	ND
GP-T79-008	LL4	506789.7	2627308	4/30/2010	Intermediate	64	65	ND
GP-T79-008	LL4	506789.7	2627308	4/30/2010	Intermediate	74	75	ND
GP-T79-009	LL4	506806.9	2627862	4/30/2010	Shallow	49	50	4.1
GP-T79-009	LL4	506806.9	2627862	4/30/2010	Shallow	59	60	17 J
GP-T79-009	LL4	506806.9	2627862	4/30/2010	Shallow	69	70	64
GP-T79-009	LL4	506806.9	2627862	4/30/2010	Intermediate	79	80	0.56 J
GP-T79-009	LL4	506806.9	2627862	4/29/2010	Intermediate	91	92	2.5 J
GP-T79-009	LL4	506806.9	2627862	4/29/2010	Intermediate	101	102	ND
GP-T79-010	LL4	506826.1	2628390	4/30/2010	Shallow	54	55	7.9
GP-T79-010	LL4	506826.1	2628390	4/30/2010	Shallow	64	65	30 J
GP-T79-010	LL4	506826.1	2628390	4/30/2010	Shallow	64	65	31 J
GP-T79-010	LL4	506826.1	2628390	4/29/2010	Intermediate	74	75	ND
GP-T79-010	LL4	506826.1	2628390	4/29/2010	Intermediate	84	85	10 J
GP-T79-010	LL4	506826.1	2628390	4/29/2010	Intermediate	94	95	ND
GP-T79-011	LL4	506850.6	2628860	5/15/2010	Shallow	53	54	44
GP-T79-011	LL4	506850.6	2628860	5/15/2010	Shallow	63	64	74
GP-T79-011	LL4	506850.6	2628860	5/15/2010	Shallow	73	74	31
GP-T79-011	LL4	506850.6	2628860	5/15/2010	Intermediate	83	84	62 J
GP-T79-011	LL4	506850.6	2628860	5/15/2010	Intermediate	83	84	72 J
GP-T79-011	LL4	506850.6	2628860	5/15/2010	Intermediate	93	94	ND
GP-T79-011	LL4	506850.6	2628860	5/15/2010	Intermediate	103	104	2.2
GP-T79-012	LL4	506530.5	2623382	6/28/2010	Shallow	46	47	ND
GP-T79-012	LL4	506530.5	2623382	6/28/2010	Shallow	56	57	ND
GP-T79-012	LL4	506530.5	2623382	6/28/2010	Shallow	66	67	ND
GP-T79-012	LL4	506530.5	2623382	6/28/2010	Intermediate	76	77	ND
GP-T79-012	LL4	506530.5	2623382	6/28/2010	Intermediate	86	87	ND
GP-T79-012	LL4	506530.5	2623382	6/28/2010	Intermediate	96	97	ND

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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T79-013	LL4	506529.2	2622803	6/29/2010	Shallow	53	54	ND
GP-T79-013	LL4	506529.2	2622803	6/28/2010	Shallow	63	64	ND
GP-T79-013	LL4	506529.2	2622803	6/28/2010	Shallow	73	74	ND
GP-T79-013	LL4	506529.2	2622803	6/28/2010	Intermediate	83	84	ND
GP-T79-013	LL4	506529.2	2622803	6/28/2010	Intermediate	93	94	ND
GP-T79-013	LL4	506529.2	2622803	6/28/2010	Intermediate	103	104	ND
GP-T79-014	LL4	507692.4	2629154	6/24/2010	Shallow	57	58	ND
GP-T79-014	LL4	507692.4	2629154	6/24/2010	Intermediate	67	68	0.75 J
GP-T79-014	LL4	507692.4	2629154	6/24/2010	Intermediate	67	68	0.76 J
GP-T79-014	LL4	507692.4	2629154	6/24/2010	Intermediate	77	78	ND
GP-T80-001	LL4	504073.8	2625276	5/18/2010	Shallow	52	53	ND
GP-T80-001	LL4	504073.8	2625276	5/18/2010	Shallow	62	63	1.4 J
GP-T80-001	LL4	504073.8	2625276	5/18/2010	Intermediate	72	73	2.7 J
GP-T80-001	LL4	504073.8	2625276	5/18/2010	Intermediate	82	83	4.8 J
GP-T80-001	LL4	504073.8	2625276	5/18/2010	Intermediate	82	83	5.1 J
GP-T80-001	LL4	504073.8	2625276	5/18/2010	Intermediate	92	93	10 J
GP-T80-002	LL4	504092.1	2625749	5/19/2010	Shallow	44	45	1.5
GP-T80-002	LL4	504092.1	2625749	5/19/2010	Shallow	54	55	1.4
GP-T80-002	LL4	504092.1	2625749	5/19/2010	Shallow	54	55	3.2
GP-T80-002	LL4	504092.1	2625749	5/19/2010	Shallow	64	65	6
GP-T80-002	LL4	504092.1	2625749	5/19/2010	Intermediate	74	75	18
GP-T80-002	LL4	504092.1	2625749	5/19/2010	Intermediate	84	85	38
GP-T80-002	LL4	504092.1	2625749	5/19/2010	Intermediate	94	95	26
GP-T80-003	LL4	504110.8	2626209	5/20/2010	Shallow	51	52	1.3
GP-T80-003	LL4	504110.8	2626209	5/20/2010	Shallow	61	62	3.6
GP-T80-003	LL4	504110.8	2626209	5/19/2010	Intermediate	71	72	66
GP-T80-003	LL4	504110.8	2626209	5/19/2010	Intermediate	81	82	120
GP-T80-003	LL4	504110.8	2626209	5/19/2010	Intermediate	91	92	90
GP-T80-004	LL4	503909.4	2626690	5/24/2010	Shallow	48	49	68
GP-T80-004	LL4	503909.4	2626690	5/24/2010	Shallow	58	59	200
GP-T80-004	LL4	503909.4	2626690	5/24/2010	Shallow	58	59	230
GP-T80-004	LL4	503909.4	2626690	5/24/2010	Intermediate	68	69	350
GP-T80-004	LL4	503909.4	2626690	5/24/2010	Intermediate	78	79	320
GP-T80-004	LL4	503909.4	2626690	5/24/2010	Intermediate	88	89	260
GP-T80-005	LL4	504146.5	2627183	5/25/2010	Shallow	58	59	310
GP-T80-005	LL4	504146.5	2627183	5/25/2010	Shallow	68	69	260
GP-T80-005	LL4	504146.5	2627183	5/25/2010	Intermediate	78	79	590
GP-T80-005	LL4	504146.5	2627183	5/25/2010	Intermediate	88	89	600
GP-T80-005	LL4	504146.5	2627183	5/25/2010	Intermediate	98	99	620
GP-T80-006	LL4	504167	2627718	5/25/2010	Shallow	57	58	90
GP-T80-006	LL4	504167	2627718	5/25/2010	Shallow	57	58	97
GP-T80-006	LL4	504167	2627718	5/25/2010	Shallow	67	68	120
GP-T80-006	LL4	504167	2627718	5/25/2010	Intermediate	77	78	160
GP-T80-006	LL4	504167	2627718	5/25/2010	Intermediate	87	88	180
GP-T80-006	LL4	504167	2627718	5/25/2010	Intermediate	97	98	160
GP-T80-007	LL4	504259.2	2628204	5/26/2010	Shallow	47	48	12

Table 3-2
TCE in Monitoring Wells and Direct-Push Samples (2006-2010)
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Former NOP, Mead, Nebraska

Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T80-007	LL4	504259.2	2628204	5/26/2010	Shallow	57	58	31
GP-T80-007	LL4	504259.2	2628204	5/26/2010	Shallow	67	68	48
GP-T80-007	LL4	504259.2	2628204	5/26/2010	Intermediate	77	78	73
GP-T80-007	LL4	504259.2	2628204	5/26/2010	Intermediate	87	88	150
GP-T80-007	LL4	504259.2	2628204	5/26/2010	Intermediate	97	98	170
GP-T80-008	LL4	504268.7	2628698	5/26/2010	Shallow	53	54	0.47 J
GP-T80-008	LL4	504268.7	2628698	5/26/2010	Shallow	63	64	0.69 J
GP-T80-008	LL4	504268.7	2628698	5/26/2010	Shallow	73	74	1
GP-T80-008	LL4	504268.7	2628698	5/26/2010	Shallow	73	74	1.4
GP-T80-008	LL4	504268.7	2628698	5/26/2010	Intermediate	83	84	2.4
GP-T80-008	LL4	504268.7	2628698	5/26/2010	Intermediate	93	94	24
GP-T80-008	LL4	504268.7	2628698	5/26/2010	Intermediate	103	104	42
GP-T80-009	LL4	504223.7	2629091	6/2/2010	Shallow	55	56	3.5
GP-T80-009	LL4	504223.7	2629091	6/1/2010	Shallow	65	66	5.2
GP-T80-009	LL4	504223.7	2629091	6/1/2010	Intermediate	75	76	11
GP-T80-009	LL4	504223.7	2629091	6/1/2010	Intermediate	85	86	15
GP-T80-009	LL4	504223.7	2629091	6/1/2010	Intermediate	95	96	4.9
GP-T80-010	LL4	504254.7	2629752	6/3/2010	Shallow	50	51	0.88 J
GP-T80-010	LL4	504254.7	2629752	6/3/2010	Shallow	60	61	0.38 J
GP-T80-010	LL4	504254.7	2629752	6/2/2010	Intermediate	70	71	1.3
GP-T80-010	LL4	504254.7	2629752	6/2/2010	Intermediate	80	81	8.5
GP-T80-010	LL4	504254.7	2629752	6/2/2010	Intermediate	90	91	2.3
GP-T80-011	LL4	504271.9	2630183	6/3/2010	Shallow	51	52	6.5
GP-T80-011	LL4	504271.9	2630183	6/3/2010	Shallow	61	62	13
GP-T80-011	LL4	504271.9	2630183	6/3/2010	Intermediate	71	72	1.6
GP-T80-011	LL4	504271.9	2630183	6/3/2010	Intermediate	81	82	0.82 J
GP-T80-011	LL4	504271.9	2630183	6/3/2010	Intermediate	91	92	0.78 J
GP-T80-011	LL4	504271.9	2630183	6/3/2010	Intermediate	91	92	1
GP-T80-012	LL4	504290.5	2630714	6/14/2010	Shallow	54	55	17
GP-T80-012	LL4	504290.5	2630714	6/14/2010	Shallow	54	55	22
GP-T80-012	LL4	504290.5	2630714	6/14/2010	Shallow	64	65	29
GP-T80-012	LL4	504290.5	2630714	6/14/2010	Intermediate	74	75	2.1
GP-T80-012	LL4	504290.5	2630714	6/14/2010	Intermediate	84	85	2.3
GP-T80-012	LL4	504290.5	2630714	6/14/2010	Intermediate	94	95	0.51 J
GP-T80-013	LL4	504310.4	2631168	6/11/2010	Shallow	54	55	18
GP-T80-013	LL4	504310.4	2631168	6/11/2010	Shallow	64	65	25
GP-T80-013	LL4	504310.4	2631168	6/11/2010	Intermediate	74	75	40
GP-T80-013	LL4	504310.4	2631168	6/11/2010	Intermediate	84	85	16
GP-T80-013	LL4	504310.4	2631168	6/11/2010	Intermediate	84	85	18
GP-T80-013	LL4	504310.4	2631168	6/11/2010	Intermediate	94	95	14
GP-T80-014	LL4	504330.1	2631637	6/14/2010	Shallow	62	63	1.9
GP-T80-014	LL4	504330.1	2631637	6/14/2010	Shallow	72	73	5.4
GP-T80-014	LL4	504330.1	2631637	6/14/2010	Intermediate	82	83	0.84 J
GP-T80-014	LL4	504330.1	2631637	6/14/2010	Intermediate	92	93	0.29 J
GP-T80-015	LL4	504352.5	2632215	6/15/2010	Shallow	57	58	8.8
GP-T80-015	LL4	504352.5	2632215	6/15/2010	Shallow	67	68	17

Table 3-2
TCE in Monitoring Wells and Direct-Push Samples (2006-2010)
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Former NOP, Mead, Nebraska

Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T80-015	LL4	504352.5	2632215	6/15/2010	Intermediate	77	78	23
GP-T80-015	LL4	504352.5	2632215	6/15/2010	Intermediate	87	88	13
GP-T80-015	LL4	504352.5	2632215	6/15/2010	Intermediate	97	98	4.4
GP-T80-016	LL4	504383.1	2632781	6/14/2010	Shallow	58	59	0.97 J
GP-T80-016	LL4	504383.1	2632781	6/14/2010	Shallow	68	69	ND
GP-T80-016	LL4	504383.1	2632781	6/14/2010	Intermediate	78	79	ND
GP-T80-016	LL4	504383.1	2632781	6/14/2010	Intermediate	88	89	0.29 J
GP-T80-016	LL4	504383.1	2632781	6/14/2010	Intermediate	88	89	0.32 J
GP-T80-016	LL4	504383.1	2632781	6/14/2010	Intermediate	98	99	0.47 J
GP-T80-017	LL4	504399.2	2633311	6/14/2010	Shallow	21	22	ND
GP-T80-017	LL4	504399.2	2633311	6/14/2010	Shallow	31	32	ND
GP-T80-017	LL4	504399.2	2633311	6/14/2010	Intermediate	41	42	ND
GP-T80-017	LL4	504399.2	2633311	6/14/2010	Intermediate	51	52	ND
GP-T80-017	LL4	504399.2	2633311	6/14/2010	Intermediate	61	62	ND
GP-T80-018	LL4	504050	2624785	7/2/2010	Shallow	53	54	1.3
GP-T80-018	LL4	504050	2624785	7/2/2010	Shallow	53	54	1.3
GP-T80-018	LL4	504050	2624785	7/2/2010	Shallow	63	64	0.32 J
GP-T80-018	LL4	504050	2624785	7/2/2010	Shallow	63	64	0.32 J
GP-T80-018	LL4	504050	2624785	7/2/2010	Intermediate	73	74	0.59 J
GP-T80-018	LL4	504050	2624785	7/2/2010	Intermediate	73	74	0.59 J
GP-T80-018	LL4	504050	2624785	7/2/2010	Intermediate	83	84	ND
GP-T80-018	LL4	504050	2624785	7/2/2010	Intermediate	83	84	ND
GP-T80-018	LL4	504050	2624785	7/2/2010	Intermediate	83	84	ND
GP-T80-018	LL4	504050	2624785	7/2/2010	Intermediate	83	84	ND
GP-T80-018	LL4	504050	2624785	7/2/2010	Intermediate	93	94	ND
GP-T80-018	LL4	504050	2624785	7/2/2010	Intermediate	93	94	ND
GP-T81-001	LL4	501588.7	2628300	6/22/2010	Shallow	51	52	0.52 J
GP-T81-001	LL4	501588.7	2628300	6/22/2010	Shallow	61	62	2.9
GP-T81-001	LL4	501588.7	2628300	6/22/2010	Shallow	71	72	10
GP-T81-001	LL4	501588.7	2628300	6/22/2010	Intermediate	81	82	15
GP-T81-001	LL4	501588.7	2628300	6/22/2010	Intermediate	91	92	ND
GP-T81-001	LL4	501588.7	2628300	6/22/2010	Intermediate	91	92	ND
GP-T81-001	LL4	501588.7	2628300	6/22/2010	Intermediate	101	102	ND
GP-T81-002	LL4	501605.6	2628860	6/22/2010	Shallow	65	66	2
GP-T81-002	LL4	501605.6	2628860	6/22/2010	Shallow	75	76	6.4
GP-T81-002	LL4	501605.6	2628860	6/22/2010	Intermediate	85	86	11
GP-T81-002	LL4	501605.6	2628860	6/22/2010	Intermediate	95	96	15
GP-T81-003	LL4	501622.4	2629419	6/21/2010	Shallow	56	57	2.6
GP-T81-003	LL4	501622.4	2629419	6/21/2010	Shallow	66	67	4.8
GP-T81-003	LL4	501622.4	2629419	6/21/2010	Intermediate	76	77	15
GP-T81-003	LL4	501622.4	2629419	6/21/2010	Intermediate	86	87	46
GP-T81-003	LL4	501622.4	2629419	6/21/2010	Intermediate	96	97	82
GP-T81-004	LL4	501639.3	2629979	6/17/2010	Shallow	46	47	38
GP-T81-004	LL4	501639.3	2629979	6/17/2010	Shallow	56	57	45
GP-T81-004	LL4	501639.3	2629979	6/17/2010	Intermediate	66	67	140
GP-T81-004	LL4	501639.3	2629979	6/17/2010	Intermediate	76	77	420

Table 3-2
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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T81-004	LL4	501639.3	2629979	6/17/2010	Intermediate	86	87	450
GP-T81-005	LL4	501656.2	2630539	6/17/2010	Shallow	49	50	54
GP-T81-005	LL4	501656.2	2630539	6/17/2010	Shallow	59	60	200
GP-T81-005	LL4	501656.2	2630539	6/17/2010	Shallow	59	60	220
GP-T81-005	LL4	501656.2	2630539	6/17/2010	Intermediate	69	70	380
GP-T81-005	LL4	501656.2	2630539	6/17/2010	Intermediate	79	80	820
GP-T81-005	LL4	501656.2	2630539	6/17/2010	Intermediate	89	90	870
GP-T81-006	LL4	501673	2631099	6/18/2010	Shallow	53	54	89
GP-T81-006	LL4	501673	2631099	6/18/2010	Shallow	63	64	140 J
GP-T81-006	LL4	501673	2631099	6/18/2010	Intermediate	73	74	210
GP-T81-006	LL4	501673	2631099	6/18/2010	Intermediate	83	84	270
GP-T81-006	LL4	501673	2631099	6/18/2010	Intermediate	93	94	71
GP-T81-007	LL4	501689.9	2631658	6/18/2010	Shallow	57	58	43
GP-T81-007	LL4	501689.9	2631658	6/18/2010	Shallow	67	68	52
GP-T81-007	LL4	501689.9	2631658	6/18/2010	Intermediate	77	78	73
GP-T81-007	LL4	501689.9	2631658	6/18/2010	Intermediate	87	88	63
GP-T81-010	LL4	501740.5	2633338	6/17/2010	Shallow	4	5	ND
GP-T81-010	LL4	501740.5	2633338	6/17/2010	Shallow	14	15	ND
GP-T81-010	LL4	501740.5	2633338	6/17/2010	Intermediate	24	25	3.7
GP-T81-010	LL4	501740.5	2633338	6/16/2010	Intermediate	34	35	5.9
GP-T81-010	LL4	501740.5	2633338	6/16/2010	Intermediate	44	45	15
GP-T81-011	LL4	501757.3	2633897	6/17/2010	Shallow	5	6	1.6
GP-T81-011	LL4	501757.3	2633897	6/17/2010	Shallow	15	16	3.9
GP-T81-011	LL4	501757.3	2633897	6/17/2010	Intermediate	25	26	7.9
GP-T81-011	LL4	501757.3	2633897	6/17/2010	Intermediate	35	36	7.2
GP-T81-011	LL4	501757.3	2633897	6/17/2010	Intermediate	45	46	8.5
GP-T81-012	LL4	501774.2	2634457	6/17/2010	Shallow	11	12	28
GP-T81-012	LL4	501774.2	2634457	6/17/2010	Shallow	21	22	25
GP-T81-012	LL4	501774.2	2634457	6/17/2010	Intermediate	31	32	25 J
GP-T81-012	LL4	501774.2	2634457	6/17/2010	Intermediate	31	32	22
GP-T81-012	LL4	501774.2	2634457	6/17/2010	Intermediate	41	42	21
GP-T81-013	LL4	501791	2635017	6/18/2010	Shallow	5	6	0.41 J
GP-T81-013	LL4	501791	2635017	6/18/2010	Shallow	15	16	3.2
GP-T81-013	LL4	501791	2635017	6/18/2010	Intermediate	25	26	15
GP-T81-013	LL4	501791	2635017	6/18/2010	Intermediate	35	36	8 J
GP-T81-013	LL4	501791	2635017	6/18/2010	Intermediate	35	36	8.2
GP-T81-013	LL4	501791	2635017	6/18/2010	Intermediate	45	46	8.6
GP-T81-014	LL4	501807.9	2635577	6/18/2010	Shallow	13	14	4.3
GP-T81-014	LL4	501807.9	2635577	6/18/2010	Shallow	23	24	11
GP-T81-014	LL4	501807.9	2635577	6/18/2010	Intermediate	33	34	3.6
GP-T81-014	LL4	501807.9	2635577	6/18/2010	Intermediate	43	44	3.6
GP-T81-015	LL4	501820.5	2635995	6/18/2010	Shallow	12	13	ND
GP-T81-015	LL4	501820.5	2635995	6/18/2010	Shallow	22	23	0.25 J
GP-T81-015	LL4	501820.5	2635995	6/18/2010	Intermediate	32	33	ND
GP-T81-015	LL4	501820.5	2635995	6/18/2010	Intermediate	42	43	ND
GP-T81-015	LL4	501820.5	2635995	6/18/2010	Intermediate	52	53	0.87 J

Table 3-2
TCE in Monitoring Wells and Direct-Push Samples (2006-2010)
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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T81-016	LL4	502293.5	2629451	8/4/2010	Shallow	56	57	68
GP-T81-016	LL4	502293.5	2629451	8/4/2010	Shallow	56	57	68
GP-T81-016	LL4	502293.5	2629451	8/5/2010	Intermediate	66	67	290
GP-T81-016	LL4	502293.5	2629451	8/5/2010	Intermediate	66	67	290
GP-T81-016	LL4	502293.5	2629451	8/4/2010	Intermediate	96	97	200
GP-T81-016	LL4	502293.5	2629451	8/4/2010	Intermediate	96	97	200
GP-T81-017	LL4	502668.5	2629439	7/30/2010	Shallow	58	59	87
GP-T81-017	LL4	502668.5	2629439	7/30/2010	Shallow	58	59	87
GP-T81-017	LL4	502668.5	2629439	7/30/2010	Shallow	68	69	330
GP-T81-017	LL4	502668.5	2629439	7/30/2010	Shallow	68	69	330
GP-T81-017	LL4	502668.5	2629439	7/30/2010	Intermediate	78	79	640
GP-T81-017	LL4	502668.5	2629439	7/30/2010	Intermediate	78	79	640
GP-T81-017	LL4	502668.5	2629439	7/30/2010	Intermediate	88	89	450
GP-T81-017	LL4	502668.5	2629439	7/30/2010	Intermediate	88	89	460
GP-T81-017	LL4	502668.5	2629439	7/30/2010	Intermediate	88	89	450
GP-T81-017	LL4	502668.5	2629439	7/30/2010	Intermediate	88	89	460
GP-T81-017	LL4	502668.5	2629439	7/30/2010	Intermediate	98	99	570
GP-T81-017	LL4	502668.5	2629439	7/30/2010	Intermediate	98	99	570
GP-T81-018	LL4	501727.2	2627723	8/17/2010	Shallow	64	65	0.45 J
GP-T81-018	LL4	501727.2	2627723	8/17/2010	Shallow	64	65	0.45 J
GP-T81-018	LL4	501727.2	2627723	8/16/2010	Shallow	74	75	2.5
GP-T81-018	LL4	501727.2	2627723	8/16/2010	Shallow	74	75	2.5
GP-T81-018	LL4	501727.2	2627723	8/16/2010	Intermediate	84	85	3.2 J
GP-T81-018	LL4	501727.2	2627723	8/16/2010	Intermediate	84	85	3.2 J
GP-T81-018	LL4	501727.2	2627723	8/16/2010	Intermediate	94	95	5.4
GP-T81-018	LL4	501727.2	2627723	8/16/2010	Intermediate	94	95	5.4
GP-T81-018	LL4	501727.2	2627723	8/16/2010	Intermediate	104	105	13
GP-T81-018	LL4	501727.2	2627723	8/16/2010	Intermediate	104	105	13
GP-T82-003	LL4	498680.5	2632826	6/21/2010	Shallow	12	13	ND
GP-T82-003	LL4	498680.5	2632826	6/21/2010	Shallow	22	23	ND
GP-T82-003	LL4	498680.5	2632826	6/21/2010	Intermediate	32	33	1.4
GP-T82-003	LL4	498680.5	2632826	6/21/2010	Intermediate	32	33	1.5
GP-T82-003	LL4	498680.5	2632826	6/21/2010	Intermediate	42	43	2.8
GP-T82-004	LL4	499239	2632867	6/21/2010	Shallow	15	16	45
GP-T82-004	LL4	499239	2632867	6/21/2010	Shallow	25	26	22
GP-T82-004	LL4	499239	2632867	6/21/2010	Intermediate	35	36	170
GP-T82-004	LL4	499239	2632867	6/21/2010	Intermediate	45	46	150
GP-T82-005	LL4	499797.5	2632908	6/21/2010	Shallow	21	22	19
GP-T82-005	LL4	499797.5	2632908	6/21/2010	Shallow	31	32	96
GP-T82-005	LL4	499797.5	2632908	6/21/2010	Intermediate	41	42	220
GP-T82-005	LL4	499797.5	2632908	6/21/2010	Intermediate	41	42	230
GP-T82-005	LL4	499797.5	2632908	6/21/2010	Intermediate	51	52	600
GP-T82-006	LL4	500356	2632949	6/22/2010	Shallow	24	25	13
GP-T82-006	LL4	500356	2632949	6/22/2010	Intermediate	34	35	220
GP-T82-006	LL4	500356	2632949	6/22/2010	Intermediate	44	45	320
GP-T82-007	LL4	500914.5	2632990	6/22/2010	Shallow	28	29	3.7

Table 3-2
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Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
GP-T82-007	LL4	500914.5	2632990	6/22/2010	Intermediate	38	39	6.9
GP-T82-007	LL4	500914.5	2632990	6/22/2010	Intermediate	48	49	12
GP-T82-008	LL4	501473	2633031	6/22/2010	Shallow	23	24	0.67 J
GP-T82-008	LL4	501473	2633031	6/22/2010	Intermediate	33	34	5.3
GP-T82-008	LL4	501473	2633031	6/22/2010	Intermediate	43	44	12
GP-T83-001	LL4	499521.8	2632579	5/12/2010	Shallow	35	36	3.8 J
GP-T83-001	LL4	499521.8	2632579	5/12/2010	Shallow	45	46	11
GP-T83-001	LL4	499521.8	2632579	5/12/2010	Intermediate	55	56	120
GP-T83-001	LL4	499521.8	2632579	5/12/2010	Intermediate	65	66	230
GP-T83-002	LL4	499548.2	2632662	5/13/2010	Shallow	20	21	ND
GP-T83-002	LL4	499548.2	2632662	5/13/2010	Shallow	30	31	2
GP-T83-002	LL4	499548.2	2632662	5/13/2010	Intermediate	40	41	16
GP-T83-002	LL4	499548.2	2632662	5/12/2010	Intermediate	50	51	75
GP-T83-002	LL4	499548.2	2632662	5/12/2010	Intermediate	60	61	210
GP-T83-003	LL4	499568.4	2632804	5/13/2010	Shallow	16	17	33
GP-T83-003	LL4	499568.4	2632804	5/13/2010	Shallow	26	27	12
GP-T83-003	LL4	499568.4	2632804	5/13/2010	Intermediate	36	37	140
GP-T83-003	LL4	499568.4	2632804	5/13/2010	Intermediate	46	47	320
GP-T84-001	LL4	496453.5	2632742	5/6/2010	Shallow	11	12	ND
GP-T84-001	LL4	496453.5	2632742	5/6/2010	Shallow	21	22	ND
GP-T84-001	LL4	496453.5	2632742	5/6/2010	Intermediate	31	32	ND
GP-T84-001	LL4	496453.5	2632742	5/6/2010	Intermediate	41	42	ND
GP-T84-002	LL4	496468.6	2633115	5/5/2010	Shallow	8	9	ND
GP-T84-002	LL4	496468.6	2633115	5/5/2010	Shallow	18	19	ND
GP-T84-002	LL4	496468.6	2633115	5/5/2010	Intermediate	28	29	ND
GP-T84-002	LL4	496468.6	2633115	5/5/2010	Intermediate	38	39	ND
GP-T84-003	LL4	496487.5	2633498	5/5/2010	Shallow	6	7	ND
GP-T84-003	LL4	496487.5	2633498	5/5/2010	Shallow	16	17	ND
GP-T84-003	LL4	496487.5	2633498	5/5/2010	Intermediate	26	27	0.55 J
GP-T84-003	LL4	496487.5	2633498	5/5/2010	Intermediate	36	37	ND
GP-T84-004	LL4	496501.8	2633872	5/5/2010	Shallow	6	7	ND
GP-T84-004	LL4	496501.8	2633872	5/5/2010	Shallow	16	17	ND
GP-T84-004	LL4	496501.8	2633872	5/5/2010	Intermediate	26	27	ND
GP-T84-004	LL4	496501.8	2633872	5/5/2010	Intermediate	36	37	ND
GP-T84-005	LL4	496508.8	2634243	5/5/2010	Shallow	6	7	ND
GP-T84-005	LL4	496508.8	2634243	5/5/2010	Shallow	16	17	ND
GP-T84-005	LL4	496508.8	2634243	5/5/2010	Intermediate	26	27	ND
GP-T84-005	LL4	496508.8	2634243	5/5/2010	Intermediate	36	37	0.54 J
GP-T84-006	LL4	496440	2634643	5/5/2010	Shallow	8	9	1.4
GP-T84-006	LL4	496440	2634643	5/5/2010	Shallow	18	19	8
GP-T84-006	LL4	496440	2634643	5/5/2010	Intermediate	28	29	3.2
GP-T84-006	LL4	496440	2634643	5/5/2010	Intermediate	38	39	ND
MW-01A	LL4	511743	2618460	7/1/2010	Intermediate	79	109	ND
MW-01B	LL4	511743.2	2618470	7/1/2010	Shallow	39	79	ND
MW-08A	LL4	506814.8	2622864	2/19/2010	Intermediate	84	123	ND
MW-08B	LL4	506820.6	2622872	2/19/2010	Shallow	42.1	81	ND

Table 3-2
TCE in Monitoring Wells and Direct-Push Samples (2006-2010)
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
MW-09A	LL4	507435.8	2623571	7/6/2010	Intermediate	89	128	450
MW-09B	LL4	507436.1	2623580	7/6/2010	Shallow	46.3	85.3	410
MW-102A	LL4	514541.2	2622929	7/20/2010	Intermediate	117	127	ND
MW-102B	LL4	514540.9	2622923	7/20/2010	Shallow	50	60	ND
MW-103A	LL4	513115.8	2623591	7/20/2010	Intermediate	116	126	ND
MW-103B	LL4	513110.3	2623591	7/20/2010	Shallow	50	60	0.41 J
MW-104A	LL4	499205.6	2634092	7/27/2010	Intermediate	31.1	40.6	10
MW-104B	LL4	499205.6	2634083	7/27/2010	Shallow	15.1	24.6	11
MW-104O	LL4	499205	2634074	7/27/2010	Shallow	5.3	7.3	0.51 J
MW-105A	LL4	496643	2635042	7/27/2010	Intermediate	30.17	39.67	22
MW-105B	LL4	496653	2635042	7/27/2010	Shallow	14.75	24.25	30
MW-105O	LL4	496662.3	2635041	7/27/2010	Shallow	5	6.6	ND
MW-106A	LL4	506843.3	2630545	7/13/2010	Intermediate	57	67	ND
MW-106B	LL4	506844.1	2630539	7/13/2010	Shallow	25	35	ND
MW-107A	LL4	506138.8	2631376	7/13/2010	Intermediate	78	88	ND
MW-107B	LL4	506125.2	2631374	7/13/2010	Shallow	45	55	ND
MW-108A	LL4	505912.3	2631916	7/13/2010	Intermediate	71	81	ND
MW-108B	LL4	505899.5	2631917	7/13/2010	Shallow	35	45	ND
MW-109A	LL4	501896.1	2634807	7/28/2010	Intermediate	36.85	46.35	7.9
MW-109B	LL4	501904.3	2634806	7/28/2010	Shallow	19.2	28.7	8.6
MW-109B	LL4	501904.3	2634806	7/28/2010	Shallow	19.2	28.7	9
MW-109O	LL4	501911.8	2634805	7/28/2010	Shallow	6.7	9.2	0.29 J
MW-110A	LL4	504432.8	2634398	7/27/2010	Intermediate	39.5	44.5	ND
MW-110B	LL4	504438.9	2634397	7/27/2010	Shallow	23	28	ND
MW-111A	LL4	499338	2636152	7/28/2010	Intermediate	31.23	40.73	4.9
MW-111B	LL4	499348.2	2636152	7/28/2010	Shallow	14.5	24	10
MW-111O	LL4	499356.7	2636152	7/28/2010	Shallow	5	6.5	ND
MW-112A	LL4	501825.8	2637366	7/12/2010	Intermediate	42.5	47.5	0.66 J
MW-112B	LL4	501832.7	2637365	7/12/2010	Shallow	21	26	0.37 J
MW-113A	LL4	500472.2	2637420	7/12/2010	Intermediate	36	41	0.38 J
MW-113B	LL4	500477.7	2637420	7/12/2010	Shallow	26	31	0.58 J
MW-114A	LL4	497206.9	2637471	7/22/2010	Intermediate	37	47	ND
MW-114B	LL4	497204.3	2637466	7/22/2010	Shallow	20	30	ND
MW-115A	LL4	495346.9	2637703	7/21/2010	Intermediate	43	48	ND
MW-115B	LL4	495346.9	2637696	7/21/2010	Shallow	28	33	ND
MW-116A	LL4	495297.6	2636336	7/22/2010	Intermediate	37.5	42.5	ND
MW-116B	LL4	495297.2	2636332	7/22/2010	Shallow	27	32	ND
MW-133A	LL4	509720.9	2622523	11/11/2009	Intermediate	96.5	106.5	270
MW-133B	LL4	509729.9	2622523	11/11/2009	Shallow	66	76	16
MW-134A	LL4	509045.7	2623417	11/13/2009	Intermediate	103	113	200
MW-134B	LL4	509052.5	2623413	11/13/2009	Shallow	68	78	83
MW-135A	LL4	509762.3	2623150	11/16/2009	Intermediate	99.7	109.7	21
MW-135B	LL4	509772.4	2623151	11/16/2009	Shallow	60	70	660
MW-136A	LL4	510561.3	2623054	8/4/2010	Intermediate	99.5	109	15
MW-136B	LL4	510560.7	2623064	8/4/2010	Shallow	65	74.5	130
MW-136E	LL4	510559.7	2623076	8/5/2010	Shallow	40.5	60	370

Table 3-2
TCE in Monitoring Wells and Direct-Push Samples (2006-2010)
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
MW-137A	LL4	511702.4	2622838	8/5/2010	Intermediate	93.2	102.7	5
MW-137B	LL4	511704.4	2622846	8/5/2010	Shallow	62.6	72.1	350
MW-137E	LL4	511706.8	2622857	8/5/2010	Shallow	42.35	62.05	2700
MW-138A	LL4	512816.6	2622366	8/5/2010	Intermediate	117.1	126.6	3
MW-138B	LL4	512817.2	2622378	8/5/2010	Shallow	64.49	73.99	2200
MW-139A	LL4	514264.3	2621290	8/5/2010	Intermediate	131.5	141	1.4
MW-139B	LL4	514275.4	2621297	8/5/2010	Shallow	71.33	81.2	350
MW-140A	LL4	503375.8	2634718	8/9/2010	Intermediate	37	46.5	ND
MW-140B	LL4	503383.6	2634717	8/9/2010	Shallow	13	22.5	ND
MW-140O	LL4	503393.3	2634717	8/5/2010	Shallow	6.5	9	ND
MW-15	LL4	509482.9	2622745	4/7/2008	Shallow	37	47	ND
MW-151A	LL4	506668.1	2624393	9/24/2010	Intermediate	94	104	1000
MW-151B	LL4	506667.3	2624386	9/24/2010	Shallow	70	80	47
MW-151B	LL4	506667.3	2624386	9/24/2010	Shallow	70	80	960
MW-152B	LL4	506805.7	2627865	9/23/2010	Shallow	60	70	21
MW-153A	LL4	504130.2	2627200	9/23/2010	Intermediate	89.5	99.5	910
MW-153B	LL4	504129.5	2627193	9/23/2010	Shallow	69	79	440
MW-154A	LL4	504308.3	2631170	9/23/2010	Intermediate	76	86	24
MW-154B	LL4	504308.2	2631165	9/23/2010	Shallow	55	65	15
MW-155A	LL4	502435.5	2629445	9/23/2010	Intermediate	89	99	690
MW-155E	LL4	502444.3	2629445	9/23/2010	Intermediate	69	79	630
MW-156A	LL4	501928.8	2633020	9/23/2010	Intermediate	36	46	4.2
MW-156B	LL4	501922.5	2633018	9/23/2010	Shallow	16	26	ND
MW-157A	LL4	499117.5	2632549	9/23/2010	Intermediate	45	55	46
MW-157B	LL4	499118.1	2632559	9/23/2010	Shallow	27	37	ND
MW-158A	LL4	493887.9	2635280	9/23/2010	Intermediate	27	37	ND
MW-158B	LL4	493887.6	2635272	9/23/2010	Shallow	14	24	ND
MW-159A	LL4	510307.8	2629112	9/23/2010	Intermediate	110	120	ND
MW-159B	LL4	510300.6	2629112	9/23/2010	Shallow	75	85	ND
MW-18A	LL4	506832.3	2629150	2/22/2010	Intermediate	122	125	0.78 J
MW-18B	LL4	506827.5	2629157	2/22/2010	Intermediate	NA	NA	1.3
MW-18C	LL4	506821.9	2629149	2/22/2010	Shallow	36.7	46.7	13
MW-36A	LL4	496694.9	2634815	4/12/2007	Intermediate	28	38	37.4
MW-36A	LL4	496694.9	2634815	4/12/2007	Intermediate	28	38	38.4
MW-36B	LL4	496692.9	2634806	4/12/2007	Shallow	17	27	24.4
MW-37A	LL4	491651.9	2633418	3/15/2007	Intermediate	30	40	ND
MW-37B	LL4	491631.6	2633417	3/15/2007	Shallow	24	29	ND
MW-38A	LL4	496248.6	2638132	7/21/2010	Intermediate	44.7	49.2	ND
MW-39A	LL4	499304.7	2640062	3/13/2006	Intermediate	44	48.5	ND
MW-40A	LL4	511963.4	2623019	2/25/2009	Intermediate	120.5	125.5	3.7
MW-40B	LL4	511962.8	2623007	6/16/2010	Shallow	54	64	110 J
MW-41A	LL4	512001.3	2624371	7/20/2010	Intermediate	71.5	81.5	ND
MW-41B	LL4	512001.4	2624362	7/20/2010	Shallow	36	46	ND
MW-42A	LL4	501582.6	2629385	7/2/2010	Intermediate	86	96	64
MW-42B	LL4	501592.6	2629385	7/2/2010	Shallow	53	63	2.2
MW-43A	LL4	504317.9	2629243	1/12/2010	Intermediate	90.5	100.5	7.3

Table 3-2
TCE in Monitoring Wells and Direct-Push Samples (2006-2010)
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Location	Load Line	Northing (NAD 83)	Easting (NAD 83)	Date of Sample	Aquifer Designation	Top Sample Depth (ft bgs)	Bottom Sample Depth (ft bgs)	TCE Result (µg/L)
MW-43B	LL4	504328.2	2629244	1/12/2010	Shallow	40	50	3.6
MW-44A	LL4	500415.1	2632954	7/2/2010	Intermediate	29.5	39.5	130
MW-44B	LL4	500426.3	2632955	7/2/2010	Shallow	16	26	4.4
MW-45A	LL4	499241.1	2635044	9/13/2006	Intermediate	28	38	17.8
MW-45A	LL4	499241.1	2635044	9/13/2006	Intermediate	28	38	18.1
MW-45B	LL4	499241.1	2635054	9/13/2006	Shallow	17	27	21.5
MW-46A	LL4	499387.4	2637465	7/12/2010	Intermediate	33.2	43.2	ND
MW-46B	LL4	499396.7	2637464	7/12/2010	Shallow	21	31	ND
MW-52A	LL4	508784.6	2627013	2/18/2009	Intermediate	48	58	0.48 J
MW-52B	LL4	508778.9	2627004	2/18/2009	Shallow	42.5	52.5	0.53 J
MW-53A	LL4	508169.9	2627898	9/26/2007	Intermediate	87	97	0.45 J
MW-53B	LL4	508166.6	2627885	9/26/2007	Shallow	27.5	37.5	18
MW-54A	LL4	508858.3	2627894	2/5/2010	Intermediate	66	76	ND
MW-54B	LL4	508856	2627884	2/5/2010	Shallow	24	29	ND
MW-55A	LL4	508377.7	2628135	8/4/2010	Intermediate	74	84	ND
MW-55B	LL4	508374.2	2628126	8/4/2010	Shallow	56	66	0.43 J
MW-56A	LL4	508215.3	2628206	8/14/2008	Intermediate	69	79	ND
MW-56B	LL4	508217.3	2628195	8/14/2008	Shallow	21	31	0.45 J
MW-62A	LL4	493874.2	2635397	7/6/2010	Intermediate	27	37	2.7
MW-62B	LL4	493872	2635385	7/6/2010	Shallow	17	24	0.99 J
MW-64B	LL4	510106	2628039	2/5/2010	Shallow	19	29	ND
MW-72A	LL4	512064.7	2622931	6/16/2010	Intermediate	88	108	2.7
MW-72B	LL4	512064.2	2622922	6/16/2010	Shallow	40	70	2200
MW-73A	LL4	511909.2	2623061	6/16/2010	Intermediate	88	108	1
MW-73B	LL4	511908.7	2623052	6/16/2010	Shallow	40	70	230
MW-74A	LL4	511934.8	2623094	12/12/2007	Intermediate	88.1	108.1	1.6
MW-74B	LL4	511934.8	2623085	12/12/2007	Shallow	40	70	290
MW-75A	LL4	511962.3	2623130	12/12/2007	Intermediate	87.1	107.1	2.7
MW-75B	LL4	511961.8	2623120	12/12/2007	Shallow	40	70	330
MW-76A	LL4	511983.3	2623159	12/12/2007	Intermediate	88	108.5	1.7
MW-76B	LL4	511982.6	2623149	12/12/2007	Shallow	40.5	70.5	140
MW-77A	LL4	512008	2623192	12/12/2007	Intermediate	83.5	103.5	1.7
MW-77B	LL4	512007.3	2623181	12/12/2007	Shallow	40	70	140
MW-78A	LL4	512032.8	2623224	2/24/2009	Intermediate	85	105	ND
MW-78B	LL4	512031.3	2623214	2/24/2009	Shallow	40	70	50
MW-78B	LL4	512031.3	2623214	2/24/2009	Shallow	40	70	51
MW-87A	LL4	491898	2635040	2/15/2010	Intermediate	36	46	ND
MW-87B	LL4	491901	2635035	2/15/2010	Shallow	17	27	ND
MW-88A	LL4	494045.1	2637644	7/21/2010	Intermediate	35	45	ND
MW-88B	LL4	494044.2	2637639	7/21/2010	Shallow	20	30	ND

Notes:
µg/L - Micrograms per liter
bgs = below ground surface
ft bgs = Feet below ground surface
BAZE = Biologically Active Zone Enhancement
EW = Extraction Well
GP = Direct Push
J = Estimated from Laboratory
LL = Load Line
MW = Monitoring Well
NA = Information Not Available
NAD 83- North American Datum of 1983
ND = Not Detected
NOP = Nebraska Ordnance Plant
OW = Observation Well
PZ = Piezometer
TCE = trichloroethene

Table 5-1
Simulation Periods
2010 Groundwater Model Report
Former NOP, Mead, Nebraska

Stress Period	Elapsed Time	Dates	
1	1	3/29/2007	
2	63	3/30/2007	5/31/2007
3	155	6/1/2007	8/31/2007
4	246	9/1/2007	11/30/2007
5	337	12/1/2007	2/29/2008
6	429	3/1/2008	5/31/2008
7	521	6/1/2008	8/31/2008
8	544	9/1/2008	9/23/2008
9	564	9/24/2008	10/13/2008
10	575	10/14/2008	10/24/2008
11	581	10/25/2008	10/30/2008
12	582	10/31/2008	10/31/2008
13	612	11/1/2008	11/30/2008
14	675	12/1/2008	2/1/2009
15	702	2/1/2009	2/28/2009
16	794	3/1/2009	5/31/2009
17	886	6/1/2009	8/31/2009
18	977	9/1/2009	11/30/2009
19	1064	12/1/2009	2/25/2010
20	1067	2/25/2010	2/28/2010
21	1159	3/1/2010	5/31/2010
22	1246	6/1/2010	8/26/2010

Notes:
NOP - Nebraska Ordnance Plant

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Table 5-2
Model Water Budget
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Location	Inflow (ft/day)	Outflow (ft/day)
Layer 1		
Recharge	1.47E+06	0.00E+00
ET	0.00E+00	3.80E+06
Drain (drain tiles and creeks)	0.00E+00	8.31E+05
Bottom (Flow to/from Layer 2)	3.47E+06	3.13E+05
Layer 2		
Recharge	1.97E+06	0.00E+00
ET	0.00E+00	0.00E+00
River	1.02E+07	4.37E+06
Drain (Stream)	0.00E+00	0.00E+00
General Head Boundary	3.75E+05	4.24E+05
Well	0.00E+00	1.94E+06
Bottom (Flow to/from Layer 3)	3.39E+06	6.05E+06
Top (Flow to/from Layer 1)	3.13E+05	3.47E+06
Layer 3		
Recharge	5.34E+03	0.00E+00
General Head Boundary	3.66E+05	4.18E+05
Well	0.00E+00	2.61E+06
Top (Flow to/from Layer 2)	6.05E+06	3.39E+06
Model		
Recharge	3.45E+06	0.00E+00
ET	0.00E+00	3.80E+06
River	1.02E+07	4.37E+06
Drain (Stream and Drain Tiles)	0.00E+00	8.31E+05
General Head Boundary	7.41E+05	8.42E+05
Well	0.00E+00	4.55E+06
Total	1.44E+07	1.44E+07
Error		-3.56E-03

Notes:

ft/day - Feet per day
gpm - Gallons per Minute
ET - Evapotranspiration
NOP - Nebraska Ordnance Plant

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Table 5-3
Residuals from Steady State Calibration
2010 Groundwater Model Report
Former NOP, Mead, Nebraska

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
PZ-01	1	2632385.13	499049.59	3	1082.35	1081.795011	1	1	0.554989
PZ-02	1	2631558.74	499022.44	3	1083.7	1083.538248	1	1	0.161752
PZ-03	1	2633505.55	501788.92	3	1085.38	1084.040629	1	1	1.339371
PZ-04	1	2636059.39	501690.72	3	1082.58	1081.544705	1	1	1.035295
PZ-05	1	2639988.15	502024.73	3	1083.01	1082.088884	1	1	0.921116
PZ-06	1	2636834.71	504539.69	3	1085.73	1084.976021	1	1	0.753979
S.Keiser	1	2632579.63	493968.08	3	1078.31	1077.798988	1	1	0.511012
TH-EW-12	1	2610738.32	493102.14	3	1078.91	1074.816172	1	1	4.093828
TH-EW-13	1	2611511.12	493072.65	3	1099.46	1098.743272	1	1	0.716728
TV-16	1	2623841.69	492107.27	3	1088.27	1088.293367	1	1	-0.023367
TV-17A	1	2627487.94	482977.99	3	1088.27	1080.519493	1	1	7.750507
Frahm	1	2626738.84	493304.52	3	1086.38	1085.818721	1	1	0.561279
Hanson	1	2623180.17	493348.86	3	1089.26	1088.890394	1	1	0.369606
LPN_06-20	1	2631355.09	520347.13	3	1139	1137.253058	1	1	1.746942
M90-02	1	2645833.34	489117.85	3	1072.98	1073.480207	1	1	-0.500207
M90-04	1	2640807.93	484163.23	3	1069.1	1070.002117	1	1	-0.902117
M90-12R	1	2647999.03	479369.24	3	1064.19	1065.785681	1	1	-1.595681
M90-15	1	2641258.12	472881.56	3	1061.15	1063.386507	1	1	-2.236507
M90-20R	1	2651427.57	470805.41	3	1058.46	1059.162444	1	1	-0.702444
M90-21	1	2642068.72	468390.33	3	1057.8	1058.236074	1	1	-0.436074
M90-24R	1	2650175.62	465992.63	3	1050.47	1051.387665	1	1	-0.917665
M90-26R	1	2652730.86	465392.21	3	1053.16	1053.225158	1	1	-0.065158
MUD_94-3	1	2646191.75	498899.86	3	1082.33	1081.51144	1	1	0.81856
MUD_94-4	1	2645711.85	509564.7	3	1092.09	1091.619114	1	1	0.470886
MUD_94-7	1	2643737.28	493588.88	3	1077.87	1076.799107	1	1	1.070893
OW-64	1	2627299.94	497308.27	3	1085.88	1085.619198	1	1	0.260802
OW-65	1	2627672.94	497146.26	3	1085.73	1085.778094	1	1	-0.048094
OW-66	1	2622938.07	497314.2	3	1087.66	1088.578198	1	1	-0.918198
OW-67	1	2622730.72	497150.23	3	1088.52	1088.115426	1	1	0.404574
OW-68	1	2622418.58	496526.17	3	1089.07	1088.81624	1	1	0.25376
OW-69	1	2623044.57	497134.81	3	1088.44	1088.725483	1	1	-0.285483
OW-70	1	2623340.91	496845.85	3	1089.16	1089.104698	1	1	0.055302
OW-71	1	2623796.31	497474.1	3	1090.01	1089.969889	1	1	0.040111
OW-72	1	2620345.78	495292.98	3	1089.93	1089.372277	1	1	0.557723
OW-73	1	2620217.61	495239.66	3	1090.64	1090.184927	1	1	0.455073
OW-74	1	2619854.18	494895.06	3	1091.29	1091.107377	1	1	0.182623
OW-75	1	2620487.46	495139.42	3	1090.53	1089.747778	1	1	0.782222
OW-76	1	2620657.85	494777.17	3	1090.82	1090.242843	1	1	0.577157
OW-77	1	2621414.78	495808.38	3	1089.7	1089.143966	1	1	0.556034
OW-78	1	2609111.28	499977.47	3	1113.48	1112.942005	1	1	0.537995
OW-79	1	2608989.6	499915.27	3	1113.19	1112.714268	1	1	0.475732
OW-80	1	2608751.82	499731.59	3	1112.28	1111.996472	1	1	0.283528
OW-81	1	2609233.49	499803.1	3	1112.59	1112.486104	1	1	0.103896
OW-82	1	2609366	499415.33	3	1111.36	1111.501281	1	1	-0.141281
OW-83	1	2609754.89	500075.01	3	1113.7	1113.213995	1	1	0.486005
OW-89	1	2632605.05	496433.6	3	1077.314	1077.670275	1	1	-0.356275
Brabec	1	2618637.53	493130.49	3	1094.22	1093.752739	1	1	0.467261
LPN_06-01	1	2642292.17	478302.11	3	1066.28	1066.665252	1	1	-0.385252
LPN_06-18	1	2635721.74	504500.62	3	1086.51	1086.273342	1	1	0.236658
LPN_06-21	1	2628536.27	525369.84	3	1144.5	1144.316213	1	1	0.183787
M90-01	1	2640590.79	488958.8	3	1071.9	1072.939535	1	1	-1.039535
M90-05R	1	2645266.37	482393.07	3	1068.16	1067.311686	1	1	0.848314
M90-09	1	2640866.61	478557.35	3	1065.38	1066.984549	1	1	-1.604549
M90-16R	1	2645344.89	473282.19	3	1061.09	1065.472761	1	1	-4.382761
M90-17R	1	2648791.5	473326.64	3	1060.45	1061.969227	1	1	-1.519227
M90-22R	1	2645116.45	467804.04	3	1058.06	1056.968309	1	1	1.091691
M90-23R	1	2649222.45	468585.23	3	1053.5	1054.636783	1	1	-1.136783
M90-36R	1	2653436.76	465017.15	3	1053.51	1053.92542	1	1	-0.41542
M90-37	1	2652867.09	463331.64	3	1052.36	1052.779642	1	1	-0.419642
MUD_90-10	1	2645430.5	516093.59	3	1096.03	1096.62297	1	1	-0.59297
MUD_94-5	1	2640274.41	514549.3	3	1094.75	1094.01944	1	1	0.73056
MUD_94-6	1	2639186.28	503954.84	3	1084.86	1083.783778	1	1	1.076222
MW-15	1	2622745.33	509482.9	2	1121.012	1121.474376	1	1	-0.462376
MW-16B	1	2604911.66	514026.38	3	1148.63	1148.176318	1	1	0.453682
MW-16C	1	2604917.63	514034.74	2	1148.601	1148.194709	1	1	0.406291
MW-17A	1	2603293.03	499100.33	3	1117.75	1118.743248	1	1	-0.993248
MW-17B	1	2603293.03	499101.48	3	1118.47	1118.746946	1	1	-0.276946
MW-17C	1	2603293.48	499090.31	2	1119.39	1118.713597	1	1	0.676403

Table 5-3
Residuals from Steady State Calibration
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Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-18A	1	2629150.33	506832.34	3	1099.854	1100.605829	1	1	-0.751829
MW-18B	1	2629156.57	506827.46	3	1099.48	1100.577646	1	1	-1.097646
MW-18C	1	2629148.53	506821.93	2	1101.71	1100.584693	1	1	1.125307
MW-19A	1	2618421.42	517577.13	3	1141.381	1141.384365	1	1	-0.003365
MW-19B	1	2618429.63	517576.97	3	1141.17	1141.375281	1	1	-0.205281
MW-20A	1	2616622.54	493189.94	3	1095.935	1096.64714	1	1	-0.71214
MW-20B	1	2616633.43	493191.47	3	1095.957	1096.635821	1	1	-0.678821
MW-20C	1	2616611.43	493187.61	2	1097.737	1096.659443	1	1	1.077557
MW-21A	1	2607121.37	503524.81	3	1125	1124.454423	1	1	0.545577
MW-21B	1	2607111.29	503524.05	2	1125	1124.463471	1	1	0.536529
MW-22A	1	2606598.39	510402.07	3	1140.09	1139.947802	1	1	0.142198
MW-22B	1	2606604.48	510403.43	2	1140	1139.948293	1	1	0.051707
MW-23A	1	2606402.57	509376.37	3	1137.37	1137.543473	1	1	-0.173473
MW-23B	1	2606393.06	509383.87	2	1137.37	1137.569854	1	1	-0.199854
MW-24A	1	2608476.9	501919.83	3	1118.65	1118.876673	1	1	-0.226673
MW-24B	1	2608477.73	501909.01	2	1118.91	1118.847943	1	1	0.062057
MW-25A	1	2608308.41	504875.16	3	1125.94	1126.15139	1	1	-0.21139
MW-25B	1	2608308.27	504885.58	2	1125.99	1126.173074	1	1	-0.183074
MW-26A	1	2609860.44	508825.09	3	1135.75	1134.945154	1	1	0.804846
MW-26B	1	2609849.9	508824.87	2	1135.65	1134.948542	1	1	0.701458
MW-27A	1	2611434.64	508103.04	3	1132.74	1132.300326	1	1	0.439674
MW-27B	1	2611427.01	508110.55	2	1132.79	1132.328399	1	1	0.461601
MW-28A	1	2612951.02	502242.71	3	1117.02	1117.109601	1	1	-0.089601
MW-28B	1	2612936.01	502242.26	2	1116.81	1117.123053	1	1	-0.313053
MW-29A	1	2614469.84	498383.11	3	1106	1105.689224	1	1	0.310776
MW-29B	1	2614460.98	498382.37	2	1106.07	1105.699135	1	1	0.370865
MW-30A	1	2616288.05	507064.55	3	1123.98	1124.004083	1	1	-0.024083
MW-30B	1	2616281.84	507065.86	2	1123.97	1124.020062	1	1	-0.050062
MW-31A	1	2617943.95	503233.7	3	1113.88	1113.150431	1	1	0.729569
MW-31B	1	2617935.17	503238.63	2	1113.29	1113.176763	1	1	0.113237
MW-32A	1	2619697.25	499062.26	3	1100.05	1100.125758	1	1	-0.075758
MW-32B	1	2619696.91	499069.08	2	1100.04	1100.145167	1	1	-0.105167
MW-33A	1	2622410.84	502847.91	3	1105.88	1105.168601	1	1	0.711399
MW-33B	1	2622401.05	502854.78	2	1103.96	1105.193304	1	1	-1.233304
MW-34A	1	2624442.78	498806.3	3	1092.64	1093.078497	1	1	-0.438497
MW-34B	1	2624443.06	498814.11	2	1092.68	1093.102098	1	1	-0.422098
MW-35A	1	2629595.76	496323.64	3	1082.47	1082.861073	1	1	-0.391073
MW-35B	1	2629595.84	496329.37	2	1082.43	1082.861502	1	1	-0.431502
MW-52A	1	2627012.55	508784.57	3	1116.54	1115.575882	1	1	0.964118
MW-52B	1	2627004.24	508778.94	2	1116.24	1115.585568	1	1	0.654432
MW-53A	1	2627897.77	508169.88	3	1106.53	1108.230706	1	1	-1.700706
MW-53B	1	2627885.4	508166.61	2	1107.36	1108.264283	1	1	-0.904283
MW-54A	1	2627893.82	508858.25	3	1108.77	1110.957182	1	1	-2.187182
MW-54B	1	2627883.88	508855.98	2	1111.74	1110.986624	1	1	0.753376
MW-55A	1	2628135.4	508377.66	3	1106.73	1108.15093	1	1	-1.42093
MW-55B	1	2628125.88	508374.22	2	1106.96	1108.175878	1	1	-1.215878
MW-56A	1	2628206.01	508215.32	3	1106.01	1107.240785	1	1	-1.230785
MW-56B	1	2628195.32	508217.29	2	1106.89	1107.292459	1	1	-0.402459
MW-57B	1	2607621.51	516363.44	2	1151.26	1151.301807	1	1	-0.041807
MW-60A	1	2624702.83	489585.15	3	1086.577	1086.803936	1	1	-0.226936
MW-60B	1	2624703.22	489598.7	2	1086.577	1086.810856	1	1	-0.233856
MW-61A	1	2608656.02	492900.05	3	1101.537	1101.717659	1	1	-0.180659
MW-61B	1	2608644.38	492898.6	2	1101.527	1101.723354	1	1	-0.196354
MW-62A	1	2635396.62	493874.24	3	1074.964	1074.717332	1	1	0.246668
MW-62B	1	2635385.06	493871.95	2	1074.944	1074.712648	1	1	0.231352
MW-63B	1	2613167.91	519473.6	2	1152.11	1152.146281	1	1	-0.036281
MW-64B	1	2628038.55	510106.02	2	1116.22	1117.858508	1	1	-1.638508
MW-01A	1	2618459.72	511743.03	3	1131	1131.211415	1	1	-0.211415
MW-01B	1	2618469.56	511743.23	2	1131.305	1131.200809	1	1	0.104191
MW-03A	1	2607532.26	506223.42	3	1128.995	1129.079229	1	1	-0.084229
MW-03B	1	2607542.05	506225.42	2	1129.11	1129.079032	1	1	0.030968
MW-04A	1	2612041.94	506256.77	3	1127.514	1126.773034	1	1	0.740966
MW-04B	1	2612051.44	506259.36	2	1127.502	1126.774512	1	1	0.727488
MW-05A	1	2613044.09	507097.63	3	1128.483	1128.261465	1	1	0.221535
MW-05B	1	2613053.87	507097.47	2	1128.366	1128.255028	1	1	0.110972
MW-06A	1	2617375.69	506522.12	3	1120.594	1121.506052	1	1	-0.912052
MW-06B	1	2617384.61	506525.48	2	1121.58	1121.500176	1	1	0.079824
MW-07A	1	2618267.1	507274.83	3	1121.872	1121.715486	1	1	0.156514

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Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-07B	1	2618276.53	507276.12	2	1121.891	1121.703008	1	1	0.187992
MW-08A	1	2622863.97	506814.76	3	1114.412	1115.195147	1	1	-0.783147
MW-08B	1	2622872.08	506820.56	2	1114.42	1115.198963	1	1	-0.778963
MW-09A	1	2623570.81	507435.84	3	1115.44	1115.889951	1	1	-0.449951
MW-100A	1	2629718.84	493770.41	3	1082.31	1081.985309	1	1	0.324691
MW-100B	1	2629718.07	493777.19	2	1082.29	1081.988526	1	1	0.301474
MW-101A	1	2610929.39	491574.12	3	1098.37	1098.351197	1	1	0.018803
MW-101B	1	2610923.62	491573.82	2	1098.41	1098.354331	1	1	0.055669
MW-103A	1	2623590.77	513115.79	3	1127.38	1128.706566	1	1	-1.326566
MW-103B	1	2623591.23	513110.25	2	1127.73	1128.697163	1	1	-0.967163
MW-107A	1	2631375.72	506138.76	3	1093.98	1093.857818	1	1	0.122182
MW-107B	1	2631374.08	506125.16	2	1092.96	1093.84162	1	1	-0.88162
MW-108A	1	2631915.55	505912.28	3	1093.12	1092.79405	1	1	0.32595
MW-108B	1	2631917.07	505899.47	2	1092.43	1092.775286	1	1	-0.345286
MW-10A	1	2607883.83	496858.27	3	1107.998	1107.966227	1	1	0.031773
MW-10B	1	2607893.74	496858.92	2	1108.02	1107.964938	1	1	0.055062
MW-11	1	2626486.32	509499.8	3	1123.675	1121.527037	1	1	2.147963
MW-110A	1	2634397.71	504432.79	3	1087.58	1087.939744	1	1	-0.359744
MW-110B	1	2634397.16	504438.89	2	1087.59	1087.94854	1	1	-0.35854
MW-114A	1	2637470.6	497206.93	3	1077.55	1076.855515	1	1	0.694485
MW-114B	1	2637465.73	497204.32	2	1077.5	1076.840921	1	1	0.659079
MW-115A	1	2637702.52	495346.88	3	1076.72	1076.278006	1	1	0.441994
MW-115B	1	2637696.42	495346.87	2	1076.71	1076.275237	1	1	0.434763
MW-116A	1	2636335.8	495297.6	3	1075.88	1075.504623	1	1	0.375377
MW-116B	1	2636331.54	495297.24	2	1075.89	1075.501937	1	1	0.388063
MW-117A	1	2631041.42	495048	3	1080.76	1080.438014	1	1	0.321986
MW-117B	1	2631040.5	495053.98	2	1080.76	1080.441926	1	1	0.318074
MW-118A	1	2625905.31	496207.7	3	1082.7	1087.661222	1	1	-4.961222
MW-118B	1	2625884.54	496207.84	2	1082.7	1087.687136	1	1	-4.987136
MW-12	1	2606856.25	509013.88	3	1138.499	1136.400263	1	1	2.098737
MW-13	1	2612231.38	509178.55	2	1134.175	1134.773066	1	1	-0.598066
MW-14	1	2617504.71	509391.07	2	1128.441	1127.798007	1	1	0.642993
MW-36A	1	2634814.84	496694.95	3	1076.02	1075.868246	1	1	0.151754
MW-36B	1	2634805.75	496692.86	2	1076.05	1075.868943	1	1	0.181057
MW-37A	1	2633418.32	491651.94	3	1076.68	1076.399515	1	1	0.280485
MW-37B	1	2633416.51	491631.65	2	1076.71	1076.395848	1	1	0.314152
MW-38A	1	2638131.88	496248.57	3	1077.12	1076.862177	1	1	0.257823
MW-39A	1	2640062.25	499304.69	3	1080.35	1079.896427	1	1	0.453573
MW-40B	1	2623006.75	511962.76	2	1129.64	1127.013056	1	1	2.626944
MW-41A	1	2624371.47	512001.33	3	1125.93	1125.978253	1	1	-0.048253
MW-41B	1	2624361.83	512001.37	2	1125.95	1125.986342	1	1	-0.036342
MW-42A	1	2629385.2	501582.56	3	1091.1	1091.165416	1	1	-0.065416
MW-42B	1	2629385.28	501592.64	2	1091.1	1091.1818	1	1	-0.0818
MW-43A	1	2629243.07	504317.91	3	1094.64	1095.041996	1	1	-0.401996
MW-43B	1	2629244.24	504328.2	2	1094.5	1095.054856	1	1	-0.554856
MW-44A	1	2632953.68	500415.12	3	1083.13	1081.823011	1	1	1.306989
MW-44B	1	2632954.9	500426.32	2	1081.76	1081.823093	1	1	-0.063093
MW-45A	1	2635043.54	499241.12	3	1078.23	1078.06322	1	1	0.16678
MW-45B	1	2635043.54	499241.12	2	1078.47	1078.062521	1	1	0.407479
MW-46A	1	2637464.94	499387.37	3	1079.39	1078.925777	1	1	0.464223
MW-46B	1	2637464.42	499396.68	2	1079.36	1078.933542	1	1	0.426458
MW-47A	1	2603834.71	524480.73	3	1168.83	1167.558121	1	1	1.271879
MW-47B	1	2603819.42	524480.21	2	1168.9	1167.5651	1	1	1.3349
MW-78A	1	2623223.84	512032.75	3	1125.563	1127.011451	1	1	-1.448451
MW-78B	1	2623213.77	512031.3	2	1125.723	1127.015295	1	1	-1.292295
MW-79A	1	2610432.14	492336.21	3	1098.78	1098.875921	1	1	-0.095921
MW-79B	1	2610428.14	492345.18	2	1098.75	1098.881644	1	1	-0.131644
MW-80A	1	2610925.54	492067.12	3	1098.54	1098.421877	1	1	0.118123
MW-80B	1	2610916.24	492064.59	2	1098.49	1098.427043	1	1	0.062957
MW-81A	1	2611637.99	492369.38	3	1098.53	1098.520319	1	1	0.009681
MW-81B	1	2611635.91	492360.36	2	1098.5	1098.515994	1	1	-0.015994
MW-82A	1	2619288.65	493318.05	3	1092.77	1092.710192	1	1	0.059808
MW-82B	1	2619284.94	493325.47	2	1092.76	1092.715796	1	1	0.044204
MW-83A	1	2621924.08	495274.66	3	1089.9	1089.1774	1	1	0.7226
MW-83B	1	2621921.79	495302.77	2	1089.82	1089.159702	1	1	0.660298
MW-84A	1	2624277.77	495685.51	3	1088.84	1088.525449	1	1	0.314551
MW-84AR_(Abandoned)	1	2624273.89	495704.26	3	1088.84	1088.534644	1	1	0.305356
MW-84B	1	2624272.04	495712.9	2	1089.3	1088.539459	1	1	0.760541

Table 5-3
Residuals from Steady State Calibration
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Former NOP, Mead, Nebraska

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-85A	1	2628326.53	494439.02	3	1084	1084.006305	1	1	-0.006305
MW-85B	1	2628315.15	494449.81	2	1084.08	1084.023924	1	1	0.056076
MW-86A	1	2631939.21	493759.74	3	1079.75	1078.781486	1	1	0.968514
MW-86B	1	2631933.61	493758.65	2	1079.34	1078.790021	1	1	0.549979
MW-87A	1	2635039.81	491898.03	3	1074.16	1074.549137	1	1	-0.389137
MW-87B	1	2635035.21	491900.97	2	1074.13	1074.551514	1	1	-0.421514
MW-88A	1	2637643.92	494045.13	3	1076.22	1075.769945	1	1	0.450055
MW-88B	1	2637639.18	494044.21	2	1076.15	1075.768259	1	1	0.381741
MW-89A	1	2610430.84	494253.88	3	1102.44	1103.007017	1	1	-0.567017
MW-89B	1	2610408.69	494254.1	2	1102.35	1103.004198	1	1	-0.654198
MW-90A	1	2611235.54	494302.04	3	1102.74	1102.868354	1	1	-0.128354
MW-90B	1	2611226.6	494297.96	2	1102.39	1102.865974	1	1	-0.475974
MW-91A	1	2612076.97	494323	3	1103.26	1102.504397	1	1	0.755603
MW-91B	1	2612067.85	494317.53	2	1103.08	1102.502331	1	1	0.577669
MW-92A	1	2610047.26	492722.58	3	1099.28	1099.706275	1	1	-0.426275
MW-92B	1	2610047.8	492733.82	2	1099.36	1099.710481	1	1	-0.350481
MW-93A	1	2612162.89	493551.29	3	1101.13	1100.939389	1	1	0.190611
MW-93B	1	2612154.07	493546.8	2	1101.09	1100.937432	1	1	0.152568
MW-94A	1	2617023.16	496428.72	3	1099.18	1099.375725	1	1	-0.195725
MW-94B	1	2617023.07	496434.5	2	1099.26	1099.385052	1	1	-0.125052
MW-95A	1	2617552.81	494508.64	3	1096.74	1096.26276	1	1	0.47724
MW-95B	1	2617546.97	494508.01	2	1096.74	1096.274629	1	1	0.465371
MW-96A	1	2621468.23	493387.73	3	1090.41	1090.254322	1	1	0.155678
MW-96B	1	2621468.23	493387.8	2	1090.4	1090.254518	1	1	0.145482
MW-97A	1	2623938.04	493492.83	3	1088.45	1088.325759	1	1	0.124241
MW-97B	1	2623932.7	493492.45	2	1088.46	1088.33035	1	1	0.12965
MW-98A	1	2626495.3	493604.94	3	1086.37	1086.127996	1	1	0.242004
MW-98B	1	2626488.71	493605.28	2	1086.43	1086.1352	1	1	0.2948
MW-99A	1	2627117.43	498780.95	3	1088.92	1089.873483	1	1	-0.953483
MW-99B	1	2627118.41	498787.93	2	1088.94	1089.885257	1	1	-0.945257
N.Wann	1	2642527.93	520660.55	3	1104.36	1103.231706	1	1	1.128294
OW-01	1	2607922.86	499747.98	3	1108.47	1107.453452	1	1	1.016548
OW-02	1	2607882.8	499737.42	3	1109.15	1108.71539	1	1	0.43461
OW-03	1	2607936.15	499790.42	3	1108.67	1106.641735	1	1	2.028265
OW-04	1	2607936.23	499764.72	3	1107.66	1106.39822	1	1	1.26178
OW-05	1	2634934.82	495184.29	3	1071.96	1073.485421	1	1	-1.525421
OW-06	1	2634884.33	495208.11	3	1072.77	1073.812315	1	1	-1.042315
OW-07	1	2634884.15	495203.34	3	1073.3	1073.785741	1	1	-0.485741
OW-08	1	2634786.34	495194.19	3	1073.69	1074.128788	1	1	-0.438788
OW-09	1	2634937.8	495134.36	3	1072.99	1072.627264	1	1	0.362736
OW-10	1	2635084.86	495206.73	3	1073.81	1074.083733	1	1	-0.273733
OW-11	1	2635254.36	495167.81	3	1074.16	1074.43709	1	1	-0.27709
OW-12	1	2636332.13	495279.48	3	1075.47	1075.496536	1	1	-0.026536
OW-13	1	2634929.33	495121.8	3	1072.84	1072.328878	1	1	0.511122
OW-14	1	2634937.07	494987.77	3	1073.74	1073.862542	1	1	-0.122542
OW-15	1	2634948.12	494788.06	3	1074.03	1074.247055	1	1	-0.217055
OW-16	1	2633480.01	495159.25	3	1075.43	1076.001362	1	1	-0.571362
OW-17	1	2607999.94	499877.66	3	1110.12	1109.875987	1	1	0.244013
OW-18	1	2608114.43	499884.02	3	1110.81	1110.840885	1	1	-0.030885
OW-19	1	2608709.98	499902.62	3	1112.96	1112.443479	1	1	0.516521
OW-20	1	2607954.58	499696.42	3	1109.07	1108.533953	1	1	0.536047
OW-21	1	2607936.83	499559.45	3	1109.78	1110.08883	1	1	-0.30883
OW-22	1	2608019.74	499355.14	3	1110.53	1110.479221	1	1	0.050779
OW-23	1	2607158.35	499656.44	3	1111.91	1111.772586	1	1	0.137414
OW-24	1	2629552.06	496984.5	3	1081.98	1081.803491	1	1	0.176509
OW-25	1	2629511.42	496932.08	3	1082.38	1082.302677	1	1	0.077323
OW-27	1	2629582.05	496942.21	3	1082.09	1082.309437	1	1	-0.219437
OW-28	1	2629581.52	496898	3	1082.16	1082.476565	1	1	-0.316565
OW-30	1	2629965.06	497303.88	3	1082.88	1083.368361	1	1	-0.488361
OW-31	1	2624242.96	497898.99	3	1089.9	1088.550867	1	1	1.349133
OW-32	1	2624139.95	497845.07	3	1090.51	1089.684505	1	1	0.825495
OW-33	1	2623750.57	497669.79	3	1090.63	1090.316788	1	1	0.313212
OW-34	1	2624320.18	497868.57	3	1089.3	1089.615752	1	1	-0.315752
OW-35	1	2624383.49	497738.45	3	1090.42	1089.815065	1	1	0.604935
OW-36	1	2624413	497337.59	3	1090.19	1089.621292	1	1	0.568708
OW-37	1	2624838.27	498178.35	3	1091.69	1091.085447	1	1	0.604553
OW-38	1	2621733.08	496294.86	3	1085.75	1084.005624	1	1	1.744376
OW-39	1	2621620.02	496212.33	3	1088.26	1087.414243	1	1	0.845757

Table 5-3
Residuals from Steady State Calibration
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Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
OW-40	1	2621297.36	495975.58	3	1090.08	1089.308394	1	1	0.771606
OW-41	1	2621816.64	496281.9	3	1084.74	1086.506765	1	1	-1.766765
OW-42	1	2621899.7	496169.43	3	1087.31	1087.676124	1	1	-0.366124
OW-43	1	2622135.38	495845.76	3	1089.29	1088.643632	1	1	0.646368
OW-44	1	2622302.63	496682.05	3	1089.5	1088.996309	1	1	0.503691
OW-45	1	2619203.17	494842.21	3	1089.38	1089.200971	1	1	0.179029
OW-46	1	2619059	494783.36	3	1091.9	1091.531559	1	1	0.368441
OW-47	1	2618684.83	494630.88	3	1093.74	1093.460877	1	1	0.279123
OW-48	1	2619283.37	494800.47	3	1089.96	1090.011618	1	1	-0.051618
OW-49	1	2619315.78	494671.87	3	1091.29	1091.01016	1	1	0.27984
OW-50	1	2619465.62	494300.16	3	1092.12	1091.812332	1	1	0.307668
OW-51	1	2619790.64	495096.02	3	1091.86	1091.29856	1	1	0.56144
OW-52	1	2610585.6	493033.91	3	1091.66	1091.422206	1	1	0.237794
OW-53	1	2610555.96	493019.67	3	1093.43	1092.753594	1	1	0.676406
OW-54	1	2611356.56	493520.93	3	1100.73	1100.64756	1	1	0.08244
OW-55	1	2610821.53	492991.93	3	1090.66	1090.935898	1	1	-0.275898
OW-56	1	2611642.99	493196.43	3	1100.37	1099.768188	1	1	0.601812
OW-58	1	2611366.56	493009.96	3	1098.94	1097.824074	1	1	1.115926
OW-59	1	2611579.97	493019.21	3	1099.7	1098.93382	1	1	0.76618
OW-60	1	2627137.87	497440.67	3	1085.63	1085.667207	1	1	-0.037207
OW-61	1	2627191.65	497571.53	3	1086.39	1086.604729	1	1	-0.214729
OW-62	1	2627351.22	497954.27	3	1087.4	1087.857893	1	1	-0.457893
OW-63	1	2627527.96	497841.89	3	1087	1087.404345	1	1	-0.404345
PV-37	1	2644077.01	514703.4	3	1095.92	1094.836294	1	1	1.083706
PV-38	1	2642740.13	516679.62	3	1096.44	1095.739073	1	1	0.700927
PV-39	1	2635348.7	501827.54	3	1082.82	1082.071432	1	1	0.748568
PV-40	1	2645297.73	502916.41	3	1085.29	1085.24157	1	1	0.04843
PV-41	1	2642173.78	514040.5	3	1093.89	1093.07381	1	1	0.81619
13N_10E32ADDD1_M90-30R	1	2657224	466089.97	3	1052.32	1053.594126	1	1	-1.274126
13N_10E32DBBA1_M28R_ISLAND_NORTH_WELL	1	2655098.69	465594.25	3	1054.22	1054.342709	1	1	-0.122709
13N_10E32DCAA1_M91-58R	1	2655932.93	464009.48	3	1049.64	1049.619213	1	1	0.020787
13N_10E32DCAC1_M90-29R	1	2655788.51	463800.77	3	1047.78	1051.120207	1	1	-3.340207
13N_10E32DCAD1_M91-50R	1	2656085.99	464016.01	3	1045.47	1048.363156	1	1	-2.893156
13N_10E32DDBC1_M91-54R	1	2656171.15	463817.09	3	1048.34	1049.789895	1	1	-1.449895
14N_10E5CBDD1(V1)	1	2650845.93	522428.61	3	1099.72	1101.355499	1	1	-1.635499
14N_8E2ADDA1	1	2607340.77	522692.44	3	1161.87	1162.803711	1	1	-0.933711
14N_8E3AACC1	1	2600711.92	523098.18	3	1165.38	1165.999429	1	1	-0.619429
14N_8E14CC1	1	2602677.44	508724.58	3	1137.33	1137.870128	1	1	-0.540128
14N_8E24ACD2_MEAD	1	2611823.4	506654.3	3	1128.71	1127.949226	1	1	0.760774
14N_8E27BAAB1	1	2599758.53	503210.55	3	1127.65	1127.885195	1	1	-0.235195
14N_8E36DD1	1	2613895.26	493065.13	3	1098.66	1098.967252	1	1	-0.307252
14N_9E4BD1	1	2624549.87	523910.02	3	1146	1147.912474	1	1	-1.912474
14N_9E20DD1	1	2624003.87	504150.95	3	1104.97	1105.965587	1	1	-0.995587
14N_9E26CBAB1	1	2635348.7	501827.54	3	1082.82	1082.071432	1	1	0.748568
14N_9E32DD1	1	2624278.44	493503.18	3	1088.13	1088.063674	1	1	0.066326

Residual Mean	0.02643
Abs. Res. Mean	0.634416
Res. Std. Dev.	1.013908
Sum of Squares	326.1004
RMS Error	1.014252
Min. Residual	-4.987136
Max. Residual	7.750507
Number of Observations	317
Range in Observations	123.43
Scaled Std. Dev.	0.008214
Scaled Abs. Mean	0.00514
Scaled RMS	0.008217

Notes:
Abs. = Absolute
Res. = Residual
Max. = Maximum
Min. = Minimum
Std. Dev. = Standard Deviation
RMS = Root Mean Squared
LPN = Lower Platte North Natural Resources District
MUD = Metropolitan Utilities District
NOP = Nebraska Ordnance Plant
MW = Monitoring Well
OW = Observation Well
PZ = Piezometer
TH = Test Hole

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Table 5-4
Residuals from August 2010 Transient
2010 Groundwater Model Report
Former NOP, Mead, Nebraska

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
PZ-01	1246	2632385.13	499049.59	3	1083.91	1083.082347	1	1	0.827653
PZ-02	1246	2631558.74	499022.44	3	1087.31	1085.273945	1	1	2.036055
PZ-03	1246	2633505.55	501788.92	3	1086.617	1084.631442	1	1	1.985558
PZ-04	1246	2636059.39	501690.72	3	1082.07	1081.221087	1	1	0.848913
PZ-05	1246	2639988.15	502024.73	3	1081.15	1081.181086	1	1	-0.031086
PZ-06	1246	2636834.71	504539.69	3	1084.99	1084.23116	1	1	0.75884
S.Keiser	1246	2632579.63	493968.08	3	1080.41	1079.481376	1	1	0.928624
TH-EW-12	1246	2610738.32	493102.14	3	1082.87	1080.19281	1	1	2.67719
TH-EW-13	1246	2611511.12	493072.65	3	1101.97	1101.782088	1	1	0.187912
TH-EW-14R1	1246	2625268.99	498721.42	3	1092.59	1092.144808	1	1	0.445192
TH-EW-14R2	1246	2625871.91	497850	3	1093.64	1094.180319	1	1	-0.540319
TH-EW-15	1246	2622870.43	509960.21	3	1123.86	1121.205845	1	1	2.654155
TH-EW-16	1246	2628310.33	496736.54	3	1086.21	1086.02145	1	1	0.18855
TV-16	1246	2623841.69	492107.27	3	1093.33	1092.73121	1	1	0.59879
TV-17A	1246	2627487.94	482977.99	3	1086.18	1082.717096	1	1	3.462904
Frahm	1246	2626738.84	493304.52	3	1091.04	1089.883101	1	1	1.156899
Hanson	1246	2623180.17	493348.86	3	1094.27	1093.878822	1	1	0.391178
LPN06-19	1246	2634208.23	514979.75	3	1103.86	1121.590915	1	1	-17.730915
LPN_06-20	1246	2631355.09	520347.13	3	1147.41	1140.821551	1	1	6.588449
M90-02	1246	2645833.34	489117.85	3	1071.29	1073.541624	1	1	-2.251624
M90-04	1246	2640807.93	484163.23	3	1067.78	1070.087807	1	1	-2.307807
M90-12R	1246	2647999.03	479369.24	3	1062.6	1065.859548	1	1	-3.259548
M90-15	1246	2641258.12	472881.56	3	1060.08	1063.795715	1	1	-3.715715
M90-20R	1246	2651427.57	470805.41	3	1057.76	1058.986141	1	1	-1.226141
M90-21	1246	2642068.72	468390.33	3	1058.4	1058.331674	1	1	0.068326
M90-24R	1246	2650175.62	465992.63	3	1045.42	1049.950677	1	1	-4.530677
M90-26R	1246	2652730.86	465392.21	3	1050.4	1053.111419	1	1	-2.711419
MUD_4-17	1246	2648029.88	517482.74	3	1097.13	1093.228772	1	1	3.901228
MUD_5-22	1246	2650308.14	505200.01	3	1083.88	1086.727464	1	1	-2.847464
MUD_5-25	1246	2650818.62	524749.91	3	1101.94	1098.357982	1	1	3.582018
MUD_5-26	1246	2647341.63	528803.46	3	1107.78	1103.975218	1	1	3.804782
MUD_6-28	1246	2638860.99	509627.34	3	1087.17	1089.250891	1	1	-2.080891
MUD_6-29	1246	2652830.99	515925.6	3	1095.19	1096.846665	1	1	-1.656665
MUD_90-13	1246	2655509.45	511616.41	3	1090.28	1091.600806	1	1	-1.320806
MUD_90-5	1246	2650506.77	522079.29	3	1097.45	1095.338813	1	1	2.111187
OW-64	1246	2627299.94	497308.27	3	1089.11	1089.719625	1	1	-0.609625
OW-65	1246	2627672.94	497146.26	3	1088.65	1089.174643	1	1	-0.524643
OW-66	1246	2622938.07	497314.2	3	1095.41	1096.942001	1	1	-1.532001
OW-67	1246	2622730.72	497150.23	3	1095.49	1096.758145	1	1	-1.268145
OW-68	1246	2622418.58	496526.17	3	1094.94	1095.962555	1	1	-1.022555
OW-69	1246	2623044.57	497134.81	3	1095.34	1096.630931	1	1	-1.290931
OW-70	1246	2623340.91	496845.85	3	1095.26	1096.130416	1	1	-0.870416
OW-71	1246	2623796.31	497474.1	3	1095.38	1096.774463	1	1	-1.394463
OW-72	1246	2620345.78	495292.98	3	1095.15	1096.0516	1	1	-0.9016
OW-73	1246	2620217.61	495239.66	3	1095.99	1096.889057	1	1	-0.899057
OW-74	1246	2619854.18	494895.06	3	1097.36	1098.094487	1	1	-0.734487
OW-75	1246	2620487.46	495139.42	3	1095.8	1096.318902	1	1	-0.518902
OW-76	1246	2620657.85	494777.17	3	1096.12	1096.55562	1	1	-0.43562
OW-77	1246	2621414.78	495808.38	3	1094.65	1095.802761	1	1	-1.152761
OW-78	1246	2609111.28	499977.47	3	1110.73	1112.922886	1	1	-2.192886
OW-80	1246	2608751.82	499731.59	3	1114.38	1114.616109	1	1	-0.236109
OW-81	1246	2609233.49	499803.1	3	1113.59	1113.854775	1	1	-0.264775
OW-82	1246	2609366	499415.33	3	1113.82	1113.924725	1	1	-0.104725
OW-83	1246	2609754.89	500075.01	3	1115.01	1115.519388	1	1	-0.509388
OW-89	1246	2632605.05	496433.6	3	1079.914	1079.841278	1	1	0.072722
Brabec	1246	2618637.53	493130.49	3	1099.32	1098.800241	1	1	0.519759
D.Starns	1246	2647807.25	467164.01	3	1051.48	1053.36443	1	1	-1.88443
LPN_06-01	1246	2642292.17	478302.11	3	1064.59	1066.851692	1	1	-2.261692
LPN_06-18	1246	2635721.74	504500.62	3	1086.26	1086.015291	1	1	0.244709

Table 5-4
Residuals from August 2010 Transient
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Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
LPN_06-21	1246	2628536.27	525369.84	3	1152.3	1147.686303	1	1	4.613697
M90-01	1246	2640590.79	488958.8	3	1071.82	1073.257426	1	1	-1.437426
M90-05R	1246	2645266.37	482393.07	3	1065.95	1067.19682	1	1	-1.24682
M90-09	1246	2640866.61	478557.35	3	1064.13	1067.29494	1	1	-3.16494
M90-16R	1246	2645344.89	473282.19	3	1060.77	1065.363134	1	1	-4.593134
M90-17R	1246	2648791.5	473326.64	3	1059.14	1061.567807	1	1	-2.427807
M90-22R	1246	2645116.45	467804.04	3	1055.58	1056.039934	1	1	-0.459934
M90-23R	1246	2649222.45	468585.23	3	1042.91	1052.351583	1	1	-9.441583
M90-36R	1246	2653436.76	465017.15	3	1052.67	1053.929332	1	1	-1.259332
M90-37	1246	2652867.09	463331.64	3	1051.15	1052.797614	1	1	-1.647614
MUD_5-23	1246	2645147.13	505264.93	3	1082.52	1085.100605	1	1	-2.580605
MUD_5-24	1246	2652315.31	518352.45	3	1097.53	1097.245781	1	1	0.284219
MUD_6-27	1246	2639026.12	507454.16	3	1085.66	1086.712959	1	1	-1.052959
MUD_90-10	1246	2645430.5	516093.59	3	1090.21	1092.187026	1	1	-1.977026
MUD_90-12	1246	2659998.54	526004.96	3	1097.48	1095.995073	1	1	1.484927
MUD_90-6	1246	2654010.25	525892.56	3	1103.2	1099.844916	1	1	3.355084
MUD_90-7	1246	2645992.44	524873.41	3	1104.5	1101.49278	1	1	3.00722
MUD_94-5	1246	2640274.41	514549.3	3	1093.01	1093.188468	1	1	-0.178468
MUD_94-6	1246	2639186.28	503954.84	3	1082.86	1082.536975	1	1	0.323025
MW-120A	1246	2609372.3	499419.07	3	1113.6804	1113.930832	1	1	-0.250432
MW-120B	1246	2609372.7	499438.97	2	1113.73	1113.964549	1	1	-0.234549
MW-120E	1246	2609372.68	499430.79	3	1113.6958	1113.944534	1	1	-0.248734
MW-121A	1246	2609752.79	500071.02	3	1114.8	1115.507376	1	1	-0.707376
MW-121B	1246	2609779.26	500071.59	2	1114.8192	1115.528407	1	1	-0.709207
MW-121E	1246	2609763.3	500071.29	3	1115.0368	1115.513281	1	1	-0.476481
MW-122A	1246	2609240.41	498101.34	2	1111.76	1112.33234	1	1	-0.57234
MW-122B	1246	2609232.29	498114.61	2	1111.72	1112.353393	1	1	-0.633393
MW-123A	1246	2608677.91	499909.07	3	1114.38	1115.14499	1	1	-0.76499
MW-123B	1246	2608666	499909.02	2	1114.47	1115.198133	1	1	-0.728133
MW-124A	1246	2609115.81	501486.16	3	1119.02	1120.114798	1	1	-1.094798
MW-124B	1246	2609107.79	501496.31	2	1119.05	1120.156697	1	1	-1.106697
MW-125A	1246	2609457.06	500663.23	3	1116.19	1117.320019	1	1	-1.130019
MW-125B	1246	2609468.11	500661.63	2	1116.1379	1117.319471	1	1	-1.181571
MW-126A	1246	2607483.63	504504.82	3	1129.67	1129.207858	1	1	0.462142
MW-126B	1246	2607482.56	504514.66	2	1129.7599	1129.232889	1	1	0.527011
MW-127A	1246	2606157.41	506918.35	3	1135.48	1134.921256	1	1	0.558744
MW-127B	1246	2606121.65	506931.42	2	1135.53	1134.996214	1	1	0.533786
MW-128A	1246	2624836.13	498190.8	2	1094.9	1096.496579	1	1	-1.596579
MW-128B	1246	2624838.49	498197.84	2	1094.87	1096.498277	1	1	-1.628277
MW-129A	1246	2627766.39	496542.43	3	1088.11	1088.286598	1	1	-0.176598
MW-129B	1246	2627771.4	496545.39	2	1088.06	1088.277361	1	1	-0.217361
MW-130A	1246	2629053.38	496650.27	3	1085.88	1086.244548	1	1	-0.364548
MW-130B	1246	2629059.01	496659.85	2	1085.98	1086.237408	1	1	-0.257408
MW-131A	1246	2626341.54	496939.83	3	1091.09	1092.262362	1	1	-1.172362
MW-131B	1246	2626348.52	496944.69	2	1091.27	1092.252607	1	1	-0.982607
MW-132A	1246	2625254.59	497254.4	3	1093.35	1094.850807	1	1	-1.500807
MW-132B	1246	2625258.17	497261.76	2	1093.35	1094.855793	1	1	-1.505793
MW-133A	1246	2622522.67	509720.93	3	1124.06	1123.36153	1	1	0.69847
MW-133B	1246	2622522.69	509729.9	2	1124.25	1123.382223	1	1	0.867777
MW-134A	1246	2623417.21	509045.74	3	1122.49	1121.430055	1	1	1.059945
MW-134B	1246	2623413.31	509052.47	2	1122.6	1121.446305	1	1	1.153695
MW-135A	1246	2623142.62	509762.33	3	1123.27	1122.592301	1	1	0.677699
MW-135B	1246	2623151.02	509772.44	2	1123.35	1122.625344	1	1	0.724656
MW-136A	1246	2623054.23	510561.26	3	1125.79	1125.487248	1	1	0.302752
MW-136B	1246	2623064.05	510560.7	2	1126.0392	1125.483221	1	1	0.555979
MW-140B	1246	2634717.22	503383.63	2	1086.4996	1086.18402	1	1	0.31558
MW-141A	1246	2608446.6	502590.64	3	1123.852	1123.801208	1	1	0.050792
MW-141E	1246	2608446.5	502604.35	3	1123.845	1123.838774	1	1	0.006226
MW-142E	1246	2610563.98	495595.06	2	1107.207	1108.245331	1	1	-1.038331

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Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-144A	1246	2614012.25	503570.97	3	1123.032	1122.930527	1	1	0.101473
MW-145A	1246	2617407.83	500652.84	3	1111.351	1112.433578	1	1	-1.082578
MW-146A	1246	2618871.66	494899.38	3	1098.776	1099.907658	1	1	-1.131658
MW-147A	1246	2620042.44	494474.75	3	1096.968	1097.584434	1	1	-0.616434
MW-148B	1246	2620179.92	504425.78	2	1116.712	1116.795573	1	1	-0.083573
MW-150B	1246	2624200.78	499864.11	2	1098.545	1100.431069	1	1	-1.886069
MW-151B	1246	2624386.31	506667.26	2	1115.257	1114.890799	1	1	0.366201
MW-153A	1246	2627200.19	504130.22	3	1102.066	1101.512567	1	1	0.553433
MW-154A	1246	2631170.17	504308.25	3	1094.511	1093.642088	1	1	0.868912
MW-155A	1246	2629444.96	502435.45	3	1095.954	1094.527407	1	1	1.426593
MW-156A	1246	2633019.6	501928.83	3	1088.391	1086.315994	1	1	2.075006
MW-157A	1246	2632549.3	499117.46	3	1083.635	1082.605639	1	1	1.029361
MW-158A	1246	2635279.53	493887.42	3	1074.343	1075.335975	1	1	-0.992975
MW-159A	1246	2629111.8	510307.65	3	1116.012	1115.189872	1	1	0.822128
MW-16B	1246	2604911.66	514026.38	3	1154.48	1150.792404	1	1	3.687596
MW-16C	1246	2604917.63	514034.74	2	1154.431	1150.816601	1	1	3.614399
MW-17B	1246	2603293.03	499101.48	3	1120.48	1122.405	1	1	-1.925
MW-18A	1246	2629150.33	506832.34	3	1103.724	1102.636695	1	1	1.087305
MW-18B	1246	2629156.57	506827.46	3	1103.38	1102.606398	1	1	0.773602
MW-18C	1246	2629148.53	506821.93	2	1106.95	1102.618891	1	1	4.331109
MW-19B	1246	2618429.63	517576.97	3	1147.61	1145.047516	1	1	2.562484
MW-20A	1246	2616622.54	493189.94	3	1100.155	1101.083123	1	1	-0.928123
MW-20B	1246	2616633.43	493191.47	3	1100.177	1101.075092	1	1	-0.898092
MW-20C	1246	2616611.43	493187.61	2	1101.837	1101.096871	1	1	0.740129
MW-21A	1246	2607121.37	503524.81	3	1128.69	1127.504675	1	1	1.185325
MW-21B	1246	2607111.29	503524.05	2	1128.65	1127.518766	1	1	1.131234
MW-22B	1246	2606604.48	510403.43	2	1145.06	1143.211282	1	1	1.848718
MW-24A	1246	2608476.9	501919.83	3	1121.88	1121.887686	1	1	-0.007686
MW-24B	1246	2608477.73	501909.01	2	1122.15	1121.863599	1	1	0.286401
MW-25A	1246	2608308.41	504875.16	3	1129.55	1129.150109	1	1	0.399891
MW-25B	1246	2608308.27	504885.58	2	1129.6	1129.17921	1	1	0.42079
MW-26A	1246	2609860.44	508825.09	3	1140.23	1138.095765	1	1	2.134235
MW-26B	1246	2609849.9	508824.87	2	1140.14	1138.105189	1	1	2.034811
MW-27B	1246	2611427.01	508110.55	2	1137.35	1135.745613	1	1	1.604387
MW-28A	1246	2612951.02	502242.71	3	1120.52	1120.713994	1	1	-0.193994
MW-28B	1246	2612936.01	502242.26	2	1120.21	1120.734451	1	1	-0.524451
MW-29A	1246	2614469.84	498383.11	3	1109.62	1109.69506	1	1	-0.07506
MW-29B	1246	2614460.98	498382.37	2	1109.68	1109.712439	1	1	-0.032439
MW-31A	1246	2617943.95	503233.7	3	1118.43	1117.328275	1	1	1.101725
MW-31B	1246	2617935.17	503238.63	2	1117.83	1117.356597	1	1	0.473403
MW-32A	1246	2619697.25	499062.26	3	1104.25	1105.389743	1	1	-1.139743
MW-32B	1246	2619696.91	499069.08	2	1104.22	1105.409434	1	1	-1.189434
MW-33A	1246	2622410.84	502847.91	3	1107.87	1109.031467	1	1	-1.161467
MW-33B	1246	2622401.05	502854.78	2	1107.9	1109.057873	1	1	-1.157873
MW-34A	1246	2624442.78	498806.3	3	1095.97	1098.032085	1	1	-2.062085
MW-34B	1246	2624443.06	498814.11	2	1096.13	1098.045735	1	1	-1.915735
MW-35A	1246	2629595.76	496323.64	3	1085.24	1085.541535	1	1	-0.301535
MW-35B	1246	2629595.84	496329.37	2	1085.2	1085.540625	1	1	-0.340625
MW-52A	1246	2627012.55	508784.57	3	1119.77	1116.966424	1	1	2.803576
MW-52B	1246	2627004.24	508778.94	2	1119.58	1116.981678	1	1	2.598322
MW-53A	1246	2627897.77	508169.88	3	1110.36	1110.242296	1	1	0.117704
MW-53B	1246	2627885.4	508166.61	2	1112.61	1110.279363	1	1	2.330637
MW-54A	1246	2627893.82	508858.25	3	1112.36	1112.780011	1	1	-0.420011
MW-54B	1246	2627883.88	508855.98	2	1114.97	1112.811883	1	1	2.158117
MW-55A	1246	2628135.4	508377.66	3	1110.44	1110.138646	1	1	0.301354
MW-55B	1246	2628125.88	508374.22	2	1110.62	1110.167423	1	1	0.452577
MW-56A	1246	2628206.01	508215.32	3	1109.81	1109.270173	1	1	0.539827
MW-56B	1246	2628195.32	508217.29	2	1111.96	1109.324502	1	1	2.635498
MW-57B	1246	2607621.51	516363.44	2	1155.73	1153.625965	1	1	2.104035

Table 5-4
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Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-60A	1246	2624702.83	489585.15	3	1091.427	1090.880527	1	1	0.546473
MW-61A	1246	2608656.02	492900.05	3	1102.727	1103.629964	1	1	-0.902964
MW-61B	1246	2608644.38	492898.6	2	1102.657	1103.63679	1	1	-0.97979
MW-62A	1246	2635396.62	493874.24	3	1074.484	1075.381084	1	1	-0.897084
MW-62B	1246	2635385.06	493871.95	2	1074.474	1075.378841	1	1	-0.904841
MW-63B	1246	2613167.91	519473.6	2	1152.05	1154.522248	1	1	-2.472248
MW-65A	1246	2613203.05	506090.52	3	1131.04	1129.072587	1	1	1.967413
MW-65B	1246	2613193.3	506091.23	2	1131	1129.087387	1	1	1.912613
OW-100	1246	2628885.6	496489.5	3	1086.22	1086.466836	1	1	-0.246836
OW-102	1246	2623025.62	510070.3	3	1123.79	1123.265849	1	1	0.524151
OW-104	1246	2622969.37	509760.45	3	1123.08	1122.309852	1	1	0.770148
OW-101	1246	2622907.33	509987.52	3	1122.26	1122.09338	1	1	0.16662
OW-103	1246	2623370.57	510291.27	3	1126.04	1124.400602	1	1	1.639398
OW-105	1246	2623170.6	509450.3	3	1123.29	1122.14957	1	1	1.14043
MW-03A	1246	2607532.26	506223.42	3	1132.96	1132.237186	1	1	0.722814
MW-03B	1246	2607542.05	506225.42	2	1132.99	1132.244012	1	1	0.745988
MW-04A	1246	2612041.94	506256.77	3	1132.014	1130.039114	1	1	1.974886
MW-04B	1246	2612051.44	506259.36	2	1132.002	1130.053285	1	1	1.948715
MW-05A	1246	2613044.09	507097.63	3	1133.223	1131.922058	1	1	1.300942
MW-05B	1246	2613053.87	507097.47	2	1133.166	1131.924883	1	1	1.241117
MW-07A	1246	2618267.1	507274.83	3	1126.242	1125.194443	1	1	1.047557
MW-07B	1246	2618276.53	507276.12	2	1126.261	1125.183056	1	1	1.077944
MW-08A	1246	2622863.97	506814.76	3	1119.452	1117.789253	1	1	1.662747
MW-08B	1246	2622872.08	506820.56	2	1119.49	1117.793649	1	1	1.696351
MW-09A	1246	2623570.81	507435.84	3	1119.84	1118.175743	1	1	1.664257
MW-09B	1246	2623580.33	507436.09	2	1120.03	1118.166412	1	1	1.863588
MW-100A	1246	2629718.84	493770.41	3	1086.08	1085.141108	1	1	0.938892
MW-100B	1246	2629718.07	493777.19	2	1086.04	1085.145326	1	1	0.894674
MW-101A	1246	2610929.39	491574.12	3	1099.83	1100.525579	1	1	-0.695579
MW-101B	1246	2610923.62	491573.82	2	1099.84	1100.532244	1	1	-0.692244
MW-102A	1246	2622929.38	514541.24	3	1135.9	1135.769286	1	1	0.130714
MW-102B	1246	2622923.37	514540.93	2	1135.38	1135.781617	1	1	-0.401617
MW-103A	1246	2623590.77	513115.79	3	1132.58	1131.196934	1	1	1.383066
MW-103B	1246	2623591.23	513110.25	2	1132.95	1131.188545	1	1	1.761455
MW-106A	1246	2630544.55	506843.26	3	1100.77	1098.787057	1	1	1.982943
MW-106B	1246	2630539.26	506844.1	2	1101.33	1098.808331	1	1	2.521669
MW-107A	1246	2631375.72	506138.76	3	1096.79	1095.367352	1	1	1.422648
MW-107B	1246	2631374.08	506125.16	2	1097.61	1095.353935	1	1	2.256065
MW-108A	1246	2631915.55	505912.28	3	1095.65	1094.180995	1	1	1.469005
MW-108B	1246	2631917.07	505899.47	2	1096.7	1094.163791	1	1	2.536209
MW-109A	1246	2634807.18	501896.06	3	1083.7036	1082.665329	1	1	1.038271
MW-109B	1246	2634805.75	501904.25	2	1083.8397	1082.688134	1	1	1.151566
MW-109O	1246	2634805.17	501911.81	1	1079.0156	1081.730276	1	1	-2.714676
MW-10A	1246	2607883.83	496858.27	3	1110.31	1110.888764	1	1	-0.578764
MW-10B	1246	2607893.74	496858.92	2	1110.34	1110.8911	1	1	-0.5511
MW-11	1246	2626486.32	509499.8	3	1125.915	1122.20124	1	1	3.71376
MW-110A	1246	2634397.71	504432.79	3	1088.05	1088.434168	1	1	-0.384168
MW-110B	1246	2634397.16	504438.89	2	1088.27	1088.442969	1	1	-0.172969
MW-111A	1246	2636151.56	499337.97	3	1078.6136	1078.475789	1	1	0.137811
MW-111B	1246	2636151.75	499348.24	2	1078.1264	1078.483483	1	1	-0.357083
MW-111O	1246	2636152.14	499356.67	1	1075.779	1078.400455	1	1	-2.621455
MW-112A	1246	2637365.72	501825.77	3	1081.25	1080.777288	1	1	0.472712
MW-112B	1246	2637365.3	501832.67	2	1081.3	1080.784106	1	1	0.515894
MW-113A	1246	2637420.11	500472.22	3	1079.75	1079.487977	1	1	0.262023
MW-113B	1246	2637419.51	500477.68	2	1079.77	1079.491814	1	1	0.278186
MW-114A	1246	2637470.6	497206.93	3	1076.6	1076.896059	1	1	-0.296059
MW-114B	1246	2637465.73	497204.32	2	1076.55	1076.882007	1	1	-0.332007
MW-115A	1246	2637702.52	495346.88	3	1075.76	1076.454229	1	1	-0.694229
MW-115B	1246	2637696.42	495346.87	2	1075.76	1076.451355	1	1	-0.691355

Table 5-4
Residuals from August 2010 Transient
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Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-116A	1246	2636335.8	495297.6	3	1074.88	1075.542349	1	1	-0.662349
MW-116B	1246	2636331.54	495297.24	2	1075.01	1075.540611	1	1	-0.530611
MW-117A	1246	2631041.42	495048	3	1083.73	1083.050829	1	1	0.679171
MW-117B	1246	2631040.5	495053.98	2	1083.76	1083.055735	1	1	0.704265
MW-118A	1246	2625905.31	496207.7	3	1091.97	1092.67534	1	1	-0.70534
MW-118B	1246	2625884.54	496207.84	2	1092.01	1092.717905	1	1	-0.707905
MW-119A	1246	2607952.61	499580.81	3	1115.3941	1115.068141	1	1	0.325959
MW-119B	1246	2607941.55	499593.35	2	1115.4363	1115.109278	1	1	0.327022
MW-136E	1246	2623075.88	510559.75	2	1126.0876	1125.471831	1	1	0.615769
MW-137A	1246	2622837.54	511702.36	3	1130.9283	1128.856854	1	1	2.071446
MW-137B	1246	2622846.21	511704.35	2	1130.7138	1128.858381	1	1	1.855419
MW-137E	1246	2622857.08	511706.78	2	1130.7369	1128.853714	1	1	1.883186
MW-138A	1246	2622366.41	512816.57	3	1133.6251	1132.189308	1	1	1.435792
MW-138B	1246	2622378.08	512817.2	2	1133.6685	1132.183567	1	1	1.484933
MW-139A	1246	2621290.29	514264.29	3	1136.4425	1136.549152	1	1	-0.106652
MW-139B	1246	2621297.04	514275.44	2	1136.4015	1136.572922	1	1	-0.171422
MW-140A	1246	2634717.63	503375.83	3	1086.3987	1086.169019	1	1	0.229681
MW-140O	1246	2634717.2	503393.26	1	1083	1086.146383	1	1	-3.146383
MW-141B	1246	2608446.5	502597.16	2	1123.899	1123.826131	1	1	0.072869
MW-142A	1246	2610572.95	495594.89	3	1107.214	1108.233585	1	1	-1.019585
MW-143B	1246	2621339.98	502719.77	2	1109.426	1110.492964	1	1	-1.066964
MW-144E	1246	2614019.84	503573.09	3	1123.734	1122.929762	1	1	0.804238
MW-145E	1246	2617414.44	500652.99	3	1111.636	1112.423491	1	1	-0.787491
MW-146B	1246	2618871.66	494899.37	2	1098.811	1099.910707	1	1	-1.099707
MW-147B	1246	2620045.18	494471.71	2	1096.941	1097.581903	1	1	-0.640903
MW-149A	1246	2622398.38	502086.76	3	1106.034	1107.690261	1	1	-1.656261
MW-150A	1246	2624201.15	499856.55	3	1098.592	1100.413522	1	1	-1.821522
MW-151A	1246	2624392.64	506668.08	3	1115.254	1114.880351	1	1	0.373649
MW-152B	1246	2627865.21	506805.72	2	1108.622	1105.907544	1	1	2.714456
MW-153B	1246	2627192.86	504129.53	2	1102.026	1101.536136	1	1	0.489864
MW-154B	1246	2631165.21	504308.2	2	1095.061	1093.652343	1	1	1.408657
MW-155E	1246	2629444.89	502444.32	3	1095.926	1094.537143	1	1	1.388857
MW-156B	1246	2633018.32	501922.48	2	1089.061	1086.308936	1	1	2.752064
MW-157B	1246	2632559.02	499118.08	2	1083.609	1082.573212	1	1	1.035788
MW-158B	1246	2635272	493887.38	2	1074.261	1075.334067	1	1	-1.073067
MW-159B	1246	2629111.63	510300.52	2	1115.916	1115.176676	1	1	0.739324
MW-38A	1246	2638131.88	496248.57	3	1076.08	1076.947835	1	1	-0.867835
MW-39A	1246	2640062.25	499304.69	3	1078.61	1079.428249	1	1	-0.818249
MW-40A	1246	2623018.62	511963.35	3	1131.4	1129.313564	1	1	2.086436
MW-40B	1246	2623006.75	511962.76	2	1131.34	1129.332583	1	1	2.007417
MW-42A	1246	2629385.2	501582.56	3	1095.33	1093.505184	1	1	1.824816
MW-42B	1246	2629385.28	501592.64	2	1095.29	1093.521162	1	1	1.768838
MW-43A	1246	2629243.07	504317.91	3	1098.96	1097.080364	1	1	1.879636
MW-43B	1246	2629244.24	504328.2	2	1099.09	1097.093328	1	1	1.996672
MW-44A	1246	2632953.68	500415.12	3	1084.64	1082.560809	1	1	2.079191
MW-44B	1246	2632954.9	500426.32	2	1082.62	1082.556466	1	1	0.063534
MW-46A	1246	2637464.94	499387.37	3	1078.32	1078.660216	1	1	-0.340216
MW-46B	1246	2637464.42	499396.68	2	1078.33	1078.666825	1	1	-0.336825
MW-66B	1246	2613268.32	506027.61	2	1129.9	1128.881743	1	1	1.018257
MW-71B	1246	2613382.62	506090.27	2	1130.83	1128.985896	1	1	1.844104
MW-72A	1246	2622930.98	512064.69	3	1130.92	1129.675876	1	1	1.244124
MW-72B	1246	2622921.73	512064.19	2	1130.93	1129.692329	1	1	1.237671
MW-73A	1246	2623060.93	511909.15	3	1130.543	1129.130568	1	1	1.412432
MW-73B	1246	2623052.3	511908.7	2	1130.45	1129.144061	1	1	1.305939
MW-74A	1246	2623093.85	511934.84	3	1130.533	1129.161515	1	1	1.371485
MW-74B	1246	2623085.26	511934.8	2	1130.533	1129.175137	1	1	1.357863
MW-75A	1246	2623130	511962.35	3	1130.543	1129.195781	1	1	1.347219
MW-75B	1246	2623120.34	511961.81	2	1130.573	1129.208796	1	1	1.364204
MW-76A	1246	2623158.64	511983.32	3	1130.563	1129.219289	1	1	1.343711

Table 5-4
Residuals from August 2010 Transient
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Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-76B	1246	2623148.91	511982.59	2	1130.713	1129.231917	1	1	1.481083
MW-77A	1246	2623192.11	512008.01	3	1130.623	1129.246984	1	1	1.376016
MW-77B	1246	2623180.56	512007.28	2	1130.643	1129.260818	1	1	1.382182
MW-78A	1246	2623223.84	512032.75	3	1130.673	1129.276009	1	1	1.396991
MW-78B	1246	2623213.77	512031.3	2	1130.643	1129.28651	1	1	1.35649
MW-79A	1246	2610432.14	492336.21	3	1100.37	1101.034934	1	1	-0.664934
MW-79B	1246	2610428.14	492345.18	2	1100.38	1101.040582	1	1	-0.660582
MW-80A	1246	2610925.54	492067.12	3	1100.13	1100.680572	1	1	-0.550572
MW-80B	1246	2610916.24	492064.59	2	1100.08	1100.674795	1	1	-0.594795
MW-81A	1246	2611637.99	492369.38	3	1100.3	1101.267925	1	1	-0.967925
MW-81B	1246	2611635.91	492360.36	2	1100.39	1101.265786	1	1	-0.875786
MW-82A	1246	2619288.65	493318.05	3	1098.21	1098.084505	1	1	0.125495
MW-82B	1246	2619284.94	493325.47	2	1098.26	1098.098827	1	1	0.161173
MW-83A	1246	2621924.08	495274.66	3	1094.74	1095.45042	1	1	-0.71042
MW-83B	1246	2621921.79	495302.77	2	1094.66	1095.453259	1	1	-0.793259
MW-84A	1246	2624277.77	495685.51	3	1093.9	1094.255839	1	1	-0.355839
MW-84B	1246	2624272.04	495712.9	2	1094.37	1094.286649	1	1	0.083351
MW-85A	1246	2628326.53	494439.02	3	1087.57	1087.573876	1	1	-0.003876
MW-85B	1246	2628315.15	494449.81	2	1087.62	1087.596436	1	1	0.023564
MW-86A	1246	2631939.21	493759.74	3	1081.8	1081.001363	1	1	0.798637
MW-86B	1246	2631933.61	493758.65	2	1081.8	1081.014816	1	1	0.785184
MW-87A	1246	2635039.81	491898.03	3	1074.14	1075.65309	1	1	-1.51309
MW-87B	1246	2635035.21	491900.97	2	1074.13	1075.656136	1	1	-1.526136
MW-88A	1246	2637643.92	494045.13	3	1075.22	1076.196139	1	1	-0.976139
MW-88B	1246	2637639.18	494044.21	2	1075.22	1076.195526	1	1	-0.975526
MW-89A	1246	2610430.84	494253.88	3	1104.92	1106.109254	1	1	-1.189254
MW-89B	1246	2610408.69	494254.1	2	1104.77	1106.110739	1	1	-1.340739
MW-90A	1246	2611235.54	494302.04	3	1105.4	1106.132894	1	1	-0.732894
MW-90B	1246	2611226.6	494297.96	2	1105.06	1106.133722	1	1	-1.073722
MW-91A	1246	2612076.97	494323	3	1105.27	1105.920195	1	1	-0.650195
MW-91B	1246	2612067.85	494317.53	2	1105.12	1105.922244	1	1	-0.802244
MW-92A	1246	2610047.26	492722.58	3	1100.88	1101.859619	1	1	-0.979619
MW-92B	1246	2610047.8	492733.82	2	1101.03	1101.871047	1	1	-0.841047
MW-93A	1246	2612162.89	493551.29	3	1104.14	1104.364532	1	1	-0.224532
MW-93B	1246	2612154.07	493546.8	2	1104.1	1104.368123	1	1	-0.268123
MW-95A	1246	2617552.81	494508.64	3	1101.27	1101.433548	1	1	-0.163548
MW-95B	1246	2617546.97	494508.01	2	1101.33	1101.44438	1	1	-0.11438
MW-96A	1246	2621468.23	493387.73	3	1095.37	1095.614209	1	1	-0.244209
MW-96B	1246	2621468.23	493387.8	2	1095.43	1095.616276	1	1	-0.186276
MW-97A	1246	2623938.04	493492.83	3	1093.52	1093.154477	1	1	0.365523
MW-97B	1246	2623932.7	493492.45	2	1093.6	1093.161618	1	1	0.438382
MW-98A	1246	2626495.3	493604.94	3	1090.97	1090.326459	1	1	0.643541
MW-98B	1246	2626488.71	493605.28	2	1091.05	1090.336595	1	1	0.713405
MW-99A	1246	2627117.43	498780.95	3	1092.41	1093.143287	1	1	-0.733287
MW-99B	1246	2627118.41	498787.93	2	1092.41	1093.154787	1	1	-0.744787
N.Keiser	1246	2632144.97	495084.13	3	1081.29	1080.666925	1	1	0.623075
N.Wann	1246	2642527.93	520660.55	3	1103.92	1103.190878	1	1	0.729122
OW-02	1246	2607882.8	499737.42	3	1115.56	1115.438124	1	1	0.121876
OW-03	1246	2607936.15	499790.42	3	1115.66	1115.539222	1	1	0.120778
OW-04	1246	2607936.23	499764.72	3	1115.78	1115.471572	1	1	0.308428
OW-05	1246	2634934.82	495184.29	3	1070.88	1074.314906	1	1	-3.434906
OW-06	1246	2634884.33	495208.11	3	1072.52	1074.53481	1	1	-2.01481
OW-07	1246	2634884.15	495203.34	3	1073.06	1074.517691	1	1	-1.457691
OW-08	1246	2634786.34	495194.19	3	1073.51	1074.756695	1	1	-1.246695
OW-09	1246	2634937.8	495134.36	3	1072.66	1073.763012	1	1	-1.103012
OW-10	1246	2635084.86	495206.73	3	1073.57	1074.663318	1	1	-1.093318
OW-11	1246	2635254.36	495167.81	3	1074.15	1074.868329	1	1	-0.718329
OW-12	1246	2636332.13	495279.48	3	1075.18	1075.535696	1	1	-0.355696
OW-13	1246	2634929.33	495121.8	3	1072.74	1073.573166	1	1	-0.833166

Table 5-4
Residuals from August 2010 Transient
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Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
OW-14	1246	2634937.07	494987.77	3	1073.72	1074.549953	1	1	-0.829953
OW-15	1246	2634948.12	494788.06	3	1074.05	1074.797544	1	1	-0.747544
OW-16	1246	2633480.01	495159.25	3	1076.57	1076.618467	1	1	-0.048467
OW-17	1246	2607999.94	499877.66	3	1115.94	1115.748403	1	1	0.191597
OW-18	1246	2608114.43	499884.02	3	1115.72	1115.687768	1	1	0.032232
OW-19	1246	2608709.98	499902.62	3	1114.46	1115.061258	1	1	-0.601258
OW-20	1246	2607954.58	499696.42	3	1115.57	1115.300285	1	1	0.269715
OW-21	1246	2607936.83	499559.45	3	1115.11	1115.037627	1	1	0.072373
OW-22	1246	2608019.74	499355.14	3	1115.2	1114.568333	1	1	0.631667
OW-24	1246	2629552.06	496984.5	3	1084.36	1084.016218	1	1	0.343782
OW-25	1246	2629511.42	496932.08	3	1084.86	1084.63825	1	1	0.22175
OW-26	1246	2629214.17	496664.05	3	1086.14	1085.96304	1	1	0.17696
OW-27	1246	2629582.05	496942.21	3	1084.59	1084.648978	1	1	-0.058978
OW-28	1246	2629581.52	496898	3	1084.45	1084.866342	1	1	-0.416342
OW-30	1246	2629965.06	497303.88	3	1085.17	1085.723147	1	1	-0.553147
OW-31	1246	2624242.96	497898.99	3	1095.89	1096.950149	1	1	-1.060149
OW-32	1246	2624139.95	497845.07	3	1095.94	1096.99235	1	1	-1.05235
OW-33	1246	2623750.57	497669.79	3	1095.92	1097.124691	1	1	-1.204691
OW-34	1246	2624320.18	497868.57	3	1095.41	1096.811321	1	1	-1.401321
OW-35	1246	2624383.49	497738.45	3	1095.44	1096.577763	1	1	-1.137763
OW-36	1246	2624413	497337.59	3	1095.08	1095.986624	1	1	-0.906624
OW-37	1246	2624838.27	498178.35	3	1094.86	1096.476823	1	1	-1.616823
OW-38	1246	2621733.08	496294.86	3	1091.1	1091.65666	1	1	-0.55666
OW-39	1246	2621620.02	496212.33	3	1093.5	1094.619796	1	1	-1.119796
OW-40	1246	2621297.36	495975.58	3	1095.06	1096.028286	1	1	-0.968286
OW-41	1246	2621816.64	496281.9	3	1090.22	1093.907891	1	1	-3.687891
OW-42	1246	2621899.7	496169.43	3	1092.58	1094.790093	1	1	-2.210093
OW-43	1246	2622135.38	495845.76	3	1094.35	1095.297578	1	1	-0.947578
OW-44	1246	2622302.63	496682.05	3	1095.48	1096.239754	1	1	-0.759754
OW-45	1246	2619203.17	494842.21	3	1098.84	1099.305882	1	1	-0.465882
OW-46	1246	2619059	494783.36	3	1099.12	1099.500128	1	1	-0.380128
OW-47	1246	2618684.83	494630.88	3	1099.7	1099.97916	1	1	-0.27916
OW-48	1246	2619283.37	494800.47	3	1098.83	1099.144608	1	1	-0.314608
OW-49	1246	2619315.78	494671.87	3	1098.58	1099.001172	1	1	-0.421172
OW-50	1246	2619465.62	494300.16	3	1098.46	1098.504416	1	1	-0.044416
OW-51	1246	2619790.64	495096.02	3	1097.91	1098.36277	1	1	-0.45277
OW-52	1246	2610585.6	493033.91	3	1094.64	1094.892594	1	1	-0.252594
OW-53	1246	2610555.96	493019.67	3	1096.33	1096.040509	1	1	0.289491
OW-54	1246	2611356.56	493520.93	3	1103.39	1103.916679	1	1	-0.526679
OW-55	1246	2610821.53	492991.93	3	1093.57	1094.573352	1	1	-1.003352
OW-56	1246	2611642.99	493196.43	3	1103.04	1102.929638	1	1	0.110362
OW-57	1246	2611768.76	493277.87	3	1103.34	1103.565821	1	1	-0.225821
OW-58	1246	2611366.56	493009.96	3	1101.1	1100.841023	1	1	0.258977
OW-59	1246	2611579.97	493019.21	3	1102.12	1101.960789	1	1	0.159211
OW-60	1246	2627137.87	497440.67	3	1089.35	1089.992771	1	1	-0.642771
OW-61	1246	2627191.65	497571.53	3	1089.91	1090.564643	1	1	-0.654643
OW-62	1246	2627351.22	497954.27	3	1090.74	1091.256783	1	1	-0.516783
OW-63	1246	2627527.96	497841.89	3	1090.29	1090.732593	1	1	-0.442593
OW-90	1246	2625244.14	498690.84	3	1092.6	1091.969803	1	1	0.630197
OW-92	1246	2625155.78	498583.33	3	1094.39	1094.822616	1	1	-0.432616
OW-93	1246	2625291.12	498721.87	3	1092.23	1093.031568	1	1	-0.801568

Residual Mean	-0.010077
Abs. Res. Mean	1.161472
Res. Std. Dev.	1.750788
Sum of Squares	1241.470711
RMS Error	1.750817
Min. Residual	-17.730915
Max. Residual	6.588449
Number of Observations	405

Table 5-4
Residuals from August 2010 Transient
2010 Groundwater Model Report
Former NOP, Mead, Nebraska

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
Range in Observations	112.82								
Scaled Std. Dev.	0.015518								
Scaled Abs. Mean	0.010295								
Scaled RMS	0.015519								

Notes:
Abs. = Absolute
Res. = Residual
Max. = Maximum
Min. = Minimum
Std. Dev. = Standard Deviation
RMS = Root Mean Squared
LPN = Lower Platte North Natural Resources District
MUD = Metropolitan Utilities District
NOP = Nebraska Ordnance Plant
MW = Monitoring Well
OW = Observation Well
PZ = Piezometer
TH = Test Hole

Table 5-5
Systematic Sensistivity Analysis
2010 Groundwater Model Report
Former NOP, Mead, Nebraska

		Anistropy Ratio V:H (Layer 2 & 3)				(Layer 1)	
	Current (1:10)	1:100	1:20	1:5	1:2	1:20	1:1
Residual Mean	0.03	0.14	0.05	0.01	-0.01	-0.19	0.37
Abs. Res. Mean	0.63	0.71	0.65	0.62	0.61	0.64	0.81
Res. Std. Dev.	1.01	1.19	1.05	0.99	0.98	1.02	1.10
Sum of Squares	326.10	458.40	349.17	312.34	303.94	343.85	425.46
RMS Error	1.01	1.20	1.05	0.99	0.98	1.04	1.16
Scaled Std. Dev.	0.82%	0.97%	0.85%	0.80%	0.79%	0.008289	0.89%
Scaled Abs. Mean	0.51%	0.57%	0.53%	0.50%	0.50%	0.005216	0.66%
Scaled RMS	0.82%	0.97%	0.85%	0.80%	0.79%	0.008438	0.94%

Hydraulic Conductivity Layer 1

	Calibrated Result	+ 10%	+ 20%	+ 100%*	- 10%*
Residual Mean	0.03	0.02	0.05	NA	-14.49
Abs. Res. Mean	0.63	0.63	0.63	NA	39.78
Res. Std. Dev.	1.01	1.02	1.02	NA	339.50
Sum of Squares	326.10	328.07	329.45	NA	3.66E+07
RMS Error	1.01	1.02	1.02	NA	339.81
Scaled Std. Dev.	0.82%	0.82%	0.83%	NA	275.06%
Scaled Abs. Mean	0.51%	0.51%	0.51%	NA	32.23%
Scaled RMS	0.82%	0.82%	0.83%	NA	275.31%

*Forced convergence on model run, sensistivity results not reliable.

Hydraulic Conductivity Layer 2 & 3

	Calibrated Result	+ 10%	+ 20%	+ 30%	- 10%	-20%	-30%
Residual Mean	0.03	0.03	0.03	0.02	0.02	0.02	0.00
Abs. Res. Mean	0.63	0.68	0.80	0.95	0.77	0.98	1.51
Res. Std. Dev.	1.01	1.06	1.19	1.36	1.13	1.37	2.04
Sum of Squares	326.10	353.17	450.22	587.42	404.62	591.33	1314.20
RMS Error	1.01	1.06	1.19	1.36	1.13	1.37	2.04
Scaled Std. Dev.	0.82%	0.85%	0.97%	1.10%	0.92%	1.11%	1.65%
Scaled Abs. Mean	0.51%	0.55%	0.65%	0.77%	0.62%	0.79%	1.22%
Scaled RMS	0.82%	0.86%	0.97%	1.10%	0.92%	1.11%	1.65%

Specific Storage (Layer 2 & 3) Compared to August 2010

	Calibrated Result Final Time Step	+ 50%	- 50%	+1 Order of Magnitude	-1 Order of Magnitude
Residual Mean	-0.01	0.28	-0.40	-0.95	0.99
Abs. Res. Mean	1.16	1.17	1.31	1.63	1.65
Res. Std. Dev.	1.75	1.74	1.82	2.00	1.89
Sum of Squares	1241.47	1263.48	1403.63	1978.67	1845.19
RMS Error	1.75	1.77	1.86	2.21	2.13
Scaled Std. Dev.	1.55%	1.55%	1.61%	1.77%	1.68%
Scaled Abs. Mean	1.03%	1.03%	1.16%	1.45%	1.46%
Scaled RMS	1.55%	1.57%	1.65%	1.96%	1.89%

Table 5-5
Systematic Sensistivity Analysis
2010 Groundwater Model Report
Former NOP, Mead, Nebraska

Recharge Compared to Steady State Time Step

	Calibrated Result Initial Time Step	+ 10%	+ 20%	- 10%	-20%
Residual Mean	0.03	-0.56	-1.11	0.56	1.14
Abs. Res. Mean	0.63	0.85	1.32	0.94	1.43
Res. Std. Dev.	1.01	1.03	1.16	1.12	1.32
Sum of Squares	326.10	435.65	813.82	498.21	961.77
RMS Error	1.01	1.17	1.60	1.25	1.74
Scaled Std. Dev.	0.82%	0.84%	0.94%	0.91%	1.07%
Scaled Abs. Mean	0.51%	0.69%	1.07%	0.76%	1.16%
Scaled RMS	0.82%	0.95%	1.30%	1.02%	1.41%

Recharge Compared to August 2010 Time Step

	Calibrated Result Final Time Step	+ 10%	+ 20%	- 10%	-20%
Residual Mean	-0.01	-0.58	-1.85	0.92	1.87
Abs. Res. Mean	1.16	1.29	2.14	1.52	2.36
Res. Std. Dev.	1.75	1.75	1.92	1.86	2.10
Sum of Squares	1241.47	1374.94	2887.38	1751.90	3190.21
RMS Error	1.75	1.84	2.67	2.08	2.81
Scaled Std. Dev.	1.55%	1.55%	1.70%	1.65%	1.86%
Scaled Abs. Mean	1.03%	1.15%	1.90%	1.35%	2.09%
Scaled RMS	1.55%	1.63%	2.37%	1.84%	2.49%

Notes
Abs. = Absolute
H = Horizontal
NOP = Nebraska Ordnance Plant
Res. = Residual
RMS = Root Mean Squared
Std. Dev. = Standard Deviation
V = Vertical

Table 5-6
Recharge and ET rates by Stress Period
2010 Groundwater Model Report
Former NOP, Mead, Nebraska

				Precipitation		Recharge		Evapotranspiration		
Stress Period	**Elapsed Time**	**Date Begin**	**Date End**	**ASHLAND station**	**MEAD station**	**Todd & Wahoo Valley**	**Platte Valley**	**Platte Valley ET Zone 1**	**Todd & Wahoo Valley ET Zone 2**	**Phreatophyte Zone ET Zone 3**
				(inches)	(inches)	(ft/day)	(ft/day)	(ft/day)	(ft/day)	(ft/day)
1			3/29/2007			0.00073	0.00085	0.00300	0.00100	0.00667
2	63	3/30/2007	5/31/2007	10.3	11.52	0.00367	0.00367	0.00500	0.00100	0.01120
3	155	6/1/2007	8/31/2007	12.11	14.25	0.00302	0.00326	0.00800	0.00180	0.01880
4	246	9/1/2007	11/30/2007	7.7	7.74	0.00193	0.00236	0.00400	0.00100	0.00940
5	337	12/1/2007	2/29/2008	3.09	2.7	0.00072	0.00169	0.00120	0.00050	0.00250
6	429	3/1/2008	5/31/2008	11.58	11.25	0.00282	0.00282	0.00500	0.00100	0.01120
7	521	6/1/2008	8/31/2008	13.66	14.63	0.00350	0.00350	0.00800	0.00180	0.01880
8	544	9/1/2008	9/23/2008		3.4	0.00348	0.00348	0.00400	0.00100	0.00940
9	564	9/24/2008	10/13/2008		1.87	0.00221	0.00221	0.00400	0.00100	0.00940
10	575	10/14/2008	10/24/2008		3.02	0.00680	0.00680	0.00400	0.00100	0.00940
11	581	10/25/2008	10/30/2008		0	0.00340	0.00340	0.00400	0.00100	0.00940
12	582	10/31/2008	10/31/2008		0	0.00340	0.00340	0.00400	0.00100	0.00940
13	612	11/1/2008	11/30/2008	1.08	1.78	0.00111	0.00111	0.00400	0.00100	0.00940
14	675	12/1/2008	2/1/2009	1.83	1.46	0.00060	0.00060	0.00400	0.00100	0.00940
15	702	2/1/2009	2/28/2009	0.68	0.47	0.00048	0.00048	0.00400	0.00100	0.00940
16	794	3/1/2009	5/31/2009	4.46	3.15	0.00087	0.00087	0.00400	0.00100	0.00940
17	886	6/1/2009	8/31/2009	16.8	16.38	0.00380	0.00380	0.00800	0.00180	0.01880
18	977	9/1/2009	11/30/2009	5.47	5.89	0.00126	0.00126	0.00400	0.00100	0.00940
19	1064	12/1/2009	2/25/2010	4.06	4.23	0.00100	0.00100	0.00400	0.00100	0.00940
20	1067	2/25/2010	2/28/2010	0	0	0.00100	0.00100	0.00400	0.00100	0.00940
21	1159	3/1/2010	5/31/2010	4.86	8.32	0.00163	0.00163	0.00400	0.00100	0.00940
22	1246	6/1/2010	8/26/2010	18.22	19.55	0.00494	0.00494	0.00800	0.00180	0.01880

Data from Station Mead_Agro
ET - Evapotranspiration
ft/day - feet per day
NOP - Nebraska Ordnance Plant

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Table 5-7
Storage Coefficients
2010 Groundwater Model Report
Former NOP, Mead, Nebraska

Aquifer	Storativity/ Specific Storage	Specific Yield	Effective Porosity
Platte Valley	0.01	0.25	0.3
Todd Valley	0.003	0.2	0.25
Wahoo Valley	0.01	0.25	0.25
Overbank Fines	0.00001	0.1	0.2

Notes:
NOP = Nebraska Ordnance Plant

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Table 6-1
Fate and Transport Model Parameters
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Parameter	Value
Longitudinal dispersivity	1 ft
Transverse dispersivity	0.1 ft
Vertical dispersivity	0.01 ft
Bulk density	1.86 g/cm^3
Fraction of organic carbon (f_{oc}) in sand/gravel unit	3.00E-04
TCE K_{oc}	107 cm^3/g
Distribution coefficient (K_d) of TCE for shallow/intermediate layers*	0.03 cm^3/g
Biodegradation half-life	65 years

*Unless otherwise noted in the report

Notes:
cm^3/g = cubic centimeters per gram
ft = Feet
g/cm^3 = grams per cubic centimeter
K_{oc} = Organic Carbon Partition Coefficient
NOP = Nebraska Ordnance Plant
TCE = Trichloroethene

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Table 7-1
Proposed former NOP Pumping Schedule for Next 30 Years
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

	gallons per minute						
Stress Period:	1-2	3-5	6-15	16-25	26-35	36-45	46-55
Management Period:	1	1	2	3	4	5	6
Start Date:	9/1/10	6/1/11	9/1/12	9/1/17	9/1/22	9/1/27	9/1/32
End Date:	5/31/11	8/31/12	8/31/17	8/31/22	8/31/27	8/31/32	8/31/37
EW-1	148	148	173	173	173	173	173
EW-2	0	0	0	0	0	0	0
EW-3	243	243	200	250	0	0	0
EW-4	66	66	100	100	0	0	100
EW-5	0	0	0	0	0	0	0
EW-6	52	52	70	100	0	0	0
EW-7	287	287	290	300	350	350	350
EW-9	139	139	123	110	100	100	0
EW-10	0	0	0	0	0	0	0
FEW-11	476	476	550	550	520	515	515
EW-12	225	225	234	234	234	234	234
EW-13	0	0	40	40	40	40	40
FEW-14	196	196	190	190	250	250	250
FEW-15	360	360	500	500	500	500	500
EW-16	106	106	190	190	190	190	190

	$feet^3$/day						
Stress Period:	1-2	3-5	6-15	16-25	26-35	36-45	46-55
Management Period:	1	1	2	3	4	5	6
Start Date:	9/1/10	6/1/11	9/1/12	9/1/17	9/1/22	9/1/27	9/1/32
End Date:	5/31/11	8/31/12	8/31/17	8/31/22	8/31/27	8/31/32	8/31/37
EW-1	28,492	28,492	33,303	33,303	33,303	33,303	33,303
EW-2	0	0	0	0	0	0	0
EW-3	46,825	46,825	38,500	48,125	0	0	0
EW-4	12,668	12,668	19,250	19,250	0	0	19,250
EW-5	0	0	0	0	0	0	0
EW-6	10,057	10,057	13,475	19,250	0	0	0
EW-7	55,178	55,178	55,825	57,750	67,375	67,375	67,375
EW-9	26,855	26,855	23,677	21,176	19,250	19,250	0
EW-10	0	0	0	0	0	0	0
FEW-11	91,556	91,556	105,875	105,875	100,100	99,138	99,138
EW-12	43,407	43,407	45,045	45,045	45,045	45,045	45,045
EW-13	0	0	7,700	7,700	7,700	7,700	7,700
FEW-14	37,697	37,697	36,575	36,575	48,125	48,125	48,125
FEW-15	69,371	69,371	96,250	96,250	96,250	96,250	96,250
EW-16	20,363	20,363	36,575	36,575	36,575	36,575	36,575

Notes:

(1) Values reported from 9/1/07 - 8/31/10 are the cumulative monthly average, calculated by the total gallons pumped in a time period divided by the total number of minutes in that time period.

(2) Values reported for Stress Periods 1-2 are based on average of September through December 2010 pumping rates.

(3) FEW-15 started continuously pumping in April 2010. Pumping rate for FEW-15 for stress periods 1-2 calculated from April and May 2010 pumping rates only.

EW - Extraction Well

FEW - Focused Extraction Well

NOP - Nebraska Ordnance Plant

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Table 7-2
Lincoln Water System Ashland Well Field Estimated Pumping Rates (ft^3/day)
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Stress Period:	1,2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Start Date:	9/1/10	6/1/11	9/1/11	6/1/12	9/1/12	6/1/13	9/1/13	6/1/14	9/1/14	6/1/15	9/1/15	6/1/16	9/1/16	6/1/17	9/1/17	6/1/18	9/1/18
End Date:	5/31/11	8/31/11	5/31/12	8/31/12	5/31/13	8/31/13	5/31/14	8/31/14	5/31/15	8/31/15	5/31/16	8/31/16	5/31/17	8/31/17	5/31/18	8/31/18	5/31/19
LWS56-8	265	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS56-9	144,705	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS56-5	127,702	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS54-3	39,234	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS56-7	20,637	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS54-5	92,581	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS325A	53,348	193,551	103,364	196,479	104,828	199,700	106,585	202,921	108,342	205,850	110,099	209,071	111,856	212,292	113,320	215,220	115,077
LWS54-7	82,133	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS32-4-2	1,762	98,751	52,737	100,245	53,484	101,888	54,380	103,531	55,276	105,025	56,173	106,669	57,069	108,312	57,816	109,806	58,713
LWS54-9	148,061	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS32-4A-2	5,110	98,751	52,737	100,245	53,484	101,888	54,380	103,531	55,276	105,025	56,173	106,669	57,069	108,312	57,816	109,806	58,713
LWS54-6	175,991	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS32-3-2	70,358	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS54-8	76,724	177,751	94,926	180,440	96,271	183,398	97,884	186,356	99,498	189,046	101,111	192,004	102,725	194,962	104,069	197,651	105,683
LWS32-2-2	61,824	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS54-10	161,070	246,877	131,842	250,612	133,709	254,720	135,950	258,828	138,191	262,563	140,432	266,672	142,673	270,780	144,541	274,515	146,781
LWS32-1A	31,711	197,501	105,473	200,489	106,967	203,776	108,760	207,063	110,553	210,051	112,346	213,337	114,138	216,624	115,632	219,612	117,425
LWS56-1	103,781	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS49-7	118,269	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS49-8	147,592	194,045	103,628	196,981	105,096	200,210	106,857	203,439	108,618	206,375	110,380	209,604	112,141	212,833	113,609	215,769	115,370
LWS49-6	140,434	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS49-9	132,980	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS54-1	154,074	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS66 - 1	5,324	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS76 - 1	148,780	296,252	158,210	300,734	160,451	305,664	163,140	310,594	165,829	315,076	168,519	320,006	171,208	324,936	173,449	329,418	176,138
LWS66 - 4	13,743	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS76 - 2	325,793	296,252	158,210	300,734	160,451	305,664	163,140	310,594	165,829	315,076	168,519	320,006	171,208	324,936	173,449	329,418	176,138
LWS66 - 5	4	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS66 - 6	23,283	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS76 - 3	165,649	296,252	158,210	300,734	160,451	305,664	163,140	310,594	165,829	315,076	168,519	320,006	171,208	324,936	173,449	329,418	176,138
LWS76 - 4	191,848	296,252	158,210	300,734	160,451	305,664	163,140	310,594	165,829	315,076	168,519	320,006	171,208	324,936	173,449	329,418	176,138
LWS68-1A	85,237	222,189	118,658	225,550	120,338	229,248	122,355	232,946	124,372	236,307	126,389	240,004	128,406	243,702	130,086	247,063	132,103
LWS76 - 5	121,109	296,252	158,210	300,734	160,451	305,664	163,140	310,594	165,829	315,076	168,519	320,006	171,208	324,936	173,449	329,418	176,138
LWS76 - 6	247,735	177,751	94,926	180,440	96,271	183,398	97,884	186,356	99,498	189,046	101,111	192,004	102,725	194,962	104,069	197,651	105,683
LWS78574	190,518	138,251	73,831	140,342	74,877	142,643	76,132	144,944	77,387	147,035	78,642	149,336	79,897	151,637	80,943	153,728	82,198
LWS86-1	634,665	217,251	116,021	220,538	117,664	224,154	119,636	227,769	121,608	231,056	123,580	234,671	125,552	238,286	127,196	241,573	129,168
LWS86-2	123,094	217,251	116,021	220,538	117,664	224,154	119,636	227,769	121,608	231,056	123,580	234,671	125,552	238,286	127,196	241,573	129,168
LWS85451	562,897	1,204,758	643,388	1,222,985	652,501	1,243,034	663,437	1,263,082	674,373	1,281,309	685,309	1,301,358	696,245	1,321,407	705,358	1,339,633	716,294
LWS86646	393,587	1,204,758	643,388	1,222,985	652,501	1,243,034	663,437	1,263,082	674,373	1,281,309	685,309	1,301,358	696,245	1,321,407	705,358	1,339,633	716,294
Total (MGD)	41.8	66.1	35.3	67.1	35.8	68.2	36.4	69.3	37.0	70.3	37.6	71.4	38.2	72.5	38.7	73.5	39.3

Notes:
(1) MGD = Millions of Gallons per Day
(2) Stress Periods 1 and 2 based on average of pumping rates from September-December 2010. (City of Lincoln, 2011).
LWS = Lincoln Water System
NOP = Nebraska Ordnance Plant
ft^3/day = Cubic feet per day

Table 7-2
Lincoln Water System Ashland Well Field Estimated Pumping Rates (ft^3/day)
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Stress Period:	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Start Date:	6/1/19	9/1/19	6/1/20	9/1/20	6/1/21	9/1/21	6/1/22	9/1/22	6/1/23	9/1/23	6/1/24	9/1/24	6/1/25	9/1/25	6/1/26	9/1/26	6/1/27
End Date:	8/31/19	5/31/20	8/31/20	5/31/21	8/31/21	5/31/22	8/31/22	5/31/23	8/31/23	5/31/24	8/31/24	5/31/25	8/31/25	5/31/26	8/31/26	5/31/27	8/31/27
LWS56-8	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS56-9	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS56-5	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS54-3	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS56-7	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS54-5	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS325A	218,441	116,834	221,662	118,590	224,590	120,055	227,811	121,811	231,032	123,568	233,960	125,325	237,181	127,375	241,573	129,717	245,965
LWS54-7	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS32-4-2	111,449	59,609	113,093	60,505	114,587	61,252	116,230	62,149	117,873	63,045	119,367	63,941	121,011	64,987	123,252	66,182	125,493
LWS54-9	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS32-4A-2	111,449	59,609	113,093	60,505	114,587	61,252	116,230	62,149	117,873	63,045	119,367	63,941	121,011	64,987	123,252	66,182	125,493
LWS54-6	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS32-3-2	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS54-8	200,609	107,296	203,567	108,910	206,256	110,254	209,214	111,868	212,172	113,481	214,861	115,095	217,819	116,977	221,853	119,128	225,887
LWS32-2-2	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS54-10	278,623	149,022	282,732	151,263	286,467	153,131	290,575	155,372	294,683	157,613	298,418	159,854	302,527	162,468	308,129	165,456	313,731
LWS32-1A	222,899	119,218	226,185	121,011	229,173	122,505	232,460	124,297	235,747	126,090	238,735	127,883	242,021	129,974	246,503	132,365	250,985
LWS56-1	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS49-7	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS49-8	218,998	117,132	222,227	118,893	225,163	120,361	228,392	122,122	231,621	123,884	234,557	125,645	237,786	127,700	242,189	130,048	246,593
LWS49-6	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS49-9	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS54-1	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS66 - 1	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS76 - 1	334,348	178,827	339,278	181,516	343,760	183,757	348,690	186,446	353,620	189,135	358,102	191,824	363,032	194,962	369,755	198,547	376,478
LWS66 - 4	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS76 - 2	334,348	178,827	339,278	181,516	343,760	183,757	348,690	186,446	353,620	189,135	358,102	191,824	363,032	194,962	369,755	198,547	376,478
LWS66 - 5	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS66 - 6	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS76 - 3	334,348	178,827	339,278	181,516	343,760	183,757	348,690	186,446	353,620	189,135	358,102	191,824	363,032	194,962	369,755	198,547	376,478
LWS76 - 4	334,348	178,827	339,278	181,516	343,760	183,757	348,690	186,446	353,620	189,135	358,102	191,824	363,032	194,962	369,755	198,547	376,478
LWS68-1A	250,761	134,120	254,459	136,137	257,820	137,818	261,517	139,835	265,215	141,851	268,576	143,868	272,274	146,221	277,316	148,910	282,358
LWS76 - 5	334,348	178,827	339,278	181,516	343,760	183,757	348,690	186,446	353,620	189,135	358,102	191,824	363,032	194,962	369,755	198,547	376,478
LWS76 - 6	200,609	107,296	203,567	108,910	206,256	110,254	209,214	111,868	212,172	113,481	214,861	115,095	217,819	116,977	221,853	119,128	225,887
LWS78574	156,029	83,453	158,330	84,707	160,421	85,753	162,722	87,008	165,023	88,263	167,114	89,518	169,415	90,982	172,552	92,655	175,690
LWS86-1	245,189	131,140	248,804	133,112	252,091	134,755	255,706	136,727	259,321	138,699	262,608	140,671	266,223	142,972	271,154	145,601	276,084
LWS86-2	245,189	131,140	248,804	133,112	252,091	134,755	255,706	136,727	259,321	138,699	262,608	140,671	266,223	142,972	271,154	145,601	276,084
LWS85451	1,359,682	727,229	1,379,731	738,165	1,397,957	747,278	1,418,006	758,214	1,438,055	769,150	1,456,281	780,086	1,476,330	792,844	1,503,670	807,425	1,531,009
LWS86646	1,359,682	727,229	1,379,731	738,165	1,397,957	747,278	1,418,006	758,214	1,438,055	769,150	1,456,281	780,086	1,476,330	792,844	1,503,670	807,425	1,531,009
Total (MGD)	74.6	39.9	75.7	40.5	76.7	41.0	77.8	41.6	78.9	42.2	79.9	42.8	81.0	43.5	82.5	44.3	84.0

Table 7-2
Lincoln Water System Ashland Well Field Estimated Pumping Rates (ft^3/day)
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Stress Period:	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Start Date:	9/1/27	6/1/28	9/1/28	6/1/29	9/1/29	6/1/30	9/1/30	6/1/31	9/1/31	6/1/32	9/1/32	6/1/33	9/1/33	6/1/34	9/1/34	6/1/35	9/1/35
End Date:	5/31/28	8/31/28	5/31/29	8/31/29	5/31/30	8/31/30	5/31/31	8/31/31	5/31/32	8/31/32	5/31/33	8/31/33	5/31/34	8/31/34	5/31/35	8/31/35	5/31/36
LWS56-8	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS56-9	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS56-5	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS54-3	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS56-7	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS54-5	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS325A	132,060	250,065	134,110	254,457	136,452	258,849	138,502	263,242	140,844	267,634	143,187	271,733	145,237	276,125	147,579	280,518	149,922
LWS54-7	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS32-4-2	67,378	127,584	68,423	129,825	69,618	132,066	70,664	134,307	71,859	136,548	73,055	138,639	74,100	140,880	75,296	143,121	76,491
LWS54-9	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS32-4A-2	67,378	127,584	68,423	129,825	69,618	132,066	70,664	134,307	71,859	136,548	73,055	138,639	74,100	140,880	75,296	143,121	76,491
LWS54-6	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS32-3-2	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS54-8	121,280	229,651	123,162	233,685	125,313	237,719	127,196	241,752	129,347	245,786	131,498	249,551	133,381	253,585	135,532	257,618	137,683
LWS32-2-2	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS54-10	168,444	318,960	171,058	324,563	174,046	330,165	176,661	335,767	179,649	341,370	182,636	346,598	185,251	352,201	188,239	357,803	191,227
LWS32-1A	134,755	255,168	136,847	259,650	139,237	264,132	141,329	268,614	143,719	273,096	146,109	277,279	148,201	281,761	150,591	286,243	152,981
LWS56-1	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS49-7	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS49-8	132,397	250,703	134,452	255,106	136,800	259,510	138,855	263,913	141,204	268,317	143,552	272,426	145,607	276,830	147,956	281,233	150,304
LWS49-6	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS49-9	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS54-1	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS66 - 1	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS76 - 1	202,133	382,752	205,270	389,475	208,855	396,198	211,993	402,921	215,578	409,644	219,164	415,918	222,301	422,641	225,887	429,364	229,472
LWS66 - 4	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS76 - 2	202,133	382,752	205,270	389,475	208,855	396,198	211,993	402,921	215,578	409,644	219,164	415,918	222,301	422,641	225,887	429,364	229,472
LWS66 - 5	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS66 - 6	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS76 - 3	202,133	382,752	205,270	389,475	208,855	396,198	211,993	402,921	215,578	409,644	219,164	415,918	222,301	422,641	225,887	429,364	229,472
LWS76 - 4	202,133	382,752	205,270	389,475	208,855	396,198	211,993	402,921	215,578	409,644	219,164	415,918	222,301	422,641	225,887	429,364	229,472
LWS68-1A	151,599	287,064	153,952	292,106	156,642	297,148	158,995	302,191	161,684	307,233	164,373	311,939	166,726	316,981	169,415	322,023	172,104
LWS76 - 5	202,133	382,752	205,270	389,475	208,855	396,198	211,993	402,921	215,578	409,644	219,164	415,918	222,301	422,641	225,887	429,364	229,472
LWS76 - 6	121,280	229,651	123,162	233,685	125,313	237,719	127,196	241,752	129,347	245,786	131,498	249,551	133,381	253,585	135,532	257,618	137,683
LWS78574	94,329	178,618	95,793	181,755	97,466	184,892	98,930	188,030	100,603	191,167	102,276	194,095	103,741	197,232	105,414	200,370	107,087
LWS86-1	148,231	280,685	150,531	285,615	153,161	290,545	155,461	295,475	158,091	300,405	160,720	305,007	163,021	309,937	165,650	314,867	168,280
LWS86-2	148,231	280,685	150,531	285,615	153,161	290,545	155,461	295,475	158,091	300,405	160,720	305,007	163,021	309,937	165,650	314,867	168,280
LWS85451	822,006	1,556,526	834,764	1,583,865	849,345	1,611,205	862,104	1,638,544	876,685	1,665,884	891,266	1,691,400	904,024	1,718,740	918,605	1,746,079	933,186
LWS86646	822,006	1,556,526	834,764	1,583,865	849,345	1,611,205	862,104	1,638,544	876,685	1,665,884	891,266	1,691,400	904,024	1,718,740	918,605	1,746,079	933,186
Total (MGD)	45.1	85.4	45.8	86.9	46.6	88.4	47.3	89.9	48.1	91.4	48.9	92.8	49.6	94.3	50.4	95.8	51.2

Table 7-2
Lincoln Water System Ashland Well Field Estimated Pumping Rates (ft^3/day)
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Stress Period:	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69
Start Date:	6/1/36	9/1/36	6/1/37	9/1/37	6/1/38	9/1/38	6/1/39	9/1/39	6/1/40	9/1/40	6/1/41	9/1/41	6/1/42	9/1/42	6/1/43	9/1/43	6/1/44
End Date:	8/31/36	5/31/37	8/31/37	5/31/38	8/31/38	5/31/39	8/31/39	5/31/40	8/31/40	5/31/41	8/31/41	5/31/42	8/31/42	5/31/43	8/31/43	5/31/44	8/31/44
LWS56-8	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS56-9	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS56-5	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS54-3	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS56-7	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS54-5	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS325A	284,910	151,971	289,302	154,314	293,402	156,364	297,794	158,706	302,186	161,049	306,578	163,098	310,971	165,441	315,070	167,784	319,462
LWS54-7	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS32-4-2	145,362	77,536	147,603	78,732	149,695	79,777	151,936	80,973	154,177	82,168	156,417	83,214	158,658	84,409	160,750	85,604	162,991
LWS54-9	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS32-4A-2	145,362	77,536	147,603	78,732	149,695	79,777	151,936	80,973	154,177	82,168	156,417	83,214	158,658	84,409	160,750	85,604	162,991
LWS54-6	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS32-3-2	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS54-8	261,652	139,566	265,686	141,717	269,450	143,599	273,484	145,751	277,518	147,902	281,551	149,784	285,585	151,936	289,350	154,087	293,384
LWS32-2-2	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS54-10	363,405	193,841	369,008	196,829	374,237	199,444	379,839	202,431	385,441	205,419	391,044	208,034	396,646	211,022	401,875	214,010	407,477
LWS32-1A	290,724	155,073	295,206	157,463	299,389	159,555	303,871	161,945	308,353	164,335	312,835	166,427	317,317	168,817	321,500	171,208	325,982
LWS56-1	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS49-7	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS49-8	285,637	152,359	290,040	154,708	294,150	156,763	298,553	159,111	302,957	161,460	307,360	163,515	311,764	165,863	315,874	168,212	320,277
LWS49-6	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS49-9	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS54-1	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS66 - 1	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS76 - 1	436,087	232,609	442,809	236,195	449,084	239,332	455,807	242,918	462,530	246,503	469,252	249,641	475,975	253,226	482,250	256,812	488,973
LWS66 - 4	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS76 - 2	436,087	232,609	442,809	236,195	449,084	239,332	455,807	242,918	462,530	246,503	469,252	249,641	475,975	253,226	482,250	256,812	488,973
LWS66 - 5	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS66 - 6	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS76 - 3	436,087	232,609	442,809	236,195	449,084	239,332	455,807	242,918	462,530	246,503	469,252	249,641	475,975	253,226	482,250	256,812	488,973
LWS76 - 4	436,087	232,609	442,809	236,195	449,084	239,332	455,807	242,918	462,530	246,503	469,252	249,641	475,975	253,226	482,250	256,812	488,973
LWS68-1A	327,065	174,457	332,107	177,146	336,813	179,499	341,855	182,188	346,897	184,877	351,939	187,230	356,981	189,920	361,687	192,609	366,730
LWS76 - 5	436,087	232,609	442,809	236,195	449,084	239,332	455,807	242,918	462,530	246,503	469,252	249,641	475,975	253,226	482,250	256,812	488,973
LWS76 - 6	261,652	139,566	265,686	141,717	269,450	143,599	273,484	145,751	277,518	147,902	281,551	149,784	285,585	151,936	289,350	154,087	293,384
LWS78574	203,507	108,551	206,644	110,224	209,573	111,688	212,710	113,362	215,847	115,035	218,984	116,499	222,122	118,172	225,050	119,845	228,187
LWS86-1	319,797	170,580	324,727	173,210	329,328	175,510	334,258	178,140	339,188	180,769	344,118	183,070	349,049	185,699	353,650	188,328	358,580
LWS86-2	319,797	170,580	324,727	173,210	329,328	175,510	334,258	178,140	339,188	180,769	344,118	183,070	349,049	185,699	353,650	188,328	358,580
LWS85451	1,773,419	945,945	1,800,758	960,526	1,826,275	973,284	1,853,615	987,865	1,880,954	1,002,446	1,908,293	1,015,205	1,935,633	1,029,786	1,961,150	1,044,367	1,988,489
LWS86646	1,773,419	945,945	1,800,758	960,526	1,826,275	973,284	1,853,615	987,865	1,880,954	1,002,446	1,908,293	1,015,205	1,935,633	1,029,786	1,961,150	1,044,367	1,988,489
Total (MGD)	97.3	51.9	98.8	52.7	100.2	53.4	101.7	54.2	103.2	55.0	104.7	55.7	106.2	56.5	107.6	57.3	109.1

Table 7-2
Lincoln Water System Ashland Well Field Estimated Pumping Rates (ft^3/day)
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Stress Period:	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
Start Date:	9/1/44	6/1/45	9/1/45	6/1/46	9/1/46	6/1/47	9/1/47	6/1/48	9/1/48	6/1/49	9/1/49	6/1/50	9/1/50	6/1/51	9/1/51	6/1/52	9/1/52
End Date:	5/31/45	8/31/45	5/31/46	8/31/46	5/31/47	8/31/47	5/31/48	8/31/48	5/31/49	8/31/49	5/31/50	8/31/50	5/31/51	8/31/51	5/31/52	8/31/52	5/31/53
LWS56-8	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS56-9	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS56-5	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS54-3	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS56-7	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS54-5	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS325A	169,833	323,854	172,176	328,247	174,518	332,639	176,568	336,738	178,911	341,131	180,960	345,523	183,303	349,915	185,645	354,307	187,695
LWS54-7	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS32-4-2	86,650	165,232	87,845	167,473	89,040	169,714	90,086	171,805	91,281	174,046	92,327	176,287	93,522	178,528	94,717	180,769	95,763
LWS54-9	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS32-4A-2	86,650	165,232	87,845	167,473	89,040	169,714	90,086	171,805	91,281	174,046	92,327	176,287	93,522	178,528	94,717	180,769	95,763
LWS54-6	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS32-3-2	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS54-8	155,969	297,417	158,121	301,451	160,272	305,485	162,154	309,249	164,306	313,283	166,188	317,317	168,339	321,351	170,491	325,384	172,373
LWS32-2-2	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS54-10	216,624	413,080	219,612	418,682	222,600	424,284	225,214	429,513	228,202	435,116	230,817	440,718	233,805	446,320	236,792	451,923	239,407
LWS32-1A	173,299	330,464	175,690	334,946	178,080	339,427	180,171	343,611	182,562	348,092	184,653	352,574	187,044	357,056	189,434	361,538	191,526
LWS56-1	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS49-7	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS49-8	170,266	324,681	172,615	329,084	174,963	333,487	177,018	337,597	179,367	342,001	181,422	346,404	183,770	350,808	186,119	355,211	188,174
LWS49-6	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS49-9	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS54-1	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS66 - 1	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS76 - 1	259,949	495,696	263,534	502,418	267,120	509,141	270,257	515,416	273,843	522,139	276,980	528,861	280,565	535,584	284,151	542,307	287,288
LWS66 - 4	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS76 - 2	259,949	495,696	263,534	502,418	267,120	509,141	270,257	515,416	273,843	522,139	276,980	528,861	280,565	535,584	284,151	542,307	287,288
LWS66 - 5	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS66 - 6	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS76 - 3	259,949	495,696	263,534	502,418	267,120	509,141	270,257	515,416	273,843	522,139	276,980	528,861	280,565	535,584	284,151	542,307	287,288
LWS76 - 4	259,949	495,696	263,534	502,418	267,120	509,141	270,257	515,416	273,843	522,139	276,980	528,861	280,565	535,584	284,151	542,307	287,288
LWS68-1A	194,962	371,772	197,651	376,814	200,340	381,856	202,693	386,562	205,382	391,604	207,735	396,646	210,424	401,688	213,113	406,730	215,466
LWS76 - 5	259,949	495,696	263,534	502,418	267,120	509,141	270,257	515,416	273,843	522,139	276,980	528,861	280,565	535,584	284,151	542,307	287,288
LWS76 - 6	155,969	297,417	158,121	301,451	160,272	305,485	162,154	309,249	164,306	313,283	166,188	317,317	168,339	321,351	170,491	325,384	172,373
LWS78574	121,309	231,325	122,983	234,462	124,656	237,599	126,120	240,527	127,793	243,665	129,257	246,802	130,931	249,939	132,604	253,077	134,068
LWS86-1	190,629	363,510	193,259	368,440	195,888	373,370	198,189	377,972	200,818	382,902	203,119	387,832	205,748	392,762	208,377	397,692	210,678
LWS86-2	190,629	363,510	193,259	368,440	195,888	373,370	198,189	377,972	200,818	382,902	203,119	387,832	205,748	392,762	208,377	397,692	210,678
LWS85451	1,057,125	2,015,829	1,071,706	2,043,168	1,086,287	2,070,507	1,099,046	2,096,024	1,113,627	2,123,364	1,126,385	2,150,703	1,140,966	2,178,043	1,155,547	2,205,382	1,168,306
LWS86646	1,057,125	2,015,829	1,071,706	2,043,168	1,086,287	2,070,507	1,099,046	2,096,024	1,113,627	2,123,364	1,126,385	2,150,703	1,140,966	2,178,043	1,155,547	2,205,382	1,168,306
Total (MGD)	58.0	110.6	58.8	112.1	59.6	113.6	60.3	115.0	61.1	116.5	61.8	118.0	62.6	119.5	63.4	121.0	64.1

Table 7-2
Lincoln Water System Ashland Well Field Estimated Pumping Rates (ft^3/day)
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Stress Period:	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103
Start Date:	6/1/53	9/1/53	6/1/54	9/1/54	6/1/55	9/1/55	6/1/56	9/1/56	6/1/57	9/1/57	6/1/58	9/1/58	6/1/59	9/1/59	6/1/60	9/1/60	6/1/61
End Date:	8/31/53	5/31/54	8/31/54	5/31/55	8/31/55	5/31/56	8/31/56	5/31/57	8/31/57	5/31/58	8/31/58	5/31/59	8/31/59	5/31/60	8/31/60	5/31/61	8/31/61
LWS56-8	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS56-9	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS56-5	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS54-3	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS56-7	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS54-5	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS325A	358,407	190,038	362,799	192,380	367,191	194,430	371,583	196,772	375,976	199,115	380,075	201,165	384,467	203,507	388,860	205,557	393,252
LWS54-7	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS32-4-2	182,861	96,958	185,102	98,153	187,342	99,199	189,583	100,394	191,824	101,589	193,916	102,635	196,157	103,830	198,398	104,876	200,639
LWS54-9	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS32-4A-2	182,861	96,958	185,102	98,153	187,342	99,199	189,583	100,394	191,824	101,589	193,916	102,635	196,157	103,830	198,398	104,876	200,639
LWS54-6	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS32-3-2	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS54-8	329,149	174,524	333,183	176,676	337,216	178,558	341,250	180,709	345,284	182,861	349,049	184,743	353,082	186,894	357,116	188,777	361,150
LWS32-2-2	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS54-10	457,151	242,395	462,754	245,383	468,356	247,997	473,958	250,985	479,561	253,973	484,790	256,587	490,392	259,575	495,994	262,190	501,597
LWS32-1A	365,721	193,916	370,203	196,306	374,685	198,398	379,167	200,788	383,649	203,178	387,832	205,270	392,314	207,660	396,795	209,752	401,277
LWS56-1	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS49-7	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS49-8	359,321	190,522	363,724	192,871	368,128	194,926	372,531	197,274	376,935	199,623	381,045	201,678	385,448	204,026	389,852	206,081	394,255
LWS49-6	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS49-9	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS54-1	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS66 - 1	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS76 - 1	548,582	290,874	555,305	294,459	562,027	297,597	568,750	301,182	575,473	304,768	581,748	307,905	588,470	311,490	595,193	314,628	601,916
LWS66 - 4	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS76 - 2	548,582	290,874	555,305	294,459	562,027	297,597	568,750	301,182	575,473	304,768	581,748	307,905	588,470	311,490	595,193	314,628	601,916
LWS66 - 5	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS66 - 6	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS76 - 3	548,582	290,874	555,305	294,459	562,027	297,597	568,750	301,182	575,473	304,768	581,748	307,905	588,470	311,490	595,193	314,628	601,916
LWS76 - 4	548,582	290,874	555,305	294,459	562,027	297,597	568,750	301,182	575,473	304,768	581,748	307,905	588,470	311,490	595,193	314,628	601,916
LWS68-1A	411,436	218,155	416,478	220,844	421,520	223,197	426,563	225,887	431,605	228,576	436,311	230,929	441,353	233,618	446,395	235,971	451,437
LWS76 - 5	548,582	290,874	555,305	294,459	562,027	297,597	568,750	301,182	575,473	304,768	581,748	307,905	588,470	311,490	595,193	314,628	601,916
LWS76 - 6	329,149	174,524	333,183	176,676	337,216	178,558	341,250	180,709	345,284	182,861	349,049	184,743	353,082	186,894	357,116	188,777	361,150
LWS78574	256,005	135,741	259,142	137,414	262,279	138,878	265,417	140,552	268,554	142,225	271,482	143,689	274,620	145,362	277,757	146,826	280,894
LWS86-1	402,293	213,307	407,223	215,937	412,153	218,238	417,083	220,867	422,013	223,496	426,615	225,797	431,545	228,426	436,475	230,727	441,405
LWS86-2	402,293	213,307	407,223	215,937	412,153	218,238	417,083	220,867	422,013	223,496	426,615	225,797	431,545	228,426	436,475	230,727	441,405
LWS85451	2,230,899	1,182,887	2,258,238	1,197,468	2,285,578	1,210,226	2,312,917	1,224,807	2,340,257	1,239,388	2,365,773	1,252,147	2,393,113	1,266,728	2,420,452	1,279,486	2,447,792
LWS86646	2,230,899	1,182,887	2,258,238	1,197,468	2,285,578	1,210,226	2,312,917	1,224,807	2,340,257	1,239,388	2,365,773	1,252,147	2,393,113	1,266,728	2,420,452	1,279,486	2,447,792
Total (MGD)	122.4	64.9	123.9	65.7	125.4	66.4	126.9	67.2	128.4	68.0	129.8	68.7	131.3	69.5	132.8	70.2	134.3

Table 7-2
Lincoln Water System Ashland Well Field Estimated Pumping Rates (ft^3/day)
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Stress Period:	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Start Date:	9/1/61	6/1/62	9/1/62	6/1/63	9/1/63	6/1/64	9/1/64	6/1/65	9/1/65	6/1/66	9/1/66	6/1/67	9/1/67	6/1/68	9/1/68	6/1/69	9/1/69
End Date:	5/31/62	8/31/62	5/31/63	8/31/63	5/31/64	8/31/64	5/31/65	8/31/65	5/31/66	8/31/66	5/31/67	8/31/67	5/31/68	8/31/68	5/31/69	8/31/69	5/31/70
LWS56-8	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS56-9	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS56-5	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS54-3	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS56-7	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS54-5	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS325A	207,899	397,644	210,242	401,743	212,292	406,194	214,634	410,528	216,977	414,862	219,026	419,195	221,369	423,529	223,711	427,863	225,761
LWS54-7	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS32-4-2	106,071	202,880	107,266	204,971	108,312	207,242	109,507	209,453	110,702	211,664	111,748	213,875	112,943	216,086	114,138	218,297	115,184
LWS54-9	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS32-4A-2	106,071	202,880	107,266	204,971	108,312	207,242	109,507	209,453	110,702	211,664	111,748	213,875	112,943	216,086	114,138	218,297	115,184
LWS54-6	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS32-3-2	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS54-8	190,928	365,183	193,079	368,948	194,962	373,036	197,113	377,015	199,264	380,995	201,147	384,975	203,298	388,955	205,449	392,935	207,332
LWS32-2-2	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS54-10	265,178	507,199	268,166	512,428	270,780	518,105	273,768	523,633	276,756	529,160	279,370	534,688	282,358	540,216	285,346	545,743	287,961
LWS32-1A	212,142	405,759	214,532	409,942	216,624	414,484	219,014	418,906	221,405	423,328	223,496	427,750	225,887	432,172	228,277	436,595	230,368
LWS56-1	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS49-7	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS49-8	208,430	398,658	210,778	402,768	212,833	407,230	215,182	411,575	217,530	415,920	219,585	420,265	221,934	424,609	224,282	428,954	226,337
LWS49-6	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS49-9	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS54-1	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS66 - 1	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS76 - 1	318,213	608,639	321,799	614,913	324,936	621,726	328,522	628,359	332,107	634,992	335,244	641,625	338,830	648,259	342,415	654,892	345,553
LWS66 - 4	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS76 - 2	318,213	608,639	321,799	614,913	324,936	621,726	328,522	628,359	332,107	634,992	335,244	641,625	338,830	648,259	342,415	654,892	345,553
LWS66 - 5	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS66 - 6	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS76 - 3	318,213	608,639	321,799	614,913	324,936	621,726	328,522	628,359	332,107	634,992	335,244	641,625	338,830	648,259	342,415	654,892	345,553
LWS76 - 4	318,213	608,639	321,799	614,913	324,936	621,726	328,522	628,359	332,107	634,992	335,244	641,625	338,830	648,259	342,415	654,892	345,553
LWS68-1A	238,660	456,479	241,349	461,185	243,702	466,294	246,391	471,269	249,080	476,244	251,433	481,219	254,122	486,194	256,812	491,169	259,165
LWS76 - 5	318,213	608,639	321,799	614,913	324,936	621,726	328,522	628,359	332,107	634,992	335,244	641,625	338,830	648,259	342,415	654,892	345,553
LWS76 - 6	190,928	365,183	193,079	368,948	194,962	373,036	197,113	377,015	199,264	380,995	201,147	384,975	203,298	388,955	205,449	392,935	207,332
LWS78574	148,500	284,031	150,173	286,960	151,637	290,139	153,310	293,234	154,983	296,330	156,447	299,425	158,121	302,521	159,794	305,616	161,258
LWS86-1	233,356	446,335	235,986	450,937	238,286	455,932	240,916	460,797	243,545	465,661	245,846	470,525	248,475	475,390	251,105	480,254	253,405
LWS86-2	233,356	446,335	235,986	450,937	238,286	455,932	240,916	460,797	243,545	465,661	245,846	470,525	248,475	475,390	251,105	480,254	253,405
LWS85451	1,294,067	2,475,131	1,308,648	2,500,648	1,321,407	2,528,352	1,335,988	2,555,327	1,350,569	2,582,302	1,363,327	2,609,277	1,377,908	2,636,252	1,392,489	2,663,227	1,405,248
LWS86646	1,294,067	2,475,131	1,308,648	2,500,648	1,321,407	2,528,352	1,335,988	2,555,327	1,350,569	2,582,302	1,363,327	2,609,277	1,377,908	2,636,252	1,392,489	2,663,227	1,405,248
Total (MGD)	71.0	135.8	71.8	137.2	72.5	138.7	73.3	140.2	74.1	141.7	74.8	143.2	75.6	144.6	76.4	146.1	77.1

Table 7-2
Lincoln Water System Ashland Well Field Estimated Pumping Rates (ft^3/day)
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

Stress Period:	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135
Start Date:	6/1/70	9/1/70	6/1/71	9/1/71	6/1/72	9/1/72	6/1/73	9/1/73	6/1/74	9/1/74	6/1/75	9/1/75	5/31/76	9/1/76	6/1/77
End Date:	8/31/70	5/31/71	8/31/71	5/31/72	8/31/72	5/31/73	8/31/73	5/31/74	8/31/74	5/31/75	8/31/75	5/31/76	8/31/76	5/31/77	8/31/77
LWS56-8	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS56-9	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS56-5	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS54-3	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS56-7	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS54-5	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS325A	432,196	228,104	436,530	230,153	440,864	232,496	445,197	234,838	449,531	236,888	453,865	239,231	458,198	241,573	462,532
LWS54-7	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS32-4-2	220,508	116,379	222,719	117,425	224,930	118,620	227,142	119,816	229,353	120,861	231,564	122,056	233,775	123,252	235,986
LWS54-9	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS32-4A-2	220,508	116,379	222,719	117,425	224,930	118,620	227,142	119,816	229,353	120,861	231,564	122,056	233,775	123,252	235,986
LWS54-6	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS32-3-2	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS54-8	396,915	209,483	400,895	211,365	404,875	213,517	408,855	215,668	412,835	217,550	416,815	219,702	420,794	221,853	424,774
LWS32-2-2	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS54-10	551,271	290,948	556,798	293,563	562,326	296,551	567,854	299,539	573,381	302,153	578,909	305,141	584,437	308,129	589,964
LWS32-1A	441,017	232,759	445,439	234,850	449,861	237,241	454,283	239,631	458,705	241,723	463,127	244,113	467,549	246,503	471,971
LWS56-1	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS49-7	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS49-8	433,299	228,686	437,644	230,740	441,988	233,089	446,333	235,437	450,678	237,492	455,023	239,841	459,367	242,189	463,712
LWS49-6	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS49-9	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS54-1	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS66 - 1	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS76 - 1	661,525	349,138	668,158	352,275	674,791	355,861	681,425	359,447	688,058	362,584	694,691	366,169	701,324	369,755	707,957
LWS66 - 4	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS76 - 2	661,525	349,138	668,158	352,275	674,791	355,861	681,425	359,447	688,058	362,584	694,691	366,169	701,324	369,755	707,957
LWS66 - 5	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS66 - 6	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS76 - 3	661,525	349,138	668,158	352,275	674,791	355,861	681,425	359,447	688,058	362,584	694,691	366,169	701,324	369,755	707,957
LWS76 - 4	661,525	349,138	668,158	352,275	674,791	355,861	681,425	359,447	688,058	362,584	694,691	366,169	701,324	369,755	707,957
LWS68-1A	496,144	261,854	501,119	264,207	506,094	266,896	511,068	269,585	516,043	271,938	521,018	274,627	525,993	277,316	530,968
LWS76 - 5	661,525	349,138	668,158	352,275	674,791	355,861	681,425	359,447	688,058	362,584	694,691	366,169	701,324	369,755	707,957
LWS76 - 6	396,915	209,483	400,895	211,365	404,875	213,517	408,855	215,668	412,835	217,550	416,815	219,702	420,794	221,853	424,774
LWS78574	308,712	162,931	311,807	164,395	314,903	166,068	317,998	167,742	321,094	169,206	324,189	170,879	327,285	172,552	330,380
LWS86-1	485,118	256,035	489,983	258,335	494,847	260,965	499,711	263,594	504,576	265,895	509,440	268,524	514,304	271,154	519,169
LWS86-2	485,118	256,035	489,983	258,335	494,847	260,965	499,711	263,594	504,576	265,895	509,440	268,524	514,304	271,154	519,169
LWS85451	2,690,202	1,419,829	2,717,177	1,432,587	2,744,151	1,447,168	2,771,126	1,461,749	2,798,101	1,474,508	2,825,076	1,489,089	2,852,051	1,503,670	2,879,026
LWS86646	2,690,202	1,419,829	2,717,177	1,432,587	2,744,151	1,447,168	2,771,126	1,461,749	2,798,101	1,474,508	2,825,076	1,489,089	2,852,051	1,503,670	2,879,026
Total (MGD)	147.6	77.9	149.1	78.6	150.6	79.4	152.0	80.2	153.5	80.9	155.0	81.7	156.5	82.5	158.0

Table 7-3
MUD Platte West Well Field Estimated Pumping Rates
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

	feet^3/day							gallons per minute						
Stress Period	1,2	3	4	5	6	7,9…199	8,10…200	1,2	3	4	5	6	7,9…199	8,10…200
Start Date	9/1/2010	6/1/2011	9/1/2011	6/1/2012	9/1/2012	6/1	9/1	9/1/2010	6/1/2011	9/1/2011	6/1/2012	9/1/2012	6/1	9/1
End Date	5/31/2011	8/31/2011	5/31/2012	8/31/2012	5/31/2013	8/31	5/31	5/31/2011	8/31/2011	5/31/2012	8/31/2012	5/31/2013	8/31	5/31
PW94-2	163,414	311,350	103,238	311,350	103,238	311,350	103,238	849	1618	536	1618	536	1,618	536
PW91-3	72,809	596,750	596,750	596,750	596,750	596,750	596,750	378	3100	3100	3100	3100	3,100	3,100
PW04-4	1,688	0	0	0	0	0	0	9	0	0	0	0	0	0
PW04-5	1,764	334,180	110,168	334,180	110,168	334,180	110,168	9	1736	572	1736	572	1,736	572
PW04-6	73,192	0	0	0	0	0	0	380	0	0	0	0	0	0
PW04-7	6,345	225,206	0	225,206	0	225,206	0	33	1170	0	1170	0	1,170	0
PW04-8	1,973	334,180	259,509	334,180	259,509	334,180	259,509	10	1736	1348	1736	1348	1,736	1,348
PW04-9	1,008	334,180	110,168	334,180	110,168	334,180	110,168	5	1736	572	1736	572	1,736	572
PW04-10	84,512	0	0	0	0	0	0	439	0	0	0	0	0	0
PW04-11	25,501	0	0	0	0	0	0	132	0	0	0	0	0	0
PW04-12	192,662	0	86,028	0	86,028	0	86,028	1001	0	447	0	447	0	447
PW04-13	78,693	225,206	149,342	225,206	149,342	225,206	149,342	409	1170	776	1170	776	1,170	776
PW04-14	39,418	259,452	86,028	259,452	86,028	259,452	86,028	205	1348	447	1348	447	1,348	447
PW04-15	51,889	125,549	301,802	125,549	301,802	125,549	301,802	270	652	1568	652	1568	652	1,568
PW04-16	211,533	108,974	184,839	108,974	184,839	108,974	184,839	1099	566	960	566	960	566	960
PW04-17	1,107	385,000	215,773	385,000	215,773	385,000	215,773	6	2,000	1,121	2,000	1,121	2,000	1,121
PW91-30	52,579	596,750	596,750	596,750	596,750	596,750	596,750	273	3,100	3,100	3,100	3,100	3,100	3,100
PW94-31	166,592	163,202	276,834	163,202	276,834	163,202	276,834	865	848	1,438	848	1,438	848	1,438
PW94-32	243,850	0	0	0	0	0	0	1267	0	0	0	0	0	0
PW94-33	108,117	311,350	103,238	311,350	103,238	311,350	103,238	562	1,618	536	1,618	536	1,618	536
PW94-34	335,179	442,750	244,899	442,750	244,899	442,750	244,899	1741	2,300	1,272	2,300	1,272	2,300	1,272
PW94-35	358,465	324,324	215,061	324,324	215,061	324,324	215,061	1862	1,685	1,117	1,685	1,117	1,685	1,117
PW94-36	201,320	539,000	418,572	539,000	418,572	539,000	418,572	1046	2,800	2,175	2,800	2,175	2,800	2,175
PW94-37	300,133	500,500	392,334	500,500	392,334	500,500	392,334	1559	2,600	2,038	2,600	2,038	2,600	2,038
PW04-38	49,960	0	358,339	0	358,339	0	358,339	260	0	1,862	0	1,862	0	1,862
PW04-39	268,024	272,426	0	272,426	0	272,426	0	1392	1,415	0	1,415	0	1,415	0
PW04-40	125,256	404,250	316,894	404,250	316,894	404,250	316,894	651	2,100	1,646	2,100	1,646	2,100	1,646
PW04-41	336,877	0	0	0	0	0	0	1750	0	0	0	0	0	0
PW04-42	39,275	91,014	216,755	91,014	216,755	91,014	216,755	204	473	1,126	473	1,126	473	1,126
PW04-43	222,086	272,426	0	272,426	0	272,426	0	1154	1,415	0	1,415	0	1,415	0
PW04-44	0	94,152	95,191	94,152	95,191	94,152	95,191	0	489	495	489	495	489	495
PW04-45	360,317	272,426	180,661	272,426	180,661	272,426	180,661	1872	1,415	939	1,415	939	1,415	939
PW04-46	207,610	442,750	50,281	442,750	50,281	442,750	50,281	1078	2,300	261	2,300	261	2,300	261
PW04-47	59,264	0	0	0	0	0	0	308	0	0	0	0	0	0
PW04-48	62,869	279,125	216,755	279,125	216,755	279,125	216,755	327	1,450	1,126	1,450	1,126	1,450	1,126
PW04-49	0	239,990	79,580	239,990	79,580	239,990	79,580	0	1,247	413	1,247	413	1,247	413
PW04-50	58,683	0	0	0	0	0	0	305	0	0	0	0	0	0
PW04-51	5,403	91,014	31,705	91,014	31,705	91,014	31,705	28	473	165	473	165	473	165
PW04-52	11,879	207,573	0	207,573	0	207,573	0	62	1,078	0	1,078	0	1,078	0
PW04-53	102,276	188,111	122,700	188,111	122,700	188,111	122,700	531	977	637	977	637	977	637
PW04-54	89,926	279,125	94,056	279,125	94,056	279,125	94,056	467	1,450	489	1,450	489	1,450	489
PW04-55	62,902	0	0	0	0	0	0	327	0	0	0	0	0	0

Notes:

(1) Stress Periods 1 and 2 based on average of pumping rates from September-December 2010. (MUD, 2011).

NOP = Nebraska Ordnance Plant

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Table 7-4
Specified Concentration Assumptions
2010 Groundwater Model Report
Former NOP, Mead, Nebraska

Stress Periods	Time Frame	TCE (ug/L)	RDX (ug/L)
1-6	2010-2013	8000	15
7-12	2013-2016	6500	10
13-18	2016-2019	5000	5
19-24	2019-2022	3500	0
25-30	2022-2025	200	0
31-36	2025-2028	500	0
37-42	2028-2031	50	0
43-200	2031-2110	0	0

Notes:
*These concentrations were estimated based on existing site data and history matching simulations discussed in Section 6 of the GWM10. There is a significant amount of uncertainty in the concentrations and the rate of decline. Additional long term monitoring well data can provide trends to verify these assumptions.

TCE = Trichloroethene
RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine
NOP = Nebraska Ordnance Plant
ug/L = Micrograms per Liter

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FIGURES

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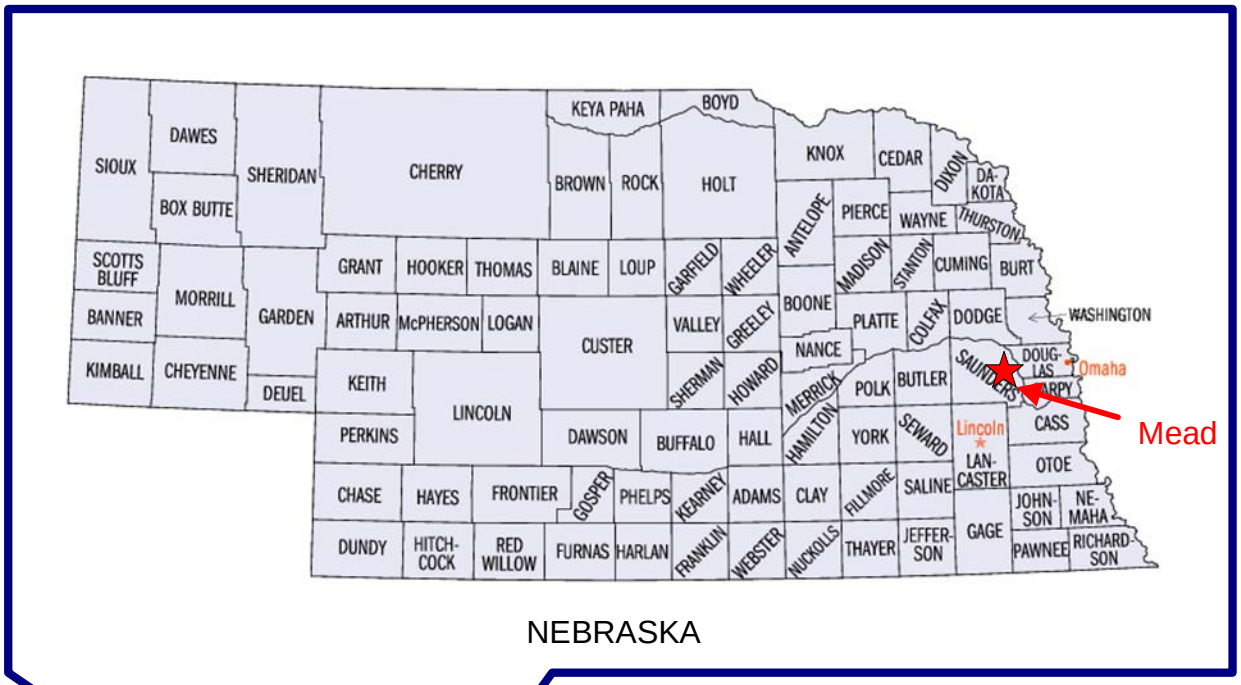

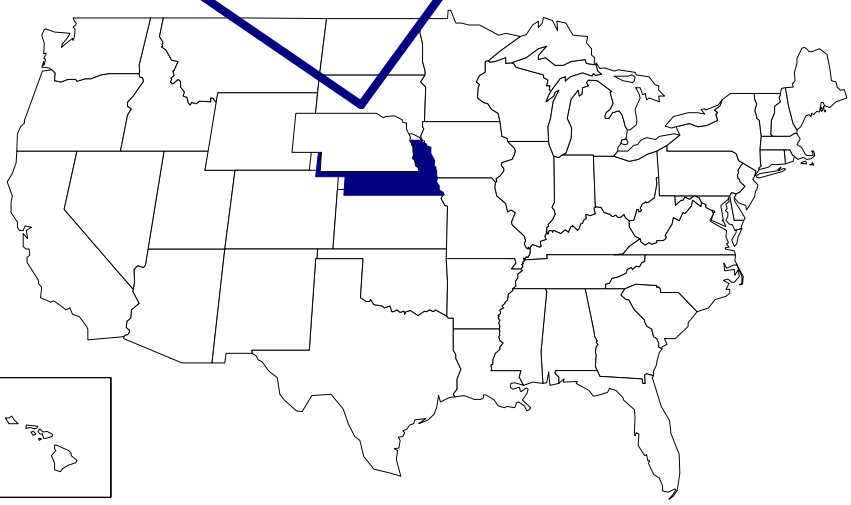

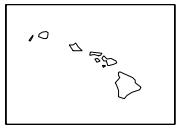

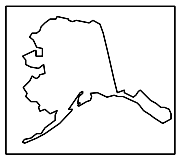

ECC	US Army Corps of Engineers® Kansas City District	
Designed by: DM	FORMER NEBRASKA ORDNANCE PLANT MEAD, NEBRASKA	
Drawn by: ROW	Site Location Map	
Checked by: BB		
Submitted by: MJ	Drawing No: Figure 1-1	Date: 1/8/2010

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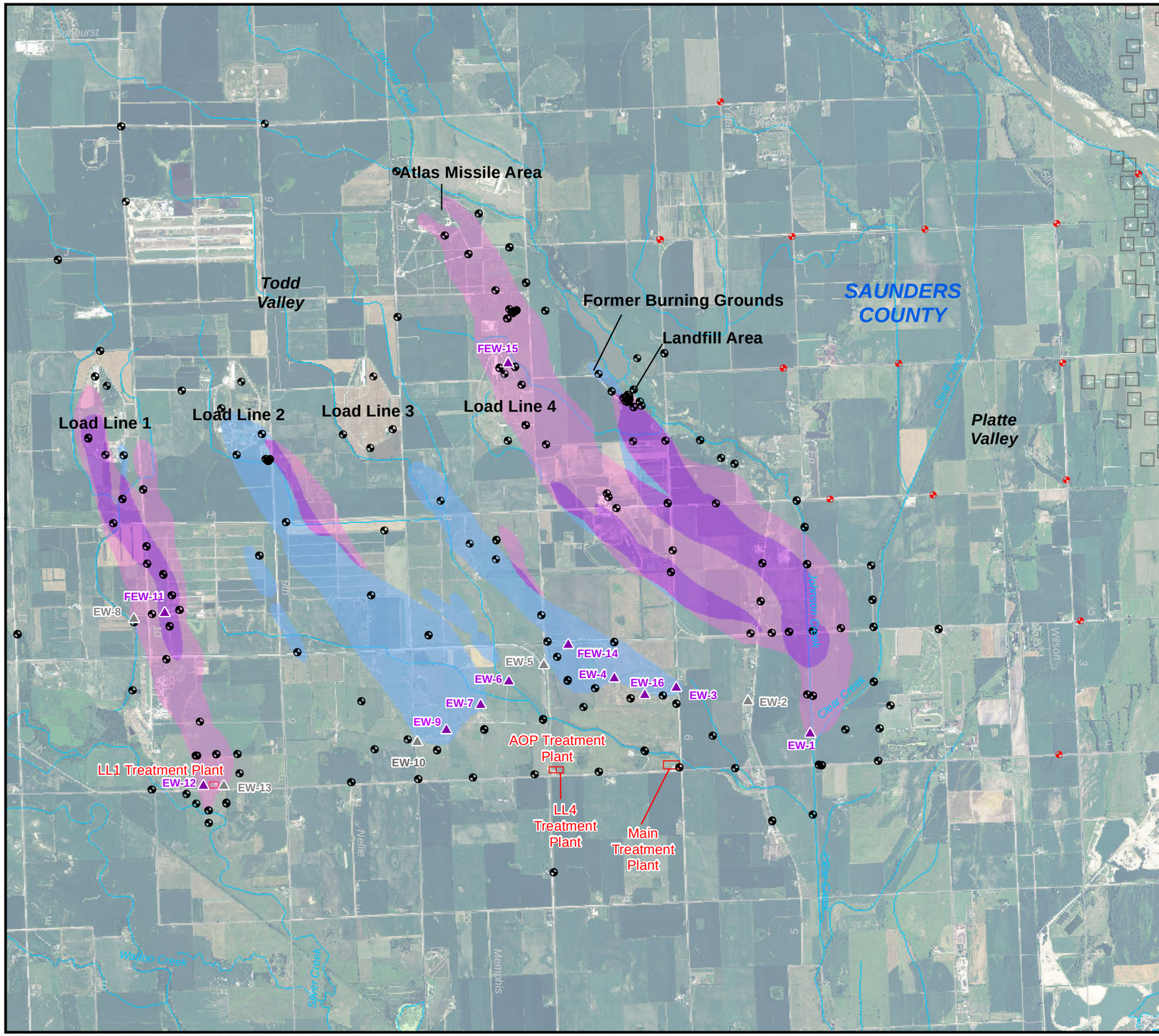

Legend

- USACE Extraction Well - Active
- USACE Extraction Well - Inactive
- USACE Monitoring Well
- Metropolitan Utility District Monitoring Well
- Approximate Area of TCE at a Concentration of 5 ug/L or Greater (2010)
- Approximate Area of Both TCE at a Concentration of 5 ug/L or Greater and RDX at a Concentration of 2 ug/L or Greater (2010)
- Approximate Area of RDX at a Concentration of 2 ug/L or Greater (2010)
- Treatment Plant
- Metropolitan Utility District Extraction Well

Notes:

1. TCE and RDX Plume Delineations for 2010 are based on Groundwater Monitoring Program Data, Direct-Push Data, and other Data. The Plume Delineations represent a Combination of the Shallow Zone Data and the Intermediate Zone Data.
2. EW-10, shown as inactive, was turned of February 2010.

TCE - trichloroethene

RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine

ug/L - micrograms per liter

USACE - United States Army Corps of Engineers

2009 Aerial Photography
Saunders County
USDA-APFO NAIP

US Army Corps of Engineers
Kansas City District

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Figure 1-2

Site Map

2010 Groundwater Model Update
Former NOP

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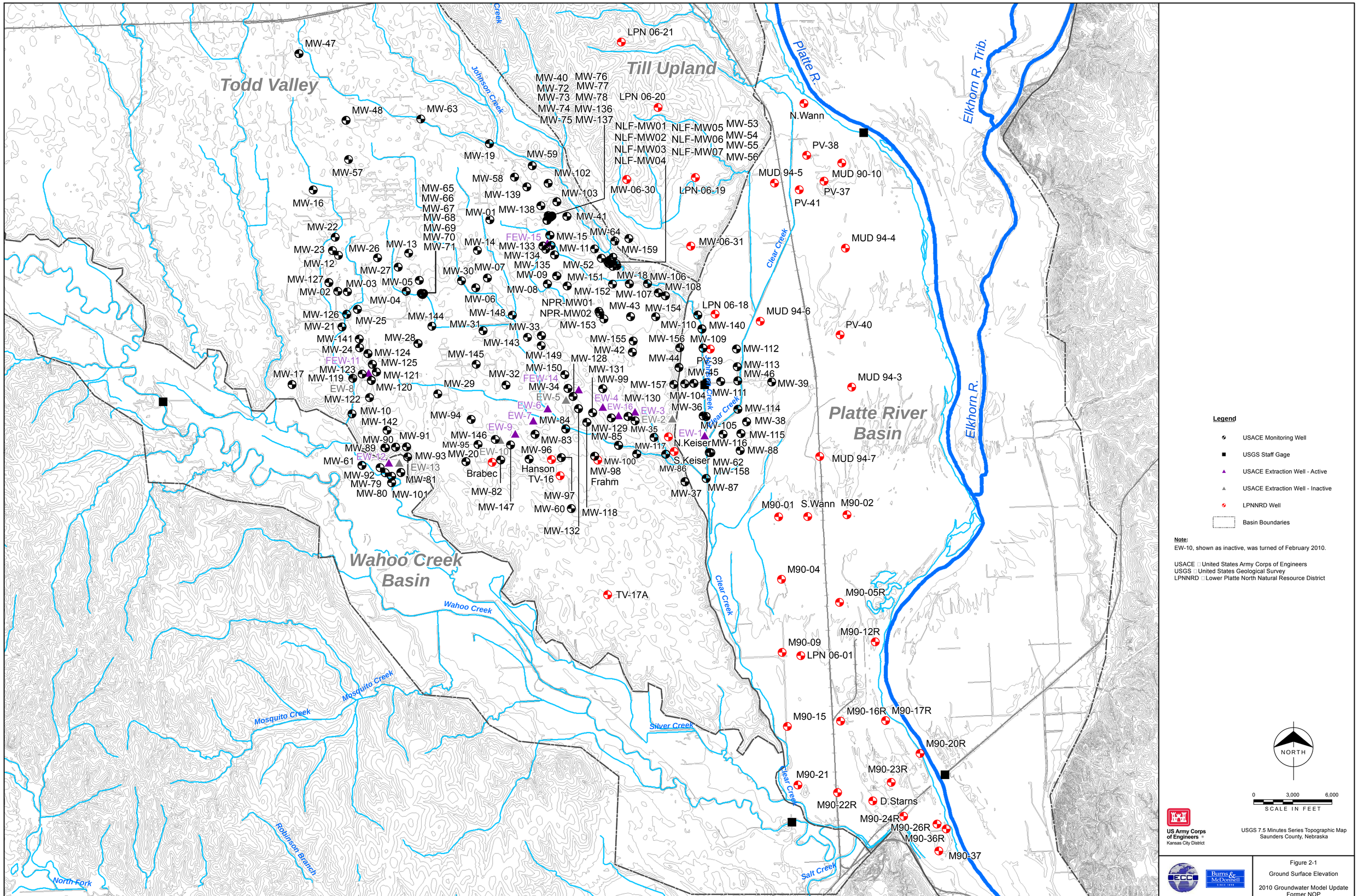

Figure 2-1

Ground Surface Elevation

2010 Groundwater Model Update
Former NOP

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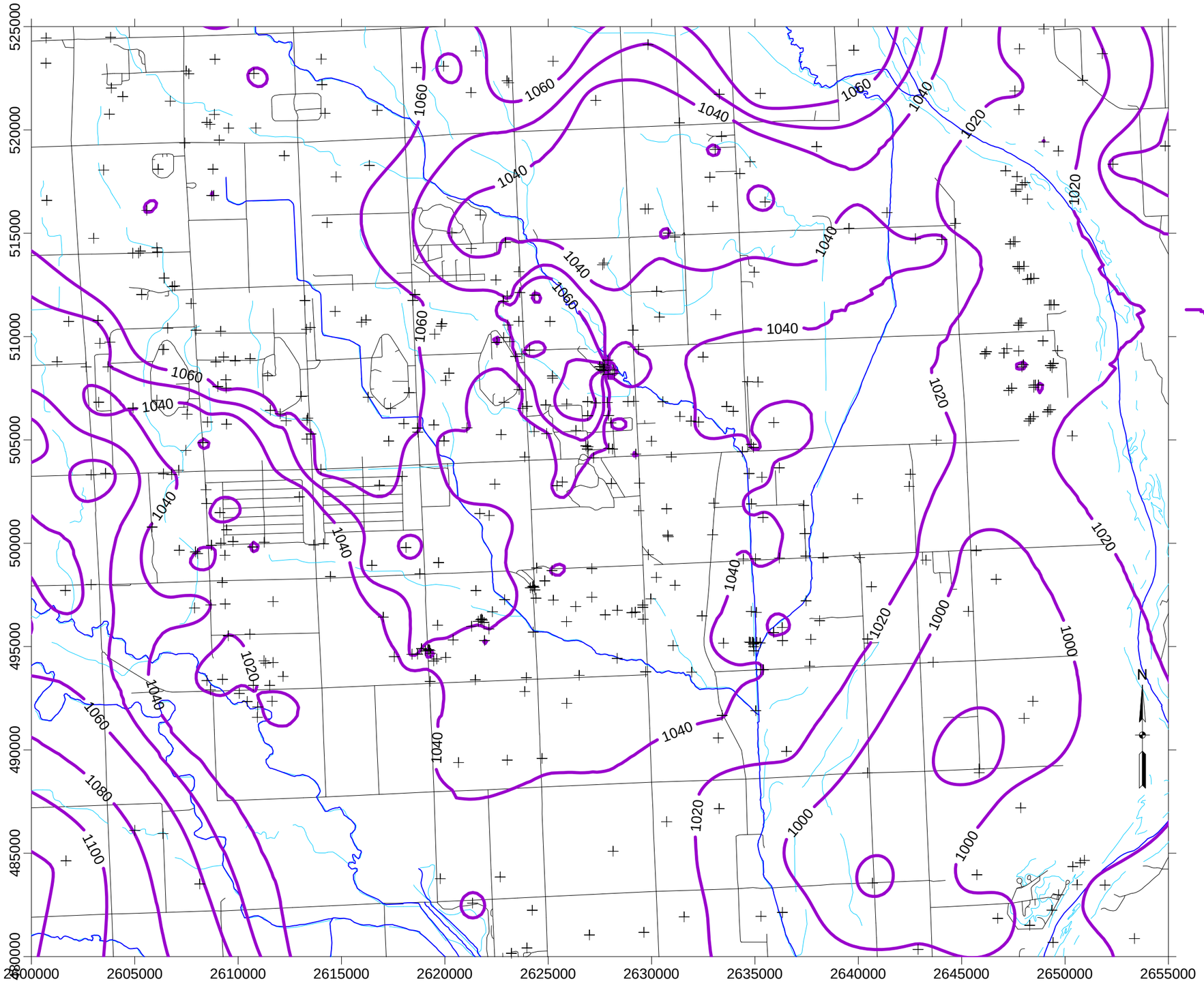

LEGEND

Registered Wells (as of December 2010)

1000 2010 Contour of Elevation of Top of Bedrock (ft NAVD 1988)

Notes:
1) Although this contour is generated from data points, it is an interpretation using kriging. Discrepancies and variation in data quality required selective editing of data. The contour was generated by compiling data from the posted sources, and comparing the elevations to a digitized contour of the statewide "Configuration of the Base of the Principal Aquifer" (USGS, 1979, http://csd.unl.edu/general/gis-datasets.asp) Data points were also compared to each other, and outliers were removed. Where nearby data points conflicted, preference was given to data from borings sampled with discrete samplers such as the monitoring well borings and extraction well pilot holes. Among borings sampled from cuttings, preference was given to the USGS and Piskin test holes over irrigation well logs.

ft - feet
NAVD - North American Vertical Datum
USGS - United States Geological Survey

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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: J.M.F.	2010 GROUNDWATER MODEL UPDATE OPERABLE UNIT NO. 2 (GROUNDWATER) FORMER NOP - MEAD, NE
Drawn by: --	**Figure 2-2** **BEDROCK SURFACE ELEVATION**
Checked by: --	Scale: As Indicated
Submitted by: --	Date: April 2011
	Fig. No.:
	Figure Number: **2-2**

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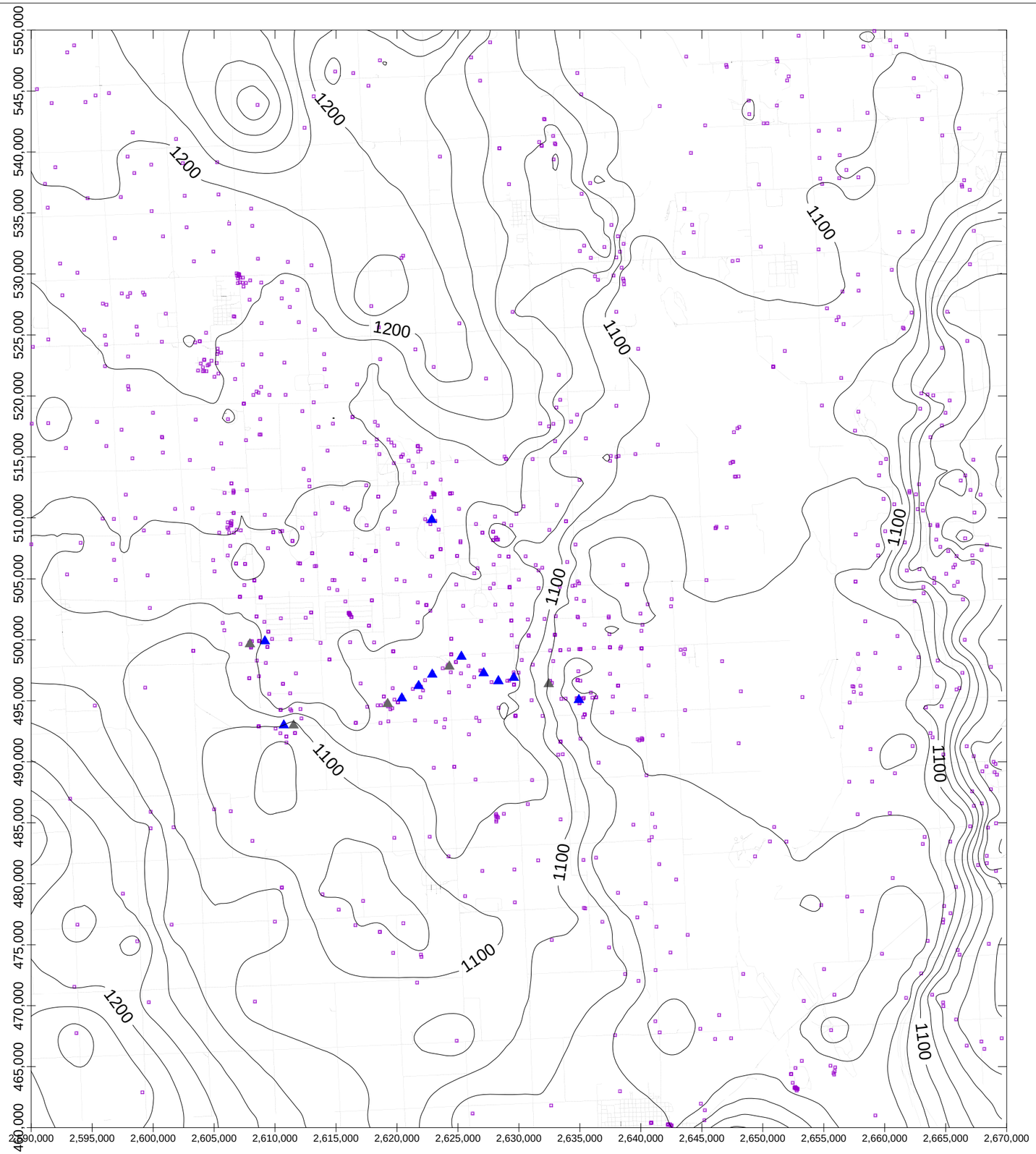

LEGEND

- 2010 Elevation of Base of Loess
- 2010 Data Locations for Loess Contour
- USACE Extraction Wells - Active
- USACE Extraction Wells - Inactive

Note:
EW-10, shown as inactive, was turned of February 2010

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US Army Corps of Engineers
Kansas City District

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

2010 GROUNDWATER MODELING UPDATE
OPERABLE UNIT NO. 2 (GROUNDWATER)
FORMER NOP - MEAD, NE

2010 ELEVATION OF BASE OF LOESS AND OVERBANK FINES

Designed by:	DB
Drawn by:	DB
Checked by:	J. M. F.
Submitted by:	DB
Scale:	As Indicated
Date:	July 2011
Fig. No.:	2-3
Figure Number:	2-3

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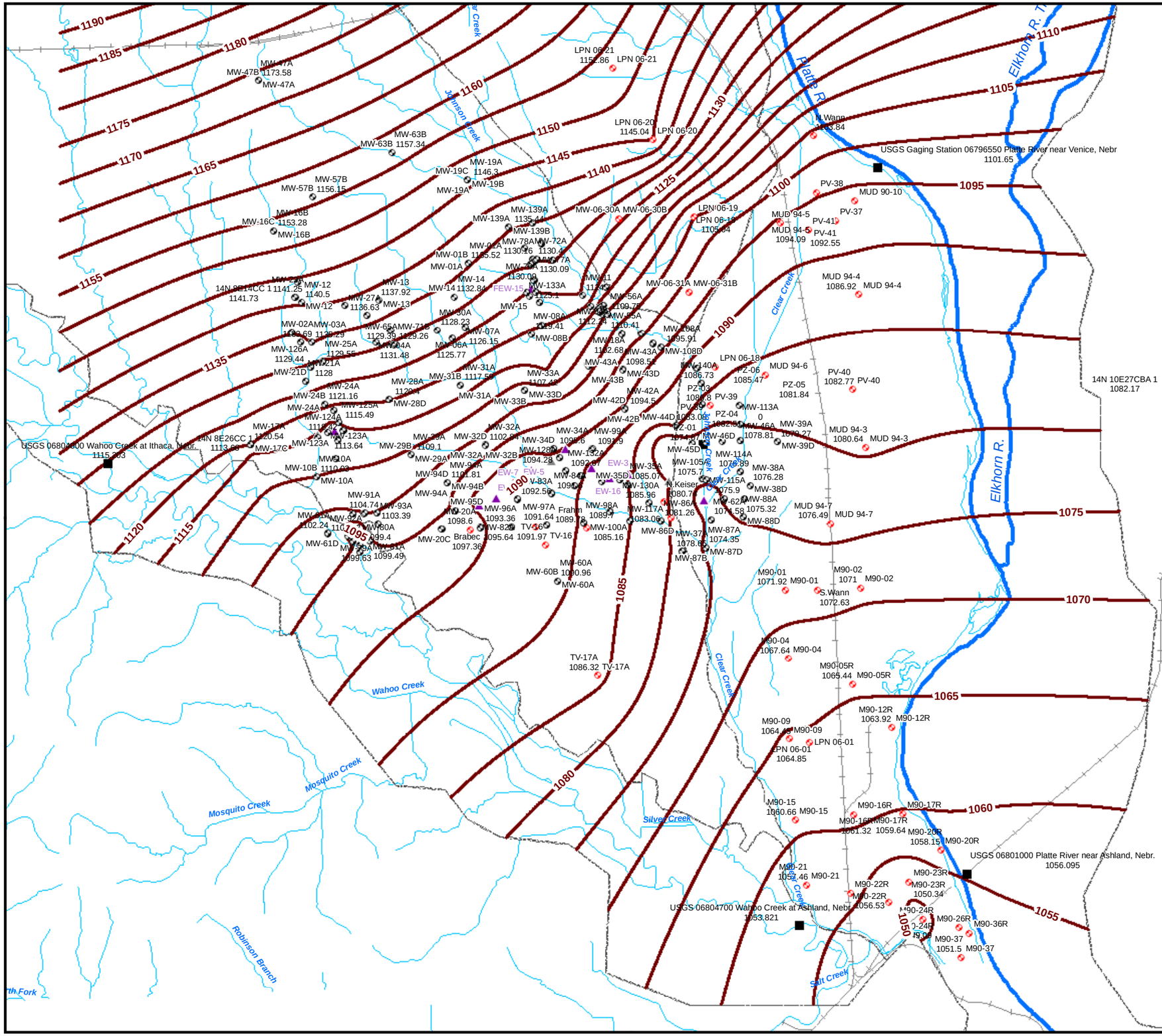

Legend

- USACE Monitoring Well
- USACE Extraction Well - Active
- USACE Extraction Well - Inactive
- LPNNRD Well
- USGS Staff Gage
- Groundwater Contour
- Basin Boundaries

USACE - United States Army Corps of Engineers
USGS - United States Geological Survey
LPNNRD - Lower Platte North Natural Resource District

Notes:

1. Observation well data were not plotted on this map; however, they were used in its construction.
2. March 2009 data collected from 3/30/09 to 3/31/09.

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Figure 2-4

Interpreted Potentiometric Surface
Intermediate Zone - March 2009
2010 Groundwater Model Update
Former NOP

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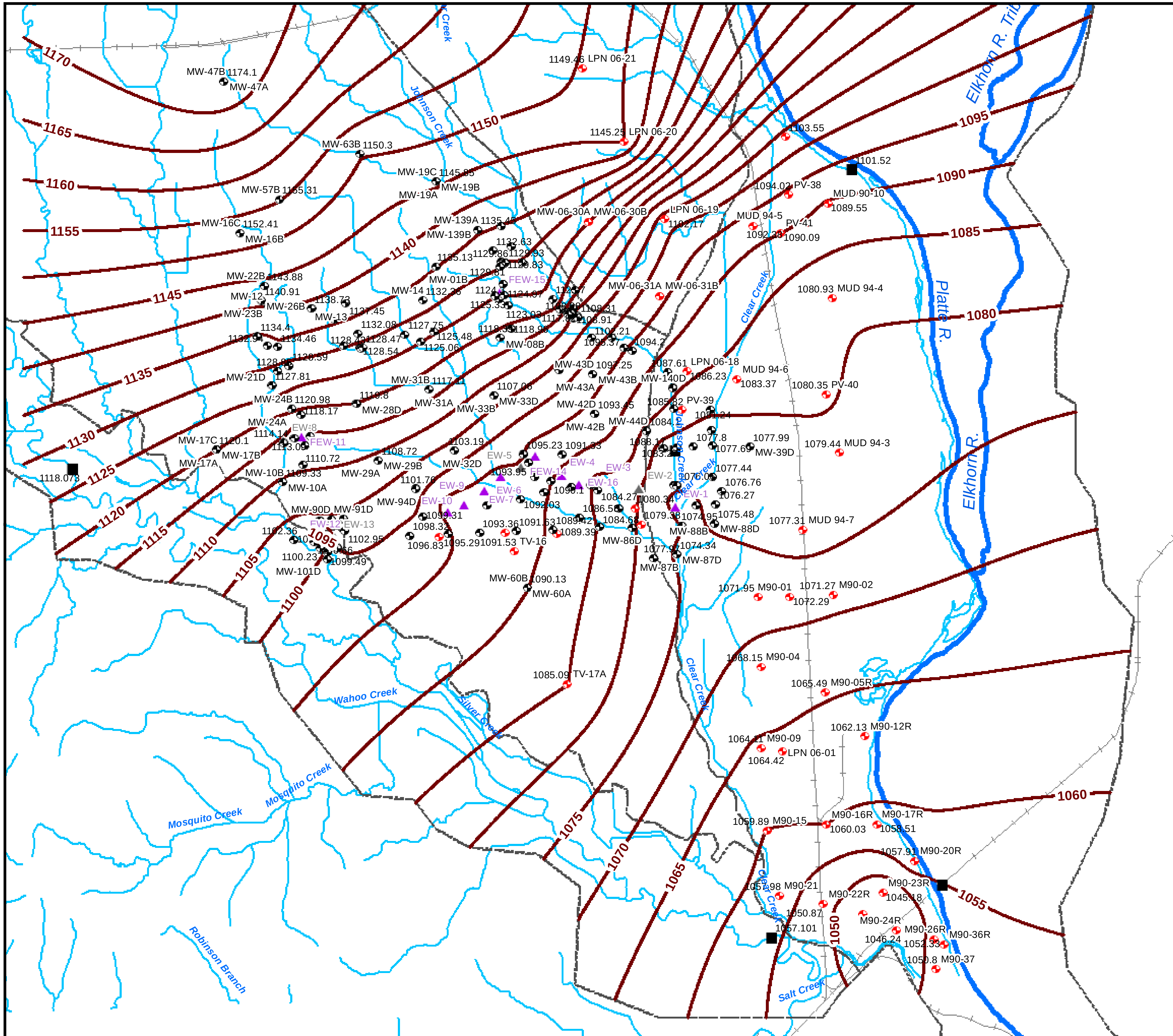

Legend

- USACE Monitoring Well
- USACE Extraction Well - Active
- USACE Extraction Well - Inactive
- LPNNRD Well
- USGS Staff Gage
- Groundwater Contour
- Basin Boundaries

USACE - United States Army Corps of Engineers
USGS - United States Geological Survey
LPNNRD - Lower Platte North Natural Resource District

Notes:

1. Observation well data were not plotted on this map; however, they were used in its construction.
2. August 2009 data collected from 8/26/09 to 8/28/09.

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Figure 2-5

Interpreted Potentiometric Surface
Intermediate Zone - August 2009
2010 Groundwater Model Update
Former NOP

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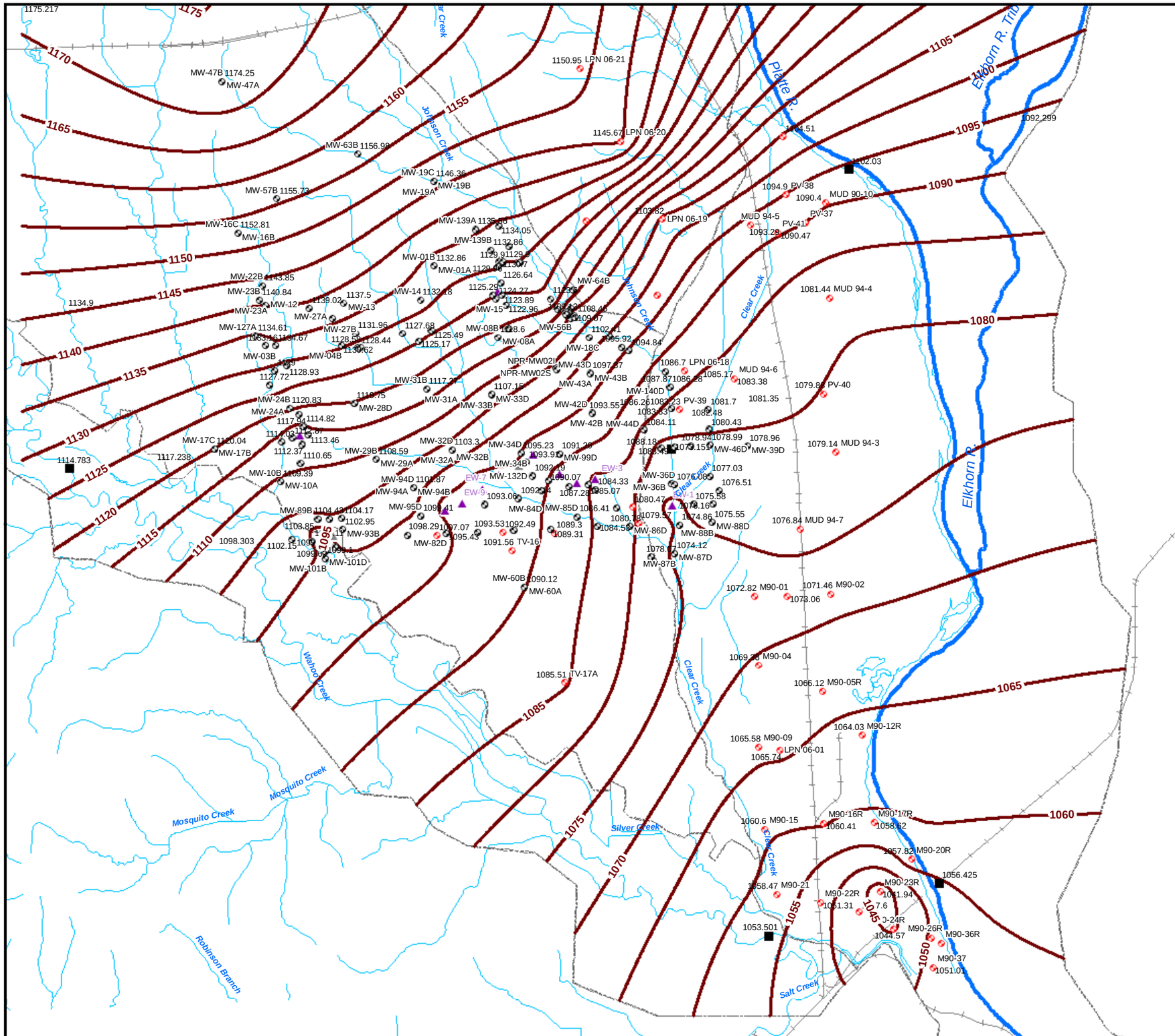

Legend

- USACE Monitoring Well
- USACE Extraction Well - Active
- USACE Extraction Well - Inactive
- LPNNRD Well
- USGS Staff Gage
- Groundwater Contour
- Basin Boundaries

USACE - United States Army Corps of Engineers
USGS - United States Geological Survey
LPNNRD - Lower Platte North Natural Resource District

Notes:

1. Observation well data were not plotted on this map; however, they were used in its construction.
2. October 2009 data collected from 10/28/09 to 10/30/09.

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Figure 2-6

Interpreted Potentiometric Surface
Intermediate Zone - October 2009
2010 Groundwater Model Update
Former NOP

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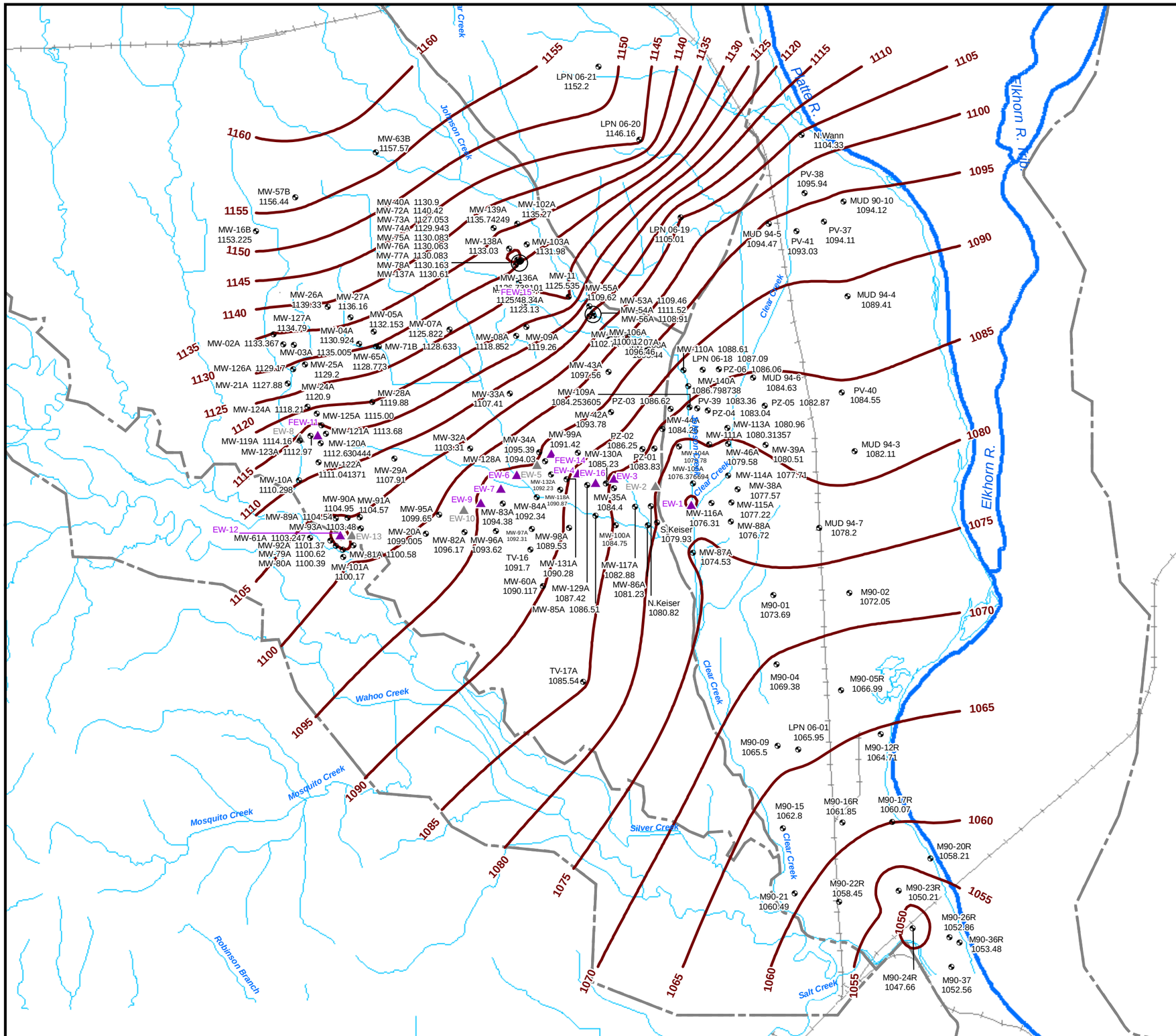

Legend

- Monitoring Well with March 2010 Water Level (Feet Above Mean Sea Level)
- USACE Extraction Well - Active
- USACE Extraction Well - Inactive
- March 2010 Groundwater Contour in Feet Above Mean Sea Level (Contour Interval 5 Feet)
- Basin Boundaries

Notes:

1. Observation well data were not plotted on this map; however, they were used in its construction.
2. March 2010 data collected on 3/29/10.
3. EW-10, shown as inactive, was turned of February 2010.
4. USACE - United States Army Corps of Engineers

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Figure 2-7

Interpreted Potentiometric Surface Intermediate Zone - March 2010
2010 Groundwater Model Update
Former NOP

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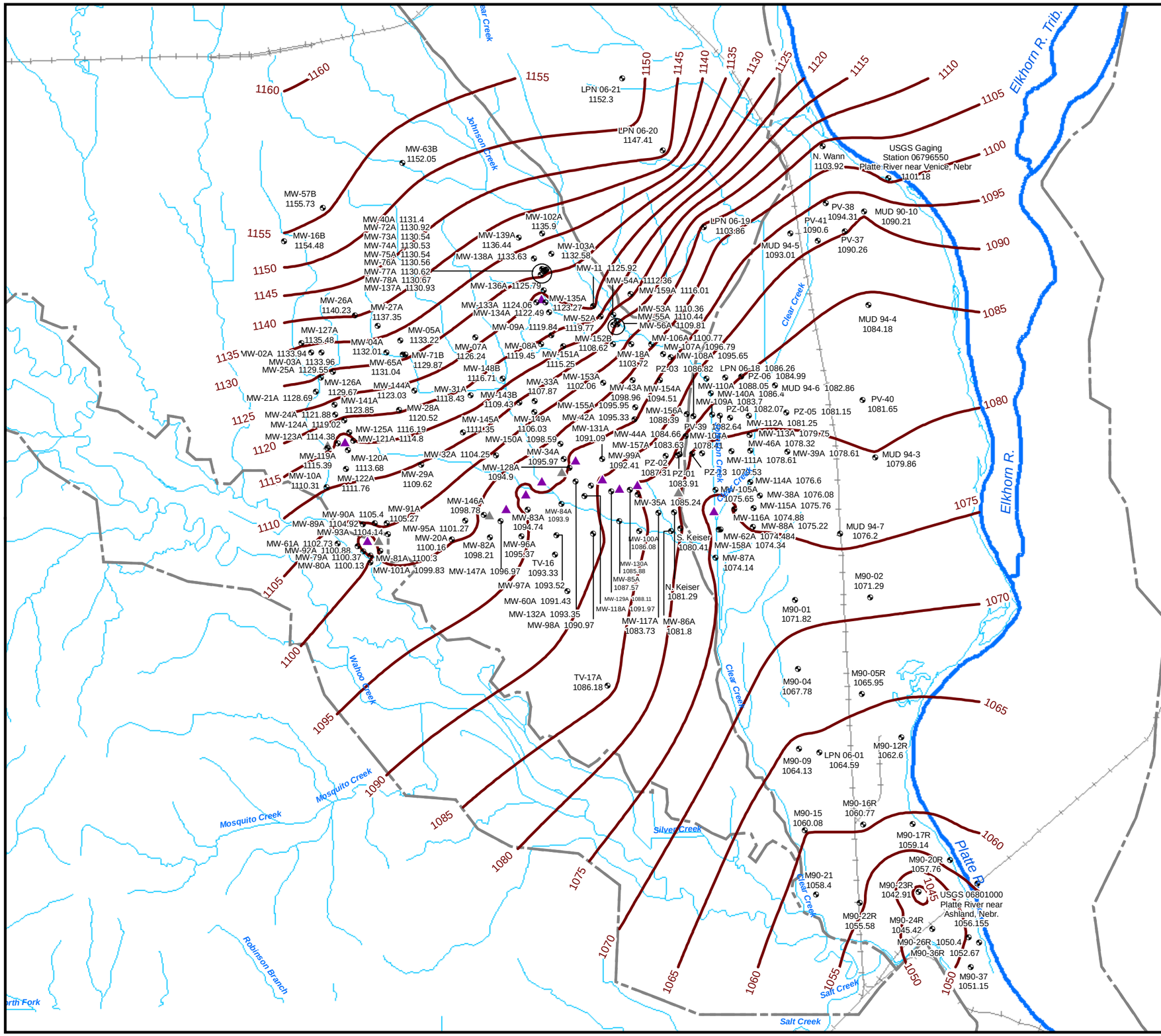

Legend

- Monitoring Well with August 2010 Water Level (Feet Above Mean Sea Level)
- USACE Extraction Well - Active
- USACE Extraction Well - Inactive
- August 2010 Groundwater Contour in Feet Above Mean Sea Level (Contour Interval 5 Feet)
- Basin Boundaries

Notes:

1. Observation well data were not plotted on this map; however, they were used in its construction.
2. August 2010 data collected on 8/26/10.
3. EW-10, shown as inactive, was turned of February 2010.

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Figure 2-8

Interpreted Potentiometric Surface
Intermediate Zone - August 2010
2010 Groundwater Model Update
Former NOP

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Figure 2-9
Platte River at Venice Stage versus Time
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

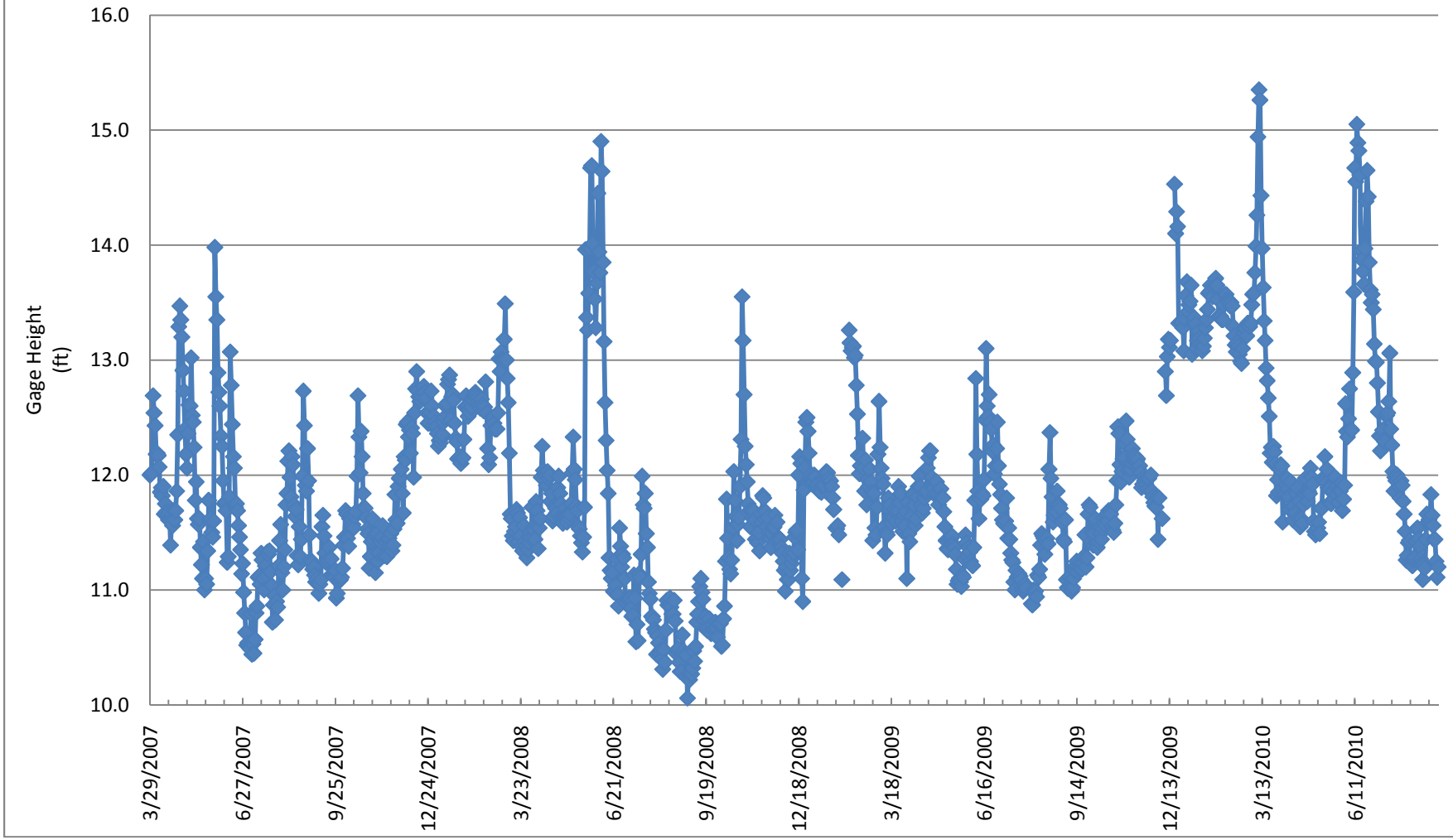

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Figure 2-10
Total Annual Precipitation 2005-2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

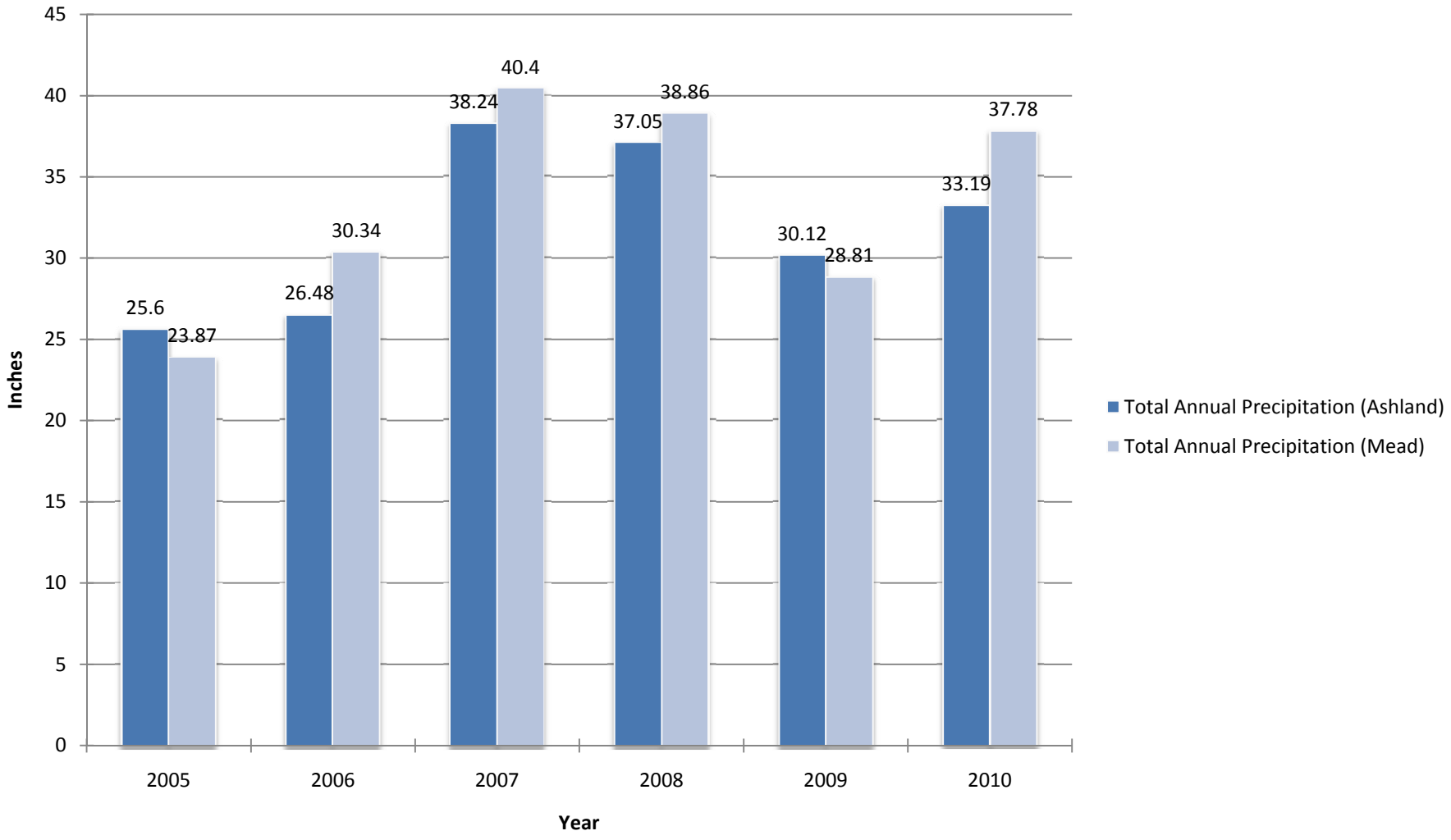

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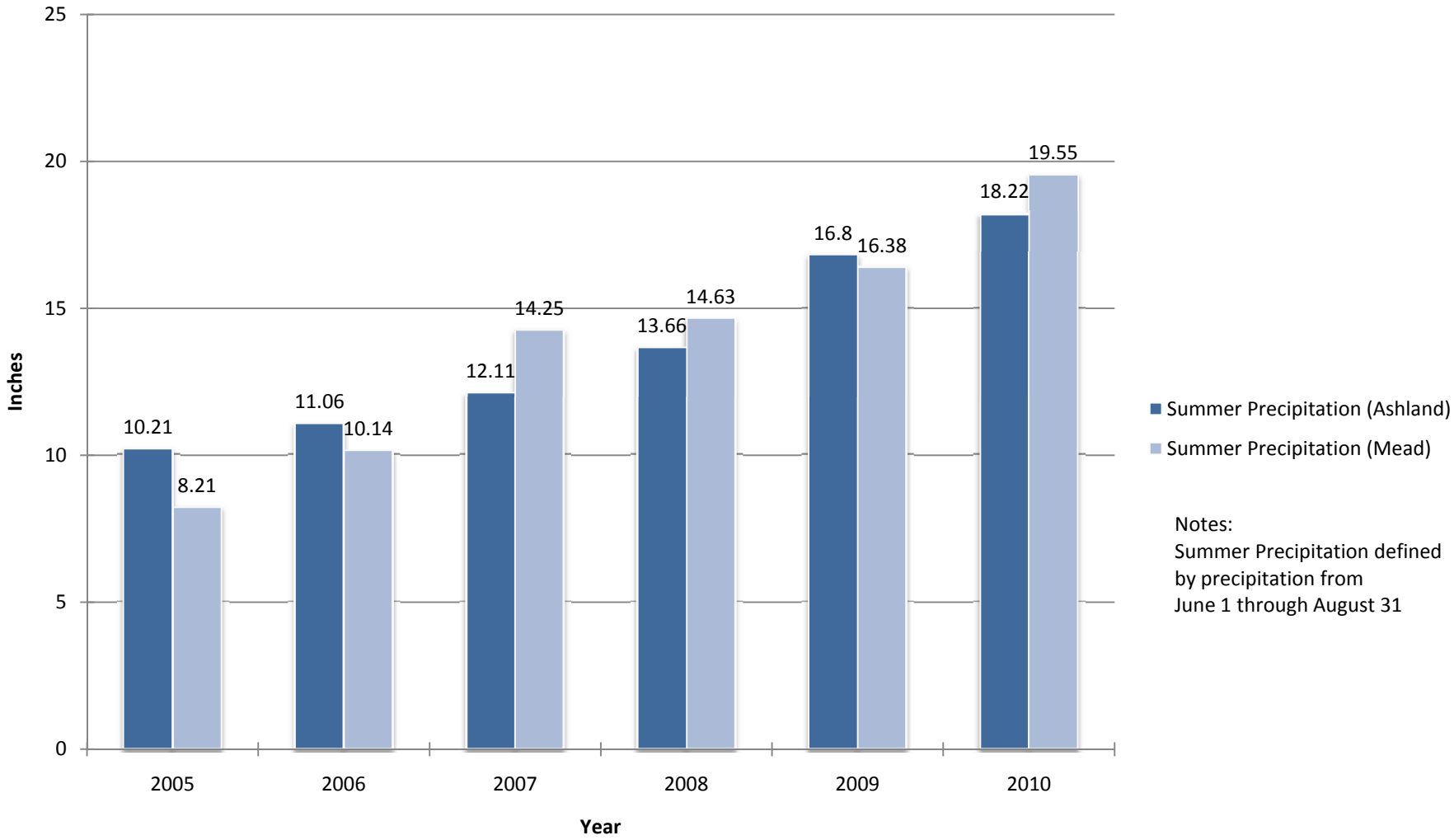
Figure 2-11
Summer Precipitation 2005-2010
2010 Groundwater Model Update
Former NOP, Mead, Nebraska



Notes:
Summer Precipitation defined by precipitation from June 1 through August 31

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Figure 2-12
Average Potential Evapotranspiration
2010 Groundwater Model Update
Former Nebraska Ordnance Plant, Mead, Nebraska

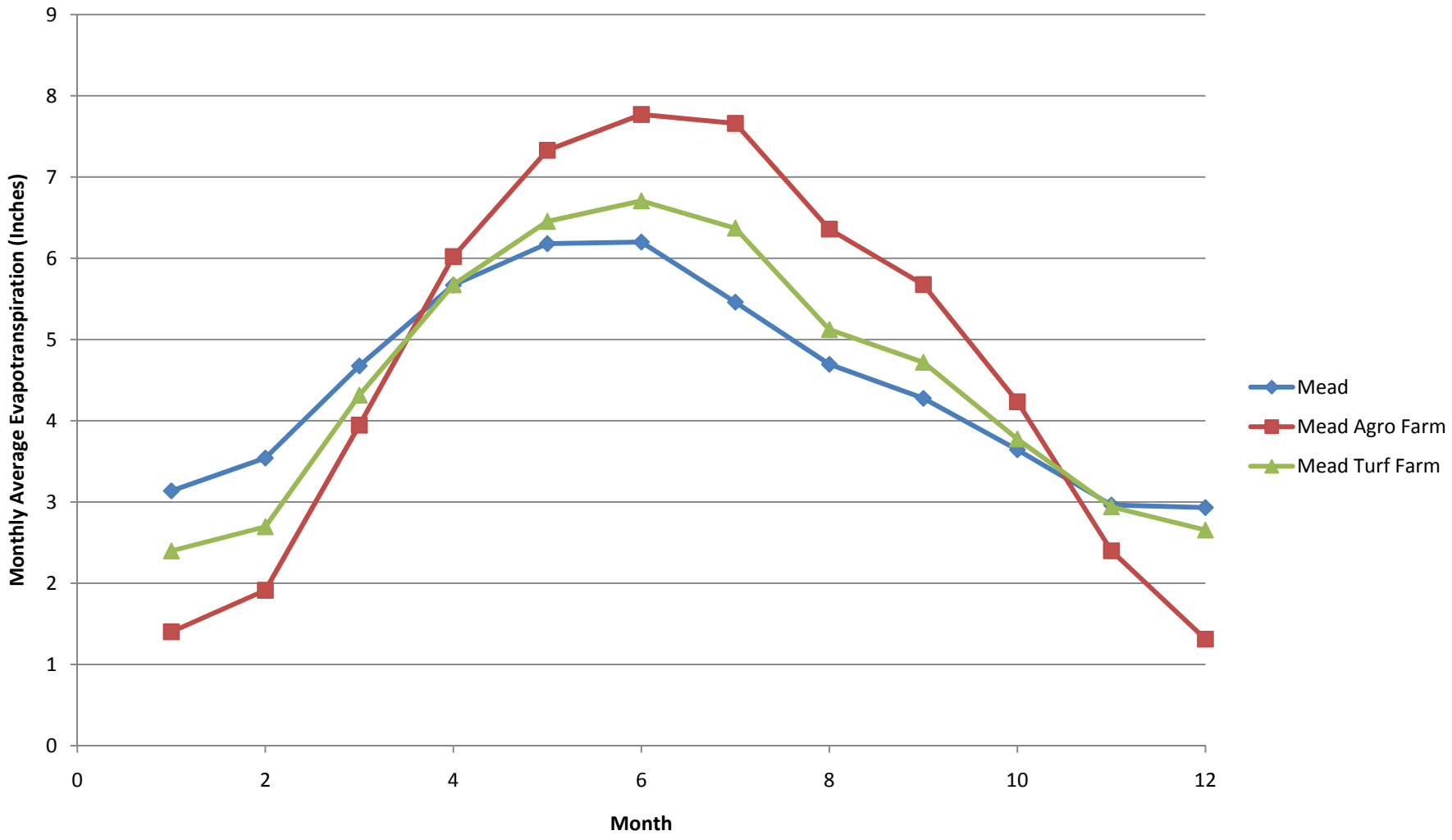

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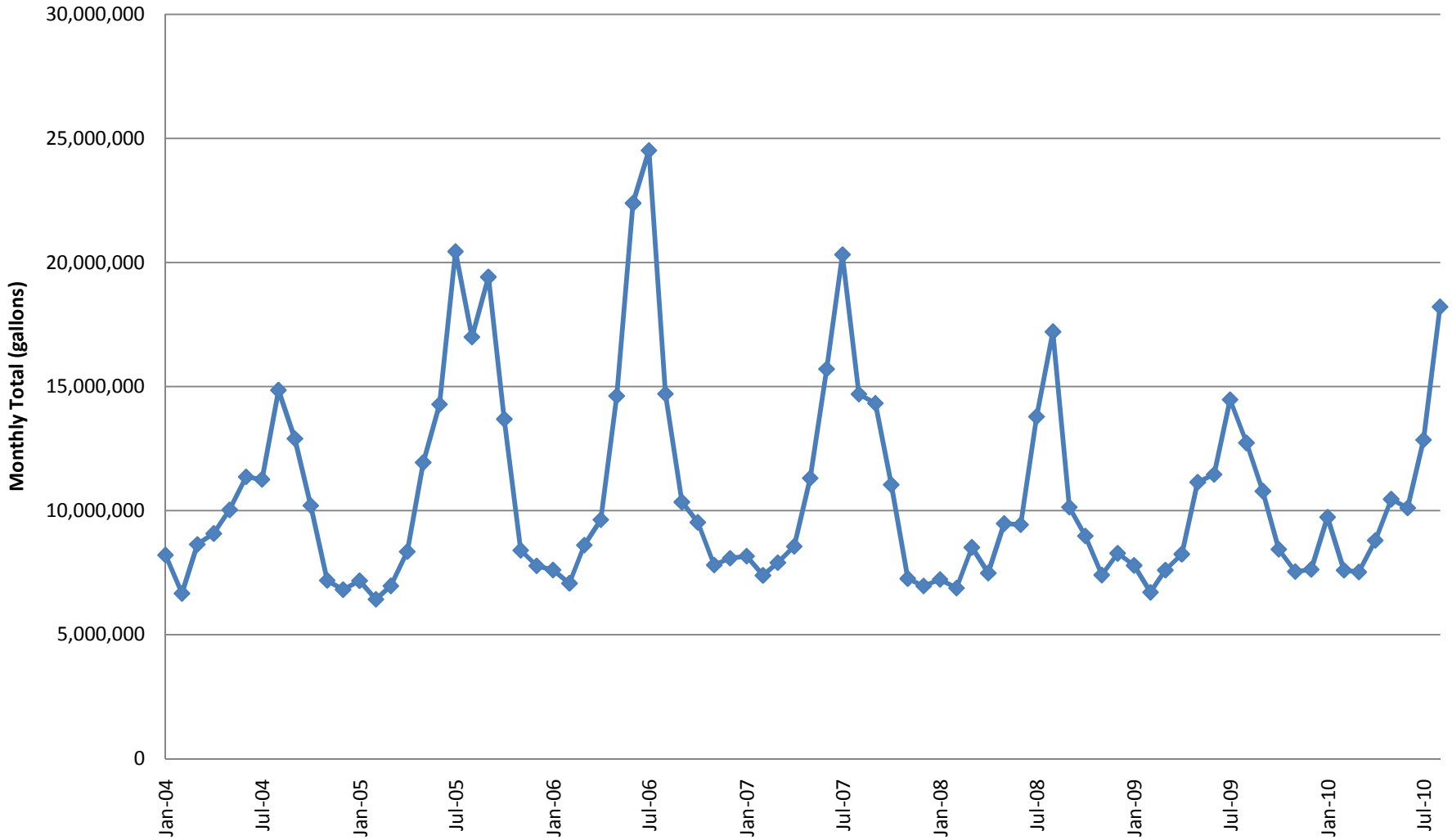
Figure 2-13
Ashland Well Field Production
2010 Groundwater Model Update
Former Nebraska Ordnance Plant, Mead, Nebraska



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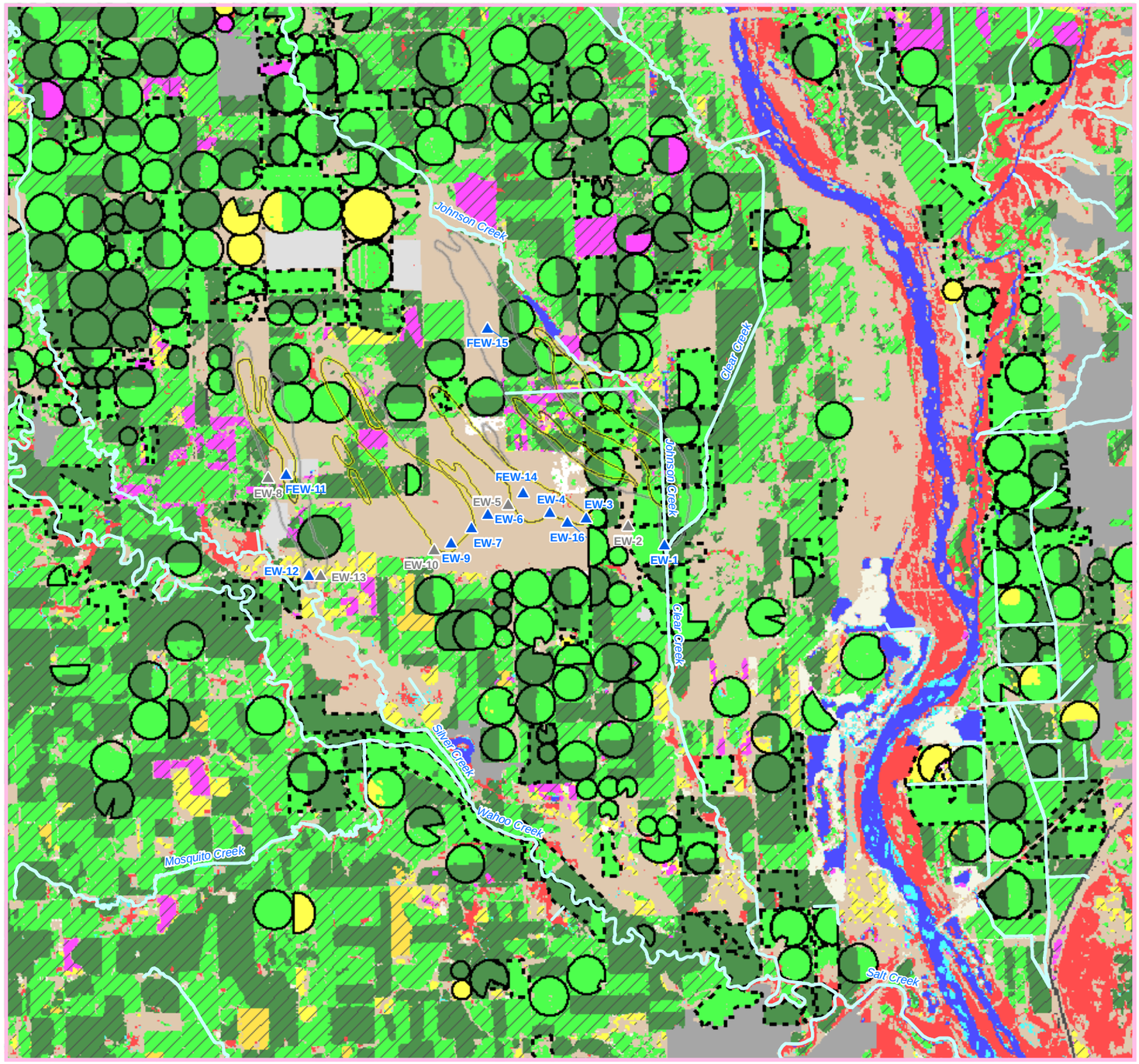

Legend

Land Use (CALMIT, 2005)

- Irrigated Corn
- Irrigated Soybeans
- Irrigated Sorghum (Milo, Sudan)
- Irrigated Alfalfa
- Irrigated Small Grains
- Range, Pasture, Grass
- Urban Land
- Open Water
- Riparian Forest and Woodlands
- Wetlands
- Other Agricultural Land
- Summer Fallow
- Roads
- Dryland Corn
- Dryland Soybeans
- Dryland Sorghum
- Dryland Alfalfa
- Dryland Small Grains
- Barren
- USACE Extraction Well - Active
- USACE Extraction Well - Inactive
- Model Extent
- Approximate Area of RDX at a Concentration of 2 ug/L or Greater (2010)
- Approximate Area of TCE at a Concentration of 5 ug/L or Greater (2010)
- Center Pivot Irrigation (CALMIT, 2005)
- Other irrigation (CALMIT, 2005)

Land use and irrigation data from the Center for Advanced Land Management Information Technologies (CALMIT), 2005

EW-10, shown as inactive, was turned of February 2010.

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Figure 2-14

Land Use
(CALMIT 2005)

2010 Groundwater Model Update
Former NOP

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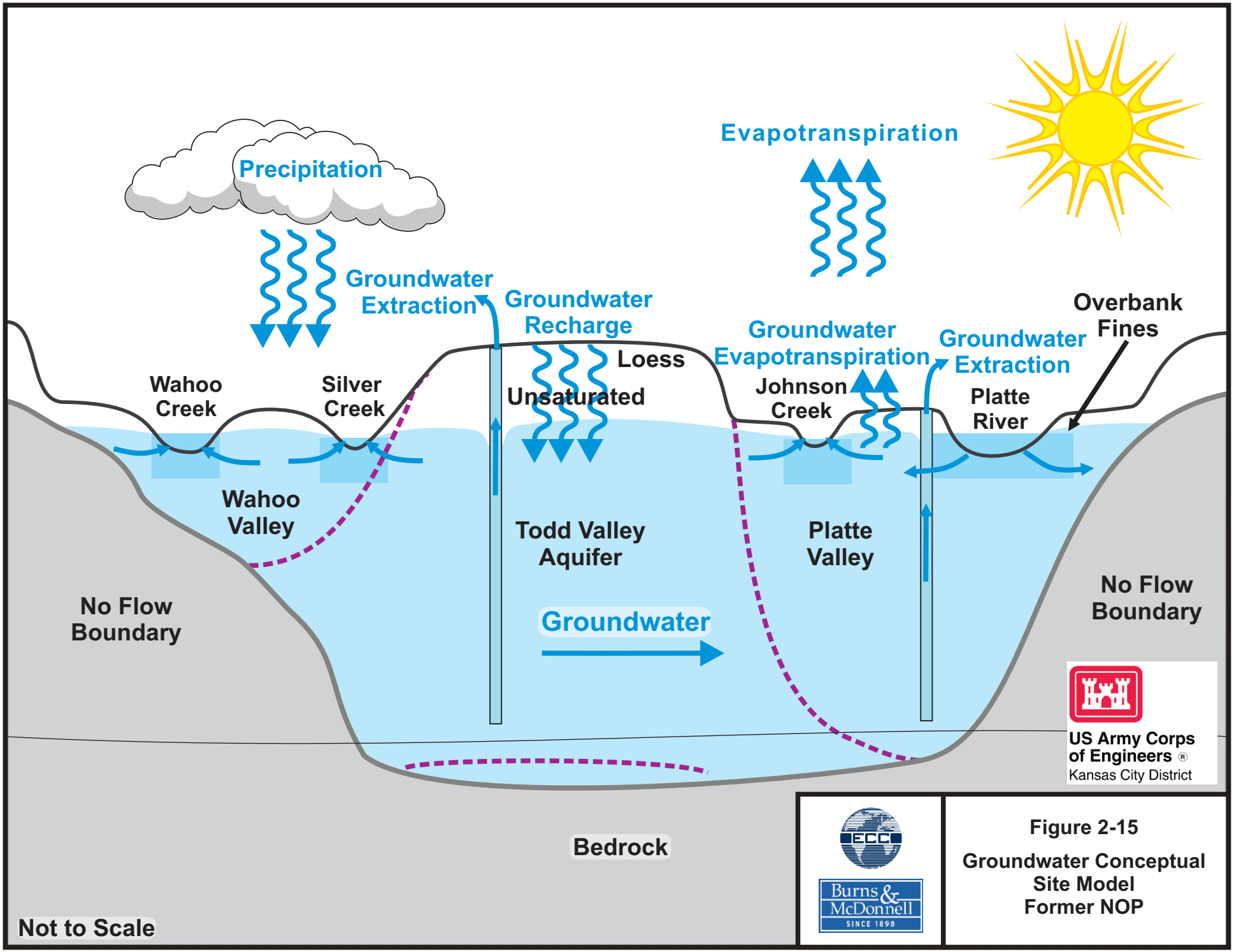

Figure 2-15

Groundwater Conceptual Site Model Former NOP

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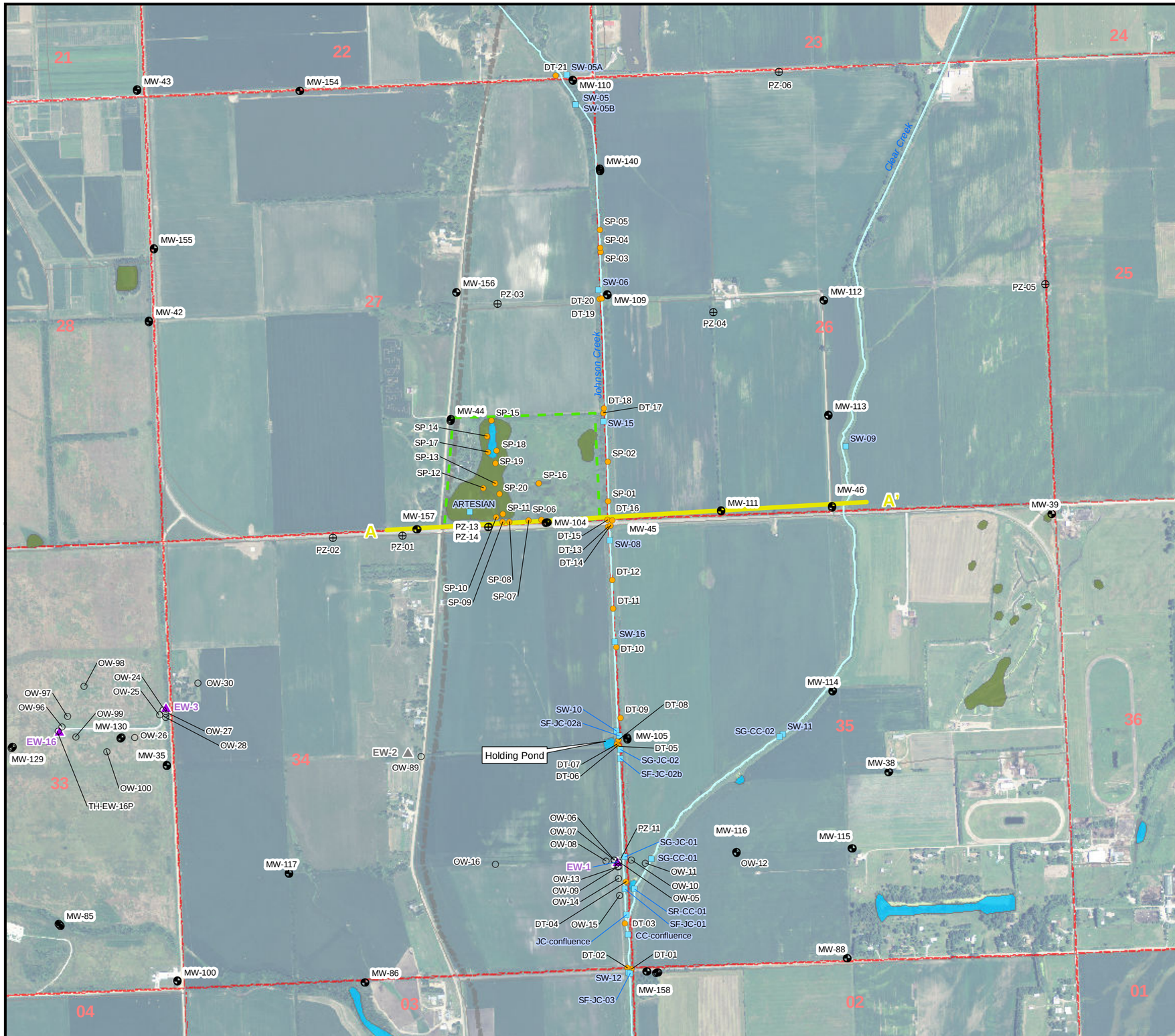

Legend

- USACE Extraction Well - Active
- USACE Extraction Well - Inactive
- Surface Water Measurement/Sampling Location
- Drain Tile or Seep (DT or SP)
- Monitoring Well
- Piezometer
- Observation Well
- Cross Section Location
- ART Property

Wetlands

- Freshwater Emergent Wetland
- Freshwater Pond
- Section Lines
- Valley Wall
- 34 Township/Range Section No.

Notes:

1. Interpreted plumes are from Figures 3-1 through 3-4
   Refer to notes on those drawings for the sources of the data.

2. EW-10, shown as inactive, was turned of February 2010.

USACE - United States Army Corps of Engineers
CC - Clear Creek
DT - Drain Tile
JC - Johnson Creek
SP - Seep
SW - Surface Water

N

0 1,200 2,400
SCALE IN FEET

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ECC

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Figure 2-16

Johnson Creek Area and
Extended Monitoring Locations

2010 Groundwater Modeling Update
Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010 GWM\Fig2-16_Johnson Creek_Surface Water_Sampling_Location_17x11.mxd sos jmf July 19, 2011

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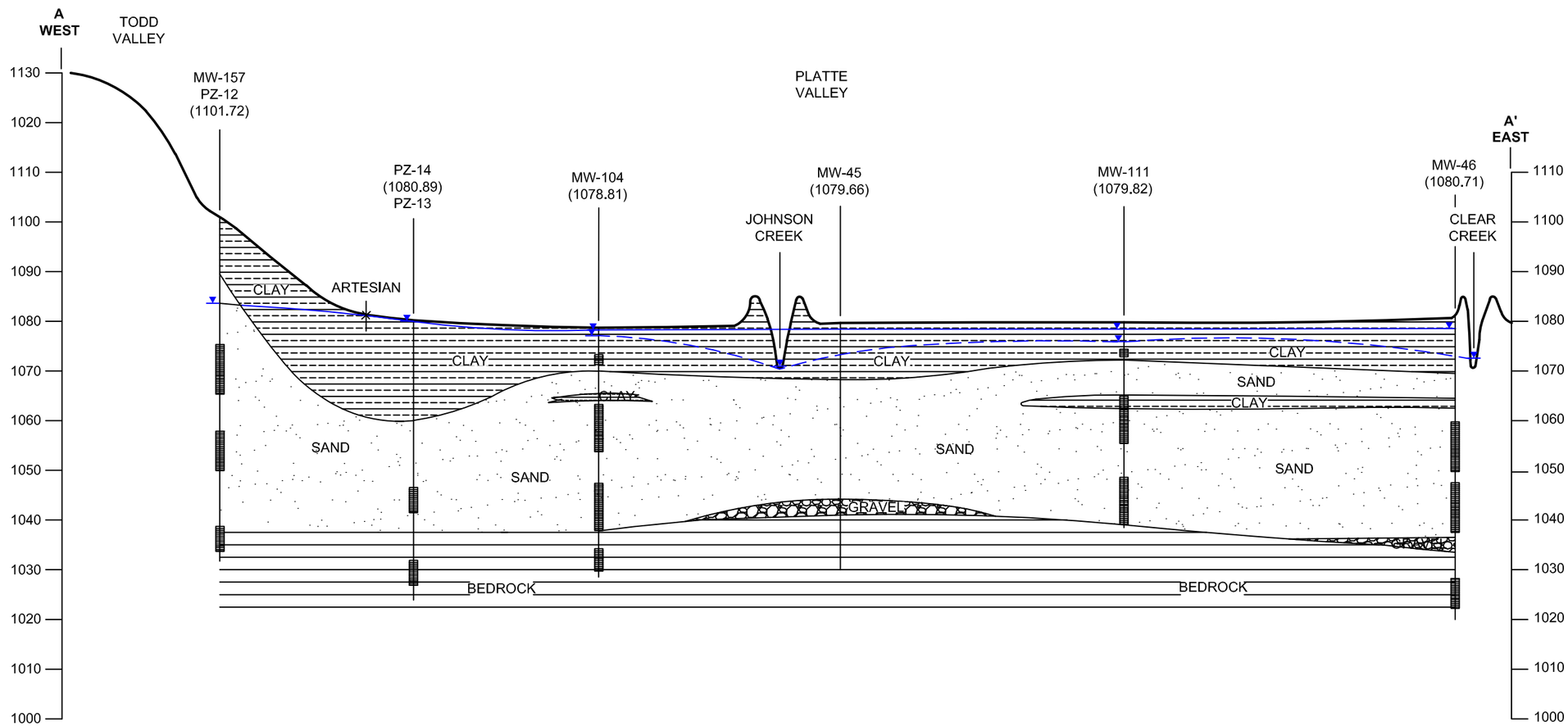

LEGEND:

MW-157 LOCATION OF DEEPEST MONITORING WELL BORING IN EACH CLUSTER

SCREENED INTERVAL FOR EACH WELL IN CLUSTER

GROUNDWATER LEVEL IN OVERBANK FINES (AUGUST 2010)

POTENTIOMETRIC SURFACE OF SAND/GRAVEL UNIT (AUGUST 2010)

NOTES:

1. SUBSURFACE CONDITIONS BASED ON SAMPLE DESCRIPTIONS FROM FIELD BORING LOGS, LOESS MAPPING, AND BEDROCK MAPPING. GEOLOGIC CONDITIONS SHOWN AWAY FROM BORINGS ARE INTERPRETIVE.
2. SEE FIGURE 2-16 FOR CROSS-SECTION LOCATIONS.

HORIZONTAL 0 500' 1000' SCALE IN FEET

VERTICAL 0 25' 50' SCALE IN FEET

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Figure 2-17

HYDROGEOLOGIC CROSS SECTION
MW-157 TO MW-46
2010 GROUNDWATER
MODEL UPDATE
FORMER NOP

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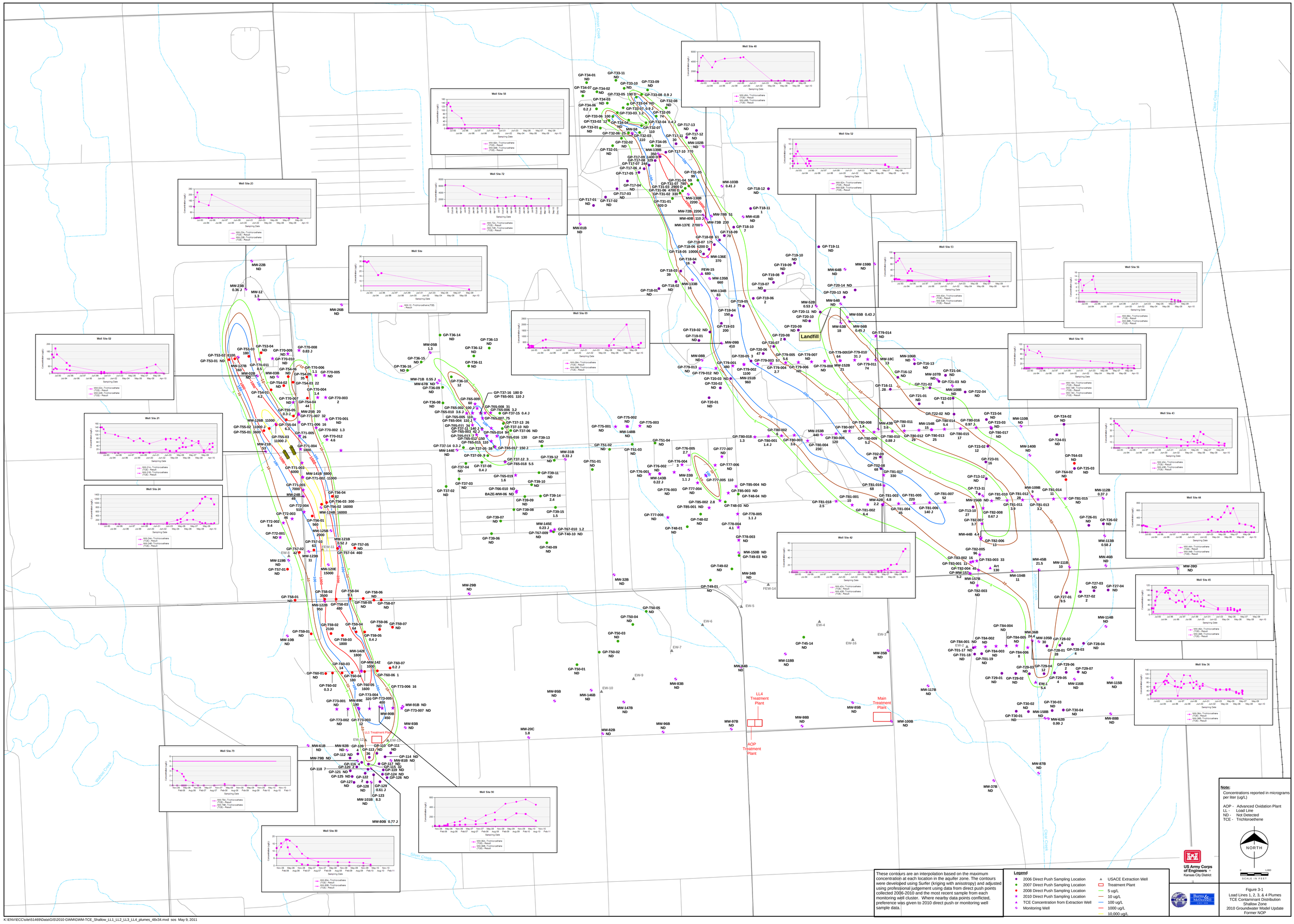


These contours are an interpolation based on the maximum concentration at each location in the aquifer zone. The contours were developed using Surfer (kriging with ansotropy) and adjusted using professional judgement using data from direct push points collected 2006-2010 and the most recent sample from each monitoring well cluster. Where nearby data points conflicted, preference was given to 2010 direct push or monitoring well sample data.

Legend

- 2006 Direct Push Sampling Location
- 2007 Direct Push Sampling Location
- 2008 Direct Push Sampling Location
- 2010 Direct Push Sampling Location
- TCE Concentration from Extraction Well
- Monitoring Well
- USACE Extraction Well
- Treatment Plant
- 5 ug/L
- 10 ug/L
- 100 ug/L
- 1000 ug/L
- 10,000 ug/L

US Army Corps of Engineers
Kansas City District

Burns & McDonnell

Note:
Concentrations reported in micrograms per liter (ug/L)

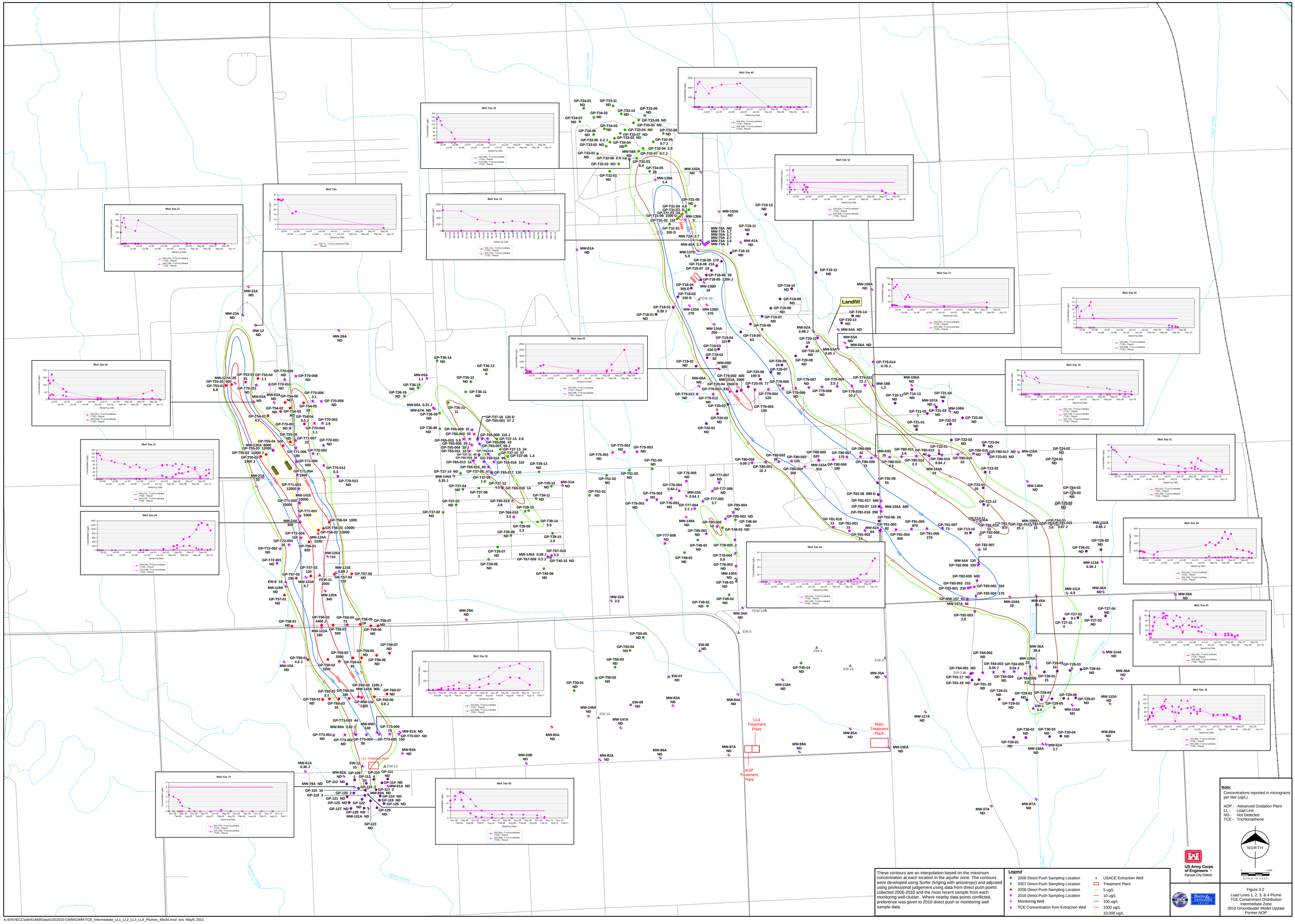
AOP - Advanced Oxidation Plant
LL - Load Line
ND - Not Detected
TCE - Trichloroethene

NORTH

0 100
SCALE IN FEET

Figure 3-1
Load Lines 1, 2, 3, & 4 Plumes
TCE Contaminant Distribution
Shallow Zone
2010 Groundwater Model Update
Former NOP

K:\ENVECC\site51469\Data\GIS\2010 GWM\GWM-TCE_Shallow_LL1_LL2_LL3_LL4_plumes_48x34.mxd sos May 9, 2011



Note:
Concentrations reported in micrograms per liter (ug/L)

AOP - Advanced Oxidation Plant
LL - Load Line
ND - Not Detected
TCE - Trichloroethene

NORTH

SCALE IN FEET

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These contours are an interpolation based on the maximum concentration at each location in the aquifer zone. The contours were developed using Surfer (kriging with anisotropy) and adjusted using professional judgement using data from direct push points collected 2006-2010 and the most recent sample from each monitoring well cluster. Where nearby data points conflicted, preference was given to 2010 direct push or monitoring well sample data.

Legend

- 2006 Direct Push Sampling Location
- 2007 Direct Push Sampling Location
- 2008 Direct Push Sampling Location
- 2010 Direct Push Sampling Location
- Monitoring Well
- TCE Concentration from Extraction Well
- USACE Extraction Well
- Treatment Plant
- 5 ug/L
- 10 ug/L
- 100 ug/L
- 1000 ug/L
- 10,000 ug/L

Burns & McDonnell

Figure 3-2
Load Lines 1, 2, 3, & 4 Plume
TCE Contaminant Distribution
Intermediate Zone
2010 Groundwater Model Update
Former NOP

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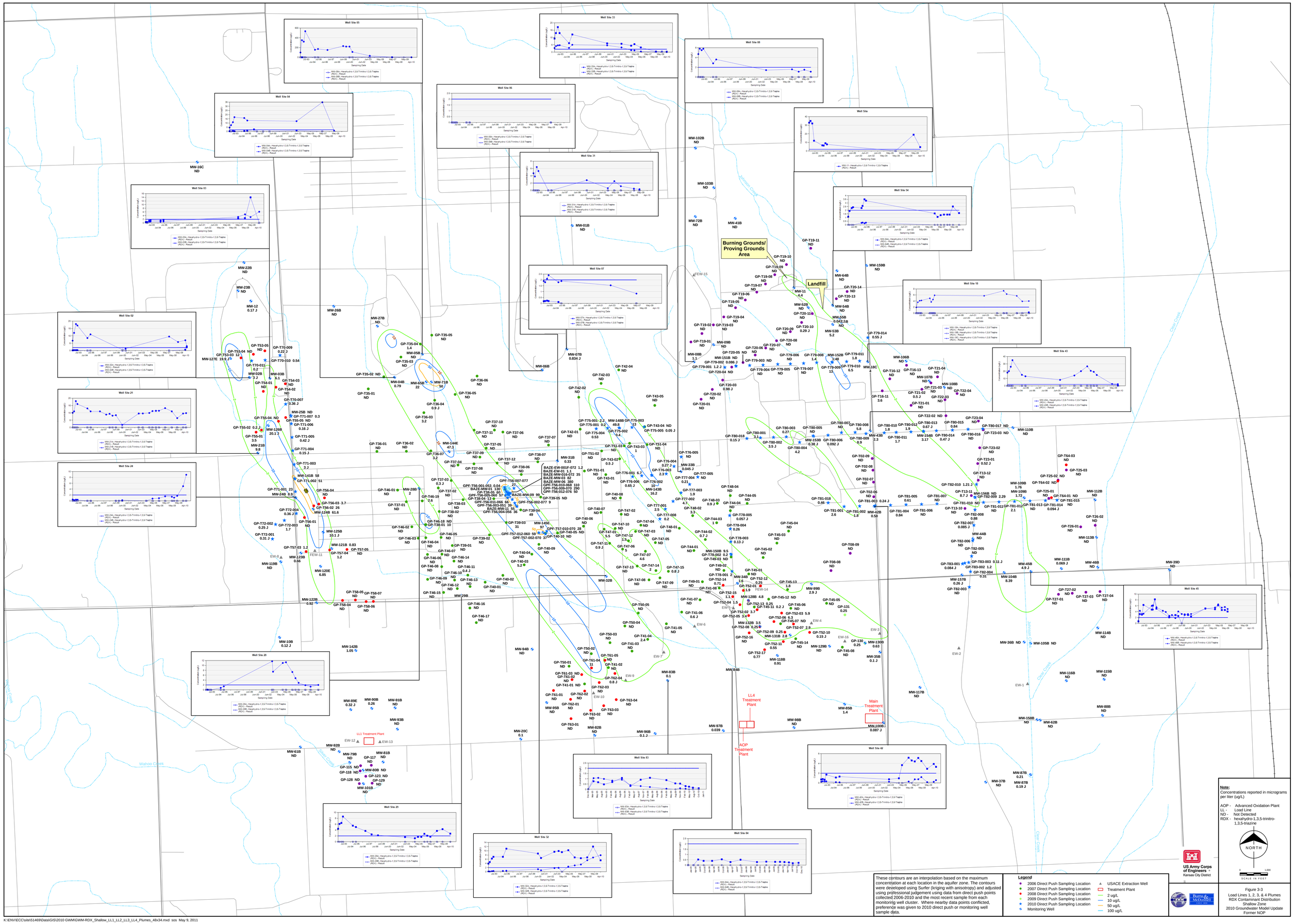


Note:
Concentrations reported in micrograms per liter (ug/L)

AOP - Advanced Oxidation Plant
LL - Load Line
ND - Not Detected
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine

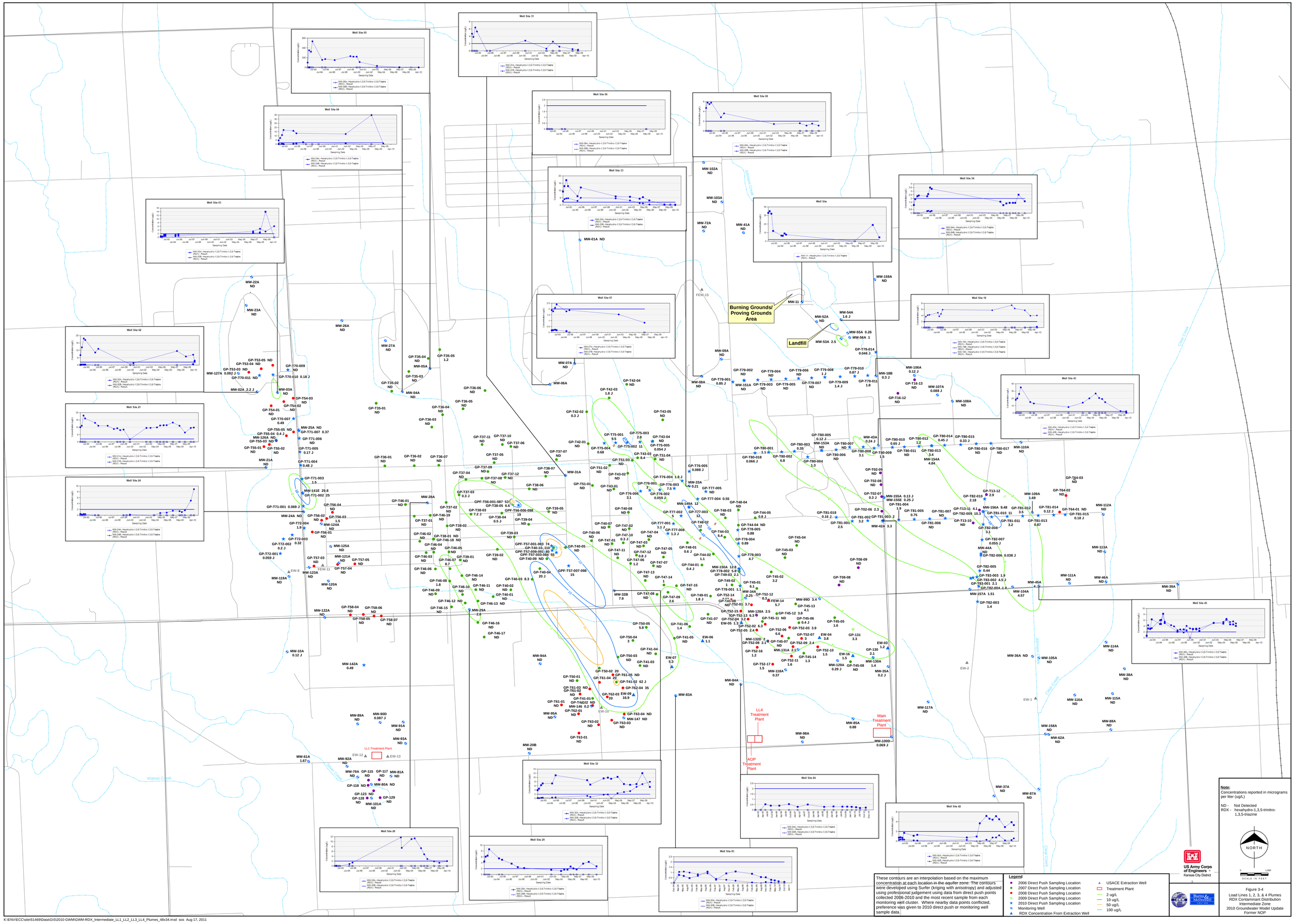
These contours are an interpolation based on the maximum concentration at each location in the aquifer zone. The contours were developed using Surfer (kriging with anisotropy) and adjusted using professional judgement using data from direct push points collected 2006-2010 and the most recent sample from each monitoring well cluster. Where nearby data points conflicted, preference was given to 2010 direct push or monitoring well sample data.

Legend

- 2006 Direct Push Sampling Location
- 2007 Direct Push Sampling Location
- 2008 Direct Push Sampling Location
- 2009 Direct Push Sampling Location
- 2010 Direct Push Sampling Location
- Monitoring Well
- USACE Extraction Well
- Treatment Plant
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

Figure 3-3
Load Lines 1, 2, 3, & 4 Plumes
RDX Contaminant Distribution
Shallow Zone
2010 Groundwater Model Update
Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010 GW\HGWM-RDX_Shallow_LL1_LL2_LL3_LL4_Plumes_48x34.mxd sos May 9, 2011



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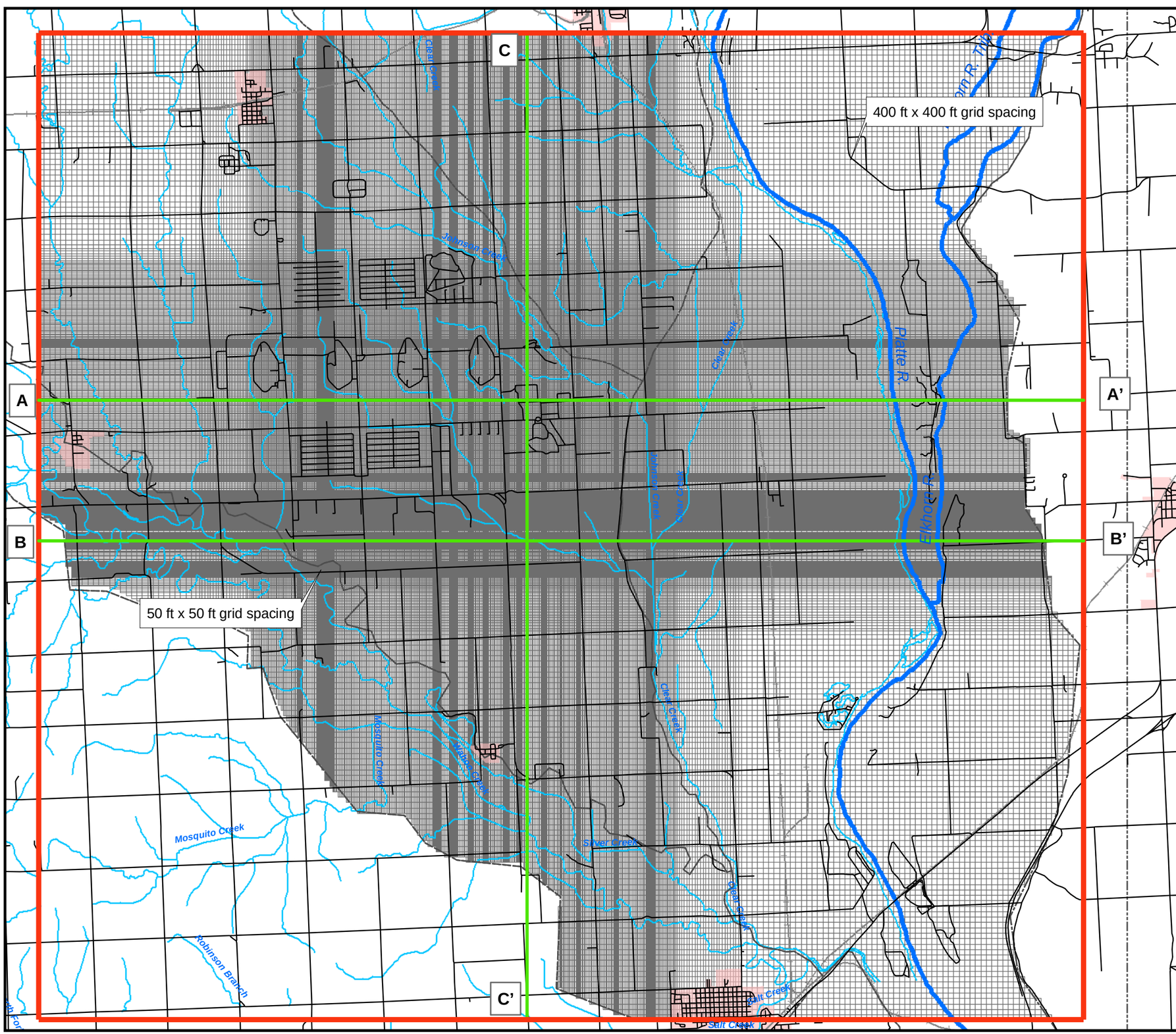

Legend

- Model Boundary
- Model Cross Section Location
- Basin Boundaries
- Grid

Notes:

1. Model contains 442 rows, 521 columns and 3 layers. There are 631,038 active cells.

N

0 7,000 14,000

SCALE IN FEET

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Kansas City District

ECC

Burns & McDonnell
SINCE 1898

Figure 4-1

Model Domain
2010 Groundwater Model Update
Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010 GWM\Fig4-1 Model Domain jmf April 21, 2011

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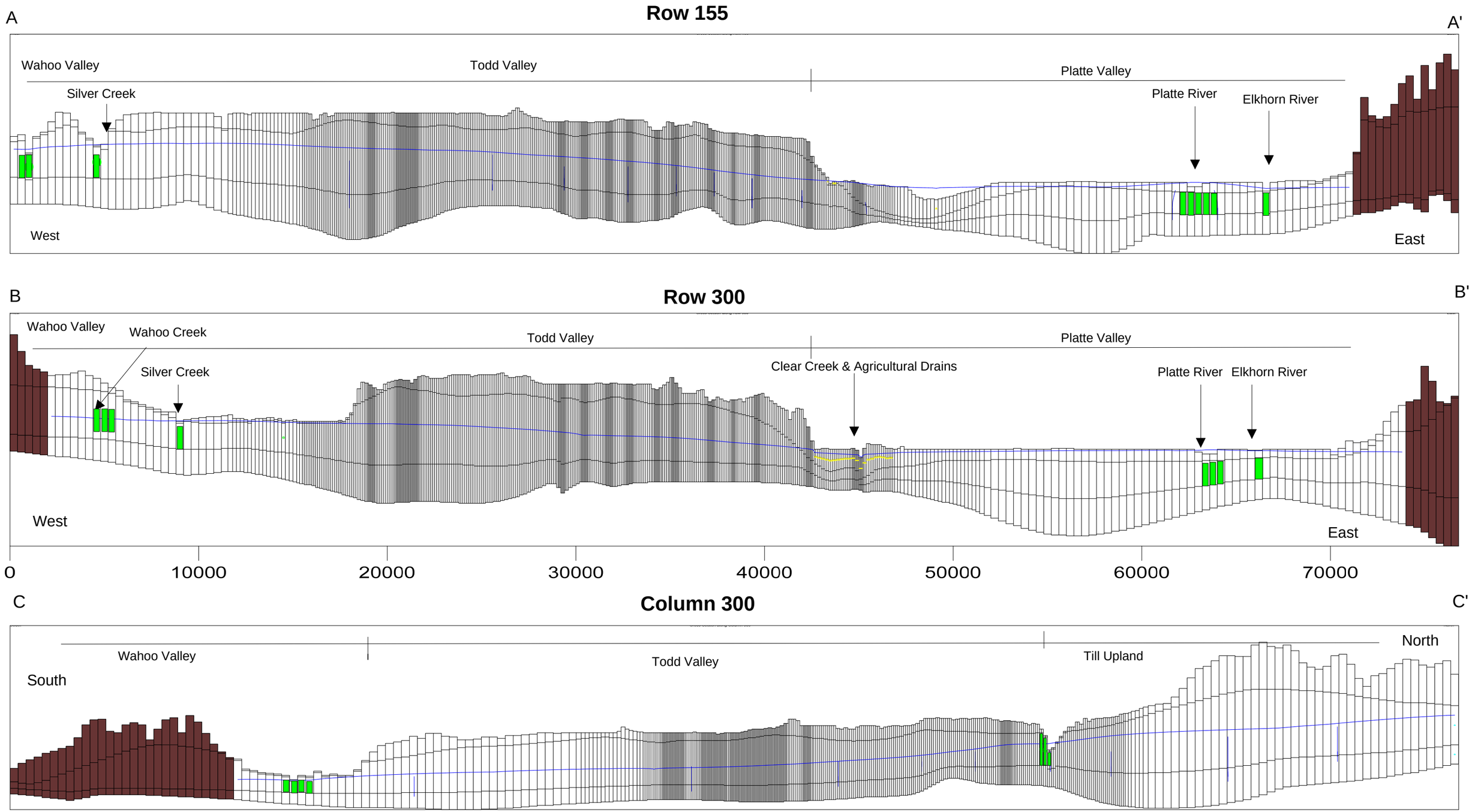

Notes

Water Table

River Cross-Section

No Flow Boundary

US Army Corps of Engineers
Kansas City District

Figure 4-2

Model Cross Sections
2010 Groundwater Model Update
Former NOP

Figure 4-2 Grid.srf

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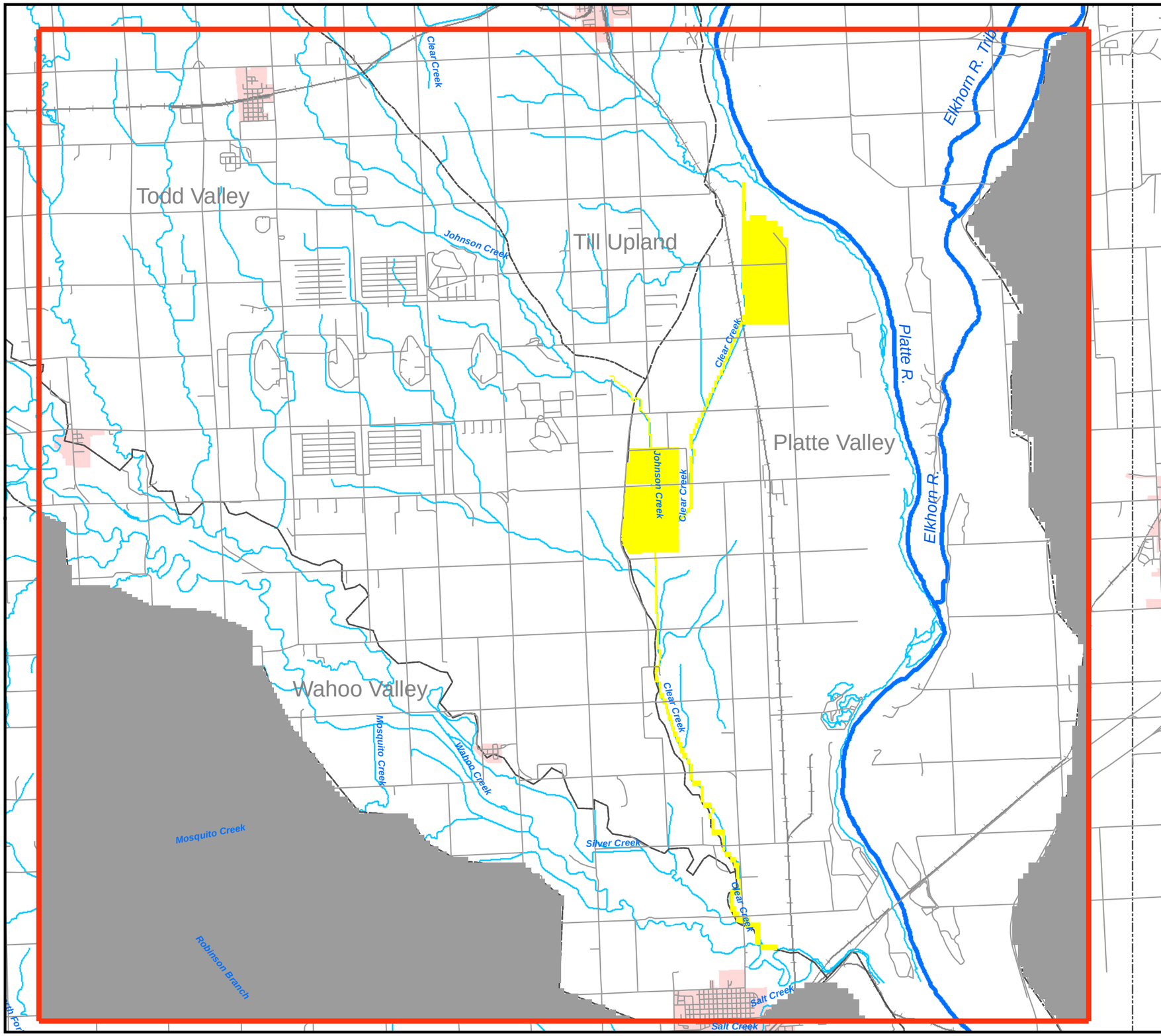

Legend

- Model Boundary
- No Flow
- Simulated Drain Cells for Agricultural Drains
- Basin Boundaries

N

0 7,000 14,000

SCALE IN FEET

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Figure 4-3

Model Boundary Conditions
Layer 1
2010 Groundwater Model Update
Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010 GWM\Fig4-3 Model Layer 1 BCs jmf May 24, 2011

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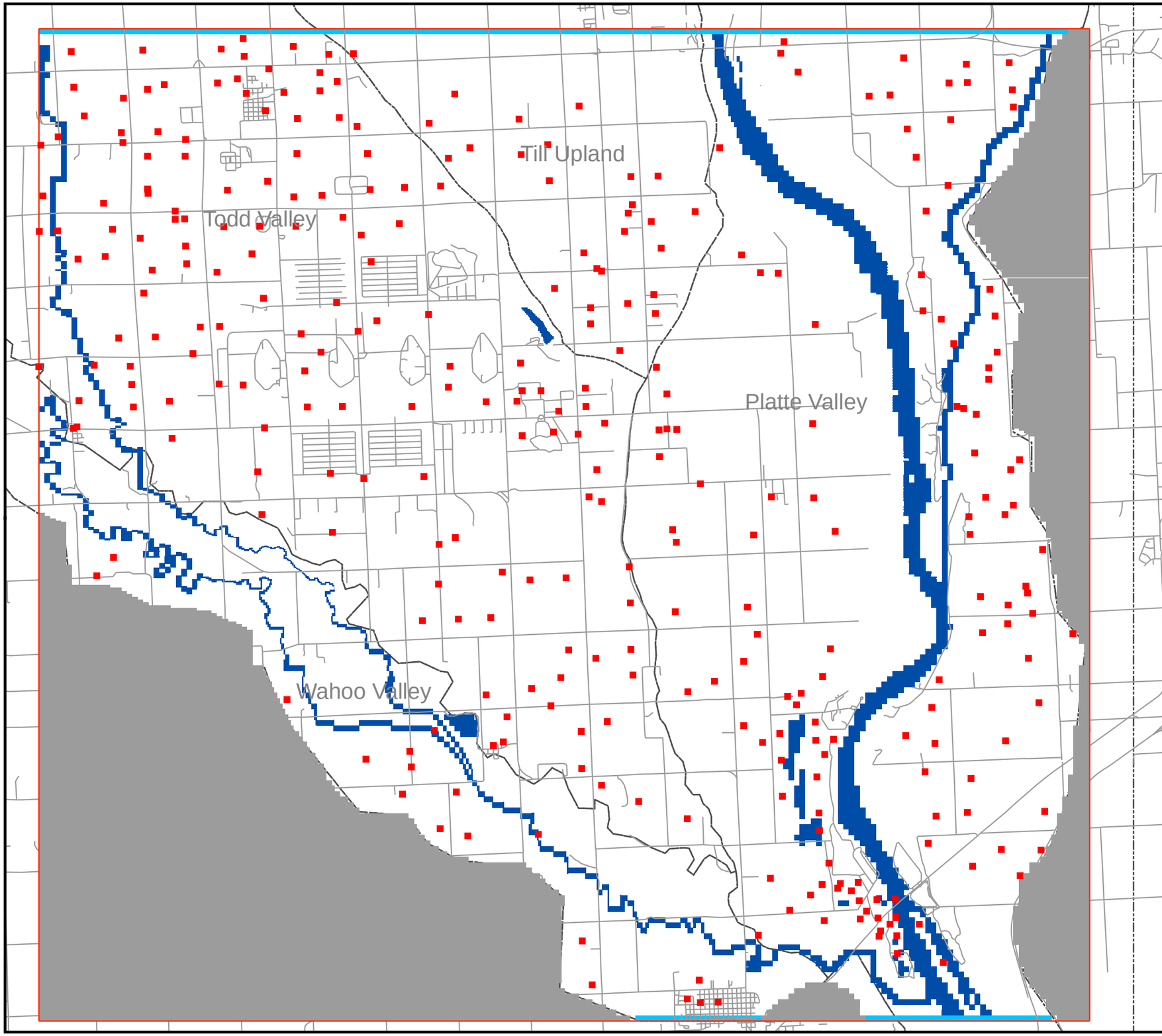

Legend

- Layer 2 Well
- Model Boundary
- River
- General Head Boundary
- No Flow
- Basin Boundaries

Notes:

1. Wells shown on this map include: irrigation wells, municipal water supply wells, and former NOP extraction wells.
2. Irrigation wells are screened in both Layer 2 and Layer 3.

N

0 7,000 14,000

SCALE IN FEET

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Kansas City District

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Figure 4-4

Model Boundary Conditions
Layer 2
2010 Groundwater Model Update
Former NOP

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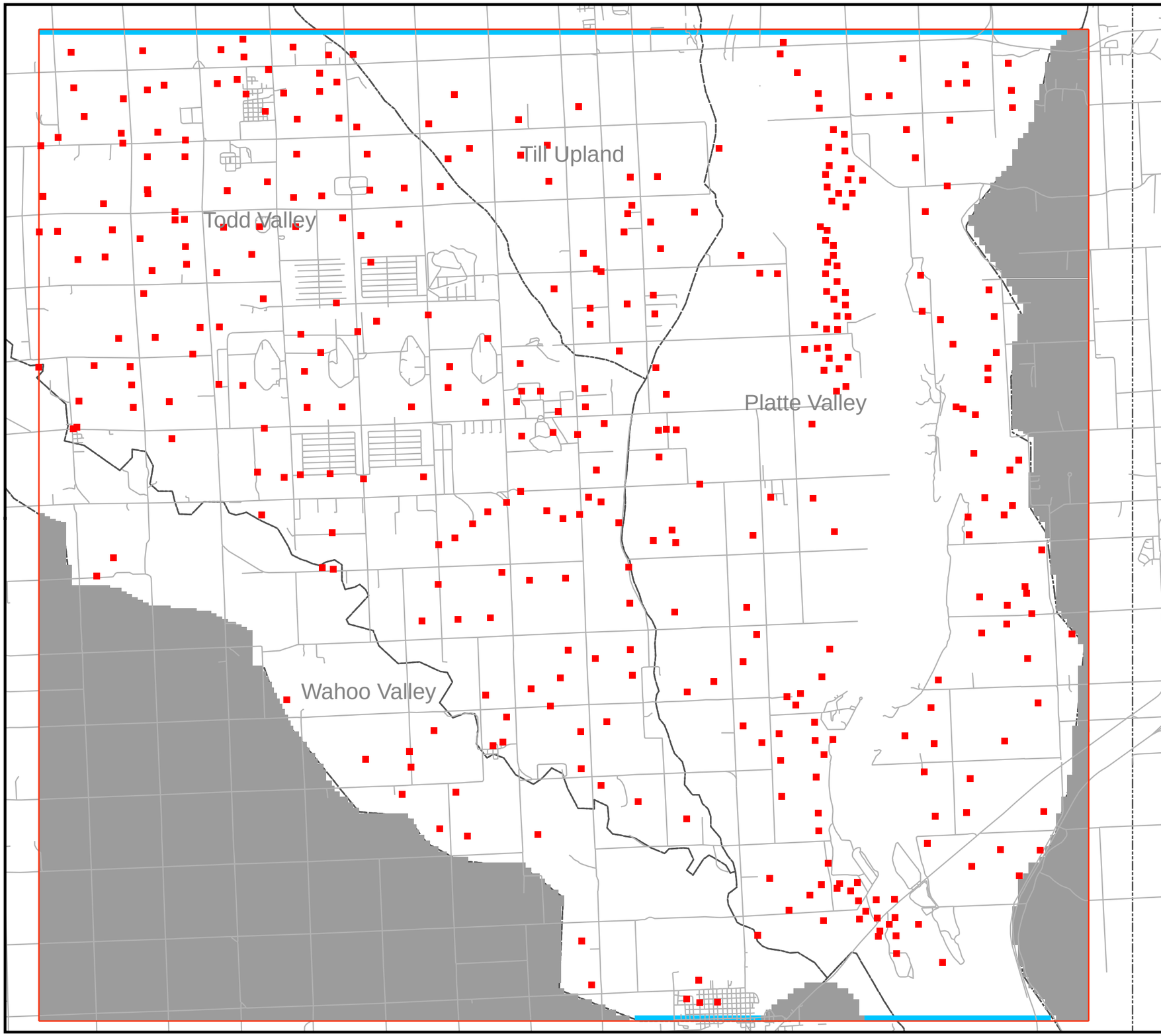

Legend

- Layer 3 Well
- Model Boundary
- General Head Boundary
- No Flow
- Basin Boundaries

Notes:

1. Wells shown on this map include: irrigation wells, municipal water supply wells, and former NOP extraction wells.
2. Irrigation wells are screened in both Layer 2 and Layer 3.

N

0 7,000 14,000

SCALE IN FEET

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Kansas City District

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Figure 4-5

Model Boundary Conditions
Layer 3
2010 Groundwater Model Update
Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010 GWM\Fig4-3 Model Layer 3 BCs jmf April 21, 2011

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Figure 5-1a
Observed Hydrographs at USACE Monitoring Wells
Elevations 1135-1140 ft msl

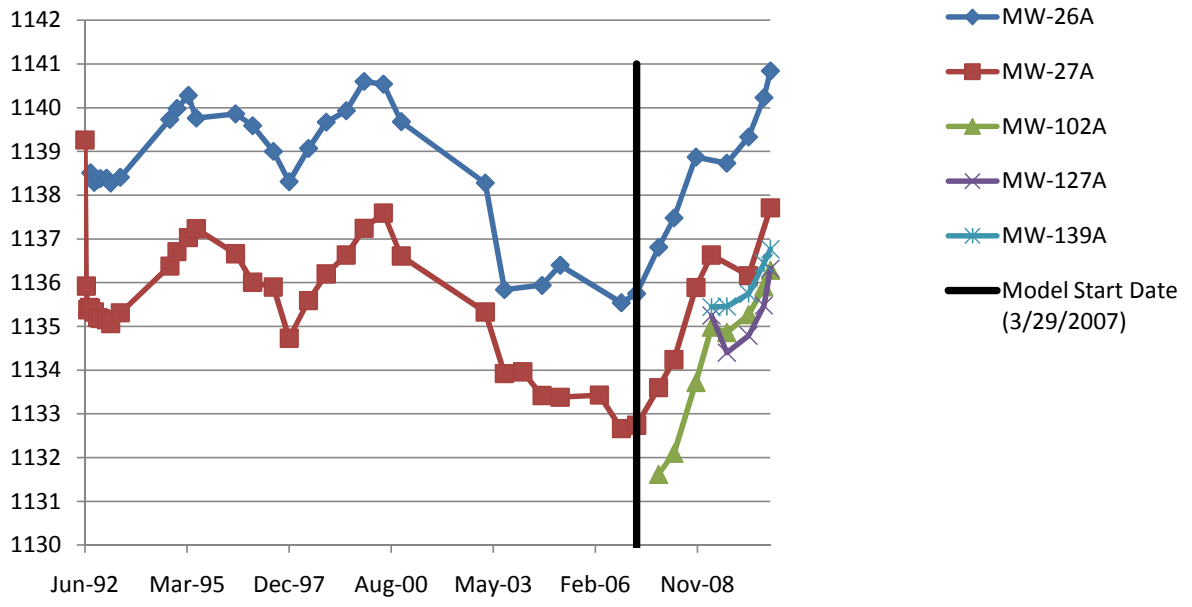


Figure 5-1b
Observed Hydrographs at USACE Monitoring Wells
Elevations 1130-1135 ft msl

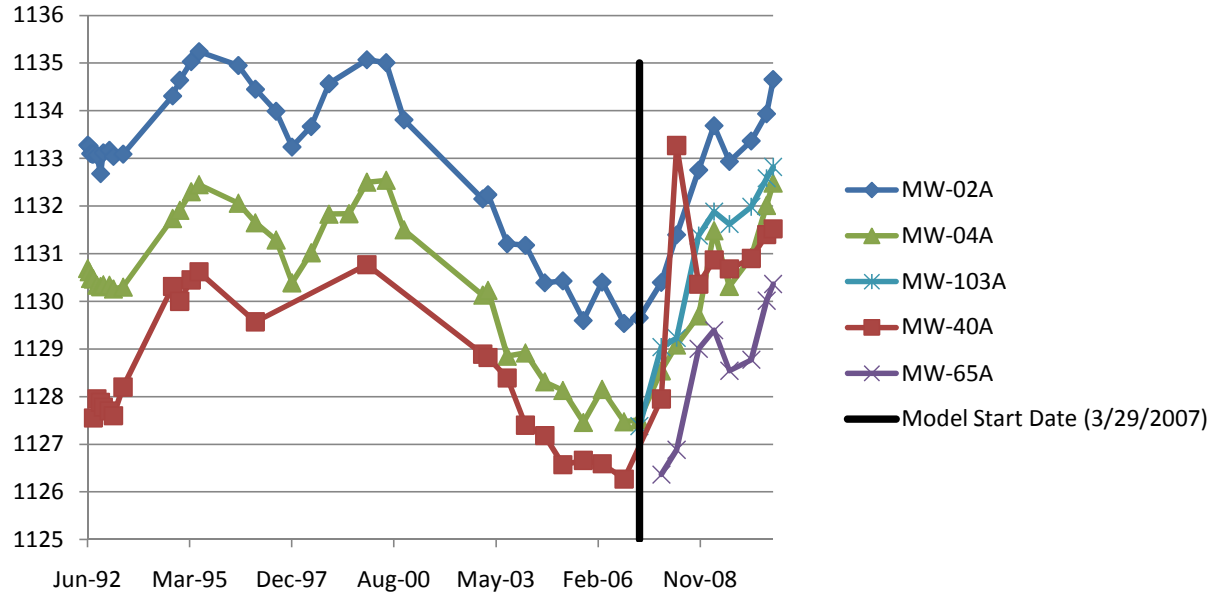


Figure 5-1c
Observed Hydrographs at USACE Monitoring Wells
Elevations 1125-1130 ft msl

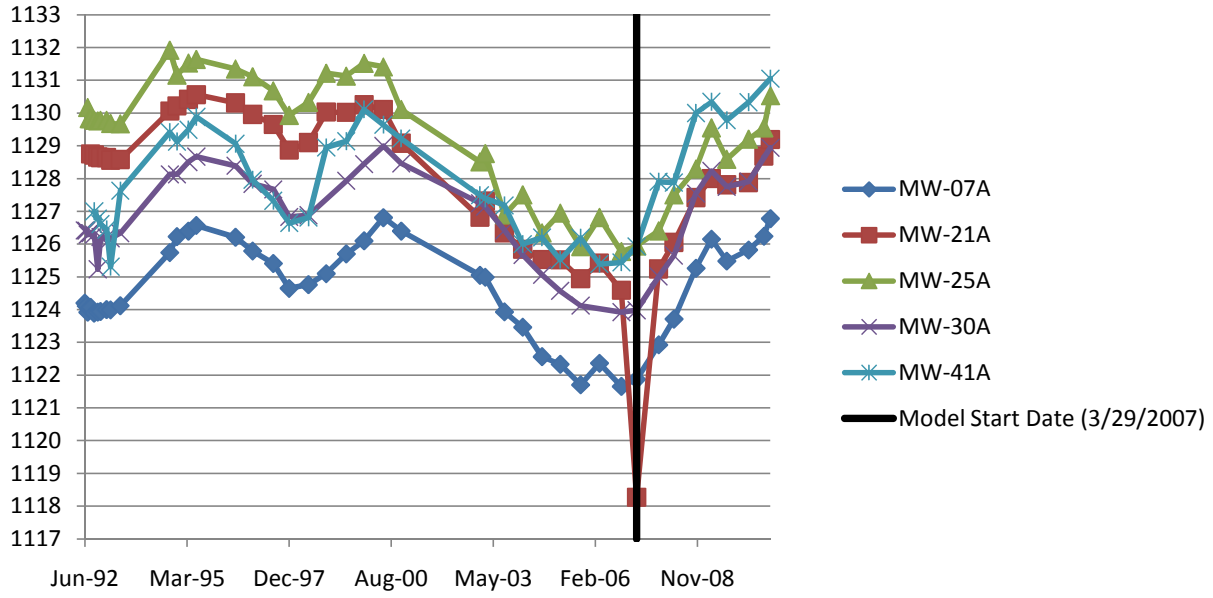


Figure 5-1d
Observed Hydrographs at USACE Monitoring Wells
Elevations 1120-1125 ft msl

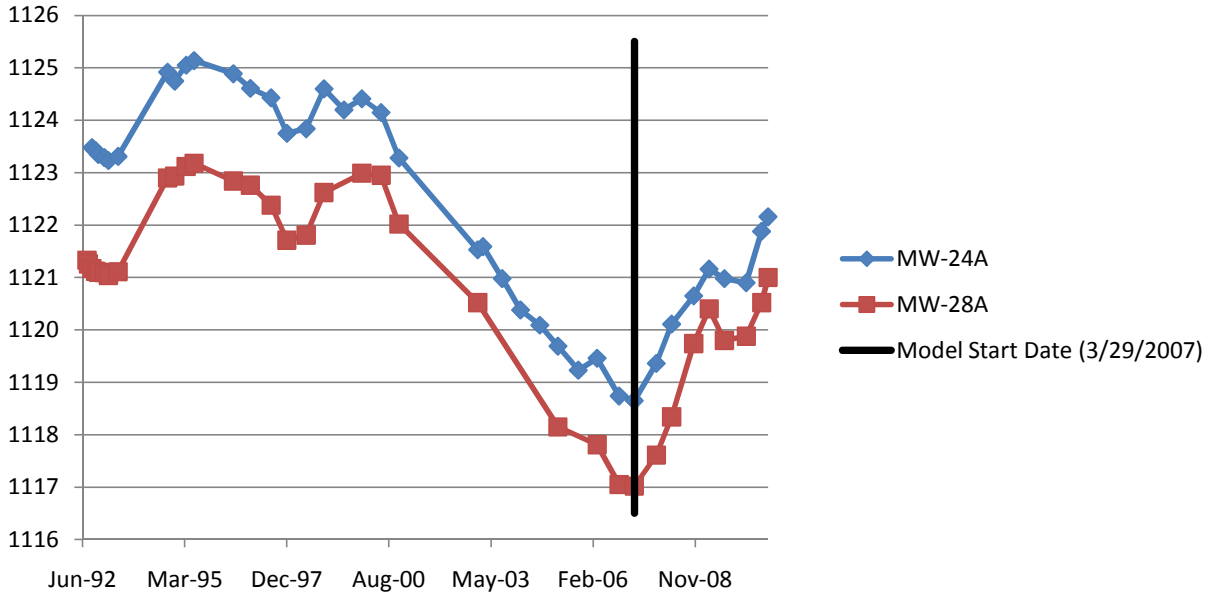


Figure 5-1e
Observed Hydrographs at USACE Monitoring Wells
Elevations 1115-1120 ft msl

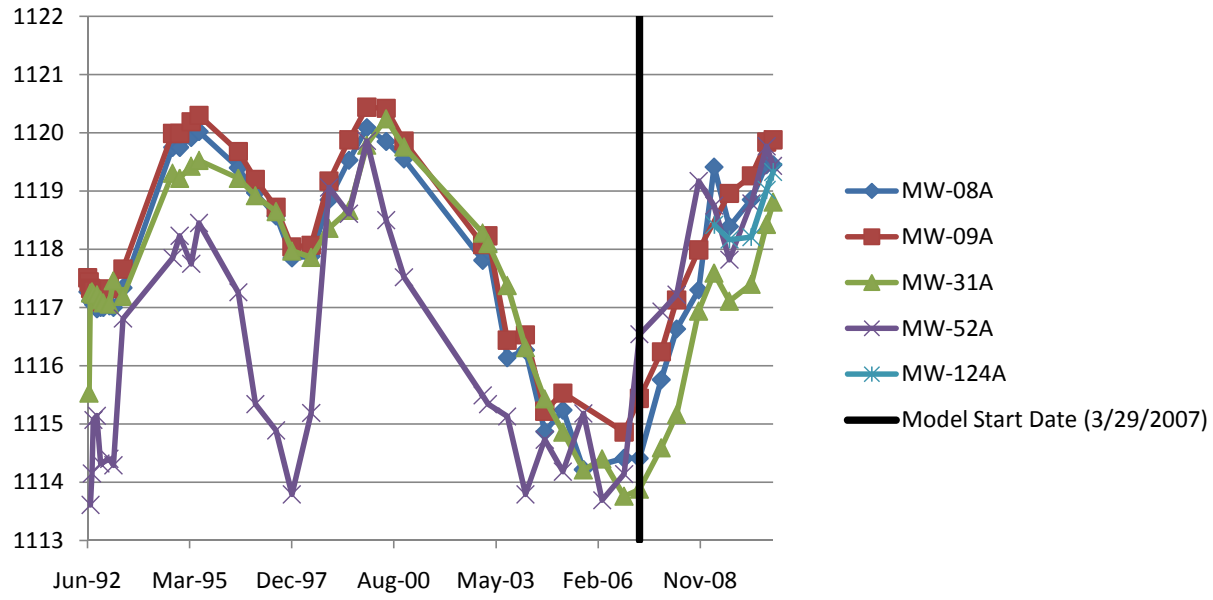


Figure 5-1f
Observed Hydrographs at USACE Monitoring Wells
Elevations 1110-1115 ft msl

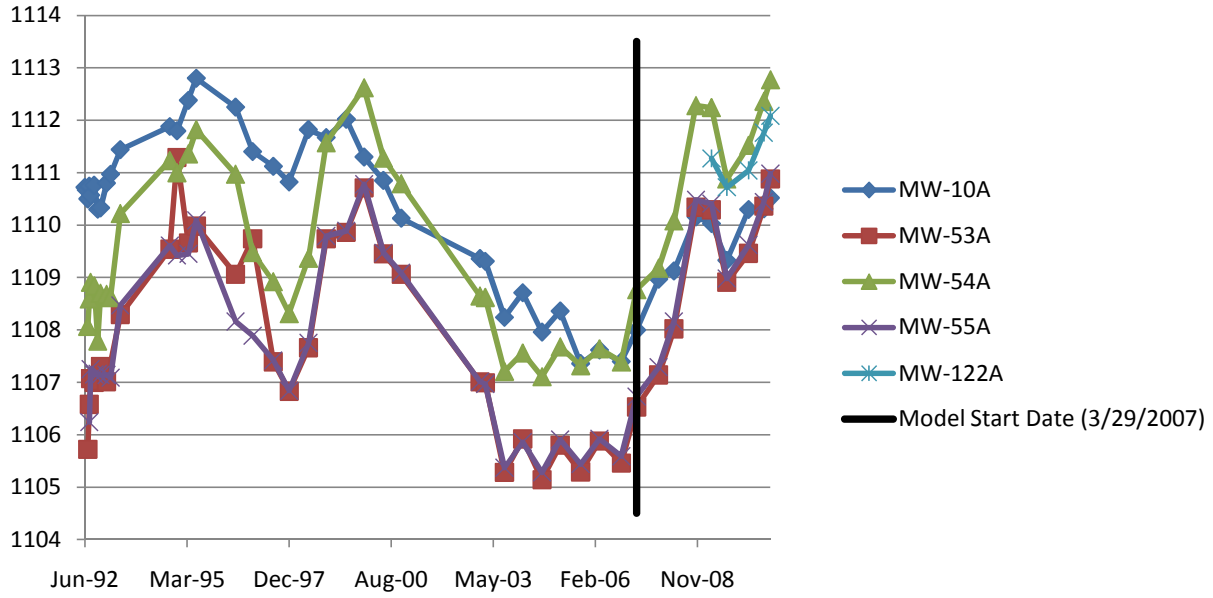


Figure 5-1g
Observed Hydrographs at USACE Monitoring Wells
Elevations 1105-1110 ft msl

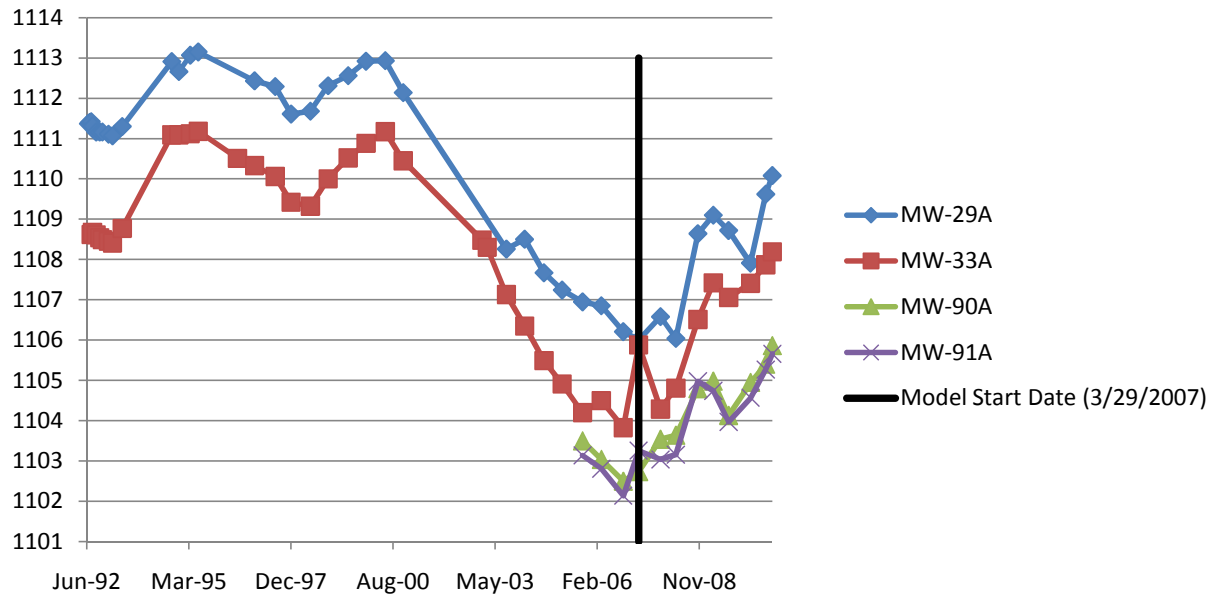


Figure 5-1h
Observed Hydrographs at USACE Monitoring Wells
Elevations 1100-1105 ft msl

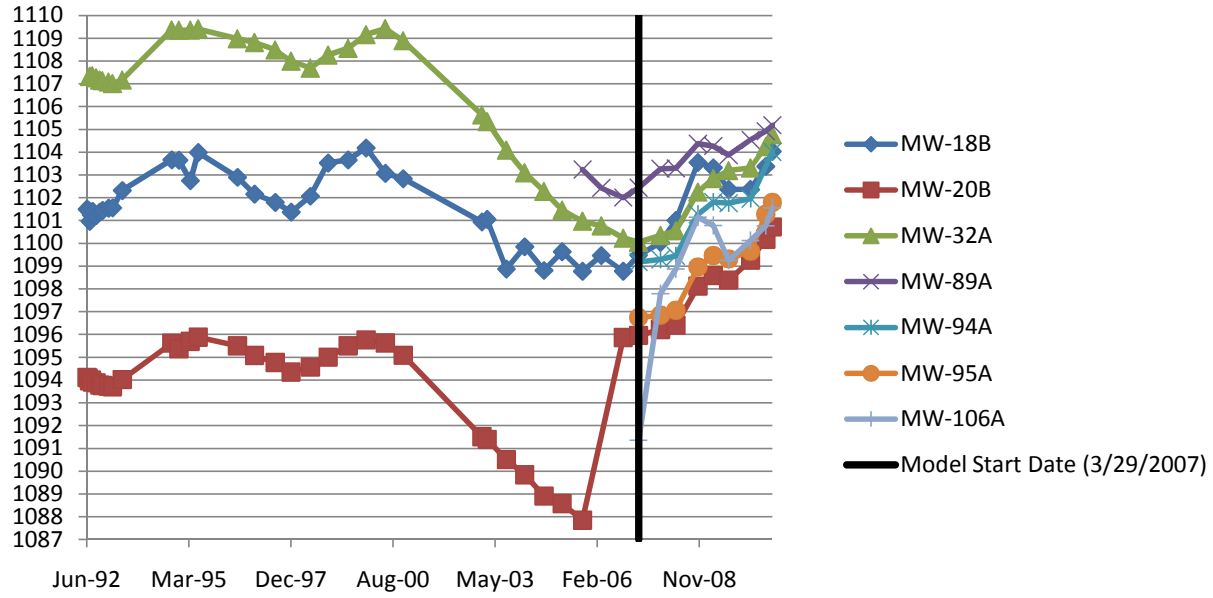


Figure 5-1i
Observed Hydrographs at USACE Monitoring Wells
Elevations 1095-1100 ft msl

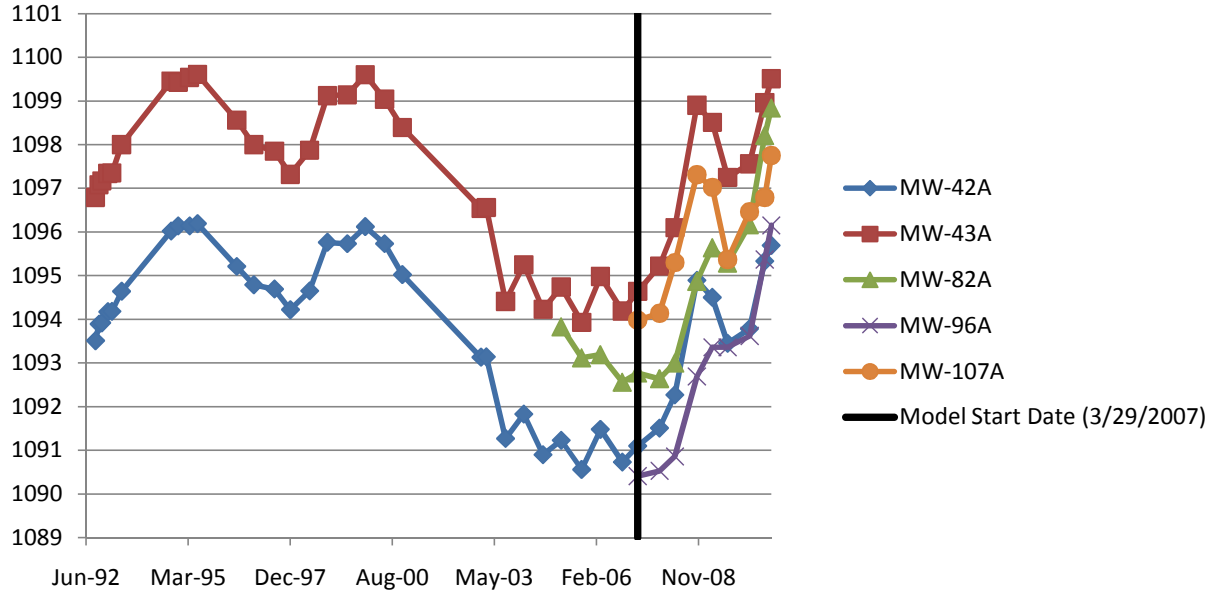
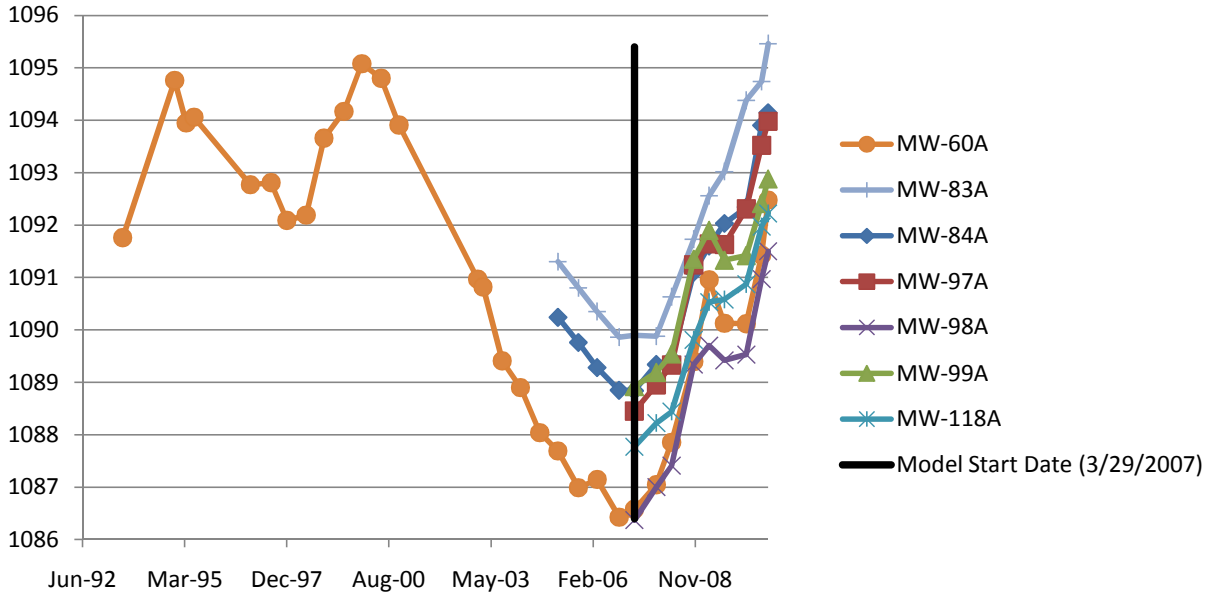


Figure 5-1j
Observed Hydrographs at USACE Monitoring Wells
Elevations 1090-1095 ft msl



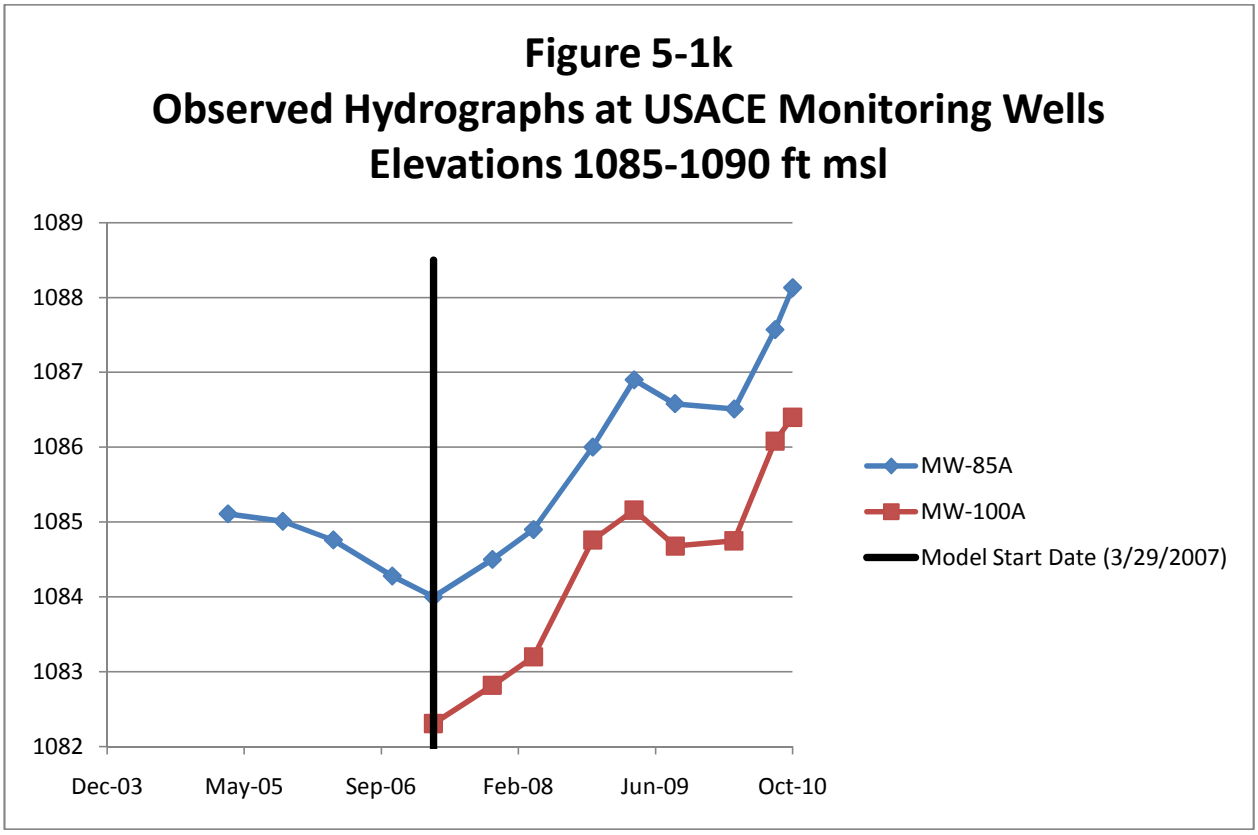


Figure 5-1k
Observed Hydrographs at USACE Monitoring Wells
Elevations 1085-1090 ft msl
1089
1088
1087
1086
1085
1084
1083
1082
Dec-03
May-05
Sep-06
Feb-08
Jun-09
Oct-10
MW-85A
MW-100A
Model Start Date (3/29/2007)

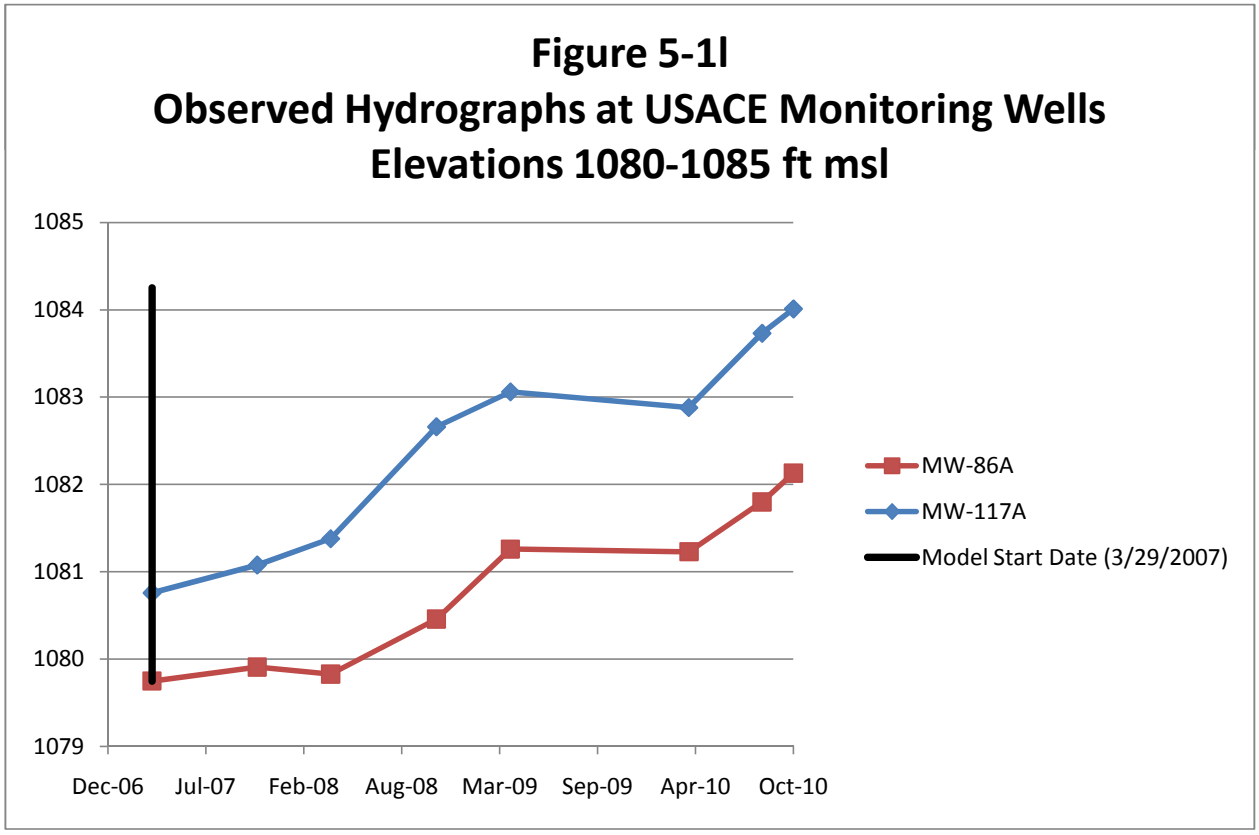


Figure 5-1l
Observed Hydrographs at USACE Monitoring Wells
Elevations 1080-1085 ft msl
1085
1084
1083
1082
1081
1080
1079
Dec-06
Jul-07
Feb-08
Aug-08
Mar-09
Sep-09
Apr-10
Oct-10
MW-86A
MW-117A
Model Start Date (3/29/2007)

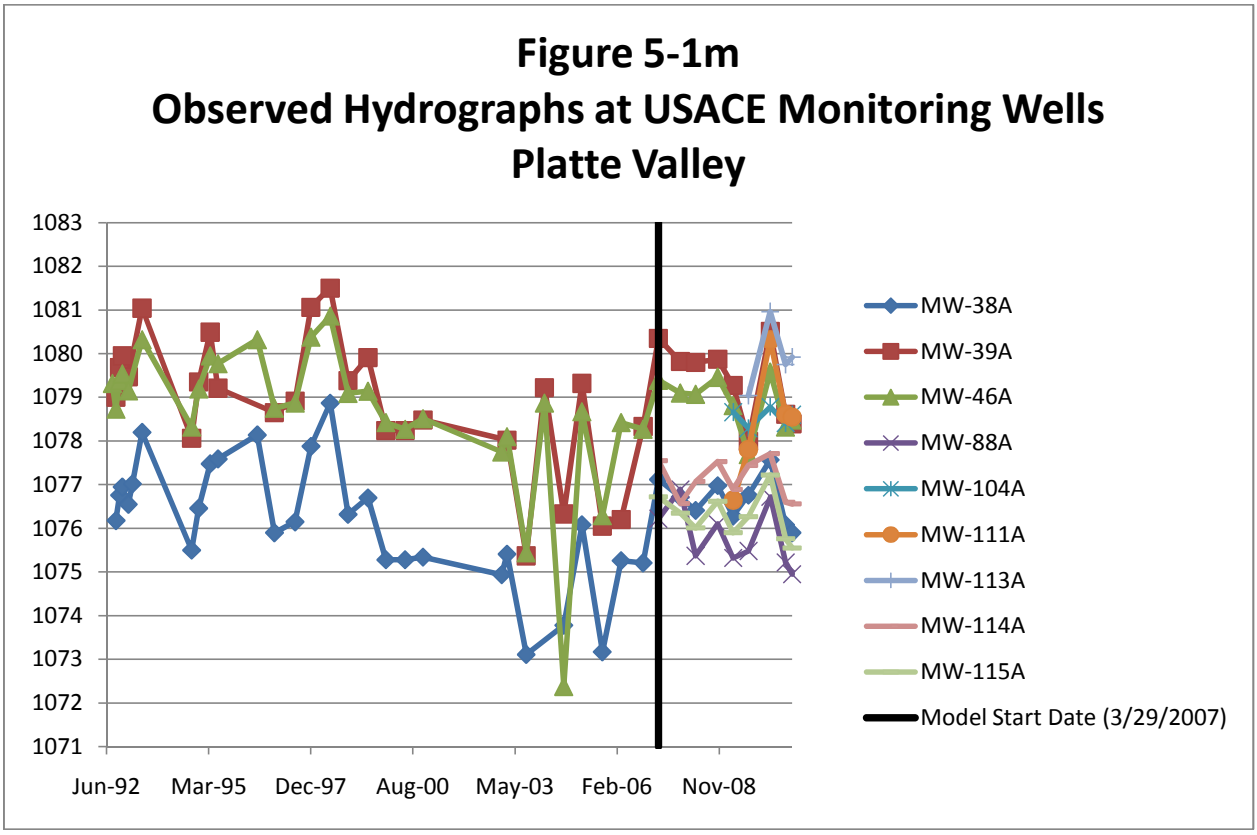


Figure 5-1m
Observed Hydrographs at USACE Monitoring Wells
Platte Valley
1083
1082
1081
1080
1079
1078
1077
1076
1075
1074
1073
1072
1071
Jun-92
Mar-95
Dec-97
Aug-00
May-03
Feb-06
Nov-08
MW-38A
MW-39A
MW-46A
MW-88A
MW-104A
MW-111A
MW-113A
MW-114A
MW-115A
Model Start Date (3/29/2007)

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Figure 5-2
Observed Hydrograph at MW-29A compared to Annual Summer Precipitation

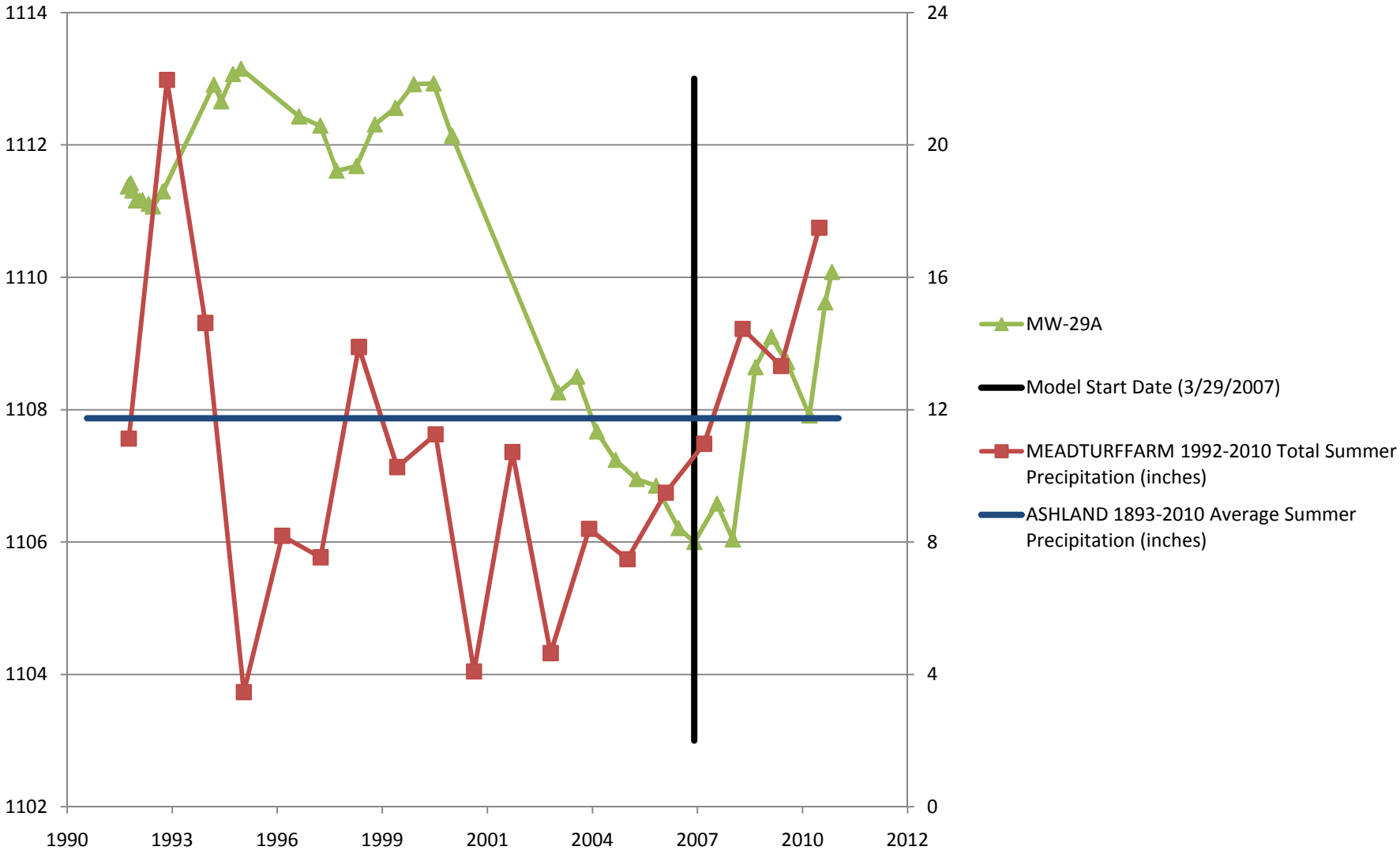

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Figure 5-3
Simulated Transient Model Water Budget
March 30, 2007 - August 26, 2010
2010 Groundwater Model Update
Former NOP

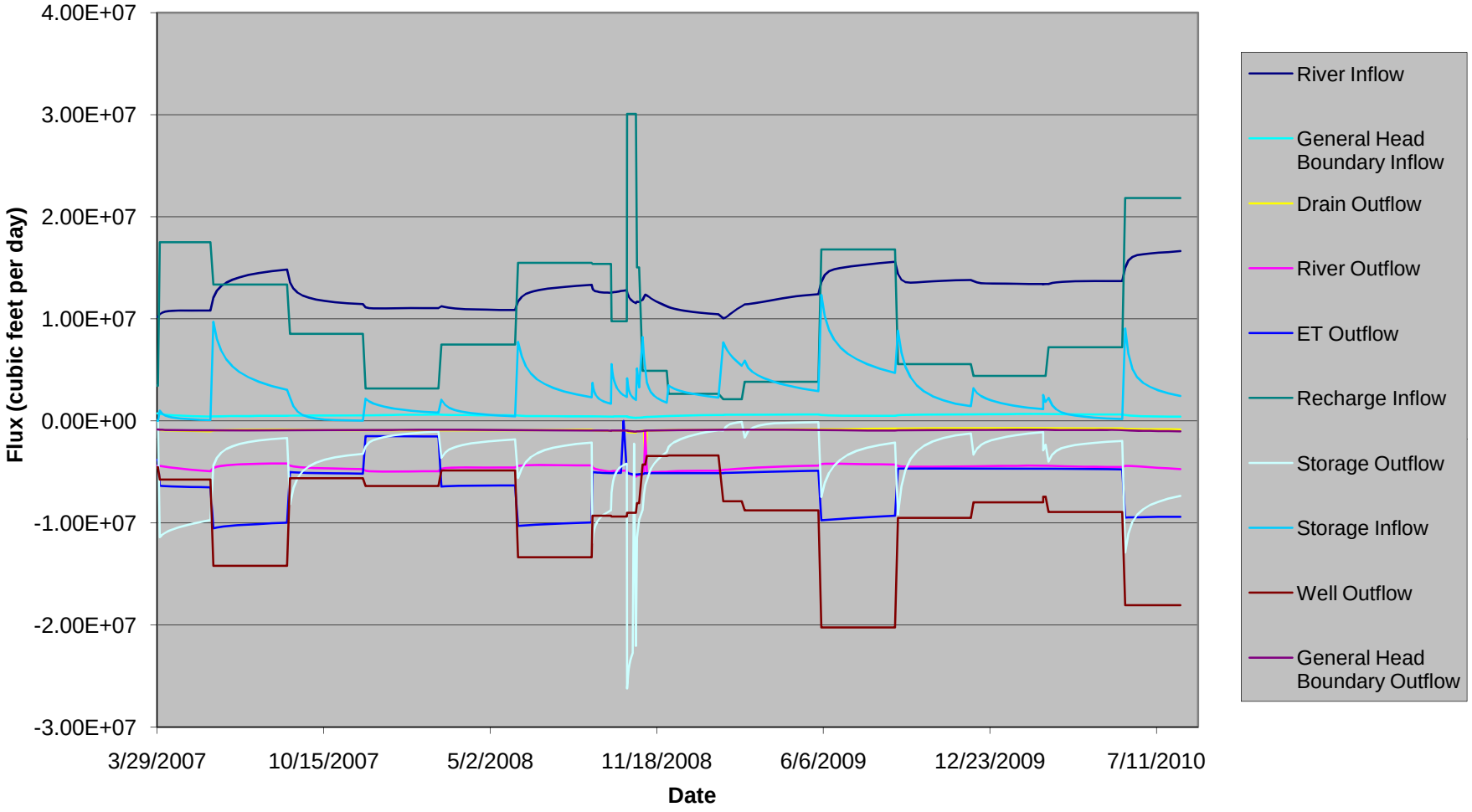

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Figure 5-4
Simulated vs. Observed Hydraulic Heads
Steady State Calibration Results (March 2007)
2010 Groundwater Model Update

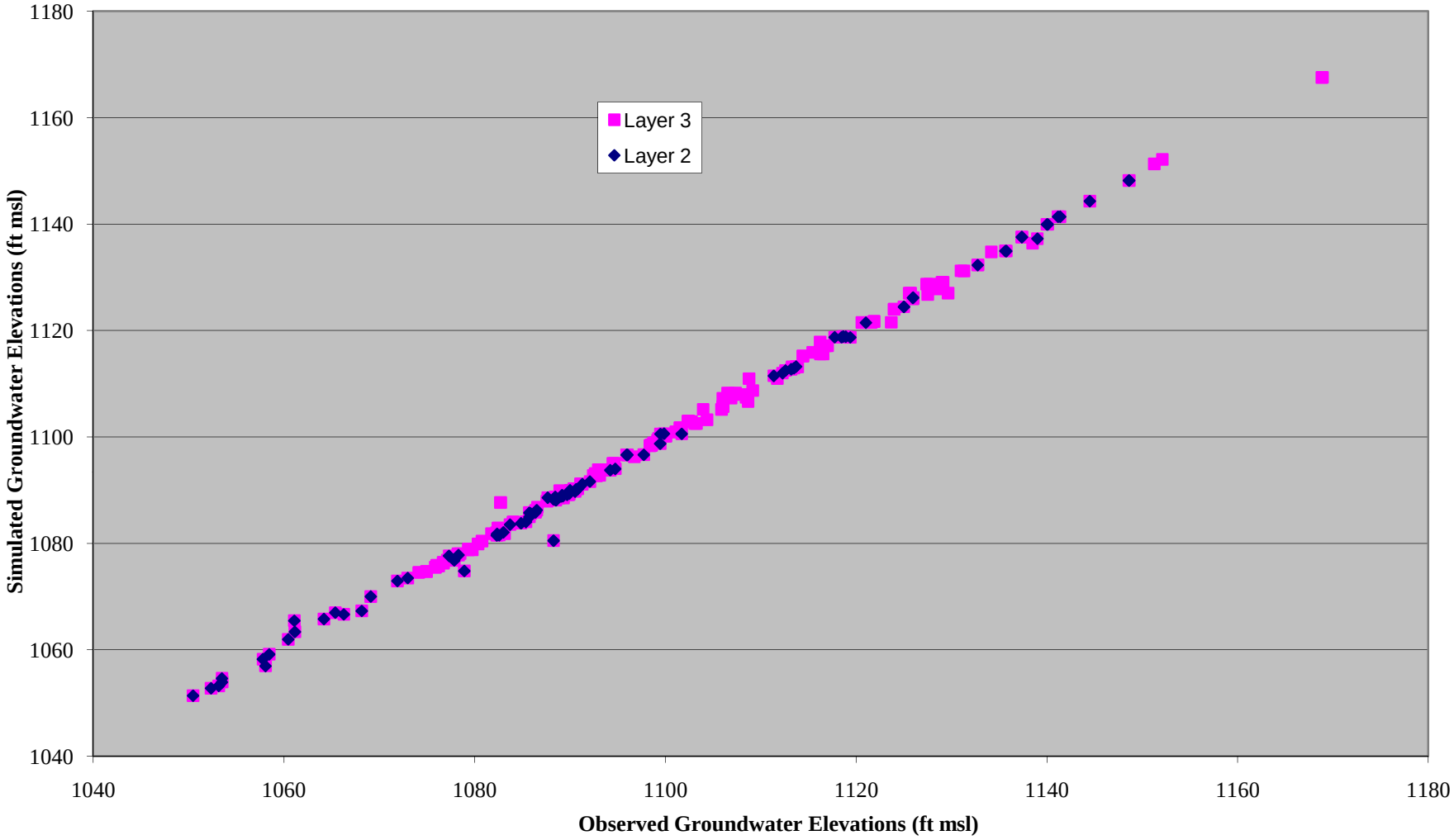

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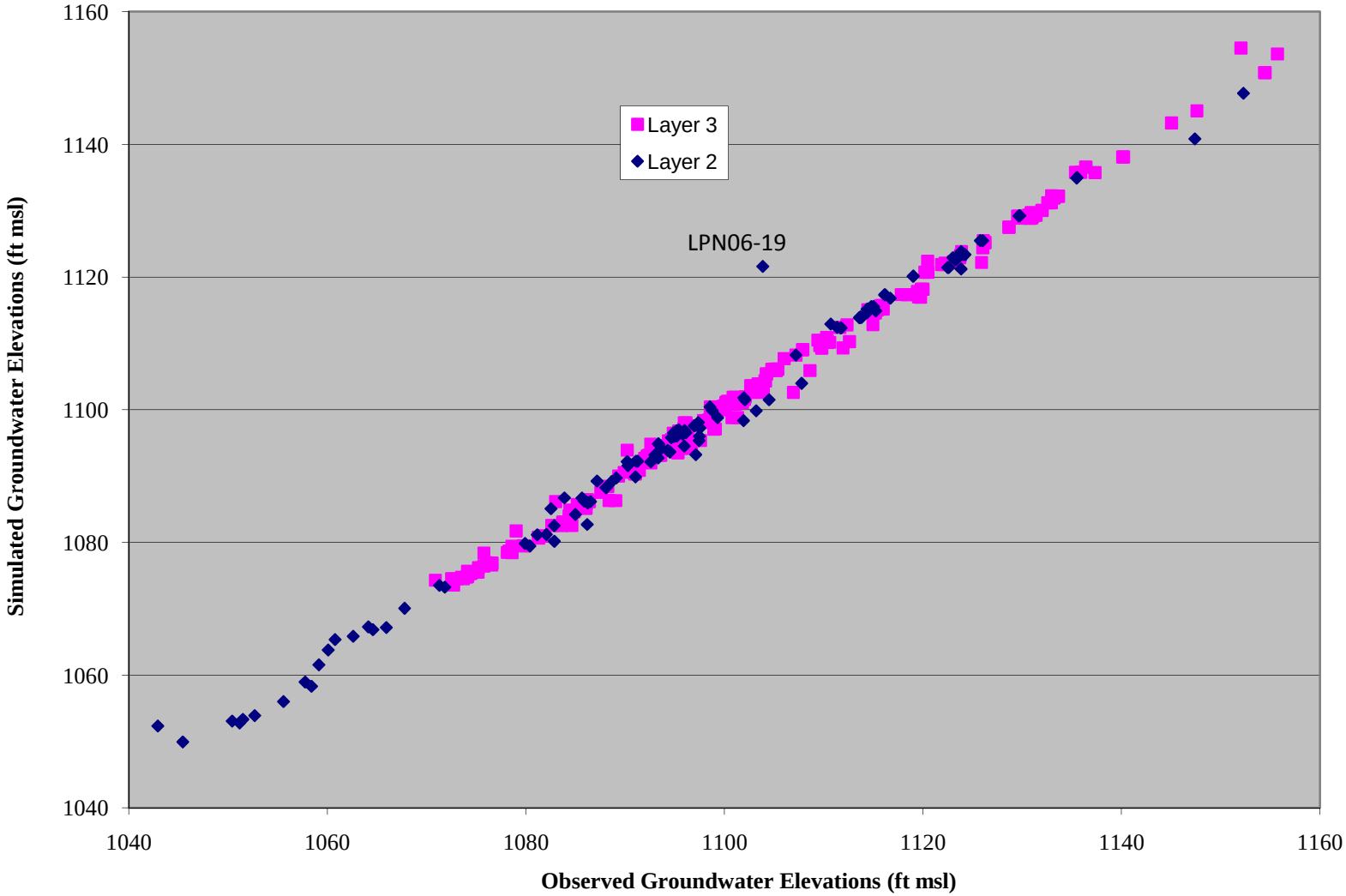
Figure 5-5
Simulated vs. Observed Hydraulic Heads
Transient Calibration Results (Aug 2010)
2010 Groundwater Model Update



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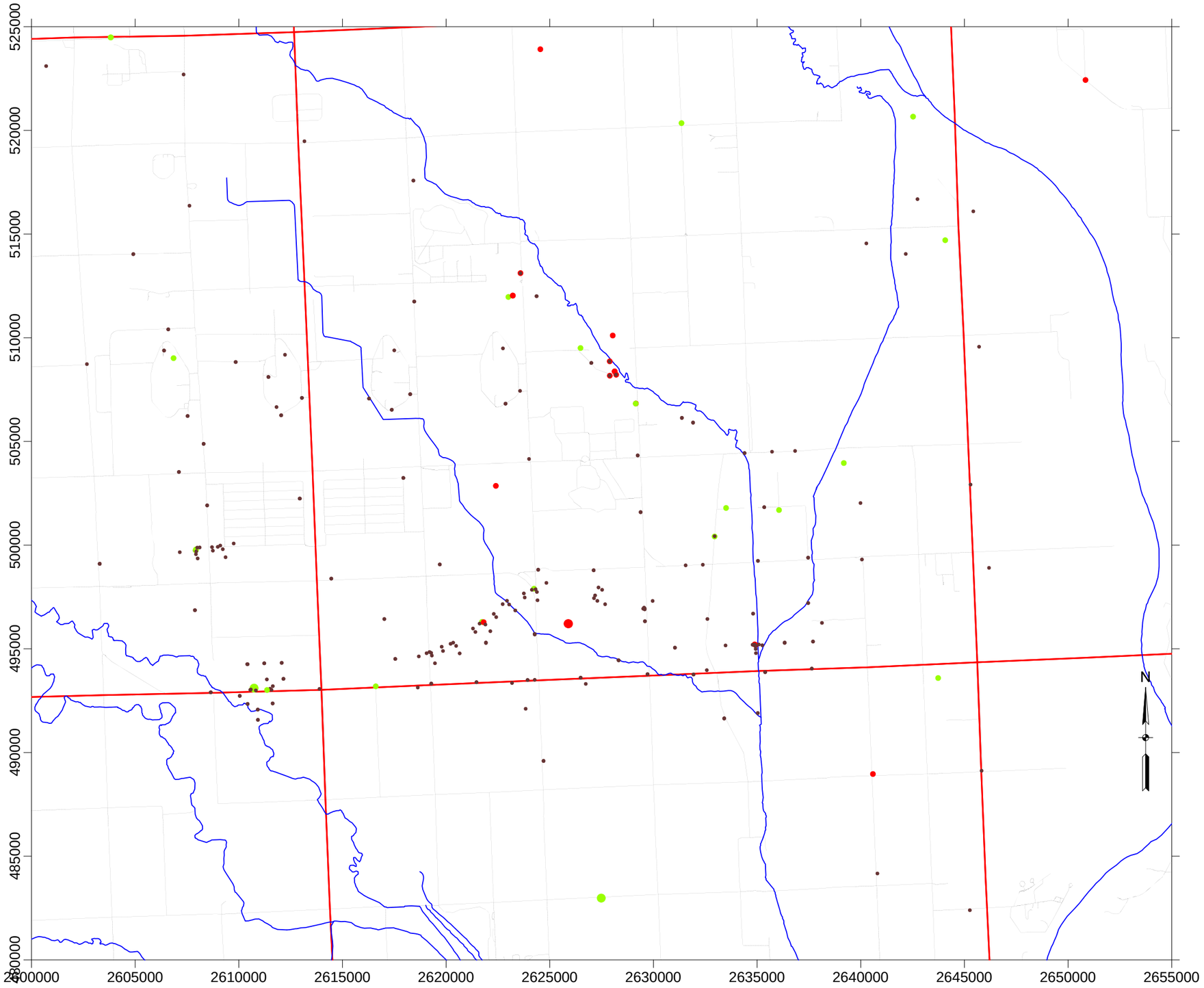

LEGEND

Negative Residual
(Simulated water level >1 foot higher than observed water level)

Positive Residual
(Simulated water level >1 foot lower than observed water level)

Residual less than1 foot

N

US Army Corps of Engineers
Kansas City District

Figure 5-6
Residual Distribution
March 2007
2010 Groundwater Model Update
Former NOP

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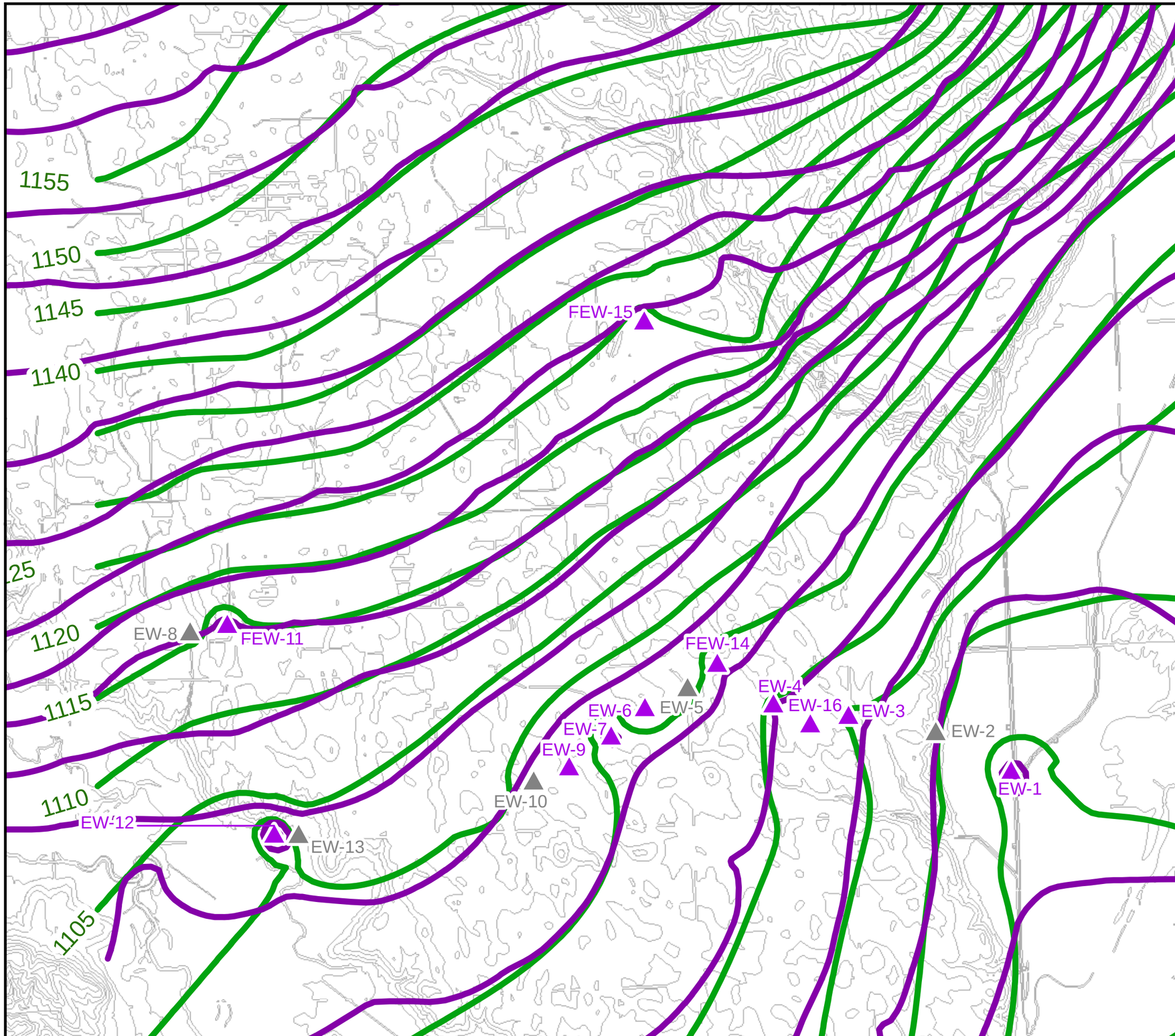

Legend

- USACE Extraction Well - Active
- USACE Extraction Well - Inactive
- Simulated August 2010 Contour
- August 2010 Groundwater Contour in Feet Above Mean Sea Level (Contour Interval 5 Feet)

Notes:

1. August 2010 data collected on 8/26/10
2. EW-10, shown as inactive, was turned of February 2010.

USACE - United States Army Corps of Engineers

US Army Corps of Engineers ®
Kansas City District

N

0 3,000 6,000
SCALE IN FEET

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Figure 5-7

Simulated versus Observed Potentiometric Surface
Intermediate Zone - August 2010
2010 Groundwater Model Update
Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010GWM\Fig5-7_Simulatevs Observed_Potentiometric_Surface_ Aug26_2010.mxd jmf July 19, 2011

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Figure 5-8a
Observed Hydrographs at USACE Monitoring Wells
Elevations 1135-1140 ft msl

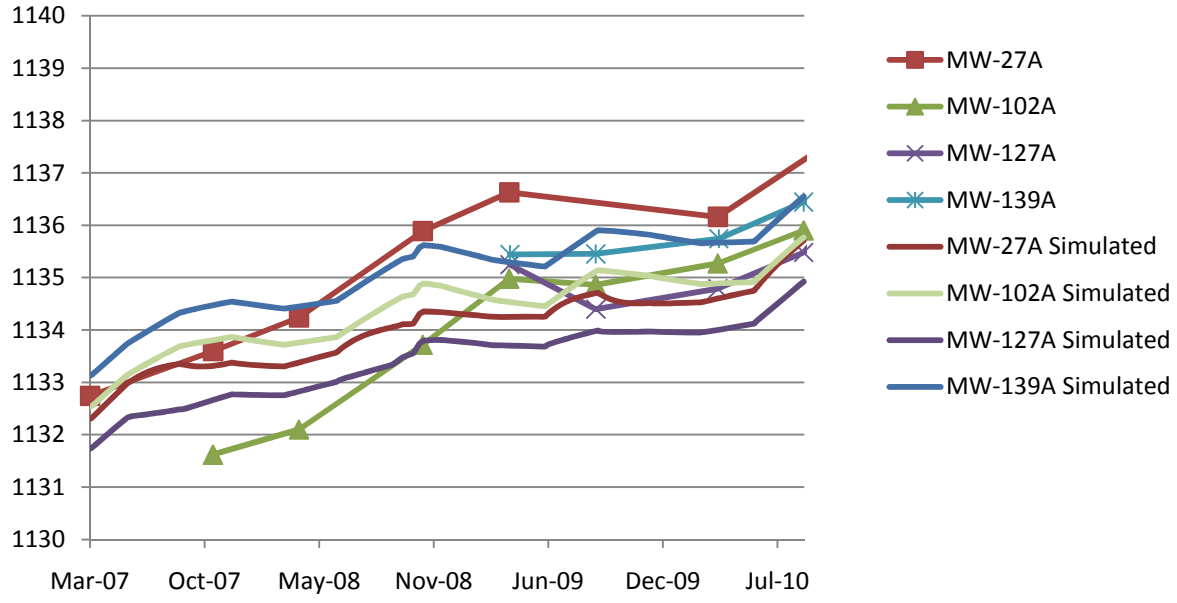


Figure 5-8b
Observed Hydrographs at USACE Monitoring Wells
Elevations 1130-1135 ft msl

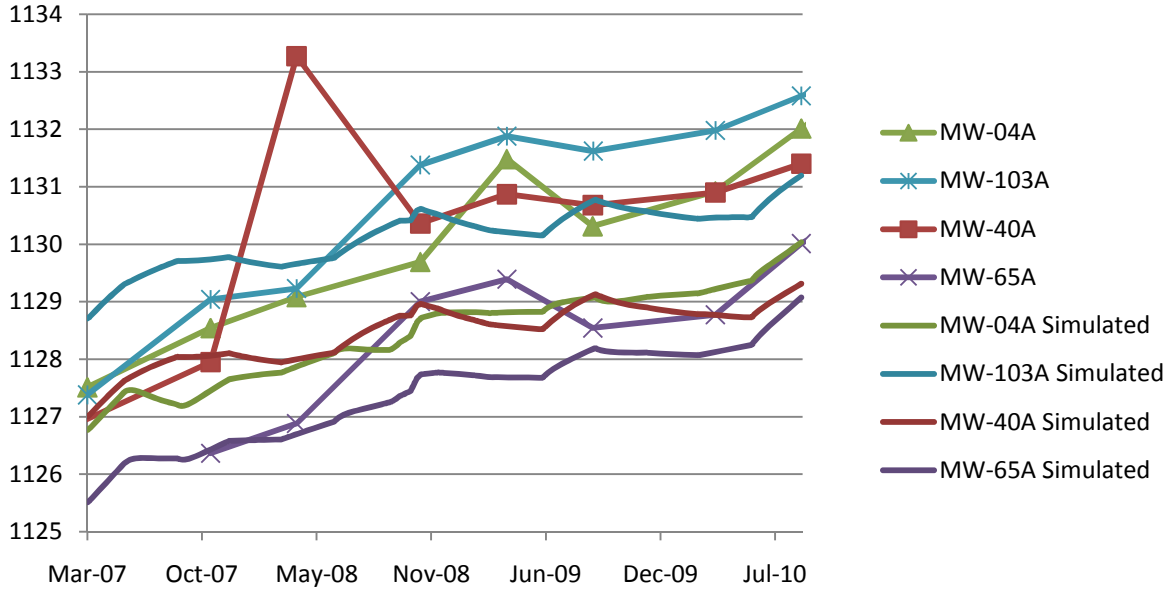


Figure 5-8c
Observed Hydrographs at USACE Monitoring Wells
Elevations 1125-1130 ft msl

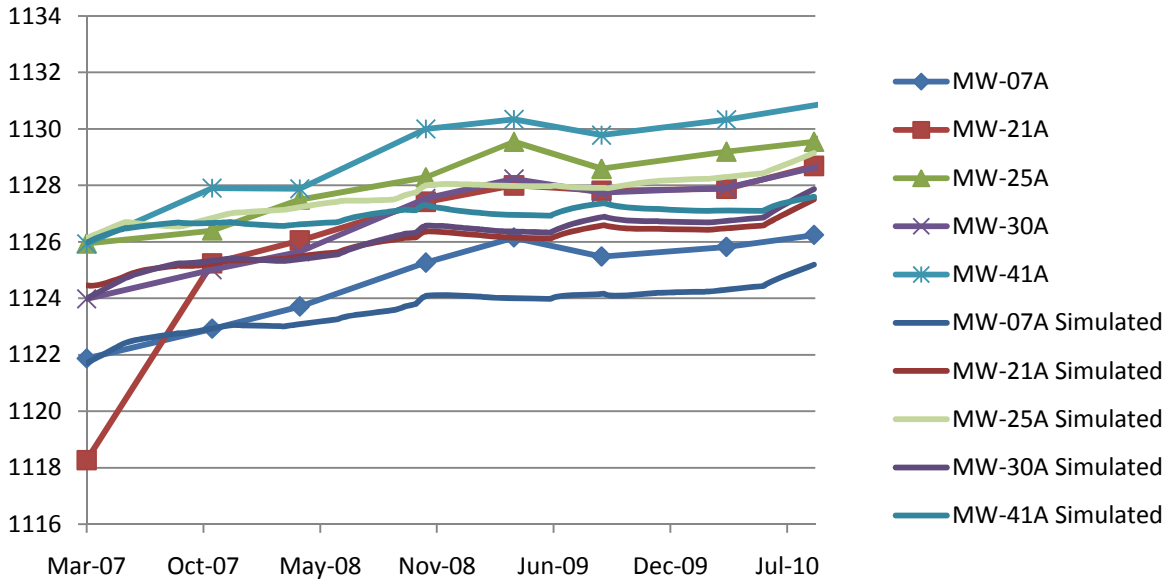


Figure 5-8d
Observed Hydrographs at USACE Monitoring Wells
Elevations 1120-1125 ft msl

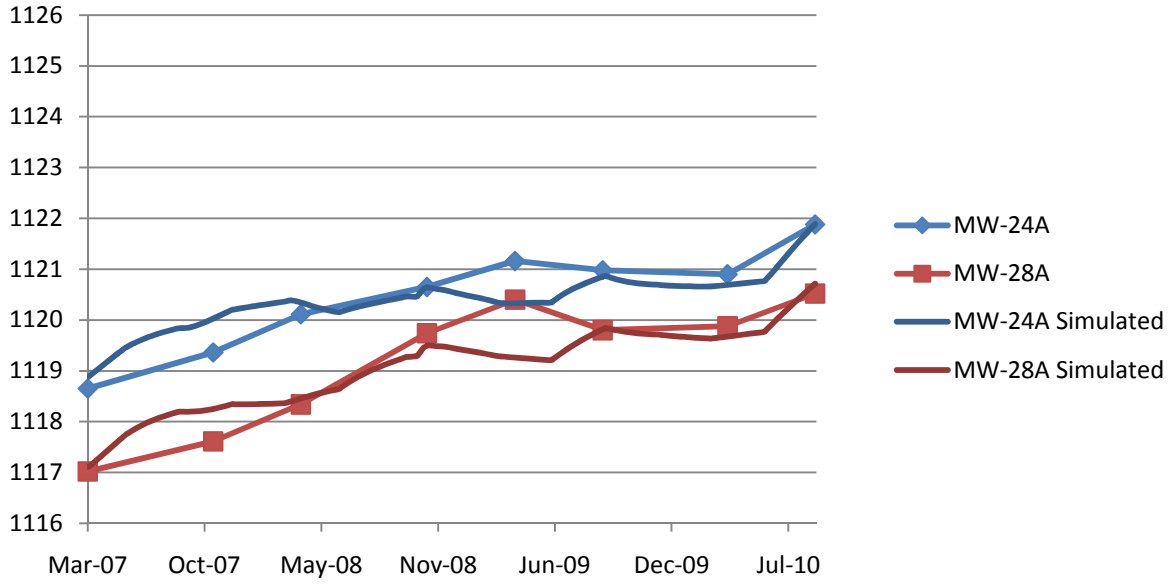


Figure 5-8e
Observed Hydrographs at USACE Monitoring Wells
Elevations 1115-1120 ft msl

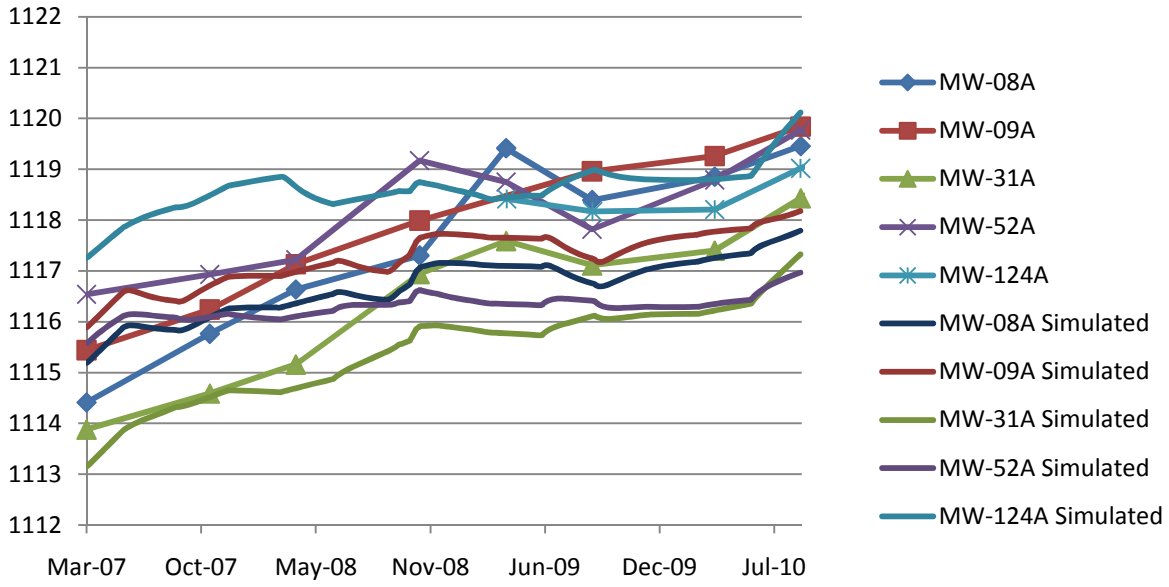
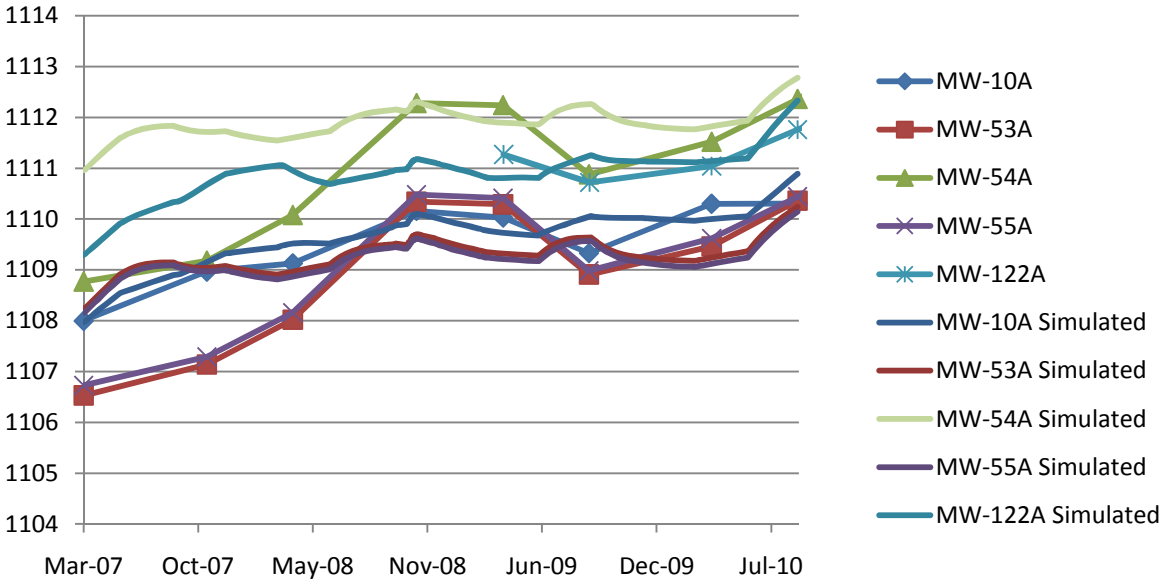


Figure 5-8f
Observed Hydrographs at USACE Monitoring Wells
Elevations 1110-1115 ft msl



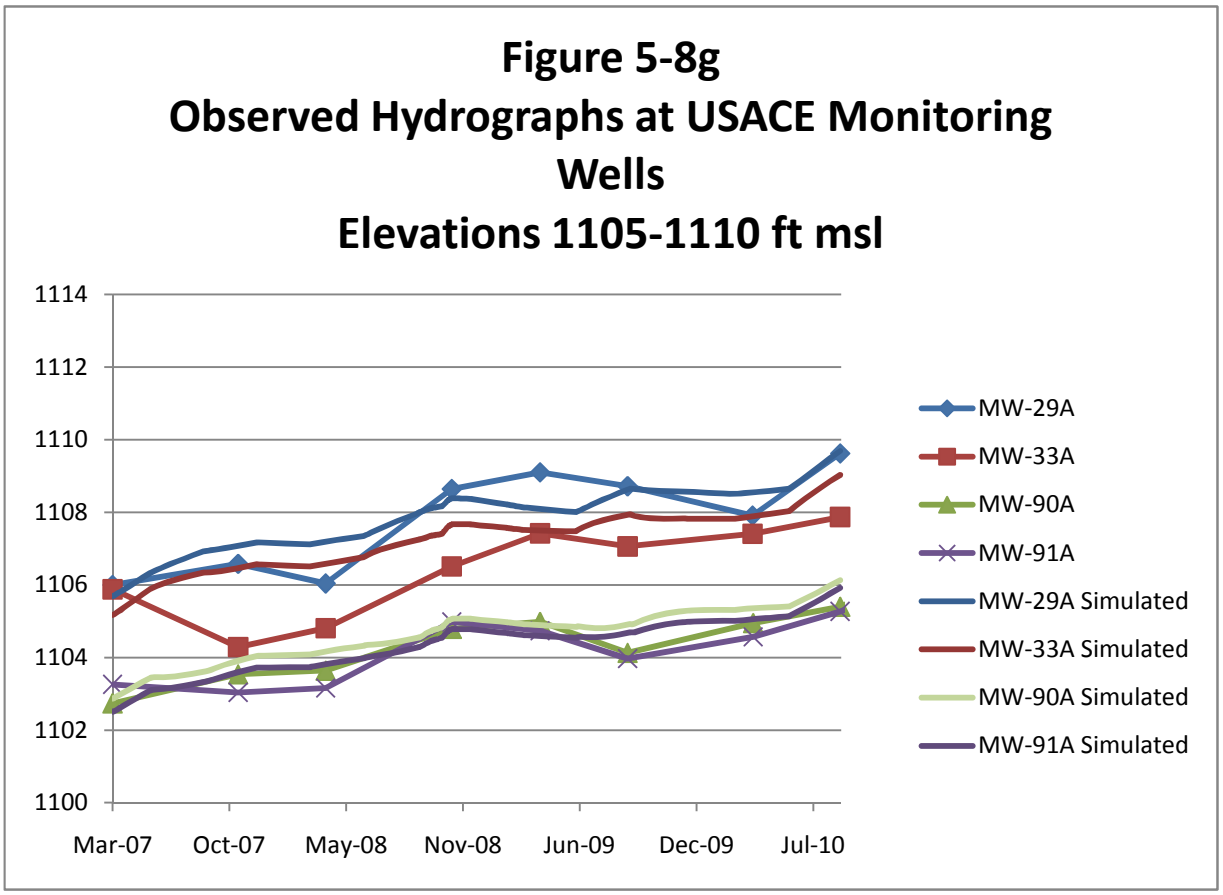


Figure 5-8g
Observed Hydrographs at USACE Monitoring Wells
Elevations 1105-1110 ft msl
1114
1112
1110
1108
1106
1104
1102
1100
Mar-07
Oct-07
May-08
Nov-08
Jun-09
Dec-09
Jul-10
MW-29A
MW-33A
MW-90A
MW-91A
MW-29A Simulated
MW-33A Simulated
MW-90A Simulated
MW-91A Simulated

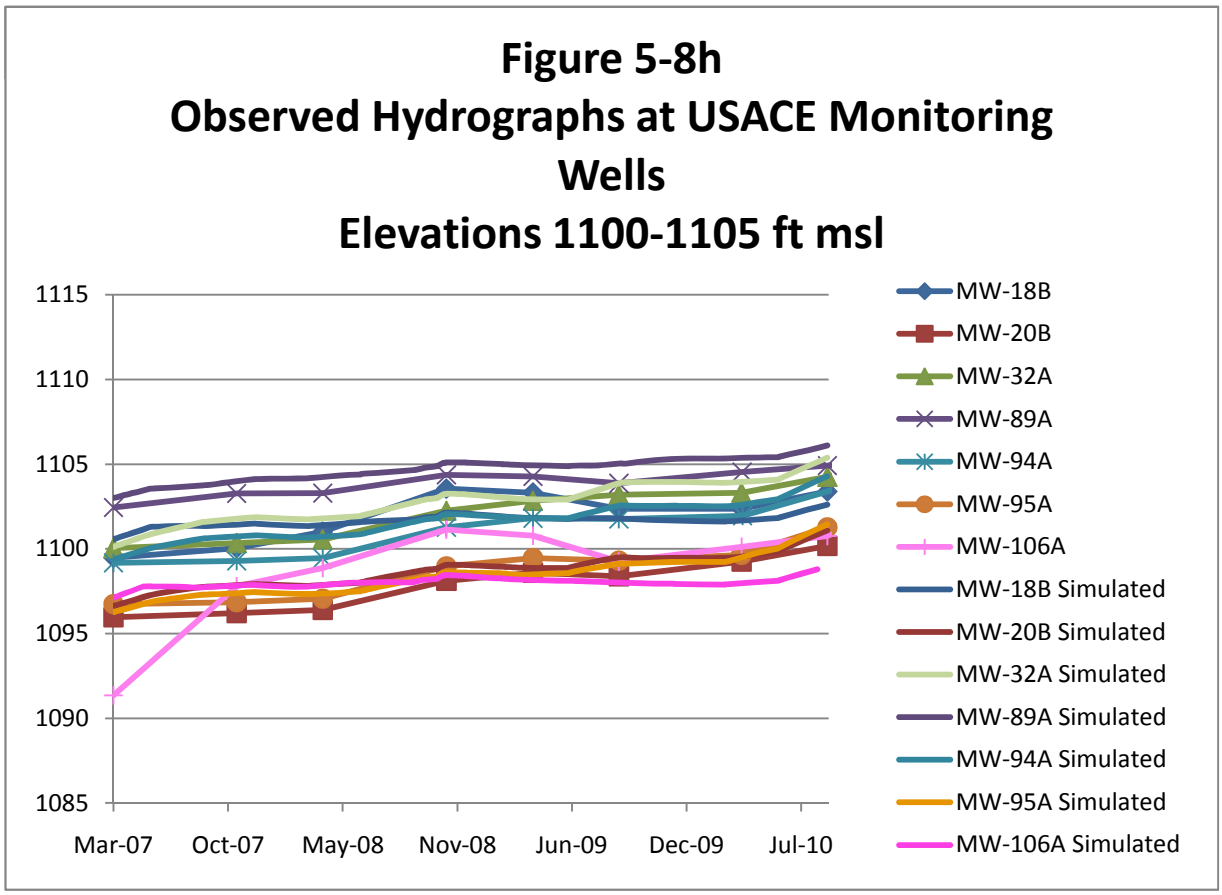


Figure 5-8h
Observed Hydrographs at USACE Monitoring Wells
Elevations 1100-1105 ft msl
1115
1110
1105
1100
1095
1090
1085
Mar-07
Oct-07
May-08
Nov-08
Jun-09
Dec-09
Jul-10
MW-18B
MW-20B
MW-32A
MW-89A
MW-94A
MW-95A
MW-106A
MW-18B Simulated
MW-20B Simulated
MW-32A Simulated
MW-89A Simulated
MW-94A Simulated
MW-95A Simulated
MW-106A Simulated

Figure 5-8i
Observed Hydrographs at USACE Monitoring Wells
Elevations 1095-1100 ft msl

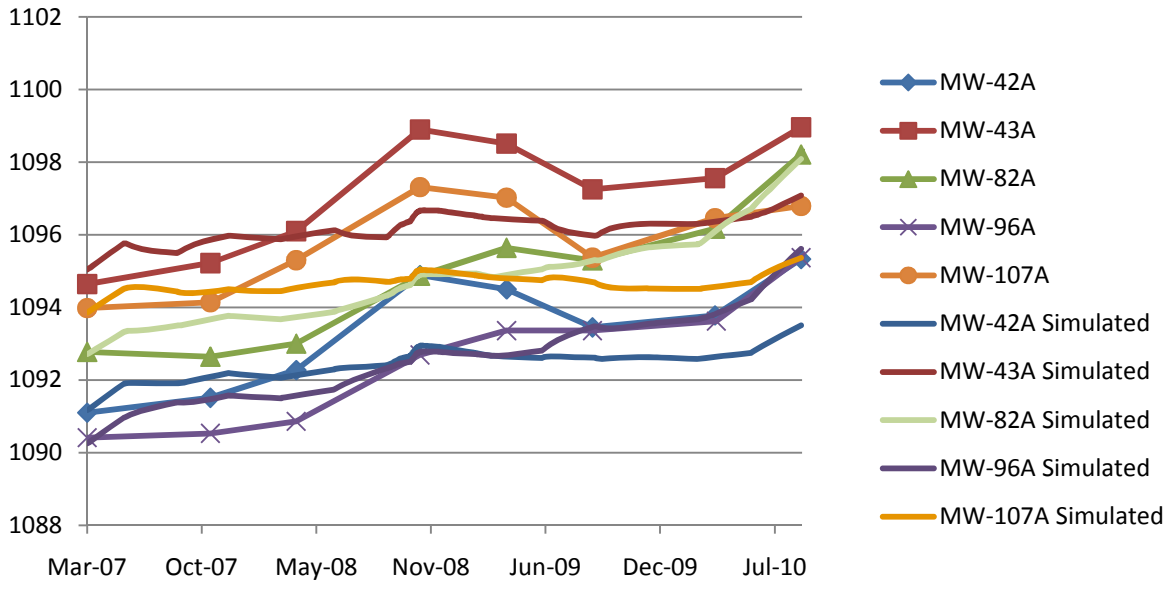


Figure 5-8j
Observed Hydrographs at USACE Monitoring Wells
Elevations 1090-1095 ft msl

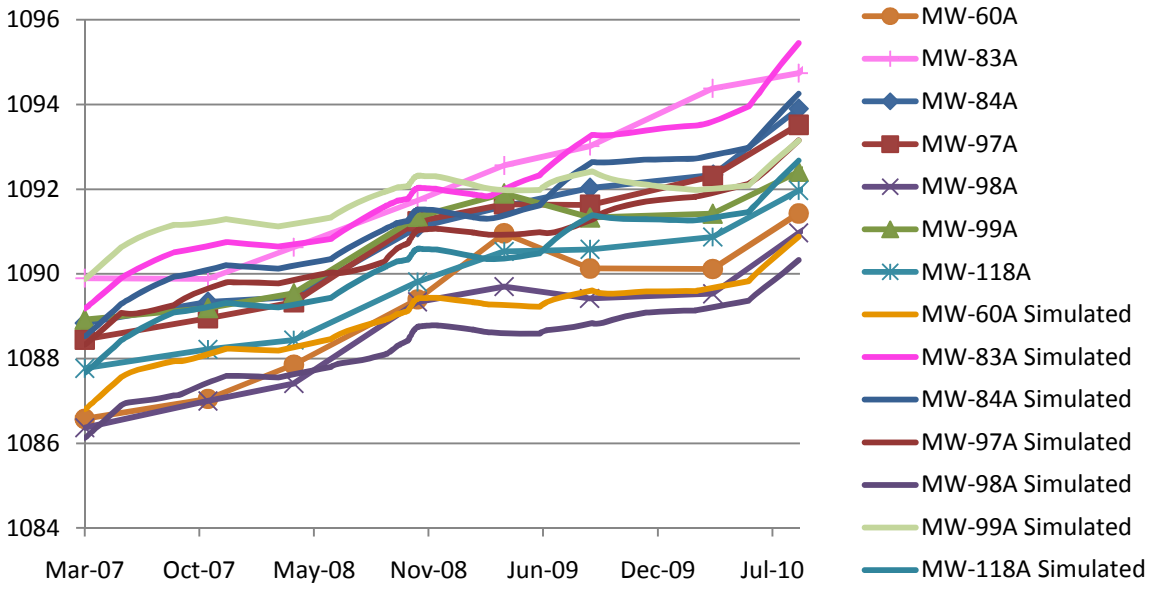


Figure 5-8k
Observed Hydrographs at USACE Monitoring Wells
Elevations 1085-1090 ft msl

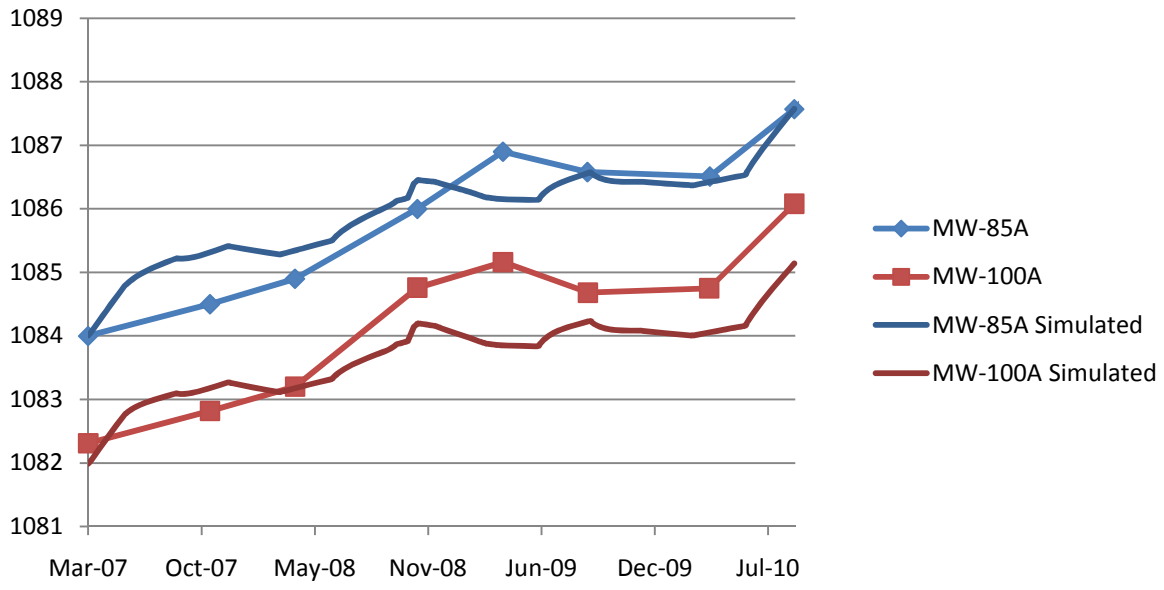
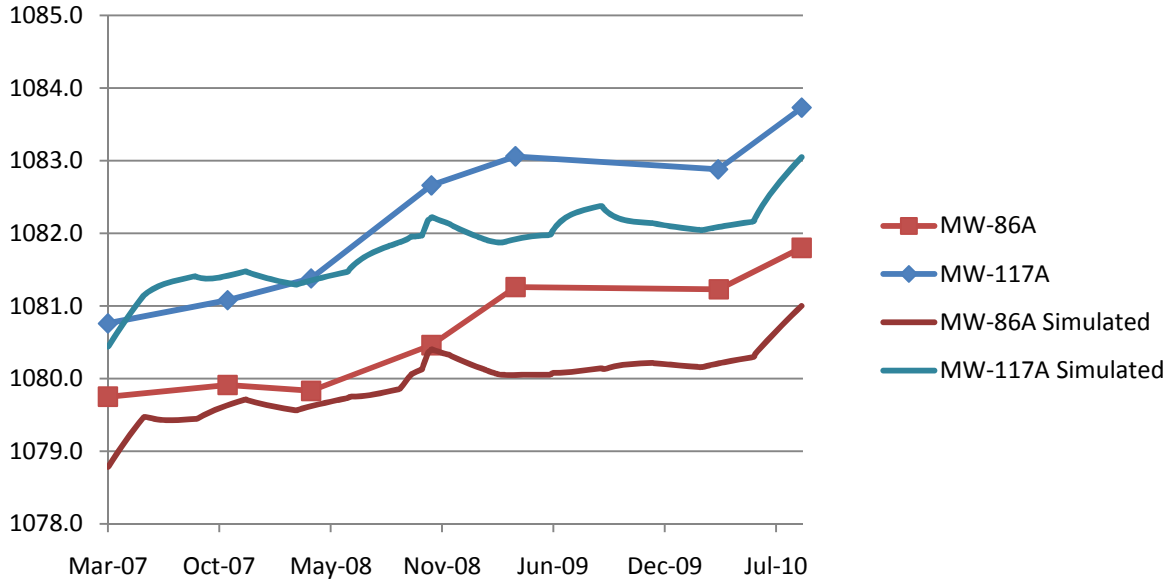


Figure 5-8l
Observed Hydrographs at USACE Monitoring Wells
Elevations 1080-1085 ft msl



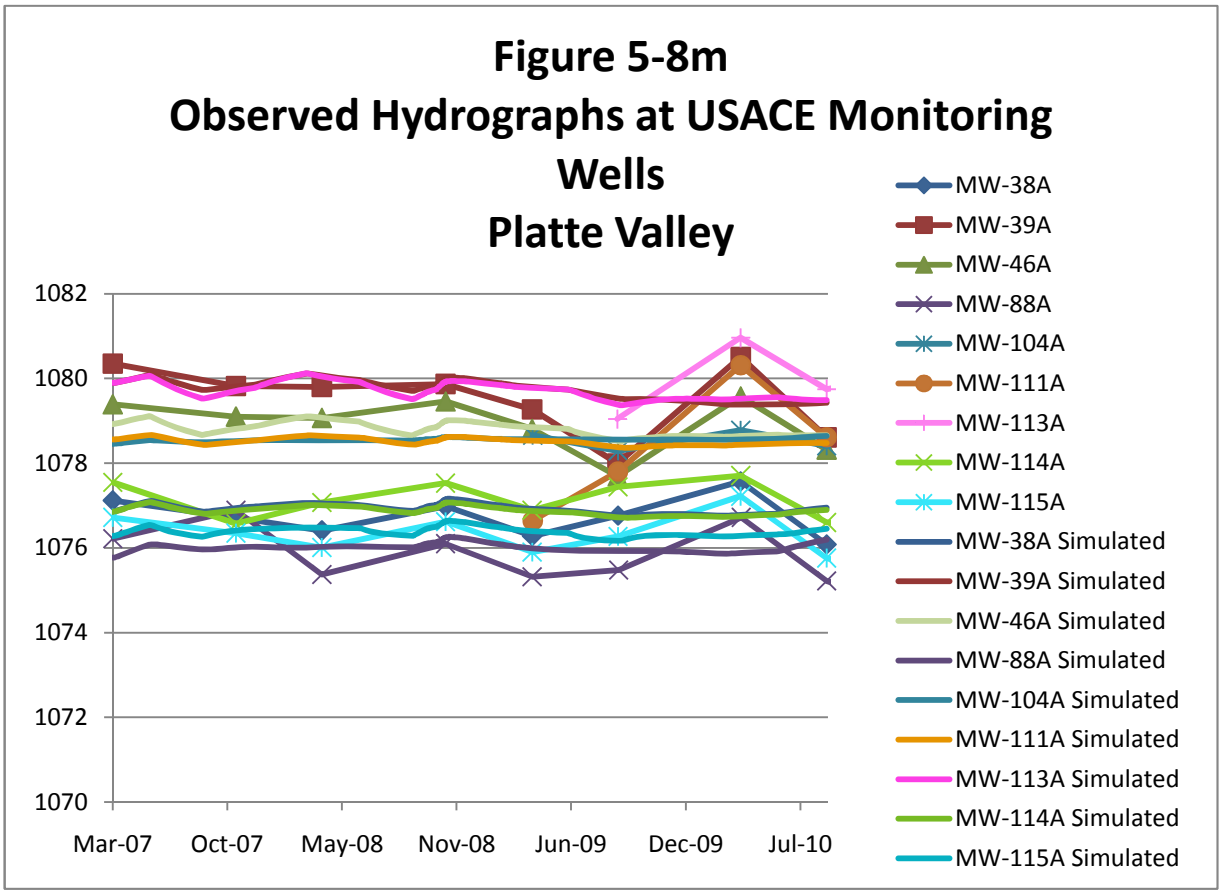


Figure 5-8m
Observed Hydrographs at USACE Monitoring Wells
Platte Valley
1082
1080
1078
1076
1074
1072
1070
Mar-07
Oct-07
May-08
Nov-08
Jun-09
Dec-09
Jul-10
MW-38A
MW-39A
MW-46A
MW-88A
MW-104A
MW-111A
MW-113A
MW-114A
MW-115A
MW-38A Simulated
MW-39A Simulated
MW-46A Simulated
MW-88A Simulated
MW-104A Simulated
MW-111A Simulated
MW-113A Simulated
MW-114A Simulated
MW-115A Simulated

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Figure 5-9a
Observed Hydrographs at MUD Monitoring Wells
MW05-23 Hydrograph
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

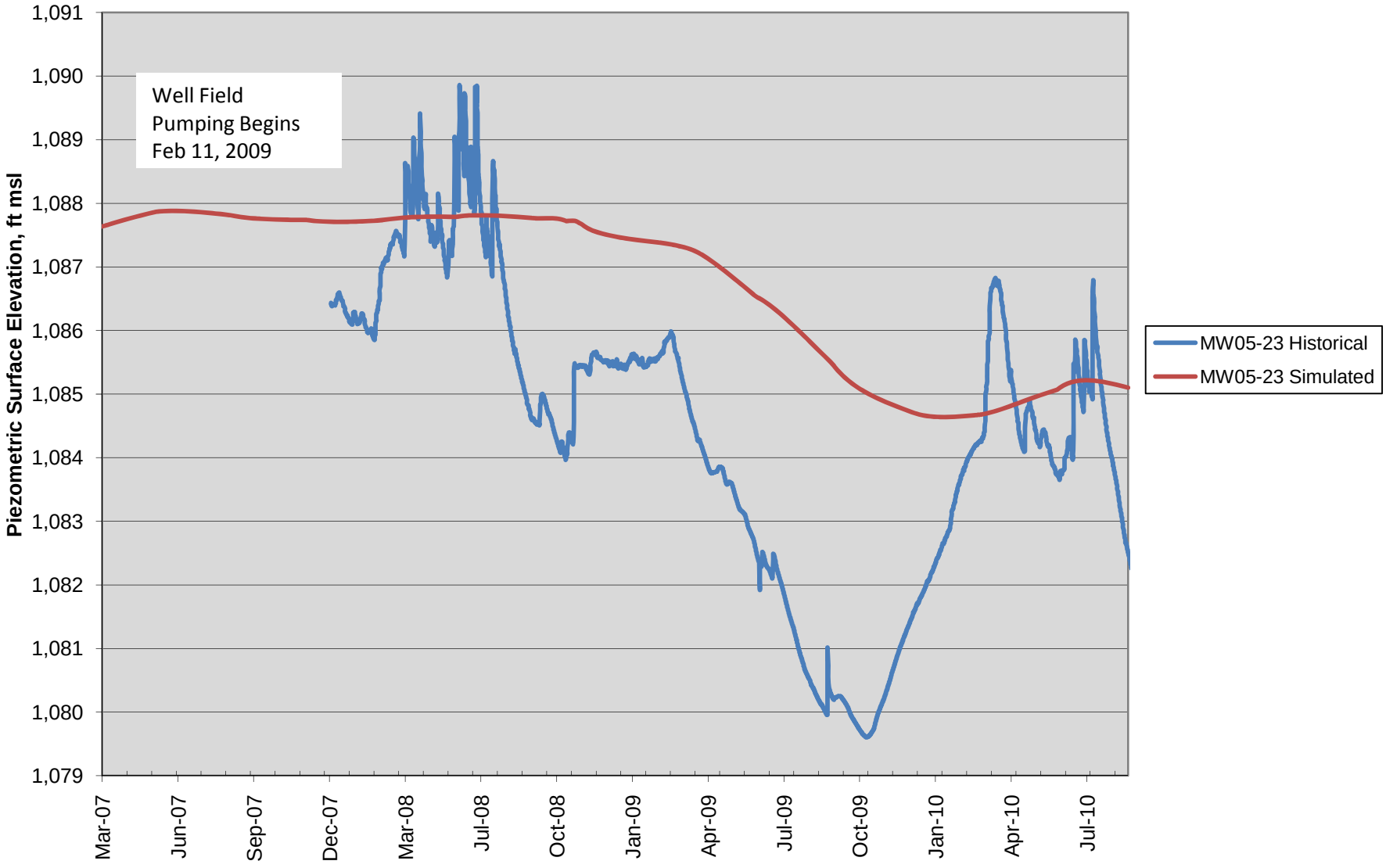


Figure 5-9b
Observed Hydrographs at MUD Monitoring Wells
MW05-22 Hydrograph
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

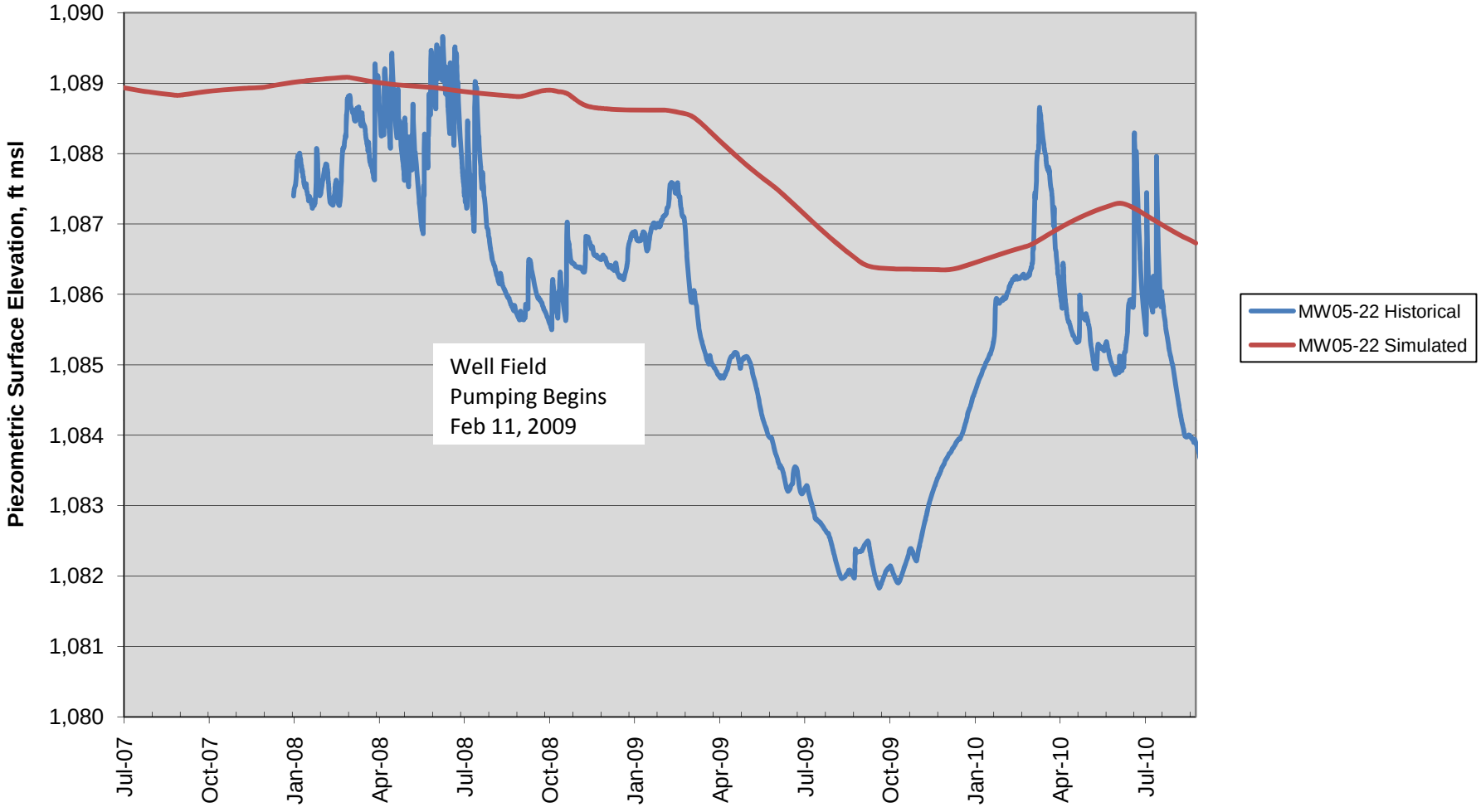


Figure 5-9c
Observed Hydrographs at MUD Monitoring Wells
MW90-10 Hydrograph
2010 Groundwater Model Update
Former NOP, Mead, Nebraska

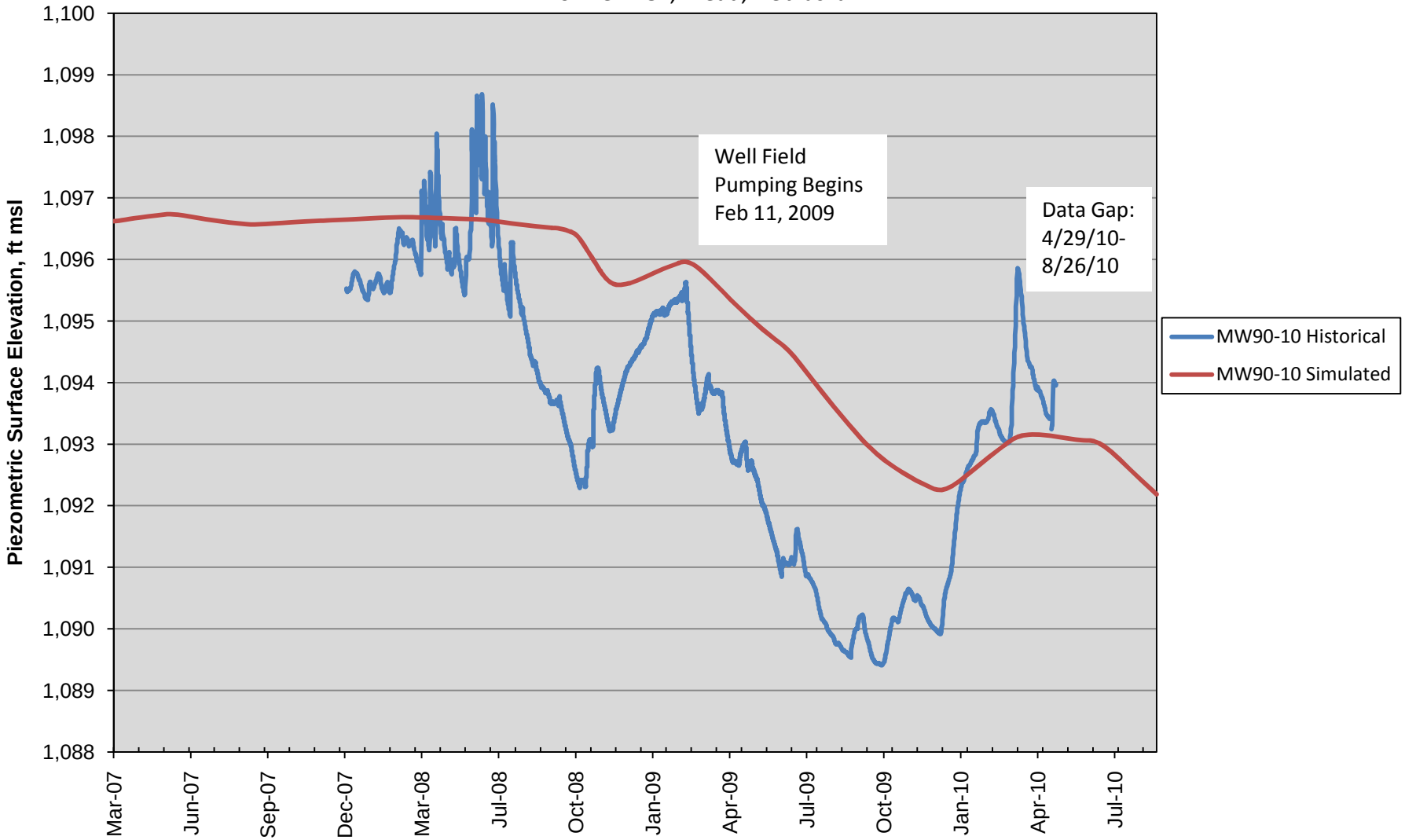
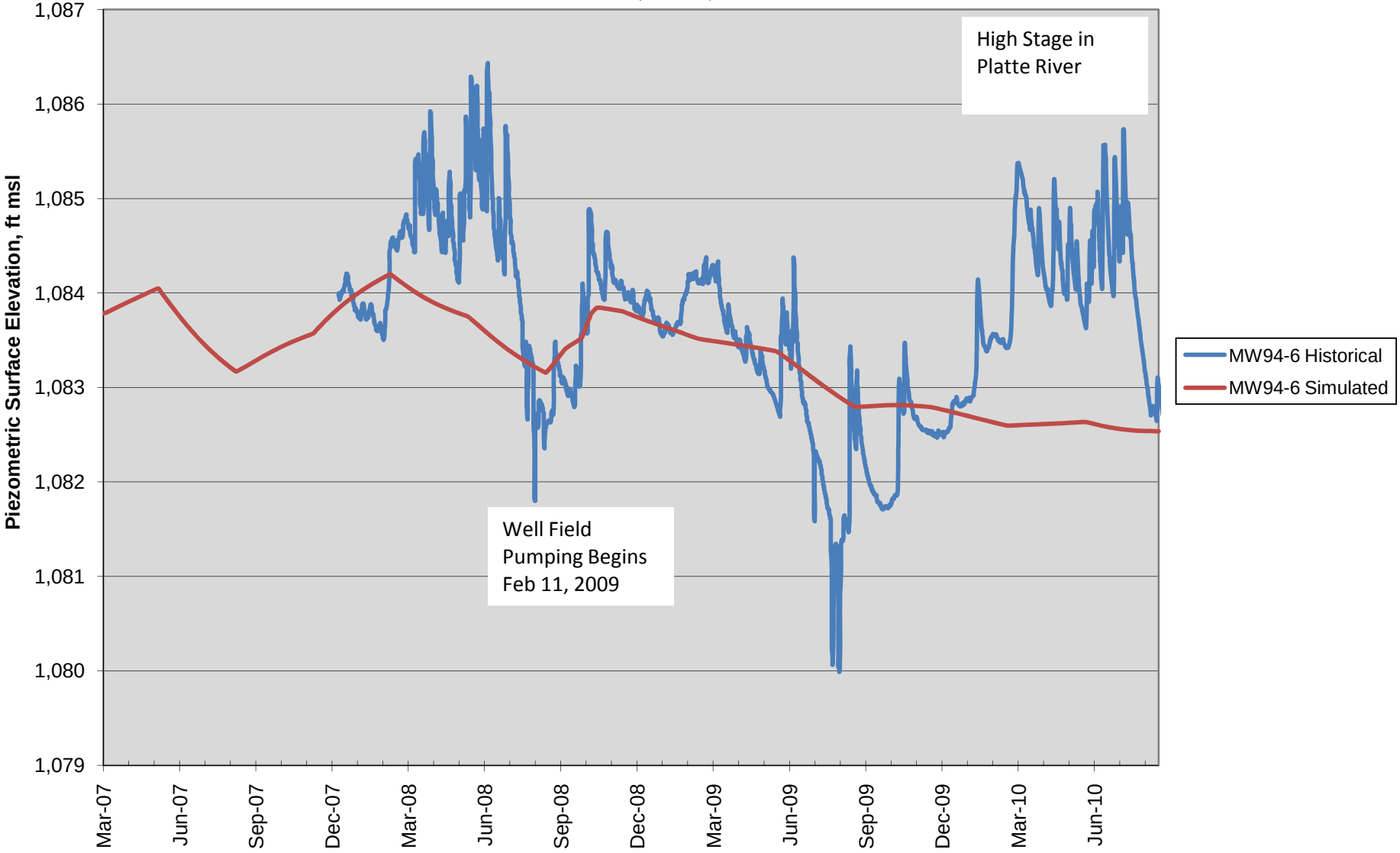
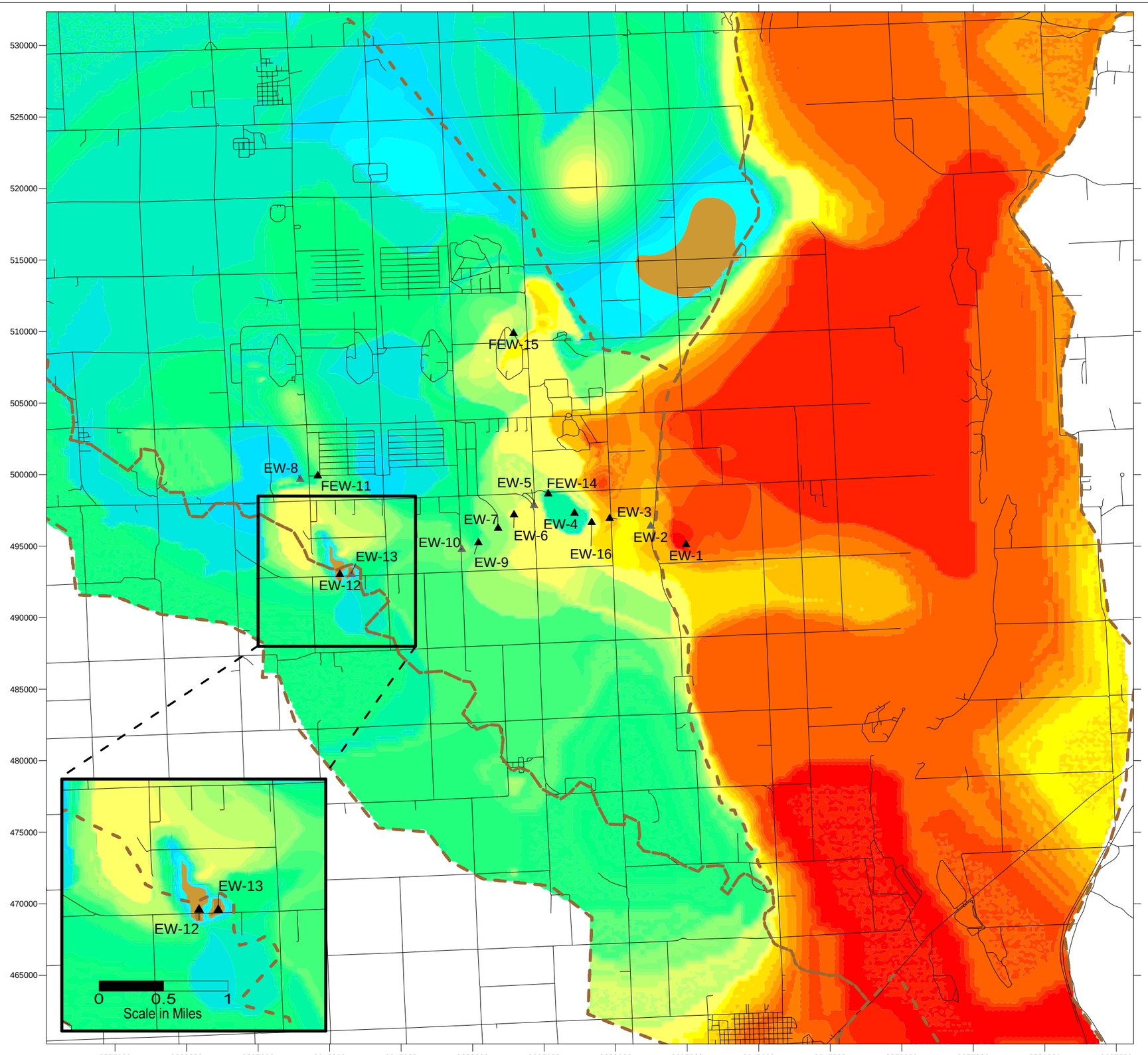


Figure 5-9d
Observed Hydrographs at MUD Monitoring Wells
MW94-6 Hydrograph
2010 Groundwater Model Update
Former NOP, Mead, Nebraska





LEGEND

USACE Extraction Well - Active

USACE Extraction Well - Inactive

Basin Boundaries

550
450
350
280
200
180
160
140
120
100
80
60
40
20
1

Hydraulic Conductivity (ft/day)

Note:

EW-10, shown as inactive, was turned of February 2010

N

0 1 2

Scale in Miles

US Army Corps of Engineers
Kansas City District

Figure 5-10

Hydraulic Conductivity Distribution
2010 Groundwater Model Update
Former NOP

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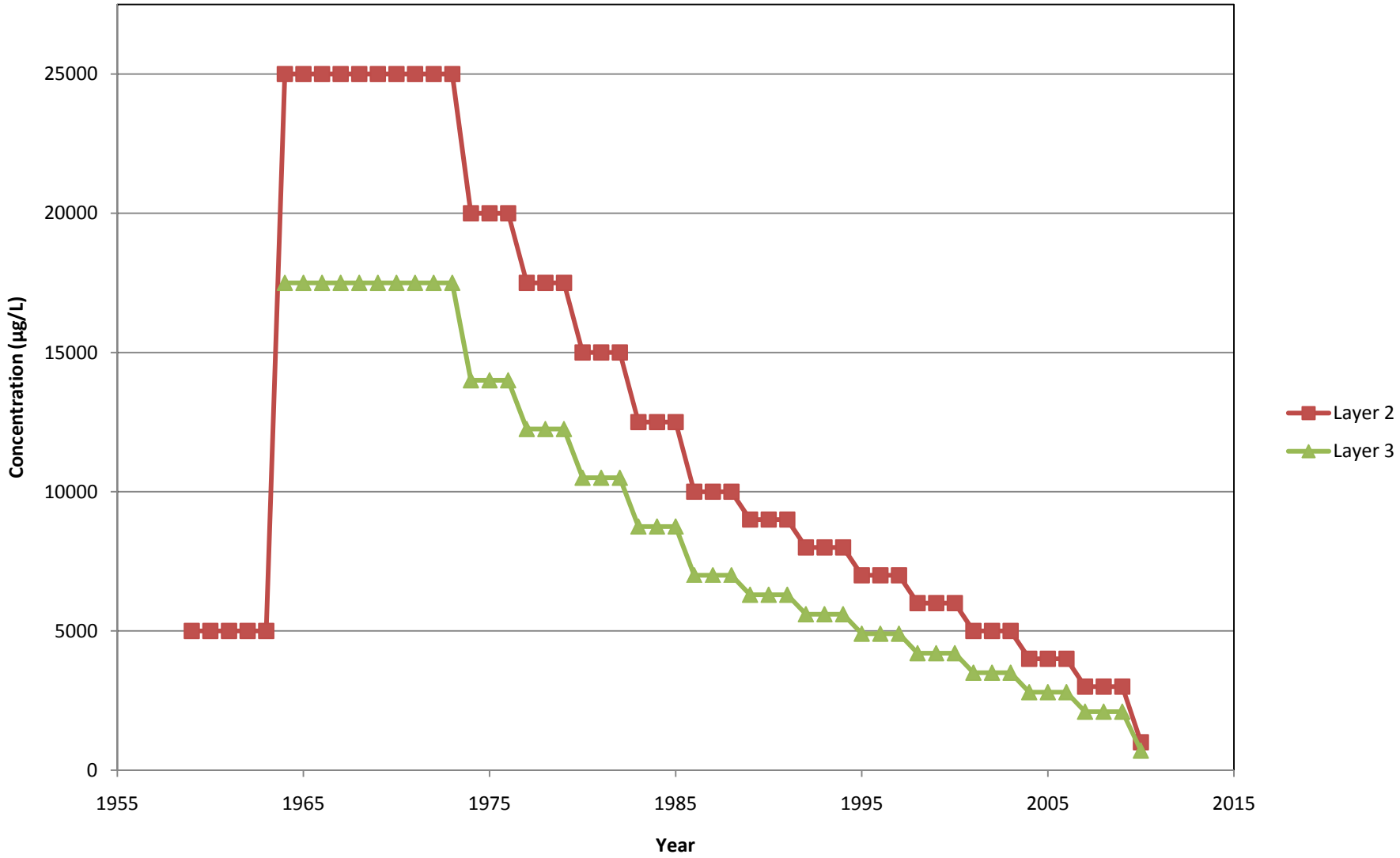
Figure 6-1
Load Line 1 TCE History Matching Simulation
Decreasing Concentration
Former Nebraska Ordnance Plant



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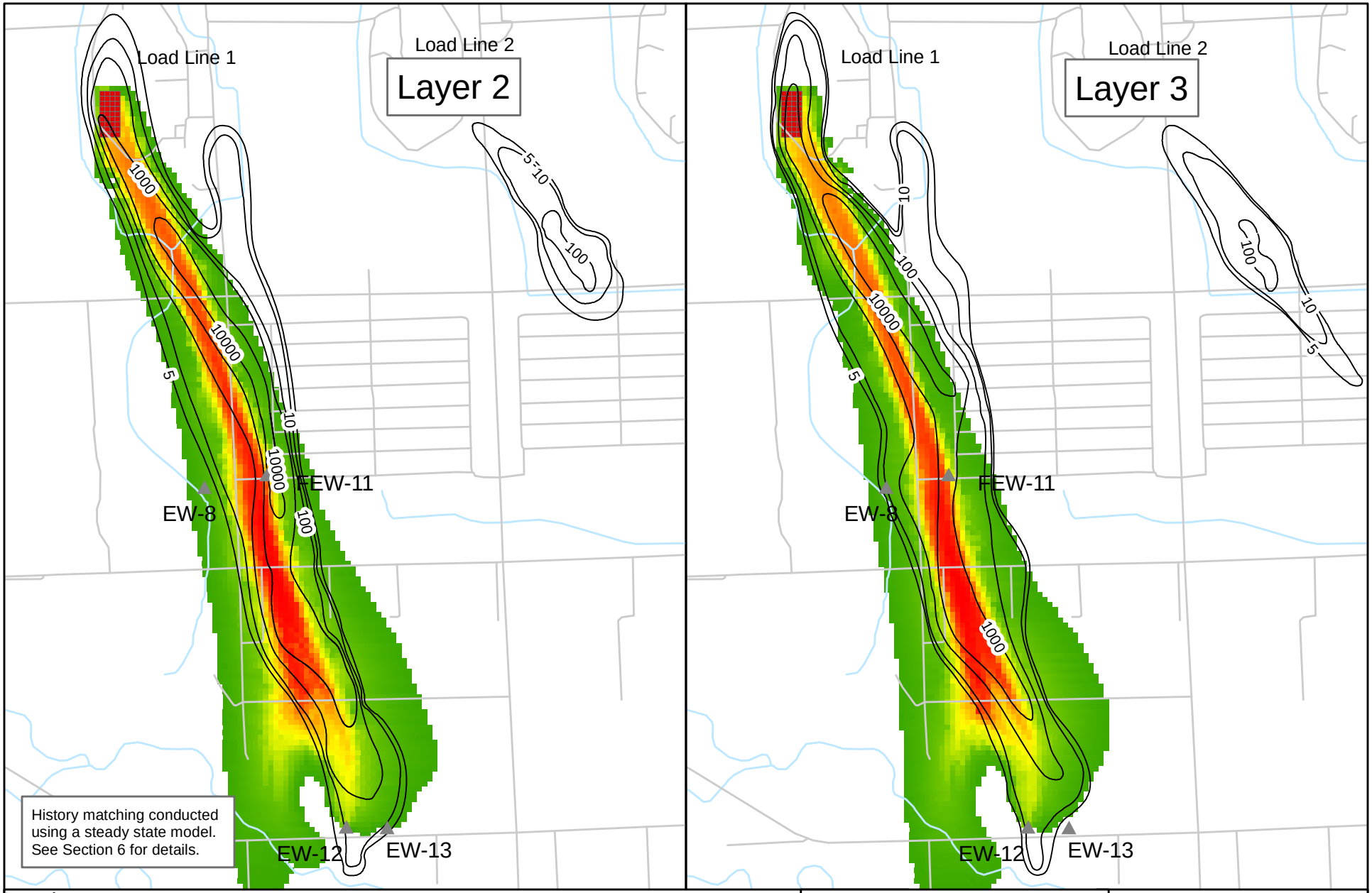

Legend

- USACE Extraction Well
- TCE Isoconcentration Contours
- Decreasing Concentration Cells

TCE (ug/L)

5	500
20	1,000
50	5,000
100	10,000

N

0 1,500 3,000 Feet

US Army Corps of Engineers
Kansas City District

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Burns & McDonnell

Figure 6-2

TCE HISTORY MATCHING
LL1

Former NOP

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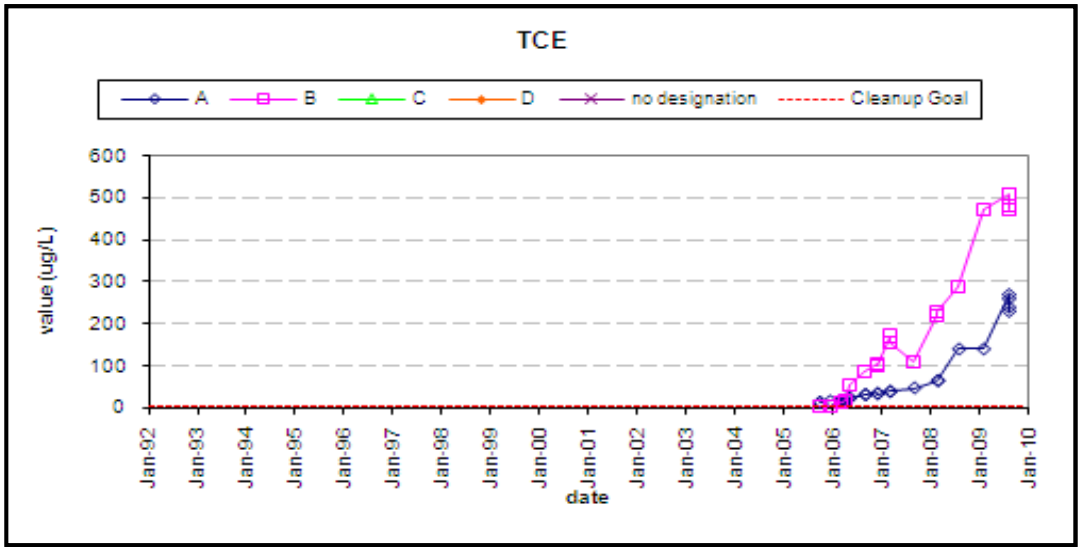
Figure 6-3
TCE Arrival at MW-90 Monitoring Well Cluster
2010 Groundwater Model Update
Former Nebraska Ordnance Plant

Observed



Simulated

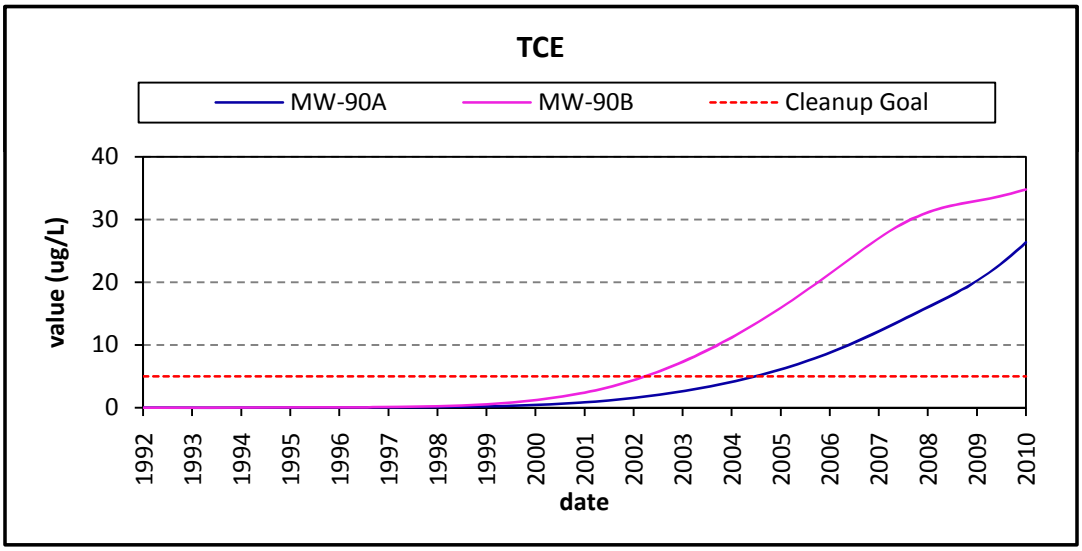


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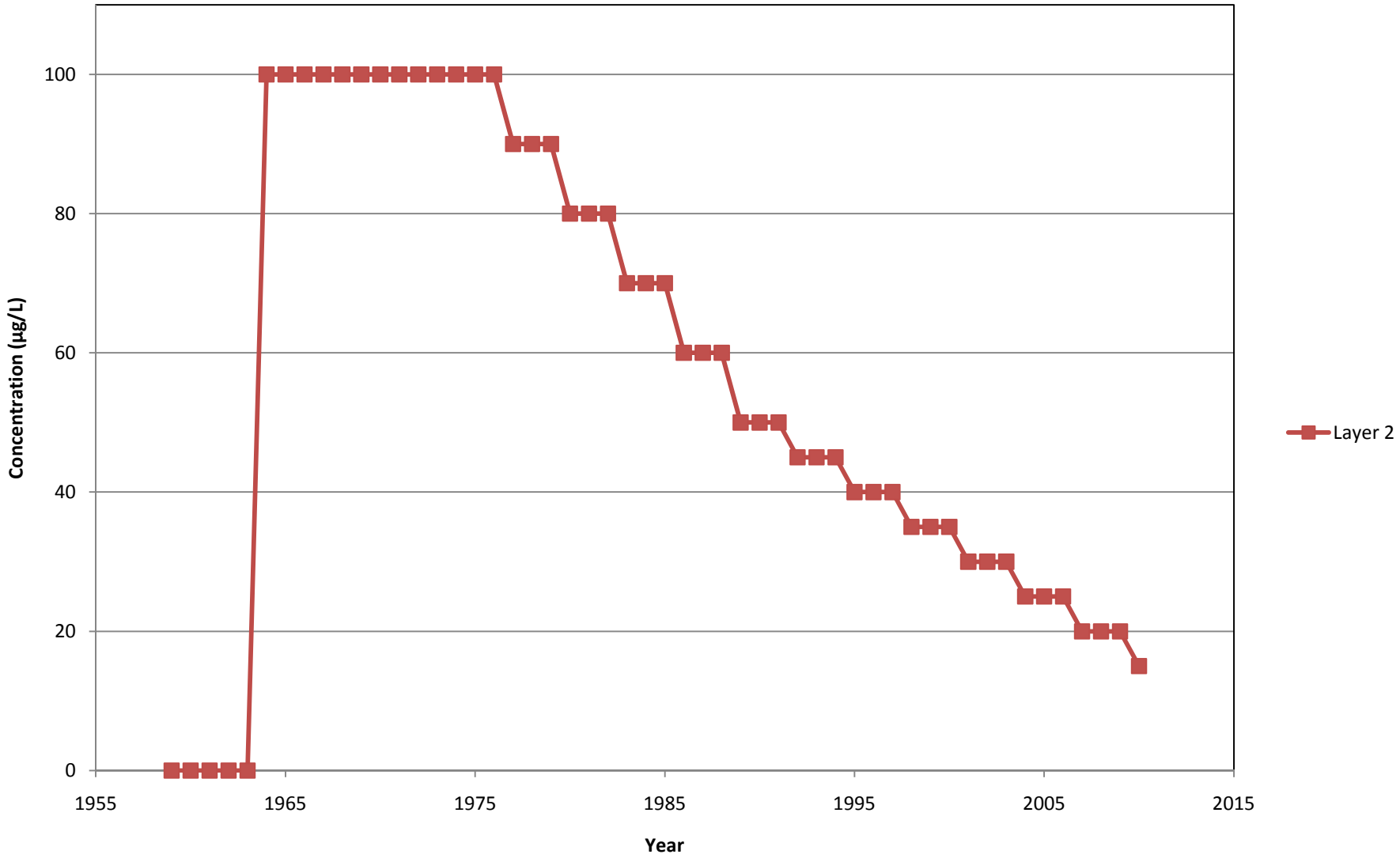
Figure 6-4
Load Line 1 RDX History Matching Simulation
Decreasing Concentration
Former NOP, Mead, Nebraska



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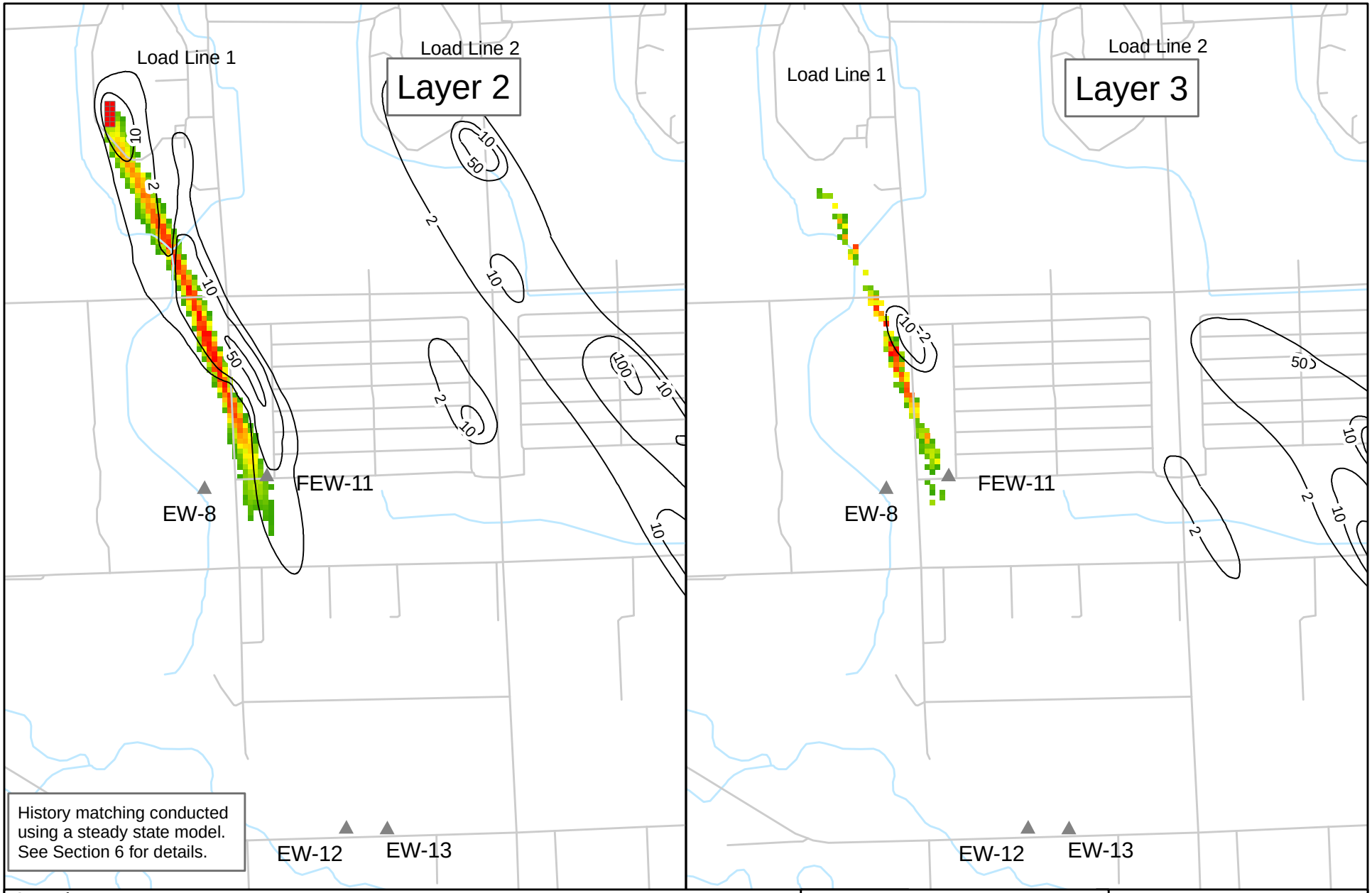

Legend

- USACE Extraction Well
- RDX Isoconcentration Contours
- Decreasing Concentration Cells

RDX (ug/L)

2, 5, 10, 15, 20, 30, 40, 50

N

0 1,500 3,000 Feet

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Kansas City District

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Figure 6-5

RDX HISTORY MATCHING
LL1

Former NOP

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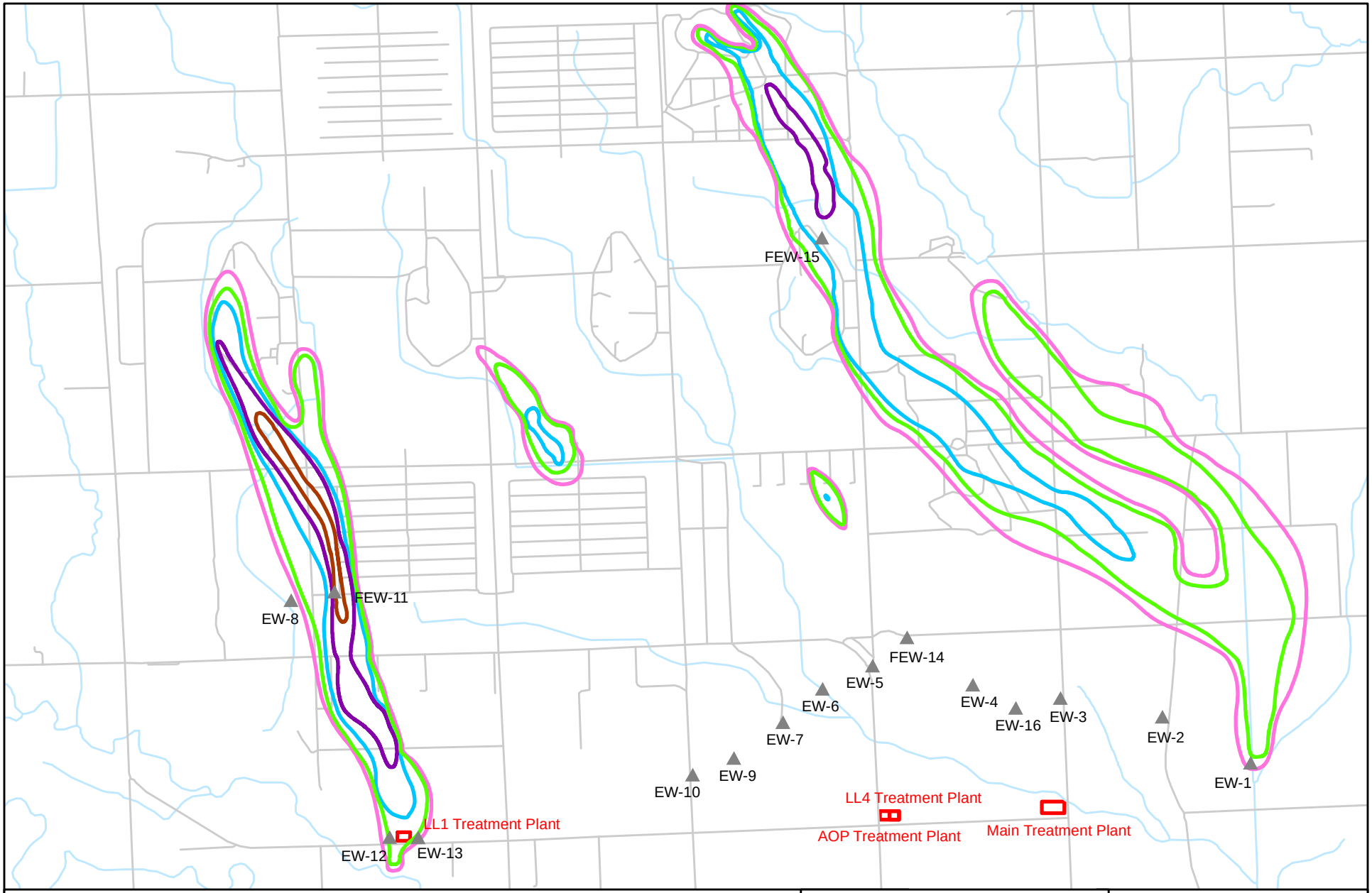

Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

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Figure 7-1

TCE
INITIAL CONCENTRATIONS
LAYER 2

Former NOP

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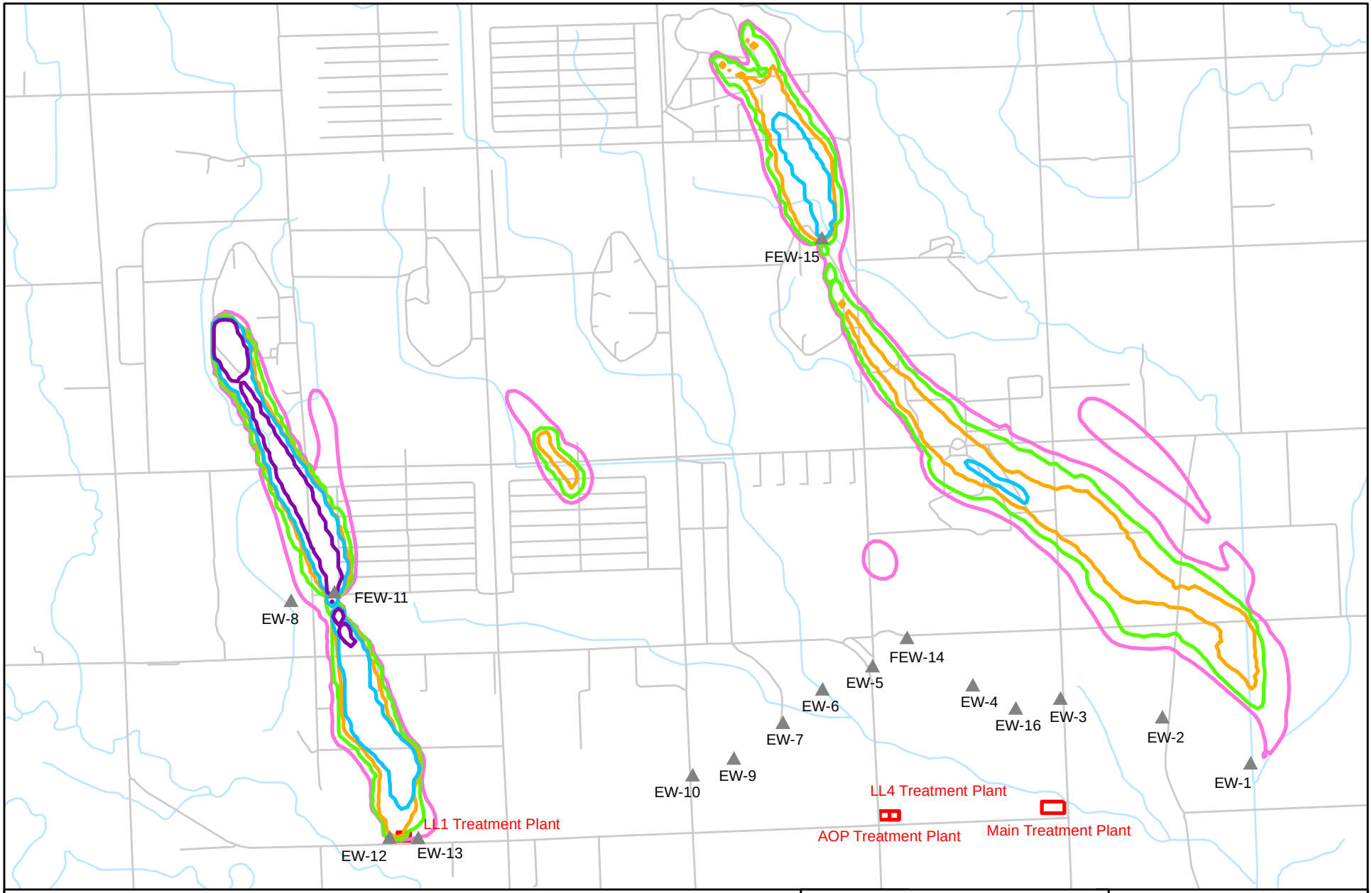

Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

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Figure 7-2

PREDICTED TCE
LAYER 2
2015

Former NOP

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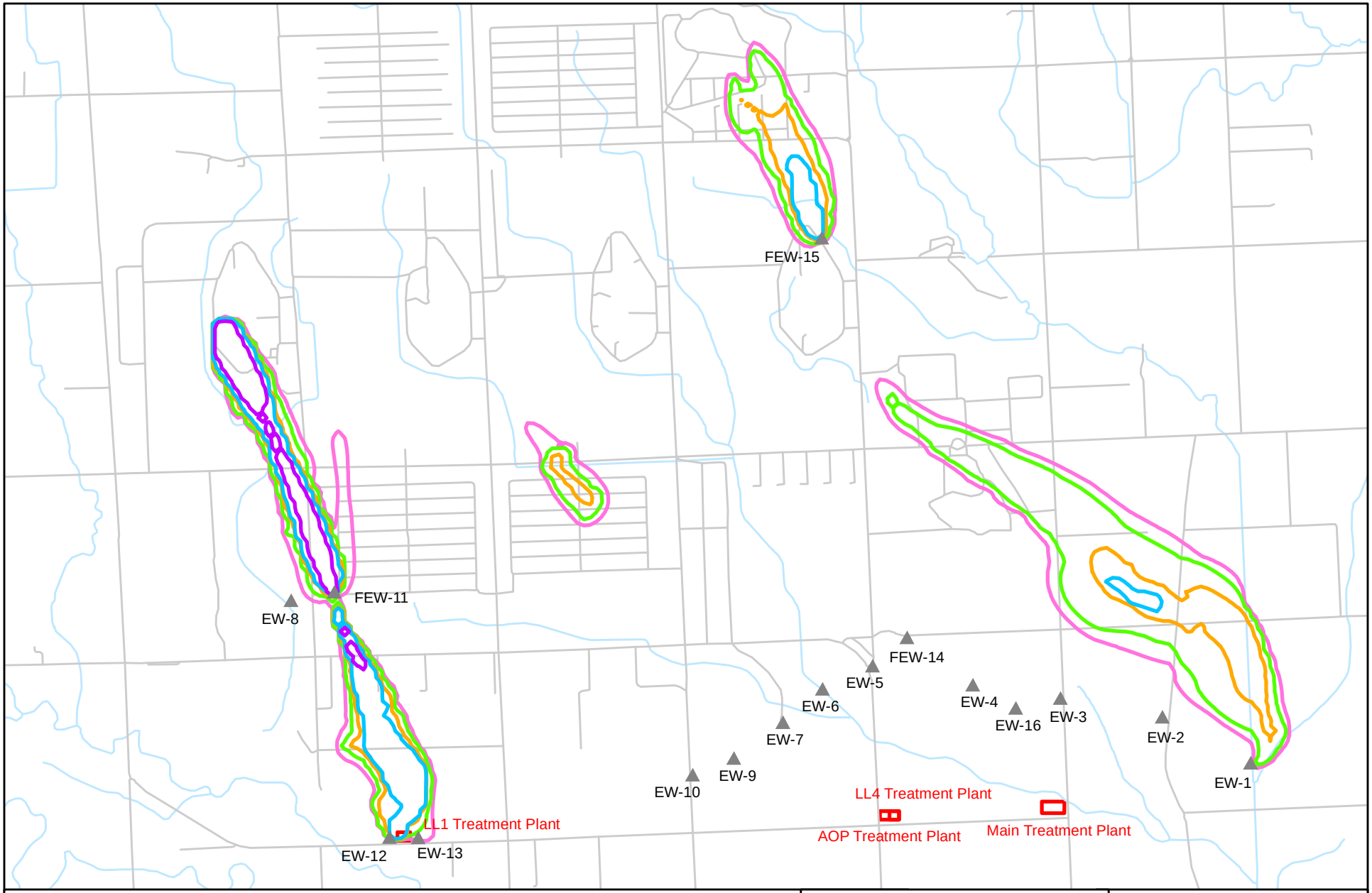

Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours
- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

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Figure 7-3

PREDICTED TCE
LAYER 2
2020

Former NOP

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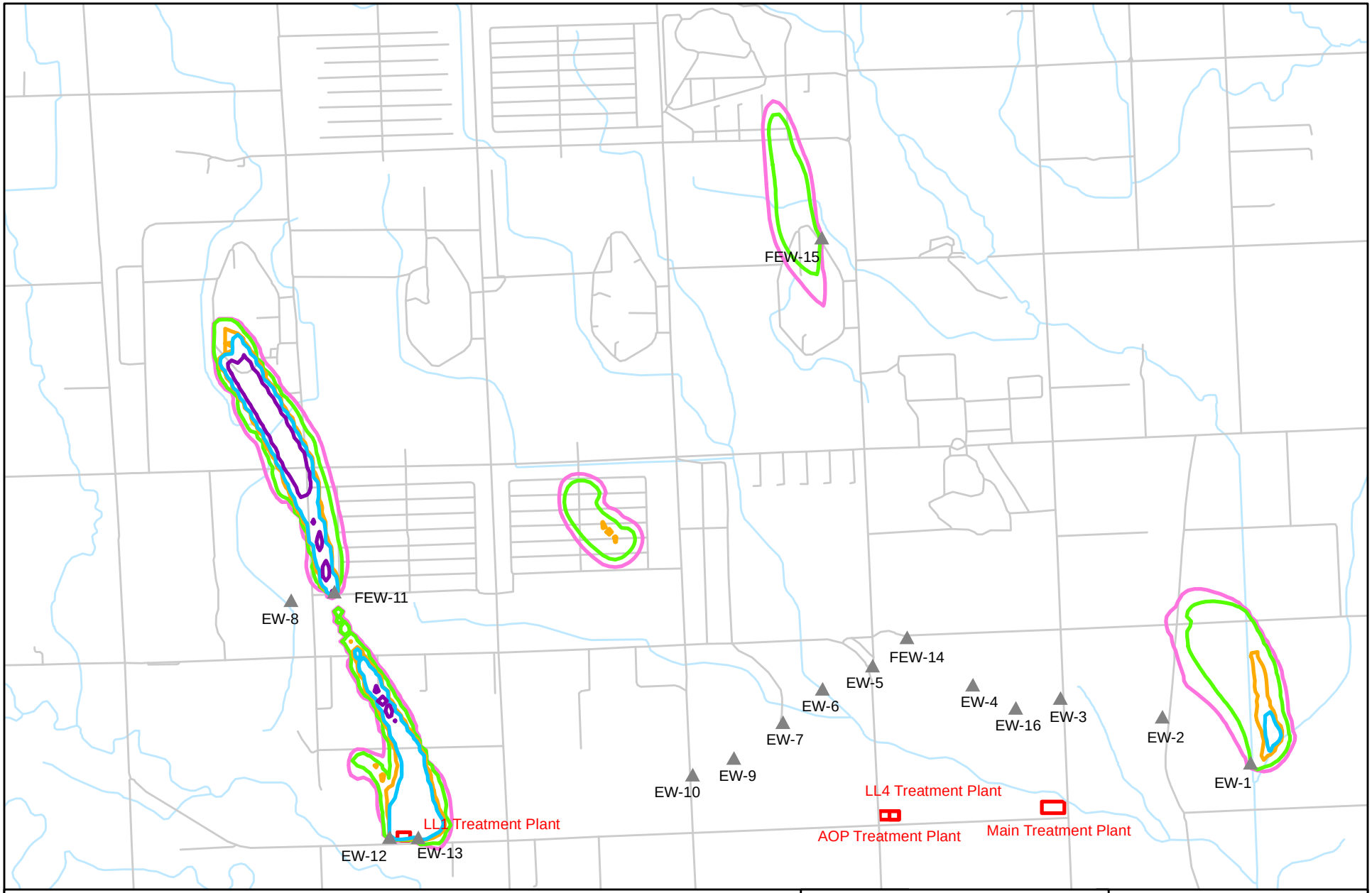

Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

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Figure 7-4

PREDICTED TCE
LAYER 2
2030

Former NOP

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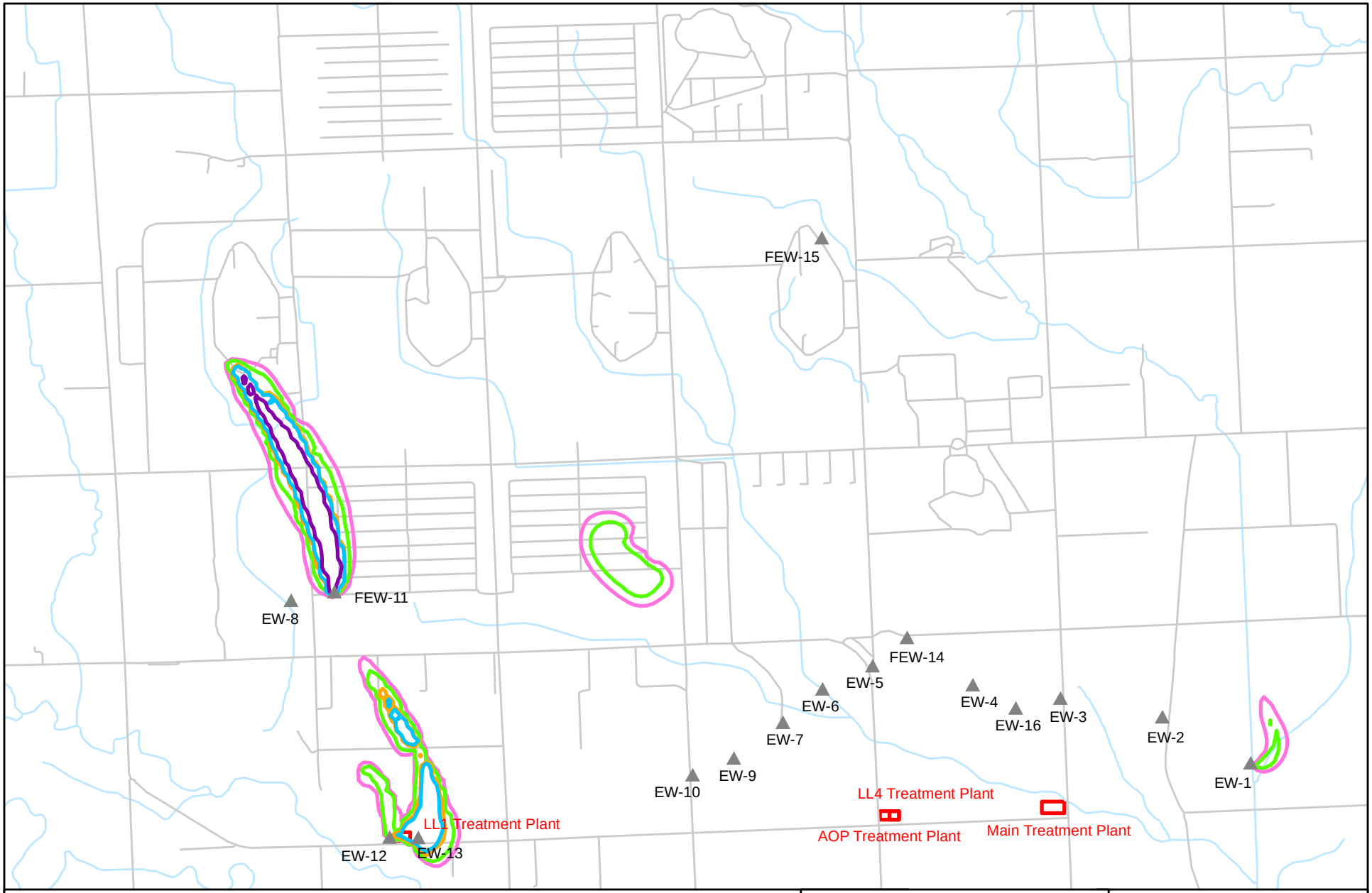

Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours
- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

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Figure 7-5

PREDICTED TCE
LAYER 2
2040

Former NOP

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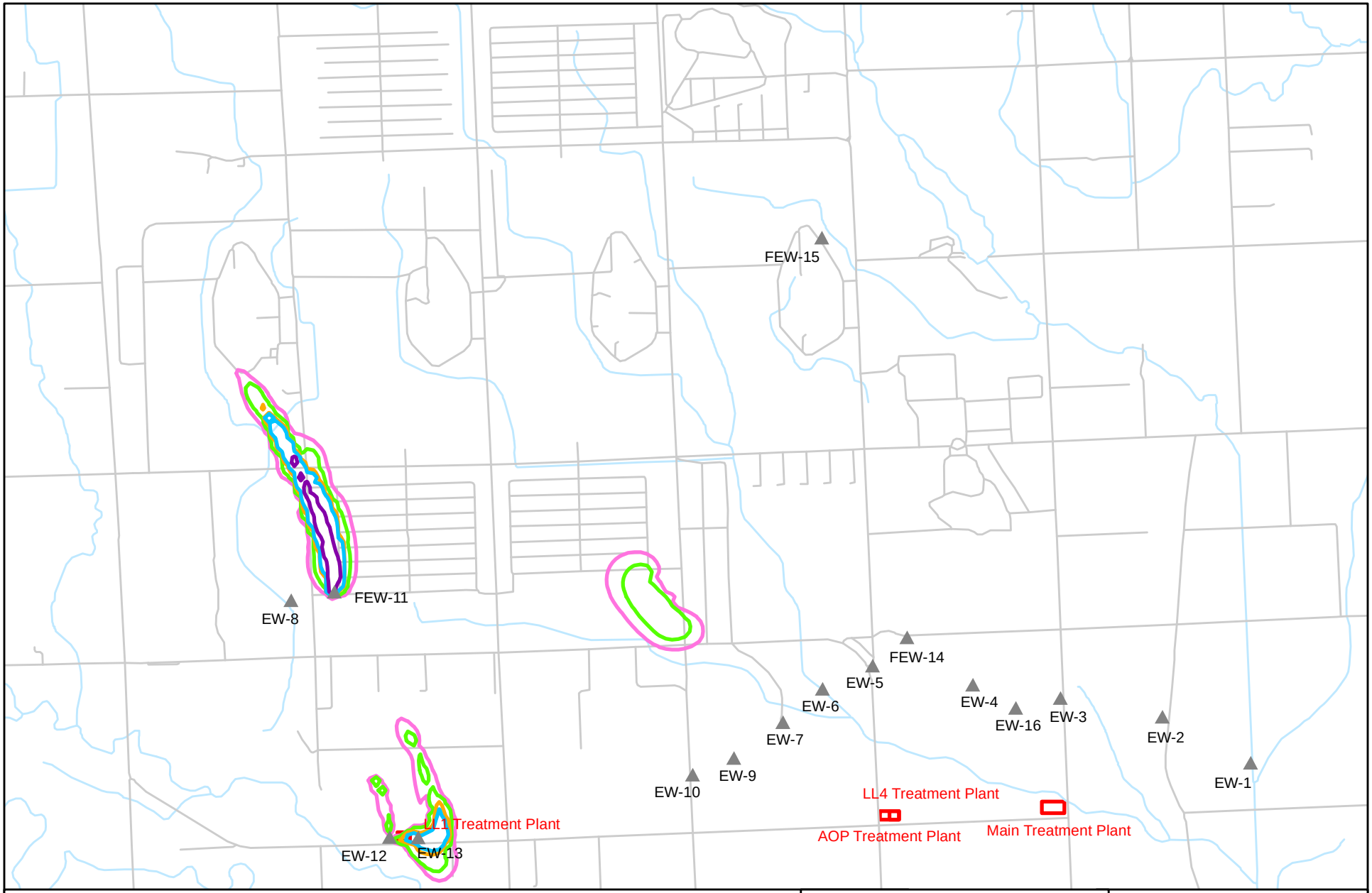

Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

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Figure 7-6

PREDICTED TCE
LAYER 2
2050

Former NOP

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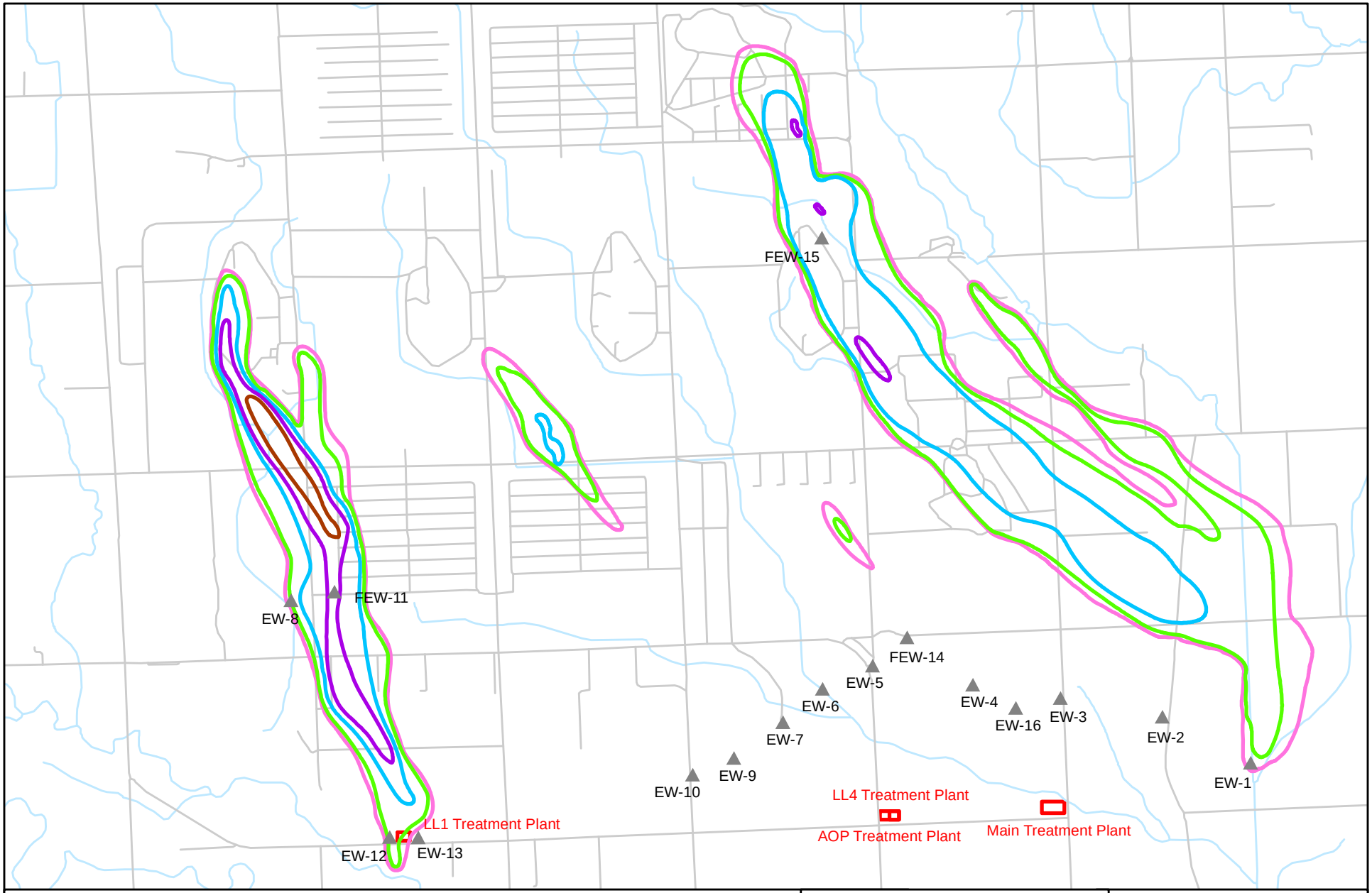

Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

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Figure 7-7

TCE
INITIAL CONCENTRATIONS
LAYER 3

Former NOP

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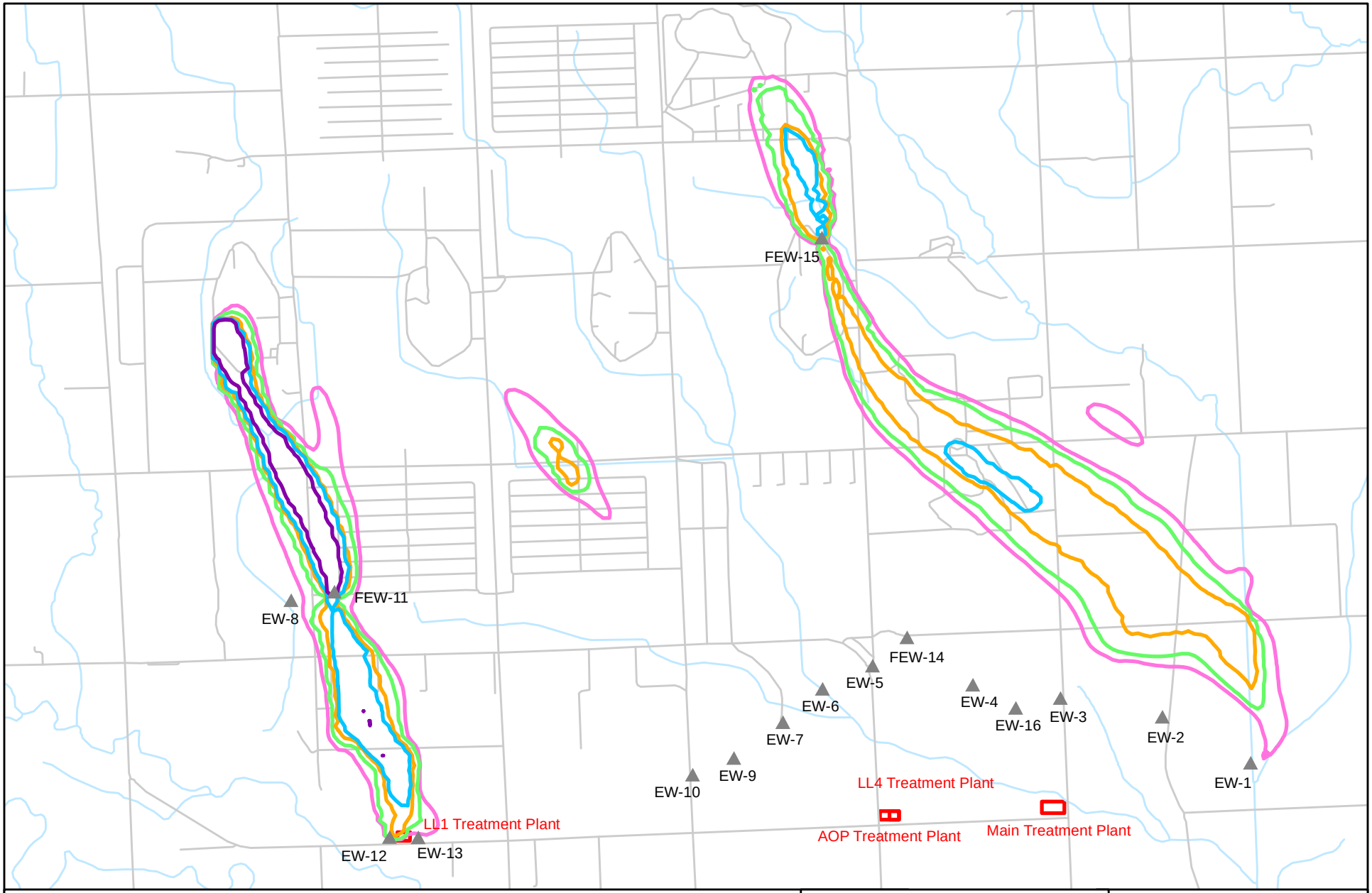

Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

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Figure 7-8

PREDICTED TCE
LAYER 3
2015

Former NOP

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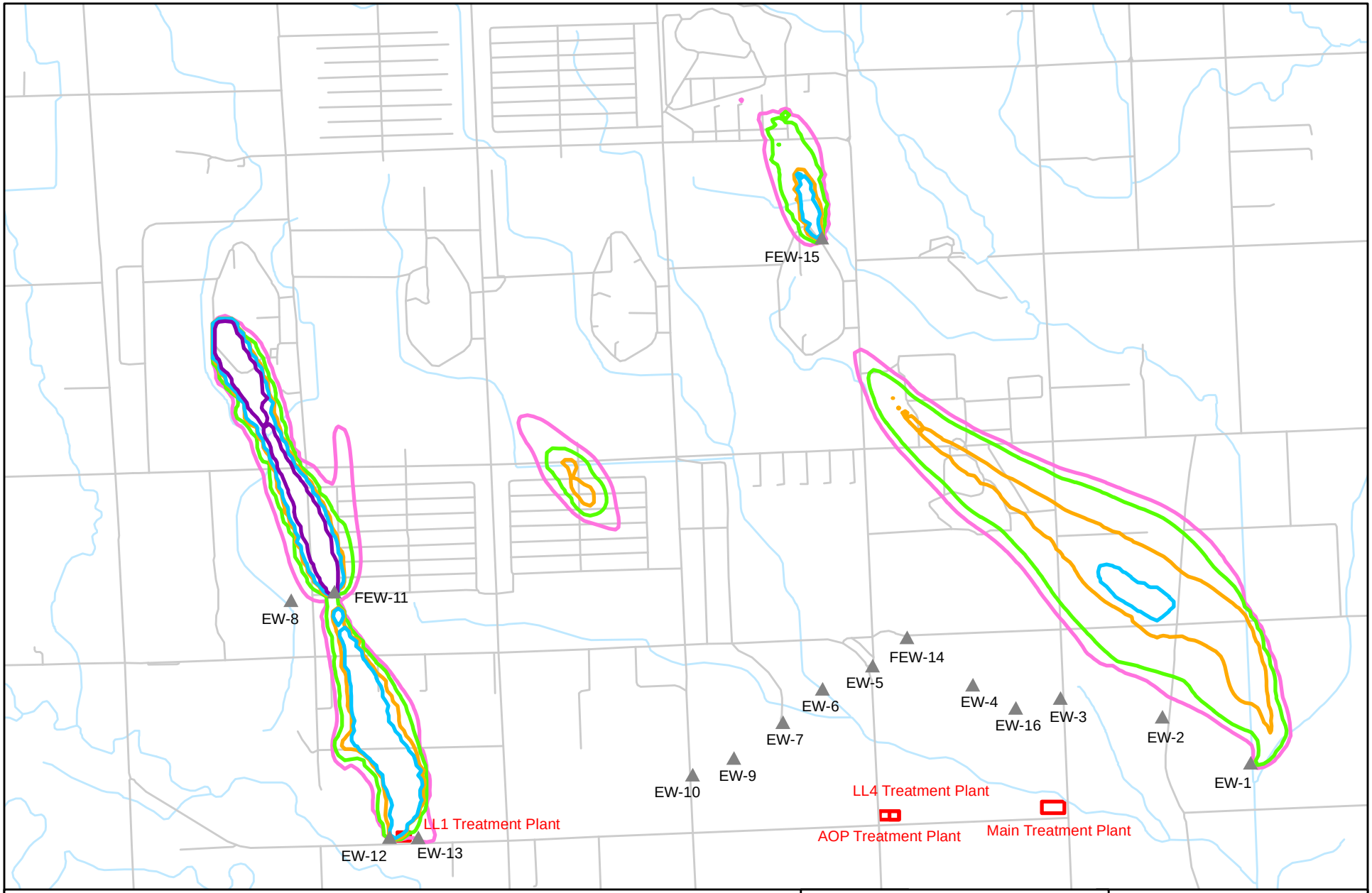

Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours
- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

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Figure 7-9

PREDICTED TCE
LAYER 3
2020

Former NOP

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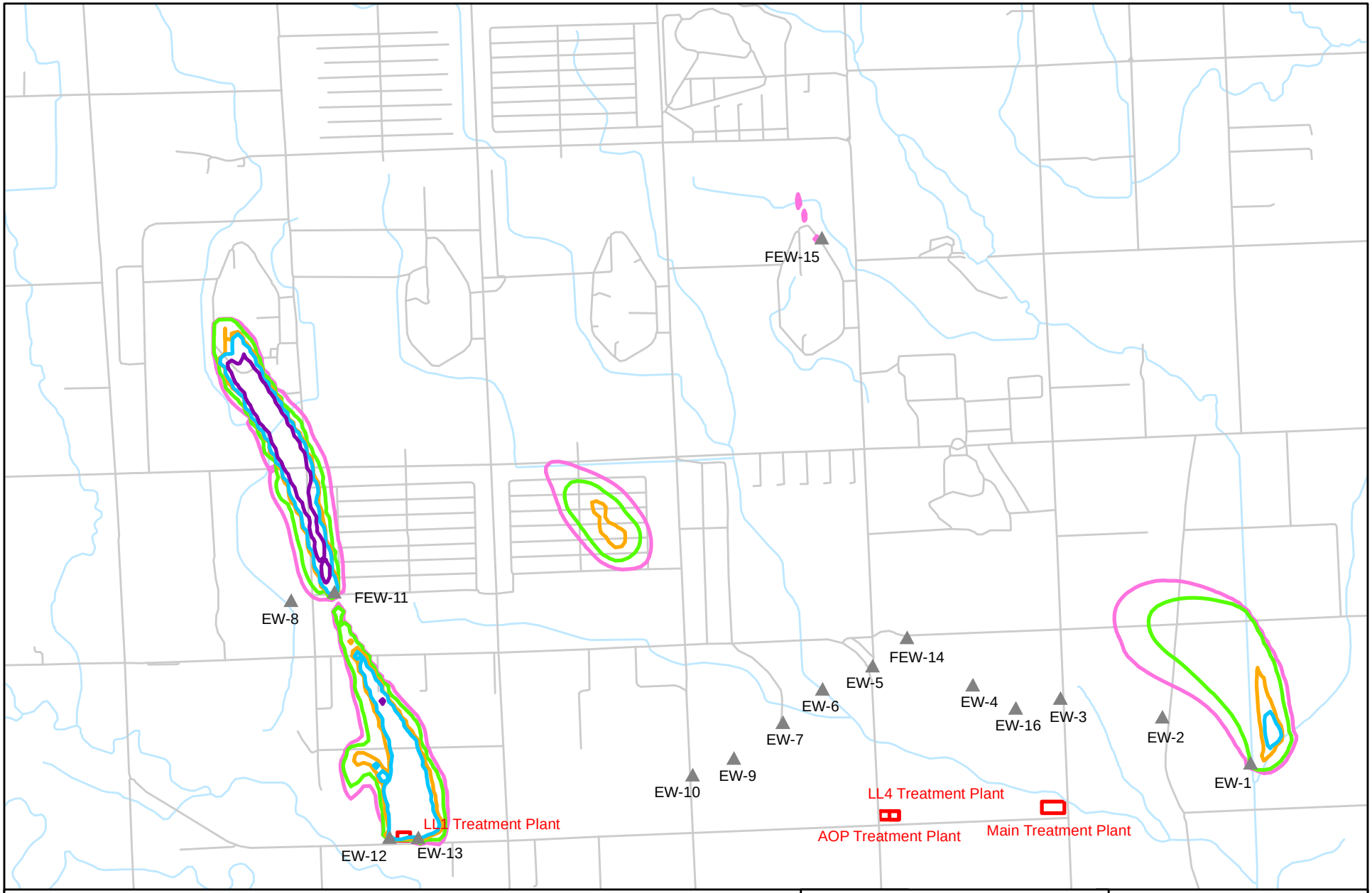

Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

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Figure 7-10

PREDICTED TCE
LAYER 3
2030

Former NOP

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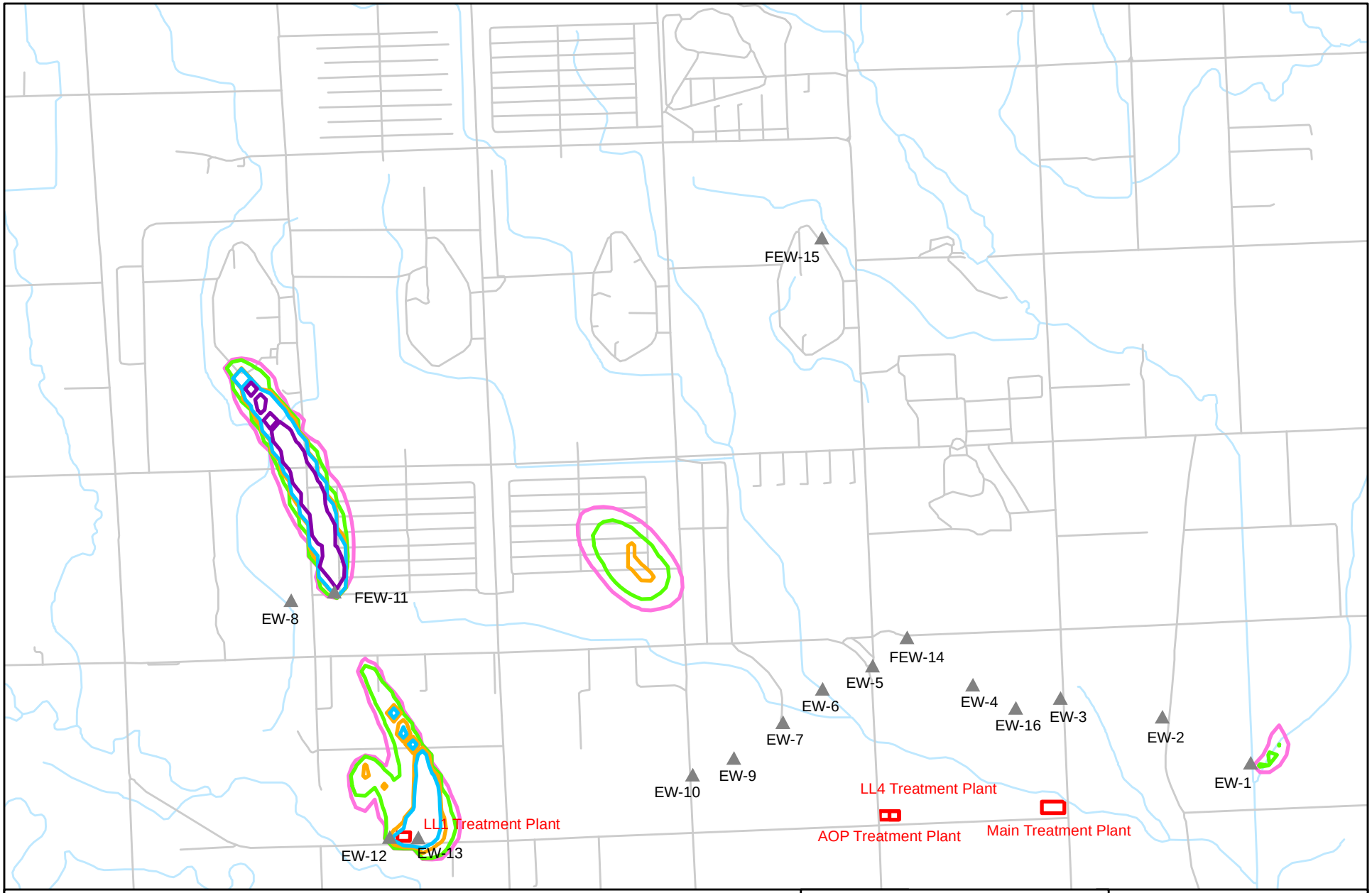

Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

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Burns & McDonnell

Figure 7-11

PREDICTED TCE
LAYER 3
2040

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010GWM\Fig7-11_TCE_2040_L3.mxd jmf May 12, 2011

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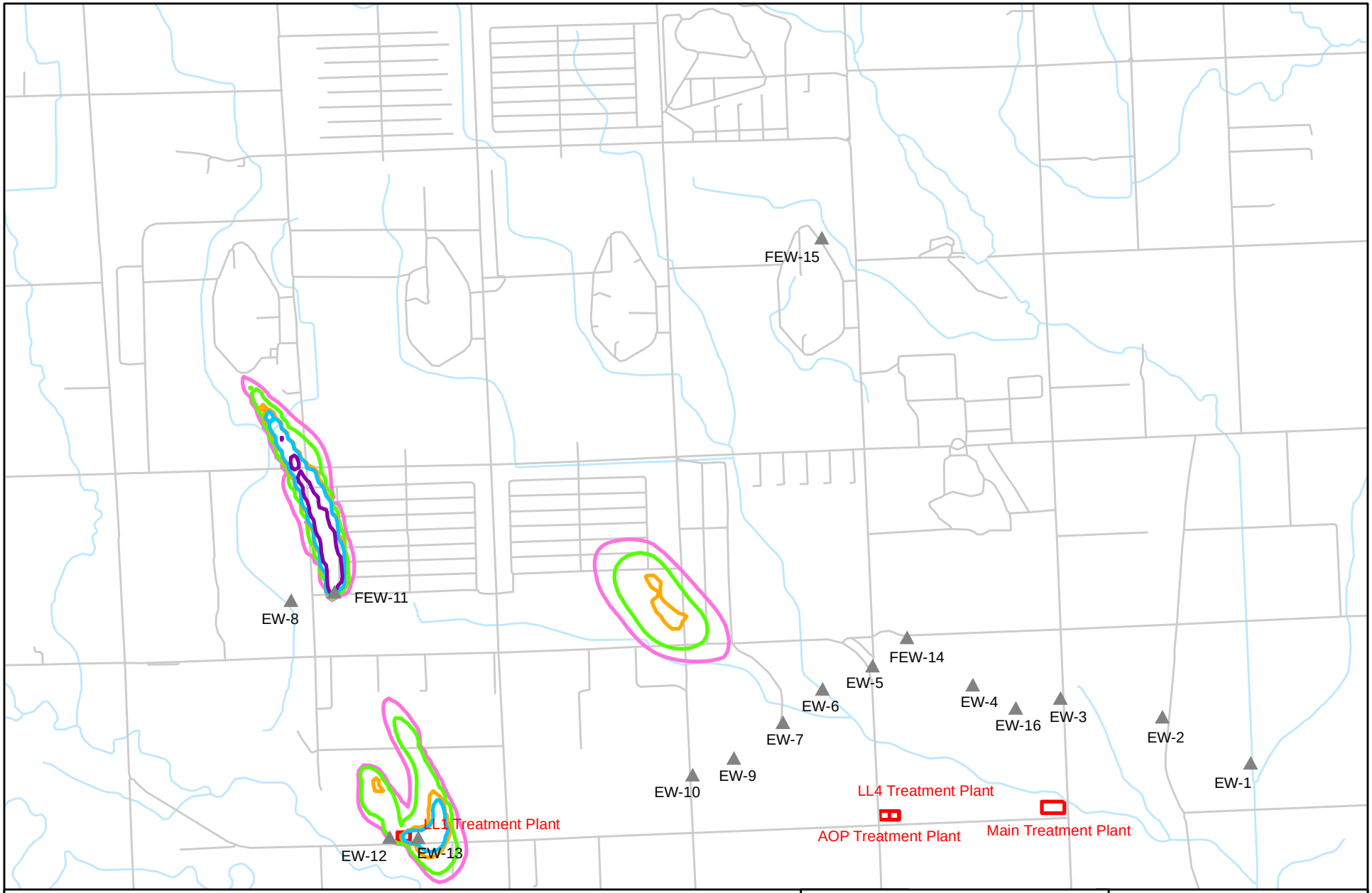

Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-12

PREDICTED TCE
LAYER 3
2050

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010GWM\Fig7-12_TCE_2050_L3.mxd jmf May 12, 2011

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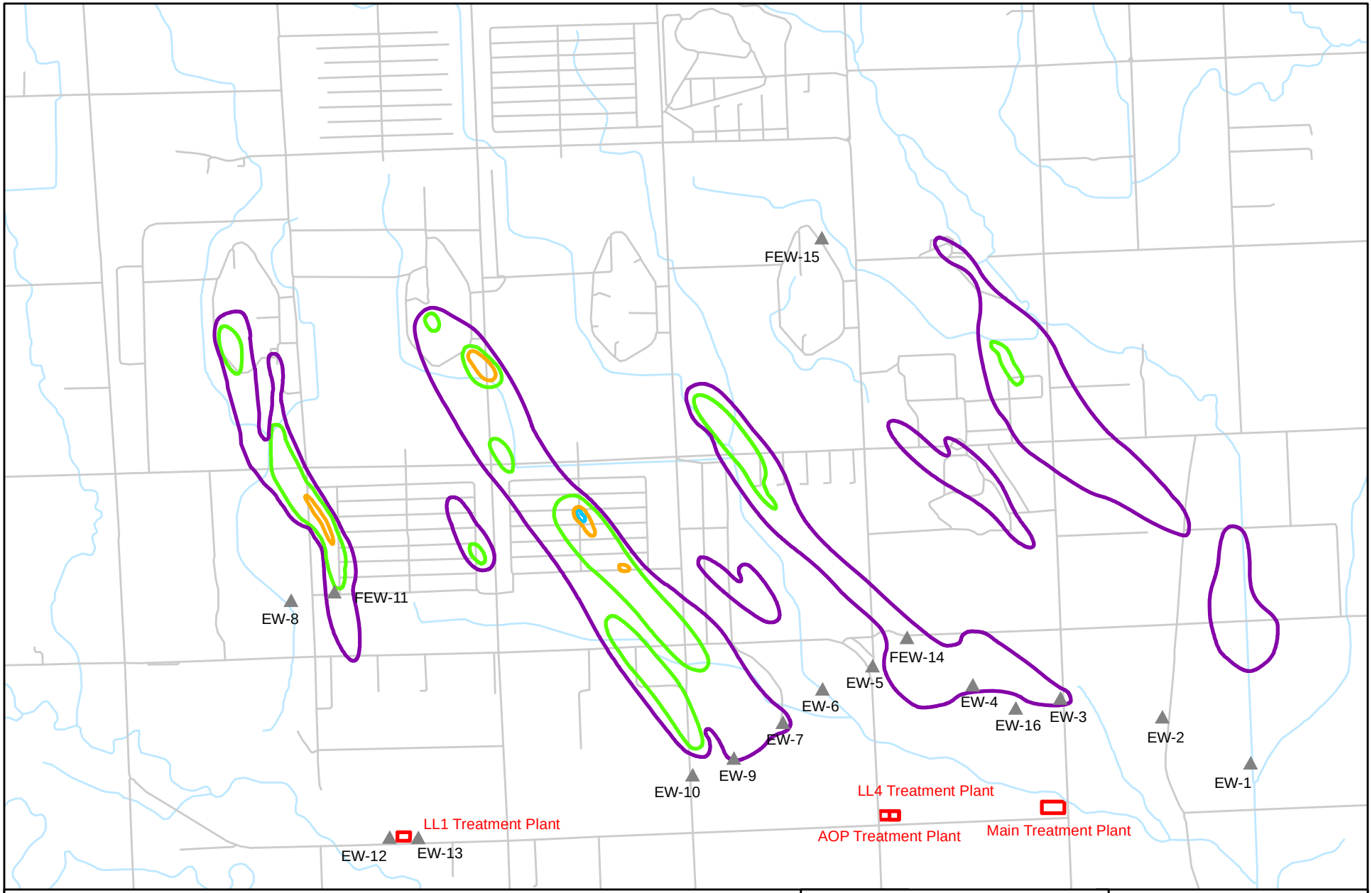

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-13

RDX
INITIAL CONCENTRATIONS
LAYER 2

Former NOP

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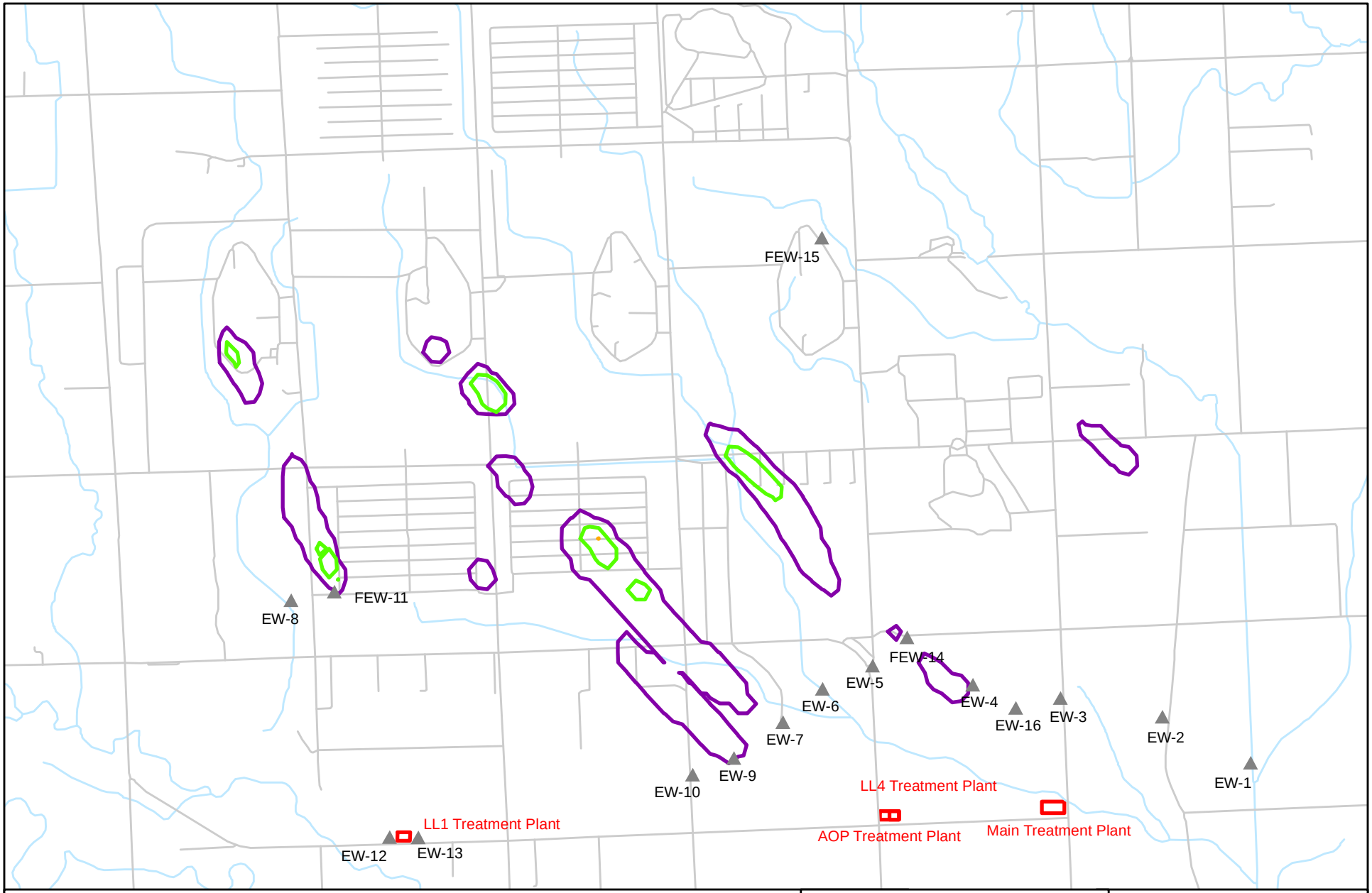

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-14

PREDICTED RDX
LAYER 2
2015

Former NOP

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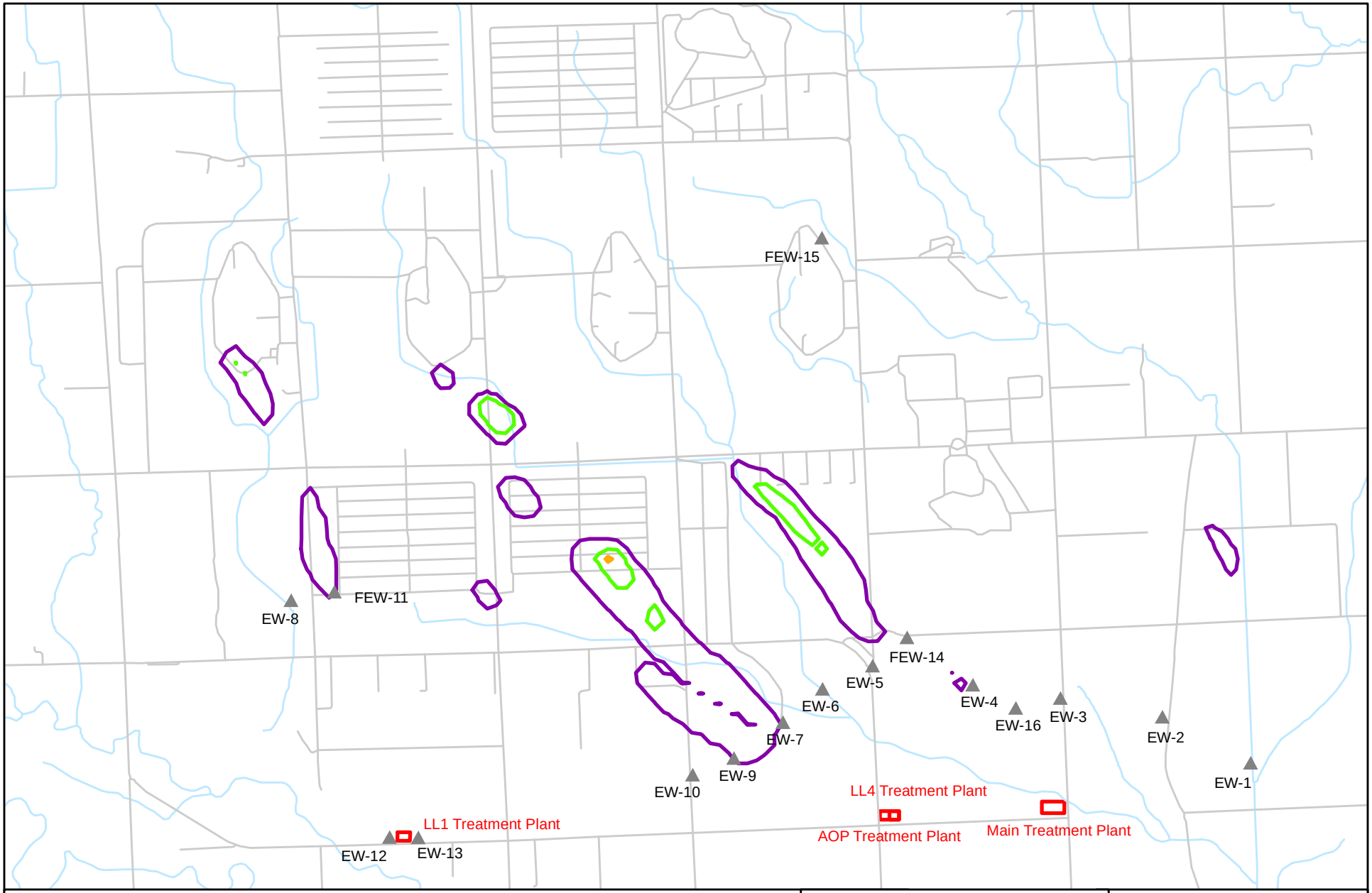

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-15

PREDICTED RDX
LAYER 2
2020

Former NOP

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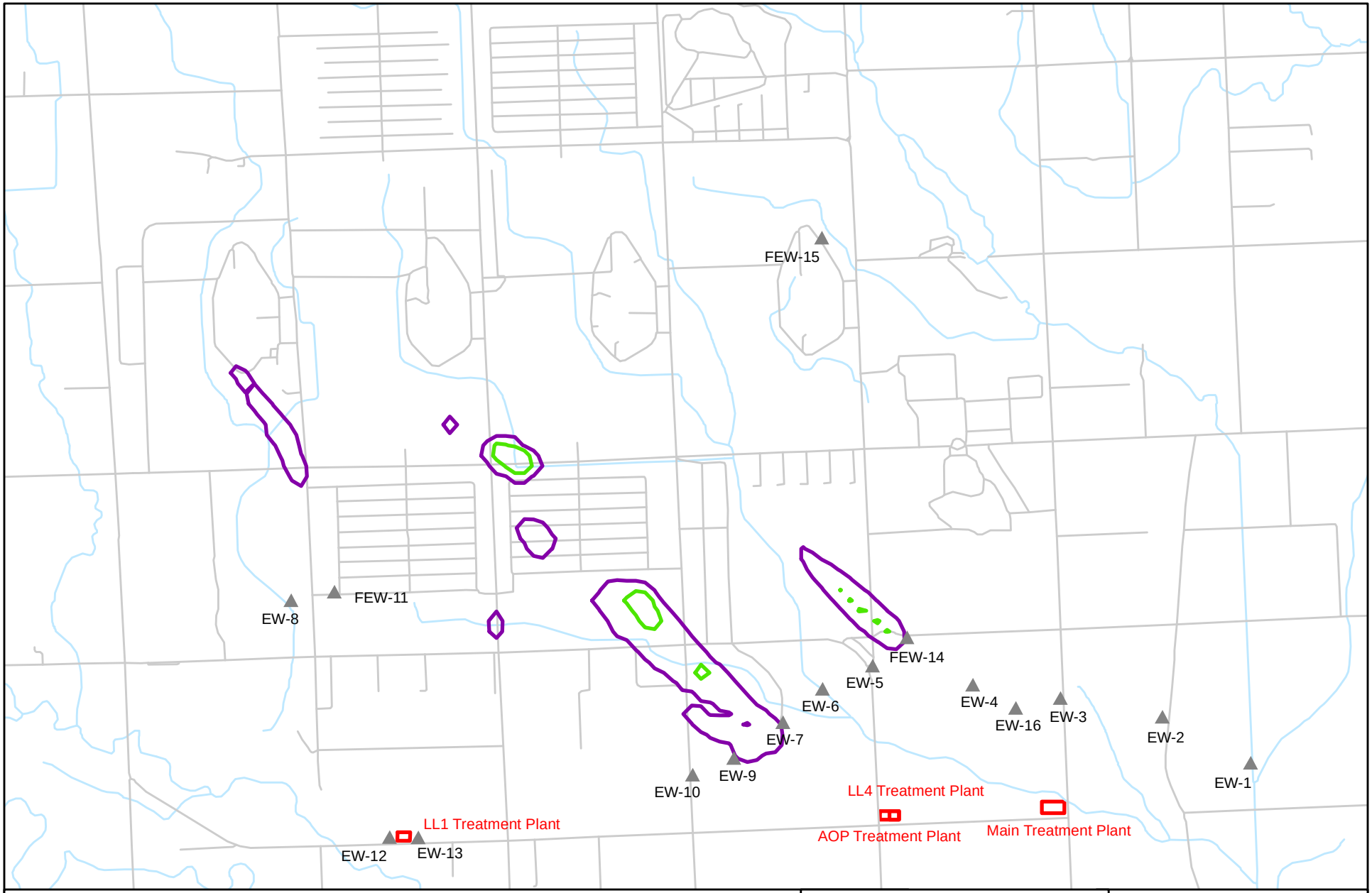

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-16

PREDICTED RDX
LAYER 2
2030

Former NOP

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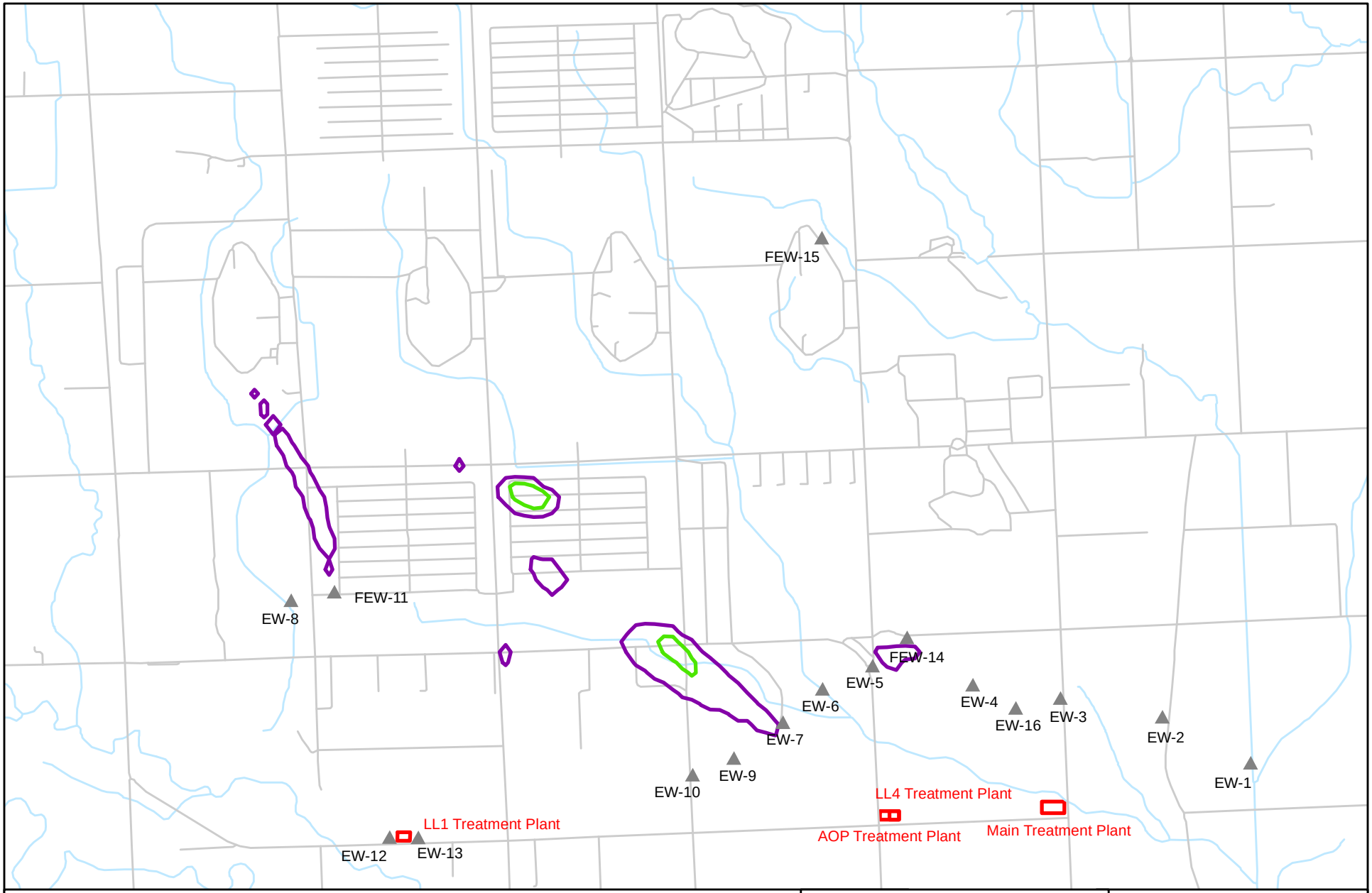

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-17

PREDICTED RDX
LAYER 2
2040

Former NOP

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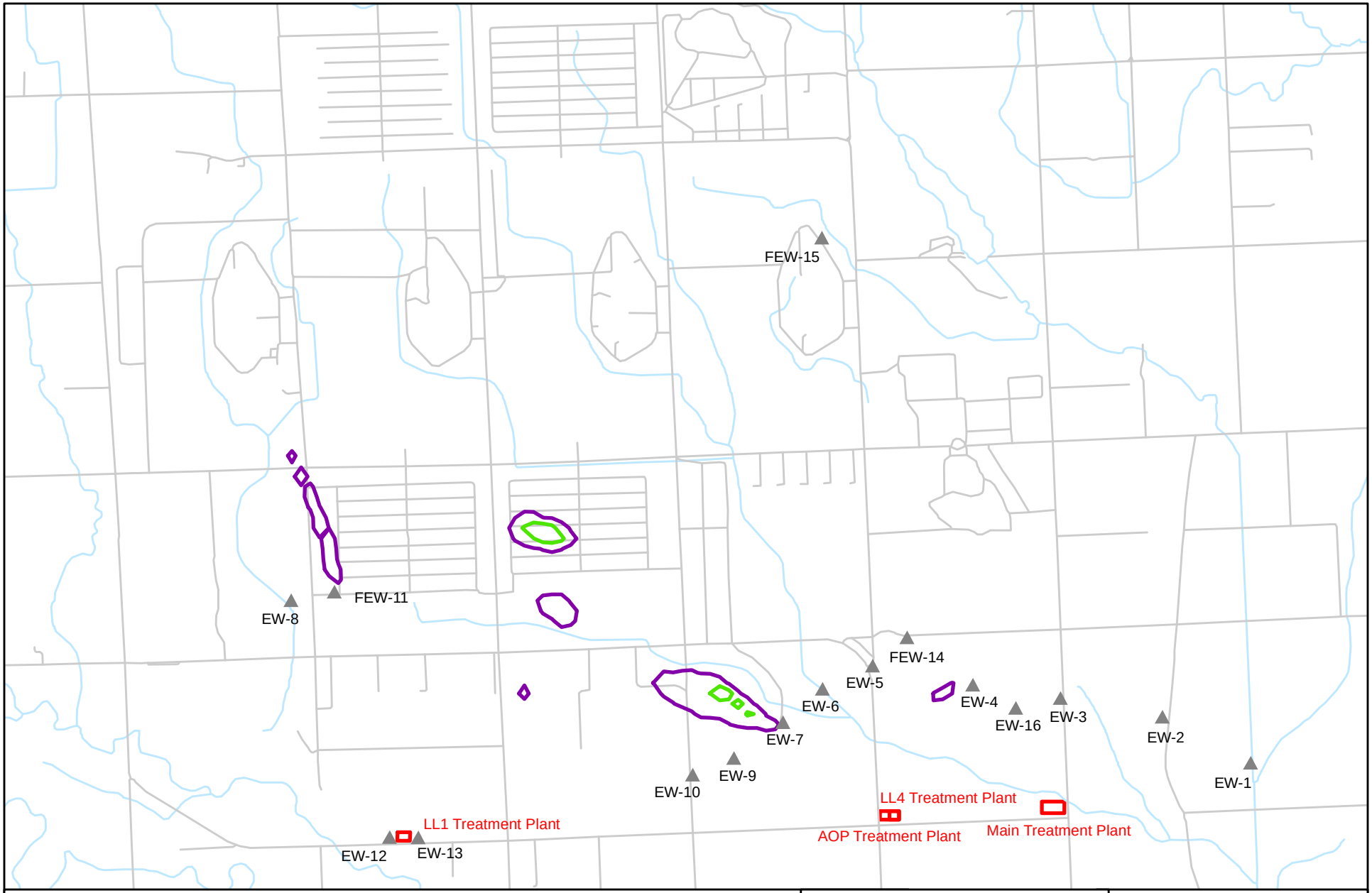

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-18

PREDICTED RDX
LAYER 2
2050

Former NOP

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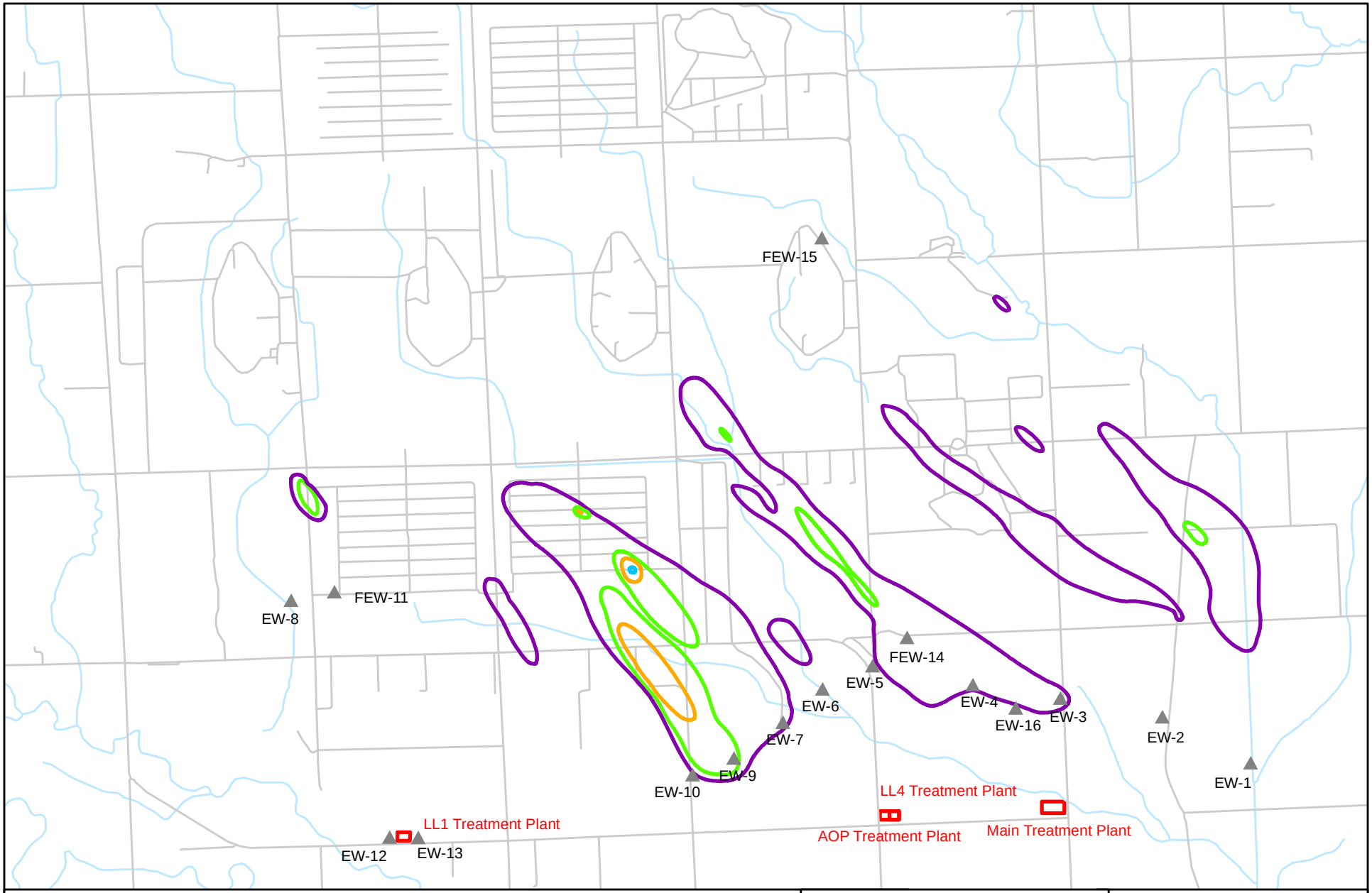

Legend

USACE Extraction Well

Treatment Plant

RDX Contours

- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-19

RDX
INITIAL CONCENTRATIONS
LAYER 3

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\GWM10\Fig7-19_RDX_L3_InitialConcentrations.mxd jmf May 23, 2011

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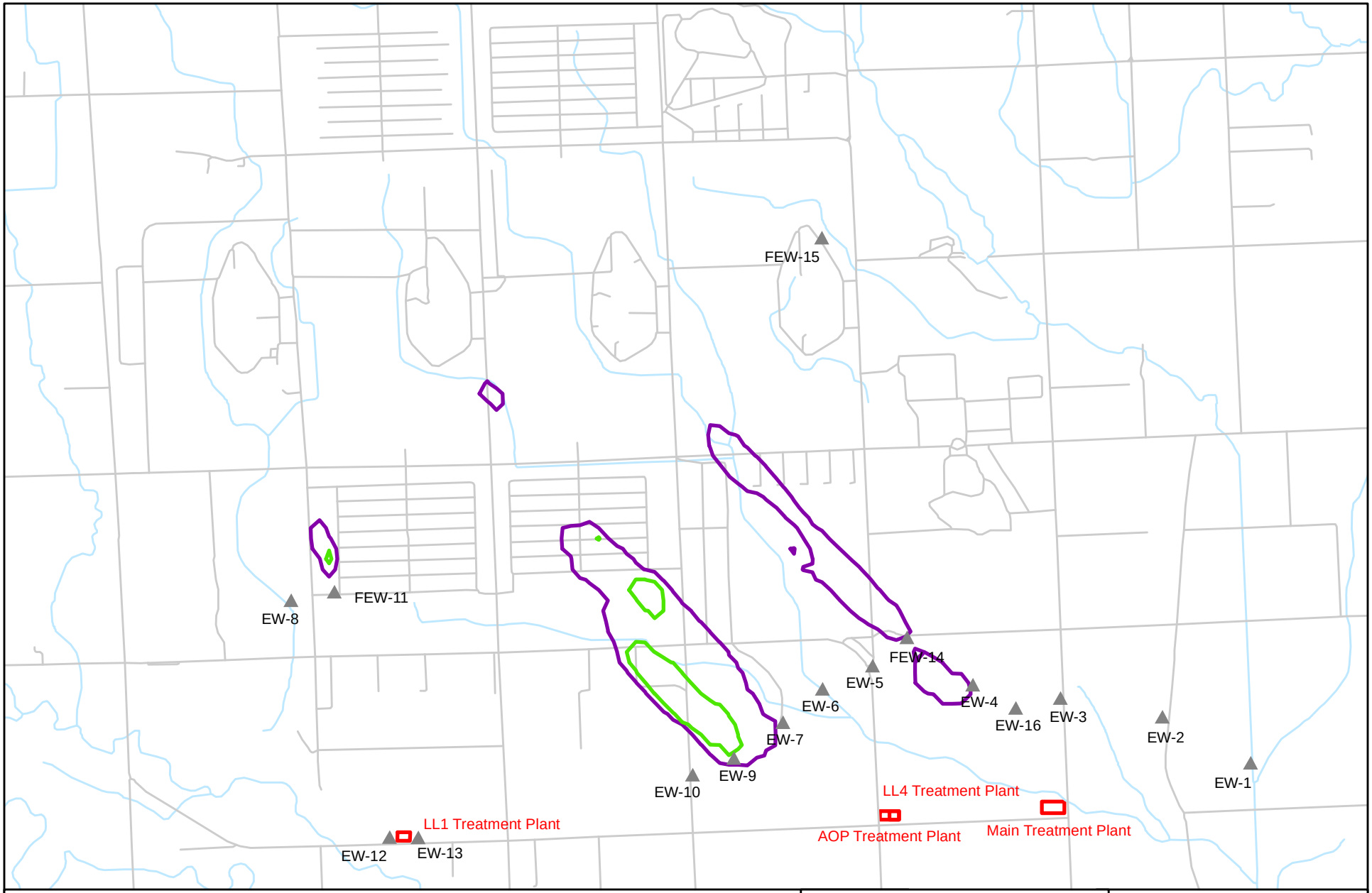

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-20

PREDICTED RDX
LAYER 3
2015

Former NOP

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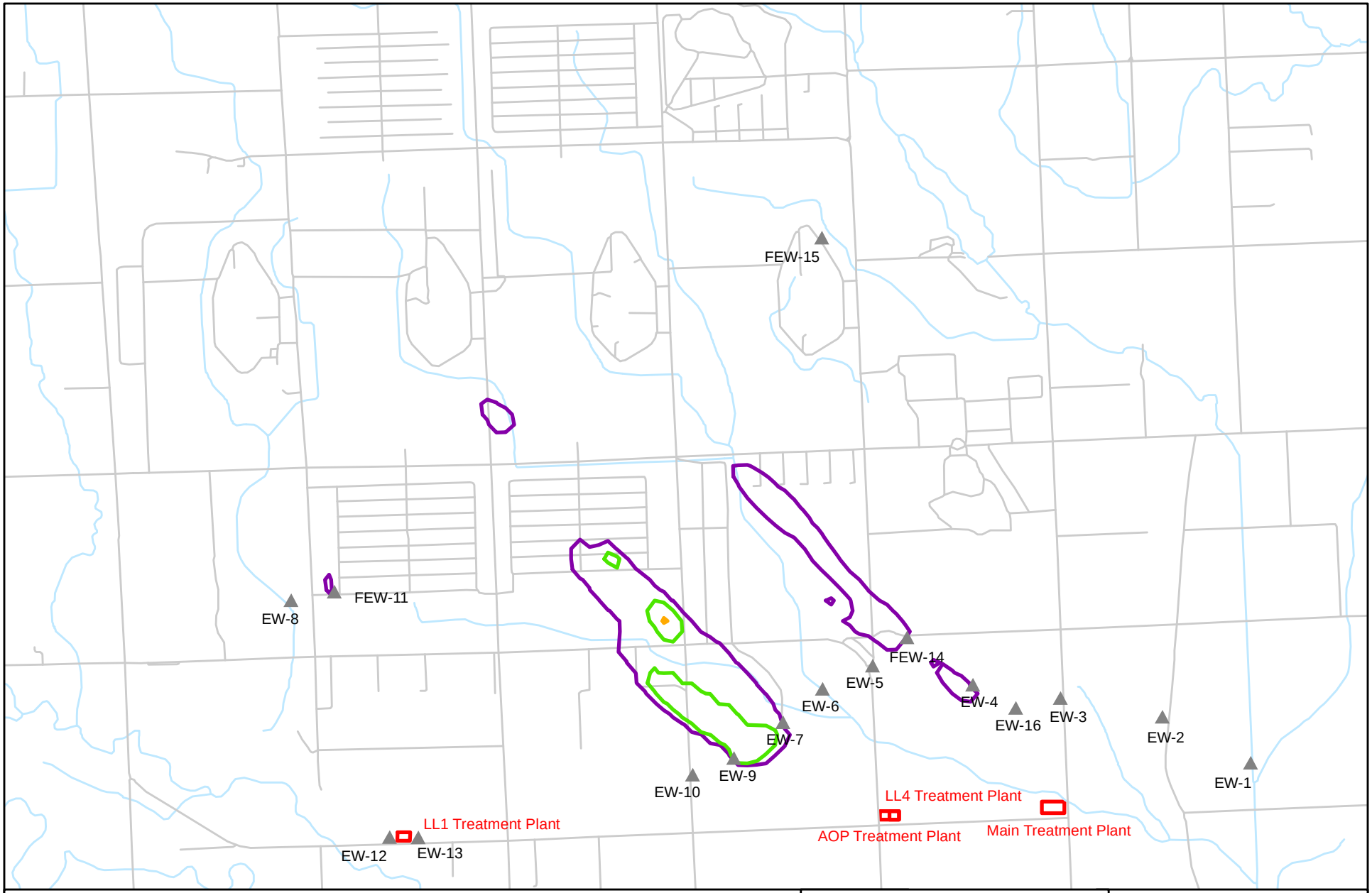

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-21

PREDICTED RDX
LAYER 3
2020

Former NOP

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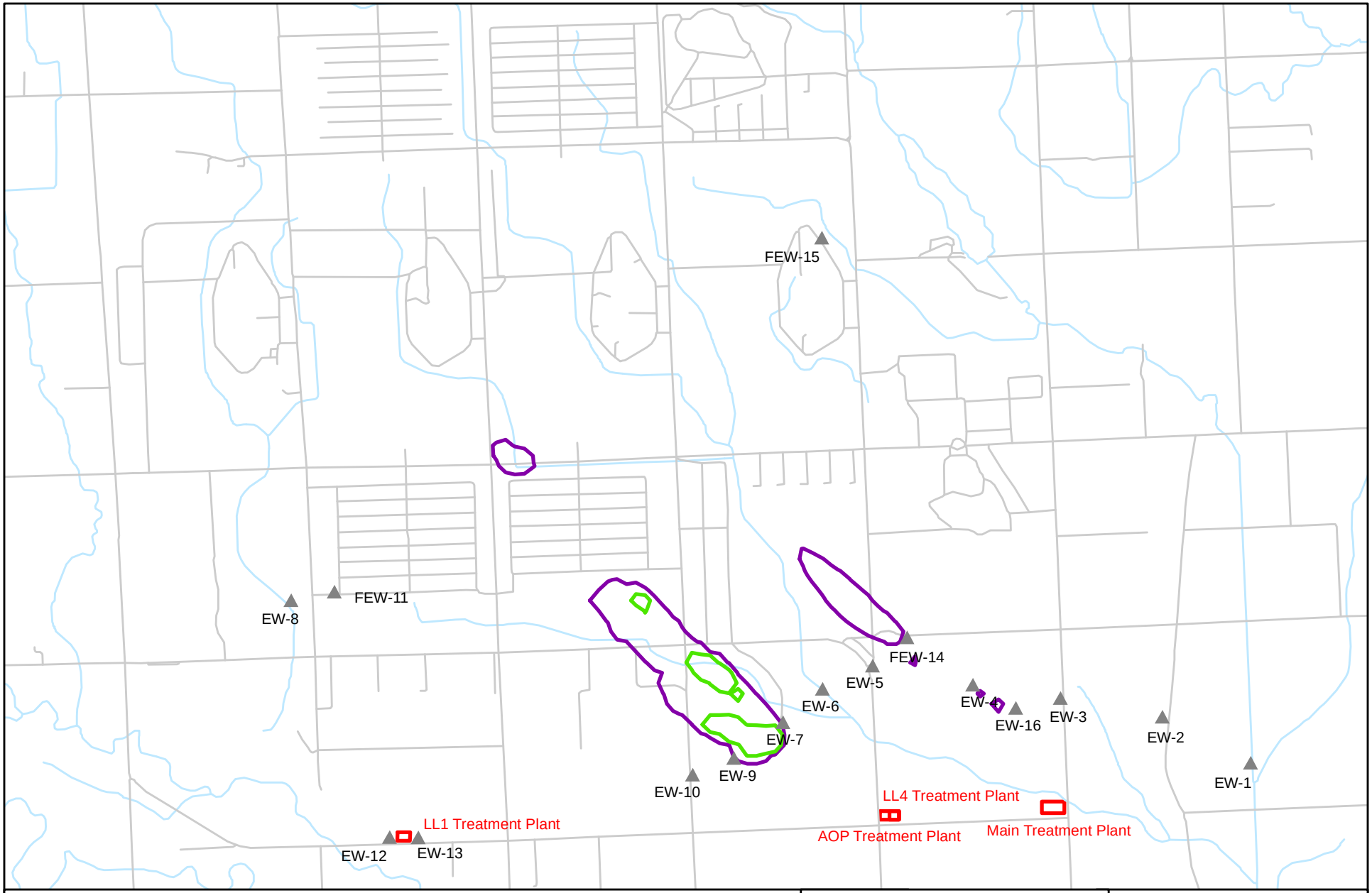

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-22

PREDICTED RDX
LAYER 3
2030

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\GWM10\Fig7-22_RDX_2030_L3.mxd jmf May 23, 2011

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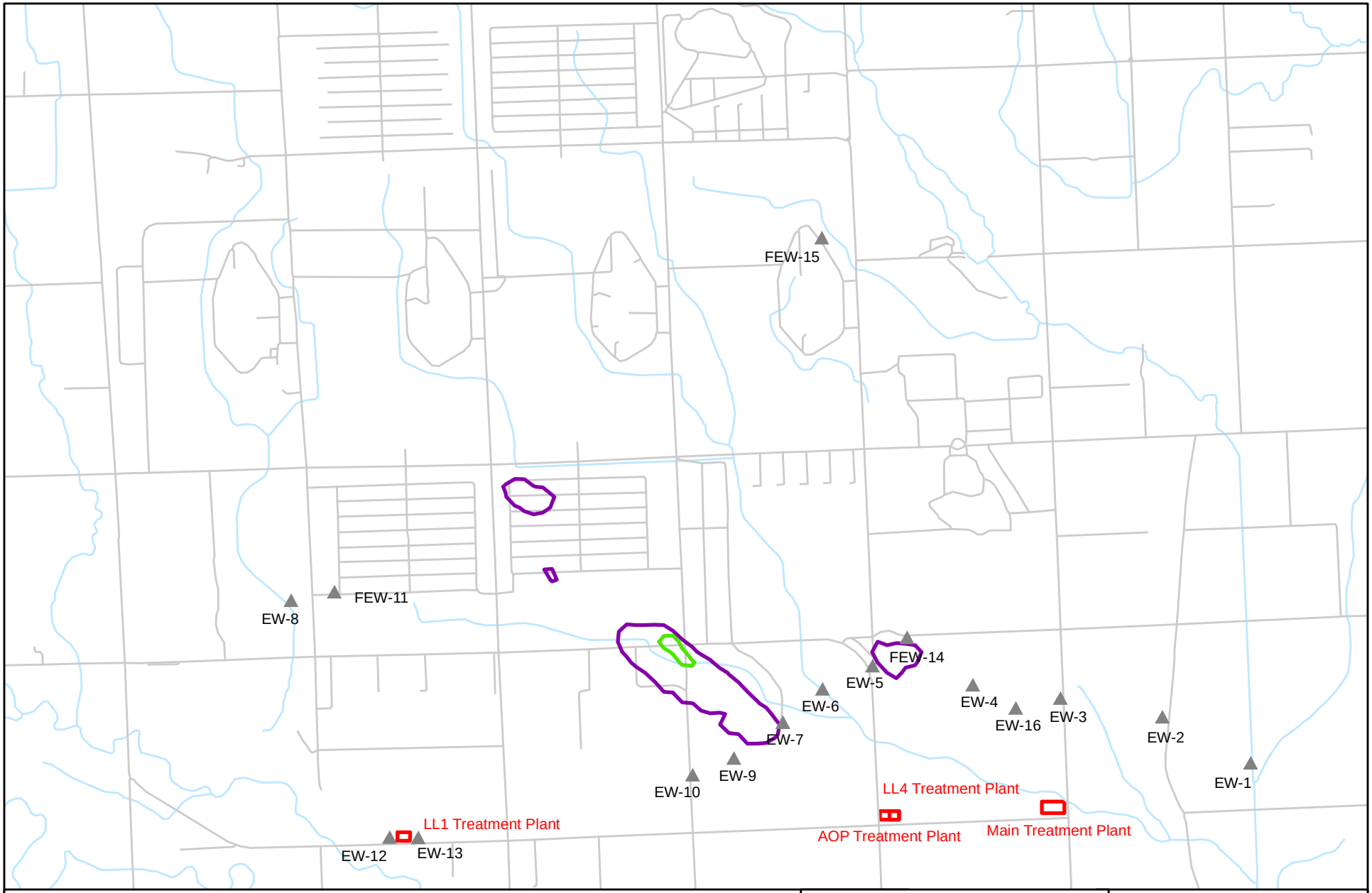

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-23

PREDICTED RDX
LAYER 3
2040

Former NOP

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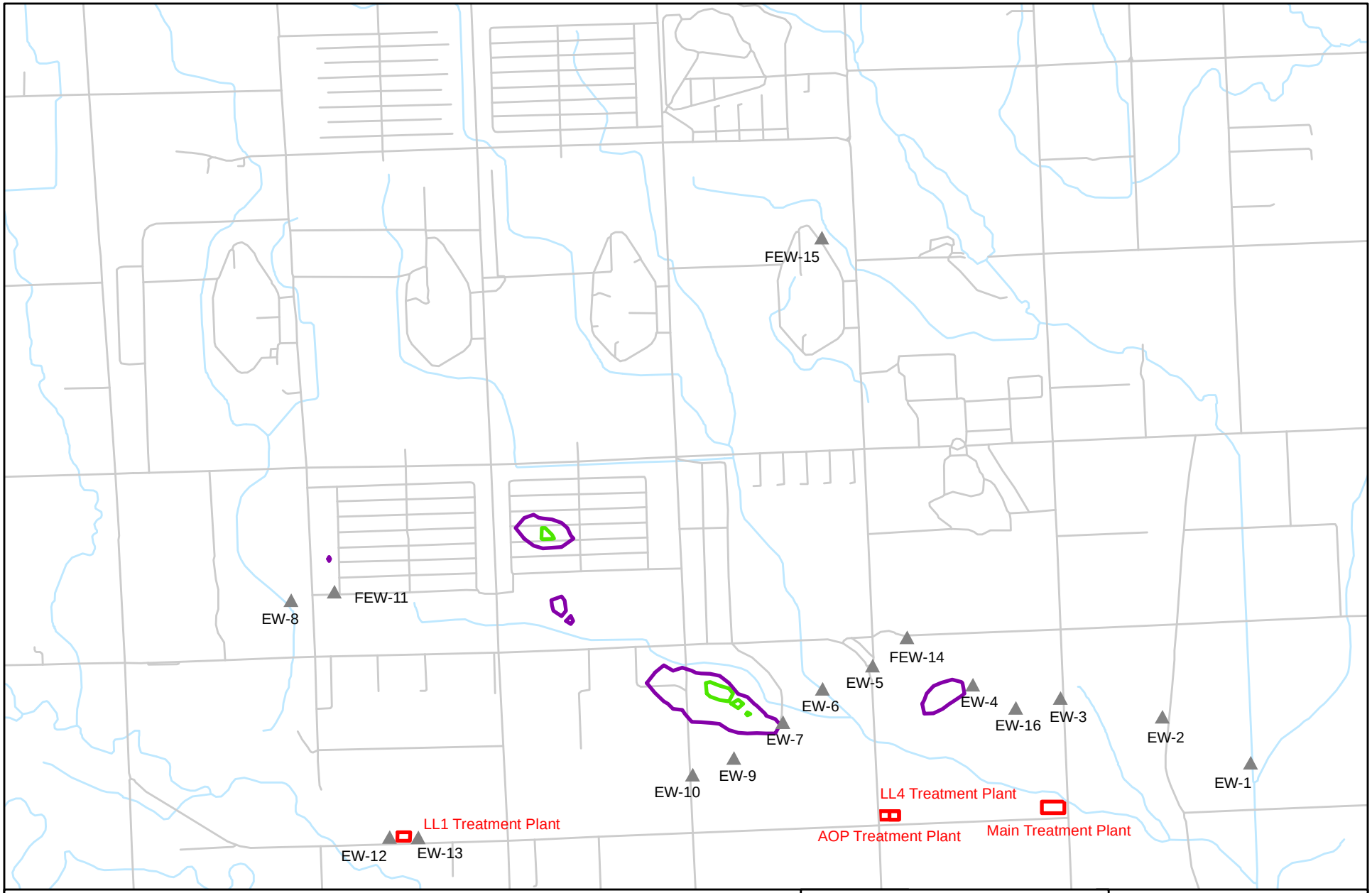

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-24

PREDICTED RDX
LAYER 3
2050

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\GWM10\Fig7-24_RDX_2050_L3.mxd jmf May 23, 2011

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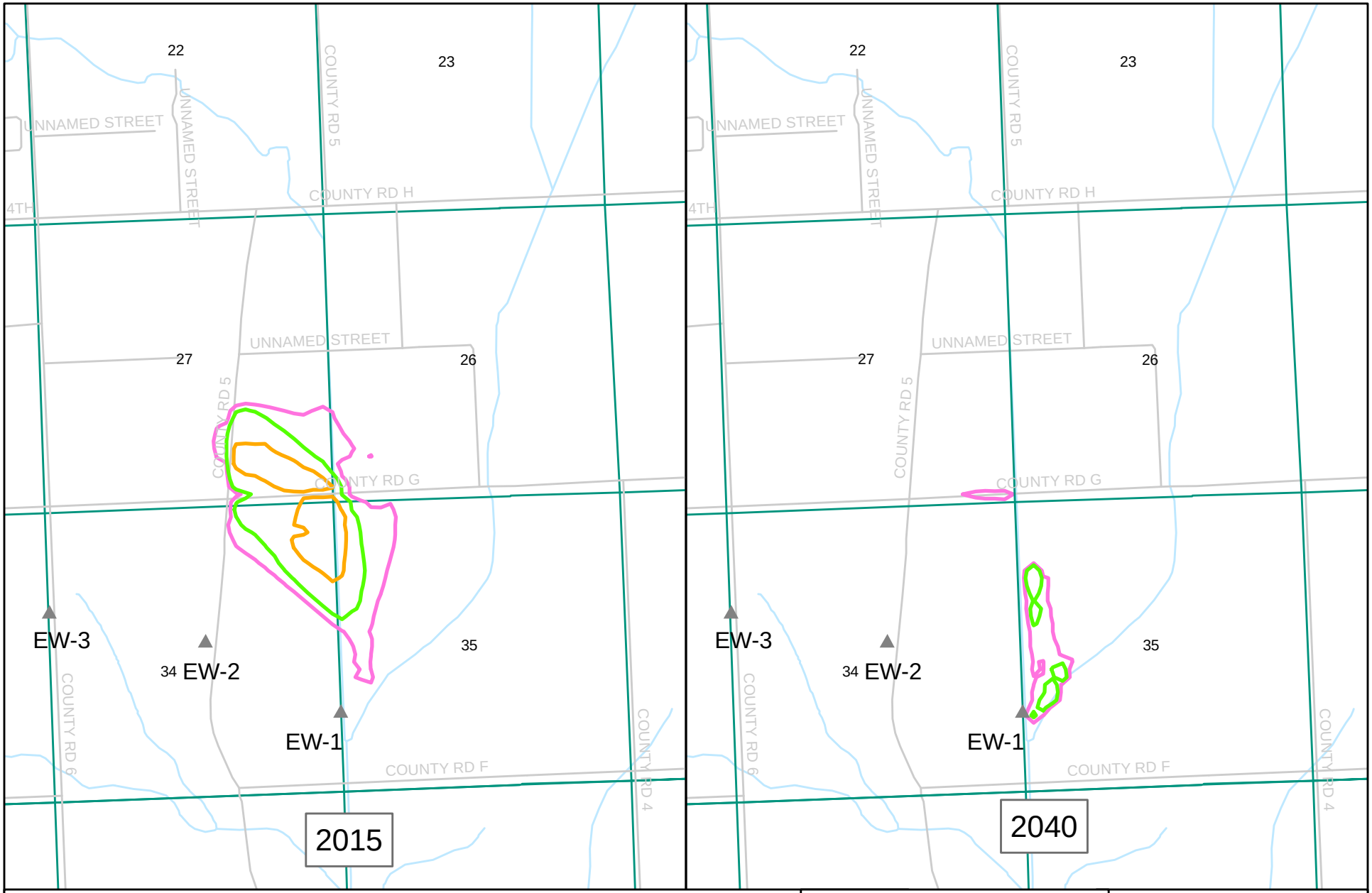

Legend

USACE Extraction Well

Section

Trichloroethene Contours
- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-25

PREDICTED TCE
LAYER 1
2015 and 2040

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010GWM\Fig7-25_TCE_L1.mxd jmf May 23, 2011

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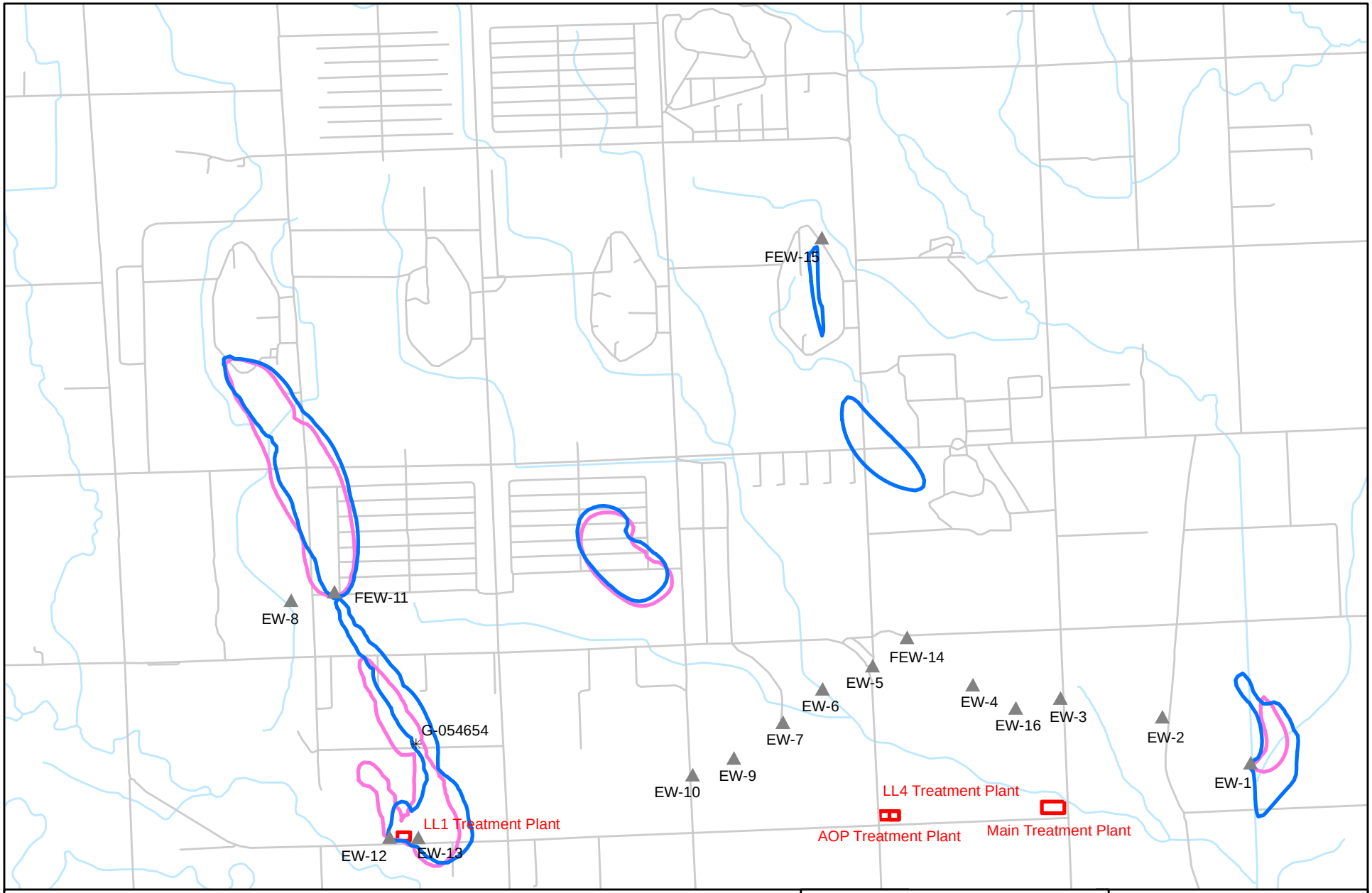

Legend

- USACE Extraction Well
- Irrigation Well
- Treatment Plant
- Predictive 5 ug/L
- Uncertainty 5 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-26

Drought Scenario
TCE - LAYER 2
2040

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010GWM\Fig7-26_Drought_TCE_2040_L2.mxd jmf May 23, 2011

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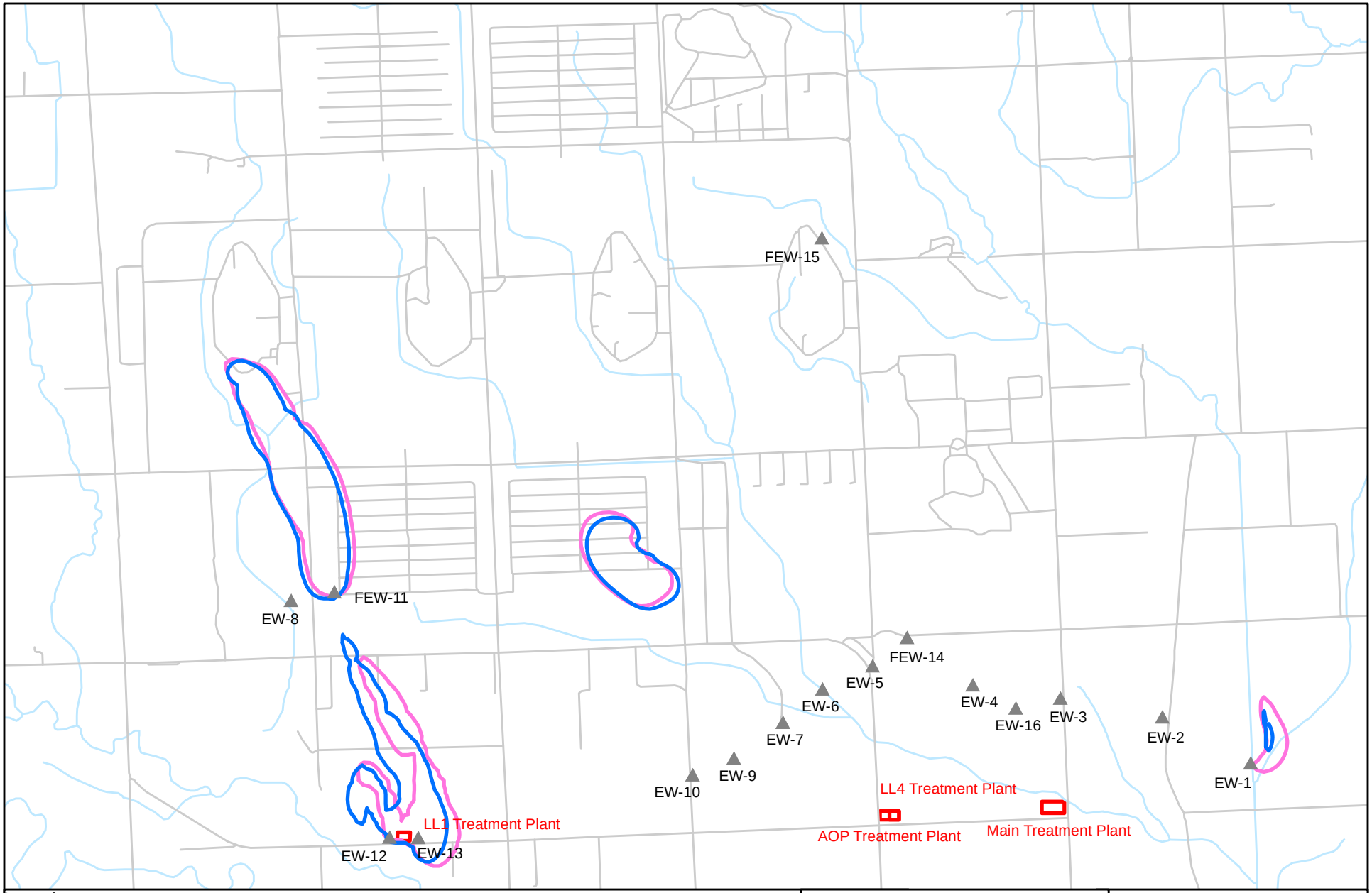

Legend

- USACE Extraction Well
- Treatment Plant
- Predictive 5 ug/L
- Uncertainty Scenario 5 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure 7-27

High Precipitation Scenario
TCE - LAYER 2
2040

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010GWM\Fig7-27_Wet_TCE_2040_L2.mxd jmf May 15, 2011

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Appendix A
EW-10 Shutdown Pumping Test Results

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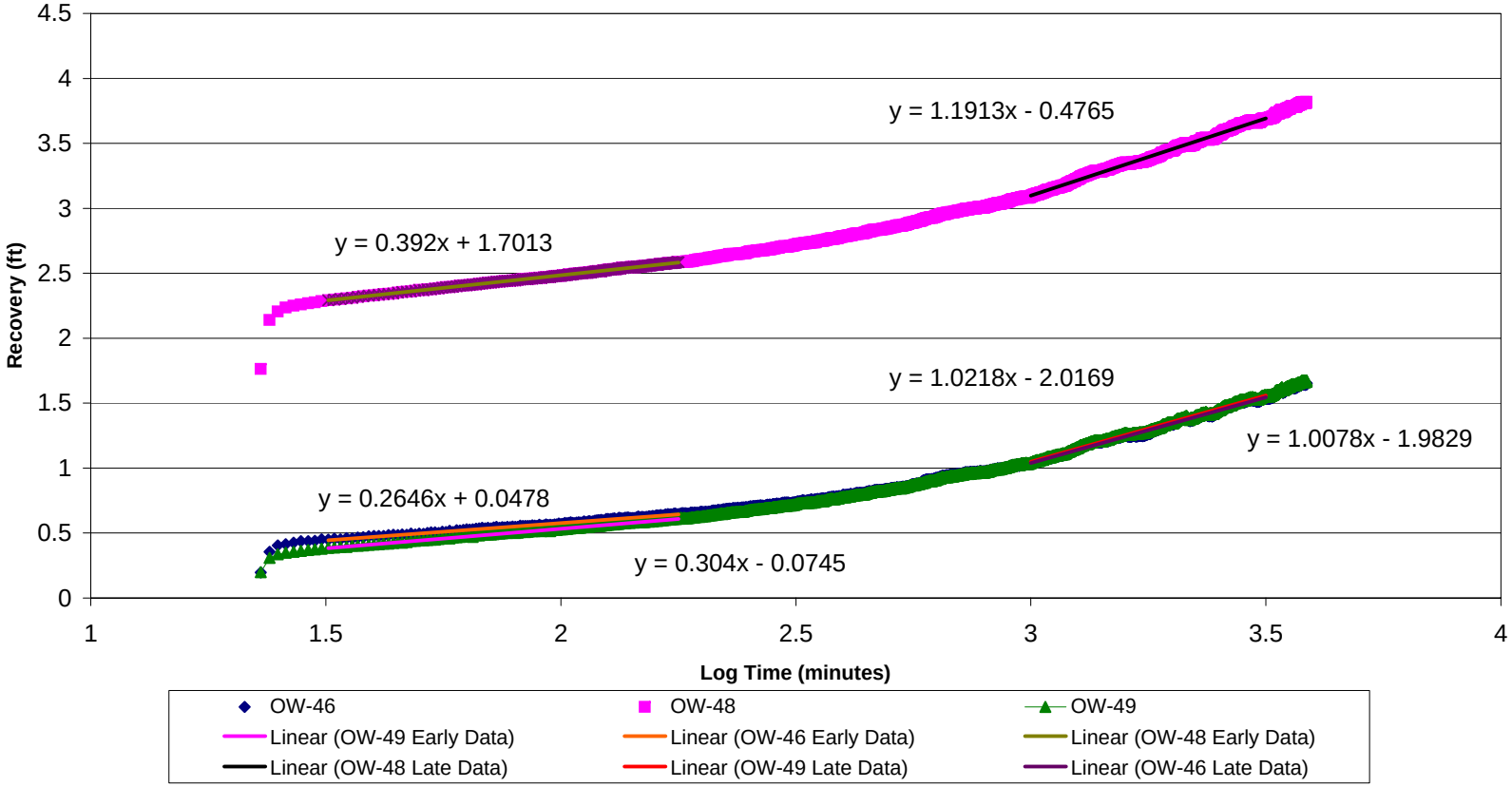

Regional Office
1746 Cole Boulevard
Building 21, Suite 350
Lakewood, CO 80401
Phone: (303) 298-7607 Fax: (303) 298-7837

TITLE

Extraction Well EW-10 Shutdown
Observation Well Recovery Data

CLEINT / PROJECT

United States Army Corps of Engineers
Kansas City District
Former Nebraska Ordinance Plant

DRAWN BY	DATE	PROJECT NO
NJK	4/23/2010	5447.002
CHECKED BY	SCALE	REVISION
	NONE	0
REVIEWED BY	FILE	FIGURE NO
		NONE

Avg. Q:	52.80	ft^3/min	
B:	70	ft	
	ds/dlog(t)	T (ft^2/min)	
OW-46 Early	0.2646	36.5229	
OW-48 Early	0.304	31.7894	
OW-49 Early	0.392	24.6530	
OW-46 Late	1.0218	9.4578	
OW-48 Late	1.1913	8.1121	
OW-49 Late	1.0078	9.5892	
	Early Avg T:	**31.0**	ft^2/min
		44,623	ft^2/day
	K:	**637**	ft/day
	Late Avg T:	**9.1**	ft^2/min
		13,036	ft^2/day
	K:	**186**	ft/day

Appendix B
USGS Water Data Reports - 2009

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06796500 Platte River near Leshara, Nebr.

Lower Platte Basin
Lower Platte Subbasin

LOCATION.--Lat 41°19′12″, long 96°24′14″ referenced to North American Datum of 1927, in NW ¼ NW ¼ sec.34, T.16 N., R.9 E., Douglas County, NE, Hydrologic Unit 10200202, on left bank 25 ft downstream from bridge on Nebraska Highway 64, 1.0 mi southeast of Leshara.

DRAINAGE AREA.--Not determined.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1994 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 1,143.86 ft above sea level. Prior to Oct. 18, 2002, about 200 ft downstream at same datum.

REMARKS.--Records fair except for the estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, groundwater withdrawals, diversions for irrigation, and return flow from irrigated areas.

06796500 Platte River near Leshara, Nebr.—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,400	4,760	4,380	e5,290	e6,150	e2,510	3,850	4,890	3,360	5,520	2,340	2,810
2	2,470	4,950	4,110	e4,970	e6,520	e2,170	3,220	4,570	3,320	5,090	2,190	2,700
3	2,130	4,830	3,990	e4,650	e6,890	e2,030	4,350	4,550	3,020	4,900	2,370	3,110
4	1,780	4,450	3,460	e4,920	e7,320	e4,560	3,340	4,990	3,110	4,540	2,380	2,690
5	1,900	4,280	e2,900	e4,760	e7,750	6,400	3,610	5,070	2,940	4,420	2,290	2,730
6	2,200	3,850	e3,160	e4,280	e6,950	8,660	4,240	4,750	3,480	4,310	2,260	2,730
7	2,580	3,710	e2,840	e4,170	e6,310	6,160	4,850	4,660	5,460	4,340	2,690	3,030
8	3,730	3,700	e2,790	e4,600	e5,830	5,570	4,800	4,440	10,800	4,360	2,800	2,870
9	5,320	3,940	e3,220	e4,810	e5,720	5,500	4,400	4,060	5,820	3,870	3,160	2,580
10	3,920	3,480	e3,960	e4,970	e9,930	5,380	3,920	3,650	4,890	3,630	3,850	2,500
11	3,410	4,220	e2,740	e5,350	13,700	4,290	4,170	3,480	4,380	3,530	3,990	2,430
12	3,260	4,750	e2,840	e5,190	12,000	e4,100	4,770	3,350	4,750	3,180	3,980	2,590
13	3,220	5,920	e2,900	e5,030	10,500	4,550	5,150	3,470	4,940	3,080	3,740	2,830
14	3,550	5,680	e3,960	e4,490	6,410	4,650	5,390	3,510	5,050	2,950	3,340	2,860
15	5,090	5,240	e1,840	e4,870	4,990	5,120	4,990	3,510	5,030	2,390	3,420	3,060
16	6,320	5,320	e933	e5,190	5,510	4,890	4,390	3,530	5,720	2,690	3,390	3,190
17	5,390	5,050	e1,150	e5,450	5,040	4,600	4,320	3,280	10,500	2,930	3,330	3,200
18	5,380	5,090	e1,040	e5,190	5,280	4,280	4,400	3,180	14,000	2,950	6,400	2,880
19	5,030	4,620	e1,040	e4,810	5,080	4,320	4,840	3,010	9,490	2,820	6,110	3,060
20	5,340	4,550	e1,360	e4,550	4,370	4,360	4,860	2,360	9,600	2,790	5,000	3,180
21	5,390	4,270	e1,090	e4,440	5,620	4,080	4,780	2,480	11,700	2,870	4,390	3,120
22	5,650	4,440	e1,100	e4,230	4,490	4,160	5,370	2,250	10,100	2,800	3,810	3,630
23	9,270	4,880	e2,410	e4,810	5,490	4,290	5,770	2,410	8,980	2,780	3,860	2,650
24	19,400	5,070	e3,320	e4,600	5,040	4,410	5,910	2,230	7,790	2,840	3,590	3,360
25	13,600	5,250	e3,960	e4,550	5,410	5,040	5,890	2,410	7,740	2,790	3,300	3,760
26	11,300	4,770	e4,550	e4,230	4,980	4,890	4,850	2,600	6,190	3,020	3,720	4,050
27	9,340	5,130	e5,130	e4,760	4,950	4,940	4,590	2,830	6,380	2,710	3,450	3,890
28	8,330	4,650	e4,440	e4,920	3,390	4,340	4,540	3,010	7,730	2,310	3,950	3,370
29	6,960	4,570	e4,280	e4,760	---	4,010	4,650	3,370	8,180	2,270	3,620	3,430
30	5,610	4,490	e4,970	e5,350	---	4,160	4,990	3,040	6,330	2,050	3,240	2,890
31	5,160	---	e5,350	e5,610	---	4,130	---	2,890	---	2,130	3,250	---
Total	174,430	139,910	95,213	149,800	181,620	142,550	139,200	107,830	200,780	102,860	109,210	91,180
Mean	5,627	4,664	3,071	4,832	6,486	4,598	4,640	3,478	6,693	3,318	3,523	3,039
Max	19,400	5,920	5,350	5,610	13,700	8,660	5,910	5,070	14,000	5,520	6,400	4,050
Min	1,780	3,480	933	4,170	3,390	2,030	3,220	2,230	2,940	2,050	2,190	2,430
Ac-ft	346,000	277,500	188,900	297,100	360,200	282,700	276,100	213,900	398,200	204,000	216,600	180,900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	4,205	4,475	4,178	3,941	5,838	5,804	6,144	6,244	7,406	3,710	3,168	3,294
Max	6,733	7,784	6,762	7,552	10,040	7,960	11,300	10,650	17,460	10,540	7,163	6,793
(WY)	(1998)	(1998)	(1998)	(1998)	(1997)	(1998)	(1998)	(1995)	(1995)	(1995)	(1996)	(1996)
Min	1,924	2,324	1,984	1,276	2,984	4,079	3,054	1,820	1,212	595	948	1,710
(WY)	(2004)	(2004)	(2004)	(2004)	(2002)	(2002)	(2004)	(2006)	(2006)	(2002)	(2002)	(2002)

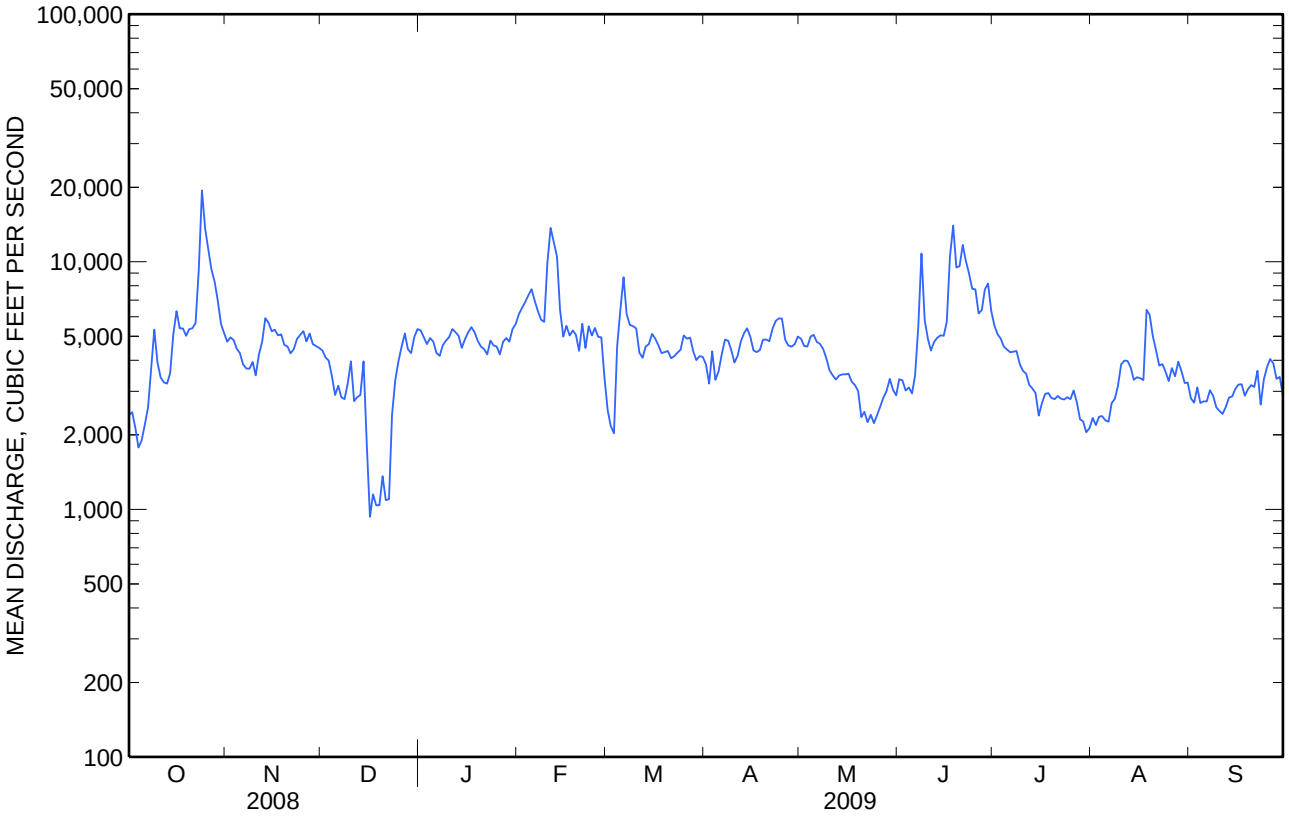
06796500 Platte River near Leshara, Nebr.—Continued

SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1994 - 2009	
Annual total	1,987,943		1,634,583			
Annual mean	5,432		4,478		4,844	
Highest annual mean					7,444	1999
Lowest annual mean					2,703	2004
Highest daily mean	34,900	May 31	19,400	Oct 24	34,900	May 31, 2008
Lowest daily mean	933	Dec 16	933	Dec 16	199	Aug 3, 2006
Annual seven-day minimum	1,100	Dec 16	1,100	Dec 16	363	Jul 28, 2006
Maximum peak flow			25,300	Oct 24	[a]43,800	May 31, 2008
Maximum peak stage			6.85	Oct 24	[b]11.84	Feb 9, 1996
Annual runoff (ac-ft)	3,943,000		3,242,000		3,510,000	
10 percent exceeds	8,420		6,240		8,190	
50 percent exceeds	4,280		4,340		4,210	
90 percent exceeds	2,160		2,510		1,690	

[a] Gage height, 8.30 ft.

[b] Backwater from ice.



Water-Data Report 2009

06800500 Elkhorn River at Waterloo, Nebr.

Elkhorn Basin
Lower Elkhorn Subbasin

LOCATION.--Lat 41°17′36″, long 96°17′02″ referenced to North American Datum of 1983, in SE ¼ SW ¼ sec.3, T.15 N., R.10 E., Douglas County, NE, Hydrologic Unit 10220003, on right bank at Nebraska Highway 64 bridge at north edge of Waterloo, 3.5 mi downstream from Rawhide Creek, and at mile 13.8.

DRAINAGE AREA.--6,900 mi^2 of which 1,030 mi^2 probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1899 to November 1903, May 1911 to September 1915, August 1928 to current year. Published as "at Arlington" 1899-1903, July 1913 to September 1915. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1390: 1914 (M), 1915, 1936, 1943(M). WDR NE-94-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 1,104.73 ft above sea level. Oct. 1, 1960, to July 27, 1978, at datum 2.00 ft higher. See WSP 1918 for history of changes prior to Oct. 1, 1960. July 28, 1978 to Nov. 17, 1993, at site 800 ft downstream at present datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Some small diversions above station for irrigation.

EXTREMES OUTSIDE PERIOD OF RECORD.--Stage and discharge of the flood of June 12, 1944, are the greatest known since at least 1880.

06800500 Elkhorn River at Waterloo, Nebr.—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	857	2,570	1,890	e1,660	e2,490	e1,760	2,300	2,660	1,550	2,290	982	1,170
2	871	2,430	1,820	e1,810	e2,400	e1,310	2,260	2,530	1,530	2,190	970	1,100
3	832	2,310	1,830	e1,790	e2,140	e1,520	2,120	2,370	1,470	2,130	955	1,270
4	829	2,260	1,740	e1,690	e2,060	e1,990	2,060	2,260	1,400	2,590	939	1,510
5	806	2,250	1,510	e1,720	e2,230	e2,500	2,300	2,170	1,370	2,260	912	1,560
6	814	2,250	1,550	e1,790	e2,840	3,870	2,620	2,130	1,580	2,090	e905	1,880
7	966	2,210	1,620	e1,690	3,640	3,300	2,480	2,100	2,720	1,980	e890	e1,450
8	1,060	2,120	1,630	e1,680	4,370	3,060	2,590	2,050	2,580	2,210	e890	e1,320
9	2,010	1,980	1,690	e1,650	e6,000	2,690	2,670	1,970	2,280	2,140	e920	e1,220
10	1,900	1,890	e1,530	e1,640	e6,800	2,640	2,890	1,900	2,230	2,000	e965	1,170
11	1,720	1,980	1,170	e1,630	e7,380	2,360	4,480	1,840	2,010	2,060	e920	1,180
12	1,400	2,250	1,160	e1,670	e6,050	2,070	3,790	1,850	1,930	2,060	e880	1,170
13	1,270	2,390	1,580	e1,630	e6,300	e2,020	3,780	1,860	2,190	1,850	e850	1,550
14	1,310	2,460	e1,790	e1,550	e5,380	2,130	3,400	1,890	2,980	1,720	821	1,970
15	1,650	2,470	e914	e1,470	e4,380	2,340	3,100	1,940	2,740	1,620	1,010	1,470
16	1,700	2,470	e826	e1,440	e3,830	2,540	2,940	1,870	6,660	1,560	1,680	1,260
17	1,730	2,530	e774	e1,480	e3,360	2,270	2,790	1,810	7,870	1,540	2,050	1,190
18	1,650	2,510	e914	e1,610	e2,950	2,410	2,630	1,720	5,110	1,530	2,430	1,150
19	1,520	2,380	e1,280	e1,650	e2,660	2,450	2,670	1,650	e6,390	1,440	3,320	1,100
20	1,450	2,310	e1,400	e1,720	2,540	2,420	2,730	1,570	e5,140	1,370	2,580	1,080
21	1,390	2,190	e1,450	e1,790	2,510	2,470	2,620	1,510	4,930	1,390	2,030	1,050
22	3,180	2,070	e1,320	e1,890	2,390	2,440	2,470	1,470	4,040	1,380	1,730	1,040
23	6,630	2,040	e1,230	e1,990	2,340	2,450	2,340	1,460	3,650	1,320	1,590	1,050
24	6,050	2,010	e1,280	e1,960	2,300	3,470	2,270	1,460	3,280	1,220	1,510	1,050
25	5,570	1,950	e1,380	e1,930	2,450	4,120	2,240	1,480	3,030	1,150	1,380	1,040
26	4,360	1,900	e1,490	e1,900	2,400	3,170	2,260	1,500	2,890	1,100	1,500	1,070
27	3,730	1,890	e1,740	e1,830	e2,390	2,620	2,330	1,530	2,830	1,060	1,910	1,070
28	3,270	1,910	e1,690	e1,840	e2,300	2,470	2,340	1,540	2,710	1,040	1,880	1,050
29	2,950	1,910	e1,790	e1,980	---	2,320	2,290	1,550	2,550	1,000	1,710	1,030
30	2,740	1,920	e1,640	e2,220	---	2,230	2,380	1,570	2,380	969	1,480	1,020
31	2,640	---	e1,580	e2,440	---	2,220	---	1,550	---	956	1,270	---
Total	68,855	65,810	45,208	54,740	98,880	77,630	80,140	56,760	94,020	51,215	43,859	37,240
Mean	2,221	2,194	1,458	1,766	3,531	2,504	2,671	1,831	3,134	1,652	1,415	1,241
Max	6,630	2,570	1,890	2,440	7,380	4,120	4,480	2,660	7,870	2,590	3,320	1,970
Min	806	1,890	774	1,440	2,060	1,310	2,060	1,460	1,370	956	821	1,020
Ac-ft	136,600	130,500	89,670	108,600	196,100	154,000	159,000	112,600	186,500	101,600	86,990	73,870

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	774	792	695	658	1,234	2,226	2,102	2,145	2,846	1,421	965	721
Max	3,765	2,792	1,803	1,766	6,439	8,082	10,450	7,565	11,950	11,470	4,755	2,705
(WY)	(2008)	(1999)	(1994)	(2009)	(1971)	(1993)	(1984)	(1995)	(1984)	(1993)	(1951)	(1951)
Min	150	240	150	180	256	489	512	327	405	173	117	87.8
(WY)	(1940)	(1940)	(1930)	(1977)	(1940)	(1981)	(1981)	(1934)	(1933)	(1936)	(1976)	(1939)

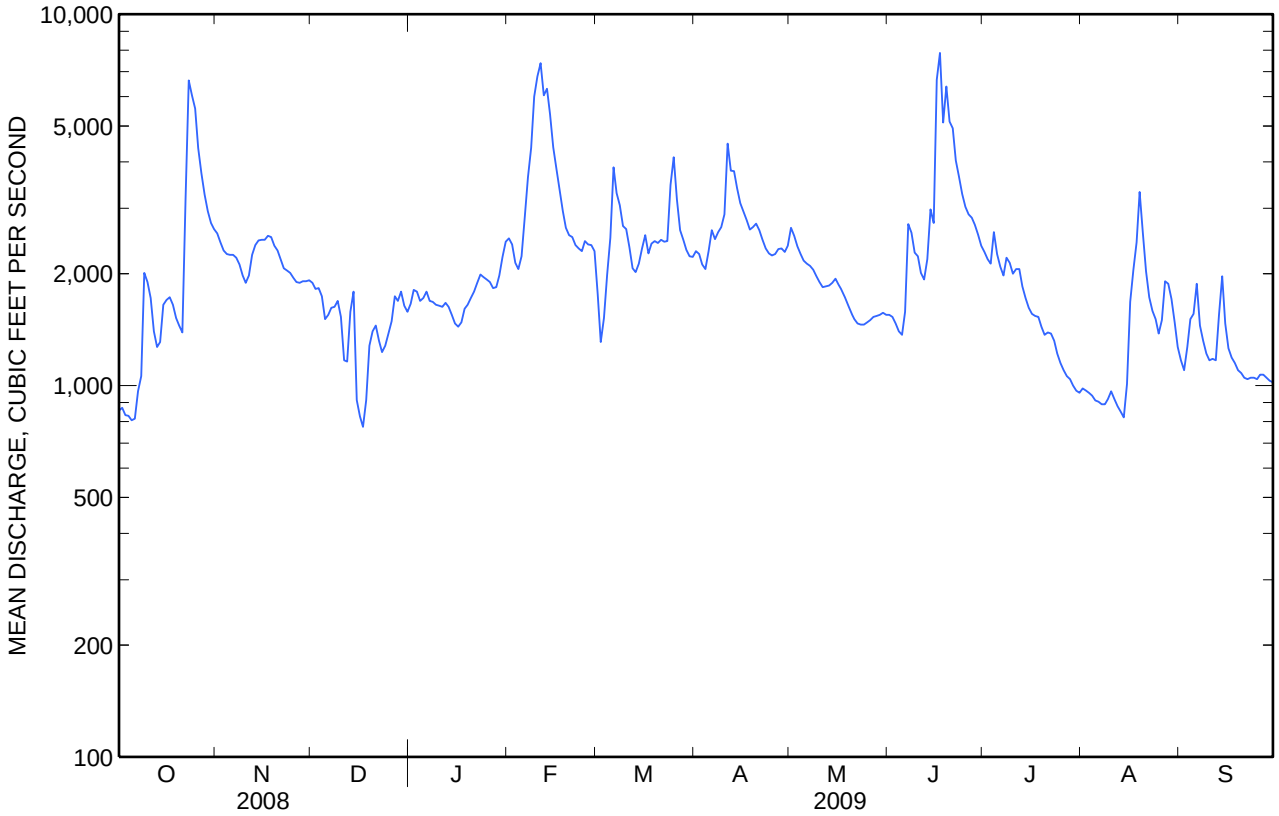
06800500 Elkhorn River at Waterloo, Nebr.—Continued

SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1929 - 2009	
Annual total	936,147		774,357			
Annual mean	2,558		2,122		1,380	
Highest annual mean					3,870	1993
Lowest annual mean					417	1939
Highest daily mean	33,900	May 31	7,870	Jun 17	93,800	Jun 12, 1944
Lowest daily mean	587	Sep 1	774	Dec 17	64	Sep 16, 1939
Annual seven-day minimum	629	Aug 28	854	Oct 1	66	Sep 15, 1939
Maximum peak flow			11,500	Jun 17	[a]100,000	Jun 12, 1944
Maximum peak stage			9.01	Jun 17	[b]16.60	Jun 12, 1944
Annual runoff (ac-ft)	1,857,000		1,536,000		999,900	
10 percent exceeds	4,110		3,170		2,800	
50 percent exceeds	1,920		1,910		764	
90 percent exceeds	863		1,050		310	

[a] From rating curve extended above 22,000 ft³/s.

[b] From floodmark, site and datum then in use.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948-49, 1960, 1967-95, 2003 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Seasonal record in water years 2003, 2007 to present.
SPECIFIC CONDUCTANCE: Limited daily records of poor quality during water years 1967 to 1970; seasonal record in water years 2003, 2007 to present.
TURBIDITY: Seasonal record in water years 2008 to present.
DISSOLVED OXYGEN: Seasonal record in water years 2008 to present.

INSTRUMENTATION.--Seasonal deployment of a continuous water-quality monitor. Measured parameters include water temperature, specific conductance, dissolved oxygen, and turbidity. Turbidity measurements conform to ISO 7027 standards and were made using a Yellow Springs International (YSI) 6136 sensor. Dissolved oxygen data were collected using a luminescent sensor.

REMARKS.--The water-temperature record is rated excellent. The specific-conductance and dissolved-oxygen records are rated good. The turbidity record is rated fair. Interruptions in the records are due to ice, equipment malfunction, or error outside of allowable ranges.

EXTREMES FOR PERIOD OF RECORD.--Extremes computed from periods of approved record since 2003, and may have been exceeded during non-measured periods.
WATER TEMPERATURE: Maximum, 32.0 °C, July 20, 2003, Aug. 16, 2003, and Aug. 25, 2003; minimum, 1.7 °C, Nov. 2, 2002.
SPECIFIC CONDUCTANCE: Maximum, 796 microsiemens/cm, June 25, 2003; minimum, 161 microsiemens/cm, Oct. 2, 2007.
DISSOLVED OXYGEN: Maximum, 21.1 mg/L, Sept. 21, 2008; minimum, 4.2 mg/L, May 30, 2008.
TURBIDITY: Maximum, published sensor limit of 1,000 FNU exceeded on several occasions associated with runoff conditions; minimum, 20 FNU, May 18 and 19, 2009.

EXTREMES FOR CURRENT YEAR.--These extremes may have been exceeded during non-measured periods.
WATER TEMPERATURE: Maximum, 30.8°C, Aug. 8; minimum, 2.6°C, Apr. 6.
SPECIFIC CONDUCTANCE: Maximum, 692 microsiemens/cm, May 2; minimum, 323 microsiemens/cm, July 15.
DISSOLVED OXYGEN: Maximum, 20.4 mg/L, May 21 and May 22; minimum, 5.2 mg/L, June 16.
TURBIDITY: Maximum, published sensor limit of 1,000 FNU exceeded on several occasions associated with runoff conditions; minimum, 20 FNU, May 18 and 19.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 1 of 3

[Remark codes: >, greater than; E, estimated.]

Date	Time	Instantaneous discharge, ft³/s (00061)	Discharge, instantaneous m3/s (30209)	Dissolved oxygen, mg/L (00300)	Specific conductance, wat unf µS/cm @ 25 degC (00095)	Temperature, water, deg C (00010)	Turbidity, IR LED light, det ang 90 deg, FNU (63680)	Altitude of land surface feet (72000)	Drainage area, mi2 (81024)	Gage height above datum meters (30207)	Gage height, feet (00065)	Location in X-sect. looking dwnstrm ft from l bank (00009)
Apr												
08...	1035	E2,530	E71.6	11.1	653	6.4	100	1,105	6,900	1.54	5.05	185
May												
29...	1145	E1,530	E43.3	13.5	540	20.8	46	1,105	6,900	1.15	3.78	170
Jun												
16...	1125	E7,350	E208	--	--	--	--	1,105	6,900	2.26	7.43	185
Jul												
20...	1530	E1,440	E40.8	9.5	551	22.9	56	1,105	6,900	1.19	3.90	185
Aug												
10...	1450	E974	E27.6	--	--	--	--	1,105	6,900	1.02	3.36	--

06800500 Elkhorn River at Waterloo, Nebr.—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
Part 2 of 3
[Remark codes: >, greater than; E, estimated.]

Date	Purpose site visit, code (50280)	Sample purpose code (71999)	Sampler type, code (84164)	Sam-pling method, code (82398)	E coli, Defined Substr. Tech., water, MPN/ 100 mL (50468)
Apr					
08...	Other surface-water	Routine	Weighted-bottle	Point sample	730
May					
29...	Other surface-water	Routine	Weighted-bottle	Point sample	10
Jun					
16...	Other surface-water	Routine	Weighted-bottle	Point sample	46,000
Jul					
20...	Other surface-water	Routine	Weighted-bottle	Point sample	100
Aug					
10...	Other surface-water	Routine	Weighted-bottle	Point sample	1,800

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
Part 3 of 3
[Remark codes: >, greater than; E, estimated.]

Date	Total coli-form, Defined Tech., MPN/ 100 mL (50569)
Apr	
08...	1,400
May	
29...	1,300
Jun	
16...	>240,000
Jul	
20...	8,600
Aug	
10...	>24,000

06800500 Elkhorn River at Waterloo, Nebr.—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	16.6	8.2	11.8	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

06800500 Elkhorn River at Waterloo, Nebr.—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	---	---	---	---	---	---	11.5	10.9	11.2	10.1	9.4	9.7
2	---	---	---	---	---	---	11.3	10.8	11.1	10.2	9.2	9.6
3	---	---	---	---	---	---	10.9	10.4	10.7	10.4	8.8	9.5
4	---	---	---	---	---	---	10.5	10.3	10.4	10.8	8.7	9.6
5	---	---	---	---	---	---	11.6	10.5	11.1	11.3	8.8	9.9
6	---	---	---	---	---	---	12.2	11.6	12.0	11.5	8.5	9.7
7	---	---	---	---	---	---	11.9	11.2	11.7	12.1	8.4	10.0
8	---	---	---	---	---	---	11.3	10.6	11.1	12.8	8.1	10.2
9	---	---	---	---	---	---	10.6	10.4	10.5	14.4	8.4	11.0
10	---	---	---	---	---	---	11.0	10.5	10.8	14.4	8.8	11.3
11	---	---	---	---	---	---	10.8	10.4	10.6	15.3	9.2	12.0
12	---	---	---	---	---	---	10.5	10.3	10.4	11.9	9.0	10.5
13	---	---	---	---	---	---	10.6	10.3	10.4	13.8	8.7	10.7
14	---	---	---	---	---	---	---	---	---	14.8	8.9	11.6
15	---	---	---	---	---	---	10.2	9.8	10.0	11.9	8.8	10.2
16	---	---	---	---	---	---	10.0	9.7	9.9	14.5	9.1	11.6
17	---	---	---	---	---	---	9.8	9.3	9.7	14.8	9.3	11.9
18	---	---	---	---	---	---	9.3	9.0	9.2	17.4	9.2	12.9
19	---	---	---	10.2	9.9	10.1	9.6	8.9	9.3	18.5	8.6	13.2
20	---	---	---	10.5	9.9	10.2	9.8	9.2	9.5	18.1	7.8	12.7
21	---	---	---	10.7	10.3	10.6	10.0	9.4	9.7	20.4	7.7	13.5
22	---	---	---	10.3	9.7	10.1	9.8	9.0	9.5	20.4	8.1	13.9
23	---	---	---	9.7	9.2	9.5	9.6	8.7	9.1	20.2	7.7	13.4
24	---	---	---	9.6	9.2	9.4	9.9	8.3	9.0	18.3	7.4	12.8
25	---	---	---	10.4	9.4	9.9	9.8	8.4	9.0	18.8	7.5	12.8
26	---	---	---	---	---	---	10.2	9.4	9.7	12.5	7.0	9.7
27	---	---	---	---	---	---	11.2	9.7	10.3	12.5	7.7	9.9
28	---	---	---	---	---	---	11.6	10.4	10.9	16.8	8.3	12.1
29	---	---	---	---	---	---	10.8	9.9	10.3	18.5	8.1	12.8
30	---	---	---	---	---	---	10.5	9.6	10	18.4	7.7	12.8
31	---	---	---	10.9	10.3	10.5	---	---	---	16.8	7.6	12.1
Month	---	---	---	---	---	---	---	---	---	20.4	7.0	11.4

06800500 Elkhorn River at Waterloo, Nebr.—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	13.4	7.3	10.1	10.2	7.2	8.7	12.8	6.9	9.7	12.1	8.8	10.3
2	13.7	7.4	10.2	---	---	---	13.6	7.2	10.2	11.8	8.8	10.2
3	15.9	8.0	11.6	---	---	---	14.9	7.0	10.5	10.2	8.6	9.2
4	17.2	8.3	12.3	---	---	---	15.1	6.9	10.5	10.6	8.4	9.4
5	18.3	8.3	12.9	---	---	---	14.7	7.4	10.5	10.5	8.3	9.4
6	14.0	8.1	11.0	---	---	---	15.4	7.3	10.8	9.3	7.9	8.5
7	11.3	6.3	7.8	---	---	---	10.4	6.2	8.3	8.8	7.7	8.2
8	8.0	6.6	7.5	9.9	7.4	8.2	10.9	5.9	7.9	9.9	7.5	8.6
9	10.1	8.0	8.9	10.9	7.0	8.6	8.6	6.5	7.5	10.1	7.6	8.8
10	11.1	9.0	10	9.9	7.1	8.5	11.0	6.6	8.6	11.9	7.7	9.6
11	10.1	9.0	9.6	9.0	7.1	8.0	13.9	6.8	9.8	12.1	8.2	10.0
12	10.1	9.0	9.4	8.4	7.0	7.7	15.4	7.2	10.9	12.1	8.1	9.9
13	11.1	9.3	10.0	9.3	6.7	7.9	16.2	7.8	11.7	10.2	8.2	8.8
14	9.9	8.3	8.6	10.5	6.8	8.5	16.9	8.4	12.4	8.2	6.9	7.7
15	8.8	8.3	8.5	12.1	6.8	9.3	---	---	---	8.7	7.2	8.0
16	8.5	5.2	6.5	11.3	7.2	8.9	---	---	---	11.2	8.0	9.4
17	6.2	5.3	5.7	12.1	7.7	9.9	---	---	---	12.4	8.6	10.3
18	6.5	6.2	6.4	12.0	7.7	9.8	---	---	---	12.7	8.8	10.6
19	---	---	---	13.0	7.5	10.1	---	---	---	13.1	8.8	10.8
20	---	---	---	10.6	7.0	8.6	9.2	8.5	8.9	12.9	9.2	11.0
21	7.5	6.6	7.2	11.9	7.5	9.3	9.8	9.0	9.4	11.2	9.0	10.2
22	7.6	6.8	7.4	13.5	7.8	10.5	10.6	9.5	10	12.3	9.3	10.8
23	7.6	7.3	7.4	14.3	7.6	10.7	11.8	9.4	10.4	13.5	10.0	11.6
24	7.8	7.2	7.5	15.1	7.1	10.9	12.4	9.3	10.7	13.5	10.2	11.7
25	8.8	7.4	8.0	14.3	6.5	10.5	13.1	8.8	10.8	12.4	10.1	11.3
26	8.4	7.2	7.7	14.1	6.8	10.4	11.3	9.1	9.8	12.3	9.7	10.8
27	9.0	7.5	8.1	11.0	6.7	8.8	10.3	8.4	9.3	11.8	9.5	10.5
28	9.7	8.0	8.8	10.1	6.5	8.1	10.7	8.9	9.7	11.9	9.6	10.6
29	---	---	---	11.6	6.7	9.0	10.1	8.7	9.3	12.0	9.9	10.8
30	---	---	---	11.8	6.0	8.9	10.9	8.6	9.6	11.1	9.7	10.4
31	---	---	---	12.7	6.6	9.6	11.4	8.6	9.9	---	---	---
Month	---	---	---	---	---	---	---	---	---	13.5	6.9	9.9

06800500 Elkhorn River at Waterloo, Nebr.—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	564	534	550	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

06800500 Elkhorn River at Waterloo, Nebr.—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	---	---	---	---	---	---	679	672	676	674	651	660
2	---	---	---	---	---	---	672	660	668	692	674	685
3	---	---	---	---	---	---	669	661	665	688	681	686
4	---	---	---	---	---	---	667	658	663	690	673	682
5	---	---	---	---	---	---	661	635	647	683	667	674
6	---	---	---	---	---	---	635	591	621	678	649	666
7	---	---	---	---	---	---	644	630	640	658	646	652
8	---	---	---	---	---	---	652	637	645	656	624	645
9	---	---	---	---	---	---	648	612	636	636	597	622
10	---	---	---	---	---	---	645	579	615	614	591	606
11	---	---	---	---	---	---	661	613	631	619	585	604
12	---	---	---	---	---	---	---	---	---	607	586	598
13	---	---	---	---	---	---	---	---	---	623	594	614
14	---	---	---	---	---	---	---	---	---	621	590	612
15	---	---	---	---	---	---	---	---	---	627	602	614
16	---	---	---	---	---	---	632	618	625	656	603	639
17	---	---	---	---	---	---	639	627	634	623	577	613
18	---	---	---	---	---	---	639	634	636	615	556	592
19	---	---	---	651	638	645	638	627	631	608	545	585
20	---	---	---	641	620	631	643	629	634	583	509	554
21	---	---	---	624	615	619	653	641	648	545	483	518
22	---	---	---	626	617	620	662	650	655	522	472	502
23	---	---	---	626	619	623	669	652	662	508	462	491
24	---	---	---	635	616	625	670	664	667	496	443	477
25	---	---	---	---	---	---	670	653	661	---	---	---
26	---	---	---	---	---	---	655	632	646	---	---	---
27	---	---	---	---	---	---	644	626	636	---	---	---
28	---	---	---	---	---	---	649	631	637	---	---	---
29	---	---	---	---	---	---	660	648	656	---	---	---
30	---	---	---	---	---	---	658	652	655	529	468	509
31	---	---	---	690	640	675	---	---	---	509	468	494
Month	---	---	---	---	---	---	---	---	---	---	---	---

06800500 Elkhorn River at Waterloo, Nebr.—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	531	482	504	661	634	652	497	462	481	571	505	539
2	535	518	527	---	---	---	502	446	481	531	506	521
3	529	491	517	---	---	---	504	446	474	531	469	500
4	522	481	506	---	---	---	491	439	470	527	488	508
5	516	341	465	---	---	---	489	435	471	586	510	542
6	471	368	435	---	---	---	---	---	---	623	560	593
7	503	447	469	---	---	---	---	---	---	607	548	577
8	504	455	477	617	522	578	514	447	480	629	601	616
9	571	486	528	572	535	558	554	481	528	632	591	616
10	605	571	587	573	550	565	562	513	529	605	533	574
11	615	592	607	607	552	571	527	456	498	561	501	538
12	592	570	581	601	556	580	496	441	477	549	510	534
13	573	559	567	582	487	554	516	435	494	667	470	557
14	570	521	540	565	329	498	521	461	492	609	422	490
15	563	534	548	539	323	429	536	474	500	502	420	457
16	676	443	532	560	425	507	513	439	454	554	483	526
17	494	449	465	569	476	544	479	434	460	535	382	494
18	560	480	512	568	517	542	571	479	524	536	338	469
19	---	---	---	568	462	535	551	429	458	528	324	446
20	---	---	---	572	510	543	484	423	453	527	356	448
21	600	544	578	585	549	575	518	484	498	532	422	497
22	670	584	632	585	533	564	565	518	543	545	519	533
23	687	661	674	573	432	543	571	549	558	545	507	533
24	687	663	677	556	477	521	577	550	564	562	525	547
25	686	661	676	556	483	520	577	524	550	595	551	577
26	674	650	662	545	493	522	530	478	501	610	576	598
27	659	640	648	553	507	535	568	467	511	603	572	593
28	665	647	654	584	552	571	573	550	562	618	580	601
29	---	---	---	592	488	564	567	550	561	636	615	625
30	---	---	---	561	456	524	576	547	566	661	636	649
31	---	---	---	---	---	---	570	545	556	---	---	---
Month	---	---	---	---	---	---	---	---	---	667	324	543

06800500 Elkhorn River at Waterloo, Nebr.—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

[>, greater than]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

06800500 Elkhorn River at Waterloo, Nebr.—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

[>, greater than]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	---	---	---	---	---	---	110	94	100	94	54	70
2	---	---	---	---	---	---	100	83	91	94	58	72
3	---	---	---	---	---	---	91	75	82	90	49	62
4	---	---	---	---	---	---	86	74	78	65	44	52
5	---	---	---	---	---	---	110	76	90	52	42	45
6	---	---	---	---	---	---	110	92	99	46	40	42
7	---	---	---	---	---	---	95	84	90	50	37	44
8	---	---	---	---	---	---	120	90	98	54	37	45
9	---	---	---	---	---	---	130	97	110	56	43	48
10	---	---	---	---	---	---	130	120	130	50	42	46
11	---	---	---	---	---	---	280	120	220	58	40	43
12	---	---	---	---	---	---	220	180	200	46	35	39
13	---	---	---	---	---	---	230	160	190	51	35	39
14	---	---	---	---	---	---	200	130	150	44	36	40
15	---	---	---	---	---	---	170	120	140	45	37	41
16	---	---	---	---	---	---	120	100	110	44	35	39
17	---	---	---	---	---	---	110	91	99	46	36	40
18	---	---	---	---	---	---	96	85	90	41	20	31
19	---	---	---	---	---	---	91	80	85	44	20	30
20	---	---	---	---	---	---	90	78	82	67	34	41
21	---	---	---	140	110	120	90	71	81	48	37	43
22	---	---	---	120	100	110	80	64	71	68	40	46
23	---	---	---	150	100	120	79	59	66	63	37	44
24	---	---	---	440	120	180	67	57	61	69	38	45
25	---	---	---	970	440	660	67	32	58	62	37	45
26	---	---	---	470	220	320	76	36	53	61	37	43
27	---	---	---	---	---	---	65	42	47	70	39	44
28	---	---	---	210	140	160	54	43	46	63	43	47
29	---	---	---	140	100	120	49	43	45	63	44	51
30	---	---	---	110	90	100	83	44	51	74	47	52
31	---	---	---	110	98	100	---	---	---	74	48	53
Month	---	---	---	---	---	---	280	32	97	94	20	46

06800500 Elkhorn River at Waterloo, Nebr.—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

[>, greater than]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	70	46	53	150	110	120	80	62	72	76	57	67
2	78	47	61	---	---	---	74	54	65	63	46	52
3	---	---	---	---	---	---	64	50	53	74	46	59
4	---	---	---	---	---	---	53	45	50	93	65	75
5	66	53	57	---	---	---	52	43	47	120	72	81
6	130	55	81	---	---	---	57	40	44	150	110	130
7	>1,490	87	>600	---	---	---	450	40	160	120	74	94
8	>1,480	510	>1,060	350	85	150	360	95	150	76	60	67
9	540	160	300	190	84	110	120	80	100	69	59	64
10	180	130	150	100	83	91	130	57	82	65	55	59
11	170	100	130	190	84	130	61	53	57	57	48	53
12	150	100	120	190	140	170	56	47	52	52	47	49
13	300	98	140	180	110	140	51	42	47	270	52	140
14	770	220	520	110	93	100	51	40	45	410	250	340
15	370	220	300	96	80	85	300	39	86	360	120	210
16	>1,520	270	>1,240	91	75	79	450	130	280	120	76	91
17	>1,510	960	>1,230	110	69	79	570	340	480	78	68	72
18	1,030	700	880	92	77	81	450	220	320	71	64	67
19	---	---	---	81	64	71	480	390	430	68	60	64
20	---	---	---	84	56	62	390	290	340	---	---	---
21	670	340	410	64	57	60	300	210	250	64	52	57
22	340	210	260	65	57	60	210	150	170	59	52	55
23	250	200	220	76	57	64	150	110	130	57	51	54
24	240	180	200	62	52	57	110	82	94	66	48	52
25	200	140	170	81	47	57	91	79	86	52	40	45
26	170	140	160	75	49	56	160	72	92	45	39	42
27	190	150	160	72	49	57	360	93	160	65	40	46
28	180	120	150	68	48	53	110	93	100	48	40	43
29	---	---	---	65	47	51	110	82	98	44	37	41
30	---	---	---	66	51	54	89	76	80	42	33	36
31	---	---	---	78	52	61	81	69	75	---	---	---
Month	---	---	---	---	---	---	570	39	140	---	---	---

06800500 Elkhorn River at Waterloo, Nebr.—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	18.6	16.0	17.5	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

06800500 Elkhorn River at Waterloo, Nebr.—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	---	---	---	---	---	---	7.8	4.7	6.2	16.2	13.5	14.8
2	---	---	---	---	---	---	8.6	5.7	7.0	17.8	14.2	15.9
3	---	---	---	---	---	---	10.3	6.6	8.4	19.1	16.0	17.4
4	---	---	---	---	---	---	9.7	8.2	8.9	18.3	16.8	17.7
5	---	---	---	---	---	---	8.2	4.8	6.1	19.4	16.1	17.8
6	---	---	---	---	---	---	5.9	2.6	4.3	20.1	17.3	18.6
7	---	---	---	---	---	---	7.7	3.6	5.5	20.9	18.0	19.3
8	---	---	---	---	---	---	10.2	6.0	7.9	22.2	19.4	20.6
9	---	---	---	---	---	---	9.9	8.3	8.7	20.0	16.6	18.5
10	---	---	---	---	---	---	9.4	6.9	8.1	19.2	16.6	17.6
11	---	---	---	---	---	---	10.4	7.7	8.9	19.0	15.6	17.3
12	---	---	---	---	---	---	10.0	9.3	9.6	18.2	16.2	16.7
13	---	---	---	---	---	---	10.4	8.7	9.4	19.0	16.1	17.2
14	---	---	---	---	---	---	12.4	8.7	10.4	18.7	15.1	17.1
15	---	---	---	---	---	---	13.4	11.1	12.0	18.0	16.7	17.1
16	---	---	---	---	---	---	13.2	11.8	12.5	17.5	13.8	15.8
17	---	---	---	---	---	---	15.5	12.1	13.7	17.6	14.8	16.2
18	---	---	---	---	---	---	16.5	14.6	15.3	20.1	14.7	17.2
19	---	---	---	11.9	9.4	10.7	16.0	13.9	15.1	22.8	18.0	20.3
20	---	---	---	11.4	9.4	10.0	15.3	13.5	14.5	22.7	19.0	20.9
21	---	---	---	11.3	8.1	9.6	15.4	12.1	13.7	23.3	19.6	21.4
22	---	---	---	12.6	10.2	11.3	17.7	13.2	15.3	23.5	19.0	21.4
23	---	---	---	13.3	12.2	12.6	20.1	15.9	17.8	24.8	21.1	22.9
24	---	---	---	12.6	9.5	10.9	21.9	18.1	19.9	25.1	21.9	23.6
25	---	---	---	9.5	7.3	8.3	20.5	14.5	16.8	25.8	21.6	23.8
26	---	---	---	---	---	---	14.5	13.0	13.5	24.5	20.2	22.3
27	---	---	---	---	---	---	13.0	11.4	12.0	20.2	17.3	18.3
28	---	---	---	---	---	---	13.4	10.2	11.8	21.8	16.3	18.7
29	---	---	---	---	---	---	14.1	12.3	13.0	24.0	19.1	21.5
30	---	---	---	---	---	---	15.7	13.8	14.4	25.3	21.1	23.2
31	---	---	---	9.7	6.3	8.0	---	---	---	24.0	21.0	22.7
Month	---	---	---	---	---	---	21.9	2.6	11.4	25.8	13.5	19.2

06800500 Elkhorn River at Waterloo, Nebr.—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	23.3	21.5	22.3	27.6	24.0	25.9	25.8	22.8	24.4	22.1	15.2	20.2
2	22.3	21.0	21.7	---	---	---	27.1	21.9	24.4	21.9	19.2	20.6
3	22.6	18.6	20.8	---	---	---	29.0	23.9	26.3	21.3	19.0	19.9
4	23.3	18.8	21.1	---	---	---	29.7	25.8	27.6	22.4	18.5	20.3
5	25.2	20.2	22.6	---	---	---	28.5	24.5	26.5	22.9	19.6	21.3
6	24.0	20.3	22.2	---	---	---	28.2	24.1	26.1	23.9	20.5	22.1
7	22.0	18.7	19.7	---	---	---	28.3	24.0	26.1	23.9	21.2	22.5
8	18.9	17.4	18.2	27.5	24.2	26.0	30.8	25.6	28.0	25.0	21.3	23.1
9	18.2	16.6	17.4	27.1	24.8	26.0	29.8	26.4	27.8	24.6	22.3	23.4
10	20.0	16.9	18.3	26.8	25.6	26.2	28.8	24.4	26.5	25.5	21.7	23.5
11	21.4	18.3	19.8	26.5	24.9	25.7	29.6	24.6	27.1	25.1	21.9	23.5
12	20.4	18.6	19.1	26.8	24.1	25.3	30.6	25.8	28.1	24.5	22.1	23.2
13	20.8	17.4	18.8	27.3	24.6	26.1	29.5	25.5	27.5	23.9	21.7	22.7
14	22.2	18.5	20.2	28.5	24.8	26.6	28.9	24.5	26.6	22.8	20.9	22.0
15	23.5	20.7	22.1	28.5	25.5	27.2	26.5	24.3	25.2	22.2	20.9	21.5
16	23.1	20.4	21.7	27.8	24.3	25.6	25.4	23.2	24.3	23.2	19.1	21.2
17	24.1	21.6	22.6	25.2	22.1	23.8	25.5	22.5	24.0	24.4	20.4	22.4
18	26.0	22.9	24.3	25.4	21.6	23.6	25.8	22.8	24.3	24.8	20.8	22.8
19	---	---	---	26.3	22.0	24.2	25.6	23.4	24.5	23.4	20.4	22.0
20	---	---	---	25.6	22.3	23.4	25.0	22.6	23.6	23.0	19.3	21.2
21	26.1	23.7	24.6	24.4	21.0	22.5	23.0	20.7	21.9	21.6	18.5	20.2
22	28.4	24.8	26.4	25.8	21.7	23.9	24.1	19.6	21.8	18.5	16.4	17.5
23	30.3	27.2	28.6	27.7	22.9	25.3	25.1	21.0	23.0	19.7	15.8	17.6
24	29.3	27.3	27.9	29.5	24.8	27.2	26.2	21.6	23.8	19.0	16.1	17.8
25	30.5	26.9	28.5	29.2	26.1	27.8	26.7	23.9	25.3	19.2	16.9	18.1
26	30.1	27.8	28.6	28.9	24.9	27.1	25.6	22.5	24.0	21.0	17.5	19.0
27	27.8	26.1	26.9	27.9	25.1	26.0	23.9	21.2	22.3	20.3	17.2	18.7
28	27.0	24.3	25.8	25.9	23.8	24.5	24.2	21.0	22.6	17.8	14.7	16.3
29	---	---	---	24.9	21.5	23.4	23.8	21.2	22.6	17.2	13.0	15.2
30	---	---	---	25.4	21.9	23.7	23.7	20.2	22.0	16.4	13.6	15.3
31	---	---	---	---	---	---	22.5	19.2	20.8	---	---	---
Month	---	---	---	---	---	---	30.8	19.2	24.8	25.5	13.0	20.5

06801000 Platte River near Ashland, Nebr.

Lower Platte Basin
Lower Platte Subbasin

LOCATION.--Lat 41°03′44″, long 96°19′29″ referenced to North American Datum of 1983, in SE ¼ SW ¼ sec.29, T.13 N., R.10 E., Sarpy County, NE, Hydrologic Unit 10200202, on left bank, 35 ft northeast of upstream side of Highway 6 bridge, 3 mi northeast of Ashland, 2 mi upstream from Salt Creek, and at mile 27.9.

DRAINAGE AREA.--84200.00 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1928 to May 1953, July 1988 to current year.

REVISED RECORDS.--WDR NE-94-1: 1993 (M).

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 1,040.00 ft above sea level. Prior to Oct. 1, 1929, chain gage at former highway bridge 0.5 mi upstream at datum 15.83 ft higher. Oct. 1, 1929 to Oct. 7, 1933, staff or chain gage at former highway bridge 0.5 mi upstream at datum 14.79 ft higher. Oct. 14, 1933 to Dec. 10, 1938, water-stage recorder at site 950 ft upstream from former bridge at datum 14.79 ft higher. Dec. 11, 1938 to June 16, 1948, water-stage recorder at former highway bridge 0.5 mi upstream at datum 14.79 ft higher. June 17, 1948 to May 11, 1953, 0.5 mi downstream of Highway 6 bridge at datum 12.51 ft higher.

REMARKS.--Records good except for the estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, groundwater withdrawals, diversions for irrigation, and return flow from irrigated areas.

06801000 Platte River near Ashland, Nebr.—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3,760	8,240	7,090	e7,030	e8,170	e4,360	7,610	8,550	5,550	8,460	3,410	4,770
2	3,590	8,430	6,910	e7,030	e8,500	e4,000	5,710	8,220	5,720	7,800	3,270	4,480
3	3,890	8,020	6,680	e6,560	e8,970	4,890	7,420	7,780	5,490	7,410	3,500	5,240
4	2,790	8,130	6,480	e6,360	e9,580	6,920	7,520	7,910	5,020	7,200	3,490	5,760
5	2,570	7,560	5,580	e6,760	e10,100	e9,180	7,050	8,200	5,050	7,020	3,470	5,120
6	3,230	7,290	5,770	e6,430	e10,300	e12,700	7,610	7,910	5,490	6,760	3,310	5,180
7	3,880	7,090	5,570	e6,760	e9,850	e10,100	8,150	7,770	6,660	6,510	3,840	5,100
8	5,010	6,760	5,560	e6,830	e9,240	e8,870	8,360	7,390	13,800	7,370	4,450	4,930
9	7,640	7,020	5,830	e6,890	e10,000	e8,150	8,020	7,070	9,220	5,970	4,480	4,670
10	7,720	6,670	6,510	e7,100	e14,000	e8,150	7,660	6,870	7,570	6,440	4,830	4,370
11	7,110	7,470	5,620	e7,030	e22,800	8,190	8,650	6,510	6,710	6,120	5,370	4,370
12	5,790	7,240	5,760	e6,890	e18,100	6,460	9,090	6,370	6,920	5,960	5,380	4,410
13	5,710	8,320	5,750	e6,490	e16,700	7,650	9,540	6,360	7,010	5,470	5,300	4,550
14	6,080	8,970	6,570	e6,220	14,700	7,940	9,380	6,110	7,890	5,220	4,840	5,260
15	6,920	8,020	4,400	e7,160	11,200	8,470	8,860	6,200	7,790	4,820	4,920	5,280
16	10,100	8,240	e1,570	e7,230	10,600	7,950	8,140	6,170	10,500	4,400	5,420	5,070
17	8,980	7,740	e1,620	e7,360	10,200	8,140	7,540	6,140	19,600	4,960	5,680	5,120
18	7,950	8,180	e1,600	e7,360	10,100	7,410	7,640	5,950	21,500	4,850	6,130	4,980
19	7,040	7,920	e1,610	e7,360	8,860	7,490	7,810	5,650	16,800	4,830	11,200	4,690
20	6,980	7,580	e2,070	e7,100	7,580	7,390	8,260	5,400	15,500	4,920	8,160	4,800
21	7,170	7,390	e1,750	e6,830	8,270	7,650	7,940	4,750	17,100	4,870	7,380	4,980
22	9,470	7,550	e2,070	e6,760	7,540	6,870	8,230	4,900	14,400	4,980	6,440	5,110
23	17,700	7,420	e3,880	e6,630	7,820	7,160	8,860	4,760	13,100	4,670	6,180	5,080
24	30,600	7,610	e4,950	e6,560	7,800	7,640	9,170	4,770	11,500	4,400	6,040	4,720
25	27,700	7,860	e5,690	e6,560	8,180	9,050	e8,900	4,530	11,500	4,410	5,620	5,460
26	19,500	7,420	e6,220	e6,220	7,990	8,190	e8,000	4,950	10,000	4,360	5,800	5,810
27	15,300	7,640	e6,490	e6,360	7,880	8,070	e7,500	5,010	9,720	4,450	6,600	6,020
28	13,200	7,200	e6,760	e6,690	e4,820	7,020	7,660	5,330	10,200	4,090	5,820	5,620
29	11,500	7,070	e6,090	e7,030	---	6,530	7,320	5,640	12,100	3,210	6,390	5,680
30	9,760	7,240	e6,690	e7,360	---	6,960	8,040	5,890	9,410	3,260	5,670	5,660
31	9,260	---	e6,960	e7,630	---	6,870	---	5,610	---	2,860	5,220	---
Total	287,900	229,290	156,100	212,580	289,850	236,420	241,640	194,670	308,820	168,050	167,610	152,290
Mean	9,287	7,643	5,035	6,857	10,350	7,626	8,055	6,280	10,290	5,421	5,407	5,076
Max	30,600	8,970	7,090	7,630	22,800	12,700	9,540	8,550	21,500	8,460	11,200	6,020
Min	2,570	6,670	1,570	6,220	4,820	4,000	5,710	4,530	5,020	2,860	3,270	4,370
Ac-ft	571,000	454,800	309,600	421,700	574,900	468,900	479,300	386,100	612,500	333,300	332,500	302,100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	5,292	5,517	5,069	4,678	6,993	8,635	8,376	8,637	10,510	6,368	4,509	4,317
Max	11,290	9,403	8,778	9,022	12,480	23,190	15,470	19,330	23,270	31,980	10,730	9,825
(WY)	(2008)	(1999)	(1998)	(1998)	(2007)	(1993)	(1998)	(1995)	(1995)	(1993)	(1996)	(1993)
Min	2,124	3,148	2,879	1,896	3,621	4,833	4,081	2,969	2,064	1,083	1,158	1,533
(WY)	(2004)	(2004)	(1990)	(2004)	(2003)	(2006)	(2004)	(1989)	(2006)	(2002)	(2003)	(1991)

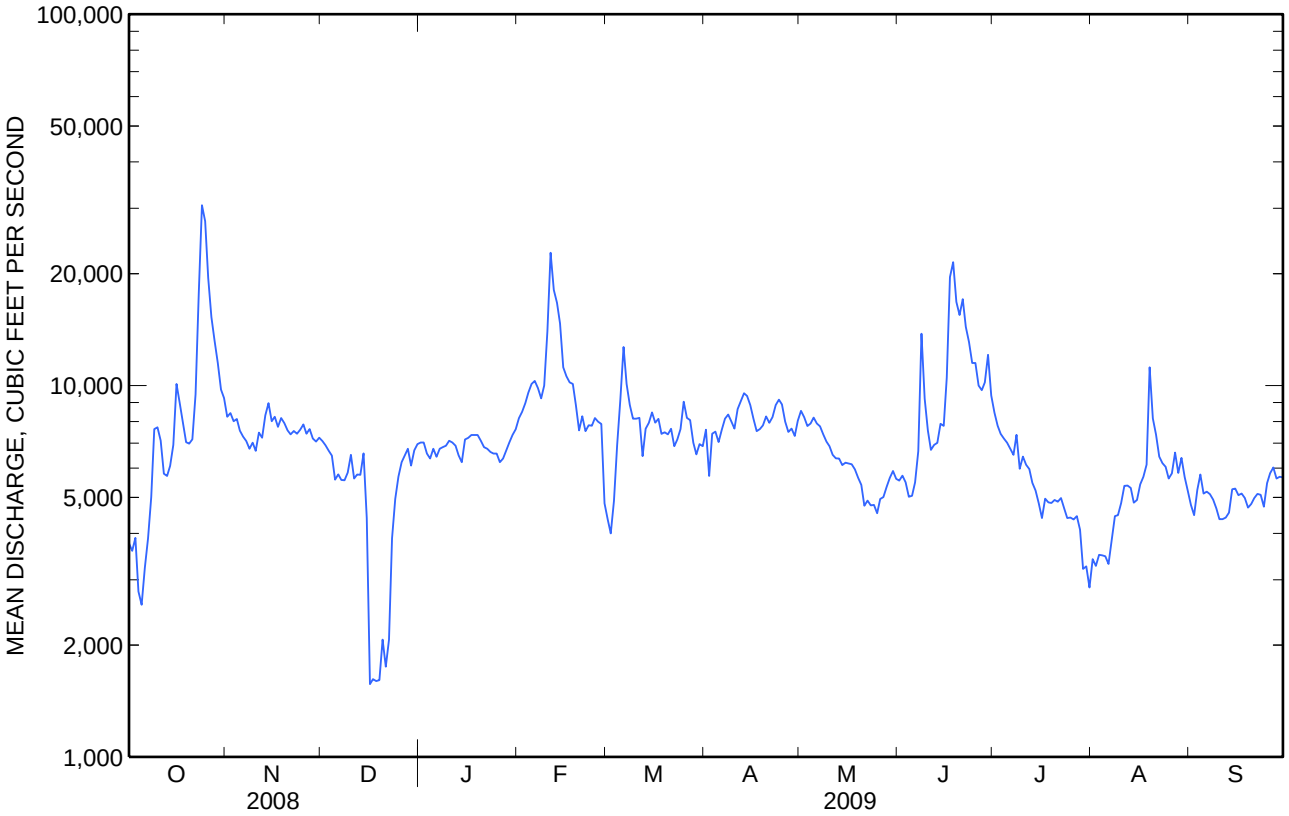
06801000 Platte River near Ashland, Nebr.—Continued

SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1989 - 2009	
Annual total	3,097,860		2,645,220			
Annual mean	8,464		7,247		6,566	
Highest annual mean					11,820	1993
Lowest annual mean					3,604	2006
Highest daily mean	69,300	May 31	30,600	Oct 24	110,000	Mar 10, 1993
Lowest daily mean	1,570	Dec 16	1,570	Dec 16	381	Sep 1, 2003
Annual seven-day minimum	1,760	Dec 16	1,760	Dec 16	603	Jul 29, 2006
Maximum peak flow			42,500	Oct 24	[a]130,000	Mar 10, 1993
Maximum peak stage			18.55	Oct 24	[b]23.05	Feb 20, 1997
Annual runoff (ac-ft)	6,145,000		5,247,000		4,756,000	
10 percent exceeds	12,800		10,000		11,000	
50 percent exceeds	7,080		6,920		5,480	
90 percent exceeds	3,180		4,430		2,210	

[a] Estimated, includes overbank flow; gage height, 19.23 ft, backwater from ice.

[b] Backwater from ice.



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Appendix C
Calibration Statistics for Transient Time Steps

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Appendix C
August 2007 Residuals

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
PZ-01	215	2632385	499049.6	3	1082.35	1082.299	1	1	0.051292
PZ-02	215	2631559	499022.4	3	1084.01	1084.258	1	1	-0.24785
PZ-03	215	2633506	501788.9	3	1085.44	1084.239	1	1	1.201363
PZ-04	215	2636059	501690.7	3	1082.33	1081.381	1	1	0.949121
PZ-05	215	2639988	502024.7	3	1082.48	1081.892	1	1	0.588247
PZ-06	215	2636835	504539.7	3	1084.91	1084.613	1	1	0.297024
TH-EW-12	215	2610738	493102.1	3	1080.04	1075.966	1	1	4.074096
TH-EW-13	215	2611511	493072.7	3	1100.48	1099.613	1	1	0.867167
OW-64	215	2627300	497308.3	3	1086.1	1087.211	1	1	-1.11065
OW-65	215	2627673	497146.3	3	1085.94	1087.226	1	1	-1.28611
OW-66	215	2622938	497314.2	3	1088.21	1090.471	1	1	-2.26124
OW-67	215	2622731	497150.2	3	1089.04	1090.036	1	1	-0.99643
OW-68	215	2622419	496526.2	3	1089.49	1090.581	1	1	-1.09127
OW-69	215	2623045	497134.8	3	1089.02	1090.569	1	1	-1.54857
OW-70	215	2623341	496845.9	3	1089.74	1090.847	1	1	-1.10727
OW-71	215	2623796	497474.1	3	1090.31	1091.685	1	1	-1.37544
OW-72	215	2620346	495293	3	1089.47	1090.239	1	1	-0.76939
OW-73	215	2620218	495239.7	3	1090.2	1091.051	1	1	-0.85118
OW-74	215	2619854	494895.1	3	1090.63	1091.723	1	1	-1.09302
OW-75	215	2620487	495139.4	3	1090.13	1090.712	1	1	-0.5822
OW-76	215	2620658	494777.2	3	1090.53	1091.298	1	1	-0.76775
OW-77	215	2621415	495808.4	3	1089.62	1090.679	1	1	-1.05938
OW-78	215	2609111	499977.5	3	1114.66	1114.577	1	1	0.082657
OW-79	215	2608990	499915.3	3	1114.48	1114.436	1	1	0.043825
OW-80	215	2608752	499731.6	3	1113.89	1113.954	1	1	-0.06359
OW-81	215	2609233	499803.1	3	1113.76	1114.076	1	1	-0.31562
OW-82	215	2609366	499415.3	3	1112.54	1113.04	1	1	-0.49957
OW-83	215	2609755	500075	3	1114.57	1114.616	1	1	-0.04565
OW-89	215	2632605	496433.6	3	1077.404	1078.108	1	1	-0.70412
MW-15	215	2622745	509482.9	2	1121.492	1122.442	1	1	-0.94968
MW-16B	215	2604912	514026.4	3	1149.85	1148.955	1	1	0.89461
MW-16C	215	2604918	514034.7	2	1149.811	1148.975	1	1	0.836197
MW-17A	215	2603293	499100.3	3	1119.01	1120.157	1	1	-1.14677
MW-17B	215	2603293	499101.5	3	1119.14	1120.161	1	1	-1.02056
MW-17C	215	2603293	499090.3	2	1119.48	1120.129	1	1	-0.64907
MW-18A	215	2629150	506832.3	3	1100.444	1101.458	1	1	-1.01368
MW-18B	215	2629157	506827.5	3	1100.04	1101.429	1	1	-1.38904
MW-18C	215	2629149	506821.9	2	1102.94	1101.437	1	1	1.502628
MW-19A	215	2618421	517577.1	3	1142.071	1142.642	1	1	-0.57056
MW-19B	215	2618430	517577	3	1141.94	1142.633	1	1	-0.69312
MW-20A	215	2616623	493189.9	3	1096.205	1097.865	1	1	-1.66003
MW-20B	215	2616633	493191.5	3	1096.217	1097.853	1	1	-1.63605
MW-20C	215	2616611	493187.6	2	1098.277	1097.879	1	1	0.397516
MW-21A	215	2607121	503524.8	3	1125.24	1125.225	1	1	0.014594
MW-21B	215	2607111	503524.1	2	1125.17	1125.234	1	1	-0.0645
MW-22A	215	2606598	510402.1	3	1134.32	1141.078	1	1	-6.75818
MW-22B	215	2606604	510403.4	2	1141.14	1141.081	1	1	0.059263
MW-23A	215	2606403	509376.4	3	1138.33	1138.66	1	1	-0.32954
MW-23B	215	2606393	509383.9	2	1138.31	1138.688	1	1	-0.37835
MW-24A	215	2608477	501919.8	3	1119.36	1120.027	1	1	-0.66724
MW-24B	215	2608478	501909	2	1119.63	1120.002	1	1	-0.37244
MW-25A	215	2608308	504875.2	3	1126.4	1126.855	1	1	-0.45534
MW-25B	215	2608308	504885.6	2	1126.63	1126.879	1	1	-0.24851
MW-26A	215	2609860	508825.1	3	1136.81	1135.911	1	1	0.898868
MW-26B	215	2609850	508824.9	2	1136.79	1135.916	1	1	0.873901
MW-27A	215	2611435	508103	3	1133.6	1133.313	1	1	0.286535
MW-27B	215	2611427	508110.6	2	1133.65	1133.344	1	1	0.305724
MW-28A	215	2612951	502242.7	3	1117.61	1118.25	1	1	-0.63974
MW-28B	215	2612936	502242.3	2	1117.34	1118.264	1	1	-0.92433
MW-29A	215	2614470	498383.1	3	1106.58	1107.074	1	1	-0.49439
MW-29B	215	2614461	498382.4	2	1106.67	1107.086	1	1	-0.41645
MW-30A	215	2616288	507064.6	3	1125.01	1125.331	1	1	-0.32055
MW-30B	215	2616282	507065.9	2	1124.98	1125.349	1	1	-0.36923
MW-31A	215	2617944	503233.7	3	1114.59	1114.517	1	1	0.073134
MW-31B	215	2617935	503238.6	2	1114.34	1114.543	1	1	-0.20306
MW-32A	215	2619697	499062.3	3	1100.35	1101.777	1	1	-1.42729
MW-32B	215	2619697	499069.1	2	1100.39	1101.798	1	1	-1.40766

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-33A	215	2622411	502847.9	3	1104.29	1106.462	1	1	-2.17218
MW-33B	215	2622401	502854.8	2	1104.28	1106.487	1	1	-2.20728
MW-34A	215	2624443	498806.3	3	1092.82	1094.688	1	1	-1.86786
MW-34B	215	2624443	498814.1	2	1092.85	1094.711	1	1	-1.8612
MW-35A	215	2629596	496323.6	3	1082.71	1084.031	1	1	-1.32134
MW-35B	215	2629596	496329.4	2	1082.65	1084.032	1	1	-1.38177
MW-52A	215	2627013	508784.6	3	1116.93	1116.095	1	1	0.835421
MW-52B	215	2627004	508778.9	2	1116.77	1116.105	1	1	0.665054
MW-53A	215	2627898	508169.9	3	1107.14	1109.043	1	1	-1.90305
MW-53B	215	2627885	508166.6	2	1109.19	1109.077	1	1	0.113166
MW-54A	215	2627894	508858.3	3	1109.18	1111.713	1	1	-2.53339
MW-54B	215	2627884	508856	2	1112.1	1111.743	1	1	0.357256
MW-55A	215	2628135	508377.7	3	1107.29	1108.973	1	1	-1.68278
MW-55B	215	2628126	508374.2	2	1107.52	1108.998	1	1	-1.47842
MW-56A	215	2628206	508215.3	3	1106.59	1108.079	1	1	-1.48891
MW-56B	215	2628195	508217.3	2	1108.68	1108.131	1	1	0.549152
MW-57B	215	2607622	516363.4	2	1150.25	1151.879	1	1	-1.62878
MW-60A	215	2624703	489585.2	3	1087.047	1088.102	1	1	-1.05523
MW-60B	215	2624703	489598.7	2	1087.037	1088.109	1	1	-1.07163
MW-61A	215	2608656	492900.1	3	1102.347	1102.387	1	1	-0.03962
MW-61B	215	2608644	492898.6	2	1102.517	1102.393	1	1	0.124096
MW-62A	215	2635397	493874.2	3	1074.684	1074.962	1	1	-0.27762
MW-62B	215	2635385	493872	2	1074.684	1074.957	1	1	-0.27343
MW-63B	215	2613168	519473.6	2	1153.12	1152.637	1	1	0.482981
MW-64B	215	2628039	510106	2	1115.32	1118.343	1	1	-3.02261
MW-65A	215	2613203	506090.5	3	1126.363	1126.43	1	1	-0.06676
MW-65B	215	2613193	506091.2	2	1126.403	1126.439	1	1	-0.03634
MW-01A	215	2618460	511743	3	1132.7	1132.548	1	1	0.151515
MW-01B	215	2618470	511743.2	2	1132.705	1132.54	1	1	0.165233
MW-03A	215	2607532	506223.4	3	1129.635	1129.881	1	1	-0.2458
MW-03B	215	2607542	506225.4	2	1129.69	1129.882	0.1	1	-0.19195
MW-04A	215	2612042	506256.8	3	1128.544	1127.457	1	1	1.087312
MW-04B	215	2612051	506259.4	2	1128.522	1127.462	1	1	1.059646
MW-05A	215	2613044	507097.6	3	1129.513	1129.363	1	1	0.150432
MW-05B	215	2613054	507097.5	2	1129.436	1129.36	1	1	0.075655
MW-06A	215	2617376	506522.1	3	1122.594	1122.737	1	1	-0.14263
MW-06B	215	2617385	506525.5	2	1122.54	1122.732	1	1	-0.19181
MW-07A	215	2618267	507274.8	3	1122.922	1122.932	1	1	-0.0101
MW-07B	215	2618277	507276.1	2	1122.901	1122.92	1	1	-0.01905
MW-08A	215	2622864	506814.8	3	1115.762	1116.089	1	1	-0.32696
MW-08B	215	2622872	506820.6	2	1115.75	1116.093	1	1	-0.34257
MW-09A	215	2623571	507435.8	3	1116.24	1116.708	1	1	-0.46752
MW-100A	215	2629719	493770.4	3	1082.82	1083.178	1	1	-0.35754
MW-100B	215	2629718	493777.2	2	1082.81	1083.181	1	1	-0.37112
MW-101A	215	2610929	491574.1	3	1099.13	1098.993	1	1	0.137092
MW-101B	215	2610924	491573.8	2	1099.16	1098.997	1	1	0.162661
MW-102A	215	2622929	514541.2	3	1131.62	1133.808	1	1	-2.18834
MW-102B	215	2622923	514540.9	2	1131.19	1133.815	1	1	-2.62459
MW-103A	215	2623591	513115.8	3	1129.04	1129.738	1	1	-0.69788
MW-103B	215	2623591	513110.3	2	1129.32	1129.729	1	1	-0.40876
MW-106A	215	2630545	506843.3	3	1097.79	1097.815	1	1	-0.02459
MW-106B	215	2630539	506844.1	2	1097.71	1097.834	1	1	-0.12354
MW-107A	215	2631376	506138.8	3	1094.14	1094.432	1	1	-0.29216
MW-107B	215	2631374	506125.2	2	1093.45	1094.417	1	1	-0.96686
MW-108A	215	2631916	505912.3	3	1093.09	1093.292	1	1	-0.20163
MW-108B	215	2631917	505899.5	2	1092.95	1093.273	1	1	-0.32305
MW-10A	215	2607884	496858.3	3	1108.97	1109.154	1	1	-0.18396
MW-10B	215	2607894	496858.9	2	1108.99	1109.154	1	1	-0.16365
MW-11	215	2626486	509499.8	3	1123.095	1121.767	1	1	1.328405
MW-110A	215	2634398	504432.8	3	1087.06	1088.035	1	1	-0.97458
MW-110B	215	2634397	504438.9	2	1087.1	1088.043	1	1	-0.94337
MW-112A	215	2637366	501825.8	3	1081.88	1081.076	1	1	0.804288
MW-112B	215	2637365	501832.7	2	1081.92	1081.083	1	1	0.83682
MW-114A	215	2637471	497206.9	3	1076.57	1076.879	1	1	-0.30932
MW-114B	215	2637466	497204.3	2	1077.18	1076.865	1	1	0.315083
MW-115A	215	2637703	495346.9	3	1076.35	1076.411	1	1	-0.06082
MW-115B	215	2637696	495346.9	2	1076.31	1076.408	1	1	-0.09807

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-116A	215	2636336	495297.6	3	1074.62	1075.61	1	1	-0.99015
MW-116B	215	2636332	495297.2	2	1075.73	1075.607	1	1	0.122747
MW-117A	215	2631041	495048	3	1081.08	1081.414	1	1	-0.33445
MW-117B	215	2631041	495054	2	1080.56	1081.419	1	1	-0.85874
MW-118A	215	2625905	496207.7	3	1083.15	1089.218	1	1	-6.06816
MW-118B	215	2625885	496207.8	2	1083.16	1089.246	1	1	-6.08564
MW-13	215	2612231	509178.6	2	1135.065	1135.777	1	1	-0.71185
MW-14	215	2617505	509391.1	2	1129.731	1129.087	1	1	0.644467
MW-36A	215	2634815	496695	3	1075.87	1075.921	1	1	-0.05108
MW-36B	215	2634806	496692.9	2	1075.89	1075.922	1	1	-0.03186
MW-37A	215	2633418	491651.9	3	1076.92	1077.108	1	1	-0.18835
MW-37B	215	2633417	491631.7	2	1076.96	1077.106	1	1	-0.14599
MW-38A	215	2638132	496248.6	3	1076.72	1076.938	1	1	-0.21787
MW-39A	215	2640062	499304.7	3	1079.82	1079.81	1	1	0.010404
MW-40A	215	2623019	511963.4	3	1127.95	1128.062	1	1	-0.11154
MW-40B	215	2623007	511962.8	2	1126.76	1128.075	1	1	-1.31485
MW-41A	215	2624371	512001.3	3	1127.9	1126.668	1	1	1.23162
MW-41B	215	2624362	512001.4	2	1127.98	1126.68	1	1	1.300122
MW-42A	215	2629385	501582.6	3	1091.51	1092.09	1	1	-0.57995
MW-42B	215	2629385	501592.6	2	1091.51	1092.106	1	1	-0.59596
MW-43A	215	2629243	504317.9	3	1095.22	1095.86	1	1	-0.64048
MW-43B	215	2629244	504328.2	2	1095.13	1095.873	1	1	-0.74331
MW-44A	215	2632954	500415.1	3	1083.38	1082.103	1	1	1.277437
MW-44B	215	2632955	500426.3	2	1083.06	1082.101	0.5	1	0.959161
MW-45A	215	2635044	499241.1	3	1078.28	1078.062	1	1	0.21821
MW-45B	215	2635044	499241.1	2	1078.34	1078.061	1	1	0.278926
MW-46A	215	2637465	499387.4	3	1079.1	1078.808	1	1	0.291937
MW-46B	215	2637464	499396.7	2	1079.11	1078.815	1	1	0.294759
MW-47A	215	2603835	524480.7	3	1170.62	1168.661	1	1	1.959377
MW-47B	215	2603819	524480.2	2	1170.69	1168.671	1	1	2.019179
MW-71B	215	2613383	506090.3	2	1126.223	1126.322	1	1	-0.09946
MW-72A	215	2622931	512064.7	3	1127.42	1128.369	1	1	-0.9486
MW-72B	215	2622922	512064.2	2	1127.36	1128.38	1	1	-1.01952
MW-73A	215	2623061	511909.2	3	1127.123	1127.906	1	1	-0.78345
MW-73B	215	2623052	511908.7	2	1127.22	1127.915	1	1	-0.69539
MW-74A	215	2623094	511934.8	3	1127.11	1127.934	1	1	-0.82398
MW-74B	215	2623085	511934.8	2	1127.543	1127.943	1	1	-0.40005
MW-75A	215	2623130	511962.4	3	1127.143	1127.964	1	1	-0.82135
MW-75B	215	2623120	511961.8	2	1126.173	1127.973	1	1	-1.79994
MW-76A	215	2623159	511983.3	3	1127.153	1127.985	1	1	-0.83234
MW-76B	215	2623149	511982.6	2	1127.173	1127.994	1	1	-0.82065
MW-77A	215	2623192	512008	3	1127.123	1128.01	1	1	-0.88704
MW-77B	215	2623181	512007.3	2	1127.163	1128.019	1	1	-0.85641
MW-78A	215	2623224	512032.8	3	1126.213	1128.036	1	1	-1.82301
MW-78B	215	2623214	512031.3	2	1127.193	1128.043	1	1	-0.84961
MW-79A	215	2610432	492336.2	3	1099.66	1099.522	1	1	0.137863
MW-79B	215	2610428	492345.2	2	1099.64	1099.528	1	1	0.112109
MW-80A	215	2610926	492067.1	3	1099.36	1099.077	1	1	0.282528
MW-80B	215	2610916	492064.6	2	1099.34	1099.08	1	1	0.259997
MW-81A	215	2611638	492369.4	3	1099.32	1099.315	1	1	0.004829
MW-81B	215	2611636	492360.4	2	1099.29	1099.311	1	1	-0.0214
MW-82A	215	2619289	493318.1	3	1092.64	1093.671	1	1	-1.03076
MW-82B	215	2619285	493325.5	2	1092.6	1093.676	1	1	-1.07594
MW-83A	215	2621924	495274.7	3	1089.88	1090.658	1	1	-0.77763
MW-83B	215	2621922	495302.8	2	1089.82	1090.646	1	1	-0.82629
MW-84A	215	2624278	495685.5	3	1089.34	1090.094	1	1	-0.75396
MW-84B	215	2624272	495712.9	2	1089.8	1090.111	1	1	-0.31141
MW-85A	215	2628327	494439	3	1084.5	1085.313	1	1	-0.8135
MW-85B	215	2628315	494449.8	2	1084.44	1085.332	1	1	-0.89246
MW-86A	215	2631939	493759.7	3	1079.91	1079.632	1	1	0.277597
MW-86B	215	2631934	493758.7	2	1079.49	1079.642	1	1	-0.15248
MW-87A	215	2635040	491898	3	1074.03	1074.979	1	1	-0.94851
MW-87B	215	2635035	491901	2	1074.04	1074.981	1	1	-0.94109
MW-88A	215	2637644	494045.1	3	1076.89	1076.008	1	1	0.882368
MW-88B	215	2637639	494044.2	2	1075.73	1076.006	1	1	-0.2762
MW-89A	215	2610431	494253.9	3	1103.27	1103.996	1	1	-0.72635
MW-89B	215	2610409	494254.1	2	1103.12	1103.994	1	1	-0.87406

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-90A	215	2611236	494302	3	1103.54	1103.909	1	1	-0.36858
MW-90B	215	2611227	494298	2	1103.19	1103.907	1	1	-0.71674
MW-91A	215	2612077	494323	3	1103.04	1103.593	1	1	-0.55283
MW-91B	215	2612068	494317.5	2	1102.87	1103.591	1	1	-0.72132
MW-92A	215	2610047	492722.6	3	1100.19	1100.377	1	1	-0.1869
MW-92B	215	2610048	492733.8	2	1100.25	1100.383	1	1	-0.13337
MW-93A	215	2612163	493551.3	3	1101.95	1101.995	1	1	-0.04514
MW-93B	215	2612154	493546.8	2	1101.9	1101.994	1	1	-0.09398
MW-94A	215	2617023	496428.7	3	1099.29	1100.737	1	1	-1.44672
MW-94B	215	2617023	496434.5	2	1099.35	1100.748	1	1	-1.39772
MW-95A	215	2617553	494508.6	3	1096.85	1097.382	1	1	-0.53229
MW-95B	215	2617547	494508	2	1096.86	1097.397	1	1	-0.53658
MW-96A	215	2621468	493387.7	3	1090.53	1091.469	1	1	-0.93862
MW-96B	215	2621468	493387.8	2	1090.53	1091.47	1	1	-0.93951
MW-97A	215	2623938	493492.8	3	1088.95	1089.653	1	1	-0.70292
MW-97B	215	2623933	493492.5	2	1088.97	1089.658	1	1	-0.68776
MW-98A	215	2626495	493604.9	3	1087	1087.432	1	1	-0.43239
MW-98B	215	2626489	493605.3	2	1087.04	1087.44	1	1	-0.39985
MW-99A	215	2627117	498781	3	1089.19	1091.221	1	1	-2.03148
MW-99B	215	2627118	498787.9	2	1089.19	1091.233	1	1	-2.04294
OW-01	215	2607923	499748	3	1114.24	1113.934	1	1	0.305925
OW-02	215	2607883	499737.4	3	1113.75	1113.907	1	1	-0.15659
OW-03	215	2607936	499790.4	3	1113.84	1114.049	1	1	-0.20862
OW-04	215	2607936	499764.7	3	1113.73	1113.978	1	1	-0.24761
OW-05	215	2634935	495184.3	3	1071.62	1073.599	1	1	-1.9788
OW-06	215	2634884	495208.1	3	1072.6	1073.922	1	1	-1.32172
OW-07	215	2634884	495203.3	3	1073.12	1073.896	1	1	-0.77565
OW-08	215	2634786	495194.2	3	1073.36	1074.236	1	1	-0.87649
OW-09	215	2634938	495134.4	3	1072.76	1072.752	1	1	0.008475
OW-10	215	2635085	495206.7	3	1073.62	1074.189	1	1	-0.56858
OW-11	215	2635254	495167.8	3	1073.97	1074.54	1	1	-0.56967
OW-12	215	2636332	495279.5	3	1075.18	1075.603	1	1	-0.42251
OW-13	215	2634929	495121.8	3	1072.64	1072.457	1	1	0.183255
OW-14	215	2634937	494987.8	3	1073.55	1073.982	1	1	-0.43185
OW-15	215	2634948	494788.1	3	1073.83	1074.374	1	1	-0.54383
OW-16	215	2633480	495159.3	3	1075.13	1076.195	1	1	-1.06466
OW-17	215	2608000	499877.7	3	1114.12	1114.316	1	1	-0.19578
OW-18	215	2608114	499884	3	1114.17	1114.348	1	1	-0.1779
OW-19	215	2608710	499902.6	3	1114.51	1114.429	1	1	0.080941
OW-20	215	2607955	499696.4	3	1113.76	1113.808	1	1	-0.04769
OW-21	215	2607937	499559.5	3	1113.17	1113.509	1	1	-0.33924
OW-22	215	2608020	499355.1	3	1113.29	1113.047	1	1	0.243376
OW-23	215	2607158	499656.4	3	1114.08	1113.879	1	1	0.200996
OW-24	215	2629552	496984.5	3	1082.17	1082.907	1	1	-0.73689
OW-25	215	2629511	496932.1	3	1082.59	1083.433	1	1	-0.84276
OW-26	215	2629214	496664.1	3	1083.74	1084.572	1	1	-0.83246
OW-27	215	2629582	496942.2	3	1082.25	1083.432	1	1	-1.18188
OW-28	215	2629582	496898	3	1082.35	1083.607	1	1	-1.25711
OW-30	215	2629965	497303.9	3	1083.1	1084.433	1	1	-1.333
OW-31	215	2624243	497899	3	1089.88	1090.19	1	1	-0.30964
OW-32	215	2624140	497845.1	3	1090.54	1091.366	1	1	-0.82645
OW-33	215	2623751	497669.8	3	1090.91	1092.032	1	1	-1.122
OW-34	215	2624320	497868.6	3	1089.2	1091.288	1	1	-2.08812
OW-35	215	2624383	497738.5	3	1090.47	1091.495	1	1	-1.02488
OW-36	215	2624413	497337.6	3	1090.43	1091.299	1	1	-0.86888
OW-37	215	2624838	498178.4	3	1091.82	1092.729	1	1	-0.90941
OW-38	215	2621733	496294.9	3	1085.84	1086.015	1	1	-0.17488
OW-39	215	2621620	496212.3	3	1088.3	1089.214	1	1	-0.91399
OW-40	215	2621297	495975.6	3	1089.99	1090.864	1	1	-0.87389
OW-41	215	2621817	496281.9	3	1084.88	1088.399	1	1	-3.51868
OW-42	215	2621900	496169.4	3	1087.36	1089.456	1	1	-2.09574
OW-43	215	2622135	495845.8	3	1089.39	1090.279	1	1	-0.88887
OW-44	215	2622303	496682.1	3	1089.92	1090.784	1	1	-0.86383
OW-45	215	2619203	494842.2	3	1086.97	1088.203	1	1	-1.23298
OW-46	215	2619059	494783.4	3	1090.7	1091.554	1	1	-0.85391
OW-47	215	2618685	494630.9	3	1093.14	1094.102	1	1	-0.96177
OW-48	215	2619283	494800.5	3	1087.86	1089.494	1	1	-1.63422

Appendix C
August 2007 Residuals

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
OW-49	215	2619316	494671.9	3	1090.02	1091.033	1	1	-1.01349
OW-50	215	2619466	494300.2	3	1091.36	1092.402	1	1	-1.04231
OW-51	215	2619791	495096	3	1091.19	1091.904	1	1	-0.71428
OW-52	215	2610586	493033.9	3	1092.44	1092.301	1	1	0.139361
OW-53	215	2610556	493019.7	3	1094.23	1093.603	1	1	0.627103
OW-54	215	2611357	493520.9	3	1101.61	1101.617	1	1	-0.0069
OW-55	215	2610822	492991.9	3	1091.37	1091.842	1	1	-0.4717
OW-56	215	2611643	493196.4	3	1101.31	1100.702	1	1	0.607817
OW-57	215	2611769	493277.9	3	1101.49	1101.289	1	1	0.201314
OW-58	215	2611367	493010	3	1099.73	1098.665	1	1	1.065337
OW-59	215	2611580	493019.2	3	1100.58	1099.809	1	1	0.770927
OW-60	215	2627138	497440.7	3	1085.83	1087.302	1	1	-1.47188
OW-61	215	2627192	497571.5	3	1086.62	1088.155	1	1	-1.53506
OW-62	215	2627351	497954.3	3	1087.62	1089.26	1	1	-1.6395
OW-63	215	2627528	497841.9	3	1087.23	1088.791	1	1	-1.56143
Residual Mean	-0.52684								
Abs. Res. Mean	0.814467								
Res. Std. Dev.	1.050678								
Sum of Squares	390.9597								
RMS Error	1.175365								
Min. Residual	-6.75818								
Max. Residual	4.074096								
Number of Observations	283								
Range in Observations	99.07								
Scaled Std. Dev.	0.010605								
Scaled Abs. Mean	0.008221								
Scaled RMS	0.011864								

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
PZ-01	365	2632385	499049.6	3	1070.02	1082.27	1	1	-12.25
PZ-03	365	2633506	501788.9	3	1084.62	1084.316	1	1	0.303515
PZ-04	365	2636059	501690.7	3	1082.49	1081.709	1	1	0.780903
PZ-05	365	2639988	502024.7	3	1082.57	1082.279	1	1	0.291247
PZ-06	365	2636835	504539.7	3	1085.57	1085.302	1	1	0.268011
TH-EW-13	365	2611511	493072.7	3	1100.72	1099.814	1	1	0.905891
OW-64	365	2627300	497308.3	3	1086.51	1087.171	1	1	-0.66052
OW-65	365	2627673	497146.3	3	1086.33	1087.156	1	1	-0.82603
OW-66	365	2622938	497314.2	3	1088.97	1090.57	1	1	-1.59973
OW-67	365	2622731	497150.2	3	1089.83	1090.134	1	1	-0.30432
OW-68	365	2622419	496526.2	3	1090.07	1090.623	1	1	-0.55262
OW-69	365	2623045	497134.8	3	1089.67	1090.66	1	1	-0.99005
OW-70	365	2623341	496845.9	3	1090.09	1090.928	1	1	-0.83844
OW-71	365	2623796	497474.1	3	1090.63	1091.762	1	1	-1.1318
OW-72	365	2620346	495293	3	1090.25	1090.172	1	1	0.077897
OW-73	365	2620218	495239.7	3	1091.01	1091	1	1	0.00972
OW-74	365	2619854	494895.1	3	1091.24	1091.683	1	1	-0.44309
OW-75	365	2620487	495139.4	3	1090.91	1090.673	1	1	0.237499
OW-76	365	2620658	494777.2	3	1091.18	1091.297	1	1	-0.11743
OW-77	365	2621415	495808.4	3	1090.78	1090.666	1	1	0.11352
OW-78	365	2609111	499977.5	3	1113.07	1109.262	1	1	3.808141
OW-79	365	2608990	499915.3	3	1111.48	1111.141	1	1	0.338618
OW-80	365	2608752	499731.6	3	1113.2	1112.817	1	1	0.382565
OW-81	365	2609233	499803.1	3	1112.74	1111.352	1	1	1.387683
OW-82	365	2609366	499415.3	3	1112.53	1112.27	1	1	0.260037
OW-83	365	2609755	500075	3	1115.76	1113.911	1	1	1.849025
OW-89	365	2632605	496433.6	3	1077.464	1078.06	1	1	-0.59581
MW-15	365	2622745	509482.9	2	1122.152	1122.545	1	1	-0.39288
MW-16B	365	2604912	514026.4	3	1150.82	1149.081	1	1	1.738605
MW-16C	365	2604918	514034.7	2	1151.011	1149.101	1	1	1.910063
MW-17A	365	2603293	499100.3	3	1119.22	1120.18	1	1	-0.95955
MW-17B	365	2603293	499101.5	3	1118.71	1120.183	1	1	-1.4733
MW-17C	365	2603293	499090.3	2	1119.57	1120.151	1	1	-0.58146
MW-18A	365	2629150	506832.3	3	1101.414	1101.433	1	1	-0.01872
MW-18B	365	2629157	506827.5	3	1101.01	1101.404	1	1	-0.39443
MW-18C	365	2629149	506821.9	2	1103.6	1101.413	1	1	2.187168
MW-19A	365	2618421	517577.1	3	1143.131	1142.698	1	1	0.433092
MW-19B	365	2618430	517577	3	1142.85	1142.689	1	1	0.160691
MW-20A	365	2616623	493189.9	3	1096.405	1097.882	1	1	-1.47734
MW-20B	365	2616633	493191.5	3	1096.407	1097.87	1	1	-1.46342
MW-20C	365	2616611	493187.6	2	1098.47	1097.896	1	1	0.573571
MW-21A	365	2607121	503524.8	3	1126.05	1125.486	1	1	0.564437
MW-21B	365	2607111	503524.1	2	1126.03	1125.493	1	1	0.536928
MW-22A	365	2606598	510402.1	3	1141.96	1141.084	1	1	0.875824
MW-22B	365	2606604	510403.4	2	1141.83	1141.086	1	1	0.743869
MW-23A	365	2606403	509376.4	3	1138.97	1138.678	1	1	0.291575
MW-23B	365	2606393	509383.9	2	1139.19	1138.706	1	1	0.483727
MW-24A	365	2608477	501919.8	3	1120.11	1120.345	1	1	-0.23481
MW-24B	365	2608478	501909	2	1120.37	1120.319	1	1	0.050576
MW-25A	365	2608308	504875.2	3	1127.5	1127.235	1	1	0.265445
MW-25B	365	2608308	504885.6	2	1127.56	1127.257	1	1	0.302736
MW-26A	365	2609860	508825.1	3	1137.48	1136.048	1	1	1.431778
MW-26B	365	2609850	508824.9	2	1137.45	1136.053	1	1	1.396611
MW-27A	365	2611435	508103	3	1134.24	1133.378	1	1	0.862368
MW-27B	365	2611427	508110.6	2	1134.34	1133.407	1	1	0.932624
MW-28A	365	2612951	502242.7	3	1118.34	1118.457	1	1	-0.11654
MW-28B	365	2612936	502242.3	2	1118.83	1118.472	1	1	0.35822
MW-29A	365	2614470	498383.1	3	1106.04	1107.189	1	1	-1.14854
MW-29B	365	2614461	498382.4	2	1107.89	1107.201	1	1	0.6895
MW-30A	365	2616288	507064.6	3	1125.65	1125.39	1	1	0.260106
MW-30B	365	2616282	507065.9	2	1125.65	1125.407	1	1	0.242854
MW-31A	365	2617944	503233.7	3	1115.16	1114.69	1	1	0.469859
MW-31B	365	2617935	503238.6	2	1114.6	1114.717	1	1	-0.11699
MW-32A	365	2619697	499062.3	3	1100.56	1101.795	1	1	-1.23538
MW-32B	365	2619697	499069.1	2	1100.58	1101.816	1	1	-1.23574
MW-33A	365	2622411	502847.9	3	1104.81	1106.584	1	1	-1.77373
MW-33B	365	2622401	502854.8	2	1104.82	1106.609	1	1	-1.78881

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-34A	365	2624443	498806.3	3	1093.09	1094.724	1	1	-1.63364
MW-34B	365	2624443	498814.1	2	1093.1	1094.747	1	1	-1.6466
MW-35A	365	2629596	496323.6	3	1083.06	1083.937	1	1	-0.87694
MW-35B	365	2629596	496329.4	2	1083.03	1083.937	1	1	-0.90714
MW-52A	365	2627013	508784.6	3	1117.22	1116.104	1	1	1.116232
MW-52B	365	2627004	508778.9	2	1117.08	1116.115	1	1	0.96452
MW-53A	365	2627898	508169.9	3	1108.02	1108.965	1	1	-0.94528
MW-53B	365	2627885	508166.6	2	1109.57	1109	1	1	0.570461
MW-54A	365	2627894	508858.3	3	1110.08	1111.6	1	1	-1.51955
MW-54B	365	2627884	508856	2	1112.67	1111.629	1	1	1.040862
MW-55A	365	2628135	508377.7	3	1108.16	1108.869	1	1	-0.70898
MW-55B	365	2628126	508374.2	2	1108.42	1108.895	1	1	-0.47472
MW-56A	365	2628206	508215.3	3	1107.51	1107.981	1	1	-0.47061
MW-56B	365	2628195	508217.3	2	1108.93	1108.032	1	1	0.897583
MW-57B	365	2607622	516363.4	2	1152.96	1152.104	1	1	0.855532
MW-60A	365	2624703	489585.2	3	1087.857	1088.269	1	1	-0.41153
MW-60B	365	2624703	489598.7	2	1087.867	1088.276	1	1	-0.4091
MW-61A	365	2608656	492900.1	3	1101.877	1102.472	1	1	-0.59492
MW-61B	365	2608644	492898.6	2	1101.827	1102.477	1	1	-0.65048
MW-62A	365	2635397	493874.2	3	1074.564	1074.983	1	1	-0.41895
MW-62B	365	2635385	493872	2	1074.534	1074.979	1	1	-0.44483
MW-63B	365	2613168	519473.6	2	1153.93	1152.944	1	1	0.98558
MW-64B	365	2628039	510106	2	1116.8	1118.242	1	1	-1.44226
MW-65A	365	2613203	506090.5	3	1126.883	1126.696	1	1	0.187233
MW-65B	365	2613193	506091.2	2	1126.923	1126.707	1	1	0.216281
MW-01A	365	2618460	511743	3	1132.97	1132.553	1	1	0.417193
MW-01B	365	2618470	511743.2	2	1133.065	1132.543	1	1	0.521522
MW-03A	365	2607532	506223.4	3	1130.615	1130.148	1	1	0.46669
MW-03B	365	2607542	506225.4	2	1130.71	1130.15	0.1	1	0.56036
MW-04A	365	2612042	506256.8	3	1129.084	1127.873	1	1	1.210532
MW-04B	365	2612051	506259.4	2	1129.082	1127.877	1	1	1.204818
MW-05A	365	2613044	507097.6	3	1130.153	1129.424	1	1	0.729331
MW-05B	365	2613054	507097.5	2	1130.036	1129.419	1	1	0.616578
MW-06A	365	2617376	506522.1	3	1123.284	1122.909	1	1	0.37451
MW-06B	365	2617385	506525.5	2	1123.25	1122.905	1	1	0.34544
MW-07A	365	2618267	507274.8	3	1123.712	1123.086	1	1	0.626135
MW-07B	365	2618277	507276.1	2	1123.711	1123.074	1	1	0.637001
MW-08A	365	2622864	506814.8	3	1116.632	1116.36	1	1	0.27183
MW-08B	365	2622872	506820.6	2	1116.65	1116.364	1	1	0.286217
MW-09A	365	2623571	507435.8	3	1117.13	1116.979	1	1	0.150909
MW-09B	365	2623580	507436.1	2	1117.34	1116.97	1	1	0.370309
MW-100A	365	2629719	493770.4	3	1083.2	1083.175	1	1	0.024941
MW-100B	365	2629718	493777.2	2	1083.19	1083.178	1	1	0.01174
MW-101A	365	2610929	491574.1	3	1098.83	1099.14	1	1	-0.30971
MW-101B	365	2610924	491573.8	2	1098.84	1099.144	1	1	-0.3035
MW-102A	365	2622929	514541.2	3	1132.1	1133.761	1	1	-1.66089
MW-102B	365	2622923	514540.9	2	1131.54	1133.767	1	1	-2.22675
MW-103A	365	2623591	513115.8	3	1129.23	1129.66	1	1	-0.42954
MW-103B	365	2623591	513110.3	2	1129.52	1129.65	1	1	-0.13018
MW-106A	365	2630545	506843.3	3	1098.87	1097.832	1	1	1.037618
MW-106B	365	2630539	506844.1	2	1098.88	1097.851	1	1	1.029467
MW-107A	365	2631376	506138.8	3	1095.3	1094.535	1	1	0.765157
MW-107B	365	2631374	506125.2	2	1094.74	1094.519	1	1	0.220681
MW-108A	365	2631916	505912.3	3	1094.33	1093.436	1	1	0.894266
MW-108B	365	2631917	505899.5	2	1095.08	1093.417	1	1	1.66288
MW-10A	365	2607884	496858.3	3	1109.13	1109.518	1	1	-0.38813
MW-10B	365	2607894	496858.9	2	1109.13	1109.518	1	1	-0.38798
MW-11	365	2626486	509499.8	3	1123.625	1121.807	1	1	1.818453
MW-110A	365	2634398	504432.8	3	1087.87	1088.382	1	1	-0.51236
MW-110B	365	2634397	504438.9	2	1087.87	1088.391	1	1	-0.52122
MW-114A	365	2637471	497206.9	3	1077.07	1077.007	1	1	0.063383
MW-114B	365	2637466	497204.3	2	1077.03	1076.992	1	1	0.038461
MW-115A	365	2637703	495346.9	3	1076.01	1076.48	1	1	-0.47001
MW-115B	365	2637696	495346.9	2	1075.98	1076.477	1	1	-0.49712
MW-116A	365	2636336	495297.6	3	1075.33	1075.657	1	1	-0.3273
MW-116B	365	2636332	495297.2	2	1075.27	1075.654	1	1	-0.38429
MW-117A	365	2631041	495048	3	1081.38	1081.35	1	1	0.029817

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-117B	365	2631041	495054	2	1081.38	1081.354	1	1	0.025815
MW-118A	365	2625905	496207.7	3	1088.44	1089.273	1	1	-0.83347
MW-118B	365	2625885	496207.8	2	1088.45	1089.302	1	1	-0.85156
MW-13	365	2612231	509178.6	2	1135.575	1135.774	1	1	-0.19905
MW-14	365	2617505	509391.1	2	1130.231	1129.139	1	1	1.091947
MW-37A	365	2633418	491651.9	3	1077.29	1077.166	1	1	0.123921
MW-37B	365	2633417	491631.7	2	1077.23	1077.164	1	1	0.066219
MW-38A	365	2638132	496248.6	3	1076.41	1077.049	1	1	-0.63904
MW-39A	365	2640062	499304.7	3	1079.8	1080.07	1	1	-0.27002
MW-40A	365	2623019	511963.4	3	1133.27	1127.998	1	1	5.271838
MW-40B	365	2623007	511962.8	2	1128.09	1128.011	1	1	0.078863
MW-41A	365	2624371	512001.3	3	1127.88	1126.618	1	1	1.26181
MW-41B	365	2624362	512001.4	2	1127.9	1126.629	1	1	1.270679
MW-42A	365	2629385	501582.6	3	1092.27	1092.131	1	1	0.139359
MW-42B	365	2629385	501592.6	2	1092.27	1092.147	1	1	0.123042
MW-43A	365	2629243	504317.9	3	1096.1	1095.955	1	1	0.145388
MW-43B	365	2629244	504328.2	2	1096.03	1095.967	1	1	0.062666
MW-44A	365	2632954	500415.1	3	1082.94	1082.108	1	1	0.831696
MW-44B	365	2632955	500426.3	2	1082.1	1082.107	0.5	1	-0.00675
MW-46A	365	2637465	499387.4	3	1079.07	1079.073	1	1	-0.00278
MW-46B	365	2637464	499396.7	2	1079.07	1079.081	1	1	-0.01052
MW-47A	365	2603835	524480.7	3	1171.31	1168.557	1	1	2.753449
MW-47B	365	2603819	524480.2	2	1171.36	1168.566	1	1	2.793858
MW-71B	365	2613383	506090.3	2	1126.763	1126.554	1	1	0.209495
MW-72A	365	2622931	512064.7	3	1127.77	1128.303	1	1	-0.53292
MW-72B	365	2622922	512064.2	2	1127.75	1128.314	1	1	-0.56354
MW-73A	365	2623061	511909.2	3	1127.433	1127.844	1	1	-0.41143
MW-73B	365	2623052	511908.7	2	1127.56	1127.853	1	1	-0.29306
MW-74A	365	2623094	511934.8	3	1127.44	1127.871	1	1	-0.43101
MW-74B	365	2623085	511934.8	2	1127.413	1127.88	1	1	-0.46681
MW-75A	365	2623130	511962.4	3	1127.453	1127.9	1	1	-0.44745
MW-75B	365	2623120	511961.8	2	1127.453	1127.909	1	1	-0.45575
MW-76A	365	2623159	511983.3	3	1127.483	1127.921	1	1	-0.43775
MW-76B	365	2623149	511982.6	2	1127.503	1127.929	1	1	-0.42574
MW-77A	365	2623192	512008	3	1127.473	1127.945	1	1	-0.47171
MW-77B	365	2623181	512007.3	2	1127.513	1127.954	1	1	-0.44078
MW-78A	365	2623224	512032.8	3	1127.563	1127.97	1	1	-0.40701
MW-78B	365	2623214	512031.3	2	1127.533	1127.976	1	1	-0.44335
MW-79A	365	2610432	492336.2	3	1099.8	1099.657	1	1	0.143418
MW-79B	365	2610428	492345.2	2	1099.78	1099.662	1	1	0.118285
MW-80A	365	2610926	492067.1	3	1099.33	1099.231	1	1	0.098962
MW-80B	365	2610916	492064.6	2	1099.28	1099.232	1	1	0.048038
MW-81A	365	2611638	492369.4	3	1099.28	1099.49	1	1	-0.21043
MW-81B	365	2611636	492360.4	2	1099.22	1099.486	1	1	-0.26609
MW-82A	365	2619289	493318.1	3	1093	1093.732	1	1	-0.7316
MW-82B	365	2619285	493325.5	2	1092.9	1093.736	1	1	-0.83611
MW-83A	365	2621924	495274.7	3	1090.63	1090.696	1	1	-0.06603
MW-83B	365	2621922	495302.8	2	1090.58	1090.683	1	1	-0.10315
MW-84A	365	2624278	495685.5	3	1089.45	1090.193	1	1	-0.74292
MW-84B	365	2624272	495712.9	2	1089.89	1090.209	1	1	-0.3194
MW-85A	365	2628327	494439	3	1084.9	1085.344	1	1	-0.44401
MW-85B	365	2628315	494449.8	2	1084.92	1085.363	1	1	-0.44289
MW-86A	365	2631939	493759.7	3	1079.83	1079.62	1	1	0.210397
MW-86B	365	2631934	493758.7	2	1079.84	1079.63	1	1	0.210466
MW-87A	365	2635040	491898	3	1074.03	1075.037	1	1	-1.00719
MW-87B	365	2635035	491901	2	1073.99	1075.04	1	1	-1.04951
MW-88A	365	2637644	494045.1	3	1075.37	1076.023	1	1	-0.6533
MW-88B	365	2637639	494044.2	2	1075.28	1076.022	1	1	-0.7417
MW-89A	365	2610431	494253.9	3	1103.29	1104.247	1	1	-0.95673
MW-89B	365	2610409	494254.1	2	1103.11	1104.243	1	1	-1.13283
MW-90A	365	2611236	494302	3	1103.64	1104.164	1	1	-0.52441
MW-90B	365	2611227	494298	2	1103.22	1104.163	1	1	-0.94251
MW-91A	365	2612077	494323	3	1103.16	1103.817	1	1	-0.65692
MW-91B	365	2612068	494317.5	2	1102.9	1103.816	1	1	-0.91552
MW-92A	365	2610047	492722.6	3	1100.26	1100.5	1	1	-0.23981
MW-92B	365	2610048	492733.8	2	1100.5	1100.506	1	1	-0.00619
MW-93A	365	2612163	493551.3	3	1101.89	1102.181	1	1	-0.29075

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-93B	365	2612154	493546.8	2	1101.83	1102.18	1	1	-0.34971
MW-94A	365	2617023	496428.7	3	1099.45	1100.72	1	1	-1.27001
MW-94B	365	2617023	496434.5	2	1099.49	1100.731	1	1	-1.24084
MW-95A	365	2617553	494508.6	3	1097.06	1097.366	1	1	-0.30587
MW-95B	365	2617547	494508	2	1097.06	1097.38	1	1	-0.31996
MW-96A	365	2621468	493387.7	3	1090.86	1091.572	1	1	-0.7118
MW-96B	365	2621468	493387.8	2	1090.84	1091.573	1	1	-0.73256
MW-97A	365	2623938	493492.8	3	1089.33	1089.856	1	1	-0.5255
MW-97B	365	2623933	493492.5	2	1089.38	1089.86	1	1	-0.48018
MW-98A	365	2626495	493604.9	3	1087.41	1087.629	1	1	-0.21905
MW-98B	365	2626489	493605.3	2	1087.48	1087.637	1	1	-0.15675
MW-99A	365	2627117	498781	3	1089.54	1091.18	1	1	-1.63997
MW-99B	365	2627118	498787.9	2	1089.54	1091.192	1	1	-1.6515
OW-01	365	2607923	499748	3	1114.63	1114.124	1	1	0.506494
OW-02	365	2607883	499737.4	3	1114.14	1114.127	1	1	0.01289
OW-03	365	2607936	499790.4	3	1114.2	1114.222	1	1	-0.0222
OW-04	365	2607936	499764.7	3	1114.1	1114.155	1	1	-0.05462
OW-05	365	2634935	495184.3	3	1071.93	1073.758	1	1	-1.82783
OW-06	365	2634884	495208.1	3	1072.71	1074.054	1	1	-1.34426
OW-07	365	2634884	495203.3	3	1073.2	1074.03	1	1	-0.83033
OW-08	365	2634786	495194.2	3	1073.58	1074.343	1	1	-0.7632
OW-09	365	2634938	495134.4	3	1072.88	1072.984	1	1	-0.10351
OW-10	365	2635085	495206.7	3	1073.63	1074.293	1	1	-0.66285
OW-11	365	2635254	495167.8	3	1073.92	1074.615	1	1	-0.69454
OW-12	365	2636332	495279.5	3	1074.97	1075.649	1	1	-0.67924
OW-13	365	2634929	495121.8	3	1072.74	1072.715	1	1	0.025435
OW-14	365	2634937	494987.8	3	1073.58	1074.099	1	1	-0.51942
OW-15	365	2634948	494788.1	3	1073.8	1074.45	1	1	-0.6501
OW-16	365	2633480	495159.3	3	1075.2	1076.21	1	1	-1.00985
OW-17	365	2608000	499877.7	3	1114.43	1114.418	1	1	0.012042
OW-18	365	2608114	499884	3	1114.29	1114.325	1	1	-0.03492
OW-19	365	2608710	499902.6	3	1113.11	1113.243	1	1	-0.13282
OW-20	365	2607955	499696.4	3	1115.1	1113.981	1	1	1.118715
OW-21	365	2607937	499559.5	3	1113.61	1113.722	1	1	-0.1121
OW-22	365	2608020	499355.1	3	1113.72	1113.249	1	1	0.471335
OW-23	365	2607158	499656.4	3	1114.73	1114.366	1	1	0.364204
OW-24	365	2629552	496984.5	3	1082.49	1082.768	1	1	-0.27832
OW-25	365	2629511	496932.1	3	1082.94	1083.306	1	1	-0.36609
OW-26	365	2629214	496664.1	3	1084.12	1084.473	1	1	-0.3531
OW-27	365	2629582	496942.2	3	1082.6	1083.307	1	1	-0.70702
OW-28	365	2629582	496898	3	1082.7	1083.487	1	1	-0.78739
OW-30	365	2629965	497303.9	3	1083.48	1084.339	1	1	-0.85916
OW-31	365	2624243	497899	3	1090.18	1090.307	1	1	-0.12737
OW-32	365	2624140	497845.1	3	1090.83	1091.456	1	1	-0.62622
OW-33	365	2623751	497669.8	3	1091.27	1092.107	1	1	-0.83703
OW-34	365	2624320	497868.6	3	1089.48	1091.376	1	1	-1.89553
OW-35	365	2624383	497738.5	3	1090.73	1091.572	1	1	-0.84152
OW-36	365	2624413	497337.6	3	1090.63	1091.368	1	1	-0.7381
OW-37	365	2624838	498178.4	3	1092.09	1092.773	1	1	-0.68327
OW-38	365	2621733	496294.9	3	1087.49	1085.815	1	1	1.675483
OW-39	365	2621620	496212.3	3	1089.96	1089.138	1	1	0.822424
OW-40	365	2621297	495975.6	3	1091.24	1090.841	1	1	0.398774
OW-41	365	2621817	496281.9	3	1086.54	1088.303	1	1	-1.76277
OW-42	365	2621900	496169.4	3	1089.21	1089.416	1	1	-0.20578
OW-43	365	2622135	495845.8	3	1090.44	1090.3	1	1	0.13952
OW-44	365	2622303	496682.1	3	1090.62	1090.82	1	1	-0.19956
OW-45	365	2619203	494842.2	3	1087.47	1088.069	1	1	-0.5989
OW-46	365	2619059	494783.4	3	1091.12	1091.478	1	1	-0.35831
OW-47	365	2618685	494630.9	3	1093.51	1094.064	1	1	-0.55419
OW-48	365	2619283	494800.5	3	1088.38	1089.389	1	1	-1.00906
OW-49	365	2619316	494671.9	3	1090.52	1090.965	1	1	-0.44504
OW-50	365	2619466	494300.2	3	1091.84	1092.387	1	1	-0.54711
OW-51	365	2619791	495096	3	1091.81	1091.855	1	1	-0.04466
OW-52	365	2610586	493033.9	3	1100.9	1092.43	1	1	8.470151
OW-53	365	2610556	493019.7	3	1100.96	1093.737	1	1	7.222714
OW-54	365	2611357	493520.9	3	1101.69	1101.857	1	1	-0.16695
OW-55	365	2610822	492991.9	3	1100.62	1091.989	1	1	8.630936

Appendix C
March 2008 Residuals

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
OW-56	365	2611643	493196.4	3	1101.16	1100.904	1	1	0.255807
OW-57	365	2611769	493277.9	3	1101.3	1101.487	1	1	-0.18728
OW-58	365	2611367	493010	3	1100.48	1098.865	1	1	1.615057
OW-59	365	2611580	493019.2	3	1100.6	1100.003	1	1	0.5967
OW-60	365	2627138	497440.7	3	1086.27	1087.275	1	1	-1.00503
OW-61	365	2627192	497571.5	3	1087.01	1088.109	1	1	-1.09878
OW-62	365	2627351	497954.3	3	1088	1089.2	1	1	-1.1995
OW-63	365	2627528	497841.9	3	1087.59	1088.728	1	1	-1.13772
Residual Mean	-0.05941								
Abs. Res. Mean	0.794308								
Res. Std. Dev.	1.442821								
Sum of Squares	575.5324								
RMS Error	1.444044								
Min. Residual	-12.25								
Max. Residual	8.630936								
Number of Observations	276								
Range in Observations	101.34								
Scaled Std. Dev.	0.014237								
Scaled Abs. Mean	0.007838								
Scaled RMS	0.014249								

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
PZ-01	581	2632385	499049.6	3	1076.22	1082.774	1	1	-6.55433
PZ-03	581	2633506	501788.9	3	1087.09	1084.512	1	1	2.578081
PZ-04	581	2636059	501690.7	3	1083.05	1081.602	1	1	1.448046
PZ-05	581	2639988	502024.7	3	1082.63	1082.16	1	1	0.469777
PZ-06	581	2636835	504539.7	3	1086.02	1085.091	1	1	0.928956
TH-EW-13	581	2611511	493072.7	3	1101.46	1100.588	1	1	0.872197
OW-64	581	2627300	497308.3	3	1088.05	1088.445	1	1	-0.39495
OW-65	581	2627673	497146.3	3	1087.8	1088.352	1	1	-0.55157
OW-66	581	2622938	497314.2	3	1089.73	1091.958	1	1	-2.22812
OW-67	581	2622731	497150.2	3	1092.62	1091.521	1	1	1.099201
OW-68	581	2622419	496526.2	3	1091.04	1092.02	1	1	-0.97964
OW-69	581	2623045	497134.8	3	1090.59	1092.05	1	1	-1.46022
OW-70	581	2623341	496845.9	3	1091.21	1092.314	1	1	-1.10368
OW-71	581	2623796	497474.1	3	1091.8	1093.157	1	1	-1.35748
OW-72	581	2620346	495293	3	1091.27	1091.446	1	1	-0.17594
OW-73	581	2620218	495239.7	3	1092.09	1092.292	1	1	-0.20225
OW-74	581	2619854	494895.1	3	1092.35	1092.977	1	1	-0.62735
OW-75	581	2620487	495139.4	3	1092.02	1091.958	1	1	0.062266
OW-76	581	2620658	494777.2	3	1092.49	1092.576	1	1	-0.08565
OW-77	581	2621415	495808.4	3	1091.42	1092.035	1	1	-0.61538
OW-78	581	2609111	499977.5	3	1109.3	1108.835	1	1	0.464621
OW-79	581	2608990	499915.3	3	1111.8	1110.777	1	1	1.022702
OW-80	581	2608752	499731.6	3	1113.08	1112.56	1	1	0.520296
OW-81	581	2609233	499803.1	3	1111.99	1111.019	1	1	0.970729
OW-82	581	2609366	499415.3	3	1112.72	1112.08	1	1	0.640306
OW-83	581	2609755	500075	3	1118.71	1113.685	1	1	5.02527
OW-89	581	2632605	496433.6	3	1078.194	1078.46	1	1	-0.26561
MW-16B	581	2604912	514026.4	3	1152.36	1149.808	1	1	2.552073
MW-16C	581	2604918	514034.7	2	1152.371	1149.829	1	1	2.541601
MW-17A	581	2603293	499100.3	3	1120.42	1121.473	1	1	-1.0532
MW-17B	581	2603293	499101.5	3	1119.95	1121.477	1	1	-1.52701
MW-17C	581	2603293	499090.3	2	1120.14	1121.448	1	1	-1.30816
MW-18A	581	2629150	506832.3	3	1103.914	1102.166	1	1	1.747551
MW-18B	581	2629157	506827.5	3	1103.55	1102.138	1	1	1.412256
MW-18C	581	2629149	506821.9	2	1107.03	1102.148	1	1	4.882422
MW-19A	581	2618421	517577.1	3	1145.321	1143.837	1	1	1.484218
MW-19B	581	2618430	517577	3	1145.1	1143.829	1	1	1.271391
MW-20A	581	2616623	493189.9	3	1097.215	1099.065	1	1	-1.85044
MW-20B	581	2616633	493191.5	3	1098.117	1099.053	1	1	-0.93647
MW-20C	581	2616611	493187.6	2	1100.64	1099.082	1	1	1.558418
MW-21A	581	2607121	503524.8	3	1127.42	1126.367	1	1	1.053429
MW-21B	581	2607111	503524.1	2	1127.36	1126.379	1	1	0.981276
MW-22A	581	2606598	510402.1	3	1143.66	1142.089	1	1	1.571412
MW-22B	581	2606604	510403.4	2	1143.52	1142.093	1	1	1.426873
MW-23A	581	2606403	509376.4	3	1140.78	1139.696	1	1	1.08382
MW-23B	581	2606393	509383.9	2	1140.77	1139.727	1	1	1.042725
MW-24A	581	2608477	501919.8	3	1120.65	1120.643	1	1	0.007029
MW-24B	581	2608478	501909	2	1120.88	1120.616	1	1	0.263989
MW-25A	581	2608308	504875.2	3	1128.29	1127.998	1	1	0.29237
MW-25B	581	2608308	504885.6	2	1128.61	1128.023	1	1	0.586586
MW-26A	581	2609860	508825.1	3	1138.87	1136.877	1	1	1.993338
MW-26B	581	2609850	508824.9	2	1138.85	1136.884	1	1	1.966412
MW-27A	581	2611435	508103	3	1135.89	1134.345	1	1	1.545428
MW-27B	581	2611427	508110.6	2	1135.94	1134.377	1	1	1.563014
MW-28A	581	2612951	502242.7	3	1119.74	1119.493	1	1	0.247031
MW-28B	581	2612936	502242.3	2	1118.28	1119.51	1	1	-1.22973
MW-29A	581	2614470	498383.1	3	1108.64	1108.383	1	1	0.257413
MW-29B	581	2614461	498382.4	2	1108.71	1108.398	1	1	0.312377
MW-30A	581	2616288	507064.6	3	1127.54	1126.572	1	1	0.967658
MW-30B	581	2616282	507065.9	2	1127.53	1126.593	1	1	0.93668
MW-31A	581	2617944	503233.7	3	1116.94	1115.904	1	1	1.036024
MW-31B	581	2617935	503238.6	2	1116.34	1115.931	1	1	0.408526
MW-32A	581	2619697	499062.3	3	1102.25	1103.253	1	1	-1.00323
MW-32B	581	2619697	499069.1	2	1102.24	1103.275	1	1	-1.03473
MW-33A	581	2622411	502847.9	3	1106.51	1107.662	1	1	-1.15186
MW-33B	581	2622401	502854.8	2	1106.49	1107.687	1	1	-1.19749
MW-34A	581	2624443	498806.3	3	1094.7	1096.077	1	1	-1.37715

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-34B	581	2624443	498814.1	2	1094.75	1096.1	1	1	-1.35037
MW-35A	581	2629596	496323.6	3	1084.51	1084.927	1	1	-0.41727
MW-35B	581	2629596	496329.4	2	1084.49	1084.928	1	1	-0.43751
MW-52A	581	2627013	508784.6	3	1119.17	1116.617	1	1	2.553116
MW-52B	581	2627004	508778.9	2	1119.04	1116.63	1	1	2.409597
MW-53A	581	2627898	508169.9	3	1110.34	1109.698	1	1	0.641538
MW-53B	581	2627885	508166.6	2	1112.64	1109.734	1	1	2.906362
MW-54A	581	2627894	508858.3	3	1112.28	1112.306	1	1	-0.02606
MW-54B	581	2627884	508856	2	1114.83	1112.337	1	1	2.49347
MW-55A	581	2628135	508377.7	3	1110.48	1109.612	1	1	0.867647
MW-55B	581	2628126	508374.2	2	1110.72	1109.639	1	1	1.080637
MW-56A	581	2628206	508215.3	3	1109.81	1108.732	1	1	1.078442
MW-56B	581	2628195	508217.3	2	1111.97	1108.784	1	1	3.185526
MW-57B	581	2607622	516363.4	2	1154.89	1152.667	1	1	2.222567
MW-60A	581	2624703	489585.2	3	1089.397	1089.414	1	1	-0.01734
MW-60B	581	2624703	489598.7	2	1089.287	1089.422	1	1	-0.13481
MW-61A	581	2608656	492900.1	3	1103.097	1103.072	1	1	0.025464
MW-61B	581	2608644	492898.6	2	1103.047	1103.079	1	1	-0.03186
MW-62A	581	2635397	493874.2	3	1074.954	1075.219	1	1	-0.26524
MW-62B	581	2635385	493872	2	1074.954	1075.216	1	1	-0.26186
MW-63B	581	2613168	519473.6	2	1156.36	1153.468	1	1	2.891831
MW-64B	581	2628039	510106	2	1118.18	1118.73	1	1	-0.55048
MW-65A	581	2613203	506090.5	3	1129.003	1127.724	1	1	1.278737
MW-65B	581	2613193	506091.2	2	1128.983	1127.736	1	1	1.246849
MW-66A	581	2613279	506026.7	3	1128.673	1127.517	1	1	1.156109
MW-01A	581	2618460	511743	3	1135.17	1133.677	1	1	1.492591
MW-01B	581	2618470	511743.2	2	1135.405	1133.669	1	1	1.735543
MW-03A	581	2607532	506223.4	3	1130.785	1131.002	1	1	-0.21731
MW-03B	581	2607542	506225.4	2	1131.84	1131.006	0.1	1	0.834257
MW-04A	581	2612042	506256.8	3	1129.694	1128.707	1	1	0.98731
MW-04B	581	2612051	506259.4	2	1130.842	1128.715	1	1	2.126528
MW-05A	581	2613044	507097.6	3	1132.173	1130.558	1	1	1.61508
MW-05B	581	2613054	507097.5	2	1130.926	1130.558	1	1	0.367644
MW-06A	581	2617376	506522.1	3	1124.944	1123.964	1	1	0.9798
MW-06B	581	2617385	506525.5	2	1124.92	1123.96	1	1	0.959731
MW-07A	581	2618267	507274.8	3	1125.262	1124.082	1	1	1.179718
MW-07B	581	2618277	507276.1	2	1124.091	1124.071	1	1	0.020114
MW-08A	581	2622864	506814.8	3	1117.302	1117.053	1	1	0.248878
MW-08B	581	2622872	506820.6	2	1117.34	1117.057	1	1	0.282862
MW-09A	581	2623571	507435.8	3	1117.99	1117.637	1	1	0.352502
MW-09B	581	2623580	507436.1	2	1118.57	1117.628	1	1	0.941819
MW-100A	581	2629719	493770.4	3	1084.76	1084.189	1	1	0.570518
MW-100B	581	2629718	493777.2	2	1084.76	1084.193	1	1	0.566852
MW-101A	581	2610929	491574.1	3	1100.01	1099.724	1	1	0.285809
MW-101B	581	2610924	491573.8	2	1100	1099.732	1	1	0.26812
MW-102A	581	2622929	514541.2	3	1133.72	1134.885	1	1	-1.1652
MW-102B	581	2622923	514540.9	2	1133.44	1134.894	1	1	-1.45441
MW-103A	581	2623591	513115.8	3	1131.38	1130.613	1	1	0.767323
MW-103B	581	2623591	513110.3	2	1131.7	1130.604	1	1	1.095975
MW-106A	581	2630545	506843.3	3	1101.14	1098.449	1	1	2.690569
MW-106B	581	2630539	506844.1	2	1101.56	1098.47	1	1	3.09039
MW-107A	581	2631376	506138.8	3	1097.31	1095.031	1	1	2.279342
MW-107B	581	2631374	506125.2	2	1097.82	1095.016	1	1	2.803736
MW-108A	581	2631916	505912.3	3	1096.67	1093.861	1	1	2.809305
MW-108B	581	2631917	505899.5	2	1096.78	1093.843	1	1	2.937466
MW-10A	581	2607884	496858.3	3	1110.16	1110.099	1	1	0.060591
MW-10B	581	2607894	496858.9	2	1110.17	1110.099	1	1	0.070583
MW-11	581	2626486	509499.8	3	1124.835	1122.078	1	1	2.757386
MW-110A	581	2634398	504432.8	3	1088.75	1088.432	1	1	0.31767
MW-110B	581	2634397	504438.9	2	1088.78	1088.441	1	1	0.338606
MW-114A	581	2637471	497206.9	3	1077.53	1077.066	1	1	0.464239
MW-114B	581	2637466	497204.3	2	1077.47	1077.051	1	1	0.418961
MW-115A	581	2637703	495346.9	3	1076.62	1076.626	1	1	-0.00572
MW-115B	581	2637696	495346.9	2	1076.61	1076.623	1	1	-0.0132
MW-116A	581	2636336	495297.6	3	1075.78	1075.739	1	1	0.040902
MW-116B	581	2636332	495297.2	2	1075.73	1075.736	1	1	-0.00565
MW-117A	581	2631041	495048	3	1082.66	1082.218	1	1	0.44228

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-117B	581	2631041	495054	2	1082.66	1082.222	1	1	0.437879
MW-118A	581	2625905	496207.7	3	1089.81	1090.59	1	1	-0.78014
MW-118B	581	2625885	496207.8	2	1089.86	1090.62	1	1	-0.75981
MW-13	581	2612231	509178.6	2	1137.315	1136.794	1	1	0.521408
MW-14	581	2617505	509391.1	2	1132.291	1130.258	1	1	2.032583
MW-37A	581	2633418	491651.9	3	1078.45	1077.8	1	1	0.64952
MW-37B	581	2633417	491631.7	2	1078.52	1077.799	1	1	0.721133
MW-38A	581	2638132	496248.6	3	1076.98	1077.144	1	1	-0.16407
MW-39A	581	2640062	499304.7	3	1079.87	1079.994	1	1	-0.12409
MW-40A	581	2623019	511963.4	3	1130.36	1128.959	1	1	1.401356
MW-40B	581	2623007	511962.8	2	1130.18	1128.975	1	1	1.205098
MW-41A	581	2624371	512001.3	3	1130	1127.297	1	1	2.702564
MW-41B	581	2624362	512001.4	2	1130.01	1127.312	1	1	2.698189
MW-42A	581	2629385	501582.6	3	1094.89	1092.939	1	1	1.95052
MW-42B	581	2629385	501592.6	2	1094.91	1092.956	1	1	1.954482
MW-43A	581	2629243	504317.9	3	1098.9	1096.664	1	1	2.236479
MW-43B	581	2629244	504328.2	2	1098.94	1096.676	1	1	2.26356
MW-44A	581	2632954	500415.1	3	1084.77	1082.389	1	1	2.380981
MW-44B	581	2632955	500426.3	2	1083.23	1082.386	0.5	1	0.844342
MW-46A	581	2637465	499387.4	3	1079.46	1078.999	1	1	0.461226
MW-46B	581	2637464	499396.7	2	1079.45	1079.006	1	1	0.443669
MW-47A	581	2603835	524480.7	3	1173.69	1169.471	1	1	4.218819
MW-47B	581	2603819	524480.2	2	1173.75	1169.485	1	1	4.264645
MW-66B	581	2613268	506027.6	2	1128.823	1127.53	1	1	1.292803
MW-67A	581	2613306	506004.5	2	1126.703	1127.449	1	1	-0.74576
MW-67B	581	2613315	505999.5	2	1127.033	1127.431	1	1	-0.39813
MW-68B	581	2613321	506024.5	2	1128.783	1127.491	1	1	1.291994
MW-69B	581	2613342	506046.7	2	1128.843	1127.535	1	1	1.308053
MW-70B	581	2613362	506068.6	2	1128.843	1127.578	1	1	1.265133
MW-71B	581	2613383	506090.3	2	1128.863	1127.62	1	1	1.242841
MW-72A	581	2622931	512064.7	3	1129.84	1129.28	1	1	0.559831
MW-72B	581	2622922	512064.2	2	1129.84	1129.294	1	1	0.546155
MW-73A	581	2623061	511909.2	3	1129.523	1128.797	1	1	0.726388
MW-73B	581	2623052	511908.7	2	1129.71	1128.808	1	1	0.902073
MW-74A	581	2623094	511934.8	3	1129.51	1128.82	1	1	0.689604
MW-74B	581	2623085	511934.8	2	1129.533	1128.832	1	1	0.701174
MW-75A	581	2623130	511962.4	3	1129.523	1128.847	1	1	0.676191
MW-75B	581	2623120	511961.8	2	1129.583	1128.858	1	1	0.725166
MW-76A	581	2623159	511983.3	3	1129.573	1128.865	1	1	0.708362
MW-76B	581	2623149	511982.6	2	1129.623	1128.875	1	1	0.747641
MW-77A	581	2623192	512008	3	1129.573	1128.886	1	1	0.687194
MW-77B	581	2623181	512007.3	2	1129.613	1128.898	1	1	0.715227
MW-78A	581	2623224	512032.8	3	1129.643	1128.909	1	1	0.734382
MW-78B	581	2623214	512031.3	2	1129.633	1128.918	1	1	0.71541
MW-79A	581	2610432	492336.2	3	1100.51	1100.245	1	1	0.264757
MW-79B	581	2610428	492345.2	2	1100.46	1100.252	1	1	0.208009
MW-80A	581	2610926	492067.1	3	1100.2	1099.83	1	1	0.36973
MW-80B	581	2610916	492064.6	2	1100.21	1099.831	1	1	0.378711
MW-81A	581	2611638	492369.4	3	1100.24	1100.215	1	1	0.024999
MW-81B	581	2611636	492360.4	2	1100.16	1100.214	1	1	-0.0543
MW-82A	581	2619289	493318.1	3	1094.87	1094.897	1	1	-0.02703
MW-82B	581	2619285	493325.5	2	1094.87	1094.903	1	1	-0.03311
MW-83A	581	2621924	495274.7	3	1091.73	1092.026	1	1	-0.29555
MW-83B	581	2621922	495302.8	2	1091.63	1092.015	1	1	-0.3854
MW-84A	581	2624278	495685.5	3	1091.1	1091.517	1	1	-0.4169
MW-84AR_(Abandoned)	581	2624274	495704.3	3	1091.07	1091.529	1	1	-0.45872
MW-84B	581	2624272	495712.9	2	1091.54	1091.536	1	1	0.004313
MW-85A	581	2628327	494439	3	1086	1086.446	1	1	-0.44623
MW-86A	581	2631939	493759.7	3	1080.46	1080.398	1	1	0.062418
MW-86B	581	2631934	493758.7	2	1080.44	1080.409	1	1	0.031198
MW-87A	581	2635040	491898	3	1074.43	1075.408	1	1	-0.97801
MW-87B	581	2635035	491901	2	1074.4	1075.411	1	1	-1.01121
MW-88A	581	2637644	494045.1	3	1076.1	1076.245	1	1	-0.14492
MW-88B	581	2637639	494044.2	2	1076.01	1076.244	1	1	-0.23389
MW-89A	581	2610431	494253.9	3	1104.37	1105.103	1	1	-0.7326
MW-89B	581	2610409	494254.1	2	1104.18	1105.102	1	1	-0.92241
MW-90A	581	2611236	494302	3	1104.79	1105.061	1	1	-0.27078

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-90B	581	2611227	494298	2	1104.37	1105.06	1	1	-0.69007
MW-91A	581	2612077	494323	3	1104.98	1104.778	1	1	0.201978
MW-91B	581	2612068	494317.5	2	1104.27	1104.778	1	1	-0.50833
MW-92A	581	2610047	492722.6	3	1101.04	1101.107	1	1	-0.06651
MW-92B	581	2610048	492733.8	2	1101.13	1101.117	1	1	0.013386
MW-93A	581	2612163	493551.3	3	1103.22	1103.149	1	1	0.07073
MW-93B	581	2612154	493546.8	2	1103.18	1103.15	1	1	0.030028
MW-94A	581	2617023	496428.7	3	1101.27	1102.05	1	1	-0.77964
MW-94B	581	2617023	496434.5	2	1101.35	1102.062	1	1	-0.71195
MW-95A	581	2617553	494508.6	3	1098.96	1098.615	1	1	0.344813
MW-95B	581	2617547	494508	2	1098.97	1098.631	1	1	0.339433
MW-96A	581	2621468	493387.7	3	1092.69	1092.77	1	1	-0.07994
MW-96B	581	2621468	493387.8	2	1092.67	1092.771	1	1	-0.10149
MW-97A	581	2623938	493492.8	3	1091.24	1091.028	1	1	0.211821
MW-97B	581	2623933	493492.5	2	1091.27	1091.033	1	1	0.236542
MW-98A	581	2626495	493604.9	3	1089.34	1088.746	1	1	0.593861
MW-98B	581	2626489	493605.3	2	1089.43	1088.754	1	1	0.67566
MW-99A	581	2627117	498781	3	1091.35	1092.316	1	1	-0.96575
MW-99B	581	2627118	498787.9	2	1091.33	1092.327	1	1	-0.99731
OW-01	581	2607923	499748	3	1115.15	1114.129	1	1	1.021294
OW-02	581	2607883	499737.4	3	1114.71	1114.152	1	1	0.558407
OW-03	581	2607936	499790.4	3	1114.69	1114.213	1	1	0.476533
OW-04	581	2607936	499764.7	3	1114.59	1114.151	1	1	0.439222
OW-05	581	2634935	495184.3	3	1071.08	1073.441	1	1	-2.36087
OW-06	581	2634884	495208.1	3	1072.24	1073.813	1	1	-1.57348
OW-07	581	2634884	495203.3	3	1072.89	1073.783	1	1	-0.89344
OW-08	581	2634786	495194.2	3	1073.41	1074.177	1	1	-0.76736
OW-09	581	2634938	495134.4	3	1072.46	1072.452	1	1	0.007517
OW-12	581	2636332	495279.5	3	1075.42	1075.731	1	1	-0.31112
OW-13	581	2634929	495121.8	3	1072.37	1072.107	1	1	0.262763
OW-14	581	2634937	494987.8	3	1073.47	1073.916	1	1	-0.4458
OW-15	581	2634948	494788.1	3	1073.87	1074.402	1	1	-0.53196
OW-16	581	2633480	495159.3	3	1075.16	1076.356	1	1	-1.19553
OW-17	581	2608000	499877.7	3	1114.85	1114.365	1	1	0.484996
OW-18	581	2608114	499884	3	1114.56	1114.223	1	1	0.336914
OW-19	581	2608710	499902.6	3	1113.04	1112.967	1	1	0.072831
OW-20	581	2607955	499696.4	3	1114.59	1113.983	1	1	0.606759
OW-21	581	2607937	499559.5	3	1114.19	1113.761	1	1	0.429309
OW-22	581	2608020	499355.1	3	1114.31	1113.302	1	1	1.008435
OW-23	581	2607158	499656.4	3	1115.54	1114.707	1	1	0.833365
OW-24	581	2629552	496984.5	3	1083.97	1083.665	1	1	0.305074
OW-25	581	2629511	496932.1	3	1084.39	1084.236	1	1	0.154005
OW-26	581	2629214	496664.1	3	1085.59	1085.479	1	1	0.111345
OW-27	581	2629582	496942.2	3	1084.08	1084.234	1	1	-0.15401
OW-28	581	2629582	496898	3	1084.16	1084.426	1	1	-0.26598
OW-30	581	2629965	497303.9	3	1084	1085.253	1	1	-1.25271
OW-31	581	2624243	497899	3	1091.67	1091.686	1	1	-0.01632
OW-32	581	2624140	497845.1	3	1092.31	1092.855	1	1	-0.54481
OW-33	581	2623751	497669.8	3	1092.7	1093.505	1	1	-0.80512
OW-34	581	2624320	497868.6	3	1091.04	1092.773	1	1	-1.73289
OW-35	581	2624383	497738.5	3	1092.26	1092.97	1	1	-0.7103
OW-36	581	2624413	497337.6	3	1092.1	1092.759	1	1	-0.65941
OW-37	581	2624838	498178.4	3	1093.67	1094.153	1	1	-0.48297
OW-38	581	2621733	496294.9	3	1087.58	1087.202	1	1	0.378221
OW-39	581	2621620	496212.3	3	1090.08	1090.556	1	1	-0.47629
OW-40	581	2621297	495975.6	3	1091.8	1092.222	1	1	-0.42206
OW-41	581	2621817	496281.9	3	1086.6	1089.726	1	1	-3.12649
OW-42	581	2621900	496169.4	3	1089.16	1090.824	1	1	-1.66442
OW-43	581	2622135	495845.8	3	1091.33	1091.669	1	1	-0.3393
OW-44	581	2622303	496682.1	3	1091.48	1092.225	1	1	-0.74489
OW-45	581	2619203	494842.2	3	1089.24	1089.399	1	1	-0.1587
OW-46	581	2619059	494783.4	3	1092.88	1092.796	1	1	0.08355
OW-47	581	2618685	494630.9	3	1095.27	1095.341	1	1	-0.07051
OW-48	581	2619283	494800.5	3	1090.15	1090.72	1	1	-0.56995
OW-49	581	2619316	494671.9	3	1092.22	1092.276	1	1	-0.05625
OW-50	581	2619466	494300.2	3	1093.7	1093.643	1	1	0.057218
OW-51	581	2619791	495096	3	1093.25	1093.162	1	1	0.087673

Appendix C
October 2008 Residuals

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
OW-52	581	2610586	493033.9	3	1093.35	1093.128	1	1	0.221711
OW-53	581	2610556	493019.7	3	1095.16	1094.426	1	1	0.734014
OW-54	581	2611357	493520.9	3	1102.66	1102.703	1	1	-0.04291
OW-55	581	2610822	492991.9	3	1092.05	1092.713	1	1	-0.66273
OW-56	581	2611643	493196.4	3	1102.36	1101.739	1	1	0.621329
OW-57	581	2611769	493277.9	3	1102.56	1102.37	1	1	0.19043
OW-58	581	2611367	493010	3	1100.74	1099.609	1	1	1.131283
OW-59	581	2611580	493019.2	3	1101.09	1100.789	1	1	0.301022
OW-60	581	2627138	497440.7	3	1087.95	1088.57	1	1	-0.61986
OW-61	581	2627192	497571.5	3	1088.66	1089.367	1	1	-0.70679
OW-62	581	2627351	497954.3	3	1089.67	1090.368	1	1	-0.69752
OW-63	581	2627528	497841.9	3	1089.25	1089.883	1	1	-0.63265
Residual Mean	0.379754								
Abs. Res. Mean	0.926934								
Res. Std. Dev.	1.252433								
Sum of Squares	479.5843								
RMS Error	1.30874								
Min. Residual	-6.55433								
Max. Residual	5.02527								
Number of Observations	280								
Range in Observations	102.67								
Scaled Std. Dev.	0.012199								
Scaled Abs. Mean	0.009028								
Scaled RMS	0.012747								

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
PZ-01	732	2632385	499049.6	3	1074.67	1082.509	1	1	-7.8388
PZ-03	732	2633506	501788.9	3	1086.8	1084.376	1	1	2.423627
PZ-04	732	2636059	501690.7	3	1082.51	1081.513	1	1	0.997048
PZ-05	732	2639988	502024.7	3	1081.84	1081.875	1	1	-0.03529
PZ-06	732	2636835	504539.7	3	1085.47	1084.867	1	1	0.602792
S.Keiser	732	2632580	493968.1	3	1079.88	1078.804	1	1	1.07576
TH-EW-12	732	2610738	493102.1	3	1079.47	1077.926	1	1	1.544084
TH-EW-13	732	2611511	493072.7	3	1101.05	1100.698	1	1	0.352078
TH-EW-15	732	2622870	509960.2	3	1125.74	1124.359	1	1	1.380536
TH-EW-16	732	2628310	496736.5	3	1086.58	1086.66	1	1	-0.07992
TV-16	732	2623842	492107.3	3	1091.97	1090.823	1	1	1.147391
TV-17A	732	2627488	482978	3	1086.32	1082.393	1	1	3.926611
Frahm	732	2626739	493304.5	3	1089.78	1088.263	1	1	1.517087
Hanson	732	2623180	493348.9	3	1092.43	1091.461	1	1	0.969477
LPN06-19	732	2634208	514979.8	3	1105.04	1120.338	1	1	-15.2978
LPN_06-20	732	2631355	520347.1	3	1145.04	1139.526	1	1	5.513506
M90-02	732	2645833	489117.9	3	1071	1073.502	1	1	-2.50242
M90-04	732	2640808	484163.2	3	1067.64	1070.134	1	1	-2.49365
M90-12R	732	2647999	479369.2	3	1063.92	1065.903	1	1	-1.98269
M90-15	732	2641258	472881.6	3	1060.66	1063.662	1	1	-3.00232
M90-20R	732	2651428	470805.4	3	1058.15	1059.002	1	1	-0.8519
M90-21	732	2642069	468390.3	3	1057.46	1058.479	1	1	-1.01882
M90-24R	732	2650176	465992.6	3	1049.09	1051.386	1	1	-2.29604
M90-26R	732	2652731	465392.2	3	1052.42	1053.434	1	1	-1.01406
MUD_94-3	732	2646192	498899.9	3	1080.64	1081.403	1	1	-0.76306
MUD_94-4	732	2645712	509564.7	3	1086.92	1089.817	1	1	-2.8965
MUD_94-7	732	2643737	493588.9	3	1076.49	1076.875	1	1	-0.38534
OW-64	732	2627300	497308.3	3	1088.77	1088.19	1	1	0.580176
OW-65	732	2627673	497146.3	3	1088.46	1088.047	1	1	0.413424
OW-66	732	2622938	497314.2	3	1090.65	1092.463	1	1	-1.81293
OW-67	732	2622731	497150.2	3	1091.43	1092.059	1	1	-0.62879
OW-68	732	2622419	496526.2	3	1091.85	1092.192	1	1	-0.34193
OW-69	732	2623045	497134.8	3	1091.38	1092.435	1	1	-1.05493
OW-70	732	2623341	496845.9	3	1091.95	1092.482	1	1	-0.532
OW-71	732	2623796	497474.1	3	1092.92	1093.571	1	1	-0.65052
OW-72	732	2620346	495293	3	1092.16	1091.949	1	1	0.211058
OW-73	732	2620218	495239.7	3	1093	1092.634	1	1	0.365896
OW-74	732	2619854	494895.1	3	1093.72	1093.318	1	1	0.40194
OW-75	732	2620487	495139.4	3	1092.91	1092.271	1	1	0.639135
OW-76	732	2620658	494777.2	3	1093.41	1092.668	1	1	0.741921
OW-78	732	2609111	499977.5	3	1110.62	1109.74	1	1	0.879853
OW-79	732	2608990	499915.3	3	1112.29	1111.219	1	1	1.071349
OW-80	732	2608752	499731.6	3	1113.6	1112.506	1	1	1.094163
OW-81	732	2609233	499803.1	3	1112.83	1111.328	1	1	1.502123
OW-82	732	2609366	499415.3	3	1113.16	1111.939	1	1	1.220596
OW-83	732	2609755	500075	3	1114.39	1113.529	1	1	0.860691
OW-89	732	2632605	496433.6	3	1079.78	1079.263	1	1	0.516972
Brabec	732	2618638	493130.5	3	1097.36	1095.94	1	1	1.420289
LPN_06-01	732	2642292	478302.1	3	1064.85	1066.756	1	1	-1.90586
LPN_06-18	732	2635722	504500.6	3	1086.82	1086.404	1	1	0.416464
LPN_06-21	732	2628536	525369.8	3	1152.86	1146.567	1	1	6.29295
M90-01	732	2640591	488958.8	3	1071.92	1073.183	1	1	-1.26276
M90-05R	732	2645266	482393.1	3	1065.44	1067.4	1	1	-1.95966
M90-09	732	2640867	478557.4	3	1064.45	1067.162	1	1	-2.71219
M90-16R	732	2645345	473282.2	3	1061.32	1065.54	1	1	-4.22045
M90-17R	732	2648792	473326.6	3	1059.64	1061.963	1	1	-2.32334
M90-22R	732	2645116	467804	3	1056.53	1057.407	1	1	-0.87686
M90-23R	732	2649222	468585.2	3	1050.34	1053.095	1	1	-2.75493
M90-36R	732	2653437	465017.2	3	1052.65	1053.95	1	1	-1.29988
M90-37	732	2652867	463331.6	3	1051.5	1052.796	1	1	-1.2964
MUD_90-10	732	2645431	516093.6	3	1093.32	1095.421	1	1	-2.10052
MUD_94-5	732	2640274	514549.3	3	1094.09	1094.009	1	1	0.081054
MUD_94-6	732	2639186	503954.8	3	1083.79	1083.475	1	1	0.315228
MW-120A	732	2609372	499419.1	3	1113.02	1111.944	1	1	1.075776
MW-121A	732	2609753	500071	3	1114.21	1113.516	1	1	0.694088
MW-122A	732	2609240	498101.3	2	1111.27	1110.81	1	1	0.460344
MW-123A	732	2608678	499909.1	3	1113.64	1113.04	1	1	0.599961

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-124A	732	2609116	501486.2	3	1118.42	1118.44	1	1	-0.01954
MW-125A	732	2609457	500663.2	3	1115.49	1115.4	1	1	0.089909
MW-126A	732	2607484	504504.8	3	1129.44	1127.933	1	1	1.507374
MW-127A	732	2606157	506918.4	3	1135.25	1133.699	1	1	1.550579
MW-128A	732	2624836	498190.8	2	1094.28	1094.513	1	1	-0.23324
MW-128B	732	2624838	498197.8	2	1094.26	1094.529	1	1	-0.2686
MW-129A	732	2627766	496542.4	3	1087.95	1087.285	1	1	0.665308
MW-129B	732	2627771	496545.4	2	1087.98	1087.279	1	1	0.701446
MW-130A	732	2629053	496650.3	3	1085.96	1085.564	1	1	0.395989
MW-130B	732	2629059	496659.9	2	1086.01	1085.559	1	1	0.450748
MW-131A	732	2626342	496939.8	3	1090.46	1090.318	1	1	0.141668
MW-131B	732	2626349	496944.7	2	1090.11	1090.31	1	1	-0.19977
MW-132A	732	2625255	497254.4	3	1092.07	1092.384	1	1	-0.31364
MW-132B	732	2625258	497261.8	2	1092.07	1092.39	1	1	-0.32018
MW-133A	732	2622523	509720.9	3	1125.1	1124.128	1	1	0.972124
MW-134A	732	2623417	509045.7	3	1123.45	1121.369	1	1	2.08111
MW-134B	732	2623413	509052.5	2	1123.53	1121.388	1	1	2.142377
MW-135A	732	2623143	509762.3	3	1125.09	1123.464	1	1	1.626049
MW-135B	732	2623151	509772.4	2	1125.12	1123.485	1	1	1.635252
MW-136A	732	2623054	510561.3	3	1127.16	1125.662	1	1	1.497505
MW-16B	732	2604912	514026.4	3	1153.28	1149.734	1	1	3.546178
MW-16C	732	2604918	514034.7	2	1153.26	1149.752	1	1	3.50819
MW-17A	732	2603293	499100.3	3	1120.54	1121.071	1	1	-0.53141
MW-17B	732	2603293	499101.5	3	1120.01	1121.075	1	1	-1.06522
MW-17C	732	2603293	499090.3	2	1120.64	1121.042	1	1	-0.40158
MW-18A	732	2629150	506832.3	3	1102.68	1101.852	1	1	0.828195
MW-18B	732	2629157	506827.5	3	1103.32	1101.823	1	1	1.496588
MW-18C	732	2629149	506821.9	2	1106.47	1101.832	1	1	4.637878
MW-19A	732	2618421	517577.1	3	1146.3	1143.654	1	1	2.64615
MW-19B	732	2618430	517577	3	1145.99	1143.645	1	1	2.344568
MW-20A	732	2616623	493189.9	3	1098.6	1098.891	1	1	-0.29066
MW-20B	732	2616633	493191.5	3	1098.59	1098.879	1	1	-0.28919
MW-21A	732	2607121	503524.8	3	1128	1126.154	1	1	1.846457
MW-21B	732	2607111	503524.1	2	1127.99	1126.162	1	1	1.828418
MW-22A	732	2606598	510402.1	3	1144.23	1141.866	1	1	2.363661
MW-22B	732	2606604	510403.4	2	1144.1	1141.867	1	1	2.232774
MW-23A	732	2606403	509376.4	3	1141.25	1139.497	1	1	1.752748
MW-23B	732	2606393	509383.9	2	1141.26	1139.524	1	1	1.736332
MW-24A	732	2608477	501919.8	3	1121.16	1120.329	1	1	0.83082
MW-24B	732	2608478	501909	2	1121.43	1120.299	1	1	1.131459
MW-25A	732	2608308	504875.2	3	1129.55	1127.985	1	1	1.565037
MW-25B	732	2608308	504885.6	2	1129.58	1128.008	1	1	1.57246
MW-27A	732	2611435	508103	3	1136.63	1134.25	1	1	2.379845
MW-27B	732	2611427	508110.6	2	1136.67	1134.278	1	1	2.39198
MW-28A	732	2612951	502242.7	3	1120.4	1119.26	1	1	1.139942
MW-28B	732	2612936	502242.3	2	1121.12	1119.27	1	1	1.8497
MW-29A	732	2614470	498383.1	3	1109.1	1108.092	1	1	1.007822
MW-29B	732	2614461	498382.4	2	1109.16	1108.101	1	1	1.058716
MW-30A	732	2616288	507064.6	3	1128.23	1126.371	1	1	1.859426
MW-30B	732	2616282	507065.9	2	1128.24	1126.387	1	1	1.853144
MW-31A	732	2617944	503233.7	3	1117.59	1115.773	1	1	1.817095
MW-31B	732	2617935	503238.6	2	1117	1115.799	1	1	1.20074
MW-32A	732	2619697	499062.3	3	1102.84	1102.926	1	1	-0.08645
MW-32B	732	2619697	499069.1	2	1102.82	1102.946	1	1	-0.1262
MW-33A	732	2622411	502847.9	3	1107.42	1107.499	1	1	-0.07885
MW-33B	732	2622401	502854.8	2	1107.95	1107.524	1	1	0.426331
MW-34A	732	2624443	498806.3	3	1095.6	1096.149	1	1	-0.54863
MW-34B	732	2624443	498814.1	2	1095.6	1096.165	1	1	-0.56505
MW-35A	732	2629596	496323.6	3	1085.07	1084.691	1	1	0.378628
MW-35B	732	2629596	496329.4	2	1085.03	1084.692	1	1	0.338042
MW-52A	732	2627013	508784.6	3	1118.75	1116.348	1	1	2.40177
MW-52B	732	2627004	508778.9	2	1118.61	1116.36	1	1	2.250242
MW-53A	732	2627898	508169.9	3	1110.29	1109.322	1	1	0.968059
MW-53B	732	2627885	508166.6	2	1112.26	1109.355	1	1	2.904501
MW-54A	732	2627894	508858.3	3	1112.24	1111.895	1	1	0.344852
MW-54B	732	2627884	508856	2	1114.66	1111.923	1	1	2.736934
MW-55A	732	2628135	508377.7	3	1110.41	1109.213	1	1	1.197095

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-55B	732	2628126	508374.2	2	1110.66	1109.238	1	1	1.422254
MW-56A	732	2628206	508215.3	3	1109.75	1108.339	1	1	1.411074
MW-56B	732	2628195	508217.3	2	1111.54	1108.39	1	1	3.15037
MW-57B	732	2607622	516363.4	2	1156.15	1152.729	1	1	3.420535
MW-60A	732	2624703	489585.2	3	1090.96	1089.263	1	1	1.696765
MW-60B	732	2624703	489598.7	2	1090.96	1089.271	1	1	1.689055
MW-61A	732	2608656	492900.1	3	1102.24	1102.976	1	1	-0.73562
MW-61B	732	2608644	492898.6	2	1102.18	1102.98	1	1	-0.79967
MW-62A	732	2635397	493874.2	3	1074.58	1075.037	1	1	-0.45668
MW-62B	732	2635385	493872	2	1074.52	1075.033	1	1	-0.51313
MW-63B	732	2613168	519473.6	2	1157.34	1153.629	1	1	3.711261
MW-65A	732	2613203	506090.5	3	1130.42	1127.684	1	1	2.73583
MW-65B	732	2613193	506091.2	2	1130.39	1127.694	1	1	2.696258
OW-100	732	2628886	496489.5	3	1086.28	1085.744	1	1	0.536024
OW-102	732	2623026	510070.3	3	1126.15	1124.482	1	1	1.667807
OW-104	732	2622969	509760.5	3	1125.39	1123.684	1	1	1.705723
OW-101	732	2622907	509987.5	3	1122.23	1124.39	1	1	-2.16049
OW-103	732	2623371	510291.3	3	1126.9	1124.657	1	1	2.243109
OW-105	732	2623171	509450.3	3	1124.62	1122.478	1	1	2.142279
MW-01A	732	2618460	511743	3	1135.52	1133.397	1	1	2.122876
MW-01B	732	2618470	511743.2	2	1135.53	1133.386	1	1	2.144192
MW-03A	732	2607532	506223.4	3	1132.79	1130.996	1	1	1.793967
MW-03B	732	2607542	506225.4	2	1132.86	1130.996	1	1	1.863879
MW-04A	732	2612042	506256.8	3	1131.48	1128.818	1	1	2.662089
MW-04B	732	2612051	506259.4	2	1131.49	1128.821	1	1	2.669318
MW-05A	732	2613044	507097.6	3	1132.61	1130.375	1	1	2.235381
MW-05B	732	2613054	507097.5	2	1132.5	1130.369	1	1	2.130627
MW-06A	732	2617376	506522.1	3	1125.77	1123.886	1	1	1.884421
MW-06B	732	2617385	506525.5	2	1125.73	1123.879	1	1	1.850643
MW-07A	732	2618267	507274.8	3	1126.15	1124.007	1	1	2.142927
MW-07B	732	2618277	507276.1	2	1126.18	1123.994	1	1	2.185852
MW-08A	732	2622864	506814.8	3	1119.41	1117.098	1	1	2.311597
MW-08B	732	2622872	506820.6	2	1119.41	1117.101	1	1	2.308989
MW-09B	732	2623580	507436.1	2	1120.1	1117.641	1	1	2.459181
MW-100A	732	2629719	493770.4	3	1085.16	1083.851	1	1	1.309255
MW-100B	732	2629718	493777.2	2	1085.14	1083.854	1	1	1.286148
MW-101A	732	2610929	491574.1	3	1099.09	1099.762	1	1	-0.67187
MW-101B	732	2610924	491573.8	2	1099.1	1099.763	1	1	-0.66338
MW-102A	732	2622929	514541.2	3	1134.98	1134.535	1	1	0.444691
MW-102B	732	2622923	514540.9	2	1134.34	1134.54	1	1	-0.20013
MW-103A	732	2623591	513115.8	3	1131.88	1130.21	1	1	1.669904
MW-103B	732	2623591	513110.3	2	1132.23	1130.2	1	1	2.0303
MW-106A	732	2630545	506843.3	3	1100.78	1098.172	1	1	2.608127
MW-106B	732	2630539	506844.1	2	1101.06	1098.19	1	1	2.869894
MW-107A	732	2631376	506138.8	3	1097.02	1094.801	1	1	2.218923
MW-107B	732	2631374	506125.2	2	1097.12	1094.786	1	1	2.334324
MW-108A	732	2631916	505912.3	3	1095.91	1093.655	1	1	2.254877
MW-108B	732	2631917	505899.5	2	1096.34	1093.636	1	1	2.703822
MW-109A	732	2634807	501896.1	3	1084.17	1082.719	1	1	1.450738
MW-10A	732	2607884	496858.3	3	1110.03	1109.731	1	1	0.298907
MW-10B	732	2607894	496858.9	2	1109.93	1109.73	1	1	0.200497
MW-11	732	2626486	509499.8	3	1124.7	1121.926	1	1	2.773722
MW-110A	732	2634398	504432.8	3	1088.39	1088.356	1	1	0.033546
MW-110B	732	2634397	504438.9	2	1088.44	1088.365	1	1	0.074684
MW-111A	732	2636152	499338	3	1076.64	1078.532	1	1	-1.8923
MW-112A	732	2637366	501825.8	3	1081.98	1081.204	1	1	0.775635
MW-114A	732	2637471	497206.9	3	1076.89	1076.873	1	1	0.016616
MW-114B	732	2637466	497204.3	2	1076.85	1076.859	1	1	-0.00887
MW-115A	732	2637703	495346.9	3	1075.9	1076.399	1	1	-0.49911
MW-115B	732	2637696	495346.9	2	1075.89	1076.396	1	1	-0.50629
MW-116A	732	2636336	495297.6	3	1075.23	1075.631	1	1	-0.40104
MW-116B	732	2636332	495297.2	2	1075.14	1075.628	1	1	-0.48823
MW-117A	732	2631041	495048	3	1083.06	1081.919	1	1	1.141229
MW-117B	732	2631041	495054	2	1083.06	1081.923	1	1	1.137079
MW-118A	732	2625905	496207.7	3	1090.53	1090.362	1	1	0.167628
MW-118B	732	2625885	496207.8	2	1090.56	1090.393	1	1	0.167263
MW-119A	732	2607953	499580.8	3	1114.55	1113.422	1	1	1.128365

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-12	732	2606856	509013.9	3	1140.5	1138.368	1	1	2.132153
MW-13	732	2612231	509178.6	2	1137.92	1136.606	1	1	1.313611
MW-137A	732	2622838	511702.4	3	1130.67	1128.21	1	1	2.459997
MW-139A	732	2621290	514264.3	3	1135.44	1135.294	1	1	0.146182
MW-14	732	2617505	509391.1	2	1132.84	1130.042	1	1	2.798152
MW-140A	732	2634718	503375.8	3	1086.73	1086.185	1	1	0.544971
MW-37A	732	2633418	491651.9	3	1078.65	1077.488	1	1	1.162088
MW-37B	732	2633417	491631.7	2	1078.72	1077.486	1	1	1.23384
MW-38A	732	2638132	496248.6	3	1076.28	1076.924	1	1	-0.64362
MW-39A	732	2640062	499304.7	3	1079.27	1079.799	1	1	-0.52901
MW-40A	732	2623019	511963.4	3	1130.87	1128.575	1	1	2.294989
MW-40B	732	2623007	511962.8	2	1130.86	1128.589	1	1	2.27103
MW-41A	732	2624371	512001.3	3	1130.34	1126.957	1	1	3.383119
MW-41B	732	2624362	512001.4	2	1130.35	1126.969	1	1	3.380645
MW-42A	732	2629385	501582.6	3	1094.5	1092.643	1	1	1.856738
MW-42B	732	2629385	501592.6	2	1094.49	1092.659	1	1	1.83071
MW-43A	732	2629243	504317.9	3	1098.51	1096.434	1	1	2.076451
MW-43B	732	2629244	504328.2	2	1098.49	1096.446	1	1	2.044152
MW-44A	732	2632954	500415.1	3	1085.59	1082.22	1	1	3.370046
MW-44B	732	2632955	500426.3	2	1084.88	1082.218	1	1	2.662455
MW-46A	732	2637465	499387.4	3	1078.81	1078.849	1	1	-0.03916
MW-46B	732	2637464	499396.7	2	1078.83	1078.857	1	1	-0.02652
MW-47A	732	2603835	524480.7	3	1173.58	1169.112	1	1	4.468144
MW-47B	732	2603819	524480.2	2	1173.61	1169.119	1	1	4.490845
MW-71B	732	2613383	506090.3	2	1130.22	1127.547	1	1	2.673234
MW-72A	732	2622931	512064.7	3	1130.4	1128.895	1	1	1.50467
MW-72B	732	2622922	512064.2	2	1130.35	1128.906	1	1	1.443643
MW-73A	732	2623061	511909.2	3	1130.05	1128.414	1	1	1.636113
MW-73B	732	2623052	511908.7	2	1130.15	1128.423	1	1	1.726994
MW-74A	732	2623094	511934.8	3	1130.06	1128.436	1	1	1.623539
MW-74B	732	2623085	511934.8	2	1130.05	1128.446	1	1	1.604356
MW-76A	732	2623159	511983.3	3	1130.09	1128.479	1	1	1.61149
MW-76B	732	2623149	511982.6	2	1130.1	1128.487	1	1	1.612937
MW-77A	732	2623192	512008	3	1130.09	1128.499	1	1	1.591297
MW-77B	732	2623181	512007.3	2	1130.12	1128.509	1	1	1.611482
MW-78A	732	2623224	512032.8	3	1130.16	1128.521	1	1	1.63938
MW-78B	732	2623214	512031.3	2	1130.13	1128.528	1	1	1.602475
MW-79A	732	2610432	492336.2	3	1099.63	1100.277	1	1	-0.64742
MW-79B	732	2610428	492345.2	2	1099.61	1100.28	1	1	-0.67028
MW-80A	732	2610926	492067.1	3	1099.4	1099.886	1	1	-0.48612
MW-80B	732	2610916	492064.6	2	1099.35	1099.881	1	1	-0.53092
MW-81A	732	2611638	492369.4	3	1099.49	1100.287	1	1	-0.79723
MW-81B	732	2611636	492360.4	2	1099.47	1100.28	1	1	-0.80992
MW-82A	732	2619289	493318.1	3	1095.64	1094.895	1	1	0.745489
MW-82B	732	2619285	493325.5	2	1095.64	1094.899	1	1	0.740835
MW-83A	732	2621924	495274.7	3	1092.56	1092.001	1	1	0.55894
MW-83B	732	2621922	495302.8	2	1092.44	1091.995	1	1	0.44499
MW-84A	732	2624278	495685.5	3	1091.6	1091.381	1	1	0.218635
MW-84B	732	2624272	495712.9	2	1092.02	1091.402	1	1	0.618318
MW-85A	732	2628327	494439	3	1086.9	1086.152	1	1	0.747537
MW-85B	732	2628315	494449.8	2	1086.94	1086.172	1	1	0.767724
MW-86A	732	2631939	493759.7	3	1081.26	1080.05	1	1	1.209844
MW-86B	732	2631934	493758.7	2	1081.3	1080.061	1	1	1.239351
MW-87A	732	2635040	491898	3	1074.35	1075.202	1	1	-0.85242
MW-87B	732	2635035	491901	2	1074.33	1075.205	1	1	-0.87496
MW-88A	732	2637644	494045.1	3	1075.32	1075.992	1	1	-0.67228
MW-89A	732	2610431	494253.9	3	1104.27	1104.935	1	1	-0.66481
MW-89B	732	2610409	494254.1	2	1104.12	1104.928	1	1	-0.80765
MW-90A	732	2611236	494302	3	1104.98	1104.895	1	1	0.085214
MW-90B	732	2611227	494298	2	1104.5	1104.892	1	1	-0.39213
MW-91A	732	2612077	494323	3	1104.74	1104.595	1	1	0.145375
MW-91B	732	2612068	494317.5	2	1104.52	1104.592	1	1	-0.07205
MW-92A	732	2610047	492722.6	3	1100.13	1101.112	1	1	-0.982
MW-92B	732	2610048	492733.8	2	1100.24	1101.118	1	1	-0.87819
MW-93A	732	2612163	493551.3	3	1103.39	1103.018	1	1	0.372072
MW-93B	732	2612154	493546.8	2	1103.33	1103.016	1	1	0.314267
MW-94A	732	2617023	496428.7	3	1101.81	1101.802	1	1	0.007997

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-94B	732	2617023	496434.5	2	1101.89	1101.812	1	1	0.077777
MW-95A	732	2617553	494508.6	3	1099.46	1098.488	1	1	0.971892
MW-95B	732	2617547	494508	2	1099.46	1098.5	1	1	0.959618
MW-96A	732	2621468	493387.7	3	1093.36	1092.681	1	1	0.679239
MW-96B	732	2621468	493387.8	2	1093.36	1092.681	1	1	0.678988
MW-97A	732	2623938	493492.8	3	1091.64	1090.923	1	1	0.716793
MW-97B	732	2623933	493492.5	2	1091.82	1090.928	1	1	0.892199
MW-98A	732	2626495	493604.9	3	1089.7	1088.6	1	1	1.099889
MW-98B	732	2626489	493605.3	2	1089.77	1088.608	1	1	1.16192
MW-99A	732	2627117	498781	3	1091.9	1091.978	1	1	-0.07776
MW-99B	732	2627118	498787.9	2	1091.89	1091.988	1	1	-0.09834
N.Keiser	732	2632145	495084.1	3	1080.74	1079.779	1	1	0.961379
N.Wann	732	2642528	520660.6	3	1103.84	1103.218	1	1	0.621555
OW-01	732	2607923	499748	3	1114.71	1113.774	1	1	0.935858
OW-02	732	2607883	499737.4	3	1114.82	1113.79	1	1	1.030261
OW-03	732	2607936	499790.4	3	1114.89	1113.863	1	1	1.027342
OW-04	732	2607936	499764.7	3	1114.72	1113.799	1	1	0.92086
OW-05	732	2634935	495184.3	3	1070.44	1073.792	1	1	-3.35214
OW-06	732	2634884	495208.1	3	1072.19	1074.091	1	1	-1.90077
OW-07	732	2634884	495203.3	3	1072.82	1074.067	1	1	-1.24687
OW-08	732	2634786	495194.2	3	1073.36	1074.384	1	1	-1.02415
OW-09	732	2634938	495134.4	3	1072.35	1073.017	1	1	-0.66679
OW-10	732	2635085	495206.7	3	1073.14	1074.321	1	1	-1.1806
OW-11	732	2635254	495167.8	3	1073.91	1074.635	1	1	-0.72457
OW-12	732	2636332	495279.5	3	1075.24	1075.624	1	1	-0.38378
OW-13	732	2634929	495121.8	3	1072.49	1072.748	1	1	-0.25776
OW-14	732	2634937	494987.8	3	1073.64	1074.137	1	1	-0.49726
OW-16	732	2633480	495159.3	3	1076.99	1076.358	1	1	0.632099
OW-17	732	2608000	499877.7	3	1115.13	1114.031	1	1	1.099395
OW-18	732	2608114	499884	3	1114.86	1113.917	1	1	0.942885
OW-19	732	2608710	499902.6	3	1113.72	1112.925	1	1	0.794718
OW-20	732	2607955	499696.4	3	1114.79	1113.632	1	1	1.15777
OW-21	732	2607937	499559.5	3	1114.36	1113.4	1	1	0.959704
OW-22	732	2608020	499355.1	3	1114.45	1112.944	1	1	1.506123
OW-23	732	2607158	499656.4	3	1115.65	1114.275	1	1	1.374876
OW-24	732	2629552	496984.5	3	1084.39	1083.85	1	1	0.539824
OW-25	732	2629511	496932.1	3	1084.89	1084.297	1	1	0.593312
OW-26	732	2629214	496664.1	3	1086.15	1085.289	1	1	0.860916
OW-27	732	2629582	496942.2	3	1084.56	1084.278	1	1	0.282308
OW-28	732	2629582	496898	3	1084.66	1084.417	1	1	0.242529
OW-30	732	2629965	497303.9	3	1085.44	1085.059	1	1	0.3809
OW-31	732	2624243	497899	3	1094.27	1094.254	1	1	0.016244
OW-32	732	2624140	497845.1	3	1094.16	1094.191	1	1	-0.03092
OW-33	732	2623751	497669.8	3	1093.57	1093.978	1	1	-0.40803
OW-34	732	2624320	497868.6	3	1093.86	1094.15	1	1	-0.28957
OW-35	732	2624383	497738.5	3	1093.84	1093.862	1	1	-0.02227
OW-36	732	2624413	497337.6	3	1093.1	1093.121	1	1	-0.02052
OW-37	732	2624838	498178.4	3	1094.27	1094.479	1	1	-0.20894
OW-38	732	2621733	496294.9	3	1088.47	1088.752	1	1	-0.28173
OW-39	732	2621620	496212.3	3	1091.1	1091.186	1	1	-0.08618
OW-40	732	2621297	495975.6	3	1092.77	1092.396	1	1	0.373963
OW-41	732	2621817	496281.9	3	1087.45	1090.563	1	1	-3.11267
OW-42	732	2621900	496169.4	3	1090.17	1091.297	1	1	-1.12716
OW-43	732	2622135	495845.8	3	1092.05	1091.782	1	1	0.268163
OW-44	732	2622303	496682.1	3	1092.34	1092.424	1	1	-0.08444
OW-45	732	2619203	494842.2	3	1090.26	1091.171	1	1	-0.91072
OW-46	732	2619059	494783.4	3	1093.9	1093.61	1	1	0.289751
OW-47	732	2618685	494630.9	3	1096.19	1095.578	1	1	0.611552
OW-48	732	2619283	494800.5	3	1091.19	1092.047	1	1	-0.8567
OW-49	732	2619316	494671.9	3	1093.29	1093.096	1	1	0.194469
OW-50	732	2619466	494300.2	3	1094.55	1093.939	1	1	0.611322
OW-51	732	2619791	495096	3	1094.24	1093.516	1	1	0.724253
OW-52	732	2610586	493033.9	3	1092.66	1093.554	1	1	-0.89446
OW-53	732	2610556	493019.7	3	1094.51	1094.788	1	1	-0.27791
OW-54	732	2611357	493520.9	3	1102.49	1102.709	1	1	-0.21877
OW-55	732	2610822	492991.9	3	1091.3	1093.168	1	1	-1.86776
OW-56	732	2611643	493196.4	3	1102.2	1101.777	1	1	0.422722

Appendix C
March 2009 Residuals

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-104A	732	2634092	499205.6	3	1078.66	1078.562	1	1	0.098185
MW-105A	732	2635042	496643	3	1075.7	1075.873	1	1	-0.17324
OW-57	732	2611769	493277.9	3	1102.51	1102.347	1	1	0.16307
OW-58	732	2611367	493010	3	1100.15	1099.761	1	1	0.389352
OW-59	732	2611580	493019.2	3	1101.2	1100.874	1	1	0.326409
OW-60	732	2627138	497440.7	3	1088.66	1088.337	1	1	0.322935
OW-61	732	2627192	497571.5	3	1089.34	1089.088	1	1	0.251757
OW-62	732	2627351	497954.3	3	1090.29	1090.042	1	1	0.247795
OW-63	732	2627528	497841.9	3	1089.85	1089.56	1	1	0.289907
OW-97	732	2628423	496909.5	3	1086.27	1086.688	1	1	-0.41758
OW-98	732	2628617	497268.7	3	1087.51	1086.886	1	1	0.62376
OW-99	732	2628520	496667.1	3	1088.08	1086.369	1	1	1.710616
PV-37	732	2644077	514703.4	3	1093.48	1094.164	1	1	-0.68361
PV-38	732	2642740	516679.6	3	1095.45	1095.573	1	1	-0.12293
PV-39	732	2635349	501827.5	3	1083.08	1082.125	1	1	0.955131
PV-40	732	2645298	502916.4	3	1082.77	1085.028	1	1	-2.2582
PV-41	732	2642174	514040.5	3	1092.55	1092.881	1	1	-0.33123
Residual Mean	0.583064								
Abs. Res. Mean	1.28193								
Res. Std. Dev.	1.730112								
Sum of Squares	1173.305								
RMS Error	1.825719								
Min. Residual	-15.2978								
Max. Residual	6.29295								
Number of Observations	352								
Range in Observations	124.52								
Scaled Std. Dev.	0.013894								
Scaled Abs. Mean	0.010295								
Scaled RMS	0.014662								

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
PZ-01	882	2632385	499049.6	3	1083.27	1082.611	1	1	0.659222
PZ-02	882	2631559	499022.4	3	1088.17	1084.589	1	1	3.580772
PZ-03	882	2633506	501788.9	3	1085.82	1084.376	1	1	1.444345
PZ-04	882	2636059	501690.7	3	1081.24	1080.953	1	1	0.287306
S.Keiser	882	2632580	493968.1	3	1079.38	1078.622	1	1	0.758097
TH-EW-12	882	2610738	493102.1	3	1087.01	1083.886	1	1	3.123522
TH-EW-13	882	2611511	493072.7	3	1101.62	1101.17	1	1	0.45042
TH-EW-14R1	882	2625269	498721.4	3	1091.82	1091.585	1	1	0.234922
TH-EW-14R2	882	2625872	497850	3	1092.68	1093.199	1	1	-0.51912
TH-EW-15	882	2622870	509960.2	3	1129.19	1124.681	1	1	4.508622
TH-EW-16	881	2628310	496736.5	3	1085.68	1085.133	1	1	0.547209
TV-16	882	2623842	492107.3	3	1091.53	1090.895	1	1	0.634821
TV-17A	882	2627488	482978	3	1085.09	1080.915	1	1	4.174938
Frahm	882	2626739	493304.5	3	1089.39	1088.371	1	1	1.019476
Hanson	882	2623180	493348.9	3	1092.44	1091.957	1	1	0.483119
LPN06-19	882	2634208	514979.8	3	1102.17	1120.933	1	1	-18.7631
LPN_06-20	882	2631355	520347.1	3	1145.25	1139.812	1	1	5.437751
M90-02	882	2645833	489117.9	3	1071.27	1073.461	1	1	-2.1906
M90-04	882	2640808	484163.2	3	1068.15	1069.894	1	1	-1.74404
M90-12R	882	2647999	479369.2	3	1062.13	1066.096	1	1	-3.96602
M90-15	882	2641258	472881.6	3	1059.89	1063.657	1	1	-3.76724
M90-20R	882	2651428	470805.4	3	1057.91	1059.097	1	1	-1.18669
M90-21	882	2642069	468390.3	3	1057.98	1058.374	1	1	-0.39414
M90-24R	882	2650176	465992.6	3	1046.24	1052.619	1	1	-6.37931
M90-26R	882	2652731	465392.2	3	1051.09	1053.53	1	1	-2.43984
MUD_94-3	882	2646192	498899.9	3	1079.44	1081.043	1	1	-1.60268
MUD_94-4	882	2645712	509564.7	3	1080.93	1085.937	1	1	-5.00669
MUD_94-7	882	2643737	493588.9	3	1077.31	1076.819	1	1	0.490722
OW-64	881	2627300	497308.3	3	1088.33	1088.798	1	1	-0.46839
OW-65	881	2627673	497146.3	3	1087.84	1088.356	1	1	-0.51606
OW-66	882	2622938	497314.2	3	1093.3	1094.609	1	1	-1.30945
OW-68	882	2622419	496526.2	3	1092.99	1093.854	1	1	-0.8637
OW-69	882	2623045	497134.8	3	1093.32	1094.437	1	1	-1.11746
OW-71	882	2623796	497474.1	3	1093.69	1095.106	1	1	-1.41562
OW-72	882	2620346	495293	3	1092.56	1092.604	1	1	-0.0443
OW-73	882	2620218	495239.7	3	1093.22	1093.312	1	1	-0.09243
OW-74	882	2619854	494895.1	3	1093.5	1093.703	1	1	-0.20343
OW-75	882	2620487	495139.4	3	1093.17	1093.045	1	1	0.12514
OW-76	882	2620658	494777.2	3	1093.51	1093.531	1	1	-0.02107
OW-77	882	2621415	495808.4	3	1093.18	1093.443	1	1	-0.26331
OW-78	882	2609111	499977.5	3	1109.5	1109.907	1	1	-0.40739
OW-79	882	2608990	499915.3	3	1111.56	1111.538	1	1	0.02239
OW-80	882	2608752	499731.6	3	1113.12	1112.978	1	1	0.142012
OW-81	882	2609233	499803.1	3	1112.3	1111.666	1	1	0.633922
OW-82	882	2609366	499415.3	3	1112.69	1112.385	1	1	0.305355
OW-83	882	2609755	500075	3	1113.95	1113.963	1	1	-0.01262
Brabec	882	2618638	493130.5	3	1096.83	1096.31	1	1	0.519766
D.Starns	882	2647807	467164	3	1048.3	1054.542	1	1	-6.24189
LPN_06-01	882	2642292	478302.1	3	1064.42	1066.635	1	1	-2.21456
LPN_06-18	882	2635722	504500.6	3	1086.23	1085.52	1	1	0.709528
LPN_06-21	882	2628536	525369.8	3	1149.46	1146.58	1	1	2.880467
M90-01	882	2640591	488958.8	3	1071.95	1073.098	1	1	-1.14797
M90-05R	882	2645266	482393.1	3	1065.49	1066.859	1	1	-1.36946
M90-09	882	2640867	478557.4	3	1064.11	1067.077	1	1	-2.96657
M90-16R	882	2645345	473282.2	3	1060.03	1065.381	1	1	-5.35119
M90-17R	882	2648792	473326.6	3	1058.51	1061.652	1	1	-3.14245
M90-22R	882	2645116	467804	3	1050.87	1056.384	1	1	-5.51358
M90-23R	882	2649222	468585.2	3	1045.18	1054.755	1	1	-9.5754
M90-36R	882	2653437	465017.2	3	1052.33	1053.953	1	1	-1.62272
M90-37	882	2652867	463331.6	3	1050.8	1052.842	1	1	-2.04164
MUD_90-10	882	2645431	516093.6	3	1089.55	1093.266	1	1	-3.71602
MUD_94-5	882	2640274	514549.3	3	1092.38	1093.678	1	1	-1.29773
MUD_94-6	882	2639186	503954.8	3	1083.37	1082.824	1	1	0.545862
MW-120A	882	2609372	499419.1	3	1112.57	1112.389	1	1	0.181012
MW-120B	882	2609373	499439	2	1112.58	1112.408	1	1	0.172106
MW-120E	882	2609373	499430.8	3	1112.56	1112.393	1	1	0.166535
MW-121A	882	2609753	500071	3	1113.72	1113.949	1	1	-0.2291

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-121B	882	2609779	500071.6	2	1113.74	1113.982	1	1	-0.24201
MW-121E	882	2609763	500071.3	3	1113.95	1113.96	1	1	-0.0099
MW-122A	883	2609240	498101.3	2	1110.72	1111.247	1	1	-0.52654
MW-122B	883	2609232	498114.6	2	1110.7	1111.266	1	1	-0.56643
MW-123A	882	2608678	499909.1	3	1113.09	1113.529	1	1	-0.4386
MW-123B	882	2608666	499909	2	1113.17	1113.603	1	1	-0.43336
MW-124A	883	2609116	501486.2	3	1118.17	1118.978	1	1	-0.80809
MW-124B	883	2609108	501496.3	2	1118.15	1119.022	1	1	-0.87171
MW-125A	883	2609457	500663.2	3	1115.08	1115.906	1	1	-0.82558
MW-125B	883	2609468	500661.6	2	1115.01	1115.905	1	1	-0.89531
MW-126A	883	2607484	504504.8	3	1128.85	1128.183	1	1	0.667181
MW-126B	883	2607483	504514.7	2	1128.9	1128.206	1	1	0.693572
MW-127A	883	2606157	506918.4	3	1134.4	1133.977	1	1	0.422542
MW-127B	883	2606122	506931.4	2	1134.5	1134.049	1	1	0.450764
MW-128A	882	2624836	498190.8	2	1093.95	1095.264	1	1	-1.31377
MW-128B	882	2624838	498197.8	2	1093.92	1095.269	1	1	-1.34855
MW-129A	881	2627766	496542.4	3	1087.36	1087.432	1	1	-0.0717
MW-129B	881	2627771	496545.4	2	1087.32	1087.423	1	1	-0.10307
MW-130A	881	2629053	496650.3	3	1085.06	1085.527	1	1	-0.4666
MW-130B	881	2629059	496659.9	2	1085.14	1085.52	1	1	-0.38045
MW-131A	882	2626342	496939.8	3	1090.1	1091.196	1	1	-1.096
MW-131B	882	2626349	496944.7	2	1090.13	1091.188	1	1	-1.05806
MW-132A	882	2625255	497254.4	3	1092.15	1093.531	1	1	-1.38059
MW-132B	882	2625258	497261.8	2	1092.14	1093.538	1	1	-1.39767
MW-133A	882	2622523	509720.9	3	1125.33	1124.428	1	1	0.90221
MW-133B	882	2622523	509729.9	2	1125.54	1124.458	1	1	1.081996
MW-134A	882	2623417	509045.7	3	1123.03	1121.331	1	1	1.698615
MW-134B	882	2623413	509052.5	2	1123.06	1121.355	1	1	1.705283
MW-135A	882	2623143	509762.3	3	1124.97	1123.696	1	1	1.273607
MW-135B	882	2623151	509772.4	2	1124.91	1123.721	1	1	1.188988
MW-136A	882	2623054	510561.3	3	1126.66	1126.08	1	1	0.579768
MW-136B	882	2623064	510560.7	2	1126.84	1126.071	1	1	0.768904
MW-15	882	2622745	509482.9	2	1124.3	1123.405	1	1	0.895268
MW-16B	882	2604912	514026.4	3	1152.41	1149.891	1	1	2.518562
MW-16C	882	2604918	514034.7	2	1152.48	1149.914	1	1	2.566418
MW-17A	882	2603293	499100.3	3	1120.1	1121.653	1	1	-1.55349
MW-17B	882	2603293	499101.5	3	1119.45	1121.657	1	1	-2.20734
MW-17C	882	2603293	499090.3	2	1119.42	1121.629	1	1	-2.20899
MW-18A	882	2629150	506832.3	3	1102.21	1101.836	1	1	0.374335
MW-18B	882	2629157	506827.5	3	1102.37	1101.804	1	1	0.566283
MW-18C	882	2629149	506821.9	2	1105.75	1101.816	1	1	3.934335
MW-19A	882	2618421	517577.1	3	1145.85	1144.216	1	1	1.633851
MW-19B	882	2618430	517577	3	1145.74	1144.208	1	1	1.531822
MW-20A	882	2616623	493189.9	3	1098.32	1099.506	1	1	-1.18593
MW-20B	882	2616633	493191.5	3	1098.39	1099.494	1	1	-1.10413
MW-20C	882	2616611	493187.6	2	1100.65	1099.523	1	1	1.127419
MW-21A	882	2607121	503524.8	3	1127.81	1126.571	1	1	1.238766
MW-21B	882	2607111	503524.1	2	1127.8	1126.585	1	1	1.214982
MW-22A	882	2606598	510402.1	3	1143.88	1142.359	1	1	1.521163
MW-22B	882	2606604	510403.4	2	1143.77	1142.364	1	1	1.405913
MW-23A	882	2606403	509376.4	3	1140.91	1140.035	1	1	0.875141
MW-23B	882	2606393	509383.9	2	1140.88	1140.067	1	1	0.812862
MW-24A	882	2608477	501919.8	3	1120.98	1120.852	1	1	0.127701
MW-24B	882	2608478	501909	2	1121.26	1120.826	1	1	0.433541
MW-25A	882	2608308	504875.2	3	1128.59	1127.92	1	1	0.669725
MW-25B	882	2608308	504885.6	2	1128.65	1127.947	1	1	0.702524
MW-26A	882	2609860	508825.1	3	1138.73	1136.806	1	1	1.924113
MW-26B	882	2609850	508824.9	2	1138.7	1136.813	1	1	1.887392
MW-28A	882	2612951	502242.7	3	1119.8	1119.816	1	1	-0.01621
MW-28B	882	2612936	502242.3	2	1119.52	1119.834	1	1	-0.3136
MW-29A	882	2614470	498383.1	3	1108.72	1108.625	1	1	0.095025
MW-29B	882	2614461	498382.4	2	1108.78	1108.64	1	1	0.139614
MW-30A	882	2616288	507064.6	3	1127.75	1126.876	1	1	0.873609
MW-30B	882	2616282	507065.9	2	1127.76	1126.9	1	1	0.860126
MW-31A	882	2617944	503233.7	3	1117.11	1116.107	1	1	1.00276
MW-31B	882	2617935	503238.6	2	1116.61	1116.133	1	1	0.47692
MW-32A	882	2619697	499062.3	3	1103.19	1103.877	1	1	-0.6873

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-32B	882	2619697	499069.1	2	1103.17	1103.898	1	1	-0.72796
MW-33A	882	2622411	502847.9	3	1107.06	1107.933	1	1	-0.87294
MW-33B	882	2622401	502854.8	2	1107.12	1107.959	1	1	-0.83896
MW-34A	882	2624443	498806.3	3	1095.23	1096.856	1	1	-1.62607
MW-34B	882	2624443	498814.1	2	1095.24	1096.871	1	1	-1.63135
MW-35A	881	2629596	496323.6	3	1084.27	1084.843	1	1	-0.5728
MW-35B	881	2629596	496329.4	2	1084.23	1084.842	1	1	-0.61223
MW-52A	882	2627013	508784.6	3	1117.82	1116.41	1	1	1.410082
MW-52B	882	2627004	508778.9	2	1117.67	1116.421	1	1	1.249304
MW-53A	882	2627898	508169.9	3	1108.91	1109.637	1	1	-0.72686
MW-53B	882	2627885	508166.6	2	1111.51	1109.672	1	1	1.837743
MW-54A	882	2627894	508858.3	3	1110.88	1112.263	1	1	-1.38301
MW-54B	882	2627884	508856	2	1113.6	1112.294	1	1	1.306164
MW-55A	882	2628135	508377.7	3	1108.98	1109.567	1	1	-0.58721
MW-55B	882	2628126	508374.2	2	1109.25	1109.595	1	1	-0.34482
MW-56A	882	2628206	508215.3	3	1108.31	1108.681	1	1	-0.37147
MW-56B	882	2628195	508217.3	2	1110.83	1108.735	1	1	2.094639
MW-57B	882	2607622	516363.4	2	1155.31	1152.598	1	1	2.712472
MW-60A	882	2624703	489585.2	3	1090.13	1089.599	1	1	0.531351
MW-60B	882	2624703	489598.7	2	1090.2	1089.607	1	1	0.593066
MW-61A	882	2608656	492900.1	3	1102.36	1103.218	1	1	-0.85786
MW-61B	883	2608644	492898.6	2	1102.31	1103.228	1	1	-0.91764
MW-62A	882	2635397	493874.2	3	1074.95	1074.993	1	1	-0.04295
MW-62B	882	2635385	493872	2	1074.96	1074.99	1	1	-0.02995
MW-63B	882	2613168	519473.6	2	1150.3	1153.311	1	1	-3.01119
MW-65A	882	2613203	506090.5	3	1129.57	1128.172	1	1	1.398433
MW-65B	882	2613193	506091.2	2	1129.57	1128.185	1	1	1.385421
OW-100	881	2628886	496489.5	3	1085.37	1085.723	1	1	-0.353
OW-102	882	2623026	510070.3	3	1125.79	1124.813	1	1	0.977435
OW-104	882	2622969	509760.5	3	1125.01	1123.944	1	1	1.065622
OW-101	881	2622907	509987.5	3	1122.67	1124.713	1	1	-2.04315
OW-103	882	2623371	510291.3	3	1126.53	1124.993	1	1	1.537453
OW-105	882	2623171	509450.3	3	1124.15	1122.602	1	1	1.548391
MW-01A	882	2618460	511743	3	1135.13	1133.987	1	1	1.143195
MW-01B	882	2618470	511743.2	2	1135.17	1133.979	1	1	1.190729
MW-03A	882	2607532	506223.4	3	1131.96	1131.184	1	1	0.775785
MW-03B	882	2607542	506225.4	2	1132.05	1131.188	1	1	0.862114
MW-04A	882	2612042	506256.8	3	1130.31	1129.071	1	1	1.239479
MW-04B	882	2612051	506259.4	2	1130.3	1129.084	1	1	1.215939
MW-05A	882	2613044	507097.6	3	1132.08	1131.029	1	1	1.050623
MW-05B	882	2613054	507097.5	2	1131.13	1131.031	1	1	0.099342
MW-06A	882	2617376	506522.1	3	1125.06	1124.032	1	1	1.028294
MW-06B	882	2617385	506525.5	2	1125.11	1124.031	1	1	1.078967
MW-07A	882	2618267	507274.8	3	1125.48	1124.154	1	1	1.325618
MW-07B	882	2618277	507276.1	2	1125.29	1124.142	1	1	1.14816
MW-08A	882	2622864	506814.8	3	1118.39	1116.757	1	1	1.633397
MW-08B	882	2622872	506820.6	2	1118.42	1116.762	1	1	1.657957
MW-09A	882	2623571	507435.8	3	1118.96	1117.242	1	1	1.718459
MW-09B	882	2623580	507436.1	2	1119.12	1117.23	1	1	1.890184
MW-100A	882	2629719	493770.4	3	1084.68	1084.225	1	1	0.455381
MW-100B	882	2629718	493777.2	2	1084.66	1084.23	1	1	0.430363
MW-101A	882	2610929	491574.1	3	1099.49	1100.037	1	1	-0.54722
MW-101B	882	2610924	491573.8	2	1099.5	1100.042	1	1	-0.54238
MW-102A	883	2622929	514541.2	3	1134.86	1135.12	1	1	-0.25973
MW-102B	883	2622923	514540.9	2	1134.42	1135.13	1	1	-0.7098
MW-103A	883	2623591	513115.8	3	1131.62	1130.759	1	1	0.861186
MW-103B	883	2623591	513110.3	2	1131.99	1130.75	1	1	1.239687
MW-106A	882	2630545	506843.3	3	1099.25	1098.023	1	1	1.226622
MW-106B	882	2630539	506844.1	2	1099.63	1098.044	1	1	1.586414
MW-107A	882	2631376	506138.8	3	1095.37	1094.7	1	1	0.66987
MW-107B	882	2631374	506125.2	2	1096.34	1094.686	1	1	1.654067
MW-108A	882	2631916	505912.3	3	1094.2	1093.577	1	1	0.623372
MW-108B	882	2631917	505899.5	2	1094.67	1093.56	1	1	1.110376
MW-109A	882	2634807	501896.1	3	1083.81	1082.4	1	1	1.410235
MW-109B	882	2634806	501904.3	2	1083.8	1082.422	1	1	1.377937
MW-109O	882	2634805	501911.8	1	1080.17	1081.593	1	1	-1.4229
MW-10A	882	2607884	496858.3	3	1109.33	1110.046	1	1	-0.71622

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-10B	882	2607894	496858.9	2	1109.34	1110.047	1	1	-0.70746
MW-11	882	2626486	509499.8	3	1123.7	1121.876	1	1	1.82375
MW-110A	882	2634398	504432.8	3	1087.61	1088.018	1	1	-0.40802
MW-110B	882	2634397	504438.9	2	1087.66	1088.027	1	1	-0.36667
MW-111A	882	2636152	499338	3	1077.8	1078.378	1	1	-0.57832
MW-111B	882	2636152	499348.2	2	1077.82	1078.386	1	1	-0.5658
MW-111O	882	2636152	499356.7	1	1074.9	1078.336	1	1	-3.43638
MW-112A	881	2637366	501825.8	3	1080.35	1080.655	1	1	-0.30518
MW-112B	881	2637365	501832.7	2	1080.41	1080.662	1	1	-0.25161
MW-113A	881	2637420	500472.2	3	1079.04	1079.387	1	1	-0.3474
MW-113B	881	2637420	500477.7	2	1078.96	1079.391	1	1	-0.43124
MW-114A	882	2637471	497206.9	3	1077.44	1076.725	1	1	0.714798
MW-114B	882	2637466	497204.3	2	1077.41	1076.711	1	1	0.699077
MW-115A	882	2637703	495346.9	3	1076.27	1076.165	1	1	0.105303
MW-115B	882	2637696	495346.9	2	1076.27	1076.161	1	1	0.109481
MW-118A	882	2625905	496207.7	3	1090.58	1091.357	1	1	-0.77656
MW-118B	882	2625885	496207.8	2	1090.62	1091.394	1	1	-0.7742
MW-119A	882	2607953	499580.8	3	1114.14	1113.959	1	1	0.180835
MW-119B	882	2607942	499593.4	2	1114.28	1114.001	1	1	0.279435
MW-13	882	2612231	509178.6	2	1137.45	1137.168	1	1	0.281991
MW-137A	883	2622838	511702.4	3	1130.38	1128.744	1	1	1.636096
MW-137B	883	2622846	511704.4	2	1130.22	1128.744	1	1	1.47636
MW-137E	883	2622857	511706.8	2	1130.23	1128.738	1	1	1.491708
MW-138A	883	2622366	512816.6	3	1132.63	1131.745	1	1	0.884869
MW-138B	883	2622378	512817.2	2	1132.81	1131.738	1	1	1.071779
MW-139A	883	2621290	514264.3	3	1135.45	1135.878	1	1	-0.42849
MW-139B	883	2621297	514275.4	2	1135.5	1135.9	1	1	-0.39986
MW-14	882	2617505	509391.1	2	1132.36	1130.573	1	1	1.787274
MW-37A	882	2633418	491651.9	3	1077.97	1077.262	1	1	0.707782
MW-37B	882	2633417	491631.7	2	1078.03	1077.262	1	1	0.767933
MW-38A	882	2638132	496248.6	3	1076.76	1076.767	1	1	-0.00688
MW-39A	881	2640062	499304.7	3	1077.99	1079.532	1	1	-1.54226
MW-40A	882	2623019	511963.4	3	1130.68	1129.11	1	1	1.570367
MW-40B	882	2623007	511962.8	2	1130.66	1129.127	1	1	1.532869
MW-41A	882	2624371	512001.3	3	1129.78	1127.359	1	1	2.421444
MW-41B	882	2624362	512001.4	2	1129.78	1127.374	1	1	2.406483
MW-42A	882	2629385	501582.6	3	1093.45	1092.617	1	1	0.832549
MW-43A	882	2629243	504317.9	3	1097.25	1095.983	1	1	1.266518
MW-43B	882	2629244	504328.2	2	1097.26	1095.996	1	1	1.263612
MW-44A	881	2632954	500415.1	3	1084.1	1082.293	1	1	1.806931
MW-44B	881	2632955	500426.3	2	1083.69	1082.29	1	1	1.399732
MW-46A	881	2637465	499387.4	3	1077.69	1078.527	1	1	-0.83689
MW-46B	881	2637464	499396.7	2	1077.68	1078.534	1	1	-0.85361
MW-47A	882	2603835	524480.7	3	1174.1	1169.578	1	1	4.522445
MW-47B	882	2603819	524480.2	2	1174.17	1169.593	1	1	4.577302
MW-71B	882	2613383	506090.3	2	1129.43	1128.084	1	1	1.346176
MW-73A	882	2623061	511909.2	3	1129.81	1128.944	1	1	0.865668
MW-73B	882	2623052	511908.7	2	1129.81	1128.957	1	1	0.85334
MW-74A	882	2623094	511934.8	3	1129.78	1128.967	1	1	0.813337
MW-74B	882	2623085	511934.8	2	1129.82	1128.979	1	1	0.840944
MW-75A	882	2623130	511962.4	3	1129.81	1128.992	1	1	0.818448
MW-75B	882	2623120	511961.8	2	1129.85	1129.004	1	1	0.846472
MW-76A	882	2623159	511983.3	3	1129.83	1129.008	1	1	0.821841
MW-76B	882	2623149	511982.6	2	1129.88	1129.02	1	1	0.860215
MW-77A	882	2623192	512008	3	1129.86	1129.028	1	1	0.832019
MW-77B	882	2623181	512007.3	2	1129.88	1129.041	1	1	0.839098
MW-78A	882	2623224	512032.8	3	1129.93	1129.05	1	1	0.880425
MW-78B	882	2623214	512031.3	2	1129.9	1129.059	1	1	0.840577
MW-79A	882	2610432	492336.2	3	1100.23	1100.635	1	1	-0.40498
MW-79B	882	2610428	492345.2	2	1100.2	1100.641	1	1	-0.44104
MW-80A	882	2610926	492067.1	3	1099.92	1100.215	1	1	-0.2955
MW-80B	882	2610916	492064.6	2	1099.9	1100.211	1	1	-0.31134
MW-81A	882	2611638	492369.4	3	1099.93	1100.647	1	1	-0.71736
MW-81B	882	2611636	492360.4	2	1099.92	1100.644	1	1	-0.72437
MW-82A	882	2619289	493318.1	3	1095.29	1095.286	1	1	0.004462
MW-82B	882	2619285	493325.5	2	1095.28	1095.294	1	1	-0.01439
MW-83A	882	2621924	495274.7	3	1093.02	1093.246	1	1	-0.226

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-83B	882	2621922	495302.8	2	1092.93	1093.248	1	1	-0.31774
MW-84A	882	2624278	495685.5	3	1092.03	1092.605	1	1	-0.57519
MW-84B	882	2624272	495712.9	2	1092.51	1092.635	1	1	-0.1252
MW-85A	881	2628327	494439	3	1086.58	1086.559	1	1	0.020515
MW-85B	881	2628315	494449.8	2	1086.59	1086.582	1	1	0.008256
MW-87A	882	2635040	491898	3	1074.34	1075.161	1	1	-0.82104
MW-87B	882	2635035	491901	2	1074.32	1075.163	1	1	-0.84322
MW-88A	883	2637644	494045.1	3	1075.48	1075.927	1	1	-0.44674
MW-88B	883	2637639	494044.2	2	1075.3	1075.925	1	1	-0.6254
MW-89A	882	2610431	494253.9	3	1103.87	1105.027	1	1	-1.15728
MW-89B	882	2610409	494254.1	2	1103.67	1105.034	1	1	-1.36448
MW-90A	882	2611236	494302	3	1104.13	1104.906	1	1	-0.77648
MW-90B	882	2611227	494298	2	1103.87	1104.908	1	1	-1.03819
MW-91A	882	2612077	494323	3	1103.97	1104.681	1	1	-0.71107
MW-91B	882	2612068	494317.5	2	1103.82	1104.683	1	1	-0.86297
MW-92A	882	2610047	492722.6	3	1100.66	1101.49	1	1	-0.83008
MW-92B	882	2610048	492733.8	2	1100.79	1101.501	1	1	-0.71089
MW-93A	882	2612163	493551.3	3	1102.95	1103.343	1	1	-0.39256
MW-93B	882	2612154	493546.8	2	1102.9	1103.345	1	1	-0.44495
MW-94A	882	2617023	496428.7	3	1101.76	1102.538	1	1	-0.77825
MW-94B	882	2617023	496434.5	2	1101.81	1102.551	1	1	-0.74078
MW-95A	882	2617553	494508.6	3	1099.31	1099.125	1	1	0.185025
MW-95B	882	2617547	494508	2	1099.34	1099.141	1	1	0.19926
MW-96A	882	2621468	493387.7	3	1093.36	1093.46	1	1	-0.10044
MW-96B	882	2621468	493387.8	2	1093.36	1093.463	1	1	-0.10254
MW-97A	882	2623938	493492.8	3	1091.63	1091.26	1	1	0.370317
MW-97B	882	2623933	493492.5	2	1091.68	1091.266	1	1	0.413882
MW-98A	881	2626495	493604.9	3	1089.42	1088.826	1	1	0.59354
MW-98B	881	2626489	493605.3	2	1089.48	1088.835	1	1	0.644667
MW-99A	882	2627117	498781	3	1091.33	1092.406	1	1	-1.07645
MW-99B	882	2627118	498787.9	2	1091.33	1092.418	1	1	-1.08799
N.Keiser	882	2632145	495084.1	3	1080.34	1080.087	1	1	0.252506
N.Wann	882	2642528	520660.6	3	1103.55	1103.159	1	1	0.390809
OW-01	882	2607923	499748	3	1114.36	1114.323	1	1	0.037364
OW-02	882	2607883	499737.4	3	1114.42	1114.338	1	1	0.082372
OW-03	882	2607936	499790.4	3	1114.54	1114.414	1	1	0.125817
OW-04	882	2607936	499764.7	3	1114.35	1114.349	1	1	0.001233
OW-05	882	2634935	495184.3	3	1071.35	1073.713	1	1	-2.36309
OW-06	882	2634884	495208.1	3	1073.01	1074.012	1	1	-1.0017
OW-07	882	2634884	495203.3	3	1073.54	1073.988	1	1	-0.44837
OW-08	882	2634786	495194.2	3	1074.01	1074.31	1	1	-0.29976
OW-09	882	2634938	495134.4	3	1073.16	1072.954	1	1	0.20559
OW-13	882	2634929	495121.8	3	1073.24	1072.692	1	1	0.547586
OW-14	882	2634937	494987.8	3	1074.23	1074.051	1	1	0.179083
OW-15	882	2634948	494788.1	3	1074.58	1074.398	1	1	0.182455
OW-17	882	2608000	499877.7	3	1114.73	1114.588	1	1	0.142292
OW-18	882	2608114	499884	3	1114.51	1114.471	1	1	0.039215
OW-19	882	2608710	499902.6	3	1113.25	1113.405	1	1	-0.15486
OW-20	882	2607955	499696.4	3	1114.39	1114.177	1	1	0.212906
OW-21	882	2607937	499559.5	3	1113.96	1113.936	1	1	0.023557
OW-22	882	2608020	499355.1	3	1114.09	1113.465	1	1	0.625148
OW-23	882	2607158	499656.4	3	1115.31	1114.801	1	1	0.508599
OW-24	881	2629552	496984.5	3	1083.56	1083.433	1	1	0.126653
OW-25	881	2629511	496932.1	3	1084.05	1084.014	1	1	0.035634
OW-26	881	2629214	496664.1	3	1085.28	1085.261	1	1	0.018879
OW-27	881	2629582	496942.2	3	1083.72	1084.019	1	1	-0.29911
OW-28	881	2629582	496898	3	1083.79	1084.222	1	1	-0.43155
OW-30	881	2629965	497303.9	3	1084.58	1084.99	1	1	-0.40981
OW-31	882	2624243	497899	3	1094.58	1095.502	1	1	-0.92226
OW-32	882	2624140	497845.1	3	1094.54	1095.504	1	1	-0.96385
OW-33	882	2623751	497669.8	3	1094.33	1095.485	1	1	-1.15473
OW-34	882	2624320	497868.6	3	1094.12	1095.377	1	1	-1.25681
OW-35	882	2624383	497738.5	3	1094.15	1095.125	1	1	-0.97471
OW-36	882	2624413	497337.6	3	1093.53	1094.475	1	1	-0.94469
OW-37	882	2624838	498178.4	3	1093.92	1095.241	1	1	-1.32055
OW-39	882	2621620	496212.3	3	1093.57	1092.389	1	1	1.181213
OW-40	882	2621297	495975.6	3	1093.74	1093.657	1	1	0.083434

Appendix C
August 2009 Residuals

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
OW-42	882	2621900	496169.4	3	1093.03	1092.61	1	1	0.420102
OW-43	882	2622135	495845.8	3	1092.88	1093.162	1	1	-0.28248
OW-44	882	2622303	496682.1	3	1093.48	1094.109	1	1	-0.62938
OW-45	882	2619203	494842.2	3	1089.87	1089.534	1	1	0.335562
OW-46	882	2619059	494783.4	3	1093.47	1093.202	1	1	0.267907
OW-47	882	2618685	494630.9	3	1095.87	1095.847	1	1	0.023287
OW-48	882	2619283	494800.5	3	1090.78	1091.01	1	1	-0.22951
OW-49	882	2619316	494671.9	3	1092.85	1092.712	1	1	0.137936
OW-50	882	2619466	494300.2	3	1094.18	1094.198	1	1	-0.01831
OW-51	882	2619791	495096	3	1094.08	1093.895	1	1	0.184995
OW-52	882	2610586	493033.9	3	1095.63	1095.736	1	1	-0.1064
OW-53	882	2610556	493019.7	3	1097.12	1096.669	1	1	0.450661
OW-54	882	2611357	493520.9	3	1102.49	1103.069	1	1	-0.57907
OW-55	882	2610822	492991.9	3	1094.93	1095.39	1	1	-0.46037
OW-56	882	2611643	493196.4	3	1102.34	1102.154	1	1	0.186019
MW-104A	882	2634092	499205.6	3	1078.29	1078.553	1	1	-0.26303
MW-104B	882	2634083	499205.6	2	1078.35	1078.564	1	1	-0.21368
MW-104O	882	2634074	499205	1	1077.63	1078.329	1	1	-0.69882
MW-105A	882	2635042	496643	3	1076.06	1075.783	1	1	0.276727
MW-105B	882	2635042	496653	2	1076.09	1075.79	1	1	0.300232
MW-105O	882	2635041	496662.3	1	1073.16	1074.773	1	1	-1.61267
OW-57	882	2611769	493277.9	3	1102.43	1102.689	1	1	-0.25927
OW-58	882	2611367	493010	3	1100.89	1100.384	1	1	0.505825
OW-59	882	2611580	493019.2	3	1101.73	1101.301	1	1	0.42859
OW-60	881	2627138	497440.7	3	1088.89	1089.036	1	1	-0.14624
OW-61	881	2627192	497571.5	3	1088.91	1089.692	1	1	-0.78245
OW-62	881	2627351	497954.3	3	1089.73	1090.497	1	1	-0.76692
OW-63	881	2627528	497841.9	3	1089.31	1089.975	1	1	-0.6653
OW-90	882	2625244	498690.8	3	1091.92	1091.414	1	1	0.506327
OW-92	882	2625156	498583.3	3	1093.62	1093.942	1	1	-0.32158
OW-93	882	2625291	498721.9	3	1091.69	1092.387	1	1	-0.69738
OW-94	882	2625434	498611.5	3	1093.46	1094.023	1	1	-0.5635
OW-95	882	2625767	498358.5	3	1093.18	1093.96	1	1	-0.77956
OW-96	881	2628354	496783.7	3	1086.62	1085.814	1	1	0.806268
OW-97	881	2628423	496909.5	3	1086.22	1086.318	1	1	-0.09794
OW-98	881	2628617	497268.7	3	1086.61	1086.835	1	1	-0.22475
PV-37	882	2644077	514703.4	3	1089.4	1091.984	1	1	-2.5839
PV-38	882	2642740	516679.6	3	1094.02	1094.971	1	1	-0.9511
PV-39	882	2635349	501827.5	3	1082.89	1081.636	1	1	1.253968
PV-40	882	2645298	502916.4	3	1080.35	1084.246	1	1	-3.896
PV-41	882	2642174	514040.5	3	1090.09	1092.029	1	1	-1.93857
Residual Mean	-0.05357								
Abs. Res. Mean	1.069733								
Res. Std. Dev.	1.788837								
Sum of Squares	1204.256								
RMS Error	1.789639								
Min. Residual	-18.7631								
Max. Residual	5.437751								
Number of Observations	376								
Range in Observations	128.99								
Scaled Std. Dev.	0.013868								
Scaled Abs. Mean	0.008293								
Scaled RMS	0.013874								

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
PZ-01	946	2632385	499049.6	3	1083.49	1082.587	1	1	0.902882
PZ-02	946	2631559	499022.4	3	1088.18	1084.674	1	1	3.506397
PZ-03	946	2633506	501788.9	3	1086.26	1084.281	1	1	1.979322
PZ-04	946	2636059	501690.7	3	1082.48	1081.222	1	1	1.258388
PZ-05	946	2639988	502024.7	3	1081.35	1081.391	1	1	-0.04101
PZ-06	946	2636835	504539.7	3	1085.17	1084.274	1	1	0.895533
S.Keiser	946	2632580	493968.1	3	1079.57	1078.909	1	1	0.660852
TV-16	946	2623842	492107.3	3	1091.56	1091.229	1	1	0.331258
TV-17A	946	2627488	482978	3	1085.51	1082.113	1	1	3.397179
Frahm	946	2626739	493304.5	3	1089.3	1088.598	1	1	0.702228
Hanson	946	2623180	493348.9	3	1092.49	1092.189	1	1	0.301103
LPN06-19	946	2634208	514979.8	3	1103.82	1120.637	1	1	-16.8173
LPN_06-20	946	2631355	520347.1	3	1145.67	1139.711	1	1	5.959027
M90-02	946	2645833	489117.9	3	1071.46	1073.377	1	1	-1.91744
M90-04	946	2640808	484163.2	3	1069.38	1069.9	1	1	-0.51996
M90-12R	946	2647999	479369.2	3	1064.03	1066.326	1	1	-2.29593
M90-15	946	2641258	472881.6	3	1060.6	1063.617	1	1	-3.01681
M90-20R	946	2651428	470805.4	3	1057.82	1058.931	1	1	-1.11103
M90-21	946	2642069	468390.3	3	1058.47	1058.285	1	1	0.185172
M90-24R	946	2650176	465992.6	3	1044.57	1051.108	1	1	-6.5379
M90-26R	946	2652731	465392.2	3	1050.58	1053.082	1	1	-2.50184
MUD_94-3	946	2646192	498899.9	3	1079.14	1080.978	1	1	-1.83791
MUD_94-4	946	2645712	509564.7	3	1081.44	1085.76	1	1	-4.32049
MUD_94-7	946	2643737	493588.9	3	1076.84	1076.761	1	1	0.078651
OW-64	946	2627300	497308.3	3	1088.26	1088.669	1	1	-0.40922
OW-65	946	2627673	497146.3	3	1087.76	1088.205	1	1	-0.44493
OW-66	946	2622938	497314.2	3	1093.63	1095.168	1	1	-1.53823
OW-67	946	2622731	497150.2	3	1093.72	1094.907	1	1	-1.18676
OW-68	946	2622419	496526.2	3	1093.2	1094.069	1	1	-0.86888
OW-69	946	2623045	497134.8	3	1093.62	1094.884	1	1	-1.2638
OW-70	946	2623341	496845.9	3	1093.48	1094.453	1	1	-0.97331
OW-71	946	2623796	497474.1	3	1093.89	1095.26	1	1	-1.37042
OW-72	946	2620346	495293	3	1092.7	1093.036	1	1	-0.33577
OW-73	946	2620218	495239.7	3	1093.39	1093.722	1	1	-0.33153
OW-74	946	2619854	494895.1	3	1093.7	1094.279	1	1	-0.57859
OW-75	946	2620487	495139.4	3	1093.31	1093.381	1	1	-0.07138
OW-76	946	2620658	494777.2	3	1093.67	1093.748	1	1	-0.07795
OW-78	946	2609111	499977.5	3	1109.29	1109.416	1	1	-0.12631
OW-79	946	2608990	499915.3	3	1111.26	1111.171	1	1	0.089448
OW-80	946	2608752	499731.6	3	1112.83	1112.745	1	1	0.084527
OW-81	946	2609233	499803.1	3	1112.04	1111.349	1	1	0.691272
OW-82	946	2609366	499415.3	3	1112.47	1112.203	1	1	0.266961
OW-83	946	2609755	500075	3	1113.68	1113.82	1	1	-0.14003
OW-89	946	2632605	496433.6	3	1079.62	1079.417	1	1	0.203154
Brabec	946	2618638	493130.5	3	1097.07	1096.529	1	1	0.540553
D.Starns	946	2647807	467164	3	1047.6	1054.381	1	1	-6.78117
LPN_06-01	946	2642292	478302.1	3	1065.74	1066.674	1	1	-0.9339
LPN_06-18	946	2635722	504500.6	3	1086.7	1085.897	1	1	0.803206
LPN_06-21	946	2628536	525369.8	3	1150.95	1146.645	1	1	4.304541
M90-01	946	2640591	488958.8	3	1072.82	1073.061	1	1	-0.24086
M90-05R	946	2645266	482393.1	3	1066.12	1067.224	1	1	-1.10356
M90-09	946	2640867	478557.4	3	1065.58	1067.075	1	1	-1.49522
M90-16R	946	2645345	473282.2	3	1060.41	1065.383	1	1	-4.97284
M90-17R	946	2648792	473326.6	3	1058.62	1061.659	1	1	-3.0393
M90-22R	946	2645116	467804	3	1051.31	1056.603	1	1	-5.29251
M90-23R	946	2649222	468585.2	3	1041.94	1052.56	1	1	-10.6198
M90-36R	946	2653437	465017.2	3	1052.55	1053.915	1	1	-1.3651
M90-37	946	2652867	463331.6	3	1051.01	1052.797	1	1	-1.78663
MUD_90-10	946	2645431	516093.6	3	1090.4	1092.512	1	1	-2.11172
MUD_94-5	946	2640274	514549.3	3	1093.29	1093.495	1	1	-0.20488
MUD_94-6	946	2639186	503954.8	3	1083.38	1082.812	1	1	0.568255
MW-120A	946	2609372	499419.1	3	1112.37	1112.207	1	1	0.162504
MW-121A	946	2609753	500071	3	1113.46	1113.806	1	1	-0.34596
MW-122A	946	2609240	498101.3	2	1110.65	1111.141	1	1	-0.49077
MW-123A	946	2608678	499909.1	3	1112.87	1113.297	1	1	-0.42694
MW-124A	946	2609116	501486.2	3	1117.94	1118.827	1	1	-0.88717
MW-125A	946	2609457	500663.2	3	1114.82	1115.737	1	1	-0.91657

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-126A	946	2607484	504504.8	3	1129	1128.135	1	1	0.865264
MW-127A	946	2606157	506918.4	3	1134.61	1133.963	1	1	0.64746
MW-128A	946	2624836	498190.8	2	1093.91	1095.224	1	1	-1.31371
MW-129A	946	2627766	496542.4	3	1087.28	1087.293	1	1	-0.01299
MW-130A	946	2629053	496650.3	3	1085.07	1085.431	1	1	-0.36097
MW-131A	946	2626342	496939.8	3	1090.07	1091.075	1	1	-1.00453
MW-132A	946	2625255	497254.4	3	1092.19	1093.51	1	1	-1.31995
MW-133A	946	2622523	509720.9	3	1125.29	1124.256	1	1	1.034482
MW-134A	946	2623417	509045.7	3	1122.96	1121.307	1	1	1.652596
MW-135A	946	2623143	509762.3	3	1123.89	1123.541	1	1	0.348927
MW-136A	946	2623054	510561.3	3	1126.64	1125.881	1	1	0.758576
MW-15	946	2622745	509482.9	2	1124.27	1123.251	1	1	1.018798
MW-16B	946	2604912	514026.4	3	1152.81	1149.677	1	1	3.133249
MW-17A	946	2603293	499100.3	3	1120.04	1121.576	1	1	-1.53623
MW-18A	946	2629150	506832.3	3	1102.41	1101.728	1	1	0.682102
MW-19A	946	2618421	517577.1	3	1146.36	1144.173	1	1	2.187464
MW-20A	946	2616623	493189.9	3	1098.29	1099.466	1	1	-1.17554
MW-21A	946	2607121	503524.8	3	1127.72	1126.464	1	1	1.255562
MW-22A	946	2606598	510402.1	3	1143.85	1142.163	1	1	1.686814
MW-23A	946	2606403	509376.4	3	1140.84	1139.818	1	1	1.021821
MW-24A	946	2608477	501919.8	3	1120.83	1120.717	1	1	0.112519
MW-25A	946	2608308	504875.2	3	1128.93	1128.082	1	1	0.847732
MW-26A	946	2609860	508825.1	3	1139.02	1136.919	1	1	2.10143
MW-28A	946	2612951	502242.7	3	1119.75	1119.734	1	1	0.015672
MW-29A	946	2614470	498383.1	3	1108.59	1108.583	1	1	0.006868
MW-30A	946	2616288	507064.6	3	1127.68	1126.742	1	1	0.937972
MW-31A	946	2617944	503233.7	3	1117.27	1116.095	1	1	1.175459
MW-32A	946	2619697	499062.3	3	1103.3	1103.954	1	1	-0.65449
MW-33A	946	2622411	502847.9	3	1107.15	1107.823	1	1	-0.67259
MW-34A	946	2624443	498806.3	3	1095.23	1096.796	1	1	-1.56586
MW-35A	946	2629596	496323.6	3	1084.33	1084.712	1	1	-0.38178
MW-52A	946	2627013	508784.6	3	1117.67	1116.276	1	1	1.393771
MW-53A	946	2627898	508169.9	3	1109.07	1109.293	1	1	-0.2227
MW-54A	946	2627894	508858.3	3	1110.93	1111.913	1	1	-0.98343
MW-55A	946	2628135	508377.7	3	1109.13	1109.206	1	1	-0.07551
MW-56A	946	2628206	508215.3	3	1108.46	1108.321	1	1	0.139067
MW-57B	946	2607622	516363.4	2	1155.73	1152.483	1	1	3.246638
MW-60A	946	2624703	489585.2	3	1090.12	1089.552	1	1	0.568026
MW-61A	946	2608656	492900.1	3	1102.15	1103.246	1	1	-1.09631
MW-62A	946	2635397	493874.2	3	1074.86	1075.001	1	1	-0.14057
MW-63B	946	2613168	519473.6	2	1156.98	1153.325	1	1	3.655007
MW-64B	946	2628039	510106	2	1117.12	1118.423	1	1	-1.30272
MW-65A	946	2613203	506090.5	3	1129.61	1128.114	1	1	1.495601
OW-100	946	2628886	496489.5	3	1085.37	1085.609	1	1	-0.23922
OW-102	946	2623026	510070.3	3	1125.77	1124.628	1	1	1.142266
OW-104	946	2622969	509760.5	3	1124.95	1123.779	1	1	1.171193
OW-101	946	2622907	509987.5	3	1125.61	1124.532	1	1	1.0782
OW-103	946	2623371	510291.3	3	1126.5	1124.807	1	1	1.693426
OW-105	946	2623171	509450.3	3	1124.13	1122.49	1	1	1.640154
MW-01A	946	2618460	511743	3	1132.86	1133.889	1	1	-1.02877
MW-03A	946	2607532	506223.4	3	1132.17	1131.12	1	1	1.049806
MW-03B	946	2607542	506225.4	2	1132.28	1131.12	1	1	1.16037
MW-04A	946	2612042	506256.8	3	1130.62	1129.035	1	1	1.584914
MW-05A	946	2613044	507097.6	3	1131.96	1130.887	1	1	1.072909
MW-06A	946	2617376	506522.1	3	1125.17	1124.037	1	1	1.132506
MW-07A	946	2618267	507274.8	3	1125.49	1124.141	1	1	1.349129
MW-08A	946	2622864	506814.8	3	1118.6	1116.9	1	1	1.700283
MW-09A	946	2623571	507435.8	3	1119.07	1117.425	1	1	1.645124
MW-100A	946	2629719	493770.4	3	1084.53	1084.084	1	1	0.445753
MW-101A	946	2610929	491574.1	3	1099.1	1100.136	1	1	-1.03553
MW-102A	946	2622929	514541.2	3	1134.05	1135.074	1	1	-1.02424
MW-103A	946	2623591	513115.8	3	1131.73	1130.616	1	1	1.114042
MW-106A	946	2630545	506843.3	3	1099.64	1097.955	1	1	1.684687
MW-107A	946	2631376	506138.8	3	1095.92	1094.518	1	1	1.40161
MW-108A	946	2631916	505912.3	3	1094.84	1093.343	1	1	1.497346
MW-109A	946	2634807	501896.1	3	1083.83	1082.538	1	1	1.292118
MW-10A	946	2607884	496858.3	3	1109.39	1110.022	1	1	-0.63244

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-11	946	2626486	509499.8	3	1123.6	1121.872	1	1	1.728292
MW-110A	946	2634398	504432.8	3	1087.87	1087.967	1	1	-0.0973
MW-111A	946	2636152	499338	3	1078.94	1078.4	1	1	0.540048
MW-112A	946	2637366	501825.8	3	1081.7	1080.804	1	1	0.895991
MW-113A	946	2637420	500472.2	3	1080.43	1079.482	1	1	0.948345
MW-114A	946	2637471	497206.9	3	1077.03	1076.741	1	1	0.289096
MW-115A	946	2637703	495346.9	3	1076.16	1076.297	1	1	-0.13691
MW-116A	946	2636336	495297.6	3	1075.58	1075.571	1	1	0.009329
MW-117A	946	2631041	495048	3	1082.62	1082.16	1	1	0.459569
MW-118A	946	2625905	496207.7	3	1090.58	1091.297	1	1	-0.71691
MW-119A	946	2607953	499580.8	3	1114.03	1113.825	1	1	0.204506
MW-13	946	2612231	509178.6	2	1137.5	1136.948	1	1	0.552426
MW-137A	946	2622838	511702.4	3	1130.43	1128.568	1	1	1.862225
MW-138A	946	2622366	512816.6	3	1132.86	1131.639	1	1	1.220525
MW-139A	946	2621290	514264.3	3	1135.56	1135.855	1	1	-0.29527
MW-14	946	2617505	509391.1	2	1132.18	1130.428	1	1	1.751849
MW-140A	946	2634718	503375.8	3	1086.28	1085.844	1	1	0.435643
MW-37A	946	2633418	491651.9	3	1078.07	1077.432	1	1	0.638002
MW-38A	946	2638132	496248.6	3	1076.51	1076.793	1	1	-0.28289
MW-39A	946	2640062	499304.7	3	1078.96	1079.507	1	1	-0.54683
MW-40A	946	2623019	511963.4	3	1130.7	1128.944	1	1	1.755784
MW-41A	946	2624371	512001.3	3	1129.93	1127.189	1	1	2.741441
MW-42A	946	2629385	501582.6	3	1093.55	1092.62	1	1	0.93016
MW-43A	946	2629243	504317.9	3	1097.37	1096.264	1	1	1.105506
MW-44A	946	2632954	500415.1	3	1084.11	1082.22	1	1	1.890261
MW-46A	946	2637465	499387.4	3	1078.99	1078.617	1	1	0.372961
MW-47A	946	2603835	524480.7	3	1174.25	1169.378	1	1	4.872388
MW-72A	946	2622931	512064.7	3	1130.68	1129.28	1	1	1.400033
MW-73A	946	2623061	511909.2	3	1129.82	1128.775	1	1	1.044878
MW-74A	946	2623094	511934.8	3	1129.81	1128.798	1	1	1.012359
MW-75A	946	2623130	511962.4	3	1129.9	1128.823	1	1	1.077199
MW-76A	946	2623159	511983.3	3	1129.92	1128.84	1	1	1.080458
MW-77A	946	2623192	512008	3	1129.9	1128.86	1	1	1.04044
MW-78A	946	2623224	512032.8	3	1129.96	1128.881	1	1	1.078581
MW-79A	946	2610432	492336.2	3	1099.62	1100.735	1	1	-1.11522
MW-80A	946	2610926	492067.1	3	1099.41	1100.328	1	1	-0.91753
MW-81A	946	2611638	492369.4	3	1099.53	1100.755	1	1	-1.22469
MW-82A	946	2619289	493318.1	3	1095.43	1095.545	1	1	-0.11508
MW-83A	946	2621924	495274.7	3	1093.06	1093.32	1	1	-0.25953
MW-84A	946	2624278	495685.5	3	1092.14	1092.661	1	1	-0.52135
MW-85A	946	2628327	494439	3	1086.41	1086.425	1	1	-0.01508
MW-86A	946	2631939	493759.7	3	1080.78	1080.203	1	1	0.576941
MW-87A	946	2635040	491898	3	1074.12	1075.102	1	1	-0.98185
MW-88A	946	2637644	494045.1	3	1075.55	1075.926	1	1	-0.37642
MW-89A	946	2610431	494253.9	3	1103.85	1105.239	1	1	-1.38943
MW-90A	946	2611236	494302	3	1104.43	1105.202	1	1	-0.77221
MW-91A	946	2612077	494323	3	1104.17	1104.909	1	1	-0.7385
MW-92A	946	2610047	492722.6	3	1100.11	1101.569	1	1	-1.45903
MW-93A	946	2612163	493551.3	3	1102.95	1103.403	1	1	-0.45303
MW-94A	946	2617023	496428.7	3	1101.87	1102.538	1	1	-0.66773
MW-95A	946	2617553	494508.6	3	1099.41	1099.191	1	1	0.218961
MW-96A	946	2621468	493387.7	3	1093.53	1093.466	1	1	0.063811
MW-97A	946	2623938	493492.8	3	1091.61	1091.616	1	1	-0.00598
MW-98A	946	2626495	493604.9	3	1089.31	1089	1	1	0.309543
MW-99A	946	2627117	498781	3	1091.29	1092.168	1	1	-0.87812
N.Keiser	946	2632145	495084.1	3	1080.47	1079.973	1	1	0.497392
N.Wann	946	2642528	520660.6	3	1104.51	1103.155	1	1	1.355219
OW-01	946	2607923	499748	3	1114.13	1114.186	1	1	-0.0559
OW-02	946	2607883	499737.4	3	1114.22	1114.204	1	1	0.01565
OW-03	946	2607936	499790.4	3	1114.31	1114.275	1	1	0.034861
OW-04	946	2607936	499764.7	3	1114.17	1114.21	1	1	-0.04047
OW-05	946	2634935	495184.3	3	1074.33	1073.826	1	1	0.504409
OW-06	946	2634884	495208.1	3	1073.94	1074.117	1	1	-0.17669
OW-07	946	2634884	495203.3	3	1073.45	1074.093	1	1	-0.64348
OW-08	946	2634786	495194.2	3	1073.91	1074.404	1	1	-0.4935
OW-09	946	2634938	495134.4	3	1073.06	1073.074	1	1	-0.01418
OW-10	946	2635085	495206.7	3	1073.95	1074.331	1	1	-0.38094

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
OW-11	946	2635254	495167.8	3	1074.53	1074.628	1	1	-0.09805
OW-12	946	2636332	495279.5	3	1075.64	1075.564	1	1	0.076124
OW-13	946	2634929	495121.8	3	1073.16	1072.814	1	1	0.346152
OW-14	946	2634937	494987.8	3	1074.11	1074.155	1	1	-0.04502
OW-15	946	2634948	494788.1	3	1074.44	1074.492	1	1	-0.05242
OW-16	946	2633480	495159.3	3	1076.47	1076.399	1	1	0.071433
OW-17	946	2608000	499877.7	3	1114.55	1114.44	1	1	0.10979
OW-18	946	2608114	499884	3	1114.27	1114.312	1	1	-0.04188
OW-19	946	2608710	499902.6	3	1112.91	1113.166	1	1	-0.25632
OW-20	946	2607955	499696.4	3	1114.22	1114.039	1	1	0.180637
OW-21	946	2607937	499559.5	3	1113.78	1113.805	1	1	-0.02467
OW-22	946	2608020	499355.1	3	1113.89	1113.335	1	1	0.554736
OW-23	946	2607158	499656.4	3	1115.11	1114.711	1	1	0.39933
OW-24	946	2629552	496984.5	3	1083.77	1083.488	1	1	0.281524
OW-25	946	2629511	496932.1	3	1084.12	1084.029	1	1	0.091443
OW-26	946	2629214	496664.1	3	1085.33	1085.173	1	1	0.156853
OW-27	946	2629582	496942.2	3	1083.81	1084.035	1	1	-0.22496
OW-28	946	2629582	496898	3	1083.92	1084.218	1	1	-0.29792
OW-30	946	2629965	497303.9	3	1084.69	1085.053	1	1	-0.36316
OW-31	946	2624243	497899	3	1094.72	1095.558	1	1	-0.83786
OW-32	946	2624140	497845.1	3	1094.68	1095.578	1	1	-0.89823
OW-33	946	2623751	497669.8	3	1094.53	1095.632	1	1	-1.10233
OW-34	946	2624320	497868.6	3	1094.25	1095.425	1	1	-1.17488
OW-35	946	2624383	497738.5	3	1094.26	1095.178	1	1	-0.91788
OW-36	946	2624413	497337.6	3	1093.69	1094.542	1	1	-0.85196
OW-37	946	2624838	498178.4	3	1093.91	1095.204	1	1	-1.29356
OW-38	946	2621733	496294.9	3	1089.49	1089.475	1	1	0.015443
OW-39	946	2621620	496212.3	3	1093.21	1092.422	1	1	0.78834
OW-40	946	2621297	495975.6	3	1093.34	1093.754	1	1	-0.41375
OW-41	946	2621817	496281.9	3	1088.6	1091.756	1	1	-3.15564
OW-42	946	2621900	496169.4	3	1090.92	1092.674	1	1	-1.75408
OW-43	946	2622135	495845.8	3	1092.73	1093.255	1	1	-0.52534
OW-44	946	2622303	496682.1	3	1093.73	1094.341	1	1	-0.61109
OW-45	946	2619203	494842.2	3	1090.43	1091.704	1	1	-1.27366
OW-46	946	2619059	494783.4	3	1093.83	1094.343	1	1	-0.51334
OW-47	946	2618685	494630.9	3	1096.11	1096.356	1	1	-0.24572
OW-48	946	2619283	494800.5	3	1091.23	1092.697	1	1	-1.46702
OW-49	946	2619316	494671.9	3	1093.19	1093.848	1	1	-0.6578
OW-50	946	2619466	494300.2	3	1094.46	1094.749	1	1	-0.28876
OW-51	946	2619791	495096	3	1094.31	1094.496	1	1	-0.18593
OW-52	946	2610586	493033.9	3	1092.44	1095.355	1	1	-2.91534
OW-53	946	2610556	493019.7	3	1094.32	1096.385	1	1	-2.06521
OW-54	946	2611357	493520.9	3	1102.18	1103.206	1	1	-1.02635
OW-55	946	2610822	492991.9	3	1091.14	1095.024	1	1	-3.88356
OW-56	946	2611643	493196.4	3	1101.9	1102.25	1	1	-0.34967
MW-104A	946	2634092	499205.6	3	1078.89	1078.555	1	1	0.334711
MW-105A	946	2635042	496643	3	1076.08	1075.859	1	1	0.220888
OW-57	946	2611769	493277.9	3	1102.16	1102.77	1	1	-0.60969
OW-58	946	2611367	493010	3	1100.05	1100.495	1	1	-0.44534
OW-59	946	2611580	493019.2	3	1101.02	1101.41	1	1	-0.38991
OW-60	946	2627138	497440.7	3	1088.24	1088.92	1	1	-0.67975
OW-61	946	2627192	497571.5	3	1088.87	1089.535	1	1	-0.66465
OW-62	946	2627351	497954.3	3	1089.67	1090.293	1	1	-0.623
OW-63	946	2627528	497841.9	3	1089.24	1089.782	1	1	-0.54174
OW-90	946	2625244	498690.8	3	1091.82	1091.131	1	1	0.689073
OW-92	946	2625156	498583.3	3	1093.51	1093.761	1	1	-0.25122
OW-93	946	2625291	498721.9	3	1091.62	1092.126	1	1	-0.50619
OW-94	946	2625434	498611.5	3	1093.36	1093.819	1	1	-0.45926
OW-95	946	2625767	498358.5	3	1093.02	1093.771	1	1	-0.75112
OW-97	946	2628423	496909.5	3	1086.2	1086.265	1	1	-0.06493
OW-98	946	2628617	497268.7	3	1086.62	1086.747	1	1	-0.12722
PV-37	946	2644077	514703.4	3	1089.97	1091.733	1	1	-1.76342
PV-38	946	2642740	516679.6	3	1094.9	1094.694	1	1	0.206159
PV-39	946	2635349	501827.5	3	1083.23	1081.901	1	1	1.329479
PV-40	946	2645298	502916.4	3	1079.88	1083.826	1	1	-3.94581
PV-41	946	2642174	514040.5	3	1090.47	1091.872	1	1	-1.4021
Residual Mean	-0.16163								

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
Abs. Res. Mean	1.113576								
Res. Std. Dev.	1.916418								
Sum of Squares	987.5755								
RMS Error	1.923222								
Min. Residual	-16.8173								
Max. Residual	5.959027								
Number of Observations	267								
Range in Observations	132.31								
Scaled Std. Dev.	0.014484								
Scaled Abs. Mean	0.008416								
Scaled RMS	0.014536								

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
PZ-01	1096	2632385	499049.6	3	1083.83	1082.563	1	1	1.26684
PZ-02	1096	2631559	499022.4	3	1086.25	1084.627	1	1	1.622771
PZ-03	1096	2633506	501788.9	3	1086.417	1084.302	1	1	2.114731
PZ-04	1096	2636059	501690.7	3	1083.04	1081.314	1	1	1.725686
PZ-05	1096	2639988	502024.7	3	1082.87	1081.175	1	1	1.695318
PZ-06	1096	2636835	504539.7	3	1086.06	1084.423	1	1	1.636945
S.Keiser	1096	2632580	493968.1	3	1079.93	1078.939	1	1	0.991023
TH-EW-12	1096	2610738	493102.1	3	1080.09	1078.063	1	1	2.026535
TH-EW-13	1096	2611511	493072.7	3	1101.78	1101.311	1	1	0.468813
TH-EW-14R1	1096	2625269	498721.4	3	1091.8	1091.02	1	1	0.779581
TH-EW-14R2	1096	2625872	497850	3	1092.76	1092.91	1	1	-0.15032
TH-EW-15	1096	2622870	509960.2	3	1129.24	1123.013	1	1	6.226821
TH-EW-16	1096	2628310	496736.5	3	1085.72	1085.159	1	1	0.560868
TV-16	1096	2623842	492107.3	3	1091.7	1091.573	1	1	0.126555
TV-17A	1096	2627488	482978	3	1085.54	1082.366	1	1	3.174474
Frahm	1096	2626739	493304.5	3	1089.4	1088.82	1	1	0.579879
Hanson	1096	2623180	493348.9	3	1092.64	1092.496	1	1	0.144375
LPN_06-20	1096	2631355	520347.1	3	1146.16	1139.848	1	1	6.312472
M90-02	1096	2645833	489117.9	3	1072.05	1073.347	1	1	-1.29658
M90-04	1096	2640808	484163.2	3	1069.38	1070.002	1	1	-0.622
M90-12R	1096	2647999	479369.2	3	1064.71	1066.202	1	1	-1.49184
M90-15	1096	2641258	472881.6	3	1062.8	1063.531	1	1	-0.73122
M90-20R	1096	2651428	470805.4	3	1058.21	1058.821	1	1	-0.61144
M90-21	1096	2642069	468390.3	3	1060.49	1058.159	1	1	2.330899
M90-24R	1096	2650176	465992.6	3	1047.66	1048.037	1	1	-0.37745
M90-26R	1096	2652731	465392.2	3	1052.86	1052.647	1	1	0.212586
MUD_94-3	1096	2646192	498899.9	3	1082.11	1080.747	1	1	1.36333
MUD_94-4	1096	2645712	509564.7	3	1089.41	1087.082	1	1	2.328203
MUD_94-7	1096	2643737	493588.9	3	1078.2	1076.648	1	1	1.552329
OW-64	1096	2627300	497308.3	3	1088.41	1088.51	1	1	-0.09996
OW-65	1096	2627673	497146.3	3	1087.91	1088.037	1	1	-0.12657
OW-66	1096	2622938	497314.2	3	1094.04	1095.347	1	1	-1.30716
OW-67	1096	2622731	497150.2	3	1094.05	1095.118	1	1	-1.06793
OW-68	1096	2622419	496526.2	3	1093.51	1094.262	1	1	-0.75237
OW-69	1096	2623045	497134.8	3	1094	1095.048	1	1	-1.04798
OW-70	1096	2623341	496845.9	3	1093.8	1094.586	1	1	-0.78577
OW-71	1096	2623796	497474.1	3	1094.08	1095.316	1	1	-1.23599
OW-72	1096	2620346	495293	3	1093.41	1093.615	1	1	-0.2053
OW-73	1096	2620218	495239.7	3	1095.18	1094.453	1	1	0.727466
OW-74	1096	2619854	494895.1	3	1095.38	1095.636	1	1	-0.25558
OW-75	1096	2620487	495139.4	3	1094.05	1093.953	1	1	0.096935
OW-76	1096	2620658	494777.2	3	1094.38	1094.303	1	1	0.077093
OW-77	1096	2621415	495808.4	3	1093.23	1093.821	1	1	-0.59139
OW-78	1096	2609111	499977.5	3	1109.37	1109.319	1	1	0.050599
OW-79	1096	2608990	499915.3	3	1111.39	1111.088	1	1	0.301894
OW-80	1096	2608752	499731.6	3	1112.98	1112.675	1	1	0.304636
OW-81	1096	2609233	499803.1	3	1112.23	1111.283	1	1	0.947101
OW-82	1096	2609366	499415.3	3	1112.7	1112.167	1	1	0.533115
OW-83	1096	2609755	500075	3	1113.9	1113.787	1	1	0.113172
OW-89	1096	2632605	496433.6	3	1079.954	1079.388	1	1	0.566243
Brabec	1096	2618638	493130.5	3	1097.39	1096.953	1	1	0.437231
D.Starns	1096	2647807	467164	3	1055.81	1052.836	1	1	2.974008
LPN_06-01	1096	2642292	478302.1	3	1065.95	1066.718	1	1	-0.76826
LPN_06-18	1096	2635722	504500.6	3	1087.09	1086.068	1	1	1.021698
LPN_06-21	1096	2628536	525369.8	3	1152.2	1146.816	1	1	5.38411
M90-01	1096	2640591	488958.8	3	1073.69	1073.031	1	1	0.658757
M90-05R	1096	2645266	482393.1	3	1066.99	1067.267	1	1	-0.27723
M90-09	1096	2640867	478557.4	3	1065.5	1067.1	1	1	-1.60022
M90-16R	1096	2645345	473282.2	3	1061.85	1065.378	1	1	-3.52781
M90-17R	1096	2648792	473326.6	3	1060.07	1061.618	1	1	-1.5484
M90-22R	1096	2645116	467804	3	1058.45	1056.189	1	1	2.261358
M90-23R	1096	2649222	468585.2	3	1050.21	1049.795	1	1	0.414759
M90-36R	1096	2653437	465017.2	3	1053.48	1053.88	1	1	-0.39971
M90-37	1096	2652867	463331.6	3	1052.56	1052.727	1	1	-0.16693
MUD_90-10	1096	2645431	516093.6	3	1094.12	1093.156	1	1	0.964071
MUD_94-5	1096	2640274	514549.3	3	1094.47	1093.096	1	1	1.37425
MUD_94-6	1096	2639186	503954.8	3	1084.63	1082.607	1	1	2.022659

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-120A	1096	2609372	499419.1	3	1112.63	1112.171	1	1	0.458952
MW-120B	1096	2609373	499439	2	1112.59	1112.184	1	1	0.405546
MW-120E	1096	2609373	499430.8	3	1112.546	1112.174	1	1	0.371992
MW-121A	1096	2609753	500071	3	1113.68	1113.773	1	1	-0.0927
MW-121B	1096	2609779	500071.6	2	1113.689	1113.811	1	1	-0.12155
MW-121E	1096	2609763	500071.3	3	1113.947	1113.787	1	1	0.160273
MW-122A	1096	2609240	498101.3	2	1111.04	1111.141	1	1	-0.10074
MW-122B	1096	2609232	498114.6	2	1111.01	1111.159	1	1	-0.14906
MW-123A	1096	2608678	499909.1	3	1112.97	1113.222	1	1	-0.25172
MW-123B	1096	2608666	499909	2	1113.03	1113.296	1	1	-0.26628
MW-124A	1096	2609116	501486.2	3	1118.21	1118.802	1	1	-0.59228
MW-124B	1096	2609108	501496.3	2	1118.19	1118.844	1	1	-0.65374
MW-125A	1096	2609457	500663.2	3	1115	1115.696	1	1	-0.69642
MW-125B	1096	2609468	500661.6	2	1114.928	1115.695	1	1	-0.76707
MW-126A	1096	2607484	504504.8	3	1129.17	1128.251	1	1	0.918719
MW-126B	1096	2607483	504514.7	2	1129.26	1128.272	1	1	0.987795
MW-127A	1096	2606157	506918.4	3	1134.79	1134	1	1	0.790325
MW-127B	1096	2606122	506931.4	2	1135.05	1134.071	1	1	0.979034
MW-128A	1096	2624836	498190.8	2	1094.03	1095.158	1	1	-1.12811
MW-128B	1096	2624838	498197.8	2	1093.99	1095.161	1	1	-1.17068
MW-129A	1096	2627766	496542.4	3	1087.42	1087.155	1	1	0.265082
MW-129B	1096	2627771	496545.4	2	1087.37	1087.144	1	1	0.225654
MW-130A	1096	2629053	496650.3	3	1085.23	1085.218	1	1	0.012196
MW-130B	1096	2629059	496659.9	2	1085.2	1085.211	1	1	-0.01099
MW-131A	1096	2626342	496939.8	3	1090.28	1090.968	1	1	-0.68808
MW-131B	1096	2626349	496944.7	2	1090.28	1090.956	1	1	-0.6764
MW-132A	1096	2625255	497254.4	3	1092.23	1093.484	1	1	-1.25399
MW-132B	1096	2625258	497261.8	2	1092.32	1093.487	1	1	-1.16713
MW-133A	1096	2622523	509720.9	3	1125.48	1123.765	1	1	1.714632
MW-133B	1096	2622523	509729.9	2	1125.64	1123.789	1	1	1.851024
MW-134A	1096	2623417	509045.7	3	1123.13	1121.348	1	1	1.781781
MW-134B	1096	2623413	509052.5	2	1123.18	1121.366	1	1	1.814289
MW-135A	1096	2623143	509762.3	3	1125.02	1123.066	1	1	1.953897
MW-135B	1096	2623151	509772.4	2	1124.99	1123.092	1	1	1.898132
MW-136A	1098	2623054	510561.3	3	1126.74	1125.532	1	1	1.208116
MW-136B	1098	2623064	510560.7	2	1126.939	1125.524	1	1	1.415295
MW-140B	1098	2634717	503383.6	2	1086.92	1085.971	1	1	0.948929
MW-16B	1096	2604912	514026.4	3	1153.23	1149.801	1	1	3.428924
MW-16C	1096	2604918	514034.7	2	1153.181	1149.82	1	1	3.361037
MW-17A	1096	2603293	499100.3	3	1120.43	1121.362	1	1	-0.93232
MW-17B	1096	2603293	499101.5	3	1120.35	1121.366	1	1	-1.01616
MW-17C	1096	2603293	499090.3	2	1121.7	1121.334	1	1	0.366252
MW-18A	1096	2629150	506832.3	3	1102.744	1101.706	1	1	1.038454
MW-18B	1096	2629157	506827.5	3	1102.37	1101.677	1	1	0.693059
MW-18C	1096	2629149	506821.9	2	1105.45	1101.687	1	1	3.763431
MW-19A	1096	2618421	517577.1	3	1146.931	1144.078	1	1	2.852972
MW-19B	1096	2618430	517577	3	1146.68	1144.07	1	1	2.610136
MW-20A	1096	2616623	493189.9	3	1099.005	1099.562	1	1	-0.55686
MW-20B	1096	2616633	493191.5	3	1099.257	1099.552	1	1	-0.29466
MW-20C	1096	2616611	493187.6	2	1100.527	1099.574	1	1	0.953144
MW-21A	1096	2607121	503524.8	3	1127.88	1126.48	1	1	1.400248
MW-21B	1096	2607111	503524.1	2	1127.84	1126.489	1	1	1.351178
MW-22A	1096	2606598	510402.1	3	1144.11	1142.104	1	1	2.005895
MW-22B	1096	2606604	510403.4	2	1143.98	1142.106	1	1	1.873945
MW-23A	1096	2606403	509376.4	3	1141.34	1139.761	1	1	1.579032
MW-23B	1096	2606393	509383.9	2	1141.34	1139.788	1	1	1.551624
MW-24A	1096	2608477	501919.8	3	1120.9	1120.693	1	1	0.207436
MW-24B	1096	2608478	501909	2	1121.14	1120.663	1	1	0.476978
MW-25A	1096	2608308	504875.2	3	1129.2	1128.304	1	1	0.896184
MW-25B	1096	2608308	504885.6	2	1129.26	1128.328	1	1	0.932439
MW-26A	1096	2609860	508825.1	3	1139.33	1137.178	1	1	2.152379
MW-26B	1096	2609850	508824.9	2	1139.3	1137.183	1	1	2.117482
MW-27A	1096	2611435	508103	3	1136.16	1134.599	1	1	1.560858
MW-27B	1096	2611427	508110.6	2	1136.43	1134.628	1	1	1.802087
MW-28A	1096	2612951	502242.7	3	1119.88	1119.674	1	1	0.206422
MW-28B	1096	2612936	502242.3	2	1119.61	1119.685	1	1	-0.07544
MW-29A	1096	2614470	498383.1	3	1107.91	1108.548	1	1	-0.6379

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-29B	1096	2614461	498382.4	2	1109.79	1108.558	1	1	1.231927
MW-30A	1096	2616288	507064.6	3	1127.91	1126.747	1	1	1.163357
MW-30B	1096	2616282	507065.9	2	1127.92	1126.764	1	1	1.155751
MW-31A	1096	2617944	503233.7	3	1117.4	1116.22	1	1	1.179582
MW-31B	1096	2617935	503238.6	2	1116.81	1116.247	1	1	0.562939
MW-32A	1096	2619697	499062.3	3	1103.31	1103.949	1	1	-0.6387
MW-32B	1096	2619697	499069.1	2	1103.32	1103.967	1	1	-0.64745
MW-33A	1096	2622411	502847.9	3	1107.41	1107.889	1	1	-0.47924
MW-33B	1096	2622401	502854.8	2	1107.41	1107.914	1	1	-0.50419
MW-34A	1096	2624443	498806.3	3	1095.39	1096.718	1	1	-1.32821
MW-34B	1096	2624443	498814.1	2	1095.39	1096.731	1	1	-1.34117
MW-35A	1096	2629596	496323.6	3	1084.4	1084.516	1	1	-0.1164
MW-35B	1096	2629596	496329.4	2	1084.27	1084.515	1	1	-0.24533
MW-52A	1096	2627013	508784.6	3	1118.79	1116.348	1	1	2.442029
MW-52B	1096	2627004	508778.9	2	1118.54	1116.361	1	1	2.178903
MW-53A	1096	2627898	508169.9	3	1109.46	1109.24	1	1	0.219727
MW-53B	1096	2627885	508166.6	2	1111.25	1109.275	1	1	1.974699
MW-54A	1096	2627894	508858.3	3	1111.52	1111.823	1	1	-0.30308
MW-54B	1096	2627884	508856	2	1114.3	1111.853	1	1	2.447202
MW-55A	1096	2628135	508377.7	3	1109.62	1109.119	1	1	0.500937
MW-55B	1096	2628126	508374.2	2	1109.87	1109.145	1	1	0.724725
MW-60A	1096	2624703	489585.2	3	1090.117	1089.67	1	1	0.447159
MW-60B	1096	2624703	489598.7	2	1090.137	1089.679	1	1	0.45781
MW-61A	1096	2608656	492900.1	3	1103.247	1103.212	1	1	0.035079
MW-61B	1096	2608644	492898.6	2	1103.187	1103.216	1	1	-0.02868
MW-63B	1096	2613168	519473.6	2	1157.57	1153.726	1	1	3.844234
MW-65A	1096	2613203	506090.5	3	1128.8	1128.125	1	1	0.67548
MW-65B	1096	2613193	506091.2	2	1129.77	1128.135	1	1	1.634789
OW-100	1098	2628886	496489.5	3	1085.44	1085.424	1	1	0.015615
OW-102	1098	2623026	510070.3	3	1125.86	1123.932	1	1	1.927605
OW-104	1098	2622969	509760.5	3	1125.06	1123.07	1	1	1.989936
OW-101	1098	2622907	509987.5	3	1125.74	1123.393	1	1	2.347401
OW-103	1098	2623371	510291.3	3	1126.62	1124.499	1	1	2.120825
OW-105	1098	2623171	509450.3	3	1124.29	1122.294	1	1	1.996252
MW-01A	1096	2618460	511743	3	1133.98	1133.744	1	1	0.236185
MW-01B	1096	2618470	511743.2	2	1133.815	1133.733	1	1	0.08169
MW-03A	1096	2607532	506223.4	3	1132.51	1131.304	1	1	1.206274
MW-03B	1096	2607542	506225.4	2	1132.58	1131.305	1	1	1.274911
MW-04A	1096	2612042	506256.8	3	1130.924	1129.222	1	1	1.701951
MW-04B	1096	2612051	506259.4	2	1130.892	1129.227	1	1	1.665261
MW-05A	1096	2613044	507097.6	3	1132.153	1130.797	1	1	1.355503
MW-05B	1096	2613054	507097.5	2	1131.996	1130.794	1	1	1.202276
MW-06A	1096	2617376	506522.1	3	1125.454	1124.23	1	1	1.224096
MW-06B	1096	2617385	506525.5	2	1125.42	1124.224	1	1	1.195926
MW-07A	1096	2618267	507274.8	3	1125.822	1124.309	1	1	1.513101
MW-07B	1096	2618277	507276.1	2	1125.851	1124.296	1	1	1.554732
MW-08A	1096	2622864	506814.8	3	1118.852	1117.253	1	1	1.599142
MW-08B	1096	2622872	506820.6	2	1118.83	1117.256	1	1	1.574424
MW-09A	1096	2623571	507435.8	3	1119.26	1117.772	1	1	1.488002
MW-09B	1096	2623580	507436.1	2	1119.46	1117.762	1	1	1.698205
MW-100A	1096	2629719	493770.4	3	1084.75	1084.055	1	1	0.695087
MW-100B	1096	2629718	493777.2	2	1084.75	1084.058	1	1	0.691998
MW-101A	1096	2610929	491574.1	3	1100.17	1100.175	1	1	-0.00466
MW-101B	1096	2610924	491573.8	2	1100.17	1100.177	1	1	-0.00712
MW-102A	1096	2622929	514541.2	3	1135.27	1134.892	1	1	0.378009
MW-102B	1096	2622923	514540.9	2	1134.65	1134.898	1	1	-0.24827
MW-103A	1096	2623591	513115.8	3	1131.98	1130.464	1	1	1.51561
MW-103B	1096	2623591	513110.3	2	1132.34	1130.454	1	1	1.885761
MW-106A	1096	2630545	506843.3	3	1100.12	1097.954	1	1	2.165995
MW-106B	1096	2630539	506844.1	2	1100.46	1097.973	1	1	2.487093
MW-107A	1096	2631376	506138.8	3	1096.46	1094.567	1	1	1.89324
MW-107B	1096	2631374	506125.2	2	1095.93	1094.552	1	1	1.377855
MW-108A	1096	2631916	505912.3	3	1095.44	1093.407	1	1	2.033233
MW-108B	1096	2631917	505899.5	2	1095.26	1093.388	1	1	1.871564
MW-109A	1096	2634807	501896.1	3	1084.254	1082.599	1	1	1.654206
MW-109B	1096	2634806	501904.3	2	1084.27	1082.621	1	1	1.64911
MW-109O	1096	2634805	501911.8	1	1080.556	1081.682	1	1	-1.12675

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-10A	1096	2607884	496858.3	3	1110.3	1110.001	1	1	0.299222
MW-10B	1096	2607894	496858.9	2	1110.31	1110	1	1	0.310048
MW-11	1096	2626486	509499.8	3	1125.535	1121.964	1	1	3.571434
MW-110A	1096	2634398	504432.8	3	1088.61	1088.082	1	1	0.528198
MW-110B	1096	2634397	504438.9	2	1088.65	1088.09	1	1	0.559508
MW-111A	1096	2636152	499338	3	1080.314	1078.434	1	1	1.879407
MW-111B	1096	2636152	499348.2	2	1080.336	1078.442	1	1	1.893903
MW-111O	1096	2636152	499356.7	1	1077.529	1078.346	1	1	-0.81654
MW-112B	1096	2637365	501832.7	2	1082.5	1080.879	1	1	1.621188
MW-113A	1096	2637420	500472.2	3	1080.96	1079.524	1	1	1.436315
MW-113B	1096	2637420	500477.7	2	1080.95	1079.528	1	1	1.422228
MW-114A	1096	2637471	497206.9	3	1077.71	1076.751	1	1	0.959457
MW-114B	1096	2637466	497204.3	2	1077.68	1076.737	1	1	0.94327
MW-115A	1096	2637703	495346.9	3	1077.22	1076.286	1	1	0.934248
MW-115B	1096	2637696	495346.9	2	1077.22	1076.283	1	1	0.936617
MW-116A	1096	2636336	495297.6	3	1076.31	1075.605	1	1	0.705368
MW-117A	1096	2631041	495048	3	1082.88	1082.086	1	1	0.793825
MW-117B	1096	2631041	495054	2	1082.84	1082.09	1	1	0.749588
MW-118A	1096	2625905	496207.7	3	1090.87	1091.326	1	1	-0.45552
MW-118B	1096	2625885	496207.8	2	1090.9	1091.365	1	1	-0.46512
MW-119A	1096	2607953	499580.8	3	1114.164	1113.737	1	1	0.426764
MW-119B	1096	2607942	499593.4	2	1114.226	1113.773	1	1	0.453011
MW-137A	1098	2622838	511702.4	3	1130.608	1128.376	1	1	2.231857
MW-137B	1098	2622846	511704.4	2	1130.424	1128.375	1	1	2.049012
MW-137E	1098	2622857	511706.8	2	1130.427	1128.37	1	1	2.05715
MW-138A	1098	2622366	512816.6	3	1133.025	1131.449	1	1	1.575916
MW-138B	1098	2622378	512817.2	2	1133.019	1131.439	1	1	1.579248
MW-139A	1098	2621290	514264.3	3	1135.743	1135.668	1	1	0.074169
MW-139B	1098	2621297	514275.4	2	1135.702	1135.687	1	1	0.014545
MW-140A	1098	2634718	503375.8	3	1086.799	1085.956	1	1	0.842437
MW-140O	1098	2634717	503393.3	1	1084.31	1085.94	1	1	-1.63048
MW-38A	1096	2638132	496248.6	3	1077.57	1076.777	1	1	0.792757
MW-39A	1096	2640062	499304.7	3	1080.51	1079.385	1	1	1.124599
MW-40A	1096	2623019	511963.4	3	1130.9	1128.77	1	1	2.129897
MW-40B	1096	2623007	511962.8	2	1130.83	1128.785	1	1	2.044642
MW-41A	1096	2624371	512001.3	3	1130.33	1127.11	1	1	3.220055
MW-41B	1096	2624362	512001.4	2	1130.34	1127.123	1	1	3.216768
MW-42A	1096	2629385	501582.6	3	1093.78	1092.636	1	1	1.14428
MW-42B	1096	2629385	501592.6	2	1093.78	1092.652	1	1	1.128297
MW-43A	1096	2629243	504317.9	3	1097.56	1096.361	1	1	1.199164
MW-43B	1096	2629244	504328.2	2	1097.51	1096.373	1	1	1.137116
MW-44A	1096	2632954	500415.1	3	1084.23	1082.216	1	1	2.014116
MW-44B	1096	2632955	500426.3	2	1087.12	1082.213	1	1	4.906889
MW-46A	1096	2637465	499387.4	3	1079.58	1078.642	1	1	0.937668
MW-46B	1096	2637464	499396.7	2	1080.57	1078.649	1	1	1.92057
MW-47A	1096	2603835	524480.7	3	1174.74	1169.076	1	1	5.664343
MW-47B	1096	2603819	524480.2	2	1174.8	1169.085	1	1	5.71509
MW-71B	1096	2613383	506090.3	2	1129.59	1127.992	1	1	1.598069
MW-73A	1096	2623061	511909.2	3	1127.053	1128.602	1	1	-1.54919
MW-73B	1096	2623052	511908.7	2	1130.02	1128.612	1	1	1.407588
MW-74A	1096	2623094	511934.8	3	1129.94	1128.627	1	1	1.313244
MW-74B	1096	2623085	511934.8	2	1130.133	1128.637	1	1	1.495929
MW-75A	1096	2623130	511962.4	3	1130.083	1128.654	1	1	1.42889
MW-75B	1096	2623120	511961.8	2	1130.083	1128.664	1	1	1.419012
MW-76A	1096	2623159	511983.3	3	1130.063	1128.673	1	1	1.39045
MW-76B	1096	2623149	511982.6	2	1130.133	1128.682	1	1	1.450887
MW-77A	1096	2623192	512008	3	1130.083	1128.694	1	1	1.388504
MW-77B	1096	2623181	512007.3	2	1130.133	1128.705	1	1	1.427677
MW-78A	1096	2623224	512032.8	3	1130.163	1128.718	1	1	1.444968
MW-78B	1096	2623214	512031.3	2	1130.143	1128.726	1	1	1.417193
MW-79A	1096	2610432	492336.2	3	1100.62	1100.718	1	1	-0.09827
MW-79B	1096	2610428	492345.2	2	1100.6	1100.721	1	1	-0.1214
MW-80A	1096	2610926	492067.1	3	1100.39	1100.349	1	1	0.040823
MW-80B	1096	2610916	492064.6	2	1100.34	1100.342	1	1	-0.00173
MW-81A	1096	2611638	492369.4	3	1100.58	1100.804	1	1	-0.22437
MW-81B	1096	2611636	492360.4	2	1098.52	1100.798	1	1	-2.2778
MW-82A	1096	2619289	493318.1	3	1096.17	1096.098	1	1	0.071796

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
MW-82B	1096	2619285	493325.5	2	1096.2	1096.106	1	1	0.094042
MW-83A	1096	2621924	495274.7	3	1094.38	1093.596	1	1	0.783675
MW-83B	1096	2621922	495302.8	2	1093.28	1093.597	1	1	-0.31655
MW-84A	1097	2624278	495685.5	3	1092.34	1092.805	1	1	-0.4646
MW-84B	1097	2624272	495712.9	2	1092.78	1092.833	1	1	-0.05322
MW-85A	1097	2628327	494439	3	1086.51	1086.423	1	1	0.086709
MW-85B	1097	2628315	494449.8	2	1086.57	1086.444	1	1	0.126041
MW-86A	1097	2631939	493759.7	3	1081.23	1080.21	1	1	1.020397
MW-86B	1097	2631934	493758.7	2	1081.23	1080.22	1	1	1.009571
MW-87A	1097	2635040	491898	3	1074.53	1075.147	1	1	-0.6172
MW-87B	1097	2635035	491901	2	1074.5	1075.15	1	1	-0.65016
MW-88A	1097	2637644	494045.1	3	1076.72	1075.88	1	1	0.839687
MW-88B	1097	2637639	494044.2	2	1076.77	1075.879	1	1	0.890974
MW-89A	1097	2610431	494253.9	3	1104.54	1105.372	1	1	-0.8319
MW-89B	1097	2610409	494254.1	2	1104.5	1105.366	1	1	-0.86569
MW-90A	1097	2611236	494302	3	1104.95	1105.355	1	1	-0.40453
MW-90B	1097	2611227	494298	2	1104.57	1105.353	1	1	-0.78277
MW-91A	1097	2612077	494323	3	1104.57	1105.057	1	1	-0.48708
MW-91B	1097	2612068	494317.5	2	1104.37	1105.056	1	1	-0.68572
MW-92A	1097	2610047	492722.6	3	1101.37	1101.519	1	1	-0.14863
MW-92B	1097	2610048	492733.8	2	1101	1101.526	1	1	-0.52647
MW-93A	1097	2612163	493551.3	3	1103.48	1103.517	1	1	-0.03689
MW-93B	1097	2612154	493546.8	2	1103.44	1103.516	1	1	-0.07619
MW-94A	1098	2617023	496428.7	3	1101.96	1102.616	1	1	-0.65559
MW-94B	1098	2617023	496434.5	2	1102	1102.626	1	1	-0.62557
MW-95A	1096	2617553	494508.6	3	1099.65	1099.499	1	1	0.151486
MW-95B	1096	2617547	494508	2	1099.63	1099.508	1	1	0.121931
MW-96A	1098	2621468	493387.7	3	1093.62	1093.828	1	1	-0.20761
MW-96B	1098	2621468	493387.8	2	1093.64	1093.828	1	1	-0.18803
MW-97A	1096	2623938	493492.8	3	1092.31	1091.914	1	1	0.395616
MW-97B	1096	2623933	493492.5	2	1091.89	1091.92	1	1	-0.0297
MW-98A	1096	2626495	493604.9	3	1089.53	1089.213	1	1	0.317055
MW-98B	1096	2626489	493605.3	2	1089.57	1089.222	1	1	0.347718
MW-99A	1096	2627117	498781	3	1091.42	1092.011	1	1	-0.59078
MW-99B	1096	2627118	498787.9	2	1091.37	1092.021	1	1	-0.65137
N.Keiser	1096	2632145	495084.1	3	1080.82	1079.945	1	1	0.874692
N.Wann	1096	2642528	520660.6	3	1104.33	1103.119	1	1	1.211452
OW-01	1098	2607923	499748	3	1114.26	1114.093	1	1	0.167051
OW-02	1098	2607883	499737.4	3	1114.37	1114.11	1	1	0.259779
OW-03	1098	2607936	499790.4	3	1114.44	1114.182	1	1	0.258464
OW-04	1098	2607936	499764.7	3	1114.3	1114.118	1	1	0.182427
OW-10	1098	2635085	495206.7	3	1074.56	1074.486	1	1	0.073867
OW-11	1098	2635254	495167.8	3	1075.08	1074.737	1	1	0.343202
OW-12	1096	2636332	495279.5	3	1076.43	1075.598	1	1	0.832453
OW-13	1096	2634929	495121.8	3	1073.95	1073.196	1	1	0.753648
OW-14	1096	2634937	494987.8	3	1074.81	1074.331	1	1	0.479491
OW-15	1096	2634948	494788.1	3	1075.06	1074.608	1	1	0.451753
OW-16	1096	2633480	495159.3	3	1076.75	1076.427	1	1	0.323441
OW-17	1096	2608000	499877.7	3	1114.66	1114.346	1	1	0.31358
OW-18	1096	2608114	499884	3	1114.39	1114.223	1	1	0.167442
OW-19	1096	2608710	499902.6	3	1113.03	1113.092	1	1	-0.0615
OW-20	1096	2607955	499696.4	3	1114.34	1113.949	1	1	0.391494
OW-21	1096	2607937	499559.5	3	1113.92	1113.717	1	1	0.203459
OW-22	1096	2608020	499355.1	3	1114.12	1113.257	1	1	0.863248
OW-23	1096	2607158	499656.4	3	1115.19	1114.595	1	1	0.595453
OW-24	1096	2629552	496984.5	3	1083.61	1083.054	1	1	0.556476
OW-25	1096	2629511	496932.1	3	1084.14	1083.66	1	1	0.480142
OW-26	1096	2629214	496664.1	3	1085.35	1084.943	1	1	0.406782
OW-27	1096	2629582	496942.2	3	1083.76	1083.677	1	1	0.082917
OW-28	1096	2629582	496898	3	1083.91	1083.889	1	1	0.021093
OW-30	1096	2629965	497303.9	3	1084.76	1084.846	1	1	-0.08583
OW-31	1096	2624243	497899	3	1094.81	1095.554	1	1	-0.7437
OW-32	1096	2624140	497845.1	3	1094.75	1095.585	1	1	-0.8347
OW-33	1096	2623751	497669.8	3	1094.68	1095.676	1	1	-0.99606
OW-34	1096	2624320	497868.6	3	1094.37	1095.418	1	1	-1.04805
OW-35	1096	2624383	497738.5	3	1094.41	1095.178	1	1	-0.76826
OW-36	1096	2624413	497337.6	3	1093.86	1094.568	1	1	-0.7079

Appendix C
March 2010 Residuals

Name	Time	X	Y	Layer	Observed	Computed	Weight	Group	Residual
OW-37	1096	2624838	498178.4	3	1094.01	1095.139	1	1	-1.129
OW-38	1096	2621733	496294.9	3	1089.83	1089.698	1	1	0.131689
OW-39	1096	2621620	496212.3	3	1089.94	1092.666	1	1	-2.72591
OW-40	1096	2621297	495975.6	3	1093.67	1094.034	1	1	-0.36403
OW-41	1096	2621817	496281.9	3	1088.94	1091.985	1	1	-3.04542
OW-42	1096	2621900	496169.4	3	1091.22	1092.908	1	1	-1.68815
OW-43	1096	2622135	495845.8	3	1093.03	1093.493	1	1	-0.46326
OW-44	1096	2622303	496682.1	3	1094.05	1094.532	1	1	-0.4819
OW-45	1096	2619203	494842.2	3	1096.79	1096.856	1	1	-0.06614
OW-46	1096	2619059	494783.4	3	1097.06	1097.076	1	1	-0.01556
OW-47	1096	2618685	494630.9	3	1097.6	1097.655	1	1	-0.0553
OW-48	1096	2619283	494800.5	3	1096.73	1096.691	1	1	0.038995
OW-49	1096	2619316	494671.9	3	1096.48	1096.561	1	1	-0.08112
OW-50	1096	2619466	494300.2	3	1096.06	1096.138	1	1	-0.0778
OW-51	1096	2619791	495096	3	1095.9	1095.885	1	1	0.014532
OW-52	1096	2610586	493033.9	3	1093.53	1094.169	1	1	-0.63867
OW-53	1096	2610556	493019.7	3	1095.4	1095.415	1	1	-0.01451
OW-54	1096	2611357	493520.9	3	1102.94	1103.276	1	1	-0.33582
OW-55	1096	2610822	492991.9	3	1092.24	1093.845	1	1	-1.60468
OW-56	1096	2611643	493196.4	3	1102.72	1102.33	1	1	0.389654
MW-104A	1096	2634092	499205.6	3	1078.78	1078.56	1	1	0.219379
MW-104B	1096	2634083	499205.6	2	1078.768	1078.571	1	1	0.196955
MW-104O	1096	2634074	499205	1	1077.468	1078.375	1	1	-0.90685
MW-105A	1096	2635042	496643	3	1076.377	1075.891	1	1	0.485537
MW-105B	1096	2635042	496653	2	1076.377	1075.897	1	1	0.480824
MW-105O	1096	2635041	496662.3	1	1073.602	1074.757	1	1	-1.15554
OW-57	1096	2611769	493277.9	3	1102.93	1102.871	1	1	0.058941
OW-58	1096	2611367	493010	3	1100.98	1100.436	1	1	0.543684
OW-59	1096	2611580	493019.2	3	1101.93	1101.455	1	1	0.475044
OW-60	1096	2627138	497440.7	3	1088.96	1088.764	1	1	0.196001
OW-61	1096	2627192	497571.5	3	1089.01	1089.366	1	1	-0.35623
OW-62	1096	2627351	497954.3	3	1089.79	1090.119	1	1	-0.32904
OW-63	1096	2627528	497841.9	3	1089.4	1089.608	1	1	-0.20776
OW-90	1096	2625244	498690.8	3	1091.89	1090.847	1	1	1.042641
OW-92	1096	2625156	498583.3	3	1093.6	1093.581	1	1	0.018501
OW-93	1096	2625291	498721.9	3	1091.67	1091.874	1	1	-0.20388
OW-94	1096	2625434	498611.5	3	1093.43	1093.636	1	1	-0.20557
OW-95	1096	2625767	498358.5	3	1093.13	1093.608	1	1	-0.47788
OW-96	1096	2628354	496783.7	3	1086.69	1085.692	1	1	0.998245
OW-97	1096	2628423	496909.5	3	1086.29	1086.095	1	1	0.1948
OW-98	1096	2628617	497268.7	3	1086.69	1086.554	1	1	0.135566
OW-99	1096	2628520	496667.1	3	1085.94	1085.782	1	1	0.15778
PV-37	1096	2644077	514703.4	3	1094.11	1091.815	1	1	2.295244
PV-38	1096	2642740	516679.6	3	1095.94	1094.482	1	1	1.458493
PV-39	1096	2635349	501827.5	3	1083.36	1081.977	1	1	1.38253
PV-40	1096	2645298	502916.4	3	1084.55	1083.412	1	1	1.138428
PV-41	1096	2642174	514040.5	3	1093.03	1091.521	1	1	1.5092
Residual Mean	0.601212								
Abs. Res. Mean	1.024131								
Res. Std. Dev.	1.283701								
Sum of Squares	767.5695								
RMS Error	1.417513								
Min. Residual	-3.52781								
Max. Residual	6.312472								
Number of Observations	382								
Range in Observations	127.14								
Scaled Std. Dev.	0.010097								
Scaled Abs. Mean	0.008055								
Scaled RMS	0.011149								

Appendix D
PEST Output File

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```
                    PEST RUN RECORD: CASE gwm10_e3


PEST run mode:-

   Regularisation mode

Case dimensions:-

   Number of parameters                          :   545
   Number of adjustable parameters               :   545
   Number of parameter groups                    :     3
   Number of observations                        :   693
   Number of prior estimates                     :   538

Model command line(s):-

   pestgv.bat

Jacobian command line:-

   na

Model interface files:-

   Templates:
      points3.tpl
      pointz1.tpl
      pointz2.tpl
      drain.tpl
      ghb.tpl
   for model input files:
      points3.dat
      pointz1.dat
      pointz2.dat
      GWM10_E3.drn
      GWM10_E3.ghb

   (Parameter values written using single precision protocol.)
   (Decimal point always included.)

   Instruction files:
      targpest.ins
   for reading model output files:
      targpest.out

PEST-to-model message file:-

   na

Singular value decomposition:-

   Perform SVD on XtQX or Q^(1/2)X               : XtQX
   Max. number of singular values to employ      : 545
   Ratio of lowest/highest singular value        :  1.000000E-06
   Record eigenvectors in SVD file               : yes

Derivatives calculation:-

Param        Increment   Increment   Increment   Forward or   Multiplier  Method
group        type                    low bound   central      (central)   (central)
kp           relative    1.0000E-02   none         switch       2.000     parabolic
kz           relative    1.0000E-02   none         switch       2.000     parabolic
cond         relative    1.0000E-02   none         switch       2.000     parabolic

Parameter definitions:-

Name         Trans-            Change       Initial        Lower          Upper
             formation         limit        value          bound          bound
dr1          log               factor      4479.86       1.000000E-02    100000.
dr2          log               factor      206.584       1.000000E-02    100000.
dr3          log               factor      662.003       1.000000E-02    100000.
dr4          log               factor      1116.72       1.000000E-02    100000.
```

Appendix D – PEST OUTPUT FILE

Name	Trans-formation	Change limit	Initial value	Lower bound	Upper bound
ghc0	log	factor	1.000000E+06	1000.00	1.000000E+06
ghc2	log	factor	904889.	100.000	1.000000E+08
ghc3	log	factor	8.000000E+06	100.000	1.000000E+07
kzkz1	log	factor	0.753608	1.000000E-04	200.000
kzkz100	log	factor	138.331	1.000000E-04	500.000
kzkz101	log	factor	127.388	1.000000E-04	500.000
kzkz102	log	factor	138.101	1.000000E-04	500.000
kzkz103	log	factor	136.899	1.000000E-04	500.000
kzkz104	log	factor	150.236	1.000000E-04	500.000
kzkz105	log	factor	156.273	1.000000E-04	500.000
kzkz106	log	factor	138.897	1.000000E-04	500.000
kzkz107	log	factor	157.458	1.000000E-04	500.000
kzkz108	log	factor	146.733	1.000000E-04	500.000
kzkz109	log	factor	128.842	1.000000E-04	500.000
kzkz11	log	factor	108.053	1.000000E-04	500.000
kzkz110	log	factor	187.127	1.000000E-04	500.000
kzkz111	log	factor	239.101	1.000000E-04	500.000
kzkz112	log	factor	217.390	1.000000E-04	500.000
kzkz113	log	factor	239.708	1.000000E-04	500.000
kzkz114	log	factor	146.491	1.000000E-04	500.000
kzkz115	log	factor	212.231	1.000000E-04	500.000
kzkz116	log	factor	157.543	1.000000E-04	500.000
kzkz117	log	factor	177.027	1.000000E-04	500.000
kzkz118	log	factor	234.519	1.000000E-04	500.000
kzkz119	log	factor	78.1245	1.000000E-04	500.000
kzkz12	log	factor	78.8941	1.000000E-04	500.000
kzkz120	log	factor	78.0551	1.000000E-04	500.000
kzkz121	log	factor	79.4918	1.000000E-04	500.000
kzkz122	log	factor	215.683	1.000000E-04	500.000
kzkz123	log	factor	235.885	1.000000E-04	500.000
kzkz124	log	factor	197.350	1.000000E-04	500.000
kzkz125	log	factor	240.142	1.000000E-04	500.000
kzkz126	log	factor	76.9968	1.000000E-04	500.000
kzkz127	log	factor	218.361	1.000000E-04	500.000
kzkz128	log	factor	68.4679	1.000000E-04	500.000
kzkz129	log	factor	257.765	1.000000E-04	500.000
kzkz13	log	factor	146.136	1.000000E-04	500.000
kzkz130	log	factor	216.296	1.000000E-04	500.000
kzkz131	log	factor	77.9521	1.000000E-04	500.000
kzkz132	log	factor	77.8349	1.000000E-04	500.000
kzkz133	log	factor	395.873	1.000000E-04	500.000
kzkz134	log	factor	157.639	1.000000E-04	500.000
kzkz135	log	factor	128.572	1.000000E-04	500.000
kzkz136	log	factor	196.257	1.000000E-04	500.000
kzkz137	log	factor	254.601	1.000000E-04	500.000
kzkz138	log	factor	89.0241	1.000000E-04	500.000
kzkz139	log	factor	127.234	1.000000E-04	500.000
kzkz14	log	factor	88.5494	1.000000E-04	500.000
kzkz140	log	factor	126.272	1.000000E-04	500.000
kzkz141	log	factor	196.797	1.000000E-04	500.000
kzkz142	log	factor	195.445	1.000000E-04	500.000
kzkz143	log	factor	293.304	1.000000E-04	500.000
kzkz144	log	factor	176.387	1.000000E-04	500.000
kzkz145	log	factor	157.267	1.000000E-04	500.000
kzkz146	log	factor	78.5630	1.000000E-04	500.000
kzkz147	log	factor	158.100	1.000000E-04	500.000
kzkz148	log	factor	157.242	1.000000E-04	500.000
kzkz149	log	factor	155.625	1.000000E-04	500.000
kzkz15	log	factor	79.6068	1.000000E-04	500.000
kzkz150	log	factor	400.266	1.000000E-04	500.000
kzkz151	log	factor	390.183	1.000000E-04	500.000
kzkz152	log	factor	293.697	1.000000E-04	500.000
kzkz153	log	factor	211.351	1.000000E-04	500.000
kzkz154	log	factor	296.787	1.000000E-04	500.000
kzkz155	log	factor	348.251	1.000000E-04	500.000
kzkz156	log	factor	127.786	1.000000E-04	500.000
kzkz157	log	factor	400.338	1.00000	800.000
kzkz158	log	factor	343.458	1.00000	800.000
kzkz159	log	factor	346.151	1.00000	800.000
kzkz16	log	factor	87.9474	1.000000E-04	500.000
kzkz160	log	factor	215.789	1.00000	500.000

Appendix D – PEST OUTPUT FILE

Name	Trans-formation	Change limit	Initial value	Lower bound	Upper bound
kzkz161	log	factor	198.352	1.00000	500.000
kzkz162	log	factor	294.169	1.00000	800.000
kzkz163	log	factor	393.185	1.00000	800.000
kzkz164	log	factor	288.525	1.00000	800.000
kzkz165	log	factor	393.120	1.00000	800.000
kzkz166	log	factor	492.675	1.00000	800.000
kzkz167	log	factor	273.240	1.00000	500.000
kzkz168	log	factor	396.888	1.00000	800.000
kzkz169	log	factor	437.283	1.00000	800.000
kzkz17	log	factor	186.226	1.000000E-04	500.000
kzkz170	log	factor	443.823	1.00000	800.000
kzkz171	log	factor	437.616	1.00000	800.000
kzkz172	log	factor	540.272	1.00000	800.000
kzkz173	log	factor	480.194	1.00000	800.000
kzkz174	log	factor	494.117	1.00000	800.000
kzkz175	log	factor	295.461	1.00000	800.000
kzkz176	log	factor	391.127	1.00000	800.000
kzkz177	log	factor	491.417	1.00000	800.000
kzkz178	log	factor	493.712	1.00000	800.000
kzkz179	log	factor	448.845	1.00000	800.000
kzkz18	log	factor	78.0161	1.000000E-04	500.000
kzkz180	log	factor	485.420	1.00000	800.000
kzkz181	log	factor	496.683	1.00000	800.000
kzkz182	log	factor	543.606	1.00000	800.000
kzkz183	log	factor	342.733	1.00000	800.000
kzkz184	log	factor	488.002	1.00000	800.000
kzkz185	log	factor	465.197	1.00000	800.000
kzkz186	log	factor	543.875	1.00000	800.000
kzkz187	log	factor	492.574	1.00000	800.000
kzkz188	log	factor	445.858	1.00000	800.000
kzkz189	log	factor	498.139	1.00000	800.000
kzkz19	log	factor	145.440	1.000000E-04	500.000
kzkz190	log	factor	440.133	1.00000	800.000
kzkz191	log	factor	498.558	1.00000	800.000
kzkz2	log	factor	0.950135	1.000000E-04	200.000
kzkz20	log	factor	147.616	1.000000E-04	500.000
kzkz21	log	factor	144.777	1.000000E-04	500.000
kzkz22	log	factor	197.516	1.000000E-04	500.000
kzkz23	log	factor	147.119	1.000000E-04	500.000
kzkz24	log	factor	187.548	1.000000E-04	500.000
kzkz25	log	factor	196.870	1.000000E-04	500.000
kzkz26	log	factor	127.371	1.000000E-04	500.000
kzkz27	log	factor	165.996	1.000000E-04	500.000
kzkz28	log	factor	182.110	1.000000E-04	500.000
kzkz29	log	factor	108.981	1.000000E-04	500.000
kzkz3	log	factor	0.720121	1.000000E-04	200.000
kzkz30	log	factor	127.685	1.000000E-04	500.000
kzkz31	log	factor	157.628	1.000000E-04	500.000
kzkz32	log	factor	156.535	1.000000E-04	500.000
kzkz33	log	factor	196.706	1.000000E-04	500.000
kzkz34	log	factor	78.6473	1.000000E-04	500.000
kzkz35	log	factor	106.327	1.000000E-04	500.000
kzkz36	log	factor	49.2999	1.000000E-04	500.000
kzkz37	log	factor	196.535	1.000000E-04	500.000
kzkz38	log	factor	196.053	1.000000E-04	500.000
kzkz39	log	factor	107.289	1.000000E-04	500.000
kzkz4	log	factor	0.480789	1.000000E-04	200.000
kzkz40	log	factor	195.288	1.000000E-04	500.000
kzkz41	log	factor	19.4219	1.000000E-04	500.000
kzkz42	log	factor	163.952	1.000000E-04	500.000
kzkz43	log	factor	127.367	1.000000E-04	500.000
kzkz44	log	factor	89.4922	1.000000E-04	500.000
kzkz45	log	factor	198.688	1.000000E-04	500.000
kzkz46	log	factor	78.5867	1.000000E-04	500.000
kzkz47	log	factor	79.1552	1.000000E-04	500.000
kzkz48	log	factor	59.1861	1.000000E-04	500.000
kzkz49	log	factor	19.5210	1.000000E-04	500.000
kzkz5	log	factor	0.612386	1.000000E-04	200.000
kzkz50	log	factor	78.9195	1.000000E-04	500.000
kzkz51	log	factor	167.284	1.000000E-04	500.000
kzkz52	log	factor	69.1052	1.000000E-04	500.000

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Name	Trans-formation	Change limit	Initial value	Lower bound	Upper bound
kzkz53	log	factor	79.2382	1.000000E-04	500.000
kzkz54	log	factor	78.9294	1.000000E-04	500.000
kzkz55	log	factor	107.137	1.000000E-04	500.000
kzkz56	log	factor	78.4449	1.000000E-04	500.000
kzkz57	log	factor	79.1542	1.000000E-04	500.000
kzkz58	log	factor	87.9796	1.000000E-04	500.000
kzkz59	log	factor	77.7881	1.000000E-04	500.000
kzkz60	log	factor	78.2086	1.000000E-04	500.000
kzkz61	log	factor	79.1488	1.000000E-04	500.000
kzkz62	log	factor	79.3015	1.000000E-04	500.000
kzkz63	log	factor	78.6422	1.000000E-04	500.000
kzkz64	log	factor	78.5208	1.000000E-04	500.000
kzkz65	log	factor	128.262	1.000000E-04	500.000
kzkz66	log	factor	165.797	1.000000E-04	500.000
kzkz67	log	factor	90.3961	1.000000E-04	500.000
kzkz68	log	factor	78.0506	1.000000E-04	500.000
kzkz69	log	factor	93.7119	1.000000E-04	500.000
kzkz7	log	factor	1.05610	1.000000E-04	200.000
kzkz70	log	factor	149.449	1.000000E-04	500.000
kzkz71	log	factor	87.8375	1.000000E-04	500.000
kzkz72	log	factor	147.556	1.000000E-04	500.000
kzkz73	log	factor	94.1355	1.000000E-04	500.000
kzkz74	log	factor	128.715	1.000000E-04	500.000
kzkz75	log	factor	87.6634	1.000000E-04	500.000
kzkz76	log	factor	136.478	1.000000E-04	500.000
kzkz77	log	factor	108.050	1.000000E-04	500.000
kzkz78	log	factor	147.416	1.000000E-04	500.000
kzkz79	log	factor	78.3328	1.000000E-04	500.000
kzkz80	log	factor	146.344	1.000000E-04	500.000
kzkz81	log	factor	147.967	1.000000E-04	500.000
kzkz82	log	factor	89.1894	1.000000E-04	500.000
kzkz83	log	factor	154.210	1.000000E-04	500.000
kzkz84	log	factor	156.866	1.000000E-04	500.000
kzkz85	log	factor	87.8758	1.000000E-04	500.000
kzkz86	log	factor	137.968	1.000000E-04	500.000
kzkz87	log	factor	86.1036	1.000000E-04	500.000
kzkz88	log	factor	97.5998	1.000000E-04	500.000
kzkz89	log	factor	155.457	1.000000E-04	500.000
kzkz90	log	factor	126.859	1.000000E-04	500.000
kzkz91	log	factor	168.646	1.000000E-04	500.000
kzkz92	log	factor	175.813	1.000000E-04	500.000
kzkz93	log	factor	138.140	1.000000E-04	500.000
kzkz94	log	factor	147.945	1.000000E-04	500.000
kzkz95	log	factor	140.101	1.000000E-04	500.000
kzkz96	log	factor	157.146	1.000000E-04	500.000
kzkz97	log	factor	154.119	1.000000E-04	500.000
kzkz98	log	factor	147.711	1.000000E-04	500.000
kzkz99	log	factor	198.586	1.000000E-04	500.000
kpkp1	log	factor	68.1372	0.100000	800.000
kpkp2	log	factor	65.2306	0.100000	800.000
kpkp3	log	factor	70.7191	0.100000	800.000
kpkp4	log	factor	125.321	0.100000	800.000
kpkp5	log	factor	96.1035	0.100000	800.000
kpkp6	log	factor	64.8699	0.100000	800.000
kpkp7	log	factor	63.3805	0.100000	800.000
kpkp8	log	factor	132.453	0.100000	800.000
kpkp9	log	factor	66.5259	0.100000	800.000
kpkp10	log	factor	56.3107	0.100000	800.000
kpkp11	log	factor	79.6502	0.100000	800.000
kpkp12	log	factor	146.031	0.100000	800.000
kpkp13	log	factor	53.4812	0.100000	800.000
kpkp14	log	factor	136.385	0.100000	800.000
kpkp15	log	factor	146.315	0.100000	800.000
kpkp16	log	factor	83.0236	0.100000	800.000
kpkp17	log	factor	109.030	0.100000	800.000
kpkp18	log	factor	150.442	0.100000	800.000
kpkp19	log	factor	177.998	0.100000	800.000
kpkp20	log	factor	72.6852	0.100000	800.000
kpkp21	log	factor	61.8846	0.100000	800.000
kpkp22	log	factor	135.591	0.100000	800.000
kpkp23	log	factor	116.054	0.100000	800.000

kpkp24	log	factor	75.5979	0.100000	800.000
kpkp25	log	factor	162.612	0.100000	800.000
kpkp26	log	factor	207.635	0.100000	800.000
kpkp27	log	factor	105.859	0.100000	800.000
kpkp28	log	factor	98.6284	0.100000	800.000
kpkp29	log	factor	45.2484	0.100000	800.000
kpkp30	log	factor	135.260	0.100000	800.000
kpkp31	log	factor	154.119	0.100000	800.000
kpkp32	log	factor	153.375	0.100000	800.000
kpkp33	log	factor	80.3068	0.100000	800.000
kpkp34	log	factor	156.844	0.100000	800.000
kpkp35	log	factor	172.559	0.100000	800.000
kpkp36	log	factor	80.1922	0.100000	800.000
kpkp37	log	factor	225.411	0.100000	800.000
kpkp38	log	factor	23.1686	0.100000	800.000
kpkp39	log	factor	23.9446	0.100000	800.000
kpkp40	log	factor	12.7784	0.100000	800.000
kpkp41	log	factor	52.5870	0.100000	800.000
kpkp42	log	factor	144.058	0.100000	800.000
kpkp43	log	factor	124.048	0.100000	800.000
kpkp44	log	factor	50.0559	0.100000	800.000
kpkp45	log	factor	131.827	0.100000	800.000
kpkp46	log	factor	80.3863	0.100000	800.000
kpkp47	log	factor	8.25263	0.100000	800.000
kpkp48	log	factor	41.7550	0.100000	800.000
kpkp49	log	factor	45.1447	0.100000	800.000
kpkp50	log	factor	48.6675	0.100000	800.000
kpkp51	log	factor	65.6375	0.100000	800.000
kpkp52	log	factor	7.22263	0.100000	800.000
kpkp53	log	factor	14.0478	0.100000	800.000
kpkp54	log	factor	43.9654	0.100000	800.000
kpkp55	log	factor	210.609	0.100000	800.000
kpkp56	log	factor	77.4498	0.100000	800.000
kpkp57	log	factor	82.0042	0.100000	800.000
kpkp58	log	factor	41.9927	0.100000	800.000
kpkp59	log	factor	45.7739	0.100000	800.000
kpkp60	log	factor	98.4281	0.100000	800.000
kpkp61	log	factor	42.3944	0.100000	800.000
kpkp62	log	factor	155.457	0.100000	800.000
kpkp63	log	factor	70.6353	0.100000	800.000
kpkp64	log	factor	84.1865	0.100000	800.000
kpkp65	log	factor	72.3421	0.100000	800.000
kpkp66	log	factor	62.4644	0.100000	800.000
kpkp67	log	factor	101.117	0.100000	800.000
kpkp68	log	factor	137.031	0.100000	800.000
kpkp69	log	factor	43.4248	0.100000	800.000
kpkp70	log	factor	73.4569	0.100000	800.000
kpkp71	log	factor	92.6760	0.100000	800.000
kpkp72	log	factor	170.505	0.100000	800.000
kpkp73	log	factor	157.000	0.100000	800.000
kpkp74	log	factor	50.6435	0.100000	800.000
kpkp75	log	factor	253.225	0.100000	800.000
kpkp76	log	factor	76.7396	0.100000	800.000
kpkp77	log	factor	95.7896	0.100000	800.000
kpkp78	log	factor	83.0199	0.100000	800.000
kpkp79	log	factor	148.621	0.100000	800.000
kpkp80	log	factor	132.221	0.100000	800.000
kpkp81	log	factor	127.971	0.100000	800.000
kpkp82	log	factor	45.6282	0.100000	800.000
kpkp83	log	factor	135.294	0.100000	800.000
kpkp84	log	factor	123.529	0.100000	800.000
kpkp85	log	factor	120.180	0.100000	800.000
kpkp86	log	factor	111.978	0.100000	800.000
kpkp87	log	factor	93.5809	0.100000	800.000
kpkp88	log	factor	112.612	0.100000	800.000
kpkp89	log	factor	103.470	0.100000	800.000
kpkp90	log	factor	106.308	0.100000	800.000
kpkp91	log	factor	155.673	0.100000	800.000
kpkp92	log	factor	86.2014	0.100000	800.000
kpkp93	log	factor	127.439	0.100000	800.000
kpkp94	log	factor	129.775	0.100000	800.000
kpkp95	log	factor	130.941	0.100000	800.000
kpkp96	log	factor	132.396	0.100000	800.000

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Name	Trans-formation	Change limit	Initial value	Lower bound	Upper bound
kpkp97	log	factor	123.010	0.100000	800.000
kpkp98	log	factor	123.815	0.100000	800.000
kpkp99	log	factor	107.152	0.100000	800.000
kpkp100	log	factor	147.103	0.100000	800.000
kpkp101	log	factor	184.165	0.100000	800.000
kpkp102	log	factor	171.269	0.100000	800.000
kpkp103	log	factor	140.682	0.100000	800.000
kpkp104	log	factor	124.599	0.100000	800.000
kpkp105	log	factor	121.747	0.100000	800.000
kpkp106	log	factor	125.952	0.100000	800.000
kpkp107	log	factor	148.828	0.100000	800.000
kpkp108	log	factor	116.719	0.100000	800.000
kpkp109	log	factor	136.228	0.100000	800.000
kpkp110	log	factor	117.458	0.100000	800.000
kpkp111	log	factor	153.587	0.100000	800.000
kpkp112	log	factor	130.066	0.100000	800.000
kpkp113	log	factor	46.1739	0.100000	800.000
kpkp114	log	factor	180.286	0.100000	800.000
kpkp115	log	factor	147.644	0.100000	800.000
kpkp116	log	factor	166.865	0.100000	800.000
kpkp117	log	factor	142.660	0.100000	800.000
kpkp118	log	factor	177.548	0.100000	800.000
kpkp119	log	factor	175.166	0.100000	800.000
kpkp120	log	factor	174.702	0.100000	800.000
kpkp121	log	factor	204.132	0.100000	800.000
kpkp122	log	factor	124.876	0.100000	800.000
kpkp123	log	factor	127.168	0.100000	800.000
kpkp124	log	factor	161.796	0.100000	800.000
kpkp125	log	factor	178.576	0.100000	800.000
kpkp126	log	factor	128.161	0.100000	800.000
kpkp127	log	factor	187.903	0.100000	800.000
kpkp128	log	factor	153.060	0.100000	800.000
kpkp129	log	factor	148.863	0.100000	800.000
kpkp130	log	factor	117.390	0.100000	800.000
kpkp131	log	factor	130.463	0.100000	800.000
kpkp132	log	factor	130.496	0.100000	800.000
kpkp133	log	factor	145.708	0.100000	800.000
kpkp134	log	factor	159.107	0.100000	800.000
kpkp135	log	factor	160.024	0.100000	800.000
kpkp136	log	factor	112.750	0.100000	800.000
kpkp137	log	factor	84.5479	0.100000	800.000
kpkp138	log	factor	199.795	0.100000	800.000
kpkp139	log	factor	187.109	0.100000	800.000
kpkp140	log	factor	95.8273	0.100000	800.000
kpkp141	log	factor	128.974	0.100000	800.000
kpkp142	log	factor	194.546	0.100000	800.000
kpkp143	log	factor	330.336	0.100000	800.000
kpkp144	log	factor	147.310	0.100000	800.000
kpkp145	log	factor	151.621	0.100000	800.000
kpkp146	log	factor	183.845	0.100000	800.000
kpkp147	log	factor	170.300	0.100000	800.000
kpkp148	log	factor	215.126	0.100000	800.000
kpkp149	log	factor	191.975	0.100000	800.000
kpkp150	log	factor	131.361	0.100000	800.000
kpkp151	log	factor	186.421	0.100000	800.000
kpkp152	log	factor	200.741	0.100000	800.000
kpkp153	log	factor	175.621	0.100000	800.000
kpkp154	log	factor	185.940	0.100000	800.000
kpkp155	log	factor	132.559	0.100000	800.000
kpkp156	log	factor	181.230	0.100000	800.000
kpkp157	log	factor	174.357	0.100000	800.000
kpkp158	log	factor	388.489	0.100000	800.000
kpkp159	log	factor	187.816	0.100000	800.000
kpkp160	log	factor	92.9711	0.100000	800.000
kpkp161	log	factor	168.181	0.100000	800.000
kpkp162	log	factor	200.310	0.100000	800.000
kpkp163	log	factor	177.180	0.100000	800.000
kpkp164	log	factor	191.059	0.100000	800.000
kpkp165	log	factor	94.9803	0.100000	800.000
kpkp166	log	factor	64.8667	0.100000	800.000
kpkp167	log	factor	285.717	0.100000	800.000

Name	Trans-formation	Change limit	Initial value	Lower bound	Upper bound
kpkp168	log	factor	295.454	0.100000	800.000
kpkp169	log	factor	60.2116	0.100000	800.000
kpkp170	log	factor	153.583	0.100000	800.000
kpkp171	log	factor	63.8730	0.100000	800.000
kpkp172	log	factor	64.8179	0.100000	800.000
kpkp173	log	factor	207.013	0.100000	800.000
kpkp174	log	factor	68.9014	0.100000	800.000
kpkp175	log	factor	72.5667	0.100000	800.000
kpkp176	log	factor	172.562	0.100000	800.000
kpkp177	log	factor	66.5773	0.100000	800.000
kpkp178	log	factor	187.785	0.100000	800.000
kpkp179	log	factor	62.8257	0.100000	800.000
kpkp180	log	factor	30.0107	0.100000	800.000
kpkp181	log	factor	379.631	0.100000	800.000
kpkp182	log	factor	74.3836	0.100000	800.000
kpkp183	log	factor	156.995	0.100000	800.000
kpkp184	log	factor	67.1217	0.100000	800.000
kpkp185	log	factor	62.5095	0.100000	800.000
kpkp186	log	factor	200.424	0.100000	800.000
kpkp187	log	factor	146.694	0.100000	800.000
kpkp188	log	factor	65.8536	0.100000	800.000
kpkp189	log	factor	69.6159	0.100000	800.000
kpkp190	log	factor	69.7250	0.100000	800.000
kpkp191	log	factor	76.2897	0.100000	800.000
kpkp192	log	factor	140.937	0.100000	800.000
kpkp193	log	factor	72.2140	0.100000	800.000
kpkp194	log	factor	354.301	0.100000	800.000
kpkp195	log	factor	18.4463	0.100000	800.000
kpkp196	log	factor	151.879	0.100000	800.000
kpkp197	log	factor	121.761	0.100000	800.000
kpkp198	log	factor	59.5558	0.100000	800.000
kpkp199	log	factor	74.2108	0.100000	800.000
kpkp200	log	factor	143.123	0.100000	800.000
kpkp201	log	factor	167.438	0.100000	800.000
kpkp202	log	factor	53.4486	0.100000	800.000
kpkp203	log	factor	106.266	0.100000	800.000
kpkp204	log	factor	29.5570	0.100000	800.000
kpkp205	log	factor	111.689	0.100000	800.000
kpkp206	log	factor	171.209	0.100000	800.000
kpkp207	log	factor	81.9973	0.100000	800.000
kpkp208	log	factor	156.660	0.100000	800.000
kpkp209	log	factor	101.418	0.100000	800.000
kpkp210	log	factor	522.296	0.100000	800.000
kpkp211	log	factor	366.434	0.100000	800.000
kpkp212	log	factor	59.6080	0.100000	800.000
kpkp213	log	factor	250.415	0.100000	800.000
kpkp214	log	factor	305.082	0.100000	800.000
kpkp215	log	factor	209.259	0.100000	800.000
kpkp216	log	factor	475.386	0.100000	800.000
kpkp217	log	factor	233.793	0.100000	800.000
kpkp218	log	factor	235.303	0.100000	800.000
kpkp219	log	factor	183.656	0.100000	800.000
kpkp220	log	factor	242.725	0.100000	800.000
kpkp221	log	factor	326.066	0.100000	800.000
kpkp222	log	factor	327.074	0.100000	800.000
kpkp223	log	factor	97.5289	0.100000	800.000
kpkp224	log	factor	110.407	0.100000	800.000
kpkp225	log	factor	290.728	0.100000	800.000
kpkp226	log	factor	319.383	0.100000	800.000
kpkp227	log	factor	591.551	0.100000	800.000
kpkp228	log	factor	163.121	0.100000	800.000
kpkp229	log	factor	71.0883	0.100000	800.000
kpkp230	log	factor	182.000	0.100000	800.000
kpkp231	log	factor	94.9916	0.100000	800.000
kpkp232	log	factor	330.359	0.100000	800.000
kpkp233	log	factor	270.842	0.100000	800.000
kpkp234	log	factor	328.087	0.100000	800.000
kpkp235	log	factor	298.124	0.100000	800.000
kpkp236	log	factor	268.582	0.100000	800.000
kpkp237	log	factor	265.339	0.100000	800.000
kpkp238	log	factor	253.399	0.100000	800.000

Name	Trans-formation	Change limit	Initial value	Lower bound	Upper bound
kpkp239	log	factor	172.882	0.100000	800.000
kpkp240	log	factor	138.455	0.100000	800.000
kpkp241	log	factor	224.383	0.100000	800.000
kpkp242	log	factor	406.704	0.100000	800.000
kpkp243	log	factor	193.910	0.100000	800.000
kpkp244	log	factor	190.212	0.100000	800.000
kpkp245	log	factor	359.711	0.100000	800.000
kpkp246	log	factor	177.865	0.100000	800.000
kpkp247	log	factor	278.842	0.100000	800.000
kpkp248	log	factor	211.842	0.100000	800.000
kpkp249	log	factor	275.015	0.100000	800.000
kpkp250	log	factor	8.33828	0.100000	800.000
kpkp251	log	factor	459.537	0.100000	800.000
kpkp252	log	factor	500.670	0.100000	800.000
kpkp253	log	factor	269.105	0.100000	800.000
kpkp254	log	factor	255.817	0.100000	800.000
kpkp255	log	factor	393.102	0.100000	800.000
kpkp256	log	factor	168.482	0.100000	800.000
kpkp257	log	factor	517.092	0.100000	800.000
kpkp258	log	factor	513.261	0.100000	800.000
kpkp259	log	factor	499.296	0.100000	800.000
kpkp260	log	factor	430.182	0.100000	800.000
kpkp261	log	factor	490.538	0.100000	800.000
kpkp262	log	factor	120.315	0.100000	800.000
kpkp263	log	factor	178.238	0.100000	800.000
kpkp264	log	factor	359.290	0.100000	800.000
kpkp265	log	factor	205.492	0.100000	800.000
kpkp266	log	factor	456.792	0.100000	800.000
kpkp267	log	factor	429.141	0.100000	800.000
kpkp268	log	factor	438.627	0.100000	800.000
kpkp269	log	factor	615.424	0.100000	800.000
kpkp270	log	factor	185.672	0.100000	800.000
kpkp271	log	factor	499.069	0.100000	800.000
kpkp272	log	factor	697.729	0.100000	800.000
kpkp273	log	factor	286.627	0.100000	800.000
kpkp274	log	factor	442.850	0.100000	800.000
kpkp275	log	factor	560.881	0.100000	800.000
kpkp276	log	factor	645.218	0.100000	800.000
kpkp277	log	factor	389.735	0.100000	800.000
kpkp278	log	factor	533.775	0.100000	800.000
kpkp279	log	factor	372.045	0.100000	800.000
kpkp280	log	factor	404.998	0.100000	800.000
kpkp281	log	factor	353.737	0.100000	800.000
kpkp282	log	factor	405.418	0.100000	800.000
kpkp283	log	factor	385.460	0.100000	800.000
kpkp284	log	factor	700.104	0.100000	800.000
kpkp285	log	factor	576.799	0.100000	800.000
kpkp286	log	factor	527.160	0.100000	800.000
kpkp287	log	factor	319.093	0.100000	800.000
kpkp288	log	factor	369.461	0.100000	800.000
kpkp289	log	factor	326.233	0.100000	800.000
kpkp290	log	factor	440.613	0.100000	800.000
kpkp291	log	factor	112.462	0.100000	800.000
kpkp292	log	factor	130.415	0.100000	800.000
kpkp293	log	factor	167.734	0.100000	800.000
kpkp294	log	factor	721.203	0.100000	800.000
kpkp295	log	factor	269.998	0.100000	800.000
kpkp296	log	factor	492.624	0.100000	800.000
kpkp297	log	factor	800.000	0.100000	800.000
kpkp298	log	factor	353.676	0.100000	800.000
kpkp299	log	factor	17.8955	0.100000	800.000
kpkp300	log	factor	164.301	0.100000	800.000
kpkp301	log	factor	657.843	0.100000	800.000
kpkp302	log	factor	433.114	0.100000	800.000
kpkp303	log	factor	223.471	0.100000	800.000
kpkp304	log	factor	590.607	0.100000	800.000
kpkp305	log	factor	498.192	0.100000	800.000
kpkp306	log	factor	384.991	0.100000	800.000
kpkp307	log	factor	35.0734	0.100000	800.000
kpkp308	log	factor	408.968	0.100000	800.000
kpkp309	log	factor	674.801	0.100000	800.000

Name	Trans-formation	Change limit	Initial value	Lower bound	Upper bound
kpkp310	log	factor	660.848	0.100000	800.000
kpkp311	log	factor	515.434	0.100000	800.000
kpkp312	log	factor	607.807	0.100000	800.000
kpkp313	log	factor	517.765	0.100000	800.000
kpkp314	log	factor	483.706	0.100000	800.000
kpkp315	log	factor	276.623	0.100000	800.000
kpkp316	log	factor	330.290	0.100000	800.000
kpkp317	log	factor	290.144	0.100000	800.000
kpkp318	log	factor	485.047	0.100000	800.000
kpkp319	log	factor	647.357	0.100000	800.000
kpkp320	log	factor	407.135	0.100000	800.000
kpkp321	log	factor	501.710	0.100000	800.000
kpkp322	log	factor	562.391	0.100000	800.000
kpkp323	log	factor	318.999	0.100000	800.000
kpkp324	log	factor	512.253	0.100000	800.000
kpkp325	log	factor	334.164	0.100000	800.000
kpkp326	log	factor	509.884	0.100000	800.000
kpkp327	log	factor	290.787	0.100000	800.000
kpkp328	log	factor	359.212	0.100000	800.000
kpkp329	log	factor	705.376	0.100000	800.000
kpkp330	log	factor	709.554	0.100000	800.000
kpkp331	log	factor	413.257	0.100000	800.000
kpkp332	log	factor	254.685	0.100000	800.000
kpkp333	log	factor	455.105	0.100000	800.000
kpkp334	log	factor	406.267	0.100000	800.000
kpkp335	log	factor	452.635	0.100000	800.000
kpkp336	log	factor	293.073	0.100000	800.000
kpkp337	log	factor	389.288	0.100000	800.000
kpkp338	log	factor	659.819	0.100000	800.000
kpkp339	log	factor	513.852	0.100000	800.000
kpkp400	log	factor	79.8296	0.100000	800.000
kpkp401	log	factor	73.7278	0.100000	800.000
kpkp402	log	factor	69.1248	0.100000	800.000
kpkp403	log	factor	405.612	0.100000	800.000
kpkp404	log	factor	82.8877	0.100000	800.000
kpkp405	log	factor	82.8276	0.100000	800.000
kpkp406	log	factor	63.3762	0.100000	800.000
kpkp407	log	factor	91.9752	0.100000	800.000
kpkp408	log	factor	106.260	0.100000	800.000
kpkp409	log	factor	42.6470	0.100000	800.000
kpkp410	log	factor	113.958	0.100000	800.000
kpkp411	log	factor	181.830	0.100000	800.000

Prior information:- REMOVED TO MINIMIZE SPACE (Can be provided upon Request)

Observations:- REMOVED TO MINIMIZE SPACE (Can be provided upon Request)

Control settings:-

```
   Initial lambda                                              :  0.0000
   Lambda adjustment factor                                    : iteration-dependent
   Value of variable governing adjustment                      : -2.0000
   Sufficient new/old phi ratio per optimisation iteration     : 0.30000
   Limiting relative phi reduction between lambdas             : 1.00000E-02
   Maximum trial lambdas per iteration                         :   1
   Forgive model run failure during lamda testing              : no

   Perform Broyden's update of Jacobian matrix                 : yes
   Maximum number of updates per iteration                     : 999

   Maximum  factor  parameter change (factor-limited changes)  :  10.000
   Maximum relative parameter change (relative-limited changes) : na
   Fraction of initial parameter values used in computing
   change limit for near-zero parameters                       : 1.00000E-03
   Allow bending of parameter upgrade vector                   : no
   Allow parameters to stick to their bounds                   : no

   Relative phi reduction below which to begin use of
```

```
   central derivatives                                        : 0.10000
   Iteration at which to first consider derivatives switch    :   1

   Relative phi reduction indicating convergence              : 0.10000E-01
   Number of phi values required within this range            :   4
   Maximum number of consecutive failures to lower phi        :   4
   Minimal relative parameter change indicating convergence   : 0.10000E-01
   Number of consecutive iterations with minimal param change :   3
   Maximum number of optimisation iterations                  :  -1 (only compute Jacobian)

   Attempt automatic user intervention                        : no

   Attempt reuse of parameter sensitivities                   : no


 File saving options: -

   Save best JCO file                                         : yes
   Save multiple JCO files                                    : no
   Save multiple REI files                                    : no
   Save multiple PAR files                                    : no


 Extra settings for regularisation mode:-

   Target measurement objective function value                :  3000.0
   Acceptable measurement objective function value            :  3600.0
   Terminate inversion when measurement obj. fn. below target : yes

   Initial regularisation weight factor                       : 1.00000E-02
   Minimum regularisation weight factor                       : 1.00000E-06
   Maximum regularisation weight factor                       : 1.00000E+05

   Weight factor solution adjustment ratio                    :  1.3000
   Weight factor solution tolerance                           : 1.00000E-02
   Automatic inter-regularisation group weights adjustment    : yes
   Use sensitivities or number of items                       : sensitivities

   Implement memory conservation                              : no
   Declare all regularisation information as linear           : no
   Use conjugate gradient solver                              : no


                             OPTIMISATION RECORD


 INITIAL CONDITIONS:
   Current regularisation weight factor                   =  1.00000E-02
   Current value of measurement objective function        =   4685.5
   Current value of regularisation objective function     =  4.64029E-11

   Sum of squared weighted residuals (ie phi)             =   4685.5
   Contribution to phi from observation group "head1"     =   1910.2
   Contribution to phi from observation group "ddn"       =   2775.4
   Contribution to phi from observation group "direction" =   0.0000
   Contribution to phi from observation group "angle"     =   0.0000
   Contribution to phi from observation group "regul"     =   0.0000
   Contribution to phi from observation group "regul_kp3" =  2.99980E-15
   Contribution to phi from observation group "regul_kz1" =  8.89303E-20
   Contribution to phi from observation group "regul_kz2" =  1.64041E-15

      Current parameter values
      dr1              4479.86
      dr2              206.584
      dr3              662.003
      dr4              1116.72
      ghc0            1.000000E+06
      ghc2             904889.
      ghc3            8.000000E+06
      kzkz1           0.753608
      kzkz100          138.331
      kzkz101          127.388
      kzkz102          138.101
```

kzkz103	136.899
kzkz104	150.236
kzkz105	156.273
kzkz106	138.897
kzkz107	157.458
kzkz108	146.733
kzkz109	128.842
kzkz11	108.053
kzkz110	187.127
kzkz111	239.101
kzkz112	217.390
kzkz113	239.708
kzkz114	146.491
kzkz115	212.231
kzkz116	157.543
kzkz117	177.027
kzkz118	234.519
kzkz119	78.1245
kzkz12	78.8941
kzkz120	78.0551
kzkz121	79.4918
kzkz122	215.683
kzkz123	235.885
kzkz124	197.350
kzkz125	240.142
kzkz126	76.9968
kzkz127	218.361
kzkz128	68.4679
kzkz129	257.765
kzkz13	146.136
kzkz130	216.296
kzkz131	77.9521
kzkz132	77.8349
kzkz133	395.873
kzkz134	157.639
kzkz135	128.572
kzkz136	196.257
kzkz137	254.601
kzkz138	89.0241
kzkz139	127.234
kzkz14	88.5494
kzkz140	126.272
kzkz141	196.797
kzkz142	195.445
kzkz143	293.304
kzkz144	176.387
kzkz145	157.267
kzkz146	78.5630
kzkz147	158.100
kzkz148	157.242
kzkz149	155.625
kzkz15	79.6068
kzkz150	400.266
kzkz151	390.183
kzkz152	293.697
kzkz153	211.351
kzkz154	296.787
kzkz155	348.251
kzkz156	127.786
kzkz157	400.338
kzkz158	343.458
kzkz159	346.151
kzkz16	87.9474
kzkz160	215.789
kzkz161	198.352
kzkz162	294.169
kzkz163	393.185
kzkz164	288.525
kzkz165	393.120
kzkz166	492.675
kzkz167	273.240
kzkz168	396.888
kzkz169	437.283

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kzkz17          186.226
kzkz170         443.823
kzkz171         437.616
kzkz172         540.272
kzkz173         480.194
kzkz174         494.117
kzkz175         295.461
kzkz176         391.127
kzkz177         491.417
kzkz178         493.712
kzkz179         448.845
kzkz18          78.0161
kzkz180         485.420
kzkz181         496.683
kzkz182         543.606
kzkz183         342.733
kzkz184         488.002
kzkz185         465.197
kzkz186         543.875
kzkz187         492.574
kzkz188         445.858
kzkz189         498.139
kzkz19          145.440
kzkz190         440.133
kzkz191         498.558
kzkz2          0.950135
kzkz20          147.616
kzkz21          144.777
kzkz22          197.516
kzkz23          147.119
kzkz24          187.548
kzkz25          196.870
kzkz26          127.371
kzkz27          165.996
kzkz28          182.110
kzkz29          108.981
kzkz3          0.720121
kzkz30          127.685
kzkz31          157.628
kzkz32          156.535
kzkz33          196.706
kzkz34          78.6473
kzkz35          106.327
kzkz36          49.2999
kzkz37          196.535
kzkz38          196.053
kzkz39          107.289
kzkz4          0.480789
kzkz40          195.288
kzkz41          19.4219
kzkz42          163.952
kzkz43          127.367
kzkz44          89.4922
kzkz45          198.688
kzkz46          78.5867
kzkz47          79.1552
kzkz48          59.1861
kzkz49          19.5210
kzkz5          0.612386
kzkz50          78.9195
kzkz51          167.284
kzkz52          69.1052
kzkz53          79.2382
kzkz54          78.9294
kzkz55          107.137
kzkz56          78.4449
kzkz57          79.1542
kzkz58          87.9796
kzkz59          77.7881
kzkz60          78.2086
kzkz61          79.1488
kzkz62          79.3015
kzkz63          78.6422
```

```
kzkz64          78.5208
kzkz65          128.262
kzkz66          165.797
kzkz67          90.3961
kzkz68          78.0506
kzkz69          93.7119
kzkz7           1.05610
kzkz70          149.449
kzkz71          87.8375
kzkz72          147.556
kzkz73          94.1355
kzkz74          128.715
kzkz75          87.6634
kzkz76          136.478
kzkz77          108.050
kzkz78          147.416
kzkz79          78.3328
kzkz80          146.344
kzkz81          147.967
kzkz82          89.1894
kzkz83          154.210
kzkz84          156.866
kzkz85          87.8758
kzkz86          137.968
kzkz87          86.1036
kzkz88          97.5998
kzkz89          155.457
kzkz90          126.859
kzkz91          168.646
kzkz92          175.813
kzkz93          138.140
kzkz94          147.945
kzkz95          140.101
kzkz96          157.146
kzkz97          154.119
kzkz98          147.711
kzkz99          198.586
kpkp1           68.1372
kpkp2           65.2306
kpkp3           70.7191
kpkp4           125.321
kpkp5           96.1035
kpkp6           64.8699
kpkp7           63.3805
kpkp8           132.453
kpkp9           66.5259
kpkp10          56.3107
kpkp11          79.6502
kpkp12          146.031
kpkp13          53.4812
kpkp14          136.385
kpkp15          146.315
kpkp16          83.0236
kpkp17          109.030
kpkp18          150.442
kpkp19          177.998
kpkp20          72.6852
kpkp21          61.8846
kpkp22          135.591
kpkp23          116.054
kpkp24          75.5979
kpkp25          162.612
kpkp26          207.635
kpkp27          105.859
kpkp28          98.6284
kpkp29          45.2484
kpkp30          135.260
kpkp31          154.119
kpkp32          153.375
kpkp33          80.3068
kpkp34          156.844
kpkp35          172.559
kpkp36          80.1922
```

kpkp37	225.411
kpkp38	23.1686
kpkp39	23.9446
kpkp40	12.7784
kpkp41	52.5870
kpkp42	144.058
kpkp43	124.048
kpkp44	50.0559
kpkp45	131.827
kpkp46	80.3863
kpkp47	8.25263
kpkp48	41.7550
kpkp49	45.1447
kpkp50	48.6675
kpkp51	65.6375
kpkp52	7.22263
kpkp53	14.0478
kpkp54	43.9654
kpkp55	210.609
kpkp56	77.4498
kpkp57	82.0042
kpkp58	41.9927
kpkp59	45.7739
kpkp60	98.4281
kpkp61	42.3944
kpkp62	155.457
kpkp63	70.6353
kpkp64	84.1865
kpkp65	72.3421
kpkp66	62.4644
kpkp67	101.117
kpkp68	137.031
kpkp69	43.4248
kpkp70	73.4569
kpkp71	92.6760
kpkp72	170.505
kpkp73	157.000
kpkp74	50.6435
kpkp75	253.225
kpkp76	76.7396
kpkp77	95.7896
kpkp78	83.0199
kpkp79	148.621
kpkp80	132.221
kpkp81	127.971
kpkp82	45.6282
kpkp83	135.294
kpkp84	123.529
kpkp85	120.180
kpkp86	111.978
kpkp87	93.5809
kpkp88	112.612
kpkp89	103.470
kpkp90	106.308
kpkp91	155.673
kpkp92	86.2014
kpkp93	127.439
kpkp94	129.775
kpkp95	130.941
kpkp96	132.396
kpkp97	123.010
kpkp98	123.815
kpkp99	107.152
kpkp100	147.103
kpkp101	184.165
kpkp102	171.269
kpkp103	140.682
kpkp104	124.599
kpkp105	121.747
kpkp106	125.952
kpkp107	148.828
kpkp108	116.719
kpkp109	136.228

kpkp110	117.458
kpkp111	153.587
kpkp112	130.066
kpkp113	46.1739
kpkp114	180.286
kpkp115	147.644
kpkp116	166.865
kpkp117	142.660
kpkp118	177.548
kpkp119	175.166
kpkp120	174.702
kpkp121	204.132
kpkp122	124.876
kpkp123	127.168
kpkp124	161.796
kpkp125	178.576
kpkp126	128.161
kpkp127	187.903
kpkp128	153.060
kpkp129	148.863
kpkp130	117.390
kpkp131	130.463
kpkp132	130.496
kpkp133	145.708
kpkp134	159.107
kpkp135	160.024
kpkp136	112.750
kpkp137	84.5479
kpkp138	199.795
kpkp139	187.109
kpkp140	95.8273
kpkp141	128.974
kpkp142	194.546
kpkp143	330.336
kpkp144	147.310
kpkp145	151.621
kpkp146	183.845
kpkp147	170.300
kpkp148	215.126
kpkp149	191.975
kpkp150	131.361
kpkp151	186.421
kpkp152	200.741
kpkp153	175.621
kpkp154	185.940
kpkp155	132.559
kpkp156	181.230
kpkp157	174.357
kpkp158	388.489
kpkp159	187.816
kpkp160	92.9711
kpkp161	168.181
kpkp162	200.310
kpkp163	177.180
kpkp164	191.059
kpkp165	94.9803
kpkp166	64.8667
kpkp167	285.717
kpkp168	295.454
kpkp169	60.2116
kpkp170	153.583
kpkp171	63.8730
kpkp172	64.8179
kpkp173	207.013
kpkp174	68.9014
kpkp175	72.5667
kpkp176	172.562
kpkp177	66.5773
kpkp178	187.785
kpkp179	62.8257
kpkp180	30.0107
kpkp181	379.631
kpkp182	74.3836

```
kpkp183          156.995
kpkp184          67.1217
kpkp185          62.5095
kpkp186          200.424
kpkp187          146.694
kpkp188          65.8536
kpkp189          69.6159
kpkp190          69.7250
kpkp191          76.2897
kpkp192          140.937
kpkp193          72.2140
kpkp194          354.301
kpkp195          18.4463
kpkp196          151.879
kpkp197          121.761
kpkp198          59.5558
kpkp199          74.2108
kpkp200          143.123
kpkp201          167.438
kpkp202          53.4486
kpkp203          106.266
kpkp204          29.5570
kpkp205          111.689
kpkp206          171.209
kpkp207          81.9973
kpkp208          156.660
kpkp209          101.418
kpkp210          522.296
kpkp211          366.434
kpkp212          59.6080
kpkp213          250.415
kpkp214          305.082
kpkp215          209.259
kpkp216          475.386
kpkp217          233.793
kpkp218          235.303
kpkp219          183.656
kpkp220          242.725
kpkp221          326.066
kpkp222          327.074
kpkp223          97.5289
kpkp224          110.407
kpkp225          290.728
kpkp226          319.383
kpkp227          591.551
kpkp228          163.121
kpkp229          71.0883
kpkp230          182.000
kpkp231          94.9916
kpkp232          330.359
kpkp233          270.842
kpkp234          328.087
kpkp235          298.124
kpkp236          268.582
kpkp237          265.339
kpkp238          253.399
kpkp239          172.882
kpkp240          138.455
kpkp241          224.383
kpkp242          406.704
kpkp243          193.910
kpkp244          190.212
kpkp245          359.711
kpkp246          177.865
kpkp247          278.842
kpkp248          211.842
kpkp249          275.015
kpkp250          8.33828
kpkp251          459.537
kpkp252          500.670
kpkp253          269.105
kpkp254          255.817
kpkp255          393.102
```

```
kpkp256          168.482
kpkp257          517.092
kpkp258          513.261
kpkp259          499.296
kpkp260          430.182
kpkp261          490.538
kpkp262          120.315
kpkp263          178.238
kpkp264          359.290
kpkp265          205.492
kpkp266          456.792
kpkp267          429.141
kpkp268          438.627
kpkp269          615.424
kpkp270          185.672
kpkp271          499.069
kpkp272          697.729
kpkp273          286.627
kpkp274          442.850
kpkp275          560.881
kpkp276          645.218
kpkp277          389.735
kpkp278          533.775
kpkp279          372.045
kpkp280          404.998
kpkp281          353.737
kpkp282          405.418
kpkp283          385.460
kpkp284          700.104
kpkp285          576.799
kpkp286          527.160
kpkp287          319.093
kpkp288          369.461
kpkp289          326.233
kpkp290          440.613
kpkp291          112.462
kpkp292          130.415
kpkp293          167.734
kpkp294          721.203
kpkp295          269.998
kpkp296          492.624
kpkp297          800.000
kpkp298          353.676
kpkp299          17.8955
kpkp300          164.301
kpkp301          657.843
kpkp302          433.114
kpkp303          223.471
kpkp304          590.607
kpkp305          498.192
kpkp306          384.991
kpkp307          35.0734
kpkp308          408.968
kpkp309          674.801
kpkp310          660.848
kpkp311          515.434
kpkp312          607.807
kpkp313          517.765
kpkp314          483.706
kpkp315          276.623
kpkp316          330.290
kpkp317          290.144
kpkp318          485.047
kpkp319          647.357
kpkp320          407.135
kpkp321          501.710
kpkp322          562.391
kpkp323          318.999
kpkp324          512.253
kpkp325          334.164
kpkp326          509.884
kpkp327          290.787
kpkp328          359.212
```

```
      kpkp329          705.376
      kpkp330          709.554
      kpkp331          413.257
      kpkp332          254.685
      kpkp333          455.105
      kpkp334          406.267
      kpkp335          452.635
      kpkp336          293.073
      kpkp337          389.288
      kpkp338          659.819
      kpkp339          513.852
      kpkp400          79.8296
      kpkp401          73.7278
      kpkp402          69.1248
      kpkp403          405.612
      kpkp404          82.8877
      kpkp405          82.8276
      kpkp406          63.3762
      kpkp407          91.9752
      kpkp408          106.260
      kpkp409          42.6470
      kpkp410          113.958
      kpkp411          181.830


OPTIMISATION ITERATION NO.        : 1
   Model calls so far             : 1
   Current regularisation weight factor                      :  1.00000E-02
   Current value of measurement objective function           :   4685.5
   Current value of regularisation objective function        :  4.64029E-11
   Note: regularisation objective function is not comparable between
   iterations because of IREGADJ regularisation weights adjustment.

   Starting phi for this iteration                           :   4685.5
   Contribution to phi from observation group "head1"        :   1910.2
   Contribution to phi from observation group "ddn"          :   2775.4
   Contribution to phi from observation group "direction"    :   0.0000
   Contribution to phi from observation group "angle"        :   0.0000
   Contribution to phi from observation group "regul"        :   0.0000
   Contribution to phi from observation group "regul_kp3"    :  2.99980E-15
   Contribution to phi from observation group "regul_kz1"    :  8.89303E-20
   Contribution to phi from observation group "regul_kz2"    :  1.64041E-15

   Regularisation weights adjustment....
   Group Name    Weights adjustment ratio from previous iteration
    regul           0.00000
    regul_kp3       1.00000
    regul_kz1       58.5000
    regul_kz2       1.93923

   Optimisation complete: NOPTMAX supplied as -1 indicating that statistics
                          for initial parameter set only are required.
   Total model calls:    546

   The model has been run one final time using best parameters.
   Thus all model input files contain best parameter values, and model
   output files contain model results based on these parameters.


                             OPTIMISATION RESULTS

Covariance matrix and parameter confidence intervals cannot be determined:-
Some form or regularisation was implemented so these are not applicable.


Parameters ----->

Parameter      Estimated value
 dr1             4479.86
 dr2             206.584
 dr3             662.003
 dr4             1116.72
 ghc0           1.000000E+06
```

```
ghc2            904889.
ghc3           8.000000E+06
kzkz1          0.753608
kzkz100         138.331
kzkz101         127.388
kzkz102         138.101
kzkz103         136.899
kzkz104         150.236
kzkz105         156.273
kzkz106         138.897
kzkz107         157.458
kzkz108         146.733
kzkz109         128.842
kzkz11          108.053
kzkz110         187.127
kzkz111         239.101
kzkz112         217.390
kzkz113         239.708
kzkz114         146.491
kzkz115         212.231
kzkz116         157.543
kzkz117         177.027
kzkz118         234.519
kzkz119         78.1245
kzkz12          78.8941
kzkz120         78.0551
kzkz121         79.4918
kzkz122         215.683
kzkz123         235.885
kzkz124         197.350
kzkz125         240.142
kzkz126         76.9968
kzkz127         218.361
kzkz128         68.4679
kzkz129         257.765
kzkz13          146.136
kzkz130         216.296
kzkz131         77.9521
kzkz132         77.8349
kzkz133         395.873
kzkz134         157.639
kzkz135         128.572
kzkz136         196.257
kzkz137         254.601
kzkz138         89.0241
kzkz139         127.234
kzkz14          88.5494
kzkz140         126.272
kzkz141         196.797
kzkz142         195.445
kzkz143         293.304
kzkz144         176.387
kzkz145         157.267
kzkz146         78.5630
kzkz147         158.100
kzkz148         157.242
kzkz149         155.625
kzkz15          79.6068
kzkz150         400.266
kzkz151         390.183
kzkz152         293.697
kzkz153         211.351
kzkz154         296.787
kzkz155         348.251
kzkz156         127.786
kzkz157         400.338
kzkz158         343.458
kzkz159         346.151
kzkz16          87.9474
kzkz160         215.789
kzkz161         198.352
kzkz162         294.169
kzkz163         393.185
```

```
kzkz164          288.525
kzkz165          393.120
kzkz166          492.675
kzkz167          273.240
kzkz168          396.888
kzkz169          437.283
kzkz17           186.226
kzkz170          443.823
kzkz171          437.616
kzkz172          540.272
kzkz173          480.194
kzkz174          494.117
kzkz175          295.461
kzkz176          391.127
kzkz177          491.417
kzkz178          493.712
kzkz179          448.845
kzkz18           78.0161
kzkz180          485.420
kzkz181          496.683
kzkz182          543.606
kzkz183          342.733
kzkz184          488.002
kzkz185          465.197
kzkz186          543.875
kzkz187          492.574
kzkz188          445.858
kzkz189          498.139
kzkz19           145.440
kzkz190          440.133
kzkz191          498.558
kzkz2           0.950135
kzkz20           147.616
kzkz21           144.777
kzkz22           197.516
kzkz23           147.119
kzkz24           187.548
kzkz25           196.870
kzkz26           127.371
kzkz27           165.996
kzkz28           182.110
kzkz29           108.981
kzkz3           0.720121
kzkz30           127.685
kzkz31           157.628
kzkz32           156.535
kzkz33           196.706
kzkz34           78.6473
kzkz35           106.327
kzkz36           49.2999
kzkz37           196.535
kzkz38           196.053
kzkz39           107.289
kzkz4           0.480789
kzkz40           195.288
kzkz41           19.4219
kzkz42           163.952
kzkz43           127.367
kzkz44           89.4922
kzkz45           198.688
kzkz46           78.5867
kzkz47           79.1552
kzkz48           59.1861
kzkz49           19.5210
kzkz5           0.612386
kzkz50           78.9195
kzkz51           167.284
kzkz52           69.1052
kzkz53           79.2382
kzkz54           78.9294
kzkz55           107.137
kzkz56           78.4449
kzkz57           79.1542
```

kzkz58	87.9796
kzkz59	77.7881
kzkz60	78.2086
kzkz61	79.1488
kzkz62	79.3015
kzkz63	78.6422
kzkz64	78.5208
kzkz65	128.262
kzkz66	165.797
kzkz67	90.3961
kzkz68	78.0506
kzkz69	93.7119
kzkz7	1.05610
kzkz70	149.449
kzkz71	87.8375
kzkz72	147.556
kzkz73	94.1355
kzkz74	128.715
kzkz75	87.6634
kzkz76	136.478
kzkz77	108.050
kzkz78	147.416
kzkz79	78.3328
kzkz80	146.344
kzkz81	147.967
kzkz82	89.1894
kzkz83	154.210
kzkz84	156.866
kzkz85	87.8758
kzkz86	137.968
kzkz87	86.1036
kzkz88	97.5998
kzkz89	155.457
kzkz90	126.859
kzkz91	168.646
kzkz92	175.813
kzkz93	138.140
kzkz94	147.945
kzkz95	140.101
kzkz96	157.146
kzkz97	154.119
kzkz98	147.711
kzkz99	198.586
kpkp1	68.1372
kpkp2	65.2306
kpkp3	70.7191
kpkp4	125.321
kpkp5	96.1035
kpkp6	64.8699
kpkp7	63.3805
kpkp8	132.453
kpkp9	66.5259
kpkp10	56.3107
kpkp11	79.6502
kpkp12	146.031
kpkp13	53.4812
kpkp14	136.385
kpkp15	146.315
kpkp16	83.0236
kpkp17	109.030
kpkp18	150.442
kpkp19	177.998
kpkp20	72.6852
kpkp21	61.8846
kpkp22	135.591
kpkp23	116.054
kpkp24	75.5979
kpkp25	162.612
kpkp26	207.635
kpkp27	105.859
kpkp28	98.6284
kpkp29	45.2484
kpkp30	135.260

```
kpkp31          154.119
kpkp32          153.375
kpkp33          80.3068
kpkp34          156.844
kpkp35          172.559
kpkp36          80.1922
kpkp37          225.411
kpkp38          23.1686
kpkp39          23.9446
kpkp40          12.7784
kpkp41          52.5870
kpkp42          144.058
kpkp43          124.048
kpkp44          50.0559
kpkp45          131.827
kpkp46          80.3863
kpkp47          8.25263
kpkp48          41.7550
kpkp49          45.1447
kpkp50          48.6675
kpkp51          65.6375
kpkp52          7.22263
kpkp53          14.0478
kpkp54          43.9654
kpkp55          210.609
kpkp56          77.4498
kpkp57          82.0042
kpkp58          41.9927
kpkp59          45.7739
kpkp60          98.4281
kpkp61          42.3944
kpkp62          155.457
kpkp63          70.6353
kpkp64          84.1865
kpkp65          72.3421
kpkp66          62.4644
kpkp67          101.117
kpkp68          137.031
kpkp69          43.4248
kpkp70          73.4569
kpkp71          92.6760
kpkp72          170.505
kpkp73          157.000
kpkp74          50.6435
kpkp75          253.225
kpkp76          76.7396
kpkp77          95.7896
kpkp78          83.0199
kpkp79          148.621
kpkp80          132.221
kpkp81          127.971
kpkp82          45.6282
kpkp83          135.294
kpkp84          123.529
kpkp85          120.180
kpkp86          111.978
kpkp87          93.5809
kpkp88          112.612
kpkp89          103.470
kpkp90          106.308
kpkp91          155.673
kpkp92          86.2014
kpkp93          127.439
kpkp94          129.775
kpkp95          130.941
kpkp96          132.396
kpkp97          123.010
kpkp98          123.815
kpkp99          107.152
kpkp100         147.103
kpkp101         184.165
kpkp102         171.269
kpkp103         140.682
```

```
kpkp104         124.599
kpkp105         121.747
kpkp106         125.952
kpkp107         148.828
kpkp108         116.719
kpkp109         136.228
kpkp110         117.458
kpkp111         153.587
kpkp112         130.066
kpkp113         46.1739
kpkp114         180.286
kpkp115         147.644
kpkp116         166.865
kpkp117         142.660
kpkp118         177.548
kpkp119         175.166
kpkp120         174.702
kpkp121         204.132
kpkp122         124.876
kpkp123         127.168
kpkp124         161.796
kpkp125         178.576
kpkp126         128.161
kpkp127         187.903
kpkp128         153.060
kpkp129         148.863
kpkp130         117.390
kpkp131         130.463
kpkp132         130.496
kpkp133         145.708
kpkp134         159.107
kpkp135         160.024
kpkp136         112.750
kpkp137         84.5479
kpkp138         199.795
kpkp139         187.109
kpkp140         95.8273
kpkp141         128.974
kpkp142         194.546
kpkp143         330.336
kpkp144         147.310
kpkp145         151.621
kpkp146         183.845
kpkp147         170.300
kpkp148         215.126
kpkp149         191.975
kpkp150         131.361
kpkp151         186.421
kpkp152         200.741
kpkp153         175.621
kpkp154         185.940
kpkp155         132.559
kpkp156         181.230
kpkp157         174.357
kpkp158         388.489
kpkp159         187.816
kpkp160         92.9711
kpkp161         168.181
kpkp162         200.310
kpkp163         177.180
kpkp164         191.059
kpkp165         94.9803
kpkp166         64.8667
kpkp167         285.717
kpkp168         295.454
kpkp169         60.2116
kpkp170         153.583
kpkp171         63.8730
kpkp172         64.8179
kpkp173         207.013
kpkp174         68.9014
kpkp175         72.5667
kpkp176         172.562
```

```
kpkp177          66.5773
kpkp178          187.785
kpkp179          62.8257
kpkp180          30.0107
kpkp181          379.631
kpkp182          74.3836
kpkp183          156.995
kpkp184          67.1217
kpkp185          62.5095
kpkp186          200.424
kpkp187          146.694
kpkp188          65.8536
kpkp189          69.6159
kpkp190          69.7250
kpkp191          76.2897
kpkp192          140.937
kpkp193          72.2140
kpkp194          354.301
kpkp195          18.4463
kpkp196          151.879
kpkp197          121.761
kpkp198          59.5558
kpkp199          74.2108
kpkp200          143.123
kpkp201          167.438
kpkp202          53.4486
kpkp203          106.266
kpkp204          29.5570
kpkp205          111.689
kpkp206          171.209
kpkp207          81.9973
kpkp208          156.660
kpkp209          101.418
kpkp210          522.296
kpkp211          366.434
kpkp212          59.6080
kpkp213          250.415
kpkp214          305.082
kpkp215          209.259
kpkp216          475.386
kpkp217          233.793
kpkp218          235.303
kpkp219          183.656
kpkp220          242.725
kpkp221          326.066
kpkp222          327.074
kpkp223          97.5289
kpkp224          110.407
kpkp225          290.728
kpkp226          319.383
kpkp227          591.551
kpkp228          163.121
kpkp229          71.0883
kpkp230          182.000
kpkp231          94.9916
kpkp232          330.359
kpkp233          270.842
kpkp234          328.087
kpkp235          298.124
kpkp236          268.582
kpkp237          265.339
kpkp238          253.399
kpkp239          172.882
kpkp240          138.455
kpkp241          224.383
kpkp242          406.704
kpkp243          193.910
kpkp244          190.212
kpkp245          359.711
kpkp246          177.865
kpkp247          278.842
kpkp248          211.842
kpkp249          275.015
```

```
kpkp250         8.33828
kpkp251         459.537
kpkp252         500.670
kpkp253         269.105
kpkp254         255.817
kpkp255         393.102
kpkp256         168.482
kpkp257         517.092
kpkp258         513.261
kpkp259         499.296
kpkp260         430.182
kpkp261         490.538
kpkp262         120.315
kpkp263         178.238
kpkp264         359.290
kpkp265         205.492
kpkp266         456.792
kpkp267         429.141
kpkp268         438.627
kpkp269         615.424
kpkp270         185.672
kpkp271         499.069
kpkp272         697.729
kpkp273         286.627
kpkp274         442.850
kpkp275         560.881
kpkp276         645.218
kpkp277         389.735
kpkp278         533.775
kpkp279         372.045
kpkp280         404.998
kpkp281         353.737
kpkp282         405.418
kpkp283         385.460
kpkp284         700.104
kpkp285         576.799
kpkp286         527.160
kpkp287         319.093
kpkp288         369.461
kpkp289         326.233
kpkp290         440.613
kpkp291         112.462
kpkp292         130.415
kpkp293         167.734
kpkp294         721.203
kpkp295         269.998
kpkp296         492.624
kpkp297         800.000
kpkp298         353.676
kpkp299         17.8955
kpkp300         164.301
kpkp301         657.843
kpkp302         433.114
kpkp303         223.471
kpkp304         590.607
kpkp305         498.192
kpkp306         384.991
kpkp307         35.0734
kpkp308         408.968
kpkp309         674.801
kpkp310         660.848
kpkp311         515.434
kpkp312         607.807
kpkp313         517.765
kpkp314         483.706
kpkp315         276.623
kpkp316         330.290
kpkp317         290.144
kpkp318         485.047
kpkp319         647.357
kpkp320         407.135
kpkp321         501.710
kpkp322         562.391
```

```
 kpkp323         318.999
 kpkp324         512.253
 kpkp325         334.164
 kpkp326         509.884
 kpkp327         290.787
 kpkp328         359.212
 kpkp329         705.376
 kpkp330         709.554
 kpkp331         413.257
 kpkp332         254.685
 kpkp333         455.105
 kpkp334         406.267
 kpkp335         452.635
 kpkp336         293.073
 kpkp337         389.288
 kpkp338         659.819
 kpkp339         513.852
 kpkp400         79.8296
 kpkp401         73.7278
 kpkp402         69.1248
 kpkp403         405.612
 kpkp404         82.8877
 kpkp405         82.8276
 kpkp406         63.3762
 kpkp407         91.9752
 kpkp408         106.260
 kpkp409         42.6470
 kpkp410         113.958
 kpkp411         181.830

See file gwm10_e3.sen for parameter sensitivities.
Note that these sensitivities include effects of regularisation observations.


Regularisation Weight Factor ----->

Optimised regularisation weight factor = 1.00000E-02

Pertinent observation and prior information weights shown below are
calculated using  this weight factor.

Note that the target measurement objective function was not achieved.


Observations ----->

Observation             Measured       Calculated     Residual       Weight     Group
                        value          value
o1                      1082.35        1082.50      -0.151700        1.000      head1
o2                      1083.91        1082.82        1.09066        1.000      head1
o3                      1083.70        1084.79       -1.08656        1.000      head1
o4                      1087.31        1085.14        2.16602        1.000      head1
o5                      1085.38        1085.09       0.294654        1.000      head1
o6                      1086.62        1085.12        1.49407        1.000      head1
o7                      1082.58        1081.81       0.768757        1.000      head1
o8                      1082.07        1081.47       0.599092        1.000      head1
o9                      1083.01        1084.02       -1.01011        1.000      head1
o10                     1081.15        1082.46       -1.31042        1.000      head1
o11                     1085.73        1086.96       -1.22924        1.000      head1
o12                     1084.99        1085.59      -0.597618        1.000      head1
o13                     1080.41        1078.59        1.81510        1.000      head1
o14                     1099.46        1099.14       0.323563        1.000      head1
o15                     1101.97        1100.43        1.54198        1.000      head1
o16                     1092.59        1093.84       -1.25390        1.000      head1
o17                     1093.64        1093.21       0.428504        1.000      head1
o18                     1123.86        1121.17        2.69336        1.000      head1
o19                     1086.21        1084.56        1.64603        1.000      head1
o20                     1093.33        1090.58        2.75456        1.000      head1
o21                     1086.18        1081.70        4.48115        1.000      head1
o22                     1091.04        1088.16        2.87813        1.000      head1
o23                     1094.27        1091.78        2.49047        1.000      head1
o24                     1103.86        1107.77       -3.91126        1.000      head1
o25                     1139.00        1136.59        2.40669        1.000      head1
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Observation	Measured value	Calculated value	Residual	Weight	Group
o26	1147.41	1137.42	9.98773	1.000	head1
o27	1071.29	1073.66	-2.36930	1.000	head1
o28	1067.78	1070.39	-2.61062	1.000	head1
o29	1062.60	1065.87	-3.26936	1.000	head1
o30	1060.08	1063.59	-3.50653	1.000	head1
o31	1057.76	1059.08	-1.32313	1.000	head1
o32	1058.40	1057.95	0.448654	1.000	head1
o33	1045.42	1047.06	-1.63731	1.000	head1
o34	1050.40	1052.76	-2.35542	1.000	head1
o35	1097.13	1093.82	3.30850	1.000	head1
o36	1083.88	1085.85	-1.97209	1.000	head1
o37	1101.94	1100.89	1.04630	1.000	head1
o38	1107.78	1106.43	1.34905	1.000	head1
o39	1087.17	1090.95	-3.77540	1.000	head1
o40	1095.19	1096.82	-1.62833	1.000	head1
o41	1090.28	1090.62	-0.343577	1.000	head1
o42	1097.45	1096.76	0.687385	1.000	head1
o43	1085.88	1086.54	-0.656551	1.000	head1
o44	1089.11	1088.04	1.07401	1.000	head1
o45	1085.73	1086.86	-1.13103	1.000	head1
o46	1088.65	1087.66	0.990749	1.000	head1
o47	1087.66	1089.43	-1.77078	1.000	head1
o48	1095.41	1094.86	0.547978	1.000	head1
o49	1088.52	1088.84	-0.323621	1.000	head1
o50	1095.49	1094.59	0.903114	1.000	head1
o51	1089.07	1089.92	-0.854930	1.000	head1
o52	1094.94	1093.68	1.26076	1.000	head1
o53	1088.44	1089.72	-1.28014	1.000	head1
o54	1095.34	1094.58	0.759847	1.000	head1
o55	1089.16	1090.34	-1.18396	1.000	head1
o56	1095.26	1094.18	1.07584	1.000	head1
o57	1090.01	1091.36	-1.35441	1.000	head1
o58	1095.38	1094.96	0.415955	1.000	head1
o59	1089.93	1090.92	-0.989169	1.000	head1
o60	1095.15	1093.82	1.33435	1.000	head1
o61	1090.64	1091.74	-1.10202	1.000	head1
o62	1095.99	1094.69	1.30118	1.000	head1
o63	1091.29	1092.45	-1.15519	1.000	head1
o64	1097.36	1095.75	1.60568	1.000	head1
o65	1090.53	1091.20	-0.672526	1.000	head1
o66	1095.80	1094.02	1.78282	1.000	head1
o67	1090.82	1091.67	-0.848384	1.000	head1
o68	1096.12	1094.29	1.83080	1.000	head1
o69	1089.70	1090.48	-0.775585	1.000	head1
o70	1094.65	1093.47	1.18500	1.000	head1
o71	1113.48	1113.54	-5.516600E-02	1.000	head1
o72	1110.73	1111.26	-0.531576	1.000	head1
o73	1113.19	1113.32	-0.125883	1.000	head1
o74	1112.28	1112.53	-0.253914	1.000	head1
o75	1114.38	1112.43	1.95125	1.000	head1
o76	1112.59	1113.10	-0.506508	1.000	head1
o77	1113.59	1111.79	1.79892	1.000	head1
o78	1111.36	1112.16	-0.797715	1.000	head1
o79	1113.82	1111.85	1.97431	1.000	head1
o80	1113.70	1113.69	1.453400E-02	1.000	head1
o81	1115.01	1113.20	1.80806	1.000	head1
o82	1077.31	1077.64	-0.324233	1.000	head1
o83	1079.91	1078.88	1.03868	1.000	head1
o84	1099.32	1096.87	2.45017	1.000	head1
o85	1051.48	1051.86	-0.378068	1.000	head1
o86	1066.28	1067.05	-0.774469	1.000	head1
o87	1064.59	1067.00	-2.40729	1.000	head1
o88	1086.51	1087.97	-1.46371	1.000	head1
o89	1086.26	1086.93	-0.665313	1.000	head1
o90	1144.50	1147.87	-3.37386	1.000	head1
o91	1152.30	1148.55	3.75374	1.000	head1
o92	1071.82	1073.22	-1.40390	1.000	head1
o93	1065.95	1067.34	-1.39163	1.000	head1
o94	1064.13	1067.43	-3.30082	1.000	head1
o95	1060.77	1065.36	-4.59177	1.000	head1
o96	1059.14	1061.32	-2.18349	1.000	head1

Appendix D – PEST OUTPUT FILE

Observation	Measured value	Calculated value	Residual	Weight	Group
o97	1055.58	1055.50	8.288600E-02	1.000	head1
o98	1042.91	1050.20	-7.28711	1.000	head1
o99	1052.67	1053.94	-1.27100	1.000	head1
o100	1051.15	1052.77	-1.61643	1.000	head1
o101	1082.52	1084.40	-1.88402	1.000	head1
o102	1097.53	1097.75	-0.217225	1.000	head1
o103	1085.66	1087.91	-2.25443	1.000	head1
o104	1090.21	1092.18	-1.97487	1.000	head1
o105	1097.48	1096.90	0.584186	1.000	head1
o106	1103.20	1102.36	0.844693	1.000	head1
o107	1104.50	1102.90	1.59852	1.000	head1
o108	1093.01	1094.15	-1.14039	1.000	head1
o109	1082.86	1084.10	-1.23922	1.000	head1
o110	1113.68	1111.85	1.83045	1.000	head1
o111	1113.73	1111.87	1.86152	1.000	head1
o112	1113.70	1111.86	1.83586	1.000	head1
o113	1114.80	1113.19	1.60789	1.000	head1
o114	1114.82	1113.20	1.61853	1.000	head1
o115	1115.04	1113.20	1.84065	1.000	head1
o116	1111.76	1110.44	1.32366	1.000	head1
o117	1111.72	1110.46	1.26240	1.000	head1
o118	1114.38	1112.99	1.39176	1.000	head1
o119	1114.47	1113.02	1.45153	1.000	head1
o120	1119.02	1117.32	1.69527	1.000	head1
o121	1119.05	1117.36	1.68995	1.000	head1
o122	1116.19	1114.75	1.43845	1.000	head1
o123	1116.14	1114.75	1.39096	1.000	head1
o124	1129.67	1127.22	2.44736	1.000	head1
o125	1129.76	1127.24	2.51677	1.000	head1
o126	1135.48	1132.98	2.49935	1.000	head1
o127	1135.53	1133.01	2.52062	1.000	head1
o128	1094.90	1094.85	5.346800E-02	1.000	head1
o129	1094.87	1094.85	2.117900E-02	1.000	head1
o130	1088.11	1086.86	1.25197	1.000	head1
o131	1088.06	1086.85	1.21177	1.000	head1
o132	1085.88	1084.78	1.09746	1.000	head1
o133	1085.98	1084.78	1.20328	1.000	head1
o134	1091.09	1090.76	0.332992	1.000	head1
o135	1091.27	1090.74	0.526183	1.000	head1
o136	1093.35	1093.45	-9.767500E-02	1.000	head1
o137	1093.35	1093.45	-0.103656	1.000	head1
o138	1124.06	1123.09	0.968644	1.000	head1
o139	1124.25	1123.10	1.15050	1.000	head1
o140	1122.49	1120.97	1.51747	1.000	head1
o141	1122.60	1120.99	1.60969	1.000	head1
o142	1123.27	1122.25	1.02065	1.000	head1
o143	1123.35	1122.26	1.08663	1.000	head1
o144	1125.79	1125.23	0.563621	1.000	head1
o145	1126.04	1125.22	0.822203	1.000	head1
o146	1121.01	1123.37	-2.36081	1.000	head1
o147	1086.50	1086.87	-0.370940	1.000	head1
o148	1123.85	1121.81	2.03837	1.000	head1
o149	1123.85	1121.86	1.98816	1.000	head1
o150	1107.21	1106.16	1.04585	1.000	head1
o151	1123.03	1121.72	1.31422	1.000	head1
o152	1111.35	1110.66	0.691062	1.000	head1
o153	1098.78	1097.92	0.852856	1.000	head1
o154	1096.97	1095.36	1.60988	1.000	head1
o155	1116.71	1115.20	1.51487	1.000	head1
o156	1098.55	1099.48	-0.935938	1.000	head1
o157	1115.26	1113.76	1.50164	1.000	head1
o158	1102.07	1101.87	0.195428	1.000	head1
o159	1094.51	1094.92	-0.413498	1.000	head1
o160	1095.95	1094.78	1.17078	1.000	head1
o161	1088.39	1087.06	1.32720	1.000	head1
o162	1083.63	1082.27	1.36277	1.000	head1
o163	1074.34	1074.42	-7.950800E-02	1.000	head1
o164	1116.01	1116.78	-0.768744	1.000	head1
o165	1148.63	1149.49	-0.862755	1.000	head1
o166	1154.48	1149.70	4.78109	1.000	head1
o167	1148.60	1149.51	-0.908514	1.000	head1

Observation	Measured value	Calculated value	Residual	Weight	Group
o168	1154.43	1149.71	4.71646	1.000	head1
o169	1117.75	1116.69	1.06164	1.000	head1
o170	1118.47	1116.69	1.77867	1.000	head1
o171	1120.48	1118.00	2.47648	1.000	head1
o172	1119.39	1116.66	2.72740	1.000	head1
o173	1099.85	1103.94	-4.08732	1.000	head1
o174	1103.72	1104.08	-0.351648	1.000	head1
o175	1099.48	1103.91	-4.42960	1.000	head1
o176	1103.38	1104.04	-0.661328	1.000	head1
o177	1101.71	1103.91	-2.19859	1.000	head1
o178	1106.95	1104.04	2.90733	1.000	head1
o179	1141.38	1143.00	-1.61856	1.000	head1
o180	1141.17	1142.99	-1.82011	1.000	head1
o181	1147.61	1143.92	3.69186	1.000	head1
o182	1095.93	1097.59	-1.65290	1.000	head1
o183	1100.15	1098.99	1.16138	1.000	head1
o184	1095.96	1097.58	-1.62197	1.000	head1
o185	1100.18	1098.99	1.19088	1.000	head1
o186	1097.74	1097.60	0.140322	1.000	head1
o187	1101.84	1099.00	2.83570	1.000	head1
o188	1125.00	1124.49	0.511805	1.000	head1
o189	1128.69	1125.36	3.32789	1.000	head1
o190	1125.00	1124.49	0.506452	1.000	head1
o191	1128.65	1125.37	3.28013	1.000	head1
o192	1140.09	1140.71	-0.620541	1.000	head1
o193	1140.00	1140.71	-0.713457	1.000	head1
o194	1145.06	1141.41	3.65000	1.000	head1
o195	1137.37	1137.89	-0.516200	1.000	head1
o196	1137.37	1137.91	-0.540661	1.000	head1
o197	1118.65	1118.79	-0.138568	1.000	head1
o198	1121.88	1119.22	2.65598	1.000	head1
o199	1118.91	1118.76	0.152812	1.000	head1
o200	1122.15	1119.19	2.95916	1.000	head1
o201	1125.94	1126.69	-0.750643	1.000	head1
o202	1129.55	1127.29	2.25613	1.000	head1
o203	1125.99	1126.71	-0.721336	1.000	head1
o204	1129.60	1127.31	2.28511	1.000	head1
o205	1135.75	1135.93	-0.182530	1.000	head1
o206	1140.23	1136.43	3.80342	1.000	head1
o207	1135.65	1135.94	-0.289673	1.000	head1
o208	1140.14	1136.43	3.70653	1.000	head1
o209	1132.74	1132.74	-1.328000E-03	1.000	head1
o210	1132.79	1132.77	2.270300E-02	1.000	head1
o211	1137.35	1133.39	3.96021	1.000	head1
o212	1117.02	1117.28	-0.262592	1.000	head1
o213	1120.52	1118.13	2.39423	1.000	head1
o214	1116.81	1117.29	-0.481275	1.000	head1
o215	1120.21	1118.13	2.07841	1.000	head1
o216	1106.00	1106.94	-0.941586	1.000	head1
o217	1109.62	1108.07	1.55462	1.000	head1
o218	1106.07	1106.95	-0.879013	1.000	head1
o219	1109.68	1108.07	1.60796	1.000	head1
o220	1123.98	1125.82	-1.83646	1.000	head1
o221	1123.97	1125.83	-1.86130	1.000	head1
o222	1113.88	1114.17	-0.287999	1.000	head1
o223	1118.43	1115.42	3.01459	1.000	head1
o224	1113.29	1114.19	-0.903504	1.000	head1
o225	1117.83	1115.44	2.39030	1.000	head1
o226	1100.05	1101.11	-1.06301	1.000	head1
o227	1104.25	1103.07	1.17548	1.000	head1
o228	1100.04	1101.14	-1.09666	1.000	head1
o229	1104.22	1103.10	1.12308	1.000	head1
o230	1105.88	1106.47	-0.587044	1.000	head1
o231	1107.87	1107.53	0.338664	1.000	head1
o232	1103.96	1106.49	-2.52652	1.000	head1
o233	1107.90	1107.55	0.349364	1.000	head1
o234	1092.64	1094.16	-1.52337	1.000	head1
o235	1095.97	1096.08	-0.105150	1.000	head1
o236	1092.68	1094.18	-1.50164	1.000	head1
o237	1096.13	1096.09	4.190600E-02	1.000	head1
o238	1082.47	1083.57	-1.09607	1.000	head1

Appendix D – PEST OUTPUT FILE

Observation	Measured value	Calculated value	Residual	Weight	Group
o239	1085.24	1084.06	1.17830	1.000	head1
o240	1082.43	1083.57	-1.13743	1.000	head1
o241	1085.20	1084.06	1.13904	1.000	head1
o242	1116.54	1118.23	-1.69148	1.000	head1
o243	1119.77	1118.47	1.30190	1.000	head1
o244	1116.24	1118.22	-1.97583	1.000	head1
o245	1119.58	1118.45	1.12785	1.000	head1
o246	1106.53	1111.24	-4.70742	1.000	head1
o247	1110.36	1111.55	-1.18568	1.000	head1
o248	1107.36	1111.25	-3.89368	1.000	head1
o249	1112.61	1111.56	1.04661	1.000	head1
o250	1108.77	1114.90	-6.12783	1.000	head1
o251	1112.36	1115.14	-2.77692	1.000	head1
o252	1111.74	1114.92	-3.18258	1.000	head1
o253	1114.97	1115.16	-0.193012	1.000	head1
o254	1106.73	1111.56	-4.83038	1.000	head1
o255	1110.44	1111.83	-1.39313	1.000	head1
o256	1106.96	1111.57	-4.60989	1.000	head1
o257	1110.62	1111.84	-1.22407	1.000	head1
o258	1106.01	1110.69	-4.68330	1.000	head1
o259	1109.81	1110.97	-1.16095	1.000	head1
o260	1106.89	1110.72	-3.83498	1.000	head1
o261	1111.96	1111.00	0.956118	1.000	head1
o262	1151.26	1152.74	-1.48313	1.000	head1
o263	1155.73	1152.72	3.01190	1.000	head1
o264	1086.58	1087.40	-0.823127	1.000	head1
o265	1091.43	1088.48	2.94253	1.000	head1
o266	1086.58	1087.41	-0.829187	1.000	head1
o267	1101.54	1101.22	0.321858	1.000	head1
o268	1102.73	1102.00	0.729640	1.000	head1
o269	1101.53	1101.22	0.308075	1.000	head1
o270	1102.66	1102.00	0.657045	1.000	head1
o271	1074.96	1074.36	0.599534	1.000	head1
o272	1074.48	1074.53	-4.693900E-02	1.000	head1
o273	1074.94	1074.35	0.589761	1.000	head1
o274	1074.47	1074.52	-4.731400E-02	1.000	head1
o275	1152.11	1153.19	-1.08420	1.000	head1
o276	1152.05	1153.15	-1.09975	1.000	head1
o277	1116.22	1120.79	-4.56843	1.000	head1
o278	1131.04	1128.25	2.78909	1.000	head1
o279	1131.00	1128.25	2.75156	1.000	head1
o280	1086.22	1084.96	1.25795	1.000	head1
o281	1123.79	1122.82	0.969292	1.000	head1
o282	1123.08	1121.94	1.13579	1.000	head1
o283	1122.26	1121.82	0.443500	1.000	head1
o284	1126.04	1124.08	1.96252	1.000	head1
o285	1123.29	1121.87	1.42169	1.000	head1
o286	1131.00	1133.26	-2.26449	1.000	head1
o287	1131.31	1133.25	-1.94722	1.000	head1
o288	1128.99	1129.71	-0.712193	1.000	head1
o289	1132.96	1130.43	2.52316	1.000	head1
o290	1129.11	1129.70	-0.590920	1.000	head1
o291	1132.99	1130.43	2.56287	1.000	head1
o292	1127.51	1128.31	-0.792727	1.000	head1
o293	1132.01	1128.84	3.16993	1.000	head1
o294	1127.50	1128.31	-0.805874	1.000	head1
o295	1132.00	1128.85	3.15494	1.000	head1
o296	1128.48	1129.41	-0.930238	1.000	head1
o297	1133.22	1130.16	3.06775	1.000	head1
o298	1128.37	1129.41	-1.04272	1.000	head1
o299	1133.17	1130.15	3.01385	1.000	head1
o300	1120.59	1122.80	-2.20697	1.000	head1
o301	1121.58	1122.79	-1.21495	1.000	head1
o302	1121.87	1123.05	-1.18193	1.000	head1
o303	1126.24	1123.87	2.37106	1.000	head1
o304	1121.89	1123.05	-1.15550	1.000	head1
o305	1126.26	1123.86	2.39917	1.000	head1
o306	1114.41	1116.31	-1.89693	1.000	head1
o307	1119.45	1116.72	2.72874	1.000	head1
o308	1114.42	1116.31	-1.89092	1.000	head1
o309	1119.49	1116.72	2.76553	1.000	head1

Appendix D – PEST OUTPUT FILE

Observation	Measured value	Calculated value	Residual	Weight	Group
o310	1115.44	1116.86	-1.42477	1.000	head1
o311	1119.84	1117.12	2.71744	1.000	head1
o312	1120.03	1117.11	2.91995	1.000	head1
o313	1082.31	1082.64	-0.327383	1.000	head1
o314	1086.08	1083.49	2.59111	1.000	head1
o315	1082.29	1082.64	-0.349624	1.000	head1
o316	1086.04	1083.49	2.54863	1.000	head1
o317	1098.37	1098.08	0.285717	1.000	head1
o318	1099.83	1099.11	0.724201	1.000	head1
o319	1098.41	1098.09	0.323611	1.000	head1
o320	1099.84	1099.11	0.732299	1.000	head1
o321	1135.90	1134.86	1.03859	1.000	head1
o322	1135.38	1134.87	0.508418	1.000	head1
o323	1127.38	1129.99	-2.61103	1.000	head1
o324	1132.58	1130.76	1.81838	1.000	head1
o325	1127.73	1129.98	-2.25121	1.000	head1
o326	1132.95	1130.75	2.19871	1.000	head1
o327	1100.77	1099.92	0.850735	1.000	head1
o328	1101.33	1099.94	1.39211	1.000	head1
o329	1093.98	1096.66	-2.68431	1.000	head1
o330	1096.79	1096.52	0.269762	1.000	head1
o331	1092.96	1096.72	-3.75574	1.000	head1
o332	1097.61	1096.58	1.03428	1.000	head1
o333	1093.12	1095.91	-2.78611	1.000	head1
o334	1095.65	1095.74	-8.933900E-02	1.000	head1
o335	1092.43	1095.89	-3.46280	1.000	head1
o336	1096.70	1095.73	0.972792	1.000	head1
o337	1083.70	1082.40	1.30253	1.000	head1
o338	1083.84	1082.44	1.40331	1.000	head1
o339	1079.02	1081.91	-2.89527	1.000	head1
o340	1108.00	1108.42	-0.423124	1.000	head1
o341	1110.31	1109.29	1.01950	1.000	head1
o342	1108.02	1108.42	-0.398485	1.000	head1
o343	1110.34	1109.29	1.05242	1.000	head1
o344	1123.68	1122.43	1.24707	1.000	head1
o345	1125.92	1122.54	3.37882	1.000	head1
o346	1087.58	1089.64	-2.06214	1.000	head1
o347	1088.05	1089.13	-1.07649	1.000	head1
o348	1087.59	1089.65	-2.06257	1.000	head1
o349	1088.27	1089.14	-0.866472	1.000	head1
o350	1078.61	1078.25	0.368224	1.000	head1
o351	1078.13	1078.25	-0.126893	1.000	head1
o352	1075.78	1078.27	-2.49186	1.000	head1
o353	1081.25	1081.63	-0.382187	1.000	head1
o354	1081.30	1081.64	-0.342582	1.000	head1
o355	1079.75	1079.75	3.104000E-03	1.000	head1
o356	1079.77	1079.75	1.685300E-02	1.000	head1
o357	1077.55	1077.46	9.035600E-02	1.000	head1
o358	1076.60	1077.21	-0.605361	1.000	head1
o359	1077.50	1077.45	4.567200E-02	1.000	head1
o360	1076.55	1077.20	-0.650793	1.000	head1
o361	1076.72	1076.84	-0.116830	1.000	head1
o362	1075.76	1076.58	-0.818076	1.000	head1
o363	1076.71	1076.83	-0.122536	1.000	head1
o364	1075.76	1076.57	-0.813999	1.000	head1
o365	1075.88	1075.60	0.278032	1.000	head1
o366	1074.88	1075.37	-0.487148	1.000	head1
o367	1075.89	1075.60	0.292725	1.000	head1
o368	1075.01	1075.36	-0.354144	1.000	head1
o369	1080.76	1081.27	-0.509843	1.000	head1
o370	1083.73	1082.06	1.67067	1.000	head1
o371	1080.76	1081.27	-0.512827	1.000	head1
o372	1083.76	1082.06	1.69763	1.000	head1
o373	1087.77	1089.06	-1.28832	1.000	head1
o374	1091.97	1091.02	0.954877	1.000	head1
o375	1087.77	1089.09	-1.31682	1.000	head1
o376	1092.01	1091.05	0.955140	1.000	head1
o377	1115.39	1113.35	2.04802	1.000	head1
o378	1115.44	1113.38	2.05600	1.000	head1
o379	1138.50	1136.84	1.66264	1.000	head1
o380	1134.17	1135.11	-0.935764	1.000	head1

Appendix D – PEST OUTPUT FILE

Observation	Measured value	Calculated value	Residual	Weight	Group
o381	1126.09	1125.20	0.883262	1.000	head1
o382	1130.93	1129.20	1.73000	1.000	head1
o383	1130.71	1129.20	1.51708	1.000	head1
o384	1130.74	1129.19	1.54600	1.000	head1
o385	1133.63	1131.81	1.81104	1.000	head1
o386	1133.67	1131.80	1.86522	1.000	head1
o387	1136.44	1136.07	0.371144	1.000	head1
o388	1136.40	1136.09	0.313598	1.000	head1
o389	1128.44	1129.51	-1.07051	1.000	head1
o390	1086.40	1086.85	-0.456108	1.000	head1
o391	1083.00	1086.88	-3.88485	1.000	head1
o392	1123.90	1121.84	2.05795	1.000	head1
o393	1107.21	1106.16	1.05746	1.000	head1
o394	1109.43	1108.97	0.456909	1.000	head1
o395	1123.73	1121.72	2.01621	1.000	head1
o396	1111.64	1110.65	0.984395	1.000	head1
o397	1098.81	1097.92	0.887977	1.000	head1
o398	1096.94	1095.35	1.58769	1.000	head1
o399	1106.03	1106.31	-0.272727	1.000	head1
o400	1098.59	1099.46	-0.866710	1.000	head1
o401	1115.25	1113.75	1.50783	1.000	head1
o402	1108.62	1106.59	2.03276	1.000	head1
o403	1102.03	1101.90	0.130793	1.000	head1
o404	1095.06	1094.93	0.130778	1.000	head1
o405	1095.93	1094.80	1.13080	1.000	head1
o406	1089.06	1087.05	2.00899	1.000	head1
o407	1083.61	1082.23	1.37648	1.000	head1
o408	1074.26	1074.42	-0.154836	1.000	head1
o409	1115.92	1116.76	-0.846828	1.000	head1
o410	1076.02	1075.53	0.489475	1.000	head1
o411	1076.05	1075.53	0.518895	1.000	head1
o412	1076.68	1076.99	-0.307199	1.000	head1
o413	1076.71	1076.99	-0.277224	1.000	head1
o414	1077.12	1077.49	-0.365853	1.000	head1
o415	1076.08	1077.17	-1.08961	1.000	head1
o416	1080.35	1081.15	-0.804284	1.000	head1
o417	1078.61	1080.15	-1.53898	1.000	head1
o418	1131.40	1129.58	1.82328	1.000	head1
o419	1129.64	1128.99	0.653855	1.000	head1
o420	1131.34	1129.59	1.74889	1.000	head1
o421	1125.93	1126.65	-0.724452	1.000	head1
o422	1125.95	1126.67	-0.722253	1.000	head1
o423	1091.10	1093.14	-2.03839	1.000	head1
o424	1095.33	1093.50	1.83014	1.000	head1
o425	1091.10	1093.16	-2.05798	1.000	head1
o426	1095.29	1093.52	1.77200	1.000	head1
o427	1094.64	1097.19	-2.55210	1.000	head1
o428	1098.96	1097.25	1.71477	1.000	head1
o429	1094.50	1097.21	-2.70604	1.000	head1
o430	1099.09	1097.26	1.83151	1.000	head1
o431	1083.13	1082.89	0.239104	1.000	head1
o432	1084.64	1083.08	1.55783	1.000	head1
o433	1081.76	1082.92	-1.15525	1.000	head1
o434	1082.94	1083.11	-0.168229	1.000	head1
o435	1078.23	1077.52	0.705051	1.000	head1
o436	1078.47	1077.52	0.945314	1.000	head1
o437	1079.39	1079.11	0.281106	1.000	head1
o438	1078.32	1078.66	-0.340673	1.000	head1
o439	1079.36	1079.12	0.242852	1.000	head1
o440	1078.33	1078.67	-0.337739	1.000	head1
o441	1168.83	1167.13	1.69669	1.000	head1
o442	1168.90	1167.14	1.76388	1.000	head1
o443	1129.90	1128.10	1.79580	1.000	head1
o444	1130.83	1128.17	2.65556	1.000	head1
o445	1130.92	1129.88	1.03879	1.000	head1
o446	1130.93	1129.89	1.04013	1.000	head1
o447	1130.54	1129.42	1.12644	1.000	head1
o448	1130.45	1129.43	1.02082	1.000	head1
o449	1130.53	1129.43	1.10277	1.000	head1
o450	1130.53	1129.44	1.08839	1.000	head1
o451	1130.54	1129.44	1.10103	1.000	head1

Observation	Measured value	Calculated value	Residual	Weight	Group
o452	1130.57	1129.46	1.11733	1.000	head1
o453	1130.56	1129.45	1.11276	1.000	head1
o454	1130.71	1129.46	1.24987	1.000	head1
o455	1130.62	1129.46	1.16714	1.000	head1
o456	1130.64	1129.47	1.17071	1.000	head1
o457	1125.56	1128.85	-3.28689	1.000	head1
o458	1130.67	1129.46	1.21051	1.000	head1
o459	1125.72	1128.86	-3.13846	1.000	head1
o460	1130.64	1129.47	1.16830	1.000	head1
o461	1098.78	1098.47	0.312347	1.000	head1
o462	1100.37	1099.50	0.872916	1.000	head1
o463	1098.75	1098.47	0.279736	1.000	head1
o464	1100.38	1099.50	0.879529	1.000	head1
o465	1098.54	1098.20	0.336361	1.000	head1
o466	1100.13	1099.25	0.882440	1.000	head1
o467	1098.49	1098.21	0.283529	1.000	head1
o468	1100.08	1099.25	0.831240	1.000	head1
o469	1098.53	1098.66	-0.125023	1.000	head1
o470	1100.30	1099.83	0.470207	1.000	head1
o471	1098.50	1098.65	-0.146758	1.000	head1
o472	1100.39	1099.82	0.569245	1.000	head1
o473	1092.77	1094.23	-1.46214	1.000	head1
o474	1098.21	1096.13	2.08402	1.000	head1
o475	1092.76	1094.24	-1.47690	1.000	head1
o476	1098.26	1096.14	2.12327	1.000	head1
o477	1089.90	1090.50	-0.598939	1.000	head1
o478	1094.74	1093.19	1.54903	1.000	head1
o479	1089.82	1090.48	-0.657995	1.000	head1
o480	1094.66	1093.19	1.47182	1.000	head1
o481	1088.84	1089.91	-1.06514	1.000	head1
o482	1093.90	1092.39	1.50859	1.000	head1
o483	1088.84	1089.92	-1.07551	1.000	head1
o484	1089.30	1089.92	-0.620396	1.000	head1
o485	1094.37	1092.42	1.94811	1.000	head1
o486	1084.00	1084.86	-0.859951	1.000	head1
o487	1087.57	1085.87	1.70397	1.000	head1
o488	1084.08	1084.88	-0.801764	1.000	head1
o489	1087.62	1085.89	1.72994	1.000	head1
o490	1079.75	1079.63	0.120410	1.000	head1
o491	1081.80	1080.19	1.60727	1.000	head1
o492	1079.34	1079.64	-0.299074	1.000	head1
o493	1081.80	1080.20	1.59587	1.000	head1
o494	1074.16	1074.56	-0.397077	1.000	head1
o495	1074.14	1074.74	-0.595534	1.000	head1
o496	1074.13	1074.56	-0.433469	1.000	head1
o497	1074.13	1074.74	-0.612399	1.000	head1
o498	1076.22	1076.34	-0.121102	1.000	head1
o499	1075.22	1076.22	-1.00444	1.000	head1
o500	1076.15	1076.34	-0.187636	1.000	head1
o501	1075.22	1076.22	-1.00176	1.000	head1
o502	1102.44	1103.06	-0.623893	1.000	head1
o503	1104.92	1104.06	0.864659	1.000	head1
o504	1102.35	1103.06	-0.712512	1.000	head1
o505	1104.77	1104.05	0.715545	1.000	head1
o506	1102.74	1103.25	-0.505134	1.000	head1
o507	1105.40	1104.23	1.16749	1.000	head1
o508	1102.39	1103.23	-0.844856	1.000	head1
o509	1105.06	1104.22	0.836425	1.000	head1
o510	1103.26	1103.15	0.105905	1.000	head1
o511	1105.27	1104.17	1.10103	1.000	head1
o512	1103.08	1103.15	-6.821700E-02	1.000	head1
o513	1105.12	1104.16	0.955980	1.000	head1
o514	1099.28	1099.21	7.023100E-02	1.000	head1
o515	1100.88	1100.23	0.650439	1.000	head1
o516	1099.36	1099.22	0.144558	1.000	head1
o517	1101.03	1100.24	0.792840	1.000	head1
o518	1101.13	1101.65	-0.517048	1.000	head1
o519	1104.14	1102.79	1.34810	1.000	head1
o520	1101.09	1101.64	-0.548996	1.000	head1
o521	1104.10	1102.79	1.31489	1.000	head1
o522	1099.18	1099.89	-0.713367	1.000	head1

Appendix D – PEST OUTPUT FILE

Observation	Measured value	Calculated value	Residual	Weight	Group
o523	1099.26	1099.90	-0.639888	1.000	head1
o524	1096.74	1097.43	-0.694713	1.000	head1
o525	1101.27	1099.29	1.97595	1.000	head1
o526	1096.74	1097.44	-0.702650	1.000	head1
o527	1101.33	1099.30	2.03034	1.000	head1
o528	1090.41	1091.63	-1.22265	1.000	head1
o529	1095.37	1093.49	1.88339	1.000	head1
o530	1090.40	1091.63	-1.23268	1.000	head1
o531	1095.43	1093.49	1.94309	1.000	head1
o532	1088.45	1089.58	-1.13158	1.000	head1
o533	1093.52	1091.12	2.40170	1.000	head1
o534	1088.46	1089.59	-1.12574	1.000	head1
o535	1093.60	1091.12	2.47697	1.000	head1
o536	1086.37	1087.35	-0.975086	1.000	head1
o537	1090.97	1088.63	2.34271	1.000	head1
o538	1086.43	1087.35	-0.922313	1.000	head1
o539	1091.05	1088.64	2.41455	1.000	head1
o540	1088.92	1090.94	-2.01935	1.000	head1
o541	1092.41	1091.79	0.624455	1.000	head1
o542	1088.94	1090.94	-2.00227	1.000	head1
o543	1092.41	1091.79	0.622939	1.000	head1
o544	1081.29	1079.91	1.37696	1.000	head1
o545	1103.92	1103.23	0.688647	1.000	head1
o546	1108.47	1108.53	-5.701500E-02	1.000	head1
o547	1109.15	1109.68	-0.526222	1.000	head1
o548	1115.56	1113.80	1.76395	1.000	head1
o549	1108.67	1107.81	0.864741	1.000	head1
o550	1115.66	1113.87	1.79309	1.000	head1
o551	1107.66	1107.55	0.114916	1.000	head1
o552	1115.78	1113.80	1.98446	1.000	head1
o553	1071.96	1072.68	-0.719251	1.000	head1
o554	1070.88	1073.41	-2.53318	1.000	head1
o555	1072.77	1073.03	-0.262650	1.000	head1
o556	1072.52	1073.65	-1.13425	1.000	head1
o557	1073.30	1073.00	0.298278	1.000	head1
o558	1073.06	1073.63	-0.573558	1.000	head1
o559	1073.69	1073.41	0.282223	1.000	head1
o560	1073.51	1073.91	-0.401569	1.000	head1
o561	1072.99	1071.90	1.08907	1.000	head1
o562	1072.66	1072.90	-0.243299	1.000	head1
o563	1073.81	1073.38	0.426538	1.000	head1
o564	1073.57	1073.84	-0.265109	1.000	head1
o565	1074.16	1073.90	0.257933	1.000	head1
o566	1074.15	1074.17	-1.902400E-02	1.000	head1
o567	1075.47	1075.59	-0.119979	1.000	head1
o568	1075.18	1075.36	-0.177098	1.000	head1
o569	1072.84	1071.64	1.20120	1.000	head1
o570	1072.74	1072.73	5.623000E-03	1.000	head1
o571	1073.74	1073.08	0.656411	1.000	head1
o572	1073.72	1073.63	9.348400E-02	1.000	head1
o573	1074.03	1073.57	0.458834	1.000	head1
o574	1074.05	1073.88	0.170888	1.000	head1
o575	1075.43	1075.51	-8.381200E-02	1.000	head1
o576	1076.57	1075.60	0.972995	1.000	head1
o577	1110.12	1110.70	-0.582120	1.000	head1
o578	1115.94	1114.03	1.90808	1.000	head1
o579	1110.81	1111.45	-0.636428	1.000	head1
o580	1115.72	1113.88	1.83509	1.000	head1
o581	1112.96	1113.04	-7.906800E-02	1.000	head1
o582	1114.46	1112.89	1.56815	1.000	head1
o583	1109.07	1109.49	-0.422018	1.000	head1
o584	1115.57	1113.60	1.97397	1.000	head1
o585	1109.78	1110.82	-1.04344	1.000	head1
o586	1115.11	1113.33	1.78220	1.000	head1
o587	1110.53	1111.21	-0.675193	1.000	head1
o588	1115.20	1112.91	2.29143	1.000	head1
o589	1111.91	1112.87	-0.959158	1.000	head1
o590	1081.98	1082.64	-0.660793	1.000	head1
o591	1084.36	1082.62	1.74407	1.000	head1
o592	1082.38	1083.06	-0.679489	1.000	head1
o593	1084.86	1083.13	1.73110	1.000	head1

Appendix D – PEST OUTPUT FILE

Observation	Measured value	Calculated value	Residual	Weight	Group
o594	1086.14	1084.50	1.64020	1.000	head1
o595	1082.09	1083.02	-0.933104	1.000	head1
o596	1084.59	1083.11	1.48103	1.000	head1
o597	1082.16	1083.19	-1.02583	1.000	head1
o598	1084.45	1083.33	1.12327	1.000	head1
o599	1082.88	1084.31	-1.43343	1.000	head1
o600	1085.17	1084.67	0.504740	1.000	head1
o601	1089.90	1090.39	-0.485720	1.000	head1
o602	1095.89	1095.20	0.689749	1.000	head1
o603	1090.51	1091.20	-0.693350	1.000	head1
o604	1095.94	1095.23	0.709308	1.000	head1
o605	1090.63	1091.69	-1.06050	1.000	head1
o606	1095.92	1095.30	0.622470	1.000	head1
o607	1089.30	1091.20	-1.90345	1.000	head1
o608	1095.41	1095.08	0.327412	1.000	head1
o609	1090.42	1091.39	-0.972183	1.000	head1
o610	1095.44	1094.87	0.568948	1.000	head1
o611	1090.19	1091.20	-1.01274	1.000	head1
o612	1095.08	1094.31	0.769354	1.000	head1
o613	1091.69	1092.85	-1.15837	1.000	head1
o614	1094.86	1094.83	2.509200E-02	1.000	head1
o615	1085.75	1085.44	0.313033	1.000	head1
o616	1091.10	1089.52	1.57930	1.000	head1
o617	1088.26	1088.53	-0.266932	1.000	head1
o618	1093.50	1092.04	1.45546	1.000	head1
o619	1090.08	1090.63	-0.550802	1.000	head1
o620	1095.06	1093.66	1.39539	1.000	head1
o621	1084.74	1087.58	-2.83806	1.000	head1
o622	1090.22	1091.34	-1.12341	1.000	head1
o623	1087.31	1088.75	-1.44024	1.000	head1
o624	1092.58	1092.26	0.323546	1.000	head1
o625	1089.29	1089.85	-0.557316	1.000	head1
o626	1094.35	1092.97	1.37773	1.000	head1
o627	1089.50	1090.08	-0.582884	1.000	head1
o628	1095.48	1093.93	1.55087	1.000	head1
o629	1089.38	1089.57	-0.188348	1.000	head1
o630	1098.84	1097.22	1.62298	1.000	head1
o631	1091.90	1092.76	-0.858378	1.000	head1
o632	1099.12	1097.48	1.63505	1.000	head1
o633	1093.74	1095.07	-1.33013	1.000	head1
o634	1099.70	1098.04	1.65832	1.000	head1
o635	1089.96	1090.65	-0.691693	1.000	head1
o636	1098.83	1097.02	1.81299	1.000	head1
o637	1091.29	1092.04	-0.745674	1.000	head1
o638	1098.58	1096.86	1.71654	1.000	head1
o639	1092.12	1093.19	-1.06988	1.000	head1
o640	1098.46	1096.37	2.08715	1.000	head1
o641	1091.86	1092.65	-0.789623	1.000	head1
o642	1097.91	1095.99	1.91714	1.000	head1
o643	1091.66	1093.54	-1.88174	1.000	head1
o644	1094.64	1095.35	-0.714107	1.000	head1
o645	1093.43	1094.46	-1.03471	1.000	head1
o646	1096.33	1096.15	0.177062	1.000	head1
o647	1100.73	1101.02	-0.290564	1.000	head1
o648	1103.39	1102.23	1.16474	1.000	head1
o649	1090.66	1092.52	-1.85761	1.000	head1
o650	1093.57	1094.49	-0.916093	1.000	head1
o651	1100.37	1100.34	3.169400E-02	1.000	head1
o652	1103.04	1101.57	1.47441	1.000	head1
o653	1103.34	1102.10	1.24394	1.000	head1
o654	1098.94	1098.24	0.696306	1.000	head1
o655	1101.10	1099.59	1.50681	1.000	head1
o656	1099.70	1099.33	0.367257	1.000	head1
o657	1102.12	1100.59	1.52752	1.000	head1
o658	1085.63	1086.54	-0.910524	1.000	head1
o659	1089.35	1088.29	1.05744	1.000	head1
o660	1086.39	1087.61	-1.21983	1.000	head1
o661	1089.91	1089.01	0.902482	1.000	head1
o662	1087.40	1089.06	-1.65681	1.000	head1
o663	1090.74	1089.99	0.751719	1.000	head1
o664	1087.00	1088.63	-1.62606	1.000	head1

Observation	Measured value	Calculated value	Residual	Weight	Group
o665	1090.29	1089.51	0.784584	1.000	head1
o666	1092.60	1093.80	-1.20407	1.000	head1
o667	1094.39	1094.43	-4.352400E-02	1.000	head1
o668	1092.23	1094.03	-1.79698	1.000	head1
o669	0.00000	1.33714	-1.33714	1.000	ddn
o670	0.00000	1.788200E-02	-1.788200E-02	1.000	ddn
o671	3.00000	5.91003	-2.91003	5.000	ddn
o672	4.00000	2.60055	1.39945	5.000	ddn
o673	1.60000	2.99530	-1.39530	1.000	ddn
o674	0.510000	2.33390	-1.82390	1.000	ddn
o675	0.800000	0.580577	0.219423	5.000	ddn
o676	1.10000	9.890900E-02	1.00109	1.000	ddn
o677	0.820000	0.114703	0.705297	1.000	ddn
o678	0.00000	-3.61550	3.61550	1.000	ddn
o679	3.70000	4.84101	-1.14101	1.000	ddn
o680	0.00000	-2.27890	2.27890	5.000	ddn
o681	0.00000	0.529046	-0.529046	5.000	ddn
o682	0.00000	-9.41133	9.41133	5.000	ddn
o683	8.00000	6.26455	1.73545	5.000	ddn
o684	0.00000	2.286200E-02	-2.286200E-02	5.000	ddn
o685	4.00000	2.80652	1.19348	5.000	ddn
o686	1.40000	0.680415	0.719585	1.000	ddn
o687	0.700000	0.874888	-0.174888	5.000	ddn
o688	5.00000	4.09234	0.907664	5.000	ddn
o689	0.00000	-1.36254	1.36254	1.000	ddn
o690	0.180000	0.759922	-0.579922	1.000	ddn
o691	2.00000	3.18578	-1.18578	1.000	ddn
o692	0.600000	0.296908	0.303092	5.000	ddn
o693	0.400000	0.569270	-0.169270	5.000	ddn

Prior information ----->

Prior information	Provided value	Calculated value	Residual	Weight	Group
i1z0	-0.122855	-0.122855	-2.721904E-08	0.5850	regul_kz1
i2z1	2.14092	2.14092	-2.025283E-07	1.9392E-02	regul_kz2
i2z2	2.10513	2.10513	1.854023E-07	1.9392E-02	regul_kz2
i2z3	2.14020	2.14020	1.766501E-07	1.9392E-02	regul_kz2
i2z4	2.13640	2.13640	1.380431E-07	1.9392E-02	regul_kz2
i2z5	2.17677	2.17677	-3.011570E-07	1.9392E-02	regul_kz2
i2z6	2.19388	2.19388	4.947260E-07	1.9392E-02	regul_kz2
i2z7	2.14269	2.14269	4.470480E-07	1.9392E-02	regul_kz2
i2z8	2.19717	2.19717	1.659176E-07	1.9392E-02	regul_kz2
i2z9	2.16653	2.16653	2.030879E-07	1.9392E-02	regul_kz2
i2z10	2.11006	2.11006	-1.206294E-07	1.9392E-02	regul_kz2
i2z11	2.03364	2.03364	1.611633E-07	1.9392E-02	regul_kz2
i2z12	2.27214	2.27214	2.411725E-07	1.9392E-02	regul_kz2
i2z13	2.37858	2.37858	-3.924837E-07	1.9392E-02	regul_kz2
i2z14	2.33724	2.33724	-3.627670E-07	1.9392E-02	regul_kz2
i2z15	2.37968	2.37968	-3.472163E-07	1.9392E-02	regul_kz2
i2z16	2.16581	2.16581	1.669425E-07	1.9392E-02	regul_kz2
i2z17	2.32681	2.32681	2.027634E-07	1.9392E-02	regul_kz2
i2z18	2.19740	2.19740	3.374358E-07	1.9392E-02	regul_kz2
i2z19	2.24804	2.24804	2.263604E-07	1.9392E-02	regul_kz2
i2z20	2.37018	2.37018	4.041028E-08	1.9392E-02	regul_kz2
i2z21	1.89279	1.89279	-4.176287E-07	1.9392E-02	regul_kz2
i2z22	1.89705	1.89704	4.737646E-07	1.9392E-02	regul_kz2
i2z23	1.89240	1.89240	-1.175395E-07	1.9392E-02	regul_kz2
i2z24	1.90032	1.90032	-3.311920E-07	1.9392E-02	regul_kz2
i2z25	2.33382	2.33382	-3.183457E-07	1.9392E-02	regul_kz2
i2z26	2.37270	2.37270	2.274953E-07	1.9392E-02	regul_kz2
i2z27	2.29524	2.29524	-1.098295E-08	1.9392E-02	regul_kz2
i2z28	2.38047	2.38047	4.192540E-07	1.9392E-02	regul_kz2
i2z29	1.88647	1.88647	2.674002E-07	1.9392E-02	regul_kz2
i2z30	2.33917	2.33917	-4.778562E-07	1.9392E-02	regul_kz2
i2z31	1.83549	1.83549	1.191687E-07	1.9392E-02	regul_kz2
i2z32	2.41122	2.41122	5.261019E-08	1.9392E-02	regul_kz2
i2z33	2.16476	2.16476	-2.702393E-08	1.9392E-02	regul_kz2
i2z34	2.33505	2.33505	-4.840924E-07	1.9392E-02	regul_kz2
i2z35	1.89183	1.89183	3.477280E-07	1.9392E-02	regul_kz2

Prior information	Provided value	Calculated value	Residual	Weight	Group
i2z36	1.89117	1.89117	-2.043915E-07	1.9392E-02	regul_kz2
i2z37	2.59756	2.59756	4.468413E-07	1.9392E-02	regul_kz2
i2z38	2.19766	2.19766	3.287916E-07	1.9392E-02	regul_kz2
i2z39	2.10915	2.10915	2.759482E-07	1.9392E-02	regul_kz2
i2z40	2.29283	2.29283	1.802349E-07	1.9392E-02	regul_kz2
i2z41	2.40586	2.40586	-4.227913E-07	1.9392E-02	regul_kz2
i2z42	1.94951	1.94951	-4.942476E-07	1.9392E-02	regul_kz2
i2z43	2.10460	2.10460	-2.048082E-07	1.9392E-02	regul_kz2
i2z44	1.94719	1.94719	1.319635E-07	1.9392E-02	regul_kz2
i2z45	2.10131	2.10131	-4.031716E-07	1.9392E-02	regul_kz2
i2z46	2.29402	2.29402	-3.233902E-08	1.9392E-02	regul_kz2
i2z47	2.29102	2.29102	-3.423009E-07	1.9392E-02	regul_kz2
i2z48	2.46732	2.46732	1.418930E-08	1.9392E-02	regul_kz2
i2z49	2.24647	2.24647	-3.275703E-07	1.9392E-02	regul_kz2
i2z50	2.19664	2.19664	1.215146E-07	1.9392E-02	regul_kz2
i2z51	1.89522	1.89522	-2.248668E-07	1.9392E-02	regul_kz2
i2z52	2.19893	2.19893	1.300678E-07	1.9392E-02	regul_kz2
i2z53	2.19657	2.19657	-2.828874E-07	1.9392E-02	regul_kz2
i2z54	2.19208	2.19208	3.564956E-07	1.9392E-02	regul_kz2
i2z55	1.90095	1.90095	-3.021819E-09	1.9392E-02	regul_kz2
i2z56	2.60235	2.60235	-3.756685E-07	1.9392E-02	regul_kz2
i2z57	2.59127	2.59127	1.016572E-07	1.9392E-02	regul_kz2
i2z58	2.46790	2.46790	-3.625255E-07	1.9392E-02	regul_kz2
i2z59	2.32500	2.32500	3.094359E-07	1.9392E-02	regul_kz2
i2z60	2.47245	2.47245	-2.018997E-08	1.9392E-02	regul_kz2
i2z61	2.54189	2.54189	-2.474636E-07	1.9392E-02	regul_kz2
i2z62	2.10648	2.10648	4.435801E-08	1.9392E-02	regul_kz2
i2z63	2.60243	2.60243	4.017601E-07	1.9392E-02	regul_kz2
i2z64	2.53587	2.53587	-2.572972E-07	1.9392E-02	regul_kz2
i2z65	2.53926	2.53927	-3.396603E-07	1.9392E-02	regul_kz2
i2z66	1.94422	1.94422	4.450006E-08	1.9392E-02	regul_kz2
i2z67	2.33403	2.33403	3.013405E-07	1.9392E-02	regul_kz2
i2z68	2.29744	2.29744	-4.596650E-07	1.9392E-02	regul_kz2
i2z69	2.46860	2.46860	3.911135E-07	1.9392E-02	regul_kz2
i2z70	2.59460	2.59460	-4.934274E-07	1.9392E-02	regul_kz2
i2z71	2.46018	2.46018	-4.496985E-07	1.9392E-02	regul_kz2
i2z72	2.59452	2.59453	-2.496098E-07	1.9392E-02	regul_kz2
i2z73	2.69256	2.69256	-1.726581E-07	1.9392E-02	regul_kz2
i2z74	2.43654	2.43654	3.591077E-07	1.9392E-02	regul_kz2
i2z75	2.59867	2.59867	-2.963868E-07	1.9392E-02	regul_kz2
i2z76	2.64076	2.64076	1.081944E-07	1.9392E-02	regul_kz2
i2z77	2.27004	2.27004	-1.465981E-08	1.9392E-02	regul_kz2
i2z78	2.64721	2.64721	-9.824706E-08	1.9392E-02	regul_kz2
i2z79	2.64109	2.64109	-3.906571E-07	1.9392E-02	regul_kz2
i2z80	2.73261	2.73261	-1.389487E-07	1.9392E-02	regul_kz2
i2z81	2.68142	2.68142	2.707329E-07	1.9392E-02	regul_kz2
i2z82	2.69383	2.69383	2.919288E-07	1.9392E-02	regul_kz2
i2z83	2.47050	2.47050	2.486642E-07	1.9392E-02	regul_kz2
i2z84	2.59232	2.59232	-1.896709E-08	1.9392E-02	regul_kz2
i2z85	2.69145	2.69145	4.351435E-10	1.9392E-02	regul_kz2
i2z86	2.69347	2.69347	4.927650E-07	1.9392E-02	regul_kz2
i2z87	2.65210	2.65210	4.148487E-07	1.9392E-02	regul_kz2
i2z88	1.89218	1.89218	4.206102E-08	1.9392E-02	regul_kz2
i2z89	2.68612	2.68612	4.235479E-07	1.9392E-02	regul_kz2
i2z90	2.69608	2.69608	-2.081863E-07	1.9392E-02	regul_kz2
i2z91	2.73529	2.73528	4.388632E-07	1.9392E-02	regul_kz2
i2z92	2.53496	2.53496	4.439971E-07	1.9392E-02	regul_kz2
i2z93	2.68842	2.68842	-3.349112E-07	1.9392E-02	regul_kz2
i2z94	2.66764	2.66764	-3.721374E-07	1.9392E-02	regul_kz2
i2z95	2.73550	2.73550	-1.644887E-08	1.9392E-02	regul_kz2
i2z96	2.69247	2.69247	-4.348898E-08	1.9392E-02	regul_kz2
i2z97	2.64920	2.64920	1.442164E-07	1.9392E-02	regul_kz2
i2z98	2.69735	2.69735	1.938632E-07	1.9392E-02	regul_kz2
i2z99	2.16268	2.16268	2.994498E-08	1.9392E-02	regul_kz2
i2z100	2.64358	2.64358	2.653198E-07	1.9392E-02	regul_kz2
i2z101	2.69772	2.69772	-2.539067E-07	1.9392E-02	regul_kz2
i1z102	-2.221455E-02	-2.221455E-02	-3.561969E-09	0.5850	regul_kz1
i2z103	2.16913	2.16913	3.902512E-07	1.9392E-02	regul_kz2
i2z104	2.16070	2.16070	-2.731675E-07	1.9392E-02	regul_kz2
i2z105	2.29560	2.29560	-1.613995E-07	1.9392E-02	regul_kz2
i2z106	2.16767	2.16767	-4.690460E-07	1.9392E-02	regul_kz2

Prior information	Provided value	Calculated value	Residual	Weight	Group
i2z107	2.27311	2.27311	4.890362E-07	1.9392E-02	regul_kz2
i2z108	2.29418	2.29418	2.381079E-07	1.9392E-02	regul_kz2
i2z109	2.10507	2.10507	1.234322E-07	1.9392E-02	regul_kz2
i2z110	2.22010	2.22010	3.770133E-07	1.9392E-02	regul_kz2
i2z111	2.26033	2.26033	-2.713285E-07	1.9392E-02	regul_kz2
i2z112	2.03735	2.03735	8.376209E-09	1.9392E-02	regul_kz2
i1z113	-0.142595	-0.142595	5.026098E-09	0.5850	regul_kz1
i2z114	2.10614	2.10614	1.191803E-07	1.9392E-02	regul_kz2
i2z115	2.19763	2.19763	-4.672913E-07	1.9392E-02	regul_kz2
i2z116	2.19461	2.19461	-3.478137E-07	1.9392E-02	regul_kz2
i2z117	2.29382	2.29382	-4.902674E-07	1.9392E-02	regul_kz2
i2z118	1.89568	1.89568	2.927663E-07	1.9392E-02	regul_kz2
i2z119	2.02664	2.02664	-3.774004E-07	1.9392E-02	regul_kz2
i2z120	1.69285	1.69285	3.140151E-07	1.9392E-02	regul_kz2
i2z121	2.29344	2.29344	9.692565E-08	1.9392E-02	regul_kz2
i2z122	2.29237	2.29237	-1.568108E-07	1.9392E-02	regul_kz2
i2z123	2.03056	2.03055	2.073734E-07	1.9392E-02	regul_kz2
i1z124	-0.318045	-0.318045	6.152291E-09	0.5850	regul_kz1
i2z125	2.29068	2.29068	-2.480334E-09	1.9392E-02	regul_kz2
i2z126	1.28829	1.28829	-2.664632E-07	1.9392E-02	regul_kz2
i2z127	2.21472	2.21472	1.624639E-08	1.9392E-02	regul_kz2
i2z128	2.10506	2.10506	4.443511E-07	1.9392E-02	regul_kz2
i2z129	1.95179	1.95179	-1.845385E-07	1.9392E-02	regul_kz2
i2z130	2.29817	2.29817	3.618341E-07	1.9392E-02	regul_kz2
i2z131	1.89535	1.89535	2.239830E-07	1.9392E-02	regul_kz2
i2z132	1.89848	1.89848	-3.956919E-07	1.9392E-02	regul_kz2
i2z133	1.77222	1.77222	4.231764E-07	1.9392E-02	regul_kz2
i2z134	1.29050	1.29050	-2.839290E-07	1.9392E-02	regul_kz2
i1z135	-0.212974	-0.212974	-8.152726E-09	0.5850	regul_kz1
i2z136	1.89718	1.89718	-4.901760E-07	1.9392E-02	regul_kz2
i2z137	2.22345	2.22346	-1.833813E-07	1.9392E-02	regul_kz2
i2z138	1.83951	1.83951	2.717816E-07	1.9392E-02	regul_kz2
i2z139	1.89894	1.89893	1.245486E-07	1.9392E-02	regul_kz2
i2z140	1.89724	1.89724	4.186642E-07	1.9392E-02	regul_kz2
i2z141	2.02994	2.02994	3.294313E-07	1.9392E-02	regul_kz2
i2z142	1.89457	1.89456	3.970141E-07	1.9392E-02	regul_kz2
i2z143	1.89847	1.89847	-1.877064E-08	1.9392E-02	regul_kz2
i2z144	1.94438	1.94438	2.143306E-07	1.9392E-02	regul_kz2
i2z145	1.89091	1.89091	5.948927E-08	1.9392E-02	regul_kz2
i2z146	1.89325	1.89325	4.882805E-07	1.9392E-02	regul_kz2
i2z147	1.89844	1.89844	-2.250310E-07	1.9392E-02	regul_kz2
i2z148	1.89928	1.89928	4.883282E-07	1.9392E-02	regul_kz2
i2z149	1.89566	1.89566	4.009278E-07	1.9392E-02	regul_kz2
i2z150	1.89498	1.89498	4.502194E-07	1.9392E-02	regul_kz2
i2z151	2.10810	2.10810	8.175785E-09	1.9392E-02	regul_kz2
i2z152	2.21958	2.21958	7.007653E-08	1.9392E-02	regul_kz2
i2z153	1.95615	1.95615	1.619541E-07	1.9392E-02	regul_kz2
i2z154	1.89238	1.89238	-4.129003E-07	1.9392E-02	regul_kz2
i2z155	1.97179	1.97179	2.567517E-07	1.9392E-02	regul_kz2
i1z156	2.370669E-02	2.370669E-02	2.481989E-09	0.5850	regul_kz1
i2z157	2.17449	2.17449	-4.322193E-07	1.9392E-02	regul_kz2
i2z158	1.94368	1.94368	-1.643170E-07	1.9392E-02	regul_kz2
i2z159	2.16896	2.16896	9.269864E-09	1.9392E-02	regul_kz2
i2z160	1.97375	1.97375	-4.798350E-07	1.9392E-02	regul_kz2
i2z161	2.10963	2.10963	-4.862112E-07	1.9392E-02	regul_kz2
i2z162	1.94282	1.94282	4.912031E-07	1.9392E-02	regul_kz2
i2z163	2.13506	2.13506	3.957986E-07	1.9392E-02	regul_kz2
i2z164	2.03362	2.03362	2.287807E-07	1.9392E-02	regul_kz2
i2z165	2.16854	2.16854	-3.282303E-07	1.9392E-02	regul_kz2
i2z166	1.89394	1.89394	1.830299E-07	1.9392E-02	regul_kz2
i2z167	2.16538	2.16538	-2.181323E-07	1.9392E-02	regul_kz2
i2z168	2.17016	2.17016	-2.816500E-07	1.9392E-02	regul_kz2
i2z169	1.95031	1.95031	-2.910174E-07	1.9392E-02	regul_kz2
i2z170	2.18811	2.18811	3.363350E-07	1.9392E-02	regul_kz2
i2z171	2.19553	2.19553	3.470188E-07	1.9392E-02	regul_kz2
i2z172	1.94387	1.94387	-9.407202E-08	1.9392E-02	regul_kz2
i2z173	2.13978	2.13978	2.051420E-07	1.9392E-02	regul_kz2
i2z174	1.93502	1.93502	-3.097283E-07	1.9392E-02	regul_kz2
i2z175	1.98945	1.98945	2.947694E-07	1.9392E-02	regul_kz2
i2z176	2.19161	2.19161	2.762719E-07	1.9392E-02	regul_kz2
i2z177	2.10332	2.10332	-2.836325E-07	1.9392E-02	regul_kz2

Prior information	Provided value	Calculated value	Residual	Weight	Group
i2z178	2.22698	2.22698	-4.491135E-08	1.9392E-02	regul_kz2
i2z179	2.24505	2.24505	2.743241E-07	1.9392E-02	regul_kz2
i2z180	2.14032	2.14032	-8.044408E-08	1.9392E-02	regul_kz2
i2z181	2.17010	2.17010	4.142695E-07	1.9392E-02	regul_kz2
i2z182	2.14644	2.14644	7.482287E-08	1.9392E-02	regul_kz2
i2z183	2.19630	2.19630	-5.458297E-08	1.9392E-02	regul_kz2
i2z184	2.18786	2.18786	4.086105E-07	1.9392E-02	regul_kz2
i2z185	2.16941	2.16941	4.557024E-07	1.9392E-02	regul_kz2
i2z186	2.29795	2.29795	4.970652E-07	1.9392E-02	regul_kz2
i3k187	1.83338	1.83338	-4.103694E-07	1.0000E-02	regul_kp3
i3k188	1.81445	1.81445	-3.732410E-07	1.0000E-02	regul_kp3
i3k189	1.84954	1.84954	4.592015E-07	1.0000E-02	regul_kp3
i3k190	2.09802	2.09802	4.948657E-07	1.0000E-02	regul_kp3
i3k191	1.98274	1.98274	-2.949378E-07	1.0000E-02	regul_kp3
i3k192	1.81204	1.81204	-1.614968E-07	1.0000E-02	regul_kp3
i3k193	1.80195	1.80196	-3.183479E-07	1.0000E-02	regul_kp3
i3k194	2.12206	2.12206	-1.272021E-07	1.0000E-02	regul_kp3
i3k195	1.82299	1.82299	3.066375E-07	1.0000E-02	regul_kp3
i3k196	1.75059	1.75059	-2.346009E-07	1.0000E-02	regul_kp3
i3k197	1.90119	1.90119	-1.432690E-07	1.0000E-02	regul_kp3
i3k198	2.16445	2.16445	4.859646E-08	1.0000E-02	regul_kp3
i3k199	1.72820	1.72820	-1.433082E-07	1.0000E-02	regul_kp3
i3k200	2.13477	2.13477	1.182339E-07	1.0000E-02	regul_kp3
i3k201	2.16529	2.16529	2.578928E-07	1.0000E-02	regul_kp3
i3k202	1.91920	1.91920	-4.040361E-07	1.0000E-02	regul_kp3
i3k203	2.03755	2.03755	1.912636E-07	1.0000E-02	regul_kp3
i3k204	2.17737	2.17737	3.559481E-08	1.0000E-02	regul_kp3
i3k205	2.25041	2.25042	-3.665565E-07	1.0000E-02	regul_kp3
i3k206	1.86145	1.86145	-1.092770E-07	1.0000E-02	regul_kp3
i3k207	1.79158	1.79158	4.118381E-07	1.0000E-02	regul_kp3
i3k208	2.13223	2.13223	4.174722E-07	1.0000E-02	regul_kp3
i3k209	2.06466	2.06466	-2.364048E-07	1.0000E-02	regul_kp3
i3k210	1.87851	1.87851	2.684020E-07	1.0000E-02	regul_kp3
i3k211	2.21115	2.21115	-3.925501E-07	1.0000E-02	regul_kp3
i3k212	2.31730	2.31730	6.527831E-08	1.0000E-02	regul_kp3
i3k213	2.02473	2.02473	3.341609E-08	1.0000E-02	regul_kp3
i3k214	1.99400	1.99400	-7.590190E-08	1.0000E-02	regul_kp3
i3k215	1.65560	1.65560	-4.189609E-07	1.0000E-02	regul_kp3
i3k216	2.13117	2.13117	2.958296E-07	1.0000E-02	regul_kp3
i3k217	2.18786	2.18786	-1.824335E-07	1.0000E-02	regul_kp3
i3k218	2.18575	2.18575	-1.599398E-07	1.0000E-02	regul_kp3
i3k219	1.90475	1.90475	4.087647E-07	1.0000E-02	regul_kp3
i3k220	2.19547	2.19547	-4.633935E-07	1.0000E-02	regul_kp3
i3k221	2.23694	2.23694	-1.119555E-07	1.0000E-02	regul_kp3
i3k222	1.90413	1.90413	3.435676E-08	1.0000E-02	regul_kp3
i3k223	2.35297	2.35298	-4.910240E-07	1.0000E-02	regul_kp3
i3k224	1.36490	1.36490	-2.292896E-07	1.0000E-02	regul_kp3
i3k225	1.37921	1.37921	-4.933235E-07	1.0000E-02	regul_kp3
i3k226	1.10648	1.10648	-4.590530E-07	1.0000E-02	regul_kp3
i3k227	1.72088	1.72088	1.913211E-07	1.0000E-02	regul_kp3
i3k228	2.15854	2.15854	-3.810432E-07	1.0000E-02	regul_kp3
i3k229	2.09359	2.09359	-4.668288E-07	1.0000E-02	regul_kp3
i3k230	1.69945	1.69946	-1.875895E-07	1.0000E-02	regul_kp3
i3k231	2.12000	2.12000	-3.946543E-08	1.0000E-02	regul_kp3
i3k232	1.90518	1.90518	-3.096569E-07	1.0000E-02	regul_kp3
i3k233	0.916593	0.916593	-3.742834E-08	1.0000E-02	regul_kp3
i3k234	1.62071	1.62071	-8.071177E-09	1.0000E-02	regul_kp3
i3k235	1.65461	1.65461	-4.827507E-07	1.0000E-02	regul_kp3
i3k236	1.68724	1.68724	-2.160245E-07	1.0000E-02	regul_kp3
i3k237	1.81715	1.81715	2.995330E-07	1.0000E-02	regul_kp3
i3k238	0.858695	0.858695	-2.692709E-08	1.0000E-02	regul_kp3
i3k239	1.14761	1.14761	3.753353E-07	1.0000E-02	regul_kp3
i3k240	1.64311	1.64311	1.688111E-07	1.0000E-02	regul_kp3
i3k241	2.32348	2.32348	-1.012098E-07	1.0000E-02	regul_kp3
i3k242	1.88902	1.88902	4.190182E-07	1.0000E-02	regul_kp3
i3k243	1.91384	1.91384	-3.609656E-07	1.0000E-02	regul_kp3
i3k244	1.62317	1.62317	-2.130056E-07	1.0000E-02	regul_kp3
i3k245	1.66062	1.66062	4.630148E-07	1.0000E-02	regul_kp3
i3k246	1.99312	1.99312	-2.783053E-07	1.0000E-02	regul_kp3
i3k247	1.62731	1.62731	9.707835E-08	1.0000E-02	regul_kp3
i3k248	2.19161	2.19161	-4.443614E-07	1.0000E-02	regul_kp3

Prior information	Provided value	Calculated value	Residual	Weight	Group
i3k249	1.84902	1.84902	2.152383E-08	1.0000E-02	regul_kp3
i3k250	1.92524	1.92524	-2.480301E-07	1.0000E-02	regul_kp3
i3k251	1.85939	1.85939	-1.116301E-07	1.0000E-02	regul_kp3
i3k252	1.79563	1.79563	1.491649E-07	1.0000E-02	regul_kp3
i3k253	2.00482	2.00483	-3.521258E-08	1.0000E-02	regul_kp3
i3k254	2.13682	2.13682	-4.609166E-07	1.0000E-02	regul_kp3
i3k255	1.63774	1.63774	2.731011E-07	1.0000E-02	regul_kp3
i3k256	1.86603	1.86603	2.852889E-07	1.0000E-02	regul_kp3
i3k257	1.96697	1.96697	-1.871628E-07	1.0000E-02	regul_kp3
i3k258	2.23174	2.23174	-3.737610E-07	1.0000E-02	regul_kp3
i3k259	2.19590	2.19590	-3.757885E-07	1.0000E-02	regul_kp3
i3k260	1.70452	1.70452	2.018690E-07	1.0000E-02	regul_kp3
i3k261	2.40351	2.40351	2.486893E-07	1.0000E-02	regul_kp3
i3k262	1.88502	1.88502	4.122693E-07	1.0000E-02	regul_kp3
i3k263	1.98132	1.98132	-4.050663E-07	1.0000E-02	regul_kp3
i3k264	1.91918	1.91918	-4.151702E-07	1.0000E-02	regul_kp3
i3k265	2.17208	2.17208	-4.713563E-07	1.0000E-02	regul_kp3
i3k266	2.12130	2.12130	-1.236017E-07	1.0000E-02	regul_kp3
i3k267	2.10711	2.10711	1.331942E-07	1.0000E-02	regul_kp3
i3k268	1.65923	1.65923	-4.316837E-07	1.0000E-02	regul_kp3
i3k269	2.13128	2.13128	1.420078E-07	1.0000E-02	regul_kp3
i3k270	2.09177	2.09177	1.957764E-08	1.0000E-02	regul_kp3
i3k271	2.07983	2.07983	-1.996772E-07	1.0000E-02	regul_kp3
i3k272	2.04913	2.04913	-9.428492E-08	1.0000E-02	regul_kp3
i3k273	1.97119	1.97119	-1.248201E-07	1.0000E-02	regul_kp3
i3k274	2.05159	2.05159	4.000733E-07	1.0000E-02	regul_kp3
i3k275	2.01481	2.01481	-1.898957E-07	1.0000E-02	regul_kp3
i3k276	2.02657	2.02657	-3.562569E-07	1.0000E-02	regul_kp3
i3k277	2.19221	2.19221	-2.948557E-07	1.0000E-02	regul_kp3
i3k278	1.93551	1.93551	-3.696555E-07	1.0000E-02	regul_kp3
i3k279	2.10530	2.10530	-3.773021E-07	1.0000E-02	regul_kp3
i3k280	2.11319	2.11319	2.891929E-07	1.0000E-02	regul_kp3
i3k281	2.11708	2.11708	-3.166607E-07	1.0000E-02	regul_kp3
i3k282	2.12188	2.12188	1.516942E-07	1.0000E-02	regul_kp3
i3k283	2.08994	2.08994	3.467862E-07	1.0000E-02	regul_kp3
i3k284	2.09277	2.09277	-3.142722E-07	1.0000E-02	regul_kp3
i3k285	2.03000	2.03000	-4.975112E-07	1.0000E-02	regul_kp3
i3k286	2.16762	2.16762	3.559309E-07	1.0000E-02	regul_kp3
i3k287	2.26521	2.26521	-4.062444E-08	1.0000E-02	regul_kp3
i3k288	2.23368	2.23368	-1.264798E-09	1.0000E-02	regul_kp3
i3k289	2.14824	2.14824	4.661812E-07	1.0000E-02	regul_kp3
i3k290	2.09551	2.09551	4.432003E-07	1.0000E-02	regul_kp3
i3k291	2.08546	2.08546	-2.684534E-07	1.0000E-02	regul_kp3
i3k292	2.10021	2.10021	-1.025065E-07	1.0000E-02	regul_kp3
i3k293	2.17268	2.17268	-4.783616E-07	1.0000E-02	regul_kp3
i3k294	2.06714	2.06714	-4.417883E-07	1.0000E-02	regul_kp3
i3k295	2.13427	2.13427	-3.806730E-07	1.0000E-02	regul_kp3
i3k296	2.06988	2.06988	2.890878E-07	1.0000E-02	regul_kp3
i3k297	2.18635	2.18636	-2.298062E-08	1.0000E-02	regul_kp3
i3k298	2.11416	2.11416	-4.504202E-07	1.0000E-02	regul_kp3
i3k299	1.66440	1.66440	6.572930E-08	1.0000E-02	regul_kp3
i3k300	2.25596	2.25596	-4.849408E-07	1.0000E-02	regul_kp3
i3k301	2.16922	2.16922	4.914762E-07	1.0000E-02	regul_kp3
i3k302	2.22237	2.22237	4.458757E-07	1.0000E-02	regul_kp3
i3k303	2.15430	2.15430	-1.329624E-07	1.0000E-02	regul_kp3
i3k304	2.24932	2.24931	4.385065E-07	1.0000E-02	regul_kp3
i3k305	2.24345	2.24345	1.955083E-07	1.0000E-02	regul_kp3
i3k306	2.24230	2.24230	3.717484E-07	1.0000E-02	regul_kp3
i3k307	2.30991	2.30991	-1.543829E-07	1.0000E-02	regul_kp3
i3k308	2.09648	2.09648	3.253856E-07	1.0000E-02	regul_kp3
i3k309	2.10438	2.10438	1.589063E-07	1.0000E-02	regul_kp3
i3k310	2.20897	2.20897	1.457493E-07	1.0000E-02	regul_kp3
i3k311	2.25182	2.25182	-3.339888E-07	1.0000E-02	regul_kp3
i3k312	2.10776	2.10775	4.680507E-07	1.0000E-02	regul_kp3
i3k313	2.27393	2.27393	-2.517104E-07	1.0000E-02	regul_kp3
i3k314	2.18486	2.18486	-2.902845E-07	1.0000E-02	regul_kp3
i3k315	2.17279	2.17279	-5.871655E-08	1.0000E-02	regul_kp3
i3k316	2.06963	2.06963	2.673385E-07	1.0000E-02	regul_kp3
i3k317	2.11549	2.11549	-3.609139E-07	1.0000E-02	regul_kp3
i3k318	2.11560	2.11560	-1.981696E-07	1.0000E-02	regul_kp3
i3k319	2.16349	2.16348	4.106975E-07	1.0000E-02	regul_kp3

Prior information	Provided value	Calculated value	Residual	Weight	Group
i3k320	2.20169	2.20169	3.481231E-07	1.0000E-02	regul_kp3
i3k321	2.20418	2.20418	-3.636816E-08	1.0000E-02	regul_kp3
i3k322	2.05212	2.05212	-1.653663E-07	1.0000E-02	regul_kp3
i3k323	1.92710	1.92710	1.235681E-07	1.0000E-02	regul_kp3
i3k324	2.30058	2.30059	-5.026357E-08	1.0000E-02	regul_kp3
i3k325	2.27209	2.27209	-2.134838E-07	1.0000E-02	regul_kp3
i3k326	1.98149	1.98149	-4.783779E-07	1.0000E-02	regul_kp3
i3k327	2.11050	2.11050	-4.957948E-07	1.0000E-02	regul_kp3
i3k328	2.28902	2.28902	-1.896616E-07	1.0000E-02	regul_kp3
i3k329	2.51896	2.51896	4.887513E-07	1.0000E-02	regul_kp3
i3k330	2.16823	2.16823	-4.087786E-07	1.0000E-02	regul_kp3
i3k331	2.18076	2.18076	2.162133E-07	1.0000E-02	regul_kp3
i3k332	2.26445	2.26445	-5.916370E-08	1.0000E-02	regul_kp3
i3k333	2.23121	2.23121	-3.929452E-07	1.0000E-02	regul_kp3
i3k334	2.33269	2.33269	-3.058896E-07	1.0000E-02	regul_kp3
i3k335	2.28324	2.28324	2.413021E-09	1.0000E-02	regul_kp3
i3k336	2.11847	2.11847	-4.540668E-07	1.0000E-02	regul_kp3
i3k337	2.27049	2.27049	3.315349E-07	1.0000E-02	regul_kp3
i3k338	2.30264	2.30264	2.676875E-07	1.0000E-02	regul_kp3
i3k339	2.24458	2.24458	2.961409E-07	1.0000E-02	regul_kp3
i3k340	2.26937	2.26937	-6.018987E-08	1.0000E-02	regul_kp3
i3k341	2.12241	2.12241	1.255651E-07	1.0000E-02	regul_kp3
i3k342	2.25823	2.25823	-9.044913E-08	1.0000E-02	regul_kp3
i3k343	2.24144	2.24144	-1.424864E-07	1.0000E-02	regul_kp3
i3k344	2.58938	2.58938	-1.734991E-07	1.0000E-02	regul_kp3
i3k345	2.27373	2.27373	-4.941664E-08	1.0000E-02	regul_kp3
i3k346	1.96835	1.96835	7.731028E-08	1.0000E-02	regul_kp3
i3k347	2.22578	2.22578	-4.139946E-07	1.0000E-02	regul_kp3
i3k348	2.30170	2.30170	1.948089E-08	1.0000E-02	regul_kp3
i3k349	2.24842	2.24842	-1.875781E-07	1.0000E-02	regul_kp3
i3k350	2.28117	2.28117	-2.730156E-07	1.0000E-02	regul_kp3
i3k351	1.97763	1.97763	-3.540901E-07	1.0000E-02	regul_kp3
i3k352	1.81202	1.81202	-5.240992E-09	1.0000E-02	regul_kp3
i3k353	2.45594	2.45594	7.057395E-08	1.0000E-02	regul_kp3
i3k354	2.47049	2.47049	2.729468E-07	1.0000E-02	regul_kp3
i3k355	1.77968	1.77968	-2.399753E-07	1.0000E-02	regul_kp3
i3k356	2.18635	2.18634	4.395380E-07	1.0000E-02	regul_kp3
i3k357	1.80532	1.80532	-4.269438E-08	1.0000E-02	regul_kp3
i3k358	1.81170	1.81169	1.775519E-07	1.0000E-02	regul_kp3
i3k359	2.31600	2.31600	2.200313E-07	1.0000E-02	regul_kp3
i3k360	1.83823	1.83823	1.665202E-08	1.0000E-02	regul_kp3
i3k361	1.86074	1.86074	-3.139659E-07	1.0000E-02	regul_kp3
i3k362	2.23694	2.23694	-1.589139E-07	1.0000E-02	regul_kp3
i3k363	1.82333	1.82333	-4.817840E-08	1.0000E-02	regul_kp3
i3k364	2.27366	2.27366	2.660269E-08	1.0000E-02	regul_kp3
i3k365	1.79814	1.79814	-2.670465E-07	1.0000E-02	regul_kp3
i3k366	1.47728	1.47728	3.086720E-07	1.0000E-02	regul_kp3
i3k367	2.57936	2.57936	4.454720E-07	1.0000E-02	regul_kp3
i3k368	1.87148	1.87148	-1.350281E-07	1.0000E-02	regul_kp3
i3k369	2.19589	2.19589	7.232888E-08	1.0000E-02	regul_kp3
i3k370	1.82686	1.82686	5.260740E-08	1.0000E-02	regul_kp3
i3k371	1.79595	1.79595	3.222941E-07	1.0000E-02	regul_kp3
i3k372	2.30195	2.30195	4.078532E-07	1.0000E-02	regul_kp3
i3k373	2.16641	2.16641	-5.486973E-08	1.0000E-02	regul_kp3
i3k374	1.81858	1.81858	-4.554511E-07	1.0000E-02	regul_kp3
i3k375	1.84271	1.84271	-4.421053E-07	1.0000E-02	regul_kp3
i3k376	1.84339	1.84339	1.656282E-07	1.0000E-02	regul_kp3
i3k377	1.88247	1.88247	2.636928E-07	1.0000E-02	regul_kp3
i3k378	2.14903	2.14903	5.273610E-08	1.0000E-02	regul_kp3
i3k379	1.85862	1.85862	-4.016325E-07	1.0000E-02	regul_kp3
i3k380	2.54937	2.54937	3.767312E-07	1.0000E-02	regul_kp3
i3k381	1.26591	1.26591	-2.092222E-07	1.0000E-02	regul_kp3
i3k382	2.18150	2.18150	2.709997E-07	1.0000E-02	regul_kp3
i3k383	2.08551	2.08551	4.371030E-07	1.0000E-02	regul_kp3
i3k384	1.77492	1.77492	1.012052E-08	1.0000E-02	regul_kp3
i3k385	1.87047	1.87047	1.792558E-07	1.0000E-02	regul_kp3
i3k386	2.15571	2.15571	-3.412211E-07	1.0000E-02	regul_kp3
i3k387	2.22385	2.22385	9.670723E-09	1.0000E-02	regul_kp3
i3k388	1.72794	1.72794	3.409325E-07	1.0000E-02	regul_kp3
i3k389	2.02640	2.02640	-3.768645E-07	1.0000E-02	regul_kp3
i3k390	1.47066	1.47066	6.067076E-08	1.0000E-02	regul_kp3

Prior information	Provided value	Calculated value	Residual	Weight	Group
i3k391	2.04801	2.04801	4.210330E-08	1.0000E-02	regul_kp3
i3k392	2.23353	2.23353	1.703482E-07	1.0000E-02	regul_kp3
i3k393	1.91380	1.91380	-3.933145E-07	1.0000E-02	regul_kp3
i3k394	2.19496	2.19496	-2.905427E-07	1.0000E-02	regul_kp3
i3k395	2.00612	2.00612	2.452637E-07	1.0000E-02	regul_kp3
i3k396	2.71792	2.71792	-3.241267E-08	1.0000E-02	regul_kp3
i3k397	2.56400	2.56400	-2.374546E-07	1.0000E-02	regul_kp3
i3k398	1.77530	1.77530	-2.589557E-07	1.0000E-02	regul_kp3
i3k399	2.39866	2.39866	1.399082E-07	1.0000E-02	regul_kp3
i3k400	2.48442	2.48442	-4.424399E-07	1.0000E-02	regul_kp3
i3k401	2.32068	2.32068	-3.154385E-07	1.0000E-02	regul_kp3
i3k402	2.67705	2.67705	-2.050031E-07	1.0000E-02	regul_kp3
i3k403	2.36883	2.36883	1.246773E-07	1.0000E-02	regul_kp3
i3k404	2.37163	2.37163	-2.025291E-07	1.0000E-02	regul_kp3
i3k405	2.26401	2.26401	-3.576873E-07	1.0000E-02	regul_kp3
i3k406	2.38511	2.38511	2.059390E-07	1.0000E-02	regul_kp3
i3k407	2.51330	2.51331	-2.494340E-07	1.0000E-02	regul_kp3
i3k408	2.51464	2.51465	-4.911228E-07	1.0000E-02	regul_kp3
i3k409	1.98913	1.98913	-3.704925E-07	1.0000E-02	regul_kp3
i3k410	2.04300	2.04300	-3.960228E-07	1.0000E-02	regul_kp3
i3k411	2.46349	2.46349	2.887159E-07	1.0000E-02	regul_kp3
i3k412	2.50431	2.50431	-3.398684E-07	1.0000E-02	regul_kp3
i3k413	2.77199	2.77199	-2.662750E-07	1.0000E-02	regul_kp3
i3k414	2.21251	2.21251	3.910556E-07	1.0000E-02	regul_kp3
i3k415	1.85180	1.85180	-2.508529E-07	1.0000E-02	regul_kp3
i3k416	2.26007	2.26007	3.733916E-07	1.0000E-02	regul_kp3
i3k417	1.97768	1.97769	-3.856928E-07	1.0000E-02	regul_kp3
i3k418	2.51899	2.51899	3.830166E-07	1.0000E-02	regul_kp3
i3k419	2.43272	2.43272	-1.724820E-07	1.0000E-02	regul_kp3
i3k420	2.51599	2.51599	3.747151E-07	1.0000E-02	regul_kp3
i3k421	2.47440	2.47440	4.973988E-07	1.0000E-02	regul_kp3
i3k422	2.42908	2.42908	-3.885798E-07	1.0000E-02	regul_kp3
i3k423	2.42380	2.42380	4.209219E-07	1.0000E-02	regul_kp3
i3k424	2.40381	2.40380	1.033253E-07	1.0000E-02	regul_kp3
i3k425	2.23775	2.23775	-2.756591E-07	1.0000E-02	regul_kp3
i3k426	2.14131	2.14131	1.013524E-07	1.0000E-02	regul_kp3
i3k427	2.35099	2.35099	4.368605E-07	1.0000E-02	regul_kp3
i3k428	2.60928	2.60928	-4.437825E-07	1.0000E-02	regul_kp3
i3k429	2.28760	2.28760	-1.022272E-07	1.0000E-02	regul_kp3
i3k430	2.27924	2.27924	-2.270554E-07	1.0000E-02	regul_kp3
i3k431	2.55595	2.55595	-8.099494E-08	1.0000E-02	regul_kp3
i3k432	2.25009	2.25009	4.799908E-07	1.0000E-02	regul_kp3
i3k433	2.44536	2.44536	4.339359E-07	1.0000E-02	regul_kp3
i3k434	2.32601	2.32601	3.420650E-07	1.0000E-02	regul_kp3
i3k435	2.43936	2.43936	-1.715567E-07	1.0000E-02	regul_kp3
i3k436	0.921076	0.921077	-2.675731E-08	1.0000E-02	regul_kp3
i3k437	2.66232	2.66232	1.372645E-07	1.0000E-02	regul_kp3
i3k438	2.69955	2.69955	1.703919E-07	1.0000E-02	regul_kp3
i3k439	2.42992	2.42992	-4.443075E-07	1.0000E-02	regul_kp3
i3k440	2.40793	2.40793	-6.206490E-08	1.0000E-02	regul_kp3
i3k441	2.59450	2.59451	-4.743599E-07	1.0000E-02	regul_kp3
i3k442	2.22655	2.22655	-2.204061E-07	1.0000E-02	regul_kp3
i3k443	2.71357	2.71357	4.331680E-07	1.0000E-02	regul_kp3
i3k444	2.71034	2.71034	-4.349937E-07	1.0000E-02	regul_kp3
i3k445	2.69836	2.69836	3.480926E-07	1.0000E-02	regul_kp3
i3k446	2.63365	2.63365	2.704262E-07	1.0000E-02	regul_kp3
i3k447	2.69067	2.69067	-2.133888E-07	1.0000E-02	regul_kp3
i3k448	2.08032	2.08032	-2.192515E-07	1.0000E-02	regul_kp3
i3k449	2.25100	2.25100	4.813788E-07	1.0000E-02	regul_kp3
i3k450	2.55545	2.55545	3.866994E-07	1.0000E-02	regul_kp3
i3k451	2.31279	2.31280	-1.303855E-07	1.0000E-02	regul_kp3
i3k452	2.65972	2.65972	4.156118E-07	1.0000E-02	regul_kp3
i3k453	2.63260	2.63260	2.947258E-07	1.0000E-02	regul_kp3
i3k454	2.64209	2.64209	1.335885E-07	1.0000E-02	regul_kp3
i3k455	2.78917	2.78917	-2.875059E-07	1.0000E-02	regul_kp3
i3k456	2.26875	2.26875	3.505756E-07	1.0000E-02	regul_kp3
i3k457	2.69816	2.69816	3.187633E-07	1.0000E-02	regul_kp3
i3k458	2.84369	2.84369	-2.309203E-08	1.0000E-02	regul_kp3
i3k459	2.45732	2.45732	1.442761E-07	1.0000E-02	regul_kp3
i3k460	2.64626	2.64626	-4.528776E-07	1.0000E-02	regul_kp3
i3k461	2.74887	2.74887	1.167263E-07	1.0000E-02	regul_kp3

Prior information	Provided value	Calculated value	Residual	Weight	Group
i3k462	2.80971	2.80971	-4.073273E-07	1.0000E-02	regul_kp3
i3k463	2.59077	2.59077	2.565093E-07	1.0000E-02	regul_kp3
i3k464	2.72736	2.72736	-3.105815E-07	1.0000E-02	regul_kp3
i3k465	2.57059	2.57059	1.113315E-07	1.0000E-02	regul_kp3
i3k466	2.60745	2.60745	-2.002464E-07	1.0000E-02	regul_kp3
i3k467	2.54868	2.54868	-2.427539E-07	1.0000E-02	regul_kp3
i3k468	2.60790	2.60790	-4.553514E-07	1.0000E-02	regul_kp3
i3k469	2.58598	2.58598	-3.170677E-07	1.0000E-02	regul_kp3
i3k470	2.84516	2.84516	2.549283E-07	1.0000E-02	regul_kp3
i3k471	2.76102	2.76102	-4.234791E-07	1.0000E-02	regul_kp3
i3k472	2.72194	2.72194	2.211519E-07	1.0000E-02	regul_kp3
i3k473	2.50392	2.50392	-2.771026E-07	1.0000E-02	regul_kp3
i3k474	2.56757	2.56757	-2.487366E-07	1.0000E-02	regul_kp3
i3k475	2.51353	2.51353	-2.297669E-08	1.0000E-02	regul_kp3
i3k476	2.64406	2.64406	-4.051460E-07	1.0000E-02	regul_kp3
i3k477	2.05101	2.05101	-1.888115E-07	1.0000E-02	regul_kp3
i3k478	2.11533	2.11533	-2.117289E-07	1.0000E-02	regul_kp3
i3k479	2.22462	2.22462	-3.627633E-07	1.0000E-02	regul_kp3
i3k480	2.85806	2.85806	-4.643780E-07	1.0000E-02	regul_kp3
i3k481	2.43136	2.43136	1.311472E-07	1.0000E-02	regul_kp3
i3k482	2.69252	2.69252	1.692415E-07	1.0000E-02	regul_kp3
i3k483	2.90309	2.90309	1.300806E-08	1.0000E-02	regul_kp3
i3k484	2.54861	2.54861	-2.041196E-07	1.0000E-02	regul_kp3
i3k485	1.25274	1.25274	4.348729E-07	1.0000E-02	regul_kp3
i3k486	2.21564	2.21564	5.759986E-08	1.0000E-02	regul_kp3
i3k487	2.81812	2.81812	-2.577942E-07	1.0000E-02	regul_kp3
i3k488	2.63660	2.63660	4.770677E-07	1.0000E-02	regul_kp3
i3k489	2.34922	2.34922	5.023657E-08	1.0000E-02	regul_kp3
i3k490	2.77130	2.77130	-4.429431E-07	1.0000E-02	regul_kp3
i3k491	2.69740	2.69740	1.634988E-07	1.0000E-02	regul_kp3
i3k492	2.58545	2.58545	-2.386320E-07	1.0000E-02	regul_kp3
i3k493	1.54498	1.54498	-3.635362E-07	1.0000E-02	regul_kp3
i3k494	2.61169	2.61169	-9.069198E-09	1.0000E-02	regul_kp3
i3k495	2.82918	2.82918	2.181346E-07	1.0000E-02	regul_kp3
i3k496	2.82010	2.82010	2.885832E-07	1.0000E-02	regul_kp3
i3k497	2.71217	2.71217	-2.314025E-07	1.0000E-02	regul_kp3
i3k498	2.78377	2.78377	3.739913E-07	1.0000E-02	regul_kp3
i3k499	2.71413	2.71413	2.265706E-07	1.0000E-02	regul_kp3
i3k500	2.68458	2.68458	2.561356E-07	1.0000E-02	regul_kp3
i3k501	2.44189	2.44189	-1.299742E-07	1.0000E-02	regul_kp3
i3k502	2.51890	2.51890	-2.935178E-07	1.0000E-02	regul_kp3
i3k503	2.46261	2.46261	2.562678E-07	1.0000E-02	regul_kp3
i3k504	2.68578	2.68578	8.763089E-08	1.0000E-02	regul_kp3
i3k505	2.81114	2.81114	-4.973761E-08	1.0000E-02	regul_kp3
i3k506	2.60974	2.60974	4.545373E-07	1.0000E-02	regul_kp3
i3k507	2.70045	2.70045	1.560380E-07	1.0000E-02	regul_kp3
i3k508	2.75004	2.75004	4.835454E-07	1.0000E-02	regul_kp3
i3k509	2.50379	2.50379	2.699412E-07	1.0000E-02	regul_kp3
i3k510	2.70948	2.70948	-1.713930E-07	1.0000E-02	regul_kp3
i3k511	2.52396	2.52396	-1.410089E-07	1.0000E-02	regul_kp3
i3k512	2.70747	2.70747	-4.693318E-07	1.0000E-02	regul_kp3
i3k513	2.46358	2.46357	3.117651E-07	1.0000E-02	regul_kp3
i3k514	2.55535	2.55535	-7.828119E-08	1.0000E-02	regul_kp3
i3k515	2.84842	2.84842	1.978909E-07	1.0000E-02	regul_kp3
i3k516	2.85099	2.85099	4.249255E-07	1.0000E-02	regul_kp3
i3k517	2.61622	2.61622	-4.288328E-07	1.0000E-02	regul_kp3
i3k518	2.40600	2.40600	-1.968636E-07	1.0000E-02	regul_kp3
i3k519	2.65811	2.65811	1.068198E-07	1.0000E-02	regul_kp3
i3k520	2.60881	2.60881	2.524468E-08	1.0000E-02	regul_kp3
i3k521	2.65575	2.65575	-1.327366E-07	1.0000E-02	regul_kp3
i3k522	2.46698	2.46698	-1.063120E-07	1.0000E-02	regul_kp3
i3k523	2.59027	2.59027	3.181070E-07	1.0000E-02	regul_kp3
i3k524	2.81942	2.81943	-8.051682E-08	1.0000E-02	regul_kp3
i3k525	2.71084	2.71084	-2.202504E-07	1.0000E-02	regul_kp3
i3k526	1.90216	1.90216	2.100391E-07	1.0000E-02	regul_kp3
i3k527	1.86763	1.86763	-1.571600E-07	1.0000E-02	regul_kp3
i3k528	1.83963	1.83963	1.750649E-07	1.0000E-02	regul_kp3
i3k529	2.60811	2.60811	-3.667985E-07	1.0000E-02	regul_kp3
i3k530	1.91849	1.91849	-8.883189E-08	1.0000E-02	regul_kp3
i3k531	1.91817	1.91817	1.846777E-07	1.0000E-02	regul_kp3
i3k532	1.80193	1.80193	-5.853812E-08	1.0000E-02	regul_kp3

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Prior                  Provided       Calculated     Residual       Weight     Group
 information            value          value
 i3k533                 1.96367        1.96367       1.174669E-07   1.0000E-02  regul_kp3
 i3k534                 2.02637        2.02637       2.319775E-07   1.0000E-02  regul_kp3
 i3k535                 1.62989        1.62989       2.083305E-07   1.0000E-02  regul_kp3
 i3k536                 2.05675        2.05675       3.807530E-08   1.0000E-02  regul_kp3
 i3k537                 2.25967        2.25966       4.166571E-07   1.0000E-02  regul_kp3

 See file gwm10_e3.res for more details of residuals in graph-ready format.

 See file gwm10_e3.seo for composite observation sensitivities.


 Objective function ----->

   Sum of squared weighted residuals (ie phi)                =   4686.
   Contribution to phi from observation group "head1"        =   1910.
   Contribution to phi from observation group "ddn"          =   2775.
   Contribution to phi from observation group "direction"    =   0.000
   Contribution to phi from observation group "angle"        =   0.000
   Contribution to phi from observation group "regul"        =   0.000
   Contribution to phi from observation group "regul_kp3"    =  2.9998E-15
   Contribution to phi from observation group "regul_kz1"    =  3.0434E-16
   Contribution to phi from observation group "regul_kz2"    =  6.1689E-15

   Optimised measurement objective function                  =   4686.
   Optimised regularisation weight factor                    =  1.0000E-02
   Optimised regularisation objective function               =  9.4730E-11


 Correlation Coefficient ----->

   Correlation coefficient                                   =  0.9999
   (Includes measurement observations only.)


 Analysis of residuals ----->

   All residuals:-
      Number of residuals with non-zero weight                      =  1231
      Mean value of non-zero weighted residuals                     =  0.1697
      Maximum weighted residual [observation "o682"]                =   47.06
      Minimum weighted residual [observation "o671"]                =  -14.55
      Standard variance of weighted residuals                       =   6.830
      Standard error of weighted residuals                          =   2.613

      Note: the above variance was obtained by dividing the objective
      function by the number of system degrees of freedom (ie. number of
      observations with non-zero weight plus number of prior information
      articles with non-zero weight minus the number of adjustable parameters.)
      If the degrees of freedom is negative the divisor becomes
      the number of observations with non-zero weight plus the number of
      prior information items with non-zero weight.

   Residuals for observation group "head1":-
      Number of residuals with non-zero weight                      =   668
      Mean value of non-zero weighted residuals                     =  0.2108
      Maximum weighted residual [observation "o26"]                 =   9.988
      Minimum weighted residual [observation "o98"]                 =  -7.287
      "Variance" of weighted residuals                              =   2.860
      "Standard error" of weighted residuals                        =   1.691

      Note: the above "variance" was obtained by dividing the sum of squared
      residuals by the number of items with non-zero weight.

   Residuals for observation group "ddn":-
      Number of residuals with non-zero weight                      =    25
      Mean value of non-zero weighted residuals                     =   2.725
      Maximum weighted residual [observation "o682"]                =   47.06
      Minimum weighted residual [observation "o671"]                =  -14.55
      "Variance" of weighted residuals                              =   111.0
      "Standard error" of weighted residuals                        =   10.54
```

```
      Note: the above "variance" was obtained by dividing the sum of squared
      residuals by the number of items with non-zero weight.

   Residuals for observation group "direction":-
      Number of residuals with non-zero weight                      =     0

   Residuals for observation group "angle":-
      Number of residuals with non-zero weight                      =     0

   Residuals for observation group "regul":-
      Number of residuals with non-zero weight                      =     0

   Residuals for observation group "regul_kp3":-
      Number of residuals with non-zero weight                      =   351
      Mean value of non-zero weighted residuals                     = -2.9499E-10
      Maximum weighted residual [observation "i3k421"]              =  4.9740E-09
      Minimum weighted residual [observation "i3k285"]              = -4.9751E-09
      "Variance" of weighted residuals                              =  8.5464E-18
      "Standard error" of weighted residuals                        =  2.9234E-09

      Note: the above "variance" was obtained by dividing the sum of squared
      residuals by the number of items with non-zero weight.

   Residuals for observation group "regul_kz1":-
      Number of residuals with non-zero weight                      =     6
      Mean value of non-zero weighted residuals                     = -2.4642E-09
      Maximum weighted residual [observation "i1z124"]              =  3.5991E-09
      Minimum weighted residual [observation "i1z0"]                = -1.5923E-08
      "Variance" of weighted residuals                              =  5.0724E-17
      "Standard error" of weighted residuals                        =  7.1221E-09

      Note: the above "variance" was obtained by dividing the sum of squared
      residuals by the number of items with non-zero weight.

   Residuals for observation group "regul_kz2":-
      Number of residuals with non-zero weight                      =   181
      Mean value of non-zero weighted residuals                     =  4.8279E-10
      Maximum weighted residual [observation "i2z186"]              =  9.6392E-09
      Minimum weighted residual [observation "i2z42"]               = -9.5846E-09
      "Variance" of weighted residuals                              =  3.4082E-17
      "Standard error" of weighted residuals                        =  5.8380E-09

      Note: the above "variance" was obtained by dividing the sum of squared
      residuals by the number of items with non-zero weight.


 Covariance and other statistical matrices cannot be determined:-
 Some form or regularisation was implemented so these are not applicable.
```

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Appendix E
History Matching Simulations

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APPENDIX E

E. HISTORY MATCHING ITERATIONS

Several history matching iterations were conducted during the quasi-calibration process. The quasi-calibration is discussed in Section 6 of the GWM10. This appendix documents the additional iterations conducted and notes why it was not necessary to include a continuing mass (constant or decreasing concentration cells) in predictive transport simulations presented in Section 7 of GWM10.

E.1 Load Line 2 RDX

Constant concentration cells were used for history matching of the Load Line (LL) 2 hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) plume. The potential area of historic contaminant release was assumed to be located in the southeast side of LL2. The constant concentration cells were applied in Layer 2 across an area of LL2 measuring approximately 200 feet wide by 700 feet long, extending from the southwest to the northeast in the southeast portion of the LL2 area. A higher soil-water distribution coefficient (Kd) value for LL2 in both Layers 2 and 3 was used to simulate the equivalent effect of RDX sorbing to available organic carbon and RDX that is slowly introduced into the groundwater by infiltration. During the quasi-calibration exercise it was noted that the observed retardation of the LL2 RDX plume appears to be significant, and variations in Kd were made to match observed data therefore a Kd value of 0.1 L/kg was used throughout the LL2 area and downgradient.

The simulations assumed RDX use at LL2 beginning in approximately 1945. A constant concentration of 100 microgram per liter (µg/L) was applied in Layer 2 over a 65 year period. Current RDX concentrations in Layer 3 are consistent with contaminant migration through advection and dispersion, therefore no concentrations were applied to Layer 3.

The simulated LL2 RDX plume migration after 65 years compared to the interpreted plume (the contours from Figures 3-3 and 3-4) shows:

- The plume width of the simulated plumes is generally the same width as the interpreted plumes.
- Localized areas of higher concentrations within the interpreted plumes are not observed in the simulated plumes.
- Concentrations downgradient of the LL2 area in the simulated plume begin to increase at a shorter distance from the LL2 area than the interpreted plume.

Current data indicates that a constant concentration or decreasing concentration scenario for LL2 does not provide an adequate history match of the current known distribution of RDX contamination at LL2. As discussed in Section 6, no specified concentration cells were utilized for predictive simulations.

E.2 Load Line 3 RDX

A decreasing concentration was used for history matching of the LL3 RDX plume. The potential area of historic contaminant release was assumed in the southeast side of LL3. The decreasing concentration cells were applied in Layer 2 across an area of LL3 measuring approximately 200 feet wide by 1000 feet long, extending from the southwest to the northeast in the southeast portion of the LL3 area. A Kd value for LL3 in both Layers 2 and 3 was used to retard the RDX plume. A Kd value of 0.1 L/kg was used throughout the LL3 area and downgradient.

In Layer 2, concentrations were applied over a 52 year period starting with a maximum concentration of 75 µg/L for ten years and decreasing to a concentration of 0 µg/L in 45 years. Interpreted concentrations in Layer 3 are consistent with contaminant migration through advection and dispersion, therefore no concentrations were applied to Layer 3.

The simulated LL3 RDX plume migration after 52 years compared to the interpreted plume (the contours from Figures 3-3 and 3-4) show:

- The distance the simulated plume is detached from the LL3 area is similar to the distance the interpreted plume is detached from the LL3 area.
- The influence of former Nebraska Ordnance Plant (NOP) extraction wells in the downgradient portion of the simulated plume is exaggerated in comparison to the interpreted plume. (This is possibly due to former NOP extraction wells operating for a longer period of time during the simulations than the actual operating durations of the extraction wells.)
- Contaminant concentrations were similar throughout for the simulated and interpreted plumes

Based on the results of this history matching, for predictive simulation starting from 2010, no specified concentrations cells are needed.

E.3 Load Line 4, Atlas Missile Area, and former Landfill TCE

As discussed in Section 3.6.3 of GWM10, the conceptual model for trichloroethene (TCE) transport at the LL4/Atlas Missile Area (AMA) is advection and retardation. Based on the understanding of historic activities related to the use of TCE at LL1, the simulations assumed TCE use at LL4/AMA in the late 1950s and early 1960s.

The concentrations of TCE in groundwater near the former Burning Grounds, former Proving Grounds and the former Landfill area suggest historic activities related to TCE were minimal as concentrations in groundwater are below 100 µg/L

A decreasing concentration was used for history matching of the LL4/AMA and Landfill TCE plumes. Simulation assumptions consistent with those used in GWM08 included:

- Placement of potential area of historic contaminant release concentration cells for the LL4/AMA and Landfill area. The potential area of historic contaminant release concentration cells for the AMA are assumed to be located about one-mile north of LL4 near the high concentration area. A potential area of historic contaminant release downgradient of the former Landfill area was assumed with lower specified concentrations.
- A higher Kd value for the LL4/AMA potential area of historic contaminant release to near the northern portion of LL4 in both Layers 2 and 3 and a higher Kd value for the Landfill potential area of historic contaminant release. The high Kd zones may simulate the earlier spread of a small amount of residual TCE.

The decreasing concentration at the LL4/AMA and Landfill was applied in Layers 2 and 3. Kd values at the assumed potential areas of historic contaminant release were consistent with GWM08 (0.15 L/kg for the AMA and 0.20 L/kg for the Landfill). Kd values throughout the remainder of the LL4/AMA and Landfill plumes used a Kd value of 0.015 L/kg (consistent with GMW08).

Constant concentrations were applied to Layers 2 and 3 during the first 20 years of the simulation, and then concentrations were reduced to 0 µg/L for the last 26 years of the simulation. A concentration of 500 µg/L was applied at the LL4/AMA and a concentration of 50 µg/L was applied at the Landfill.

The simulated LL4/AMA and Landfill TCE plumes migration after 46 years compared to the interpreted plume (the contours from Figures 3-1 and 3-2) indicate:

- The northern portions of the LL4/AMA and Landfill plumes remain separated from each other and have similar width as the interpreted plumes. However, the simulated LL4/AMA and Landfill plumes do not demonstrate the same lateral dispersion as the interpreted plumes in the Platte Valley, and thus do not exhibit as large of a comingled plume in the downgradient portion.
- Contaminant distribution within the simulated and interpreted plumes is similar, with relatively small areas of high concentration in the northern and middle portions of the LL4/AMA plumes. The contaminant distribution in the simulated plumes is similar to the interpreted plumes with higher concentrations in the upper portion of the aquifer in the northern portion of the LL4/AMA plume and higher concentrations in the lower portion of the aquifer in the southern portion of the LL4/AMA plume.
- The plume boundaries in the northern and middle portions of the simulated and interpreted plumes are similar. However, the simulated plumes indicate contaminant concentrations east of Johnson Creek are less than 5 µg/L, which is below the interpreted concentrations.

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Appendix F
Predictive Simulations Results 2060-2100

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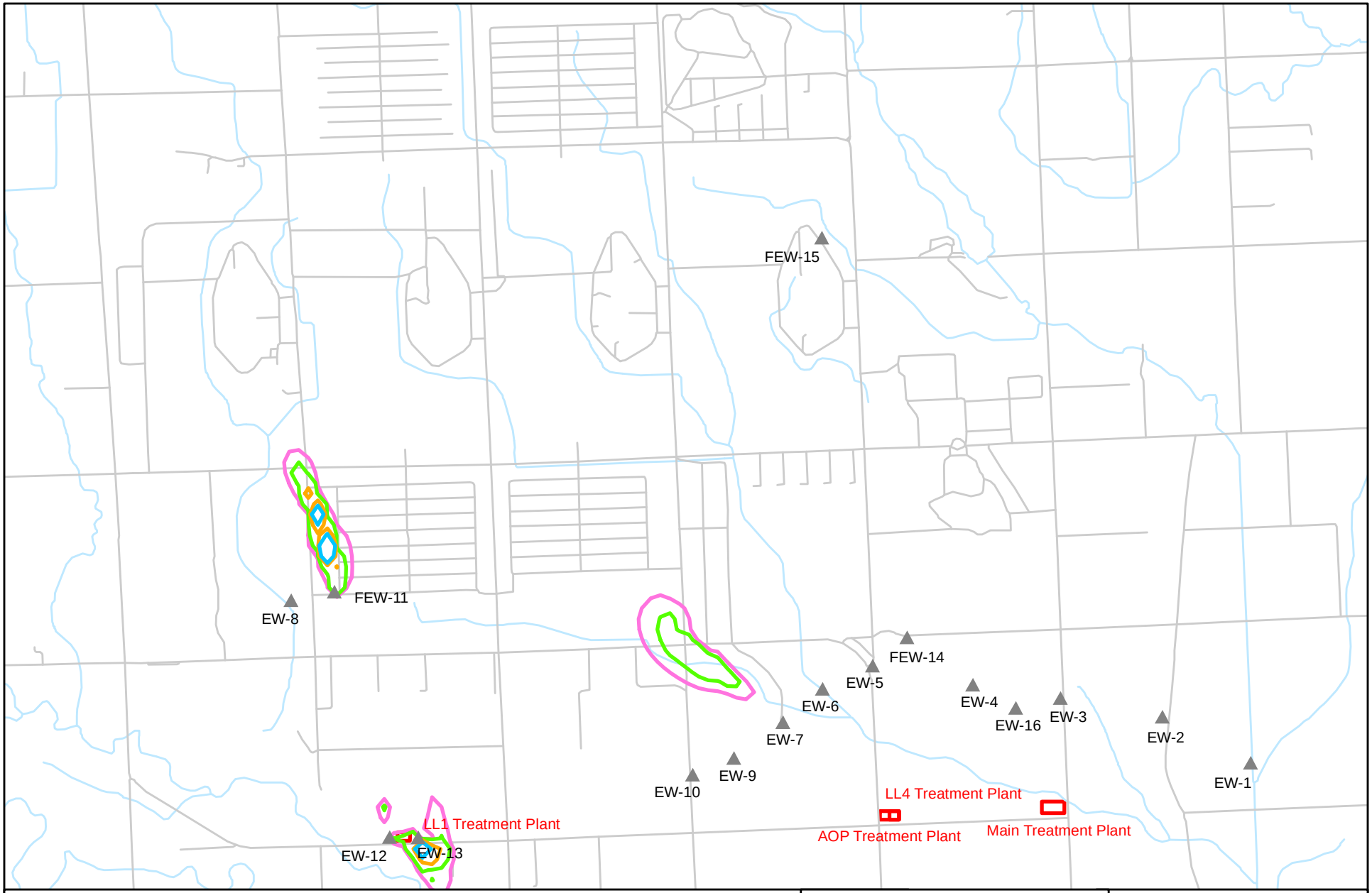


Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

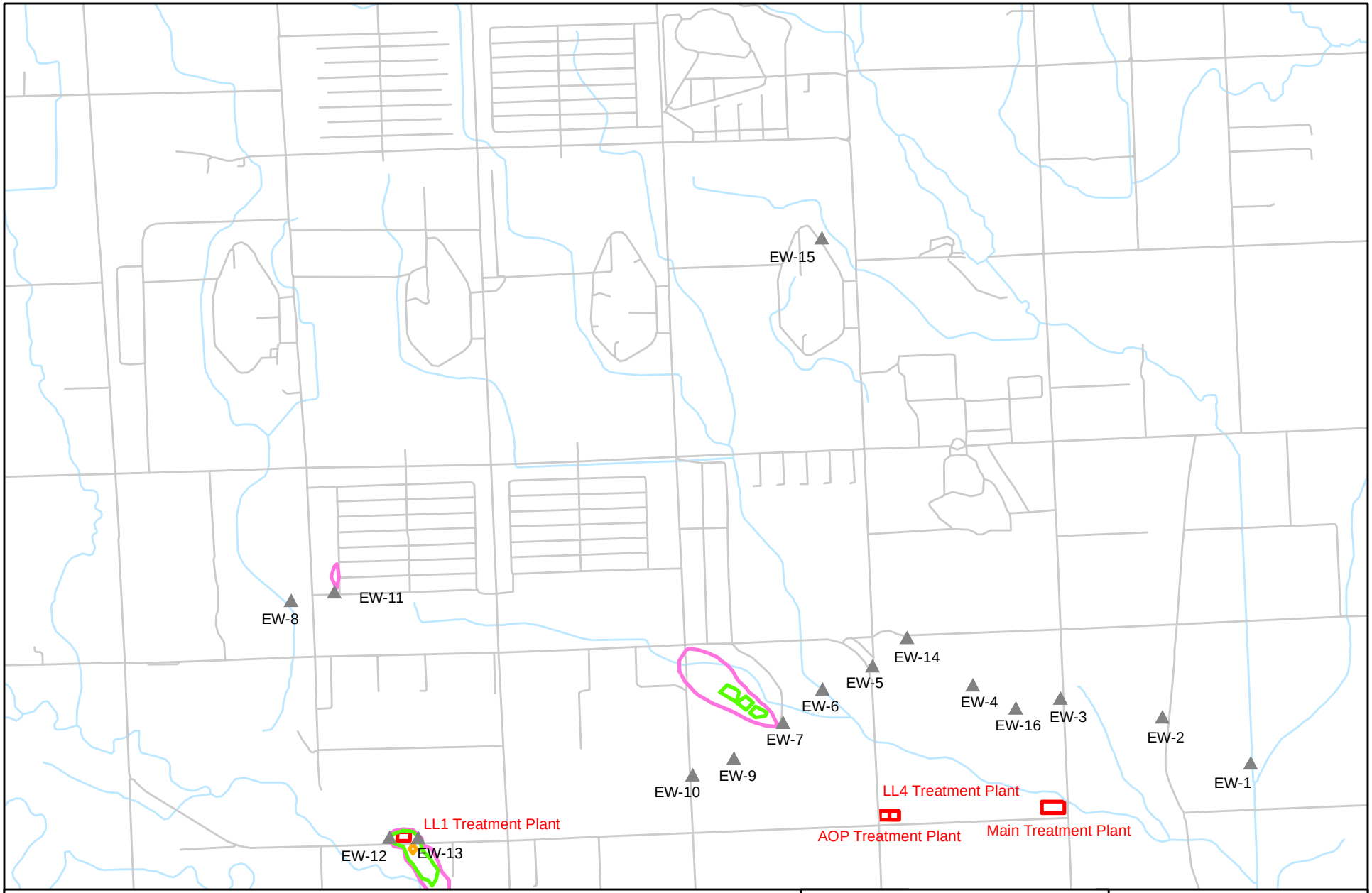
Burns & McDonnell

Figure F-1

PREDICTED TCE
LAYER 2
2060

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010GWM\FigF-1_TCE_2060_L2.mxd jmf May 12, 2011



Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

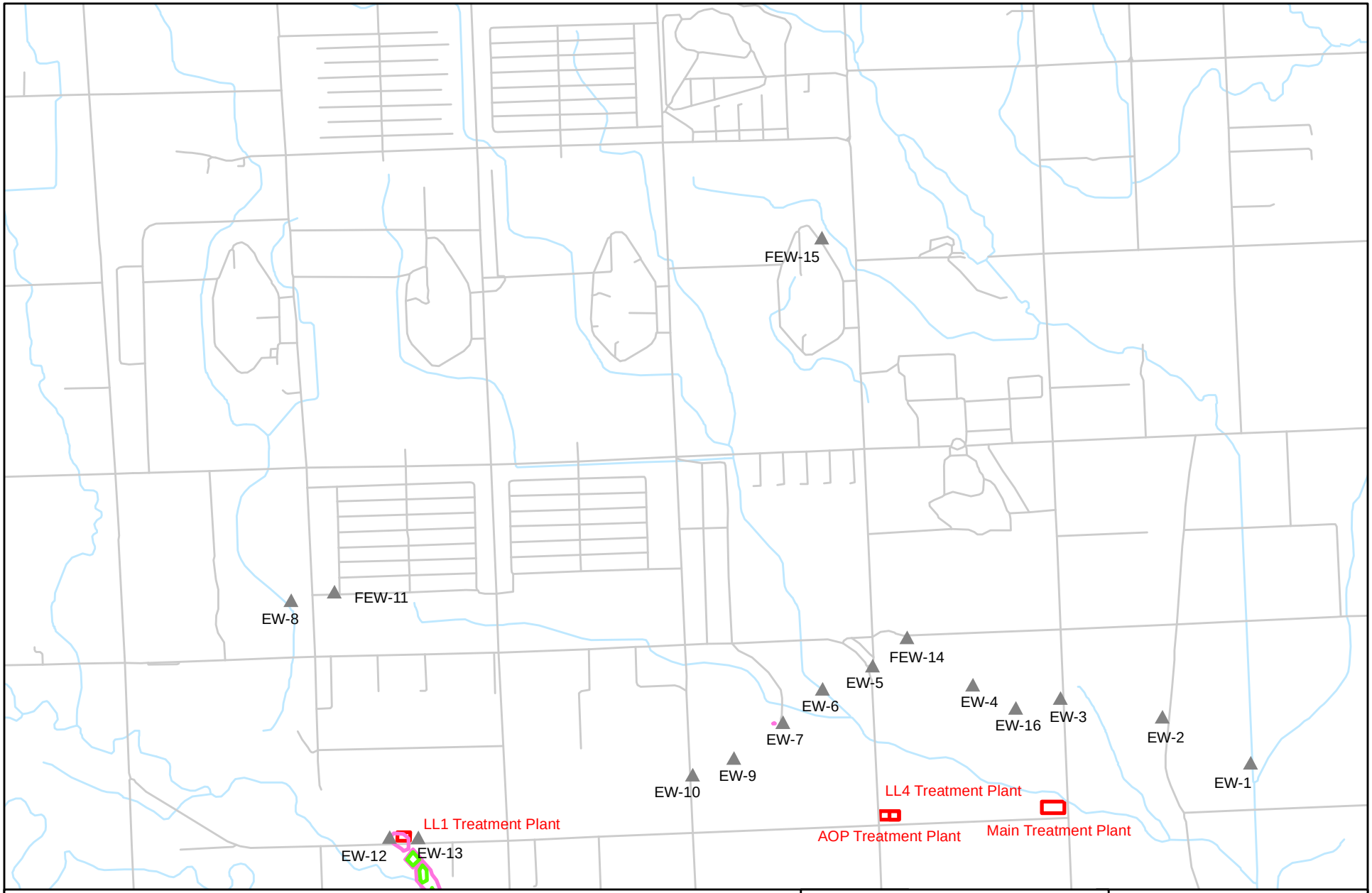
Burns & McDonnell

Figure F-2

PREDICTED TCE
LAYER 2
2070

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010GWM\FigF-2_TCE_2070_L2.mxd jmf May 12, 2011



Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

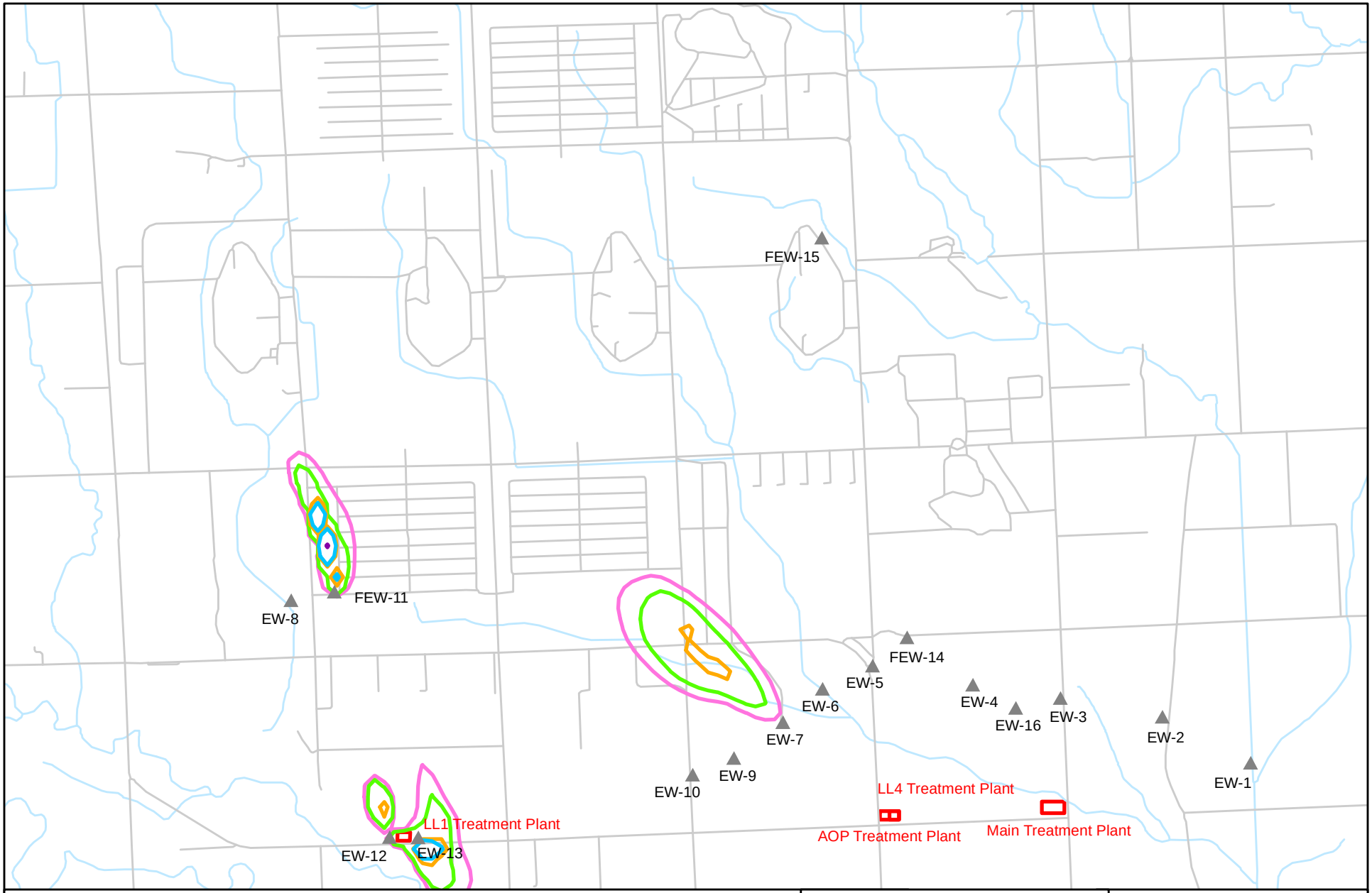
Burns & McDonnell

Figure F-3

PREDICTED TCE
LAYER 2
2080

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010GWM\FigF-3_TCE_2080_L3.mxd jmf May 12, 2011



Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure F-4

PREDICTED TCE
LAYER 3
2060

Former NOP

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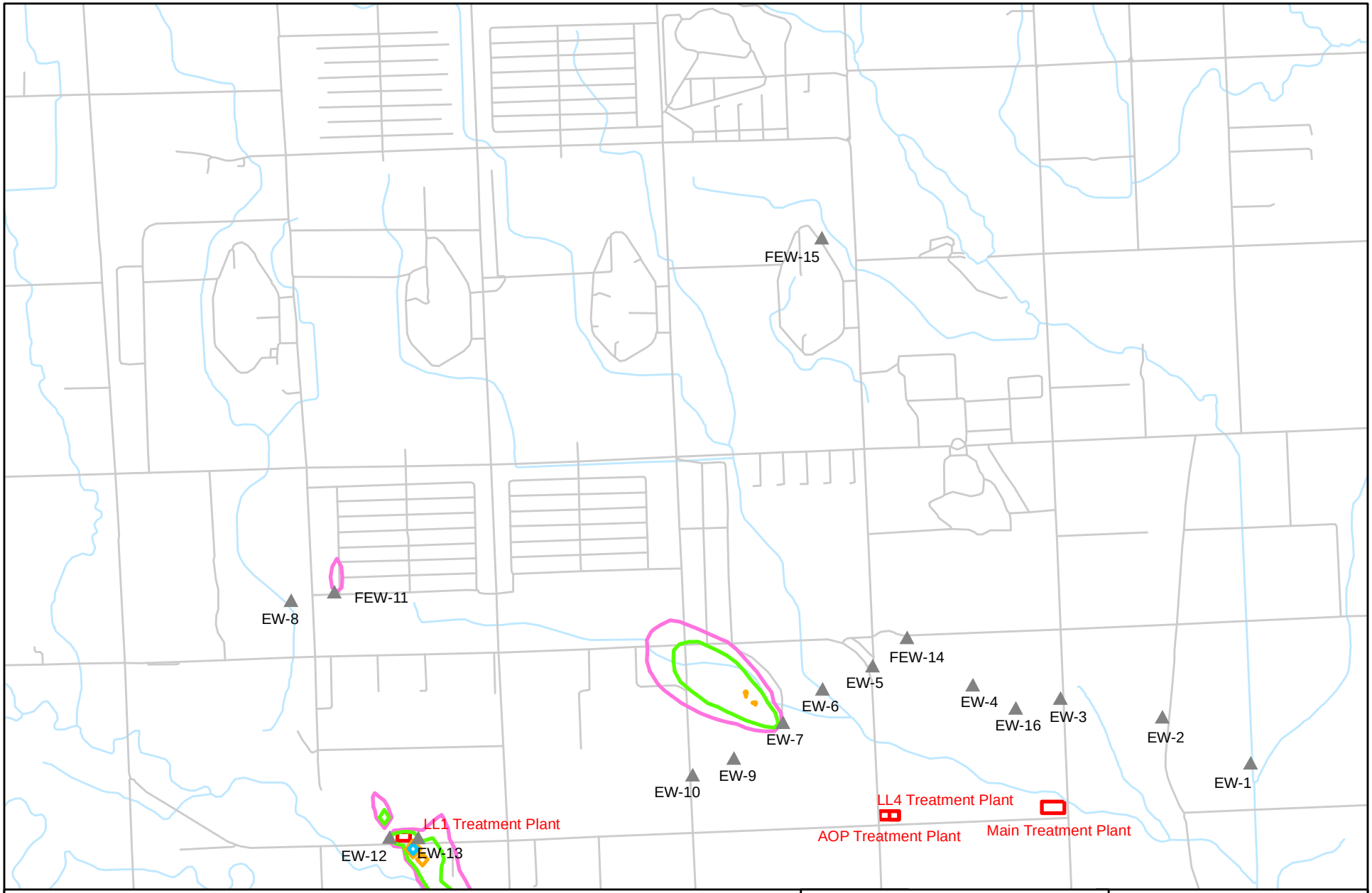


Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

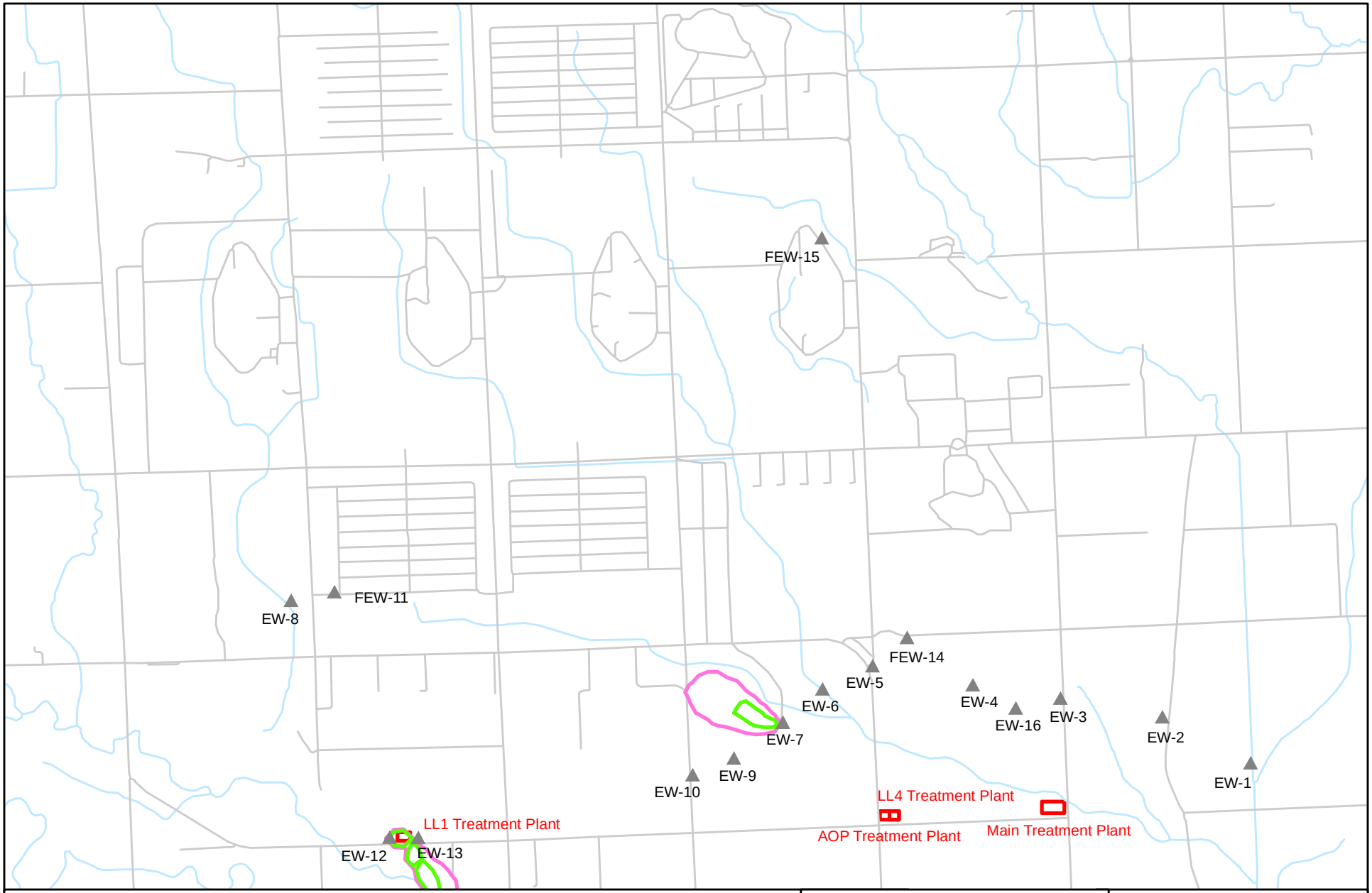
Burns & McDonnell

Figure F-5

PREDICTED TCE
LAYER 3
2070

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\2010GWM\FigF-5_TCE_2070_L3.mxd jmf May 12, 2011



Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

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Burns & McDonnell

Figure F-6

PREDICTED TCE
LAYER 3
2080

Former NOP

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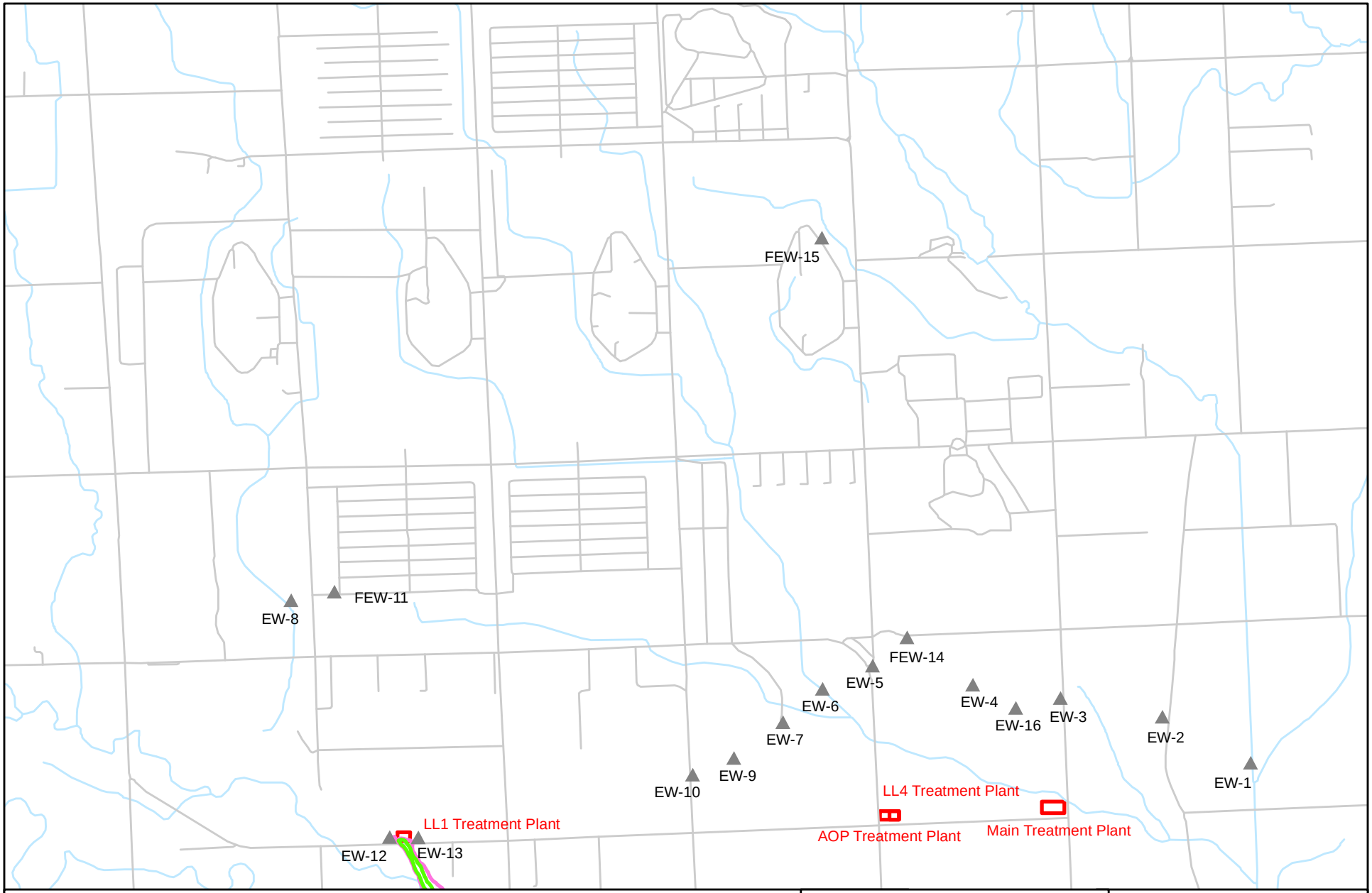

Legend

- USACE Extraction Well
- Treatment Plant

Trichloroethene Contours

- 5 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L
- 1,000 ug/L
- 10,000 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

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Burns & McDonnell

Figure F-7

PREDICTED TCE
LAYER 3
2090

Former NOP

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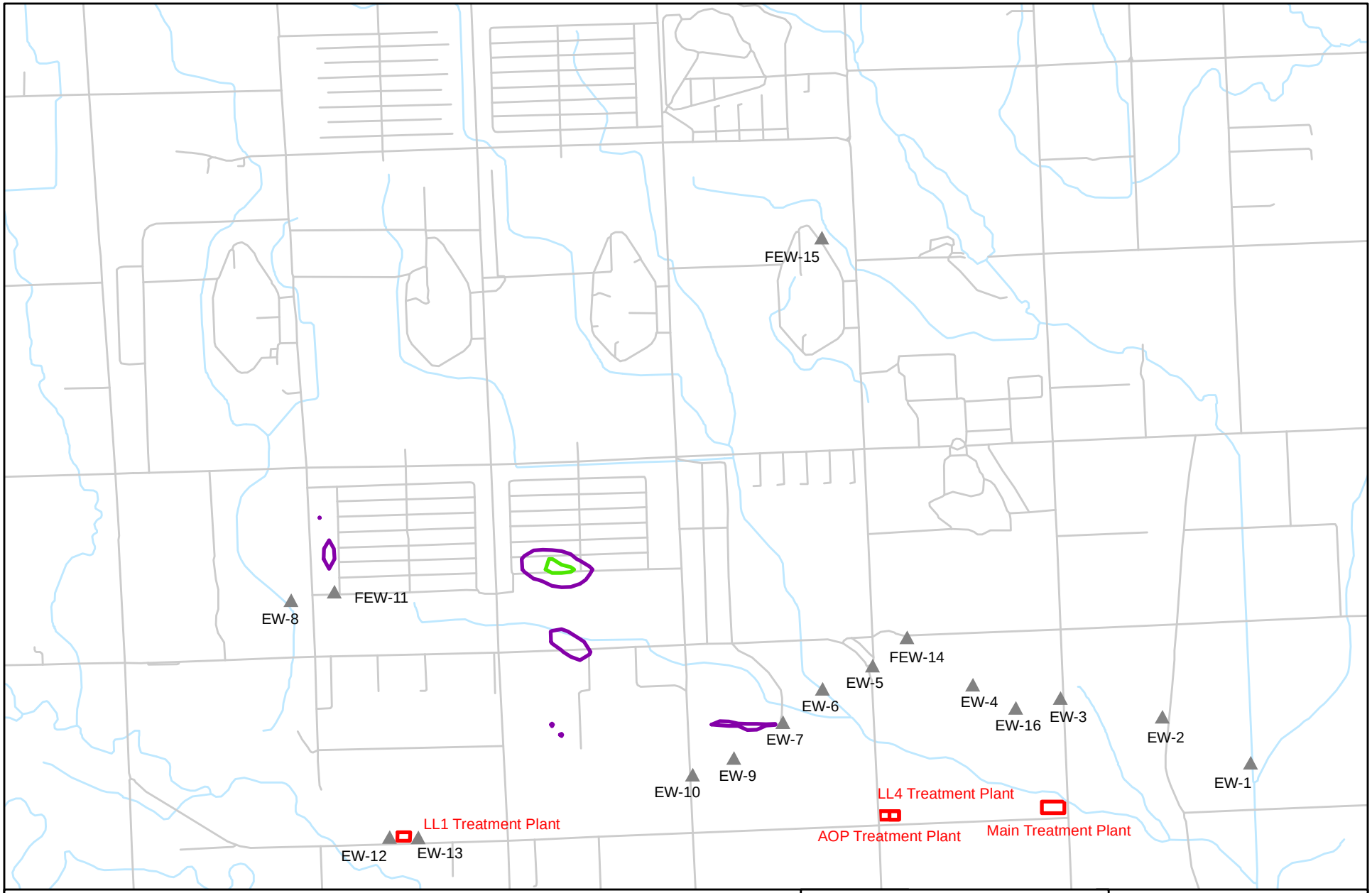


Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

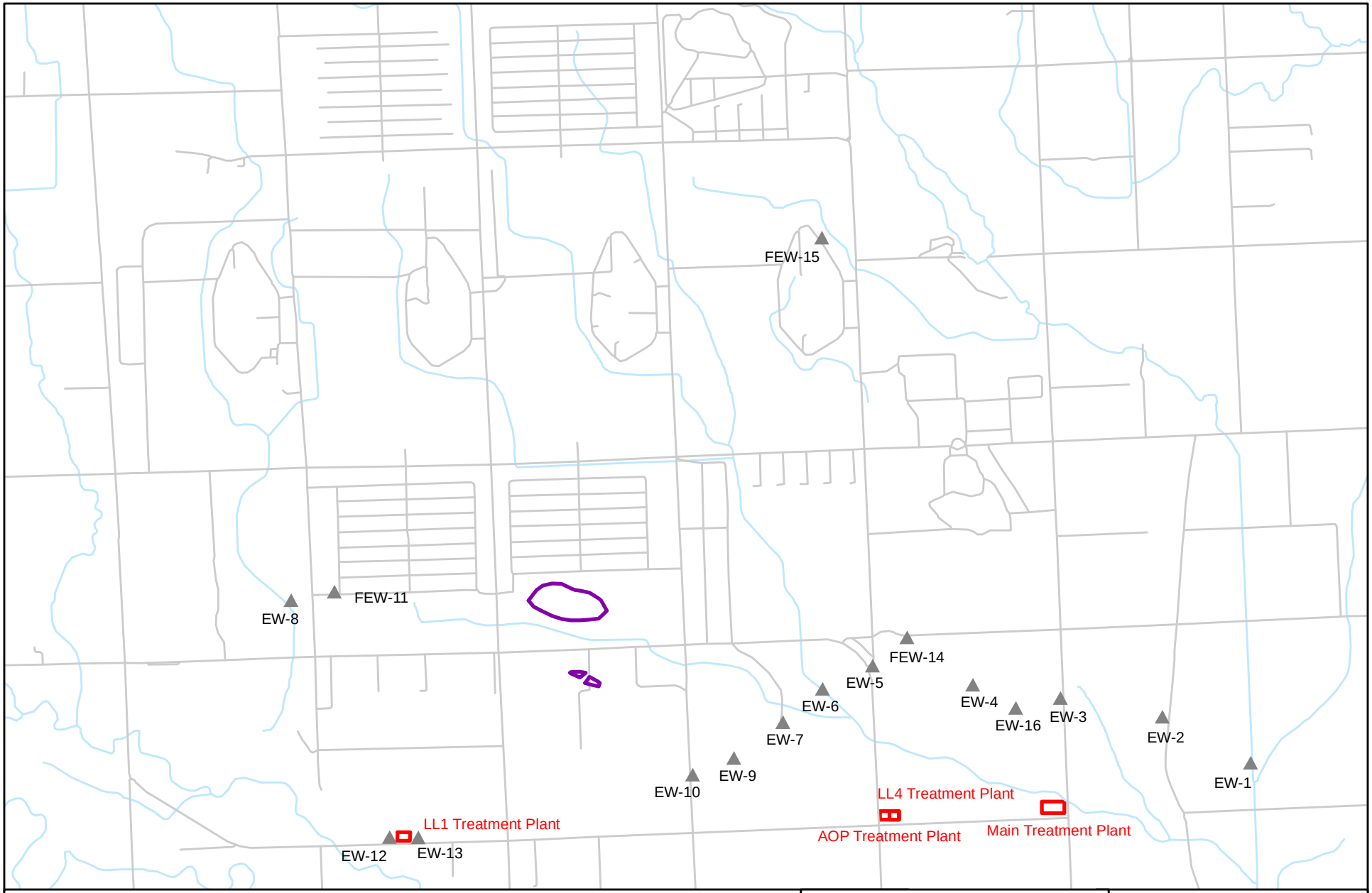
Burns & McDonnell

Figure F-8

PREDICTED RDX
LAYER 2
2060

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\GWM10\FigF-8_RDX_2060_L2.mxd jmf May 17, 2011



Legend

USACE Extraction Well

Treatment Plant

RDX Contours

- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

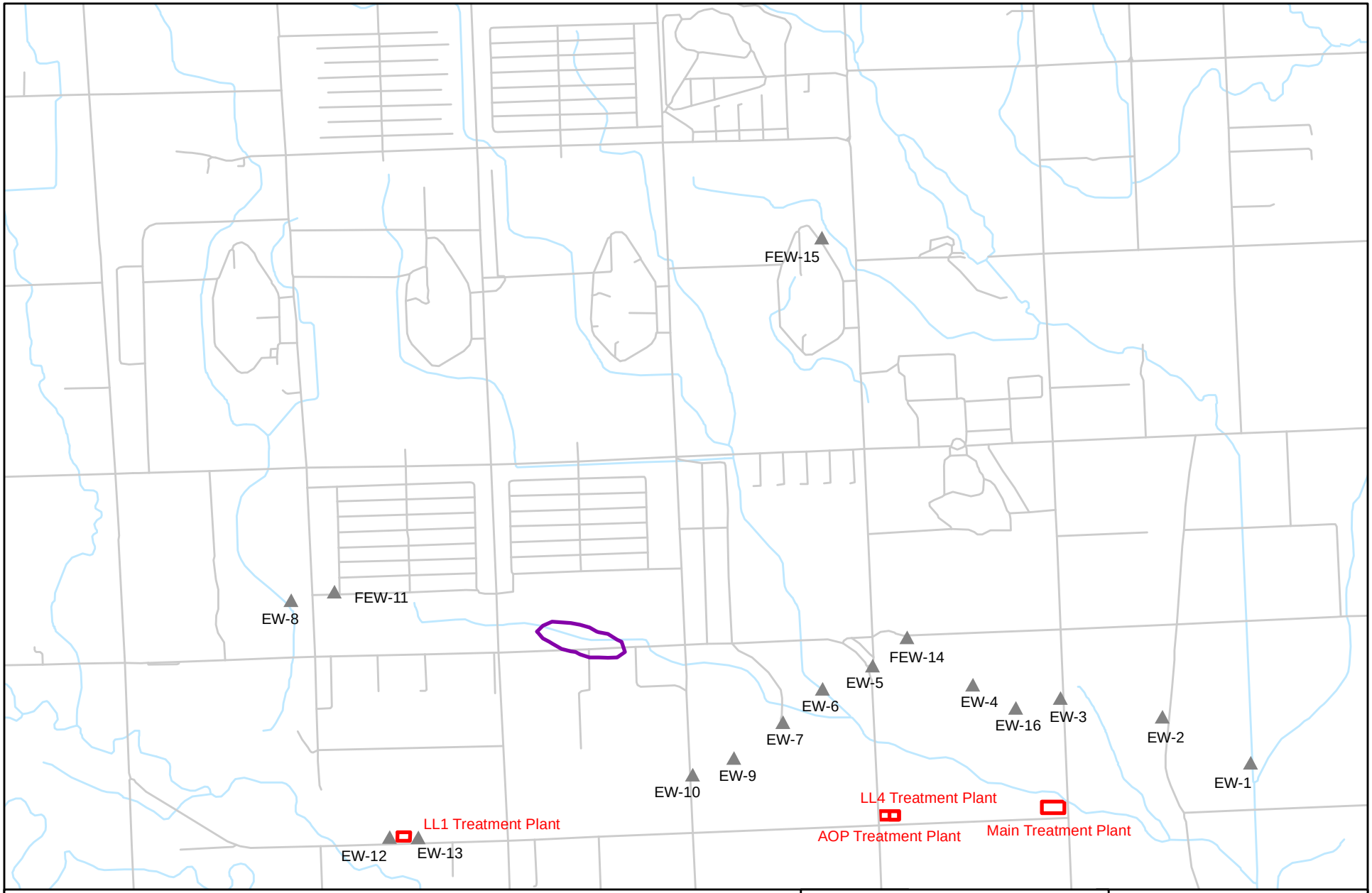
Burns & McDonnell

Figure F-9

PREDICTED RDX
LAYER 2
2070

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\GWM10\Fig6-_RDX_2070_L2.mxd jmf May 25, 2011



Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

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Figure F-10

PREDICTED RDX
LAYER 2
2080

Former NOP

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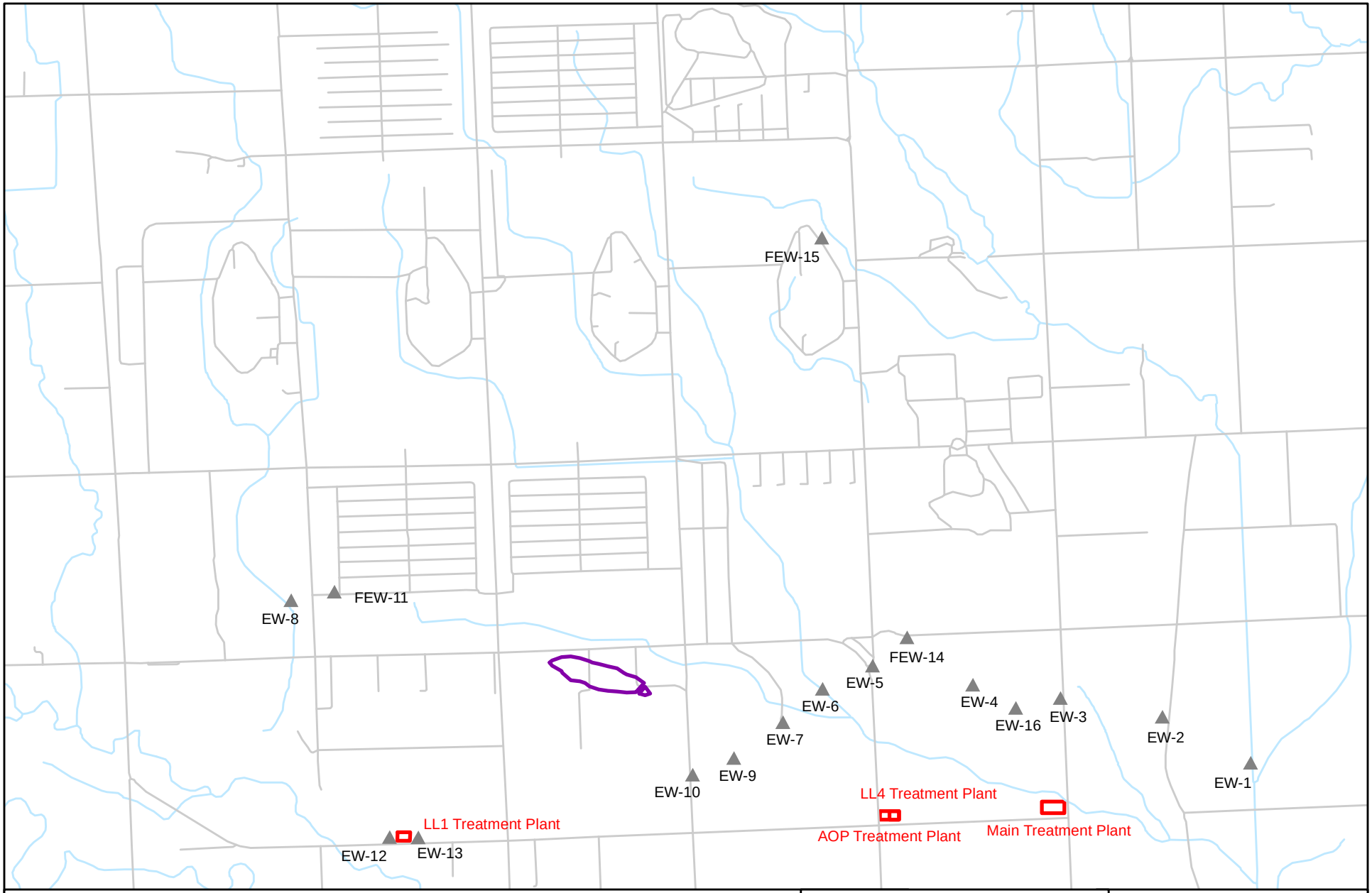

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

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Figure F-11

PREDICTED RDX
LAYER 2
2090

Former NOP

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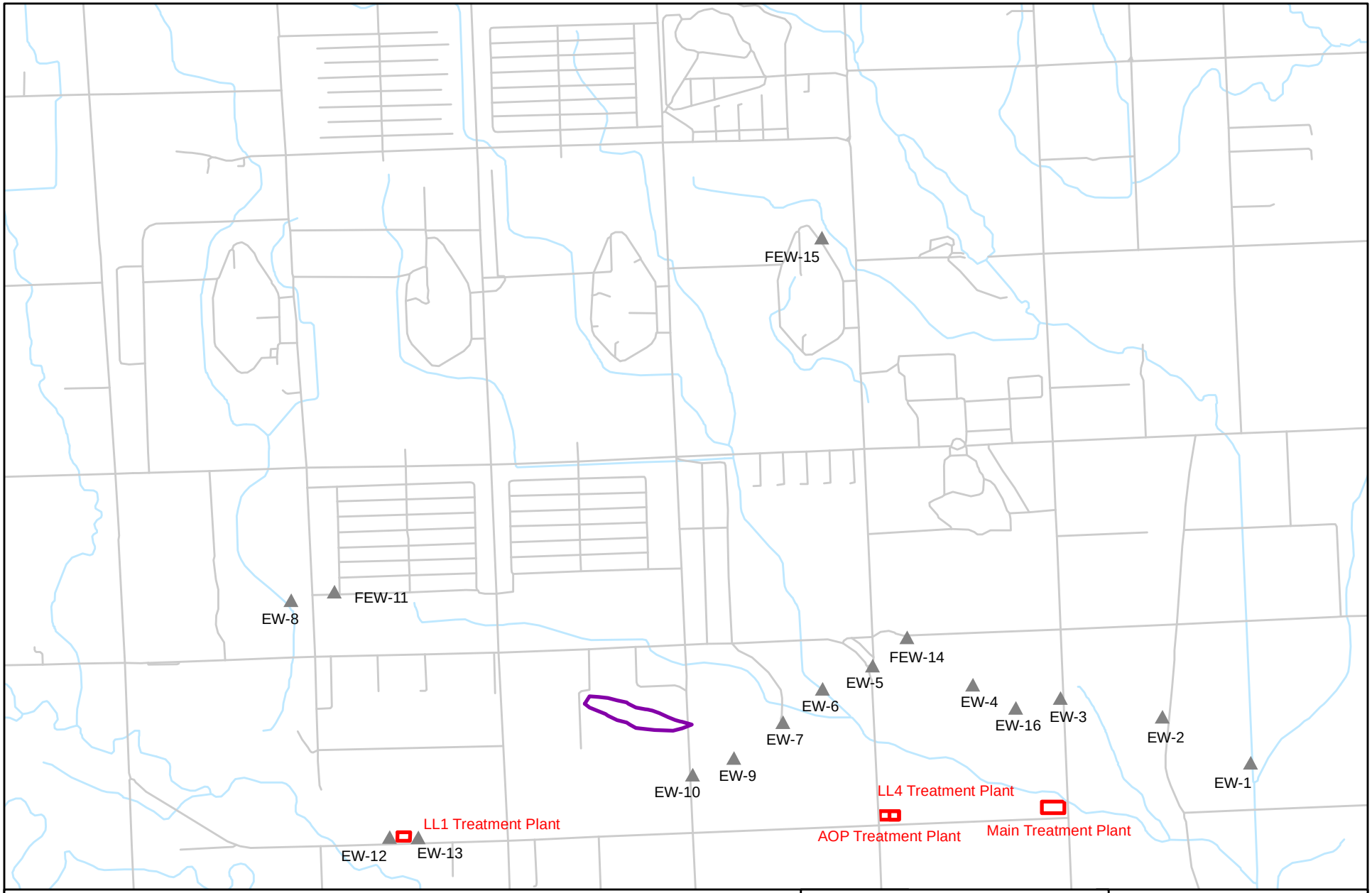

Legend

USACE Extraction Well
Treatment Plant

RDX Contours
2 ug/L
10 ug/L
50 ug/L
100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure F-12

PREDICTED RDX
LAYER 2
2100

Former NOP

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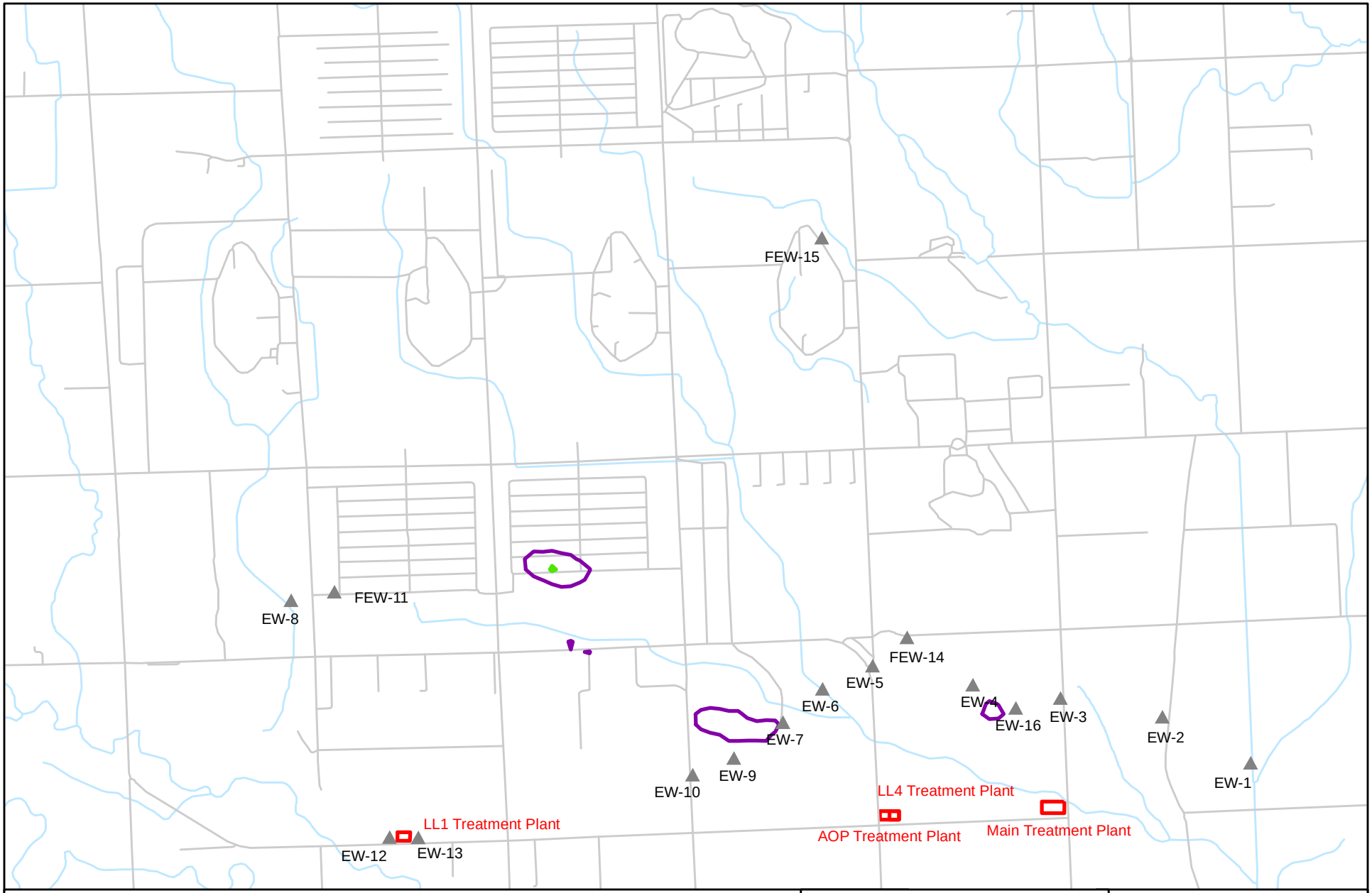

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

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Figure F-13

PREDICTED RDX
LAYER 3
2060

Former NOP

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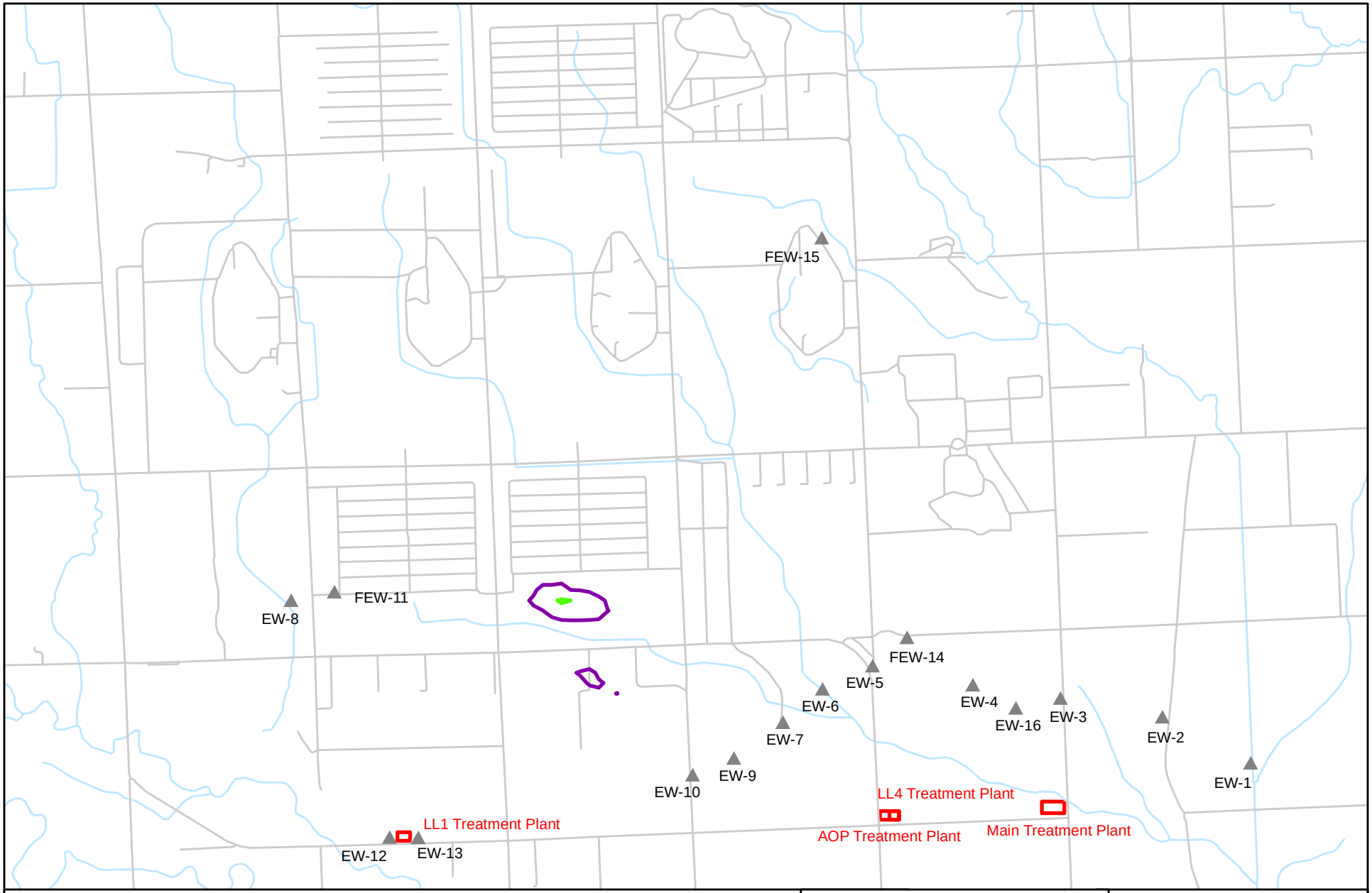

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure F-14

PREDICTED RDX
LAYER 3
2070

Former NOP

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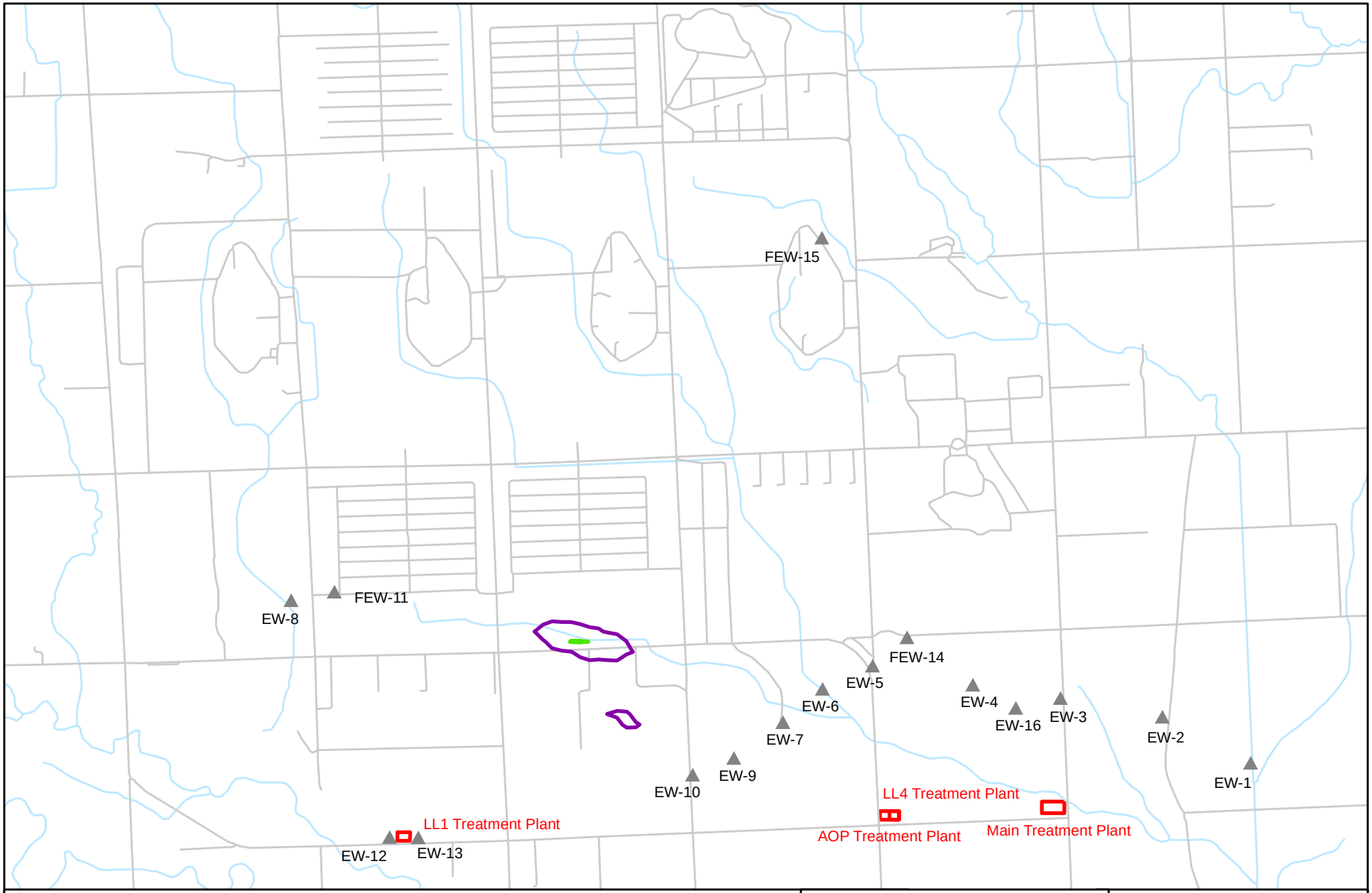

Legend

USACE Extraction Well
Treatment Plant

RDX Contours
2 ug/L
10 ug/L
50 ug/L
100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure F-15

PREDICTED RDX
LAYER 3
2080

Former NOP

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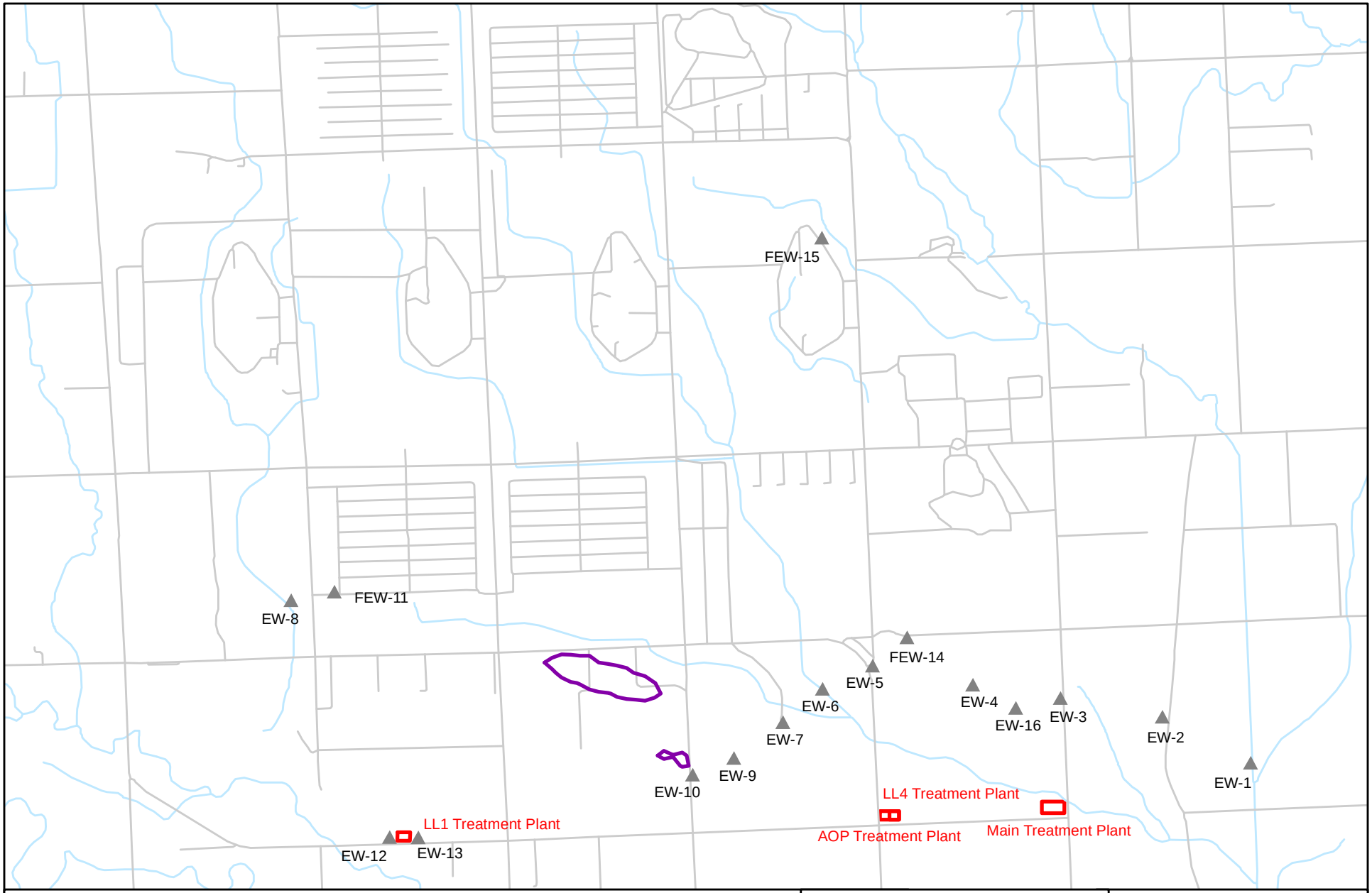

Legend

USACE Extraction Well
Treatment Plant

RDX Contours
2 ug/L
10 ug/L
50 ug/L
100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure F-16

PREDICTED RDX
LAYER 3
2090

Former NOP

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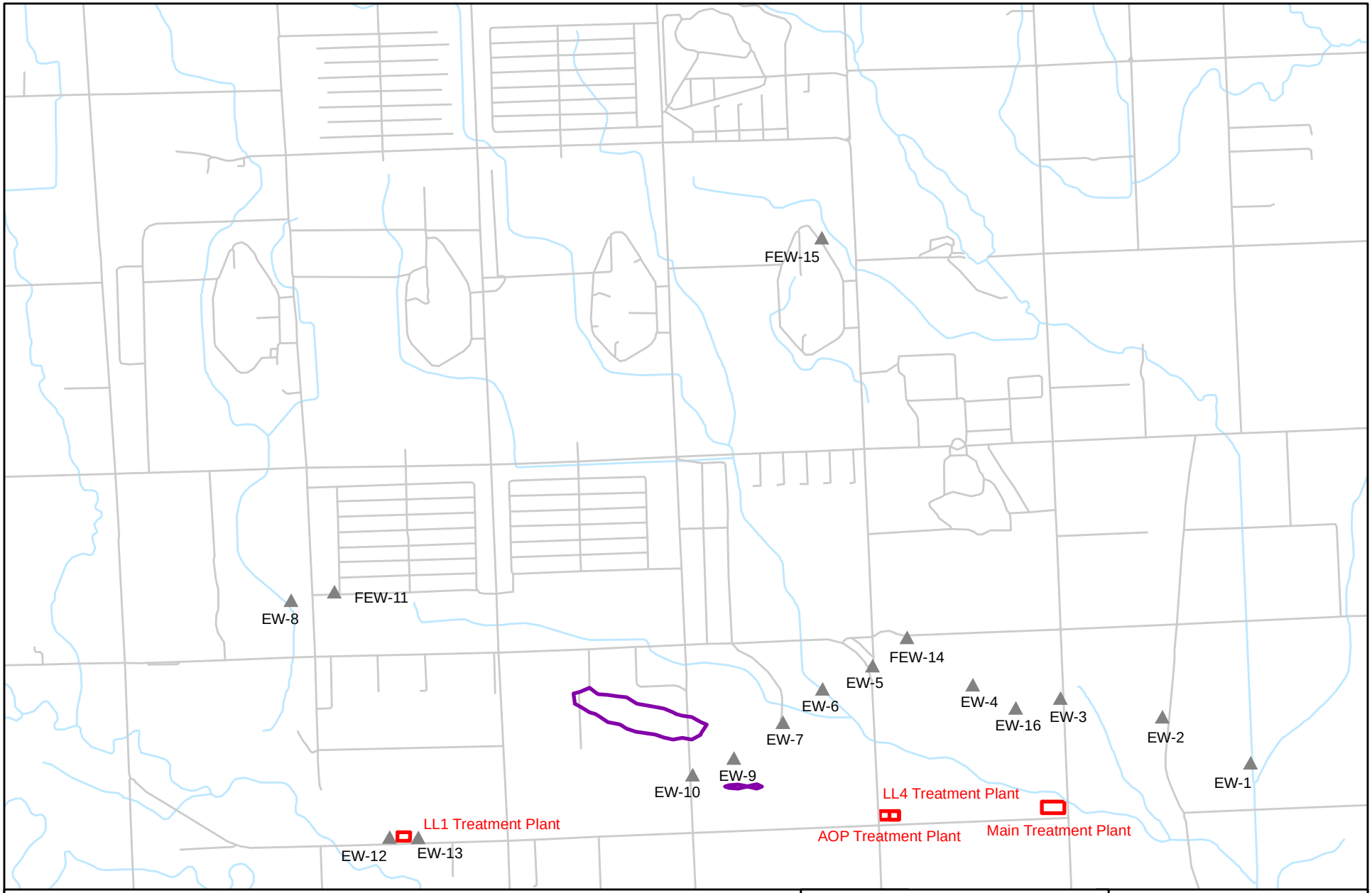

Legend

- USACE Extraction Well
- Treatment Plant

RDX Contours
- 2 ug/L
- 10 ug/L
- 50 ug/L
- 100 ug/L

N

0 1,500 3,000 6,000 Feet

US Army Corps of Engineers
Kansas City District

ECC

Burns & McDonnell

Figure F-17

PREDICTED RDX
LAYER 3
2100

Former NOP

K:\ENV\ECC\site\51469\Data\GIS\GWM10\FigF-17_RDX_2100_L2.mxd jmf May 17, 2011