ECF-200E-15-0037
Revision 0

Preparation of 200 East Area Water Table Maps for Calendar Years 2013 and 2014

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract DE-AC06-08RL14788

P.O. Box 1600
Richland, Washington 99352

Approved for Public Release;
Further Dissemination Unlimited

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APPROVED
By Julia Raymer at 7:37 am, Jun 13, 2016

Release Approval Date

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Environmental Calculation Cover Page

Part 1: Completed by the Responsible Manager

Project: Soil and Groundwater Remediation **Date:** December 1, 2015

Calculation Title & Description: Preparation of 200 East Area Water Table Maps for Calendar Years 2013 and 2014

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Part 2: Completed by Preparer

Calculation No.: ECF-200E-15-0037 **Revision No.:** 0

Revision History:

Revision No.	Description	Date	Affected Pages

Part 3: Document Review & Approval:

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Terms

CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
CFR	Code of Federal Regulations
CY	Calendar year
LERF	Liquid Effluent Retention Facility
LLWMA	Low-Level Waste Management Area
RCRA	*Resource Conservation and Recovery Act of 1976*
WAC	Washington Administrative Code
WMA	Waste Management Area

1 Purpose

This document describes the preparation of Calendar Year (CY) 2013 and 2014 water table maps for the 200 East Area. These maps support groundwater monitoring at the Hanford Site under the *Resource Conservation and Recovery Act of 1976* (RCRA) and the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA).

2 Background

From the 1940s until the 1980s, the Hanford Site produced plutonium for national defense. During that time operations used many chemical constituents which potentially can migrate to groundwater from waste sites. In the 1990s, the Hanford mission changed to environmental cleanup, including remediation of known groundwater contamination under the CERCLA and groundwater monitoring under RCRA.

It is required by 40 CFR 265.93(f), as referenced by WAC 173-303-400(3)(a), that owners/operators of interim-status treatment, storage or disposal facilities in detection monitoring evaluate water level elevation data at least annually to determine the adequacy of the groundwater monitoring well networks. Water level data are also analyzed for sites in assessment monitoring to meet the requirement of determining the rate and extent of contaminant migration (40 CFR 265.93[d][4] as referenced by WAC 173-303-400[3][a]). The use of water level data to determine groundwater flow directions in the 200 East Area has been problematic because of a very low hydraulic gradient magnitude combined with a relatively large depth to water. This results in a low signal-to-noise ratio in the determined water level elevations making it difficult to determine the hydraulic gradient. This problem has been overcome at some RCRA facilities through improving the accuracy of the water level measurements (by resurveys of well casing elevations, performing borehole path surveys, and analyzing barometric pressure effects) and analyzing the data by trend surface analysis (i.e., least squares fit of a plane to the measurements) (SGW-54165, *Evaluation of the Unconfined Aquifer Hydraulic Gradient Beneath the 200 East Area, Hanford Site)*. However, this method has not been successful at all RCRA sites in the 200 East Area because of either their small size or a spatial distribution of wells not suitable for trend surface analyses (i.e., the wells occur mostly along a line). To address the remaining RCRA sites, water table maps of the entire 200 East Area were prepared. This has allowed for groundwater flow at local areas to be inferred from the more regional interpretation. The remainder of the calculation documentation explains how these water table maps were generated.

3 Methodology

The wells used to determine the highly accurate water level elevations in the 200 East Area are referred to collectively as the low-gradient network. This network initially consisted of a 10-well network established at Low Level Waste Management Area 1 in the northwest corner of the 200 East Area during 2005. Over the years, it has been expanded to the present network of 56 wells spanning a region from 699-50-56 north of the 200 East Area to 699-37-47A near the southeast corner of the 200 East Area (Figure 1). The collection of monthly water-level measurements from this expanded network began during May 2013.

The water level measurements were analyzed by generating digital grids of the water table. This was done using a methodology that emphasized spatial averaging of the data to minimize the effect of error remaining in the measurements. Many different gridding techniques were evaluated: point and block Universal Kriging, inverse distance to a power, minimum curvature, polynomial regression, local polynomial, moving average, nearest neighbor, natural neighbor, modified Shepard's Method, triangulation with linear interpolation, and radial basis function. Many methods did not yield suitable

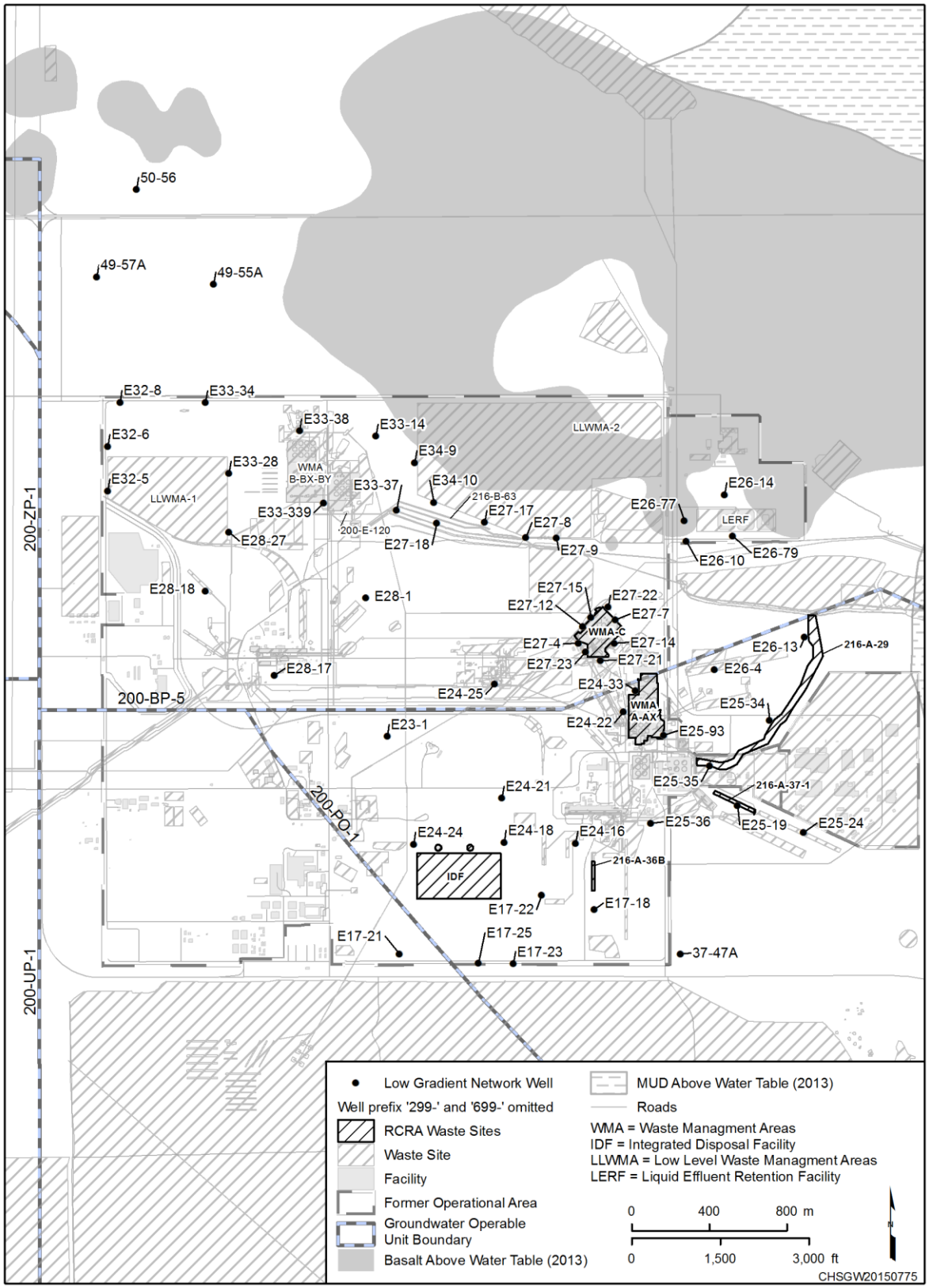

Figure 1. Well Location Map for the Low-Gradient Evaluation Network Wells

results because they are exact interpolators (i.e., they honor the measurements very closely) and provided little to no spatial averaging. Best results were achieved using the inverse distance to a power method with the gridding options set to emphasize spatial averaging. This method calculates the hydraulic head at each grid node as a weighted average of all wells in the study area where the weight of each measurement decreases with distance from the node. Thus, contours generated from the grids may not exactly honor measurements from nearby wells, but the contours do represent the underlying trend of the data.

The interpolation equation used for the inverse distance to a power method is (Surfer® online help):

$$\hat{Z}_j = \frac{\sum_{i=1}^{n} \frac{Z_i}{h_{ij}^{\beta}}}{\sum_{i=1}^{n} \frac{1}{h_{ij}^{\beta}}} \qquad \text{Equation 1}$$

in which

$$h_{ij} = \sqrt{d_{ij}^2 + \delta^2} \qquad \text{Equation 2}$$

where $\hat{Z}_j$ is the interpolated value for grid node j, h_{ij} is the effective separation distance between grid node j and measurement i, Z_i are the neighboring measurements, d_{ij} is the true separation distance between grid node j and measurement i, β is the weighting power, and δ is the smoothing parameter.

With inverse distance, weights decrease exponentially with distance from the node. The weighting power, β, is the exponent determining how rapidly this occurs. Higher values of β cause the weights to decrease rapidly with distance, so measurements farther from the node have much less effect on the average calculated for the node than nearby measurements. Lower values of β cause the weights to decrease less rapidly with distance, so measurements farther from the node have a greater effect on the calculated average. A weighting power of 2 is commonly used for the inverse distance method. However, best results for the 200 East Area water table maps were obtained with a weighting power of 4, which placed more emphasis on nearby measurements when calculating an average value for a node.

The smoothing parameter is effectively the minimum allowed separation distance of a measurement from a grid node. When the smoothing parameter is zero, the effective separation distance equals the true separation distance. When the smoothing parameter is larger than zero, the effective separation distance is larger than the true separation distance. This prevents measurements near a grid node from having a large effect on the interpolated value. This is how spatial averaging of the measurements is accomplished. For the 200 East Area water table maps, best results were obtained with a weighting power of 4 and a smoothing parameter of 750 m.

In addition to the spatial averaging performed as part of the gridding process, the water level measurements were temporally averaged. This was done for two reasons:

1. Corrections for barometric pressure fluctuations have not been done for all wells in the expanded 56-well network. Barometric corrections require the collection of automated water level measurements from each well to determine their barometric response characteristics. This has not been done for all the wells due to resource constraints.

® Surfer is a registered trademark of Golden Software, LLC, Golden, Colorado

2. Even with the accuracy improvements, the water level measurements still contain some error. This error has been estimated to range from ±0.6 cm to ±1.9 cm (SGW-54165). Temporal averaging of the data helps to minimize this error.

Because the collection of water-level measurements began during May 2013, the 2013 water table map was made using average water levels from May to December 2013. For the 2014 map, the data were averaged for the entire calendar year.

To further refine the grids, cross validation was used to identify wells having a substantial effect on the gridded surface. With cross validation, hydraulic head values are calculated for the nearest grid node to each measurement without using that measurement in the calculation. The difference between the measurement and the calculated value for the grid node is interpreted to be the measurement error. By this method, an error value is assigned to each measurement in the data set. As mentioned above, the error remaining in the measurements was estimated to be up to ±1.9 cm. On this basis, wells having a measurement error estimated by cross validation greater than 2 cm were not used in the final grids. The same 4 wells were identified and omitted from the final grids for both 2013 and 2014: 299-E27-4 and 299-E27-22 (both at WMA C), 299-E24-25 (west of WMA C), and 299-E28-17 (south of LLWMA-1). The effect of removing these wells from the grids is shown in Appendix B. One other well, 699-50-56, had a cross validation result greater than 2 cm for both years, but the higher hydraulic head at that location may be real because this well is at the edge of the network where water levels are highest. This well was retained in the final grids.

4 Assumptions and Inputs

Input data for generating the grids consisted of monthly water level measurements in the network wells, and the horizontal location coordinates for the wells. These data are summarized in Appendix A. The collection of monthly water level measurements began in May 2013. To reduce some of the variability in the data, the 2013 map was generated using average water level elevations in the wells for measurements scheduled for May 2013 through December 2013[1], and the 2014 map was generated using average water level elevations for January 2014 through December 2014.

The key assumption in generating the 200 East Area water table maps was that the local variability of the water level measurements is generally greater than the actual change in the water table elevation. Evidence for this is the residual error in the water level measurements determined during trend surface analyses, which was estimated to be as high as ±1.9 cm (SGW-54165). To mitigate this issue, spatial averaging was employed in generating the grids by setting the smoothing parameter equal to 750 m.

Some of the available water level data were excluded when generating the maps. First, outliers (identified by visual inspection of the data) were excluded (listed in Table A.3 of Appendix A). Second, measurements were not available from every well for every month. For 299-E17-21, only 3 measurements were available during 2013 and this was deemed not enough to produce a meaningful average. Thus, this well was excluded from the 2013 water table grid. Third (as explained in Section 3), the cross validation results indicated that 299-E27-4, 299-E27-22, 299-E24-25, and 299-E28-17 yielded water level measurement values with estimated errors greater than 2 cm. All 4 of these wells were excluded when generating both the 2013 and 2014 grids. Finally, water level elevations in wells at the Liquid Effluent Retention Facility (LERF) were generally higher than elsewhere in the 200 East Area. Inclusion of these wells had a substantial effect on the gridded surface at large distances from the LERF. For this reason, the

[1] The measurements scheduled for December 2013 were collected in early January 2014 and were included in the dataset for the 2013 grid.

LERF wells (299-E26-10, 299-E26-14, 299-E26-77, and 299-E26-79) were excluded when generating the grids.

The grids were generated using the Surfer® software (described in Section 5). Parameter settings for the inverse distance gridding method used in generating the water table grids are listed in Table 1.

Table 1. Parameter Settings for the Inverse Distance Gridding Method

Parameter	Value
Power	4
Smoothing Factor	750 (m)
Anisotropy Ratio	1
Anisotropy Angle	0
Search Parameters	No Search (use all of the data)
Number of Nodes – X Direction	92[a]
Number of Nodes – Y Direction	100[a]
Blank Grid Outside Convex Hull of Data[b]	Yes[b]
Z Transform	Linear

a. Yields an approximate grid cell size of 40 x 40 m.
b. "The convex hull of a data set is the smallest convex polygon containing all the data. The convex hull can be thought of as a rubber band that encompasses all data points" (Surfer® online help). By setting this option to "Yes", values for the grid nodes were not extrapolated beyond the region of data coverage.

5 Software Applications

Surfer®[2] was used to perform the calculations described in Section 3, using functions available in that software. Surfer® is an application developed by Golden Software, LLC (Golden, Colorado) for gridding, contouring, and mapping of surfaces. The gridding feature of Surfer® generates regularly spaced grids by interpolation of discrete x,y,z data. Surfer® Version 12 is registered in the Hanford Information System Inventory (HISI) as approved for use (HISI number 3832). The calculations were performed within the limitations of the software as approved, and consistent with the requirements of PRC-PRO-IRM-309, "Controlled Software Management."

6 Calculations

Calculation of the 2013 and 2014 water table grids for the 200 East Area were made using the Surfer® software. The grid reports and cross-validation reports that were output by the software are in Appendix C.

[2] Surfer® is a registered product of Golden Software, LLC.

7 Results

Results of the cross validation are shown in Tables 2 and 3 for the 2013 and 2014 grids, respectively. The results are sorted by decreasing absolute magnitude of the residual (or estimated error). As described in Section 4, the same 5 wells had residuals greater than 2 cm for both data sets. Well 699-50-56 had the largest magnitude residual, but this well is the most northern well in the network and is in the direction of increasing water table elevation. Thus, the higher water level elevation in this well is believed to be valid and this well was retained in the data sets. The other 4 wells (299-E24-25, 299-E27-4, 299-E27-22, 299-E28-17) are near the central part of the 200 East Area and were removed from the data sets. The effect of excluding these wells from the data sets is shown in Appendix B.

Figures 2 and 3 show the 2013 and 2014 water table grids (as water table contour maps). The contour interval is 0.005 m (i.e., 5 mm). The maps indicate overall flow toward the southeast. The 2013 water table was higher in elevation and exhibited a larger gradient magnitude than the 2014 water table. For a more detailed interpretation of these maps, see SGW-58828, *Water Table Maps for the Hanford Site 200 East Area, 2013 and 2014*.

Table 2. Cross Validation Results for the 2013 Average Water Level Measurements

Well Name	Average Measured Water Level (m NAVD88)	Grid Interpolated Water Level (m NAVD88)	Residual (Estimated Error)
699-50-56	121.878	121.8246	-0.0534
299-E24-25	121.766	121.7927	0.0267
299-E27-22	121.817	121.7909	-0.0261
299-E28-17	121.777	121.8010	0.0240
299-E27-4	121.813	121.7903	-0.0227
299-E24-16	121.802	121.7822	-0.0198
299-E17-18	121.766	121.7848	0.0188
699-49-55A	121.839	121.8232	-0.0158
699-37-47A	121.768	121.7821	0.0141
299-E25-19	121.771	121.7851	0.0141
299-E28-18	121.816	121.8036	-0.0124
299-E27-21	121.780	121.7921	0.0121
299-E32-8	121.826	121.8165	-0.0095
299-E25-36	121.776	121.7849	0.0089
299-E27-7	121.785	121.7933	0.0083
299-E27-17	121.792	121.7994	0.0074
299-E24-18	121.779	121.7861	0.0071
299-E24-21	121.780	121.7869	0.0069

Table 2. Cross Validation Results for the 2013 Average Water Level Measurements

Well Name	Average Measured Water Level (m NAVD88)	Grid Interpolated Water Level (m NAVD88)	Residual (Estimated Error)
299-E34-10	121.807	121.8005	-0.0065
299-E24-24	121.792	121.7856	-0.0064
299-E33-37	121.807	121.8017	-0.0053
299-E27-18	121.805	121.7999	-0.0051
299-E33-38	121.812	121.8074	-0.0046
299-E33-28	121.806	121.8105	0.0045
299-E17-22	121.787	121.7831	-0.0039
299-E25-24	121.786	121.7821	-0.0039
699-49-57A	121.830	121.8336	0.0036
299-E26-13	121.792	121.7884	-0.0036
299-E26-4	121.792	121.7886	-0.0034
299-E25-93	121.784	121.7873	0.0033
299-E27-15	121.790	121.7932	0.0032
299-E25-35	121.782	121.7852	0.0032
299-E24-33	121.787	121.7896	0.0026
299-E27-9	121.798	121.7957	-0.0023
299-E33-34	121.813	121.8150	0.0020
299-E33-14	121.803	121.8050	0.0020
299-E27-14	121.790	121.7919	0.0019
299-E24-22	121.787	121.7889	0.0019
299-E32-5	121.816	121.8142	-0.0018
299-E27-23	121.790	121.7918	0.0018
299-E25-34	121.785	121.7866	0.0016
299-E28-27	121.809	121.8075	-0.0015
299-E27-8	121.798	121.7965	-0.0015
299-E34-9	121.804	121.8027	-0.0013
299-E17-23	121.782	121.7832	0.0012
299-E17-25	121.783	121.7838	0.0008

Table 2. Cross Validation Results for the 2013 Average Water Level Measurements

Well Name	Average Measured Water Level (m NAVD88)	Grid Interpolated Water Level (m NAVD88)	Residual (Estimated Error)
299-E32-6	121.817	121.8164	-0.0006
299-E23-1	121.790	121.7897	-0.0003
299-E27-12	121.793	121.7927	-0.0003
299-E33-339	121.805	121.8048	-0.0002
299-E28-1	121.799	121.7989	-0.0001

NAVD88 = North American Vertical Datum of 1988

Table 3. Cross Validation Results for the 2014 Average Water Level Measurements

Well Name	Average Measured Water Level (m NAVD88)	Grid Interpolated Water Level (m NAVD88)	Residual (Estimated Error)
699-50-56	121.825	121.7944	-0.0306
299-E27-22	121.812	121.7824	-0.0296
299-E24-25	121.757	121.7828	0.0258
299-E27-4	121.807	121.7818	-0.0252
299-E28-17	121.763	121.7842	0.0212
699-37-47A	121.758	121.7754	0.0174
299-E24-16	121.789	121.7737	-0.0153
299-E17-18	121.762	121.7752	0.0132
299-E25-36	121.766	121.7784	0.0124
299-E25-24	121.789	121.7780	-0.0110
299-E24-21	121.767	121.7772	0.0102
299-E28-1	121.775	121.7848	0.0098
299-E28-18	121.794	121.7848	-0.0092
299-E27-21	121.776	121.7838	0.0078
299-E17-23	121.767	121.7745	0.0075
299-E27-17	121.780	121.7868	0.0068
299-E17-25	121.779	121.7722	-0.0068
299-E34-10	121.793	121.7865	-0.0065

Table 3. Cross Validation Results for the 2014 Average Water Level Measurements

Well Name	Average Measured Water Level (m NAVD88)	Grid Interpolated Water Level (m NAVD88)	Residual (Estimated Error)
299-E33-37	121.793	121.7866	-0.0064
299-E27-7	121.779	121.7850	0.0060
299-E27-23	121.778	121.7839	0.0059
299-E24-18	121.770	121.7757	0.0057
299-E17-21	121.770	121.7753	0.0053
299-E27-15	121.780	121.7850	0.0050
299-E33-34	121.787	121.7919	0.0049
299-E27-18	121.791	121.7861	-0.0049
299-E25-93	121.776	121.7807	0.0047
699-49-55A	121.800	121.7955	-0.0045
299-E32-8	121.796	121.7915	-0.0045
699-49-57A	121.796	121.8004	0.0044
299-E24-24	121.779	121.7747	-0.0043
299-E33-38	121.793	121.7887	-0.0043
299-E25-34	121.777	121.7812	0.0042
299-E25-19	121.782	121.7787	-0.0033
299-E34-9	121.790	121.7878	-0.0022
299-E27-14	121.782	121.7840	0.0020
299-E27-12	121.786	121.7841	-0.0019
299-E25-35	121.781	121.7793	-0.0017
299-E24-22	121.780	121.7813	0.0013
299-E17-22	121.775	121.7738	-0.0012
299-E24-33	121.783	121.7819	-0.0011
299-E26-4	121.781	121.7819	0.0009
299-E33-14	121.788	121.7888	0.0008
299-E23-1	121.778	121.7772	-0.0008
299-E27-8	121.785	121.7856	0.0006
299-E26-13	121.782	121.7815	-0.0005

Table 3. Cross Validation Results for the 2014 Average Water Level Measurements

Well Name	Average Measured Water Level (m NAVD88)	Grid Interpolated Water Level (m NAVD88)	Residual (Estimated Error)
299-E27-9	121.786	121.7855	-0.0005
299-E32-6	121.792	121.7915	-0.0005
299-E33-28	121.789	121.7893	0.0003
299-E33-339	121.788	121.7877	-0.0003
299-E32-5	121.791	121.7908	-0.0002
299-E28-27	121.788	121.7881	0.0001

NAVD88 = North American Vertical Datum of 1988

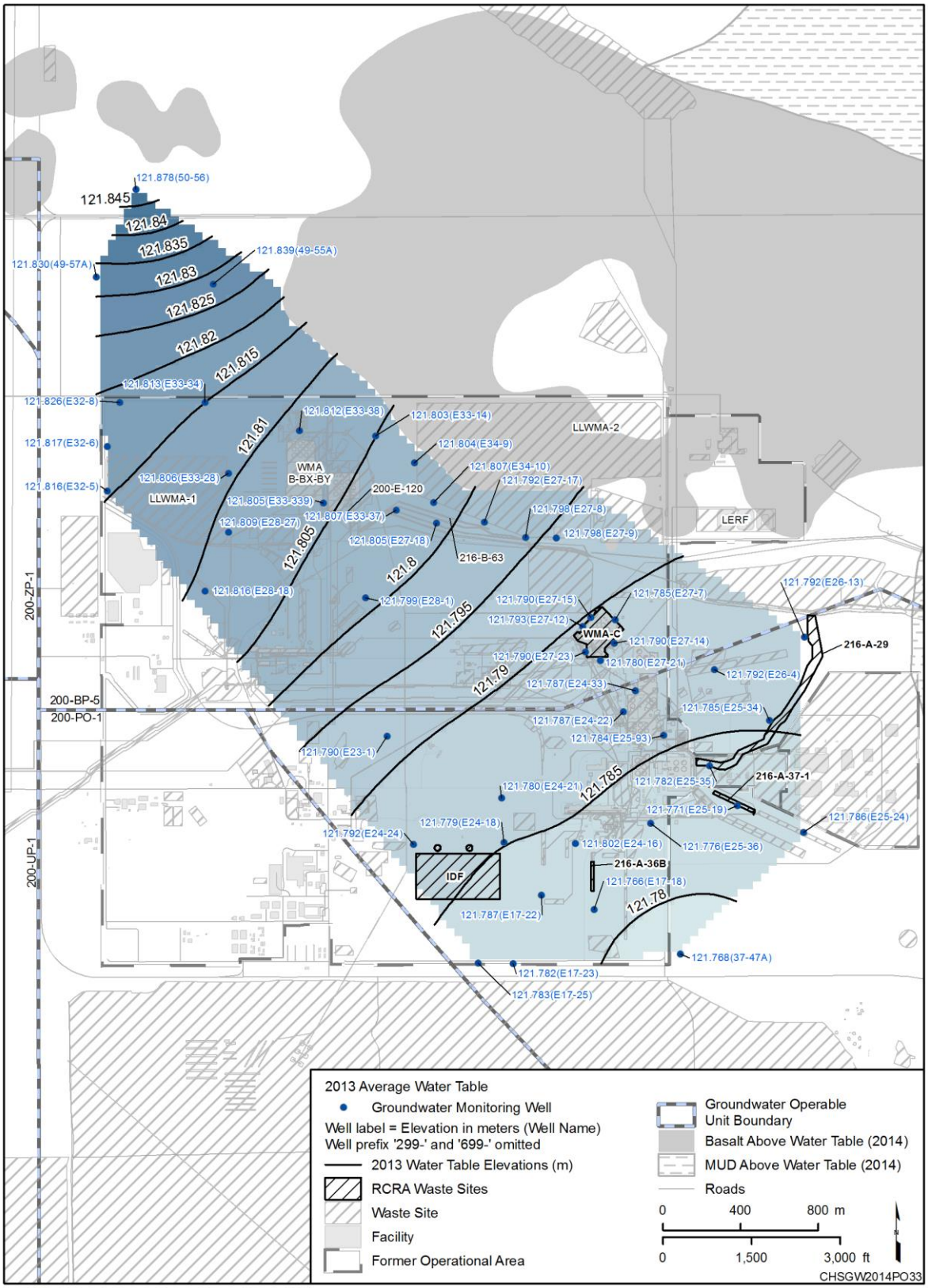

Figure 2. Water Table Map for the 200 East Area, 2013

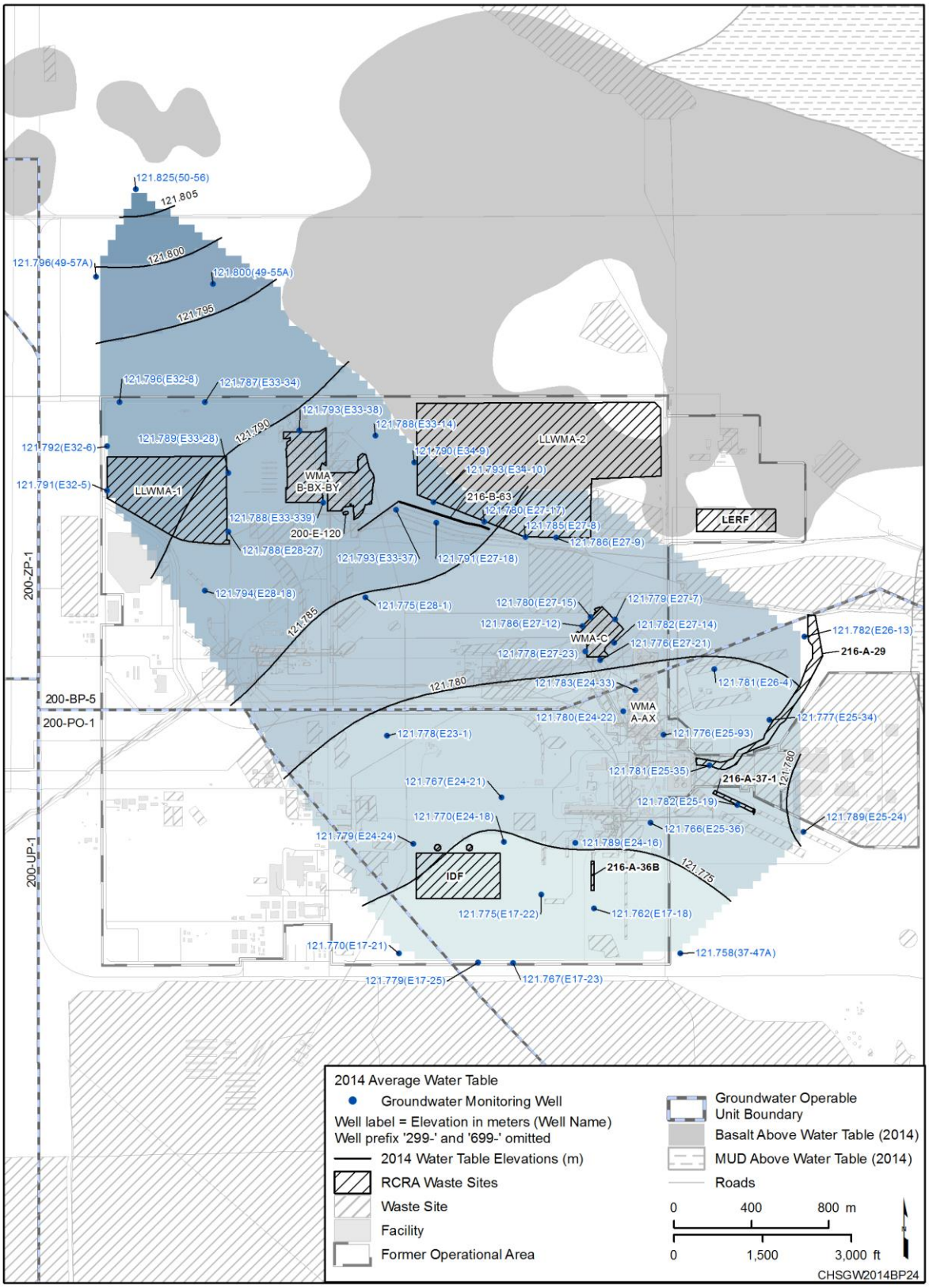

Figure 3. Water Table Map for the 200 East Area, 2014

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Appendix A

Water-Level Measurements and Well Coordinates

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This appendix lists all of the water-level measurements used in preparing the 200 East Area water table maps for 2013 and 2014 and lists the coordinates of the wells. The data are available through the Hanford Environmental Information System database, which can be accessed using the Environmental Dashboard Application at https://ehs.hanford.gov/eda.

Table A.1 lists the individual water level measurements collected for 2013 and the average water level elevation for each well that was used to prepare the water table map. Measurements scheduled for December 2013 were delayed until early January 2014; these are included in Table A.1 and were used in computing the average for the 2013 water table map. Table A.2 provides the water level measurements and averages for 2014. Note that the 4 wells not used in the final maps, 299-E27-4, 299-E27-22, 299-E24-25, and 299-E28-17, are included in the Tables A.1 and A.2 because the data were used in the cross validation analysis. Water level measurements collected from the 200 East Area low gradient network but not used at all in this analysis are listed in Table A.3 along with the reason they were excluded. Table A.4 lists the horizontal coordinates of the wells which were used as input to the Surfer® software.

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E17-18	5/15/13 6:59	121.771	
299-E17-18	6/24/13 8:18	121.772	
299-E17-18	7/24/13 7:34	121.781	
299-E17-18	8/5/13 10:35	121.766	
299-E17-18	9/25/13 8:29	121.773	
299-E17-18	10/29/13 7:48	121.732	
299-E17-18	12/3/13 10:42	121.791	
299-E17-18	1/7/14 9:03	121.738	121.766
299-E17-22	5/15/13 7:07	121.787	
299-E17-22	6/24/13 8:24	121.799	
299-E17-22	7/24/13 7:48	121.794	
299-E17-22	8/5/13 10:24	121.783	
299-E17-22	9/25/13 8:40	121.794	
299-E17-22	10/29/13 8:05	121.766	
299-E17-22	12/3/13 10:32	121.798	
299-E17-22	1/7/14 9:15	121.772	121.787
299-E17-23	5/15/13 6:32	121.789	

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E17-23	6/24/13 7:54	121.792	
299-E17-23	7/24/13 7:04	121.788	
299-E17-23	8/5/13 10:11	121.781	
299-E17-23	9/25/13 8:19	121.782	
299-E17-23	10/29/13 9:15	121.756	
299-E17-23	12/3/13 11:06	121.773	
299-E17-23	1/7/14 8:42	121.792	121.782
299-E17-25	5/15/13 6:27	121.798	
299-E17-25	6/24/13 7:47	121.802	
299-E17-25	7/24/13 6:52	121.763	
299-E17-25	8/5/13 9:57	121.789	
299-E17-25	9/25/13 7:43	121.796	
299-E17-25	10/29/13 8:14	121.777	
299-E17-25	12/3/13 11:24	121.738	
299-E17-25	1/7/14 8:35	121.802	121.783
299-E23-1	5/14/13 6:30	121.787	
299-E23-1	6/25/13 11:38	121.797	
299-E23-1	7/25/13 6:12	121.794	
299-E23-1	8/6/13 12:38	121.795	
299-E23-1	9/26/13 7:57	121.789	
299-E23-1	10/30/13 10:36	121.764	
299-E23-1	12/4/13 11:58	121.804	
299-E23-1	1/8/14 8:05	121.791	121.790
299-E24-16	5/15/13 7:14	121.802	
299-E24-16	6/24/13 8:31	121.815	
299-E24-16	7/24/13 7:59	121.813	

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E24-16	8/5/13 10:53	121.802	
299-E24-16	9/25/13 8:50	121.811	
299-E24-16	10/29/13 7:55	121.775	
299-E24-16	12/3/13 10:27	121.804	
299-E24-16	1/7/14 9:10	121.793	121.802
299-E24-18	5/15/13 7:22	121.783	
299-E24-18	6/24/13 8:47	121.784	
299-E24-18	7/24/13 8:13	121.791	
299-E24-18	8/5/13 11:10	121.775	
299-E24-18	9/25/13 9:08	121.790	
299-E24-18	10/29/13 8:44	121.759	
299-E24-18	12/3/13 10:08	121.801	
299-E24-18	1/7/14 9:29	121.752	121.779
299-E24-21	6/24/13 8:42	121.788	
299-E24-21	7/24/13 8:07	121.799	
299-E24-21	8/5/13 11:04	121.793	
299-E24-21	9/25/13 9:00	121.790	
299-E24-21	10/29/13 8:53	121.775	
299-E24-21	12/3/13 10:18	121.759	
299-E24-21	1/7/14 9:24	121.757	121.780
299-E24-22	5/14/13 8:52	121.788	
299-E24-22	6/25/13 10:34	121.794	
299-E24-22	7/25/13 8:56	121.791	
299-E24-22	8/6/13 8:04	121.781	
299-E24-22	9/26/13 7:21	121.779	
299-E24-22	10/30/13 7:23	121.765	

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E24-22	12/4/13 10:08	121.789	
299-E24-22	1/8/14 12:11	121.805	121.787
299-E24-24	5/15/13 7:45	121.794	
299-E24-24	6/24/13 8:54	121.805	
299-E24-24	7/24/13 8:31	121.796	
299-E24-24	8/5/13 9:22	121.793	
299-E24-24	9/25/13 9:18	121.795	
299-E24-24	10/29/13 8:35	121.772	
299-E24-24	12/3/13 10:02	121.806	
299-E24-24	1/7/14 9:36	121.771	121.792
299-E24-25	5/14/13 11:33	121.776	
299-E24-25	7/25/13 13:03	121.769	
299-E24-25	8/6/13 12:53	121.760	
299-E24-25	9/26/13 8:24	121.777	
299-E24-25	10/30/13 10:25	121.754	
299-E24-25	12/4/13 11:50	121.781	
299-E24-25	1/8/14 11:15	121.747	121.766
299-E24-33	5/14/13 8:59	121.791	
299-E24-33	6/25/13 10:40	121.791	
299-E24-33	7/25/13 9:05	121.789	
299-E24-33	8/6/13 8:42	121.786	
299-E24-33	9/26/13 7:27	121.779	
299-E24-33	10/30/13 7:28	121.767	
299-E24-33	12/4/13 10:04	121.791	
299-E24-33	1/8/14 12:04	121.804	121.787

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E25-19	5/14/13 8:34	121.777	
299-E25-19	7/25/13 8:22	121.766	
299-E25-19	8/6/13 6:53	121.757	
299-E25-19	9/26/13 6:41	121.770	
299-E25-19	10/30/13 10:10	121.767	
299-E25-19	12/4/13 10:26	121.787	121.771
299-E25-24	7/25/13 8:33	121.786	
299-E25-24	8/6/13 7:06	121.789	
299-E25-24	9/26/13 6:48	121.780	
299-E25-24	10/30/13 10:15	121.772	
299-E25-24	12/4/13 10:22	121.791	
299-E25-24	1/8/14 12:27	121.800	121.786
299-E25-34	5/14/13 7:59	121.785	
299-E25-34	6/25/13 8:47	121.798	
299-E25-34	7/25/13 7:45	121.793	
299-E25-34	8/6/13 7:38	121.791	
299-E25-34	9/26/13 10:26	121.786	
299-E25-34	10/30/13 9:51	121.769	
299-E25-34	12/4/13 9:46	121.784	
299-E25-34	1/8/14 11:05	121.776	121.785
299-E25-35	5/14/13 8:09	121.781	
299-E25-35	6/25/13 10:10	121.787	
299-E25-35	7/25/13 7:53	121.784	
299-E25-35	8/6/13 7:30	121.778	
299-E25-35	9/26/13 6:54	121.778	
299-E25-35	10/30/13 9:57	121.768	

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E25-35	12/4/13 10:14	121.782	
299-E25-35	1/8/14 12:20	121.797	121.782
299-E25-36	5/15/13 6:48	121.778	
299-E25-36	6/24/13 8:02	121.789	
299-E25-36	7/24/13 7:21	121.786	
299-E25-36	8/5/13 11:55	121.775	
299-E25-36	9/25/13 9:40	121.785	
299-E25-36	10/29/13 9:32	121.753	
299-E25-36	12/3/13 10:56	121.787	
299-E25-36	1/7/14 8:56	121.757	121.776
299-E25-93	5/14/13 8:45	121.784	
299-E25-93	6/25/13 6:30	121.789	
299-E25-93	7/25/13 8:50	121.789	
299-E25-93	8/6/13 7:56	121.784	
299-E25-93	9/26/13 7:15	121.785	
299-E25-93	10/30/13 7:16	121.769	
299-E25-93	12/4/13 10:40	121.787	
299-E25-93	1/8/14 12:15	121.782	121.784
299-E26-13	5/14/13 11:46	121.793	
299-E26-13	6/25/13 8:38	121.807	
299-E26-13	7/25/13 7:28	121.797	
299-E26-13	8/6/13 7:46	121.795	
299-E26-13	9/26/13 10:22	121.792	
299-E26-13	10/30/13 9:46	121.779	
299-E26-13	12/4/13 9:41	121.790	
299-E26-13	1/8/14 10:59	121.783	121.792

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E26-4	5/14/13 7:52	121.790	
299-E26-4	6/25/13 8:30	121.806	
299-E26-4	7/25/13 7:21	121.799	
299-E26-4	8/6/13 10:02	121.797	
299-E26-4	9/26/13 10:15	121.792	
299-E26-4	10/30/13 9:40	121.777	
299-E26-4	12/4/13 9:35	121.792	
299-E26-4	1/8/14 10:54	121.780	121.792
299-E27-12	5/14/13 9:44	121.798	
299-E27-12	6/25/13 7:14	121.798	
299-E27-12	7/25/13 11:40	121.784	
299-E27-12	8/6/13 9:21	121.792	
299-E27-12	9/26/13 8:38	121.795	
299-E27-12	10/30/13 8:00	121.778	
299-E27-12	12/4/13 11:20	121.803	
299-E27-12	1/8/14 11:42	121.792	121.793
299-E27-14	6/25/13 6:45	121.795	
299-E27-14	7/25/13 9:14	121.796	
299-E27-14	8/6/13 8:50	121.791	
299-E27-14	9/26/13 7:32	121.791	
299-E27-14	10/30/13 7:40	121.773	
299-E27-14	12/4/13 11:45	121.795	
299-E27-14	1/8/14 11:24	121.789	121.790
299-E27-15	5/14/13 9:49	121.792	
299-E27-15	6/25/13 7:27	121.798	

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E27-15	7/25/13 11:47	121.785	
299-E27-15	8/6/13 9:31	121.791	
299-E27-15	9/26/13 8:52	121.789	
299-E27-15	10/30/13 8:06	121.776	
299-E27-15	12/4/13 11:23	121.796	
299-E27-15	1/8/14 11:46	121.789	121.790
299-E27-17	5/14/13 7:17	121.787	
299-E27-17	6/25/13 12:07	121.799	
299-E27-17	7/25/13 6:54	121.793	
299-E27-17	8/6/13 11:05	121.799	
299-E27-17	9/26/13 10:44	121.795	
299-E27-17	10/30/13 8:42	121.778	
299-E27-17	12/4/13 8:21	121.791	
299-E27-17	1/8/14 9:58	121.790	121.792
299-E27-18	5/14/13 7:10	121.803	
299-E27-18	6/25/13 12:16	121.814	
299-E27-18	7/25/13 6:36	121.811	
299-E27-18	8/6/13 11:30	121.810	
299-E27-18	9/26/13 10:58	121.809	
299-E27-18	10/30/13 8:52	121.794	
299-E27-18	12/4/13 8:00	121.809	
299-E27-18	1/8/14 9:47	121.792	121.805
299-E27-21	5/14/13 9:09	121.784	
299-E27-21	6/25/13 10:48	121.788	
299-E27-21	7/25/13 12:49	121.781	
299-E27-21	8/6/13 8:56	121.782	

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E27-21	9/26/13 8:29	121.773	
299-E27-21	10/30/13 7:33	121.758	
299-E27-21	12/4/13 10:46	121.784	
299-E27-21	1/8/14 11:20	121.789	121.780
299-E27-22	5/14/13 9:55	121.820	
299-E27-22	6/25/13 7:33	121.827	
299-E27-22	7/25/13 11:54	121.810	
299-E27-22	8/6/13 9:38	121.818	
299-E27-22	9/26/13 9:01	121.820	
299-E27-22	10/30/13 8:14	121.804	
299-E27-22	12/4/13 11:30	121.823	
299-E27-22	1/8/14 11:52	121.814	121.817
299-E27-23	6/25/13 6:54	121.822	
299-E27-23	7/25/13 9:24	121.794	
299-E27-23	8/6/13 9:02	121.784	
299-E27-23	9/26/13 7:42	121.782	
299-E27-23	10/30/13 7:48	121.768	
299-E27-23	12/4/13 11:02	121.794	
299-E27-23	1/8/14 11:30	121.789	121.790
299-E27-4	5/14/13 9:17	121.819	
299-E27-4	6/25/13 7:05	121.819	
299-E27-4	7/25/13 12:43	121.811	
299-E27-4	8/6/13 9:13	121.815	
299-E27-4	9/26/13 7:50	121.820	
299-E27-4	10/30/13 7:54	121.800	
299-E27-4	1/8/14 11:34	121.807	121.813

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E27-7	5/14/13 10:01	121.791	
299-E27-7	6/25/13 7:39	121.784	
299-E27-7	7/25/13 12:00	121.780	
299-E27-7	8/6/13 9:44	121.788	
299-E27-7	9/26/13 9:10	121.778	
299-E27-7	10/30/13 8:19	121.769	
299-E27-7	12/4/13 11:36	121.792	
299-E27-7	1/8/14 11:59	121.800	121.785
299-E27-8	5/14/13 7:25	121.796	
299-E27-8	6/25/13 7:48	121.805	
299-E27-8	7/25/13 6:59	121.805	
299-E27-8	8/6/13 10:58	121.803	
299-E27-8	9/26/13 10:38	121.800	
299-E27-8	10/30/13 8:32	121.786	
299-E27-8	12/4/13 8:27	121.800	
299-E27-8	1/8/14 10:06	121.791	121.798
299-E27-9	5/14/13 7:30	121.795	
299-E27-9	6/25/13 7:52	121.802	
299-E27-9	7/25/13 7:06	121.801	
299-E27-9	8/6/13 11:47	121.812	
299-E27-9	9/26/13 10:34	121.799	
299-E27-9	10/30/13 8:27	121.783	
299-E27-9	12/4/13 8:31	121.793	
299-E27-9	1/8/14 10:09	121.797	121.798
299-E28-1	5/15/13 8:19	121.806	

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E28-1	6/24/13 9:34	121.818	
299-E28-1	7/24/13 9:03	121.806	
299-E28-1	8/5/13 9:28	121.802	
299-E28-1	9/25/13 10:26	121.812	
299-E28-1	10/29/13 10:50	121.777	
299-E28-1	12/3/13 9:53	121.781	
299-E28-1	1/7/14 10:03	121.792	121.799
299-E28-17	5/15/13 8:05	121.789	
299-E28-17	7/24/13 8:45	121.792	
299-E28-17	8/5/13 9:14	121.790	
299-E28-17	9/25/13 9:54	121.799	
299-E28-17	10/29/13 11:07	121.771	
299-E28-17	12/3/13 9:46	121.786	
299-E28-17	1/7/14 9:44	121.771	121.785
299-E28-18	5/15/13 8:11	121.817	
299-E28-18	6/24/13 9:22	121.825	
299-E28-18	7/24/13 8:54	121.825	
299-E28-18	8/5/13 9:01	121.812	
299-E28-18	9/25/13 10:05	121.825	
299-E28-18	10/29/13 11:21	121.804	
299-E28-18	12/3/13 9:35	121.823	
299-E28-18	1/7/14 9:52	121.793	121.816
299-E28-27	5/15/13 8:43	121.808	
299-E28-27	6/24/13 9:58	121.819	
299-E28-27	7/24/13 9:25	121.817	
299-E28-27	8/5/13 8:12	121.803	

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E28-27	9/25/13 10:55	121.820	
299-E28-27	10/29/13 12:57	121.797	
299-E28-27	12/3/13 9:28	121.820	
299-E28-27	1/7/14 10:49	121.787	121.809
299-E32-5	5/15/13 9:00	121.816	
299-E32-5	6/24/13 11:18	121.827	
299-E32-5	7/24/13 9:33	121.814	
299-E32-5	8/5/13 8:37	121.815	
299-E32-5	9/25/13 11:19	121.830	
299-E32-5	10/29/13 14:10	121.807	
299-E32-5	12/3/13 8:42	121.825	
299-E32-5	1/7/14 11:05	121.795	121.816
299-E32-6	5/15/13 8:53	121.814	
299-E32-6	6/24/13 11:24	121.826	
299-E32-6	7/24/13 9:37	121.824	
299-E32-6	8/5/13 8:32	121.817	
299-E32-6	9/25/13 11:13	121.827	
299-E32-6	10/29/13 13:59	121.804	
299-E32-6	12/3/13 8:47	121.828	
299-E32-6	1/7/14 11:00	121.793	121.817
299-E32-8	5/15/13 9:06	121.822	
299-E32-8	6/24/13 11:30	121.834	
299-E32-8	7/24/13 10:20	121.835	
299-E32-8	8/5/13 8:27	121.821	
299-E32-8	9/25/13 11:05	121.836	
299-E32-8	12/3/13 8:53	121.832	

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E32-8	1/7/14 10:56	121.799	121.826
299-E33-14	5/14/13 6:42	121.801	
299-E33-14	6/25/13 11:50	121.810	
299-E33-14	7/25/13 6:24	121.811	
299-E33-14	8/6/13 11:38	121.808	
299-E33-14	10/30/13 11:41	121.795	
299-E33-14	12/4/13 8:01	121.804	
299-E33-14	1/8/14 8:15	121.793	121.803
299-E33-28	5/15/13 8:35	121.790	
299-E33-28	6/24/13 9:51	121.821	
299-E33-28	7/24/13 9:18	121.818	
299-E33-28	8/5/13 8:07	121.811	
299-E33-28	10/29/13 13:37	121.795	
299-E33-28	12/3/13 9:08	121.819	
299-E33-28	1/7/14 10:44	121.788	121.806
299-E33-339	5/15/13 8:27	121.807	
299-E33-339	6/24/13 9:44	121.817	
299-E33-339	7/24/13 9:10	121.812	
299-E33-339	8/5/13 8:44	121.805	
299-E33-339	10/29/13 13:19	121.790	
299-E33-339	12/3/13 8:59	121.811	
299-E33-339	1/7/14 10:18	121.790	121.805
299-E33-34	5/15/13 9:15	121.814	
299-E33-34	6/24/13 11:36	121.826	
299-E33-34	7/24/13 10:25	121.823	

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E33-34	8/5/13 8:20	121.810	
299-E33-34	10/29/13 13:45	121.806	
299-E33-34	12/3/13 9:15	121.816	
299-E33-34	1/7/14 10:36	121.797	121.813
299-E33-37	5/14/13 7:02	121.806	
299-E33-37	7/25/13 6:31	121.815	
299-E33-37	8/6/13 11:24	121.814	
299-E33-37	10/30/13 11:33	121.797	
299-E33-37	12/4/13 7:56	121.814	
299-E33-37	1/8/14 9:06	121.795	121.807
299-E33-38	5/15/13 9:47	121.812	
299-E33-38	6/24/13 12:00	121.825	
299-E33-38	7/24/13 10:35	121.816	
299-E33-38	8/5/13 7:42	121.809	
299-E33-38	9/25/13 10:39	121.823	
299-E33-38	10/29/13 13:28	121.795	
299-E33-38	12/3/13 9:19	121.819	
299-E33-38	1/7/14 10:30	121.794	121.812
299-E34-10	5/14/13 6:57	121.804	
299-E34-10	6/25/13 12:01	121.815	
299-E34-10	7/25/13 6:48	121.815	
299-E34-10	8/6/13 11:12	121.808	
299-E34-10	9/26/13 10:48	121.814	
299-E34-10	10/30/13 8:46	121.795	
299-E34-10	12/4/13 8:17	121.811	
299-E34-10	1/8/14 10:02	121.791	121.807

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E34-9	5/14/13 6:52	121.800	
299-E34-9	6/25/13 11:56	121.811	
299-E34-9	7/25/13 6:43	121.810	
299-E34-9	8/6/13 11:17	121.808	
299-E34-9	9/26/13 10:53	121.807	
299-E34-9	10/30/13 8:57	121.793	
299-E34-9	12/4/13 8:12	121.807	
299-E34-9	1/8/14 9:53	121.796	121.804
699-37-47A	5/15/13 6:40	121.772	
699-37-47A	6/24/13 8:09	121.786	
699-37-47A	7/24/13 7:14	121.771	
699-37-47A	8/5/13 11:46	121.774	
699-37-47A	9/25/13 9:30	121.774	
699-37-47A	10/29/13 9:25	121.738	
699-37-47A	12/3/13 10:50	121.771	
699-37-47A	1/7/14 8:49	121.756	121.768
699-49-55A	5/15/13 10:13	121.833	
699-49-55A	6/24/13 11:09	121.847	
699-49-55A	7/24/13 11:30	121.837	
699-49-55A	8/5/13 12:26	121.835	
699-49-55A	9/25/13 11:36	121.837	
699-49-55A	10/29/13 12:28	121.870	
699-49-55A	12/3/13 8:29	121.834	
699-49-55A	1/7/14 11:29	121.822	121.839
699-49-57A	5/15/13 10:30	121.831	

Table A.1. Water Level Measurements for the 2013 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
699-49-57A	6/24/13 10:18	121.839	
699-49-57A	7/24/13 11:46	121.835	
699-49-57A	8/5/13 12:19	121.833	
699-49-57A	9/25/13 11:28	121.839	
699-49-57A	10/29/13 14:21	121.824	
699-49-57A	1/7/14 11:19	121.810	121.830
699-50-56	5/15/13 10:20	121.871	
699-50-56	6/24/13 10:10	121.872	
699-50-56	7/24/13 11:07	121.888	
699-50-56	8/5/13 12:10	121.885	
699-50-56	9/25/13 11:44	121.905	
699-50-56	10/29/13 14:34	121.883	
699-50-56	12/3/13 8:24	121.874	
699-50-56	1/7/14 11:24	121.849	121.878

PST = Pacific Standard Time
NAVD88 = North American Vertical Datum of 1988

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E17-18	1/27/14 9:10	121.761	
299-E17-18	2/19/14 9:49	121.734	
299-E17-18	3/24/14 8:54	121.735	
299-E17-18	4/23/14 9:13	121.737	
299-E17-18	5/28/14 8:34	121.748	
299-E17-18	6/25/14 7:15	121.742	
299-E17-18	7/24/14 11:16	121.742	
299-E17-18	8/13/14 10:18	121.749	
299-E17-18	9/29/14 9:36	121.762	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E17-18	10/27/14 12:43	121.817	
299-E17-18	11/24/14 11:01	121.819	
299-E17-18	12/21/14 10:56	121.795	121.762
299-E17-21	1/27/14 8:29	121.796	
299-E17-21	2/19/14 9:18	121.765	
299-E17-21	3/24/14 8:14	121.769	
299-E17-21	4/23/14 8:42	121.768	
299-E17-21	5/28/14 8:54	121.778	
299-E17-21	6/25/14 7:36	121.769	
299-E17-21	7/24/14 12:27	121.761	
299-E17-21	8/13/14 7:44	121.751	
299-E17-21	10/27/14 11:52	121.769	
299-E17-21	12/21/14 11:28	121.777	121.770
299-E17-22	1/27/14 9:16	121.777	
299-E17-22	2/19/14 9:55	121.743	
299-E17-22	3/24/14 9:06	121.759	
299-E17-22	4/23/14 9:45	121.756	
299-E17-22	5/28/14 8:24	121.767	
299-E17-22	6/25/14 7:46	121.755	
299-E17-22	7/24/14 11:05	121.754	
299-E17-22	8/13/14 8:53	121.760	
299-E17-22	9/29/14 9:45	121.779	
299-E17-22	10/27/14 12:51	121.827	
299-E17-22	11/24/14 11:07	121.823	
299-E17-22	12/21/14 10:51	121.801	121.775
299-E17-23	1/27/14 8:50	121.768	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E17-23	2/19/14 9:28	121.743	
299-E17-23	3/24/14 8:27	121.753	
299-E17-23	4/23/14 9:27	121.747	
299-E17-23	5/28/14 9:24	121.765	
299-E17-23	6/25/14 7:22	121.754	
299-E17-23	7/24/14 11:59	121.750	
299-E17-23	8/13/14 7:51	121.755	
299-E17-23	9/29/14 9:07	121.800	
299-E17-23	10/27/14 12:23	121.773	
299-E17-23	11/24/14 10:49	121.801	
299-E17-23	12/21/14 11:13	121.790	121.767
299-E17-25	1/27/14 8:37	121.781	
299-E17-25	2/19/14 9:23	121.762	
299-E17-25	3/24/14 8:21	121.760	
299-E17-25	4/23/14 8:49	121.769	
299-E17-25	5/28/14 9:20	121.778	
299-E17-25	6/25/14 7:31	121.768	
299-E17-25	7/24/14 12:07	121.767	
299-E17-25	8/13/14 10:11	121.781	
299-E17-25	9/29/14 8:56	121.786	
299-E17-25	10/27/14 12:12	121.783	
299-E17-25	11/24/14 10:46	121.789	
299-E17-25	12/21/14 11:18	121.818	121.779
299-E23-1	1/28/14 8:00	121.802	
299-E23-1	2/20/14 11:16	121.757	
299-E23-1	3/25/14 12:45	121.809	
299-E23-1	4/24/14 7:32	121.774	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E23-1	5/29/14 10:27	121.756	
299-E23-1	6/26/14 11:12	121.776	
299-E23-1	7/24/14 9:46	121.735	
299-E23-1	8/12/14 11:42	121.785	
299-E23-1	9/30/14 12:03	121.756	
299-E23-1	10/28/14 12:37	121.815	
299-E23-1	11/25/14 12:09	121.766	
299-E23-1	12/22/14 11:48	121.805	121.778
299-E24-16	1/27/14 9:23	121.783	
299-E24-16	2/19/14 10:00	121.768	
299-E24-16	3/24/14 8:59	121.768	
299-E24-16	4/23/14 9:38	121.769	
299-E24-16	5/28/14 8:19	121.776	
299-E24-16	6/25/14 8:01	121.774	
299-E24-16	7/24/14 10:54	121.767	
299-E24-16	8/13/14 8:27	121.772	
299-E24-16	9/29/14 9:53	121.799	
299-E24-16	10/27/14 12:57	121.838	
299-E24-16	11/24/14 11:13	121.830	
299-E24-16	12/21/14 10:47	121.818	121.789
299-E24-18	1/27/14 9:33	121.774	
299-E24-18	2/19/14 10:12	121.746	
299-E24-18	3/24/14 9:28	121.744	
299-E24-18	4/23/14 9:58	121.749	
299-E24-18	5/28/14 8:09	121.758	
299-E24-18	6/25/14 7:56	121.747	
299-E24-18	7/24/14 10:20	121.748	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E24-18	8/13/14 8:39	121.753	
299-E24-18	9/29/14 10:00	121.769	
299-E24-18	10/27/14 13:04	121.824	
299-E24-18	11/24/14 11:27	121.827	
299-E24-18	12/21/14 10:32	121.801	121.770
299-E24-21	1/27/14 9:29	121.784	
299-E24-21	2/19/14 10:06	121.751	
299-E24-21	3/24/14 9:23	121.745	
299-E24-21	4/23/14 9:52	121.753	
299-E24-21	5/28/14 8:14	121.761	
299-E24-21	6/25/14 8:08	121.760	
299-E24-21	7/24/14 10:31	121.752	
299-E24-21	8/13/14 8:45	121.765	
299-E24-21	9/29/14 10:18	121.769	
299-E24-21	10/27/14 13:11	121.827	
299-E24-21	11/24/14 11:22	121.771	
299-E24-21	12/21/14 10:40	121.766	121.767
299-E24-22	1/28/14 8:42	121.796	
299-E24-22	2/20/14 9:58	121.764	
299-E24-22	3/25/14 12:16	121.806	
299-E24-22	5/29/14 7:48	121.752	
299-E24-22	6/26/14 6:34	121.768	
299-E24-22	7/23/14 12:45	121.777	
299-E24-22	8/12/14 8:06	121.765	
299-E24-22	9/30/14 7:02	121.759	
299-E24-22	10/28/14 7:25	121.821	
299-E24-22	11/25/14 9:06	121.805	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E24-22	12/22/14 10:19	121.764	121.780
299-E24-24	1/27/14 9:39	121.777	
299-E24-24	2/19/14 10:17	121.751	
299-E24-24	3/24/14 9:34	121.757	
299-E24-24	4/23/14 10:04	121.761	
299-E24-24	5/28/14 8:03	121.769	
299-E24-24	6/25/14 8:14	121.766	
299-E24-24	7/24/14 10:10	121.758	
299-E24-24	8/13/14 9:04	121.759	
299-E24-24	9/29/14 10:07	121.785	
299-E24-24	10/27/14 13:18	121.827	
299-E24-24	11/24/14 11:36	121.830	
299-E24-24	12/21/14 10:28	121.810	121.779
299-E24-25	1/28/14 8:14	121.775	
299-E24-25	2/20/14 9:21	121.734	
299-E24-25	3/25/14 10:13	121.744	
299-E24-25	4/24/14 8:19	121.741	
299-E24-25	5/29/14 10:17	121.747	
299-E24-25	6/26/14 11:28	121.739	
299-E24-25	7/24/14 9:28	121.735	
299-E24-25	8/12/14 11:54	121.754	
299-E24-25	9/30/14 11:52	121.760	
299-E24-25	10/28/14 12:48	121.780	
299-E24-25	11/25/14 11:27	121.813	121.757
299-E24-33	1/28/14 8:34	121.801	
299-E24-33	2/20/14 9:52	121.763	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E24-33	3/25/14 12:33	121.810	
299-E24-33	5/29/14 7:54	121.750	
299-E24-33	6/26/14 6:40	121.772	
299-E24-33	7/23/14 12:53	121.776	
299-E24-33	8/12/14 8:12	121.768	
299-E24-33	9/30/14 7:11	121.761	
299-E24-33	10/28/14 7:33	121.827	
299-E24-33	11/25/14 8:56	121.812	
299-E24-33	12/22/14 10:26	121.770	121.783
299-E25-19	1/28/14 9:35	121.807	
299-E25-19	2/20/14 10:16	121.759	
299-E25-19	3/25/14 9:54	121.801	
299-E25-19	4/24/14 8:31	121.774	
299-E25-19	5/29/14 9:16	121.754	
299-E25-19	6/26/14 9:28	121.770	
299-E25-19	7/23/14 11:30	121.771	
299-E25-19	8/12/14 12:07	121.783	
299-E25-19	9/30/14 11:17	121.770	
299-E25-19	10/28/14 12:13	121.832	
299-E25-19	11/25/14 11:12	121.806	
299-E25-19	12/22/14 9:39	121.760	121.782
299-E25-24	1/28/14 9:26	121.792	
299-E25-24	2/20/14 10:21	121.757	
299-E25-24	3/25/14 10:03	121.792	
299-E25-24	4/24/14 8:35	121.780	
299-E25-24	5/29/14 9:11	121.758	
299-E25-24	6/26/14 9:32	121.780	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E25-24	7/23/14 11:24	121.777	
299-E25-24	8/12/14 12:11	121.792	
299-E25-24	9/30/14 11:23	121.789	
299-E25-24	10/28/14 12:19	121.839	
299-E25-24	11/25/14 11:17	121.827	
299-E25-24	12/22/14 9:46	121.789	121.789
299-E25-34	1/28/14 9:10	121.780	
299-E25-34	2/20/14 10:32	121.749	
299-E25-34	3/25/14 9:18	121.772	
299-E25-34	4/24/14 8:44	121.763	
299-E25-34	5/29/14 9:29	121.757	
299-E25-34	6/26/14 7:45	121.766	
299-E25-34	7/23/14 10:51	121.756	
299-E25-34	8/12/14 12:28	121.772	
299-E25-34	9/30/14 10:46	121.780	
299-E25-34	10/28/14 11:50	121.811	
299-E25-34	11/25/14 10:56	121.820	
299-E25-34	12/22/14 9:00	121.797	121.777
299-E25-35	1/28/14 9:18	121.798	
299-E25-35	2/20/14 10:27	121.759	
299-E25-35	3/25/14 9:31	121.795	
299-E25-35	4/24/14 9:05	121.770	
299-E25-35	5/29/14 9:05	121.754	
299-E25-35	6/26/14 9:16	121.769	
299-E25-35	7/23/14 11:01	121.769	
299-E25-35	8/12/14 12:20	121.777	
299-E25-35	9/30/14 11:02	121.770	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E25-35	10/28/14 11:58	121.825	
299-E25-35	11/25/14 11:01	121.810	
299-E25-35	12/22/14 9:19	121.776	121.781
299-E25-36	1/27/14 9:03	121.767	
299-E25-36	2/19/14 9:42	121.739	
299-E25-36	3/24/14 8:42	121.744	
299-E25-36	4/23/14 10:42	121.749	
299-E25-36	5/28/14 9:34	121.753	
299-E25-36	6/25/14 8:25	121.748	
299-E25-36	7/24/14 11:31	121.741	
299-E25-36	8/12/14 12:01	121.754	
299-E25-36	9/29/14 9:27	121.769	
299-E25-36	10/27/14 13:34	121.811	
299-E25-36	11/24/14 11:47	121.813	
299-E25-36	12/21/14 11:06	121.801	121.766
299-E25-93	1/28/14 9:54	121.788	
299-E25-93	2/20/14 10:02	121.755	
299-E25-93	3/25/14 12:24	121.777	
299-E25-93	4/24/14 13:19	121.775	
299-E25-93	5/29/14 7:41	121.751	
299-E25-93	6/26/14 6:27	121.764	
299-E25-93	7/23/14 12:31	121.761	
299-E25-93	8/12/14 8:21	121.763	
299-E25-93	9/30/14 6:52	121.765	
299-E25-93	10/28/14 7:16	121.823	
299-E25-93	11/25/14 9:14	121.809	
299-E25-93	12/22/14 10:10	121.781	121.776

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E26-13	1/28/14 9:00	121.788	
299-E26-13	3/25/14 9:12	121.769	
299-E26-13	4/24/14 9:21	121.771	
299-E26-13	5/29/14 9:35	121.766	
299-E26-13	6/26/14 7:51	121.770	
299-E26-13	7/23/14 10:45	121.752	
299-E26-13	8/12/14 12:34	121.770	
299-E26-13	9/30/14 10:53	121.785	
299-E26-13	10/28/14 11:35	121.809	
299-E26-13	11/25/14 10:45	121.821	
299-E26-13	12/22/14 9:05	121.806	121.782
299-E26-4	1/28/14 8:52	121.789	
299-E26-4	2/20/14 10:44	121.751	
299-E26-4	3/25/14 9:24	121.773	
299-E26-4	4/24/14 9:29	121.775	
299-E26-4	5/29/14 9:41	121.762	
299-E26-4	6/26/14 8:00	121.769	
299-E26-4	7/23/14 10:34	121.756	
299-E26-4	8/12/14 12:40	121.773	
299-E26-4	9/30/14 10:38	121.783	
299-E26-4	10/28/14 11:27	121.812	
299-E26-4	11/25/14 10:50	121.826	
299-E26-4	12/22/14 9:11	121.800	121.781
299-E27-12	2/20/14 9:03	121.771	
299-E27-12	3/25/14 11:06	121.788	
299-E27-12	4/24/14 13:44	121.779	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E27-12	5/29/14 8:30	121.761	
299-E27-12	6/26/14 7:17	121.771	
299-E27-12	8/12/14 7:41	121.775	
299-E27-12	9/30/14 7:50	121.778	
299-E27-12	10/28/14 9:05	121.824	
299-E27-12	11/25/14 8:19	121.827	121.786
299-E27-14	1/28/14 10:03	121.796	
299-E27-14	2/20/14 9:48	121.763	
299-E27-14	3/25/14 11:35	121.783	
299-E27-14	4/24/14 13:25	121.779	
299-E27-14	5/29/14 8:02	121.759	
299-E27-14	6/26/14 6:47	121.768	
299-E27-14	8/12/14 7:13	121.766	
299-E27-14	9/30/14 7:21	121.771	
299-E27-14	10/28/14 8:04	121.810	
299-E27-14	11/25/14 8:47	121.822	121.782
299-E27-15	1/28/14 10:40	121.790	
299-E27-15	2/20/14 9:00	121.770	
299-E27-15	3/25/14 12:06	121.785	
299-E27-15	5/29/14 8:35	121.761	
299-E27-15	6/26/14 7:23	121.769	
299-E27-15	8/12/14 7:45	121.772	
299-E27-15	9/30/14 7:56	121.775	
299-E27-15	10/28/14 9:14	121.817	121.780
299-E27-17	1/28/14 12:03	121.798	
299-E27-17	2/20/14 10:58	121.762	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E27-17	3/25/14 8:01	121.789	
299-E27-17	4/24/14 9:47	121.771	
299-E27-17	5/29/14 7:23	121.752	
299-E27-17	6/26/14 9:53	121.767	
299-E27-17	7/23/14 9:07	121.765	
299-E27-17	8/12/14 7:04	121.767	
299-E27-17	9/30/14 9:03	121.772	
299-E27-17	10/28/14 10:33	121.820	
299-E27-17	11/25/14 11:45	121.816	
299-E27-17	12/22/14 10:46	121.783	121.780
299-E27-18	1/28/14 12:23	121.801	
299-E27-18	2/20/14 7:49	121.772	
299-E27-18	3/25/14 7:51	121.782	
299-E27-18	4/24/14 10:00	121.779	
299-E27-18	5/29/14 7:08	121.774	
299-E27-18	6/26/14 10:10	121.777	
299-E27-18	7/23/14 8:55	121.769	
299-E27-18	8/12/14 6:47	121.776	
299-E27-18	9/30/14 8:46	121.790	
299-E27-18	10/28/14 10:20	121.827	
299-E27-18	11/25/14 11:55	121.832	
299-E27-18	12/22/14 10:52	121.817	121.791
299-E27-21	1/28/14 8:24	121.798	
299-E27-21	2/20/14 9:44	121.760	
299-E27-21	3/25/14 11:29	121.784	
299-E27-21	5/29/14 8:06	121.748	
299-E27-21	6/26/14 6:55	121.762	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E27-21	8/12/14 7:19	121.754	
299-E27-21	9/30/14 7:29	121.754	
299-E27-21	10/28/14 8:31	121.818	
299-E27-21	11/25/14 8:40	121.808	121.776
299-E27-22	1/28/14 10:51	121.817	
299-E27-22	2/20/14 8:47	121.790	
299-E27-22	3/25/14 11:47	121.811	
299-E27-22	5/29/14 8:41	121.789	
299-E27-22	6/26/14 7:29	121.799	
299-E27-22	8/12/14 7:51	121.798	
299-E27-22	9/30/14 8:03	121.805	
299-E27-22	10/28/14 9:22	121.843	
299-E27-22	11/25/14 8:00	121.852	121.812
299-E27-23	1/28/14 10:11	121.794	
299-E27-23	2/20/14 9:16	121.764	
299-E27-23	3/25/14 11:18	121.782	
299-E27-23	4/24/14 13:31	121.770	
299-E27-23	5/29/14 8:12	121.752	
299-E27-23	6/26/14 7:03	121.766	
299-E27-23	8/12/14 7:25	121.762	
299-E27-23	9/30/14 7:38	121.761	
299-E27-23	10/28/14 8:41	121.814	
299-E27-23	11/25/14 8:34	121.817	121.778
299-E27-4	1/28/14 10:18	121.817	
299-E27-4	2/20/14 9:12	121.788	
299-E27-4	3/25/14 11:12	121.800	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E27-4	4/24/14 13:38	121.801	
299-E27-4	5/29/14 8:20	121.786	
299-E27-4	6/26/14 7:09	121.791	
299-E27-4	8/12/14 7:34	121.792	
299-E27-4	9/30/14 7:44	121.800	
299-E27-4	10/28/14 8:50	121.845	
299-E27-4	11/25/14 8:27	121.851	121.807
299-E27-7	1/28/14 11:04	121.792	
299-E27-7	2/20/14 8:51	121.767	
299-E27-7	3/25/14 11:54	121.804	
299-E27-7	5/29/14 8:47	121.753	
299-E27-7	6/26/14 7:35	121.762	
299-E27-7	9/30/14 8:14	121.763	
299-E27-7	11/25/14 9:24	121.810	121.779
299-E27-8	1/28/14 11:57	121.799	
299-E27-8	2/20/14 10:53	121.772	
299-E27-8	3/25/14 8:06	121.788	
299-E27-8	4/24/14 9:40	121.778	
299-E27-8	5/29/14 7:34	121.762	
299-E27-8	6/26/14 9:48	121.776	
299-E27-8	7/23/14 9:18	121.768	
299-E27-8	8/12/14 10:35	121.775	
299-E27-8	9/30/14 9:10	121.784	
299-E27-8	11/25/14 11:35	121.830	
299-E27-8	12/22/14 10:41	121.801	121.785
299-E27-9	1/28/14 11:51	121.807	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E27-9	2/20/14 10:50	121.767	
299-E27-9	3/25/14 8:09	121.796	
299-E27-9	4/24/14 9:35	121.778	
299-E27-9	5/29/14 7:28	121.762	
299-E27-9	6/26/14 9:44	121.781	
299-E27-9	7/23/14 9:35	121.771	
299-E27-9	8/12/14 10:31	121.781	
299-E27-9	9/30/14 9:17	121.780	
299-E27-9	10/28/14 10:44	121.827	
299-E27-9	11/25/14 11:39	121.783	
299-E27-9	12/22/14 10:37	121.797	121.786
299-E28-1	1/27/14 9:47	121.777	
299-E28-1	2/19/14 10:47	121.738	
299-E28-1	3/24/14 9:55	121.762	
299-E28-1	4/23/14 7:58	121.762	
299-E28-1	5/28/14 7:22	121.771	
299-E28-1	6/25/14 8:42	121.767	
299-E28-1	7/24/14 9:15	121.749	
299-E28-1	8/13/14 10:41	121.765	
299-E28-1	9/29/14 8:37	121.794	
299-E28-1	10/27/14 11:18	121.808	
299-E28-1	11/24/14 10:09	121.814	
299-E28-1	12/21/14 11:37	121.787	121.775
299-E28-17	1/27/14 9:59	121.751	
299-E28-17	2/19/14 10:30	121.738	
299-E28-17	3/24/14 9:43	121.751	
299-E28-17	4/23/14 8:30	121.747	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E28-17	5/28/14 7:48	121.766	
299-E28-17	6/25/14 8:50	121.746	
299-E28-17	7/24/14 9:01	121.744	
299-E28-17	8/13/14 10:31	121.754	
299-E28-17	9/29/14 8:27	121.785	
299-E28-17	10/27/14 11:10	121.808	
299-E28-17	11/24/14 9:32	121.777	
299-E28-17	12/21/14 11:44	121.794	121.763
299-E28-18	1/27/14 10:06	121.809	
299-E28-18	2/19/14 10:36	121.772	
299-E28-18	3/24/14 10:04	121.771	
299-E28-18	4/23/14 8:08	121.775	
299-E28-18	5/28/14 7:42	121.783	
299-E28-18	6/25/14 9:02	121.773	
299-E28-18	7/24/14 8:49	121.770	
299-E28-18	8/13/14 10:50	121.781	
299-E28-18	9/29/14 8:16	121.803	
299-E28-18	10/27/14 11:00	121.830	
299-E28-18	11/24/14 9:40	121.831	
299-E28-18	12/21/14 11:50	121.830	121.794
299-E28-27	1/27/14 10:11	121.802	
299-E28-27	2/19/14 10:41	121.768	
299-E28-27	3/24/14 11:20	121.764	
299-E28-27	4/23/14 7:06	121.771	
299-E28-27	5/28/14 7:35	121.776	
299-E28-27	6/25/14 9:16	121.770	
299-E28-27	7/24/14 8:40	121.759	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E28-27	8/13/14 10:59	121.775	
299-E28-27	9/29/14 8:08	121.792	
299-E28-27	10/27/14 10:54	121.822	
299-E28-27	11/24/14 9:03	121.827	
299-E28-27	12/21/14 11:55	121.828	121.788
299-E32-5	1/27/14 10:55	121.806	
299-E32-5	2/19/14 11:29	121.770	
299-E32-5	3/24/14 10:19	121.770	
299-E32-5	4/23/14 6:46	121.776	
299-E32-5	5/28/14 6:54	121.779	
299-E32-5	6/25/14 9:24	121.776	
299-E32-5	7/24/14 7:56	121.767	
299-E32-5	8/13/14 11:15	121.782	
299-E32-5	9/29/14 7:08	121.802	
299-E32-5	10/27/14 8:45	121.813	
299-E32-5	11/24/14 9:20	121.826	
299-E32-5	12/21/14 12:34	121.829	121.791
299-E32-6	1/27/14 10:50	121.804	
299-E32-6	2/19/14 11:25	121.773	
299-E32-6	3/24/14 10:25	121.767	
299-E32-6	4/23/14 6:51	121.774	
299-E32-6	5/28/14 6:58	121.778	
299-E32-6	6/25/14 9:29	121.774	
299-E32-6	7/24/14 7:50	121.768	
299-E32-6	8/13/14 11:11	121.781	
299-E32-6	9/29/14 7:18	121.802	
299-E32-6	10/27/14 8:53	121.816	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E32-6	11/24/14 9:15	121.830	
299-E32-6	12/21/14 12:30	121.831	121.792
299-E32-8	1/27/14 10:46	121.811	
299-E32-8	2/19/14 11:20	121.780	
299-E32-8	3/24/14 10:28	121.771	
299-E32-8	4/23/14 6:57	121.782	
299-E32-8	5/28/14 7:02	121.784	
299-E32-8	6/25/14 9:37	121.777	
299-E32-8	7/24/14 7:43	121.773	
299-E32-8	8/13/14 11:07	121.782	
299-E32-8	9/29/14 7:22	121.807	
299-E32-8	10/27/14 8:59	121.821	
299-E32-8	11/24/14 9:10	121.831	
299-E32-8	12/21/14 12:26	121.833	121.796
299-E33-14	2/20/14 7:54	121.770	
299-E33-14	3/25/14 7:37	121.780	
299-E33-14	4/24/14 6:39	121.783	
299-E33-14	5/29/14 6:53	121.765	
299-E33-14	6/26/14 8:19	121.772	
299-E33-14	8/12/14 6:32	121.776	
299-E33-14	9/30/14 8:32	121.785	
299-E33-14	10/28/14 10:03	121.819	
299-E33-14	11/25/14 9:52	121.824	
299-E33-14	12/22/14 11:17	121.805	121.788
299-E33-28	1/27/14 10:19	121.800	
299-E33-28	2/19/14 11:11	121.771	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E33-28	3/24/14 11:24	121.762	
299-E33-28	4/23/14 7:16	121.773	
299-E33-28	5/28/14 7:30	121.775	
299-E33-28	6/25/14 11:49	121.771	
299-E33-28	7/24/14 7:33	121.762	
299-E33-28	8/13/14 7:17	121.771	
299-E33-28	9/29/14 7:36	121.795	
299-E33-28	10/27/14 10:23	121.824	
299-E33-28	11/24/14 8:57	121.830	
299-E33-28	12/21/14 12:17	121.828	121.789
299-E33-339	1/27/14 10:25	121.792	
299-E33-339	2/19/14 11:01	121.766	
299-E33-339	3/24/14 11:32	121.765	
299-E33-339	4/23/14 7:42	121.773	
299-E33-339	5/28/14 7:17	121.774	
299-E33-339	6/25/14 12:14	121.769	
299-E33-339	8/13/14 6:53	121.765	
299-E33-339	9/29/14 7:54	121.795	
299-E33-339	10/27/14 10:06	121.821	
299-E33-339	11/24/14 8:35	121.827	
299-E33-339	12/21/14 12:04	121.824	121.788
299-E33-34	1/27/14 10:36	121.797	
299-E33-34	2/19/14 11:15	121.769	
299-E33-34	3/24/14 11:53	121.768	
299-E33-34	4/23/14 7:22	121.773	
299-E33-34	5/28/14 7:05	121.775	
299-E33-34	6/25/14 11:57	121.775	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E33-34	7/24/14 7:24	121.762	
299-E33-34	8/13/14 7:10	121.773	
299-E33-34	9/29/14 7:30	121.798	
299-E33-34	10/27/14 9:16	121.808	
299-E33-34	11/24/14 8:51	121.824	
299-E33-34	12/21/14 12:22	121.826	121.787
299-E33-37	1/28/14 12:17	121.811	
299-E33-37	2/20/14 7:45	121.775	
299-E33-37	3/25/14 7:31	121.780	
299-E33-37	4/24/14 6:45	121.787	
299-E33-37	5/29/14 7:00	121.773	
299-E33-37	6/26/14 8:27	121.777	
299-E33-37	7/23/14 8:17	121.770	
299-E33-37	8/12/14 6:39	121.776	
299-E33-37	9/30/14 8:39	121.793	
299-E33-37	10/28/14 10:12	121.828	
299-E33-37	11/25/14 10:01	121.836	
299-E33-37	12/22/14 11:22	121.812	121.793
299-E33-38	1/27/14 10:30	121.807	
299-E33-38	2/19/14 11:06	121.773	
299-E33-38	3/24/14 11:46	121.768	
299-E33-38	4/23/14 7:35	121.774	
299-E33-38	5/28/14 7:11	121.777	
299-E33-38	6/25/14 12:05	121.772	
299-E33-38	8/13/14 7:01	121.776	
299-E33-38	9/29/14 7:47	121.791	
299-E33-38	10/27/14 10:15	121.822	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
299-E33-38	11/24/14 8:44	121.827	
299-E33-38	12/21/14 12:12	121.831	121.793
299-E34-10	1/28/14 12:11	121.803	
299-E34-10	2/20/14 11:02	121.775	
299-E34-10	3/25/14 7:46	121.779	
299-E34-10	4/24/14 9:54	121.786	
299-E34-10	5/29/14 7:18	121.774	
299-E34-10	6/26/14 9:58	121.775	
299-E34-10	7/23/14 8:45	121.769	
299-E34-10	8/12/14 7:00	121.781	
299-E34-10	9/30/14 8:55	121.793	
299-E34-10	10/28/14 10:27	121.825	
299-E34-10	11/25/14 11:49	121.835	
299-E34-10	12/22/14 11:02	121.815	121.793
299-E34-9	1/28/14 12:40	121.803	
299-E34-9	2/20/14 11:07	121.772	
299-E34-9	3/25/14 7:42	121.786	
299-E34-9	4/24/14 10:09	121.780	
299-E34-9	5/29/14 7:14	121.769	
299-E34-9	6/26/14 10:04	121.776	
299-E34-9	7/23/14 8:36	121.770	
299-E34-9	8/12/14 6:53	121.774	
299-E34-9	9/30/14 12:15	121.789	
299-E34-9	10/28/14 12:58	121.828	
299-E34-9	11/25/14 12:00	121.830	
299-E34-9	12/22/14 10:58	121.803	121.790

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
699-37-47A	1/27/14 8:57	121.752	
699-37-47A	2/19/14 9:34	121.716	
699-37-47A	3/24/14 8:35	121.741	
699-37-47A	4/23/14 10:49	121.743	
699-37-47A	5/28/14 9:40	121.756	
699-37-47A	6/25/14 10:54	121.753	
699-37-47A	7/24/14 11:42	121.735	
699-37-47A	8/13/14 8:07	121.742	
699-37-47A	9/29/14 9:16	121.770	
699-37-47A	10/27/14 13:27	121.814	
699-37-47A	11/24/14 10:54	121.804	
699-37-47A	12/21/14 11:01	121.775	121.758
699-49-55A	1/27/14 11:07	121.810	
699-49-55A	2/19/14 12:30	121.789	
699-49-55A	3/24/14 10:43	121.778	
699-49-55A	4/23/14 11:54	121.787	
699-49-55A	5/28/14 6:19	121.783	
699-49-55A	6/25/14 10:29	121.783	
699-49-55A	7/24/14 8:20	121.776	
699-49-55A	8/13/14 11:29	121.780	
699-49-55A	9/29/14 10:49	121.816	
699-49-55A	10/27/14 14:00	121.829	
699-49-55A	11/24/14 12:11	121.823	
699-49-55A	12/21/14 12:51	121.841	121.800
699-49-57A	1/27/14 11:02	121.804	
699-49-57A	2/19/14 12:22	121.782	
699-49-57A	3/24/14 10:38	121.775	

Table A.2. Water Level Measurements for the 2014 200 East Area Water Table Map

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Average Hydraulic Head (m NAVD88)
699-49-57A	4/23/14 12:09	121.781	
699-49-57A	5/28/14 6:14	121.778	
699-49-57A	6/25/14 10:36	121.777	
699-49-57A	7/24/14 8:09	121.773	
699-49-57A	8/13/14 11:23	121.782	
699-49-57A	9/29/14 10:35	121.810	
699-49-57A	10/27/14 13:46	121.830	
699-49-57A	11/24/14 12:06	121.828	
699-49-57A	12/21/14 12:43	121.827	121.796
699-50-56	1/27/14 11:11	121.832	
699-50-56	2/19/14 12:34	121.821	
699-50-56	3/24/14 10:47	121.801	
699-50-56	4/23/14 11:49	121.792	
699-50-56	5/28/14 6:23	121.791	
699-50-56	6/25/14 10:24	121.807	
699-50-56	7/24/14 8:27	121.811	
699-50-56	8/13/14 11:33	121.829	
699-50-56	9/29/14 10:43	121.853	
699-50-56	10/27/14 13:53	121.865	
699-50-56	11/24/14 12:17	121.856	
699-50-56	12/21/14 12:47	121.842	121.825

PST = Pacific Standard Time
NAVD88 = North American Vertical Datum of 1988

Table A.3. Water Level Measurements Excluded

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Comment
299-E17-21	9/25/13 7:34	121.798	Not enough measurements during 2013 for a representative average

Table A.3. Water Level Measurements Excluded

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Comment
299-E17-21	12/3/13 11:32	121.814	Not enough measurements during 2013 for a representative average
299-E17-21	1/7/14 8:30	121.814	Not enough measurements during 2013 for a representative average
299-E24-25	12/22/14 11:41	121.685	Outlier
299-E25-19	1/8/14 12:31	121.882	Outlier
299-E25-36	5/14/13 8:21	121.780	Two measurements collected per month; only one used for the averages
299-E25-36	6/25/13 10:17	121.789	Two measurements collected per month; only one used for the averages
299-E25-36	8/6/13 7:15	121.773	Two measurements collected per month; only one used for the averages
299-E25-36	9/26/13 7:00	121.784	Two measurements collected per month; only one used for the averages
299-E25-36	10/30/13 10:04	121.761	Two measurements collected per month; only one used for the averages
299-E25-36	12/4/13 10:33	121.792	Two measurements collected per month; only one used for the averages
299-E25-36	1/8/14 12:37	121.757	Two measurements collected per month; only one used for the averages
299-E25-36	1/28/14 9:43	121.777	Two measurements collected per month; only one used for the averages
299-E25-36	2/20/14 10:10	121.748	Two measurements collected per month; only one used for the averages
299-E25-36	3/25/14 9:44	121.749	Two measurements collected per month; only one used for the averages
299-E25-36	4/24/14 9:12	121.748	Two measurements collected per month; only one used for the averages
299-E25-36	5/29/14 9:21	121.754	Two measurements collected per month; only one used for the averages
299-E25-36	6/26/14 9:21	121.748	Two measurements collected per month; only one used for the averages
299-E25-36	7/23/14 11:12	121.746	Two measurements collected per month; only one used for the averages
299-E25-36	8/13/14 8:15	121.747	Two measurements collected per month; only one used for the averages

Table A.3. Water Level Measurements Excluded

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Comment
299-E25-36	9/30/14 11:09	121.771	Two measurements collected per month; only one used for the averages
299-E25-36	10/28/14 12:06	121.810	Two measurements collected per month; only one used for the averages
299-E25-36	11/25/14 11:07	121.813	Two measurements collected per month; only one used for the averages
299-E25-36	12/22/14 9:33	121.803	Two measurements collected per month; only one used for the averages
299-E26-10	5/14/13 11:54	121.812	LERF well
299-E26-10	6/25/13 8:23	121.823	LERF well
299-E26-10	7/25/13 7:14	121.812	LERF well
299-E26-10	8/6/13 10:14	121.814	LERF well
299-E26-10	9/26/13 10:07	121.810	LERF well
299-E26-10	10/30/13 9:34	121.798	LERF well
299-E26-10	12/4/13 8:36	121.807	LERF well
299-E26-10	1/8/14 10:14	121.805	LERF well
299-E26-10	1/28/14 11:14	121.808	LERF well
299-E26-10	2/20/14 8:41	121.775	LERF well
299-E26-10	3/25/14 8:15	121.792	LERF well
299-E26-10	4/24/14 7:15	121.787	LERF well
299-E26-10	5/29/14 9:45	121.780	LERF well
299-E26-10	6/26/14 9:05	121.783	LERF well
299-E26-10	7/23/14 9:44	121.773	LERF well
299-E26-10	8/12/14 12:47	121.790	LERF well
299-E26-10	9/30/14 10:25	121.799	LERF well
299-E26-10	10/28/14 11:18	121.824	LERF well
299-E26-10	11/25/14 10:35	121.833	LERF well
299-E26-10	12/22/14 8:53	121.821	LERF well
299-E26-13	2/20/14 10:38	121.715	Outlier
299-E26-14	5/14/13 12:55	121.886	LERF well
299-E26-14	6/25/13 9:59	121.896	LERF well

Table A.3. Water Level Measurements Excluded

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Comment
299-E26-14	8/6/13 14:02	121.877	LERF well
299-E26-14	9/26/13 9:43	121.885	LERF well
299-E26-14	10/30/13 9:25	121.865	LERF well
299-E26-14	12/4/13 9:06	121.884	LERF well
299-E26-14	1/8/14 10:31	121.865	LERF well
299-E26-14	2/20/14 8:12	121.851	LERF well
299-E26-14	3/25/14 8:26	121.839	LERF well
299-E26-14	4/24/14 6:56	121.861	LERF well
299-E26-14	5/29/14 10:05	121.854	LERF well
299-E26-14	6/26/14 8:45	121.850	LERF well
299-E26-14	7/23/14 9:59	121.837	LERF well
299-E26-14	8/12/14 12:54	121.846	LERF well
299-E26-14	9/30/14 10:17	121.858	LERF well
299-E26-14	10/28/14 10:56	121.872	LERF well
299-E26-14	11/25/14 10:24	121.888	LERF well
299-E26-14	12/22/14 8:48	121.888	LERF well
299-E26-77	5/14/13 12:32	121.826	LERF well
299-E26-77	6/25/13 9:44	121.838	LERF well
299-E26-77	8/6/13 13:39	121.823	LERF well
299-E26-77	9/26/13 10:00	121.826	LERF well
299-E26-77	10/30/13 9:11	121.812	LERF well
299-E26-77	12/4/13 9:20	121.826	LERF well
299-E26-77	1/8/14 10:45	121.805	LERF well
299-E26-77	1/28/14 11:35	121.819	LERF well
299-E26-77	2/20/14 8:27	121.794	LERF well
299-E26-77	3/25/14 8:33	121.791	LERF well
299-E26-77	4/24/14 7:09	121.801	LERF well
299-E26-77	5/29/14 9:52	121.798	LERF well
299-E26-77	6/26/14 8:58	121.794	LERF well

Table A.3. Water Level Measurements Excluded

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Comment
299-E26-77	7/23/14 10:09	121.781	LERF well
299-E26-77	8/12/14 12:59	121.788	LERF well
299-E26-77	9/30/14 9:27	121.801	LERF well
299-E26-77	10/28/14 11:02	121.827	LERF well
299-E26-77	11/25/14 10:19	121.838	LERF well
299-E26-77	12/22/14 8:43	121.836	LERF well
299-E26-79	5/14/13 12:43	121.824	LERF well
299-E26-79	6/25/13 9:51	121.830	LERF well
299-E26-79	8/6/13 13:48	121.816	LERF well
299-E26-79	9/26/13 9:53	121.815	LERF well
299-E26-79	10/30/13 9:18	121.805	LERF well
299-E26-79	12/4/13 9:16	121.815	LERF well
299-E26-79	1/8/14 10:40	121.808	LERF well
299-E26-79	2/20/14 8:21	121.786	LERF well
299-E26-79	3/25/14 8:39	121.791	LERF well
299-E26-79	4/24/14 7:03	121.793	LERF well
299-E26-79	5/29/14 9:57	121.790	LERF well
299-E26-79	6/26/14 8:53	121.793	LERF well
299-E26-79	7/23/14 10:17	121.779	LERF well
299-E26-79	8/12/14 13:04	121.794	LERF well
299-E26-79	9/30/14 9:40	121.801	LERF well
299-E26-79	10/28/14 11:10	121.824	LERF well
299-E26-79	11/25/14 10:14	121.830	LERF well
299-E26-79	12/22/14 8:39	121.829	LERF well
299-E27-12	1/28/14 10:29	121.707	Outlier
299-E27-15	11/25/14 8:12	121.882	Outlier
299-E27-4	12/4/13 11:05	121.915	Outlier
299-E27-7	8/12/14 7:55	121.607	Outlier
299-E27-8	10/28/14 10:38	121.908	Outlier

Table A.3. Water Level Measurements Excluded

Well Name	Date/Time (PST)	Hydraulic Head (m NAVD88)	Comment
299-E28-17	6/24/13 9:13	121.721	Outlier
299-E32-8	10/29/13 13:53	121.837	Outlier
299-E33-14	7/23/14 8:04	121.946	Outlier

PST = Pacific Standard Time
NAVD88 = North American Vertical Datum of 1988

Table A.4. Well Coordinates

Well Name	Easting (m)*	Northing (m)*
299-E17-18	575112.433	135123.586
299-E17-21	574106.801	134893.429
299-E17-22	574841.09	135195.537
299-E17-23	574694.483	134842.439
299-E17-25	574515.185	134845.567
299-E23-1	574043.396	136016.551
299-E24-16	575017.622	135464.364
299-E24-18	574647.088	135469.764
299-E24-21	574635.761	135698.2
299-E24-22	575262.68	136142.82
299-E24-24	574179.77	135459.3
299-E24-25	574598.56	136287.23
299-E24-33	575325.4	136251.45
299-E25-19	575852.333	135659.027
299-E25-24	576193.873	135520.843
299-E25-34	576019.038	136100.011
299-E25-35	575708.338	135864.687
299-E25-36	575403.611	135566.372
299-E25-93	575471.51	136022.09
299-E26-13	576199.3	136528.6
299-E26-4	575733.962	136360.882

Table A.4. Well Coordinates

Well Name	Easting (m)*	Northing (m)*
299-E27-12	575054.135	136583.533
299-E27-14	575217.341	136498.244
299-E27-15	575095.256	136630.359
299-E27-17	574547.31	137122.01
299-E27-18	574299.61	137119.29
299-E27-21	575145.03	136407.21
299-E27-22	575185.1	136685.33
299-E27-23	575069.46	136452.23
299-E27-4	575032.02	136497.92
299-E27-7	575220.59	136619.403
299-E27-8	574759.08	137044.178
299-E27-9	574917.649	137040.904
299-E28-1	573933.394	136732.604
299-E28-17	573461.2	136331.686
299-E28-18	573104.076	136767.778
299-E28-27	573226.784	137070.063
299-E32-5	572599.697	137285.125
299-E32-6	572600.4	137515.1
299-E32-8	572663.39	137741.47
299-E33-14	573985.612	137567.216
299-E33-28	573226.365	137375.019
299-E33-339	573716.86	137221.51
299-E33-34	573104.458	137740.427
299-E33-37	574091.477	137185.421
299-E33-38	573591.158	137594.489
299-E34-10	574284.4	137224.57
299-E34-9	574186.02	137429.82
699-37-47A	575556.97	134893.26
699-49-55A	573146.301	138351.781
699-49-57A	572544.276	138389.24

Table A.4. Well Coordinates

Well Name	Easting (m)*	Northing (m)*
699-50-56	572748.21	138841.55

* Coordinates are in the North American Datum of 1983, Washington South Zone (4602).

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Appendix B

Cross Validation

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This appendix provides maps showing the effect of removing wells 299-E27-4, 299-E27-22, 299-E24-25, and 299-E28-17 from the data sets used to generate the grids. As explained in Section 3 and shown in Tables 2 and 3 of the main text, these wells were identified by cross validation as having a remaining measurement error greater than 2 cm. For this reason, these wells were excluded when generating the final 2013 and 2014 grids.

Figures B-1 and B-2 show a comparison of how the grids differ when including and excluding the 4 wells listed above for 2013 and 2014, respectively (the 4 wells are shown in red on the figures). Contours in the central portion of the mapped area are substantially affected by inclusion of wells 299-E27-4, 299-E27-22, 299-E24-25, and 299-E28-17. Without these wells, the contours agree more closely with the regional gradient.

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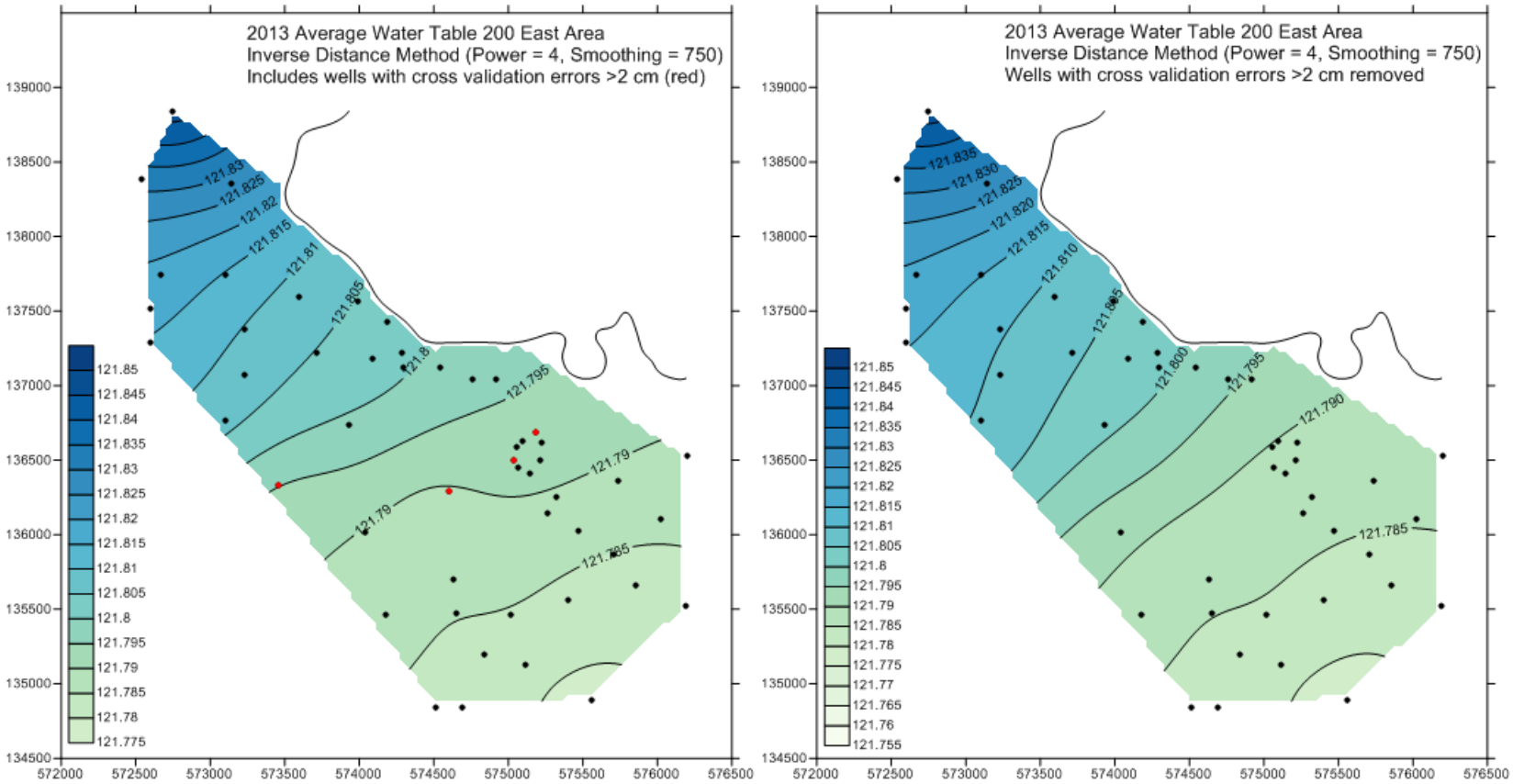

Figure B-1. Comparison of Omitting Wells 299-E27-4, 299-E27-22, 299-E24-25, and 299-E28-17 from the 2013 Water Table Grid

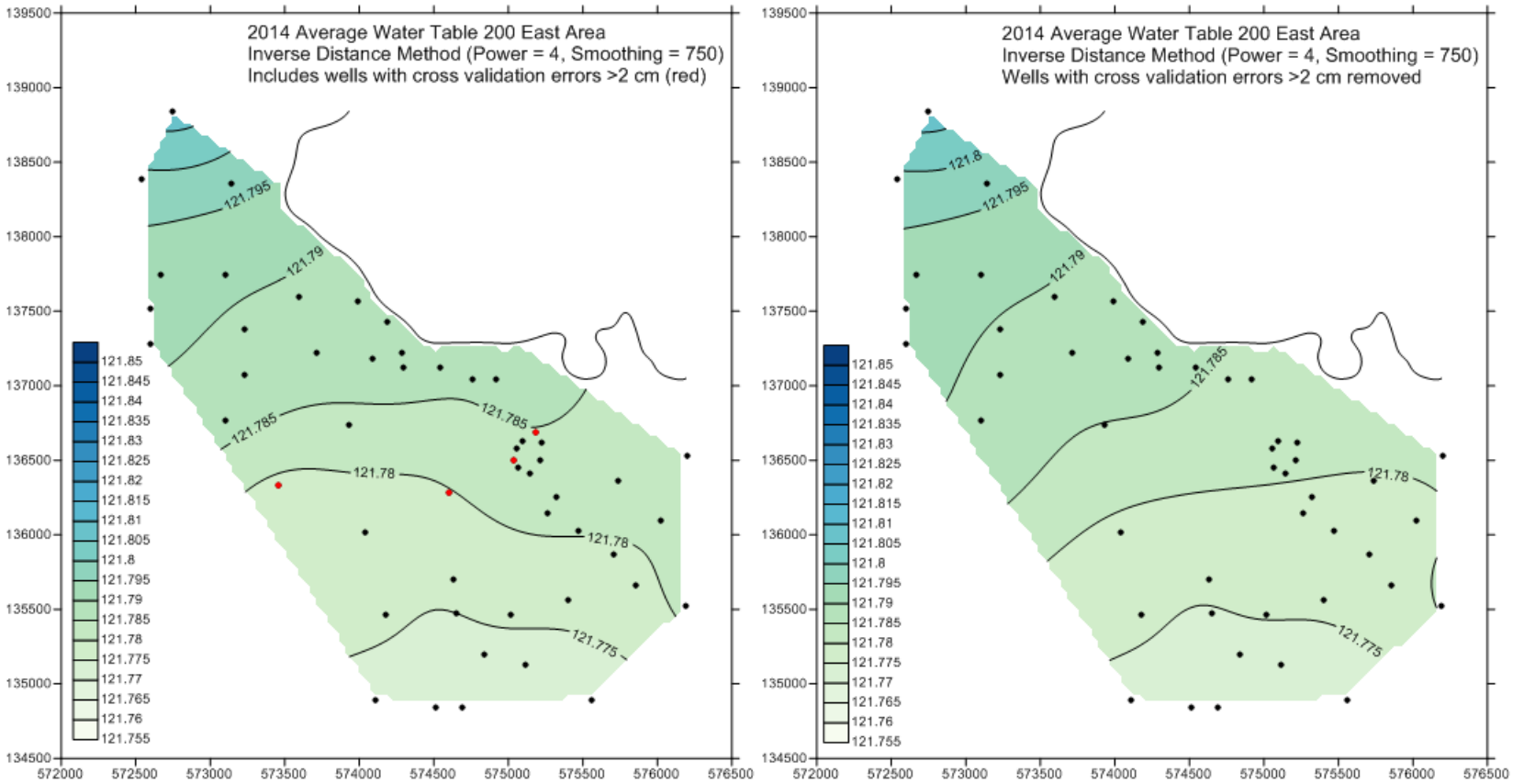

Figure B-2. Comparison of Omitting Wells 299-E27-4, 299-E27-22, 299-E24-25, and 299-E28-17 from the 2014 Water Table Grid

Appendix C

Surfer Grid and Cross Validation Reports

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This appendix provides the grid and cross validation reports output by Surfer® in the following sequence:

- Cross validation report for the 2013 measurements
- Grid report for the 2013 water table map
- Cross validation report for the 2014 measurements
- Grid report for the 2014 water table map

These reports provide a variety of parameters and statistics related to the operation performed.

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Cross Validation Report

Mon Feb 23 15:24:24 2015

Data Source

Source Data File Name:
X Column: A
Y Column: B
Z Column: C

Gridding Rules

Gridding Method: Inverse Distance to a Power
Weighting Power: 4
Smoothing Factor: 750
Anisotropy Ratio: 1
Anisotropy Angle: 0

Search Parameters
No Search (use all data): true

Data Counts at Validation Points

Active Results: 51
Blanked Results: 0
Attempted Results: 51
Requested Results: 51

Univariate Statistics

	X	Y	Z
Count:	51	51	51
1%-tile:	572544.276	134842.439	121.766
5%-tile:	572600.4	134893.26	121.768
10%-tile:	573104.076	135459.3	121.777
25%-tile:	573716.86	135864.687	121.784
50%-tile:	574647.088	136528.6	121.792
75%-tile:	575185.1	137185.421	121.807
90%-tile:	575708.338	137594.489	121.817
95%-tile:	575852.333	137741.47	121.826
99%-tile:	576193.873	138389.24	121.839
Minimum:	572544.276	134842.439	121.766
Maximum:	576199.3	138841.55	121.878
Mean:	574485.667882	136556.432549	121.797098039
Median:	574647.088	136528.6	121.792
Geometric Mean:	574484.788438	136553.290314	121.797096413
Harmonic Mean:	574483.9086	136550.149702	121.797094788
Root Mean Square:	574486.546934	136559.576379	121.797099665
Trim Mean (10%):	574461.149522	136502.336587	121.795065217
Interquartile Mean:	574599.530808	136552.403231	121.794192308
Midrange:	574371.788	136841.9945	121.822
Winsorized Mean:	574503.463784	136542.787216	121.795784314
TriMean:	574549.034	136526.827	121.79375
Variance:	1030205.5449	875802.826074	0.000404010196078
Standard Deviation:	1014.99041616	935.843376893	0.0201000048776
Interquartile Range:	1468.24	1320.734	0.023
Range:	3655.024	3999.111	0.112
Mean Difference:	1162.71344157	1070.75096	0.0213960784314
Median Abs. Deviation:	615.592	663.913	0.012
Average Abs. Deviation:	824.600666667	743.272941176	0.0147058823529
Quartile Dispersion:	0.00127795064428	0.00483696567518	9.44205656202e-005

Relative Mean Diff.:	0.00202392071129	0.00784108767352	0.00017566985401
Standard Error:	142.127086523	131.044284243	0.00281456365189
Coef. of Variation:	0.00176678109291	0.00685316216471	0.000165028602497
Skewness:	-0.369884420925	0.121794415969	1.33162467019
Kurtosis:	2.10401460182	2.52381464233	6.31404301453
Sum:	29298769.062	6964378.06	6211.652
Sum Absolute:	29298769.062	6964378.06	6211.652
Sum Squares:	1.6831774423e+013	951074412938	756561.20783
Mean Square:	330034792608	18648517900.7	14834.5334869

Univariate Cross-Validation Statistics

	Estimated Z	Residual Z	Data Used
Count:	51	51	51
1%-tile:	121.782087904	-0.0534127767336	51
5%-tile:	121.782182286	-0.0227273833918	51
10%-tile:	121.783752336	-0.012356064764	51
25%-tile:	121.786568383	-0.00392261629041	51
50%-tile:	121.792667986	-0.000127758722726	51
75%-tile:	121.802688918	0.00331782837436	51
90%-tile:	121.814979908	0.0121041723208	51
95%-tile:	121.816517649	0.0141487177216	51
99%-tile:	121.824587223	0.0239891098306	51
Minimum:	121.782087904	-0.0534127767336	51
Maximum:	121.833617714	0.0267417703596	51
Mean:	121.796501753	-0.000596286174462	51
Median:	121.792667986	-0.000127758722726	51
Geometric Mean:	121.796501132	N/A	51
Harmonic Mean:	121.79650051	N/A	51
Root Mean Square:	121.796502375	0.0123249455948	51

Trim Mean (10%):	121.79512981	-0.000446125096947	51
Interquartile Mean:	121.793501573	1.76233604044e-005	51
Midrange:	121.807852809	-0.013335503187	51
Winsorized Mean:	121.795849154	0.000162546593559	51
TriMean:	121.793648318	-0.000215076340375	51
Variance:	0.000154413923206	0.000154579701248	0
Standard Deviation:	0.0124263398958	0.0124330085357	N/A
Interquartile Range:	0.0161205351298	0.00724044466477	0
Range:	0.0515298093406	0.0801545470932	0
Mean Difference:	0.0136308845743	0.0123293356033	0
Median Abs. Deviation:	0.0075192679831	0.003784336916	0
Average Abs. Deviation:	0.00954653955444	0.00772904391355	0
Quartile Dispersion:	6.61791710705e-005	N/A	0
Relative Mean Diff.:	0.000111915238764	N/A	0
Standard Error:	0.00174003562735	0.00174096942371	N/A
Coef. of Variation:	0.000102025425336	N/A	N/A
Skewness:	0.998530483625	-1.36586493814	N/A
Kurtosis:	3.29253759118	8.10284046512	N/A
Sum:	6211.62158941	-0.0304105948975	2601
Sum Absolute:	6211.62158941	0.394308998314	2601
Sum Squares:	756553.787524	0.00774711847971	132651
Mean Square:	14834.3879907	0.000151904283916	2601

Most under-estimated data:
X = 572748.21 Y = 138841.55 Z = 121.878
E = 121.82458722327 ID = 52

Most over-estimated data:
X = 574598.56 Y = 136287.23 Z = 121.766
E = 121.79274177036 ID = 12

Residual Regression at Validation Points: R = AX+BY+C

Fitted Parameters

	A	B	C
Parameter Value:	-6.37542544469e-007	-5.91318900356e-006	1.1731467636
Standard Error:	2.17224581061e-006	2.35595905656e-006	1.48305476761

Inter-Parameter Correlations

	A	B	C
A:	1.000	0.671	-0.987
B:	0.671	1.000	-0.781
C:	-0.987	-0.781	1.000

ANOVA Table

Source	df	Sum of Squares	Mean Square	F
Regression:	2	0.00131188596724	0.000655942983618	4.90646361334
Residual:	48	0.00641709909518	0.000133689564483	
Total:	50	0.00772898506241		

Coefficient of Multiple Determination (R^2): 0.169735865271

Inter-Variable Correlation at Validation Points

	X	Y	Z	Estimated Z	Residual Z
X:	1.000	-0.671	-0.687	-0.865	0.247
Y:	-0.671	1.000	0.820	0.916	-0.410
Z:	-0.687	0.820	1.000	0.808	-0.809
E:	-0.865	0.916	0.808	1.000	-0.308
R:	0.247	-0.410	-0.809	-0.308	1.000

Rank Correlation at Validation Points

	X	Y	Z	Estimated Z	Residual Z
X:	1.000	-0.651	-0.659	-0.785	0.268
Y:	-0.651	1.000	0.827	0.954	-0.331
Z:	-0.659	0.827	1.000	0.762	-0.723
E:	-0.785	0.954	0.762	1.000	-0.222
R:	0.268	-0.331	-0.723	-0.222	1.000

Gridding Report

Tue Feb 24 09:49:16 2015
Elapsed time for gridding: 75.8 seconds

Data Source

Source Data File Name:
X Column: A
Y Column: B
Z Column: C

Filtered Data Counts

Active Data: 47

Original Data:	47
Excluded Data:	0
Deleted Duplicates:	0
Retained Duplicates:	0
Artificial Data:	0
Superseded Data:	0

Exclusion Filtering

Exclusion Filter String: Not In Use

Duplicate Filtering

Duplicate Filtering: Not In Use

Breakline Filtering

Breakline Filtering: Not In Use

Z Data Transform

Transformation method: Linear (use Z values directly)

No untransformable data were found.

Data Counts

Active Data: 47

Univariate Statistics

	X	Y	Z
Count:	47	47	47
1%-tile:	572544.276	134842.439	121.766
5%-tile:	572600.4	134893.26	121.771
10%-tile:	572748.21	135195.537	121.779
25%-tile:	573716.86	135698.2	121.785
50%-tile:	574647.088	136583.533	121.792
75%-tile:	575217.341	137221.51	121.806
90%-tile:	575708.338	137594.489	121.816
95%-tile:	575852.333	137741.47	121.826
99%-tile:	576193.873	138389.24	121.839
Minimum:	572544.276	134842.439	121.766
Maximum:	576199.3	138841.55	121.878
Mean:	574478.557064	136565.444553	121.797425532
Median:	574647.088	136583.533	121.792
Geometric Mean:	574477.637098	136562.046123	121.797423945
Harmonic Mean:	574476.716742	136558.649035	121.797422358
Root Mean Square:	574479.476637	136568.844276	121.797427119
Trim Mean (10%):	574450.857095	136507.269452	121.795190476
Interquartile Mean:	574582.89425	136561.667833	121.794083333
Midrange:	574371.788	136841.9945	121.822
Winsorized Mean:	574460.009426	136522.578021	121.795829787
TriMean:	574557.09425	136521.694	121.79375
Variance:	1079519.90768	948767.496661	0.00039511933395
Standard Deviation:	1038.99947434	974.046968406	0.019877608859
Interquartile Range:	1500.481	1523.31	0.021
Range:	3655.024	3999.111	0.112
Mean Difference:	1194.13046994	1120.35420907	0.0207918593895
Median Abs. Deviation:	661.476	701.592	0.011
Average Abs. Deviation:	848.878170213	792.048787234	0.0141063829787
Quartile Dispersion:	0.00130597644207	0.00558153165266	8.62100816533e-005
Relative Mean Diff.:	0.00207863366744	0.00820378985864	0.000170708529336
Standard Error:	151.553649491	142.079352765	0.00289944724721
Coef. of Variation:	0.00180859574577	0.00713245559001	0.000163202208685

Skewness:	-0.343298144507	0.090710529405	1.51683560179
Kurtosis:	2.04347063182	2.32952991019	6.88186504373
Sum:	27000492.182	6418575.894	5724.479
Sum Absolute:	27000492.182	6418575.894	5724.479
Sum Squares:	1.55112534466e+013	876599313667	697226.822887
Mean Square:	330026669078	18651049227	14834.6132529

Inter-Variable Covariance

	X	Y	Z
X:	1079519.9	-698123.39	-16.099628
Y:	-698123.39	948767.5	16.445711
Z:	-16.099628	16.445711	0.00039511933

Inter-Variable Correlation

	X	Y	Z
X:	1.000	-0.690	-0.780
Y:	-0.690	1.000	0.849
Z:	-0.780	0.849	1.000

Inter-Variable Rank Correlation

	X	Y	Z
X:	1.000	-0.681	-0.796

Y:	-0.681	1.000	0.867
Z:	-0.796	0.867	1.000

Principal Component Analysis

	PC1	PC2	PC3
X:	0.6733358377	0.6733358377	7.06670308337e-006
Y:	0.739336763357	0.739336763357	-1.21339315657e-005
Z:	4.21279725059e-006	4.21279725059e-006	-1.21339315657e-005
Lambda:	1715321.50812	312965.89654	8.17969156385e-005

Planar Regression: Z = AX+BY+C

Fitted Parameters

	A	B	C
Parameter Value:	-7.06670308434e-006	1.21339315657e-005	124.200019165
Standard Error:	1.81259488586e-006	1.93346439616e-006	1.23828577965

Inter-Parameter Correlations

	A	B	C
A:	1.000	0.690	-0.988
B:	0.690	1.000	-0.793
C:	-0.988	-0.793	1.000

ANOVA Table

Source	df	Sum of Squares	Mean Square	F
Regression:	2	0.0144128312416	0.00720641562079	84.2708205723
Residual:	44	0.00376265812011	8.55149572753e-005	
Total:	46	0.0181754893617		

Coefficient of Multiple Determination (R^2): 0.792981743422

Nearest Neighbor Statistics

	Separation	|Delta Z|
1%-tile:	62.3186241585	0
5%-tile:	87.9637726568	0
10%-tile:	106.373034647	0
25%-tile:	158.602795805	0.001
50%-tile:	242.983594673	0.00500000000001
75%-tile:	385.206857562	0.01
90%-tile:	479.618046343	0.015
95%-tile:	496.158656536	0.021
99%-tile:	573.695515824	0.048
Minimum:	62.3186241585	0
Maximum:	603.189254966	0.048
Mean:	277.936280165	0.00793617021277
Median:	242.983594673	0.00500000000001
Geometric Mean:	239.206281316	N/A
Harmonic Mean:	199.26135913	N/A
Root Mean Square:	311.598844142	0.0130375888647
Trim Mean (10%):	268.114770888	0.00597619047619
Interquartile Mean:	260.633685974	0.00491666666667
Midrange:	332.753939562	0.024
Winsorized Mean:	274.811869983	0.00604255319149
TriMean:	257.444210678	0.00525000000001

Variance:	20276.6826177	0.000109321924144
Standard Deviation:	142.396217006	0.0104557125125
Interquartile Range:	226.604061758	0.009
Range:	540.870630807	0.048
Mean Difference:	163.089706177	0.00945235892692
Median Abs. Deviation:	117.547255042	0.004
Average Abs. Deviation:	114.41923868	0.00634042553192
Quartile Dispersion:	0.416697387321	N/A
Relative Mean Diff.:	0.586788115896	1.19104790768
Standard Error:	20.770622983	0.00152512241674
Coef. of Variation:	0.512334039017	1.31747583938
Skewness:	0.419236049251	2.4802865664
Kurtosis:	2.20937664111	9.55876147114
Sum:	13063.0051678	0.373
Sum Absolute:	13063.0051678	0.373
Sum Squares:	4563410.46453	0.007989
Mean Square:	97093.8396708	0.000169978723404

Complete Spatial Randomness

Lambda:	3.21546781034e-006
Clark and Evans:	0.996775419004
Skellam:	92.1963161746

Gridding Rules

Gridding Method:	Inverse Distance to a Power
Weighting Power:	4
Smoothing Factor:	750
Anisotropy Ratio:	1
Anisotropy Angle:	0

Search Parameters

No Search (use all data):	true

Fault Filename:	
Number of Traces:	2
Number of Vertices:	811

Output Grid

Grid File Name:	
Grid Size:	100 rows x 91 columns
Total Nodes:	9100
Filled Nodes:	4515
Blanked Nodes:	4585
Blank Value:	1.70141E+038

Grid Geometry

X Minimum:	572544.276
X Maximum:	576199.3
X Spacing:	40.611377777779
Y Minimum:	134842.439
Y Maximum:	138841.55
Y Spacing:	40.39506060606

Univariate Grid Statistics

	Z
Count:	4515
1%-tile:	121.779601561
5%-tile:	121.781638163
10%-tile:	121.783068072
25%-tile:	121.786257919
50%-tile:	121.792737911
75%-tile:	121.806790971
90%-tile:	121.816799699

95%-tile:	121.824663847
99%-tile:	121.837007901
Minimum:	121.778332883
Maximum:	121.846319213
Mean:	121.797341095
Median:	121.792737911
Geometric Mean:	121.797340303
Harmonic Mean:	121.797339512
Root Mean Square:	121.797341886
Trim Mean (10%):	121.796335965
Interquartile Mean:	121.794364444
Midrange:	121.812326048
Winsorized Mean:	121.796559548
TriMean:	121.794631178
Variance:	0.000192784408827
Standard Deviation:	0.0138846825252
Interquartile Range:	0.020533052149
Range:	0.0679863296544
Mean Difference:	0.015210773
Median Abs. Deviation:	0.00854664460756
Average Abs. Deviation:	0.0111692087076
Quartile Dispersion:	8.42924387319e-005
Relative Mean Diff.:	0.000124885920032
Standard Error:	0.000206636518803
Coef. of Variation:	0.000113998240031
Skewness:	0.938071639675
Kurtosis:	3.22915315125
Sum:	549914.995042
Sum Absolute:	549914.995042
Sum Squares:	66978185.0943
Mean Square:	14834.5924904

Cross Validation Report

Tue Feb 24 09:57:45 2015

Data Source

Source Data File Name:	
X Column:	A
Y Column:	B
Z Column:	C

Gridding Rules

Gridding Method:	Inverse Distance to a Power
Weighting Power:	4
Smoothing Factor:	750
Anisotropy Ratio:	1
Anisotropy Angle:	0

Search Parameters

No Search (use all data):	true

Fault Filename:	
Number of Traces:	2
Number of Vertices:	811

Data Counts at Validation Points

Active Results:	52
Blanked Results:	0
Attempted Results:	52

Requested Results: 52

Univariate Statistics

	X	Y	Z
Count:	52	52	52
1%-tile:	572544.276	134842.439	121.757
5%-tile:	572600.4	134893.26	121.762
10%-tile:	573104.076	135195.537	121.767
25%-tile:	573716.86	135698.2	121.776
50%-tile:	574635.761	136498.244	121.782
75%-tile:	575185.1	137185.421	121.79
90%-tile:	575556.97	137567.216	121.794
95%-tile:	575852.333	137741.47	121.8
99%-tile:	576193.873	138389.24	121.812
Minimum:	572544.276	134842.439	121.757
Maximum:	576199.3	138841.55	121.825
Mean:	574478.381981	136524.451712	121.783288462
Median:	574641.4245	136513.422	121.782
Geometric Mean:	574477.517102	136521.178091	121.7832878
Harmonic Mean:	574476.651859	136517.906009	121.783287138
Root Mean Square:	574479.246494	136527.726835	121.783289123
Trim Mean (10%):	574453.610191	136468.104511	121.782382979
Interquartile Mean:	574581.281556	136520.766074	121.783037037
Midrange:	574371.788	136841.9945	121.791
Winsorized Mean:	574478.370115	136488.369846	121.782461538
TriMean:	574543.3705	136470.02725	121.7825
Variance:	1012765.82299	911814.467873	0.000164366138763
Standard Deviation:	1006.36266971	954.889767393	0.012820535822
Interquartile Range:	1468.24	1487.221	0.014
Range:	3655.024	3999.111	0.068
Mean Difference:	1153.72471719	1093.67925867	0.014044494721

Median Abs. Deviation:	609.642	690.0435	0.007
Average Abs. Deviation:	819.133096154	760.424826923	0.00951923076923
Quartile Dispersion:	0.00127795064428	0.00545001929595	5.74792869284e-005
Relative Mean Diff.:	0.00200829962168	0.00801086724731	0.000115323661386
Standard Error:	139.557392591	132.419385337	0.00177788843404
Coef. of Variation:	0.0017517850998	0.00699427652279	0.0001052733588
Skewness:	-0.351905708503	0.109444384707	0.469982049145
Kurtosis:	2.1251198992	2.46859248386	4.11872326784
Sum:	29872875.863	7099271.489	6332.731
Sum Absolute:	29872875.863	7099271.489	6332.731
Sum Squares:	1.71613730419e+013	969270650125	771220.814505
Mean Square:	330026404653	18639820194.7	14831.1695097

Univariate Cross-Validation Statistics

	Estimated Z	Residual Z	Data Used
Count:	52	52	52
1%-tile:	121.772212201	-0.0306136517668	52
5%-tile:	121.773824155	-0.0252444026006	52
10%-tile:	121.775161809	-0.00918662617292	52
25%-tile:	121.778378428	-0.00434707563518	52
50%-tile:	121.783942995	-0.000224253668236	52
75%-tile:	121.786809592	0.00531861172097	52
90%-tile:	121.790775746	0.00982160866563	52
95%-tile:	121.791865215	0.0131618093932	52
99%-tile:	121.795499489	0.0212174204433	52
Minimum:	121.772212201	-0.0306136517668	52
Maximum:	121.800403177	0.0257524436472	52
Mean:	121.783420474	0.000132012066357	52
Median:	121.783955811	-5.05582393586e-005	52

Geometric Mean:	121.78342032	N/A	52
Harmonic Mean:	121.783420166	N/A	52
Root Mean Square:	121.783420627	0.0102850835013	52
Trim Mean (10%):	121.783013642	5.95624614502e-005	52
Interquartile Mean:	121.783280422	0.000434361560708	52
Midrange:	121.786307689	-0.00243060405979	52
Winsorized Mean:	121.783158557	0.000608319678905	52
TriMean:	121.783268503	0.000130757187328	52
Variance:	3.82151608541e-005	0.00010783934908	0
Standard Deviation:	0.00618184121877	0.0103845726479	N/A
Interquartile Range:	0.00843116358355	0.00966568735615	0
Range:	0.0281909766413	0.056366095414	0
Mean Difference:	0.00703631172391	0.0108412152732	0
Median Abs. Deviation:	0.0040080616444	0.00477422924049	0
Average Abs. Deviation:	0.004870022634	0.00694733769793	0
Quartile Dispersion:	3.46156347386e-005	N/A	0
Relative Mean Diff.:	5.77772548722e-005	N/A	0
Standard Error:	0.000857267134272	0.00144008112138	N/A
Coef. of Variation:	5.07609426204e-005	N/A	N/A
Skewness:	0.268809282099	-0.678996605361	N/A
Kurtosis:	2.73370324302	4.93456770265	N/A
Sum:	6332.73786463	0.00686462745055	2704
Sum Absolute:	6332.73786463	0.361261560292	2704
Sum Squares:	771222.480066	0.00550071301672	140608
Mean Square:	14831.2015397	0.000105782942629	2704

Most under-estimated data:

X = 572748.21 Y = 138841.55 Z = 121.825
E = 121.79438634823 ID = 53

Most over-estimated data:

X = 574598.56 Y = 136287.23 Z = 121.757
E = 121.78275244365 ID = 13

Residual Regression at Validation Points: R = AX+BY+C

Fitted Parameters

	A	B	C
Parameter Value:	-1.57153922654e-006	-4.25494567196e-006	1.48385144908
Standard Error:	1.81473400363e-006	1.91255642177e-006	1.22559530487

Inter-Parameter Correlations

	A	B	C
A:	1.000	0.637	-0.986
B:	0.637	1.000	-0.755
C:	-0.986	-0.755	1.000

ANOVA Table

Source	df	Sum of Squares	Mean Square	F
Regression:	2	0.000551670980145	0.000275835490072	2.73152142488
Residual:	49	0.00494813582292	0.000100982363733	
Total:	51	0.00549980680307		

Coefficient of Multiple Determination (R^2): 0.100307338039

Inter-Variable Correlation at Validation Points

	X	Y	Z	Estimated Z	Residual Z
X:	1.000	-0.637	-0.397	-0.661	0.097
Y:	-0.637	1.000	0.704	0.967	-0.294
Z:	-0.397	0.704	1.000	0.598	-0.879

E:	-0.661	0.967	0.598	1.000	-0.143
R:	0.097	-0.294	-0.879	-0.143	1.000

Rank Correlation at Validation Points

	X	Y	Z	Estimated Z	Residual Z
X:	1.000	-0.619	-0.422	-0.629	0.145
Y:	-0.619	1.000	0.739	0.977	-0.259
Z:	-0.422	0.739	1.000	0.653	-0.782
E:	-0.629	0.977	0.653	1.000	-0.134
R:	0.145	-0.259	-0.782	-0.134	1.000

Gridding Report

Tue Feb 24 10:04:18 2015
Elapsed time for gridding: 77.2 seconds

Data Source

Source Data File Name:
X Column: A
Y Column: B
Z Column: C

Filtered Data Counts

Active Data:	48

Original Data:	48
Excluded Data:	0
Deleted Duplicates:	0
Retained Duplicates:	0
Artificial Data:	0
Superseded Data:	0

Exclusion Filtering

Exclusion Filter String: Not In Use

Duplicate Filtering

Duplicate Filtering: Not In Use

Breakline Filtering

Breakline Filtering: Not In Use

Z Data Transform

Transformation method: Linear (use Z values directly)

No untransformable data were found.

Data Counts

Active Data: 48

Univariate Statistics

	X	Y	Z
Count:	48	48	48
1%-tile:	572544.276	134842.439	121.758
5%-tile:	572600.4	134893.26	121.766
10%-tile:	572748.21	135123.586	121.767
25%-tile:	573716.86	135659.027	121.777
50%-tile:	574635.761	136528.6	121.782
75%-tile:	575217.341	137221.51	121.789
90%-tile:	575708.338	137594.489	121.793
95%-tile:	575852.333	137741.47	121.796
99%-tile:	576193.873	138389.24	121.8
Minimum:	572544.276	134842.439	121.758
Maximum:	576199.3	138841.55	121.825
Mean:	574470.812146	136530.610896	121.783166667
Median:	574641.4245	136556.0665	121.782
Geometric Mean:	574469.908904	136527.07362	121.783166163
Harmonic Mean:	574469.005302	136523.537717	121.783165659
Root Mean Square:	574471.715028	136534.149487	121.783167171
Trim Mean (10%):	574442.855791	136469.738279	121.782581395
Interquartile Mean:	574563.85052	136525.5622	121.78304
Midrange:	574371.788	136841.9945	121.7915
Winsorized Mean:	574452.650917	136487.436438	121.782520833
TriMean:	574551.43075	136484.43425	121.7825
Variance:	1059430.61924	986823.371057	0.000125375886525
Standard Deviation:	1029.28646121	993.38983841	0.0111971374255
Interquartile Range:	1500.481	1562.483	0.012
Range:	3655.024	3999.111	0.067
Mean Difference:	1183.59352571	1143.51566755	0.0120460992908
Median Abs. Deviation:	638.534	710.219	0.0065
Average Abs. Deviation:	842.4491875	810.758270833	0.00825
Quartile Dispersion:	0.00130597644207	0.00572588656259	4.92679602243e-005

Relative Mean Diff.:	0.0020603196902	0.00837552589892	9.89143214165e-005
Standard Error:	148.564703864	143.383472654	0.00161616757669
Coef. of Variation:	0.00179171237154	0.007275949561	9.19432277214e-005
Skewness:	-0.324630243721	0.0874413428722	0.640669894856
Kurtosis:	2.06775233661	2.28070263441	5.51872597919
Sum:	27574598.983	6553469.323	5845.592
Sum Absolute:	27574598.983	6553469.323	5845.592
Sum Squares:	1.58408520656e+013	894795550855	711894.710694
Mean Square:	330017751367	18641573976.1	14831.1398061

Inter-Variable Covariance

	X	Y	Z
X:	1059430.6	-670320.08	-6.643991
Y:	-670320.08	986823.37	9.0576169
Z:	-6.643991	9.0576169	0.00012537589

Inter-Variable Correlation

	X	Y	Z
X:	1.000	-0.656	-0.576
Y:	-0.656	1.000	0.814
Z:	-0.576	0.814	1.000

Inter-Variable Rank Correlation

	X	Y	Z
X:	1.000	-0.646	-0.560
Y:	-0.646	1.000	0.795
Z:	-0.560	0.795	1.000

Principal Component Analysis

	PC1	PC2	PC3
X:	0.687721096506	0.687721096506	8.13469360996e-007
Y:	0.725974995016	0.725974995016	-8.62599360499e-006
Z:	5.70281562368e-006	5.70281562368e-006	-8.62599360499e-006
Lambda:	1694429.4298	351824.560573	4.18402576337e-005

Planar Regression: Z = AX+BY+C

Fitted Parameters

	A	B	C
Parameter Value:	-8.13469361376e-007	8.62599360471e-006	121.072768895
Standard Error:	1.24061152534e-006	1.28544162351e-006	0.838293319595

Inter-Parameter Correlations

	A	B	C
A:	1.000	0.656	-0.987
B:	0.656	1.000	-0.767
C:	-0.987	-0.767	1.000

ANOVA Table

Source	df	Sum of Squares	Mean Square	F
Regression:	2	0.00392617455774	0.00196308727887	44.9220859559
Residual:	45	0.00196649210893	4.36998246429e-005	
Total:	47	0.00589266666667		

Coefficient of Multiple Determination (R^2): 0.66628146132

Nearest Neighbor Statistics

	Separation	|Delta Z|
1%-tile:	62.3186241585	0
5%-tile:	87.9637726568	0.000999999999991
10%-tile:	106.373034647	0.001
25%-tile:	158.602795805	0.00200000000001
50%-tile:	242.983594673	0.004
75%-tile:	386.422054776	0.006
90%-tile:	479.618046343	0.013
95%-tile:	496.158656536	0.018
99%-tile:	573.695515824	0.029
Minimum:	62.3186241585	0
Maximum:	603.189254966	0.029
Mean:	280.712172504	0.00614583333333
Median:	247.021271589	0.004
Geometric Mean:	241.921127346	N/A
Harmonic Mean:	201.424110085	N/A
Root Mean Square:	313.995711456	0.00912300206438
Trim Mean (10%):	271.441848598	0.0049534883721
Interquartile Mean:	265.665220726	0.00384

Midrange:	332.753939562	0.0145
Winsorized Mean:	277.652854201	0.00516666666667
TriMean:	257.748009981	0.004
Variance:	20215.1315959	4.64250886525e-005
Standard Deviation:	142.179926839	0.006813595868
Interquartile Range:	227.819258971	0.00399999999999
Range:	540.870630807	0.029
Mean Difference:	163.251121698	0.00648492907801
Median Abs. Deviation:	121.584931958	0.002
Average Abs. Deviation:	115.539577827	0.0041875
Quartile Dispersion:	0.417997929321	N/A
Relative Mean Diff.:	0.581560536692	1.05517490083
Standard Error:	20.5219047585	0.000983457852135
Coef. of Variation:	0.50649719095	1.108652887
Skewness:	0.372166132866	1.96044002076
Kurtosis:	2.16130669175	6.44724980302
Sum:	13474.1842802	0.295
Sum Absolute:	13474.1842802	0.295
Sum Squares:	4732478.72703	0.003995
Mean Square:	98593.3068131	8.32291666667e-005

Complete Spatial Randomness

Lambda:	3.28388201907e-006
Clark and Evans:	1.0173842588
Skellam:	97.6463658332

Gridding Rules

Gridding Method:	Inverse Distance to a Power
Weighting Power:	4
Smoothing Factor:	750
Anisotropy Ratio:	1
Anisotropy Angle:	0

Search Parameters

No Search (use all data):	true
Fault Filename:	
Number of Traces:	2
Number of Vertices:	811

Output Grid

Grid File Name:	
Grid Size:	100 rows x 91 columns
Total Nodes:	9100
Filled Nodes:	4792
Blanked Nodes:	4308
Blank Value:	1.70141E+038

Grid Geometry

X Minimum:	572544.276
X Maximum:	576199.3
X Spacing:	40.611377777779
Y Minimum:	134842.439
Y Maximum:	138841.55
Y Spacing:	40.39506060606

Univariate Grid Statistics

	Z
Count:	4792
1%-tile:	121.771850992
5%-tile:	121.77371941
10%-tile:	121.774743868

25%-tile:	121.777886243
50%-tile:	121.781185974
75%-tile:	121.788533787
90%-tile:	121.791723447
95%-tile:	121.794979755
99%-tile:	121.80142649
Minimum:	121.770784242
Maximum:	121.806790377
Mean:	121.782971131
Median:	121.781187267
Geometric Mean:	121.78297094
Harmonic Mean:	121.782970749
Root Mean Square:	121.782971323
Trim Mean (10%):	121.782659849
Interquartile Mean:	121.782179922
Midrange:	121.78878731
Winsorized Mean:	121.782674602
TriMean:	121.782197995
Variance:	4.66040883006e-005
Standard Deviation:	0.00682671870671
Interquartile Range:	0.0106475436331
Range:	0.0360061350369
Mean Difference:	0.00767411894458
Median Abs. Deviation:	0.00499286858821
Average Abs. Deviation:	0.00557128164437
Quartile Dispersion:	4.37151542966e-005
Relative Mean Diff.:	6.30147127573e-005
Standard Error:	9.86174125229e-005
Coef. of Variation:	5.60564309057e-005
Skewness:	0.594424888491
Kurtosis:	2.82011926322
Sum:	583583.997661
Sum Absolute:	583583.997661
Sum Squares:	71070593.3632
Mean Square:	14831.0921042