1R - 277
ANNUAL MONITORING REPORT

2/02/2008

1R 277

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2008 FEB 4 PM 12 41

TRIDENT ENVIRONMENTAL

February 2, 2008

Mr. Glenn Von Gonten
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division – Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

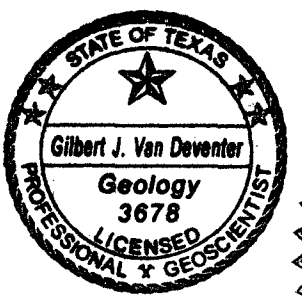
SUBJECT: 2007 ANNUAL GROUNDWATER MONITORING REPORT
FORMER UNOCAL SOUTH VACUUM UNIT
NMOCD CASE NO. 1R-277
SECTION 35, TOWNSHIP 18 SOUTH, RANGE 35 EAST
LEA COUNTY, NEW MEXICO

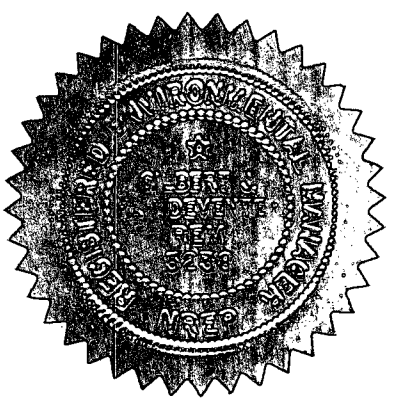
Dear Mr. Von Gonten:

Enclosed is the 2007 Annual Groundwater Monitoring Report for the Former Unocal South Vacuum Unit site located in Lea County, New Mexico (hard copy and compact disk). Chevron Environmental Management Company has been managing the groundwater monitoring activities for the site since their acquisition of Unocal Corporation in 2005.

Please contact me at 432-638-8740, Mr. John MacLeod (Chevron EMC) at 925-842 2477, or Allen Just (Arcadis) at 714-730-9052 Ext. 38 if you have any questions or comments.

Sincerely,





Gilbert J. Van Deventer, REM, PG
Trident Environmental – Midland, TX

Attachments

xc: Mr. John MacLeod, Chevron EMC, San Ramon, CA
Mr. Allen Just, Arcadis, Irvine, CA

1R277

2007 Annual Groundwater Monitoring Report
Former Unocal South Vacuum Unit
NMOCD Case No. 1R-277
Section 35, Township 18 South, Range 35 East
Lea County, New Mexico

FEBRUARY 2, 2008

Prepared For:

Chevron Environmental Management Company
6001 Bollinger Canyon Rd.
San Ramon, CA 94583

Prepared By:

TRIDENT ENVIRONMENTAL

P. O. Box 7624
Midland, Texas 79708

2007 Annual Groundwater Monitoring Report

Former Unocal South Vacuum Unit

NMOCD Case NO. 1R-277

Section 35, Township 18 South, Range 35 East

Lea County, New Mexico

Prepared for:

Chevron Environmental Management Company

6001 Bollinger Canyon Road

San Ramon, CA 94583

Prepared by:

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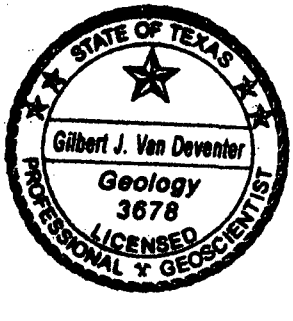
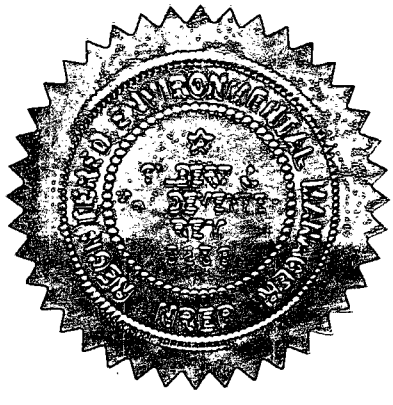
(432) 638-8740
FAX (413) 403-9968

SUBMITTED BY:

DATE:

Gilbert J. Van Deventer, PG, REM
Project Manager





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1.0 Executive Summary

Trident Environmental (Trident) was retained by ARCADIS, on behalf of Chevron Environmental Management Company (Chevron EMC), to perform the 2007 annual groundwater sampling and monitoring operations at the Former Unocal South Vacuum Unit (Site), which is located at township 18 south, range 35 east, section 35 in Lea County, New Mexico. Chevron EMC has assumed Unocal's environmental liability at the Site. This report documents the 2007 annual sampling event performed by Trident at the site on July 27, 2007. This report contains the historical groundwater elevation and analytical data from monitoring wells MW-1 through MW-6. The sampling event was conducted in accordance with the November 2, 2000 Groundwater Remediation Plan submitted by Unocal and the requirements specified in the New Mexico Oil and Conservation Division (OCD) letter dated February 8, 2001.

Based on the sampling and monitoring data to date, the following conclusions relevant to groundwater conditions at the Former Unocal South Vacuum Unit are evident:

- Chloride and total dissolved solids (TDS) concentrations in MW-1, near the source area, have generally decreased since 1996 with the exception of slight fluctuations since the 2003 sampling event. Similarly, chloride and TDS levels have decreased in the closest downgradient well, MW-4, since 1999 when that well was installed. Chloride and TDS concentrations in the remaining wells (MW-2, MW-3, MW-5, and MW-6) have remained relatively consistent with previous levels.

- The fate and transport modeling results continue to support the contention that the chloride and TDS plume is not likely to impact existing sources of water supply, the closest of which, a livestock well (Windmill L 05339) lies approximately 3,200 feet south of the source.

- According to conservative model simulations, the chloride plume will travel a maximum of 3,200 feet southeast of the source in approximately 151 years before concentrations return to levels below the New Mexico Water Quality Control Commission (WQCC) standard of 250 mg/L. The same analysis indicates that the TDS plume will travel only 2,300 feet in

approximately 86 years before concentrations return to levels below the WQCC standard of 1,000 mg/L.

- Based on the modeling results and predicted natural attenuation processes (advection and dispersion), there will be no adverse impact to human health and the environment nor will the livestock well exceed WQCC standards for chlorides or TDS due to the plume originating and traveling southeast, versus south, from the former emergency overflow pit.

- Groundwater elevations have steadily decreased at a rate of approximately 0.3 feet per year since the initial sampling event of monitoring well MW-1 in January 1995; with the exception of the 2005 sampling event due to higher than normal rainfall during 2004 and 2005. The decreasing groundwater elevation trend has resumed since 2005.

Exemplary remedial actions were performed to the source area by Unocal, including plugging of the SWD well in 1971 and encapsulating the former surface impoundment area with solidification material in 1995, thus eliminating the threat of any continued release from the source. Based on the identified potential receptor and fate and transport modeling results, the chloride/TDS plume at the site presents low risk to human health and the environment; therefore Trident recommends the following actions for site closure:

- Continue the natural attenuation annual monitoring program with groundwater sampling and analysis of chloride and TDS concentrations for each of the six monitoring wells.

- Update flow and transport model to confirm the plume is naturally attenuating as described.

- Submit the 2008 annual groundwater monitoring report to OCD in January 2009 to document natural attenuation conditions.

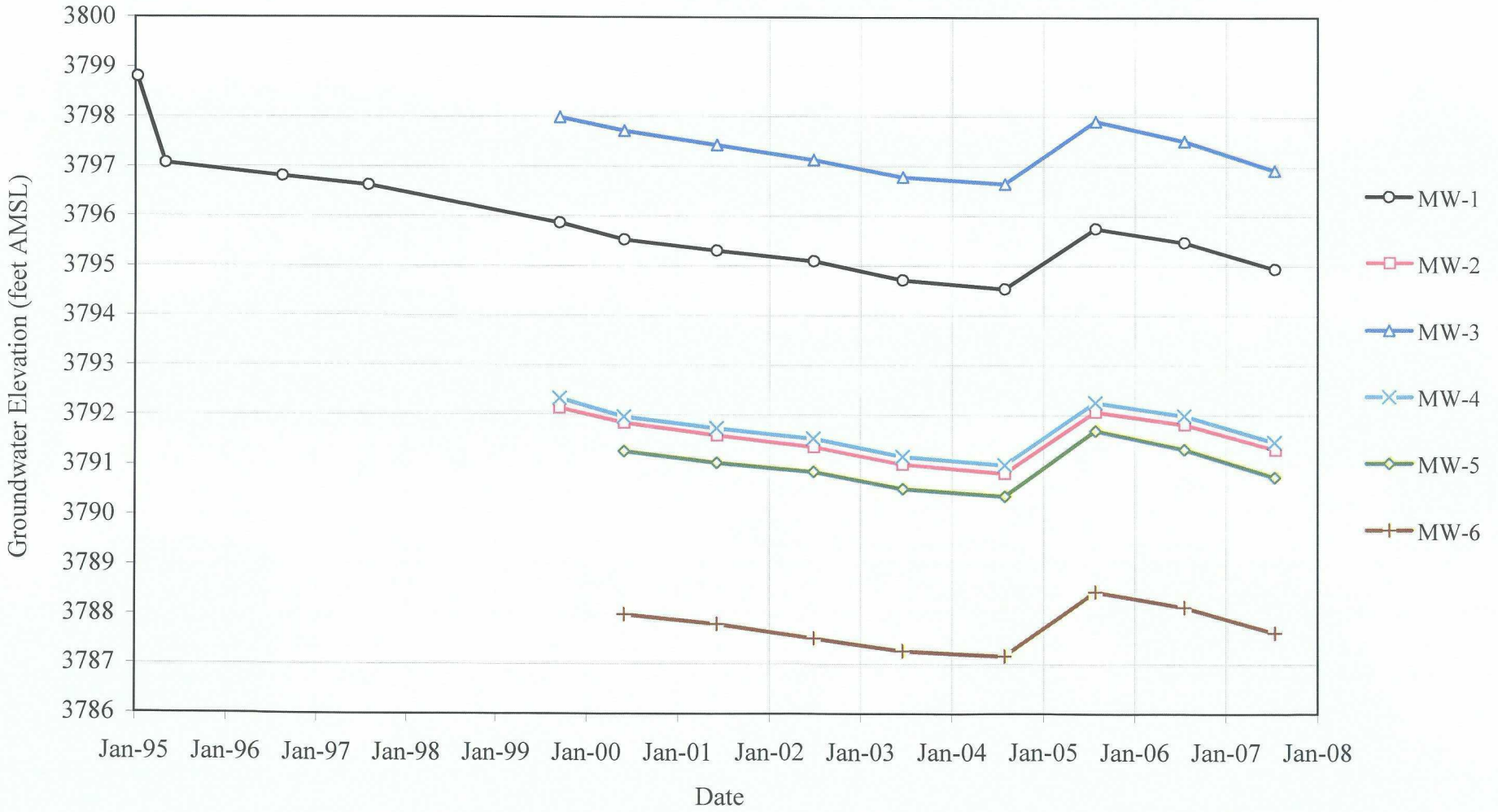
2.0 Groundwater Sampling Procedures

On July 27, 2007, each of the six monitoring wells, MW-1 through MW-6, was gauged for depth to groundwater using a Solinst Model 101 electronic water indicator immediately prior to purging operations. A total of 33.5 gallons of groundwater was purged from each site monitoring well (3 to 10.5 gallons per well) using a decontaminated 2-inch diameter PVC bailer. After purging, groundwater samples were collected and parameters were measured using a Hanna Model 98130 pH-Conductivity-Temperature meter. Water samples for each monitoring well were transferred into 500 milliliter (ml) plastic containers for laboratory analysis of total dissolved solids (TDS) (EPA Method 160.1) and chloride (EPA Method 325.3). For each set of samples, chain of custody forms documenting sample identification numbers, collection times, and delivery times to the laboratory were completed. All water samples were placed in an ice-filled cooler immediately after collection and transported to Lancaster Laboratories. in Lancaster, PA for analysis.

3.0 Groundwater Elevations, Hydraulic Gradient and Flow Direction

Depth to groundwater varies from approximately 50.33 to 71.15 feet below top of well casing at the site. Groundwater elevations are summarized in Table 1. A groundwater gradient map indicating the direction of groundwater flow is illustrated in Figure 1. A historical groundwater elevation graph is shown in Figure 2. The groundwater gradient direction is to the southeast with a hydraulic gradient of approximately 0.004 ft/ft. According to published reports (*Ground-Water Conditions in Northern Lea County, New Mexico*, Ash, 1963 and *Geology and Ground-Water Conditions in Southern Lea County, New Mexico*, Nicholson and Clebsch, 1961) the groundwater encountered at the site is that of the Tertiary Ogallala Formation. The Ogallala Formation unconformably overlies the impermeable red-beds of the Triassic Chinle Formation at an elevation of approximately 3700 feet above mean sea level (AMSL). Based on the current groundwater elevations measured on site and published data referenced, the saturated thickness of the Ogallala Formation at the site ranges from approximately 87 to 97 feet.

Figure 2: Historical Groundwater Elevations



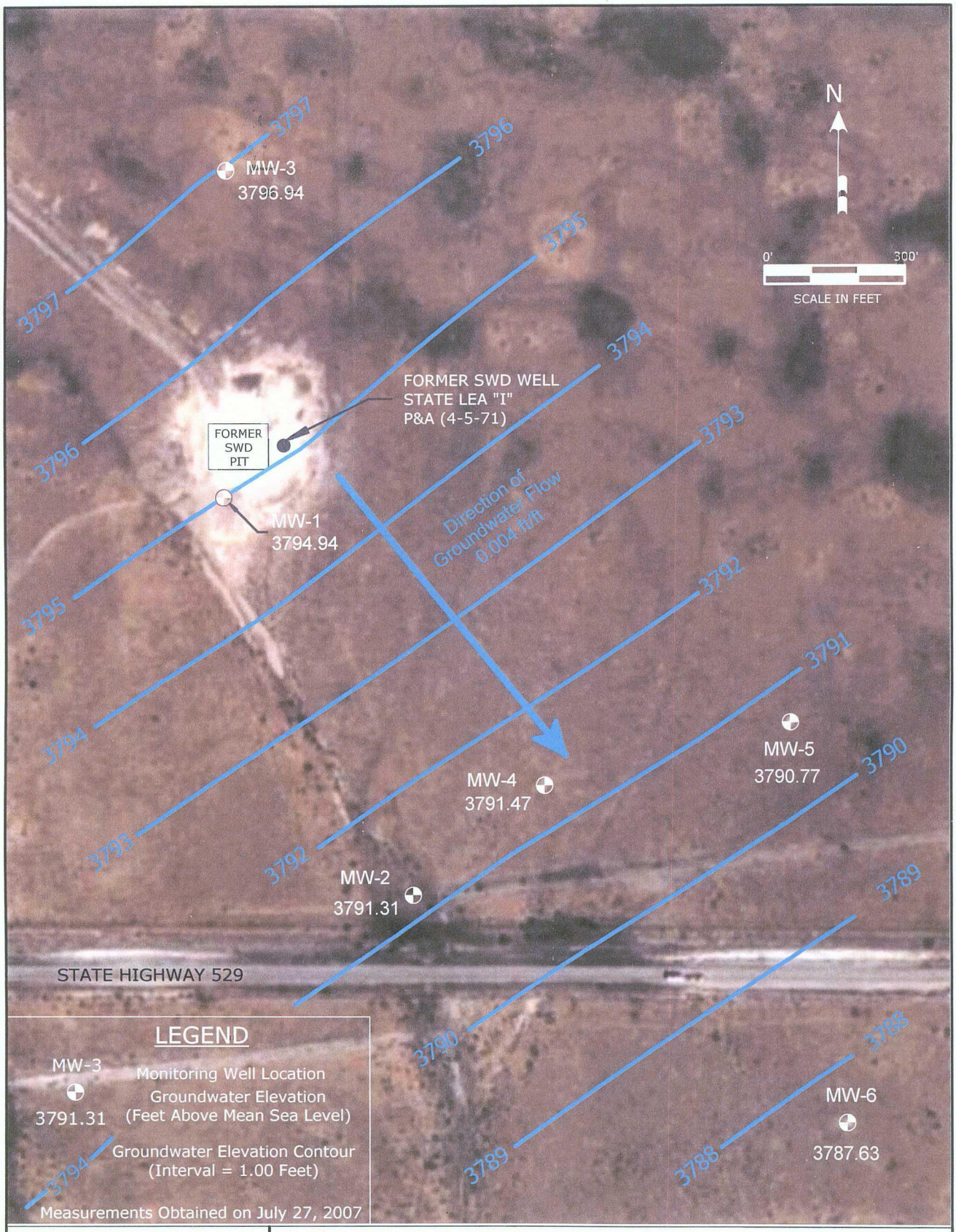


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FIGURE 1

Former Unocal South Vacuum Unit

Groundwater Gradient Map

Table 1: Summary of Groundwater Elevations and Chloride and TDS Concentrations

Monitoring Well	Sampling Date	Chloride (mg/L)	TDS (mg/L)	Depth to Groundwater (feet BTOC)	Top of Casing Elevation (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-1	01/27/95	1174	2250	59.57	3858.37	3798.80
	05/18/95	983	2251	61.30	3858.37	3797.07
	08/28/96	1420	2730	61.57	3858.37	3796.80
	08/13/97	1400	2800	61.75	3858.37	3796.62
	09/30/99	1094	2318	62.51	3858.37	3795.86
	06/14/00	927	2040	62.85	3858.37	3795.52
	06/18/01	813	1790	63.07	3858.37	3795.30
	07/11/02	784	1680	63.28	3858.37	3795.09
	07/02/03	715	2090	63.66	3858.37	3794.71
	08/12/04	628	2050	63.83	3858.37	3794.54
	08/10/05	774	1830	62.62	3858.37	3795.75
	07/31/06	860	2010	62.90	3858.37	3795.47
	07/27/07	732	1790	63.43	3858.37	3794.94
MW-2	09/30/99	298	922	49.51	3841.64	3792.13
	06/14/00	317	852	49.81	3841.64	3791.83
	06/18/01	288	878	50.06	3841.64	3791.58
	07/11/02	284	808	50.29	3841.64	3791.35
	07/02/03	268	859	50.63	3841.64	3791.01
	08/12/04	451	931	50.81	3841.64	3790.83
	08/10/05	355	844	49.58	3841.64	3792.06
	07/31/06	401	922	49.83	3841.64	3791.81
	07/27/07	430	984	50.33	3841.64	3791.31
MW-3	09/30/99	73.6	427	66.74	3864.73	3797.99
	06/14/00	75.5	433	67.01	3864.73	3797.72
	06/18/01	86.4	495	67.29	3864.73	3797.44
	07/11/02	103	509	67.59	3864.73	3797.14
	07/02/03	98.3	588	67.94	3864.73	3796.79
	08/12/04	111	605	68.07	3864.73	3796.66
	08/10/05	122	533	66.81	3864.73	3797.92
	07/31/06	141	619	67.21	3864.73	3797.52
	07/27/07	164	705	67.79	3864.73	3796.94
MW-4	09/30/99	1576	2981	60.18	3852.51	3792.33
	06/14/00	1500	2910	60.55	3852.51	3791.96
	06/18/01	1530	3180	60.78	3852.51	3791.73
	07/11/02	1290	2660	60.98	3852.51	3791.53
	07/02/03	1250	2610	61.34	3852.51	3791.17
	08/12/04	1130	2480	61.50	3852.51	3791.01
	08/10/05	1050	2230	60.25	3852.51	3792.26
	07/31/06	926	2030	60.51	3852.51	3792.00
	07/27/07	758	1940	61.04	3852.51	3791.47
MW-5	06/14/00	13.7	274	68.57	3859.84	3791.27
	06/18/01	13.6	322	68.80	3859.84	3791.04
	07/11/02	15.5	308	68.98	3859.84	3790.86
	07/02/03	12.5	359	69.32	3859.84	3790.52
	08/12/04	15.3	375	69.46	3859.84	3790.38
	08/10/05	14.9	309	68.15	3859.84	3791.69
	07/31/06	13.3	290	68.52	3859.84	3791.32
	07/27/07	14.9	296	69.07	3859.84	3790.77
MW-6	06/14/00	48	382	70.79	3858.78	3787.99
	06/18/01	50.8	431	70.98	3858.78	3787.80
	07/11/02	50	422	71.26	3858.78	3787.52
	07/02/03	46.5	471	71.52	3858.78	3787.26
	08/12/04	55.1	410	71.62	3858.78	3787.16
	08/10/05	55	391	70.33	3858.78	3788.45
	07/31/06	52.4	412	70.64	3858.78	3788.14
	07/27/07	75.3	516	71.15	3858.78	3787.63

4.0 Groundwater Quality Conditions

Groundwater sample analytical results are presented in Table 1. The WQCC standards are presented for comparison. Those constituents that recorded concentrations above the WQCC standards are highlighted in boldface type. The WQCC standard of 250 mg/L for chloride was exceeded in MW-1 (732 mg/L), MW-2 (430 mg/L), and MW-4 (758 mg/L). The WQCC standard of 1,000 mg/L for TDS was exceeded only in MW-1 (1,790 mg/L) and MW-4 (1,940 mg/L). The groundwater samples obtained from upgradient monitoring well MW-3 and downgradient wells MW-5 and MW-6 had chloride and TDS concentrations below WQCC standards.

The chloride and TDS concentrations are depicted graphically in Figure 3 and 4, respectively. The concentration isocons were drawn utilizing the Surfer® (version 6.0) contour modeling program (Kriging method). Since this contouring program does not take into account the known groundwater gradient, some of the isocons were manually converged into a more southeasterly orientation. Graphs depicting historical TDS and chloride concentrations in monitoring wells MW-1 through MW-6 are shown in Figures 5 and 6.

Chloride and TDS concentrations in MW-1, near the source area, have consistently decreased since 1996, with the exception of slight fluctuations since the 2003 sampling event. Similarly, chloride and TDS levels have decreased significantly in the closest downgradient well, MW-4, since 1999 when that well was installed. Chloride and TDS concentrations in monitoring well MW-3 have slightly increased since 2000, which suggests a possible offsite source of chlorides and TDS located upgradient (northwest) from the site. Chloride and TDS levels in MW-2, MW-5, and MW-6 have remained relatively consistent with previous years.

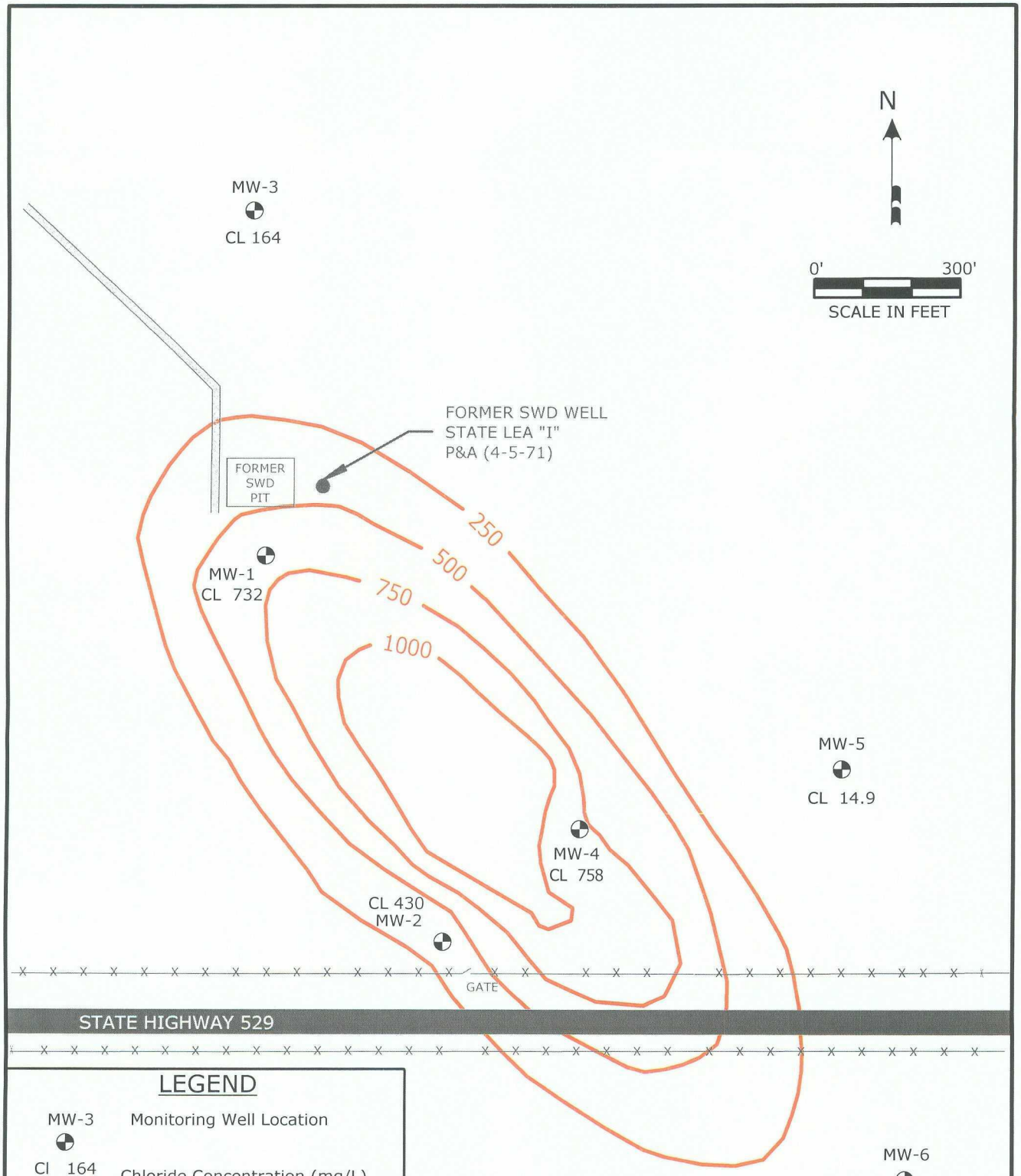

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FIGURE 3

Former Unocal South Vacuum Unit
Chloride Concentration Map
Current Conditions (2007)

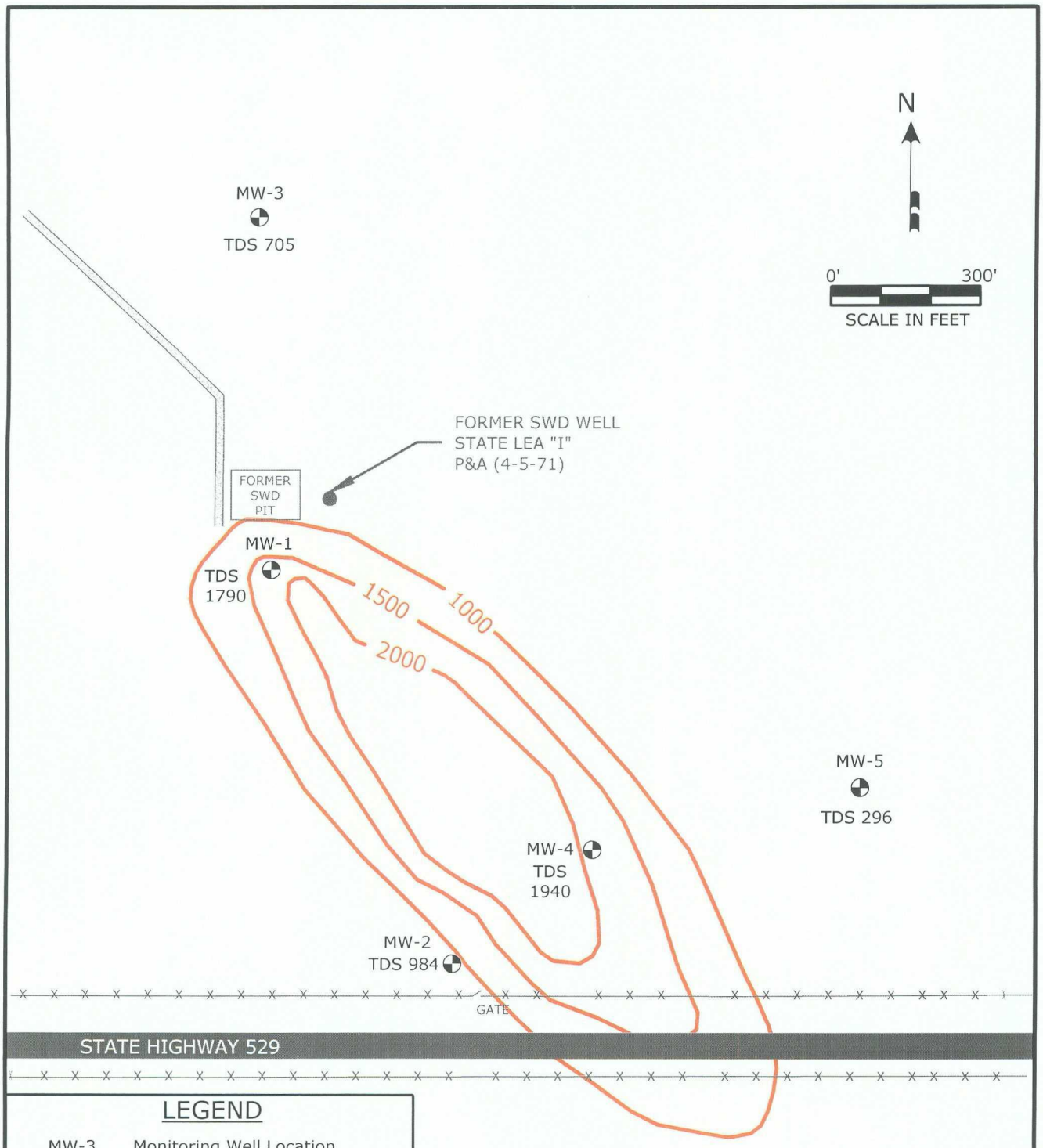

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FIGURE 4

Former Unocal South Vacuum Unit
TDS Concentration Map
Current Conditions (2007)

Figure 5
Chloride Concentrations Versus Time Graph

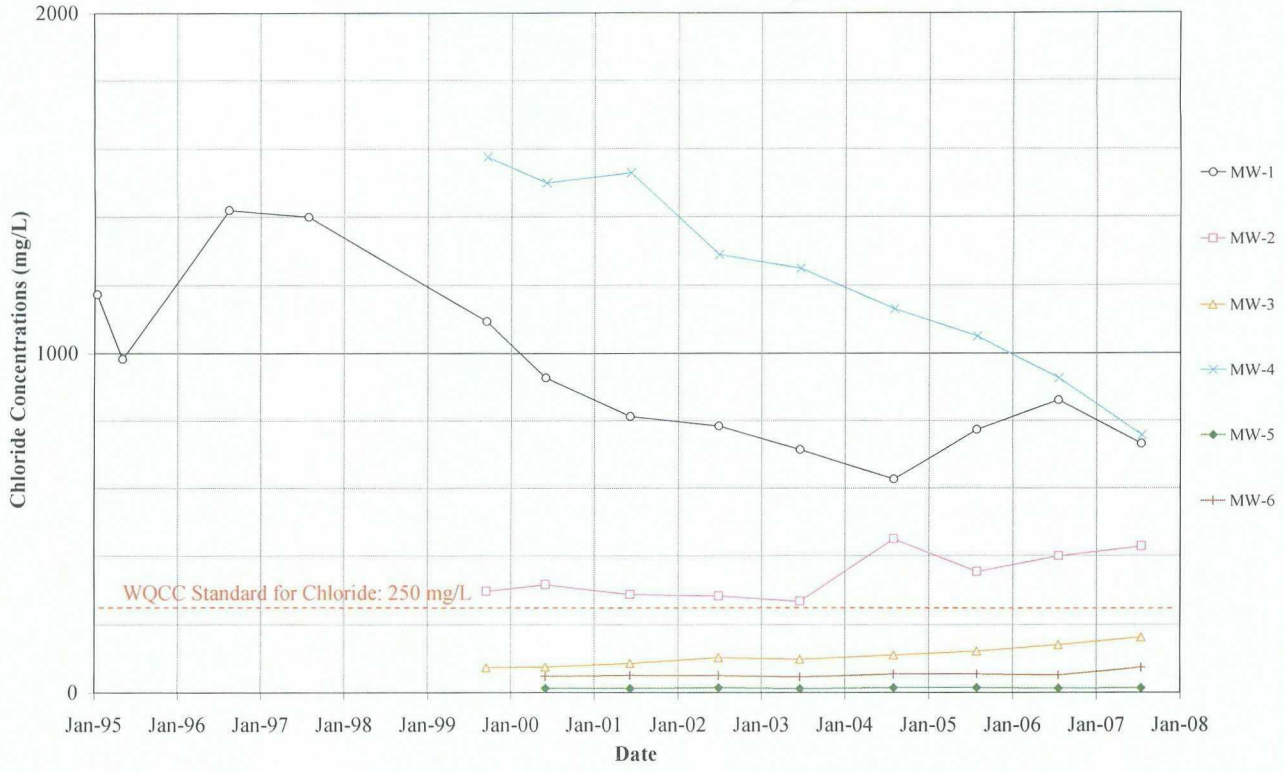
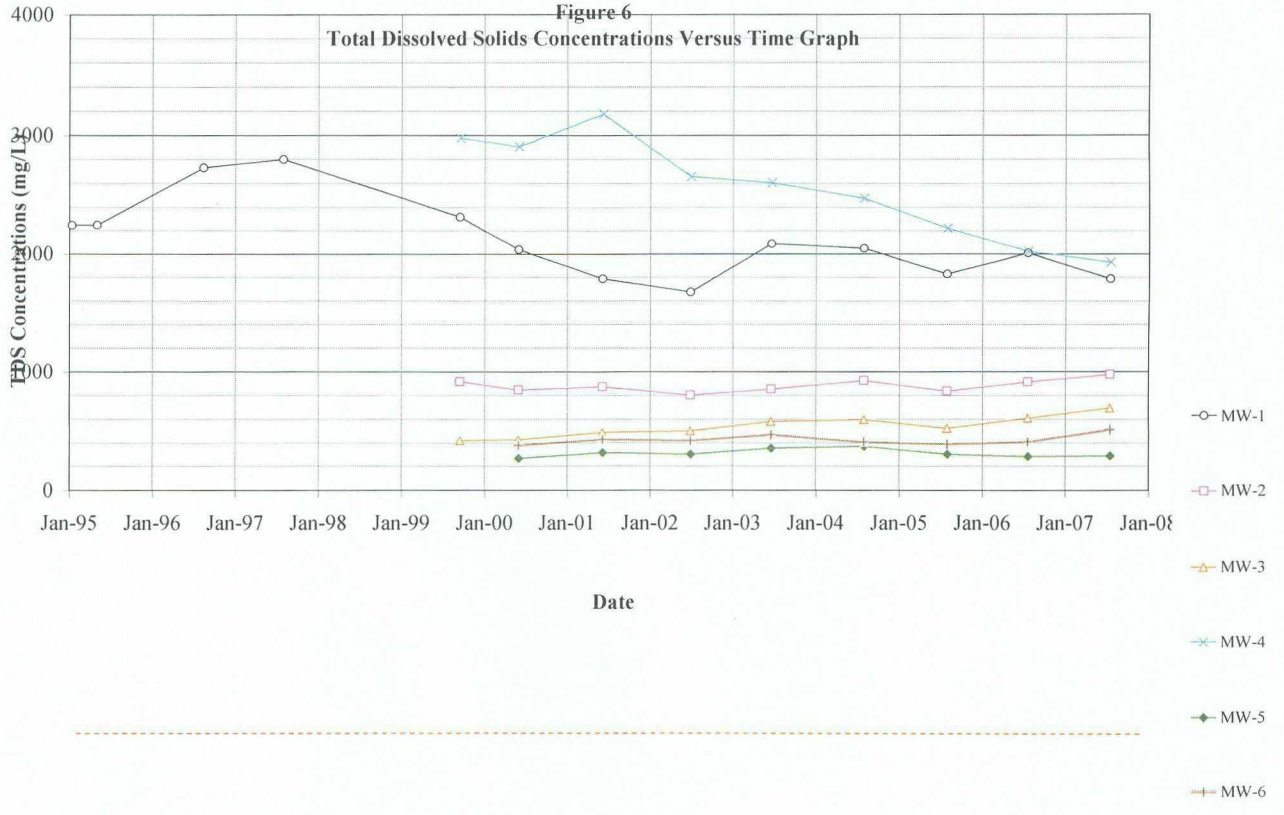


Figure 6
Total Dissolved Solids Concentrations Versus Time Graph



5.0 Fate and Transport Modeling Results

Fate and transport modeling was performed by Trident to simulate the movement of the chloride and TDS groundwater plume over time. Simulations were conducted using the two-dimensional groundwater flow and contaminant transport model WinTran, version 1.03 (1995) designed and distributed by Environmental Simulations, Inc. (ESI) of Herndon, Virginia. WinTran is built around a steady-state analytical element flow model, linked to a finite element contaminant transport model. A more detailed discussion of the flow and transport parameters used, assumptions, model calibrations, and simulation results are described in Appendix D.

Figures displaying modeled simulations of the chloride and TDS plumes over various time increments are included in Appendix C. Advective flow moves the center of plume mass downgradient as depicted in the simulations. The simulations also demonstrate how hydrodynamic dispersion serves to broaden the dimensions of the plume while reducing the concentrations in the middle of the plume.

Continued attenuation by dilution and dispersion of the plume, after the maximum chloride and TDS concentrations decrease to levels below WQCC standards, are shown in the final simulation for each constituent of concern (year 2158 for chloride and year 2093 for TDS, respectively). The center of the chloride plume is approximately 3,200 ft away from the pit and well source in the year 2158. The center of the TDS plume is approximately 2,300 ft away from the pit and well source in the year 2093.

The portions of the chloride and TDS plumes that are above WQCC standards do not reach any of the identified potential receptors at any time during their attenuation. The results of the updated fate and transport model are consistent with those determined in previous annual reports.

6.0 Conclusions

Conclusions relevant to groundwater conditions and the remediation performance at the Former Unocal South Vacuum Unit are presented below.

- Chloride and TDS concentrations in MW-1, near the source area, have generally decreased since 1996. Similarly, chloride and TDS levels have significantly decreased in the closest downgradient well, MW-4, since 1999 when that well was installed. Chloride and TDS concentrations in the remaining wells (MW-2, MW-3, MW-5, and MW-6) have remained relatively consistent with previous levels.
- The fate and transport modeling results continue to support the contention that the chloride and TDS plume is not likely to impact existing sources of water supply, the closest of which, a livestock well (Windmill L 05339), lies approximately 3,200 feet south of the source.
- According to conservative model simulations, the chloride plume will travel a maximum of 3,200 feet southeast of the source in approximately 151 years before concentrations return to levels below the WQCC standard of 250 mg/L. The same analysis indicates that the TDS plume will travel only 2,300 feet in approximately 86 years before concentrations return to levels below the WQCC standard of 1,000 mg/L.
- Based on the modeling results and predicted natural attenuation processes (dispersion and dilution), there will be no adverse impact to human health and the environment nor will the livestock well exceed WQCC standards for chlorides or TDS due to the plume originating and traveling southeast, versus south, from the former emergency overflow pit.
- Groundwater elevations had steadily decreased at a rate of approximately 0.3 feet per year since the initial sampling event of monitoring well MW-1 in January 1995; however during 2005 the groundwater table has increased to an elevation similar to the 1999 level. The recent rise may be attributed to higher than normal rainfall during 2004 and 2005. The decreasing groundwater elevation trend has resumed since 2005.

7.0 Recommendations

Chevron EMC has performed exemplary remedial actions to the source area, including plugging of the SWD well in 1971 and encapsulating the former surface impoundment area with solidification material in 1995, thus eliminating the threat of any continued release from the source. Based on the identified potential receptor and fate and transport modeling results, the chloride/TDS plume at the site presents low risk to human health and the environment; therefore Trident recommends the following actions for site closure:

- Continue the natural attenuation annual monitoring program with groundwater sampling and analysis of chloride and TDS concentrations for each of the six monitoring wells.
- Update flow and transport model to confirm the plume is naturally attenuating as described.
- Submit the 2008 annual groundwater monitoring report to OCD in January 2008 to document natural attenuation conditions.

APPENDIX A

Laboratory Analytical Reports

And

Chain-of-Custody Documentation

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax:717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

Chevron Env Mgmt Co
PO Box 6012
San Ramon CA 94583

925-842-2477

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1048481. Samples arrived at the laboratory on Wednesday, July 25, 2007. The PO# for this group is 0015012397 and the release number is MACLEOD.

Client Description	Lancaster Labs Number
MW-1 Grab Water Sample	5111532
MW-2 Grab Water Sample	5111533
MW-3 Grab Water Sample	5111534
MW-4 Grab Water Sample	5111535
MW-5 Grab Water Sample	5111536
MW-6 Grab Water Sample	5111537

1 COPY TO	ARCADIS BBL	Attn: Allen Just
ELECTRONIC COPY TO	Trident Environmental	Attn: Gilbert Van Deventer
ELECTRONIC COPY TO	ARCADIS BBL	Attn: Sarah Huff

Lancaster Laboratories

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax:717-656-2681 • www.lancasterlabs.com

Questions? Contact your Client Services Representative
Katherine A Klinefelter at (717) 656-2300

Respectfully Submitted,

Robert Heisey

Robert Heisey
Senior Specialist

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 5111532

MW-1 Grab Water Sample
Former Unocal South Vacuum Unit
Lea County, NM

Collected:07/24/2007 by GVD

Account Number: 11969

Submitted: 07/25/2007 09:25
Reported: 08/01/2007 at 13:36
Discard: 09/01/2007

Chevron Env Mgmt Co
PO Box 6012
San Ramon CA 94583

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Units	Dilution Factor
00212	Total Dissolved Solids	n.a.	1,790.	38.8	120.	mg/l	1
01124	Chloride (titrimetric)	16887-00-6	732.	8.0	40.0	mg/l	20

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00212	Total Dissolved Solids	SM20 2540 C	1	07/30/2007 08:46	Susan A Engle	1
01124	Chloride (titrimetric)	SM20 4500 Cl C	1	07/31/2007 12:25	Susan A Engle	20

*=This limit was used in the evaluation of the final result

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 5111533

MW-2 Grab Water Sample
Former Unocal South Vacuum Unit
Lea County, NM

Collected:07/24/2007 by GVD

Account Number: 11969

Submitted: 07/25/2007 09:25
Reported: 08/01/2007 at 13:36
Discard: 09/01/2007

Chevron Env Mgmt Co
PO Box 6012
San Ramon CA 94583

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Units	Dilution Factor
00212	Total Dissolved Solids	n.a.	984.	38.8	120.	mg/l	1
01124	Chloride (titrimetric)	16887-00-6	430.	8.0	40.0	mg/l	20

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00212	Total Dissolved Solids	SM20 2540 C	1	07/30/2007 08:46	Susan A Engle	1
01124	Chloride (titrimetric)	SM20 4500 Cl C	1	07/31/2007 12:25	Susan A Engle	20

*=This limit was used in the evaluation of the final result

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 5111534

MW-3 Grab Water Sample
Former Unocal South Vacuum Unit
Lea County, NM

Collected:07/24/2007 by GVD

Account Number: 11969

Submitted: 07/25/2007 09:25
Reported: 08/01/2007 at 13:36
Discard: 09/01/2007

Chevron Env Mgmt Co
PO Box 6012
San Ramon CA 94583

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Units	Dilution Factor
00212	Total Dissolved Solids	n.a.	705.	19.4	60.0	mg/l	1
01124	Chloride (titrimetric)	16887-00-6	164.	4.0	20.0	mg/l	10

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00212	Total Dissolved Solids	SM20 2540 C	1	07/30/2007 08:46	Susan A Engle	1
01124	Chloride (titrimetric)	SM20 4500 Cl C	1	07/31/2007 12:25	Susan A Engle	10

*=This limit was used in the evaluation of the final result

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Lancaster Laboratories Sample No. WW 5111535

MW-4 Grab Water Sample
Former Unocal South Vacuum Unit
Lea County, NM

Collected:07/24/2007 by GVD

Account Number: 11969

Submitted: 07/25/2007 09:25
Reported: 08/01/2007 at 13:36
Discard: 09/01/2007

Chevron Env Mgmt Co
PO Box 6012
San Ramon CA 94583

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Units	Dilution Factor
00212	Total Dissolved Solids	n.a.	1,940.	77.6	240.	mg/l	1
01124	Chloride (titrimetric)	16887-00-6	758.	20.0	100.	mg/l	50

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00212	Total Dissolved Solids	SM20 2540 C	1	07/30/2007 08:46	Susan A Engle	1
01124	Chloride (titrimetric)	SM20 4500 Cl C	1	07/31/2007 12:25	Susan A Engle	50

*=This limit was used in the evaluation of the final result

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5111536

MW-5 Grab Water Sample
Former Unocal South Vacuum Unit
Lea County, NM

Collected: 07/24/2007 by GVD

Account Number: 11969

Submitted: 07/25/2007 09:25
Reported: 08/01/2007 at 13:36
Discard: 09/01/2007

Chevron Env Mgmt Co
PO Box 6012
San Ramon CA 94583

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Units	Dilution Factor
00212	Total Dissolved Solids	n.a.	296.	9.7	30.0	mg/l	1
01124	Chloride (titrimetric)	16887-00-6	14.9	2.0	10.0	mg/l	5

The reporting limit for the analyte above was raised due to matrix interference.

All QC is compliant unless otherwise noted. .Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00212	Total Dissolved Solids	SM20 2540 C	1	07/30/2007 08:46	Susan A Engle	1
01124	Chloride (titrimetric)	SM20 4500 Cl C	1	07/31/2007 12:25	Susan A Engle	5

*=This limit was used in the evaluation of the final result

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5111537

MW-6 Grab Water Sample
Former Unocal South Vacuum Unit
Lea County, NM

Collected:07/24/2007 by GVD

Account Number: 11969

Submitted: 07/25/2007 09:25
Reported: 08/01/2007 at 13:36
Discard: 09/01/2007

Chevron Env Mgmt Co
PO Box 6012
San Ramon CA 94583

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Units	Dilution Factor
00212	Total Dissolved Solids	n.a.	516.	9.7	30.0	mg/l	1
01124	Chloride (titrimetric)	16887-00-6	75.3	0.80	4.0	mg/l	2

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00212	Total Dissolved Solids	SM20 2540 C	1	07/30/2007 08:46	Susan A Engle	1
01124	Chloride (titrimetric)	SM20 4500 Cl C	1	07/31/2007 12:25	Susan A Engle	2

*=This limit was used in the evaluation of the final result

Lancaster Laboratories

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Analysis Report

Quality Control Summary

Client Name: Chevron Env Mgmt Co
Reported: 08/01/07 at 01:36 PM

Group Number: 1048481

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 07211021201A	Sample number(s): 5111532-5111537								
Total Dissolved Solids	N.D.	9.7	30.0	mg/l	102		80-120		
Batch number: 07212112401A	Sample number(s): 5111532-5111537								
Chloride (titrimetric)					100		96-102		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 07211021201A	Sample number(s): 5111532-5111537 UNSPK: 5111533 BKG: 5111533								
Total Dissolved Solids	101	100	54-143	0	12	984.	998.	1	9
Batch number: 07212112401A	Sample number(s): 5111532-5111537 UNSPK: P111818 BKG: P111818								
Chloride (titrimetric)	97	98	91-105	1	2	68.2	66.2	3	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Chevron Generic Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

Acct. #: 11969 — For Lancaster Laboratories use only — Sample #: 5111532-37 — SCR#: 96059 / 009333

G#1048481

Facility #: Former Unocal South Vacuum Unit
Site Address: Lea County NM (T18S-R35E-Sec 35)
Chevron PM: #11969 Lead Consultant: Arcadis
Consultant/Office: Trident Environmental / Midland TX
Consultant Prj. Mgr.: Allen Just (Arcadis) / Gil Van Deventer (Trident)
Consultant Phone #: 432-638-8740 Fax #: 413-403-9968
Sampler: Gil Van Deventer
Service Order #: 46659 ☐ Non SAR: ____

Analyses Requested — Preservation Codes: Ice (Chloride), Ice (TDS)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Oil ☐ Air ☐	Total Number of Containers	BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐	8260 full scan	Oxygenates	TPH G	TPH D ☐ Extended Rng. ☐ Silica Gel Cleanup	Lead Total ☐ Diss. ☐ Method	VPH/EPH	NWTPH H HCID ☐ quantification	Chloride	TDS
MW-1	7-24-07		✓			✓		1										
MW-2	7-24-07		✓			✓		1										
MW-3	7-24-07		✓			✓		1										
MW-4	7-24-07		✓			✓		1										
MW-5	7-24-07		✓			✓		1										
MW-6	7-24-07		✓			✓		1										

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other I = Ice

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

Comments / Remarks

Turnaround Time Requested (TAT) (please circle)
STD. TAT (circled) 72 hour 48 hour
~~24 hour~~ 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) Standard Format
Disk ____ Other.

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	7/17	7:??	[signature]	7/14/07	11 am
[signature]	7/27/07	4:30pm			
Relinquished by Commercial Carrier: UPS (FedEx) Other Airbill # [illegible] 1158			[signature]	7/30/07	[illegible]
Temperature Upon Receipt 5.1 C°			Custody Seals Intact? Yes No		

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

3566 Rev. 1/31/02

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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APPENDIX B

Monitoring Well Sampling Data Forms

WELL SAMPLING DATA FORM

TRIDENT ENVIRONMENTAL

CLIENT: Chevron / Arcadis
WELL ID: MW-1
SITE NAME: Former Unocal S. Vacuum Unit
DATE: 07/24/07
ARCADIS PROJECT NO. B0045428.00280
SAMPLER: Van Deventer
TRIDENT PROJECT NO. V-107

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☑ Alconox ☑ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 70.00 Feet
DEPTH TO WATER: 63.43 Feet
HEIGHT OF WATER COLUMN: 6.57 Feet
WELL DIAMETER: 2.0 Inch

3.2 Minimum Gallons to purge 3 well volumes

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1340	0	---	---	---	---	---	Initiated bailing.
1343	1	21.7	2.82	5.92	---	---	
1347	2	20.3	2.83	6.24	---	---	
1350	3	20.2	2.88	6.20	---	---	
1354	4	19.8	2.86	6.29	---	---	
1355							Collected sample

COMMENTS: Sample collected at 1355, placed into 1000 ml plastic container, and put on ice in cooler.

Parameters obtained using a Hanna Model 98130 pH-Temperature-Conductivity meter.

Samples shipped to Lancaster Laboratories (Lancaster, PA) for analysis of chlorides (325.3) and TDS (160.1).

WELL SAMPLING DATA FORM

TRIDENT ENVIRONMENTAL

CLIENT: Chevron / Arcadis
WELL ID: MW-2
SITE NAME: Former Unocal S. Vacuum Unit
DATE: 07/24/07
ARCADIS PROJECT NO. B0045428.00280
SAMPLER: Van Deventer
TRIDENT PROJECT NO. V-107

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☑ Alconox ☑ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 71.00 Feet
DEPTH TO WATER: 50.33 Feet
HEIGHT OF WATER COLUMN: 20.67 Feet
WELL DIAMETER: 2.0 Inch

10.1 Minimum Gallons to purge 3 well volumes

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1148	0	---	---	---	---	---	Initiated bailing.
1156	3.5	20.6	1.61	7.87	---	---	
1205	7.0	20.5	1.74	7.77	---	---	
1212	10.5	20.5	1.85	8.13	---	---	
1214							Collected sample

COMMENTS: Sample collected at 1214, placed into 1000 ml plastic container, and put on ice in cooler.

Parameters obtained using a Hanna Model 98130 pH-Temperature-Conductivity meter.

Samples shipped to Lancaster Laboratories (Lancaster, PA) for analysis of chlorides (325.3) and TDS (160.1).

WELL SAMPLING DATA FORM

TRIDENT ENVIRONMENTAL

CLIENT: Chevron / Arcadis
WELL ID: MW-3
SITE NAME: Former Unocal S. Vacuum Unit
DATE: 07/24/07
ARCADIS PROJECT NO. B0045428.00280
SAMPLER: Van Deventer
TRIDENT PROJECT NO. V-107

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☑ Alconox ☑ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 77.00 Feet
DEPTH TO WATER: 67.79 Feet
HEIGHT OF WATER COLUMN: 9.21 Feet
WELL DIAMETER: 2.0 Inch

4.5 Minimum Gallons to purge 3 well volumes

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
0957	0	---	---	---	---	---	Initiated bailing.
1003	2	19.4	0.93	6.81	---	---	
1010	4	19.3	0.93	7.00	---	---	
1016	6	19.3	0.93	7.00	---	---	Collected sample

COMMENTS: Sample collected at 1016, placed into 1000 ml plastic container, and put on ice in cooler.

Parameters obtained using a Hanna Model 98130 pH-Temperature-Conductivity meter.

Samples shipped to Lancaster Laboratories (Lancaster, PA) for analysis of chlorides (325.3) and TDS (160.1).

WELL SAMPLING DATA FORM

TRIDENT ENVIRONMENTAL

CLIENT: Chevron / Arcadis
WELL ID: MW-4
SITE NAME: Former Unocal S. Vacuum Unit
DATE: 07/24/07
ARCADIS PROJECT NO. B0045428.00280
SAMPLER: Van Deventer
TRIDENT PROJECT NO. V-107

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☑ Alconox ☑ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 71.00 Feet
DEPTH TO WATER: 61.04 Feet
HEIGHT OF WATER COLUMN: 9.96 Feet
WELL DIAMETER: 2.0 Inch

4.9 Minimum Gallons to purge 3 well volumes

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1112	0	---	---	---	---	---	Initiated bailing.
1116	2	20.5	3.40	7.13	---	---	
1123	4	21.1	3.43	7.04	---	---	
1131	6	20.7	3.56	7.15	---	---	
1132							Collected sample

COMMENTS: Sample collected at 1132, placed into 1000 ml plastic container, and put on ice in cooler.

Parameters obtained using a Hanna Model 98130 pH-Temperature-Conductivity meter.

Samples shipped to Lancaster Laboratories (Lancaster, PA) for analysis of chlorides (325.3) and TDS (160.1).

WELL SAMPLING DATA FORM

TRIDENT ENVIRONMENTAL

CLIENT: Chevron / Arcadis
WELL ID: MW-5
SITE NAME: Former Unocal S. Vacuum Unit
DATE: 07/24/07
ARCADIS PROJECT NO. B0045428.00280
SAMPLER: Van Deventer
TRIDENT PROJECT NO. V-107

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☑ Alconox ☑ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 75.00 Feet
DEPTH TO WATER: 69.07 Feet
HEIGHT OF WATER COLUMN: 5.93 Feet
WELL DIAMETER: 2.0 Inch

2.9 Minimum Gallons to purge 3 well volumes

TIME	VOLUME PURGED	TEMP. °C	COND. mS/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1035	0	---	---	---	---	---	Initiated bailing.
1039	1	19.5	0.46	6.92	---	---	
1043	2	19.3	0.46	7.13	---	---	
1047	3	19.5	0.45	7.09	---	---	
1052	4	19.4	0.46	7.21	---	---	
1054							Collected sample

COMMENTS: Sample collected at 1054, placed into 1000 ml plastic container, and put on ice in cooler.

Parameters obtained using a Hanna Model 98130 pH-Temperature-Conductivity meter.

Samples shipped to Lancaster Laboratories (Lancaster, PA) for analysis of chlorides (325.3) and TDS (160.1).

WELL SAMPLING DATA FORM

TRIDENT ENVIRONMENTAL

CLIENT: Chevron / Arcadis
WELL ID: MW-6
SITE NAME: Former Unocal S. Vacuum Unit
DATE: 07/24/07
ARCADIS PROJECT NO. B0045428.00280
SAMPLER: Van Deventer
TRIDENT PROJECT NO. V-107

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☑ Alconox ☑ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 76.00 Feet
DEPTH TO WATER: 71.15 Feet
HEIGHT OF WATER COLUMN: 4.85 Feet
WELL DIAMETER: 2.0 Inch

2.4 Minimum Gallons to purge 3 well volumes

TIME	VOLUME PURGED	TEMP. °C	COND. mS/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
1254	0	---	---	---	---	---	Initiated bailing.
1258	1	20.7	0.80	6.68	---	---	
1302	2	19.9	0.80	6.85	---	---	
1306	3	20.0	0.81	6.85	---	---	
1308							Collected sample

COMMENTS: Sample collected at 1308, placed into 1000 ml plastic container, and put on ice in cooler.

Parameters obtained using a Hanna Model 98130 pH-Temperature-Conductivity meter.

Samples shipped to Lancaster Laboratories (Lancaster, PA) for analysis of chlorides (325.3) and TDS (160.1).

APPENDIX C

Chloride and TDS Plume Simulations

APPENDIX C

Chloride Plume Simulations

WinTran Fate & Transport Modeling Results

Former Unocal South Vacuum Unit Site

Chloride Plume (Year 2007)

2000 feet

Modeling Assumptions

Hydraulic Conductivity = 1000 ft/year
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Diffusion Coeficient = 0.33945 ft2/year
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25

WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit Site

Chloride Plume (Year 2008)

2000 feet

Modeling Assumptions

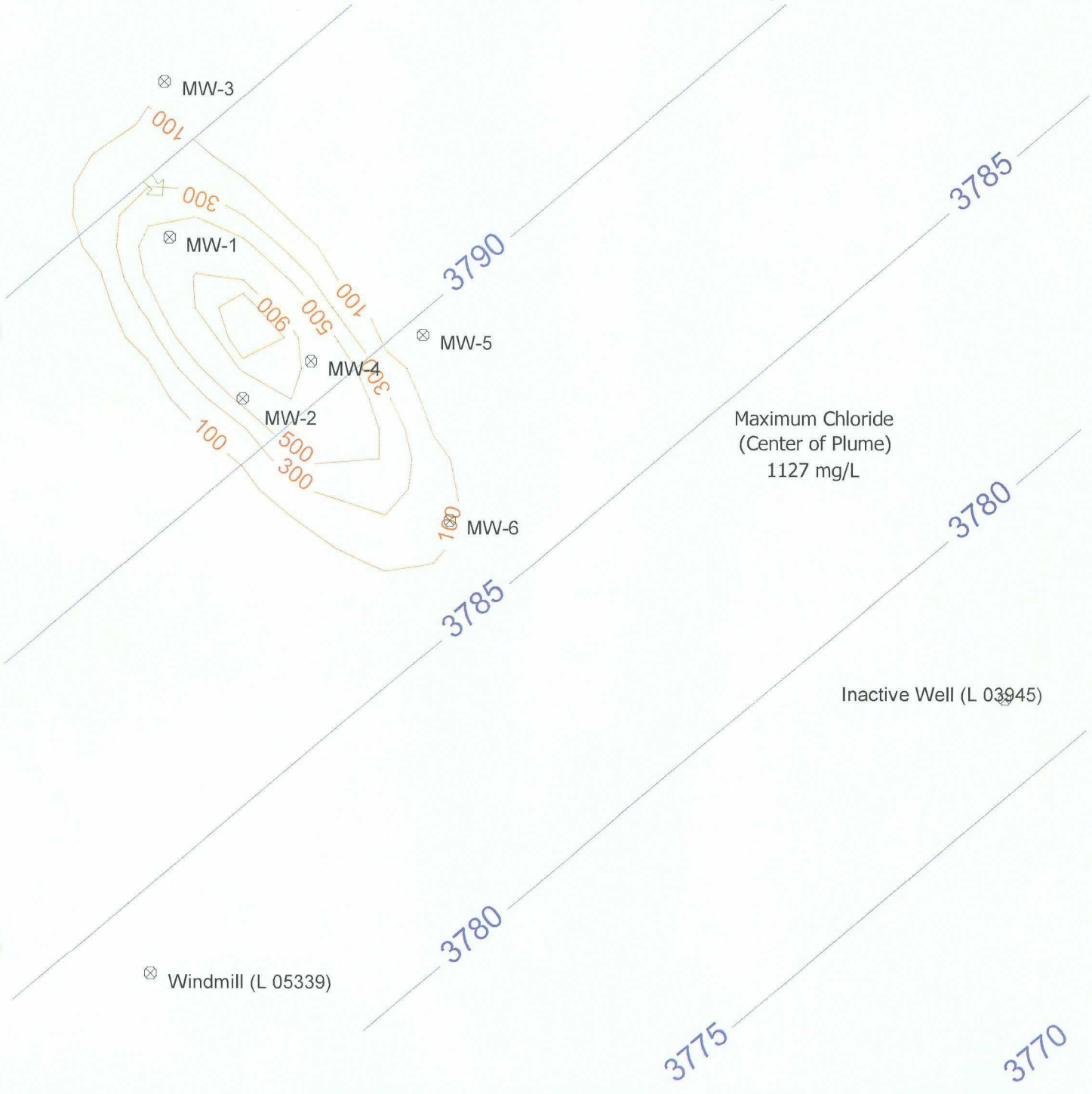
Hydraulic Conductivity = 1000 ft/year
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Diffusion Coeficient = 0.33945 ft2/year
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25

WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit Site

Chloride Plume (Year 2009)

2000 feet

Modeling Assumptions
Hydraulic Conductivity = 1000 ft/year
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Diffusion Coeficient = 0.33945 ft2/year
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



WinTran Fate & Transport Modeling Results

Former Unocal South Vacuum Unit Site

Chloride Plume (Year 2010)

2000 feet

Modeling Assumptions

Hydraulic Conductivity = 1000 ft/year
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Diffusion Coeficient = 0.33945 ft2/year
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25

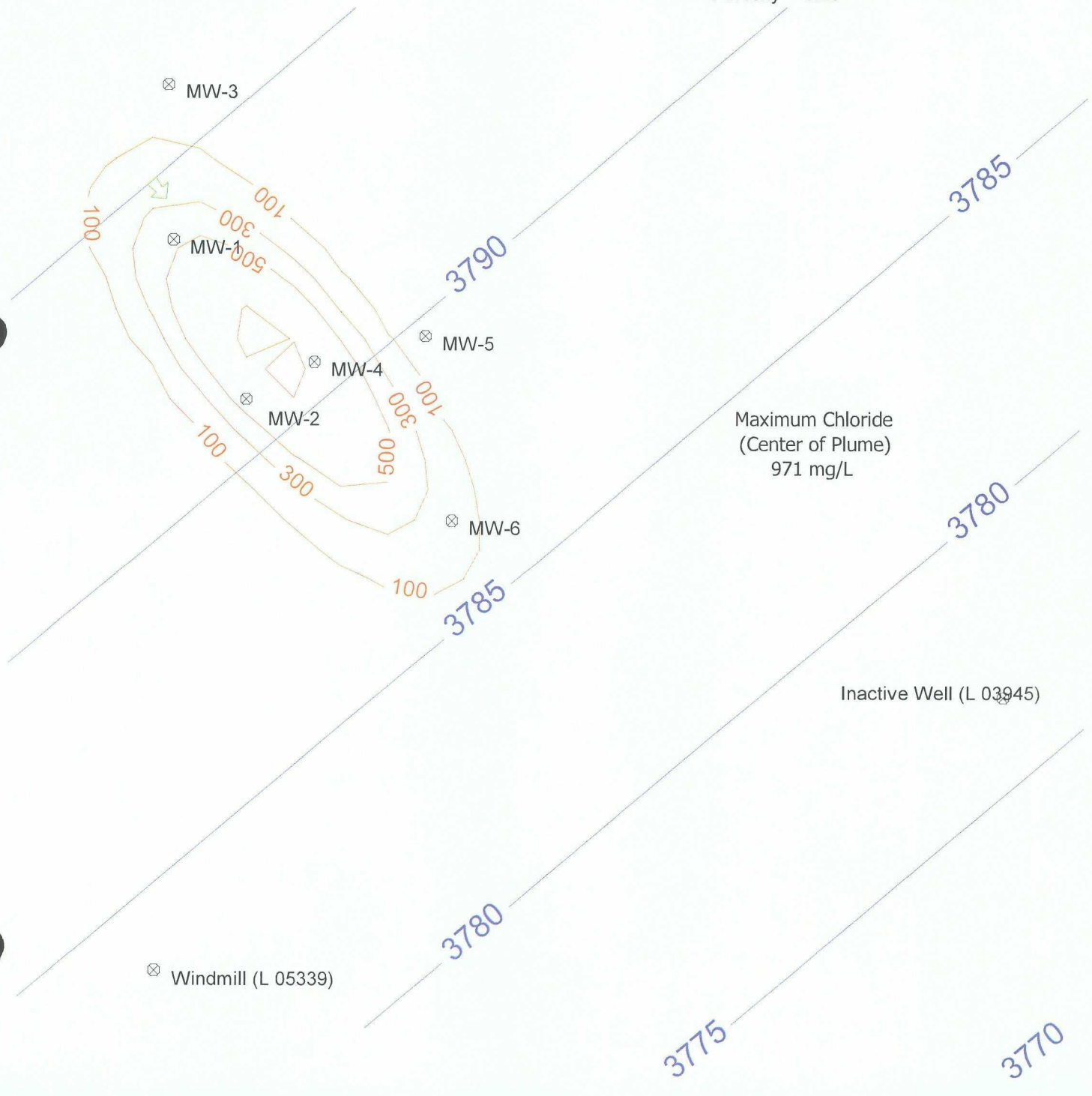
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit Site

Chloride Plume (Year 2015)

2000 feet

Modeling Assumptions

Hydraulic Conductivity = 1000 ft/year
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Diffusion Coeficient = 0.33945 ft2/year
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



WinTran Fate & Transport Modeling Results

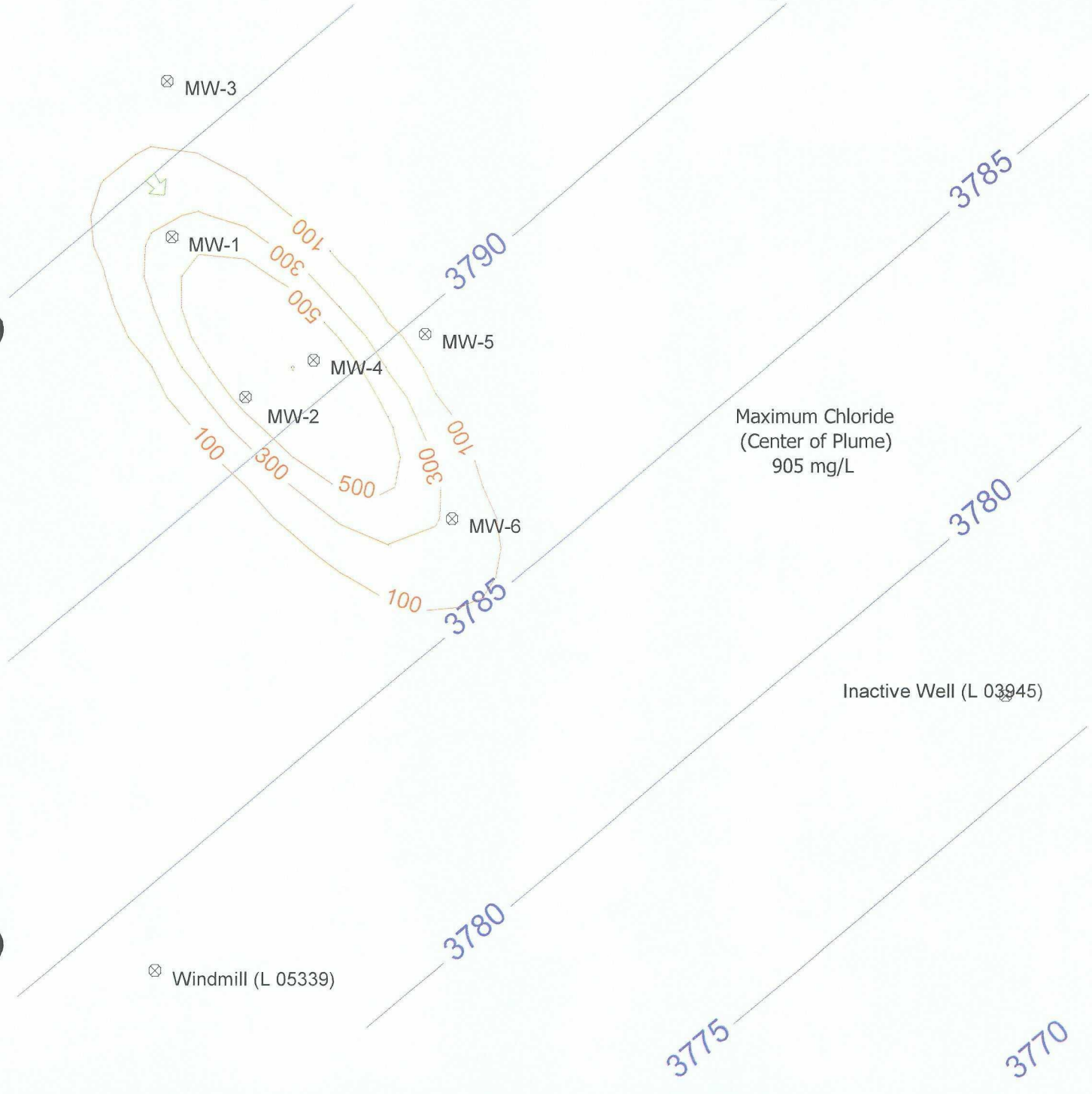
Former Unocal South Vacuum Unit Site

Chloride Plume (Year 2020)

2000 feet

Modeling Assumptions

Hydraulic Conductivity = 1000 ft/year
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Diffusion Coeficient = 0.33945 ft2/year
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit Site

Chloride Plume (Year 2030)

2000 feet

Modeling Assumptions

Hydraulic Conductivity = 1000 ft/year
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Diffusion Coeficient = 0.33945 ft2/year
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25

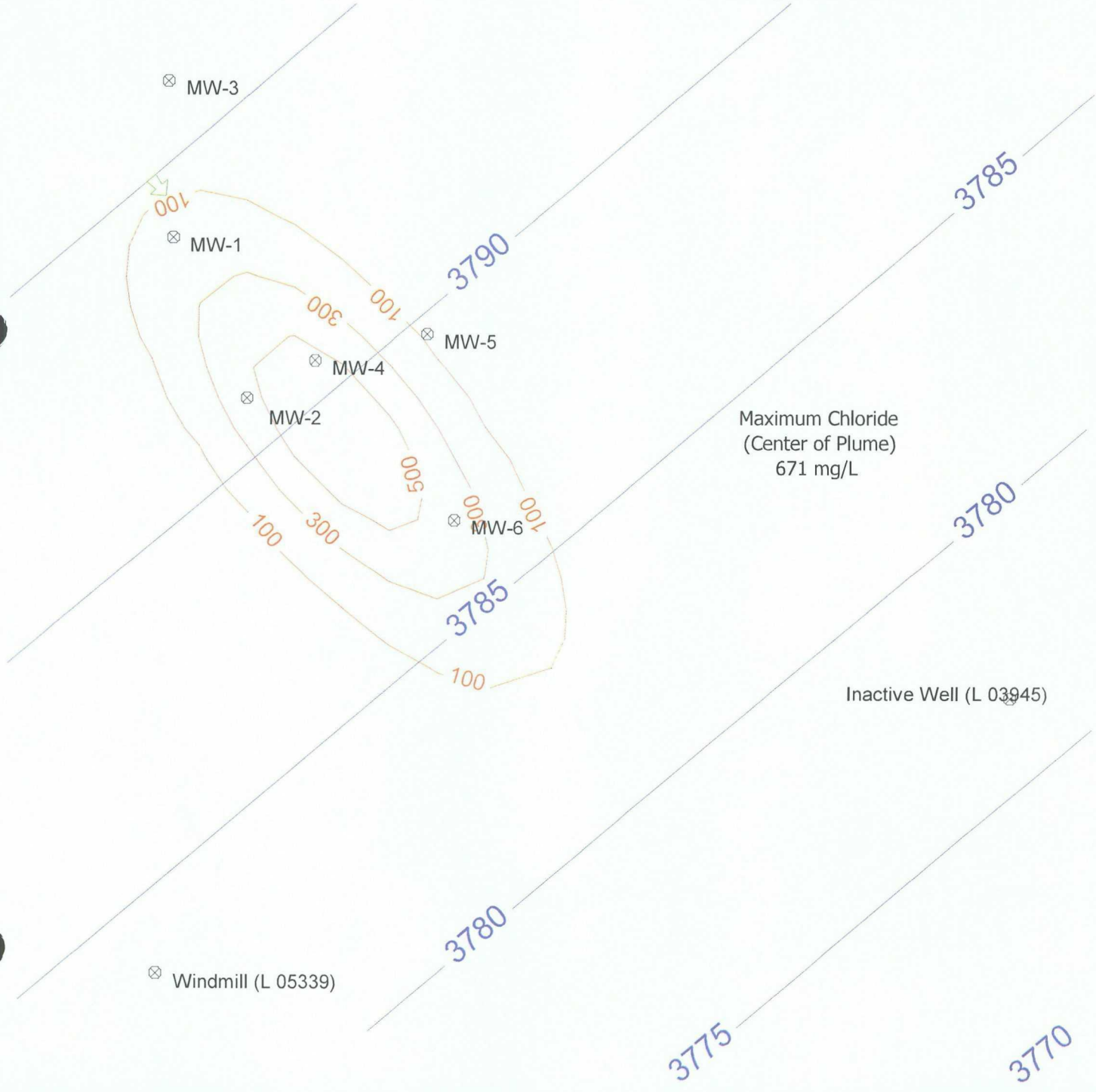
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit Site

Chloride Plume (Year 2040)

2000 feet

Modeling Assumptions

Hydraulic Conductivity = 1000 ft/year
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Diffusion Coeficient = 0.33945 ft2/year
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



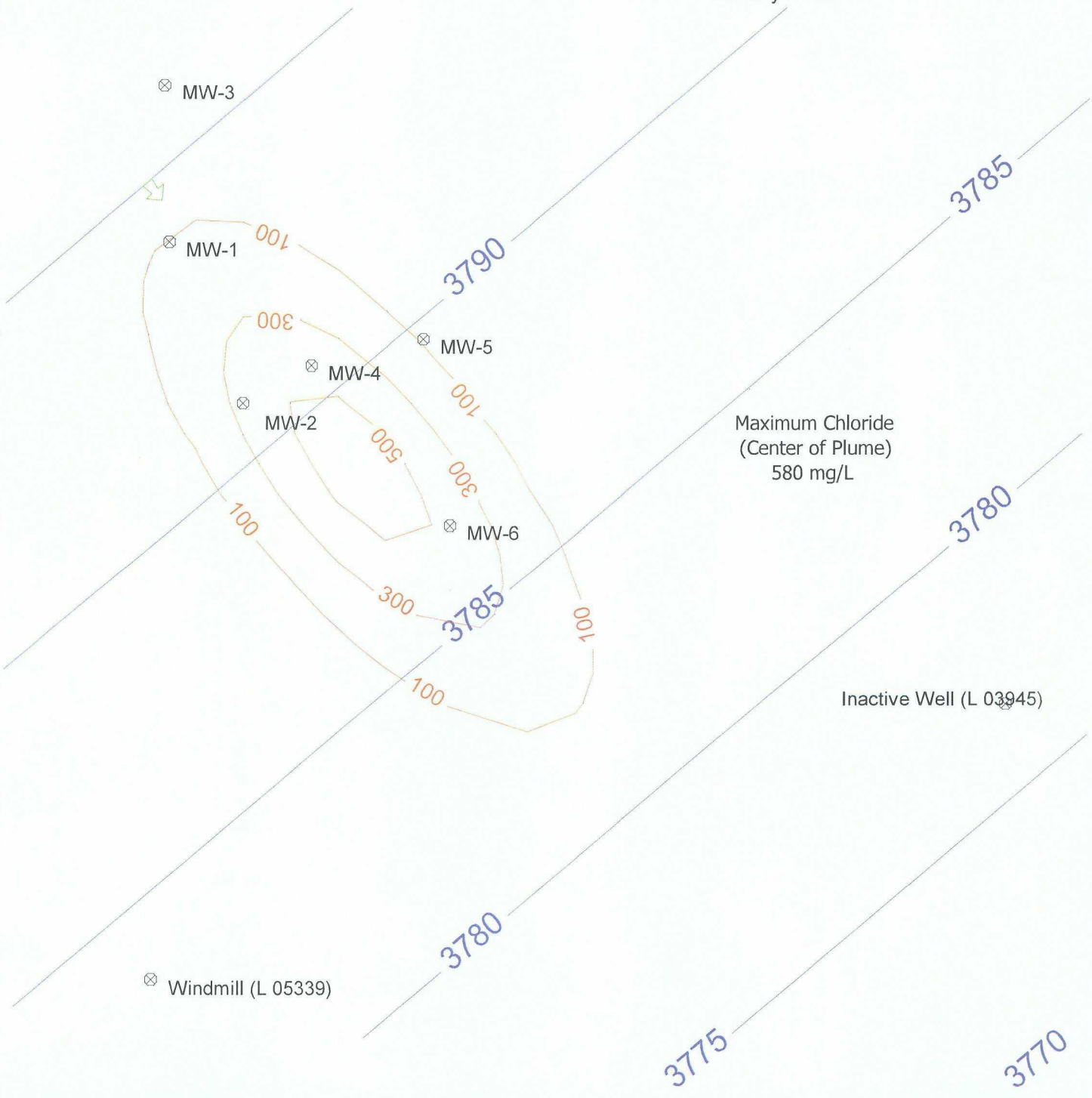
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit Site

Chloride Plume (Year 2050)

2000 feet

Modeling Assumptions

Hydraulic Conductivity = 1000 ft/year
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Diffusion Coeficient = 0.33945 ft2/year
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



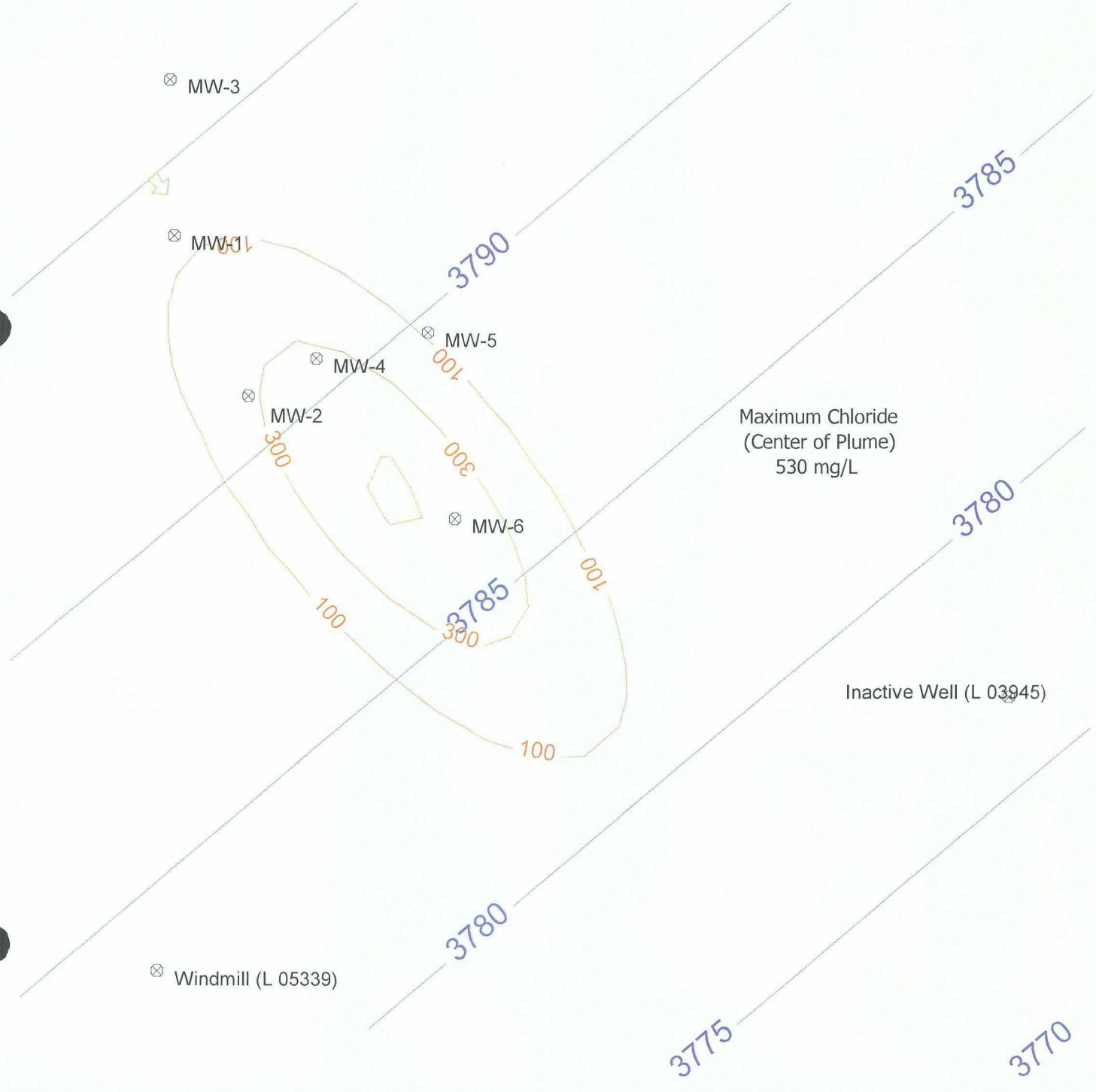
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit Site

Chloride Plume (Year 2060)

2000 feet

Modeling Assumptions

Hydraulic Conductivity = 1000 ft/year
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Diffusion Coeficient = 0.33945 ft2/year
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



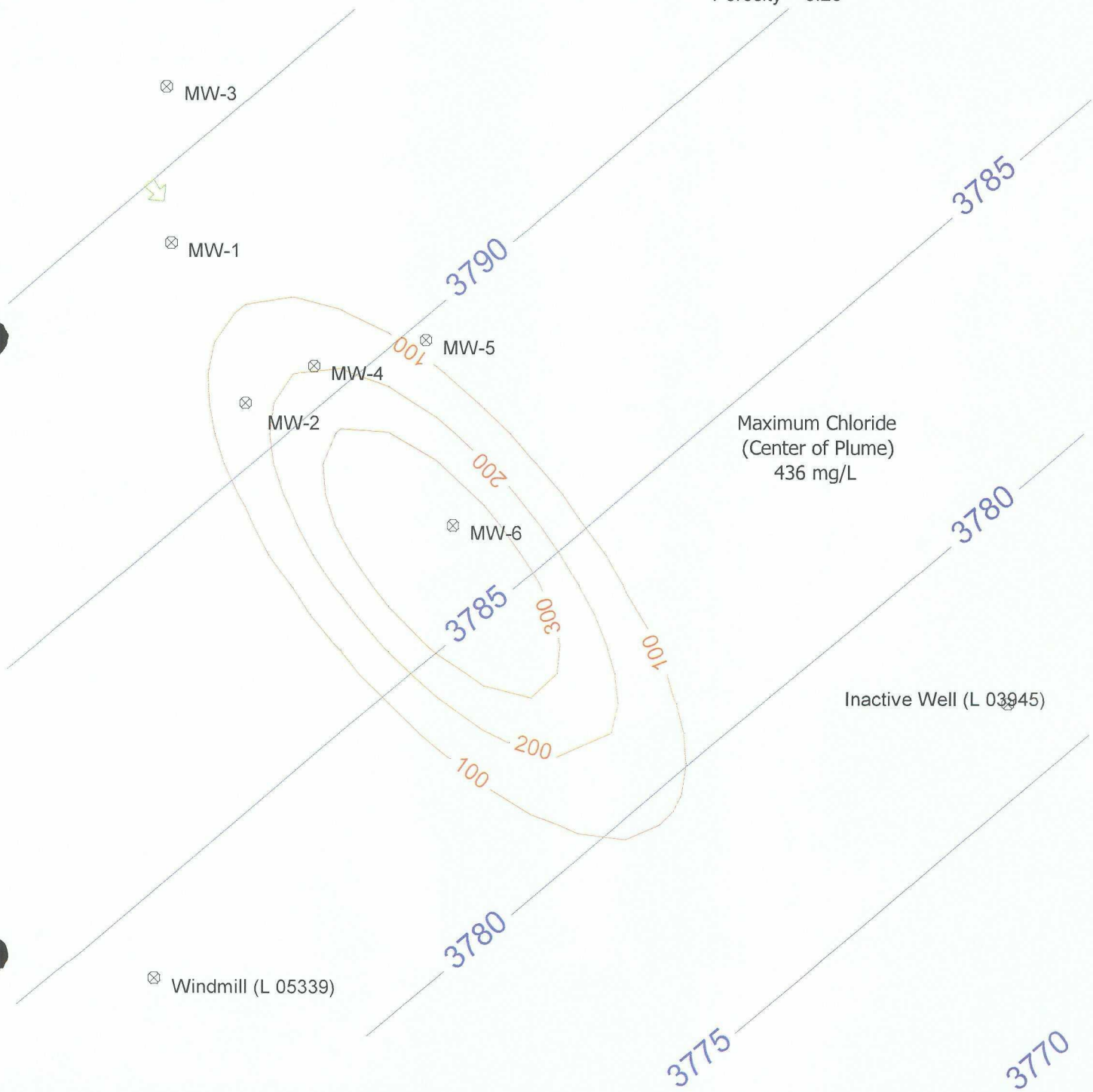
WinTran Fate & Transport Modeling Results

Former Unocal South Vacuum Unit Site

Chloride Plume (Year 2080)

Modeling Assumptions

Hydraulic Conductivity = 1000 ft/year
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Diffusion Coeficient = 0.33945 ft2/year
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



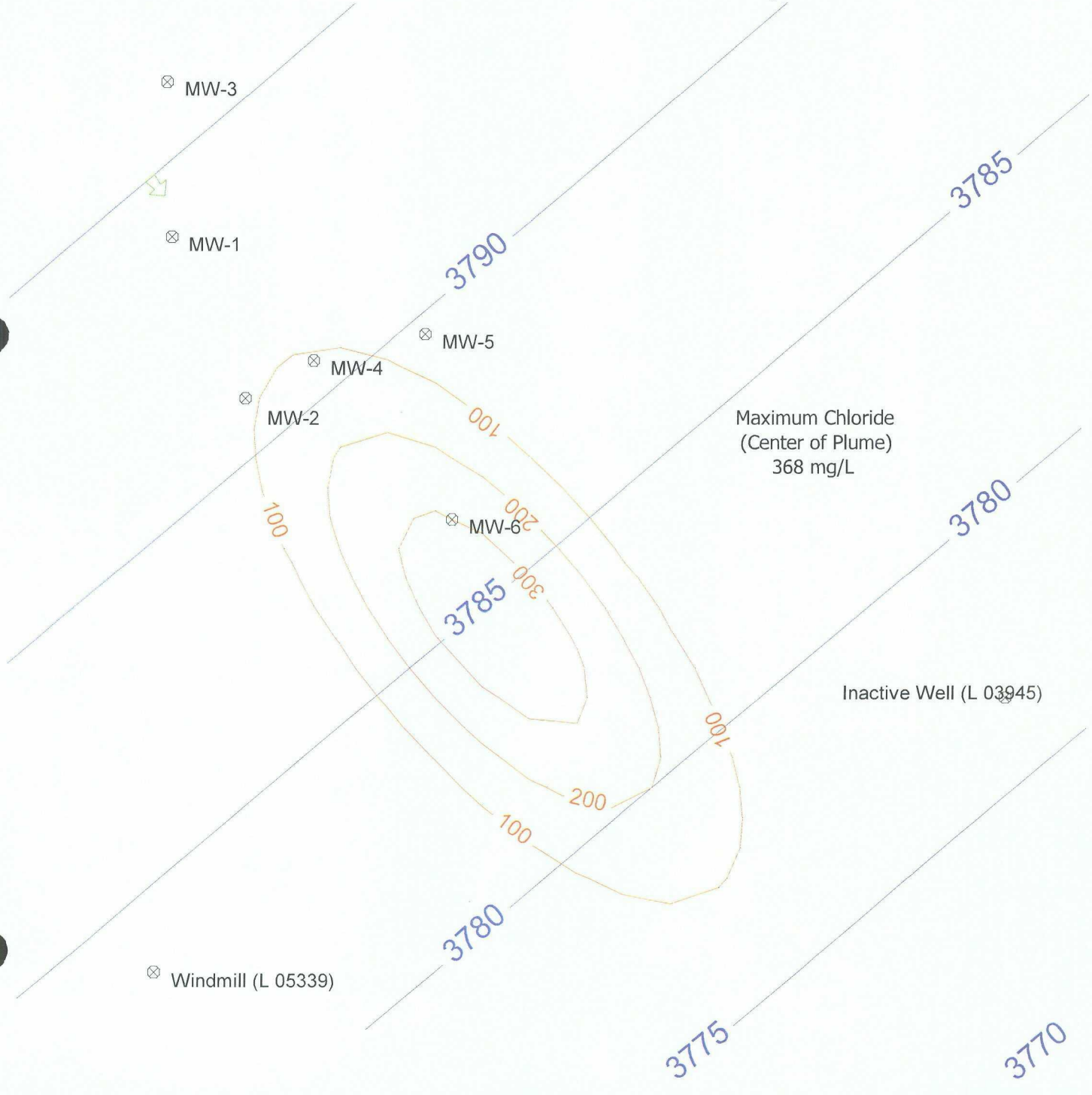
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit Site

Chloride Plume (Year 2100)

2000 feet

Modeling Assumptions

Hydraulic Conductivity = 1000 ft/year
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Diffusion Coeficient = 0.33945 ft2/year
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



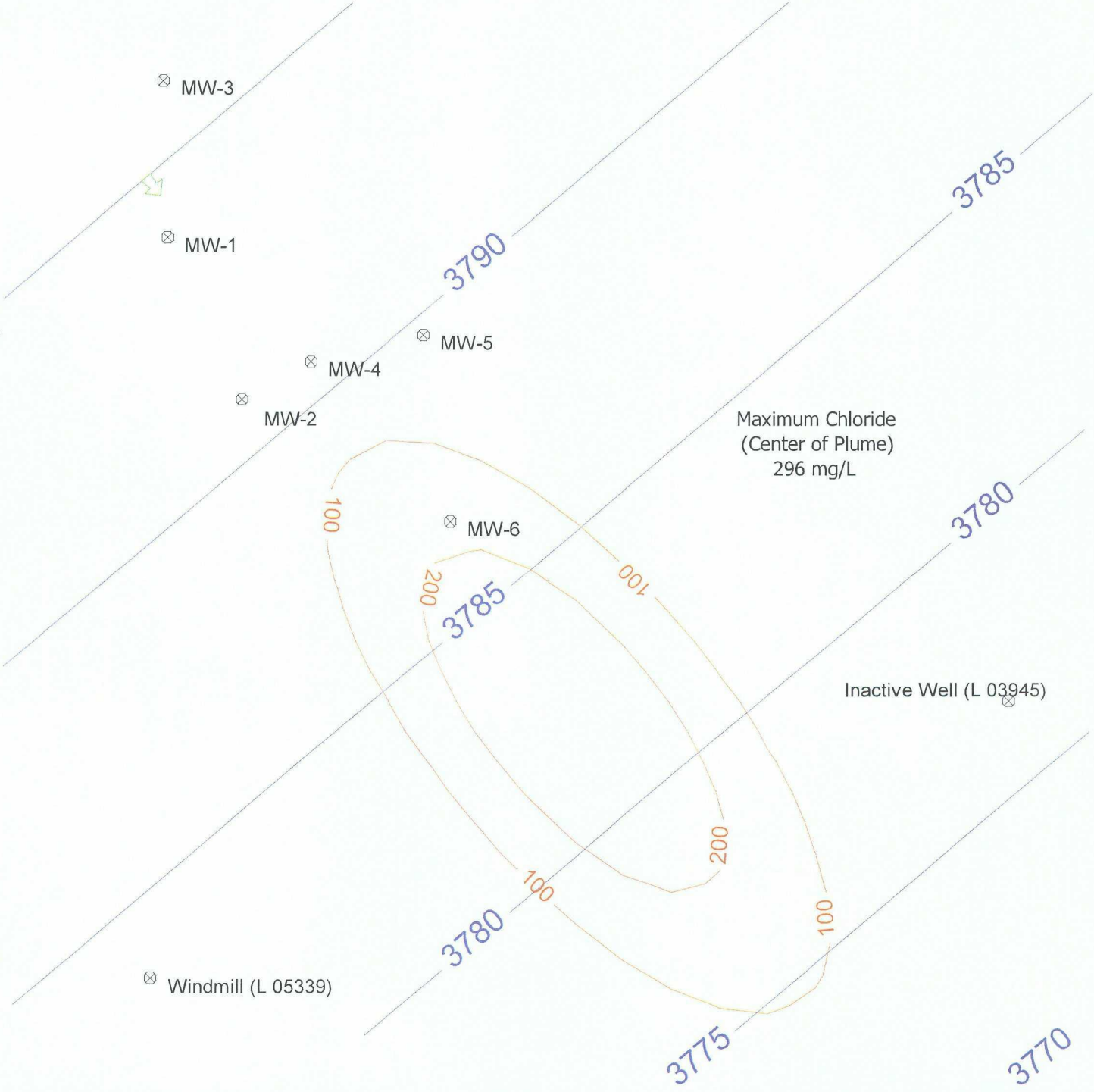
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit Site

Chloride Plume (Year 2130)

2000 feet

Modeling Assumptions

Hydraulic Conductivity = 1000 ft/year
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Diffusion Coeficient = 0.33945 ft2/year
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



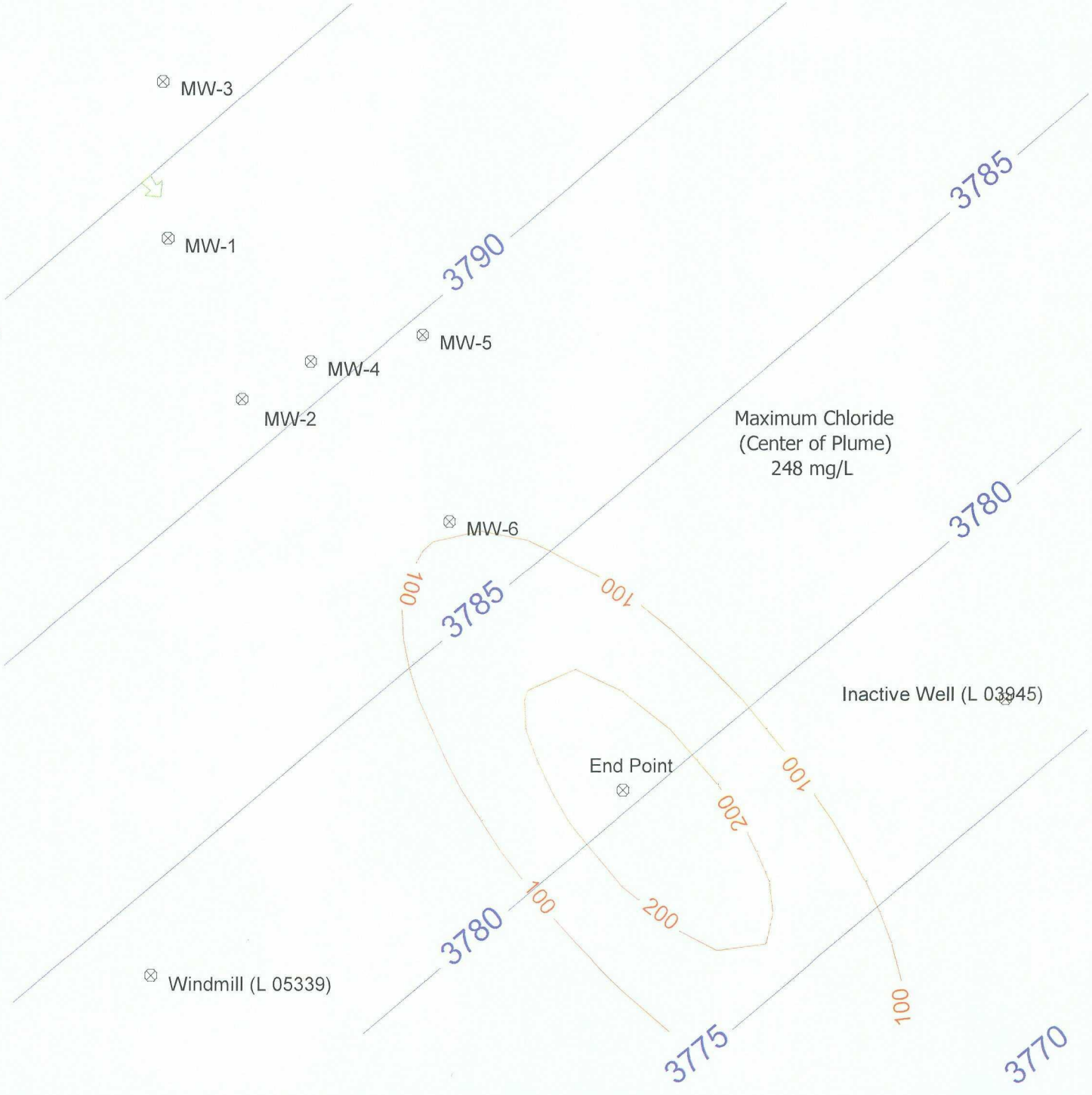
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit Site

Chloride Plume (Year 2158)

2000 feet

Modeling Assumptions

Hydraulic Conductivity = 1000 ft/year
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Diffusion Coeficient = 0.33945 ft2/year
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



APPENDIX C

TDS Plume Simulations

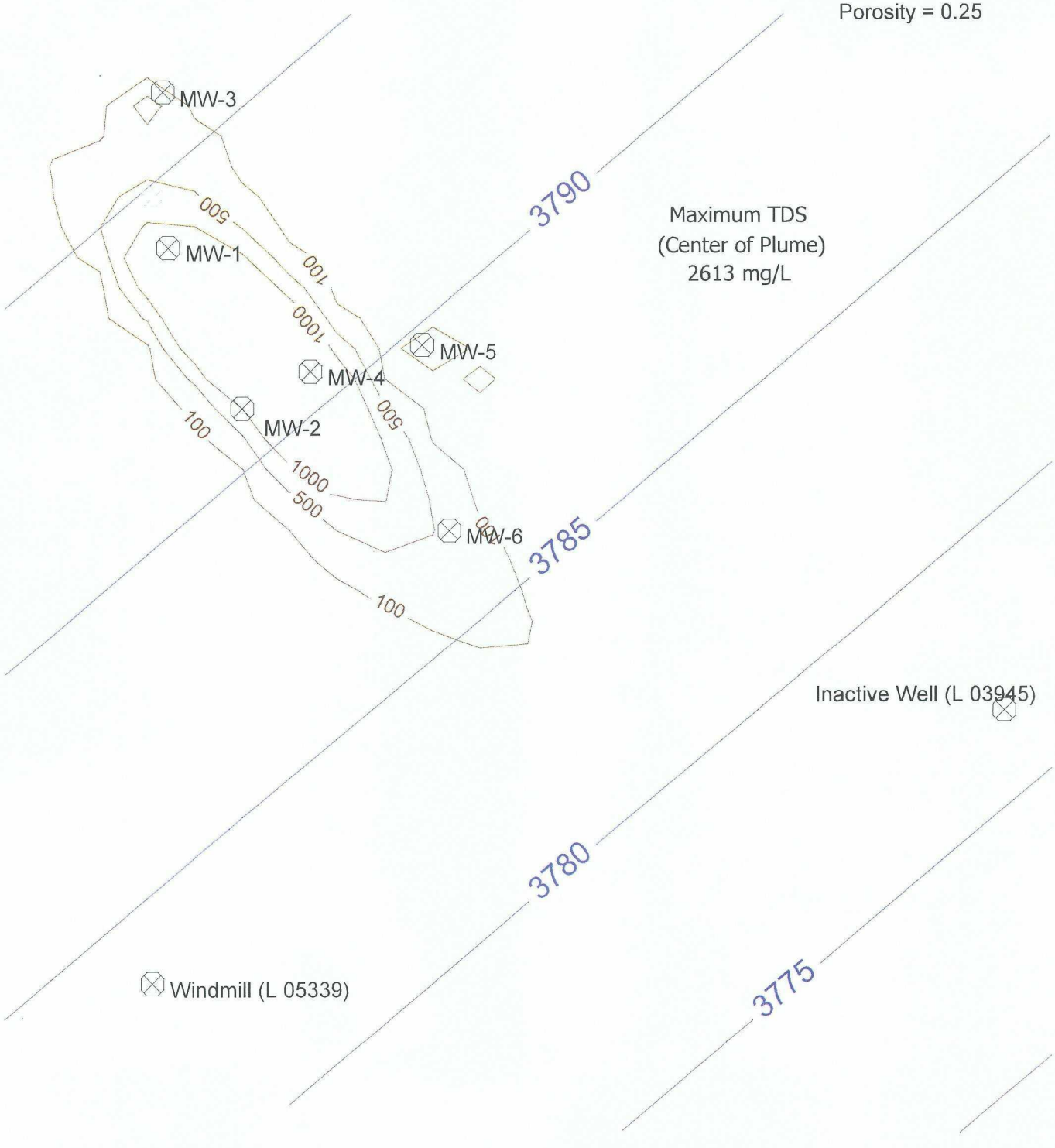
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit

TDS Plume Simulation (Year 2008)

2000 feet

Modeling Assumptions

Initial Source Concentration=30000 mg/L
Hydraulic Conductivity = 2.74 ft/day
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



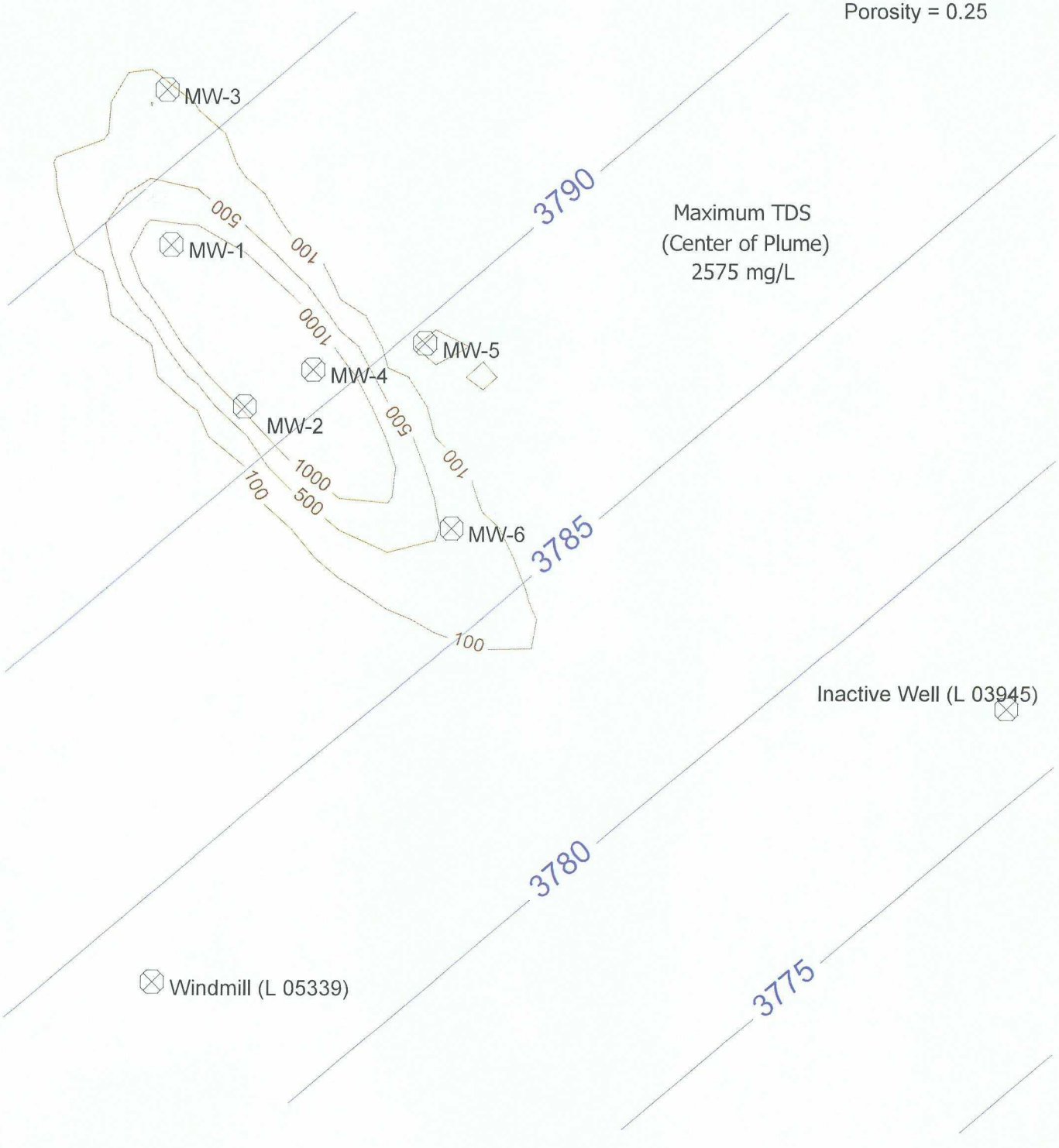
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit

TDS Plume Simulation (Year 2009)

2000 feet

Modeling Assumptions

Initial Source Concentration=30000 mg/L
Hydraulic Conductivity = 2.74 ft/day
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



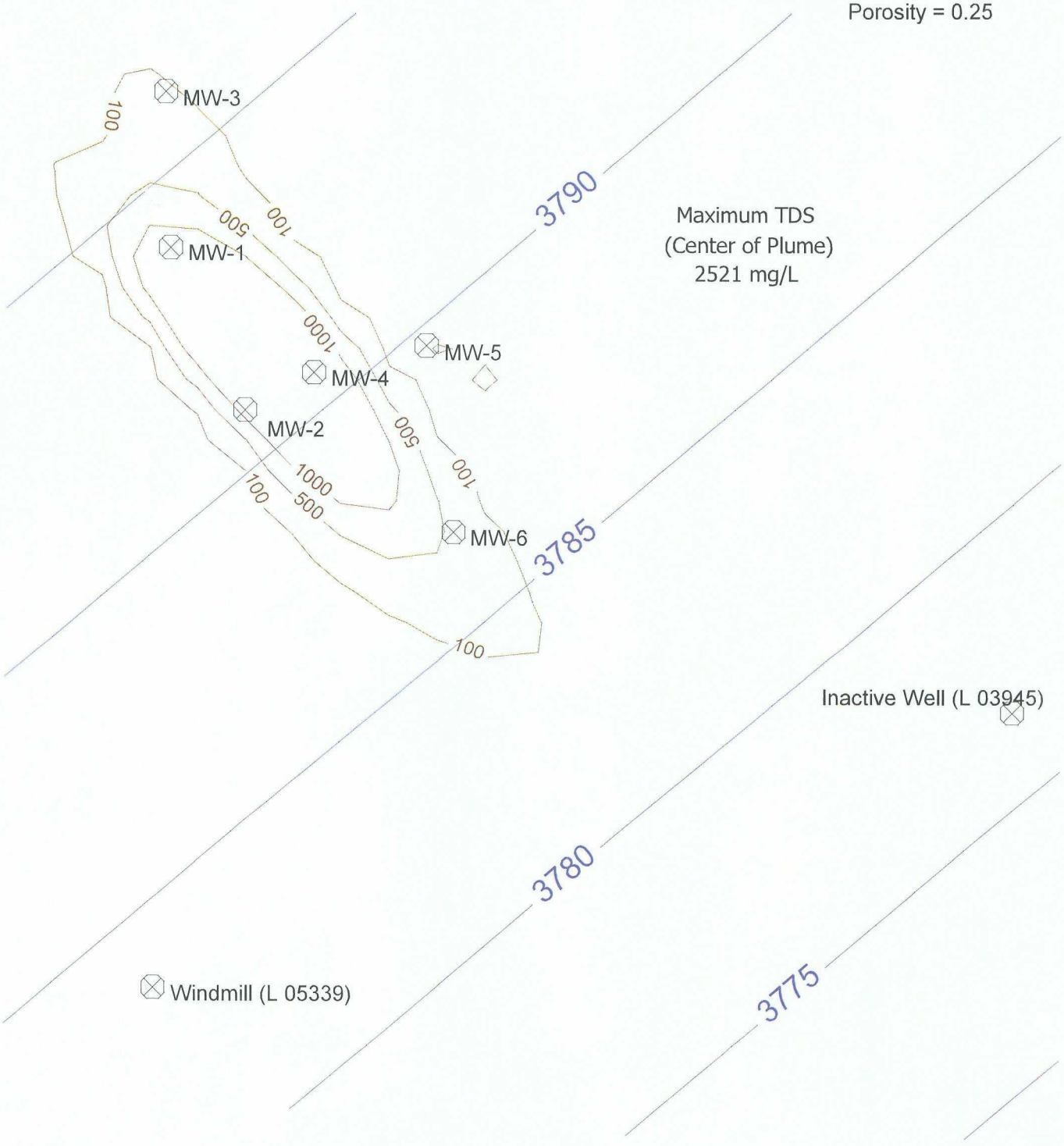
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit

TDS Plume Simulation (Year 2010)

2000 feet

Modeling Assumptions

Initial Source Concentration=30000 mg/L
Hydraulic Conductivity = 2.74 ft/day
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



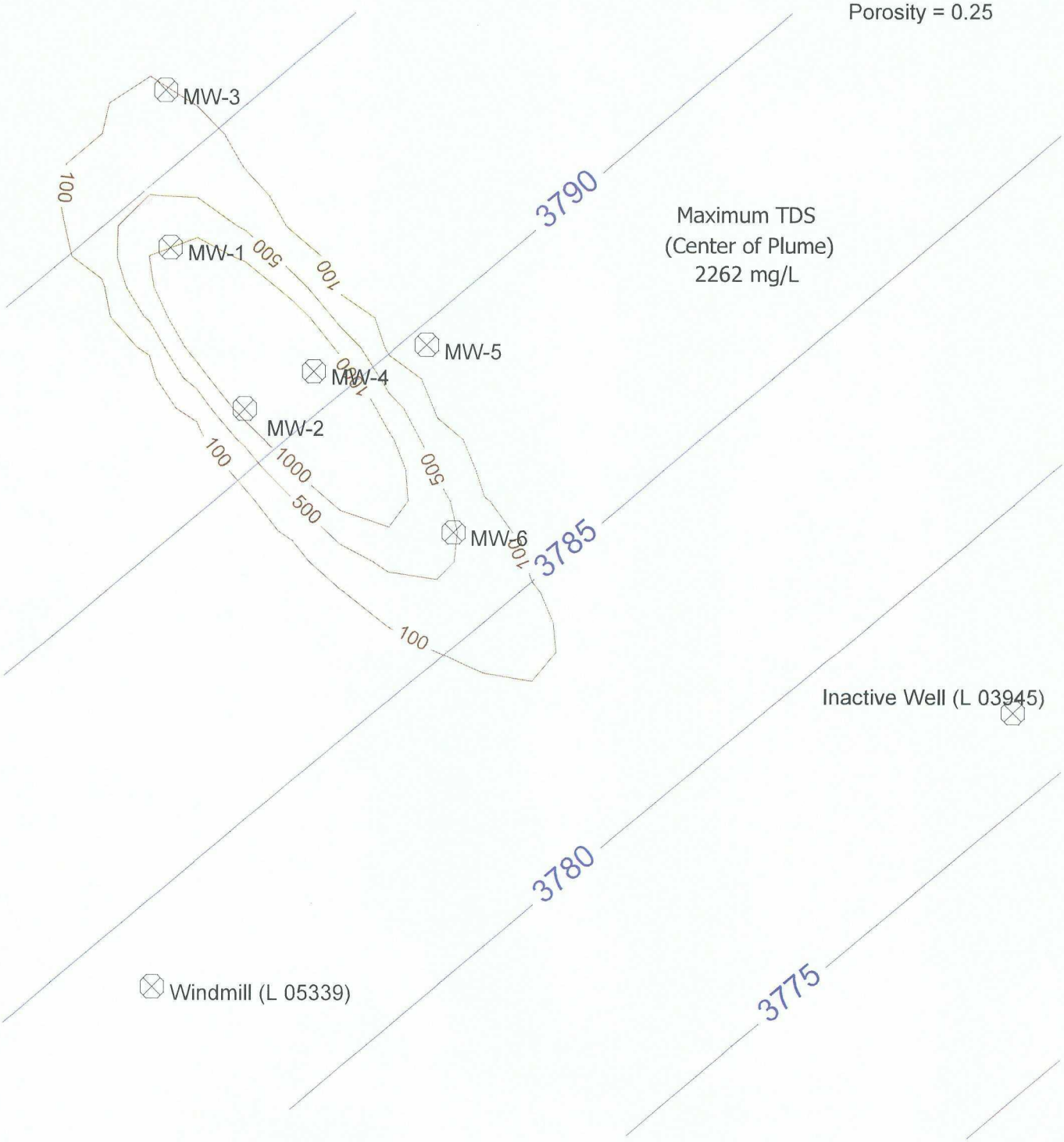
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit

TDS Plume Simulation (Year 2015)

2000 feet

Modeling Assumptions

Initial Source Concentration=30000 mg/L
Hydraulic Conductivity = 2.74 ft/day
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



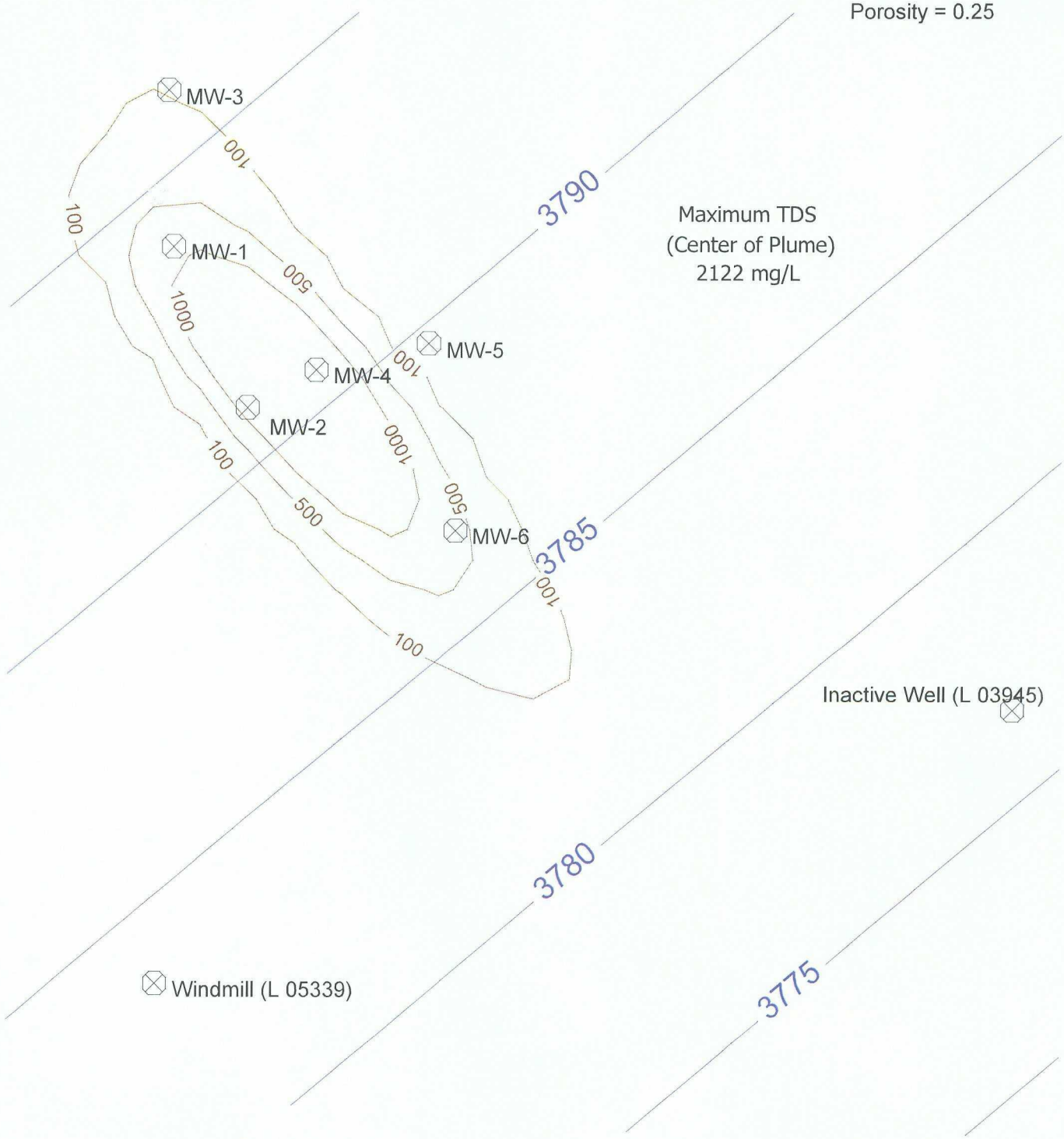
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit

TDS Plume Simulation (Year 2020)

2000 feet

Modeling Assumptions

Initial Source Concentration=30000 mg/L
Hydraulic Conductivity = 2.74 ft/day
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



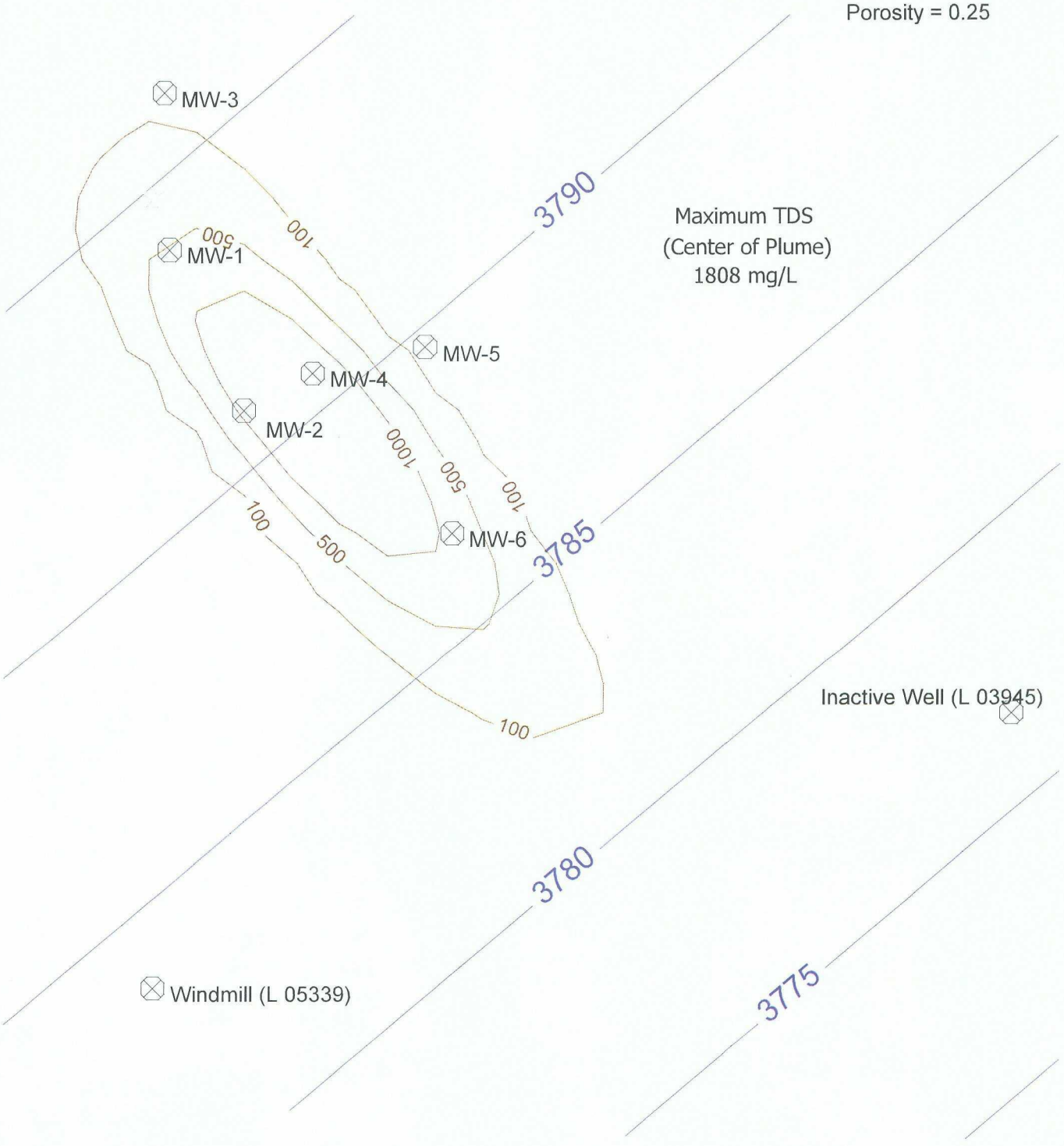
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit

TDS Plume Simulation (Year 2030)

2000 feet

Modeling Assumptions

Initial Source Concentration=30000 mg/L
Hydraulic Conductivity = 2.74 ft/day
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



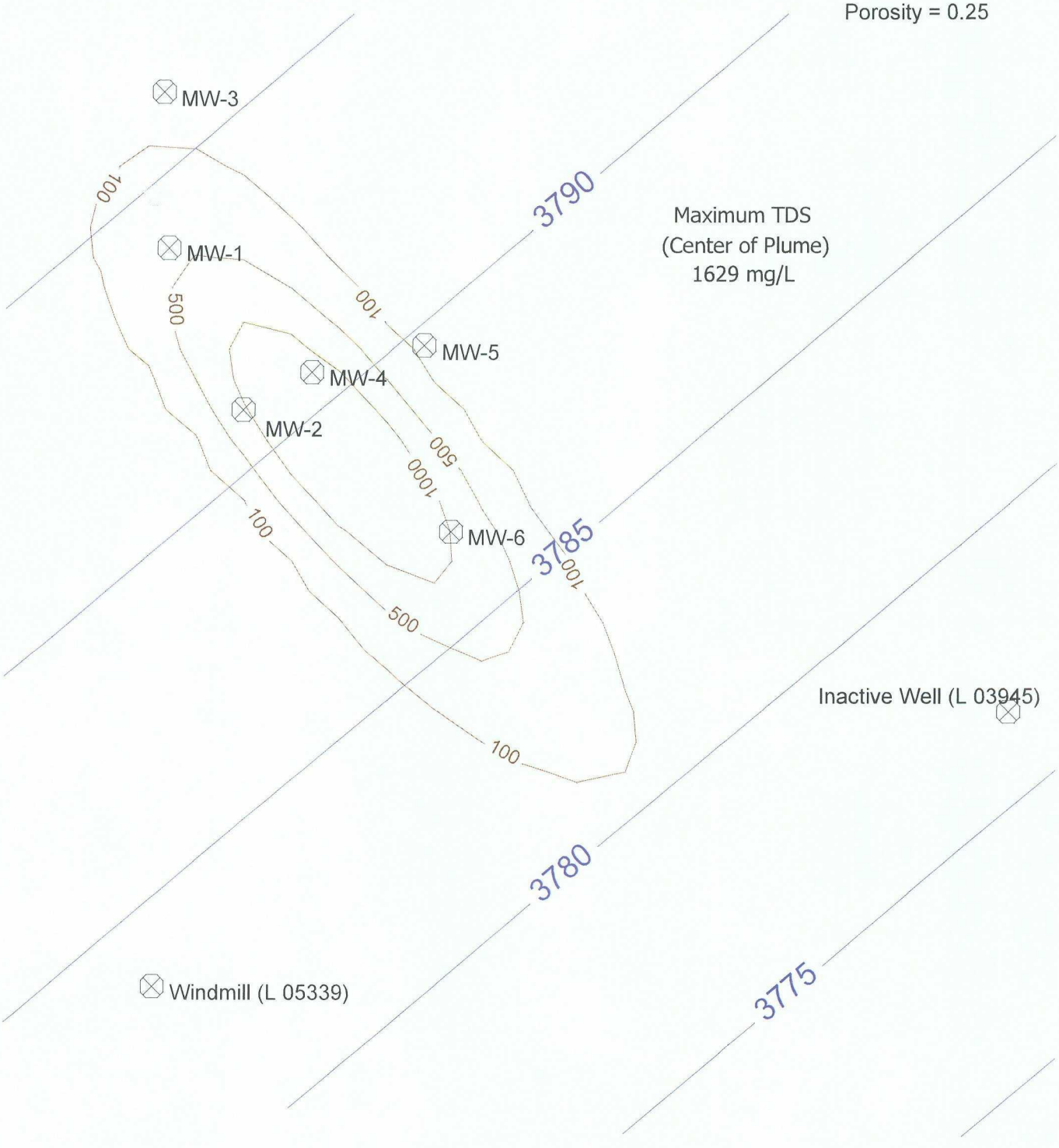
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit

TDS Plume Simulation (Year 2040)

2000 feet

Modeling Assumptions

Initial Source Concentration=30000 mg/L
Hydraulic Conductivity = 2.74 ft/day
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



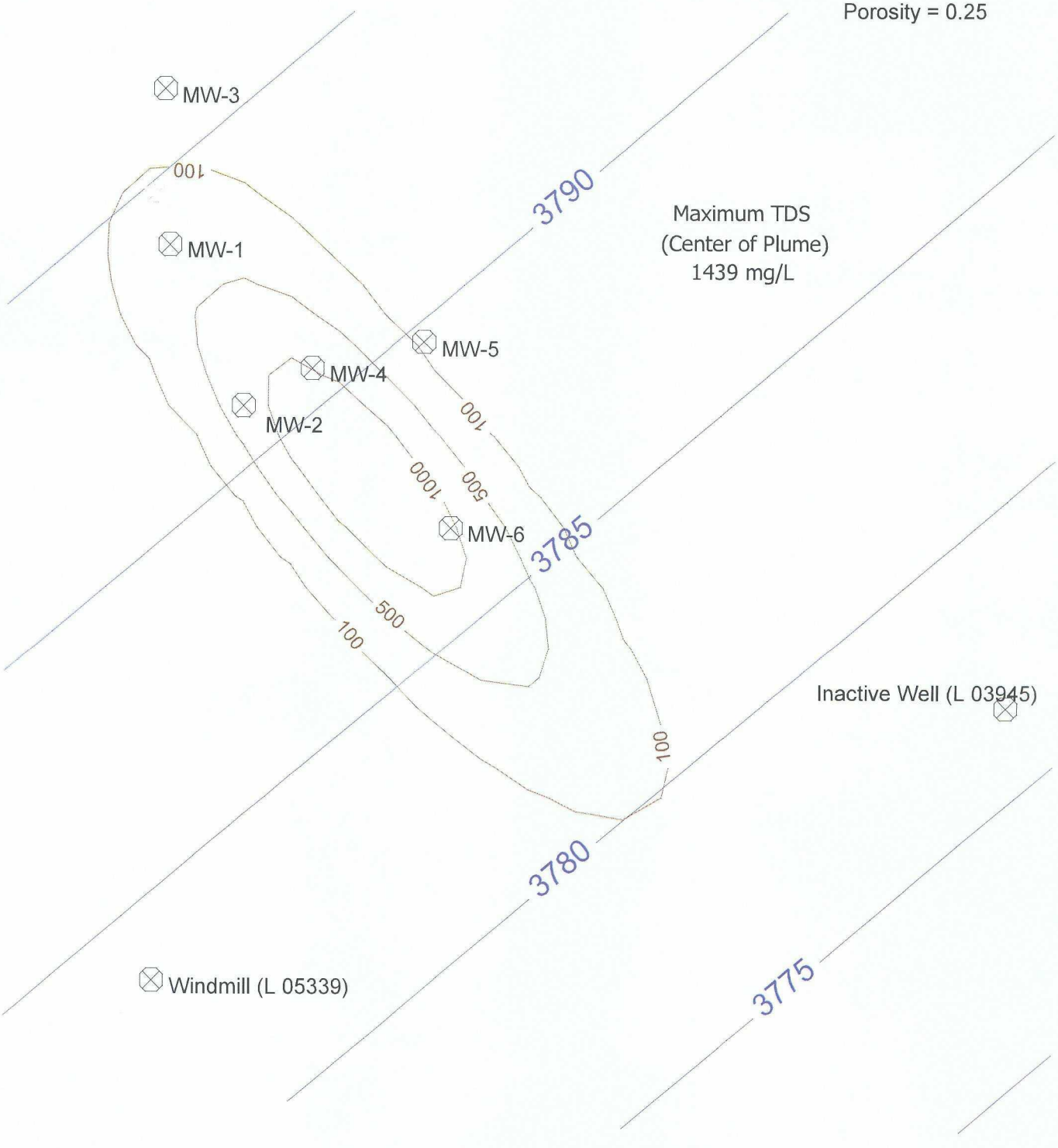
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit

TDS Plume Simulation (Year 2050)

2000 feet

Modeling Assumptions

Initial Source Concentration=30000 mg/L
Hydraulic Conductivity = 2.74 ft/day
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



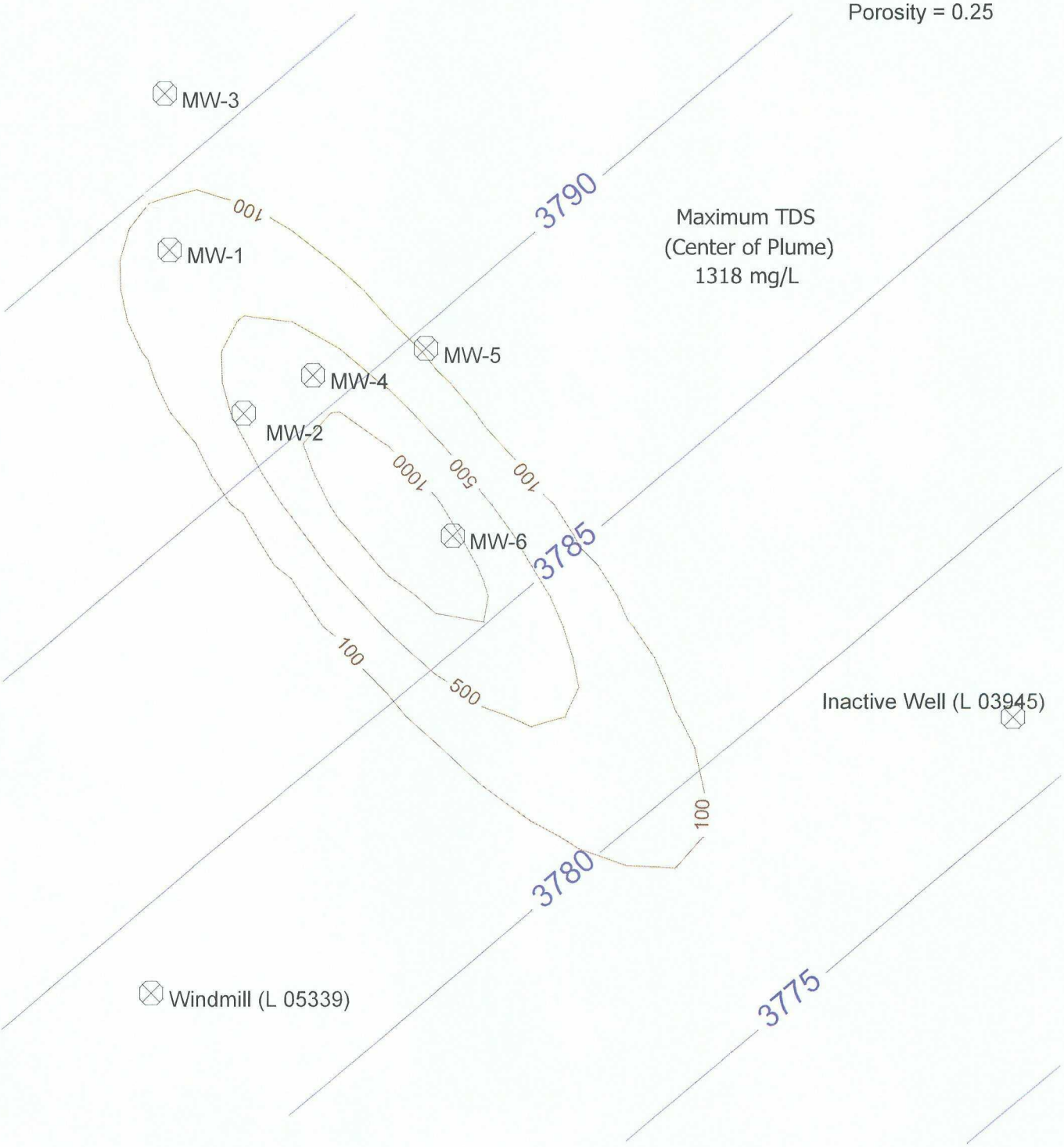
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit

TDS Plume Simulation (Year 2060)

2000 feet

Modeling Assumptions

Initial Source Concentration=30000 mg/L
Hydraulic Conductivity = 2.74 ft/day
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



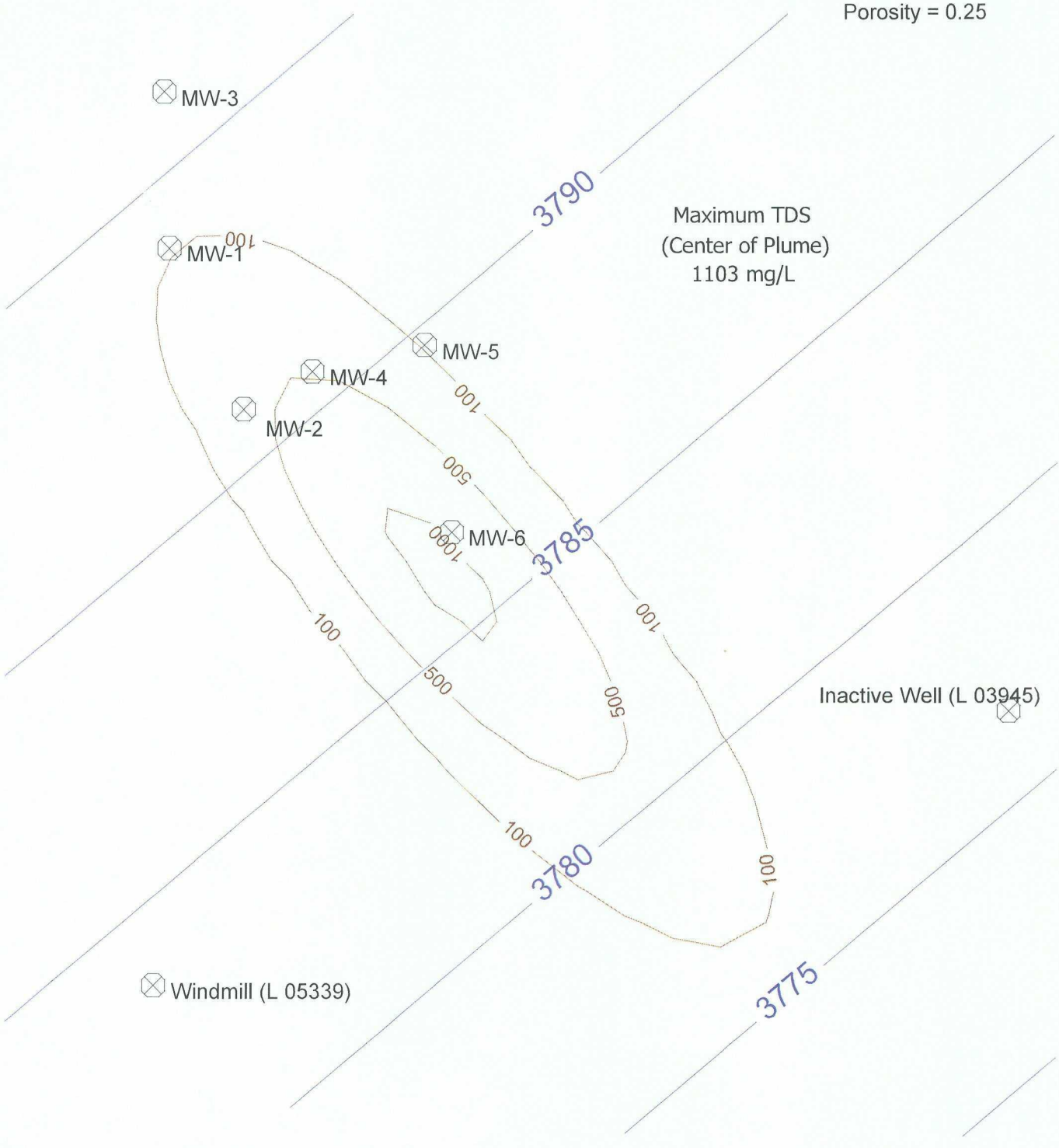
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit

TDS Plume Simulation (Year 2080)

2000 feet

Modeling Assumptions

Initial Source Concentration=30000 mg/L
Hydraulic Conductivity = 2.74 ft/day
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



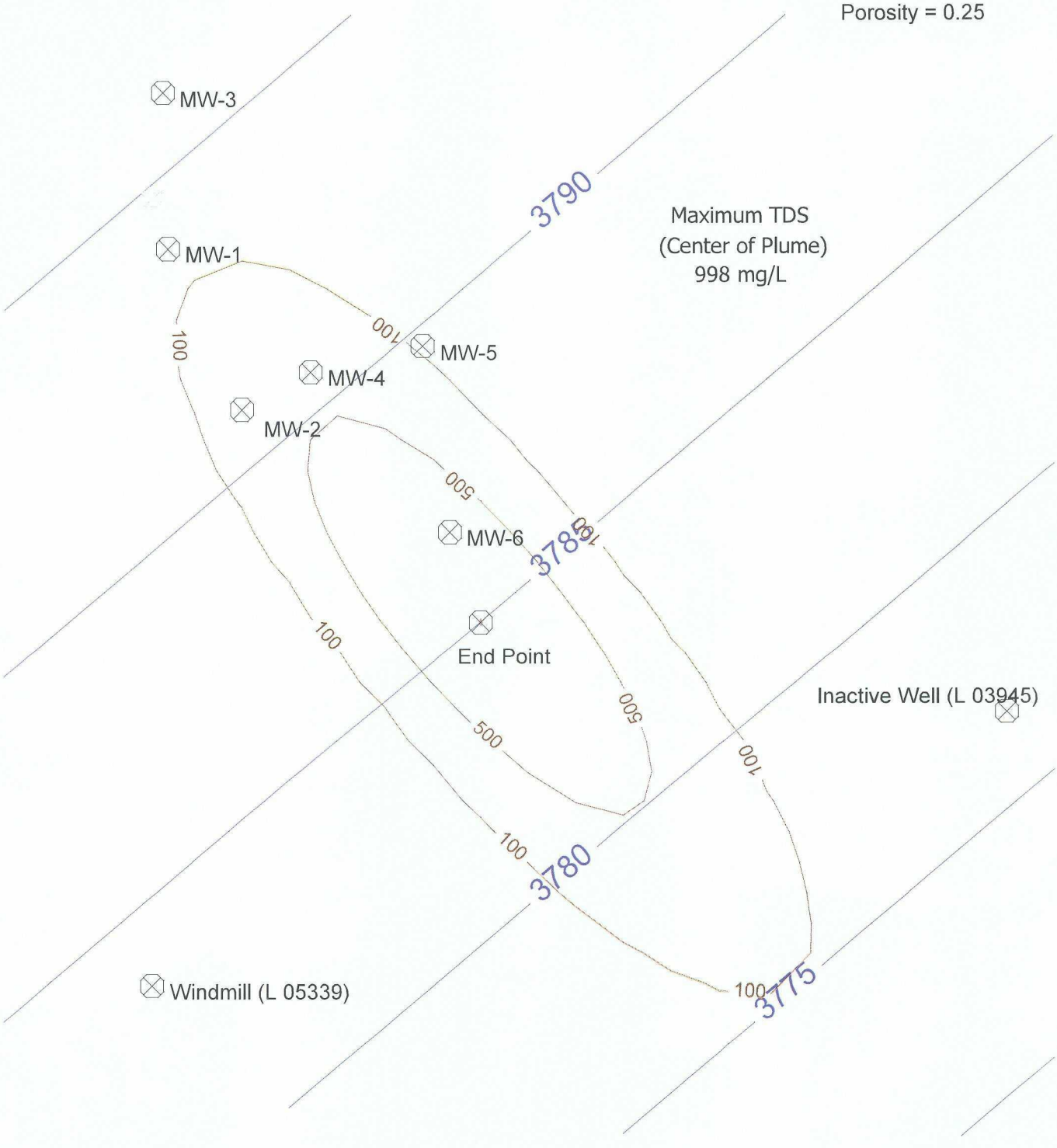
WinTran Fate & Transport Modeling Results
Former Unocal South Vacuum Unit

TDS Plume Simulation (Year 2093)

2000 feet

Modeling Assumptions

Initial Source Concentration=30000 mg/L
Hydraulic Conductivity = 2.74 ft/day
Hydraulic Gradient = 0.004 ft/ft (SE)
Longitudinal Dispersivity = 150 ft
Transverse Dispersivity = 15 ft
Aquifer Bottom at 3700 ft AMSL
Porosity = 0.25



APPENDIX D

Description of Fate and Transport Modeling And Output Files

Description of Fate and Transport Modeling

Conceptual Model

Produced water containing high concentrations of chloride, and resultant high levels of total dissolved solids (TDS), was reportedly discharged into a surface pit and adjoining injection well for a period of about 10 years, until the well was plugged and abandoned in1971. The chloride and TDS plume continued to migrate southeastwards for the next approximately 30 years after the source input was stopped, producing the configuration and constituent concentration distribution observed currently. Extrapolating from current conditions for decades into the future, taking account of both advective flow and attenuation by hydrodynamic dispersion, enables prediction of the probable distance that the residual plume will travel as well as the gradually declining concentrations in the plume.

Basic Site Data

Information about site conditions was obtained from data in a TRW Inc. "Report of Additional Groundwater Investigation, Former Unocal South Vacuum Unit, Lea County, New Mexico" (July 18, 2000). This included lithologic records from well installations, water level data, and water quality analytical results.

Simulation Model

Simulations were conducted with the two-dimensional groundwater flow and contaminant transport model WinTran, version 1.03 (1995) designed and distributed by Environmental Simulations, Inc. (ESI) of Herndon, Virginia. WinTran is built around a steady-state analytical element flow model, linked to a finite element contaminant transport model. The Windows interface allows for rapid data input, processing, parameter manipulation and optimization, and output in multiple formats. The fundamental mathematics of the model solutions, model verification (benchmarked against MODFLOW), and use of WinTran is documented in the "Guide to Using WinTran" published by ESI.

Base Map

A simplified site base map, edited with TurboCAD (Version 7), was exported to a universal drawing exchange file (DXF) file format. The DXF base map was imported into WinTran, which preserves the original units of measurement.

Flow Parameters

Input requirements for the steady-state groundwater flow simulation include: hydraulic gradient and direction of flow, hydraulic conductivity, aquifer top and bottom elevations, and reference head. The values used were based on the following sources:

- Hydraulic gradient – measured gradient of 0.004 feet/foot from July 27, 2007 site measurements reported by Trident.

- Direction of flow – measured direction of approximately S 40° E from July 27, 2007 site measurements reported by Trident.

- Hydraulic conductivity – no site measurements were available; therefore, a literature value based on the saturated zone lithology was selected. Typical lithology is described as silty sand and very fine sand. Fetter (1988, Table 4.5, p. 80) cites an average range of 10^{-5} to 10^{-3} cm/sec for hydraulic conductivity of silty sands and fine sands. A conservative upper limit was selected, and converted from S.I. unit to 2.8 ft/day, or approximately 1000 ft/yr.

- Aquifer top and bottom elevations – bottom elevation of Ogallala Formation at 3700 feet reported by Trident. The top elevation for an unconfined aquifer must be greater than the reference head. An elevation of 4000 feet was assumed.

- Reference head – measured unconfined head of 3795.5 feet adjacent to the former pit and upgradient well MW-1 from July 27, 2007 measurements reported by Trident.

Transport Parameters

Input requirements for the contaminant transport numerical simulation include: longitudinal and transverse dispersivity, porosity, diffusion coefficient, contaminant half-life, and retardation coefficient. The values used were based on the following sources:

- Longitudinal and transverse dispersivity – no site measurements were available; therefore, a literature value based on the plume length was selected. Fetter (1993, Section 2.11, pp. 71-77) notes the apparent scale-dependency of longitudinal dispersivity, which typically may be about 0.1 times the flow length. For the current site scale and plume length of approximately 1500 feet, a value of 150 feet was selected for longitudinal dispersivity. According to the WinTran user's guide (ESI, 1995, p.11), longitudinal dispersivity is usually 5 to 10 times higher than transverse dispersivity; therefore, a value of 30 feet (i.e., one-fifth of the longitudinal value) was selected for transverse dispersivity.

- Porosity – no site measurements were available; therefore a literature value based on saturated zone lithology was selected. Typical lithology is described as silty sand and very fine sand. A range of 0.25 to 0.50 is typically given for unconsolidated "sand" (e.g., Freeze & Cherry, 1979, Table 2.4, p. 37); however, the Ogallala Formation is predominantly very fine grained, compacted and partly cemented, and may also fit within the range of 0.05 to 0.30 for sandstone. Fetter (1988, Table 4.3 and Figure 4.10, pp. 74-75) cites an average value of 0.20 for the specific yield of very fine sands. Specific retention of silty fine sand is approximately 0.05, for a total porosity of 0.25, which is the value selected for the transport modeling. WinTran uses the porosity term to estimate groundwater velocity, and actually requires an effective porosity value. Fetter (1988, Section 4.4, pp. 84-85) notes that pores of most sediments down to clay size are interconnected and that the effective porosity is virtually equal to the total porosity.

- Diffusion coefficient – this parameter is normally only relevant for very slow fluid movement, and is commonly assumed to be zero for advective-dominated transport, as in the present case.

- Contaminant half-life – this parameter accounts for chemical decay (e.g., radioisotopes, biological transformation of organic molecules); however, the species of interest in the present case are inorganic ions and are not expected to decay to any appreciable extent. A conservative value of 1000 years was used, which produces a negligible decay coefficient of less than 0.001 yr^{-1}.

- Retardation coefficient – this parameter accounts for sorption processes that slow the movement of contaminants relative to the groundwater velocity. Inorganic ions such as chloride are commonly taken as conservative tracers in groundwater and are not considered to be retarded; therefore, a value of 1.0 was selected for the retardation coefficient.

Flow Model Calibration

The vicinity of the site where water level measurements were recorded in July 27, 2007 is simulated closely by the flow model. It is known that groundwater levels in the Ogallala Formation are decreasing slowly (approximately 0.3 ft/yr), but this effect cannot be reproduced in the steady-state flow model. Water levels were probably somewhat higher than the present day during the period of brine disposal and initial transport. Even if the declining trend continues into the future, it does not affect the transport model solution for long extrapolation times, since sufficient saturated thickness remains (i.e., above the assumed aquifer base elevation of 3700 feet) for a valid flow and transport solution.

The average groundwater velocity may be estimated using the darcy expression: $v = (k \,.\, i) / n$ where k is the hydraulic conductivity (1,000 ft/yr), i is the hydraulic gradient (0.004 ft/foot), and n is the effective porosity (0.25). The resultant average velocity is 16 ft/yr.

Transport Model Calibration

The objective of the transport modeling was to first obtain a plume configuration with concentration values that closely match current observed values. This was done by simulating an initial contaminant release to groundwater for a period of 11 years (c. 1960 to 1971) with a constant source concentration located at the pit and injection well, then simulating a 28-year transport period (c. 1971 to 1999) with no further contaminant input but restarting the model from the end of Year 11 by retaining the mass of contaminant from the initial plume. An iterative approach was needed to optimize the initial source concentration so that the plume at Year 39 resembled the actual plume conditions in 1999. An initial value of 14,000 mg/L for chloride and 30,000 mg/L for TDS were found to produce the best match. The initial chloride value was also chosen because it is typical of chloride concentrations within the producing formation (Devonian) in the South Vacuum Oil Field according to chemists at Martin Water Laboratories (verbal communication, 12-05-01). Actual disposal concentrations during the 1960s are unknown, and may have been higher than these values, but it is presumed that some attenuation and dilution may have occurred in the vadose zone, which is currently 48 to 68 feet thick. WinTran does not account for vadose zone transport, and the source input is treated as an injection well with instantaneous transfer of contaminant mass to groundwater.

After calibrating the model such it corresponded to actual 1999 conditions, the model was again run for 8 years (1999 to 2007) at one-year increments after entering in the known concentrations at each monitoring well.

Simulation of Fate and Transport

Estimation of chloride and TDS fate and transport was achieved by restarting the transport model in 2007. Figures displaying modeled simulations of the chloride and TDS plumes over various time increments are included in Appendix C. Advective flow moves the center of plume mass downgradient as depicted in the simulations. The simulations also demonstrate how hydrodynamic dispersion serves to broaden the dimensions of the plume while reducing the concentrations in the middle of the plume.

Running the model for 151 years in the future (Year 2158) produces a chloride plume center concentration of 248 mg/L (below the WQCC standard of 250 mg/L). The center of the chloride plume is approximately 3,200 ft away from the former pit and well source at that time.

Running the model for 86 years in the future (Year 2093) produces a TDS plume center concentration of 998 mg/L (below the WQCC standard of 1,000 mg/L). The center of the TDS plume is approximately 2,300 ft away from the pit and well source at that time.

These results support the contention that the chloride and TDS plume is not likely to impact any existing sources of water supply, the closest of which is a windmill (NM File No. L05339) located approximately 3,000 feet south of the source.

The trend of decreasing concentration is not linear (exponential e^{-kt} function). Interestingly, the center of the plume moves at a greater rate (22 feet/year) over successive time intervals than would be assumed from the groundwater velocity alone (16 feet/year), due to the added effect of dispersion.

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WinTran
Analytical Model of 2D Ground-Water Flow and
Finite-Element Contaminant Transport Model

Developed by

James O. Rumbaugh, III

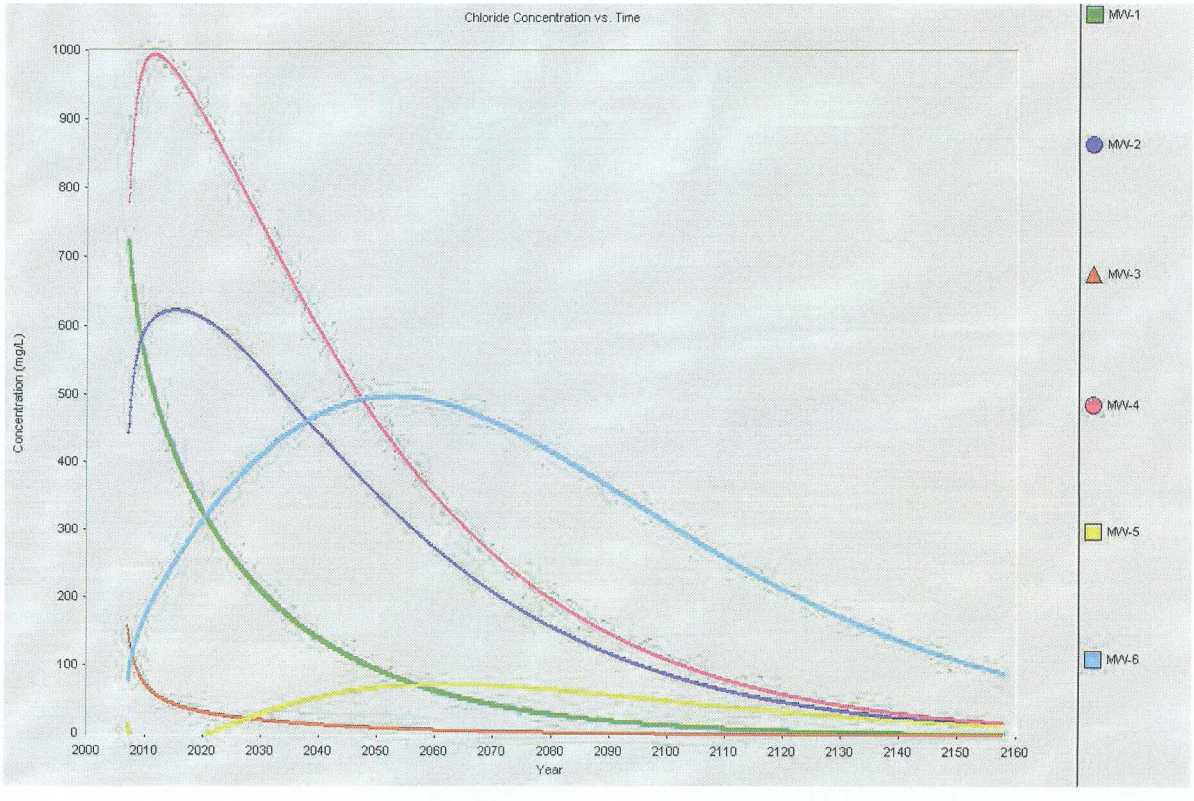
Douglas B. Rumbaugh

==========

Chloride Fate & Transport Simulation run by:
Gilbert Van Deventer (Trident Environmental)

Date: 10/04/2007
Time: 20:54:51.00

Input File: 2007 CL
Map File :



Model Entities

Number of Wells = 8

Monitoring Well #1
Center of Well -- x: 716.000000 y: 5281.000000
Radius = 1.000000
Pumping Rate = 0.000000
Concentration of Injected Water = 732.000000
Head at Well Radius = 3793.961643

Monitoring Well #2
Center of Well -- x: 1041.670000 y: 4585.770000
Radius = 1.000000
Pumping Rate = 0.000000
Concentration of Injected Water = 430.000000
Head at Well Radius = 3790.911689

Monitoring Well #3
Center of Well -- x: 694.000000 y: 5954.000000
Radius = 1.000000
Pumping Rate = 0.000000
Concentration of Injected Water = 164.000000
Head at Well Radius = 3796.079940

Monitoring Well #4
Center of Well -- x: 1341.000000 y: 4747.000000
Radius = 1.000000
Pumping Rate = 0.000000
Concentration of Injected Water = 758.000000
Head at Well Radius = 3790.623255

Monitoring Well #5
Center of Well -- x: 1829.000000 y: 4861.000000
Radius = 1.000000
Pumping Rate = 0.000000
Concentration of Injected Water = 14.900000
Head at Well Radius = 3789.669101

Monitoring Well #6
Center of Well -- x: 1948.000000 y: 4058.000000
Radius = 1.000000
Pumping Rate = 0.000000
Concentration of Injected Water = 75.300000
Head at Well Radius = 3786.688589

Well #7 (Windmill L-05339)
Center of Well -- x: 650.000000 y: 2081.000000
Radius = 1.000000
Pumping Rate = 10.000000
Concentration of Injected Water = 0.000000
Head at Well Radius = 3783.653976

Well #8 (Inactive Well L-053945)
Center of Well -- x: 4375.000000 y: 3275.550000
Radius = 1.000000
Pumping Rate = 0.000000
Concentration of Injected Water = 0.000000
Head at Well Radius = 3776.640336

Reference Head = 3795.000000 Defined at -- x: 619.470000 y: 5537.180000

Aquifer Properties

.... Steady-State Flow Model ....

Permeability.....= 1000.000000 [L/T]
Porosity.....= 0.250000
Elevation of Aquifer Top....= 4000.000000
Elevation of Aquifer Bottom.= 3700.000000
Uniform Regional Gradient...= 0.004000
Angle of Uniform Gradient...= 310.000000
Recharge.....= 0.000000

.... Transient Transport Model ....

Longitudinal Dispersivity...= 150.000000 [L]
Transverse Dispersivity.....= 30.000000 [L]
Diffusion Coefficient.....= 0.000000 [L2/T]
Contaminant half-life..... = 1000.000000 [T]
Retardation Coefficient.....= 1.000000
Upstream Weighting in X.....= 0.000000
Upstream Weighting in Y.....= 0.000000

.... Time Stepping Information ....

Number of time steps.....= 1510
Starting time value.....= 2007.000000
Initial time step size.....= 0.100000
Time step multiplier..... = 1.000000
Maximum time step size.....= 0.100000
Time stepping scheme.....= Central Differencing

.... Simulation Summary ....

Starting time.....= 2007.000000
Ending time.....= 2158.000000
Number of time steps.....= 1510

(NOTE: following mass balance errors expressed as percent)
Transport Mass Balance Error= 0.000005

Peclet Criterion.....= 1.388889
Courant Number.....= 0.005044
Flow Model Type.....= Analytic Element

Head Contour Matrix

Number of nodes in the X-direction = 49
Number of nodes in the Y-direction = 49

Minimum X Coordinate = 0.000000
Minimum Y Coordinate = 0.000000

Maximum X Coordinate = 10000.000000
Maximum Y Coordinate = 6289.062500

Minimum Head = 3734.910293
Maximum Head = 3798.819859

CONTOUR GRID -----

Row 1

3778.127518	3777.473443	3776.813798	3776.148440	3775.477216
3774.799970	3774.116536	3773.426741	3772.730405	3772.027336
3771.317338	3770.600199	3769.875701	3769.143612	3768.403688
3767.655672	3766.899293	3766.134264	3765.360281	3764.577022
3763.784146	3762.981288	3762.168064	3761.344059	3760.508834
3759.661918	3758.802805	3757.930953	3757.045777	3756.146648
3755.232884	3754.303747	3753.358433	3752.396066	3751.415690
3750.416253	3749.396598	3748.355448	3747.291381	3746.202815
3745.087975	3743.944862	3742.771208	3741.564428	3740.321545
3739.039114	3737.713098	3736.338728	3734.910293	

Row 2

3778.614179	3777.964187	3777.308730	3776.647668	3775.980855
3775.308138	3774.629358	3773.944347	3773.252931	3772.554926
3771.850141	3771.138374	3770.419413	3769.693036	3768.959007
3768.217081	3767.466997	3766.708478	3765.941236	3765.164960
3764.379325	3763.583983	3762.778566	3761.962681	3761.135908
3760.297800	3759.447877	3758.585626	3757.710492	3756.821883
3755.919154	3755.001611	3754.068499	3753.118998	3752.152214
3751.167165	3750.162777	3749.137863	3748.091111	3747.021063
3745.926090	3744.804365	3743.653826	3742.472131	3741.256603
3740.004158	3738.711214	3737.373566	3735.986231	

Row 3

3779.097846	3778.451861	3777.800512	3777.143665	3776.481176
3775.812899	3775.138679	3774.458354	3773.771756	3773.078707
3772.379023	3771.672508	3770.958959	3770.238162	3769.509891
3768.773908	3768.029963	3767.277792	3766.517116	3765.747641
3764.969052	3764.181019	3763.383189	3762.575187	3761.756615
3760.927046	3760.086025	3759.233063	3758.367638	3757.489187
3756.597103	3755.690730	3754.769360	3753.832223	3752.878480
3751.907216	3750.917428	3749.908014	3748.877758	3747.825314
3746.749182	3745.647688	3744.518949	3743.360837	3742.170933
3740.946464	3739.684233	3738.380512	3737.030921	

Row 4

3779.578573	3778.936522	3778.289206	3777.636493	3776.978246

3776.314322	3775.644571	3774.968838	3774.286958	3773.598761
3772.904068	3772.202691	3771.494434	3770.779090	3770.056442
3769.326262	3768.588308	3767.842328	3767.088054	3766.325202
3765.553474	3764.772551	3763.982098	3763.181756	3762.371145
3761.549859	3760.717465	3759.873500	3759.017467	3758.148834
3757.267026	3756.371426	3755.461366	3754.536121	3753.594906
3752.636863	3751.661056	3750.666459	3749.651944	3748.616262
3747.558031	3746.475711	3745.367577	3744.231691	3743.065855
3741.867568	3740.633959	3739.361707	3738.046936	

Row 5

3780.056414	3779.418226	3778.774868	3778.126212	3777.472127
3776.812472	3776.147102	3775.475868	3774.798611	3774.115165
3773.425358	3772.729009	3772.025928	3771.315915	3770.598762
3769.874250	3769.142145	3768.402206	3767.654174	3766.897778
3766.132731	3765.358730	3764.575453	3763.782557	3762.979679
3762.166433	3761.342407	3760.507159	3759.660219	3758.801081
3757.929203	3757.044000	3756.144843	3755.231049	3754.301880
3753.356533	3752.394131	3751.413718	3750.414242	3749.394546
3748.353351	3747.289237	3746.200620	3745.085726	3743.942555
3742.768838	3741.561988	3740.319031	3739.036516	

Row 6

3780.531419	3779.897025	3779.257554	3778.612881	3777.962878
3777.307411	3776.646339	3775.979515	3775.306788	3774.627996
3773.942974	3773.251545	3772.553528	3771.848730	3771.136949
3770.417973	3769.691581	3768.957537	3768.215595	3767.465494
3766.706959	3765.939699	3765.163405	3764.377751	3763.582389
3762.776952	3761.961045	3761.134250	3760.296119	3759.446172
3758.583895	3757.708736	3756.820099	3755.917341	3754.999768
3754.066624	3753.117090	3752.150270	3751.165184	3750.160756
3749.135800	3748.089003	3747.018907	3745.923883	3744.802102
3743.651503	3742.469744	3741.254145	3740.001624	

Row 7

3781.003639	3780.372972	3779.737317	3779.096555	3778.450560
3777.799202	3777.142344	3776.479846	3775.811558	3775.137327
3774.456991	3773.770380	3773.077319	3772.377622	3771.671094
3770.957531	3770.236719	3769.508432	3768.772434	3768.028473
3767.276286	3766.515593	3765.746099	3764.967492	3764.179440
3763.381590	3762.573568	3761.754974	3760.925382	3760.084338
3759.231352	3758.365902	3757.487424	3756.595312	3755.688910
3754.767510	3753.830340	3752.876563	3751.905263	3750.915437
3749.905983	3748.875684	3747.823194	3746.747013	3745.645467
3744.516671	3743.358499	3742.168528	3740.943988	

Row 8

3781.473121	3780.846117	3780.214212	3779.577289	3778.935229
3778.287903	3777.635181	3776.976924	3776.312990	3775.643228
3774.967484	3774.285592	3773.597383	3772.902677	3772.201287
3771.493016	3770.777658	3770.054996	3769.324800	3768.586831
3767.840835	3767.086544	3766.323675	3765.551928	3764.770987
3763.980514	3763.180152	3762.369520	3761.548213	3760.715796
3759.871807	3759.015750	3758.147091	3757.265256	3756.369628
3755.459538	3754.534262	3753.593014	3752.634937	3751.659094
3750.664459	3749.649902	3748.614176	3747.555899	3746.473529
3745.365342	3744.229398	3743.063500	3741.865146	

Row 9

3781.939914	3781.316508	3780.688287	3780.055137	3779.416939
3778.773572	3778.124908	3777.470813	3776.811148	3776.145769
3775.474524	3774.797255	3774.113797	3773.423978	3772.727615
3772.024521	3771.314494	3770.597327	3769.872800	3769.140680
3768.400725	3767.652676	3766.896263	3766.131199	3765.357180
3764.573883	3763.780968	3762.978070	3762.164803	3761.340755
3760.505484	3759.658520	3758.799357	3757.927453	3757.042223
3756.143037	3755.229214	3754.300013	3753.354633	3752.392196
3751.411746	3750.412231	3749.392493	3748.351254	3747.287093
3746.198426	3745.083478	3743.940247	3742.766467	

Row 10

3782.404062	3781.784194	3781.159593	3780.530148	3779.895745
3779.256265	3778.611585	3777.961573	3777.306097	3776.645014
3775.978180	3775.305441	3774.626638	3773.941603	3773.250162
3772.552132	3771.847320	3771.135525	3770.416535	3769.690128
3768.956068	3768.214110	3767.463993	3766.705440	3765.938162
3765.161850	3764.376177	3763.580796	3762.775338	3761.959410
3761.132592	3760.294438	3759.444467	3758.582165	3757.706980
3756.818315	3755.915528	3754.997925	3754.064749	3753.115182
3752.148326	3751.163203	3750.158735	3749.133737	3748.086895
3747.016751	3745.921675	3744.799839	3743.649181	

Row 11

3782.865611	3782.249221	3781.628177	3781.002373	3780.371698
3779.736036	3779.095266	3778.449263	3777.797896	3777.141029
3776.478520	3775.810221	3775.135979	3774.455630	3773.769008
3773.075933	3772.376223	3771.669681	3770.956104	3770.235277
3769.506975	3768.770961	3768.026984	3767.274780	3766.514070
3765.744558	3764.965933	3764.177861	3763.379991	3762.571948
3761.753333	3760.923719	3760.082651	3759.229641	3758.364165
3757.485661	3756.593521	3755.687090	3754.765659	3753.828457
3752.874646	3751.903310	3750.913446	3749.903951	3748.873610
3747.821074	3746.744845	3745.643246	3744.514394	

Row 12

3783.324603	3782.711633	3782.094087	3781.471861	3780.844849
3780.212937	3779.576008	3778.933940	3778.286606	3777.633875
3776.975608	3776.311663	3775.641890	3774.966133	3774.284229
3773.596007	3772.901288	3772.199885	3771.491600	3770.776228
3770.053550	3769.323339	3768.585354	3767.839342	3767.085034
3766.322147	3765.550383	3764.769423	3763.978930	3763.178548
3762.367895	3761.546566	3760.714127	3759.870115	3759.014033
3758.145348	3757.263486	3756.367830	3755.457711	3754.532404
3753.591123	3752.633011	3751.657131	3750.662458	3749.647860
3748.612091	3747.553767	3746.471348	3745.363107	

Row 13

3783.781080	3783.171474	3782.557366	3781.938658	3781.315246
3780.687019	3780.053863	3779.415659	3778.772285	3778.123611
3777.469506	3776.809831	3776.144440	3775.473183	3774.795902
3774.112432	3773.422599	3772.726224	3772.023115	3771.313075
3770.595893	3769.871351	3769.139215	3768.399244	3767.651179
3766.894749	3766.129668	3765.355630	3764.572315	3763.779379
3762.976461	3762.163173	3761.339103	3760.503809	3759.656821
3758.797634	3757.925704	3757.040446	3756.141232	3755.227378
3754.298147	3753.352733	3752.390262	3751.409774	3750.410220
3749.390441	3748.349158	3747.284949	3746.196231	

Row 14

3784.235084	3783.628786	3783.018060	3782.402810	3781.782937
3781.158332	3780.528883	3779.894474	3779.254987	3778.610297
3777.960276	3777.304788	3776.643695	3775.976849	3775.304098
3774.625282	3773.940235	3773.248781	3772.550737	3771.845911
3771.134102	3770.415097	3769.688675	3768.954600	3768.212626
3767.462491	3766.703922	3765.936626	3765.160295	3764.374603
3763.579202	3762.773723	3761.957774	3761.130935	3760.292757
3759.442762	3758.580435	3757.705223	3756.816531	3755.913716
3754.996082	3754.062874	3753.113273	3752.146382	3751.161221
3750.156714	3749.131673	3748.084787	3747.014594	

Row 15

3784.686654	3784.083611	3783.476210	3782.864359	3782.247967
3781.626923	3781.001117	3780.370437	3779.734767	3779.093988
3778.447975	3777.796597	3777.139719	3776.477198	3775.808888
3775.134633	3774.454272	3773.767636	3773.074549	3772.374824
3771.668268	3770.954677	3770.233835	3769.505519	3768.769489
3768.025495	3767.273275	3766.512547	3765.743017	3764.964373
3764.176282	3763.378392	3762.570329	3761.751692	3760.922056
3760.080964	3759.227930	3758.362429	3757.483898	3756.591730
3755.685270	3754.763808	3753.826574	3752.872729	3751.901357
3750.911455	3749.901920	3748.871535	3747.818954	

Row 16

3785.135830	3784.535990	3783.931860	3783.323346	3782.710381
3782.092841	3781.470615	3780.843598	3780.211678	3779.574740
3778.932661	3778.285316	3777.632573	3776.974295	3776.310338
3775.640553	3774.964784	3774.282867	3773.594632	3772.899900
3772.198483	3771.490184	3770.774797	3770.052105	3769.321878
3768.583878	3767.837849	3767.083524	3766.320620	3765.548837
3764.767858	3763.977347	3763.176945	3762.366271	3761.544920
3760.712458	3759.868422	3759.012315	3758.143605	3757.261716
3756.366032	3755.455883	3754.530545	3753.589231	3752.631085
3751.655169	3750.660457	3749.645818	3748.610005	

Row 17

3785.582648	3784.985962	3784.385052	3783.779805	3783.170229
3782.556130	3781.937423	3781.314006	3780.685771	3780.052604
3779.414390	3778.771004	3778.122319	3777.468202	3776.808515
3776.143112	3775.471843	3774.794550	3774.111067	3773.421221
3772.724832	3772.021710	3771.311655	3770.594459	3769.869901
3769.137751	3768.397763	3767.649682	3766.893235	3766.128136
3765.354080	3764.570746	3763.777791	3762.974852	3762.161543
3761.337450	3760.502134	3759.655122	3758.795910	3757.923954
3757.038670	3756.139427	3755.225543	3754.296280	3753.350833
3752.388327	3751.407802	3750.408209	3749.388388	

Row 18

3786.027147	3785.433566	3784.835829	3784.233848	3783.627555
3783.016836	3782.401588	3781.781709	3781.157094	3780.527634
3779.893214	3779.253715	3778.609014	3777.958981	3777.303482
3776.642376	3775.975518	3775.302755	3774.623927	3773.938867
3773.247399	3772.549342	3771.844502	3771.132678	3770.413659
3769.687222	3768.953131	3768.211141	3767.460990	3766.702403
3765.935090	3765.158740	3764.373029	3763.577608	3762.772109
3761.956139	3761.129277	3760.291077	3759.441057	3758.578705
3757.703467	3756.814747	3755.911903	3754.994239	3754.060999
3753.111365	3752.144438	3751.159240	3750.154693	

Row 19

3786.469362	3785.878838	3785.284225	3784.685438	3784.082396
3783.475001	3782.863153	3782.246752	3781.625696	3780.999877
3780.369185	3779.733504	3779.092713	3778.446689	3777.795299
3777.138409	3776.475877	3775.807554	3775.133287	3774.452913
3773.766265	3773.073164	3772.373426	3771.666856	3770.953250
3770.232394	3769.504062	3768.768016	3768.024006	3767.271769
3766.511024	3765.741477	3764.962814	3764.174704	3763.376794
3762.568709	3761.750051	3760.920392	3760.079278	3759.226219
3758.360692	3757.482134	3756.589939	3755.683450	3754.761957
3753.824691	3752.870811	3751.899403	3750.909463	

Row 20

3786.909327	3786.321814	3785.730275	3785.134629	3784.534789
3783.930666	3783.322162	3782.709182	3782.091624	3781.469384
3780.842354	3780.210423	3779.573473	3778.931383	3778.284027
3777.631272	3776.972982	3776.309013	3775.639216	3774.963435
3774.281506	3773.593258	3772.898512	3772.197081	3771.488768
3770.773367	3770.050659	3769.320418	3768.582401	3767.836356
3767.082014	3766.319092	3765.547292	3764.766294	3763.975763
3763.175341	3762.364646	3761.543273	3760.710789	3759.866729
3759.010598	3758.141861	3757.259946	3756.364234	3755.454055
3754.528686	3753.587340	3752.629159	3751.653206	

Row 21

3787.347076	3786.762529	3786.174016	3785.581459	3784.984773
3784.383870	3783.778657	3783.169040	3782.554922	3781.936200
3781.312770	3780.684523	3780.051346	3779.413120	3778.769722
3778.121026	3777.466898	3776.807199	3776.141785	3775.470503
3774.793197	3774.109701	3773.419843	3772.723440	3772.020304
3771.310236	3770.593025	3769.868452	3769.136286	3768.396282
3767.648185	3766.891721	3766.126604	3765.352530	3764.569176
3763.776202	3762.973243	3762.159913	3761.335798	3760.500459
3759.653424	3758.794186	3757.922204	3757.036893	3756.137621
3755.223708	3754.294413	3753.348933	3752.386392	

Row 22

3787.782642	3787.201015	3786.615484	3786.025968	3785.432386
3784.834652	3784.232678	3783.626370	3783.015634	3782.400372
3781.780481	3781.155854	3780.526383	3779.891951	3779.252442
3778.607729	3777.957685	3777.302174	3776.641057	3775.974187
3775.301412	3774.622571	3773.937498	3773.246018	3772.547947
3771.843093	3771.131255	3770.412221	3769.685768	3768.951662
3768.209656	3767.459489	3766.700885	3765.933553	3765.157186
3764.371455	3763.576015	3762.770495	3761.954503	3761.127619
3760.289396	3759.439352	3758.576975	3757.701710	3756.812963
3755.910090	3754.992395	3754.059124	3753.109456	

Row 23

3788.216058	3787.637308	3787.054711	3786.468190	3785.877665
3785.283052	3784.684264	3784.081213	3783.473804	3782.861944
3782.245531	3781.624463	3780.998634	3780.367931	3779.732238
3779.091437	3778.445401	3777.794000	3777.137099	3776.474554
3775.806220	3775.131940	3774.451554	3773.764893	3773.071779
3772.372027	3771.665443	3770.951823	3770.230952	3769.502604
3768.766543	3768.022517	3767.270263	3766.509501	3765.739935
3764.961254	3764.173125	3763.375195	3762.567090	3761.748410
3760.918729	3760.077591	3759.224508	3758.358955	3757.480371

3756.588148	3755.681629	3754.760106	3753.822807	

Row 24

3788.647354	3788.071439	3787.491734	3786.908163	3786.320647
3785.729106	3785.133455	3784.533608	3783.929473	3783.320959
3782.707967	3782.090398	3781.468147	3780.841107	3780.209165
3779.572204	3778.930104	3778.282736	3777.629970	3776.971669
3776.307688	3775.637879	3774.962085	3774.280143	3773.591882
3772.897123	3772.195679	3771.487352	3770.771936	3770.049214
3769.318957	3768.580924	3767.834863	3767.080504	3766.317565
3765.545746	3764.764730	3763.974179	3763.173737	3762.363021
3761.541627	3760.709119	3759.865036	3759.008880	3758.140118
3757.258176	3756.362435	3755.452227	3754.526827	

Row 25

3789.076563	3788.503441	3787.926584	3787.345918	3786.761367
3786.172851	3785.580288	3784.983595	3784.382682	3783.777459
3783.167832	3782.553703	3781.934971	3781.311530	3780.683273
3780.050085	3779.411848	3778.768440	3778.119732	3777.465593
3776.805882	3776.140456	3775.469163	3774.791844	3774.108336
3773.418464	3772.722048	3772.018899	3771.308816	3770.591590
3769.867002	3769.134821	3768.394801	3767.646687	3766.890206
3766.125072	3765.350979	3764.567607	3763.774613	3762.971634
3762.158282	3761.334146	3760.498784	3759.651725	3758.792462
3757.920454	3757.035115	3756.135815	3755.221872	

Row 26

3789.503713	3788.933344	3788.359294	3787.781490	3787.199859
3786.614322	3786.024801	3785.431211	3784.833469	3784.231485
3783.625167	3783.014422	3782.399149	3781.779248	3781.154611
3780.525129	3779.890687	3779.251167	3778.606443	3777.956388
3777.300866	3776.639737	3775.972856	3775.300068	3774.621215
3773.936129	3773.244635	3772.546551	3771.841683	3771.129831
3770.410783	3769.684315	3768.950193	3768.208171	3767.457987
3766.699366	3765.932016	3765.155630	3764.369881	3763.574421
3762.768881	3761.952867	3761.125961	3760.287715	3759.437647
3758.575245	3757.699954	3756.811179	3755.908277	

Row 27

3789.928834	3789.361179	3788.789895	3788.214912	3787.636157
3787.053555	3786.467028	3785.876495	3785.281873	3784.683077
3784.080016	3783.472598	3782.860727	3782.244305	3781.623227
3780.997387	3780.366674	3779.730971	3779.090159	3778.444112
3777.792700	3777.135787	3776.473231	3775.804885	3775.130593
3774.450195	3773.763520	3773.070393	3772.370628	3771.664030
3770.950395	3770.229510	3769.501147	3768.765070	3768.021028
3767.268757	3766.507978	3765.738394	3764.959694	3764.171546
3763.373596	3762.565470	3761.746769	3760.917065	3760.075904
3759.222796	3758.357219	3757.478608	3756.586356	

Row 28

3790.351954	3789.786974	3789.218417	3788.646214	3788.070293
3787.490582	3786.907004	3786.319482	3785.727933	3785.132273
3784.532417	3783.928273	3783.319749	3782.706747	3782.089168
3781.466908	3780.839858	3780.207905	3779.570934	3778.928823
3778.281444	3777.628667	3776.970354	3776.306362	3775.636541
3774.960735	3774.278780	3773.590507	3772.895734	3772.194276
3771.485935	3770.770505	3770.047768	3769.317495	3768.579447
3767.833369	3767.078993	3766.316037	3765.544200	3764.763165

3763.972595	3763.172133	3762.361396	3761.539980	3760.707450
3759.863343	3759.007163	3758.138375	3757.256406	

Row 29

3790.773102	3790.210761	3789.644891	3789.075428	3788.502300
3787.925437	3787.344765	3786.760206	3786.171683	3785.579112
3784.982409	3784.381487	3783.776255	3783.166619	3782.552480
3781.933738	3781.310288	3780.682020	3780.048822	3779.410575
3778.767156	3778.118438	3777.464287	3776.804565	3776.139127
3775.467822	3774.790491	3774.106970	3773.417085	3772.720656
3772.017492	3771.307395	3770.590155	3769.865553	3769.133356
3768.393320	3767.645189	3766.888691	3766.123539	3765.349429
3764.566038	3763.773024	3762.970025	3762.156652	3761.332494
3760.497109	3759.650025	3758.790738	3757.918704	

Row 30

3791.192306	3790.632565	3790.069346	3789.502583	3788.932208
3788.358152	3787.780342	3787.198703	3786.613159	3786.023629
3785.430032	3784.832281	3784.230287	3783.623961	3783.013206
3782.397924	3781.778012	3781.153366	3780.523874	3779.889422
3779.249891	3778.605156	3777.955090	3777.299557	3776.638417
3775.971524	3775.298724	3774.619858	3773.934760	3773.243253
3772.545155	3771.840274	3771.128407	3770.409344	3769.682861
3768.948724	3768.206685	3767.456485	3766.697847	3765.930479
3765.154075	3764.368307	3763.572827	3762.767266	3761.951231
3761.124303	3760.286033	3759.435942	3758.573514	

Row 31

3791.609591	3791.052415	3790.491809	3789.927709	3789.360048
3788.788758	3788.213768	3787.635006	3787.052397	3786.465862
3785.875321	3785.280691	3784.681885	3784.078815	3783.471388
3782.859509	3782.243077	3781.621989	3780.996139	3780.365416
3779.729703	3779.088880	3778.442822	3777.791399	3777.134475
3776.471908	3775.803550	3775.129246	3774.448835	3773.762147
3773.069007	3772.369228	3771.662617	3770.948968	3770.228067
3769.499689	3768.763597	3768.019539	3767.267251	3766.506454
3765.736853	3764.958134	3764.169966	3763.371997	3762.563850
3761.745127	3760.915401	3760.074216	3759.221085	

Row 32

3792.024984	3791.470338	3790.912310	3790.350835	3789.785849
3789.217285	3788.645075	3788.069148	3787.489429	3786.905844
3786.318313	3785.726756	3785.131088	3784.531222	3783.927070
3783.318536	3782.705526	3782.087937	3781.465667	3780.838607
3780.206644	3779.569663	3778.927541	3778.280152	3777.627364
3776.969039	3776.305035	3775.635203	3774.959384	3774.277417
3773.589130	3772.894345	3772.192873	3771.484518	3770.769073
3770.046321	3769.316034	3768.577970	3767.831875	3767.077483
3766.314509	3765.542654	3764.761600	3763.971011	3763.170528
3762.359771	3761.538333	3760.705780	3759.861650	

Row 33

3792.438510	3791.886361	3791.330874	3790.771988	3790.209640
3789.643764	3789.074294	3788.501160	3787.924290	3787.343610
3786.759043	3786.170511	3785.577932	3784.981221	3784.380290
3783.775049	3783.165403	3782.551256	3781.932504	3781.309044
3780.680767	3780.047558	3779.409301	3778.765871	3778.117142
3777.462980	3776.803247	3776.137797	3775.466480	3774.789137
3774.105603	3773.415706	3772.719263	3772.016086	3771.305975

3770.588720	3769.864103	3769.131890	3768.391839	3767.643692
3766.887177	3766.122007	3765.347878	3764.564468	3763.771435
3762.968415	3762.155021	3761.330841	3760.495433	

Row 34

3792.850194	3792.300508	3791.747529	3791.191196	3790.631449
3790.068224	3789.501454	3788.931073	3788.357009	3787.779192
3787.197546	3786.611994	3786.022456	3785.428850	3784.831090
3784.229088	3783.622752	3783.011988	3782.396696	3781.776776
3781.152119	3780.522617	3779.888155	3779.248614	3778.603869
3777.953792	3777.298247	3776.637096	3775.970191	3775.297379
3774.618501	3773.933390	3773.241870	3772.543759	3771.838864
3771.126983	3770.407905	3769.681407	3768.947255	3768.205200
3767.454983	3766.696327	3765.928942	3765.152520	3764.366732
3763.571232	3762.765651	3761.949595	3761.122645	

Row 35

3793.260061	3792.712805	3792.162300	3791.608486	3791.051305
3790.490692	3789.926585	3789.358918	3788.787620	3788.212624
3787.633854	3787.051237	3786.464694	3785.874145	3785.279506
3784.680692	3784.077613	3783.470177	3782.858288	3782.241847
3781.620750	3780.994890	3780.364157	3779.728433	3779.087600
3778.441532	3777.790098	3777.133163	3776.470584	3775.802214
3775.127898	3774.447474	3773.760774	3773.067621	3772.367829
3771.661203	3770.947540	3770.226625	3769.498232	3768.762123
3768.018049	3767.265744	3766.504930	3765.735311	3764.956574
3764.168387	3763.370397	3762.562230	3761.743486	

Row 36

3793.668134	3793.123277	3792.575212	3792.023884	3791.469233
3790.911198	3790.349716	3789.784724	3789.216153	3788.643936
3788.068001	3787.488275	3786.904681	3786.317142	3785.725577
3785.129901	3784.530027	3783.925865	3783.317323	3782.704303
3782.086705	3781.464425	3780.837355	3780.205383	3779.568391
3778.926258	3778.278858	3777.626059	3776.967724	3776.303708
3775.633864	3774.958033	3774.276054	3773.587754	3772.892955
3772.191470	3771.483101	3770.767642	3770.044875	3769.314572
3768.576492	3767.830381	3767.075972	3766.312981	3765.541108
3764.760035	3763.969427	3763.168924	3762.358145	

Row 37

3794.074438	3793.531947	3792.986291	3792.437415	3791.885260
3791.329767	3790.770874	3790.208520	3789.642637	3789.073160
3788.500018	3787.923140	3787.342453	3786.757878	3786.169338
3785.576751	3784.980032	3784.379092	3783.773842	3783.164187
3782.550030	3781.931269	3781.307800	3780.679513	3780.046294
3779.408026	3778.764586	3778.115846	3777.461673	3776.801929
3776.136467	3775.465138	3774.787783	3774.104236	3773.414326
3772.717870	3772.014679	3771.304554	3770.587285	3769.862652
3769.130424	3768.390357	3767.642193	3766.885661	3766.120474
3765.346327	3764.562898	3763.769846	3762.966805	

Row 38

3794.478994	3793.938839	3793.395561	3792.849104	3792.299412
3791.746426	3791.190088	3790.630334	3790.067102	3789.500325
3788.929936	3788.355866	3787.778041	3787.196387	3786.610826
3786.021280	3785.427666	3784.829898	3784.227887	3783.621543
3783.010769	3782.395469	3781.775538	3781.150872	3780.521360
3779.886888	3779.247336	3778.602581	3777.952493	3777.296937

3776.635775	3775.968858	3775.296034	3774.617144	3773.932020
3773.240487	3772.542362	3771.837453	3771.125559	3770.406466
3769.679953	3768.945785	3768.203714	3767.453480	3766.694808
3765.927405	3765.150964	3764.365157	3763.569638	

Row 39

3794.881825	3794.343977	3793.803045	3793.258975	3792.711713
3792.161202	3791.607382	3791.050194	3790.489575	3789.925461
3789.357786	3788.786482	3788.211478	3787.632701	3787.050075
3786.463524	3785.872967	3785.278320	3784.679498	3784.076410
3783.468965	3782.857067	3782.240616	3781.619510	3780.993641
3780.362897	3779.727164	3779.086320	3778.440241	3777.788796
3777.131850	3776.469259	3775.800878	3775.126549	3774.446114
3773.759401	3773.066234	3772.366429	3771.659789	3770.946112
3770.225182	3769.496774	3768.760649	3768.016559	3767.264238
3766.503406	3765.733769	3764.955014	3764.166807	

Row 40

3795.282953	3794.747382	3794.208766	3793.667054	3793.122190
3792.574119	3792.022785	3791.468127	3790.910085	3790.348597
3789.783598	3789.215020	3788.642795	3788.066853	3787.487119
3786.903518	3786.315971	3785.724397	3785.128712	3784.528830
3783.924660	3783.316108	3782.703079	3782.085472	3781.463183
3780.836103	3780.204121	3779.567119	3778.924975	3778.277565
3777.624755	3776.966408	3776.302381	3775.632524	3774.956682
3774.274690	3773.586377	3772.891565	3772.190066	3771.481683
3770.766210	3770.043428	3769.313110	3768.575014	3767.828887
3767.074461	3766.311452	3765.539561	3764.758470	

Row 41

3795.682399	3795.149076	3794.612748	3794.073361	3793.530865
3792.985203	3792.436320	3791.884159	3791.328659	3790.769760
3790.207399	3789.641509	3789.072025	3788.498875	3787.921990
3787.341295	3786.756713	3786.168165	3785.575569	3784.978841
3784.377893	3783.772634	3783.162970	3782.548804	3781.930034
3781.306555	3780.678258	3780.045029	3779.406751	3778.763300
3778.114550	3777.460366	3776.800610	3776.135137	3775.463796
3774.786428	3774.102869	3773.412946	3772.716477	3772.013272
3771.303133	3770.585849	3769.861202	3769.128958	3768.388875
3767.640695	3766.884146	3766.118941	3765.344776	

Row 42

3796.080185	3795.549082	3795.015012	3794.477922	3793.937762
3793.394477	3792.848014	3792.298316	3791.745324	3791.188978
3790.629218	3790.065979	3789.499195	3788.928799	3788.354721
3787.776888	3787.195227	3786.609658	3786.020104	3785.426482
3784.828705	3784.226686	3783.620332	3783.009550	3782.394240
3781.774300	3781.149625	3780.520103	3779.885621	3779.246058
3778.601292	3777.951193	3777.295627	3776.634453	3775.967524
3775.294689	3774.615786	3773.930649	3773.239103	3772.540965
3771.836043	3771.124134	3770.405027	3769.678499	3768.944315
3768.202228	3767.451978	3766.693288	3765.925868	

Row 43

3796.476330	3795.947421	3795.415580	3794.880757	3794.342904
3793.801966	3793.257890	3792.710622	3792.160104	3791.606278
3791.049083	3790.488457	3789.924337	3789.356654	3788.785343
3788.210331	3787.631546	3787.048913	3786.462354	3785.871789
3785.277133	3784.678302	3784.075206	3783.467752	3782.855845

3782.239385	3781.618269	3780.992390	3780.361637	3779.725893
3779.085040	3778.438950	3777.787494	3777.130536	3776.467935
3775.799541	3775.125201	3774.444753	3773.758027	3773.064848
3772.365028	3771.658375	3770.944683	3770.223739	3769.495315
3768.759175	3768.015069	3767.262731	3766.501882	

Row 44

3796.870856	3796.344112	3795.814473	3795.281890	3794.746313
3794.207692	3793.665973	3793.121103	3792.573026	3792.021685
3791.467021	3790.908973	3790.347477	3789.782471	3789.213886
3788.641654	3788.065704	3787.485963	3786.902353	3786.314798
3785.723216	3785.127523	3784.527632	3783.923453	3783.314893
3782.701855	3782.084239	3781.461940	3780.834850	3780.202858
3779.565846	3778.923692	3778.276271	3777.623450	3776.965092
3776.301053	3775.631185	3774.955330	3774.273325	3773.585000
3772.890175	3772.188663	3771.480266	3770.764778	3770.041981
3769.311648	3768.573536	3767.827393	3767.072950	

Row 45

3797.263781	3796.739177	3796.211713	3795.681341	3795.148012
3794.611678	3794.072285	3793.529783	3792.984115	3792.435226
3791.883058	3791.327552	3790.768646	3790.206277	3789.640380
3789.070889	3788.497732	3787.920839	3787.340136	3786.755546
3786.166990	3785.574386	3784.977650	3784.376693	3783.771426
3783.161753	3782.547577	3781.928798	3781.305309	3780.677002
3780.043764	3779.405475	3778.762014	3778.113253	3777.459058
3776.799291	3776.133806	3775.462453	3774.785073	3774.101502
3773.411565	3772.715083	3772.011865	3771.301711	3770.584414
3769.859751	3769.127492	3768.387393	3767.639197	

Row 46

3797.655125	3797.132635	3796.607319	3796.079131	3795.548023
3795.013946	3794.476850	3793.936684	3793.393394	3792.846924
3792.297219	3791.744221	3791.187869	3790.628102	3790.064855
3789.498065	3788.927661	3788.353576	3787.775735	3787.194066
3786.608490	3786.018928	3785.425297	3784.827511	3784.225484
3783.619121	3783.008330	3782.393011	3781.773062	3781.148377
3780.518845	3779.884353	3779.244780	3778.600004	3777.949894
3777.294316	3776.633131	3775.966191	3775.293343	3774.614428
3773.929279	3773.237720	3772.539568	3771.834632	3771.122709
3770.403587	3769.677044	3768.942845	3768.200742	

Row 47

3798.044907	3797.524505	3797.001311	3796.475280	3795.946365
3795.414518	3794.879690	3794.341831	3793.800887	3793.256805
3792.709531	3792.159006	3791.605173	3791.047972	3790.487339
3789.923211	3789.355522	3788.784203	3788.209184	3787.630391
3787.047750	3786.461183	3785.870610	3785.275946	3784.677107
3784.074002	3783.466539	3782.854623	3782.238154	3781.617029
3780.991140	3780.360377	3779.724623	3779.083759	3778.437658
3777.786192	3777.129223	3776.466610	3775.798204	3775.123852
3774.443391	3773.756653	3773.063461	3772.363628	3771.656961
3770.943255	3770.222295	3769.493857	3768.757701	

Row 48

3798.433146	3797.914807	3797.393710	3796.869810	3796.343061
3795.813416	3795.280827	3794.745245	3794.206617	3793.664892
3793.120016	3792.571933	3792.020585	3791.465914	3790.907859
3790.346357	3789.781344	3789.212751	3788.640512	3788.064555

3787.484805	3786.901189	3786.313626	3785.722035	3785.126334
3784.526434	3783.922247	3783.313678	3782.700630	3782.083005
3781.460696	3780.833597	3780.201595	3779.564572	3778.922409
3778.274977	3777.622145	3776.963775	3776.299725	3775.629845
3774.953978	3774.271961	3773.583623	3772.888785	3772.187259
3771.478848	3770.763345	3770.040534	3769.310185	

Row 49

3798.819859	3798.303560	3797.784534	3797.262739	3796.738130
3796.210660	3795.680282	3795.146948	3794.610608	3794.071209
3793.528700	3792.983026	3792.434131	3791.881956	3791.326443
3790.767531	3790.205155	3789.639251	3789.069752	3788.496588
3787.919688	3787.338977	3786.754379	3786.165815	3785.573203
3784.976458	3784.375493	3783.770217	3783.160535	3782.546350
3781.927562	3781.304063	3780.675747	3780.042498	3779.404199
3778.760728	3778.111956	3777.457750	3776.797971	3776.132475
3775.461110	3774.783718	3774.100134	3773.410185	3772.713689
3772.010457	3771.300290	3770.582978	3769.858300	

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Concentration Contour Matrix

Maximum Concentration = 1.153467e+003

CONTOUR GRID -----

Row 1

1.000000e-008	1.183621e-008	1.000000e-008	1.000000e-008	3.262321e-008
2.701096e-006	3.091745e-006	1.000000e-008	1.000000e-008	2.178511e-005
4.754692e-004	1.036628e-003	1.810304e-004	1.000000e-008	2.602608e-003
5.579480e-002	2.409618e-001	6.748501e-001	1.451765e+000	2.561259e+000
3.831415e+000	4.953984e+000	5.600774e+000	5.573250e+000	4.895336e+000
3.793459e+000	2.582138e+000	1.529210e+000	7.737314e-001	3.226292e-001
1.018409e-001	1.763064e-002	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.376803e-004	7.726525e-005	1.155047e-005	1.000000e-008
1.000000e-008	1.000000e-008	3.658724e-007	1.653567e-007	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 2

1.000000e-008	1.207095e-008	1.000000e-008	1.000000e-008	8.892503e-007
4.098437e-006	1.000000e-008	1.000000e-008	1.000000e-008	1.888663e-004
8.524215e-004	1.068595e-003	1.000000e-008	1.000000e-008	1.821859e-002
1.288106e-001	4.455139e-001	1.102689e+000	2.170821e+000	3.564706e+000
5.010654e+000	6.122007e+000	6.561369e+000	6.198925e+000	5.169645e+000
3.797670e+000	2.441927e+000	1.357099e+000	6.363316e-001	2.393752e-001
6.300473e-002	4.652468e-003	1.000000e-008	1.000000e-008	1.000000e-008
6.430147e-005	1.448929e-004	4.896299e-005	1.000000e-008	1.000000e-008
1.000000e-008	2.021386e-007	3.584034e-007	7.870069e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 3

1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	2.666760e-006
3.932172e-006	1.000000e-008	1.000000e-008	1.584770e-005	5.939749e-004
1.434380e-003	5.457952e-004	1.000000e-008	1.288104e-003	6.774259e-002
3.150207e-001	9.196176e-001	2.040856e+000	3.695836e+000	5.658275e+000
7.473324e+000	8.619435e+000	8.742611e+000	7.823762e+000	6.176579e+000
4.285351e+000	2.590320e+000	1.341636e+000	5.764853e-001	1.909924e-001

3.809208e-002	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.992237e-004	1.319452e-004	2.426243e-005	1.000000e-008	1.000000e-008
1.000000e-008	5.462548e-007	2.777316e-007	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 4

1.000000e-008	1.000000e-008	1.000000e-008	8.883019e-007	4.938214e-006
1.000000e-008	1.000000e-008	1.000000e-008	2.801360e-004	1.330609e-003
1.819931e-003	1.000000e-008	1.000000e-008	2.430585e-002	1.978269e-001
7.174792e-001	1.831933e+000	3.696619e+000	6.200738e+000	8.884278e+000
1.104829e+001	1.203997e+001	1.155805e+001	9.790825e+000	7.306273e+000
4.775485e+000	2.702295e+000	1.295060e+000	5.026031e-001	1.408187e-001
1.582848e-002	1.000000e-008	1.000000e-008	1.000000e-008	3.016401e-005
2.609369e-004	9.753530e-005	1.923024e-006	1.000000e-008	1.000000e-008
2.580702e-007	6.319701e-007	1.454850e-007	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 5

1.000000e-008	1.000000e-008	1.000000e-008	2.913144e-006	5.171894e-006
1.000000e-008	1.000000e-008	2.222586e-005	8.987238e-004	2.295748e-003
1.053163e-003	1.000000e-008	1.000000e-008	9.839620e-002	4.970443e-001
1.510839e+000	3.450719e+000	6.397423e+000	9.996788e+000	1.344989e+001
1.578030e+001	1.626625e+001	1.478409e+001	1.185035e+001	8.348991e+000
5.128818e+000	2.705237e+000	1.189519e+000	4.086825e-001	8.971944e-002
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	3.259181e-004
2.514820e-004	5.218690e-005	1.000000e-008	1.000000e-008	1.000000e-008
9.431807e-007	5.037305e-007	1.361653e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 6

1.000000e-008	1.000000e-008	7.533401e-007	5.550407e-006	1.000000e-008
1.000000e-008	1.000000e-008	3.927614e-004	1.982145e-003	2.891380e-003
1.000000e-008	1.000000e-008	2.789080e-002	2.906555e-001	1.120732e+000
2.967419e+000	6.154728e+000	1.056455e+001	1.544779e+001	1.957012e+001
2.169844e+001	2.117432e+001	1.822353e+001	1.381423e+001	9.175257e+000
5.282313e+000	2.583010e+000	1.030152e+000	3.033938e-001	4.289913e-002
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	4.652279e-004
1.907266e-004	9.292686e-006	1.000000e-008	1.000000e-008	3.025242e-007
1.118778e-006	2.666271e-007	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 7

1.000000e-008	1.000000e-008	2.649657e-006	6.211747e-006	1.000000e-008
1.000000e-008	2.207312e-005	1.235917e-003	3.349521e-003	1.654702e-003
1.000000e-008	1.000000e-008	1.275738e-001	7.261233e-001	2.320183e+000
5.479513e+000	1.043174e+001	1.667594e+001	2.289773e+001	2.737325e+001
2.871716e+001	2.654368e+001	2.162904e+001	1.549152e+001	9.681040e+000
5.203986e+000	2.341946e+000	8.328596e-001	1.980619e-001	4.890441e-003
1.000000e-008	1.000000e-008	1.000000e-008	4.926418e-004	4.612832e-004
1.071678e-004	1.000000e-008	1.000000e-008	1.000000e-008	1.575027e-006
8.963947e-007	3.212672e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 8

1.000000e-008	4.236744e-007	5.203196e-006	1.000000e-008	1.000000e-008
1.000000e-008	4.875112e-004	2.667919e-003	4.114265e-003	1.000000e-008
1.000000e-008	2.249448e-002	3.873543e-001	1.617400e+000	4.470960e+000
9.568458e+000	1.685290e+001	2.520420e+001	3.258860e+001	3.682425e+001
3.658578e+001	3.203773e+001	2.470487e+001	1.669642e+001	9.791596e+000

4.890274e+000	2.004805e+000	6.187245e-001	1.034250e-001	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	7.854175e-004	3.575197e-004
2.770485e-005	1.000000e-008	1.000000e-008	1.907925e-007	1.916487e-006
4.813218e-007	1.000000e-008	1.000000e-008	1.000000e-008	1.071234e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 9

1.000000e-008	1.661970e-006	6.246558e-006	1.000000e-008	1.000000e-008
8.929974e-006	1.518875e-003	4.403917e-003	2.196743e-003	1.000000e-008
1.000000e-008	1.430579e-001	9.705454e-001	3.296358e+000	8.090754e+000
1.586804e+001	2.601271e+001	3.652565e+001	4.456857e+001	4.766271e+001
4.487027e+001	3.722113e+001	2.713867e+001	1.727492e+001	9.474382e+000
4.367215e+000	1.606765e+000	4.100676e-001	2.768253e-002	1.000000e-008
1.000000e-008	1.000000e-008	6.545496e-004	8.055739e-004	2.095892e-004
1.000000e-008	1.000000e-008	1.000000e-008	2.495590e-006	1.548959e-006
7.515706e-008	1.000000e-008	1.000000e-008	1.200450e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 10

1.000000e-008	3.391517e-006	8.113043e-007	1.000000e-008	1.000000e-008
5.264756e-004	3.219075e-003	5.248639e-003	1.000000e-008	1.000000e-008
2.184730e-003	4.632481e-001	2.145825e+000	6.239274e+000	1.383350e+001
2.506995e+001	3.843014e+001	5.080692e+001	5.860411e+001	5.936769e+001
5.297022e+001	4.160577e+001	2.864746e+001	1.713316e+001	8.747721e+000
3.687399e+000	1.189553e+000	2.265677e-001	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.243130e-003	6.383137e-004	6.789328e-005
1.000000e-008	1.000000e-008	1.000000e-008	3.152701e-006	8.476014e-007
1.000000e-008	1.000000e-008	1.000000e-008	1.742573e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 11

1.000000e-008	4.355541e-006	1.000000e-008	1.000000e-008	1.000000e-008
1.649557e-003	5.197349e-003	2.532585e-003	1.000000e-008	1.000000e-008
1.318792e-001	1.179982e+000	4.316921e+000	1.107223e+001	2.244529e+001
3.782358e+001	5.441660e+001	6.788706e+001	7.411817e+001	7.116489e+001
6.017471e+001	4.471809e+001	2.902674e+001	1.625822e+001	7.680678e+000
2.921739e+000	7.943057e-001	8.207303e-002	1.000000e-008	1.000000e-008
1.000000e-008	7.001904e-004	1.330917e-003	3.880196e-004	1.000000e-008
1.000000e-008	1.000000e-008	3.717923e-006	2.580238e-006	1.656122e-007
1.000000e-008	1.000000e-008	1.887531e-008	1.409691e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 12

1.000000e-008	1.684495e-006	1.000000e-008	1.000000e-008	4.833428e-004
3.452712e-003	6.014357e-003	1.000000e-008	1.000000e-008	1.000000e-008
4.903027e-001	2.606021e+000	8.037931e+000	1.854114e+001	3.467091e+001
5.459280e+001	7.392918e+001	8.718278e+001	9.017840e+001	8.208699e+001
6.575301e+001	4.617627e+001	2.819131e+001	1.472552e+001	6.383098e+000
2.147547e+000	4.547479e-001	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.826335e-003	1.079043e-003	1.460555e-004	1.000000e-008
1.000000e-008	1.000000e-008	4.950264e-006	1.441708e-006	1.000000e-008
1.000000e-008	1.000000e-008	2.729404e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 13

1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.558662e-003
5.474932e-003	2.616614e-003	1.000000e-008	1.000000e-008	8.660031e-002
1.296157e+000	5.192125e+000	1.399878e+001	2.943259e+001	5.110969e+001
7.548653e+001	9.644056e+001	1.076488e+002	1.055540e+002	9.108699e+001

6.906683e+001	4.576113e+001	2.619750e+001	1.268950e+001	4.987565e+000
1.435605e+000	1.922597e-001	1.000000e-008	1.000000e-008	1.000000e-008
4.206056e-004	2.067906e-003	6.764773e-004	1.000000e-008	1.000000e-008
1.000000e-008	5.156055e-006	4.116042e-006	3.376167e-007	1.000000e-008
1.000000e-008	2.804780e-008	2.177580e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 14

1.000000e-008	1.000000e-008	1.000000e-008	3.631028e-004	3.249430e-003
6.190277e-003	1.000000e-008	1.000000e-008	1.000000e-008	4.493940e-001
2.883718e+000	9.526564e+000	2.296543e+001	4.443964e+001	7.203397e+001
1.000960e+002	1.208645e+002	1.278206e+002	1.188464e+002	9.719005e+001
6.968225e+001	4.346374e+001	2.323985e+001	1.035909e+001	3.627209e+000
8.392037e-001	1.388965e-002	1.000000e-008	1.000000e-008	1.000000e-008
2.460527e-003	1.718124e-003	2.828415e-004	1.000000e-008	1.000000e-008
1.000000e-008	7.377687e-006	2.348509e-006	1.000000e-008	1.000000e-008
1.000000e-008	4.098824e-008	1.051823e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 15

1.000000e-008	1.000000e-008	1.000000e-008	1.247585e-003	5.093379e-003
2.525004e-003	1.000000e-008	1.000000e-008	1.220877e-002	1.275883e+000
5.712811e+000	1.629645e+001	3.566535e+001	6.398161e+001	9.720189e+001
1.273826e+002	1.455739e+002	1.459536e+002	1.286811e+002	9.965634e+001
6.745582e+001	3.949679e+001	1.962149e+001	7.962828e+000	2.414459e+000
3.875781e-001	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
3.004986e-003	1.105822e-003	1.000000e-008	1.000000e-008	1.000000e-008
6.573346e-006	6.250982e-006	6.340334e-007	1.000000e-008	1.000000e-008
3.927757e-008	3.240091e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 16

1.000000e-008	1.000000e-008	2.065491e-004	2.618790e-003	5.688707e-003
1.000000e-008	1.000000e-008	1.000000e-008	3.429289e-001	2.892835e+000
1.034957e+001	2.619911e+001	5.262203e+001	8.800542e+001	1.257110e+002
1.556625e+002	1.685347e+002	1.602480e+002	1.339274e+002	9.811955e+001
6.257291e+001	3.426452e+001	1.570400e+001	5.711786e+000	1.425483e+000
8.487442e-002	1.000000e-008	1.000000e-008	1.000000e-008	2.989792e-003
2.565141e-003	4.986612e-004	1.000000e-008	1.000000e-008	1.000000e-008
1.038421e-005	3.637766e-006	1.000000e-008	1.000000e-008	1.000000e-008
5.877280e-008	1.551270e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 17

1.000000e-008	1.000000e-008	7.989631e-004	4.090347e-003	2.353525e-003
1.000000e-008	1.000000e-008	1.000000e-008	1.114143e+000	5.726435e+000
1.740539e+001	3.980213e+001	7.396012e+001	1.158138e+002	1.559446e+002
1.827206e+002	1.875518e+002	1.691253e+002	1.339008e+002	9.266718e+001
5.552603e+001	2.829678e+001	1.184807e+001	3.768446e+000	6.934061e-001
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	4.062695e-003
1.688684e-003	5.400411e-005	1.000000e-008	1.000000e-008	7.570146e-006
8.991513e-006	1.096355e-006	1.000000e-008	1.000000e-008	5.167760e-008
4.618056e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 18

1.000000e-008	7.123609e-005	1.710672e-003	4.573232e-003	1.000000e-008
1.000000e-008	1.000000e-008	1.987357e-001	2.616565e+000	1.026619e+001

2.742881e+001	5.736711e+001	9.922232e+001	1.459754e+002	1.856531e+002
2.060597e+002	2.005936e+002	1.715019e+002	1.285014e+002	8.383998e+001
4.703566e+001	2.216129e+001	8.358192e+000	2.228154e+000	2.108530e-001
1.000000e-008	1.000000e-008	1.000000e-008	3.189879e-003	3.576712e-003
8.046482e-004	1.000000e-008	1.000000e-008	1.000000e-008	1.374227e-005
5.326097e-006	1.000000e-008	1.000000e-008	1.000000e-008	8.016425e-008
2.197811e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 19

1.000000e-008	3.432257e-004	2.684879e-003	2.088395e-003	1.000000e-008
1.000000e-008	1.000000e-008	8.520463e-001	5.206467e+000	1.698962e+001
4.075887e+001	7.867080e+001	1.272512e+002	1.763657e+002	2.121868e+002
2.232561e+002	2.061334e+002	1.669959e+002	1.182493e+002	7.254721e+001
3.793061e+001	1.637441e+001	5.443509e+000	1.115884e+000	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	5.084608e-003	2.401302e-003
1.553467e-004	1.000000e-008	1.000000e-008	7.653265e-006	1.219551e-005
1.745712e-006	1.000000e-008	1.000000e-008	6.371132e-008	6.272682e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 20

1.000000e-008	7.611695e-004	3.042199e-003	1.000000e-008	1.000000e-008
1.000000e-008	5.967788e-002	2.121739e+000	9.259275e+000	2.625054e+001
5.736483e+001	1.028717e+002	1.561884e+002	2.043647e+002	2.328579e+002
2.323554e+002	2.034312e+002	1.560160e+002	1.042069e+002	5.991510e+001
2.901486e+001	1.132953e+001	3.201518e+000	3.969605e-001	1.000000e-008
1.000000e-008	1.000000e-008	2.830710e-003	4.641518e-003	1.191091e-003
1.000000e-008	1.000000e-008	1.000000e-008	1.703474e-005	7.333732e-006
1.000000e-008	1.000000e-008	1.000000e-008	1.036680e-007	2.968806e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 21

1.000000e-008	1.209739e-003	1.610998e-003	1.000000e-008	1.000000e-008
1.000000e-008	5.610528e-001	4.273691e+000	1.509241e+001	3.814756e+001
7.671244e+001	1.284737e+002	1.836251e+002	2.271999e+002	2.453696e+002
2.322254e+002	1.926877e+002	1.397060e+002	8.780140e+001	4.710286e+001
2.095057e+001	7.257275e+000	1.625371e+000	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	5.861689e-003	3.170553e-003	3.007303e-004
1.000000e-008	1.000000e-008	6.405855e-006	1.553805e-005	2.558846e-006
1.000000e-008	1.000000e-008	7.349358e-008	8.081982e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 22

1.000000e-008	1.401223e-003	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.533267e+000	7.558205e+000	2.286677e+001	5.240310e+001
9.770274e+001	1.534238e+002	2.069019e+002	2.423786e+002	2.482220e+002
2.227783e+002	1.750271e+002	1.197533e+002	7.058818e+001	3.512774e+001
1.418100e+001	4.221804e+000	6.292578e-001	1.000000e-008	1.000000e-008
1.000000e-008	1.781590e-003	5.588758e-003	1.618440e-003	1.000000e-008
1.000000e-008	1.000000e-008	1.972068e-005	9.456046e-006	1.000000e-008
1.000000e-008	1.000000e-008	1.267649e-007	3.797428e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 23

1.000000e-008	8.657242e-004	1.000000e-008	1.000000e-008	1.000000e-008

3.106294e-001	3.150741e+000	1.214313e+001	3.248770e+001	6.829128e+001
1.187219e+002	1.753537e+002	2.235144e+002	2.481219e+002	2.409983e+002
2.050065e+002	1.523090e+002	9.810506e+001	5.400882e+001	2.473555e+001
8.904749e+000	2.148461e+000	8.284552e-002	1.000000e-008	1.000000e-008
1.000000e-008	6.194047e-003	3.876824e-003	4.763209e-004	1.000000e-008
1.000000e-008	3.716061e-006	1.853704e-005	3.449696e-006	1.000000e-008
1.000000e-008	7.939278e-008	9.836477e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 24

1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
9.810559e-001	5.553334e+000	1.804050e+001	4.353447e+001	8.464958e+001
1.378170e+002	1.919324e+002	2.315432e+002	2.436973e+002	2.244589e+002
1.808162e+002	1.268112e+002	7.665759e+001	3.919584e+001	1.633899e+001
5.099167e+000	8.708466e-001	1.000000e-008	1.000000e-008	1.000000e-008
1.160129e-004	6.227396e-003	2.017845e-003	1.000000e-008	1.000000e-008
1.000000e-008	2.128194e-005	1.137458e-005	1.000000e-008	1.000000e-008
1.000000e-008	1.462763e-007	4.570980e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 25

1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.394425e-001
2.072563e+000	8.797452e+000	2.504668e+001	5.524736e+001	9.999316e+001
1.529797e+002	2.012618e+002	2.300092e+002	2.295687e+002	2.004143e+002
1.526975e+002	1.008572e+002	5.698658e+001	2.686013e+001	1.002659e+001
2.578733e+000	1.829306e-001	1.000000e-008	1.000000e-008	1.000000e-008
5.970571e-003	4.379374e-003	6.522412e-004	1.000000e-008	1.000000e-008
1.000000e-008	2.065475e-005	4.271117e-006	1.000000e-008	1.000000e-008
8.071001e-008	1.126697e-007	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 26

1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	5.510460e-001
3.645465e+000	1.281127e+001	3.271804e+001	6.659136e+001	1.127238e+002
1.624834e+002	2.022255e+002	2.190655e+002	2.073195e+002	1.714063e+002
1.233074e+002	7.647260e+001	4.017108e+001	1.727275e+001	5.627783e+000
1.068586e+000	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
6.407468e-003	2.305898e-003	1.000000e-008	1.000000e-008	1.000000e-008
2.140205e-005	1.272237e-005	1.000000e-008	1.000000e-008	1.000000e-008
1.590823e-007	5.148085e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 27

1.000000e-008	1.000000e-008	1.000000e-008	4.760663e-002	1.203752e+000
5.692773e+000	1.736913e+001	4.039882e+001	7.639632e+001	1.213958e+002
1.651993e+002	1.947036e+002	1.999746e+002	1.793687e+002	1.402728e+002
9.506282e+001	5.513853e+001	2.673493e+001	1.032839e+001	2.808640e+000
2.738667e-001	1.000000e-008	1.000000e-008	1.000000e-008	5.226663e-003
4.559809e-003	7.891003e-004	1.000000e-008	1.000000e-008	1.000000e-008
2.145364e-005	4.846695e-006	1.000000e-008	1.000000e-008	7.804474e-008
1.210586e-007	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 28

1.000000e-008 1.000000e-008 1.000000e-008 2.672541e-001 2.112475e+000
8.119342e+000 2.209813e+001 4.730529e+001 8.354971e+001 1.249803e+002
1.608122e+002 1.795981e+002 1.748762e+002 1.485458e+002 1.096979e+002
6.982715e+001 3.768257e+001 1.669755e+001 5.660418e+000 1.170736e+000
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 6.077751e-003
2.411294e-003 1.000000e-008 1.000000e-008 1.000000e-008 2.009022e-005
1.319243e-005 5.246403e-008 1.000000e-008 1.000000e-008 1.629686e-007
5.395556e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008

Row 29

1.000000e-008 1.000000e-008 1.070123e-002 6.044730e-001 3.247848e+000
1.073855e+001 2.652222e+001 5.265334e+001 8.719972e+001 1.230610e+002
1.498797e+002 1.586608e+002 1.464011e+002 1.176281e+002 8.184487e+001
4.874487e+001 2.430482e+001 9.701498e+000 2.771461e+000 3.317138e-001
1.000000e-008 1.000000e-008 1.000000e-008 4.141999e-003 4.366531e-003
8.514290e-004 1.000000e-008 1.000000e-008 1.000000e-008 2.074531e-005
5.027869e-006 1.000000e-008 1.000000e-008 7.302050e-008 1.216579e-007
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008

Row 30

1.000000e-008 1.000000e-008 1.070258e-001 1.055830e+000 4.530444e+000
1.329160e+001 3.013848e+001 5.580176e+001 8.691822e+001 1.159127e+002
1.337212e+002 1.341680e+002 1.172275e+002 8.894329e+001 5.813908e+001
3.223372e+001 1.470790e+001 5.172730e+000 1.148329e+000 1.000000e-008

1.000000e-008 1.000000e-008 1.000000e-008 5.309388e-003 2.302685e-003
3.224448e-005 1.000000e-008 1.000000e-008 1.767527e-005 1.264848e-005
1.781428e-007 1.000000e-008 1.000000e-008 1.572526e-007 5.234394e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008

Row 31

1.000000e-008 8.971095e-004 2.492513e-001 1.594443e+000 5.836982e+000
1.548798e+001 3.250922e+001 5.637569e+001 8.278147e+001 1.044411e+002
1.141642e+002 1.085241e+002 8.968040e+001 6.411171e+001 3.922041e+001
2.010512e+001 8.280044e+000 2.471915e+000 3.421601e-001 1.000000e-008
1.000000e-008 1.000000e-008 2.970871e-003 3.837735e-003 8.222946e-004
1.000000e-008 1.000000e-008 1.000000e-008 1.866102e-005 4.753503e-006
1.000000e-008 1.000000e-008 6.740248e-008 1.140464e-007 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008

Row 32

1.000000e-008 3.001008e-002 4.312781e-001 2.170763e+000 7.018894e+000
1.705878e+001 3.334697e+001 5.433802e+001 7.534783e+001 9.000140e+001
9.321465e+001 8.388644e+001 6.545396e+001 4.396151e+001 2.504328e+001
1.175925e+001 4.280154e+000 1.008579e+000 8.516364e-003 1.000000e-008
1.000000e-008 1.000000e-008 4.270263e-003 2.003285e-003 6.196214e-005
1.000000e-008 1.000000e-008 1.466435e-005 1.118406e-005 2.139351e-007
1.000000e-008 1.000000e-008 1.429152e-007 4.674925e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008

Row 33

1.000000e-008	7.109001e-002	6.375658e-001	2.719549e+000	7.929596e+000
1.780949e+001	3.257005e+001	4.999038e+001	6.554021e+001	7.414466e+001
7.273107e+001	6.189039e+001	4.549672e+001	2.860016e+001	1.507037e+001
6.395875e+000	1.986733e+000	3.066061e-001	1.000000e-008	1.000000e-008
1.000000e-008	1.940364e-003	3.089173e-003	7.111089e-004	1.000000e-008
1.000000e-008	1.000000e-008	1.560560e-005	4.080673e-006	1.000000e-008
1.000000e-008	6.210014e-008	9.946337e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 34

1.000000e-008	1.210922e-001	8.450432e-001	3.171816e+000	8.453650e+000
1.765826e+001	3.031419e+001	4.390497e+001	5.446584e+001	5.835520e+001
5.417339e+001	4.351736e+001	3.005184e+001	1.759335e+001	8.496727e+000
3.193899e+000	7.918972e-001	2.477807e-002	1.000000e-008	1.000000e-008
1.000000e-008	3.162546e-003	1.583157e-003	6.713599e-005	1.000000e-008
1.000000e-008	1.154677e-005	9.096052e-006	1.660034e-007	1.000000e-008
1.000000e-008	1.222158e-007	3.821540e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 35

1.000000e-008	1.745731e-001	1.027294e+000	3.468762e+000	8.529939e+000
1.664950e+001	2.689836e+001	3.680740e+001	4.322048e+001	4.383813e+001
3.846811e+001	2.910595e+001	1.881019e+001	1.018759e+001	4.450758e+000
1.433156e+000	2.405135e-001	1.000000e-008	1.000000e-008	1.000000e-008
1.173745e-003	2.271832e-003	5.496549e-004	1.000000e-008	1.000000e-008
1.000000e-008	1.211857e-005	3.166694e-006	1.000000e-008	1.000000e-008
5.673582e-008	8.045289e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 36

1.000000e-008	2.246540e-001	1.159972e+000	3.573842e+000	8.162605e+000
1.493993e+001	2.275565e+001	2.944231e+001	3.272278e+001	3.139554e+001
2.599696e+001	1.847284e+001	1.111681e+001	5.519522e+000	2.138656e+000
5.539225e-001	2.714345e-002	1.000000e-008	1.000000e-008	1.000000e-008
2.156439e-003	1.132428e-003	5.446962e-005	1.000000e-008	1.000000e-008
8.655448e-006	6.782499e-006	7.242925e-008	1.000000e-008	1.000000e-008
9.803139e-008	2.840694e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 37

1.000000e-008	2.644539e-001	1.225935e+000	3.479680e+000	7.417218e+000
1.276211e+001	1.834883e+001	2.245434e+001	2.361054e+001	2.140101e+001
1.668420e+001	1.109123e+001	6.174000e+000	2.773928e+000	9.228651e-001
1.653177e-001	1.000000e-008	1.000000e-008	1.000000e-008	6.775595e-004
1.521215e-003	3.783296e-004	1.000000e-008	1.000000e-008	1.000000e-008
8.712921e-006	2.209214e-006	1.000000e-008	1.000000e-008	5.012929e-008
6.009492e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 38

1.000000e-008	2.885831e-001	1.218640e+000	3.208093e+000	6.404024e+000
1.037653e+001	1.409219e+001	1.630892e+001	1.620972e+001	1.385637e+001
1.013995e+001	6.274522e+000	3.201414e+000	1.276413e+000	3.431898e-001
2.137651e-002	1.000000e-008	1.000000e-008	1.000000e-008	1.351156e-003
7.295092e-004	3.476121e-005	1.000000e-008	1.000000e-008	6.146930e-006
4.614644e-006	1.000000e-008	1.000000e-008	1.000000e-008	7.323604e-008
1.905278e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 39

1.000000e-008	2.942618e-001	1.142924e+000	2.803669e+000	5.253685e+000
8.024896e+000	1.029628e+001	1.126251e+001	1.056681e+001	8.498411e+000
5.814823e+000	3.326778e+000	1.535722e+000	5.262580e-001	9.911783e-002
1.000000e-008	1.000000e-008	1.000000e-008	3.853132e-004	9.221444e-004
2.304780e-004	1.000000e-008	1.000000e-008	1.000000e-008	5.760886e-006
1.375509e-006	1.000000e-008	1.000000e-008	4.137906e-008	4.116253e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 40

1.000000e-008	2.817592e-001	1.013131e+000	2.323153e+000	4.092323e+000
5.895263e+000	7.143600e+000	7.377897e+000	6.522053e+000	4.919842e+000
3.131297e+000	1.641117e+000	6.721238e-001	1.865092e-001	1.331562e-002
1.000000e-008	1.000000e-008	1.000000e-008	7.728191e-004	4.198951e-004
1.718026e-005	1.000000e-008	1.000000e-008	4.069560e-006	2.841463e-006
1.000000e-008	1.000000e-008	1.000000e-008	5.029322e-008	1.141534e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 41

1.000000e-008	2.540785e-001	8.493418e-001	1.823836e+000	3.021898e+000
4.104731e+000	4.693677e+000	4.570104e+000	3.796960e+000	2.675590e+000
1.573175e+000	7.454121e-001	2.622966e-001	5.124265e-002	1.000000e-008
1.000000e-008	1.000000e-008	2.168467e-004	5.006148e-004	1.230101e-004
1.000000e-008	1.000000e-008	1.000000e-008	3.455039e-006	7.561872e-007
1.000000e-008	1.000000e-008	3.074924e-008	2.553170e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 42

1.000000e-008	2.160515e-001	6.729229e-001	1.353915e+000	2.109394e+000
2.699489e+000	2.909013e+000	2.664750e+000	2.074025e+000	1.358030e+000
7.307143e-001	3.068487e-001	8.737028e-002	6.654309e-003	1.000000e-008
1.000000e-008	1.000000e-008	3.970094e-004	2.128097e-004	6.025474e-006
1.000000e-008	1.000000e-008	2.437854e-006	1.558706e-006	1.000000e-008
1.000000e-008	1.000000e-008	3.102864e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008

1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008

Row 43

1.000000e-008 1.731610e-001 5.026166e-001 9.466974e-001 1.385258e+000
1.667867e+000 1.690679e+000 1.453125e+000 1.055073e+000 6.374021e-001
3.096458e-001 1.115224e-001 2.229758e-002 1.000000e-008 1.000000e-008
1.000000e-008 1.153673e-004 2.379851e-004 5.640380e-005 1.000000e-008
1.000000e-008 1.000000e-008 1.829036e-006 3.601646e-007 1.000000e-008
1.000000e-008 1.971787e-008 1.399316e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008

Row 44

1.000000e-008 1.304349e-001 3.520045e-001 6.191315e-001 8.490688e-001
9.599218e-001 9.131689e-001 7.339066e-001 4.943794e-001 2.728977e-001
1.172614e-001 3.404997e-002 2.590117e-003 1.000000e-008 1.000000e-008
1.000000e-008 1.765241e-004 9.199537e-005 1.031286e-006 1.000000e-008
1.000000e-008 1.256558e-006 7.362686e-007 1.000000e-008 1.000000e-008
1.000000e-008 1.648219e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008

Row 45

1.000000e-008 9.167066e-002 2.286339e-001 3.738442e-001 4.791193e-001
5.074373e-001 4.517193e-001 3.380027e-001 2.097049e-001 1.043008e-001
3.831286e-002 7.727918e-003 1.000000e-008 1.000000e-008 1.000000e-008
5.260697e-005 9.391214e-005 2.120094e-005 1.000000e-008 1.000000e-008
3.574698e-008 8.054286e-007 1.421931e-007 1.000000e-008 1.000000e-008
1.019785e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008

Row 46

1.000000e-008 5.909530e-002 1.345809e-001 2.032301e-001 2.426400e-001
2.401294e-001 1.993400e-001 1.380930e-001 7.812022e-002 3.426862e-002
1.008096e-002 7.090792e-004 1.000000e-008 1.000000e-008 1.000000e-008
6.174786e-005 3.108940e-005 1.000000e-008 1.000000e-008 1.000000e-008

5.014677e-007 2.736346e-007 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008

Row 47

1.000000e-008 3.342043e-002 6.792868e-002 9.402022e-002 1.043164e-001
9.620781e-002 7.415723e-002 4.720819e-002 2.399994e-002 8.957444e-003
1.794245e-003 1.000000e-008 1.000000e-008 1.000000e-008 1.663200e-005
2.588022e-005 5.557275e-006 1.000000e-008 1.000000e-008 3.932139e-008
2.467663e-007 3.982816e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008
1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008 1.000000e-008

1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 48

1.000000e-008	1.415415e-002	2.458385e-002	3.111836e-002	3.203558e-002
2.744956e-002	1.953742e-002	1.131200e-002	5.053611e-003	1.495869e-003
8.717395e-005	1.000000e-008	1.000000e-008	1.000000e-008	1.112123e-005
5.430418e-006	1.000000e-008	1.000000e-008	1.000000e-008	1.007744e-007
5.272782e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 49

1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Particle Traces

Number of Particle-traces = 0

==========

WinTran
Analytical Model of 2D Ground-Water Flow and
Finite-Element Contaminant Transport Model

Developed by

James O. Rumbaugh, III

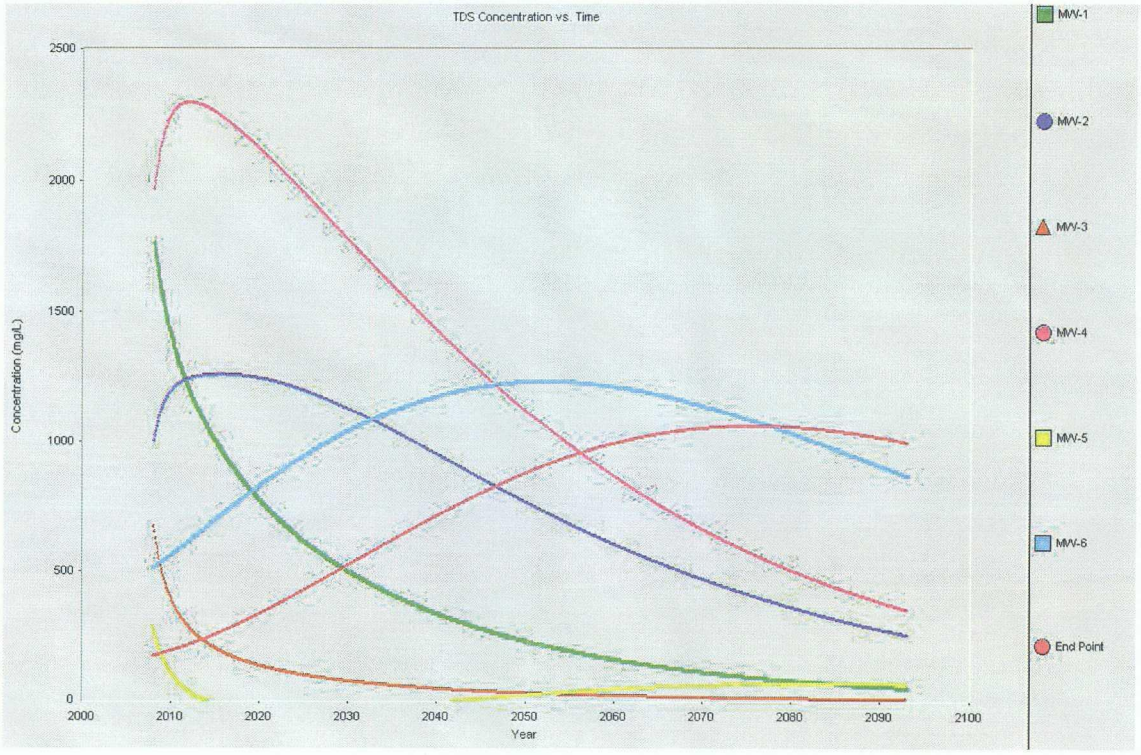
Douglas B. Rumbaugh

==========

Total Dissolved Solids Fate & Transport Simulation run by:
Gilbert Van Deventer (Trident Environmental)

Date: 10/04/2007
Time: 22:11:05.00

Input File: TDS 2007
Map File :



Model Entities

Number of Wells = 8

Monitoring Well #1
Center of Well -- x: 716.000000 y: 5281.000000
Radius = 1.000000
Pumping Rate = 0.000000
Concentration of Injected Water = 1790.000000
Head at Well Radius = 3793.961447

Monitoring Well #2
Center of Well -- x: 1041.670000 y: 4585.770000
Radius = 1.000000
Pumping Rate = 0.000000
Concentration of Injected Water = 984.000000
Head at Well Radius = 3790.910749

Monitoring Well #3
Center of Well -- x: 694.000000 y: 5954.000000
Radius = 1.000000
Pumping Rate = 0.000000
Concentration of Injected Water = 705.000000
Head at Well Radius = 3796.080137

Monitoring Well #4
Center of Well -- x: 1341.000000 y: 4747.000000
Radius = 1.000000
Pumping Rate = 0.000000
Concentration of Injected Water = 1940.000000
Head at Well Radius = 3790.622210

Monitoring Well #5
Center of Well -- x: 1829.000000 y: 4861.000000
Radius = 1.000000
Pumping Rate = 0.000000
Concentration of Injected Water = 296.000000
Head at Well Radius = 3789.667919

Monitoring Well #6
Center of Well -- x: 1948.000000 y: 4058.000000
Radius = 1.000000
Pumping Rate = 0.000000
Concentration of Injected Water = 516.000000
Head at Well Radius = 3786.685378

Well #7 (Windmill L-05339)
Center of Well -- x: 650.000000 y: 2081.000000
Radius = 1.000000
Pumping Rate = 10.000000
Concentration of Injected Water = 400.000000
Head at Well Radius = 3783.653777

Well #8 (Inactive Well L-053945)
Center of Well -- x: 4375.000000 y: 3275.550000
Radius = 1.000000
Pumping Rate = 0.000000
Concentration of Injected Water = 0.000000
Head at Well Radius = 3776.640294

Reference Head = 3795.000000 Defined at -- x: 619.470000 y: 5537.180000

==========

Aquifer Properties

.... Steady-State Flow Model ....

Permeability.....= 1000.000000 [L/T]
Porosity.....= 0.250000
Elevation of Aquifer Top....= 4000.000000
Elevation of Aquifer Bottom.= 3700.000000
Uniform Regional Gradient...= 0.004000
Angle of Uniform Gradient...= 310.000000
Recharge.....= 0.000000

.... Transient Transport Model ....

Longitudinal Dispersivity...= 150.000000 [L]
Transverse Dispersivity.....= 15.000000 [L]
Diffusion Coefficient.....= 0.000000 [L2/T]
Contaminant half-life..... = 1000.000000 [T]
Retardation Coefficient.....= 1.000000
Upstream Weighting in X.....= 0.000000
Upstream Weighting in Y.....= 0.000000

.... Time Stepping Information ....

Number of time steps.....= 850
Starting time value.....= 2008.000000
Initial time step size.....= 0.100000
Time step multiplier..... = 1.000000
Maximum time step size.....= 0.100000
Time stepping scheme.....= Central Differencing

.... Simulation Summary ....

Starting time.....= 2008.000000
Ending time.....= 2093.000000
Number of time steps.....= 850

(NOTE: following mass balance errors expressed as percent)
Transport Mass Balance Error= 1.991069

Peclet Criterion.....= 1.388889
Courant Number.....= 0.005043
Flow Model Type.....= Analytic Element

Head Contour Matrix

Number of nodes in the X-direction = 49
Number of nodes in the Y-direction = 49

Minimum X Coordinate = 0.000000
Minimum Y Coordinate = 0.000000

Maximum X Coordinate = 10000.000000
Maximum Y Coordinate = 6289.062500

Minimum Head = 3734.916227
Maximum Head = 3798.820413

CONTOUR GRID -----

Row 1

3778.128690	3777.474576	3776.814895	3776.149503	3775.478250
3774.800979	3774.117525	3773.427716	3772.731371	3772.028302
3771.318309	3770.601184	3769.876707	3769.144647	3768.404759
3767.656787	3766.900460	3766.135488	3765.361570	3764.578381
3763.785581	3762.982805	3762.169666	3761.345753	3760.510623
3759.663807	3758.804798	3757.933053	3757.047990	3756.148977
3755.235333	3754.306319	3753.361134	3752.398900	3751.418662
3750.419369	3749.399865	3748.358871	3747.294968	3746.206574
3745.091915	3743.948993	3742.775543	3741.568979	3740.326330
3739.044149	3737.718406	3736.344334	3734.916227	

Row 2

3778.615289	3777.965254	3777.309757	3776.648659	3775.981814
3775.309069	3774.630266	3773.945239	3773.253813	3772.555805
3771.851025	3771.139271	3770.420330	3769.693982	3768.959991
3768.218109	3767.468077	3766.709618	3765.942441	3765.166237
3764.380679	3763.585420	3762.780091	3761.964298	3761.137622
3760.299614	3759.449796	3758.587653	3757.712631	3756.824137
3755.921528	3755.004108	3754.071124	3753.121755	3752.155106
3751.170199	3750.165958	3749.141197	3748.094605	3747.024724
3745.929927	3744.808387	3743.658043	3742.476556	3741.261250
3740.009043	3738.716356	3737.378988	3735.991960	

Row 3

3779.098893	3778.452862	3777.801471	3777.144584	3776.482060
3775.813752	3775.139506	3774.459162	3773.772551	3773.079498
3772.379817	3771.673314	3770.959786	3770.239018	3769.510784
3768.774847	3768.030956	3767.278846	3766.518238	3765.748835
3764.970326	3764.182377	3763.384637	3762.576729	3761.758254

3760.928787	3760.087871	3759.235018	3758.369706	3757.491370
3756.599405	3755.693155	3754.771912	3753.834905	3752.881296
3751.910171	3750.920527	3749.911263	3748.881164	3747.828882
3746.752921	3745.651606	3744.523055	3743.365143	3742.175451
3740.951210	3739.689222	3738.385766	3737.036462	

Row 4

3779.579557	3778.937457	3778.290095	3777.637339	3776.979053
3776.315094	3775.645315	3774.969559	3774.287665	3773.599461
3772.904771	3772.203405	3771.495169	3770.779854	3770.057245
3769.327112	3768.589213	3767.843296	3767.089091	3766.326315
3765.554668	3764.773832	3763.983470	3763.183223	3762.372712
3761.551529	3760.719241	3759.875385	3759.019465	3758.150947
3757.269259	3756.373781	3755.463846	3754.538731	3753.597648
3752.639743	3751.664078	3750.669628	3749.655265	3748.619742
3747.561677	3746.479530	3745.371579	3744.235885	3743.070253
3741.872183	3740.638806	3739.366805	3738.052305	

Row 5

3780.057335	3779.419094	3778.775686	3778.126984	3777.472855
3776.813162	3776.147761	3775.476502	3774.799228	3774.115774
3773.425968	3772.729629	3772.026568	3771.316586	3770.599473
3769.875009	3769.142961	3768.403087	3767.655127	3766.898809
3766.133846	3765.359934	3764.576749	3763.783951	3762.981174
3762.168032	3761.344113	3760.508976	3759.662149	3758.803127
3757.931368	3757.046287	3756.147255	3755.233589	3754.304552
3753.359340	3752.397078	3751.416809	3750.417483	3749.397942
3748.356909	3747.292964	3746.204524	3745.089815	3743.946840
3742.773331	3741.566703	3740.323984	3739.041726	

Row 6

3780.532277	3779.897826	3779.258301	3778.613577	3777.963528
3777.308019	3776.646911	3775.980059	3775.307312	3774.628510
3773.943487	3773.252069	3772.554072	3771.849305	3771.137565
3770.418640	3769.692307	3768.958331	3768.216463	3767.466443
3766.707995	3765.940825	3765.164627	3764.379072	3763.583814
3762.778482	3761.962684	3761.136001	3760.297984	3759.448153
3758.585995	3757.710958	3756.822445	3755.919815	3755.002372
3754.069362	3753.119966	3752.153288	3751.168349	3750.164073
3749.139274	3748.092642	3747.022717	3745.927872	3744.806281
3743.655883	3742.474335	3741.258963	3740.006685	

Row 7

3781.004433	3780.373706	3779.737993	3779.097175	3778.451129
3777.799725	3777.142828	3776.480298	3775.811988	3775.137744
3774.457406	3773.770805	3773.077765	3772.378099	3771.671614
3770.958104	3770.237354	3769.509138	3768.773217	3768.029340
3767.277242	3766.516644	3765.747248	3764.968743	3764.180795
3763.383053	3762.575141	3761.756660	3760.927183	3760.086256
3759.233389	3758.368061	3757.489707	3756.597721	3755.691449
3754.770181	3753.833148	3752.879511	3751.908355	3750.918678
3749.909377	3748.879239	3747.826916	3746.750909	3745.649546
3744.520943	3743.362974	3742.173221	3740.948912	

Row 8

3781.473852	3780.846783	3780.214815	3779.577832	3778.935716
3778.288339	3777.635573	3776.977281	3776.313322	3775.643545
3774.967797	3774.285915	3773.597727	3772.903054	3772.201709

3771.493494	3770.778201	3770.055612	3769.325498	3768.587616
3767.841713	3767.087519	3766.324751	3765.553109	3764.772275
3763.981912	3763.181662	3762.371144	3761.549952	3760.717653
3759.873784	3759.017848	3758.149313	3757.267604	3756.372105
3755.462146	3754.537005	3753.595895	3752.637959	3751.662262
3750.667778	3749.653378	3748.617814	3747.559706	3746.477514
3745.369513	3744.233765	3743.068075	3741.869941	

Row 9

3781.940582	3781.317107	3780.688817	3780.055601	3779.417343
3778.773920	3778.125208	3777.471073	3776.811379	3776.145982
3775.474732	3774.797472	3774.114036	3773.424252	3772.727937
3772.024901	3771.314944	3770.597855	3769.873412	3769.141384
3768.401525	3767.653577	3766.897269	3766.132312	3765.358402
3764.575217	3763.782416	3762.979633	3762.166483	3761.342553
3760.507402	3759.660560	3758.801521	3757.929743	3757.044640
3756.145585	3755.231894	3754.302830	3753.357589	3752.395296
3751.414994	3750.415631	3749.396052	3748.354978	3747.290989
3746.202501	3745.087742	3743.944711	3742.771143	

Row 10

3782.404667	3781.784724	3781.160049	3780.530534	3779.896064
3779.256523	3778.611788	3777.961733	3777.306223	3776.645120
3775.978280	3775.305549	3774.626769	3773.941772	3773.250381
3772.552413	3771.847674	3771.135961	3770.417061	3769.690749
3768.956791	3768.214937	3767.464928	3766.706486	3765.939320
3765.163122	3764.377564	3763.582300	3762.776960	3761.961151
3761.134455	3760.296422	3759.446575	3758.584398	3757.709340
3756.820804	3755.918149	3755.000680	3754.067642	3753.118216
3752.151505	3751.166532	3750.162219	3749.137381	3748.090706
3747.020736	3745.925843	3744.804200	3743.653744	

Row 11

3782.866152	3782.249682	3781.628560	3781.002679	3780.371931
3779.736201	3779.095372	3778.449319	3777.797914	3777.141024
3776.478507	3775.810216	3775.135998	3774.455689	3773.769121
3773.076113	3772.376481	3771.670026	3770.956543	3770.235817
3769.507621	3768.771716	3768.027850	3767.275760	3766.515165
3765.745770	3764.967261	3764.179308	3763.381558	3762.573635
3761.755141	3760.925650	3760.084705	3759.231820	3758.366471
3757.488094	3756.596085	3755.689787	3754.768492	3753.831429
3752.877760	3751.906571	3750.916858	3749.907520	3748.877341
3747.824974	3746.748922	3745.647509	3744.518852	

Row 12

3783.325081	3782.712026	3782.094394	3781.472086	3780.844993
3780.213007	3779.576012	3778.933888	3778.286512	3777.633753
3776.975476	3776.311539	3775.641792	3774.966079	3774.284233
3773.596083	3772.901448	3772.200138	3771.491953	3770.776687
3770.054119	3769.324022	3768.586153	3767.840257	3767.086068
3766.323300	3765.551655	3764.770815	3763.980444	3763.180183
3762.369652	3761.548445	3760.716130	3759.872242	3759.016286
3758.147728	3757.265996	3756.370472	3755.460486	3754.535316
3753.594175	3752.636207	3751.660476	3750.665955	3749.651516
3748.615911	3747.557759	3746.475519	3745.367467	

Row 13

3783.781496	3783.171798	3782.557599	3781.938800	3781.315301
3780.686992	3780.053762	3779.415496	3778.772073	3778.123368
3777.469251	3776.809583	3776.144221	3775.473011	3774.795794
3774.112402	3773.422660	3772.726384	3772.023382	3771.313453
3770.596387	3769.871963	3769.139948	3768.400097	3767.652154
3766.895846	3766.130886	3765.356970	3764.573777	3763.780964
3762.978168	3762.165003	3761.341056	3760.505887	3759.659025
3758.799964	3757.928162	3757.043035	3756.143953	3755.230234
3754.301140	3753.355868	3752.393542	3751.413204	3750.413804
3749.394185	3748.353068	3747.289034	3746.200498	

Row 14

3784.235439	3783.629042	3783.018217	3782.402869	3781.782900
3781.158204	3780.528673	3779.894194	3779.254652	3778.609926
3777.959890	3777.304411	3776.643348	3775.976554	3775.303874
3774.625144	3773.940194	3773.248847	3772.550917	3771.846209
3771.134522	3770.415641	3769.689342	3768.955392	3768.213543
3767.463533	3766.705088	3765.937916	3765.161709	3764.376140
3763.580862	3762.775507	3761.959681	3761.132966	3760.294914
3759.445045	3758.582845	3757.707762	3756.819200	3755.916518
3754.999020	3754.065951	3753.116492	3752.149748	3751.164737
3750.160386	3749.135507	3748.088789	3747.018773	

Row 15

3784.686948	3784.083800	3783.476293	3782.864334	3782.247837
3781.626693	3781.000795	3780.370035	3779.734303	3779.093483
3778.447452	3777.796083	3777.139239	3776.476776	3775.808543
3775.134383	3774.454128	3773.767608	3773.074643	3772.375044
3771.668616	3770.955153	3770.234441	3769.506253	3768.770351
3768.026485	3767.274391	3766.513789	3765.744384	3764.965864
3764.177897	3763.380131	3762.572191	3761.753679	3760.924167
3760.083201	3759.230293	3758.364919	3757.486518	3756.594481
3755.688155	3754.766830	3753.829735	3752.876033	3751.904809
3750.915059	3749.905681	3748.875461	3747.823050	

Row 16

3785.136064	3784.536112	3783.931868	3783.323237	3782.710157
3782.092505	3781.470176	3780.843069	3780.211077	3779.574091
3778.931992	3778.284657	3777.631953	3776.973739	3776.309870
3775.640189	3774.964537	3774.282745	3773.594641	3772.900042
3772.198760	3771.490595	3770.775342	3770.052783	3769.322688
3768.584818	3767.838918	3767.084720	3766.321942	3765.550285
3764.769431	3763.979043	3763.178765	3762.368215	3761.546988
3760.714651	3759.870741	3759.014760	3758.146178	3757.264419
3756.368867	3755.458852	3754.533651	3753.592478	3752.634476
3751.658709	3750.664150	3749.649670	3748.614023	

Row 17

3785.582825	3784.986019	3784.384986	3783.779612	3783.169909
3782.555687	3781.936863	3781.313343	3780.685025	3780.051803
3779.413564	3778.770189	3778.121549	3777.467507	3776.807918
3776.142632	3775.471491	3774.794334	3774.110991	3773.421287
3772.725040	3772.022058	3771.312143	3770.595084	3769.870661
3769.138643	3768.398787	3767.650835	3766.894516	3766.129543
3765.355612	3764.572402	3763.779572	3762.976757	3762.163571
3761.339603	3760.504411	3759.657525	3758.798439	3757.926611
3757.041457	3756.142346	3755.228597	3754.299472	3753.354166
3752.391805	3751.411431	3750.411992	3749.392332	

Row 18

3786.027268	3785.433559	3784.835689	3784.233572	3783.627139
3783.016283	3782.400903	3781.780905	3781.156194	3780.526668
3779.892220	3779.252734	3778.608085	3777.958138	3777.302751
3776.641777	3775.975061	3775.302446	3774.623768	3773.938859
3773.247541	3772.549630	3771.844935	3771.133252	3770.414372
3769.688070	3768.954113	3768.212253	3767.462231	3766.703772
3765.936584	3765.160360	3764.374772	3763.579475	3762.774099
3761.958252	3761.131514	3760.293438	3759.443544	3758.581319
3757.706209	3756.817619	3755.914907	3754.997378	3754.064278
3753.114785	3752.148005	3751.162957	3750.158566	

Row 19

3786.469428	3785.878770	3785.284014	3784.685079	3784.081884
3783.474335	3782.862338	3782.245801	3781.624631	3780.998734
3780.368008	3779.732343	3779.091615	3778.445691	3777.794431
3777.137688	3776.475313	3775.807152	3775.133047	3774.452834
3773.766343	3773.073395	3772.373807	3771.667382	3770.953918
3770.233200	3769.505004	3768.769091	3768.025211	3767.273102
3766.512483	3765.743061	3764.964522	3764.176535	3763.378748
3762.570786	3761.752251	3760.922715	3760.081725	3759.228791
3758.363391	3757.484962	3756.592896	3755.686540	3754.765183
3753.828056	3752.874320	3751.903059	3750.913271	

Row 20

3786.909342	3786.321687	3785.729996	3785.134188	3784.534181
3783.929886	3783.321213	3782.708074	3782.090381	3781.468047
3780.840977	3780.209065	3779.572191	3778.930222	3778.283016
3777.630429	3776.972314	3776.308522	3775.638899	3774.963288
3774.281524	3773.593435	3772.898844	3772.197563	3771.489395
3770.774135	3770.051565	3769.321457	3768.583572	3767.837655
3767.083440	3766.320644	3765.548967	3764.768092	3763.977684
3763.177383	3762.366811	3761.545560	3760.713198	3759.869263
3759.013256	3758.144646	3757.262859	3756.367277	3755.457232
3754.531999	3753.590793	3752.632756	3751.656952	

Row 21

3787.347044	3786.762345	3786.173671	3785.580940	3784.984071
3784.382976	3783.777569	3783.167767	3782.553487	3781.934650
3781.311170	3780.682949	3780.049866	3779.411786	3778.768566
3778.120061	3777.466128	3776.806621	3776.141394	3775.470293
3774.793160	3774.109830	3773.420131	3772.723882	3772.020894
3771.310968	3770.593897	3769.869459	3769.137425	3768.397551
3767.649581	3766.893242	3766.128249	3765.354297	3764.571066
3763.778213	3762.975375	3762.162166	3761.338173	3760.502956
3759.656044	3758.796931	3757.925075	3757.039892	3756.140751
3755.226971	3754.297813	3753.352474	3752.390077	

Row 22

3787.782566	3787.200781	3786.615077	3786.025375	3785.431592
3784.833645	3784.231449	3783.624923	3783.013991	3782.398584
3781.778630	3781.154039	3780.524689	3779.890437	3779.251136
3778.606642	3777.956815	3777.301514	3776.640598	3775.973918
3775.301324	3774.622655	3773.937746	3773.246422	3772.548502
3771.843794	3771.132096	3770.413199	3769.686879	3768.952903
3768.211024	3767.460982	3766.702501	3765.935292	3765.159046
3764.373436	3763.578115	3762.772716	3761.956844	3761.130081

3760.291979 3759.442059 3758.579806 3757.704668 3756.816049
3755.913307 3754.995746 3754.062613 3753.113085

Row 23

3788.215942 3787.637027 3787.054249 3786.467529 3785.876785
3785.281935 3784.682895 3784.079584 3783.471933 3782.859886
3782.243393 3781.622375 3780.996706 3780.366227 3779.730784
3779.090233 3778.444438 3777.793264 3777.136576 3776.474232
3775.806086 3775.131984 3774.451766 3773.765264 3773.072304
3772.372699 3771.666257 3770.952774 3770.232037 3769.503820
3768.767886 3768.023985 3767.271854 3766.511214 3765.741769
3764.963207 3764.175197 3763.377386 3762.569400 3761.750839
3760.921279 3760.080262 3759.227301 3758.361873 3757.483415
3756.591320 3755.684933 3754.763544 3753.826383

Row 24

3788.647205 3788.071117 3787.491221 3786.907439 3786.319688
3785.727886 3785.131948 3784.531793 3783.927354 3783.318592
3782.705490 3782.087995 3781.465964 3780.839210 3780.207565
3779.570890 3778.929055 3778.281933 3777.629393 3776.971300
3776.307514 3775.637888 3774.962266 3774.280487 3773.592381
3772.897771 3772.196469 3771.488280 3770.772998 3770.050406
3769.320277 3768.582369 3767.836430 3767.082192 3766.319373
3765.547673 3764.766775 3763.976342 3763.176018 3762.365420
3761.544144 3760.711757 3759.867794 3759.011761 3758.143123

3757.261307 3756.365695 3755.455618 3754.530353

Row 25

3789.076384 3788.503084 3787.926029 3787.345141 3786.760339
3786.171538 3785.578652 3784.981594 3784.380295 3783.774728
3783.164941 3782.550932 3781.932512 3781.309439 3780.681537
3780.048671 3779.410725 3778.767578 3778.119108 3777.465186
3776.805676 3776.140436 3775.469317 3774.792164 3774.108812
3773.419090 3772.722818 3772.019807 3771.309858 3770.592763
3769.868302 3769.136245 3768.396348 3767.648354 3766.891992
3766.126975 3765.353000 3764.569744 3763.776867 3762.974005
3762.160770 3761.336752 3760.501509 3759.654570 3758.795429
3757.923545 3757.038332 3756.139161 3755.225350

Row 26

3789.503512 3788.932960 3788.358706 3787.780671 3787.198775
3786.612931 3786.023050 3785.429036 3784.830802 3784.228321
3783.621745 3783.011211 3782.396403 3781.776975 3781.152755
3780.523633 3779.889504 3779.250259 3778.605782 3777.955950
3777.300633 3776.639695 3775.972990 3775.300369 3774.621674
3773.936738 3773.245388 3772.547442 3771.842709 3771.130987
3770.412065 3769.685721 3768.951721 3768.209818 3767.459752
3766.701248 3765.934014 3765.157744 3764.372110 3763.576765
3762.771340 3761.955443 3761.128655 3760.290526 3759.440579
3758.578298 3757.703131 3756.814482 3755.911709

Row 27

3789.928617 3789.360776 3788.789283 3788.214062 3787.635031
3787.052105 3786.465188 3785.874172 3785.278937 3784.679395
3784.075844 3783.468863 3782.857706 3782.241879 3781.621278
3780.995829 3780.365446 3779.730030 3779.089472 3778.443653
3777.792449 3777.135728 3776.473351 3775.805172 3775.131038

3774.450790	3773.764259	3773.071271	3772.371639	3771.665171
3770.951662	3770.230899	3769.502658	3768.766699	3768.022774
3767.270619	3766.509955	3765.740486	3764.961900	3764.173865
3763.376029	3762.568018	3761.749432	3760.919845	3760.078802
3759.225814	3758.360358	3757.481871	3756.589746	

Row 28

3790.351728	3789.786561	3789.217792	3788.645347	3788.069144
3787.489098	3786.905110	3786.317061	3785.724790	3785.128036
3784.526962	3783.923975	3783.316515	3782.704221	3782.087163
3781.465314	3780.838606	3780.206947	3779.570233	3778.928352
3778.281183	3777.628599	3776.970464	3776.306640	3775.636977
3774.961321	3774.279510	3773.591373	3772.896734	3772.195405
3771.487189	3770.771881	3770.049263	3769.319109	3768.581177
3767.835214	3767.080952	3766.318108	3765.546384	3764.765461
3763.975004	3763.174655	3762.364032	3761.542730	3760.710317
3759.866327	3759.010266	3758.141599	3757.259754	

Row 29

3790.772874	3790.210344	3789.644263	3789.074557	3788.501147
3787.923946	3787.342857	3786.757758	3786.168469	3785.574587
3784.967852	3784.376898	3783.772950	3783.164065	3782.550462
3781.932138	3781.309033	3780.681059	3780.048119	3779.410102
3778.766892	3778.118366	3777.464393	3776.804838	3776.139558
3775.468401	3774.791213	3774.107829	3773.418076	3772.721775
3772.018736	3771.308760	3770.591639	3769.867153	3769.135071
3768.395149	3767.647131	3766.890744	3766.125703	3765.351704
3764.568424	3763.775522	3762.972635	3762.159375	3761.335331
3760.500061	3759.653095	3758.793927	3757.922014	

Row 30

3791.192081	3790.632155	3790.068726	3789.501724	3788.931070
3788.356683	3787.778466	3787.196307	3786.610049	3786.019436
3785.424635	3784.828028	3784.227089	3783.621462	3783.011222
3782.396348	3781.776775	3781.152418	3780.523181	3779.888957
3779.249633	3778.605089	3777.955199	3777.299831	3776.638847
3775.972101	3775.299443	3774.620713	3773.935745	3773.244365
3772.546390	3771.841629	3771.129881	3770.410933	3769.684564
3768.950539	3768.208611	3767.458521	3766.699993	3765.932735
3765.156441	3764.370782	3763.575412	3762.769963	3761.954040
3761.127226	3760.289071	3759.439096	3758.576787	

Row 31

3791.609378	3791.052020	3790.491209	3789.926875	3789.358944
3788.787337	3788.211965	3787.632730	3787.049520	3786.462256
3785.871237	3785.277035	3784.678928	3784.076443	3783.469482
3782.857985	3782.241877	3781.621070	3780.995468	3780.364968
3779.729458	3779.088822	3778.442939	3777.791679	3777.134909
3776.472488	3775.804269	3775.130099	3774.449817	3773.763256
3773.070237	3772.370577	3771.664082	3770.950547	3770.229759
3769.501492	3768.765509	3768.021560	3767.269381	3766.508692
3765.739199	3764.960589	3764.172529	3763.374669	3762.566633
3761.748022	3760.918409	3760.077338	3759.224323	

Row 32

3792.024788	3791.469965	3790.911738	3790.350038	3789.784796
3789.215935	3788.643376	3788.067037	3787.486843	3786.902777
3786.314997	3785.723647	3785.128430	3784.529024	3783.925275

3783.317090	3782.704382	3782.087061	3781.465029	3780.838185
3780.206420	3779.569622	3778.927670	3778.280441	3777.627804
3776.969624	3776.305758	3775.636057	3774.960367	3774.278523
3773.590357	3772.895689	3772.194332	3771.486089	3770.770756
3770.048113	3769.317934	3768.579978	3767.833990	3767.079705
3766.316837	3765.545089	3764.764142	3763.973661	3763.173287
3762.362639	3761.541312	3760.708872	3759.864856	

Row 33

3792.438338	3791.886017	3791.330340	3790.771240	3790.208651
3789.642502	3789.072721	3788.499239	3787.921999	3787.340991
3786.756272	3786.167857	3785.575578	3784.979221	3784.378630
3783.773699	3783.164331	3782.550433	3781.931909	3781.308656
3780.680570	3780.047539	3779.409448	3778.766175	3778.117594
3777.463574	3776.803976	3776.138656	3775.467465	3774.790244
3774.106828	3773.417047	3772.720717	3772.017651	3771.307650
3770.590503	3769.865993	3769.133886	3768.393940	3767.645898
3766.889488	3766.124424	3765.350401	3764.567097	3763.774170
3762.971258	3762.157973	3761.333903	3760.498608	

Row 34

3792.850051	3792.300200	3791.747040	3791.190507	3790.630536
3790.067063	3789.500021	3788.929348	3788.354996	3787.776945
3787.195196	3786.609716	3786.020388	3785.427054	3784.829577
3784.227846	3783.621763	3783.011230	3782.396152	3781.776429
3781.151956	3780.522626	3779.888325	3779.248936	3778.604336
3777.954397	3777.298986	3776.637962	3775.971180	3775.298489
3774.619727	3773.934730	3773.243322	3772.545320	3771.840533
3771.128759	3770.409787	3769.683393	3768.949344	3768.207394
3767.457280	3766.698728	3765.931447	3765.155129	3764.369446
3763.574052	3762.768578	3761.952630	3761.125790	

Row 35

3793.259952	3792.712539	3792.161862	3791.607862	3791.050475
3790.489640	3789.925296	3789.357386	3788.785861	3788.210691
3787.631847	3787.049278	3786.462887	3785.872550	3785.278146
3784.679568	3784.076715	3783.469492	3782.857802	3782.241547
3781.620625	3780.994930	3780.364353	3779.728777	3779.088085
3778.442152	3777.790848	3777.134038	3776.471580	3775.803328
3775.129127	3774.448815	3773.762225	3773.069180	3772.369494
3771.662973	3770.949414	3770.228602	3769.500311	3768.764305
3768.020333	3767.268130	3766.507418	3765.737901	3764.959268
3764.171185	3763.373300	3762.565240	3761.746603	

Row 36

3793.668063	3793.123057	3792.574832	3792.023330	3791.468491
3790.910258	3790.348571	3789.783376	3789.214624	3788.642274
3788.066282	3787.486591	3786.903112	3786.315741	3785.724370
3785.128897	3784.529225	3783.925257	3783.316900	3782.704055
3782.086624	3781.464502	3780.837582	3780.205752	3779.568897
3778.926896	3778.279623	3777.626946	3776.968730	3776.304830
3775.635097	3774.959377	3774.277505	3773.589312	3772.894618
3772.193236	3771.484969	3770.769611	3770.046946	3769.316743
3768.578764	3767.832753	3767.078445	3766.315554	3765.543783
3764.762813	3763.972307	3763.171909	3762.361237	

Row 37

3794.074408	3793.531777	3792.985971	3792.436935	3791.884610

3791.328941	3790.769871	3790.207346	3789.641316	3789.071734
3788.498548	3787.921696	3787.341097	3786.756658	3786.168281
3785.575870	3784.979329	3784.378566	3783.773487	3783.163996
3782.549996	3781.931386	3781.308060	3780.679910	3780.046824
3779.408684	3778.765367	3778.116747	3777.462690	3776.803058
3776.137707	3775.466486	3774.789237	3774.105795	3773.415987
3772.719633	3772.016543	3771.306518	3770.589348	3769.864814
3769.132685	3768.392717	3767.644652	3766.888219	3766.123132
3765.349085	3764.565758	3763.772808	3762.969872	

Row 38

3794.479008	3793.938722	3793.395304	3792.848700	3792.298855
3791.745713	3791.189220	3790.629323	3790.065969	3789.499108
3788.928684	3788.354633	3787.776879	3787.195336	3786.609913
3786.020520	3785.427064	3784.829456	3784.227602	3783.621411
3783.010786	3782.395627	3781.775835	3781.151301	3780.521917
3779.887569	3779.248137	3778.603498	3777.953523	3777.298078
3776.637023	3775.970212	3775.297493	3774.618705	3773.933682
3773.242249	3772.544223	3771.839412	3771.127615	3770.408620
3769.682204	3768.948133	3768.206160	3767.456024	3766.697449
3765.930146	3765.153804	3764.368098	3763.572681	

Row 39

3794.881885	3794.343914	3793.802853	3793.258649	3792.711249
3792.160599	3791.606645	3791.049335	3790.488615	3789.924432
3789.356728	3788.785439	3788.210492	3787.631808	3787.049299
3786.462881	3785.872465	3785.277963	3784.679285	3784.076340
3783.469034	3782.857271	3782.240952	3781.619972	3780.994226
3780.363602	3779.727985	3779.087255	3778.441286	3777.789949
3777.133108	3776.470621	3775.802342	3775.128114	3774.447777
3773.761163	3773.068093	3772.368384	3771.661841	3770.948259
3770.227425	3769.499112	3768.763084	3768.019089	3767.266864
3766.506130	3765.736591	3764.957934	3764.169828	

Row 40

3795.283061	3794.747375	3794.208640	3793.666805	3793.121816
3792.573623	3792.022171	3791.467409	3790.909282	3790.347736
3789.782713	3789.214148	3788.641972	3788.066107	3787.486474
3786.902989	3786.315568	3785.724125	3785.128573	3784.528823
3783.924783	3783.316359	3782.703455	3782.085970	3781.463799
3780.836834	3780.204964	3779.568072	3778.926037	3778.278731
3777.626024	3776.967779	3776.303852	3775.634094	3774.958348
3774.276453	3773.588236	3772.893519	3772.192114	3771.483825
3770.768445	3770.045758	3769.315534	3768.577532	3767.831500
3767.077169	3766.314257	3765.542463	3764.761470	

Row 41

3795.682557	3795.149127	3794.612688	3794.073190	3793.530580
3792.984809	3792.435824	3791.883572	3791.328001	3790.769053
3790.206672	3789.640793	3789.071349	3788.498267	3787.921469
3787.340876	3786.756406	3786.167977	3785.575503	3784.978898
3784.378072	3783.772934	3783.163388	3782.549338	3781.930682
3781.307314	3780.679126	3780.046003	3779.407830	3778.764482
3778.115832	3777.461747	3776.802089	3776.136712	3775.465466
3774.788193	3774.104728	3773.414898	3772.718521	3772.015409
3771.305362	3770.588171	3769.863616	3769.131465	3768.391475
3767.643389	3766.886935	3766.121825	3765.347757	

Row 42

3796.080392	3795.549191	3795.015018	3794.477826	3793.937564
3793.394182	3792.847629	3792.297852	3791.744798	3791.188412
3790.628635	3790.065405	3789.498657	3788.928318	3788.354316
3787.776575	3787.195014	3786.609554	3786.020112	3785.426603
3784.828940	3784.227035	3783.620794	3783.010122	3782.394921
3781.775089	3781.150518	3780.521100	3779.886719	3779.247256
3778.602588	3777.952586	3777.297115	3776.636035	3775.969200
3775.296457	3774.617646	3773.932601	3773.241146	3772.543099
3771.838267	3771.126449	3770.407433	3769.680996	3768.946903
3768.204909	3767.454751	3766.696156	3765.928830	

Row 43

3796.476588	3795.947586	3795.415652	3794.880736	3794.342790
3793.801765	3793.257611	3792.710274	3792.159702	3791.605841
3791.048633	3790.488015	3789.923925	3789.356293	3788.785049
3788.210118	3787.631424	3787.048890	3786.462434	3785.871974
3785.277426	3784.678702	3784.075712	3783.468364	3782.856561
3782.240204	3781.619189	3780.993410	3780.362755	3779.727108
3779.086350	3778.440355	3777.788992	3777.132127	3776.469617
3775.801314	3775.127064	3774.446705	3773.760069	3773.066979
3772.367248	3771.660684	3770.947082	3770.226227	3769.497893
3768.761844	3768.017829	3767.265583	3766.504827	

Row 44

3796.871164	3796.344335	3795.814609	3795.281941	3794.746281
3794.207582	3793.665793	3793.120863	3792.572740	3792.021368
3791.466692	3790.908652	3790.347184	3789.782222	3789.213697
3788.641537	3788.065670	3787.486018	3786.902504	3786.315047
3785.723565	3785.127973	3784.528183	3783.924105	3783.315644
3782.702705	3782.085186	3781.462984	3780.835990	3780.204091
3779.567172	3778.925111	3778.277780	3777.625049	3776.966781
3776.302831	3775.633051	3774.957284	3774.275367	3773.587130
3772.892392	3772.190967	3771.482658	3770.767258	3770.044550
3769.314305	3768.576283	3767.830231	3767.075879	

Row 45

3797.264140	3796.739456	3796.211912	3795.681462	3795.148059
3794.611654	3794.072199	3793.529644	3792.983935	3792.435020
3791.882843	3791.327344	3790.768462	3790.206133	3789.640290
3789.070864	3788.497782	3787.920972	3787.340356	3786.755857
3786.167395	3785.574886	3784.978246	3784.377385	3783.772213
3783.162635	3782.548553	3781.929867	3781.306471	3780.678255
3780.045107	3779.406908	3778.763536	3778.114862	3777.460755
3776.801075	3776.135677	3775.464410	3774.787116	3774.103630
3773.413780	3772.717383	3772.014251	3771.304184	3770.586973
3769.862398	3769.130227	3768.390217	3767.642110	

Row 46

3797.655534	3797.132969	3796.607580	3796.079321	3795.548145
3795.014005	3794.476854	3793.936640	3793.393314	3792.846823
3792.297110	3791.744118	3791.187788	3790.628056	3790.064859
3789.498127	3788.927792	3788.353782	3787.776023	3787.194439
3786.608950	3786.019478	3785.425937	3784.828243	3784.226307
3783.620036	3783.009335	3782.394106	3781.774246	3781.149649
3780.520206	3779.885800	3779.246315	3778.601624	3777.951600
3777.296107	3776.635006	3775.968151	3775.295387	3774.616557
3773.931491	3773.240017	3772.541950	3771.837099	3771.125261
3770.406225	3769.679768	3768.945656	3768.203642	

Row 47

3798.045365	3797.524894	3797.001633	3796.475537	3795.946560
3795.414656	3794.879778	3794.341877	3793.800902	3793.256801
3792.709519	3792.159002	3791.605189	3791.048020	3790.487431
3789.923357	3789.355731	3788.784481	3788.209537	3787.630824
3787.048266	3786.461783	3785.871296	3785.276719	3784.677967
3784.074949	3783.467574	3782.855744	3782.239361	3781.618322
3780.992519	3780.361840	3779.726171	3779.085391	3778.439374
3777.787990	3777.131104	3776.468574	3775.800251	3775.125982
3774.445604	3773.758948	3773.065839	3772.366089	3771.659506
3770.945884	3770.225010	3769.496657	3768.760588	

Row 48

3798.433652	3797.915250	3797.394091	3796.870131	3796.343325
3795.813629	3795.280995	3794.745376	3794.206721	3793.664979
3793.120098	3792.572021	3792.020692	3791.466050	3790.908036
3790.346583	3789.781627	3789.213100	3788.640930	3788.065047
3787.485375	3786.901838	3786.314356	3785.722849	3785.127231
3784.527415	3783.923311	3783.314826	3782.701862	3782.084319
3781.462094	3780.835077	3780.203157	3779.566217	3778.924134
3778.276783	3777.624033	3776.965744	3776.301775	3775.631976
3774.956190	3774.274254	3773.585998	3772.891241	3772.189797
3771.481469	3770.766050	3770.043323	3769.313059	

Row 49

3798.820413	3798.304055	3797.784972	3797.263122	3796.738461
3796.210945	3795.680527	3795.147160	3794.610795	3794.071382
3793.528869	3792.983201	3792.434322	3791.882175	3791.326700
3790.767833	3790.205510	3789.639666	3789.070232	3788.497138
3787.920310	3787.339675	3786.755154	3786.166669	3785.574136
3784.977472	3784.376587	3783.771392	3783.161791	3782.547687
3781.928978	3781.305560	3780.677324	3780.044155	3779.405936
3778.762544	3778.113851	3777.459724	3776.800025	3776.134608
3775.463323	3774.786010	3774.102506	3773.412637	3772.716223
3772.013072	3771.302987	3770.585757	3769.861163	

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Concentration Contour Matrix

Maximum Concentration = 2.574482e+003

CONTOUR GRID -----

Row 1

1.000000e-008	1.695492e-008	1.962291e-008	1.000000e-008	7.815735e-008
8.474618e-008	1.000000e-008	1.000000e-008	1.145622e-005	8.513122e-006
1.000000e-008	1.000000e-008	1.216605e-004	1.685138e-004	1.000000e-008
1.000000e-008	6.523565e-004	2.738459e-003	7.731017e-004	1.000000e-008
1.000000e-008	1.000000e-008	3.322132e-002	7.442253e-002	9.630604e-002
8.653529e-002	5.537211e-002	2.346415e-002	4.255447e-003	1.000000e-008
1.000000e-008	1.000000e-008	1.669820e-004	1.011007e-004	1.000000e-008
1.000000e-008	1.000000e-008	2.292507e-006	8.339766e-007	1.000000e-008
1.000000e-008	3.114579e-008	2.910450e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 2

1.000000e-008	2.038446e-008	1.000000e-008	1.000000e-008	1.673327e-007
1.000000e-008	1.000000e-008	6.123598e-006	1.575474e-005	1.000000e-008
1.000000e-008	3.948006e-005	2.312534e-004	1.000000e-008	1.000000e-008
1.000000e-008	2.336000e-003	2.969784e-003	1.000000e-008	1.000000e-008
1.000000e-008	2.097269e-002	7.558947e-002	1.205908e-001	1.278958e-001
9.695055e-002	5.145977e-002	1.621051e-002	5.180604e-006	1.000000e-008
1.000000e-008	4.346242e-005	2.110576e-004	5.090910e-005	1.000000e-008
1.000000e-008	1.403523e-006	2.362263e-006	7.627161e-008	1.000000e-008
1.000000e-008	5.850755e-008	1.104704e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 3

1.000000e-008	1.000000e-008	1.000000e-008	1.587658e-007	1.000000e-008
1.000000e-008	2.675742e-006	1.909628e-005	5.713269e-007	1.000000e-008
1.000000e-008	2.539948e-004	2.362242e-004	1.000000e-008	1.000000e-008
1.722744e-003	5.082861e-003	1.000000e-008	1.000000e-008	1.000000e-008
7.940889e-003	8.893998e-002	1.799400e-001	2.250047e-001	1.993252e-001
1.272481e-001	5.467716e-002	1.092823e-002	1.000000e-008	1.000000e-008
1.000000e-008	3.197922e-004	2.061793e-004	1.000000e-008	1.000000e-008
1.000000e-008	4.506533e-006	1.575861e-006	1.000000e-008	1.000000e-008
6.723899e-008	5.376956e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 4

1.000000e-008	1.000000e-008	1.490061e-007	1.420994e-008	1.000000e-008
1.000000e-008	1.855326e-005	2.026623e-005	1.000000e-008	1.000000e-008
1.910629e-004	5.191694e-004	1.000000e-008	1.000000e-008	2.372053e-004
6.379841e-003	5.271172e-003	1.000000e-008	1.000000e-008	1.000000e-008
8.944148e-002	2.491366e-001	3.714767e-001	3.820166e-001	2.854723e-001
1.515769e-001	4.945869e-002	2.200636e-003	1.000000e-008	1.000000e-008
2.157516e-005	5.048048e-004	1.262252e-004	1.000000e-008	1.000000e-008

3.578674e-006	5.336333e-006	3.410080e-008	1.000000e-008	1.000000e-008
1.339528e-007	1.746171e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 5

1.000000e-008	5.461137e-008	4.106189e-007	1.000000e-008	1.000000e-008
1.349001e-005	3.684431e-005	1.000000e-008	1.000000e-008	3.685120e-005
6.992408e-004	2.840294e-004	1.000000e-008	1.000000e-008	5.772743e-003
1.170619e-002	1.000000e-008	1.000000e-008	1.000000e-008	6.396003e-002
3.082718e-001	5.627297e-001	6.735205e-001	5.825822e-001	3.674114e-001
1.582180e-001	3.375542e-002	1.000000e-008	1.000000e-008	1.000000e-008
7.543271e-004	4.918618e-004	1.000000e-008	1.000000e-008	1.000000e-008
1.092850e-005	3.219394e-006	1.000000e-008	1.000000e-008	1.933960e-007
1.106352e-007	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 6

1.000000e-008	4.154900e-007	1.000000e-008	1.000000e-008	4.281104e-006
4.442060e-005	6.608302e-006	1.000000e-008	1.000000e-008	6.774477e-004
1.062510e-003	1.000000e-008	1.000000e-008	2.654460e-003	1.654629e-002
6.947760e-003	1.000000e-008	1.000000e-008	4.334433e-003	3.306747e-001
7.776224e-001	1.093414e+000	1.090260e+000	8.002917e-001	4.218845e-001
1.397913e-001	1.003833e-002	1.000000e-008	1.000000e-008	1.000000e-008
1.164725e-003	2.728676e-004	1.000000e-008	1.000000e-008	1.105199e-005
1.170341e-005	1.000000e-008	1.000000e-008	1.000000e-008	3.111074e-007
1.510991e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 7

1.000000e-008	6.493648e-007	1.000000e-008	1.000000e-008	3.700531e-005
5.733794e-005	1.000000e-008	1.000000e-008	4.016224e-004	1.717858e-003
1.000000e-008	1.000000e-008	1.000000e-008	1.706185e-002	2.466490e-002
1.000000e-008	1.000000e-008	1.000000e-008	2.864783e-001	9.713496e-001
1.634355e+000	1.880703e+000	1.589552e+000	9.894875e-001	4.260576e-001
9.592640e-002	1.000000e-008	1.000000e-008	1.000000e-008	1.689479e-003
1.055615e-003	1.000000e-008	1.000000e-008	1.000000e-008	2.585056e-005
5.548578e-006	1.000000e-008	1.000000e-008	5.440685e-007	2.082399e-007
1.000000e-008	1.000000e-008	1.322141e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 8

1.000000e-008	1.000000e-008	1.000000e-008	1.523593e-005	8.710939e-005
1.000000e-008	1.000000e-008	1.000000e-008	1.940078e-003	1.792336e-003
1.000000e-008	1.000000e-008	1.115413e-002	4.025320e-002	2.288837e-003
1.000000e-008	1.000000e-008	1.527207e-001	1.076265e+000	2.242905e+000
2.998580e+000	2.904508e+000	2.093851e+000	1.094504e+000	3.672357e-001
3.565189e-002	1.000000e-008	1.000000e-008	6.543375e-005	2.462375e-003
4.859600e-004	1.000000e-008	1.000000e-008	3.397042e-005	2.375770e-005
1.000000e-008	1.000000e-008	3.238476e-007	6.944962e-007	1.000000e-008
1.000000e-008	1.000000e-008	1.804004e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 9

1.000000e-008	1.000000e-008	1.000000e-008	7.471648e-005	7.161475e-005
1.000000e-008	1.000000e-008	1.482629e-003	3.710138e-003	1.000000e-008
1.000000e-008	1.000000e-008	4.632527e-002	4.892168e-002	1.000000e-008
1.000000e-008	1.000000e-008	1.013133e+000	2.804832e+000	4.419739e+000
4.908434e+000	4.055134e+000	2.488543e+000	1.068719e+000	2.517701e-001

1.000000e-008	1.000000e-008	1.000000e-008	3.624383e-003	1.986388e-003
1.000000e-008	1.000000e-008	1.000000e-008	5.949096e-005	6.859061e-006
1.000000e-008	1.000000e-008	1.462108e-006	3.447981e-007	1.000000e-008
1.000000e-008	3.678688e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 10

1.000000e-008	1.000000e-008	2.908688e-005	1.435450e-004	1.000000e-008
1.000000e-008	3.752630e-004	4.650768e-003	2.152982e-003	1.000000e-008
1.000000e-008	3.608303e-002	9.404074e-002	1.000000e-008	1.000000e-008
1.000000e-008	7.156344e-001	3.144238e+000	6.002373e+000	7.689104e+000
7.248644e+000	5.128795e+000	2.652360e+000	8.970925e-001	1.075195e-001
1.000000e-008	1.000000e-008	1.023663e-003	4.757375e-003	5.803058e-004
1.000000e-008	1.000000e-008	1.011203e-004	4.437081e-005	1.000000e-008
1.000000e-008	1.678705e-006	1.490699e-006	1.000000e-008	1.000000e-008
3.477036e-008	3.881977e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 11

1.000000e-008	1.000000e-008	1.147494e-004	7.370663e-005	1.000000e-008
1.000000e-008	3.870995e-003	6.962364e-003	1.000000e-008	1.000000e-008
7.454840e-003	1.173442e-001	9.555369e-002	1.000000e-008	1.000000e-008
1.691992e-001	3.050260e+000	7.446092e+000	1.115323e+001	1.201100e+001
9.708261e+000	5.865403e+000	2.503784e+000	6.111870e-001	1.000000e-008
1.000000e-008	1.000000e-008	7.674583e-003	3.114535e-003	1.000000e-008
1.000000e-008	7.924824e-005	1.342260e-004	5.482067e-007	1.000000e-008
1.000000e-008	3.741011e-006	4.622095e-007	1.000000e-008	1.000000e-008
9.426342e-008	1.175647e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 12

1.000000e-008	3.296181e-005	1.945270e-004	1.000000e-008	1.000000e-008
1.532803e-003	9.443904e-003	6.947796e-004	1.000000e-008	1.000000e-008
9.965812e-002	2.124451e-001	1.000000e-008	1.000000e-008	1.000000e-008
2.347161e+000	8.291256e+000	1.490043e+001	1.845929e+001	1.699527e+001
1.180708e+001	6.028961e+000	2.045095e+000	2.859179e-001	1.000000e-008
1.000000e-008	5.936142e-003	8.432153e-003	1.000000e-008	1.000000e-008
1.000000e-008	2.848973e-004	7.594465e-005	1.000000e-008	1.000000e-008
5.781708e-006	3.079805e-006	1.000000e-008	1.000000e-008	1.263543e-007
7.946617e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 13

1.000000e-008	1.173527e-004	6.775594e-005	1.000000e-008	1.000000e-008
7.955875e-003	1.126826e-002	1.000000e-008	1.000000e-008	3.638225e-002
2.757318e-001	1.892519e-001	1.000000e-008	1.000000e-008	1.010131e+000
8.008422e+000	1.813295e+001	2.622313e+001	2.757639e+001	2.187169e+001
1.301113e+001	5.506063e+000	1.379829e+000	1.456005e-002	1.000000e-008
1.000000e-008	1.649872e-002	3.553091e-003	1.000000e-008	1.000000e-008
3.897400e-004	2.973996e-004	1.000000e-008	1.000000e-008	4.780641e-007
9.055143e-006	3.599044e-007	1.000000e-008	1.000000e-008	2.242845e-007
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 14

1.000000e-008	1.850947e-004	1.000000e-008	1.000000e-008	3.401369e-003
1.632221e-002	1.000000e-008	1.000000e-008	1.000000e-008	2.404358e-001
4.569166e-001	1.000000e-008	1.000000e-008	1.000000e-008	6.216663e+000

1.971134e+001	3.416440e+001	4.139370e+001	3.744658e+001	2.561637e+001
1.291574e+001	4.377758e+000	6.868400e-001	1.000000e-008	1.000000e-008
2.349612e-002	1.394216e-002	1.000000e-008	1.000000e-008	1.000000e-008
7.456498e-004	1.192559e-004	1.000000e-008	1.000000e-008	1.639007e-005
6.117690e-006	1.000000e-008	1.000000e-008	3.600563e-007	1.541286e-007
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 15

1.000000e-008	5.485072e-005	1.000000e-008	1.000000e-008	1.327744e-002
1.574040e-002	1.000000e-008	1.000000e-008	1.056107e-001	5.904345e-001
3.730310e-001	1.000000e-008	1.000000e-008	2.991232e+000	1.848006e+001
4.028234e+001	5.714609e+001	5.923189e+001	4.636394e+001	2.723921e+001
1.142740e+001	2.920129e+000	1.545772e-001	1.000000e-008	1.799701e-002
3.616936e-002	1.103107e-003	1.000000e-008	1.000000e-008	1.245853e-003
6.423062e-004	1.000000e-008	1.000000e-008	9.275592e-006	2.057193e-005
1.000000e-008	1.000000e-008	2.262621e-008	4.962416e-007	1.000000e-008
1.000000e-008	1.000000e-008	1.096364e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 16

1.000000e-008	1.000000e-008	1.000000e-008	5.383992e-003	2.402481e-002
1.000000e-008	1.000000e-008	1.000000e-008	5.065987e-001	9.084136e-001
1.000000e-008	1.000000e-008	1.000000e-008	1.387217e+001	4.208311e+001
7.185205e+001	8.619662e+001	7.726453e+001	5.234761e+001	2.614890e+001
8.853058e+000	1.516860e+000	1.000000e-008	1.000000e-008	7.294544e-002
2.228306e-002	1.000000e-008	1.000000e-008	6.710571e-004	1.789689e-003
1.734309e-004	1.000000e-008	1.000000e-008	4.049327e-005	1.162993e-005
1.000000e-008	1.000000e-008	8.849736e-007	2.814371e-007	1.000000e-008
1.000000e-008	2.268443e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 17

1.000000e-008	1.000000e-008	1.000000e-008	1.802917e-002	1.917049e-002
1.000000e-008	1.000000e-008	2.362804e-001	1.128958e+000	6.917567e-001
1.000000e-008	1.000000e-008	6.540038e+000	3.756494e+001	8.109009e+001
1.145493e+002	1.182546e+002	9.208739e+001	5.375715e+001	2.243998e+001
5.830761e+000	5.128685e-001	1.000000e-008	1.143165e-001	7.878303e-002
1.000000e-008	1.000000e-008	1.000000e-008	3.209284e-003	1.332206e-003
1.000000e-008	1.000000e-008	3.200039e-005	4.352465e-005	1.000000e-008
1.000000e-008	3.651562e-007	1.019288e-006	1.000000e-008	1.000000e-008
1.791767e-008	2.103796e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 18

1.000000e-008	1.000000e-008	6.256892e-003	2.982296e-002	1.000000e-008
1.000000e-008	1.000000e-008	9.256840e-001	1.620208e+000	1.000000e-008
1.000000e-008	1.000000e-008	2.653423e+001	8.035180e+001	1.375440e+002
1.653202e+002	1.482207e+002	1.002456e+002	4.993101e+001	1.694478e+001
3.108158e+000	7.637567e-002	1.322577e-001	1.876393e-001	3.618250e-002
1.000000e-008	1.000000e-008	2.367888e-003	3.907186e-003	2.386278e-004
1.000000e-008	1.000000e-008	8.914695e-005	2.098279e-005	1.000000e-008
1.000000e-008	1.938984e-006	4.794453e-007	1.000000e-008	1.000000e-008
4.750610e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 19

1.000000e-008	1.000000e-008	1.923925e-002	2.054522e-002	1.000000e-008

1.000000e-008	4.305097e-001	1.894070e+000	1.139813e+000	1.000000e-008
1.000000e-008	1.144242e+001	6.731641e+001	1.470162e+002	2.094539e+002
2.175286e+002	1.700004e+002	9.938719e+001	4.155228e+001	1.098319e+001
1.259578e+000	1.406114e-001	3.356365e-001	1.640933e-001	1.000000e-008
1.000000e-008	1.000000e-008	7.063769e-003	2.607673e-003	1.000000e-008
1.000000e-008	7.983446e-005	8.516884e-005	1.000000e-008	1.000000e-008
1.197167e-006	1.937617e-006	1.000000e-008	1.000000e-008	4.716525e-008
3.739364e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 20

1.000000e-008	4.686314e-003	2.991907e-002	1.000000e-008	1.000000e-008
1.000000e-008	1.454153e+000	2.532635e+000	1.000000e-008	1.000000e-008
1.000000e-008	4.389803e+001	1.367707e+002	2.379680e+002	2.894765e+002
2.618815e+002	1.782699e+002	8.922584e+001	3.052064e+001	5.892945e+000
4.769722e-001	4.574942e-001	4.106143e-001	6.188656e-002	1.000000e-008
1.000000e-008	5.527837e-003	7.718876e-003	3.216100e-004	1.000000e-008
1.000000e-008	1.766383e-004	3.554135e-005	1.000000e-008	1.000000e-008
3.840471e-006	7.529090e-007	1.000000e-008	1.000000e-008	9.079446e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 21

1.000000e-008	1.376717e-002	1.881476e-002	1.000000e-008	1.000000e-008
6.473523e-001	2.749541e+000	1.601209e+000	1.000000e-008	1.000000e-008
1.644115e+001	1.064274e+002	2.388956e+002	3.466997e+002	3.652660e+002
2.887365e+002	1.703600e+002	7.183731e+001	1.932754e+001	2.549008e+000
5.395994e-001	7.338491e-001	3.166813e-001	1.000000e-008	1.000000e-008
1.000000e-008	1.358899e-002	4.742569e-003	1.000000e-008	1.000000e-008
1.660758e-004	1.532537e-004	1.000000e-008	1.000000e-008	2.877566e-006
3.396387e-006	1.000000e-008	1.000000e-008	1.035241e-007	6.124164e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 22

1.000000e-008	2.050424e-002	1.000000e-008	1.000000e-008	1.000000e-008
1.944285e+000	3.412316e+000	1.000000e-008	1.000000e-008	1.000000e-008
6.317843e+001	2.070979e+002	3.699631e+002	4.590098e+002	4.219853e+002
2.911505e+002	1.474357e+002	5.106506e+001	1.018709e+001	1.100049e+000
9.726382e-001	7.743553e-001	1.105342e-001	1.000000e-008	1.000000e-008
1.029093e-002	1.374741e-002	4.423686e-004	1.000000e-008	1.000000e-008
3.163746e-004	5.587960e-005	1.000000e-008	1.000000e-008	6.918777e-006
1.073102e-006	1.000000e-008	1.000000e-008	1.588771e-007	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 23

1.000000e-008	1.234078e-002	1.000000e-008	1.000000e-008	8.008154e-001
3.410676e+000	1.861924e+000	1.000000e-008	1.000000e-008	1.951532e+001
1.485690e+002	3.466431e+002	5.161561e+002	5.551049e+002	4.465209e+002
2.674804e+002	1.143437e+002	3.123213e+001	4.315924e+000	1.039341e+000
1.301716e+000	5.550337e-001	1.000000e-008	1.000000e-008	1.000000e-008
2.305144e-002	7.918055e-003	1.000000e-008	1.000000e-008	3.010799e-004
2.523587e-004	1.000000e-008	1.000000e-008	5.816456e-006	5.468489e-006
1.000000e-008	1.000000e-008	1.994483e-007	9.179801e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 24

1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	2.182900e+000
3.909665e+000	1.000000e-008	1.000000e-008	1.000000e-008	7.940302e+001
2.784751e+002	5.143716e+002	6.544996e+002	6.145944e+002	4.319440e+002
2.223209e+002	7.807797e+001	1.571391e+001	1.683494e+000	1.547796e+000
1.263681e+000	1.969255e-001	1.000000e-008	1.000000e-008	1.599004e-002
2.199251e-002	6.385715e-004	1.000000e-008	1.000000e-008	5.126989e-004
8.071920e-005	1.000000e-008	1.000000e-008	1.136006e-005	1.359196e-006
1.000000e-008	1.000000e-008	2.546142e-007	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 25

1.000000e-008	1.000000e-008	1.000000e-008	8.002793e-001	3.562315e+000
1.740851e+000	1.000000e-008	1.000000e-008	1.894822e+001	1.831383e+002
4.476147e+002	6.872758e+002	7.578436e+002	6.229070e+002	3.803085e+002
1.651995e+002	4.547834e+001	6.000979e+000	1.302952e+000	1.908507e+000
8.723916e-001	1.000000e-008	1.000000e-008	1.000000e-008	3.452865e-002
1.202677e-002	1.000000e-008	1.000000e-008	4.834504e-004	3.785932e-004
1.000000e-008	1.000000e-008	1.030471e-005	8.055167e-006	1.000000e-008
1.000000e-008	3.439718e-007	1.248974e-007	1.000000e-008	1.000000e-008
1.004144e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 26

1.000000e-008	1.000000e-008	5.038125e-003	2.009239e+000	3.753258e+000
1.000000e-008	1.000000e-008	1.000000e-008	8.723584e+001	3.317592e+002
6.365865e+002	8.339937e+002	8.027865e+002	5.765936e+002	3.023742e+002
1.074778e+002	2.116387e+001	1.614378e+000	1.853408e+000	1.779044e+000
3.325236e-001	1.000000e-008	1.000000e-008	2.084650e-002	3.146230e-002
9.612306e-004	1.000000e-008	1.000000e-008	7.505649e-004	1.062346e-004
1.000000e-008	1.000000e-008	1.698886e-005	1.480442e-006	1.000000e-008
1.000000e-008	3.731375e-007	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 27

1.000000e-008	1.000000e-008	6.152391e-001	3.056007e+000	1.255551e+000
1.000000e-008	1.000000e-008	1.452447e+001	1.988949e+002	5.123651e+002
8.139252e+002	9.232414e+002	7.776620e+002	4.850607e+002	2.141697e+002
5.878359e+001	6.547730e+000	7.868024e-001	2.286520e+000	1.217750e+000
1.000000e-008	1.000000e-008	1.000000e-008	4.551374e-002	1.649950e-002
1.000000e-008	1.000000e-008	6.906401e-004	5.151423e-004	1.000000e-008
1.000000e-008	1.623804e-005	1.080901e-005	1.000000e-008	1.000000e-008
5.350852e-007	1.526107e-007	1.000000e-008	1.000000e-008	1.466515e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 28

1.000000e-008	6.513182e-003	1.437016e+000	2.945445e+000	1.000000e-008
1.000000e-008	1.000000e-008	8.347714e+001	3.485606e+002	6.978187e+002
9.437900e+002	9.339221e+002	6.871386e+002	3.676707e+002	1.318231e+002
2.448024e+001	1.907875e-001	1.468597e+000	2.140980e+000	5.117419e-001
1.000000e-008	1.000000e-008	2.235322e-002	4.003715e-002	1.449871e-003
1.000000e-008	1.000000e-008	9.892978e-004	1.265467e-004	1.000000e-008
1.000000e-008	2.308516e-005	1.297508e-006	1.000000e-008	7.278853e-008
4.986962e-007	1.000000e-008	1.000000e-008	1.624271e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 29

1.000000e-008	3.082307e-001	2.038308e+000	6.407239e-001	1.000000e-008
1.000000e-008	8.033755e+000	1.890553e+002	5.165628e+002	8.524255e+002
9.970719e+002	8.628413e+002	5.510577e+002	2.472988e+002	6.692535e+001
5.052429e+000	1.000000e-008	2.146877e+000	1.496480e+000	1.000000e-008
1.000000e-008	1.000000e-008	5.245199e-002	2.032126e-002	1.000000e-008
1.000000e-008	8.768553e-004	6.328255e-004	1.000000e-008	1.000000e-008
2.286238e-005	1.315285e-005	1.000000e-008	1.000000e-008	7.524373e-007
1.649784e-007	1.000000e-008	1.000000e-008	1.949362e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 30

1.000000e-008	6.729450e-001	1.788306e+000	1.000000e-008	1.000000e-008
1.000000e-008	6.920500e+001	3.202176e+002	6.721741e+002	9.421956e+002
9.614119e+002	7.266933e+002	3.973779e+002	1.433918e+002	2.416742e+001
1.000000e-008	2.053384e-001	2.172602e+000	6.995516e-001	1.000000e-008
1.000000e-008	1.860564e-002	4.507825e-002	2.085414e-003	1.000000e-008
1.000000e-008	1.169220e-003	1.357402e-004	1.000000e-008	1.000000e-008
2.840845e-005	7.382392e-007	1.000000e-008	2.500059e-007	6.057103e-007
1.000000e-008	1.000000e-008	2.418652e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 31

1.000000e-008	8.890440e-001	1.750474e-001	1.000000e-008	1.000000e-008
2.321616e+000	1.560393e+002	4.544522e+002	7.823084e+002	9.476347e+002
8.460440e+002	5.547850e+002	2.534029e+002	6.720176e+001	1.770569e+000
1.000000e-008	1.407588e+000	1.608206e+000	7.210445e-002	1.000000e-008
1.000000e-008	5.243143e-002	2.237102e-002	1.000000e-008	1.000000e-008
9.864371e-004	6.989546e-004	1.000000e-008	1.000000e-008	2.878348e-005
1.444655e-005	1.000000e-008	1.000000e-008	9.563364e-007	1.539844e-007
1.000000e-008	1.000000e-008	2.353177e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 32

1.000000e-008	7.057675e-001	1.000000e-008	1.000000e-008	1.000000e-008
4.948650e+001	2.549389e+002	5.637781e+002	8.228508e+002	8.692966e+002
6.779358e+002	3.802353e+002	1.384125e+002	2.061548e+001	1.000000e-008
1.000000e-008	1.827859e+000	8.367463e-001	1.000000e-008	1.000000e-008
9.899448e-003	4.473757e-002	2.752798e-003	1.000000e-008	1.000000e-008
1.234848e-003	1.306769e-004	1.000000e-008	1.000000e-008	3.156267e-005
1.000000e-008	1.000000e-008	4.646410e-007	6.660901e-007	1.000000e-008
1.000000e-008	3.210119e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 33

1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.108297e+002	3.456181e+002	6.240837e+002	7.866925e+002	7.274637e+002
4.921922e+002	2.300839e+002	6.014380e+001	1.000000e-008	1.000000e-008
3.373105e-001	1.506813e+000	2.073286e-001	1.000000e-008	1.000000e-008
4.510935e-002	2.198413e-002	1.000000e-008	1.000000e-008	9.809104e-004
6.924546e-004	1.000000e-008	1.000000e-008	3.241932e-005	1.426459e-005
1.000000e-008	1.000000e-008	1.098195e-006	1.180790e-007	1.000000e-008
1.000000e-008	2.572377e-008	1.000000e-008	1.000000e-008	1.000000e-008

1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 34

1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	3.041898e+001
1.740045e+002	4.078186e+002	6.234494e+002	6.856676e+002	5.543889e+002
3.209478e+002	1.190291e+002	1.587139e+001	1.000000e-008	1.000000e-008
1.247020e+000	8.688459e-001	1.000000e-008	1.000000e-008	1.000000e-008
3.913355e-002	3.260702e-003	1.000000e-008	1.000000e-008	1.164356e-003
1.128623e-004	1.000000e-008	1.000000e-008	3.161540e-005	1.000000e-008
1.000000e-008	6.685156e-007	6.609983e-007	1.000000e-008	1.000000e-008
3.823360e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 35

1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	6.693607e+001
2.246126e+002	4.284559e+002	5.657766e+002	5.453468e+002	3.832163e+002
1.851083e+002	4.878830e+001	1.000000e-008	1.000000e-008	1.000000e-008
1.230961e+000	2.997717e-001	1.000000e-008	1.000000e-008	3.321090e-002
1.934014e-002	1.000000e-008	1.000000e-008	8.628214e-004	6.159688e-004
1.000000e-008	1.000000e-008	3.274590e-005	1.263073e-005	1.000000e-008
1.000000e-008	1.140367e-006	6.430938e-008	1.000000e-008	1.627527e-008
2.538374e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 36

1.000000e-008	1.000000e-008	1.000000e-008	1.594331e+001	1.003622e+002
2.514205e+002	4.058596e+002	4.682070e+002	3.955112e+002	2.385427e+002
9.168624e+001	1.187704e+001	1.000000e-008	1.000000e-008	6.608970e-001
7.793684e-001	1.000000e-008	1.000000e-008	1.000000e-008	3.033283e-002
3.422183e-003	1.000000e-008	1.000000e-008	9.836115e-004	8.771977e-005
1.000000e-008	1.000000e-008	2.859789e-005	1.000000e-008	1.000000e-008
8.099997e-007	5.905438e-007	1.000000e-008	1.000000e-008	4.106426e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 37

1.000000e-008	1.000000e-008	1.000000e-008	3.367757e+001	1.228477e+002
2.501967e+002	3.492843e+002	3.540129e+002	2.608563e+002	1.320060e+002
3.640938e+001	1.000000e-008	1.000000e-008	1.000000e-008	8.753929e-001
3.160176e-001	1.000000e-008	1.000000e-008	2.089963e-002	1.532233e-002
1.000000e-008	1.000000e-008	6.760110e-004	4.946445e-004	1.000000e-008
1.000000e-008	2.983204e-005	1.002748e-005	1.000000e-008	1.000000e-008
1.073711e-006	1.000000e-008	1.000000e-008	2.501628e-008	2.252431e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 38

1.000000e-008	1.000000e-008	6.858852e+000	4.778345e+001	1.300765e+002
2.244423e+002	2.743905e+002	2.446244e+002	1.555926e+002	6.335178e+001
9.063101e+000	1.000000e-008	1.000000e-008	2.347496e-001	6.006314e-001
3.190107e-002	1.000000e-008	1.000000e-008	2.105256e-002	3.148153e-003
1.000000e-008	1.000000e-008	7.508946e-004	6.152363e-005	1.000000e-008
1.000000e-008	2.347721e-005	1.000000e-008	1.000000e-008	8.562577e-007

4.742187e-007	1.000000e-008	1.000000e-008	3.991034e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 39

1.000000e-008	9.585628e-002	1.343914e+001	5.518498e+001	1.223773e+002
1.830436e+002	1.972830e+002	1.542061e+002	8.303976e+001	2.492229e+001
1.000000e-008	1.000000e-008	1.000000e-008	5.367331e-001	2.638457e-001
1.000000e-008	1.000000e-008	1.132961e-002	1.098130e-002	1.000000e-008
1.000000e-008	4.791662e-004	3.614085e-004	1.000000e-008	1.000000e-008
2.470884e-005	7.144633e-006	1.000000e-008	1.000000e-008	9.195803e-007
1.000000e-008	1.000000e-008	3.026190e-008	1.785967e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 40

1.000000e-008	2.047571e+000	1.783987e+001	5.510654e+001	1.038236e+002
1.364149e+002	1.298827e+002	8.823385e+001	3.881651e+001	6.704749e+000
1.000000e-008	1.000000e-008	6.061857e-003	3.948594e-001	4.934836e-002
1.000000e-008	1.000000e-008	1.322592e-002	2.502939e-003	1.000000e-008
1.000000e-008	5.235011e-004	3.855662e-005	1.000000e-008	2.363196e-006
1.758262e-005	1.000000e-008	1.000000e-008	8.027473e-007	3.410500e-007
1.000000e-008	1.000000e-008	3.507930e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 41

1.000000e-008	3.595864e+000	1.933421e+001	4.891132e+001	8.011404e+001
9.310790e+001	7.810104e+001	4.532590e+001	1.514859e+001	1.000000e-008
1.000000e-008	1.000000e-008	2.787126e-001	1.798951e-001	1.000000e-008
1.000000e-008	5.405763e-003	7.088766e-003	1.000000e-008	1.000000e-008
3.133715e-004	2.408916e-004	1.000000e-008	1.000000e-008	1.867678e-005
4.552422e-006	1.000000e-008	1.000000e-008	7.149833e-007	1.000000e-008
1.000000e-008	3.079551e-008	1.248330e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 42

1.000000e-008	4.418259e+000	1.815107e+001	3.914746e+001	5.645031e+001
5.811952e+001	4.257769e+001	2.043609e+001	4.292984e+000	1.000000e-008
1.000000e-008	1.000000e-008	2.197780e-001	4.064199e-002	1.000000e-008
1.000000e-008	7.525982e-003	1.685587e-003	1.000000e-008	1.000000e-008
3.335891e-004	2.069088e-005	1.000000e-008	3.334674e-006	1.195839e-005
1.000000e-008	1.000000e-008	6.661270e-007	2.167984e-007	1.000000e-008
1.000000e-008	2.755933e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 43

1.000000e-008	4.473549e+000	1.515148e+001	2.843665e+001	3.628455e+001
3.295721e+001	2.071438e+001	7.698414e+000	3.031712e-001	1.000000e-008
1.000000e-008	1.210375e-001	1.008784e-001	1.000000e-008	1.000000e-008
2.349163e-003	4.034036e-003	1.000000e-008	1.000000e-008	1.895545e-004

1.439822e-004	1.000000e-008	1.000000e-008	1.268773e-005	2.538059e-006
1.000000e-008	1.000000e-008	4.950222e-007	1.000000e-008	1.000000e-008
2.649141e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 44

1.000000e-008	3.936729e+000	1.136726e+001	1.872373e+001	2.110683e+001
1.672419e+001	8.719245e+000	2.123963e+000	1.000000e-008	1.000000e-008
1.000000e-008	1.022309e-001	2.386568e-002	1.000000e-008	1.000000e-008
3.782440e-003	9.287275e-004	1.000000e-008	1.000000e-008	1.884997e-004
8.539136e-006	1.000000e-008	3.083426e-006	7.143008e-006	1.000000e-008
1.000000e-008	4.736477e-007	1.170710e-007	1.000000e-008	1.000000e-008
1.864581e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 45

1.000000e-008	3.071292e+000	7.649562e+000	1.104532e+001	1.090668e+001
7.379845e+000	2.980838e+000	1.983473e-001	1.000000e-008	1.000000e-008
4.438222e-002	4.505952e-002	1.000000e-008	1.000000e-008	9.518896e-004
1.913512e-003	1.000000e-008	1.000000e-008	1.005381e-004	7.257377e-005
1.000000e-008	1.000000e-008	7.291082e-006	1.156136e-006	1.000000e-008
3.841738e-008	2.871767e-007	1.000000e-008	1.000000e-008	1.836291e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 46

1.000000e-008	2.118867e+000	4.525610e+000	5.669632e+000	4.825138e+000
2.682263e+000	7.048970e-001	1.000000e-008	1.000000e-008	1.000000e-008
3.734526e-002	9.690455e-003	1.000000e-008	1.000000e-008	1.537063e-003
3.822055e-004	1.000000e-008	1.000000e-008	8.518969e-005	1.979444e-006
1.000000e-008	2.005692e-006	3.375872e-006	1.000000e-008	1.000000e-008
2.611032e-007	4.802900e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 47

1.000000e-008	1.244723e+000	2.219933e+000	2.369219e+000	1.693634e+000
7.150030e-001	4.413328e-002	1.000000e-008	1.000000e-008	1.292631e-002
1.354601e-002	1.000000e-008	1.000000e-008	3.244048e-004	6.329980e-004
1.000000e-008	1.000000e-008	3.846555e-005	2.546723e-005	1.000000e-008
1.000000e-008	2.927000e-006	3.478170e-007	1.000000e-008	4.155826e-008
1.154379e-007	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 48

1.000000e-008	5.321659e-001	7.458165e-001	6.662524e-001	3.824362e-001
9.859915e-002	1.000000e-008	1.000000e-008	1.000000e-008	7.138829e-003

1.755393e-003	1.000000e-008	1.000000e-008	3.314386e-004	7.620449e-005
1.000000e-008	1.000000e-008	1.985410e-005	1.000000e-008	1.000000e-008
6.283643e-007	8.123329e-007	1.000000e-008	1.000000e-008	7.240385e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	

Row 49

1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008
1.000000e-008	1.000000e-008	1.000000e-008	1.000000e-008	