
2007 Annual Performance Evaluation Report Volume 2

Baldwin Park Operable Unit of the San Gabriel Valley
Superfund Sites
Los Angeles County, California

Prepared for:

Baldwin Park Operable Unit Cooperating Respondents

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APPENDIX A

Baldwin Park Operable Unit
San Gabriel Valley, California

1.0 INTRODUCTION

Plume maps and chemical cross sections were prepared to present the approximate distribution of seven chemicals of concern (COCs) in groundwater in the Baldwin Park Operable Unit (BPOU) in 2007 in accordance with the requirements of Section 6.1.2 of the Performance Standards Evaluation Plan (PSEP) (Geomatrix, 2004a) and the recommendations made in our technical memorandum, Response to Requested Modification #3 to the Revised Final Performance Standards Evaluation Plan, dated February 17, 2004 (Geomatrix, 2004b). This memorandum recommended that future interpretations of the spatial distribution and temporal trends of COCs in groundwater focus on seven selected COCs: 1,2-dichloroethane (1,2-DCA); 1,4-dioxane; carbon tetrachloride; N-nitrosodimethylamine (NDMA); perchlorate; tetrachloroethene (PCE); and trichloroethene (TCE). These seven COCs were selected because they meet one or more of the following criteria:

- Observed levels of the compounds meet or exceed either California Maximum Contaminant Levels (MCLs) or, if no MCL has been established, the California Drinking Water Notification Level (NLs), as applicable.
- They occur relatively frequently in the BPOU.
- They may be a controlling compound relative to effectiveness of treatment processes used in BPOU Treatment Plants.

Plume maps and chemical cross sections for these seven COCs were previously submitted to the U.S. Environmental Protection Agency (EPA) in the 2006 Annual Performance Evaluation (PE) Report, Volume 2, dated May 18, 2007 (Geomatrix, 2007).

The plume maps and chemical cross sections were created by developing a three-dimensional (3D) representation of chemical distribution using a grid-based interpolation technique and then slicing the three-dimensional grids at specific elevation intervals and along specific transects. The water-quality monitoring data used to develop the plume maps, gridding technique, limitations, and results are discussed in the following sections.

As discussed in Section 4.0 of this Report, while every effort has been made to achieve an accurate depiction of the distribution of these COCs at various elevation intervals, there are substantial limitations in depicting one (or multi-dimensional) image(s) of a dynamic and complex plume. The plume maps and chemical cross-sections must be understood as best approximations based upon existing data, not exact and completely accurate expressions of a very complicated data set.

2.0 WATER-QUALITY DATA

Plume maps and chemical cross sections for each chemical were generated using water-quality data primarily collected for the PSEP BPOU-wide water-quality monitoring program and supplemented with additional data collected for California Department of Public Health (DPH) and Regional Water Quality Control Board – Los Angeles Region (RWQCB) monitoring requirements. Water-quality monitoring data used to generate the plume maps and chemical cross sections are summarized in Table A-1. Locations of wells used for these interpretations are shown on Figure A-1. Water-quality monitoring data used for these interpretations include sample results from 58 wells and 149 total sample locations, including up to 13 individual sample ports in 18 multiport wells and two discrete sample depths in four inactive production wells that were sampled using dedicated low-flow pumps. All 51 wells included in the PSEP baseline water-quality monitoring program were used. Results from seven supplemental monitoring and production wells were included to provide additional data coverage.

Water-quality monitoring data were selected from a limited time period that was targeted around the second semi-annual sampling event in the multiport monitoring wells conducted from September through November 2007. Eighty-three percent of the data used for the plume maps and chemical cross sections are from water-quality samples that were collected within this three-month period. If data from various wells were not available within this date range, then data from the next closest date were selected to create the most contemporaneous data set possible. Data utilized from outside the three-month period extending from September through November 2007 included data from the following:

- Certain extraction and monitoring wells that were not accessible for sampling in the September through November time period. These wells are in the PSEP BPOU-wide water-quality monitoring network and are sampled on a quarterly, semi-annual, or annual frequency.

- Certain production wells that were not sampled during the September through November time period. These wells are in the PSEP BPOU-wide water-quality monitoring network and are sampled on an annual basis.
- Additional production and monitoring wells not included in the PSEP water-quality monitoring network.

Data validation and data quality assessment for data used in the plume modeling are discussed in Section 5.2.2 of Volume 1 of this Annual Report.

3.0 THREE-DIMENSIONAL INTERPRETATION

Water-quality monitoring data for each COC were interpolated on a 3D grid using the geospatial software program, EarthVision®. The 3D grid developed for the plume maps is 8,400 meters wide, 19,100 meters long, and 570 meters thick. The grid was divided into cells that are 100 meters wide, 250 meters long, and 10 meters thick. The grid was rotated 38 degrees to orient it parallel to the primary groundwater flow direction (northeast-southwest) across the BPOU. The model used a vertical influence factor of 0.1 (dimensionless).

3.1 EARTHVISION® GRIDDING TECHNIQUE

The 3D Grid Calculations program in EarthVision® was used to interpolate chemical concentrations that varied continuously in 3D space using the 3D minimum tension gridding technique. The minimum tension gridding algorithm calculates a smooth surface that closely fits the input data values using biharmonic-cubic spline techniques. This procedure produces a 3D grid depicting the interpolated distribution of chemical concentrations throughout the defined volume. The technique is designed to match data where it exists, to smoothly interpolate between known data points, and to extrapolate where there is no data using a splining technique to develop a smooth surface with minimum curvature.

The 3D Grid Calculations program creates a 3D grid from X, Y, Z, and property (P) input data where X, Y, and Z define the location of each point and P is the concentration value of the chemical at that point. Water-quality monitoring data are input at the exact geographic coordinates (X, Y) of the respective well and either at the mid-screen elevation of the respective well screened interval (Z) or at the exact elevation of a discrete water-quality sample collected using low-flow sampling methods. The mid-screen elevations for production wells having multiple well screened intervals are represented using the mid-screen elevation of the composite well screened interval.

The interpolated results are rectangular grids containing nodes at regularly spaced intervals in each dimension. The chemical concentrations being interpolated are stored for each grid node location and used for subsequent display and analysis. Once a 3D grid is calculated, it is used to create a faces file representing 3D isoconcentration shells, equivalent to two-dimensional (2D) contour lines.

The main goals of the gridding technique are to represent the input data as closely as possible and also to calculate a reasonable interpolated value at grid nodes that are not on or adjacent to input data points. The two-stage minimum tension gridding technique permits gridding computation times suitable to a working environment and modeling accuracy appropriate to almost every type of input data. Estimation of interpolated values at grid nodes uses a finite-difference solution approach.

The two stages of minimum tension gridding include the initial estimate and cubic function iterations with scattered data feedback. The initial grid estimation process calculates a P-value for every grid node in an extremely coarse 3D grid that is used in the initial stages of gridding. This coarse grid contains four X-columns, four Y-rows, and four Z-levels regardless of the number of columns, rows, and levels specified by the user. This coarse grid covers the exact range specified by the user. All of the scattered data points are used as input to an inverse-distance weighted average function which calculates a P-value at each of the 64 initial node positions.

Once the starting P-values are estimated for the initial coarse grid, iterations begin. Each iteration consists of calculation of a new P-value for each grid node (one by one) with neighboring grid nodes providing input values to a cubic function that determines the new value. Once the new value is calculated for any one node, the scattered data are used for the feedback process described in the next section. Minimum tension is the distribution of tension (the second derivative or curvature of the property variation) among the nodes such that the sum of the squares of the second derivatives is minimized. The cubic function is fitted to the grid nodes in these iterations rather than to the input scattered data points. Since the input points are not used in this tension relaxation, it is possible that the property distributions represented by these grid nodes may move away from the scattered data P-values, thus not honoring the data as well. To prevent this, a scattered data feedback step follows each re-evaluation of each grid node. If no scattered data points exist within a grid cell spacing in each direction, the grid node is left with the P-value established by the just-completed function. All of the scattered data points falling within the one cell zone around the grid node in question are

evaluated. The P-value(s) are determined at the X, Y, Z location(s) of the scattered data point(s) within the zone based on the current grid node values and these P-value(s) are compared to the input P-value(s) in the scattered data. The difference between these two values should decrease between iterations as the gridding progresses. As long as this difference (deviation) is decreasing, the program accepts the new, function-derived grid node value, and proceeds to recalculate the next grid node. If the deviation increases, the node is reset to a value that more closely agrees with the scattered data point. When a neighboring point is re-evaluated, this corrected node is one of the points input to the cubic function for the next node. The iterative re-evaluation cycle distributes the correction away from the corrected node to surrounding nodes that do not have scattered data in their immediate vicinity. Through this process, the scattered data feedback keeps grid nodes tied to neighboring scattered data while allowing the cubic function to distribute tension in a reasonable fashion.

3.2 NON-DETECT VALUES GRIDDING

The gridding of non-detect values requires special treatment for scattered data containing P-values equal to a user-specified non-detect value. A non-detect value is a flag in the input data set that signifies that the COC being measured was not detected above the Method Detection Limit (DL) or Reporting Limit (RL) for the respective analytical method. Non-detect flags are used as input for the plume interpretations at locations where groundwater samples were collected but chemical concentrations were below the sample quantitation limit. Non-detect flags were set to -999. An example of the non-detect application in 3D can occur with spot or random data that contain scattered data points with X, Y, Z, and P information measuring a contaminant throughout the area of interest. In this case, the edge of the contaminant plume should not necessarily pass through every scattered data point that has a non-detect P-value. If the data are randomly located, most if not all of the scattered data points with non-detect P-values should simply fall outside of the plume, and not define the exact edge of the plume. In the first gridding pass, scattered data points with the non-detect P-value are ignored. This first calculation is done using the standard minimum tension gridding technique. Using the grid from the first pass, a back-interpolated value is calculated at all unclipped non-detect points; the P-values at those points are then reset to the negative of the absolute of that calculated value. The second gridding pass uses these reset values along with the original data points used in the first pass to generate the final output grid.

4.0 LIMITATIONS

The depictions of plume geometry presented in Figures A-2 through A-50 represent the current estimate of the distribution of the COCs in the BPOU in 2007. However, as with any approach used to interpolate data between known data points, there are uncertainties and limitations to the approach that may result in alternative interpretations of the distribution of COCs in groundwater. These uncertainties and limitations are as follows:

- For clarity, and as requested by EPA, we have depicted the seven principal COCs in separate plume maps at three elevations. Plumes for the various COCs overlap (and/or diverge) at various depths throughout the impacted areas.
- The plume maps and chemical cross sections attempt to depict the dynamic and temporally changing three-dimensional distribution of COCs in groundwater with static two-dimensional images. While these maps and cross sections show two-dimensional isoconcentration contours of the COC plumes in plan view and in profile, they represent interpolated approximations of the distribution of COCs in groundwater based on available data. The exact subsurface distribution of the COCs cannot be completely ascertained given temporal changes in groundwater flow directions and COC concentrations, as well as the data gaps and other limitations described herein. The spatial and temporal spread of the chemical data may not encompass the entire distribution of chemicals in the groundwater (*i.e.*, additional assumptions are necessary as to chemical concentrations in areas that may not be completely represented by monitoring wells). In particular, results of the interpolation should be carefully evaluated in areas where available data are limited or concentrations change significantly over short distances.
- Alternative interpretations of the distribution of the COC plumes are possible and may differ from the plume depicted here by utilizing plumes drawn manually using professional judgment. For example, plume maps and chemical cross sections for certain COCs portray discontinuous plumes in areas where the plumes may in fact be continuous.
- As described above, the plume interpretations generally incorporate water-quality data for the period from September through November 2007. However, where data were not available for that time period data from the next closest date during the January through December 2007 time period were utilized. While using such an expanded data set is helpful to some degree in the contouring exercise, it introduces additional uncertainties in comparing data taken from different time periods and assuming that the ultimate projection is a consistent one. Moreover, even using this temporally diverse data set, there are inevitable gaps in the existing data that limit our ability to define the distribution of COCs in groundwater completely. In addition, the EarthVision® software used to create the plume maps and chemical cross sections utilizes certain algorithms to interpolate or “fill in” data gaps in order to provide a more comprehensive picture of the distribution of COCs. Although the

EarthVision® software objectively applies the selected interpolation scheme, other software and other interpolation schemes may be applied that may generate reasonable, yet differing, results, each appropriately honoring the available monitoring data. This is not a unique limitation of the EarthVision® software, but simply a limitation of any methodology with limited data. Consequently, the interpretation may result in differences between actual and interpreted concentrations at any given point in the Project area.

- The Duarte Fault is represented as a diffuse zone of faulting on the plume maps and chemical cross sections. However, no faulting was explicitly represented in any way in the 3D grid used to interpolate the plumes. The diffuse fault zone is considered to be a reasonable representation of the uncertainty in the fault's location as it has several fault splays concealed beneath alluvial deposits.
- The northern-most limits of the COCs depicted on the plume maps are uncertain due to the limited amount of data available to the CR group from other EPA-named PRPs, including the Mobil/Lockheed/Valspar group, as well as other entities that may be PRPs in the northern portions of the BPOU. The most recent available data from several PRP monitoring wells located north of the Duarte Fault indicates detections of several COCs such as TCE and PCE. In some cases the most recent detections were at concentrations that exceeded MCLs. Because the most recent data available for some of these PRP wells are several years old, such results were not explicitly included in the 2007 interpretation of the distribution of the COC plumes. However, to present an interpretation of the distribution of the COC plumes that recognizes COC detections in the most recently available data from PRP monitoring wells north of the Duarte Fault, the isoconcentration contours for TCE and PCE are shown extending upgradient (north) to the Duarte Fault zone.

Various contours created by the EarthVision® software differ from those that individual Cooperating Respondents (CRs) might have depicted based upon their own professional analyses and judgments. These maps reflect our operation of the EarthVision® software and should not be taken as an admission by any CR for any purpose, and specifically they should not be taken as an admission by any CR that they accurately reflect such CR's views as to actual conditions in the BPOU area. Even with these limitations, the plume maps, chemical cross sections, and isoconcentration shells provide useful information on general chemical distributions, if one appreciates the inherent limitations.

5.0 RESULTS

Final grid values were contoured at the respective applicable regulatory contaminant level, either the MCL or, if no MCL has been established, the NL, and were visualized as 3D isoconcentration shells that can be rotated and viewed from any perspective.

The lateral distribution of the selected COCs is shown in plan view at three specific elevation intervals. The three elevation intervals correspond to two shallow extraction intervals and one deep extraction interval, as follows:

- Shallow extraction interval between the water table and -200 feet msl;
- Shallow extraction interval between -200 feet and -500 feet msl; and
- Deep extraction interval below -500 feet msl.

The plume maps for the three elevation intervals shown include two sets of isoconcentration contours on each map. Isoconcentration contours at “discrete” elevations are shown for thin slices through the plumes at -50, -350 and -550 feet msl. Isoconcentration contours for “composite” elevation intervals are also shown for thick wedges of the plume between the water table and -200 feet msl, between -200 and -500 feet msl, and below -500 feet msl. On some of the plume maps, the isoconcentration contour lines at discrete elevations (dashed contour line) and the isoconcentration contour line for the composite elevation interval (solid contour line) overlap so that the discrete contour is not separately visible.

Chemical cross sections showing the vertical distribution of selected COCs along four discrete transects are also shown. Cross section A-A' represents a north-south transect that is aligned generally with the longitudinal axis of the COC plumes. Cross Sections B-B', C-C', and D-D' represent east-west or northwest-southeast transects that are aligned generally perpendicular to the dominant groundwater flow direction in the BPOU. Cross sections B-B', C-C', and D-D' show the distribution of the COC plumes in the upgradient, mid-plume, and downgradient areas of the BPOU and include various production wells that are vulnerable to lateral migration of the COC plumes toward the west or east. Cross section C-C' is generally unchanged from previous annual reports but is slightly realigned so that it passes directly through several wells that were previously projected onto the cross section.

Given the three-dimensional nature of the plume, the reader is encouraged to consider the three-dimensional visualization that is inset in the corner of each figure when reviewing the two-dimensional plume maps and chemical cross sections. This will provide the appropriate context within which to review the isoconcentration contours in each elevation interval and along each transect. It should be noted that the water quality data used to create the three-dimensional plume interpretations are posted on the plume maps according to the composite elevation intervals described above. Therefore, in many instances the discrete contours may

not appear to correspond to water quality data that are within the composite elevation interval but that are either above or below the elevation of the discrete contours.

Isoconcentration shells, plume maps, and chemical cross sections for seven COCs are shown in Figures A-2 through A-50. The isoconcentration shells visualized in 3D perspective represent views of the COC plumes looking toward the north and represent the interpreted 3D extent of each COC at concentrations meeting or exceeding the respective applicable MCL or NL. The bottom of the isoconcentration shells is bounded by the underlying bedrock surface at the base of the aquifer. The bedrock surface was obtained in a Geographic Information System (GIS) layer from the EPA/CH2M-Hill San Gabriel Basin Database website. The top of the isoconcentration shells is bounded by a simulated potentiometric surface from the updated BPOU groundwater flow model. The simulated potentiometric surface represents water level conditions at the end of Water Year (WY) 2006-07 on June 30, 2007.

Generalized distributions of each chemical are also shown on Figures 5-8 through 5-14, included in Volume 1 of the Annual Report. The isoconcentration contours shown on these figures represent the composite lateral extent of each chemical for every elevation within the 3D grid.

Evaluation of both the generalized plume maps shown on Figures 5-8 through 5-14 in Volume 1 of the Annual Report and the detailed elevation-specific plume maps and chemical cross sections that are shown in Appendix A resulted in the following general observations regarding apparent changes in the spatial distribution of COCs in the BPOU compared to the previous year:

- The longitudinal extent of the longest COC plumes extends from north of the Duarte Fault zone in Subarea 1, approximately 7.5 miles towards the southwest, where the plumes terminate near the confluence of Avocado Creek and the San Gabriel River.
- The maximum lateral extent of the various COC plumes generally overlap throughout their extent, with the exception of the 1,4-dioxane plume, which has a much smaller lateral extent in comparison to other COC plumes.
- The vertical extent of the various COC plumes ranges from depths of approximately 600 feet below ground surface (bgs) to the north of Arrow Highway, in Subarea 1, to approximately 1,000 feet bgs in Subarea 3. The COC plume with the maximum vertical extent is carbon tetrachloride.
- In Subarea 1, the lateral extent of the 1,4-dioxane plume appears slightly wider compared to the previous year primarily as the result of higher concentrations in the

shallowest ports of several multiport wells on the west side of the plume including MW 5-13, MW 5-17, and WHICO MP-1. The 1,4-dioxane plume appears to be vertically disconnected in the area of MW 5-24 with the deeper portion separated by approximately 600 vertical feet from the shallower and more laterally extensive portion of the plume. These deeper detections of 1,4-dioxane are considered anomalous and may be the result of contamination introduced into the formation or the borehole mudcake during well construction.

- In Subarea 1, the lateral extent of carbon tetrachloride appears slightly wider compared to the previous year primarily as the result of higher concentrations of carbon tetrachloride on the east side of the plume in the shallowest port of MW 5-18.
- In Subarea 1, the lateral extent of perchlorate appears slightly narrower compared to the previous year due to the non-detect results in 2007 at ALR MW-1R and ALR MW-8. In the previous year, concentrations of perchlorate were detected between the RL and DL and the results were qualified as estimated (J-qualifier).
- In Subarea 3, the lateral extent of perchlorate appears to extend slightly farther to the east than depicted in the previous year due to increased concentrations of perchlorate detected during 2007 in SWS 139W2, SWS 140W5, and the MW 5-28 monitoring well cluster
- In Subarea 3, the downgradient extent of several COC plumes appears to be slightly different than the previous year due to slight changes in COC concentrations in various wells near the terminus of the plumes. The downgradient extents of 1,2-DCA, carbon tetrachloride, and TCE appear to be slightly reduced from the previous year whereas the extent of the NDMA plume appears to be slightly greater than the previous year.

When reviewing the general observations presented above, apparent changes in the interpreted spatial distribution of a particular COC plume from year to year should be considered with due caution. Historical variations in chemical concentrations have been observed seasonally and from year to year as basin water levels vary. In some instances, observed COC concentrations have fluctuated above and below MCLs (or NLs) and RLs (or DLs) during the span of one or two years or even from one sampling event to the next. Therefore, very slight changes in water quality results from one sampling event to the next may significantly alter the interpreted spatial extents of the COC plumes that are depicted on the plume maps and chemical cross sections. Therefore, while the apparent short-term changes in the interpreted plume extents may be representative of seasonal or annual changes, the apparent short-term changes should not be considered as representative of longer-term (multi-year) trends until such observations can be confirmed over several years. This is particularly important for wells located along the perimeter of the plumes.

Subject to the foregoing limitations, the plume maps and chemical cross sections provide a reasonable approximation of the distribution of chemical concentrations across most of the BPOU within the time frame analyzed, although the precise extent of the COC plumes in certain areas may be subject to additional interpretation.

We have attempted to use a comprehensive and approximately contemporaneous dataset for the development of 3D interpretations of plume maps and chemical cross sections for individual COCs. The use of any water-quality data from a particular well or series of wells, however, does not necessarily indicate that such well is impacted by contaminants originating from a source identified by EPA as a PRP in the BPOU.

6.0 REFERENCES

Geomatrix 2004a, Revised Final Performance Standards Evaluation Plan, 30 January 2004.

Geomatrix, 2004b, Technical Memorandum – Response to Requested Modification #3 to the Revised Final Performance Standards Evaluation Plan, 17 February 2004.

Geomatrix 2007, 2006 Annual Performance Evaluation Report, Baldwin Park Operable Unit of the San Gabriel Valley Superfund Sites, Los Angeles County, California, 18 May 2007.

TABLES

TABLE A-1
WATER QUALITY MONITORING DATA FOR PLUME MODELING
 Baldwin Park Operable Unit
 San Gabriel Valley, California

Well Name	Site ID	Port ^a	Date	1,2- Dichloroethane (mg/L)	1,4- Dioxane (mg/L)	Carbon Tetrachloride (mg/L)	N- Nitrosodimethylamine (ng/L)	Perchlorate (mg/L)	Tetrachloroethene (mg/L)	Trichloroethene (mg/L)
Federal or California State MCL (NL)^b				0.5	(3)	0.5	(10)	6	5	5
AJ MW-2	W11AJMW2		7/17/2007	1.5	2.9	5.1	209	486	200	300
AJ MW-3	W11AJMW3		7/16/2007	0.5 U	0.82	0.5 U	3.4	3 U	1700	160
AJ MW-4 ^c	W11AJMW4		7/17/2007	1.1	0.71	6.4	13	113	130	270
AJ MW-5 ^c	W11AJMW5		7/16/2007	0.5 U	0.5 U	0.5 U	2 U	3 U	1 U	1 U
ALR MW-1R	W11AZW1R		8/6/2007	0.5 UJ	11	0.5 UJ	0.56 J	4 U	1.6	7.6
ALR MW-8	W11AZW08		8/6/2007	0.5 UJ	10	0.5 UJ	1.9 U	4 U	1 U	1.7
ALR MW-9	W11AZW09		8/6/2007	2.5 J	3.7	0.61 J	3400 J	33	410	73
CC E DURBIN	01902920		10/4/2007	0.5 U	2.8 U	0.5 U	1.9 UJ	4 U	16	13
CDWC 2 ^d	01901181		1/18/2007	--	--	0.5 U	--	--	0.5 U	0.5 U
CDWC 3	01903057		10/2/2007	0.5 U	2.9 U	3.5	23 J	8.4	2.5	3.4
CDWC 5A ^d	08000100		1/18/2007	--	--	0.6	--	--	4.9	6.8
CDWC 6 ^d	01902967		1/18/2007	--	--	2.7	--	--	6.8	13
CDWC 8 ^d	01903081		1/18/2007	--	--	--	--	--	4.4	0.5 U
CDWC 14	08000174		10/2/2007	0.31 J	2.9 U	4.4	33 J	10	1.7	4.3
CIC BALDWIN 1	01900885		10/31/2007	0.5 U	2.8 U	0.5 UJ	1.9 U	4 U	0.54 J	1 U
COI 5	08000097		7/2/2007	0.5 U	2.9 U	0.5 U	1.2 J	8.9	0.38 J	3.5
EPA MW 5-01	EPAW51	Port 13	10/19/2007	0.5 U	0.81 J	0.5 U	1.9 UJ	4 U	1 U	1 U
		Port 12	10/19/2007	0.5 U	1.4 J	0.5 U	2.2 UJ	3.7 J	2.3	2.5
		Port 11	10/19/2007	0.54	3.8	0.5 U	2.4	6.4	15	21
		Port 10	10/18/2007	0.5 U	3 U	0.5 U	3.8	4 U	1 U	1.2
		Port 9	10/18/2007	0.5 U	3 U	0.5 U	1.7 J	2.8 J	1 U	3.1
		Port 8	10/18/2007	0.5 U	2.9 U	0.5 U	0.91 J	10	3.1	4.3
		Port 7	10/17/2007	0.5 U	2.9 U	0.3 J	1.1 J	11	0.37 J	4
		Port 6	10/17/2007	0.5 U	2.9 U	4	3.4	15	0.32 J	1.2
		Port 5	10/17/2007	0.5 U	2.8 U	3.6	1.3 J	3.4 J	1 U	1 U
		Port 4	10/16/2007	0.5 U	2.9 U	0.5 U	1.4 J	4 U	1 U	1 U
		Port 3	10/16/2007	0.5 U	2.9 U	0.5 U	2.7	4 U	1 U	1 U
Port 2	10/15/2007	0.5 U	2.8 U	0.5 U	1.9 U	4 U	1 U	1 U		
Port 1	10/15/2007	0.5 U	2.9 U	0.5 U	1.9 U	4 U	1 U	1 U		

TABLE A-1
WATER QUALITY MONITORING DATA FOR PLUME MODELING
 Baldwin Park Operable Unit
 San Gabriel Valley, California

Well Name	Site ID	Port ^a	Date	1,2- Dichloroethane (mg/L)	1,4- Dioxane (mg/L)	Carbon Tetrachloride (mg/L)	N- Nitrosodimethylamine (ng/L)	Perchlorate (mg/L)	Tetrachloroethene (mg/L)	Trichloroethene (mg/L)
Federal or California State MCL (NL)^b				0.5	(3)	0.5	(10)	6	5	5
LACO KEY	Z1000006		8/7/2007	0.64	6	0.28 J	11	24	32	73
LACO SANTA FE 1	08000070		3/7/2007	0.5 U	2.8 U	0.5 U	1.9 U	4 U	0.43 J	1.7
LPVCWD 3	01902859		10/3/2007	0.73	0.44 J	0.64	61 J	26	2.1	13
MW 5-03	BPW503	Port 9	9/26/2007	0.5 U	13	0.5 U	2 U	4 U	28	18
		Port 8	9/26/2007	3.3	0.39 J	0.5 U	1.9 U	3.1 J	14	63
		Port 7	9/26/2007	0.38 J	2.9 U	0.5 U	1.9 U	3.5 J	12	9.4
		Port 6	9/25/2007	0.5 U	2.8 U	0.5 U	1.9 U	5	34	6.8
		Port 5	9/25/2007	0.5 U	2.8 U	0.5 U	0.58 J	8.6	12	7.3
		Port 4	9/25/2007	0.5 U	2.8 U	0.5 U	1.5 J	7.4	0.55 J	0.81 J
		Port 3	9/24/2007	0.5 U	2.9 U	0.5 U	1.9 U	4 U	1 U	0.35 J
		Port 2	9/24/2007	0.5 U	2.8 U	0.5 U	1.9 U	4 U	1 U	0.71 J
		Port 1	9/24/2007	0.5 U	0.32 J	0.5 U	1.9 U	4 U	1 U	0.38 J
MW 5-05	BPW505	Port 4	10/12/2007	0.5 U	1.1 J	0.5 U	1.9 U	8.2	11	18
		Port 3	10/12/2007	3	13 J	17	110	56	360	290
		Port 2	10/12/2007	1.2	4.7	0.73	50	37	240	220
		Port 1	10/12/2007	2.8	5.1	7.9	95	100	29	100
MW 5-08	BPW508	Port 4	10/29/2007	0.35 J	3.1	0.5 U	4.4	12	77	110
		Port 3	10/29/2007	0.5 U	3 U	1.1	0.42 J	4 U	1.2	1.3
		Port 2	10/29/2007	0.5 U	2.9 U	1.4	1.9 U	4 U	3.2	3.6
		Port 1	10/29/2007	0.5 U	2.9 U	0.35 J	1.9 U	4 U	1 U	1 U
MW 5-11	BPW511	Port 3	10/8/2007	0.5 U	1.2 J	0.36 J	3.2	22	92	30
		Port 2	10/8/2007	0.5 U	1.2 J	0.32 J	1.9 UJ	6.3	240	52
		Port 1	10/8/2007	0.5 U	0.38 J	0.5 U	1.9 U	3 J	36	26
MW 5-13	BPW513	Port 3	10/5/2007	2.8	4.1	2.6	470	380	590	250
		Port 2	10/5/2007	0.5 U	3 U	0.5 U	1.9 U	2.6 J	110	59
		Port 1	10/5/2007	0.5 U	0.61 J	0.5 U	2 U	1.7 J	5.4	2.3

TABLE A-1
WATER QUALITY MONITORING DATA FOR PLUME MODELING
 Baldwin Park Operable Unit
 San Gabriel Valley, California

Well Name	Site ID	Port ^a	Date	1,2- Dichloroethane (mg/L)	1,4- Dioxane (mg/L)	Carbon Tetrachloride (mg/L)	N- Nitrosodimethylamine (ng/L)	Perchlorate (mg/L)	Tetrachloroethene (mg/L)	Trichloroethene (mg/L)
Federal or California State MCL (NL)^b				0.5	(3)	0.5	(10)	6	5	5
MW 5-15	BPW515	Port 3	10/10/2007	0.5 U	1.8 J	0.5 U	0.83 J	27	9.6	29
		Port 2	10/10/2007	1.5	15 J	4.2	340	41	66	110
		Port 1	10/10/2007	8.9	5.4 J	7.2	770	210	29	310
MW 5-17	BPW517	Port 3	10/10/2007	0.3 J	4.2 J	0.63	1.5 J	36	97	35
		Port 2	10/9/2007	0.5 U	3 U	0.5 U	2 U	2.7 J	77	37
		Port 1	10/9/2007	0.5 U	2.9 U	0.5 U	1.9 U	1.7 J	7.9	9
MW 5-18	BPW518	Port 3	10/11/2007	0.5 U	2.9 U	0.5 U	1.5 J	4 U	2.9	1.2
		Port 2	10/11/2007	0.5 U	2.9 U	0.5 U	0.76 J	5.5	2.2	0.95 J
		Port 1	10/11/2007	0.5 U	2.9 U	3.3	0.56 J	5.1	0.58 J	0.55 J
MW 5-19	BPW519	Port 6	10/26/2007	0.5 U	3 U	0.5 U	2 U	3.5 J	1 U	1 U
		Port 5	10/26/2007	0.82	1.4 J	0.53	88	23	3.7	7.1
		Port 4	10/26/2007	0.5 U	3 U	5	2 U	2.2 J	1 U	1.6
		Port 3	10/25/2007	0.5 U	2.9 U	4.2	1.9 U	2.5 J	1 U	1.1
		Port 2	10/25/2007	0.5 U	2.9 U	0.5 U	1.9 U	4 U	1 U	1 U
		Port 1	10/25/2007	0.5 U	2.9 U	0.32 J	0.49 J	4 U	1 U	1 U
MW 5-20	BPW520	Port 7	10/31/2007	0.5 U	2.9 U	0.5 U	1.9 U	9.2	0.57 J	1.1
		Port 6	10/31/2007	0.5 U	2.9 U	0.5 U	11	18	0.97 J	2.9
		Port 5	10/31/2007	0.34 J	2.9 U	0.34 J	35	8.5	1 U	4.8
		Port 4	10/31/2007	6.5	4	4.5	1000	140	10	90
		Port 3	10/30/2007	3.8	3.7	7.5	470	130	13	84
		Port 2	10/30/2007	0.28 J	2.8 U	3	19	8.8	1.5	7.4
		Port 1	10/30/2007	0.5 U	2.8 U	6.1	1.9 U	4 U	1 U	0.55 J
MW 5-22	BPW522	Port 6	11/2/2007	0.5 U	2.8 U	0.5 U	1.9 U	3.4 J	2.4	1.5
		Port 5	11/2/2007	0.5 U	2.8 U	0.5 U	1.9 U	5.3	0.6 J	1.4
		Port 4	11/2/2007	0.5 U	2.9 U	0.5 U	2 U	4 U	1 U	1 U
		Port 3	11/1/2007	0.8	0.47 J	0.5 U	34	23	1.3	12
		Port 2	11/1/2007	0.5 U	2.9 U	0.5 U	0.49 J	4 U	1 U	1 U
		Port 1	11/1/2007	0.5 U	2.9 U	0.5 U	1.9 U	4 U	1 U	1 U

TABLE A-1
WATER QUALITY MONITORING DATA FOR PLUME MODELING
 Baldwin Park Operable Unit
 San Gabriel Valley, California

Well Name	Site ID	Port ^a	Date	1,2- Dichloroethane (mg/L)	1,4- Dioxane (mg/L)	Carbon Tetrachloride (mg/L)	N- Nitrosodimethylamine (ng/L)	Perchlorate (mg/L)	Tetrachloroethene (mg/L)	Trichloroethene (mg/L)
Federal or California State MCL (NL)^b				0.5	(3)	0.5	(10)	6	5	5
MW 5-23	BPW523	Port 6	10/24/2007	0.5 U	2.8 U	0.5 U	1.9 U	4 U	1 U	1 U
		Port 5	10/24/2007	0.31 J	2.9 U	0.5 U	7.5	15	2.9	3
		Port 4	10/24/2007	3.8	2 J	2.5	800	59	1.9	28
		Port 3	10/23/2007	1.6	1.7 J	4.1	350	51	7.3	40
		Port 2	10/23/2007	0.5 U	2.8 U	9.9	1.9 U	4.4	0.64 J	3.3
		Port 1	10/23/2007	0.5 U	2.8 U	10	1.9 U	3 J	0.63 J	2.3
MW 5-24	BPW524	Port 7	9/13/2007	0.71	2.5 J	0.52	1.6 J	27	130	67
		Port 6	9/12/2007	1.2	1.6 J	3.8	75	95	230	210
		Port 5	9/12/2007	1.6	0.8 J	1.6	240	24	360	280
		Port 4	9/12/2007	0.5 U	0.42 J	0.93	1.9 U	3.8 J	230	260
		Port 3	9/11/2007	0.5 U	0.97 J	0.34 J	0.43 J	4 U	8.7	19
		Port 2	9/11/2007	0.5 U	5.7	0.72	0.63 J	4 U	1 U	1 U
		Port 1	9/10/2007	0.5 U	4.5	0.43 J	6	4 U	0.37 J	1 U
MW 5-25	BPW525	Port 7	9/17/2007	0.5 U	0.79 J	0.5 U	2 U	11	6	4.3
		Port 6	9/14/2007	0.5 U	2.8 U	0.5 U	1.9 UJ	8	1.1	2.6
		Port 5	9/14/2007	0.5 U	2.8 U	0.5 U	1.9 U	17	4.2	4.1
		Port 4	9/14/2007	0.5 U	2.8 U	1.2	1.9 U	16	1.4	2.9
		Port 3	9/14/2007	0.5 U	2.8 U	1.6	1.9 UJ	10	1 U	0.28 J
		Port 2	9/13/2007	0.5 U	2.9 U	0.62	1.9 U	4 U	1 U	1 U
		Port 1	9/13/2007	0.5 U	2.9 U	6.2	1.9 U	4 U	1 U	1 U
MW 5-26	BPW526	Port 7	9/19/2007	0.5 U	2.8 U	0.5 U	1.9 U	4 U	1 U	1 U
		Port 6	9/19/2007	0.5 U	2.9 U	0.5 U	0.44 J	5.8	0.69 J	4
		Port 5	9/18/2007	0.5 U	2.9 U	0.5 U	1.9 U	4 U	1 U	1 U
		Port 4	9/18/2007	0.5 U	2.8 U	0.5 U	0.42 J	4 U	1 U	1 U
		Port 3	9/18/2007	0.5 U	2.9 U	0.5 U	1.9 U	4 U	1 U	1 U
		Port 2	9/18/2007	0.5 U	2.9 U	0.5 U	1.9 U	4 U	1 U	1 U
		Port 1	9/17/2007	0.5 U	2.9 U	0.5 U	1.9 U	4 U	1 U	1 U

TABLE A-1
WATER QUALITY MONITORING DATA FOR PLUME MODELING
 Baldwin Park Operable Unit
 San Gabriel Valley, California

Well Name	Site ID	Port ^a	Date	1,2- Dichloroethane (mg/L)	1,4- Dioxane (mg/L)	Carbon Tetrachloride (mg/L)	N- Nitrosodimethylamine (ng/L)	Perchlorate (mg/L)	Tetrachloroethene (mg/L)	Trichloroethene (mg/L)
Federal or California State MCL (NL)^b				0.5	(3)	0.5	(10)	6	5	5
MW 5-27	BPW527	Port 7	9/21/2007	0.5 U	2.9 U	0.5 U	1.9 U	4 U	1 U	1 U
		Port 6	9/21/2007	0.5 U	2.9 U	0.5 U	2 U	2.4 J	1 U	0.76 J
		Port 5	9/21/2007	0.5 U	2.9 U	0.5 U	1.9 U	4 U	1 U	1 U
		Port 4	9/21/2007	0.5 U	2.9 U	0.5 U	1.9 U	4 U	1 U	0.28 J
		Port 3	9/20/2007	0.5 U	2.9 U	0.5 U	0.46 J	4 U	1 U	1 U
		Port 2	9/20/2007	0.5 U	2.9 U	0.5 U	2 U	4 U	1 U	1 U
		Port 1	9/20/2007	0.5 U	2.9 U	0.5 U	0.42 J	4 U	1 U	1 U
MW 5-28D ^c	BPW528D		10/30/2007	0.5 U	2.8 U	0.5 U	1.9 U	4 U	1 U	1 U
MW 5-28I ^c	BPW528I		10/30/2007	0.5 U	2.8 U	0.73	1.9 U	3.7 J	1 U	1 U
MW 5-28S ^c	BPW528S		10/30/2007	0.5 U	2.8 U	0.5 UJ	1.9 U	7.6	1 U	1 U
SA1-1	08000184		10/2/2007	0.32 J	1.8 J	0.5 U	1.9 UJ	11	15	11
SA1-2	08000185		10/2/2007	0.5 U	0.71 J	0.5 U	1.9 UJ	15	20	12
SA1-3 (LANTE)	08000060		10/2/2007	0.88	2.6 J	4.5	65 J	19	410	140
SGVWC B25A	08000187		10/3/2007	1.4	0.83 J	5.9	160 J	35	21	50
SGVWC B25B	08000188		10/3/2007	0.5 U	2.9 U	9.8	6.5 J	4.8	3.9	11
SGVWC B26A	08000189		10/3/2007	3	1.5 J	4.5	440 J	59	3.6	34
SGVWC B26B	08000190		10/3/2007	0.47 J	0.68 J	12	11 J	15	0.34 J	11
SGVWC B5B	61900719		7/24/2007	0.5	0.51 J	0.45 J	68	12	1.3	4.6
SGVWC B5E	08000205		8/7/2007	0.5 U	2.8 U	2.2	16	4.4	0.4 J	2.7
SGVWC B6D	78000098		4/24/2007	2.6	0.96 J	3.2	160 J	67	3.7	53
SWS 139W2	1901599	95	8/30/2007	0.5 U	2.9 U	0.5 U	1.1 J	25	1 U	1 U
		0	8/30/2007	0.5 U	2.9 U	0.5 U	1.2 J	26	1 U	1 U
SWS 139W4	08000069		7/5/2007	0.5 U	2.9 U	0.5 U	1.9 U	10	1 U	1 U
SWS 139W6	08000152	-612	8/30/2007	0.5 U	2.9 U	0.5 U	0.69 J	11	1 U	0.27 J
SWS 140W3	01903067		12/18/2007	0.5 U	2.9 U	0.5 U	0.5 J	6.4	1 U	1 U
SWS 140W5	08000145		12/18/2007	0.5 U	2.9 U	0.5 U	7.6	8	1 U	0.63 J

TABLE A-1
WATER QUALITY MONITORING DATA FOR PLUME MODELING
 Baldwin Park Operable Unit
 San Gabriel Valley, California

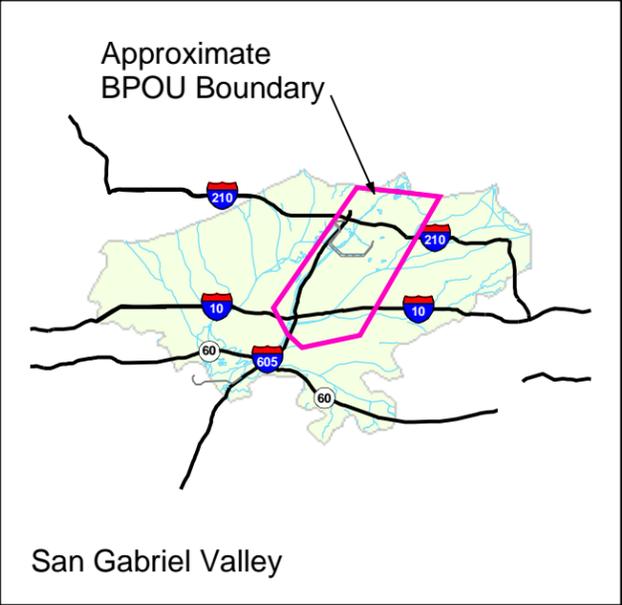
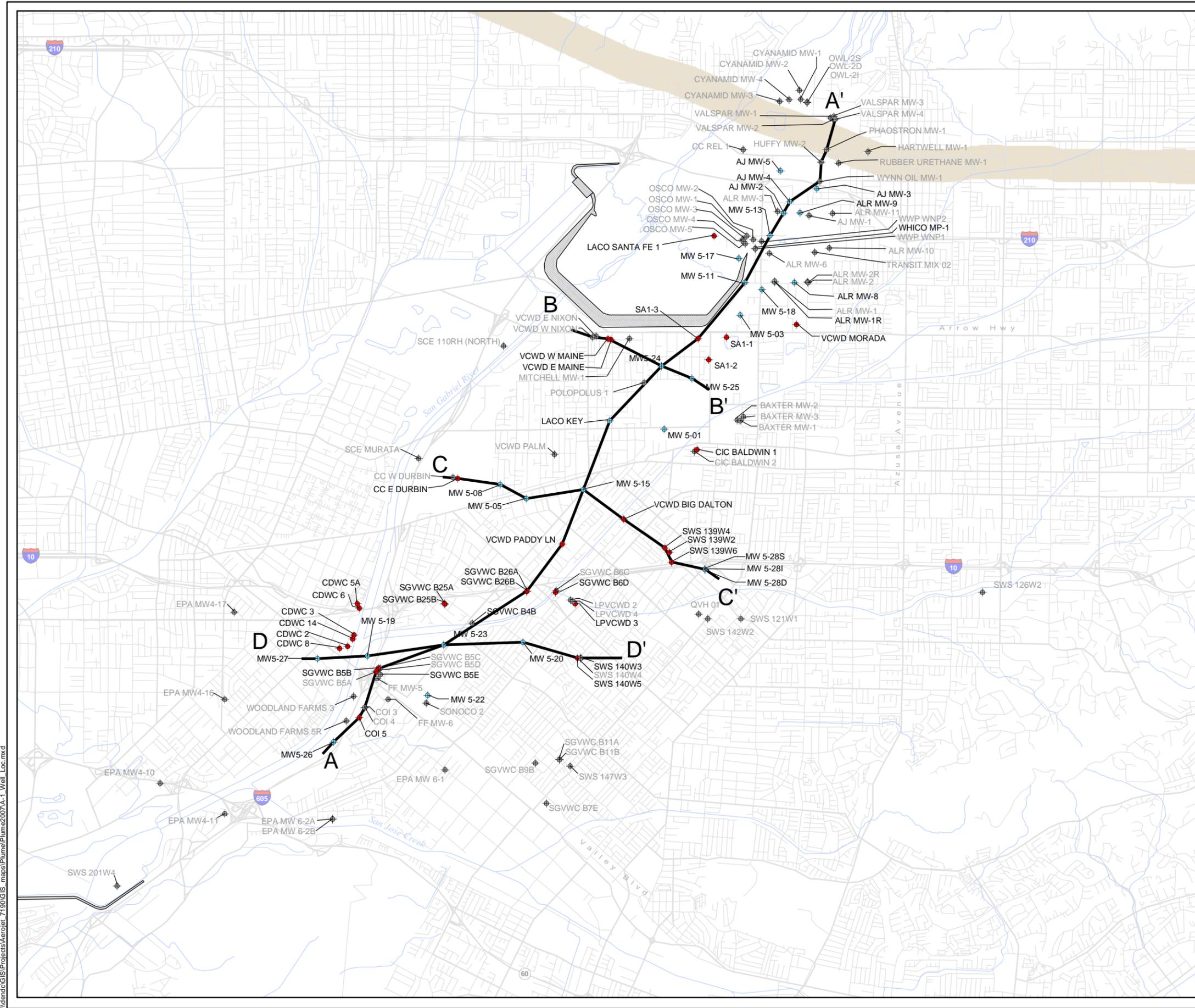
Well Name	Site ID	Port ^a	Date	1,2- Dichloroethane (mg/L)	1,4- Dioxane (mg/L)	Carbon Tetrachloride (mg/L)	N- Nitrosodimethylamine (ng/L)	Perchlorate (mg/L)	Tetrachloroethene (mg/L)	Trichloroethene (mg/L)
Federal or California State MCL (NL)^b				0.5	(3)	0.5	(10)	6	5	5
VCWD BIG	1900035	93	9/6/2007	1.6	0.78 J	0.5 U	140	20	0.82 J	6.8
DALTON		-42	9/6/2007	0.5 U	2.9 U	0.5 U	11	11	0.35 J	1.1
VCWD E MAINE	01900027		2/27/2007	0.5 U	2.8 U	0.5 U	1.9 UJ	4 U	1 U	1 U
VCWD MORADA	01900029	54	8/29/2007	0.5 U	1.3 J	0.5 U	1.4 J	4.9	3.3	2.4
		-26	8/29/2007	0.5 U	0.85 J	0.5 U	1.7 J	4.9	3.4	2
VCWD PADDY LN	01900031	34	9/12/2007	2.7	1.5 J	0.88	200	61	3.8	31
		-113	8/29/2007	3.4	2 J	0.97	560	61	2.7	28
VCWD W MAINE	01900028		2/27/2007	0.5 U	2.8 U	0.5 U	1.9 UJ	4 U	1 U	1 U
WHICO MP-1	W10WHMP1	Port 5	10/4/2007	2	4.4	4.6	91	340	420	170
		Port 4	10/4/2007	0.5 U	0.67 J	3.5	4.5	3.8 J	190	190
		Port 3	10/3/2007	1 U	2.8 U	1 U	1.9 UJ	4 U	150	38
		Port 2	10/3/2007	0.5 U	2.9 U	0.5 U	1.9 UJ	3.5 J	21	14
		Port 1	10/3/2007	0.5 U	0.4 J	0.5 U	1.9 UJ	4 U	10	6.6

Notes:

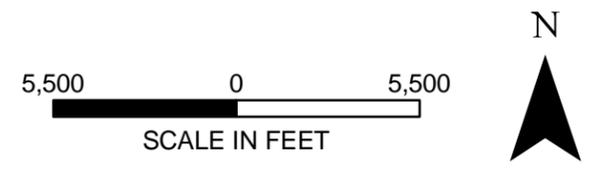
- a. For inactive production wells, elevation in feet above mean sea level of discrete low-flow samples.
- b. Federal or California State Maximum Contaminant Level (MCL), or Notification Level (NL)
- c. Sample results not collected for BPOU PSEP monitoring network; validated.
- d. Sample results not collected for BPOU PSEP monitoring network; not validated.

- Sample result not available.
- U - Analyte not detected at the reported quantitation limit shown in the result.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ - Analyte not detected at the reported quantitation limit shown in the result; the reported quantitation limit is estimated.

FIGURES



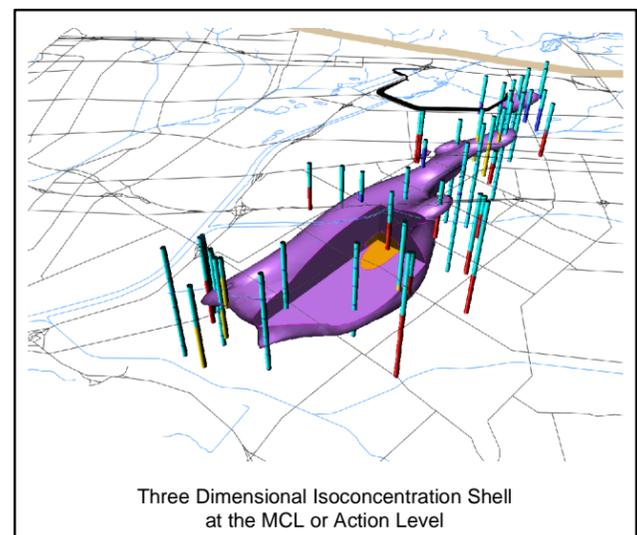
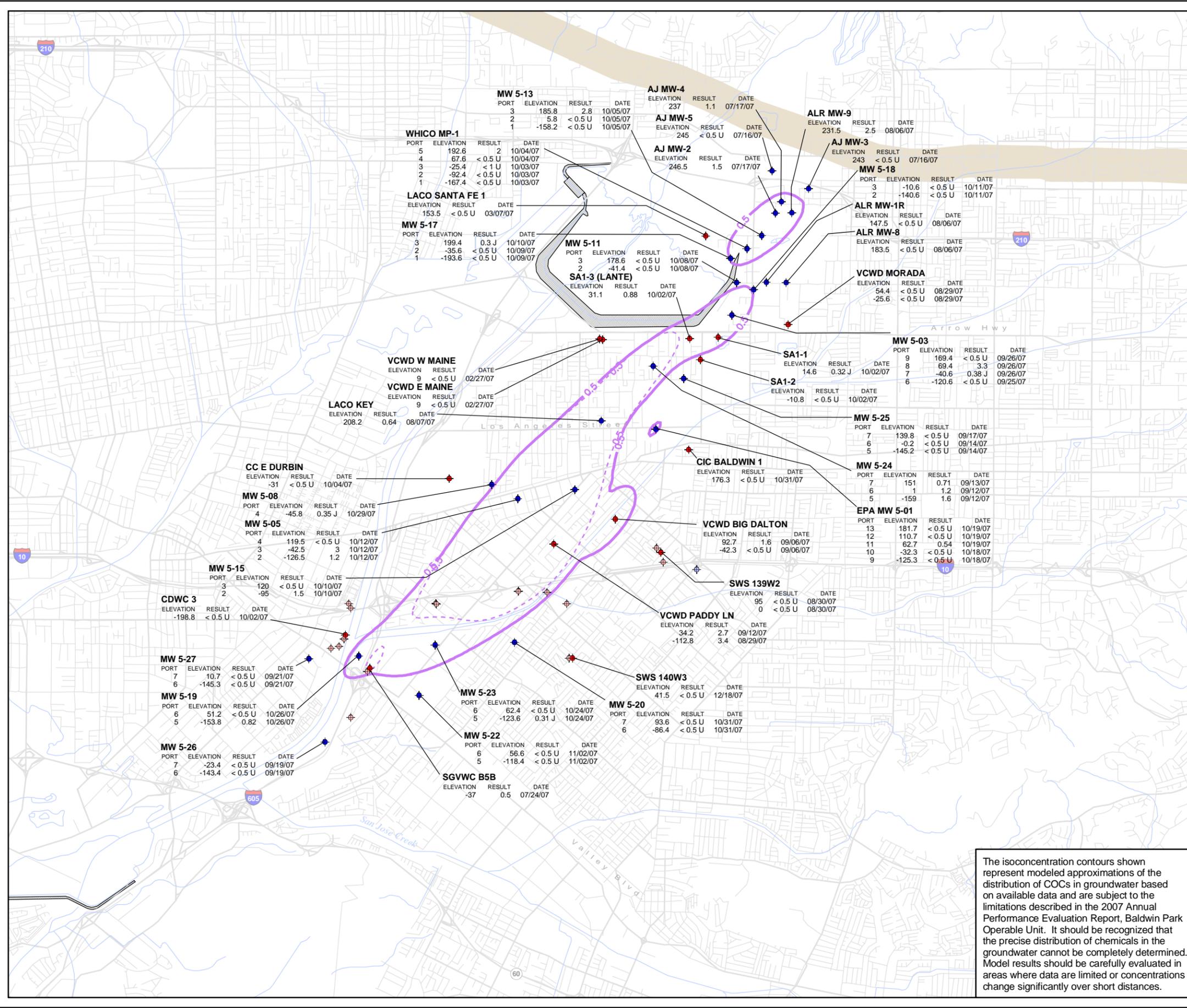
- EXPLANATION**
- A - A'** Cross section
 - ◆ Production well
 - ◆ Monitoring or multiport well
 - ◆ Wells not included in modeling
 - Duarte Fault Zone



WELL LOCATION MAP
 Baldwin Park Operable Unit
 San Gabriel Valley, California

\\eddc\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007\A-1_Well_Loc.mxd

\\edwards\GIS\Projects\Acrojet_7190\GIS_maps\Plume\Plume2007A-2_PlumeMap07_12DCA_sh.mxd



- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multipoint well
 - ◆ Monitoring and multipoint well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - - - 1,2-Dichloroethane isoconcentration contour at -50 feet (0.5 ug/L)
 - 1,2-Dichloroethane composite isoconcentration contour for the elevation interval above -200 feet (0.5 ug/L)
 - Duarte Fault Zone

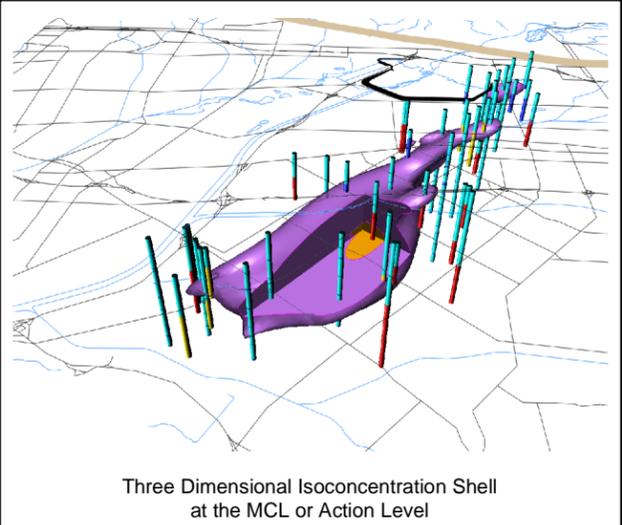
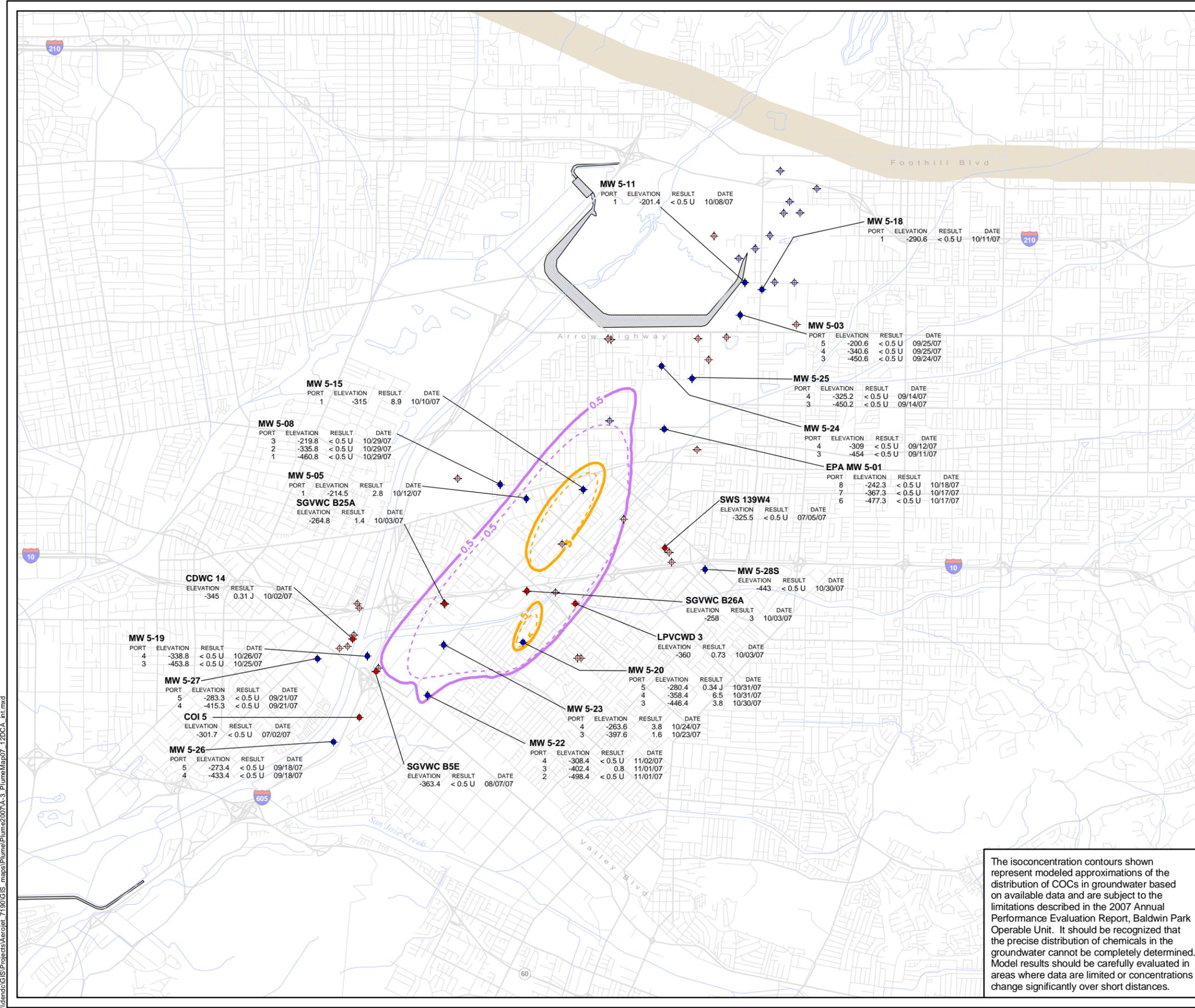
- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

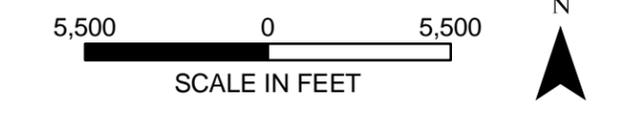
DISTRIBUTION OF 1,2-DICHLOROETHANE ABOVE -200 FEET MSL
Baldwin Park Operable Unit
San Gabriel Valley, California

Geomatrix	Project No. 7190	Figure A-2
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- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multipoint well
 - ◆ Monitoring and multipoint well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - - - 1,2-Dichloroethane isoconcentration contour at -350 feet (0.5 ug/L)
 - - - 1,2-Dichloroethane isoconcentration contour at -350 feet (5 ug/L)
 - 1,2-Dichloroethane composite isoconcentration contour for the elevation interval between -200 and -500 feet (0.5 ug/L)
 - 1,2-Dichloroethane composite isoconcentration contour for the elevation interval between -200 and -500 feet (5 ug/L)
 - Duarte Fault Zone

- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.



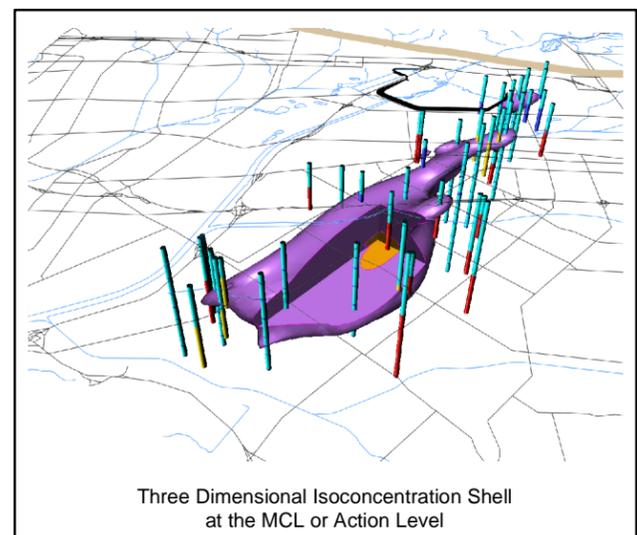
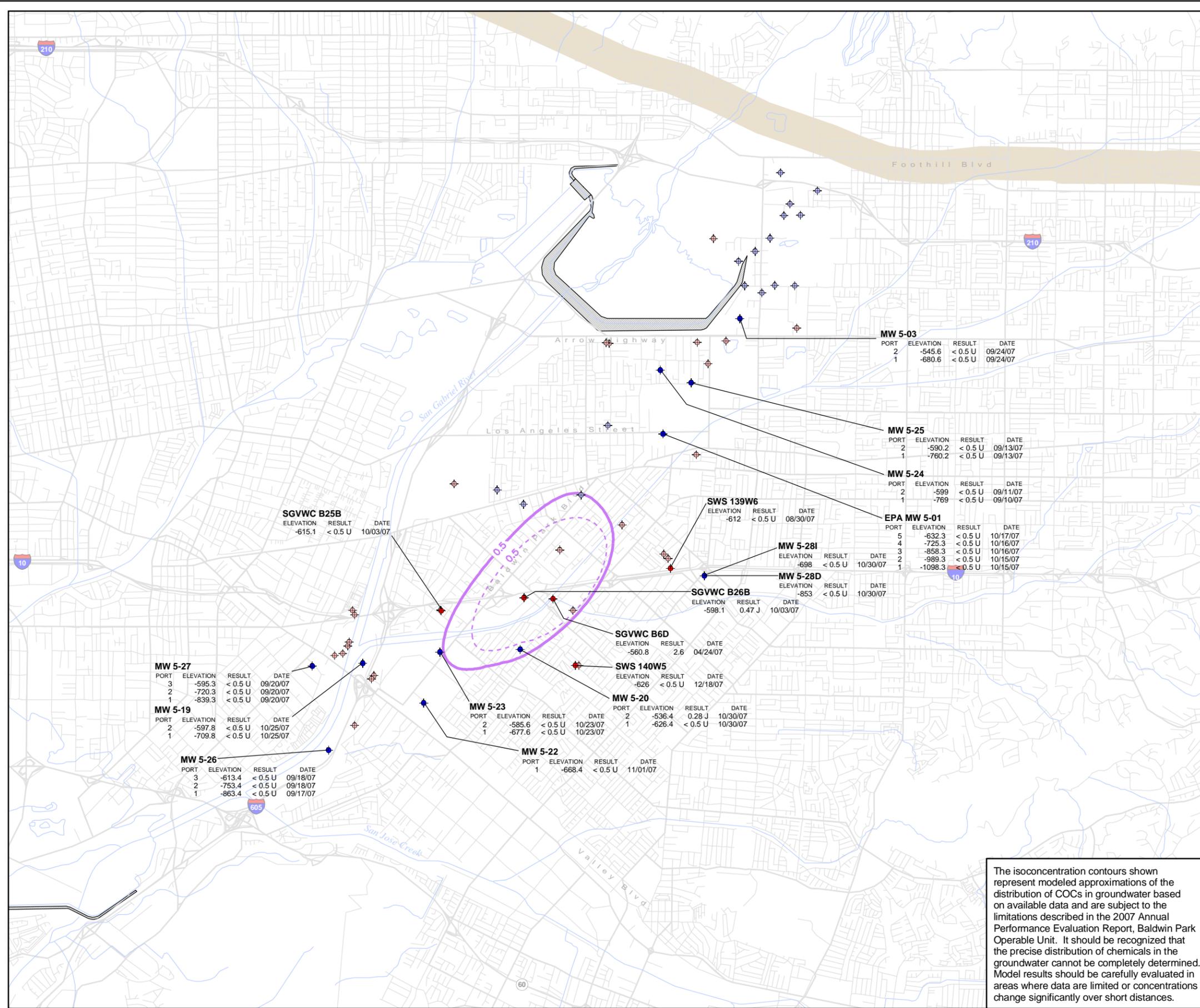
The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

DISTRIBUTION OF 1,2-DICHLOROETHANE BETWEEN -200 AND -500 FEET MSL
Baldwin Park Operable Unit
San Gabriel Valley, California

Geomatrix	Project No. 7190	Figure A-3
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\\eddc\GIS\Projects\Acrojet_7190\GIS_maps\Plume\Plume2007A-3_PlumeMap07_12DCA_int.rxd

\\eddc\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007\A-4_PlumeMap07_12DCA_dp.mxd



- EXPLANATION**
- Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multipoint well
 - ◆ Monitoring and multipoint well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - - - 1,2-Dichloroethane isoconcentration contour at -550 feet (0.5 ug/L)
 - 1,2-Dichloroethane composite isoconcentration contour for the elevation interval below -500 feet (0.5 ug/L)
 - Duarte Fault Zone

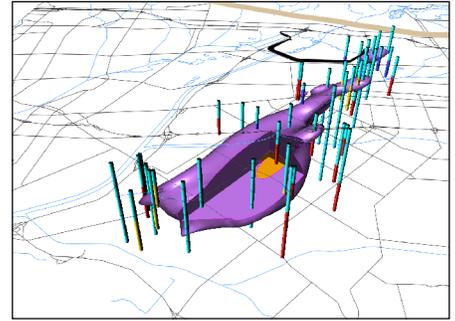
- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.



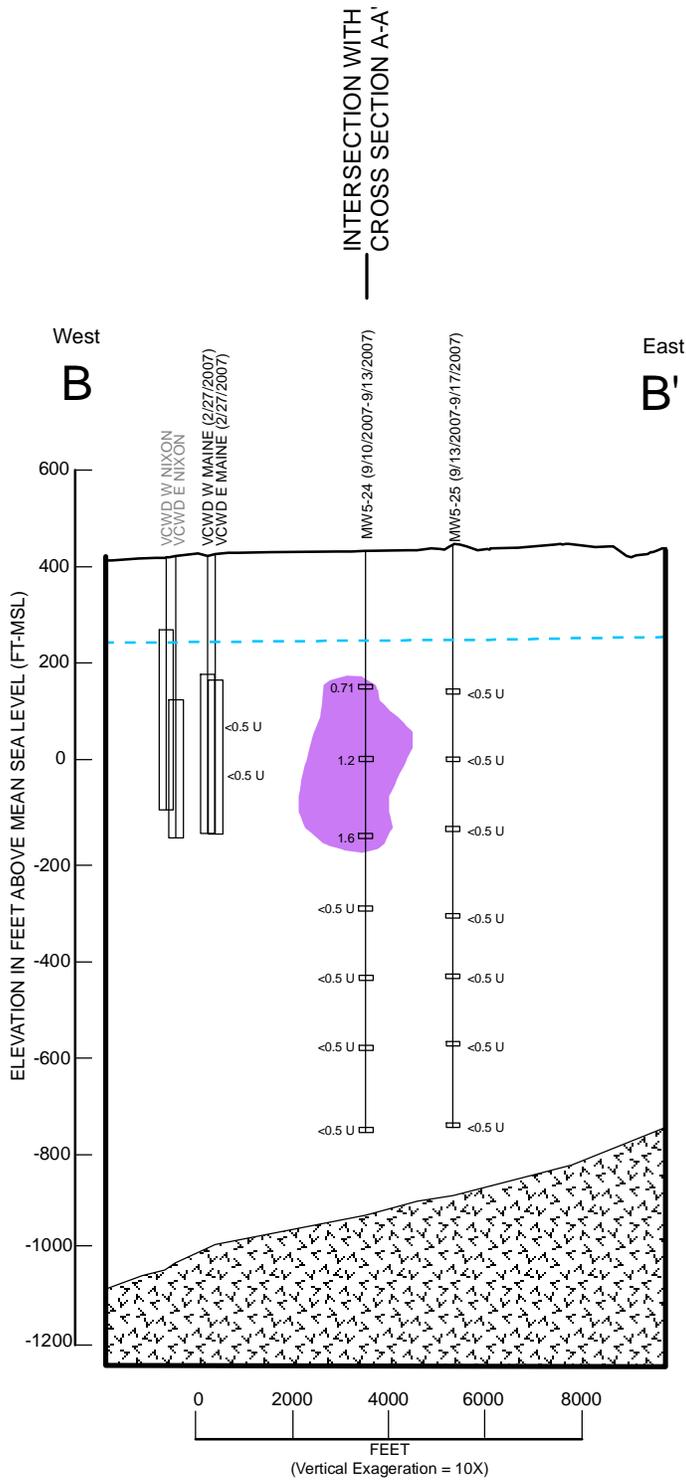
The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

**DISTRIBUTION OF 1,2-DICHLOROETHANE
BELOW -500 FEET MSL**
Baldwin Park Operable Unit
San Gabriel Valley, California

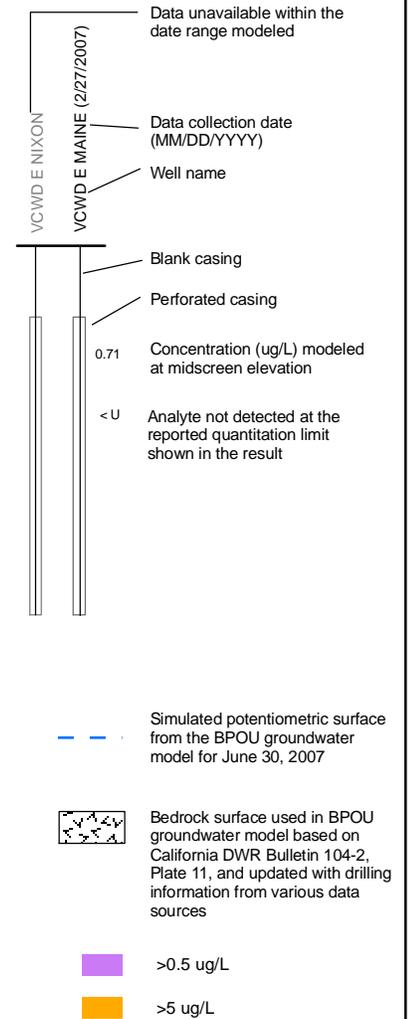
Geomatrix	Project No. 7190	Figure A-4
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Three Dimensional Isoconcentration Shell at the MCL or Action Level



EXPLANATION



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

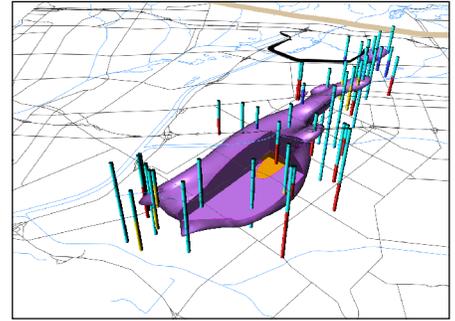
VERTICAL DISTRIBUTION OF 1,2-DICHLOROETHANE CROSS SECTION B-B' Baldwin Park Operable Unit San Gabriel Valley, California



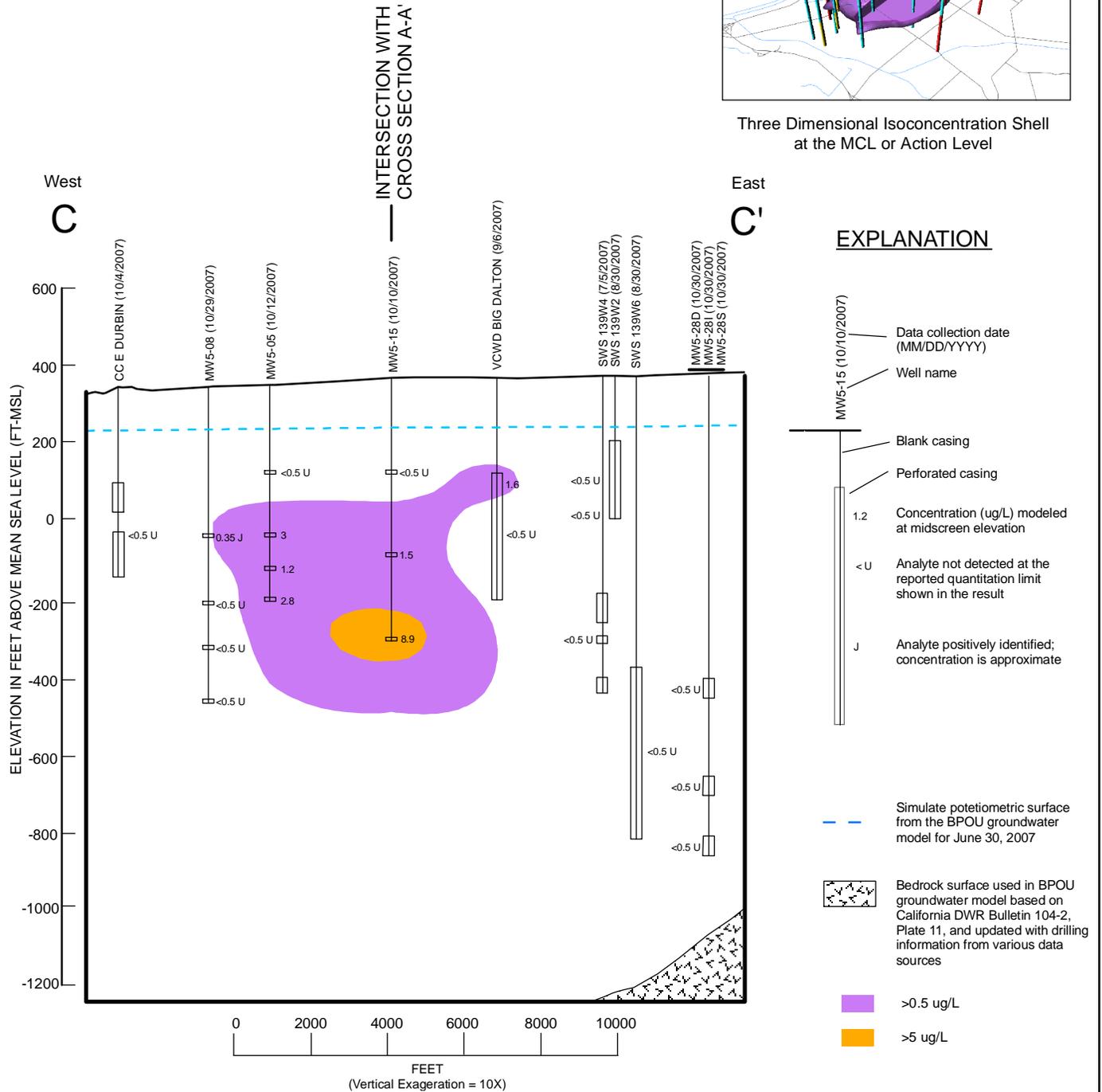
Geomatrix

Project No. 7190.006

Figure **A-6**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

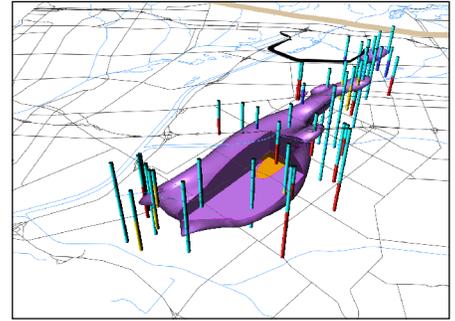
**VERTICAL DISTRIBUTION OF
1,2-DICHLOROETHANE
CROSS SECTION C-C'
Baldwin Park Operable Unit
San Gabriel Valley, California**



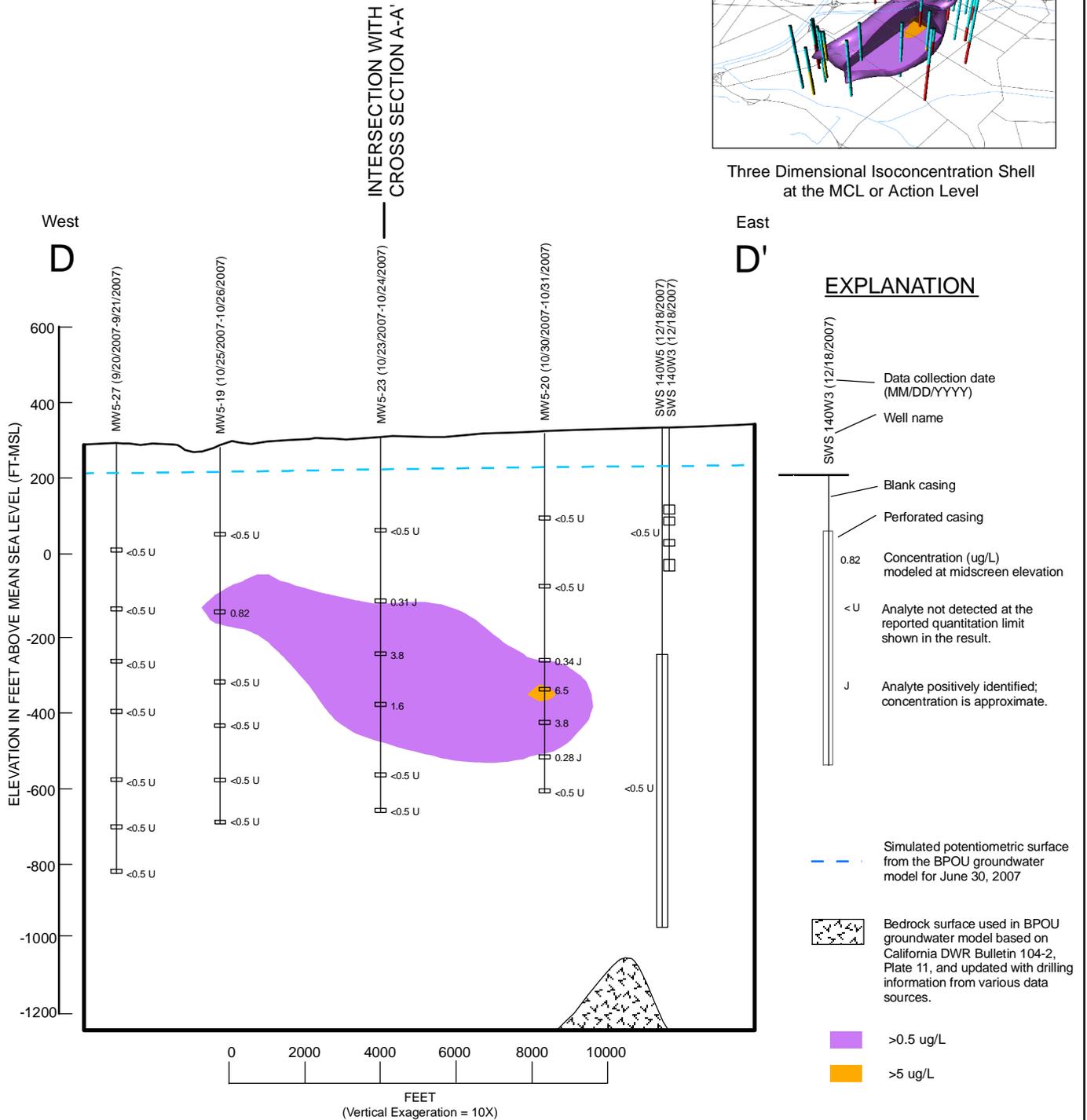
Geomatrix

Project No. 7190.006

Figure **A-7**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

**VERTICAL DISTRIBUTION OF
1,2-DICHLOROETHANE
CROSS SECTION D-D'
Baldwin Park Operable Unit
San Gabriel Valley, California**

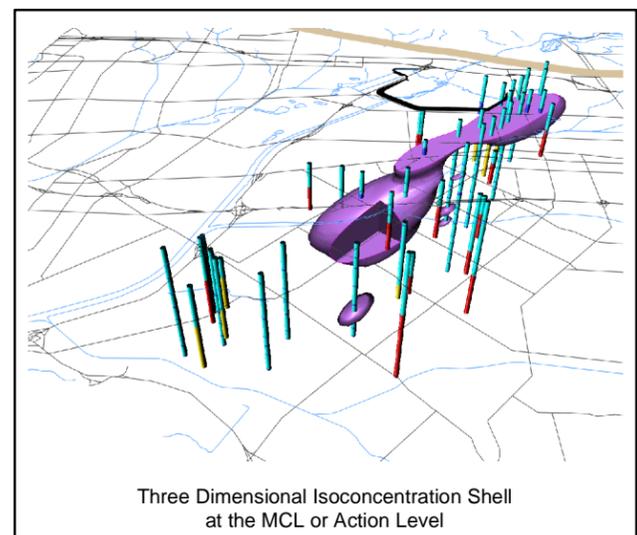
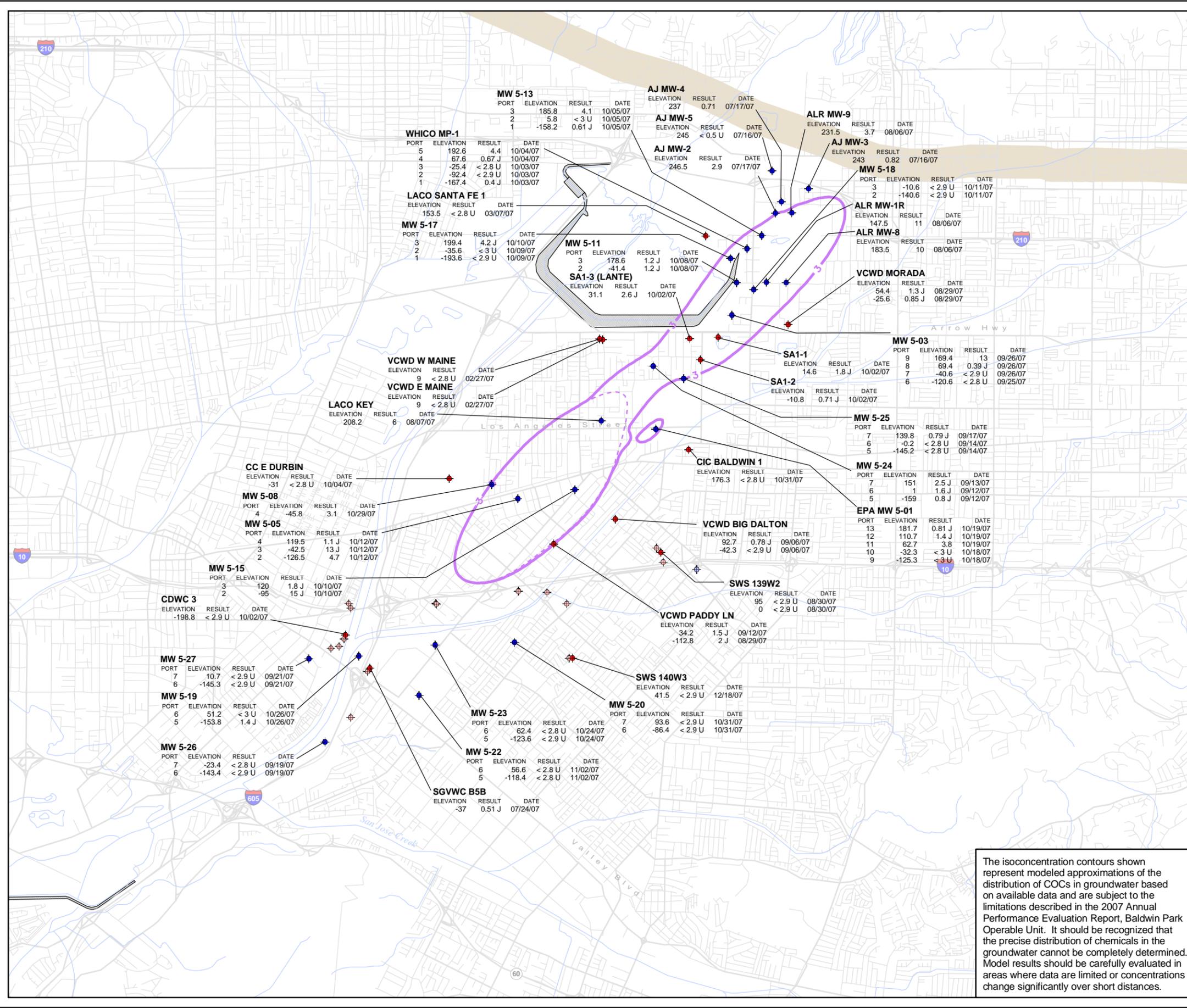


Geomatrix

Project No. 7190.006

Figure **A-8**

\\edc\GIS\Projects\Acrojet_7190\GIS_maps\Plume\Plume2007\A-9_PlumeMap07_14DIOX.sh.mxd



- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multiport well
 - ◆ Monitoring and multiport well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - < UJ Analyte not detected at the reported quantitation limit shown in the result; the reported quantitation limit is estimated
 - - - 1,4-Dioxane isoconcentration contour at -50 feet (3 ug/L)
 - 1,4-Dioxane composite isoconcentration contour for the elevation interval above -200 feet (3 ug/L)
 - Duarte Fault Zone

- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.

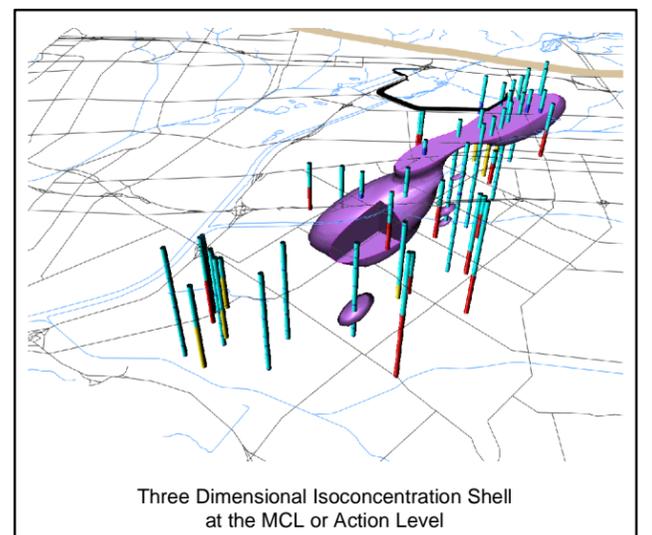
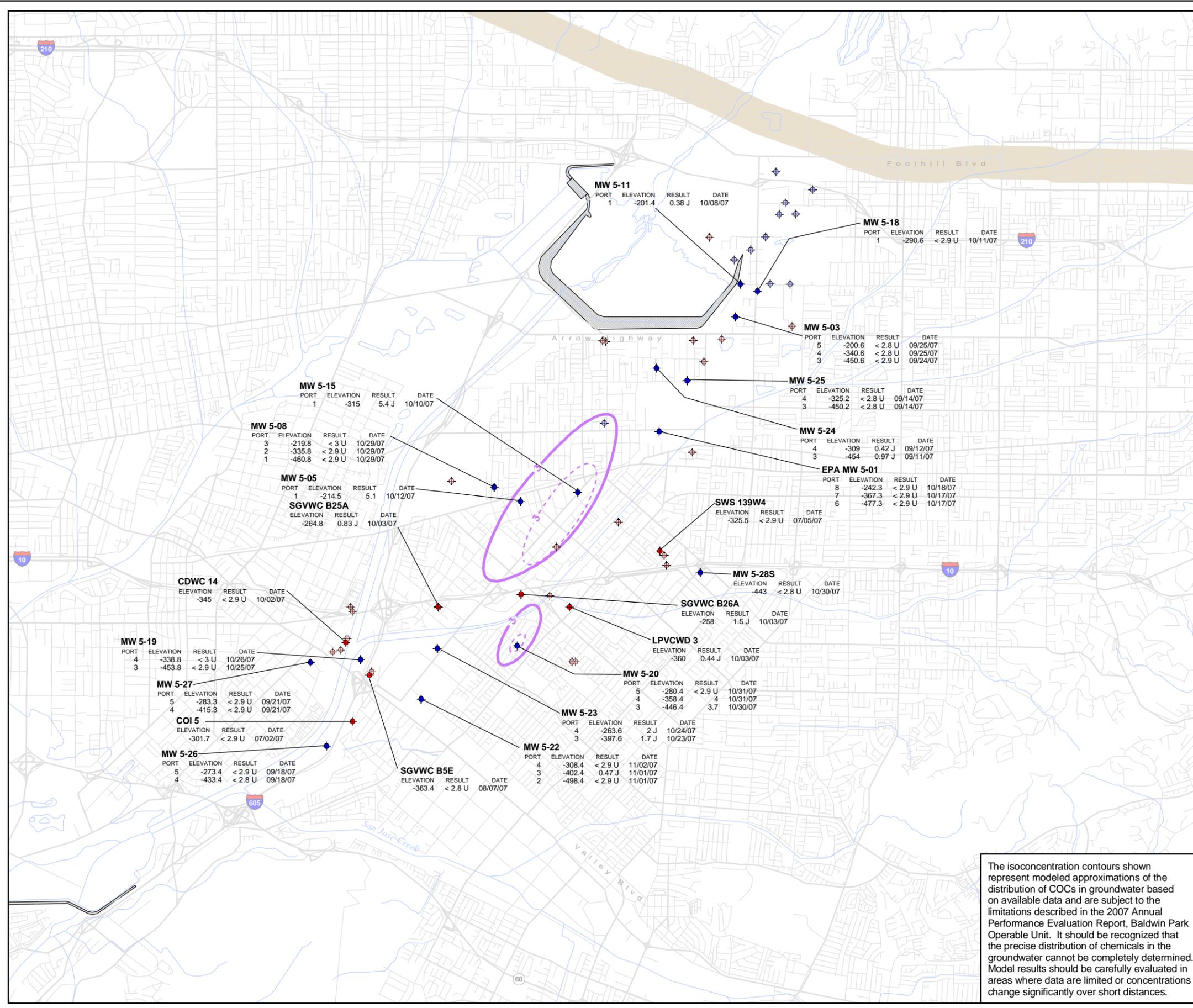


The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

**DISTRIBUTION OF 1,4-DIOXANE
ABOVE -200 FEET MSL**
Baldwin Park Operable Unit
San Gabriel Valley, California

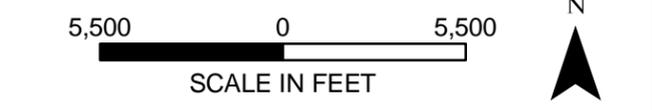
Geomatrix	Project No. 7190	Figure A-9
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\\eddc\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007A-10_PlumeMap07_14.DOX_int.mxd



- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multiport well
 - ◆ Monitoring and multiport well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - < UJ Analyte not detected at the reported quantitation limit shown in the result; the reported quantitation limit is estimated
 - - - 1,4-Dioxane isoconcentration contour at -350 feet (3 ug/L)
 - 1,4-Dioxane composite isoconcentration contour for the elevation interval between -200 and -500 feet (3 ug/L)
 - Duarte Fault Zone

- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.

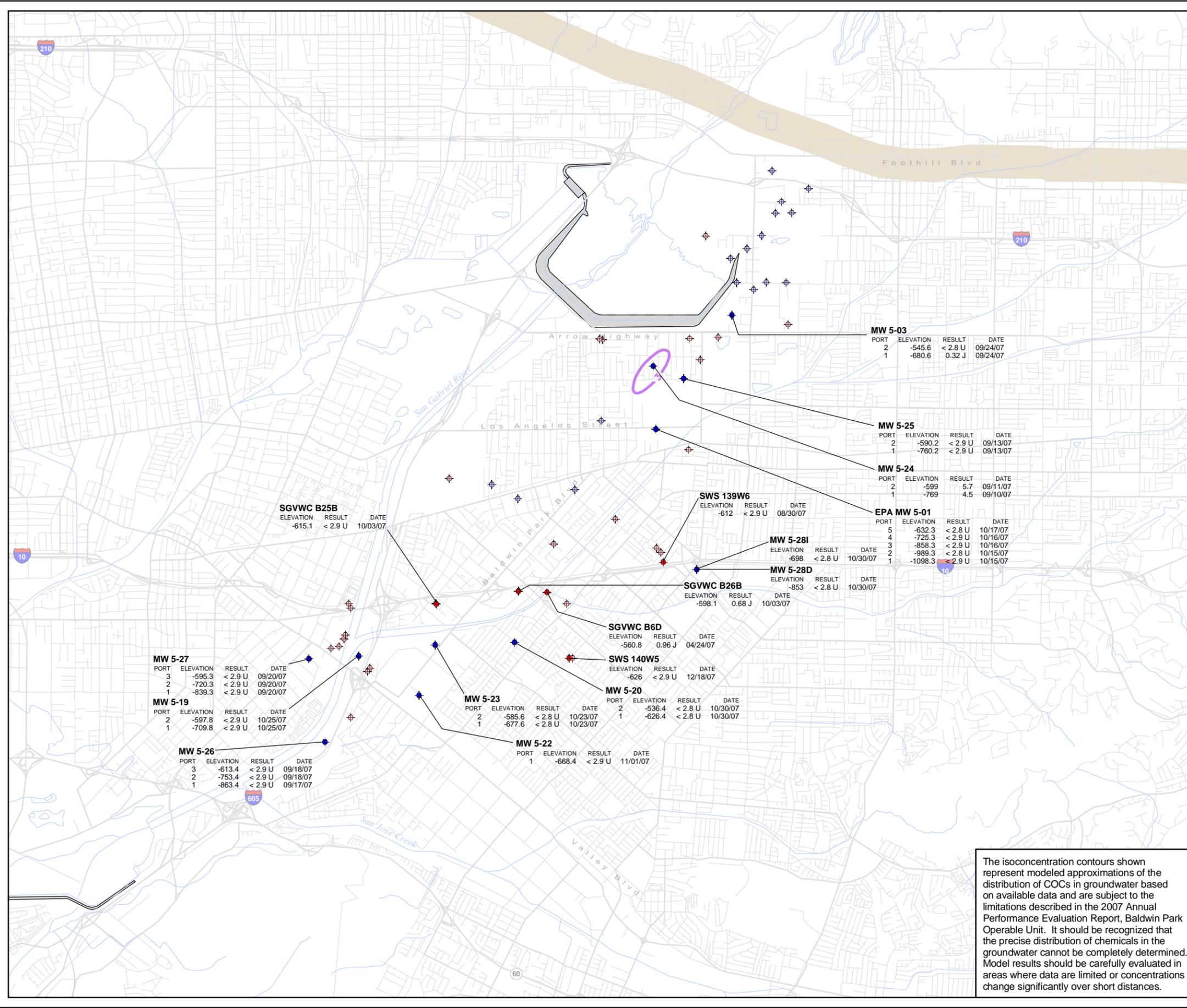


The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

**DISTRIBUTION OF 1,4-DIOXANE
BETWEEN -200 AND -500 FEET MSL**
Baldwin Park Operable Unit
San Gabriel Valley, California

Geomatrix	Project No. 7190	Figure A-10
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\\edac\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007A-11_PlumeMap07_14D\OX_dp.mxd



MW 5-27

PORT	ELEVATION	RESULT	DATE
3	-595.3	< 2.9 U	09/20/07
2	-720.3	< 2.9 U	09/20/07
1	-839.3	< 2.9 U	09/20/07

MW 5-19

PORT	ELEVATION	RESULT	DATE
2	-597.8	< 2.9 U	10/25/07
1	-709.8	< 2.9 U	10/25/07

MW 5-26

PORT	ELEVATION	RESULT	DATE
3	-613.4	< 2.9 U	09/18/07
2	-753.4	< 2.9 U	09/18/07
1	-863.4	< 2.9 U	09/17/07

SGVWC B25B

ELEVATION	RESULT	DATE
-615.1	< 2.9 U	10/03/07

MW 5-23

PORT	ELEVATION	RESULT	DATE
2	-585.6	< 2.8 U	10/23/07
1	-677.6	< 2.8 U	10/23/07

MW 5-22

PORT	ELEVATION	RESULT	DATE
1	-668.4	< 2.9 U	11/01/07

MW 5-20

PORT	ELEVATION	RESULT	DATE
2	-536.4	< 2.8 U	10/30/07
1	-626.4	< 2.8 U	10/30/07

SWS 140W5

ELEVATION	RESULT	DATE
-626	< 2.9 U	12/18/07

SGVWC B6D

ELEVATION	RESULT	DATE
-560.8	0.96 J	04/24/07

SGVWC B26B

ELEVATION	RESULT	DATE
-598.1	0.68 J	10/03/07

MW 5-28I

ELEVATION	RESULT	DATE
-698	< 2.8 U	10/30/07

MW 5-28D

ELEVATION	RESULT	DATE
-853	< 2.8 U	10/30/07

SWS 139W6

ELEVATION	RESULT	DATE
-612	< 2.9 U	08/30/07

MW 5-24

PORT	ELEVATION	RESULT	DATE
2	-599	5.7	09/11/07
1	-769	4.5	09/10/07

MW 5-25

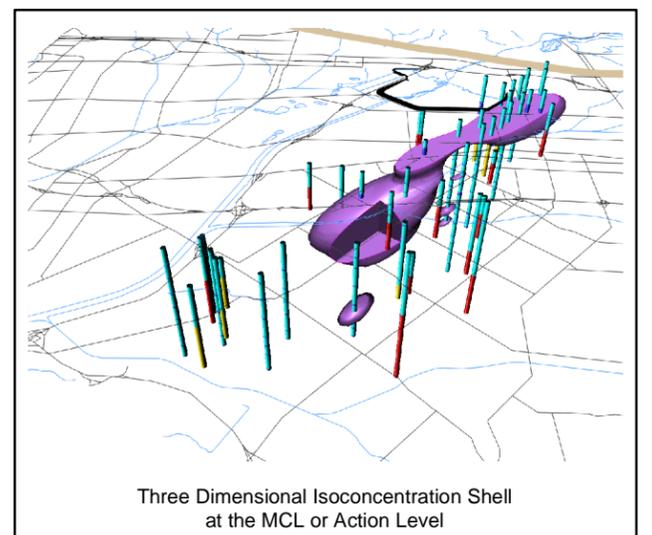
PORT	ELEVATION	RESULT	DATE
2	-590.2	< 2.9 U	09/13/07
1	-760.2	< 2.9 U	09/13/07

MW 5-03

PORT	ELEVATION	RESULT	DATE
2	-545.6	< 2.8 U	09/24/07
1	-680.6	0.32 J	09/24/07

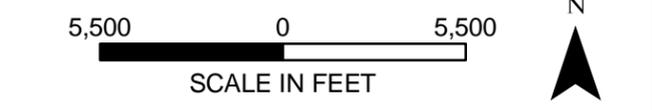
EPA MW 5-01

PORT	ELEVATION	RESULT	DATE
5	-632.3	< 2.8 U	10/17/07
4	-725.3	< 2.9 U	10/16/07
3	-858.3	< 2.9 U	10/16/07
2	-989.3	< 2.8 U	10/15/07
1	-1098.3	< 2.9 U	10/15/07



- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multipoint well
 - ◆ Monitoring and multipoint well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - < UJ Analyte not detected at the reported quantitation limit shown in the result; the reported quantitation limit is estimated
 - 1,4-Dioxane composite isoconcentration contour for the elevation interval below -500 feet (3 ug/L)
 - Duarte Fault Zone

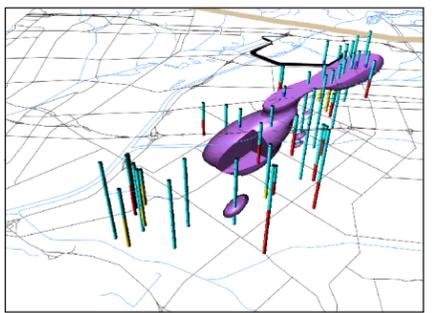
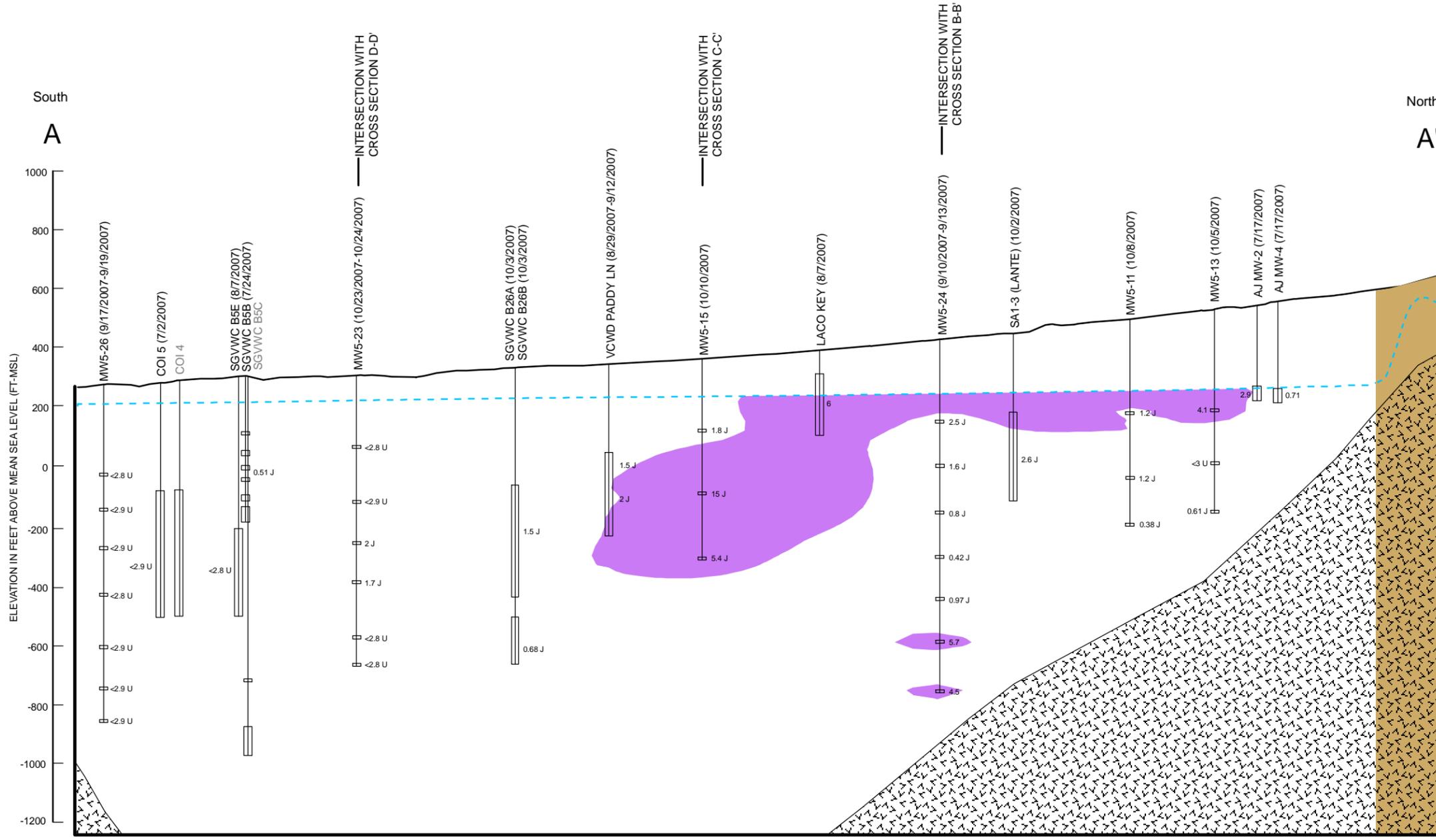
- NOTES:**
- Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 - The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 - Posted data represent chemical results for the specified elevation range.
 - Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

**DISTRIBUTION OF 1,4-DIOXANE
BELOW -500 FEET MSL**
Baldwin Park Operable Unit
San Gabriel Valley, California

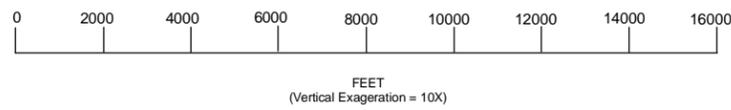
Geomatrix	Project No. 7190	Figure A-11
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Three Dimensional Isoconcentration Shell at the MCL or Action Level

EXPLANATION

- Data unavailable within the date range modeled
- Data collection date (MM/DD/YYYY)
- Well name
- Blank casing
- Perforated casing
- 0.71 Concentration (ug/L) modeled at midscreen elevation
- <U Analyte not detected at the reported quantitation limit shown in the result
- J Analyte positively identified; concentration is approximate
- - - Simulated potentiometric surface from the BPOU groundwater model for June 30, 2007
- Bedrock surface used in BPOU groundwater model based on California DWR Bulletin 104-2, Plate 11, and updated with drilling information from various sources
- Duarte fault zone
- >3 ug/L
- >100 ug/L



\\delenda\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007\Cross Sections\A-12_A_CrossSection_14DIOX.mxd

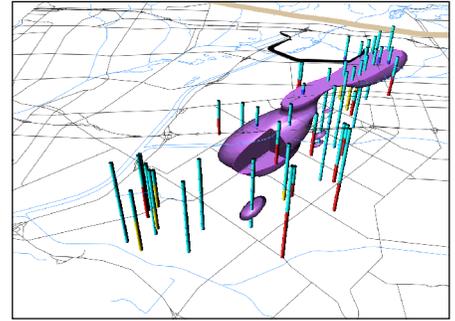
The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:
 1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

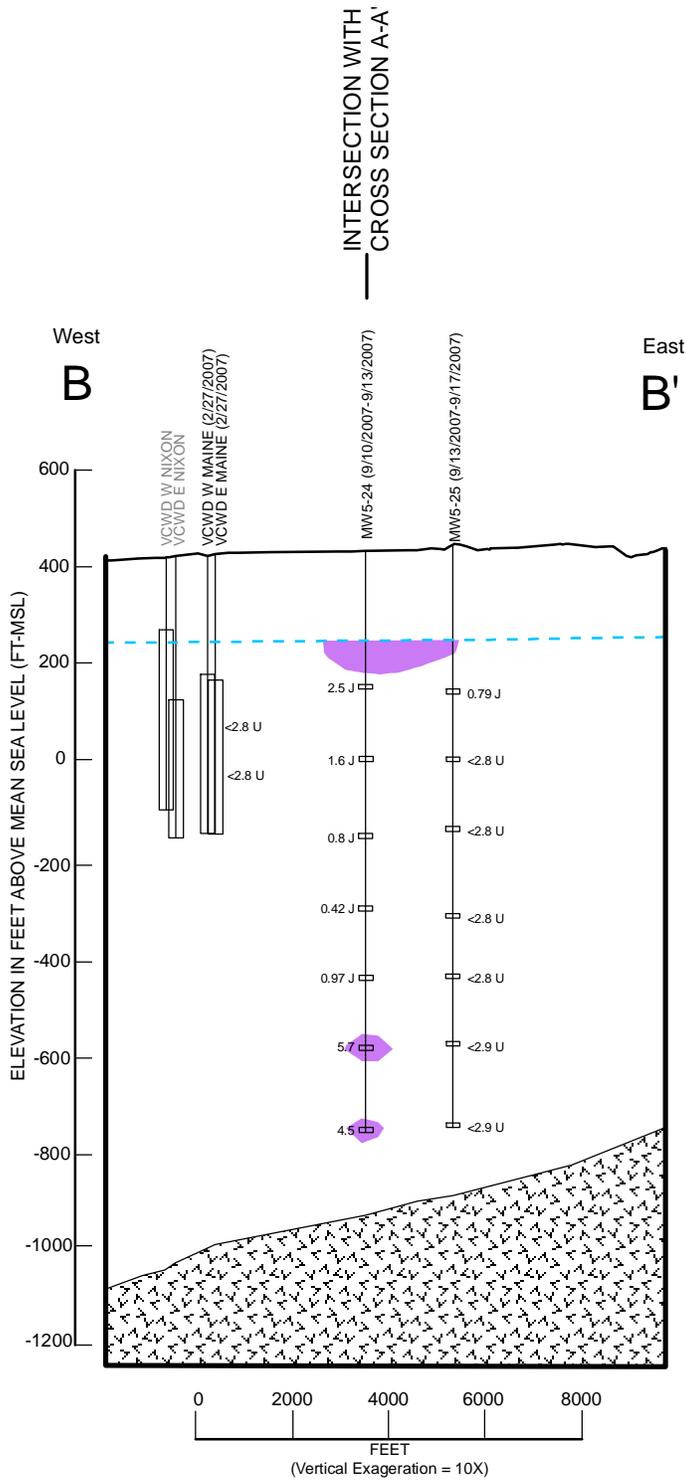
**VERTICAL DISTRIBUTION OF
1,4-DIOXANE
CROSS SECTION A-A'
Baldwin Park Operable Unit
San Gabriel Valley, California**

Project No. 7190.006

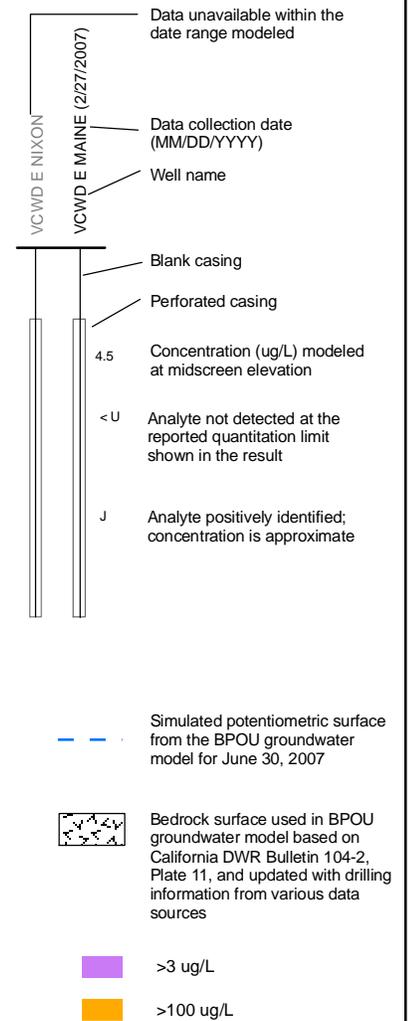
Figure **A-12**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



EXPLANATION



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

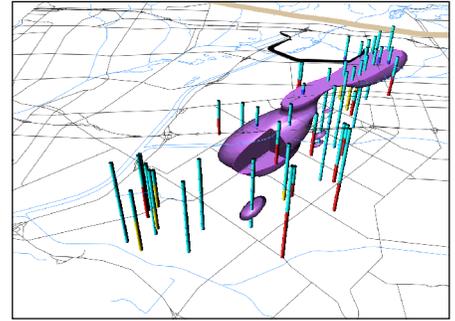
VERTICAL DISTRIBUTION OF 1,4-DIOXANE CROSS SECTION B-B' Baldwin Park Operable Unit San Gabriel Valley, California



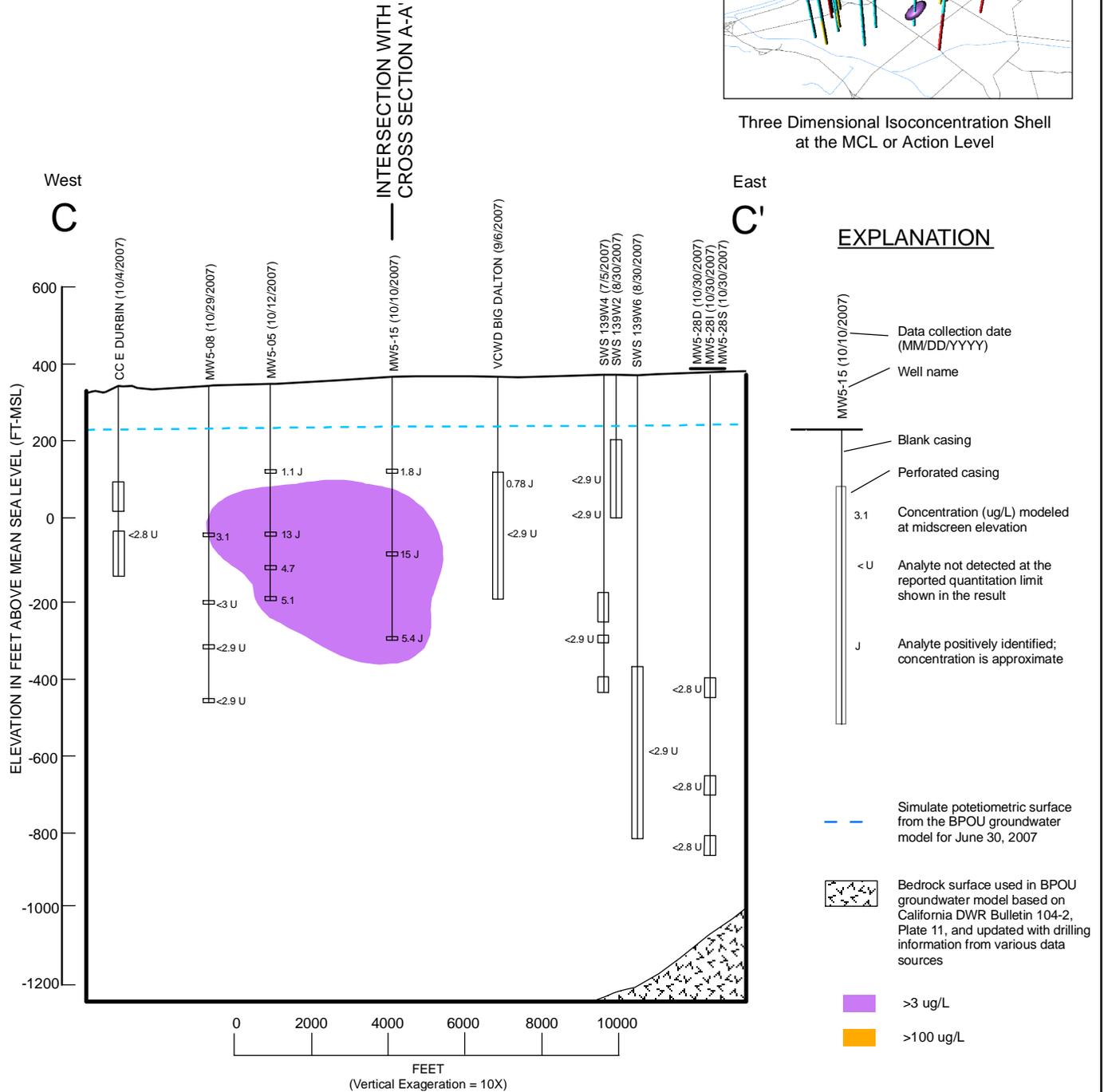
Geomatrix

Project No. 7190.006

Figure **A-13**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

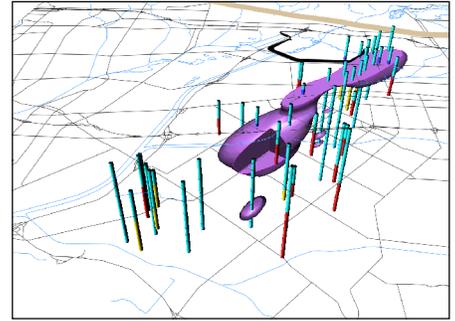
**VERTICAL DISTRIBUTION OF
1,4-DIOXANE
CROSS SECTION C-C'
Baldwin Park Operable Unit
San Gabriel Valley, California**



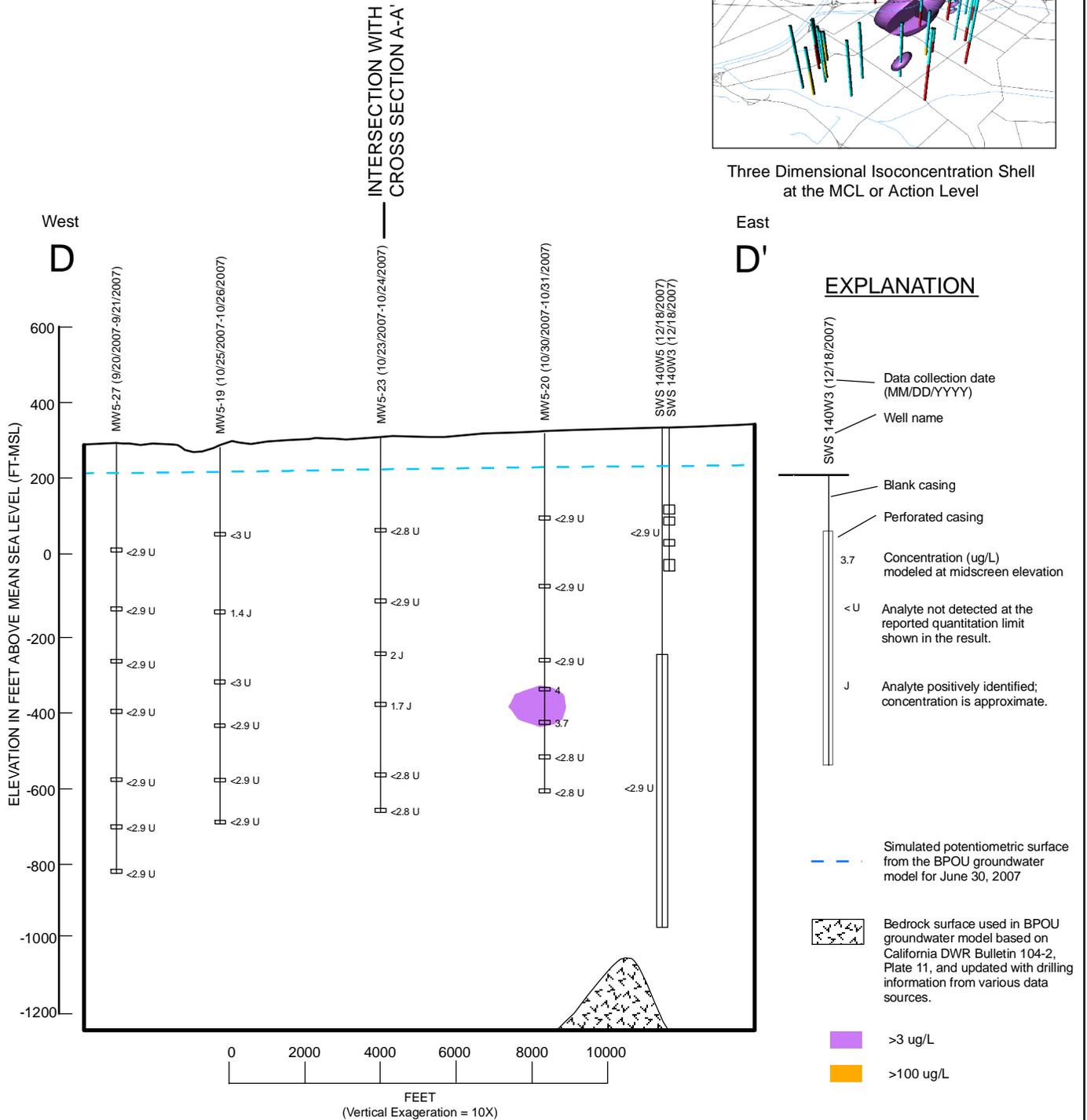
Geomatrix

Project No. 7190.006

Figure **A-14**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

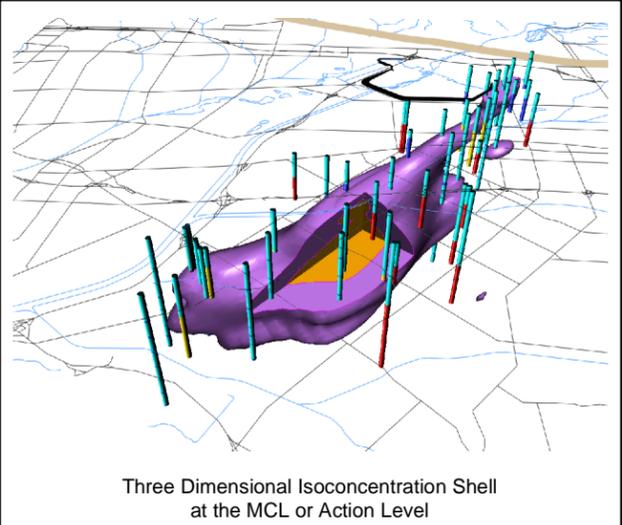
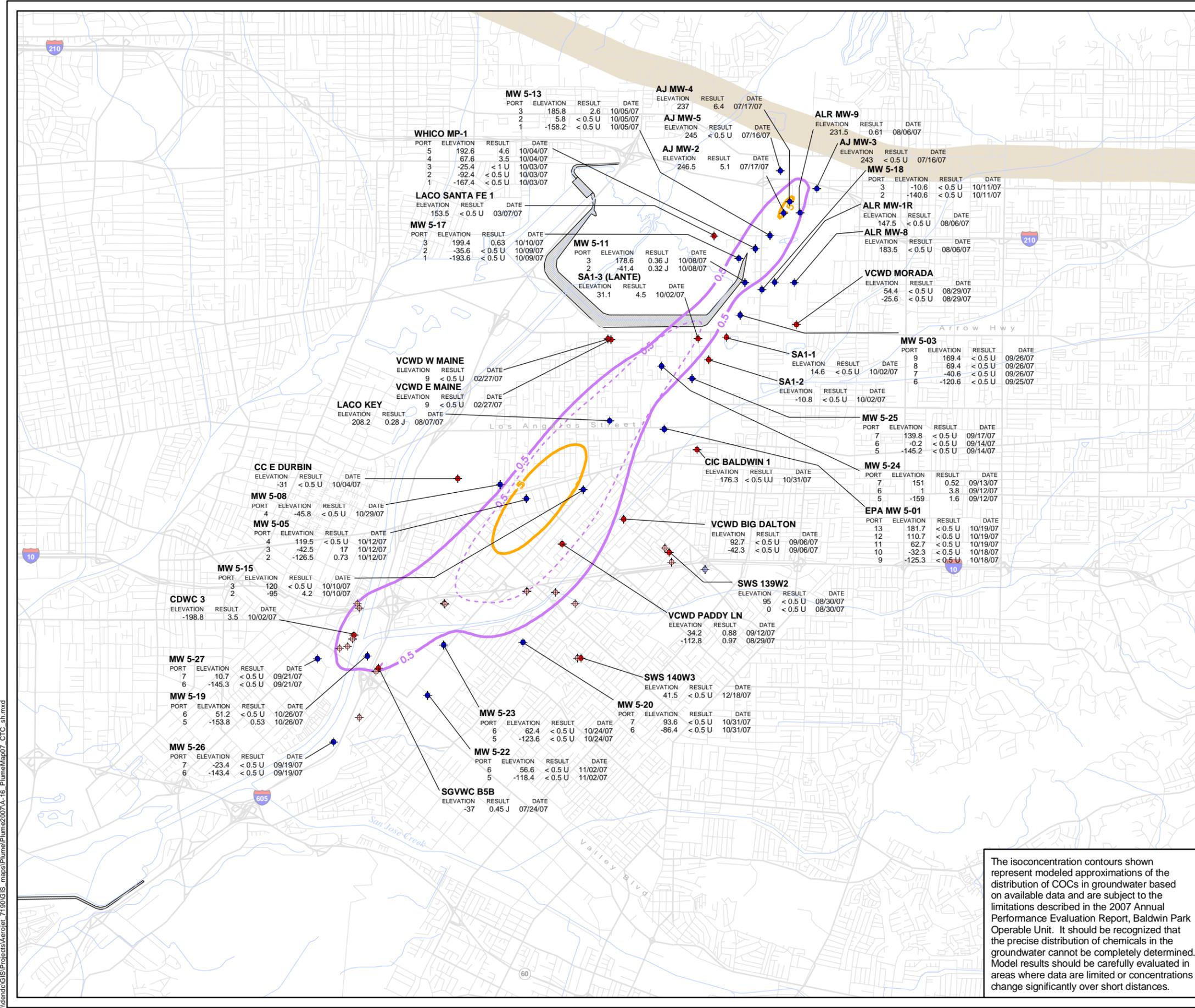
**VERTICAL DISTRIBUTION OF
1,4-DIOXANE
CROSS SECTION D-D'
Baldwin Park Operable Unit
San Gabriel Valley, California**



Geomatrix

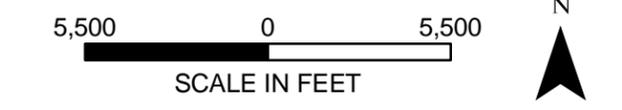
Project No. 7190.006

Figure **A-15**



- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multiport well
 - ◆ Monitoring and multiport well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - - - Carbon tetrachloride isoconcentration contour at -50 feet (0.5 ug/L)
 - Carbon tetrachloride composite isoconcentration contour for the elevation interval above -200 feet (0.5 ug/L)
 - Carbon tetrachloride composite isoconcentration contour for the elevation interval above -200 feet (5 ug/L)
 - Duarte Fault Zone

- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.

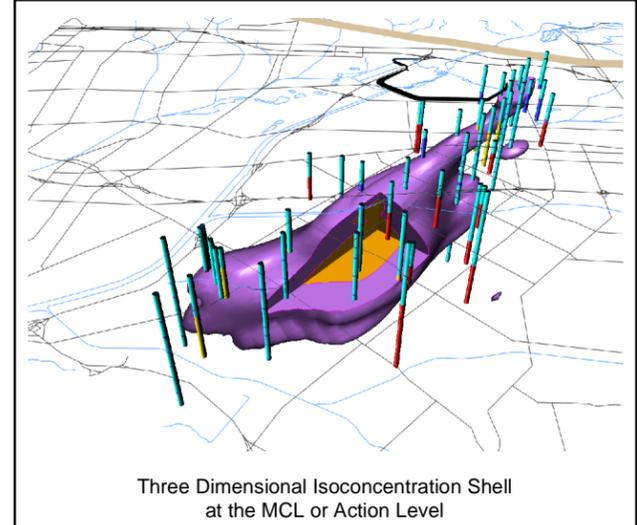
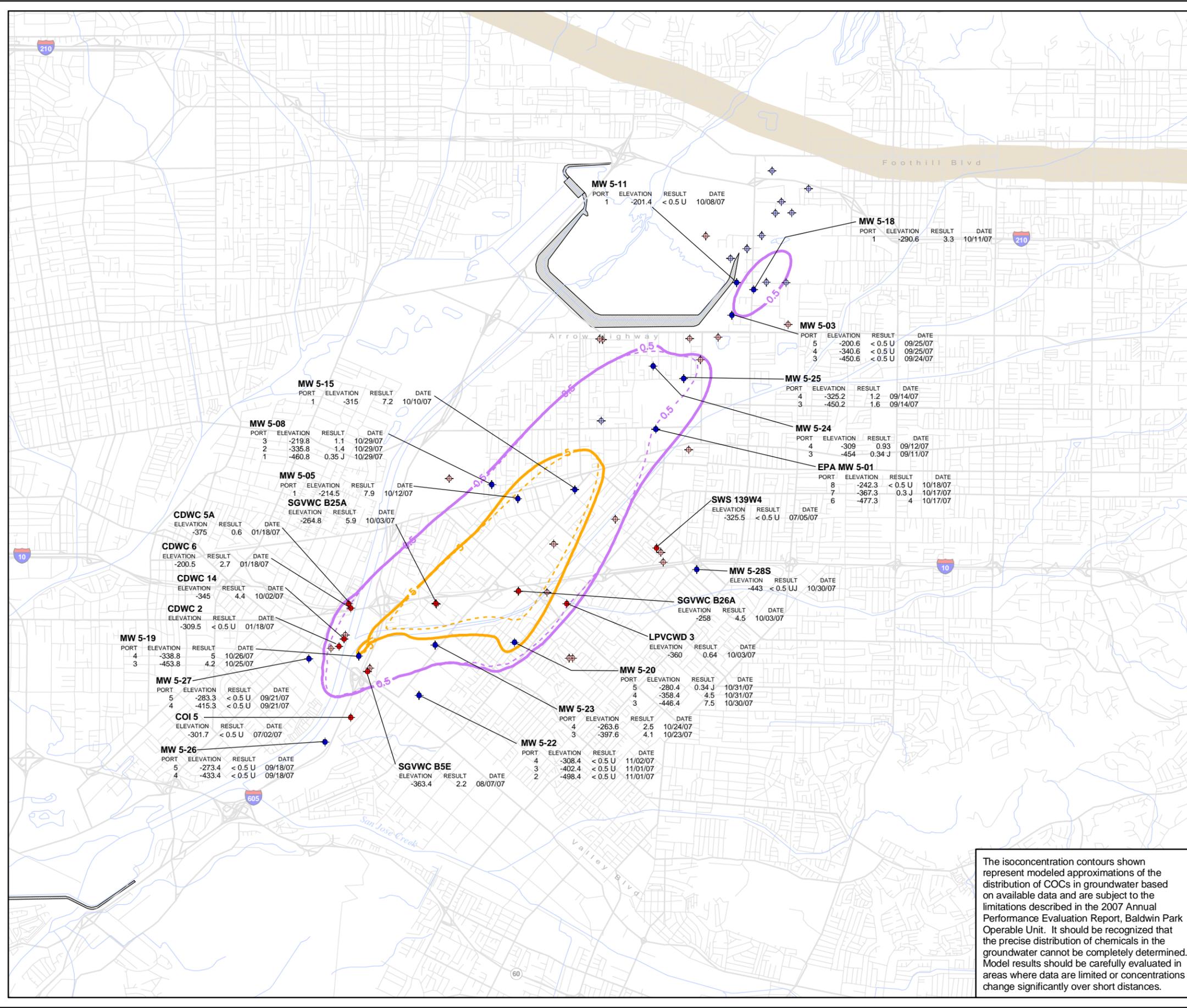


The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

DISTRIBUTION OF CARBON TETRACHLORIDE ABOVE -200 FEET MSL
 Baldwin Park Operable Unit
 San Gabriel Valley, California

\\edc\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007A-16_PlumeMap07_CTC_sh.mxd

\\eddc\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007A-17_PlumeMap07_CTC_int.mxd



- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multipoint well
 - ◆ Monitoring and multipoint well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - - - Carbon tetrachloride isoconcentration contour at -350 feet (0.5 ug/L)
 - - - Carbon tetrachloride isoconcentration contour at -350 feet (5 ug/L)
 - Carbon tetrachloride composite isoconcentration contour for the elevation interval between -200 and -500 feet (0.5 ug/L)
 - Carbon tetrachloride composite isoconcentration contour for the elevation interval between -200 and -500 feet (5 ug/L)
 - Duarte Fault Zone

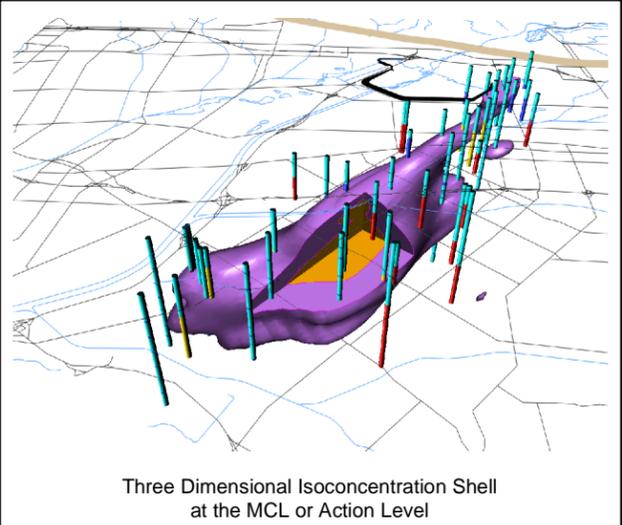
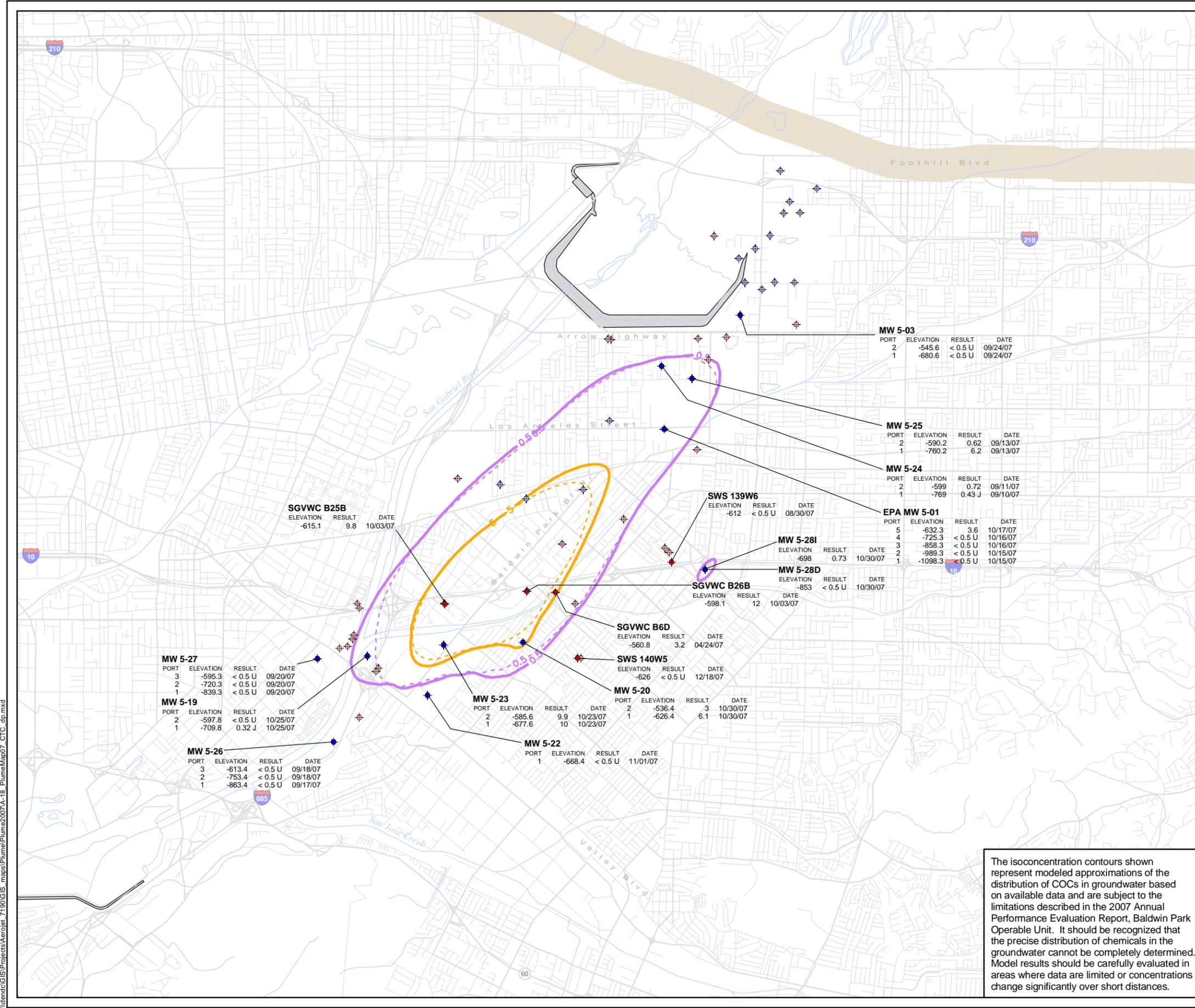
- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

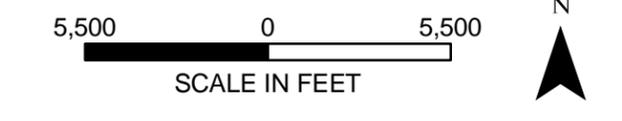
**DISTRIBUTION OF CARBON TETRACHLORIDE
BETWEEN -200 AND -500 FEET MSL**
Baldwin Park Operable Unit
San Gabriel Valley, California

Geomatrix	Project No. 7190	Figure A-17
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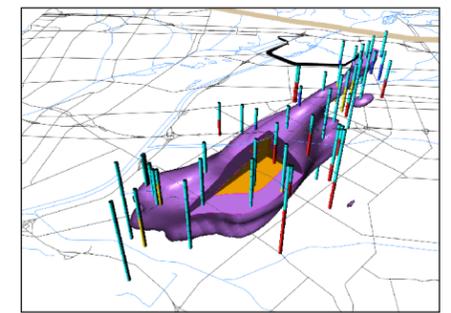
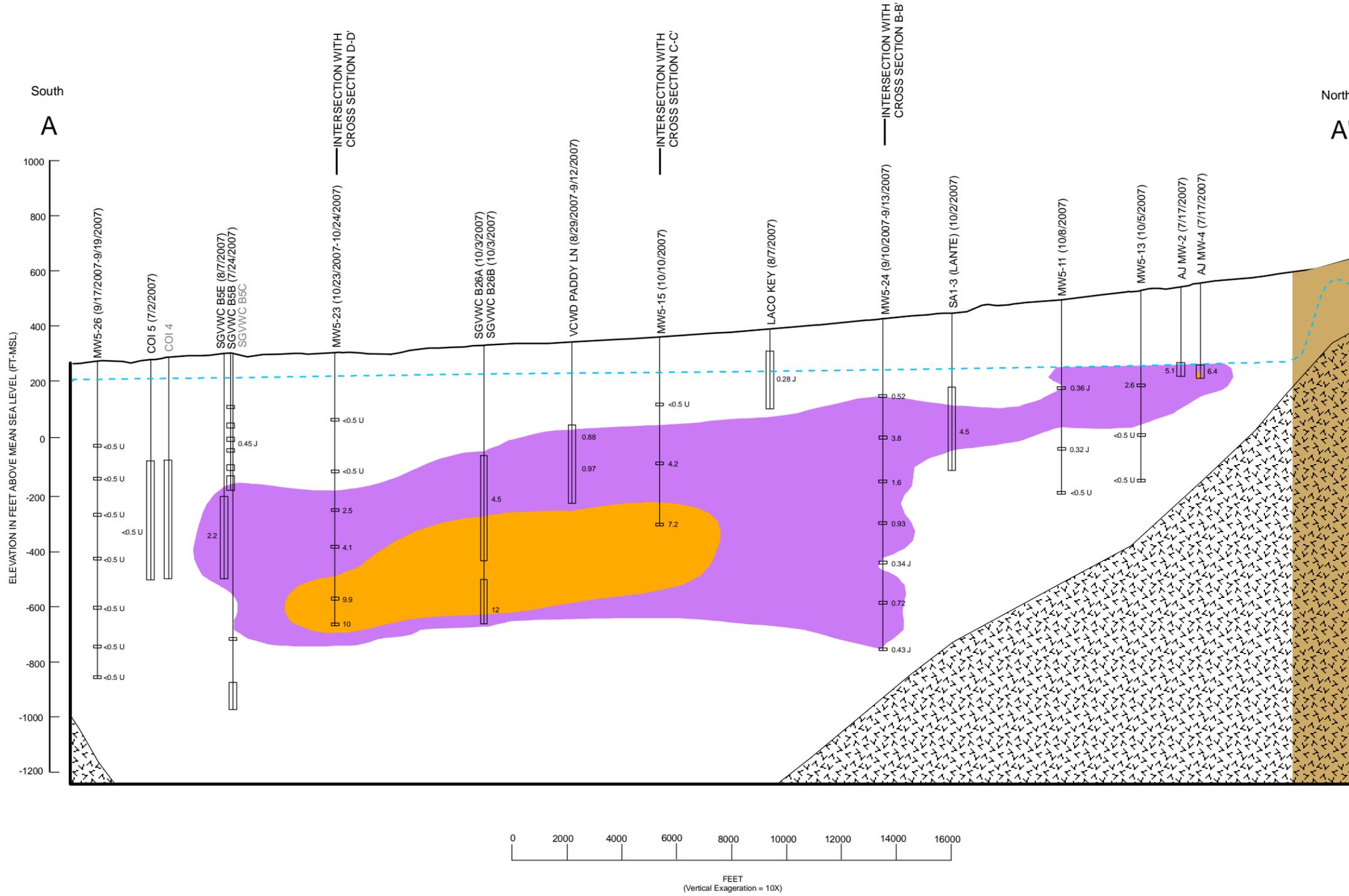
- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multipoint well
 - ◆ Monitoring and multipoint well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - - - Carbon tetrachloride isoconcentration contour at -550 feet (0.5 ug/L)
 - - - Carbon tetrachloride isoconcentration contour at -550 feet (5 ug/L)
 - Carbon tetrachloride composite isoconcentration contour for the elevation interval below -500 feet (0.5 ug/L)
 - Carbon tetrachloride composite isoconcentration contour for the elevation interval below -500 feet (5 ug/L)
 - Duarte Fault Zone

- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

\\eddc\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007A-18_PlumeMap07_CTC_dp.mxd



Three Dimensional Isoconcentration Shell at the MCL or Action Level

EXPLANATION

- Data unavailable within the date range modeled
- Data collection date (MM/DD/YYYY)
- Well name
- Blank casing
- Perforated casing
- 0.52 Concentration (ug/L) modeled at midscreen elevation
- < U Analyte not detected at the reported quantitation limit shown in the result
- J Analyte positively identified; concentration is approximate
- Simulated potentiometric surface from the BPOU groundwater model for June 30, 2007
- Bedrock surface used in BPOU groundwater model based on California DWR Bulletin 104-2, Plate 11, and updated with drilling information from various sources
- Duarte fault zone
- >0.5 ug/L
- >5 ug/L

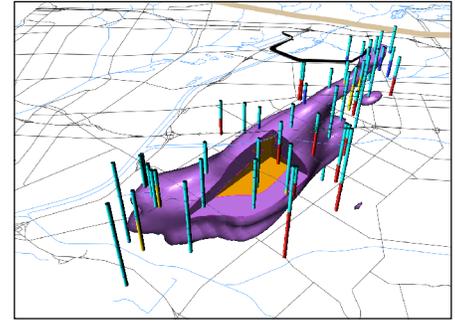
\\deland\GIS\Projects\Aero\proj_7190\GIS_maps\Plume\Plume2007\Cross Sections\A-19_A_CrossSection_CTC.mxd

The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

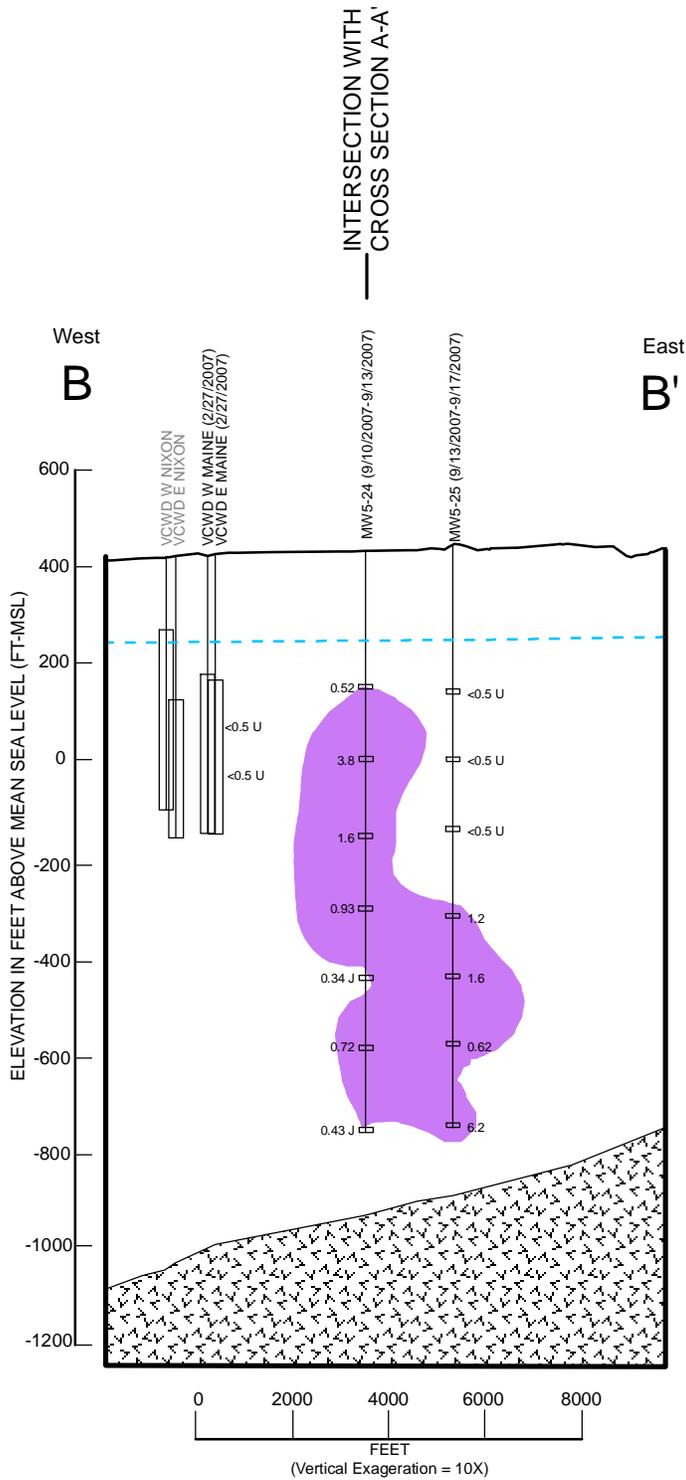
Note:
 1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

**VERTICAL DISTRIBUTION OF
 CARBON TETRACHLORIDE
 CROSS SECTION A-A'
 Baldwin Park Operable Unit
 San Gabriel Valley, California**

Project No. 7190.006
 Figure **A-19**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



EXPLANATION

- Data unavailable within the date range modeled
- Data collection date (MM/DD/YYYY)
- Well name
- Blank casing
- Perforated casing
- 0.52 Concentration (ug/L) modeled at midscreen elevation
- < U Analyte not detected at the reported quantitation limit shown in the result
- J Analyte positively identified; concentration is approximate
- Simulated potentiometric surface from the BPOU groundwater model for June 30, 2007
- Bedrock surface used in BPOU groundwater model based on California DWR Bulletin 104-2, Plate 11, and updated with drilling information from various data sources
- >0.5 ug/L
- >5 ug/L

The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

VERTICAL DISTRIBUTION OF CARBON TETRACHLORIDE CROSS SECTION B-B'

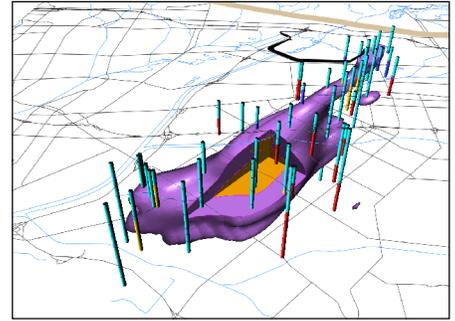
Baldwin Park Operable Unit
San Gabriel Valley, California



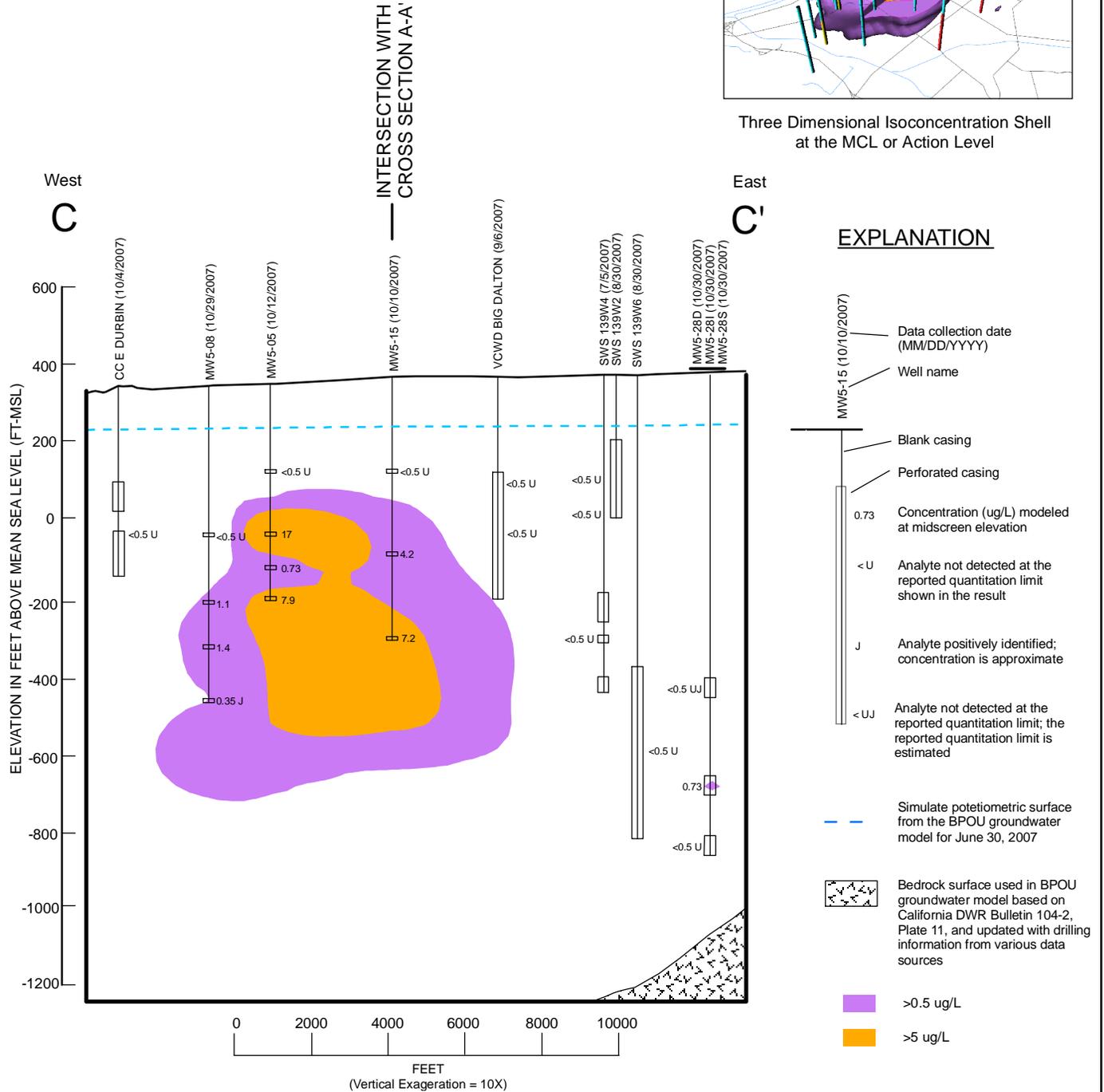
Geomatrix

Project No. 7190.006

Figure **A-20**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

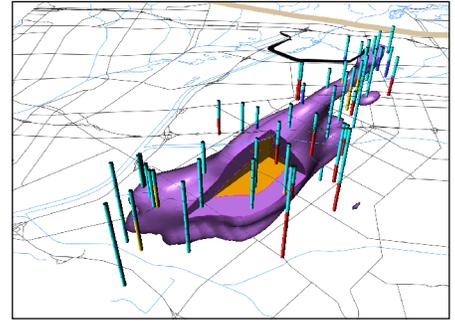
**VERTICAL DISTRIBUTION OF
CARBON TETRACHLORIDE
CROSS SECTION C-C'
Baldwin Park Operable Unit
San Gabriel Valley, California**



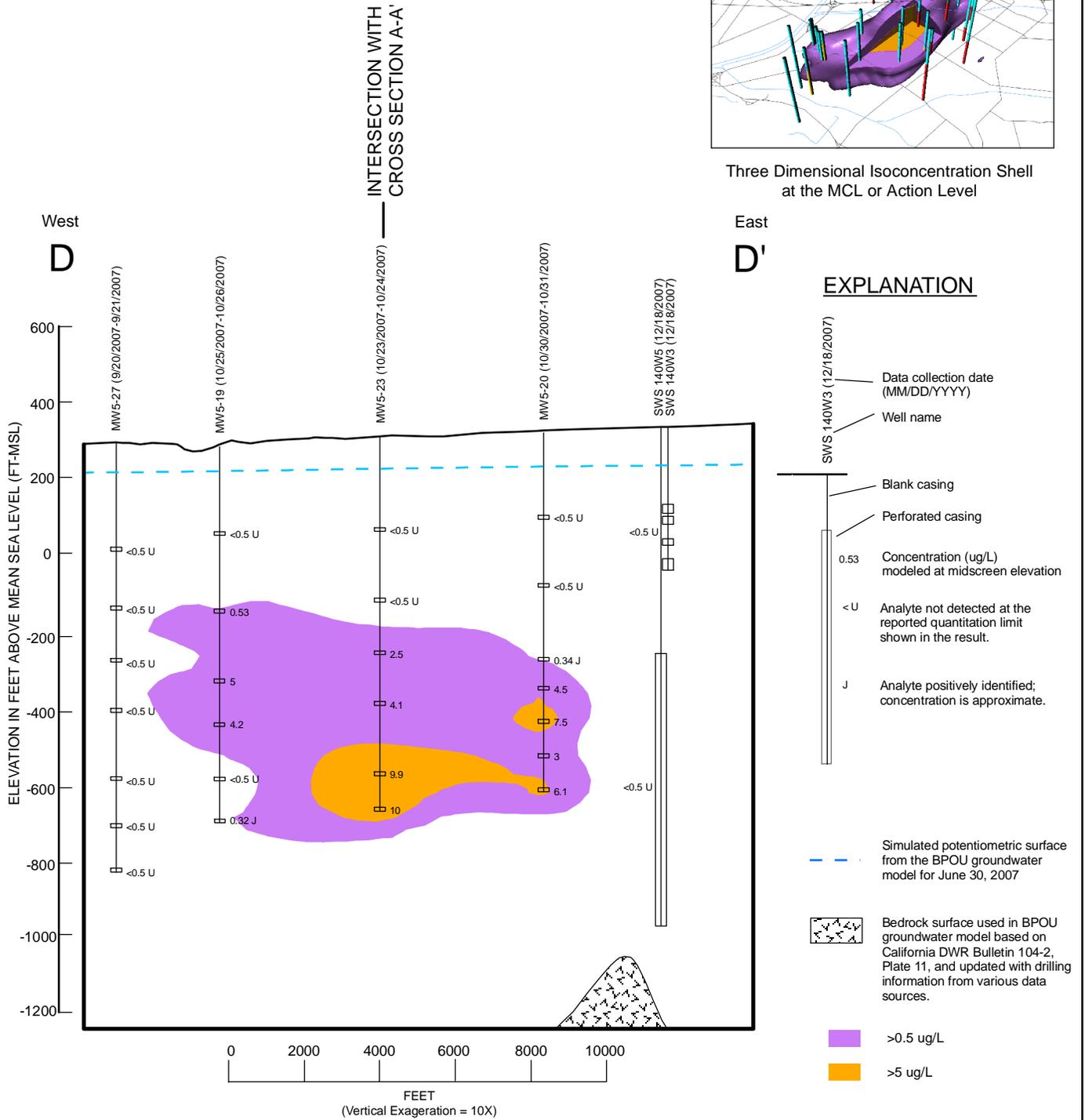
Geomatrix

Project No. 7190.006

Figure **A-21**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

**VERTICAL DISTRIBUTION OF
CARBON TETRACHLORIDE
CROSS SECTION D-D'
Baldwin Park Operable Unit
San Gabriel Valley, California**

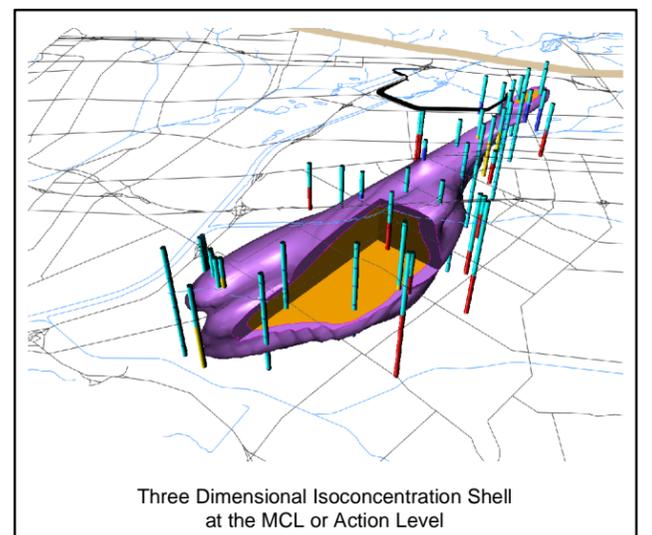
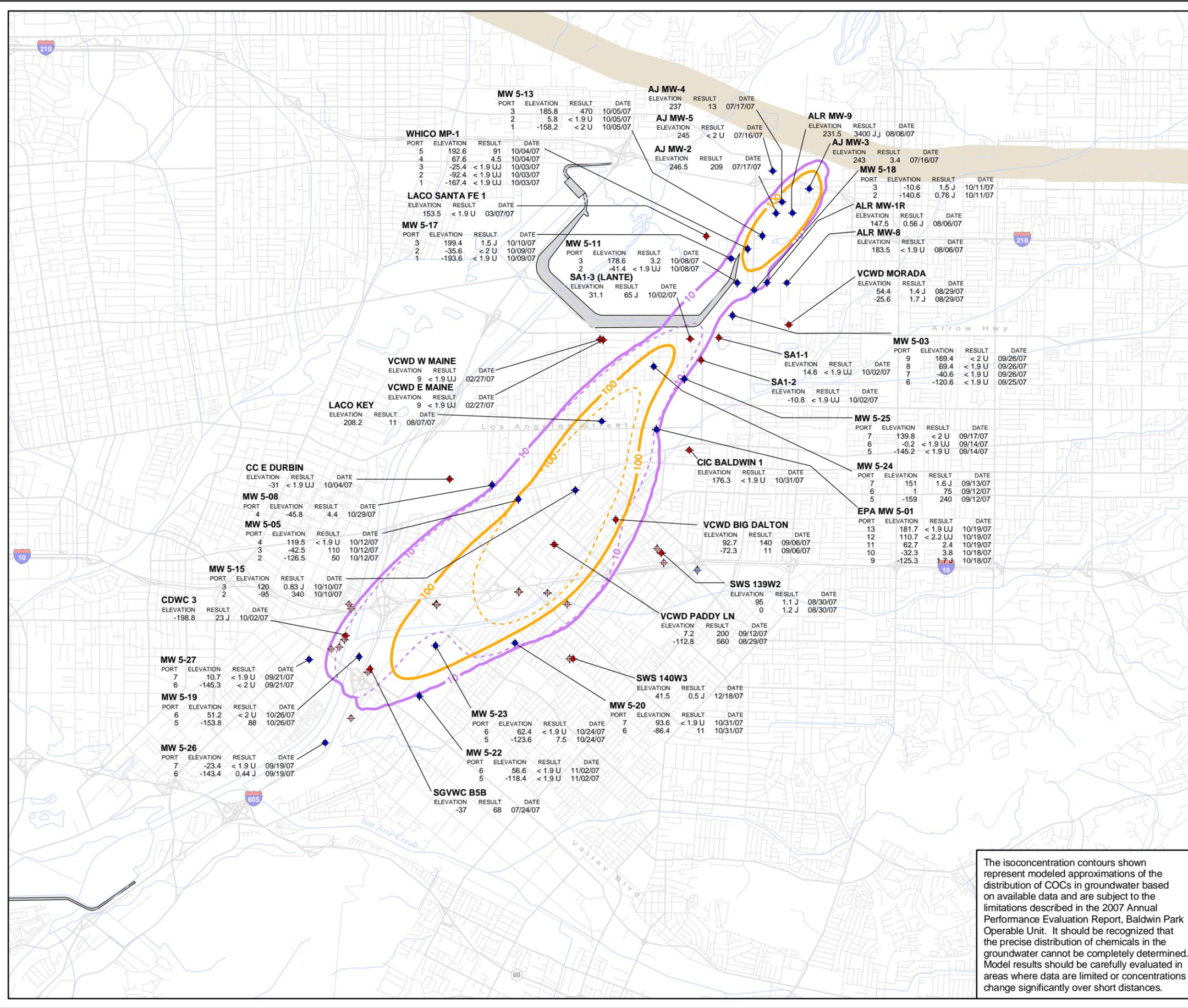


Geomatrix

Project No. 7190.006

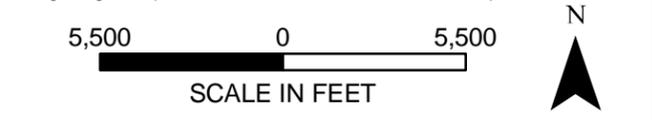
Figure **A-22**

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- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multiport well
 - ◆ Monitoring and multiport well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - < UJ Analyte not detected at the reported quantitation limit shown in the result; the reported quantitation limit is estimated
 - - - N-Nitrosodimethylamine isoconcentration contour at -50 feet (10 ng/L)
 - - - N-Nitrosodimethylamine isoconcentration contour at -50 feet (100 ng/L)
 - N-Nitrosodimethylamine composite isoconcentration contour for the elevation interval above -200 feet (10 ng/L)
 - N-Nitrosodimethylamine composite isoconcentration contour for the elevation interval above -200 feet (100 ng/L)
 - Duarte Fault Zone

- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.

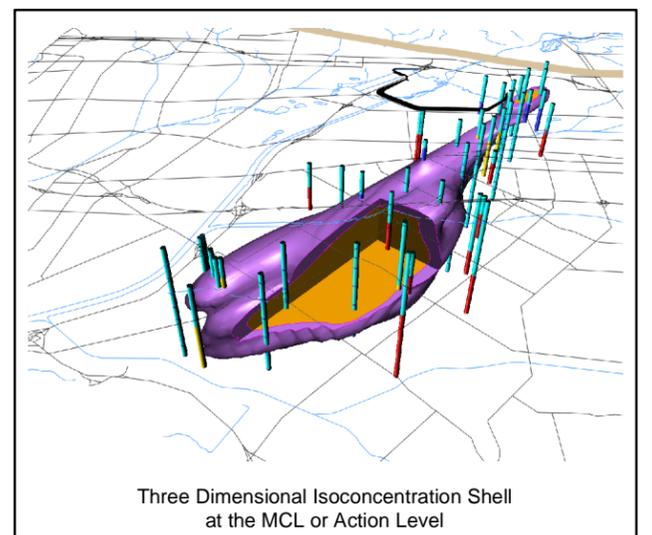
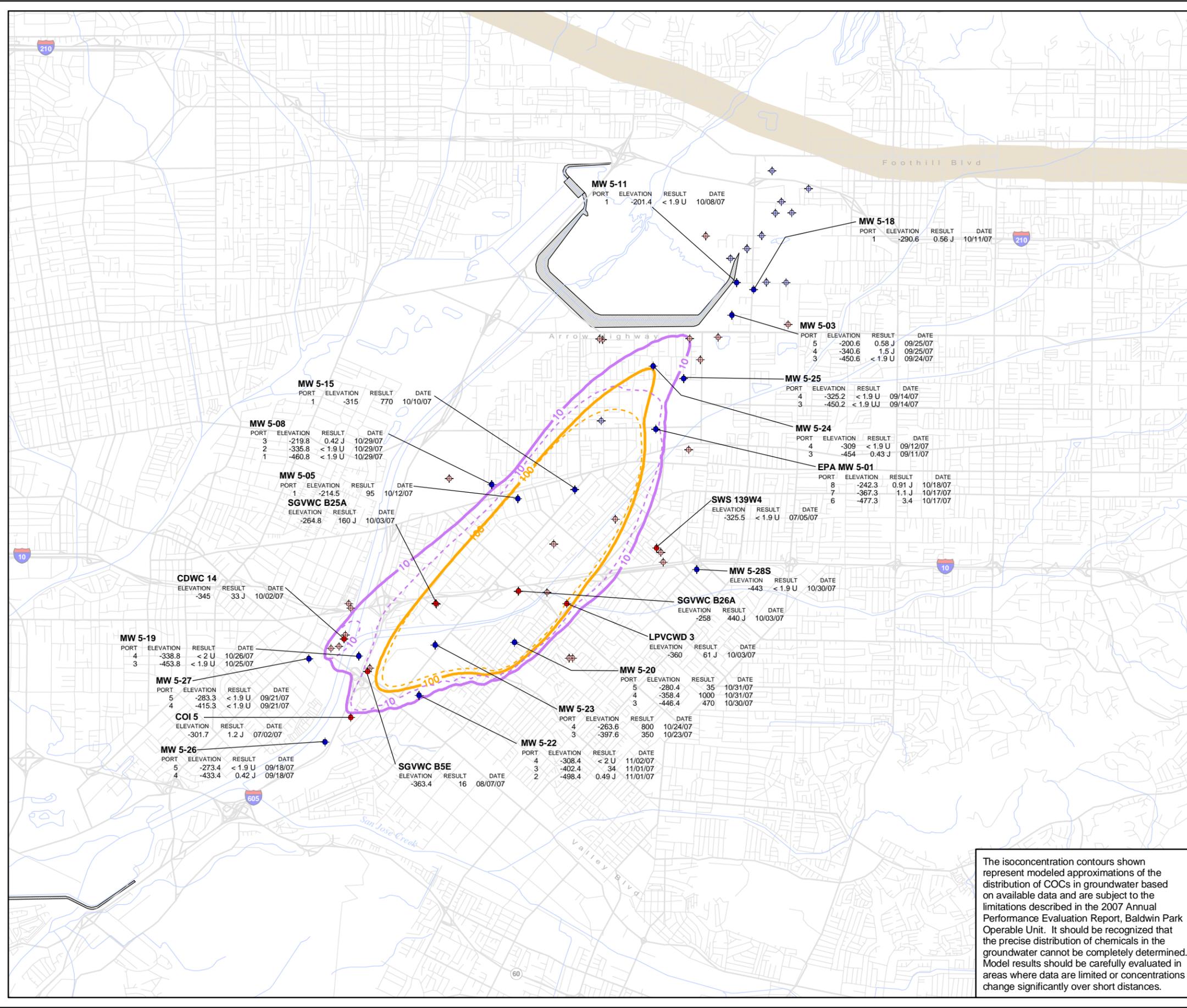


The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

DISTRIBUTION OF N-NITROSODIMETHYLAMINE ABOVE -200 FEET MSL
Baldwin Park Operable Unit
San Gabriel Valley, California

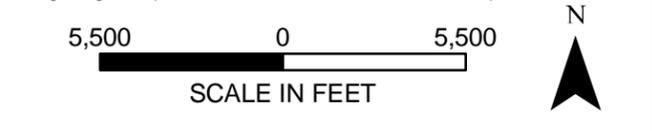
Geomatrix	Project No. 7190	Figure A-23
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\\ndc\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007A-24_PlumeMap07_NDMA_r1.mxd



- EXPLANATION**
- Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multipoint well
 - ◆ Monitoring and multipoint well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - < UJ Analyte not detected at the reported quantitation limit shown in the result; the reported quantitation limit is estimated
 - - - N-Nitrosodimethylamine isoconcentration contour at -350 feet (10 ng/L)
 - - - N-Nitrosodimethylamine isoconcentration contour at -350 feet (100 ng/L)
 - - - N-Nitrosodimethylamine composite isoconcentration contour for the elevation interval between -200 and -500 feet (10 ng/L)
 - - - N-Nitrosodimethylamine composite isoconcentration contour for the elevation interval between -200 and -500 feet (100 ng/L)
 - Duarte Fault Zone

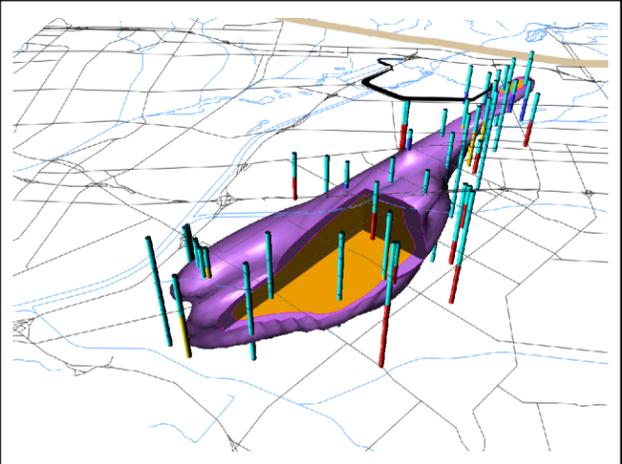
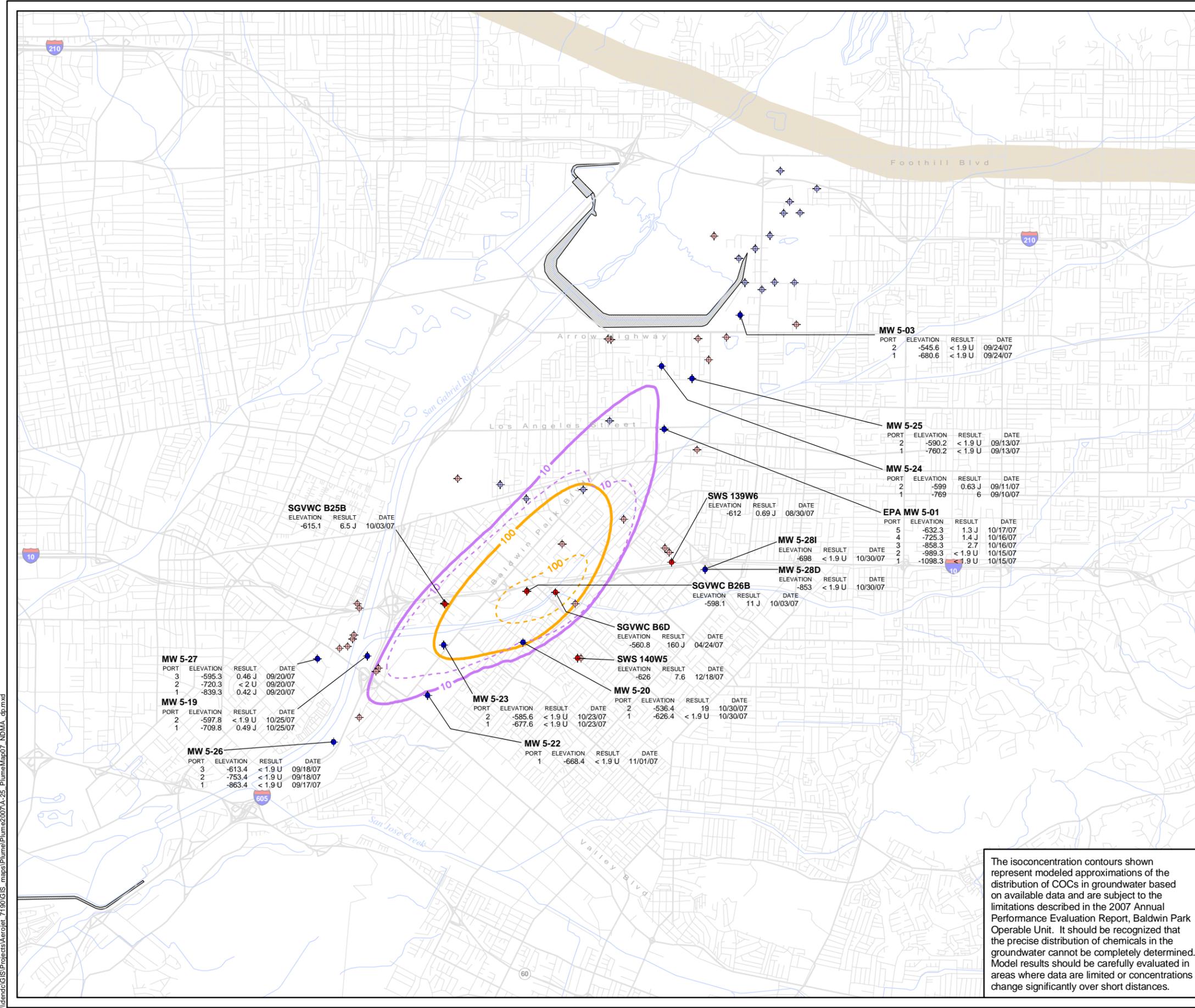
- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

**DISTRIBUTION OF N-NITROSODIMETHYLAMINE
BETWEEN -200 AND -500 FEET MSL**
Baldwin Park Operable Unit
San Gabriel Valley, California

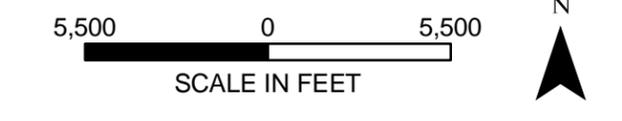
Geomatrix	Project No. 7190	Figure A-24
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Three Dimensional Isoconcentration Shell at the MCL or Action Level

- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multipoint well
 - ◆ Monitoring and multipoint well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - < UJ Analyte not detected at the reported quantitation limit shown in the result; the reported quantitation limit is estimated
 - - - N-Nitrosodimethylamine isoconcentration contour at -550 feet (10 ng/L)
 - - - N-Nitrosodimethylamine isoconcentration contour at -550 feet (100 ng/L)
 - N-Nitrosodimethylamine composite isoconcentration contour for the elevation interval below -500 feet (10 ng/L)
 - N-Nitrosodimethylamine composite isoconcentration contour for the elevation interval below -500 feet (100 ng/L)
 - Duarte Fault Zone

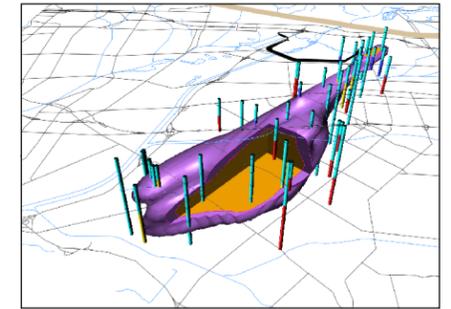
- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.



DISTRIBUTION OF N-NITROSODIMETHYLAMINE BELOW -500 FEET MSL
 Baldwin Park Operable Unit
 San Gabriel Valley, California

The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

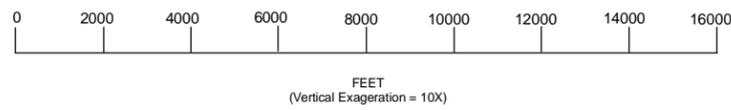
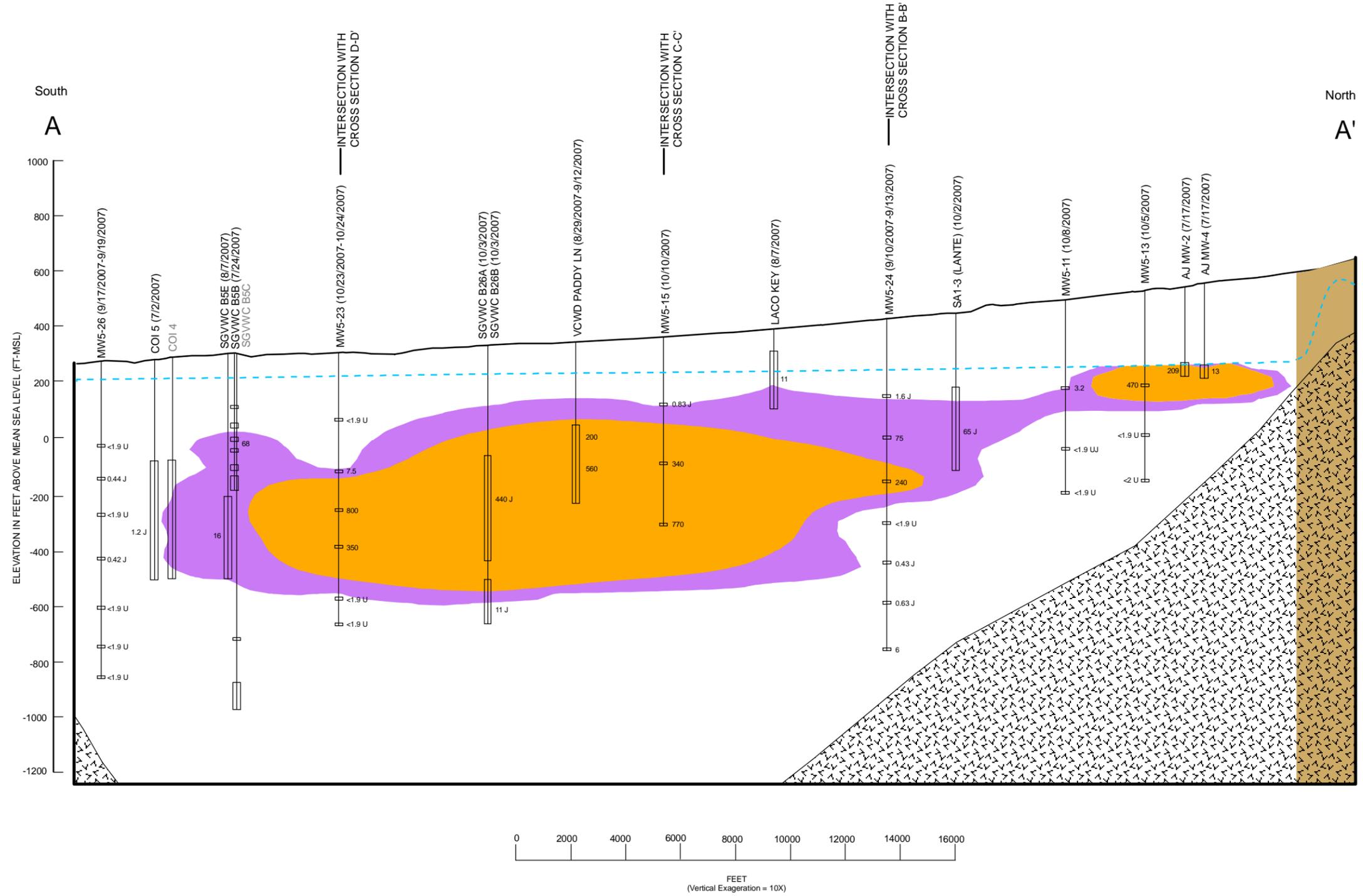
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Three Dimensional Isoconcentration Shell at the MCL or Action Level

EXPLANATION

- Data unavailable within the date range modeled
- Data collection date (MM/DD/YYYY)
- Well name
- Blank casing
- Perforated casing
- 3.2 Concentration (ng/L) modeled at midscreen elevation
- <U Analyte not detected at the reported quantitation limit shown in the result
- J Analyte positively identified; concentration is approximate
- <UJ Analyte not detected at the reported quantitation limit shown in the result; the reported quantitation limit is estimated
- Simulated potentiometric surface from the BPOU groundwater model for June 30, 2007
- Bedrock surface used in BPOU groundwater model based on California DWR Bulletin 104-2, Plate 11, and updated with drilling information from various sources
- Duarte fault zone
- >10 ng/L
- >100 ng/L



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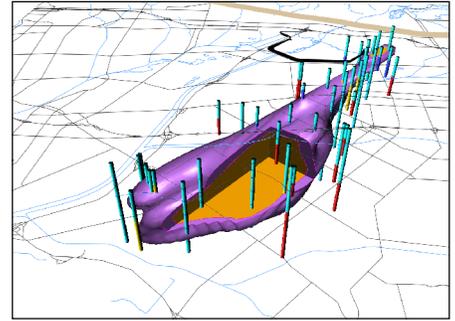
The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:
 1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

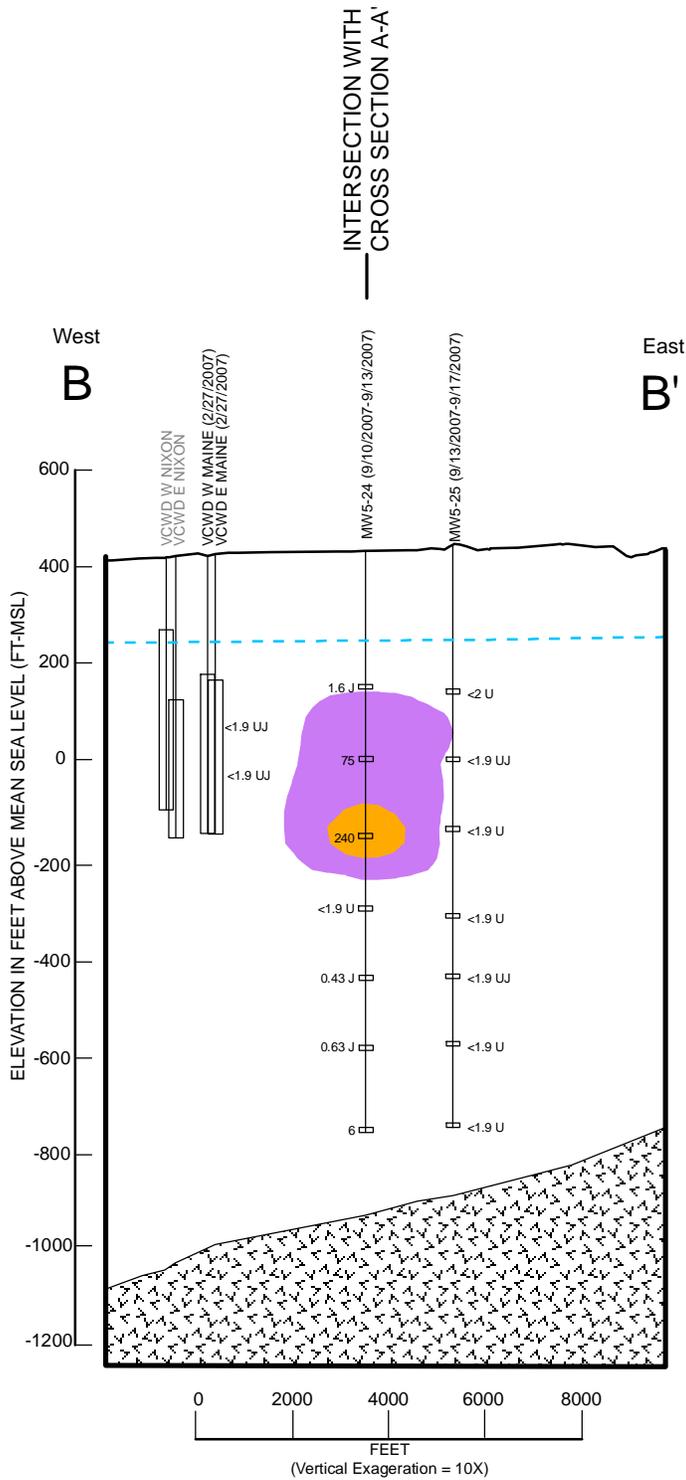
**VERTICAL DISTRIBUTION OF
 N-NITROSODIMETHYLAMINE
 CROSS SECTION A-A'
 Baldwin Park Operable Unit
 San Gabriel Valley, California**

Project No. 7190.006

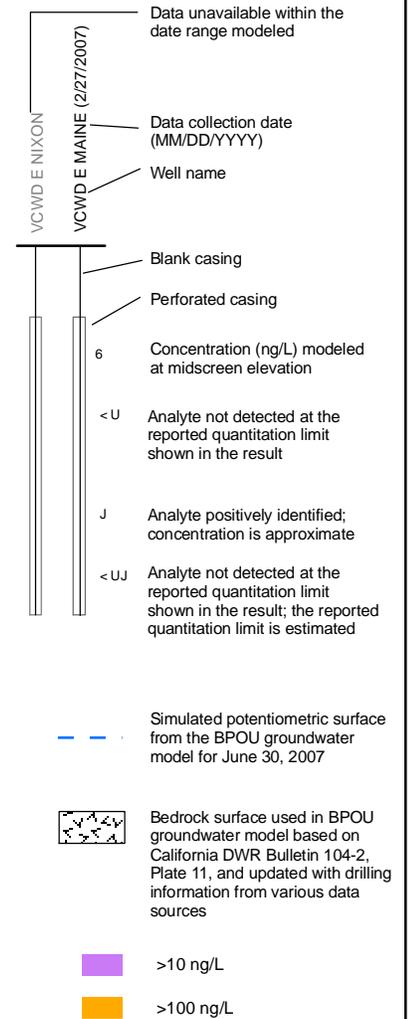
Figure **A-26**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



EXPLANATION



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

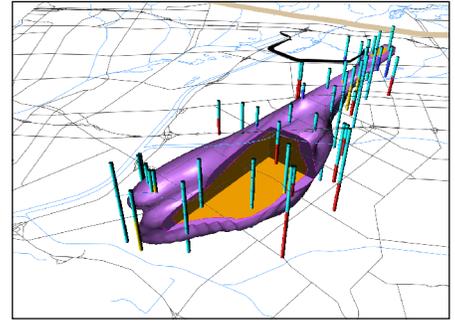
**VERTICAL DISTRIBUTION OF
N-NITROSODIMETHYLAMINE
CROSS SECTION B-B'
Baldwin Park Operable Unit
San Gabriel Valley, California**



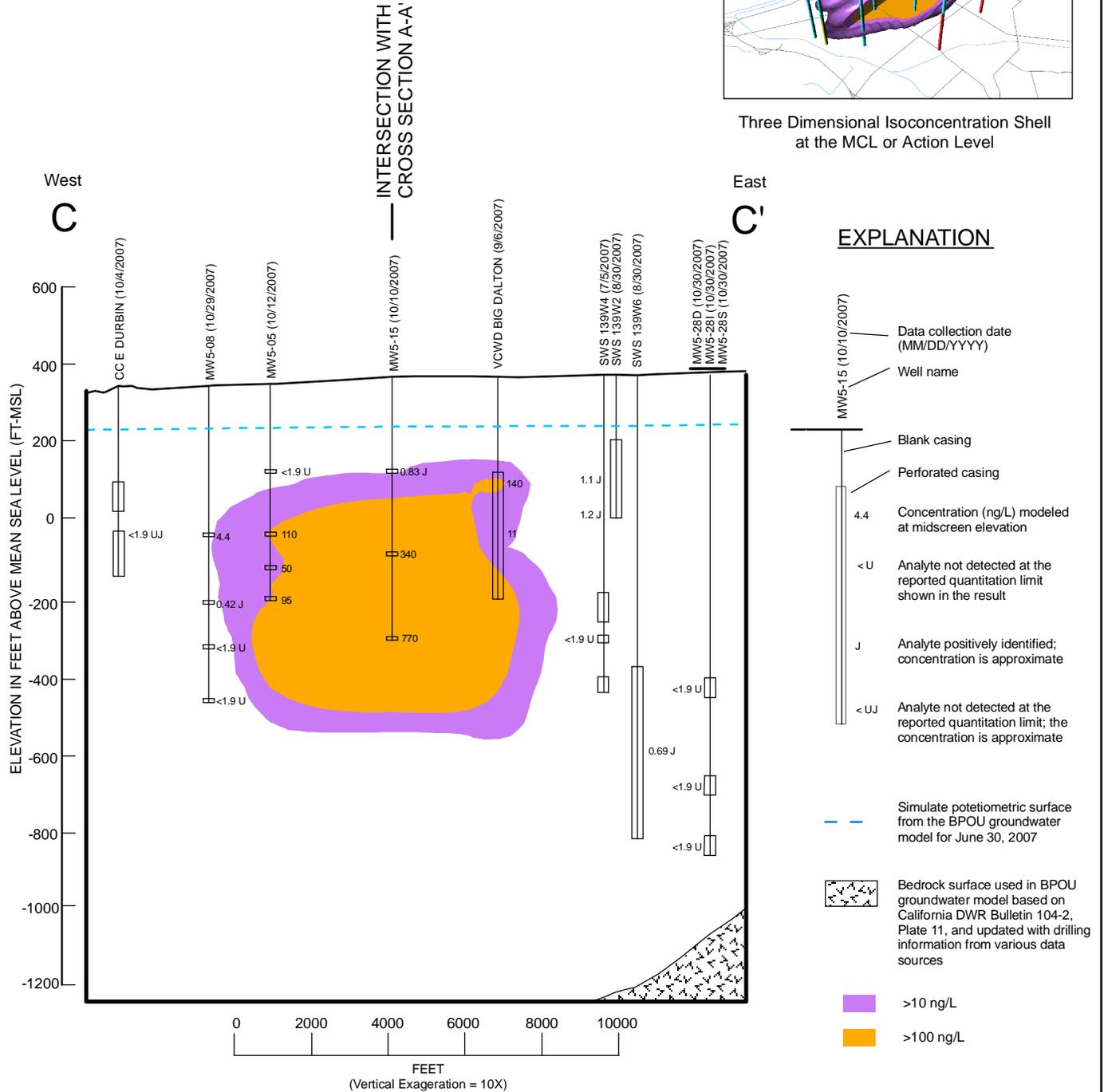
Geomatrix

Project No. 7190.006

Figure **A-27**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

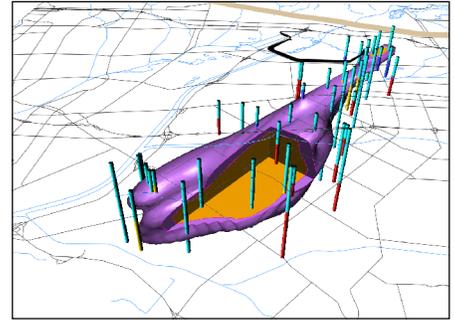
**VERTICAL DISTRIBUTION OF
N-NITROSODIMETHYLAMINE
CROSS SECTION C-C'
Baldwin Park Operable Unit
San Gabriel Valley, California**



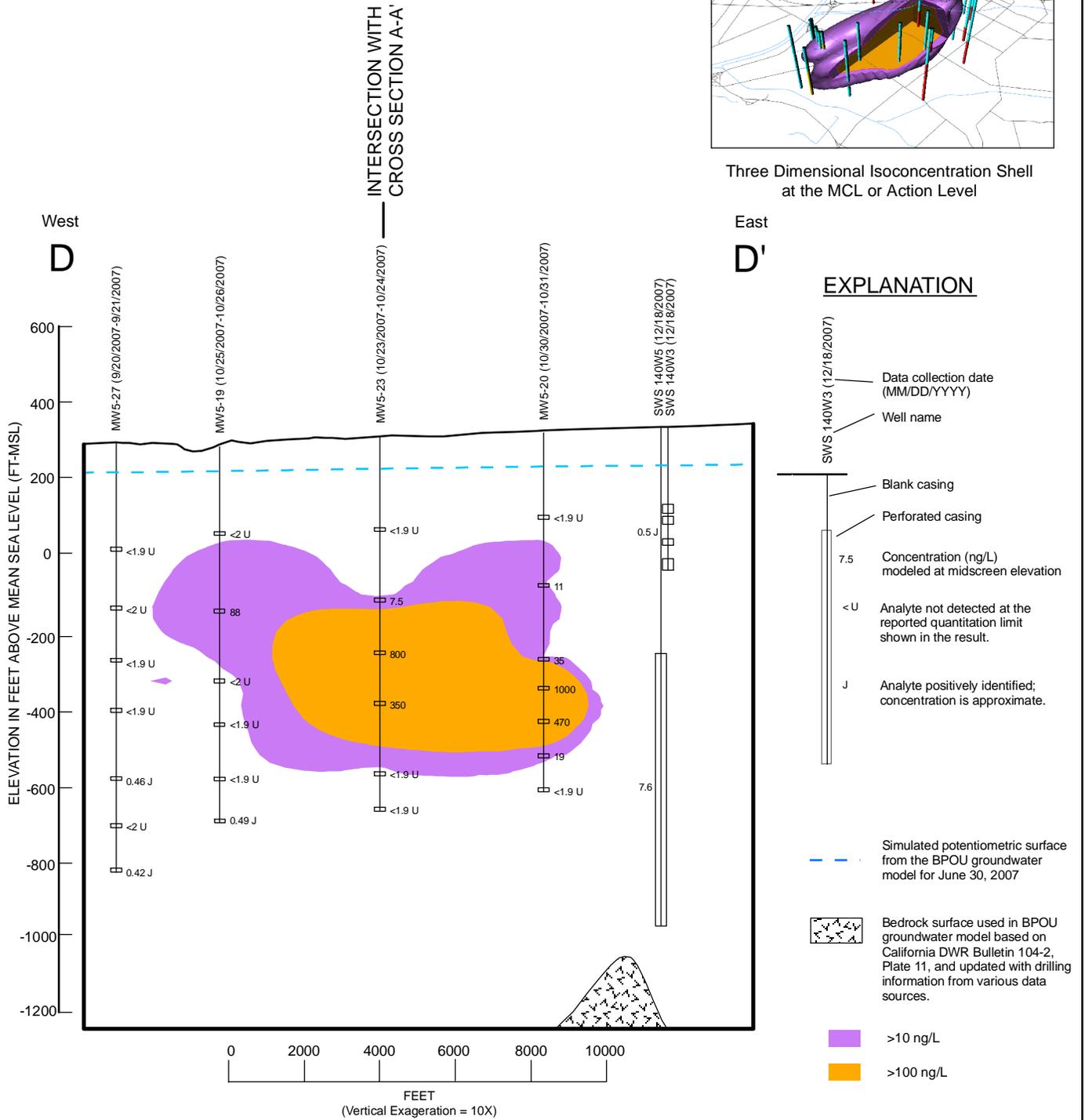
Geomatrix

Project No. 7190.006

Figure **A-28**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

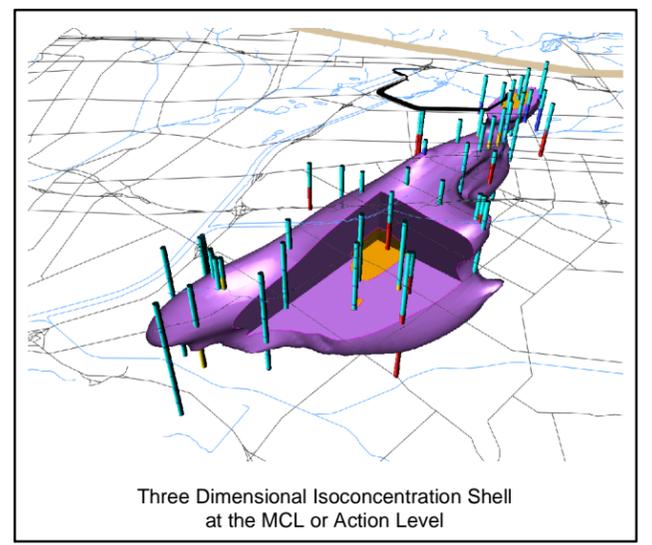
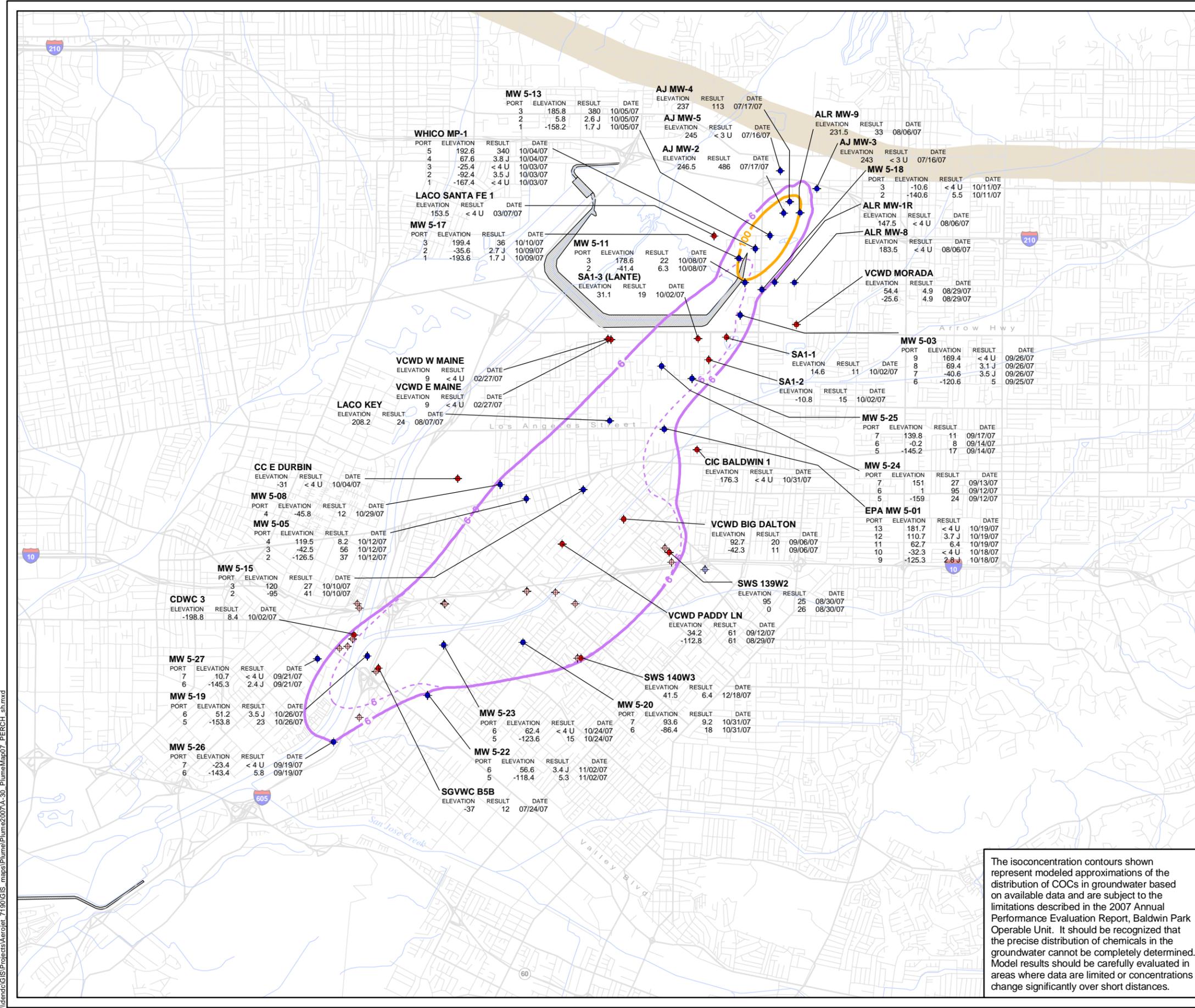
**VERTICAL DISTRIBUTION OF
N-NITROSODIMETHYLAMINE
CROSS SECTION D-D'
Baldwin Park Operable Unit
San Gabriel Valley, California**



Geomatrix

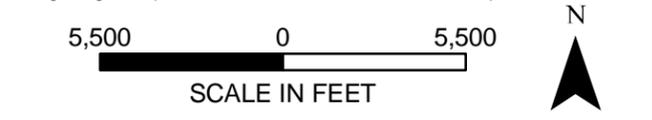
Project No. 7190.006

Figure **A-29**



- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multiport well
 - ◆ Monitoring and multiport well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - - - Perchlorate isoconcentration contour at -50 feet (6 ug/L)
 - Perchlorate composite isoconcentration contour for the elevation interval above -200 feet (6 ug/L)
 - Perchlorate composite isoconcentration contour for the elevation interval above -200 feet (100 ug/L)
 - Duarte Fault Zone

- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.



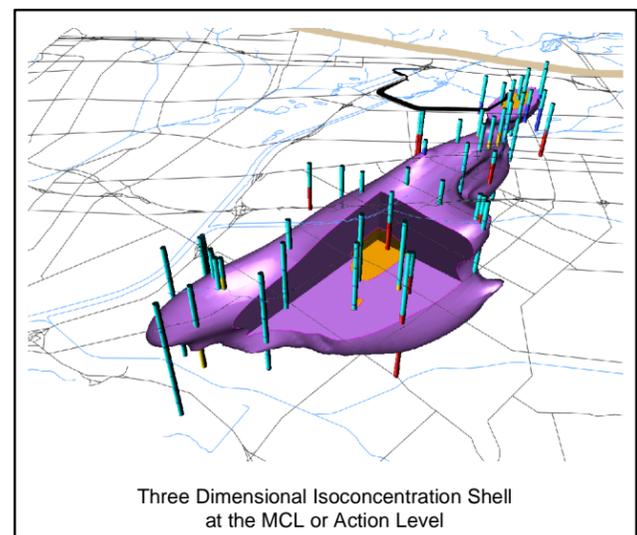
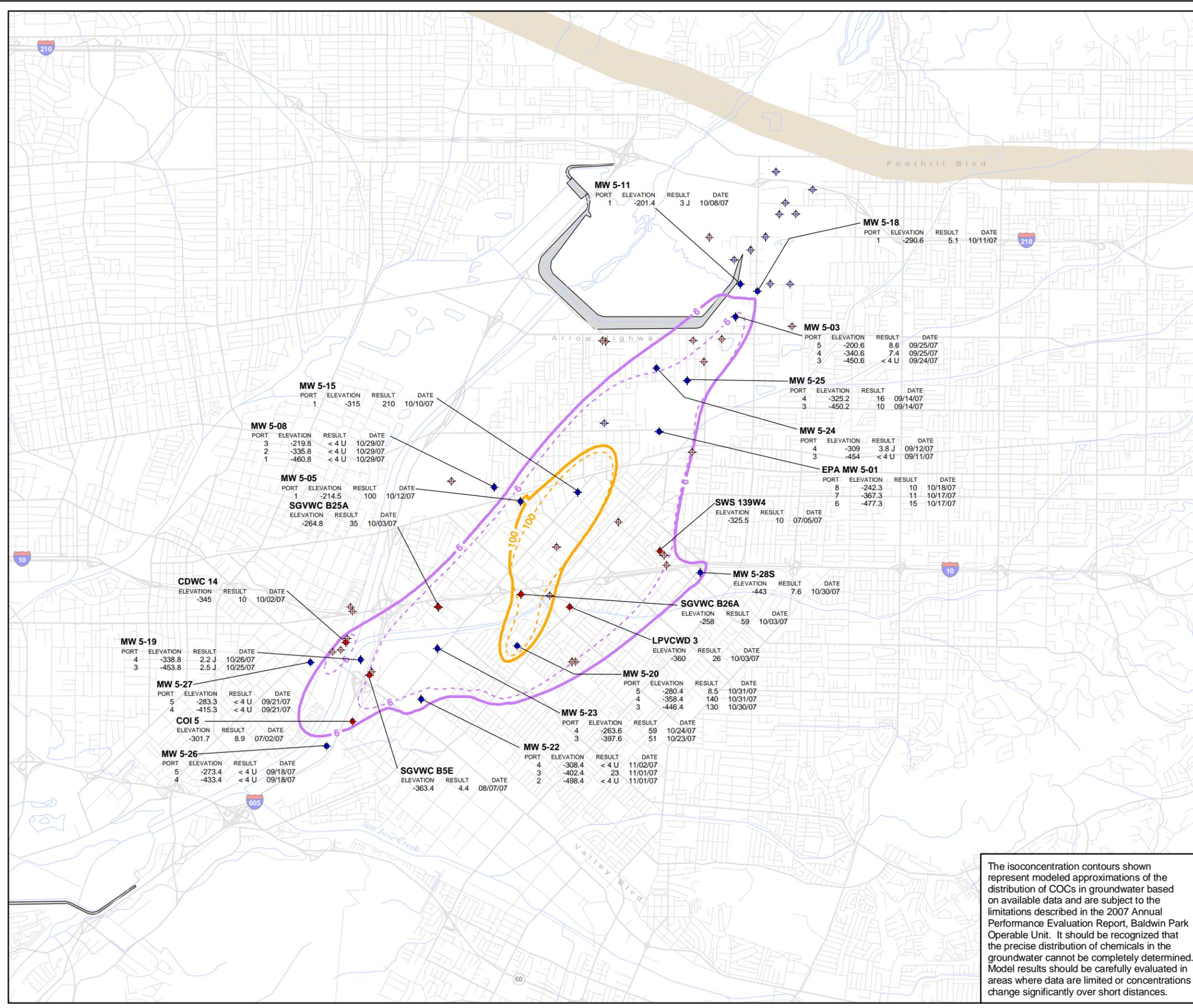
The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

DISTRIBUTION OF PERCHLORATE ABOVE -200 FEET MSL
Baldwin Park Operable Unit
San Gabriel Valley, California

Project No. 7190	Figure A-30
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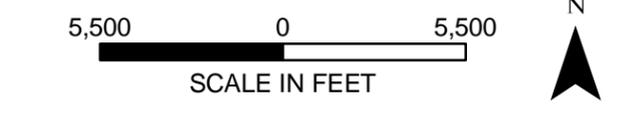
\\edc\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007A_30_PlumeMap07_PERCH.sh.mxd

\\eddc\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007\A-31_PlumeMap07_PERCH_int.mxd



- EXPLANATION**
- Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multipoint well
 - ◆ Monitoring and multipoint well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - - - Perchlorate isoconcentration contour at -350 feet (6 ug/L)
 - - - Perchlorate isoconcentration contour at -350 feet (100 ug/L)
 - Perchlorate composite isoconcentration contour for the elevation interval between -200 and -500 feet (6 ug/L)
 - Perchlorate composite isoconcentration contour for the elevation interval between -200 and -500 feet (100 ug/L)
 - Duarte Fault Zone

- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.

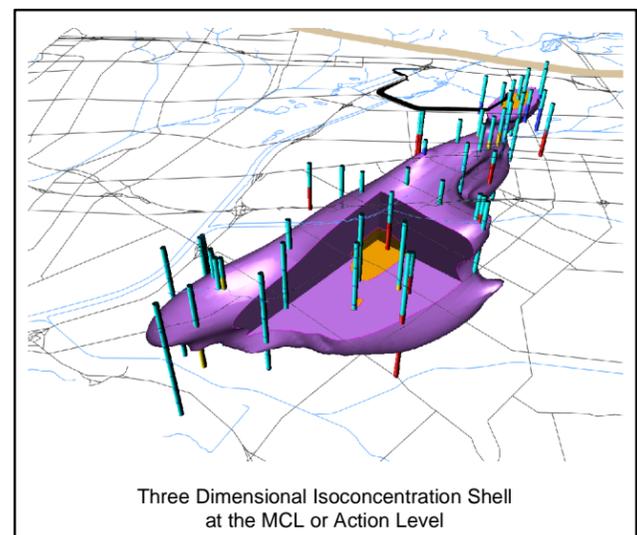
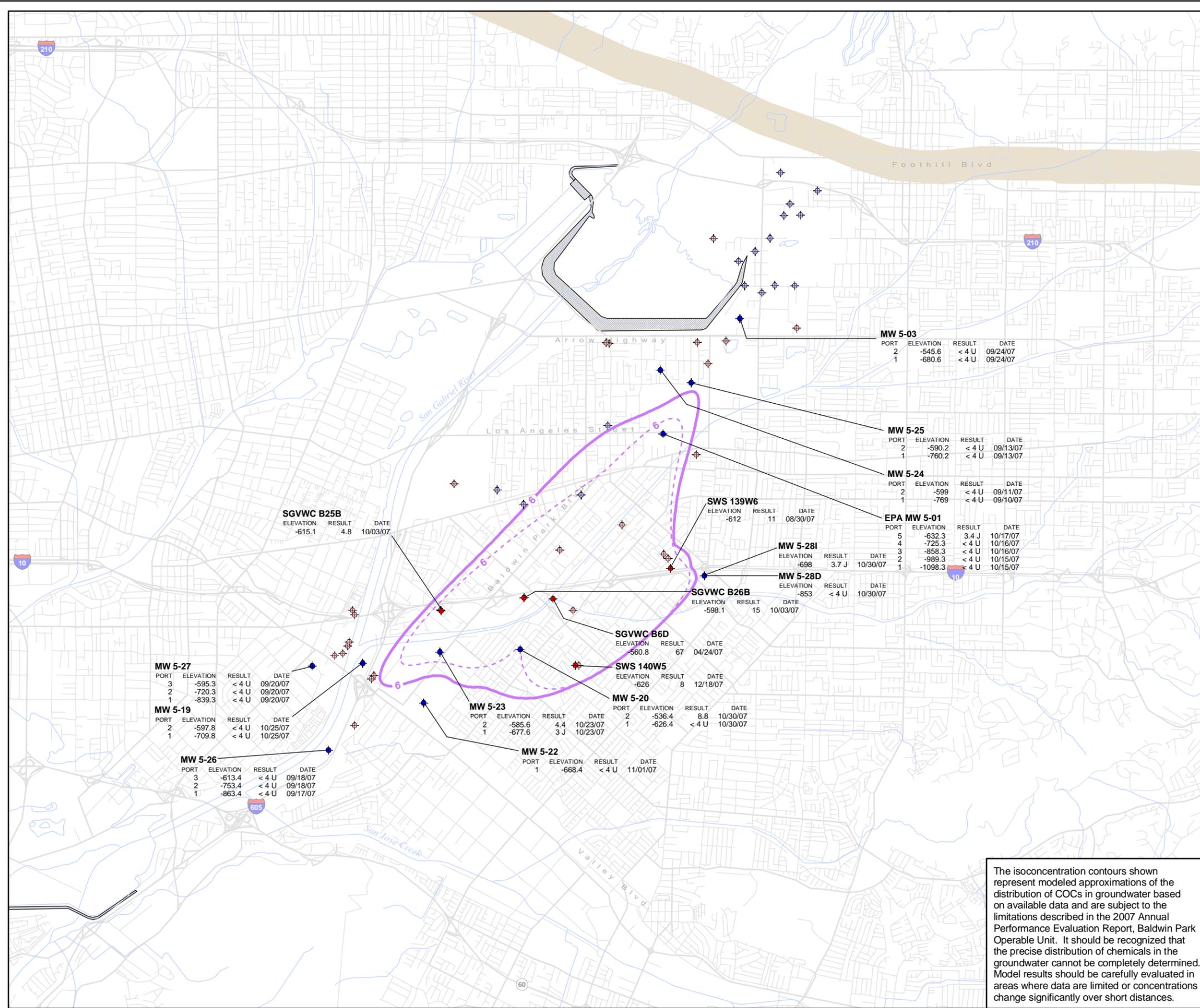


The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

**DISTRIBUTION OF PERCHLORATE
BETWEEN -200 AND -500 FEET MSL**
Baldwin Park Operable Unit
San Gabriel Valley, California

Geomatrix	Project No. 7190	Figure A-31
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\\edac\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007A-32_PlumeMap07_PERCH_dp.mxd



- EXPLANATION**
- Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multiport well
 - ◆ Monitoring and multiport well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - - - Perchlorate isoconcentration contour at -550 feet (6 ug/L)
 - Perchlorate composite isoconcentration contour for the elevation interval below -500 feet (6 ug/L)
 - Duarte Fault Zone

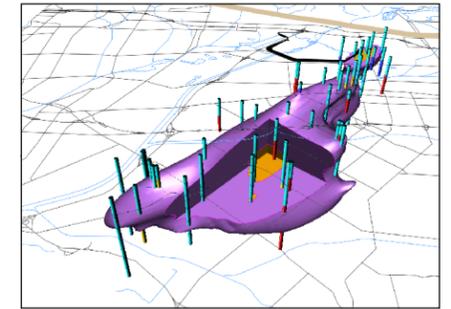
- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

**DISTRIBUTION OF PERCHLORATE
BELOW -500 FEET MSL**
Baldwin Park Operable Unit
San Gabriel Valley, California

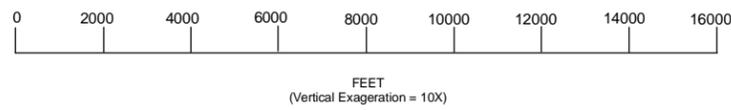
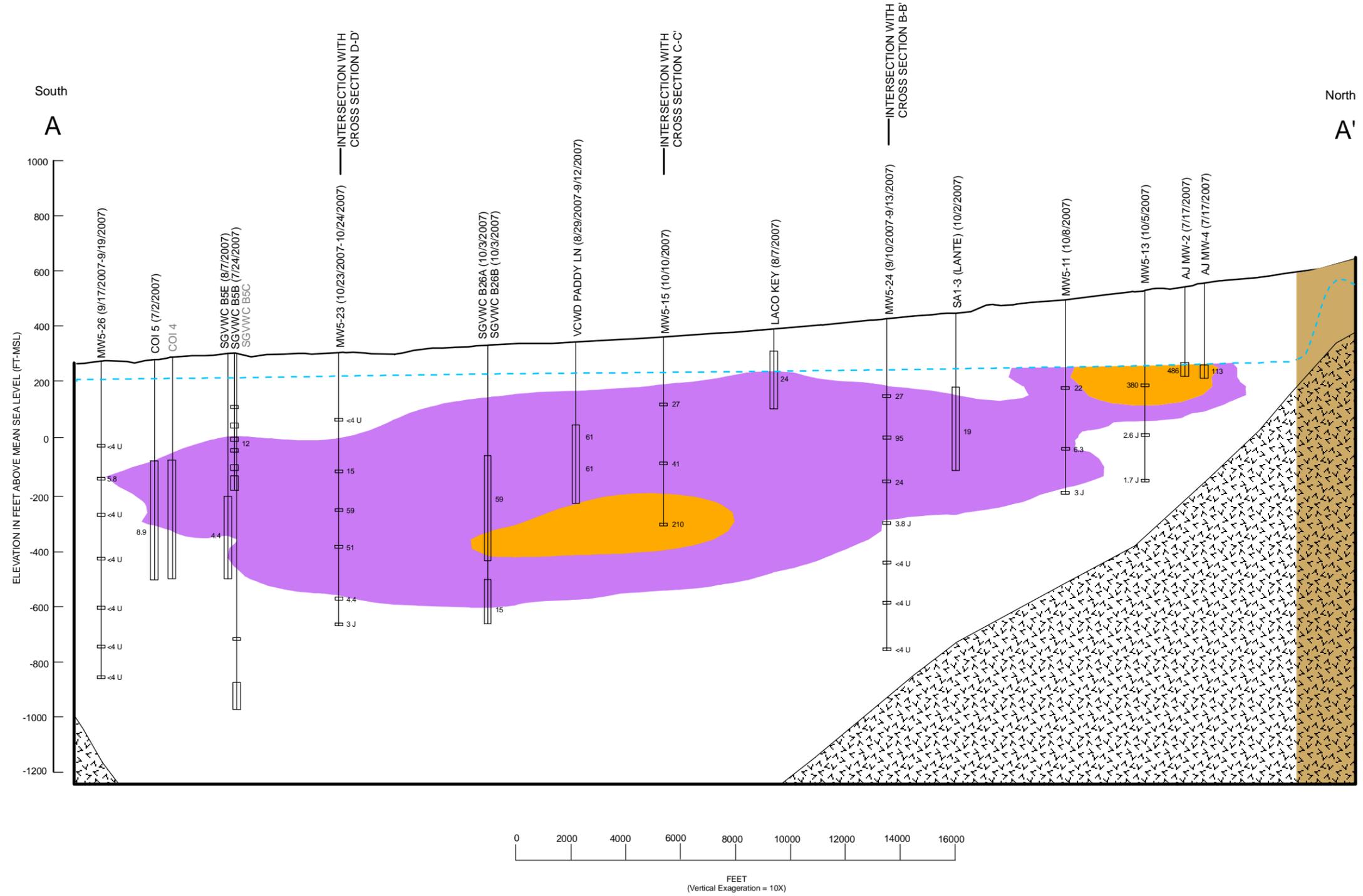
Geomatrix	Project No. 7190	Figure A-32
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Three Dimensional Isoconcentration Shell at the MCL or Action Level

EXPLANATION

- Data unavailable within the date range modeled
- Data collection date (MM/DD/YYYY)
- Well name
- Blank casing
- Perforated casing
- 4.4 Concentration (ug/L) modeled at midscreen elevation
- <U Analyte not detected at the reported quantitation limit shown in the result
- J Analyte positively identified; concentration is approximate
- Simulated potentiometric surface from the BPOU groundwater model for June 30, 2007
- Bedrock surface used in BPOU groundwater model based on California DWR Bulletin 104-2, Plate 11, and updated with drilling information from various sources
- Duarte fault zone
- >6 ug/L
- >100 ug/L



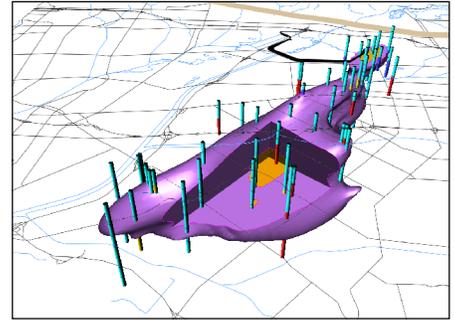
\\deland\GIS\Projects\Aero\proj_7190\GIS_maps\Plume\Plume2007\Cross Sections\A-33_A_CrossSection_PERCH.mxd

The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

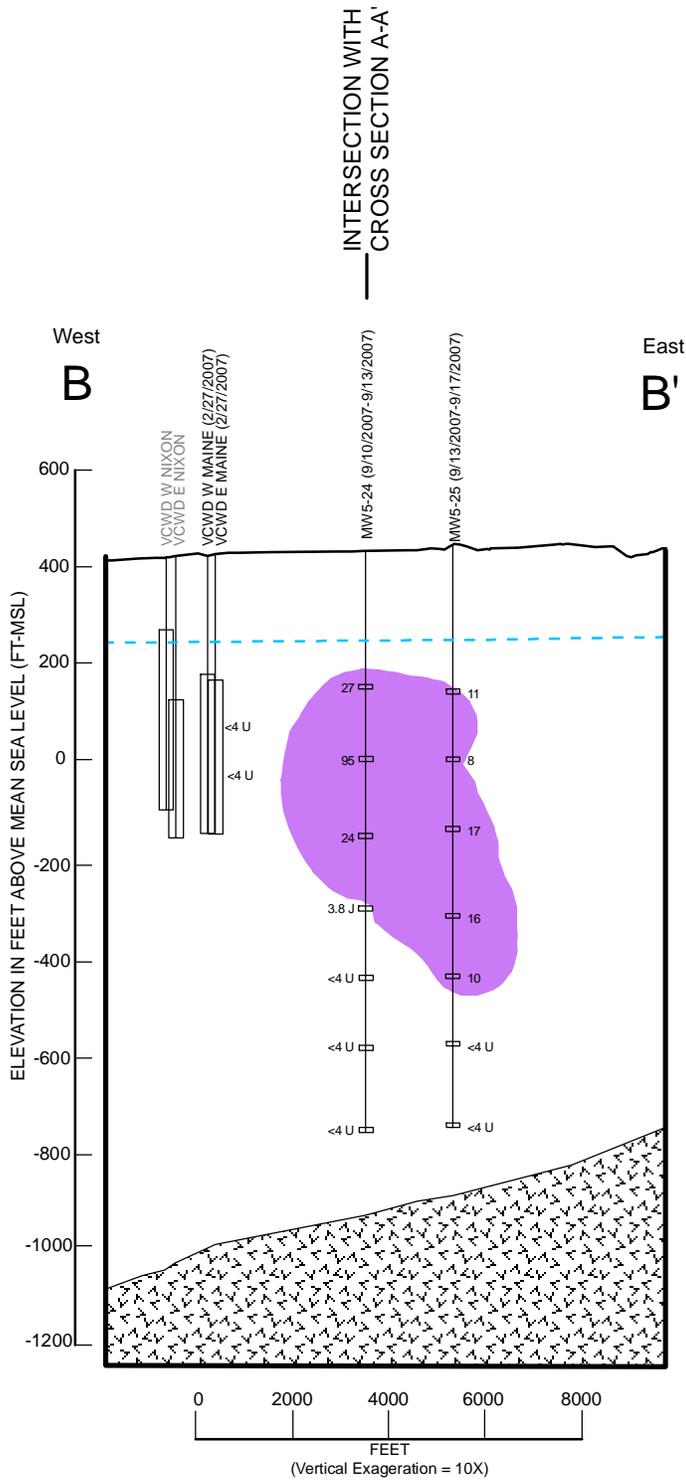
Note:
1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

VERTICAL DISTRIBUTION OF PERCHLORATE
CROSS SECTION A-A'
 Baldwin Park Operable Unit
 San Gabriel Valley, California

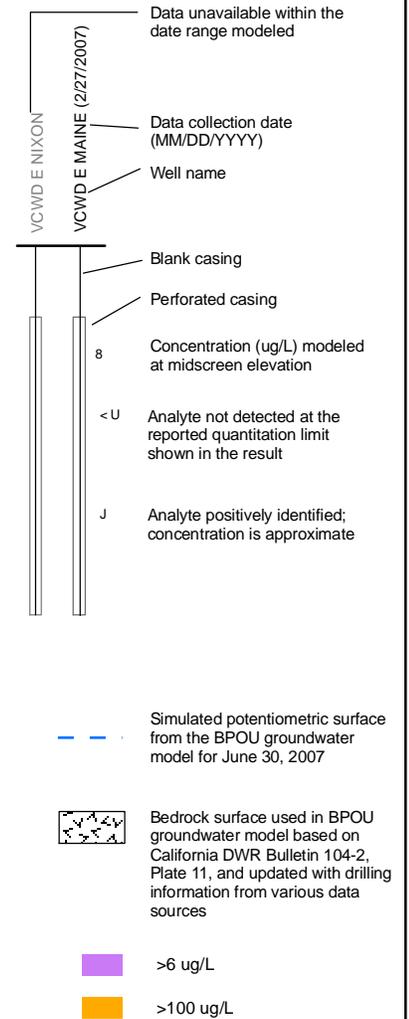
Project No. 7190.006
 Figure **A-33**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



EXPLANATION



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

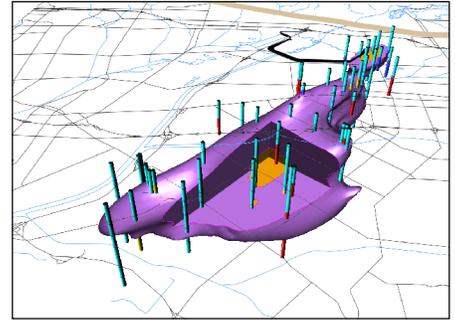
VERTICAL DISTRIBUTION OF PERCHLORATE CROSS SECTION B-B' Baldwin Park Operable Unit San Gabriel Valley, California



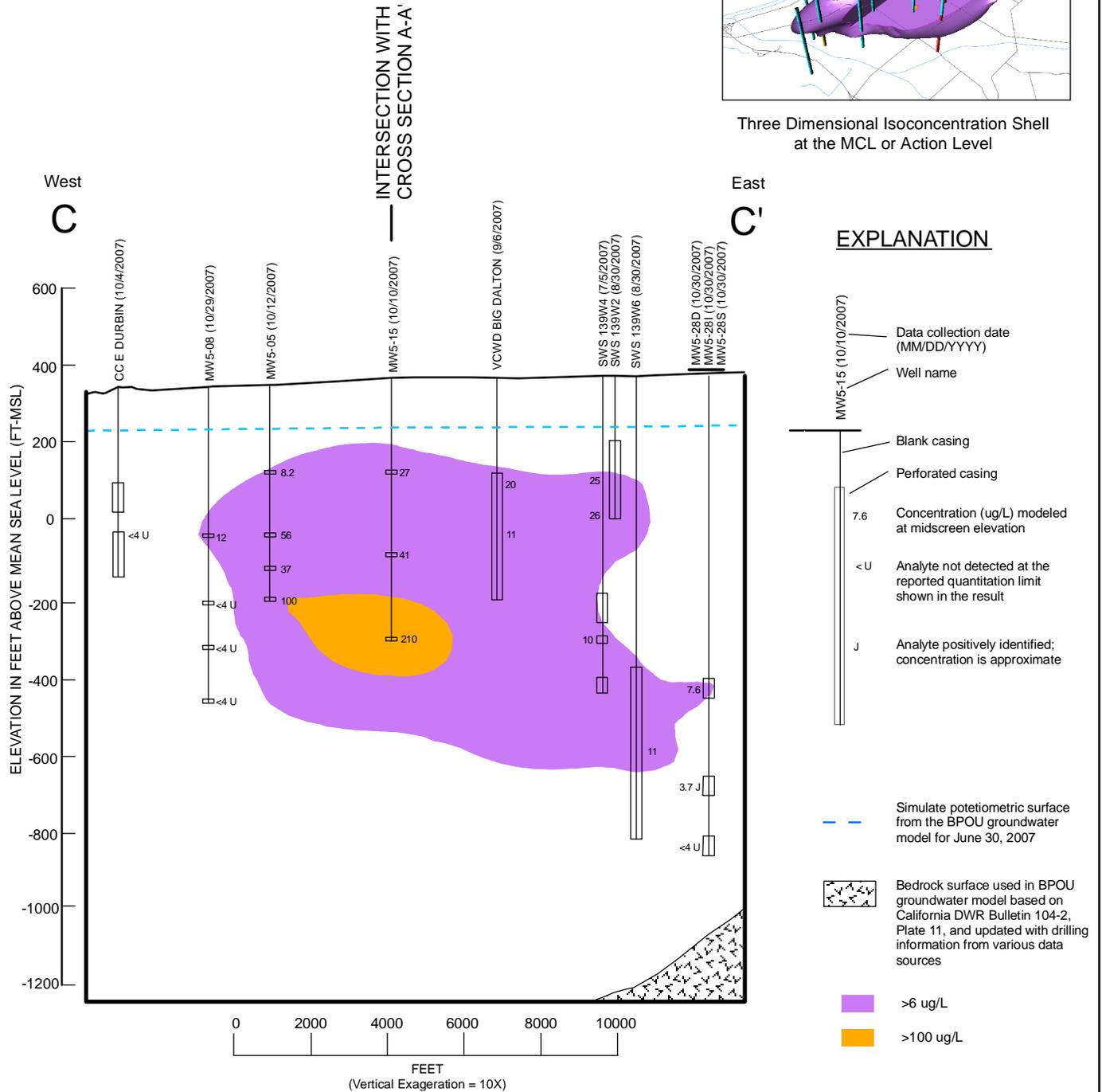
Geomatrix

Project No. 7190.006

Figure **A-34**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

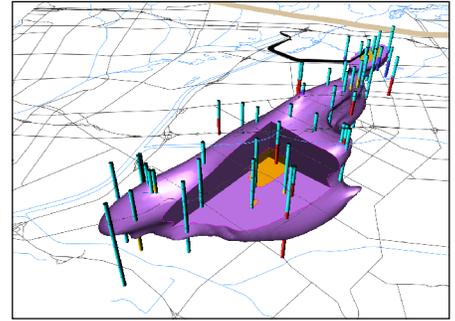
**VERTICAL DISTRIBUTION OF PERCHLORATE
CROSS SECTION C-C'
Baldwin Park Operable Unit
San Gabriel Valley, California**



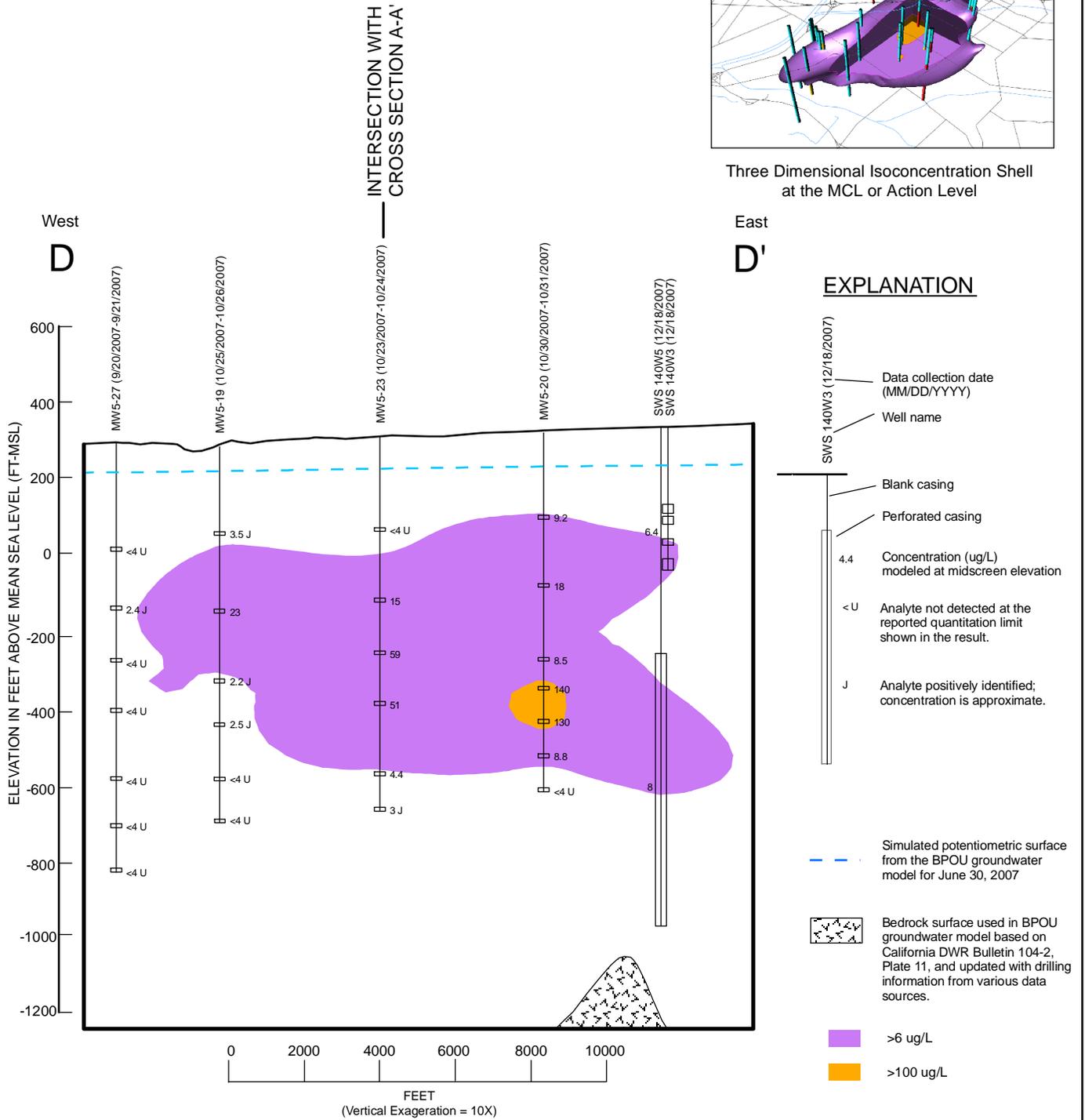
Geomatrix

Project No. 7190.006

Figure **A-35**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

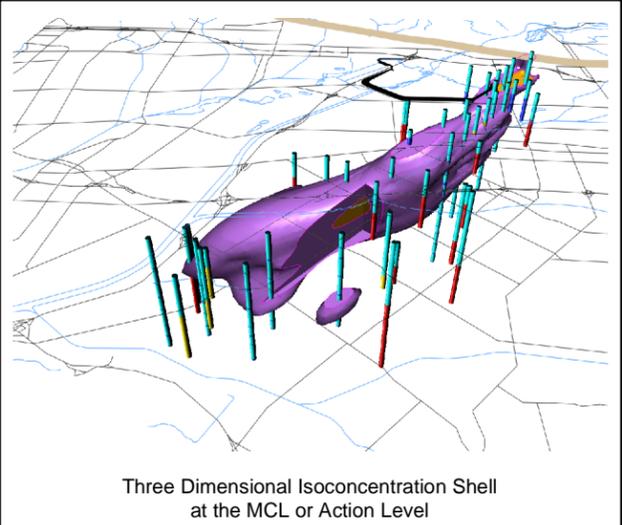
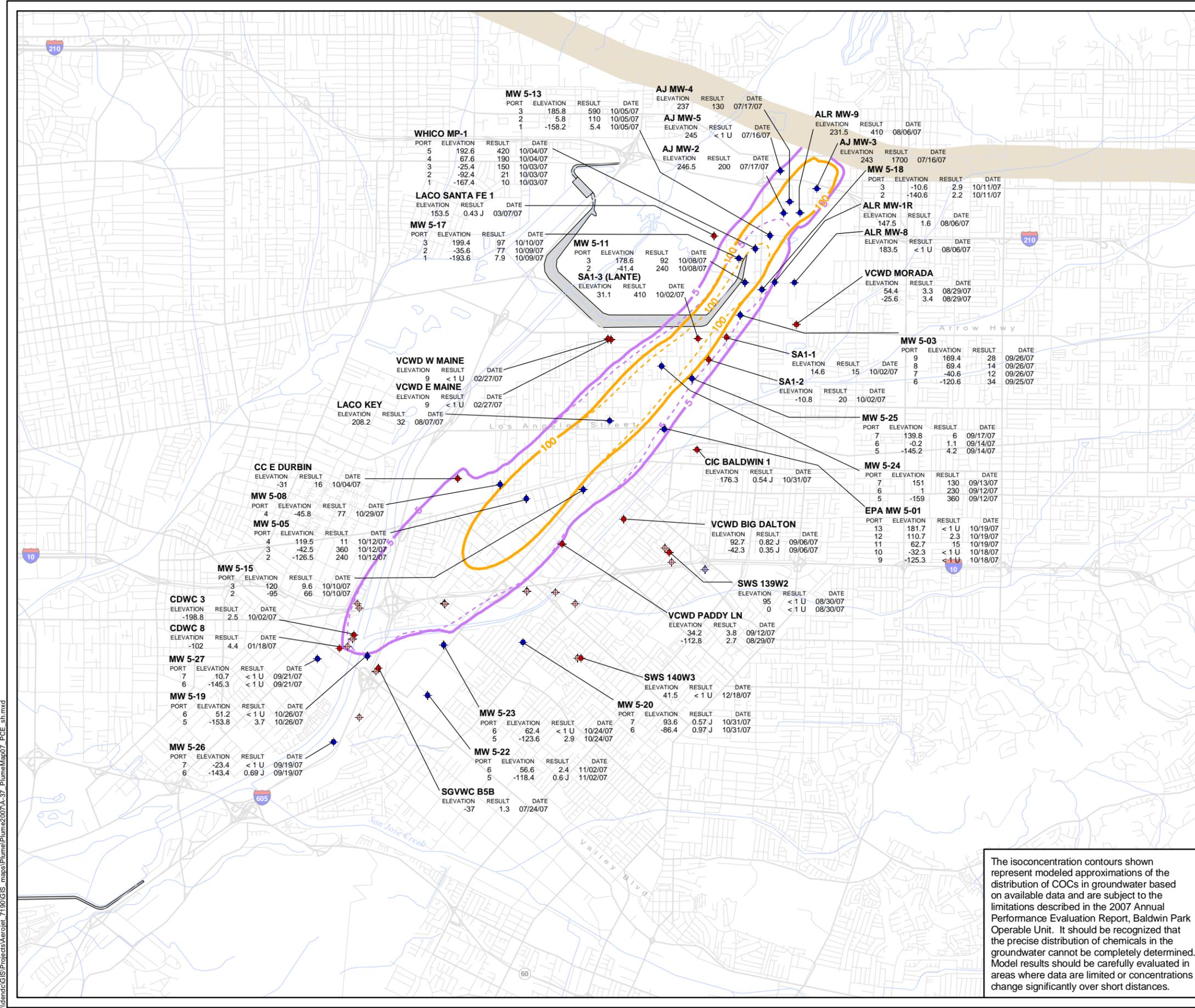
VERTICAL DISTRIBUTION OF PERCHLORATE CROSS SECTION D-D'
Baldwin Park Operable Unit
San Gabriel Valley, California



Geomatrix

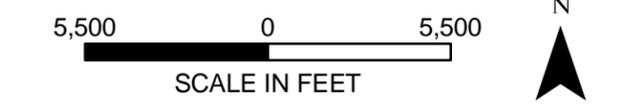
Project No. 7190.006

Figure **A-36**



- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multipoint well
 - ◆ Monitoring and multipoint well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - - - Tetrachloroethene isoconcentration contour at -50 feet (5 ug/L)
 - - - Tetrachloroethene isoconcentration contour at -50 feet (100 ug/L)
 - Tetrachloroethene composite isoconcentration contour for the elevation interval above -200 feet (5 ug/L)
 - Tetrachloroethene composite isoconcentration contour for the elevation interval above -200 feet (100 ug/L)
 - Duarte Fault Zone

- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.

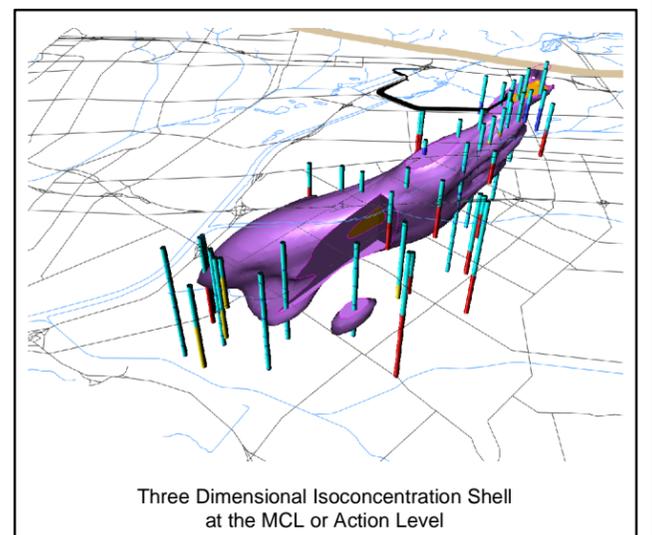
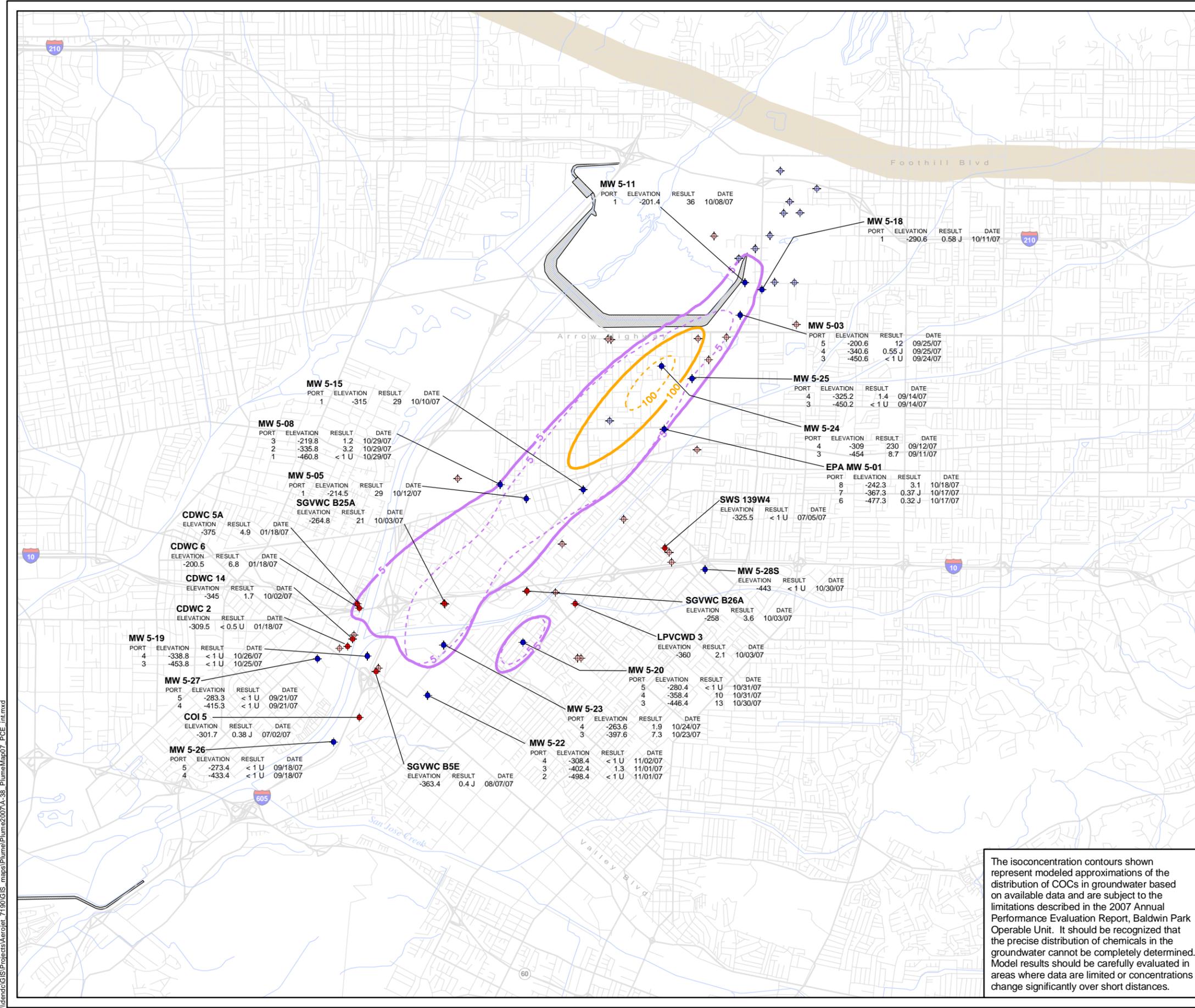


The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

DISTRIBUTION OF TETRACHLOROETHENE ABOVE -200 FEET MSL
Baldwin Park Operable Unit
San Gabriel Valley, California

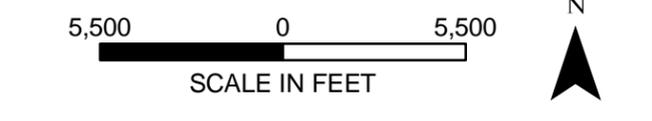
Geomatrix	Project No. 7190	Figure A-37
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I:\data\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007A-37_PlumeMap07_PCE_sh.mxd



- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multipoint well
 - ◆ Monitoring and multipoint well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - - - Tetrachloroethene isoconcentration contour at -350 feet (5 ug/L)
 - - - Tetrachloroethene isoconcentration contour at -350 feet (100 ug/L)
 - Tetrachloroethene composite isoconcentration contour for the elevation interval between -200 and -500 feet (5 ug/L)
 - Tetrachloroethene composite isoconcentration contour for the elevation interval between -200 and -500 feet (100 ug/L)
 - Duarte Fault Zone

- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.

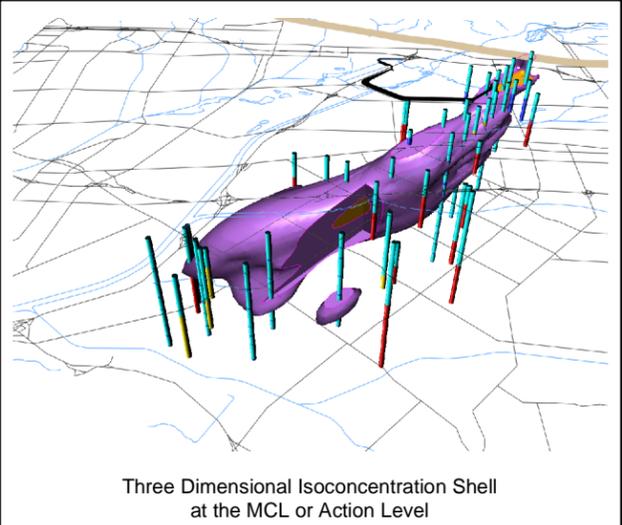
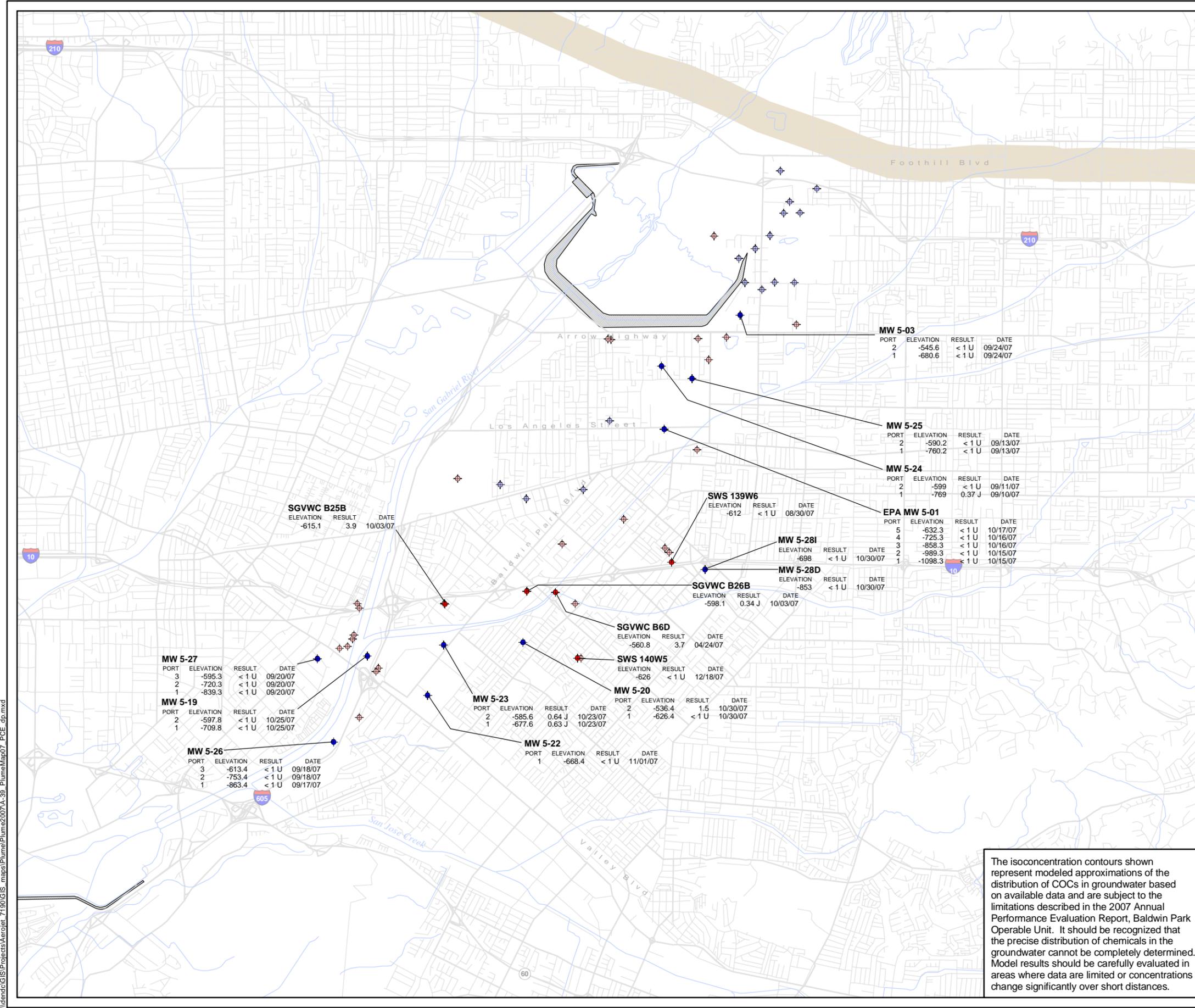


The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

**DISTRIBUTION OF TETRACHLOROETHENE
BETWEEN -200 AND -500 FEET MSL**
Baldwin Park Operable Unit
San Gabriel Valley, California

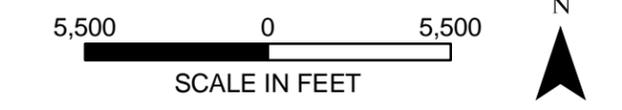
Geomatrix	Project No. 7190	Figure A-38
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\\eddc\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007A-38_PlumeMap07_PCE_int.mxd



- EXPLANATION**
- Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multipoint well
 - ◆ Monitoring and multipoint well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - Duarte Fault Zone

- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.

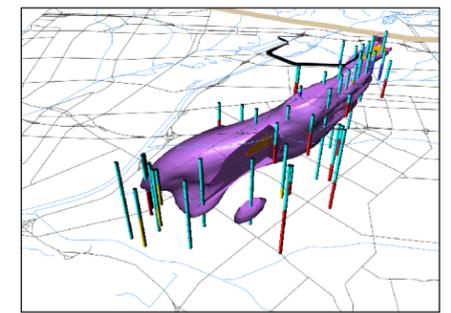
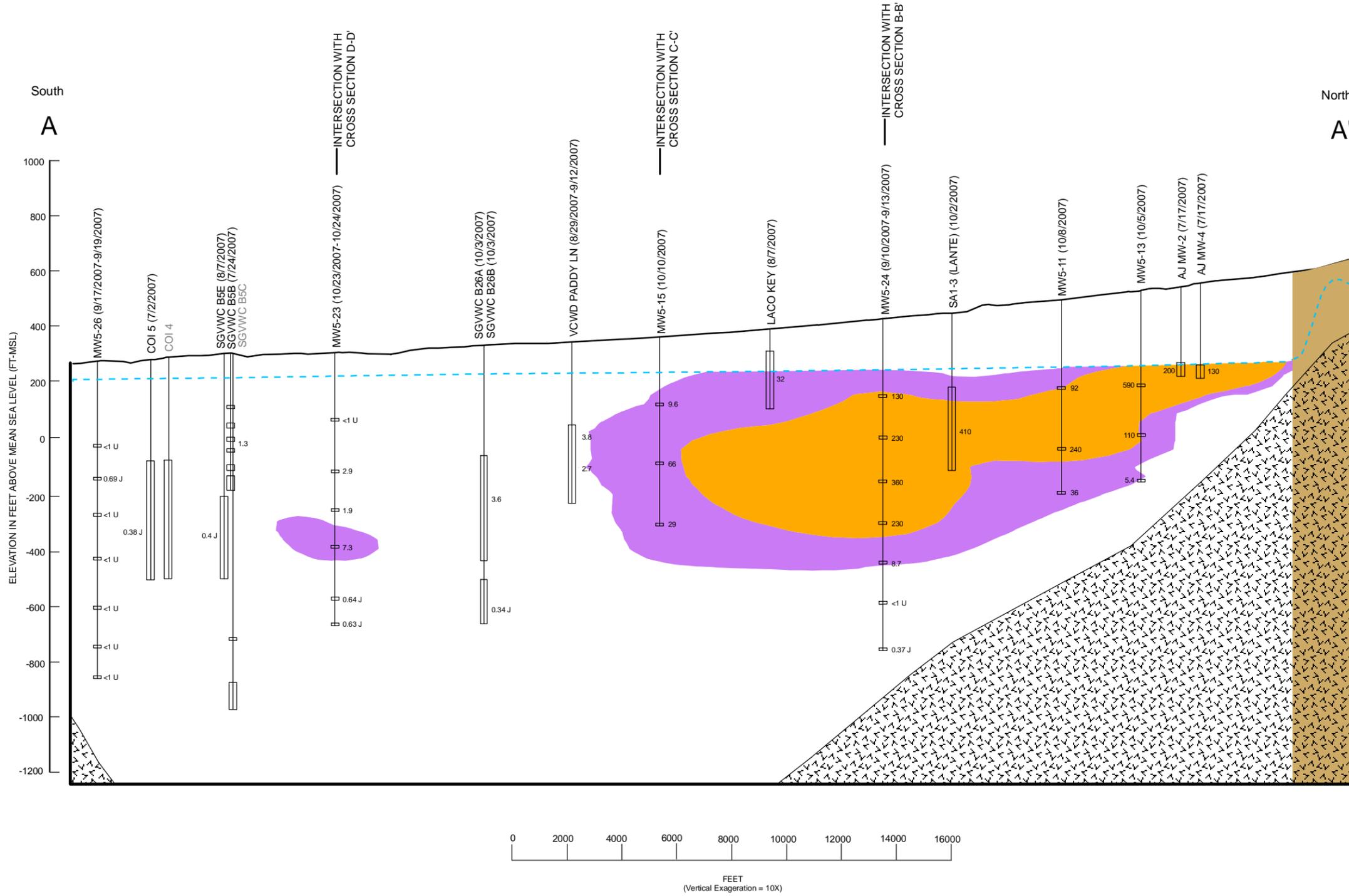


The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

**DISTRIBUTION OF TETRACHLOROETHENE
BELOW -500 FEET MSL**
Baldwin Park Operable Unit
San Gabriel Valley, California

Geomatrix	Project No. 7190	Figure A-39
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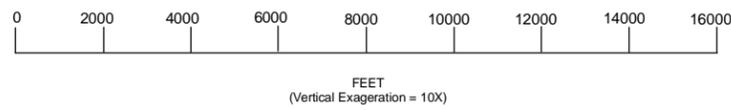
I:\data\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007A-39_PlumeMap07_PCE_dp.mxd



Three Dimensional Isoconcentration Shell at the MCL or Action Level

EXPLANATION

- Data unavailable within the date range modeled
- Data collection date (MM/DD/YYYY)
- Well name
- Blank casing
- Perforated casing
- 1.3 Concentration (ug/L) modeled at midscreen elevation
- <U Analyte not detected at the reported quantitation limit shown in the result
- J Analyte positively identified; concentration is approximate
- Simulated potentiometric surface from the BPOU groundwater model for June 30, 2007
- Bedrock surface used in BPOU groundwater model based on California DWR Bulletin 104-2, Plate 11, and updated with drilling information from various sources
- Duarte fault zone
- >5 ug/L
- >100 ug/L



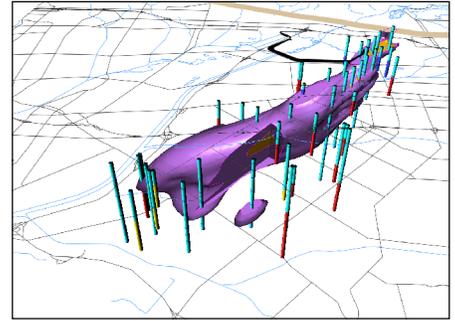
\\deland\GIS\Projects\Aero\proj_7190\GIS_maps\Plume\Plume2007\Cross Sections\A-40_A_CrossSection_PCE.mxd

The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

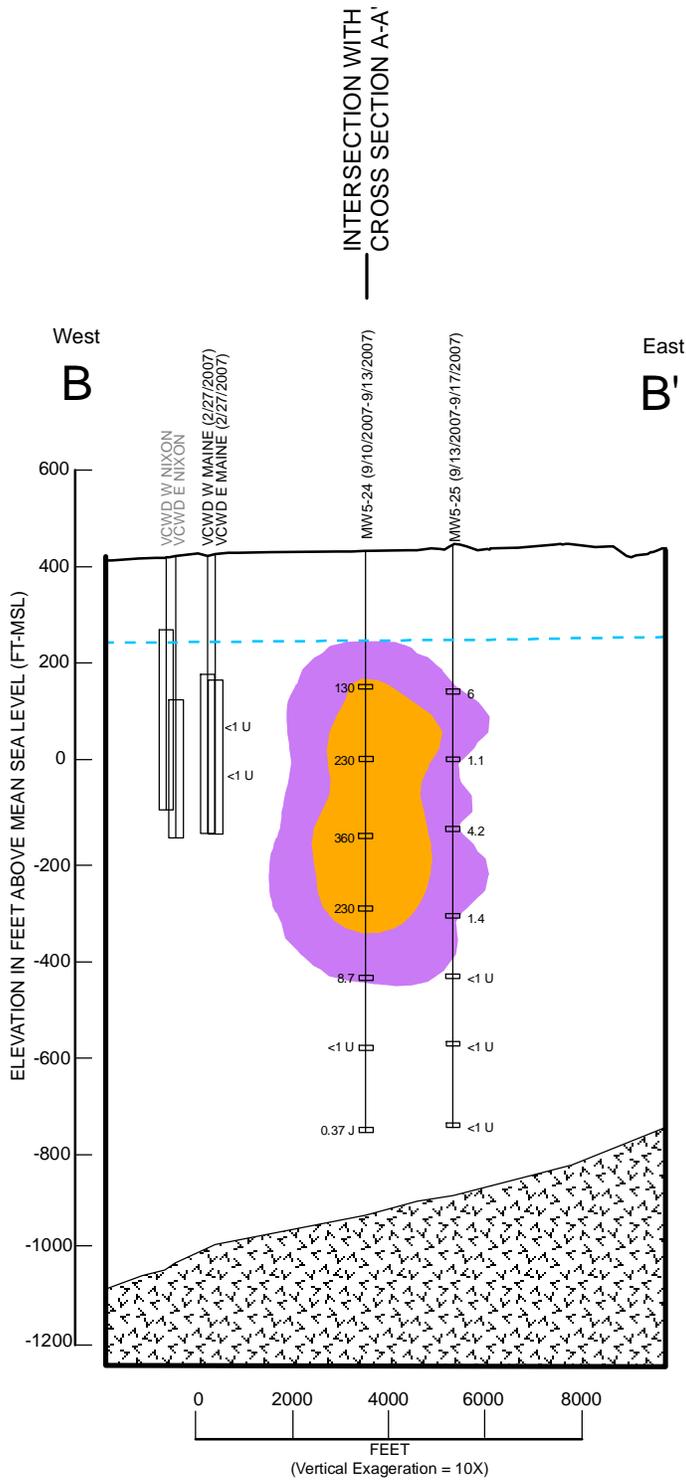
Note:
1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

VERTICAL DISTRIBUTION OF TETRACHLOROETHENE CROSS SECTION A-A'
Baldwin Park Operable Unit
San Gabriel Valley, California

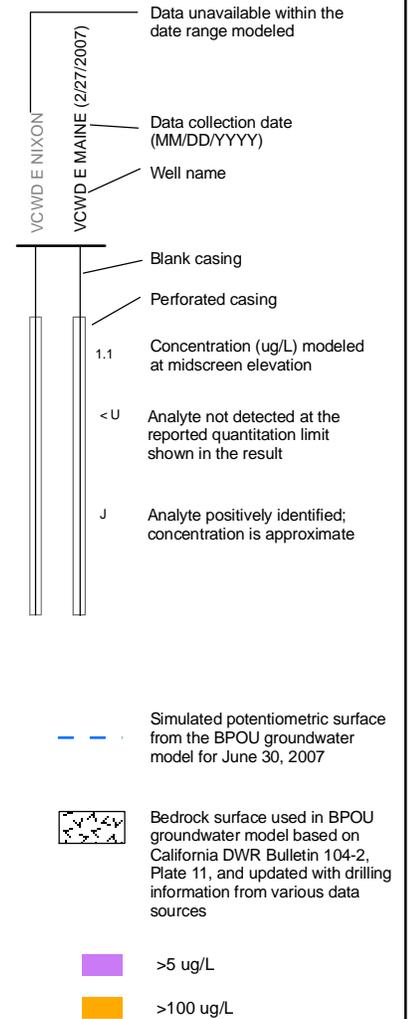
	Project No. 7190.006
	Figure A-40



Three Dimensional Isoconcentration Shell at the MCL or Action Level



EXPLANATION



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

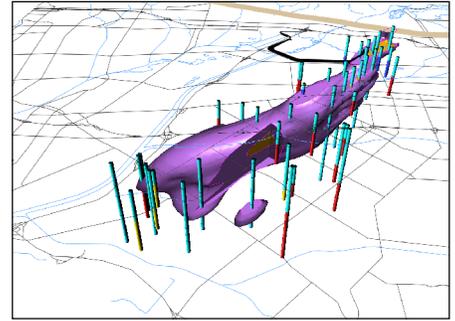
VERTICAL DISTRIBUTION OF TETRACHLOROETHENE CROSS SECTION B-B' Baldwin Park Operable Unit San Gabriel Valley, California



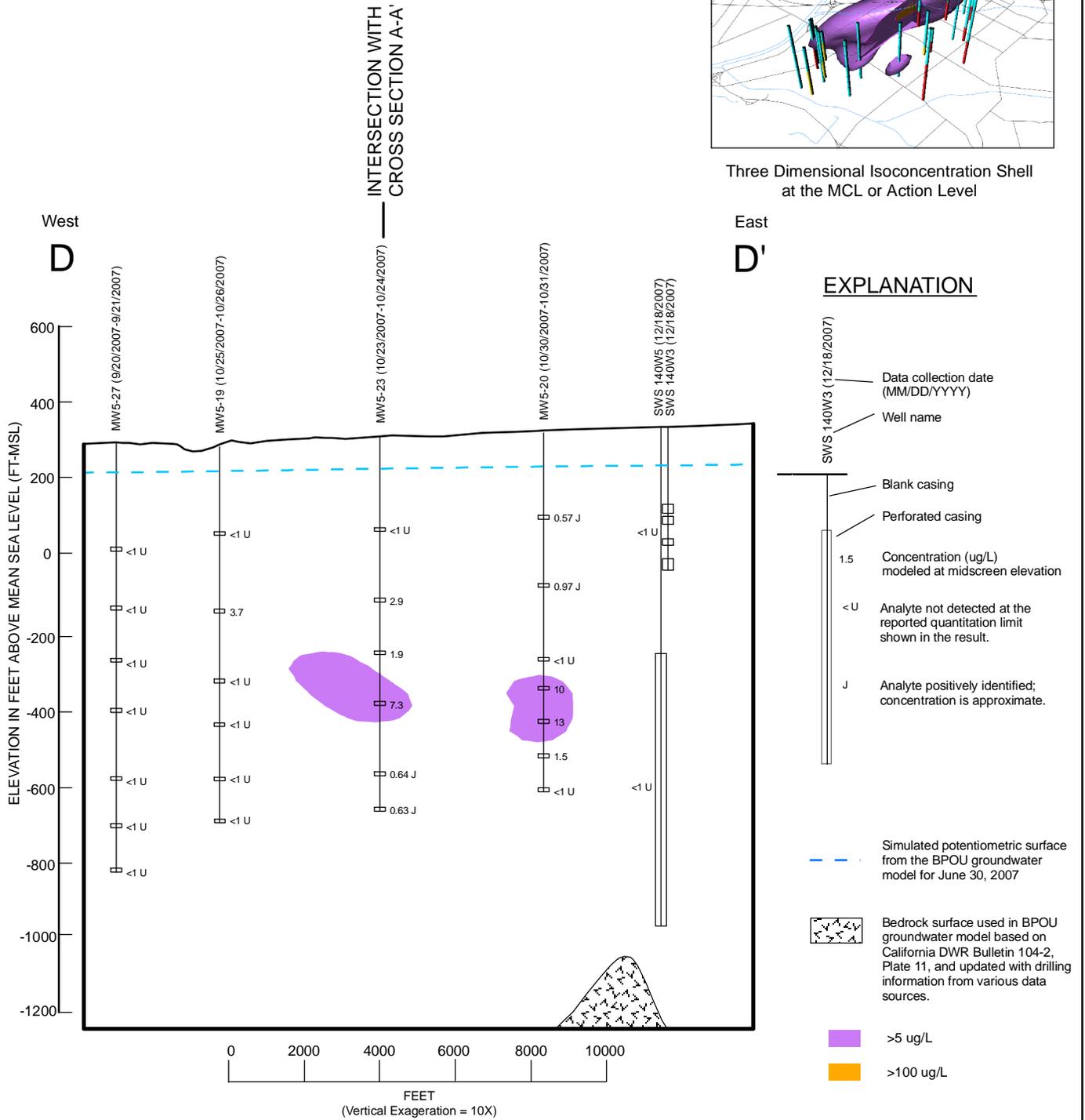
Geomatrix

Project No. 7190.006

Figure **A-41**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

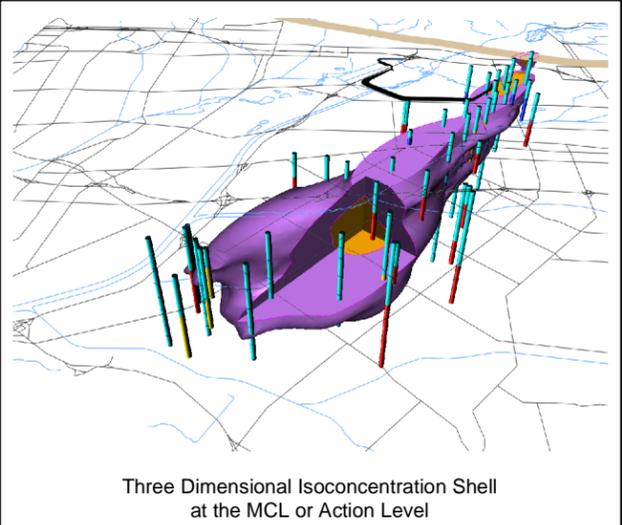
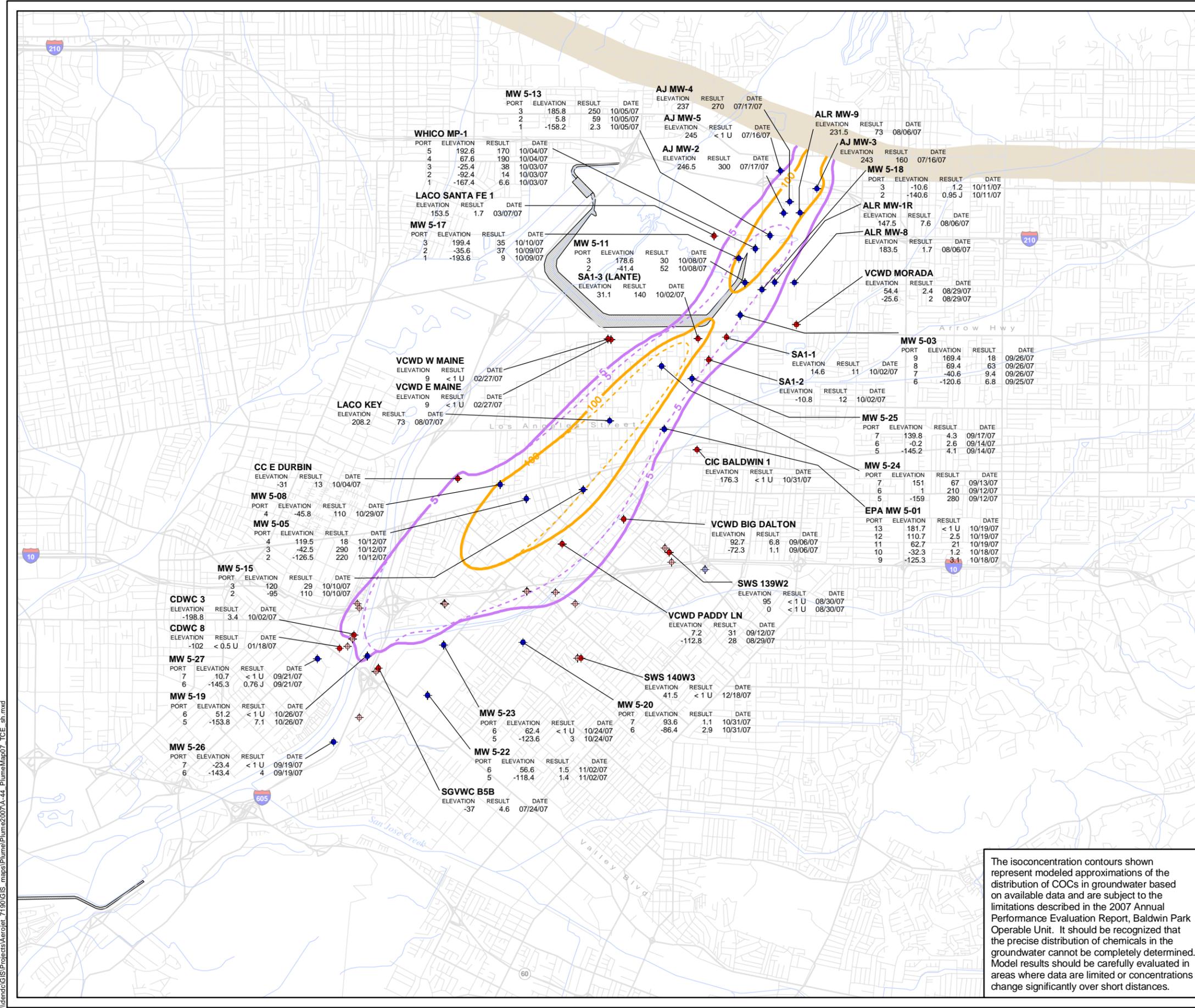
VERTICAL DISTRIBUTION OF TETRACHLOROETHENE CROSS SECTION D-D'
Baldwin Park Operable Unit
San Gabriel Valley, California



Geomatrix

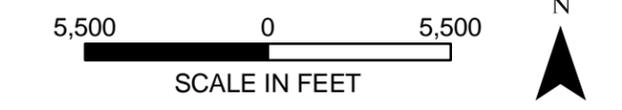
Project No. 7190.006

Figure **A-43**



- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multiport well
 - ◆ Monitoring and multiport well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - - - Trichloroethene isoconcentration contour at -50 feet (5 ug/L)
 - - - Trichloroethene isoconcentration contour at -50 feet (100 ug/L)
 - Trichloroethene composite isoconcentration contour for the elevation interval above -200 feet (5 ug/L)
 - Trichloroethene composite isoconcentration contour for the elevation interval above -200 feet (100 ug/L)
 - Duarte Fault Zone

- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.

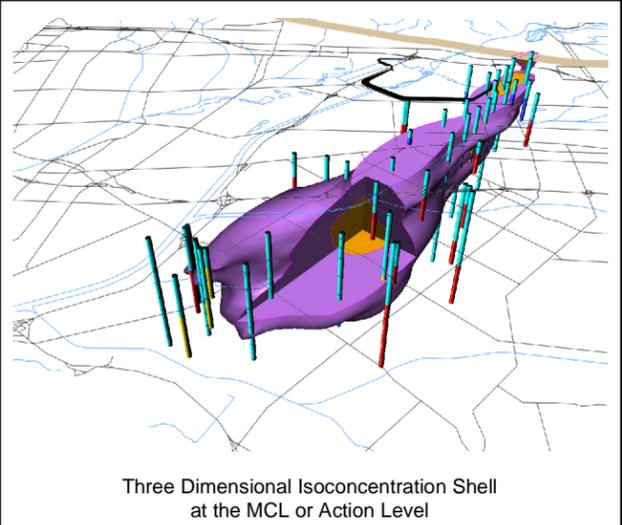
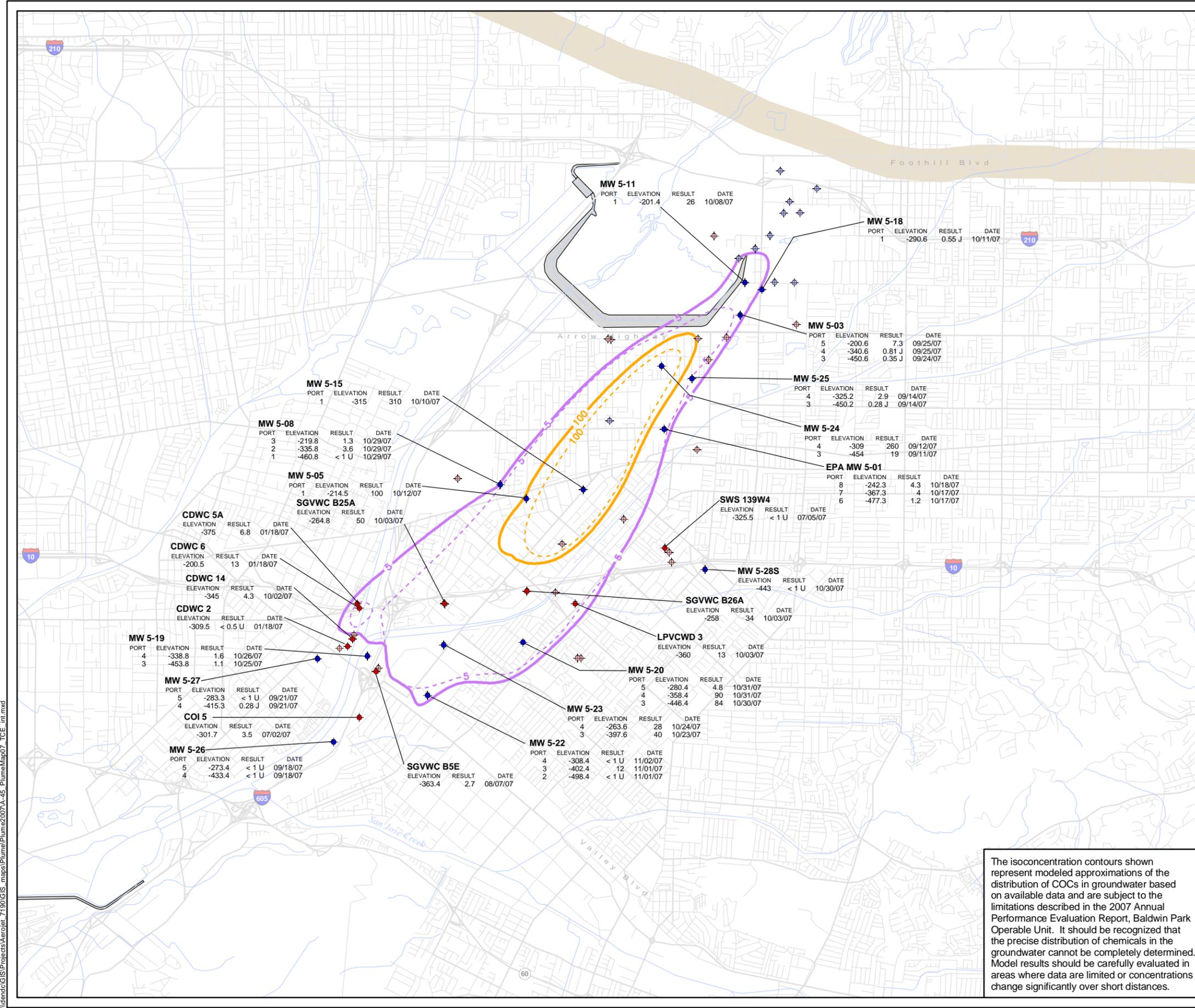


The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

DISTRIBUTION OF TRICHLOROETHENE ABOVE -200 FEET MSL
Baldwin Park Operable Unit
San Gabriel Valley, California

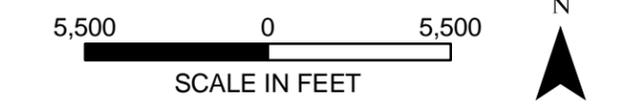
Geomatrix	Project No. 7190	Figure A-44
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I:\data\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007A-44_PlumeMap07_TCE_sh.mxd



- EXPLANATION**
- Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multipoint well
 - ◆ Monitoring and multipoint well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - - - Trichloroethene isoconcentration contour at -350 feet (5 ug/L)
 - - - Trichloroethene isoconcentration contour at -350 feet (100 ug/L)
 - Trichloroethene composite isoconcentration contour for the elevation interval between -200 and -500 feet (5 ug/L)
 - Trichloroethene composite isoconcentration contour for the elevation interval between -200 and -500 feet (100 ug/L)
 - Duarte Fault Zone

- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.

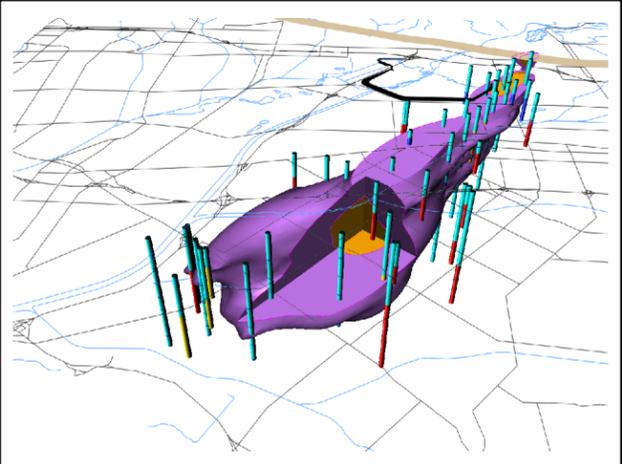
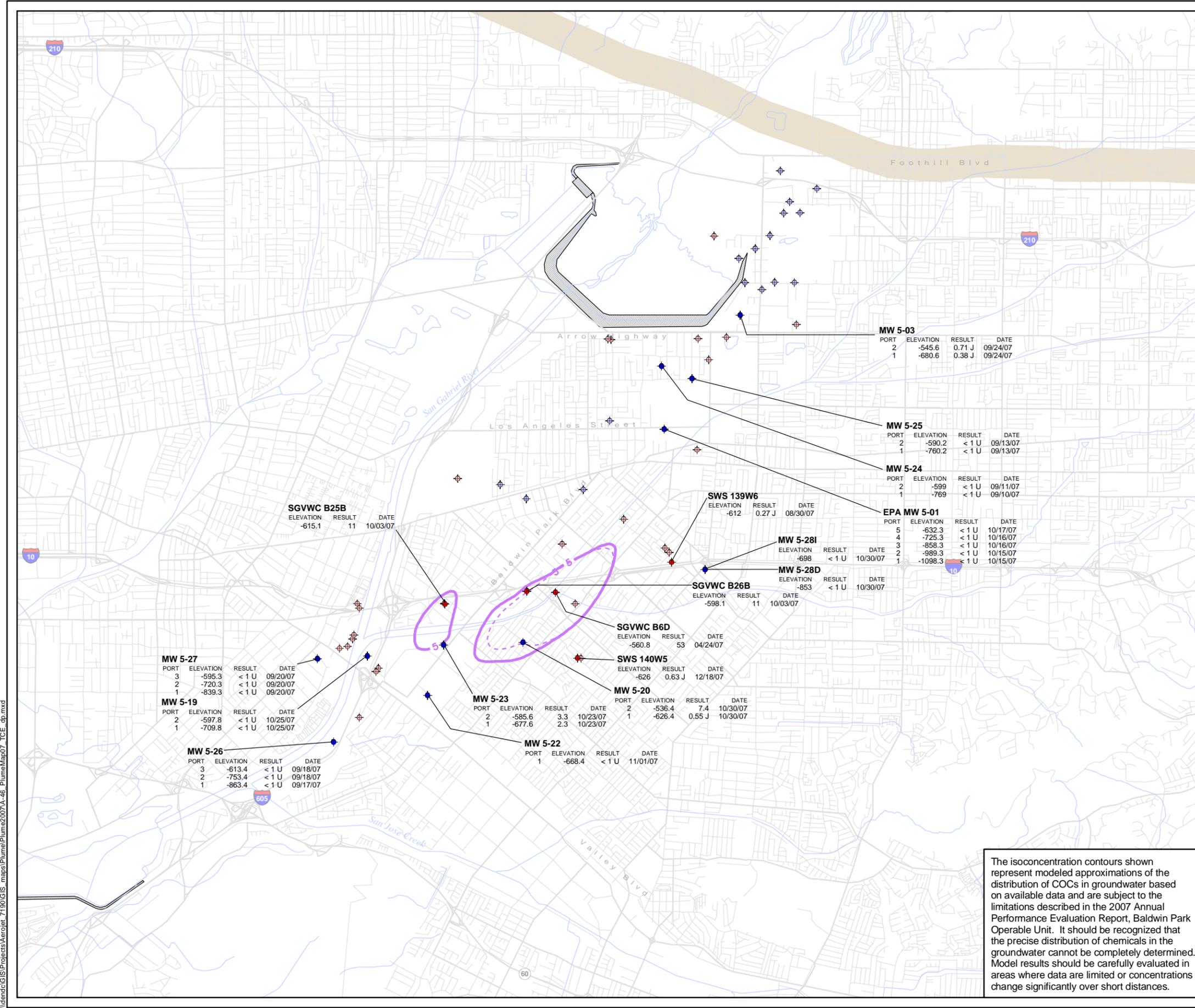


The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

**DISTRIBUTION OF TRICHLOROETHENE
BETWEEN -200 AND -500 FEET MSL**
Baldwin Park Operable Unit
San Gabriel Valley, California

Geomatrix	Project No. 7190	Figure A-45
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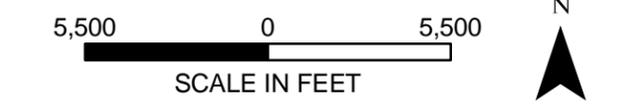
\\eddc\GIS\Projects\Aerojet_7190\GIS_maps\Plume\Plume2007A-45_PlumeMap07_TCE_int.mxd



Three Dimensional Isoconcentration Shell at the MCL or Action Level

- EXPLANATION**
- ◆ Production well
 - ◆ Production well (no data within elevation range, refer to Note 3)
 - ◆ Monitoring and multiport well
 - ◆ Monitoring and multiport well (no data within elevation range, refer to Note 3)
 - < U Analyte not detected at the reported quantitation limit shown in the result
 - J Analyte positively identified, concentration is approximate
 - - - Trichloroethene isoconcentration contour at -550 feet (5 ug/L)
 - Trichloroethene composite isoconcentration contour for the elevation interval below -500 feet (5 ug/L)
 - Duarte Fault Zone

- NOTES:**
1. Data from the period modeled were used to create a three-dimensional isoconcentration shell of the contaminant. The dashed lines represent discrete contours of equal concentration created by slicing the isoconcentration shell at the specified elevation. The solid lines represent the maximum estimated extent of contours of equal concentration for the specified elevation interval.
 2. The isoconcentration contours were generated using the three-dimensional geospatial modeling software, EarthVision®.
 3. Posted data represent chemical results for the specified elevation range.
 4. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision®, as described in the Annual Report.



DISTRIBUTION OF TRICHLOROETHENE BELOW -500 FEET MSL
 Baldwin Park Operable Unit
 San Gabriel Valley, California

The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

MW 5-27

PORT	ELEVATION	RESULT	DATE
3	-595.3	< 1 U	09/20/07
2	-720.3	< 1 U	09/20/07
1	-839.3	< 1 U	09/20/07

MW 5-19

PORT	ELEVATION	RESULT	DATE
2	-597.8	< 1 U	10/25/07
1	-709.8	< 1 U	10/25/07

MW 5-26

PORT	ELEVATION	RESULT	DATE
3	-613.4	< 1 U	09/18/07
2	-753.4	< 1 U	09/18/07
1	-863.4	< 1 U	09/17/07

MW 5-23

PORT	ELEVATION	RESULT	DATE
2	-585.6	3.3	10/23/07
1	-677.6	2.3	10/23/07

MW 5-20

PORT	ELEVATION	RESULT	DATE
2	-536.4	7.4	10/30/07
1	-626.4	0.55 J	10/30/07

SGVWC B25B

ELEVATION	RESULT	DATE
-615.1	11	10/03/07

SGVWC B26B

ELEVATION	RESULT	DATE
-598.1	11	10/03/07

SGVWC B6D

ELEVATION	RESULT	DATE
-560.8	53	04/24/07

MW 5-03

PORT	ELEVATION	RESULT	DATE
2	-545.6	0.71 J	09/24/07
1	-680.6	0.38 J	09/24/07

MW 5-25

PORT	ELEVATION	RESULT	DATE
2	-590.2	< 1 U	09/13/07
1	-760.2	< 1 U	09/13/07

MW 5-24

PORT	ELEVATION	RESULT	DATE
2	-599	< 1 U	09/11/07
1	-769	< 1 U	09/10/07

EPA MW 5-01

PORT	ELEVATION	RESULT	DATE
5	-632.3	< 1 U	10/17/07
4	-725.3	< 1 U	10/16/07
3	-858.3	< 1 U	10/16/07
2	-989.3	< 1 U	10/15/07
1	-1098.3	< 1 U	10/15/07

SWS 139W6

ELEVATION	RESULT	DATE
-612	0.27 J	08/30/07

MW 5-28I

ELEVATION	RESULT	DATE
-698	< 1 U	10/30/07

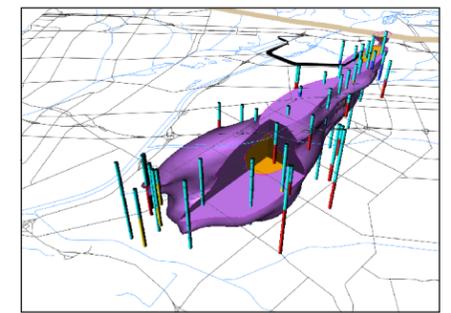
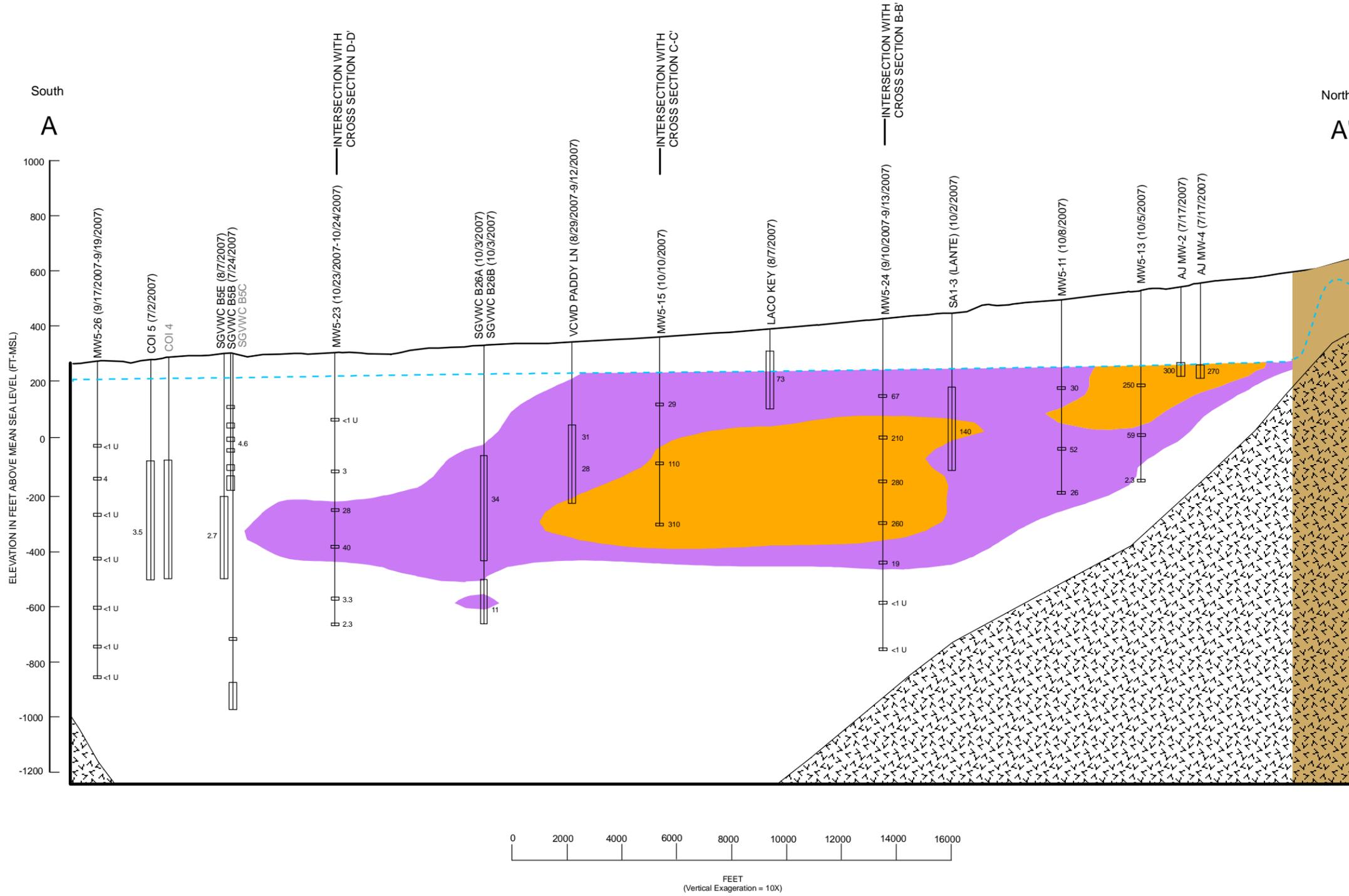
MW 5-28D

ELEVATION	RESULT	DATE
-853	< 1 U	10/30/07

SWS 140W5

ELEVATION	RESULT	DATE
-626	0.63 J	12/18/07

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Three Dimensional Isoconcentration Shell at the MCL or Action Level

EXPLANATION

- Data unavailable within the date range modeled
- Data collection date (MM/DD/YYYY)
- Well name
- Blank casing
- Perforated casing
- 2.3 Concentration (ug/L) modeled at midscreen elevation
- <U Analyte not detected at the reported quantitation limit shown in the result
- Simulated potentiometric surface from the BPOU groundwater model for June 30, 2007
- Bedrock surface used in BPOU groundwater model based on California DWR Bulletin 104-2, Plate 11, and updated with drilling information from various sources
- Duarte fault zone
- >5 ug/L
- >100 ug/L

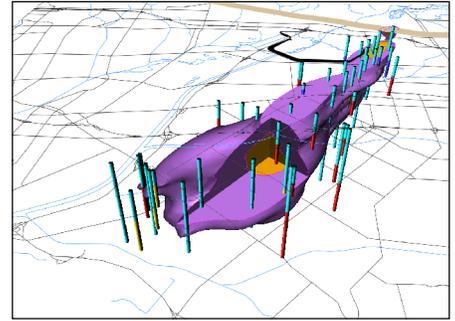
\\deland\GIS\Projects\Aero\proj_7190\GIS_maps\Plume\Plume2007\Cross Sections\A-47_A_CrossSection_TCE.mxd

The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

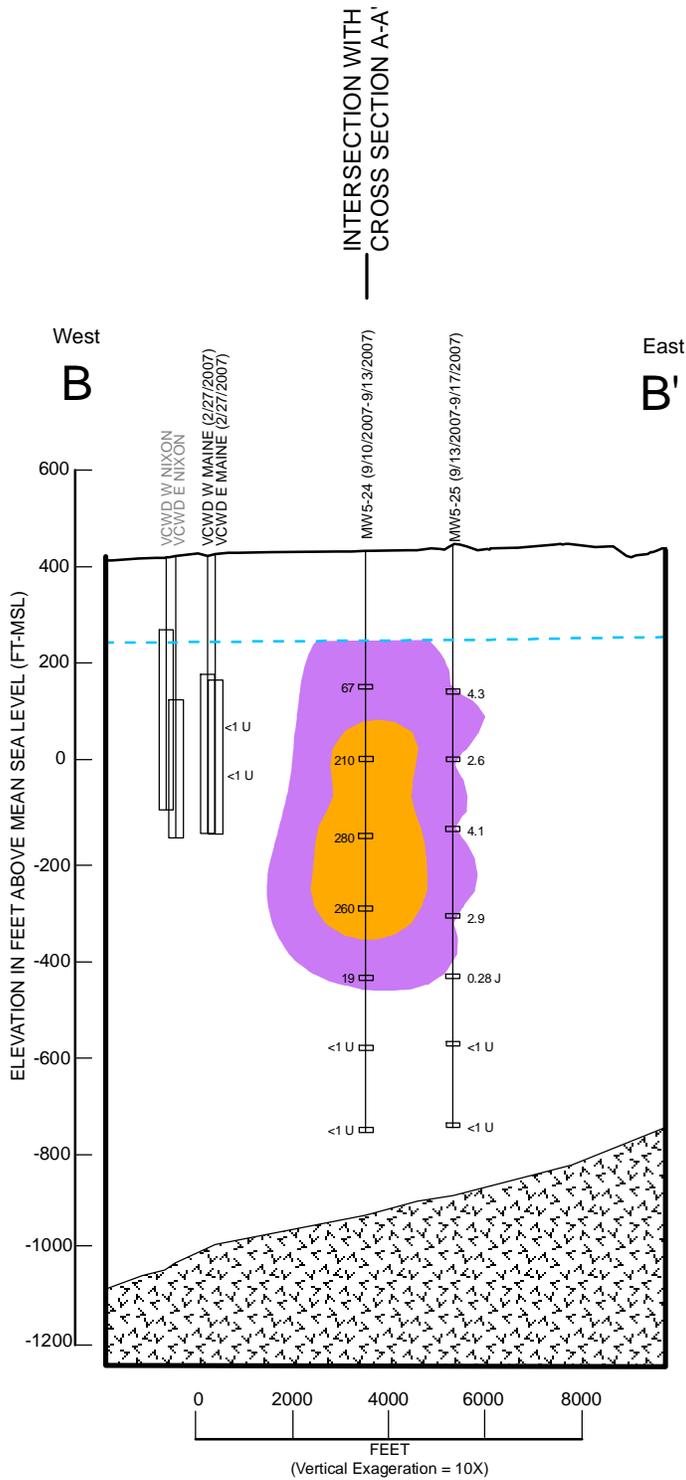
Note:
 1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

VERTICAL DISTRIBUTION OF TRICHLOROETHENE CROSS SECTION A-A'
 Baldwin Park Operable Unit
 San Gabriel Valley, California

Project No. 7190.006
 Figure **A-47**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



EXPLANATION

- Data unavailable within the date range modeled
- Data collection date (MM/DD/YYYY)
- Well name
- Blank casing
- Perforated casing
- 2.6 Concentration (ug/L) modeled at midscreen elevation
- < U Analyte not detected at the reported quantitation limit shown in the result
- J Analyte positively identified; concentration is approximate
- Simulated potentiometric surface from the BPOU groundwater model for June 30, 2007
- Bedrock surface used in BPOU groundwater model based on California DWR Bulletin 104-2, Plate 11, and updated with drilling information from various data sources
- >5 ug/L
- >100 ug/L

The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

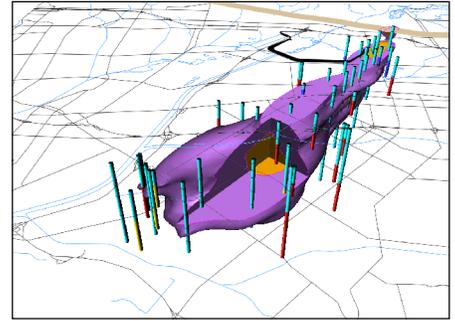
VERTICAL DISTRIBUTION OF TRICHLOROETHENE CROSS SECTION B-B'
Baldwin Park Operable Unit
San Gabriel Valley, California



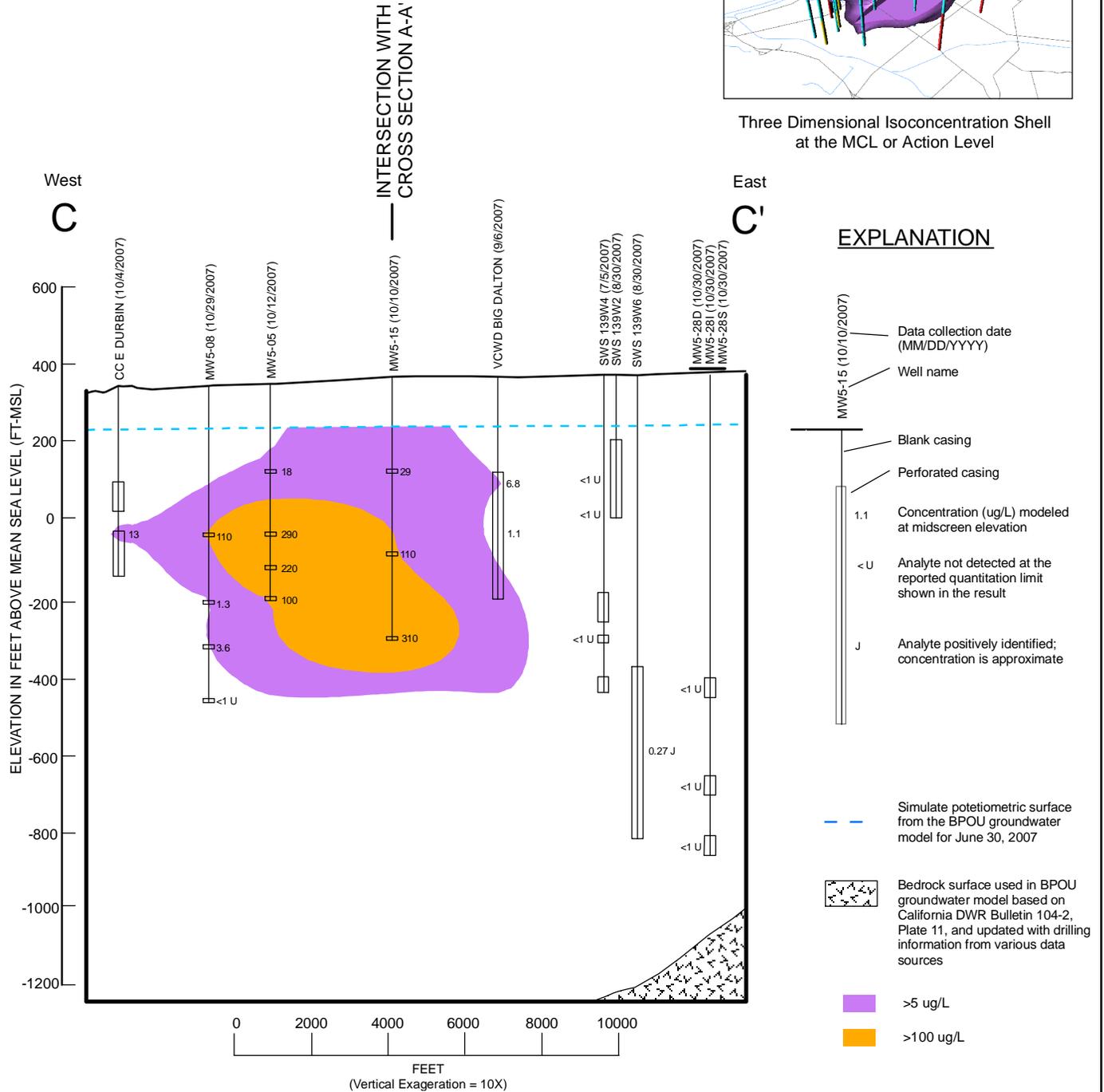
Geomatrix

Project No. 7190.006

Figure **A-48**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

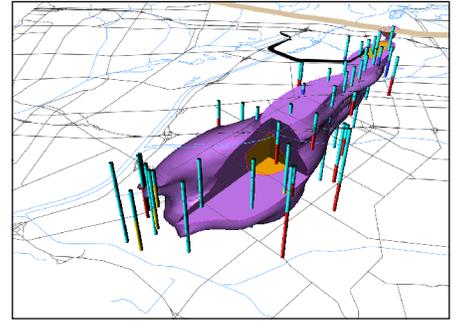
**VERTICAL DISTRIBUTION OF
TRICHLOROETHENE
CROSS SECTION C-C'
Baldwin Park Operable Unit
San Gabriel Valley, California**



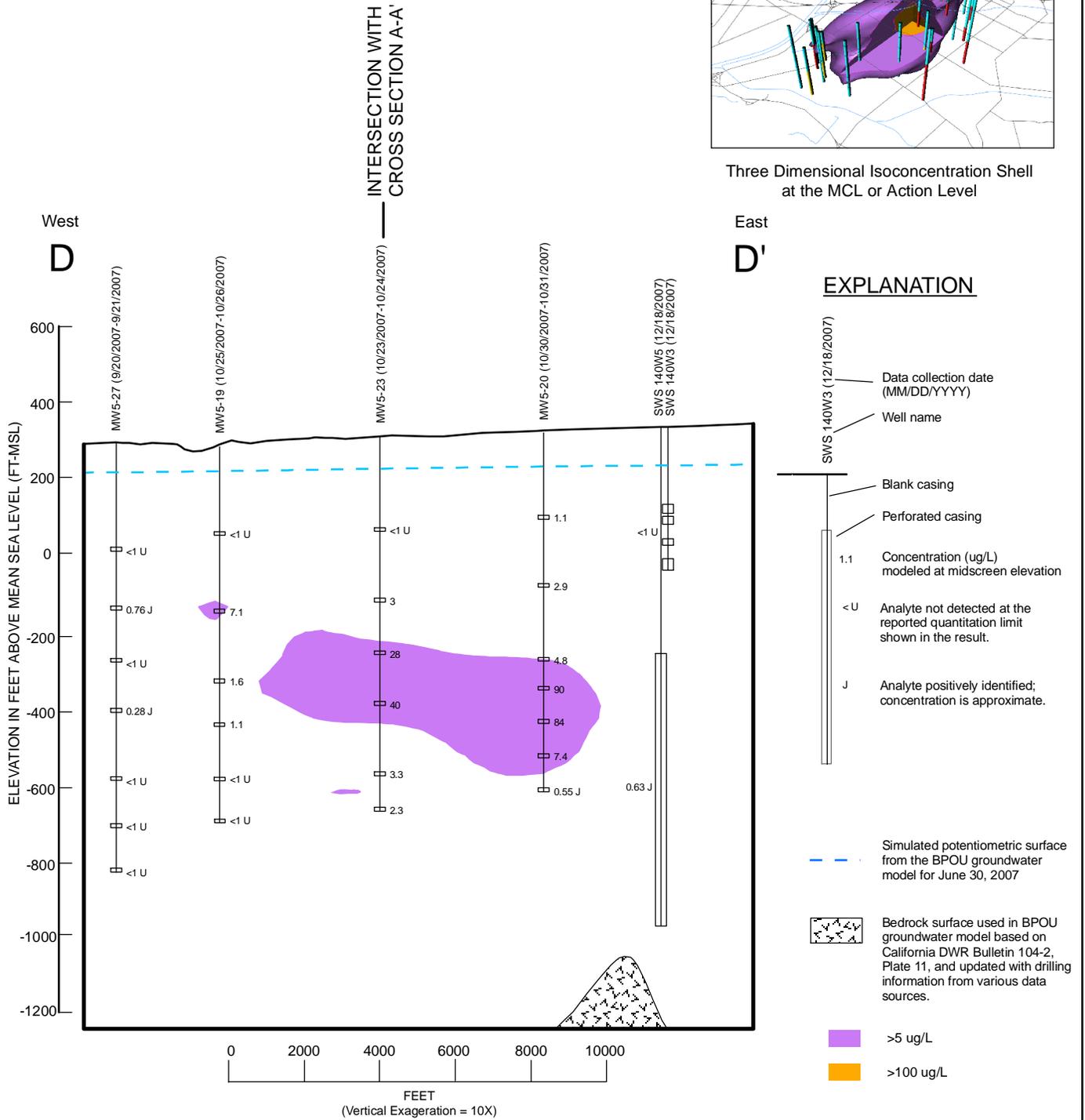
Geomatrix

Project No. 7190.006

Figure **A-49**



Three Dimensional Isoconcentration Shell at the MCL or Action Level



The isoconcentration contours shown represent modeled approximations of the distribution of COCs in groundwater based on available data and are subject to the limitations described in the 2007 Annual Performance Evaluation Report, Baldwin Park Operable Unit. It should be recognized that the precise distribution of chemicals in the groundwater cannot be completely determined. Model results should be carefully evaluated in areas where data are limited or concentrations change significantly over short distances.

Note:

1. Data posted as non-detect at the sample quantitation limit were not modeled using explicit input values. Instead, non-detects were modeled using the non-detect values gridding technique in EarthVision, as described in the Annual Report.

**VERTICAL DISTRIBUTION OF
TRICHLOROETHENE
CROSS SECTION D-D'
Baldwin Park Operable Unit
San Gabriel Valley, California**



Geomatrix

Project No. 7190.006

Figure **A-50**