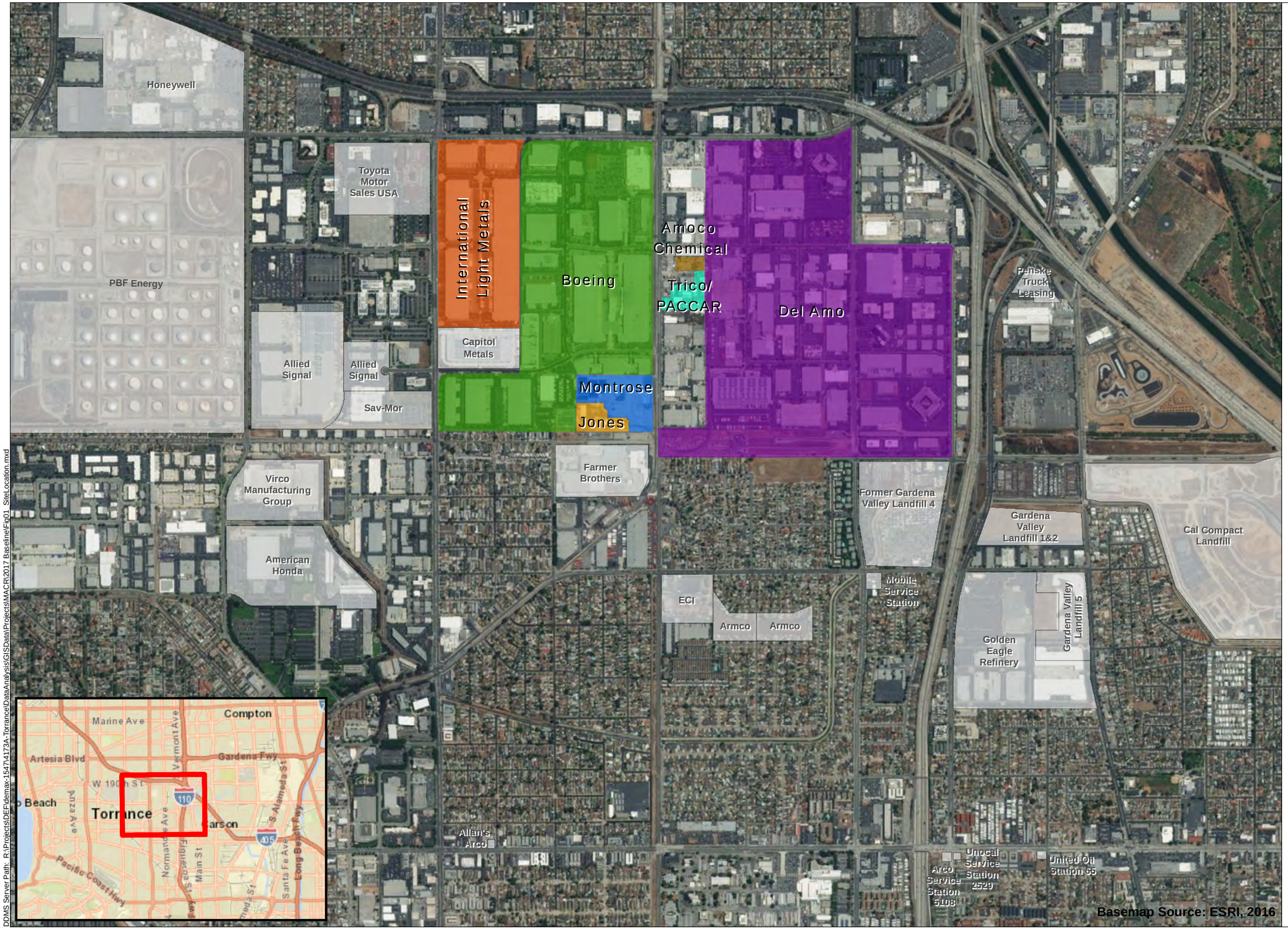
FIGURES

Figure 1

Site Location Map

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR
Plot Date: 2/6/2018



Key Dual Site OU Facilities

- Montrose
- Del Amo
- Former Boeing Corp
- International Light Metals
- Jones Chemical
- Trico/PACCAR
- Amoco Chemical
- Other Facility as Labeled

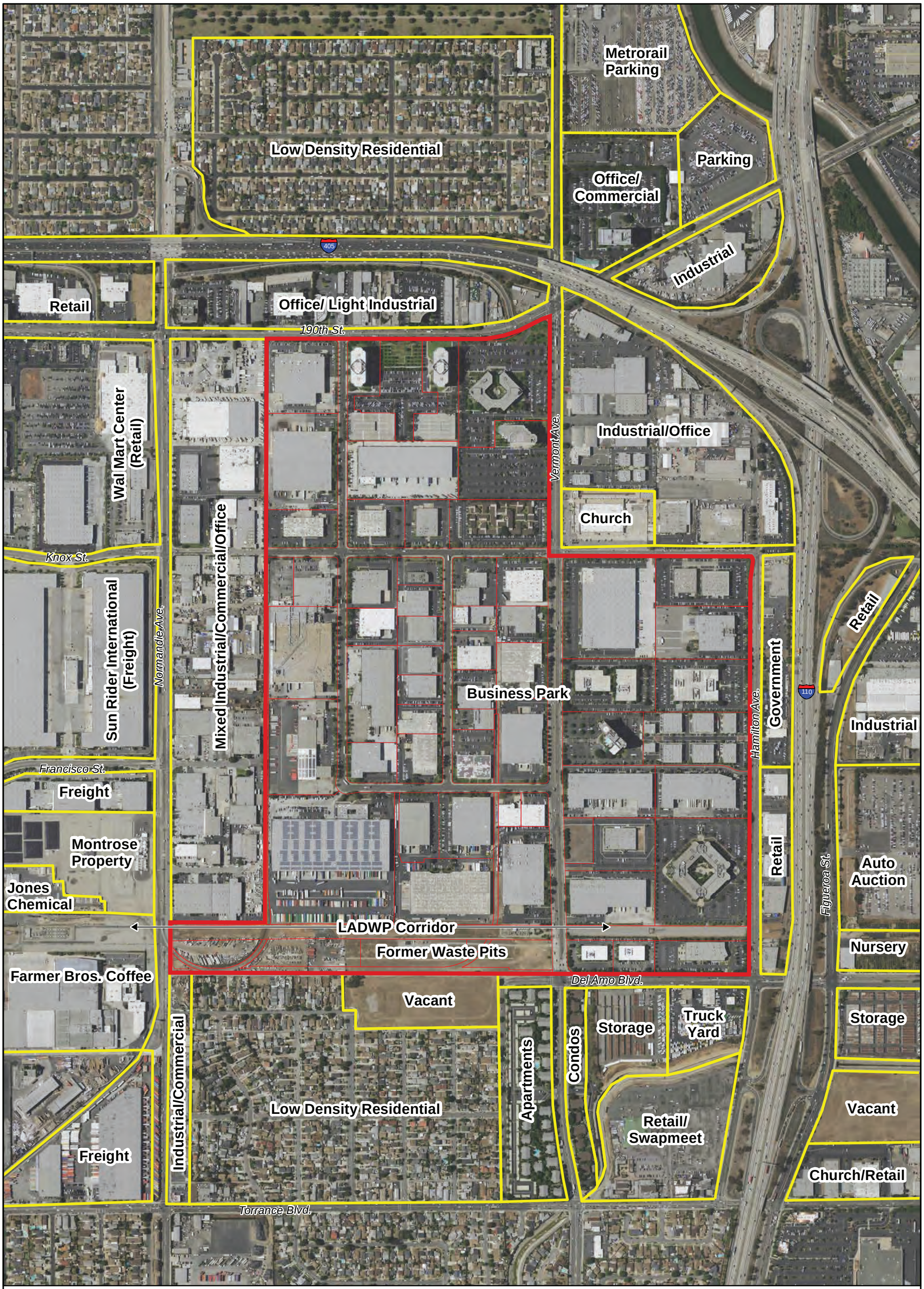
N

0 600 1,200 Feet

1 inch = 1,216 feet

Figure generated by ddms

DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig01_SiteLocation.mxd



Parcel Source:Mapping & GIS Services, Office of the Assessor, Los Angeles County, July 7, 2016.
Image Source: NAIP 2016 (July 7) ArcGIS Image Service, https://map.dfg.ca.gov/ArcGIS/services.

Figure 2

Del Amo Site Parcels and Land Use

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

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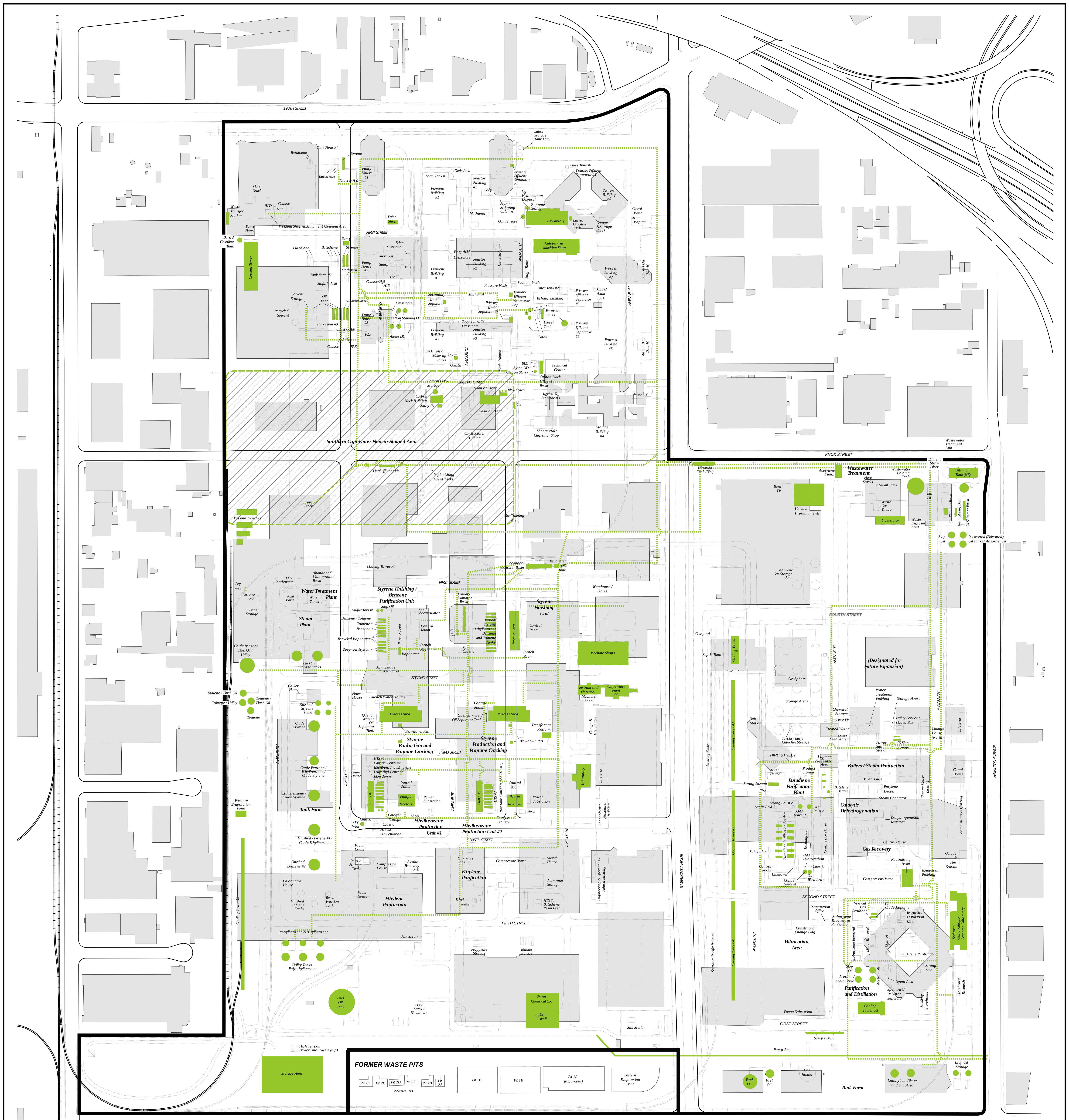


Note: Historical facilities shown on figure are for the lifespan of the former rubber plant and therefore may not be entirely accurate for any single point in time

Legend

- Current building
- Historical synthetic rubber plant facility and identification
- Historical facilities and features evaluated as part of the Remedial Investigation
- Underground benzene feedstock pipeline
- Underground pipeline or trench that potentially contained dilute VOC solutions

N

0 200 400 600 800

Scale in Feet

Scale: 1 inch = 200 feet

Figure 3

Del Amo Site Current and Historical Facilities

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

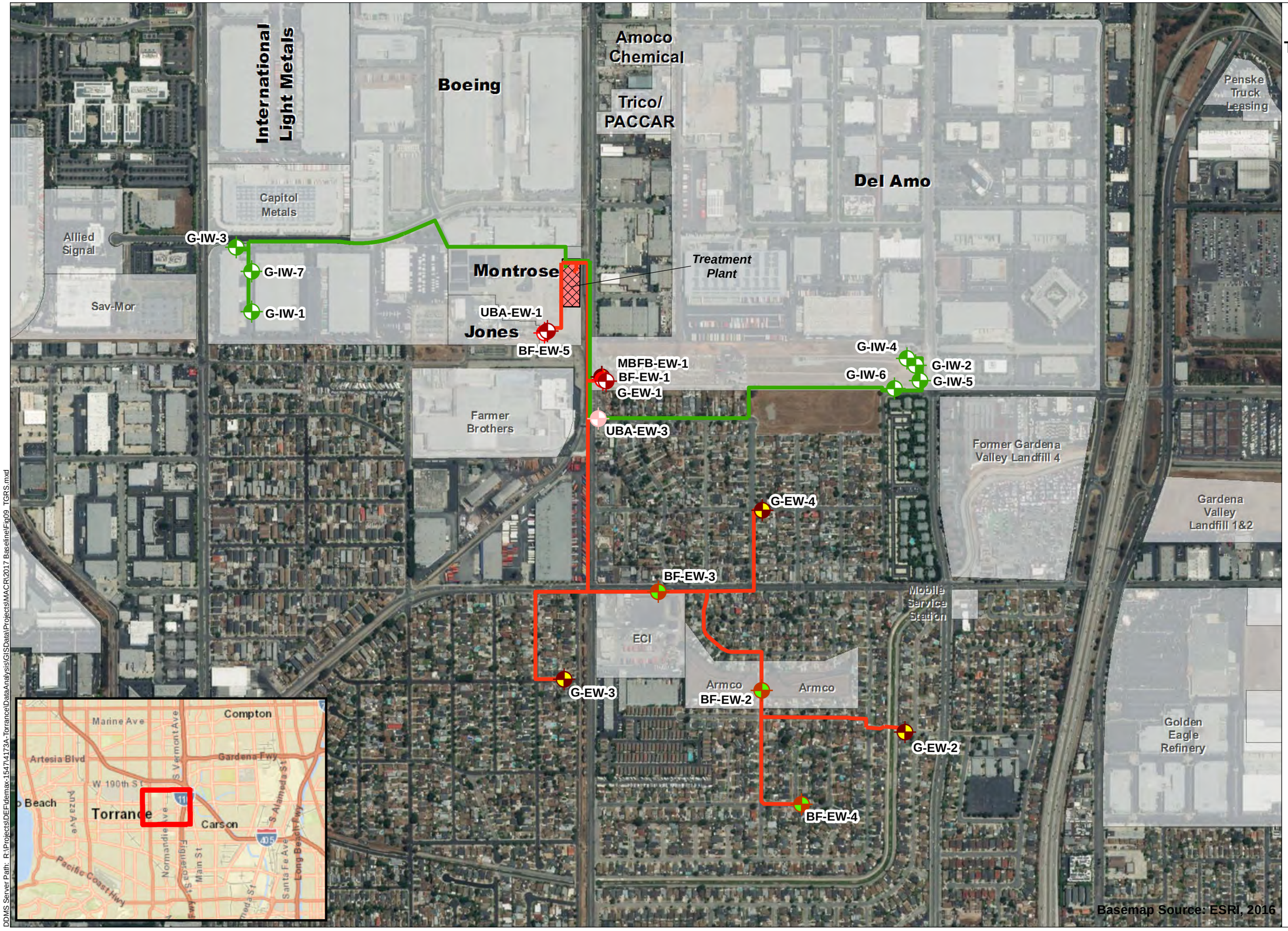
T\Ladd\DelAmo\994-318 11-2-95 Rev11-06

Figure 4

Torrance Groundwater Remediation System Infrastructure Map

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR
Plot Date: 1/16/2018



TGRS Extraction Wells

- Water Table
- Water Table / MBFB
- MBFB Merged MBFC
- MBFC
- Gage

TGRS Injection Wells

- Gage

- Extraction Piping
- Injection Piping
- Treatment Plant
- Facility as Labeled

N

0 360 720 Feet

1 inch = 700 feet

Figure generated by ddms

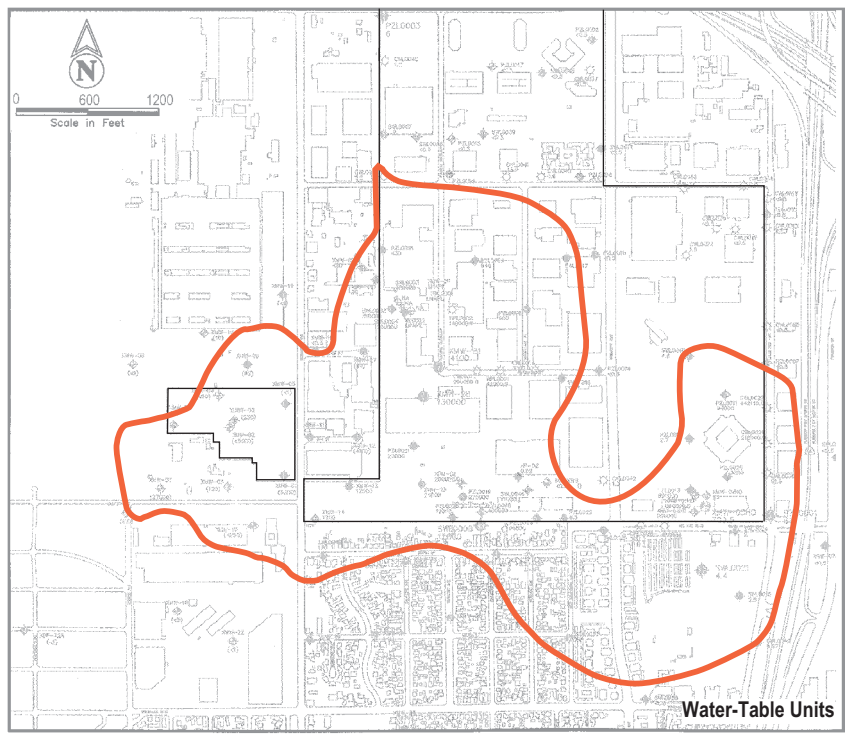
DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GIS\Data\Projects\MACR\2017 Baseline\Fig09_TGRS.mxd

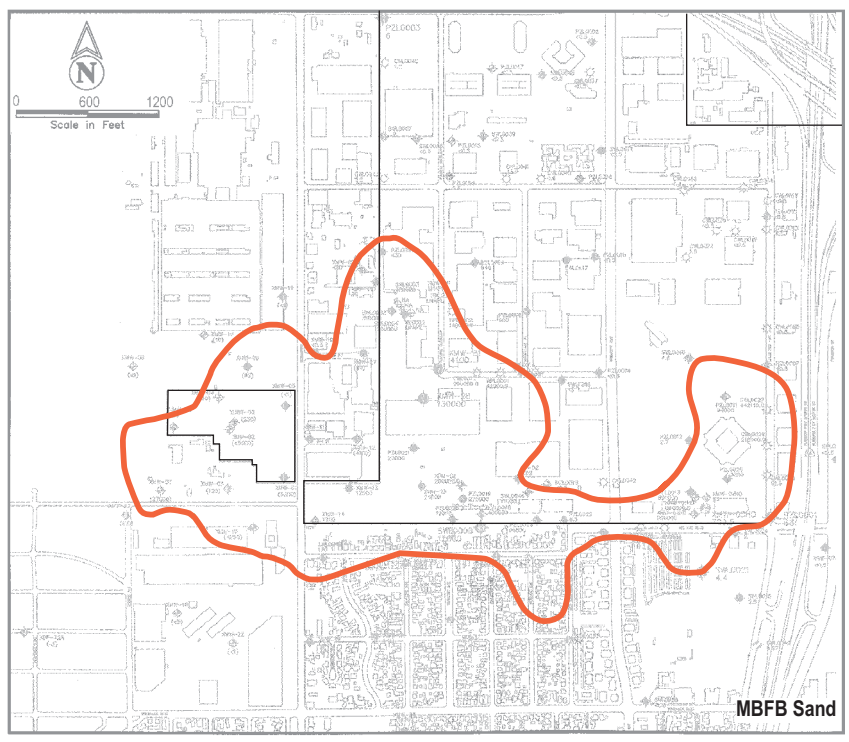
Figure 5

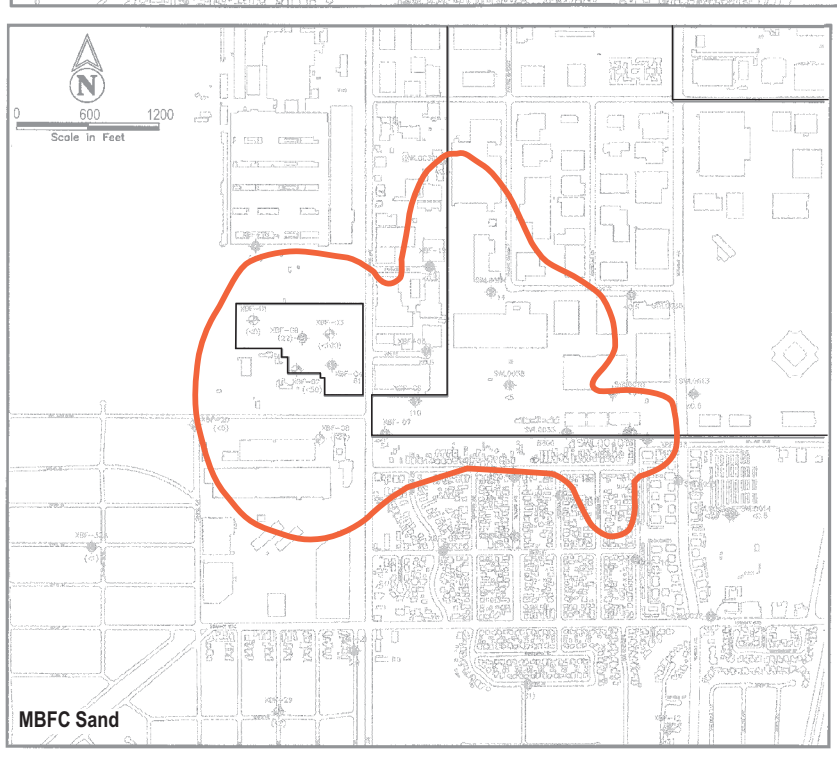
TI Waiver / Containment Zone

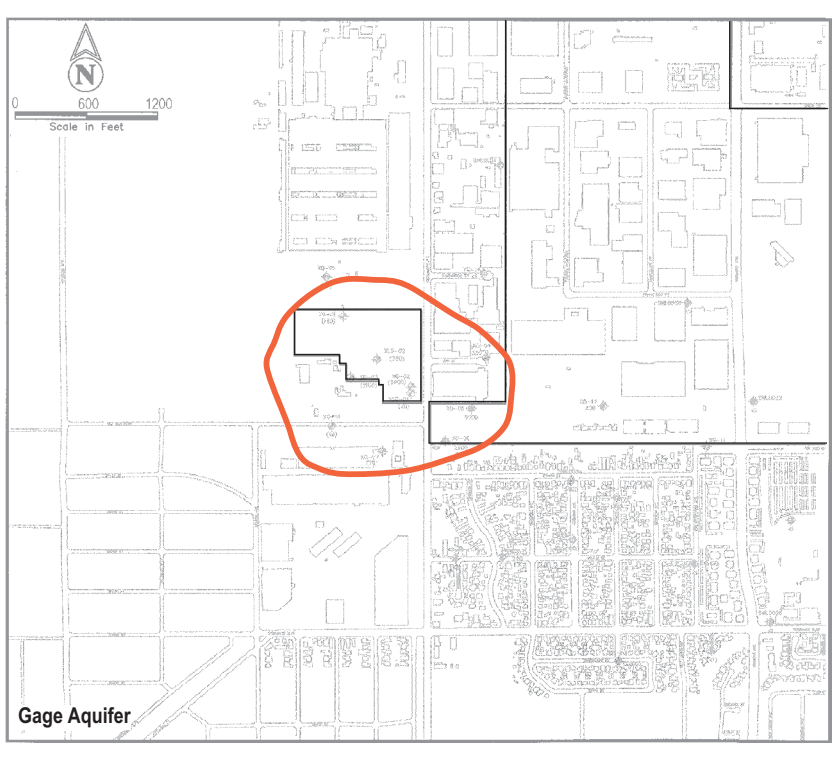
Dual Site Groundwater Operable Unit
Los Angeles, California

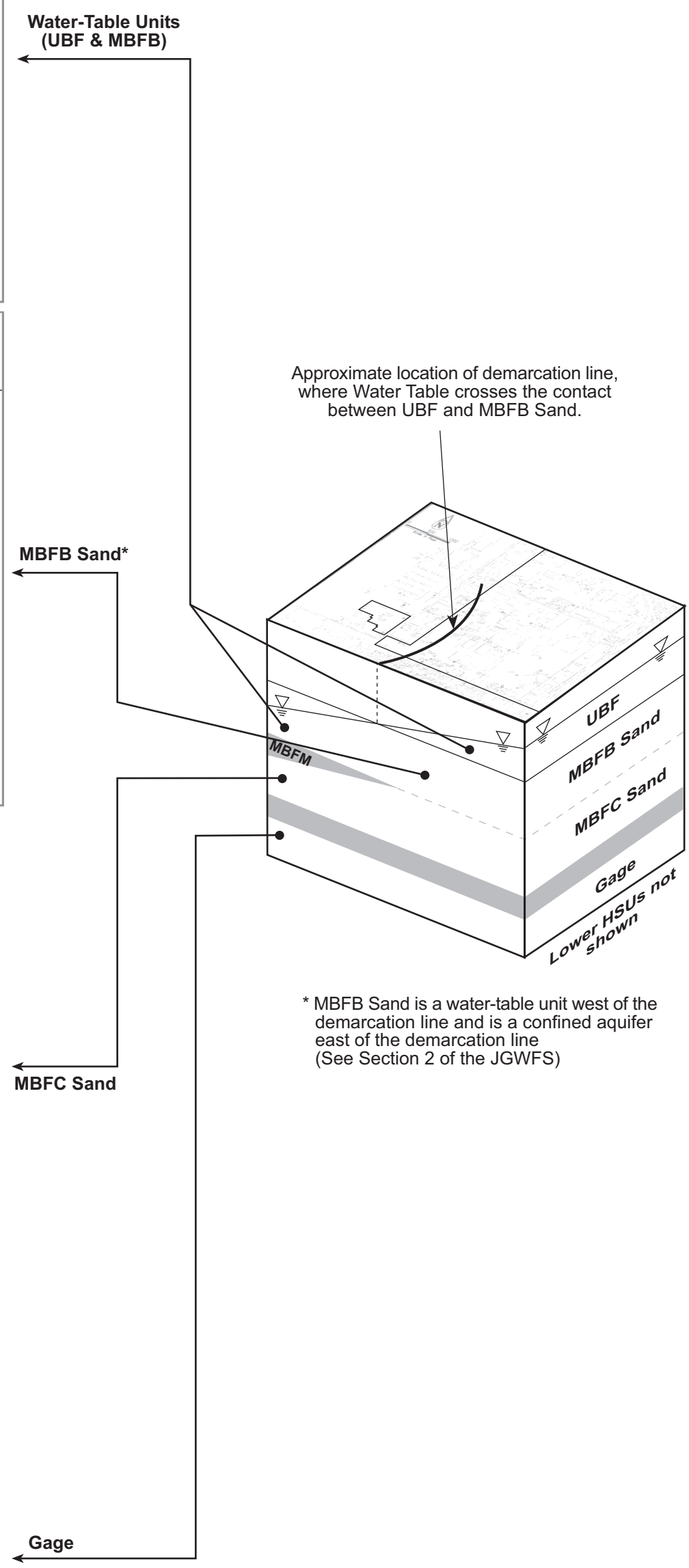
2017 Baseline MACR











* MBFB Sand is a water-table unit west of the demarcation line and is a confined aquifer east of the demarcation line (See Section 2 of the JGWFS)

Source: USEPA, 1999

Figure 6

Regional Physiography and Groundwater Basins

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

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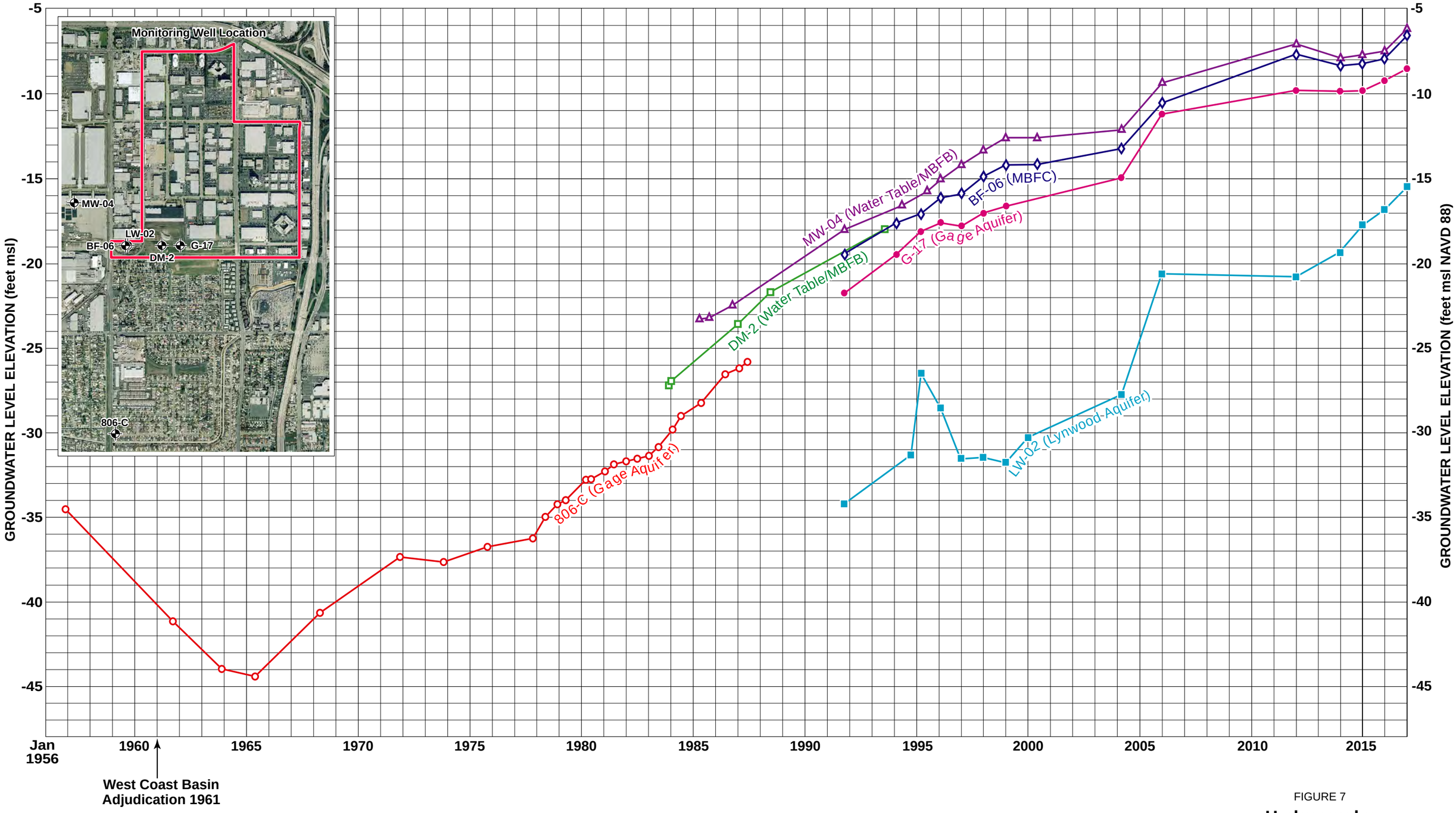


FIGURE 7

Hydrographs

Dual Site Groundwater Operable Unit
Los Angeles, California

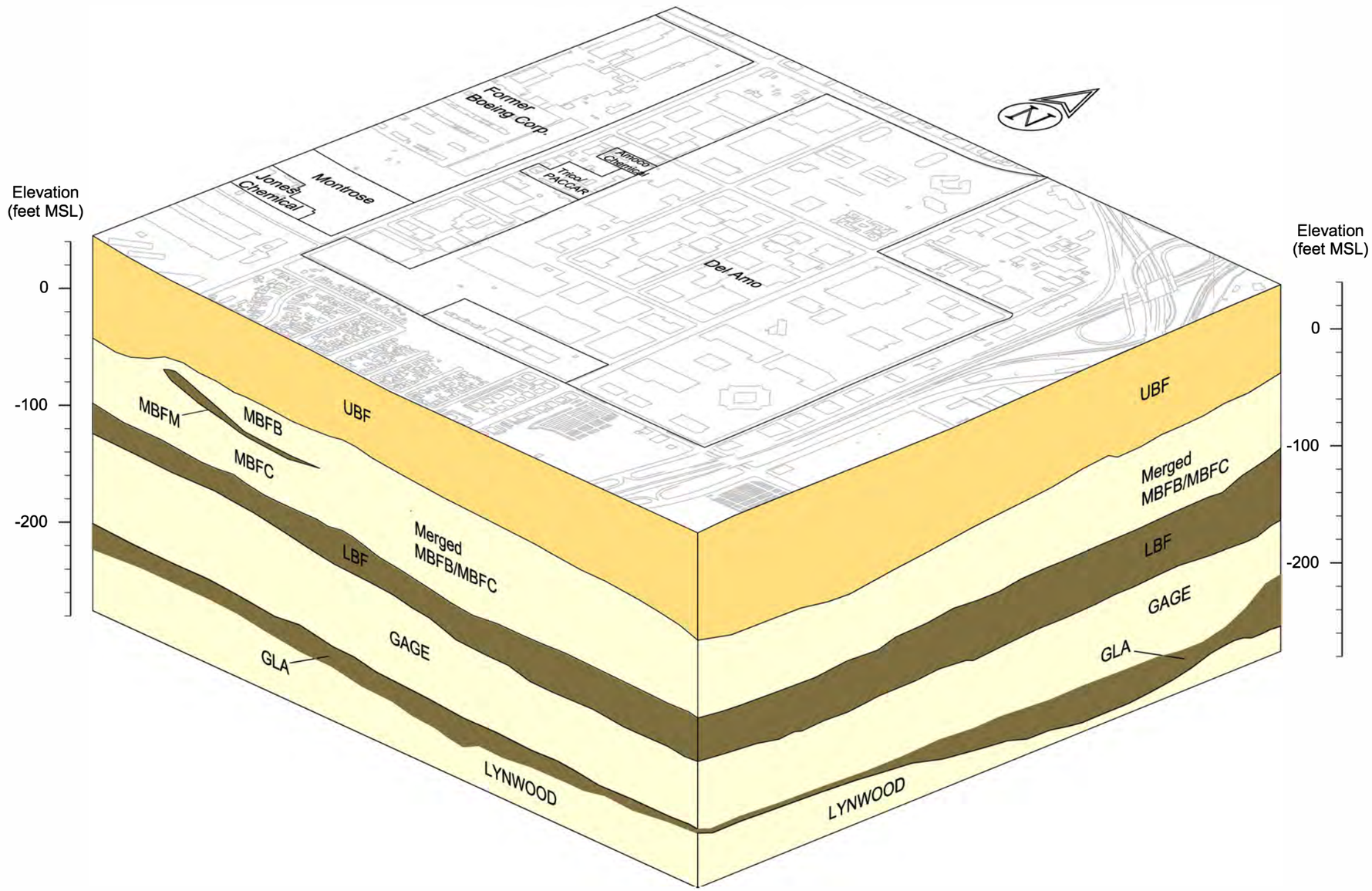
2017 Baseline MACR

Figure 8

Hydrostratigraphic Block Diagram

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR



EXPLANATION

UBF: Upper Bellflower Aquitard

MBFB: Middle Bellflower B Sand

MBFM: Middle Bellflower Mud

MBFC: Middle Bellflower C Sand

LBF: Lower Bellflower Aquitard

Gage: Gage Aquifer

GLA: Gage-Lynwood Aquitard

Lynwood: Lynwood Aquifer

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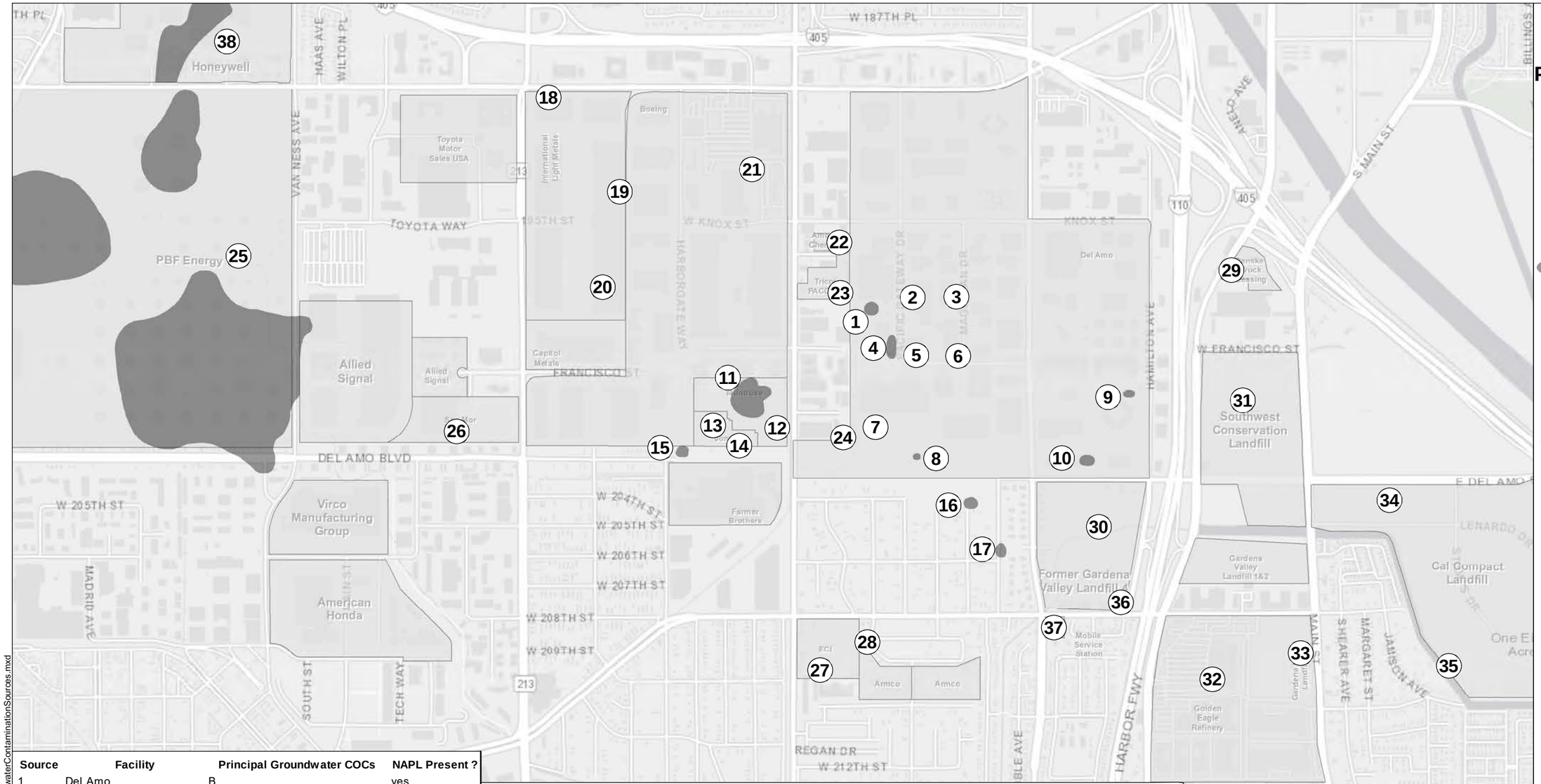

Figure 9

Potential Groundwater Contamination Sources

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

Approximate area of non-aqueous phase liquid (NAPL)

Note:
The NAPL area shown at Source 15, 16 and 17 was obtained from the Dames & Moore, Groundwater Remedial Investigation Report, Del Amo Study Area, May 15, 1998.

The NAPL area shown at Source 25 was obtained from the AECOM, Refinery Subsurface Cleanup Progress Report – First Semester 2017 and Soil Vapor and Groundwater Monitoring April through June, 2017 at Del Amo, Torrance Refining Company LLC., Torrance Refinery, Torrance, California, July 14, 2017.

The NAPL area shown at Source 38 was obtained from the Amec Foster Wheeler Environment & Infrastructure, Inc., Light Non-Aqueous Phase Liquid Investigation Report, Honeywell Site A, Torrance, California, November 16, 2015.

Source	Facility	Principal Groundwater COCs	NAPL Present ?
1	Del Amo	B	yes
2	Del Amo	B,E	no
3	Del Amo	B,E	no
4	Del Amo	B,E	yes
5	Del Amo	B,E	no
6	Del Amo	B,E	no
7	Del Amo	B,toluene	no
8	Del Amo	BTEX, naphthalene	yes
9	Del Amo	BTEX, styrene	yes
10	Del Amo	B	yes
11	Montrose	Chlorobenzene, p-CBSA	yes
12	Stauffer	B	no
13	Jones Chemical	TCE, PCE	no
14	Jones Chemical	TCE, PCE, B	no
15	Petroleum pipelines	BTEX	yes
16	Petroleum pipelines	B, naphthalene	yes
17	Petroleum pipelines	unknown	yes
18	ILM	TCE	no
19	ILM/McDonnell Douglas	TCE	no
20	ILM	TCE, PCE	no
21	McDonnell Douglas/Boeing	1,1-DCE, B, TCE, 1,1,1-TCA	no
22	Amoco/APC	TCE, PCE, chloroform	no
23	PACCAR	1,1-DCA, TCE, PCE	no
24	Unknown	BTEX, TCE, 1,2-DCA	no
25	PBF Energy	BTEX	yes
26	Allied Signal	1,1-DCE, 1,1-DCA, 1,1,1-TCA, benzene	no
27	Azko	T	no
28	Armco	BTEX	no
29	Penske Truck Leasing	B	no
30	Gardena Valley Landfill	B, TCE, PCE	no
31	Southwest Conservation Landfill	PCE, TCE, 1,1-DCA	no
32	Golden Eagle Refinery	BTEX	no
33	Golden Eagle Refinery	BTEX	no
34	Cal Compact Landfill	vinyl chloride, cis-1,2-DCE, TCE, PCE	no
35	Cal Compact Landfill	BTEX	no
36	Alpine Village TExaco	TPH-gas, B, MTBE, TBA	no
37	Mobil #18	TPH-gas, B, T, E, MTBE, TBA	no
38	Honeywell	PCE, TCE, Vinyl chloride, 1,1-DCA, 1,1-DCE, 1,1,1-TCA, 1,4-dioxane	yes

Chemical Abbreviations
B Benzene
T Toluene
E Ethylbenzene
X Xylenes
1, 1-DCA 1,1-Dichloroethane
1, 1-DCE 1,1-Dichloroethene
TCE Trichloroethene
1,1,1-TCA 1,1,1-Trichloroethane
PCE Tetrachloroethene

Notes:
1) Due to an incomplete knowledge of the ownership and operational histories at some properties, the facilities identified on the figure may not in every case correspond with the responsible party, and the current status of groundwater investigations at some facilities is unknown.
2) Information provided on this figure was obtained from the Dames & Moore, Final Groundwater Remedial Investigation Report, Del Amo Study Area, May 15, 1998.

Basemap Source: ESRI, 2016

N

0 600 1,200 Feet

1 inch = 1,200 feet

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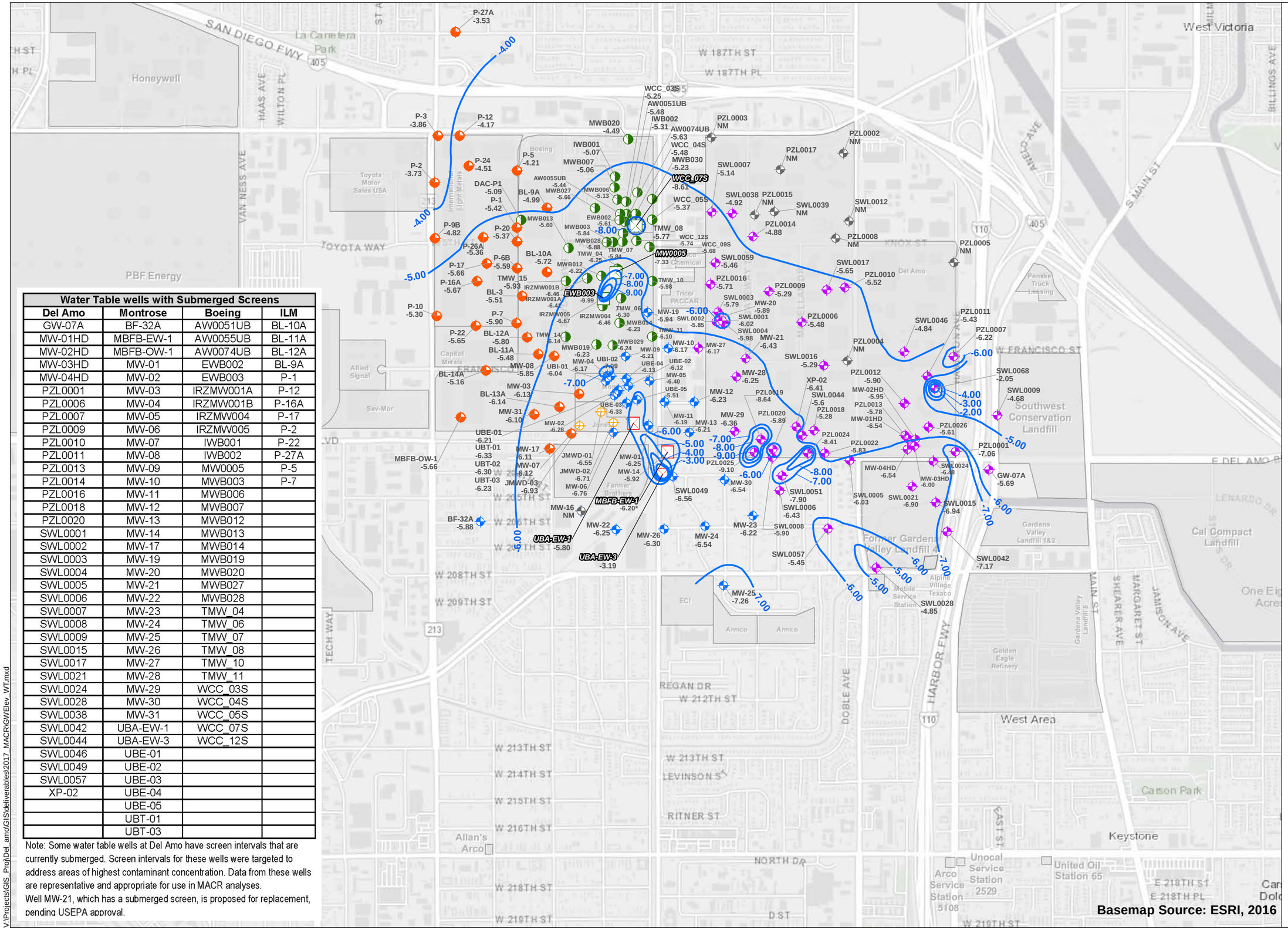

Water Table wells with Submerged Screens			
Del Amo	**Montrose**	**Boeing**	**ILM**
GW-07A	BF-32A	AW0051UB	BL-10A
MW-01HD	MBFB-EW-1	AW0055UB	BL-11A
MW-02HD	MBFB-OW-1	AW0074UB	BL-12A
MW-03HD	MW-01	EWB002	BL-9A
MW-04HD	MW-02	EWB003	P-1
PZL0001	MW-03	IRZMW001A	P-12
PZL0006	MW-04	IRZMW001B	P-16A
PZL0007	MW-05	IRZMW004	P-17
PZL0009	MW-06	IRZMW005	P-2
PZL0010	MW-07	IWB001	P-22
PZL0011	MW-08	IWB002	P-27A
PZL0013	MW-09	MW0005	P-5
PZL0014	MW-10	MWB003	P-7
PZL0016	MW-11	MWB006	
PZL0018	MW-12	MWB007	
PZL0020	MW-13	MWB012	
SWL0001	MW-14	MWB013	
SWL0002	MW-17	MWB014	
SWL0003	MW-19	MWB019	
SWL0004	MW-20	MWB020	
SWL0005	MW-21	MWB027	
SWL0006	MW-22	MWB028	
SWL0007	MW-23	TMW_04	
SWL0008	MW-24	TMW_06	
SWL0009	MW-25	TMW_07	
SWL0015	MW-26	TMW_08	
SWL0017	MW-27	TMW_10	
SWL0021	MW-28	TMW_11	
SWL0024	MW-29	WCC_03S	
SWL0028	MW-30	WCC_04S	
SWL0038	MW-31	WCC_05S	
SWL0042	UBA-EW-1	WCC_07S	
SWL0044	UBA-EW-3	WCC_12S	
SWL0046	UBE-01		
SWL0049	UBE-02		
SWL0057	UBE-03		
XP-02	UBE-04		
	UBE-05		
	UBT-01		
	UBT-03		

Note: Some water table wells at Del Amo have screen intervals that are currently submerged. Screen intervals for these wells were targeted to address areas of highest contaminant concentration. Data from these wells are representative and appropriate for use in MACR analyses.
Well MW-21, which has a submerged screen, is proposed for replacement, pending USEPA approval.

Figure 10

Groundwater Elevation Water Table

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Groundwater Elevation Contour
- Groundwater depression near extraction wells. All contours may not be shown.
- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- NM (Not Measured; corresponding well symbol is dark gray)
- TGRS Extraction Well
- Boeing Extraction Well
- Facility as Labeled

Notes:
1) Groundwater elevations in feet Mean Sea Level (MSL)
2) BF-32A is screened from the Water Table to the MBFC
3) * = Value not used for ground-water elevation contour

N

0 600 1,200 Feet

1 inch = 1,200 feet

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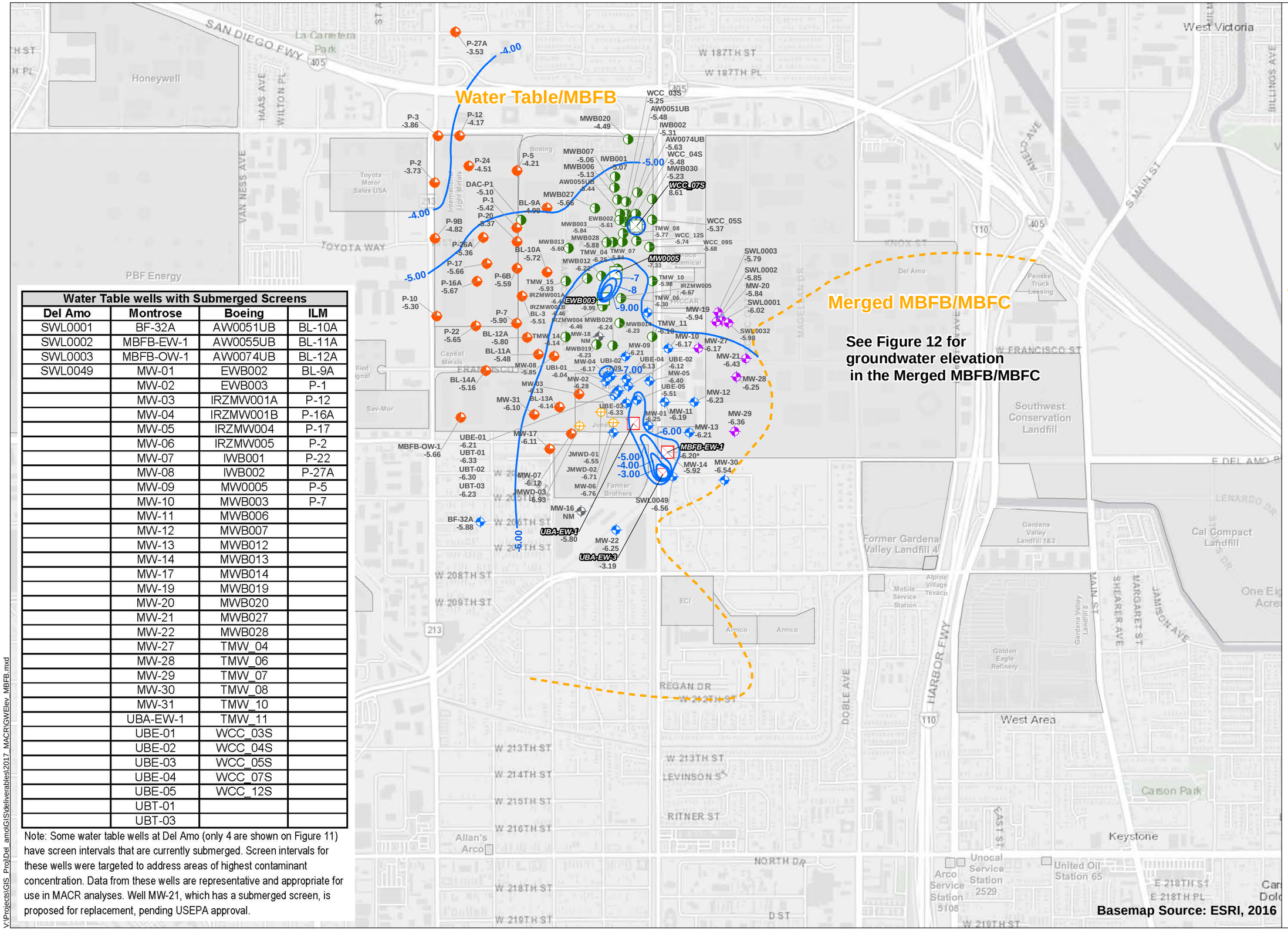

Water Table wells with Submerged Screens			
Del Amo	**Montrose**	**Boeing**	**ILM**
SWL0001	BF-32A	AW0051UB	BL-10A
SWL0002	MBFB-EW-1	AW0055UB	BL-11A
SWL0003	MBFB-OW-1	AW0074UB	BL-12A
SWL0049	MW-01	EWB002	BL-9A
	MW-02	EWB003	P-1
	MW-03	IRZMW001A	P-12
	MW-04	IRZMW001B	P-16A
	MW-05	IRZMW004	P-17
	MW-06	IRZMW005	P-2
	MW-07	IWB001	P-22
	MW-08	IWB002	P-27A
	MW-09	MW0005	P-5
	MW-10	MWB003	P-7
	MW-11	MWB006	
	MW-12	MWB007	
	MW-13	MWB012	
	MW-14	MWB013	
	MW-17	MWB014	
	MW-19	MWB019	
	MW-20	MWB020	
	MW-21	MWB027	
	MW-22	MWB028	
	MW-27	TMW_04	
	MW-28	TMW_06	
	MW-29	TMW_07	
	MW-30	TMW_08	
	MW-31	TMW_10	
	UBA-EW-1	TMW_11	
	UBE-01	WCC_03S	
	UBE-02	WCC_04S	
	UBE-03	WCC_05S	
	UBE-04	WCC_07S	
	UBE-05	WCC_12S	
	UBT-01		
	UBT-03		

Note: Some water table wells at Del Amo (only 4 are shown on Figure 11) have screen intervals that are currently submerged. Screen intervals for these wells were targeted to address areas of highest contaminant concentration. Data from these wells are representative and appropriate for use in MACR analyses. Well MW-21, which has a submerged screen, is proposed for replacement, pending USEPA approval.

Figure 11

Groundwater Elevation MBFB

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Groundwater Elevation Contour
- Groundwater depression near extraction wells. All contours may not be shown.
- Demarcation line designating eastern limit of the MBFM that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the Merged MBFB/MBFC.
- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- NM (Not Measured; corresponding well symbol is dark gray)
- TGRS Extraction Well
- Boeing Extraction Well
- Facility as Labeled

Notes:
1) Groundwater elevations in feet Mean Sea Level (MSL)
2) * = Value not used for ground-water elevation contour

N

0 600 1,200 Feet

1 inch = 1,200 feet

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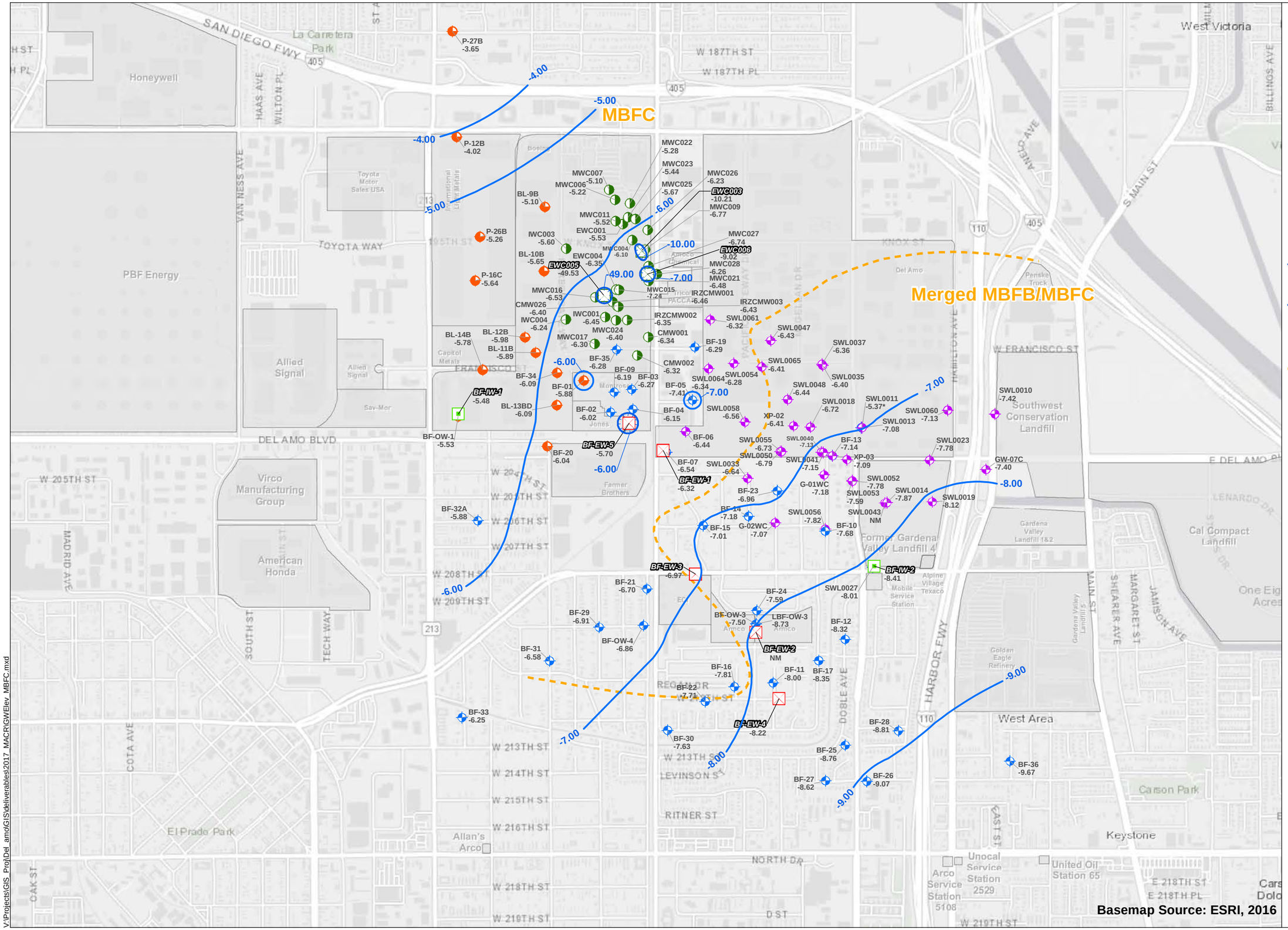

Figure 12

Groundwater Elevation MBFC/ Merged MBFB/MBFC

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Groundwater Elevation Contour
- Groundwater depression near extraction wells. All contours may not be shown.
- Demarcation line designating eastern limit of the MBFM that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the Merged MBFB/MBFC.
- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- NM (Not Measured; corresponding well symbol is dark gray)
- TGRS Extraction Well
- Boeing Extraction Well
- Facility as Labeled

Notes:
1) Groundwater elevations in feet Mean Sea Level (MSL)
2) * = Value not used for ground-water elevation contour

N

0 600 1,200 Feet

1 inch = 1,200 feet

V:\Projects\GIS_Proj\Del_amo\GIS\deliverables\2017_MACR\GWElev_MBFC.mxd

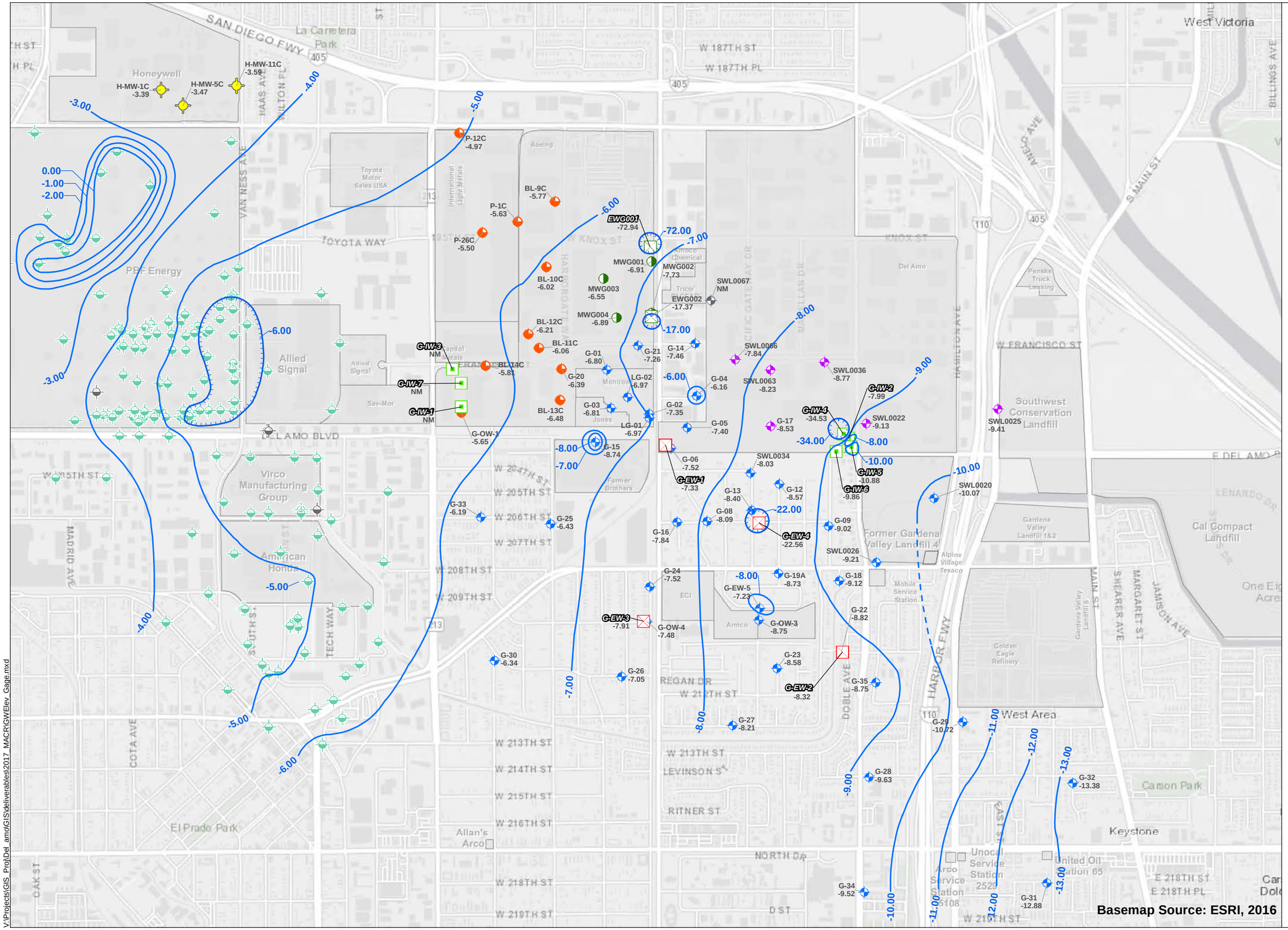

Figure 13

Groundwater Elevation Gage Aquifer

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Groundwater Elevation Contour (dashed where inferred)
- Groundwater depression near extraction wells. All contours may not be shown.
- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- Honeywell Well
- PBF Well
- NM (Not Measured; corresponding well symbol is dark gray)
- TGRS Extraction Well
- Boeing Extraction Well
- TGRS Injection Well
- Facility as Labeled

Notes:
1) Groundwater elevations in feet Mean Sea Level (MSL)
2) See Figure 13a which includes well labels and Groundwater elevations for the PBF Site

N

0 600 1,200 Feet

1 inch = 1,200 feet

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Figure 13a

Groundwater Elevation Gage Aquifer (Detail of PBF Site)

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

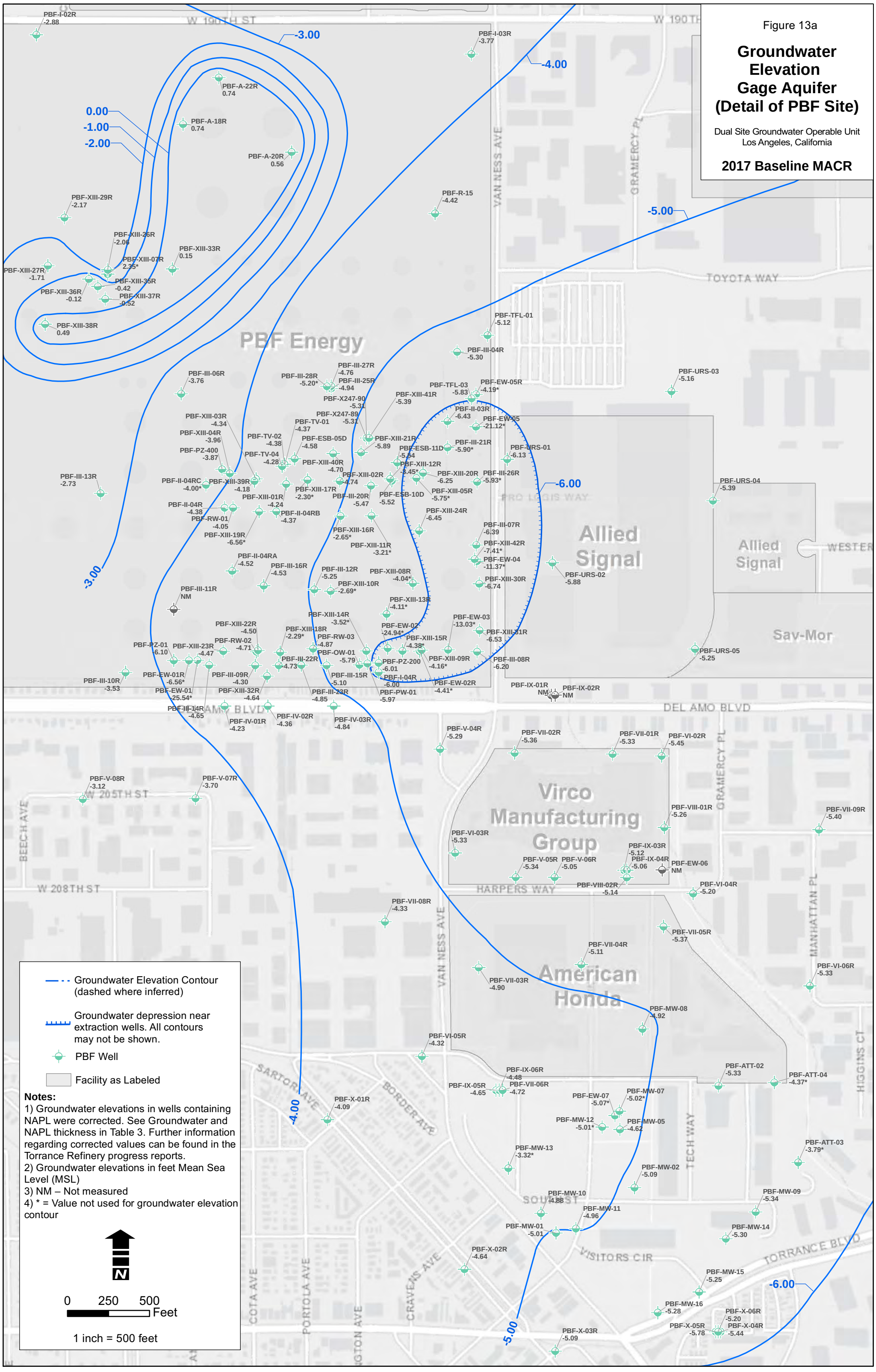
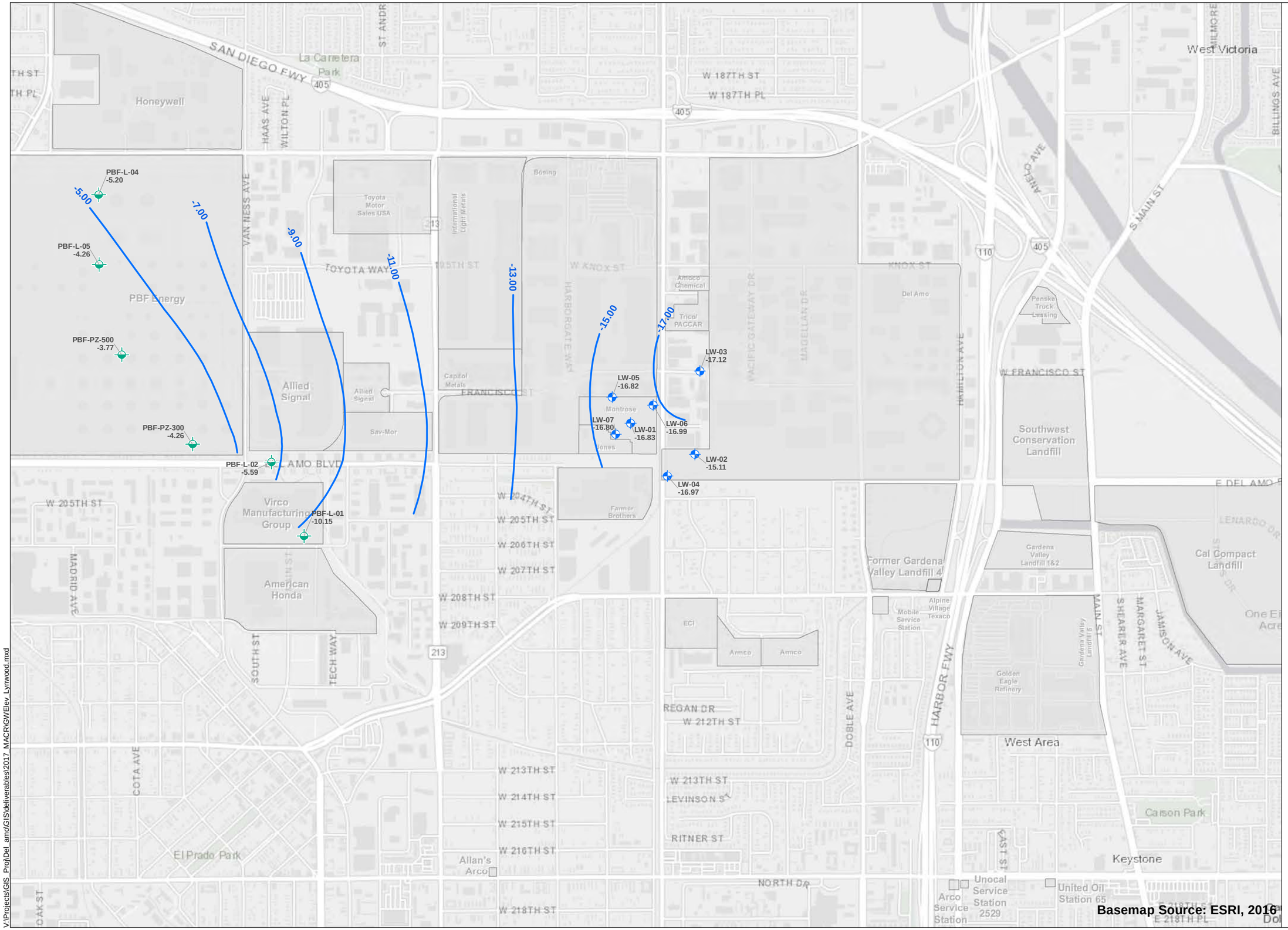


Figure 14

Groundwater Elevation Lynwood Aquifer

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR



Groundwater Elevation Contour

Montrose Well

Del Amo Well

Boeing Well

ILM Well

Jones Well

PBF Well

Facility as Labeled

Notes:
1) Groundwater elevations in feet Mean Seal Level (MSL)

N

0 600 1,200 Feet

1 inch = 1,200 feet

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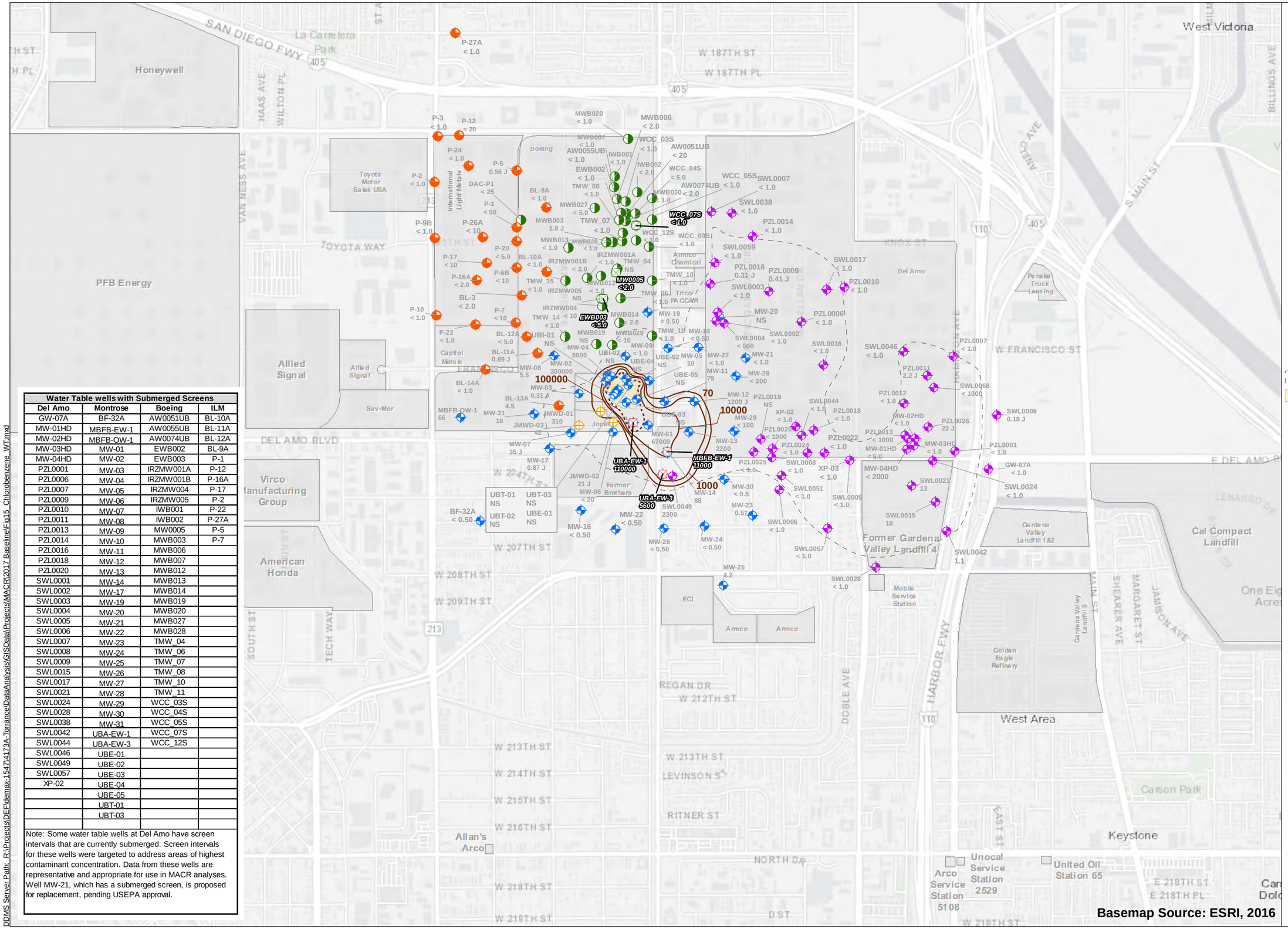
Figure 15

Dissolved Chlorobenzene Distribution Water Table

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR



Water Table wells with Submerged Screens			
Del Amo	Montrose	Boeing	ILM
GW-07A	BF-32A	AW0051UB	BL-10A
MW-01HD	MBFB-EW-1	AW0055UB	BL-11A
MW-02HD	MBFB-OW-1	AW0074UB	BL-12A
MW-03HD	MW-01	EWB002	BL-9A
MW-04HD	MW-02	EWB003	P-1
PZL0001	MW-03	IRZMW001A	P-12
PZL0006	MW-04	IRZMW001B	P-16A
PZL0007	MW-05	IRZMW004	P-17
PZL0009	MW-06	IRZMW005	P-2
PZL0010	MW-07	IWB001	P-22
PZL0011	MW-08	IWB002	P-27A
PZL0013	MW-09	MW0005	P-5
PZL0014	MW-10	MWB003	P-7
PZL0016	MW-11	MWB006	
PZL0018	MW-12	MWB007	
PZL0020	MW-13	MWB012	
SWL0001	MW-14	MWB013	
SWL0002	MW-17	MWB014	
SWL0003	MW-19	MWB019	
SWL0004	MW-20	MWB020	
SWL0005	MW-21	MWB027	
SWL0006	MW-22	MWB028	
SWL0007	MW-23	TMW_04	
SWL0008	MW-24	TMW_06	
SWL0009	MW-25	TMW_07	
SWL0015	MW-26	TMW_08	
SWL0017	MW-27	TMW_10	
SWL0021	MW-28	TMW_11	
SWL0024	MW-29	WCC_03S	
SWL0028	MW-30	WCC_04S	
SWL0038	MW-31	WCC_05S	
SWL0042	UBA-EW-1	WCC_07S	
SWL0044	UBA-EW-3	WCC_12S	
SWL0046	UBE-01		
SWL0049	UBE-02		
SWL0057	UBE-03		
XP-02	UBE-04		
	UBE-05		
	UBT-01		
	UBT-03		

Note: Some water table wells at Del Amo have screen intervals that are currently submerged. Screen intervals for these wells were targeted to address areas of highest contaminant concentration. Data from these wells are representative and appropriate for use in MACR analyses. Well MW-21, which has a submerged screen, is proposed for replacement, pending USEPA approval.

- Chlorobenzene Contour (dashed where inferred)
- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- Water Table TI Waiver Zone
- Water Table DNAPL Extent

Notes:
1) Concentration units in ug/L
2) EPA MCL is 100 ug/l and State MCL is 70 ug/L for Chlorobenzene, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) UBA-EW-1 sampled 5/17/2017 and UBA-EW-3 sampled 5/18/2017
6) Wells not used in contours: MW-14

N

0 600 1,200 Feet

1 inch = 1,200 feet

Basemap Source: ESRI, 2016

Figure generated by ddms

DDMS Server Path: R:\Projects\DER\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig15_Chlorobenzene_WT.mxd

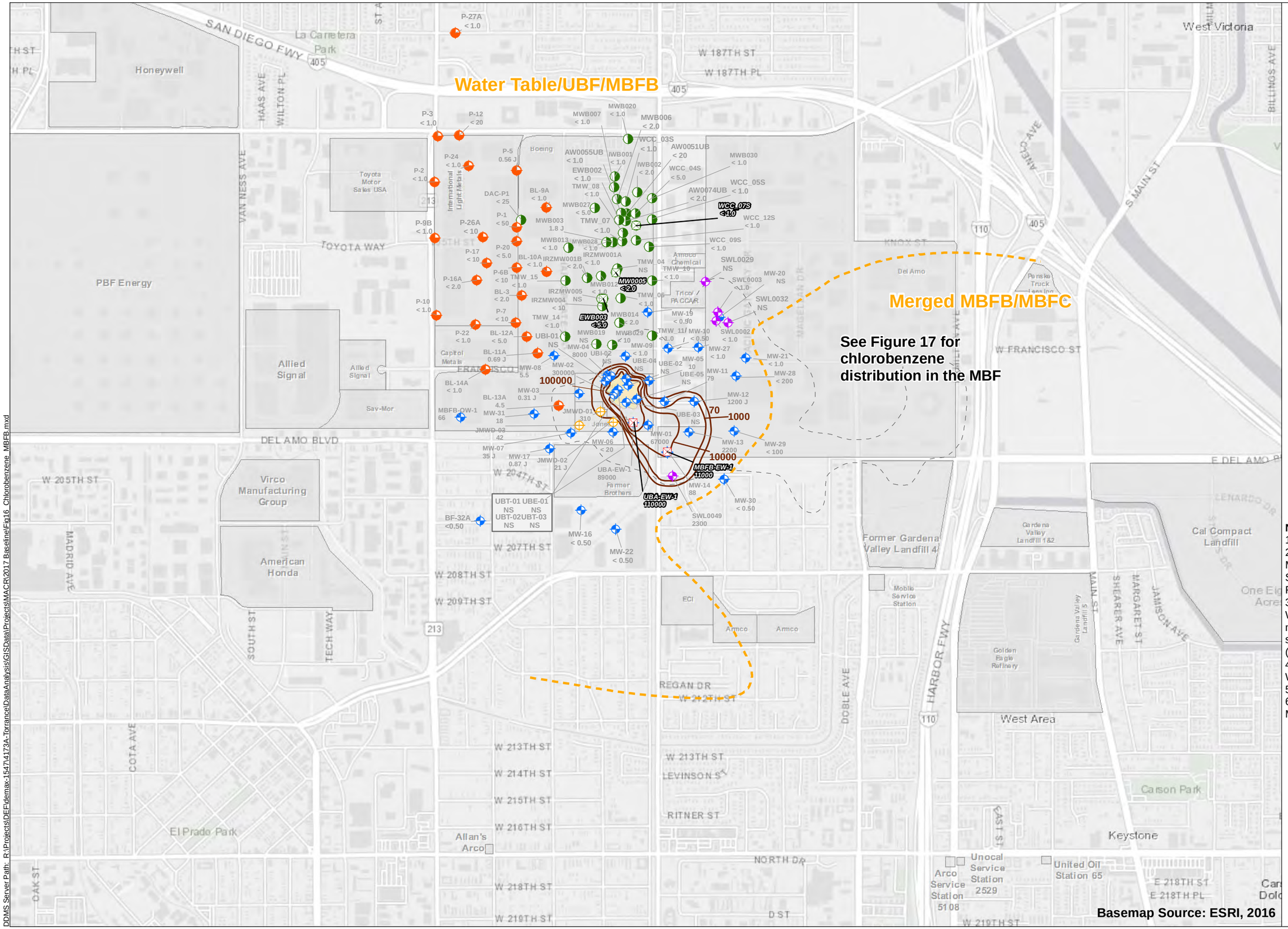


Figure 16

Dissolved Chlorobenzene Distribution MBFB

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Chlorobenzene Contour (dashed where inferred)
- Demarcation line designating eastern limit of the MBF Mud that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the MBF.
- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- MBFB TI Waiver Zone
- Facility as Labeled
- MBFB DNAPL Extent

Notes:

1) Concentration units in ug/L
2) EPA MCL is 100 ug/l and State MCL is 70 ug/L for Chlorobenzene, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) UAB-EW-1 sampled 5/17/2017
6) Wells not used in countours: MW-14

N

0 600 1,200 Feet

1 inch = 1,200 feet

Basemap Source: ESRI, 2016

Figure generated by ddms

DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig16_Chlorobenzene_MBFB.mxd

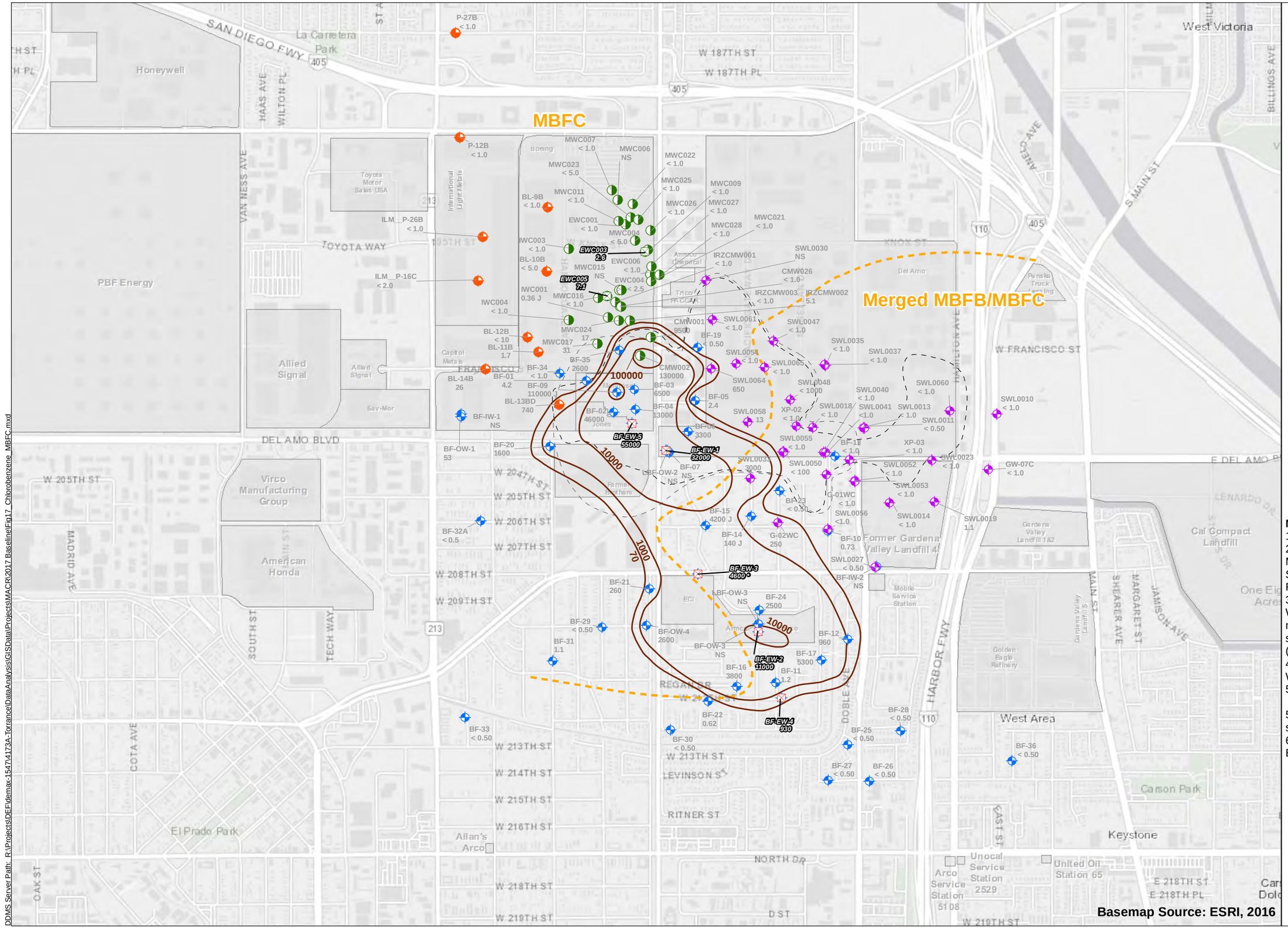


Figure 17

Dissolved Chlorobenzene Distribution MBFC / Merged MBFB/MBFC

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Chlorobenzene Contour (dashed where inferred)
- Demarcation line designating eastern limit of the MBF Mud that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the MBF.
- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- Boeing Extraction Well
- TGRS Extraction Well
- TGRS Injection Well
- MBFC TI Waiver Zone
- MBFB TI Waiver Zone
- Facility as Labeled

Notes:

1) Concentration units in ug/L
2) EPA MCL is 100 ug/l and State MCL is 70 ug/L for Chlorobenzene, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) BF-EW-2 sampled on 5/16/2017; BF-EW-4 and BF-EW-3 sampled on 5/18/2017; BF-EW-5 and BF-EW-1 sampled on 5/17/2017.
6) Wells not used in contours: BF-03, BF-11, BF-EW-3

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

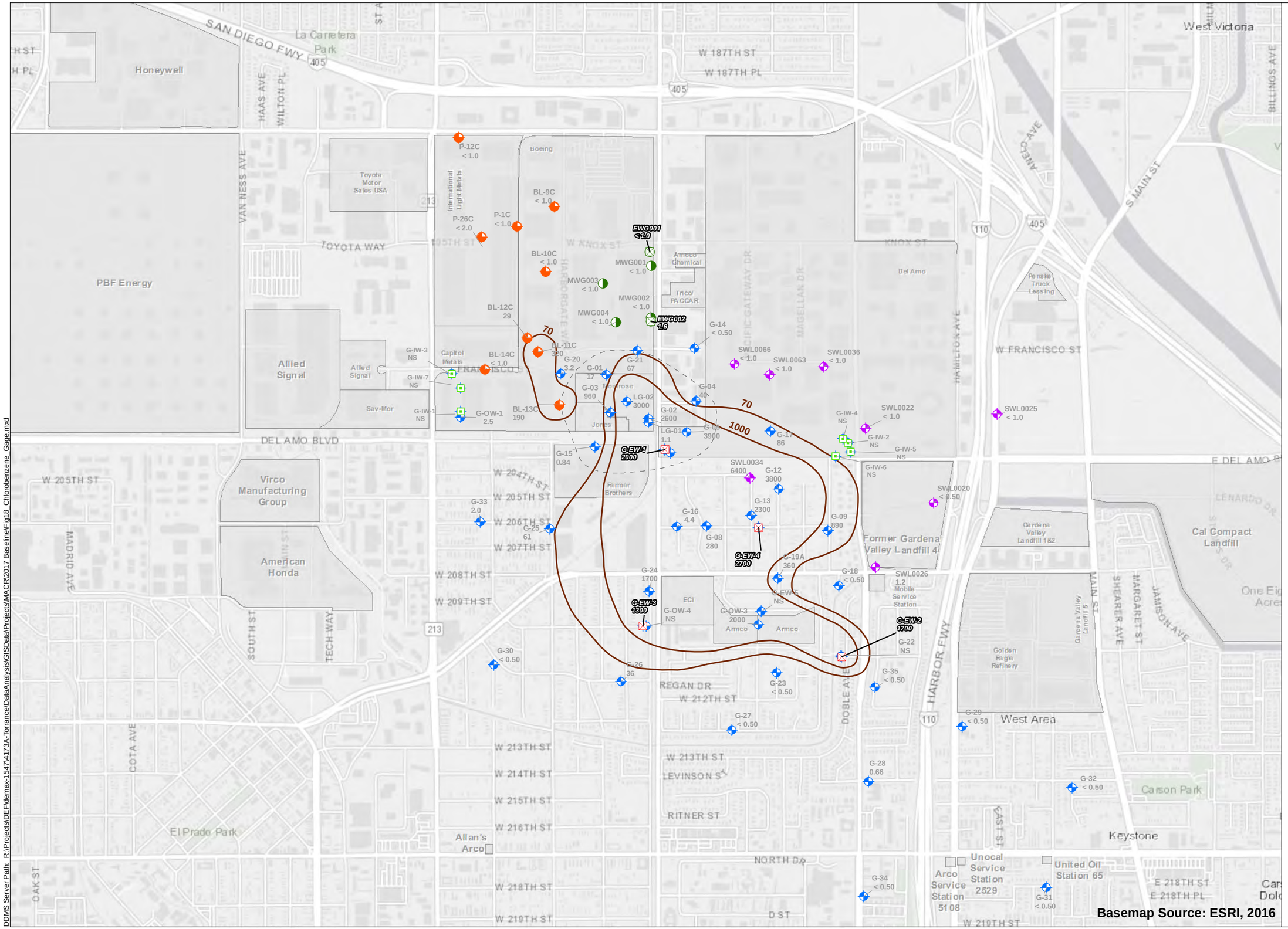
DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig17_Chlorobenzene_MBFC.mxd

Figure 18

Dissolved Chlorobenzene Distribution Gage

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR



Chlorobenzene Contour (dashed where inferred)

- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- Gage TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) EPA MCL is 100 ug/l and State MCL is 70 ug/L for Chlorobenzene, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) G-EW-4 and G-EW-3 sampled on 5/17/2017;
G-EW-1 on 5/18/2017, G-EW-2 on 5/16/2017.
5) Wells not included in contours: G-16, G-08 and LG-01

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

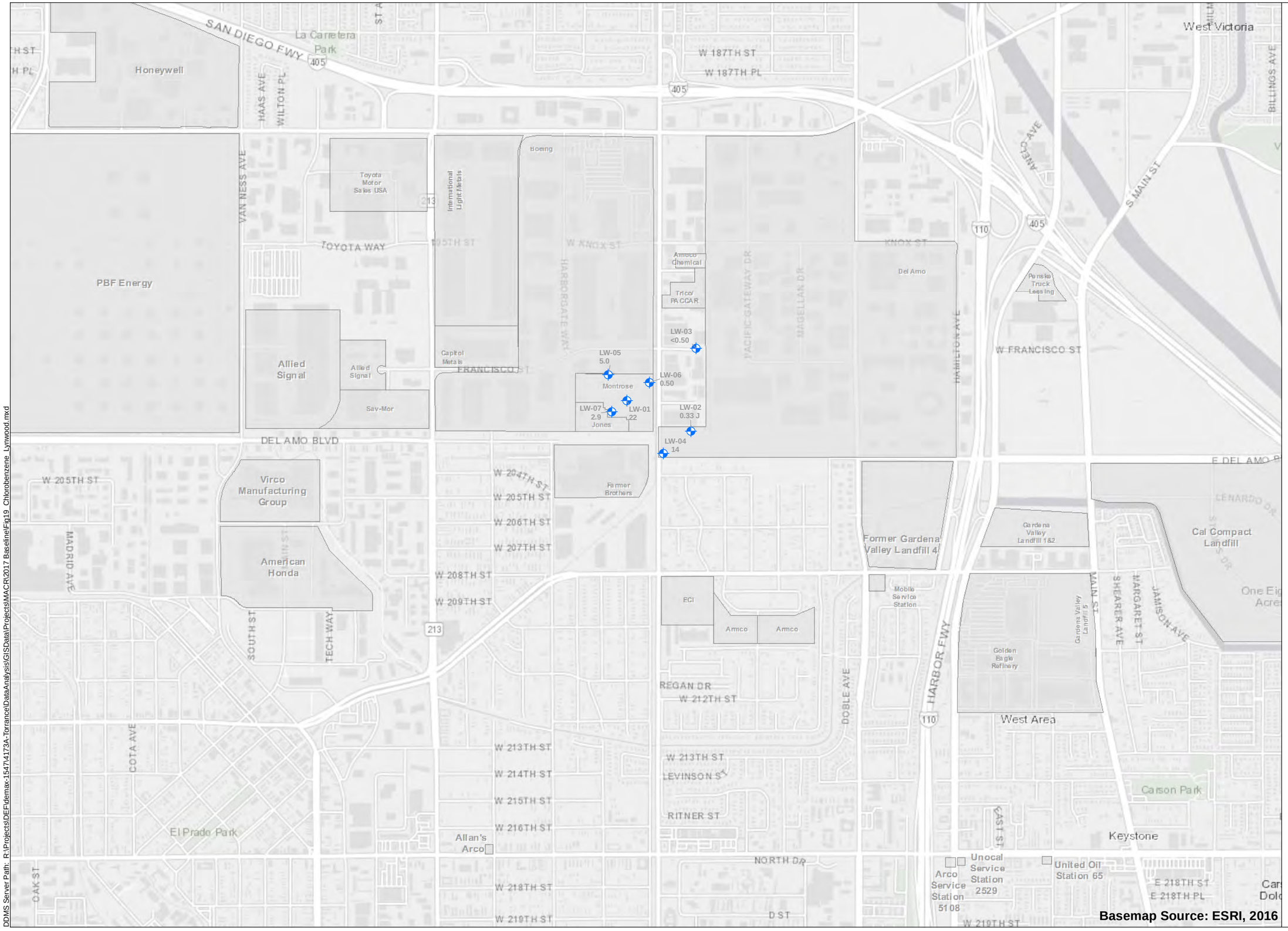
DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig18_Chlorobenzene_Gage.mxd

Figure 19

Dissolved Chlorobenzene Distribution Lynwood

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR



Notes:
1) Concentration units in ug/L
2) EPA MCL is 100 ug/l and State MCL is 70 ug/L for Chlorobenzene, Source: Montrose Superfund Site ROD (EPA, 1999)

N

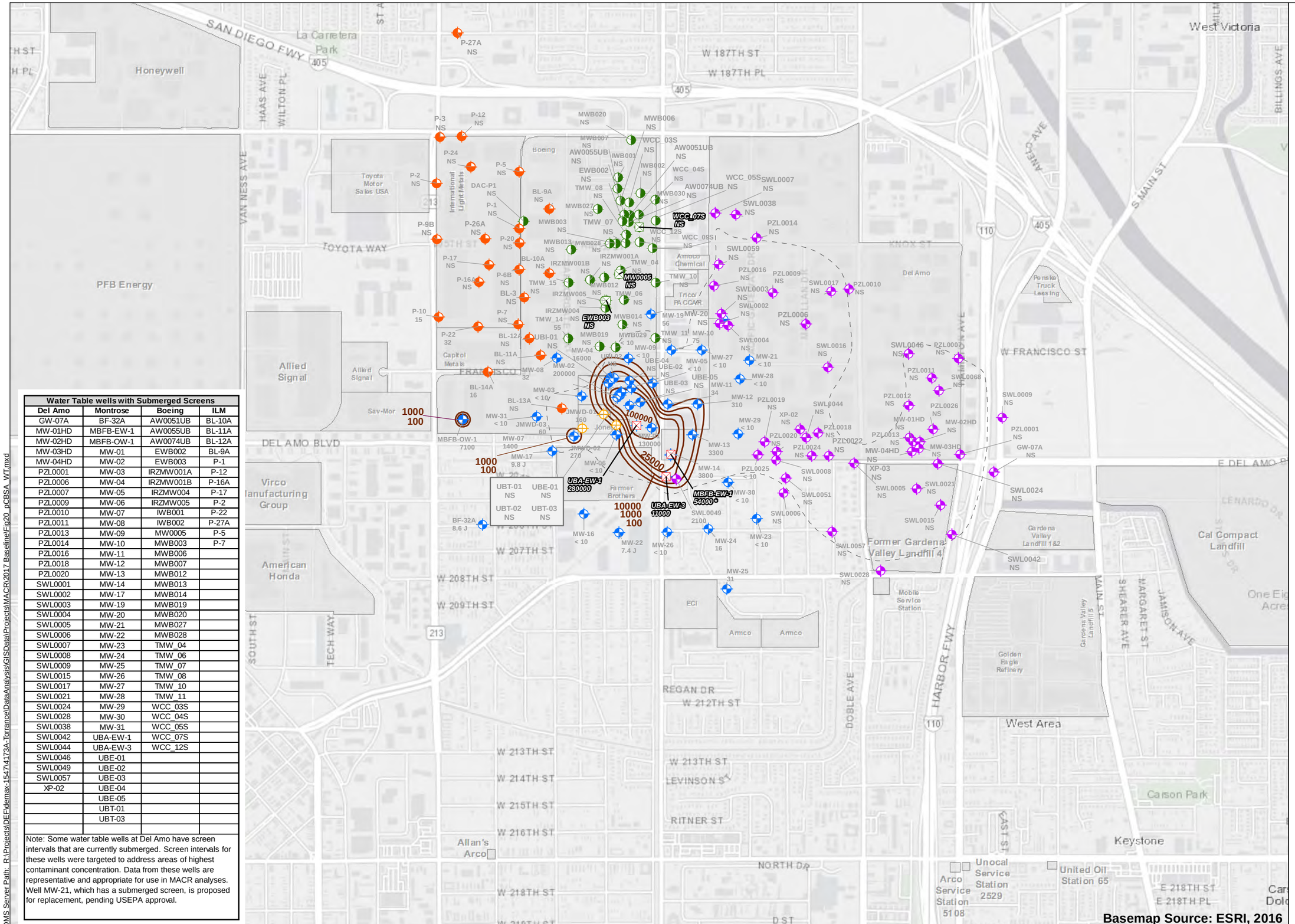
0 600 1,200 Feet

1 inch = 1,200 feet

Basemap Source: ESRI, 2016

Figure generated by ddms

DDMS Server Path: R:\Projects\DEF\demax-15471\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig19_Chlorobenzene_Lynwood.mxd



Water Table wells with Submerged Screens			
Del Amo	Montrose	Boeing	ILM
GW-07A	BF-32A	AW0051UB	BL-10A
MW-01HD	MBFB-EW-1	AW0055UB	BL-11A
MW-02HD	MBFB-OW-1	AW0074UB	BL-12A
MW-03HD	MW-01	EWB002	BL-9A
MW-04HD	MW-02	EWB003	P-1
PZL0001	MW-03	IRZMW001A	P-12
PZL0006	MW-04	IRZMW001B	P-16A
PZL0007	MW-05	IRZMW004	P-17
PZL0009	MW-06	IRZMW005	P-2
PZL0010	MW-07	IWB001	P-22
PZL0011	MW-08	IWB002	P-27A
PZL0013	MW-09	MW0005	P-5
PZL0014	MW-10	MWB003	P-7
PZL0016	MW-11	MWB006	
PZL0018	MW-12	MWB007	
PZL0020	MW-13	MWB012	
SWL0001	MW-14	MWB013	
SWL0002	MW-17	MWB014	
SWL0003	MW-19	MWB019	
SWL0004	MW-20	MWB020	
SWL0005	MW-21	MWB027	
SWL0006	MW-22	MWB028	
SWL0007	MW-23	TMW_04	
SWL0008	MW-24	TMW_06	
SWL0009	MW-25	TMW_07	
SWL0015	MW-26	TMW_08	
SWL0017	MW-27	TMW_10	
SWL0021	MW-28	TMW_11	
SWL0024	MW-29	WCC_03S	
SWL0028	MW-30	WCC_04S	
SWL0038	MW-31	WCC_05S	
SWL0042	UBA-EW-1	WCC_07S	
SWL0044	UBA-EW-3	WCC_12S	
SWL0046	UBE-01		
SWL0049	UBE-02		
SWL0057	UBE-03		
XP-02	UBE-04		
	UBE-05		
	UBT-01		
	UBT-03		

Note: Some water table wells at Del Amo have screen intervals that are currently submerged. Screen intervals for these wells were targeted to address areas of highest contaminant concentration. Data from these wells are representative and appropriate for use in MACR analyses. Well MW-21, which has a submerged screen, is proposed for replacement, pending USEPA approval.

Figure 20

Dissolved pCBSA Distribution Water Table

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- pCBSA Contour (dashed where inferred)
- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- Water Table TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) EPA MCL injection limit is 25,000 ug/L for pCBSA, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) UBA-EW-1 sampled 5/17/2017 and UBA-EW-3 sampled 5/18/2017
6) Wells not included in contours: MW-14

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

DDMS Server Path: R:\Projects\DER\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig20_pCBSA_WT.mxd

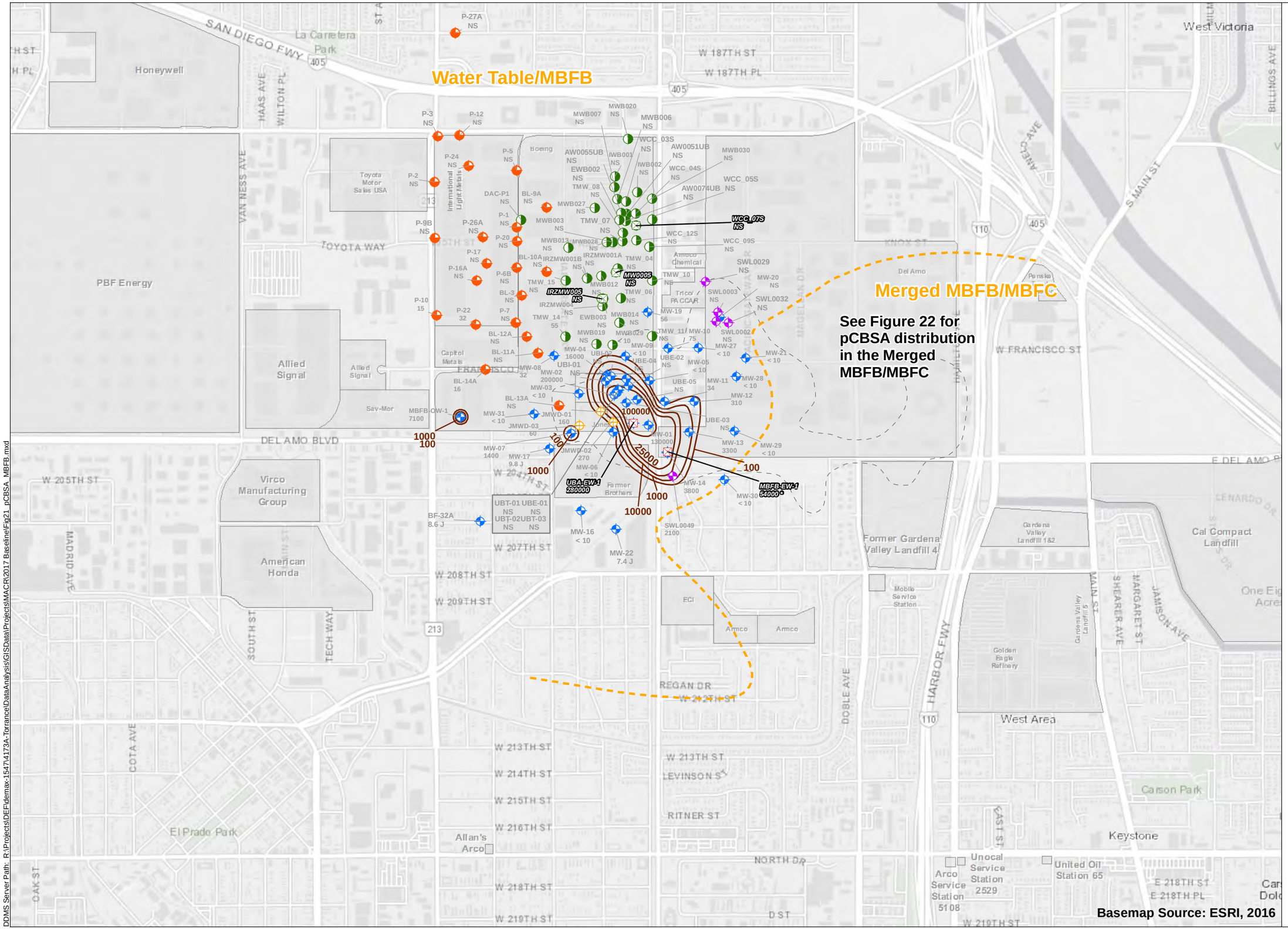


Figure 21

Dissolved pCBSA Distribution MBFB

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- pCBSA Contour (dashed where inferred)
- Demarcation line designating eastern limit of the MBF Mud that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the MBF.
- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- MBFB TI Waiver Zone
- Facility as Labeled

Notes:

1) Concentration units in ug/L
2) EPA MCL injection limit is 25,000 ug/L for pCBSA, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) UBA-EW-1 sampled 5/17/2017
6) Wells not included in contours: MW-14

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig21_pCBSA_MBFB.mxd

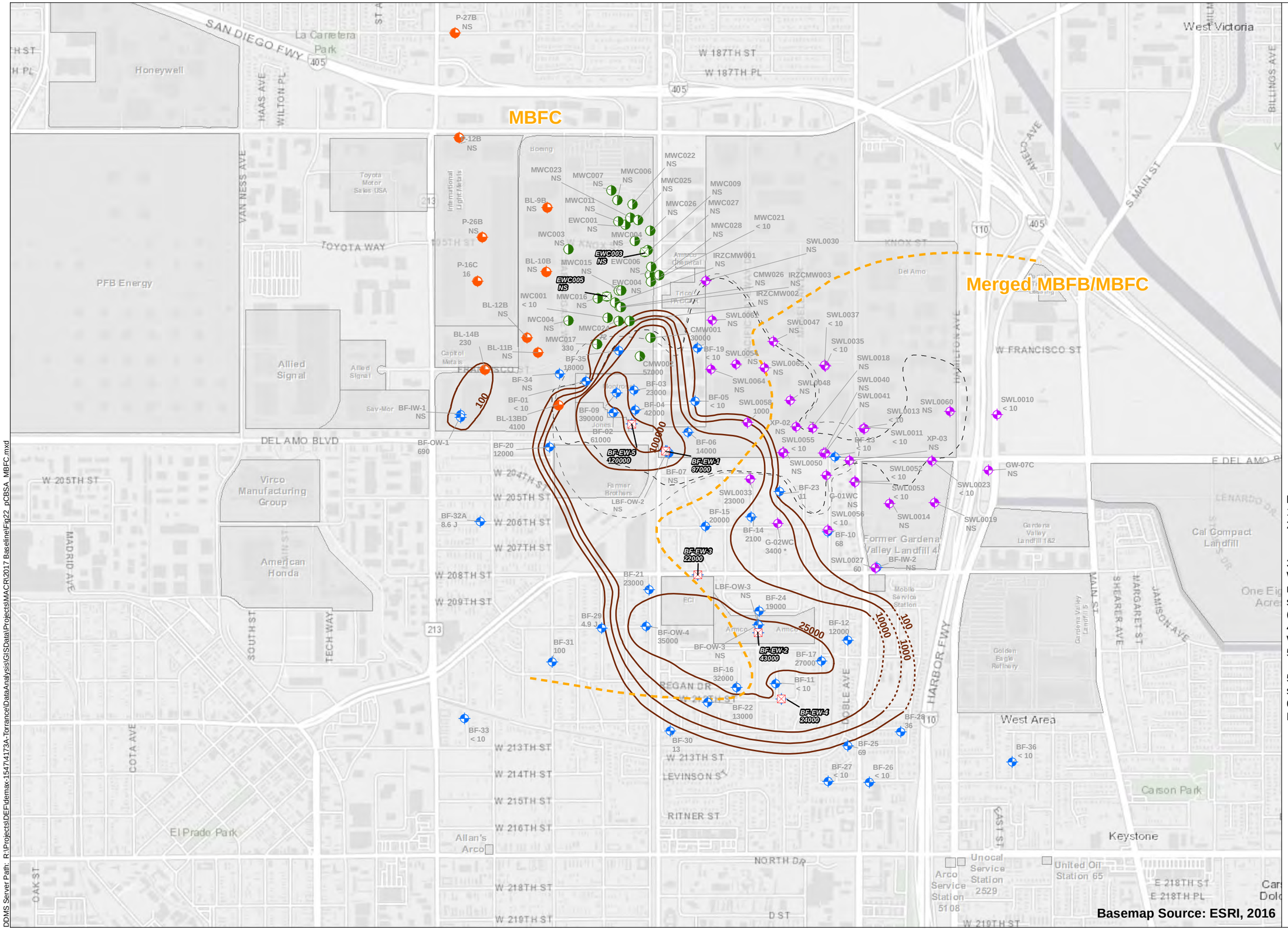


Figure 22

Dissolved pCBSA Distribution MBFC / Merged MBFB/MBFC

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- pCBSA Contour (dashed where inferred)
- Demarcation line designating eastern limit of the MBF Mud that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the MBF.
- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- Boeing Extraction Well
- MBFC TI Waiver Zone
- MBFB TI Waiver Zone
- Facility as Labeled

Notes:

1) Concentration units in ug/L
2) EPA MCL injection limit is 25,000 ug/L for pCBSA, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) BF-EW-2 sampled on 5/16/2017; BF-EW-4 and BF-EW-3 sampled on 5/18/2017; BF-EW-5 and BF-EW-1 sampled on 5/17/2017.
6) Wells not included in contours: BF-11

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig22_pCBSA_MBFC.mxd

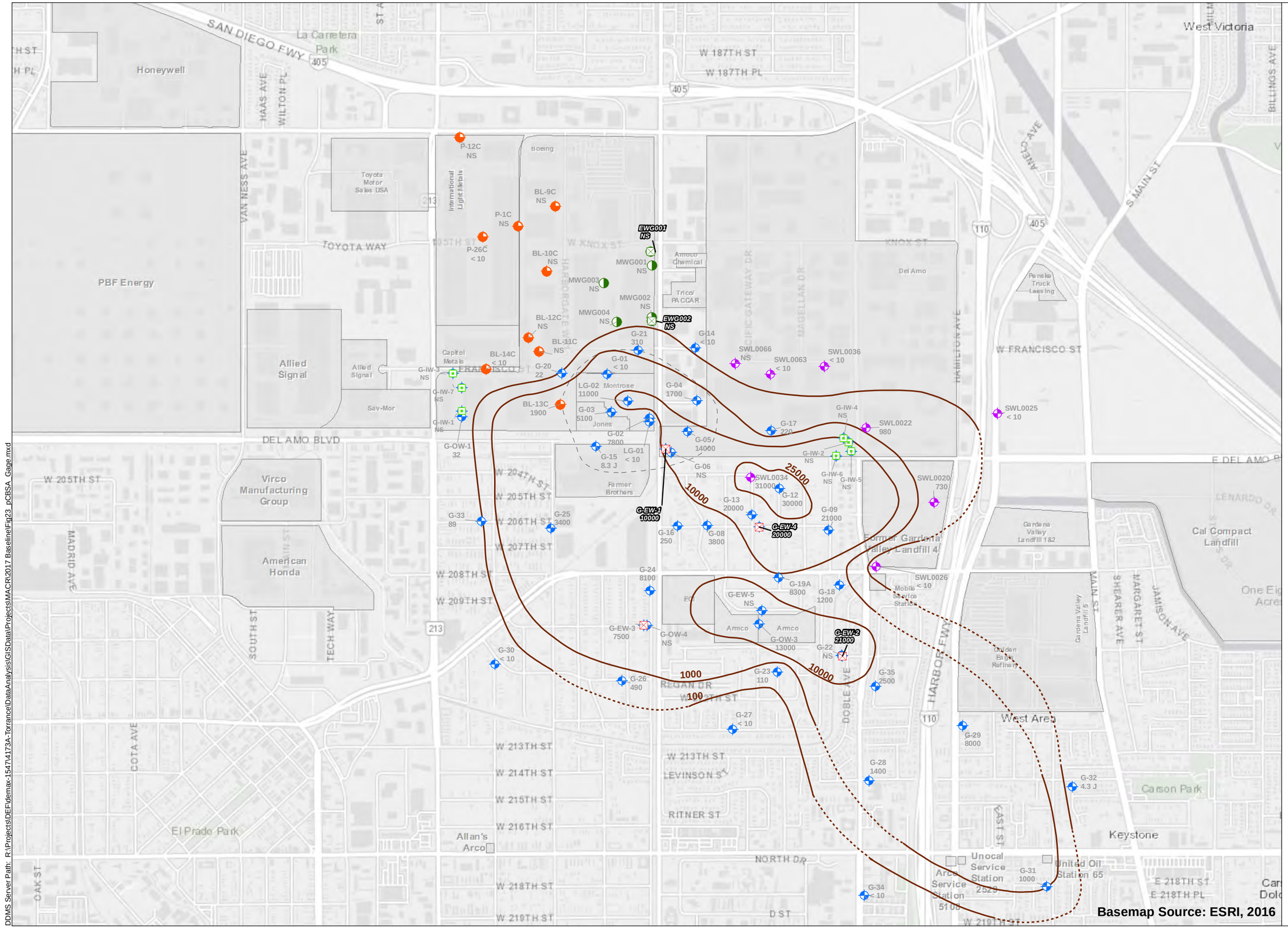


Figure 23

Dissolved pCBSA Distribution Gage

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- pCBSA Contour (dashed where inferred)
- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- Gage TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) EPA MCL injection limit is 25,000 ug/L for pCBSA, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) G-EW-4 and G-EW-3 sampled on 5/17/2017; G-EW-1on 5/18/2017, G-EW-2 on 5/16/2017.
5) Wells not included in contours: G-01, G-15, and LG-01.

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GIS\Data\Projects\MACR\2017 Baseline\Fig23_pCBSA_Gage.mxd

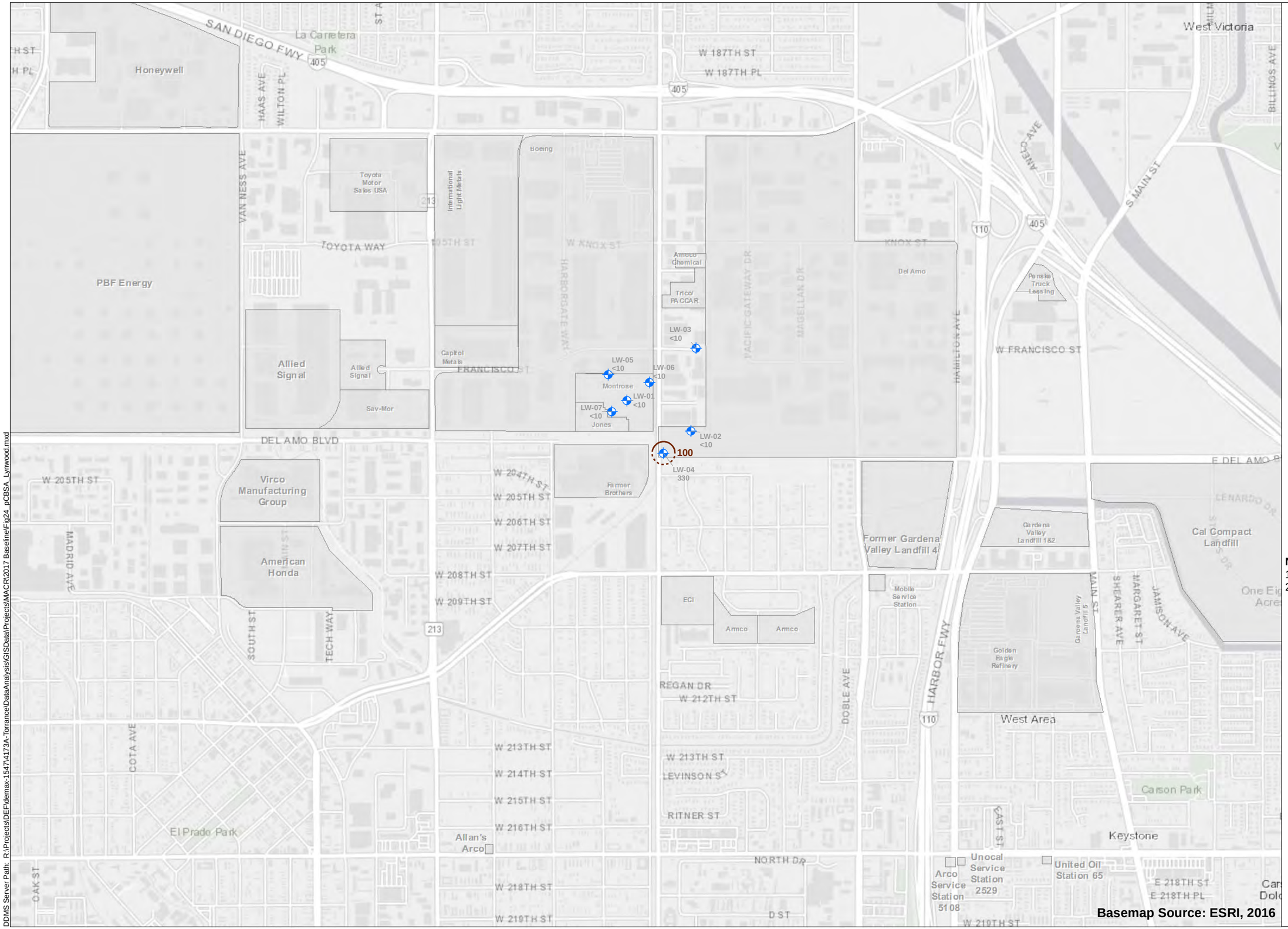


Figure 24

Dissolved pCBSA Distribution Lynwood

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

pCBSA Contour (dashed where inferred)

Montrose Well Result

Facility as Labeled

Notes:
1) Concentration units in ug/L
2) EPA MCL injection limit is 25,000 ug/L for pCBSA, Source: Montrose Superfund Site ROD (EPA, 1999)

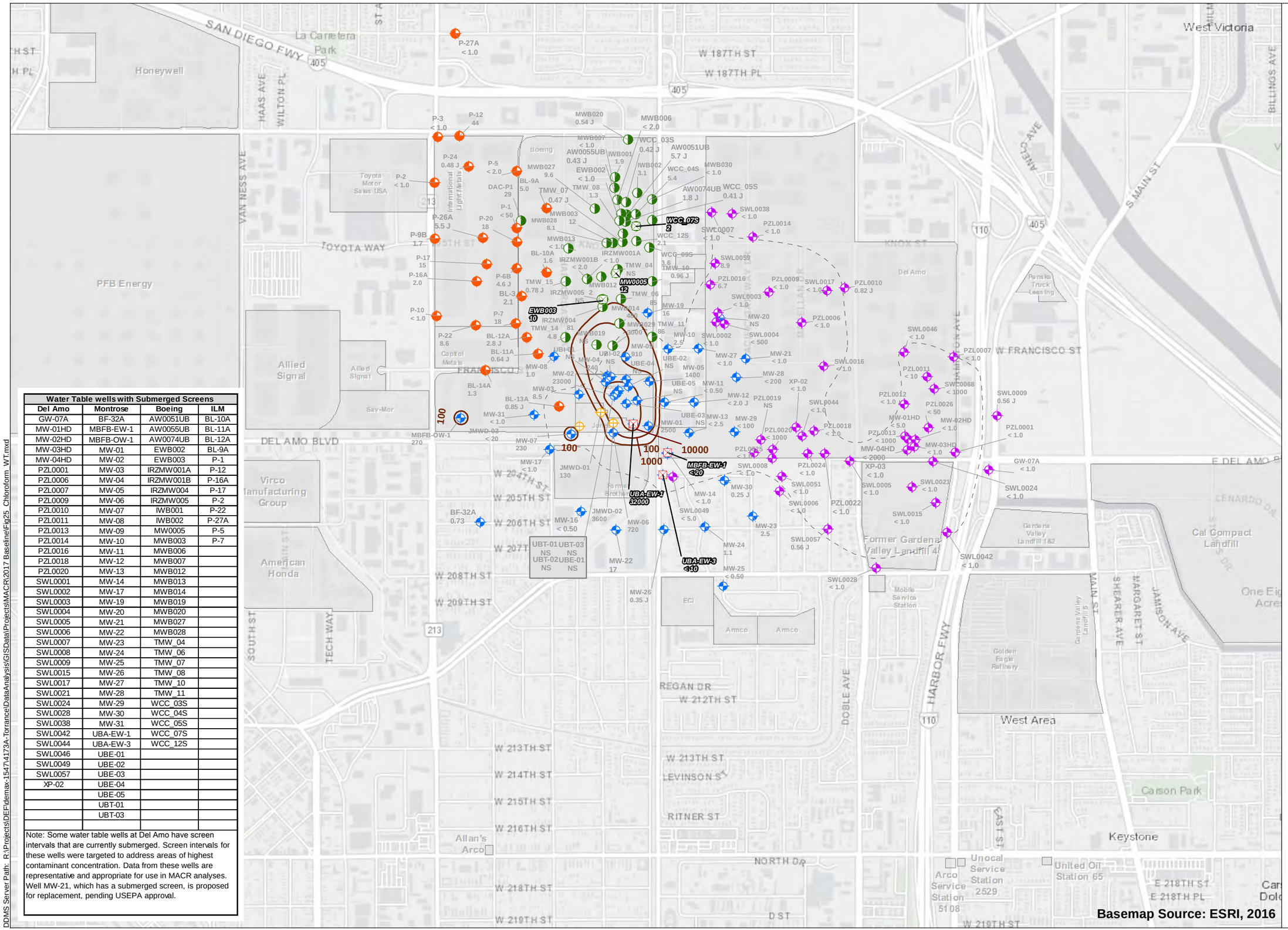
N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig24_pCBSA_Lynwood.mxd



Water Table wells with Submerged Screens			
Del Amo	Montrose	Boeing	ILM
GW-07A	BF-32A	AW0051UB	BL-10A
MW-01HD	MBFB-EW-1	AW0055UB	BL-11A
MW-02HD	MBFB-OW-1	AW0074UB	BL-12A
MW-03HD	MW-01	EWB002	BL-9A
MW-04HD	MW-02	EWB003	P-1
PZL0001	MW-03	IRZMW001A	P-12
PZL0006	MW-04	IRZMW001B	P-16A
PZL0007	MW-05	IRZMW004	P-17
PZL0009	MW-06	IRZMW005	P-2
PZL0010	MW-07	IWB001	P-22
PZL0011	MW-08	IWB002	P-27A
PZL0013	MW-09	MW0005	P-5
PZL0014	MW-10	MWB003	P-7
PZL0016	MW-11	MWB006	
PZL0018	MW-12	MWB007	
PZL0020	MW-13	MWB012	
SWL0001	MW-14	MWB013	
SWL0002	MW-17	MWB014	
SWL0003	MW-19	MWB019	
SWL0004	MW-20	MWB020	
SWL0005	MW-21	MWB027	
SWL0006	MW-22	MWB028	
SWL0007	MW-23	TMW_04	
SWL0008	MW-24	TMW_06	
SWL0009	MW-25	TMW_07	
SWL0015	MW-26	TMW_08	
SWL0017	MW-27	TMW_10	
SWL0021	MW-28	TMW_11	
SWL0024	MW-29	WCC_03S	
SWL0028	MW-30	WCC_04S	
SWL0038	MW-31	WCC_05S	
SWL0042	UBA-EW-1	WCC_07S	
SWL0044	UBA-EW-3	WCC_12S	
SWL0046	UBE-01		
SWL0049	UBE-02		
SWL0057	UBE-03		
XP-02	UBE-04		
	UBE-05		
	UBT-01		
	UBT-03		

Note: Some water table wells at Del Amo have screen intervals that are currently submerged. Screen intervals for these wells were targeted to address areas of highest contaminant concentration. Data from these wells are representative and appropriate for use in MACR analyses. Well MW-21, which has a submerged screen, is proposed for replacement, pending USEPA approval.

Figure 25

Dissolved Chloroform Distribution Water Table

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Chloroform Contour (dashed where inferred)
- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- Water Table TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) EPA MCL and State MCL is 100 ug/L for Chloroform, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) UBA-EW-1 sampled 5/17/2017 and UBA-EW-3 sampled 5/18/2017
6) Wells not included in contours: MW-24

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

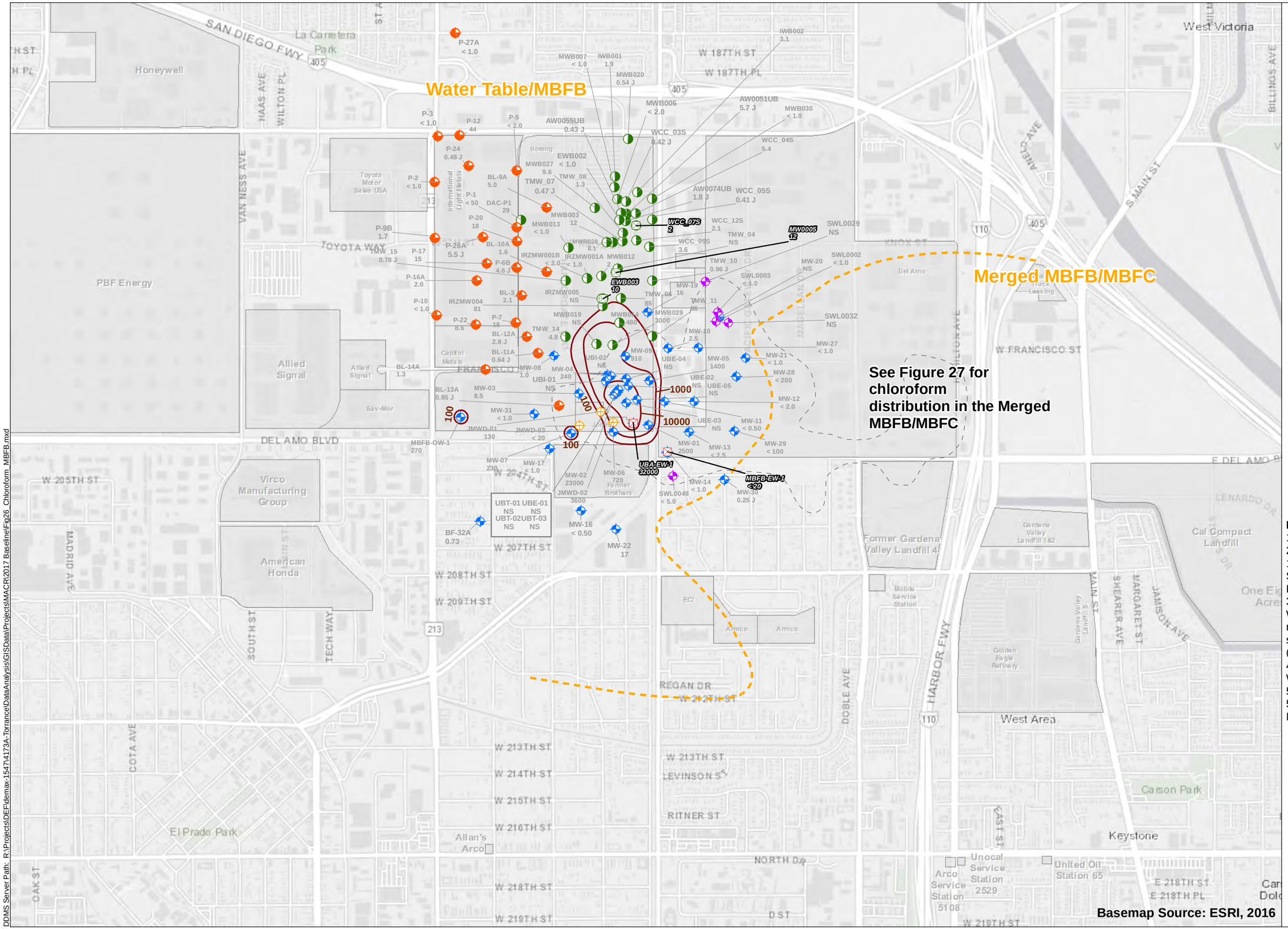
DDMS Server Path: R:\Projects\DER\demax-1547\4173A-Torrance\DataAnalysis\GIS\Data\Projects\MACR\2017 Baseline\Fig25_Chloroform_WT.mxd

Figure 26

Dissolved Chloroform Distribution MBFB

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR



- Chloroform Contour (dashed where inferred)
- Demarcation line designating eastern limit of the MBF Mud that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the MBF.
- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- MBFB TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) EPA MCL and State MCL is 100 ug/L for Chloroform, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) UBA-EW-1 sampled 5/17/2017
5) Wells not included in contours: MW-04

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GIS\Data\Projects\MACR\2017 Baseline\Fig26_Chloroform_MBFB.mxd

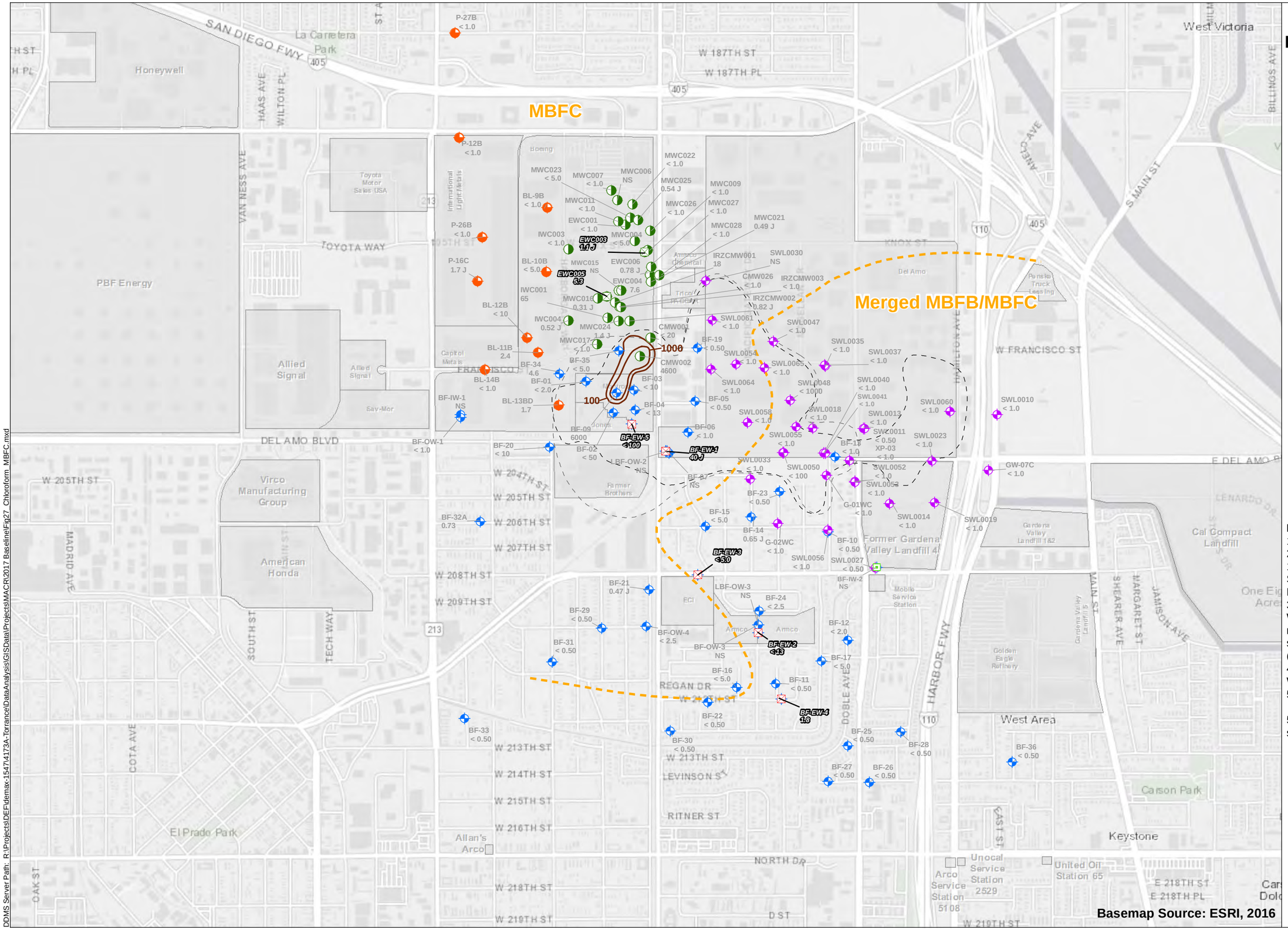


Figure 27

Dissolved Chloroform Distribution MBFC / Merged MBFB/MBFC

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Chloroform Contour (dashed where inferred)
- Demarcation line designating eastern limit of the MBF Mud that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the MBF.
- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- TGRS Injection Well
- TGRS Extraction Well
- Boeing Extraction Well
- TGRS_Extraction_MBFC
- MBFC TI Waiver Zone
- MBFB TI Waiver Zone
- Facility as Labeled

Notes:

1) Concentration units in ug/L
2) EPA MCL and State MCL is 100 ug/L for Chloroform, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) BF-EW-2 sampled on 5/16/2017; BF-EW-4 and BF-EW-3 sampled on 5/18/2017; BF-EW-5 and BF-EW-1 sampled on 5/17/2017.

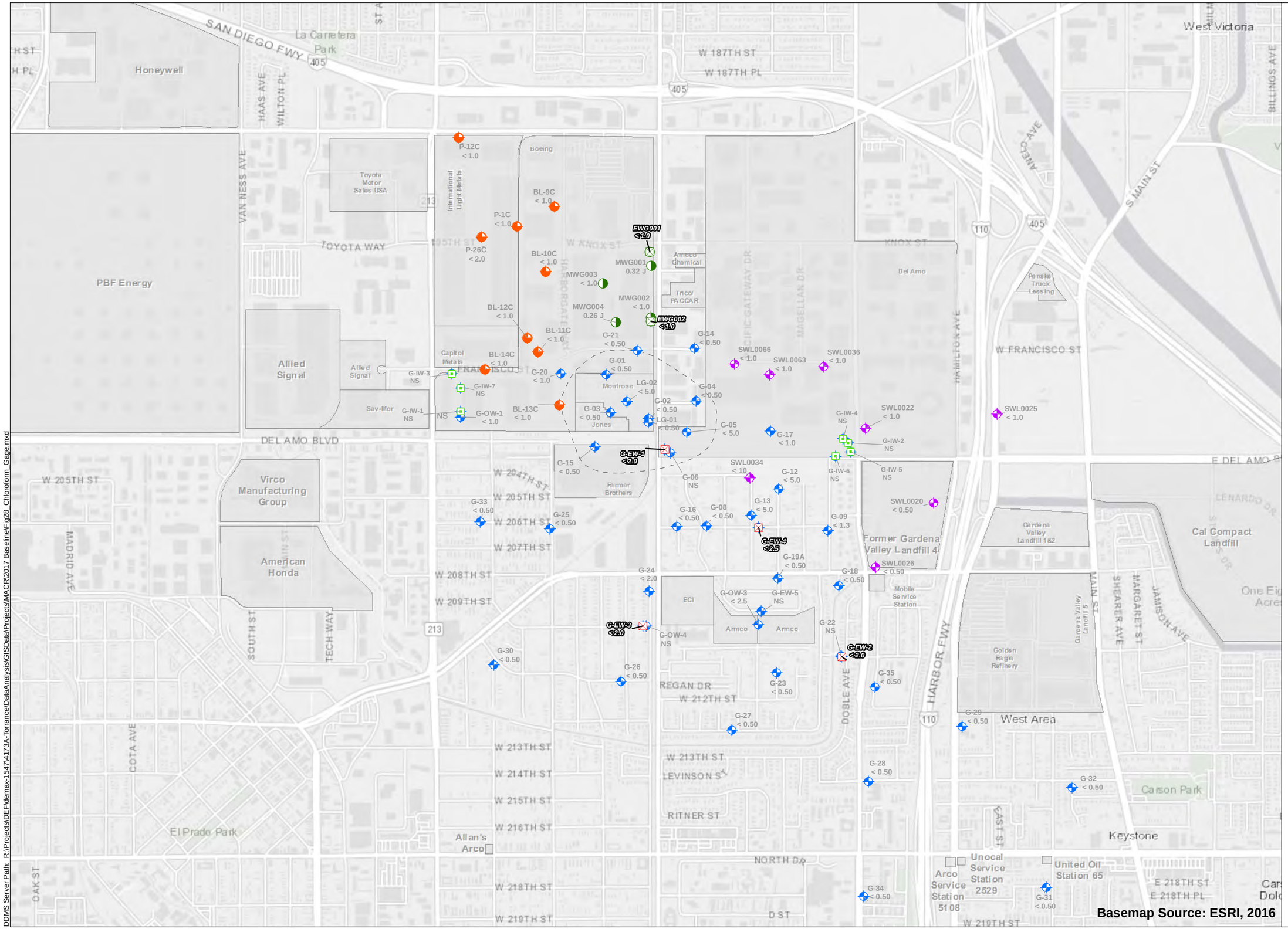
N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig27_Chloroform_MBFC.mxd



Basemap Source: ESRI, 2016

Figure 28

Dissolved Chlorofom Distribution Gage

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- Gage TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) EPA MCL and State MCL is 100 ug/L for Chloroform, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) G-EW-4 and G-EW-3 sampled on 5/17/2017;
G-EW-1on 5/18/2017, G-EW-2 on 5/16/2017.

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig28_Chloroform_Gage.mxd

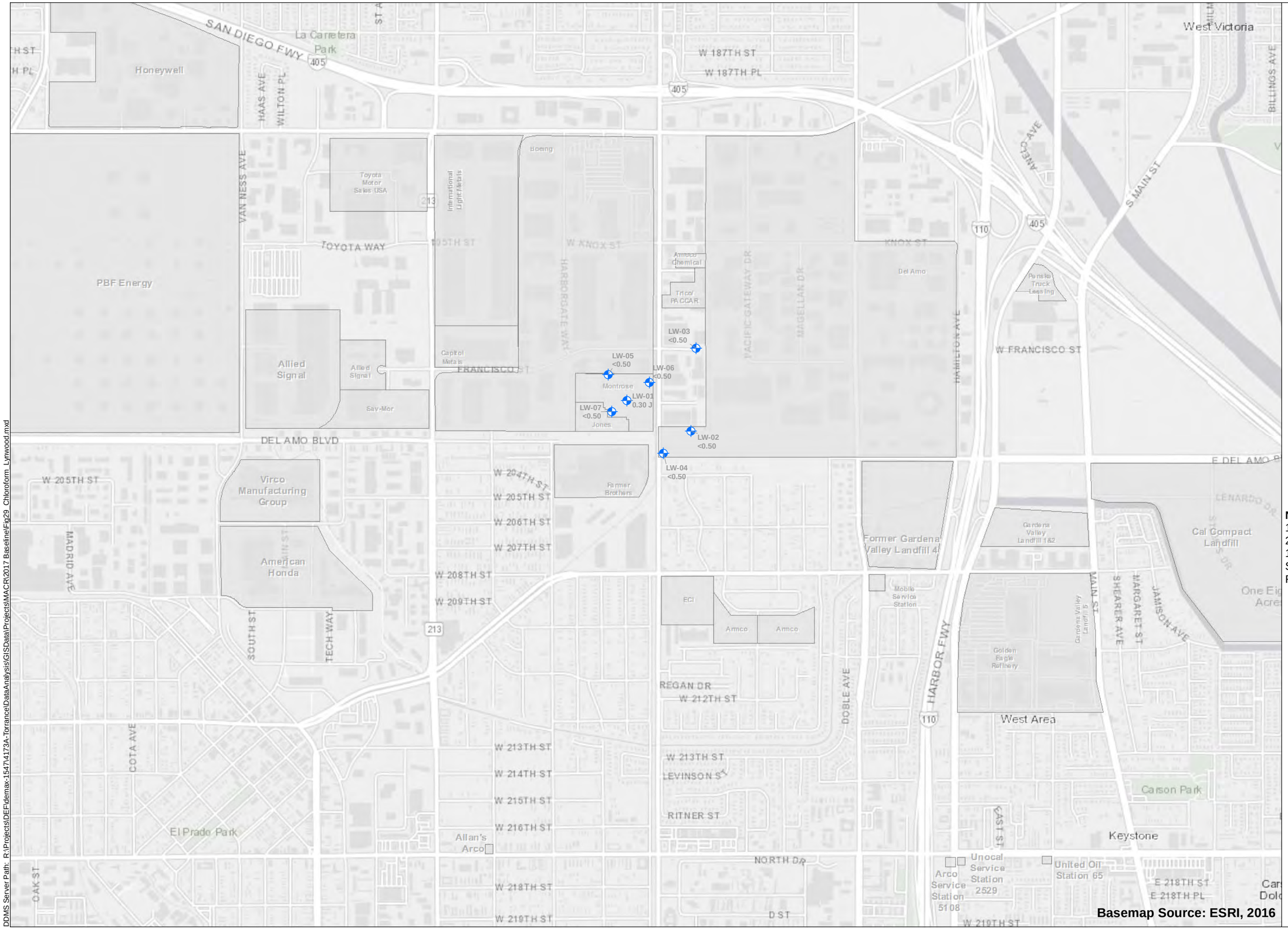


Figure 29

Dissolved Chloroform Distribution Lynwood

Dual Site Groundwater Operable Unit
Los Angeles, California

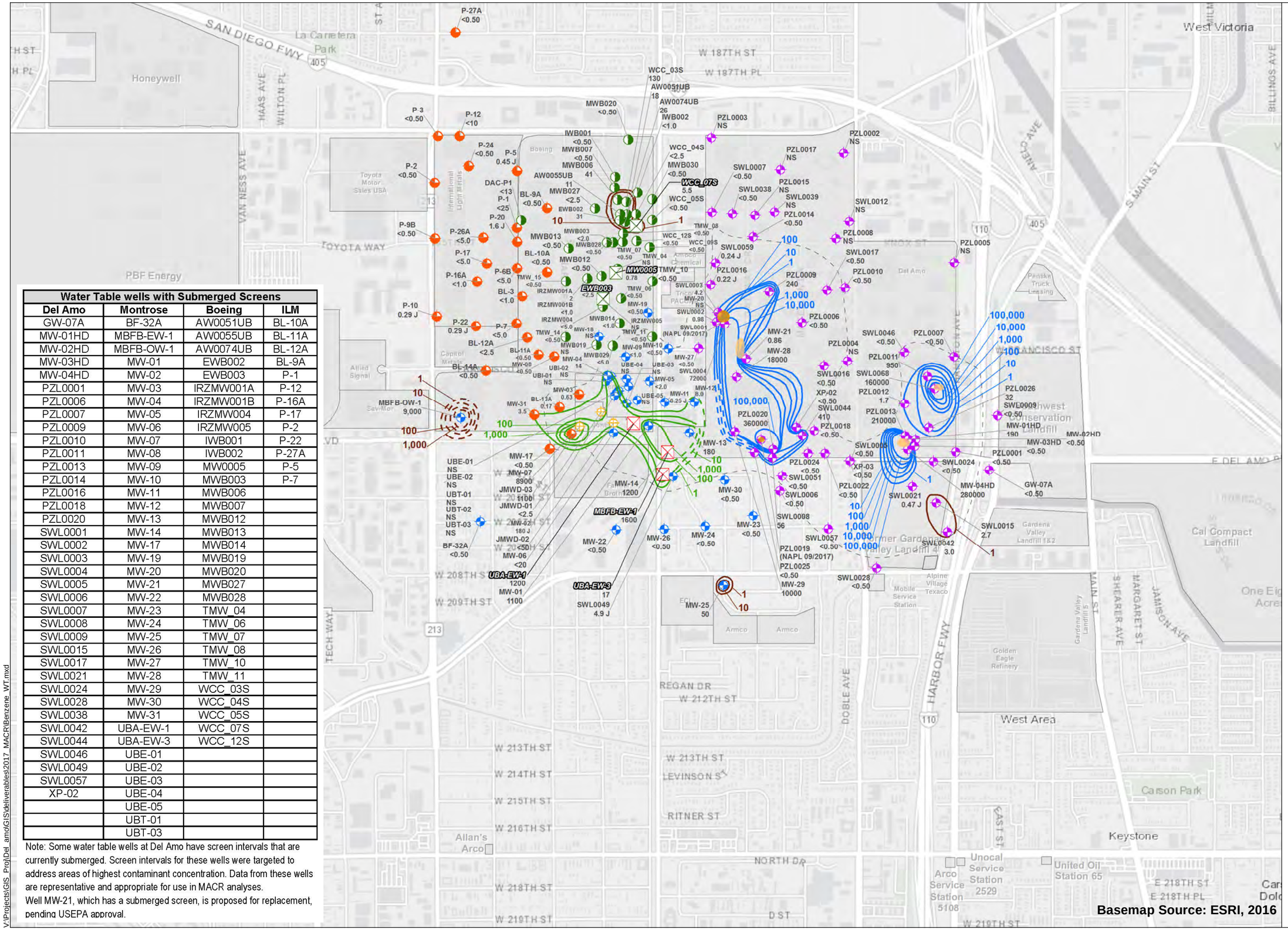
2017 Baseline MACR

Montrose Well Result
Facility as Labeled

Notes:
1) Concentration units in ug/L
2) EPA MCL and State MCL is 100 ug/L for Chloroform,
Source: Montrose Superfund Site ROD (EPA, 1999)

Figure generated by ddms

DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig29_Chloroform_Lynwood.mxd



Water Table wells with Submerged Screens			
Del Amo	**Montrose**	**Boeing**	**ILM**
GW-07A	BF-32A	AW0051UB	BL-10A
MW-01HD	MBFB-EW-1	AW0055UB	BL-11A
MW-02HD	MBFB-OW-1	AW0074UB	BL-12A
MW-03HD	MW-01	EWB002	BL-9A
MW-04HD	MW-02	EWB003	P-1
PZL0001	MW-03	IRZMW001A	P-12
PZL0006	MW-04	IRZMW001B	P-16A
PZL0007	MW-05	IRZMW004	P-17
PZL0009	MW-06	IRZMW005	P-2
PZL0010	MW-07	IWB001	P-22
PZL0011	MW-08	IWB002	P-27A
PZL0013	MW-09	MW0005	P-5
PZL0014	MW-10	MWB003	P-7
PZL0016	MW-11	MWB006	
PZL0018	MW-12	MWB007	
PZL0020	MW-13	MWB012	
SWL0001	MW-14	MWB013	
SWL0002	MW-17	MWB014	
SWL0003	MW-19	MWB019	
SWL0004	MW-20	MWB020	
SWL0005	MW-21	MWB027	
SWL0006	MW-22	MWB028	
SWL0007	MW-23	TMW_04	
SWL0008	MW-24	TMW_06	
SWL0009	MW-25	TMW_07	
SWL0015	MW-26	TMW_08	
SWL0017	MW-27	TMW_10	
SWL0021	MW-28	TMW_11	
SWL0024	MW-29	WCC_03S	
SWL0028	MW-30	WCC_04S	
SWL0038	MW-31	WCC_05S	
SWL0042	UBA-EW-1	WCC_07S	
SWL0044	UBA-EW-3	WCC_12S	
SWL0046	UBE-01		
SWL0049	UBE-02		
SWL0057	UBE-03		
XP-02	UBE-04		
	UBE-05		
	UBT-01		
	UBT-03		

Note: Some water table wells at Del Amo have screen intervals that are currently submerged. Screen intervals for these wells were targeted to address areas of highest contaminant concentration. Data from these wells are representative and appropriate for use in MACR analyses.
Well MW-21, which has a submerged screen, is proposed for replacement, pending USEPA approval.

Figure 30

Dissolved Benzene Distribution Water Table

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Benzene isoconcentration line within the benzene plume (Isoconcentration lines dashed where inferred)
- Benzene isoconcentration line within the chlorobenzene plume (Isoconcentration lines dashed where inferred)
- Benzene isoconcentration line for a plume not within the dual site (Isoconcentration lines dashed where inferred)
- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- TGRS Extraction Well
- Boeing Extraction Well
- TGRS Injection Well
- Area where NAPL has been observed at residual saturations, but has not accumulated within a water table monitoring well
- Area where visible NAPL accumulations occur within one or more water table monitoring wells
- Water Table TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) BF-32A is screened from the Water Table to the MBFC.
3) (NAPL 09/2017): Non-aqueous phase liquid present, and date of observation.
4) NS = Well Not Sampled
5) UBA-EW-1 sampled 5/17/2017 and UBA-EW3 sampled 5/18/2017

N

0 600 1,200 Feet

1 inch = 1,200 feet

V:\Projects\GIS_Proj\Del_amo\GIS\deliverables\2017_MACR\Benzene_WT.mxd

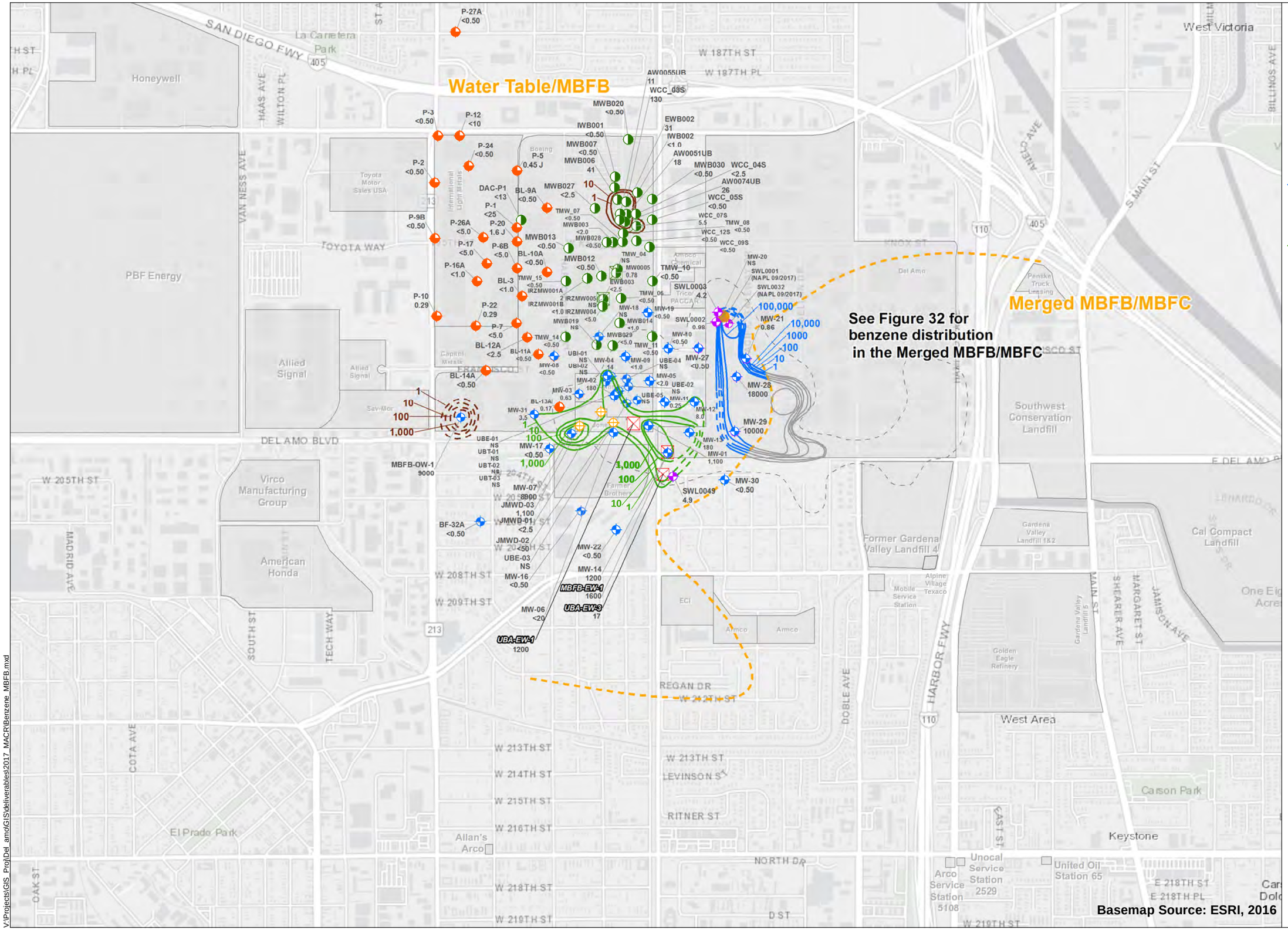


Figure 31

Dissolved Benzene Distribution MBFB

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Benzene isoconcentration line within the benzene plume (Isoconcentration lines dashed where inferred)
- Benzene isoconcentration line within the chlorobenzene plume (Isoconcentration lines dashed where inferred)
- Benzene isoconcentration line for a plume not within the dual site (Isoconcentration lines dashed where inferred)
- Demarcation line designating eastern limit of the MBFM that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the Merged MBFB/MBFC.
- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- TGRS Extraction Well
- Boeing Extraction Well
- TGRS Injection Well
- Area where visible NAPL accumulations occur within one or more water table monitoring wells
- MBFB TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) BF-32A is screened from the Water Table to the MBFC.
3) (NAPL 09/15): Non-aqueous phase liquid present, and date of observation.
4) NS = Well Not Sampled
5) UBA-EW-1 sampled 5/17/2017

N

0 600 1,200 Feet

1 inch = 1,200 feet

V:\Projects\GIS_Proj\Del_amo\GIS\deliverables\2017_MACR\Benzene_MBFB.mxd

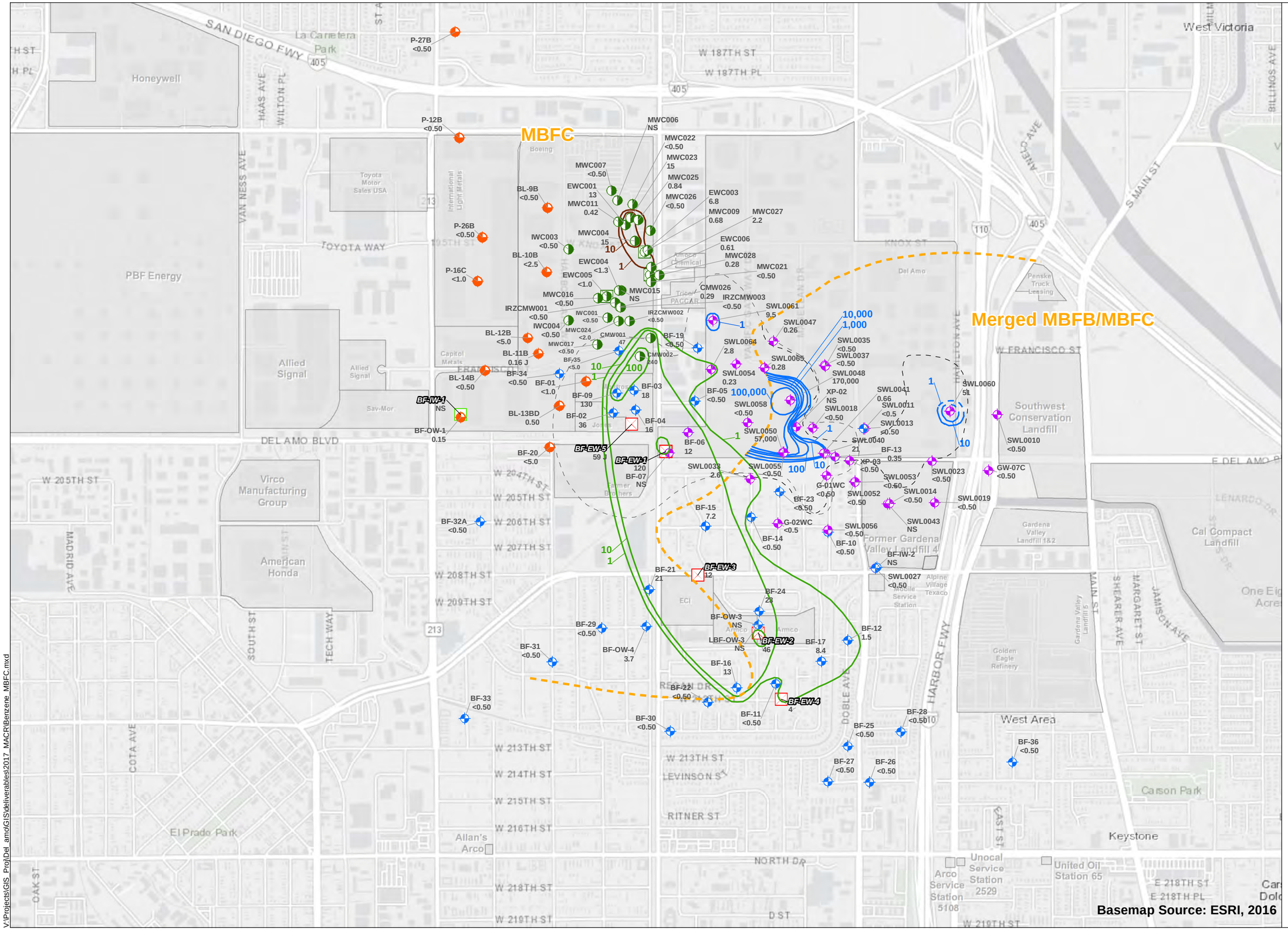


Figure 32

Dissolved Benzene Distribution MBFC / Merged MBFB/MBFC

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Benzene isoconcentration line within the benzene plume (Isoconcentration lines dashed where inferred)
- Benzene isoconcentration line within the chlorobenzene plume (Isoconcentration lines dashed where inferred)
- Benzene isoconcentration line for a plume not within the dual site (Isoconcentration lines dashed where inferred)
- Demarcation line designating eastern limit of the MBFM that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the Merged MBFB/MBFC.
- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- TGRS Extraction Well
- TGRS Injection Well
- MBFC TI Waiver Zone
- MBFB TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) BF-32A is screened from the Water Table to the MBFC.
3) NS = Well Not Sampled
4) Contours that appear to terminate at the boundary between the MBF and the MBFC are continued in MBFB on Figure 31
5) NS = Well Not Sampled
6) BF-EW-2 sampled on 5/16/2017; BF-EW-4 and BF_EW-3 sampled on 5/18/2017; BF-EW-5 and BF-EW-1 sampled on 5/17/2017

N

0 600 1,200 Feet

1 inch = 1,200 feet

Basemap Source: ESRI, 2016

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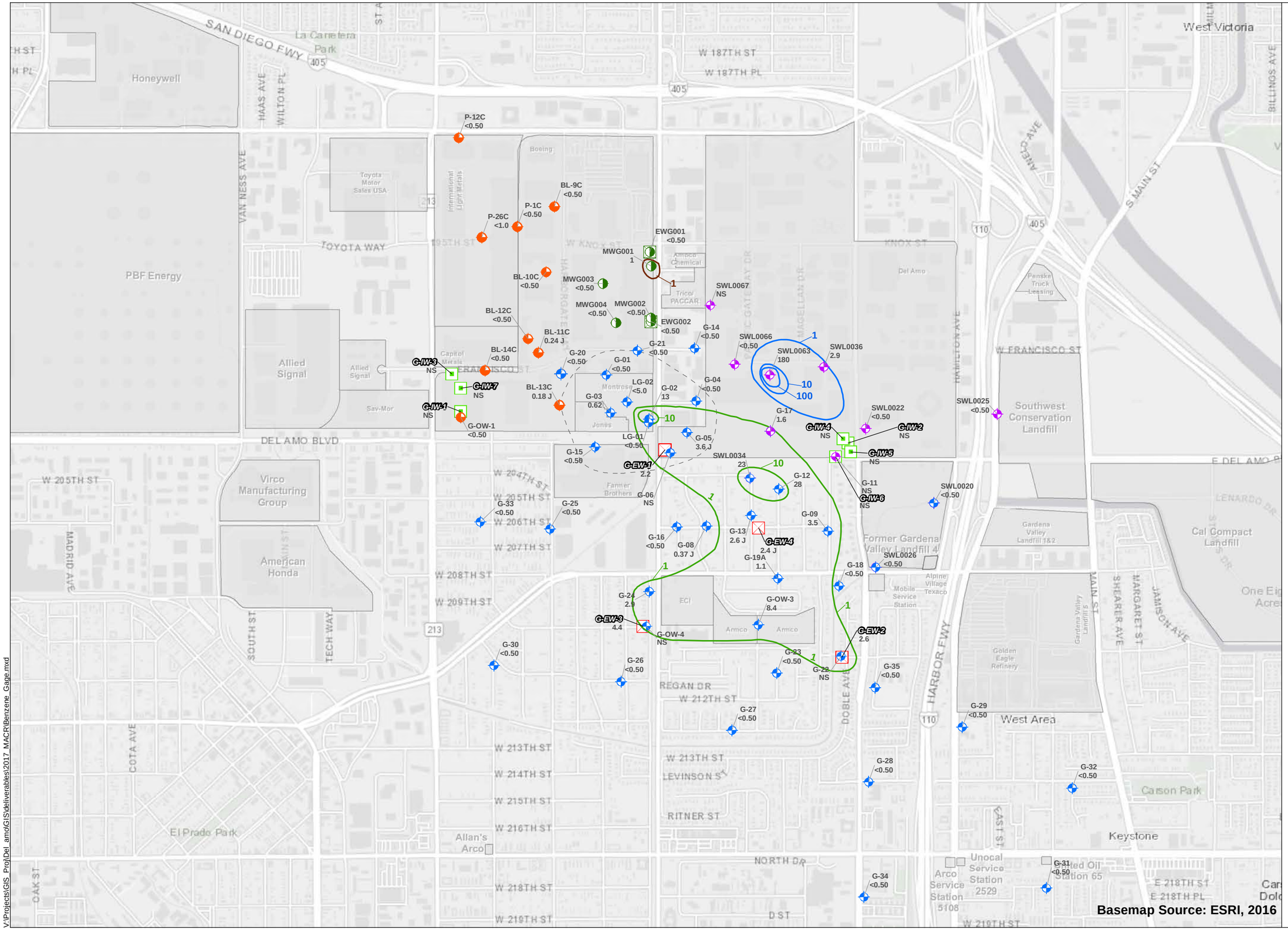

Figure 33

Dissolved Benzene Distribution Gage Aquifer

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Benzene isoconcentration line within the benzene plume (Isoconcentration lines dashed where inferred)
- Benzene isoconcentration line within the chlorobenzene plume (Isoconcentration lines dashed where inferred)
- Benzene isoconcentration line for a plume not within the dual site (Isoconcentration lines dashed where inferred)
- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- TGRS Extraction Well
- Boeing Extraction Well
- TGRS Injection Well
- Gage TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) NS = Well Not Sampled
3) G-EW-2 sampled on 5/16/2017; G-EW-3 and G-EW-4 sampled on 5/17/2017; G-EW-1 sampled on 5/18/2017

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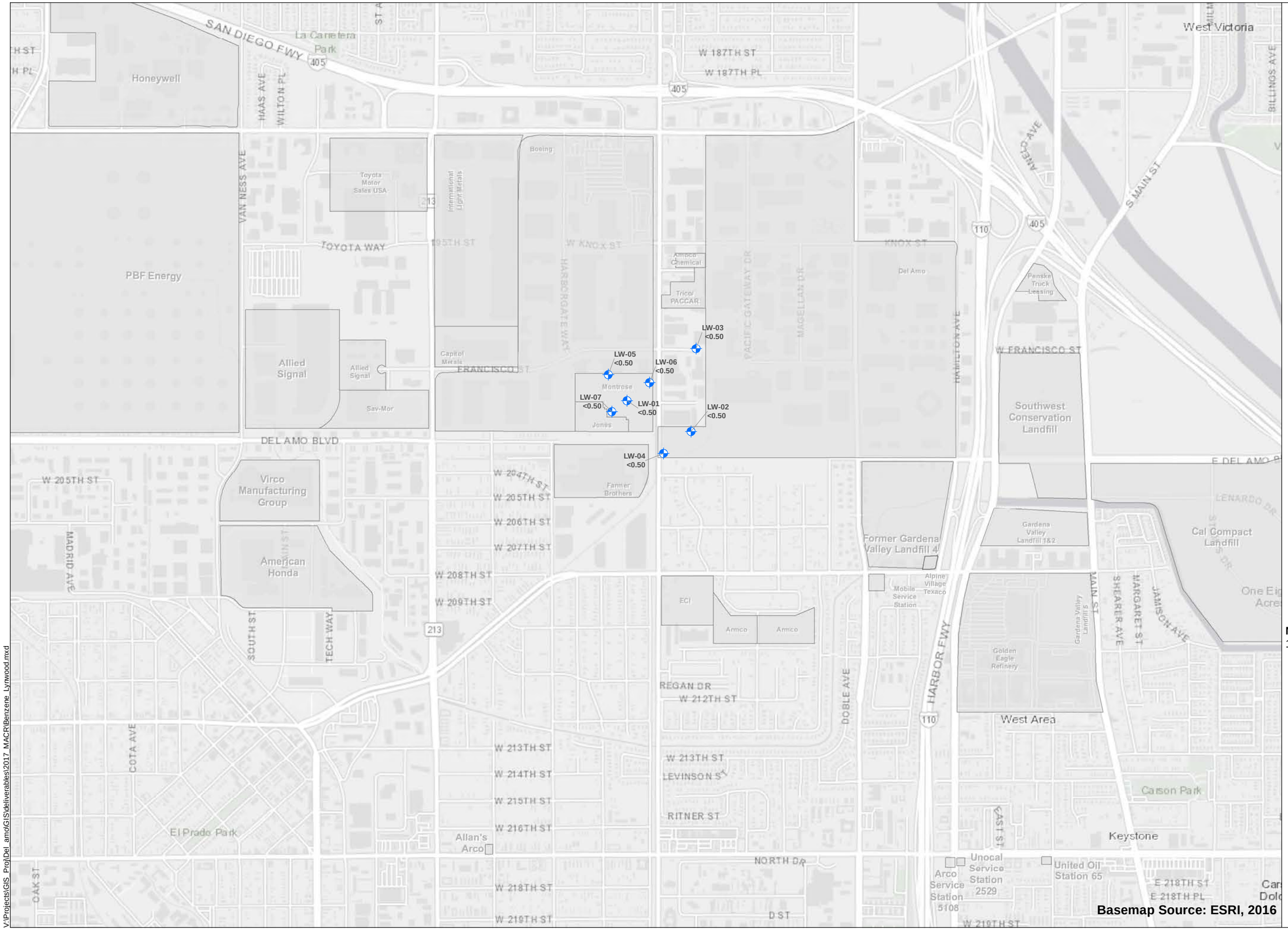
Figure 34

Dissolved Benzene Distribution Lynwood Aquifer

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR



- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- Facility as Labeled

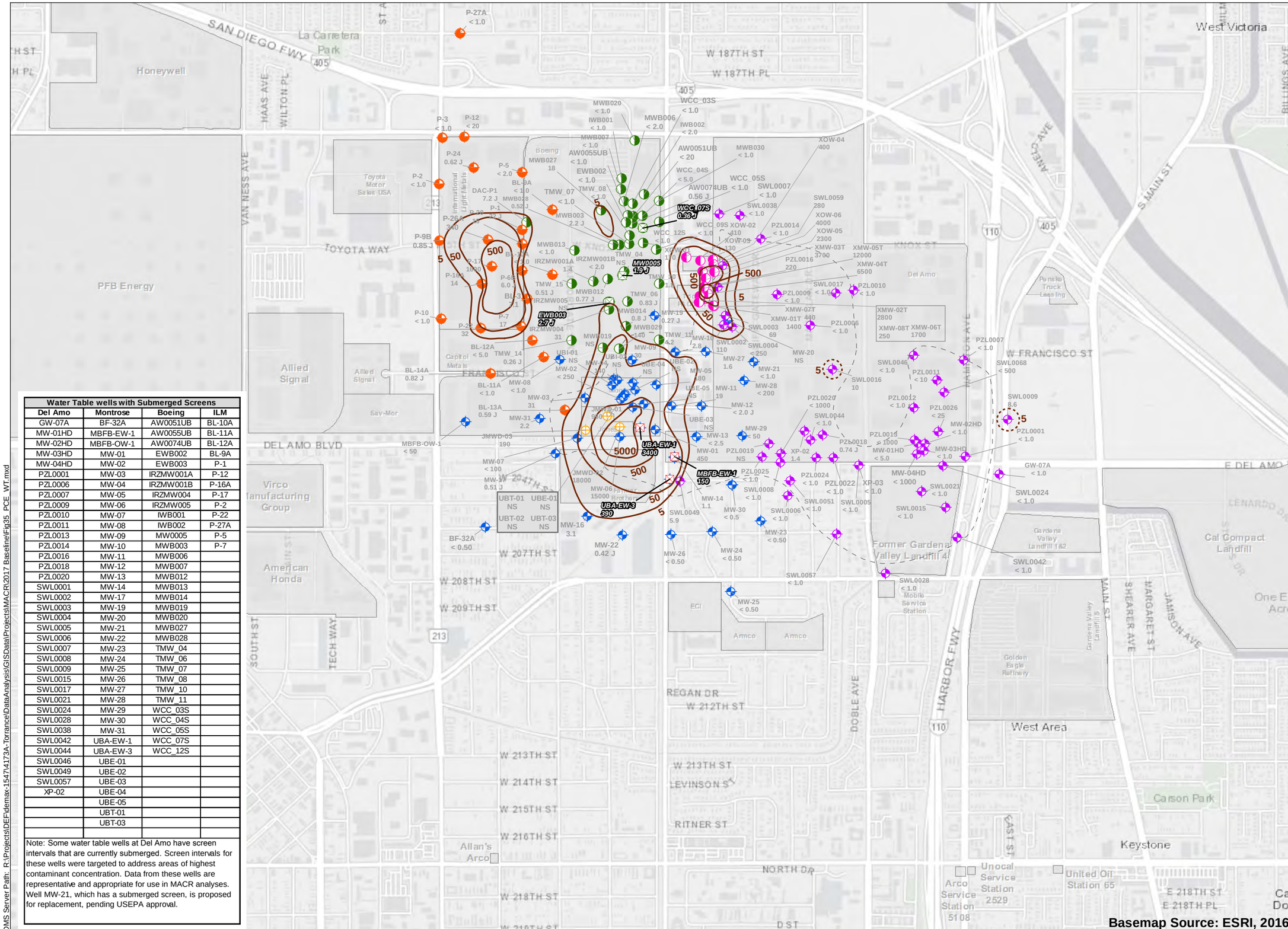
Notes:
1) Concentration units in ug/L

N

0 600 1,200 Feet

1 inch = 1,200 feet

V:\Projects\GIS_Proj\Del_amo\GIS\deliverables\2017_MACR\Benzene_Lynwood.mxd



Water Table wells with Submerged Screens			
Del Amo	Montrose	Boeing	ILM
GW-07A	BF-32A	AW0051UB	BL-10A
MW-01HD	MBFB-EW-1	AW0055UB	BL-11A
MW-02HD	MBFB-OW-1	AW0074UB	BL-12A
MW-03HD	MW-01	EWB002	BL-9A
MW-04HD	MW-02	EWB003	P-1
PZL0001	MW-03	IRZMW001A	P-12
PZL0006	MW-04	IRZMW001B	P-16A
PZL0007	MW-05	IRZMW004	P-17
PZL0009	MW-06	IRZMW005	P-2
PZL0010	MW-07	IWB001	P-22
PZL0011	MW-08	IWB002	P-27A
PZL0013	MW-09	MW0005	P-5
PZL0014	MW-10	MWB003	P-7
PZL0016	MW-11	MWB006	
PZL0018	MW-12	MWB007	
PZL0020	MW-13	MWB012	
SWL0001	MW-14	MWB013	
SWL0002	MW-17	MWB014	
SWL0003	MW-19	MWB019	
SWL0004	MW-20	MWB020	
SWL0005	MW-21	MWB027	
SWL0006	MW-22	MWB028	
SWL0007	MW-23	TMW_04	
SWL0008	MW-24	TMW_06	
SWL0009	MW-25	TMW_07	
SWL0015	MW-26	TMW_08	
SWL0017	MW-27	TMW_10	
SWL0021	MW-28	TMW_11	
SWL0024	MW-29	WCC_03S	
SWL0028	MW-30	WCC_04S	
SWL0038	MW-31	WCC_05S	
SWL0042	UBA-EW-1	WCC_07S	
SWL0044	UBA-EW-3	WCC_12S	
SWL0046	UBE-01		
SWL0049	UBE-02		
SWL0057	UBE-03		
XP-02	UBE-04		
	UBE-05		
	UBT-01		
	UBT-03		

Note: Some water table wells at Del Amo have screen intervals that are currently submerged. Screen intervals for these wells were targeted to address areas of highest contaminant concentration. Data from these wells are representative and appropriate for use in MACR analyses. Well MW-21, which has a submerged screen, is proposed for replacement, pending USEPA approval.

Figure 35

Dissolved Tetrachloroethene Distribution Water Table

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Tetrachloroethene Contour (dashed where inferred)
- Montrose Well Result
- Del Amo Well Result
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- Amoco/Former Trico Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- Water Table TI Waiver Zone
- Facility as Labeled

Notes:

1) Concentration units in ug/L
2) EPA MCL and State MCL is 5 ug/L for Tetrachloroethene, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) UBA-EW-1 sampled 5/17/2017 and UBA-EW-3 sampled 5/18/2017
6) Wells not used in contours: MW-14

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

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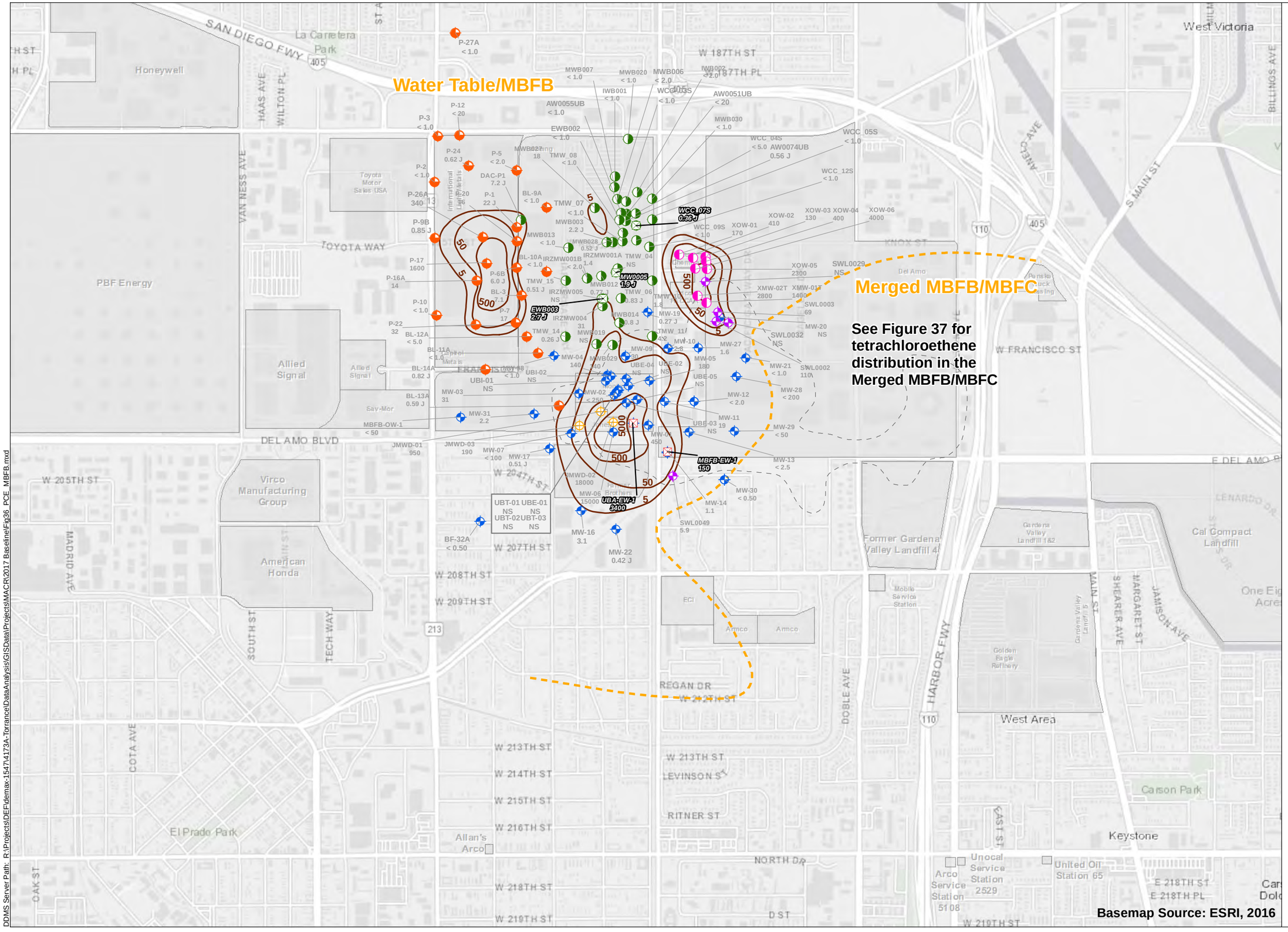


Figure 36

Dissolved Tetrachlorothene Distribution MBFB

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Tetrachloroethene Contour (dashed where inferred)
- Demarcation line designating eastern limit of the MBF Mud that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the MBF.
- Montrose Well Result
- Del Amo Well Result
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- TGRS Injection Well
- TGRS Extraction Well
- Boeing Extraction Well
- Amoco/Trico Well Result
- MBFB TI Waiver Zone
- Facility as Labeled

Notes:

1) Concentration units in ug/L
2) EPA MCL and State MCL is 5 ug/L for Tetrachloroethene, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) UBA-EW-1 sampled 5/17/2017
6) Wells not used in contours: MW-14

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig36_PCE_MBFB.mxd

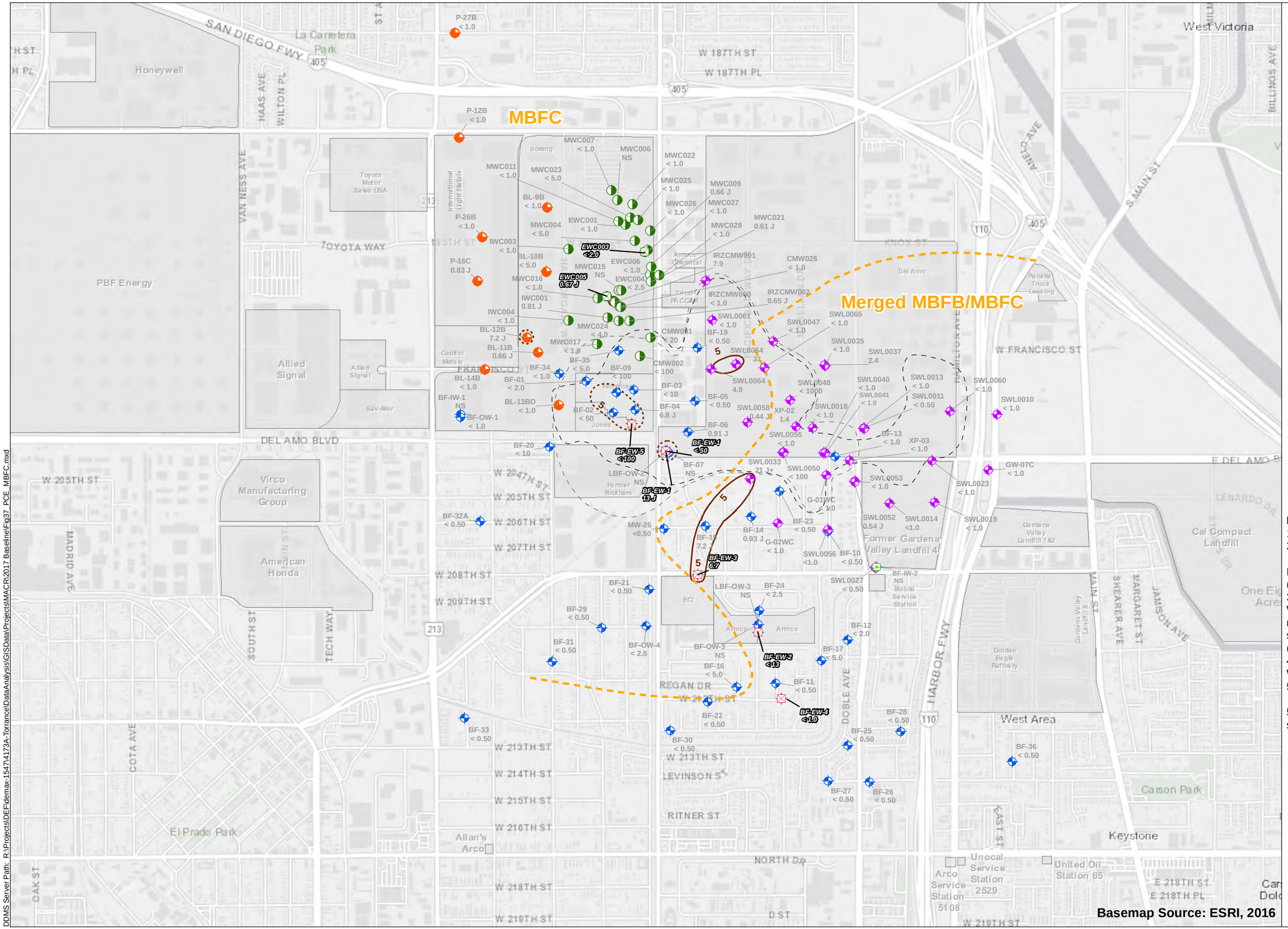


Figure 37

Dissolved Tetrachlorothene Distribution MBFC / Merged MBFB/MBFC

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Tetrachloroethene Contour (dashed where inferred)
- Demarcation line designating eastern limit of the MBF Mud that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the MBF.
- Montrose Well Result
- Del Amo Well Result
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- MBFC TI Waiver Zone
- MBFB TI Waiver Zone
- Facility as Labeled

Notes:

1) Concentration units in ug/L
2) EPA MCL and State MCL is 5 ug/L for Tetrachloroethene, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) BF-EW-2 sampled on 5/16/2017; BF-EW-4 and BF-EW-3 sampled on 5/18/2017; BF-EW-5 and BF-EW-1 sampled on 5/17/2017.

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GIS\Data\Projects\MACR\2017 Baseline\Fig37_PCE_MBFC.mxd

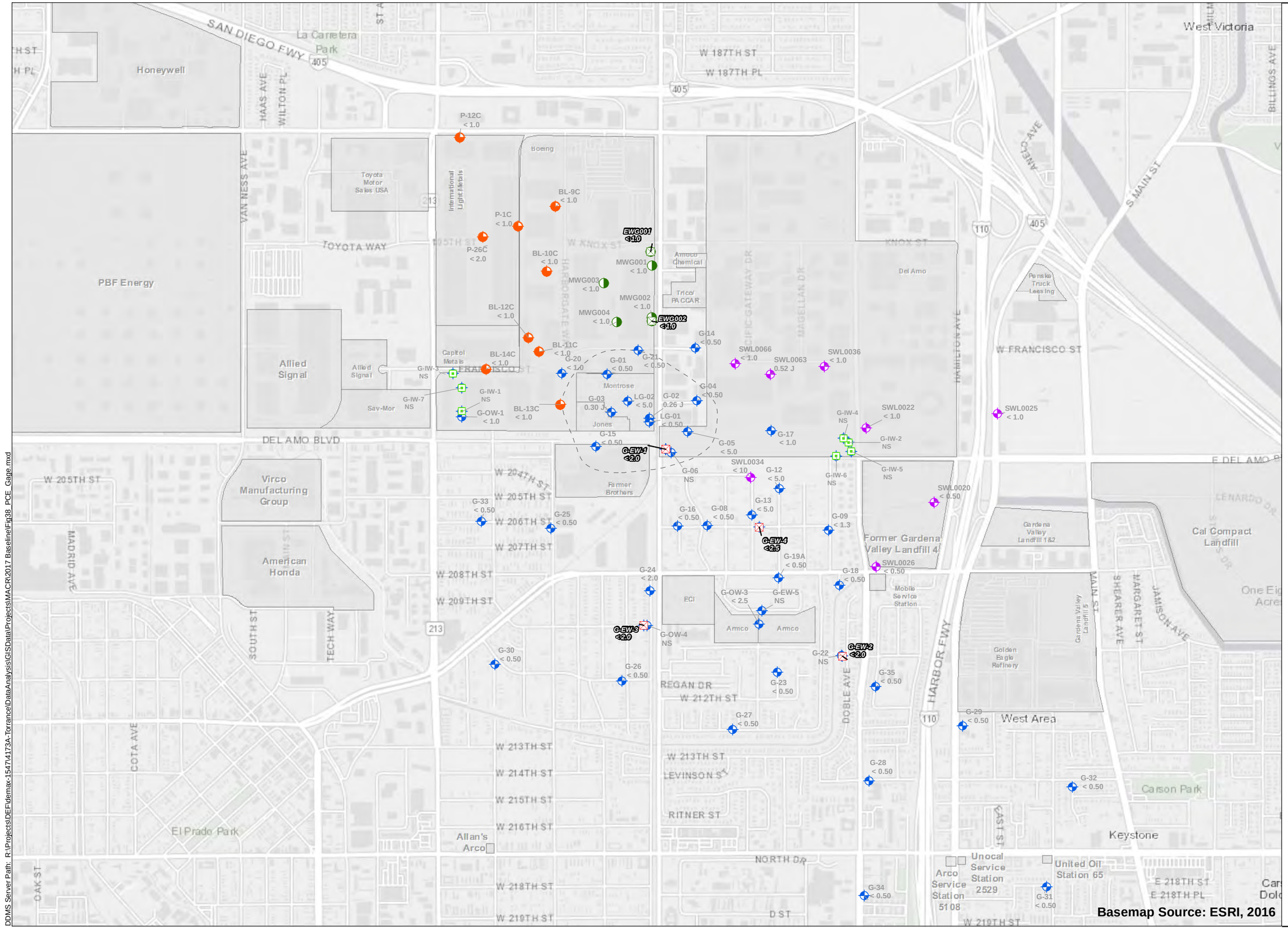


Figure 38

Dissolved Tetrachloroethene Distribution Gage

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- Gage TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) EPA MCL and State MCL is 5 ug/L for Tetrachloroethene, Source: Montrose Superfund Site ROD (EPA, 1999)
ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) G-EW-4 and G-EW-3 sampled on 5/17/2017;
G-EW-1on 5/18/2017, G-EW-2 on 5/16/2017.

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

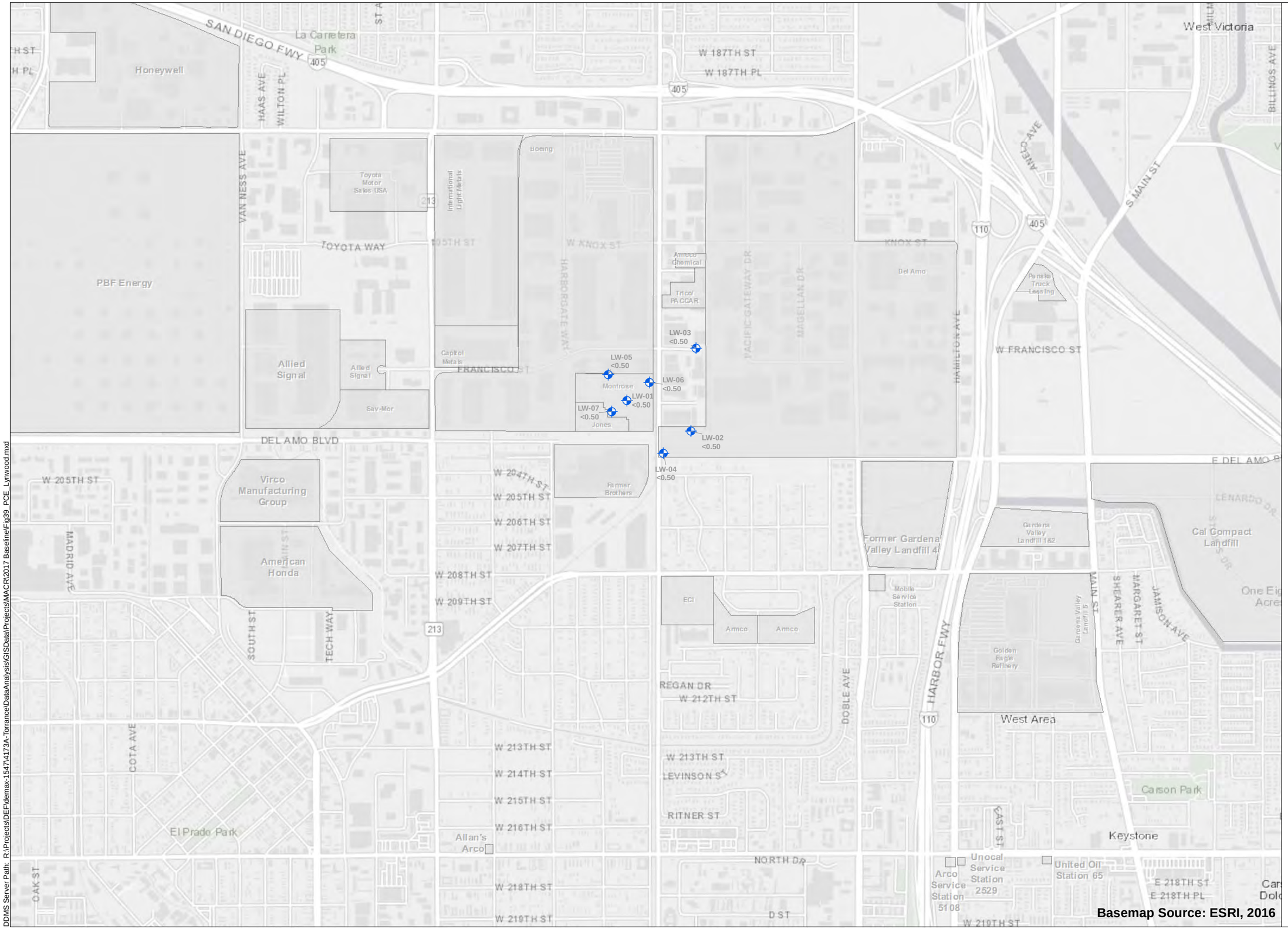
DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig38_PCE_Gage.mxd

Figure 39

Dissolved Tetrachloroethene Distribution Lynwood

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR



PCE Lynwood

FacilityName

- Montrose Well Result
- Del Amo Well Result
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) EPA MCL and State MCL is 5 ug/L for Tetrachloroethene, Source: Montrose Superfund Site ROD (EPA, 1999)

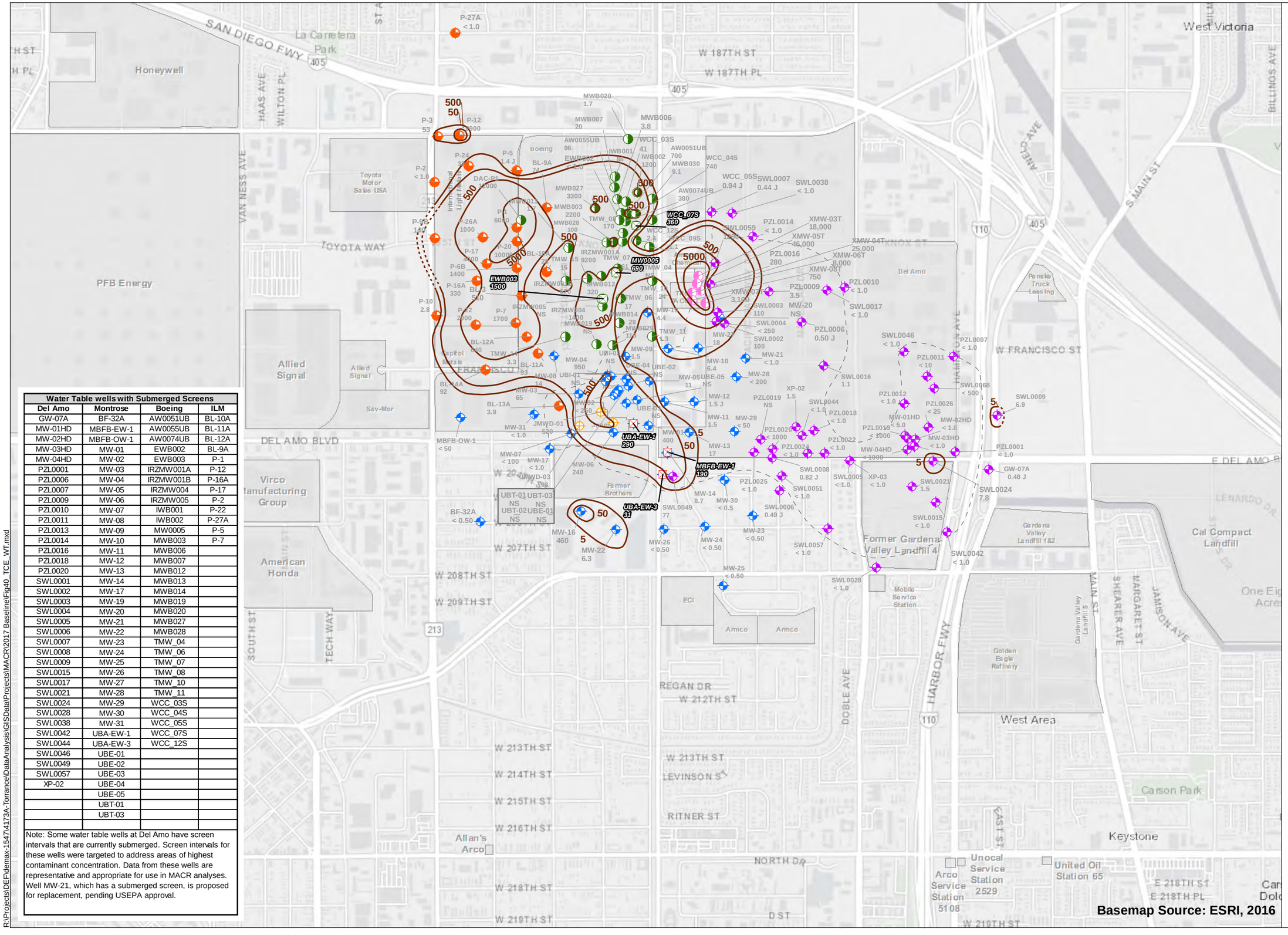
N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

DDMS Server Path: R:\Projects\DEF\demax-1547\4173A-Torrance\DataAnalysis\GISData\Projects\MACR\2017 Baseline\Fig39_PCE_Lynwood.mxd



Water Table wells with Submerged Screens			
Del Amo	Montrose	Boeing	ILM
GW-07A	BF-32A	AW0051UB	BL-10A
MW-01HD	MBFB-EW-1	AW0055UB	BL-11A
MW-02HD	MBFB-OW-1	AW0074UB	BL-12A
MW-03HD	MW-01	EWB002	BL-9A
MW-04HD	MW-02	EWB003	P-1
PZL0001	MW-03	IRZMW001A	P-12
PZL0006	MW-04	IRZMW001B	P-16A
PZL0007	MW-05	IRZMW004	P-17
PZL0009	MW-06	IRZMW005	P-2
PZL0010	MW-07	IWB001	P-22
PZL0011	MW-08	IWB002	P-27A
PZL0013	MW-09	MW0005	P-5
PZL0014	MW-10	MWB003	P-7
PZL0016	MW-11	MWB006	
PZL0018	MW-12	MWB007	
PZL0020	MW-13	MWB012	
SWL0001	MW-14	MWB013	
SWL0002	MW-17	MWB014	
SWL0003	MW-19	MWB019	
SWL0004	MW-20	MWB020	
SWL0005	MW-21	MWB027	
SWL0006	MW-22	MWB028	
SWL0007	MW-23	TMW_04	
SWL0008	MW-24	TMW_06	
SWL0009	MW-25	TMW_07	
SWL0015	MW-26	TMW_08	
SWL0017	MW-27	TMW_10	
SWL0021	MW-28	TMW_11	
SWL0024	MW-29	WCC_03S	
SWL0028	MW-30	WCC_04S	
SWL0038	MW-31	WCC_05S	
SWL0042	UBA-EW-1	WCC_07S	
SWL0044	UBA-EW-3	WCC_12S	
SWL0046	UBE-01		
SWL0049	UBE-02		
SWL0057	UBE-03		
XP-02	UBE-04		
	UBE-05		
	UBT-01		
	UBT-03		

Note: Some water table wells at Del Amo have screen intervals that are currently submerged. Screen intervals for these wells were targeted to address areas of highest contaminant concentration. Data from these wells are representative and appropriate for use in MACR analyses. Well MW-21, which has a submerged screen, is proposed for replacement, pending USEPA approval.

Figure 40

Dissolved Trichloroethene Distribution Water Table

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- TCE Contour (dashed where inferred)
- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- Amoco/Trico Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- Water Table TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) 2) EPA MCL and State MCL is 5 ug/L for Trichloroethene, Source: Montrose Superfund Site ROD (EPA, 1999) 3) TGRS Extraction 3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) UBA-EW-1 sampled 5/17/2017 and UBA-EW-3 sampled 5/18/2017
6) Wells not used in contours: MW-08, TMW-14, EWB002, MWB006, and WCC_03S

N

0 600 1,200 Feet

1 inch = 1,200 feet

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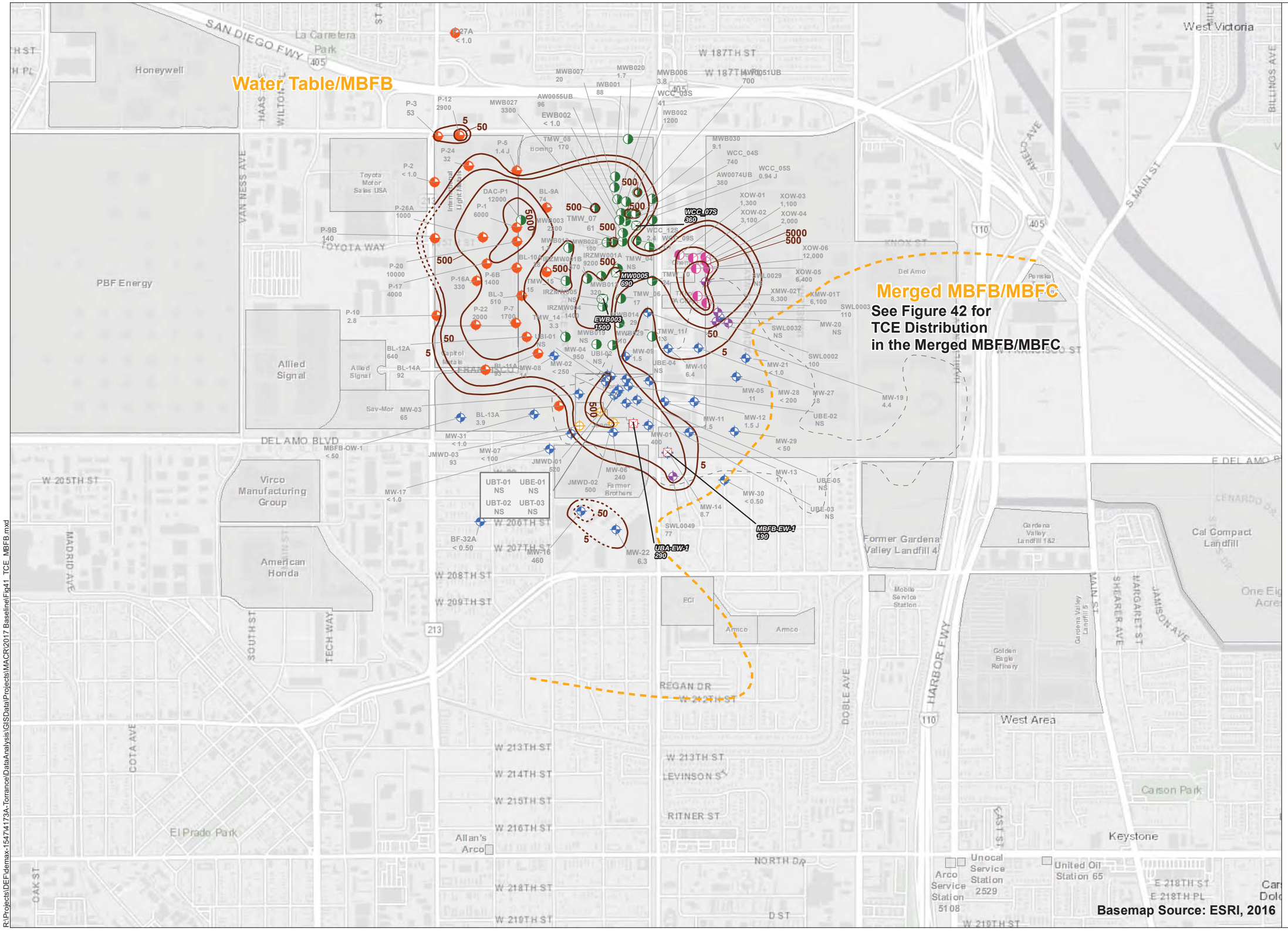

Figure 41

Dissolved Trichloroethene Distribution MBFB

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Trichloroethylene Contour (dashed where inferred)
- Demarcation line designating eastern limit of the MBF Mud that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the MBF.
- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- Amoco/Trico Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- MBFB TI Waiver Zone
- Facility as Labeled

Notes:

1) Concentration units in ug/L
2) EPA MCL and State MCL is 5 ug/L for Trichloroethene, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) UBA-EW-1 sampled 5/17/2017
6) Wells not used in contours: MW-08 and TMW-14

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

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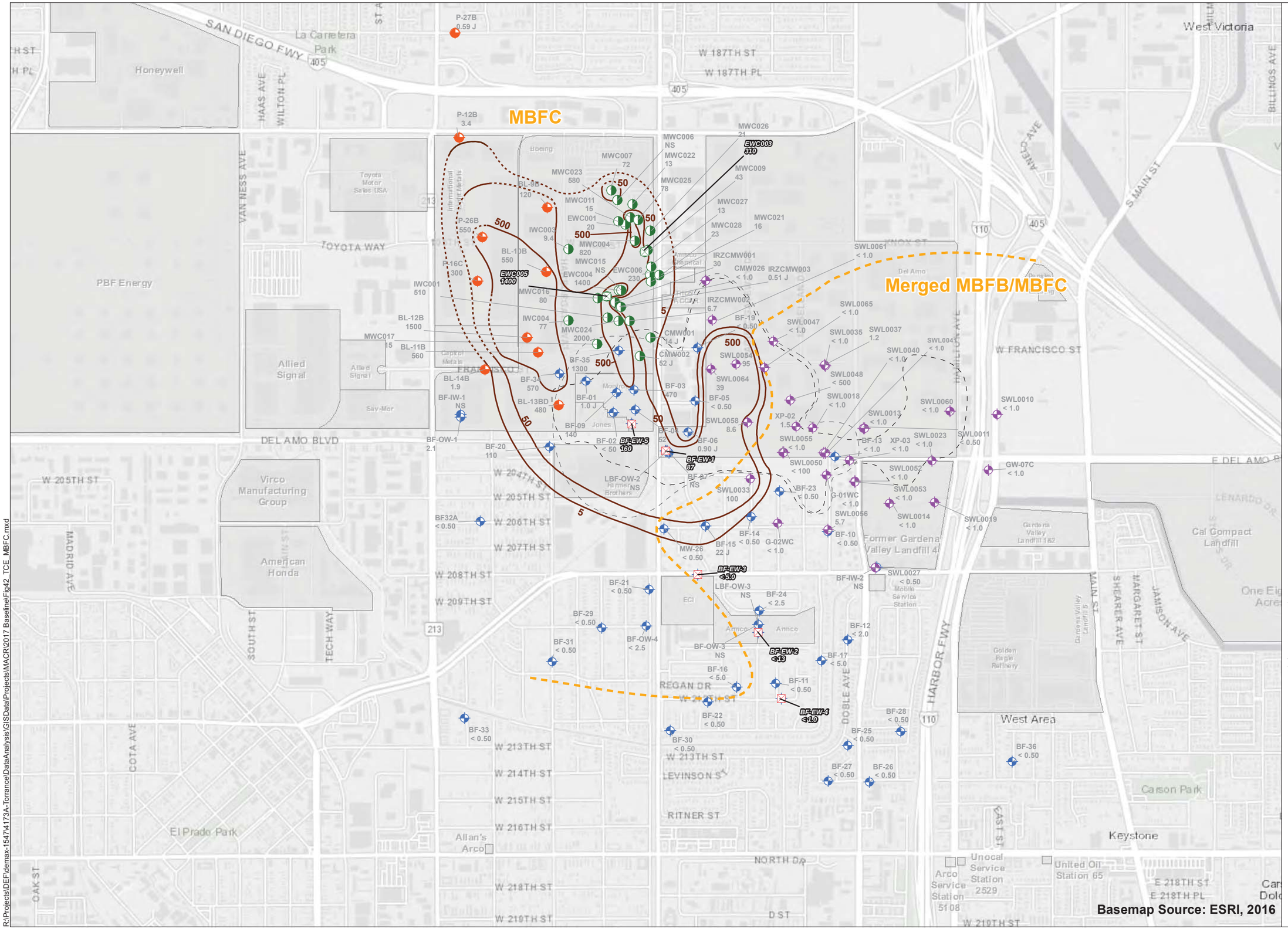

Figure 42

Dissolved Trichloroethene Distribution MBFC / Merged MBFB/MBFC

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Trichloroethylene Contour (dashed where inferred)
- Demarcation line designating eastern limit of the MBF Mud that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the MBF.
- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- MBFC TI Waiver Zone
- MBFB TI Waiver Zone
- Facility as Labeled

Notes:

1) Concentration units in ug/L
2) EPA MCL and State MCL is 5 ug/L for Trichloroethene, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) BF-32A is screened from the Water Table to the MBFC.
5) BF-EW-2 sampled on 5/16/2017; BF-EW-4 and BF-EW-3 sampled on 5/18/2017; BF-EW-5 and BF-EW-1 sampled on 5/17/2017.
6) Wells not used in contours: BF-01, BF-02, CMW026, IRZCMW003, and MWC01

N

0 600 1,200 Feet

1 inch = 1,200 feet

Figure generated by ddms

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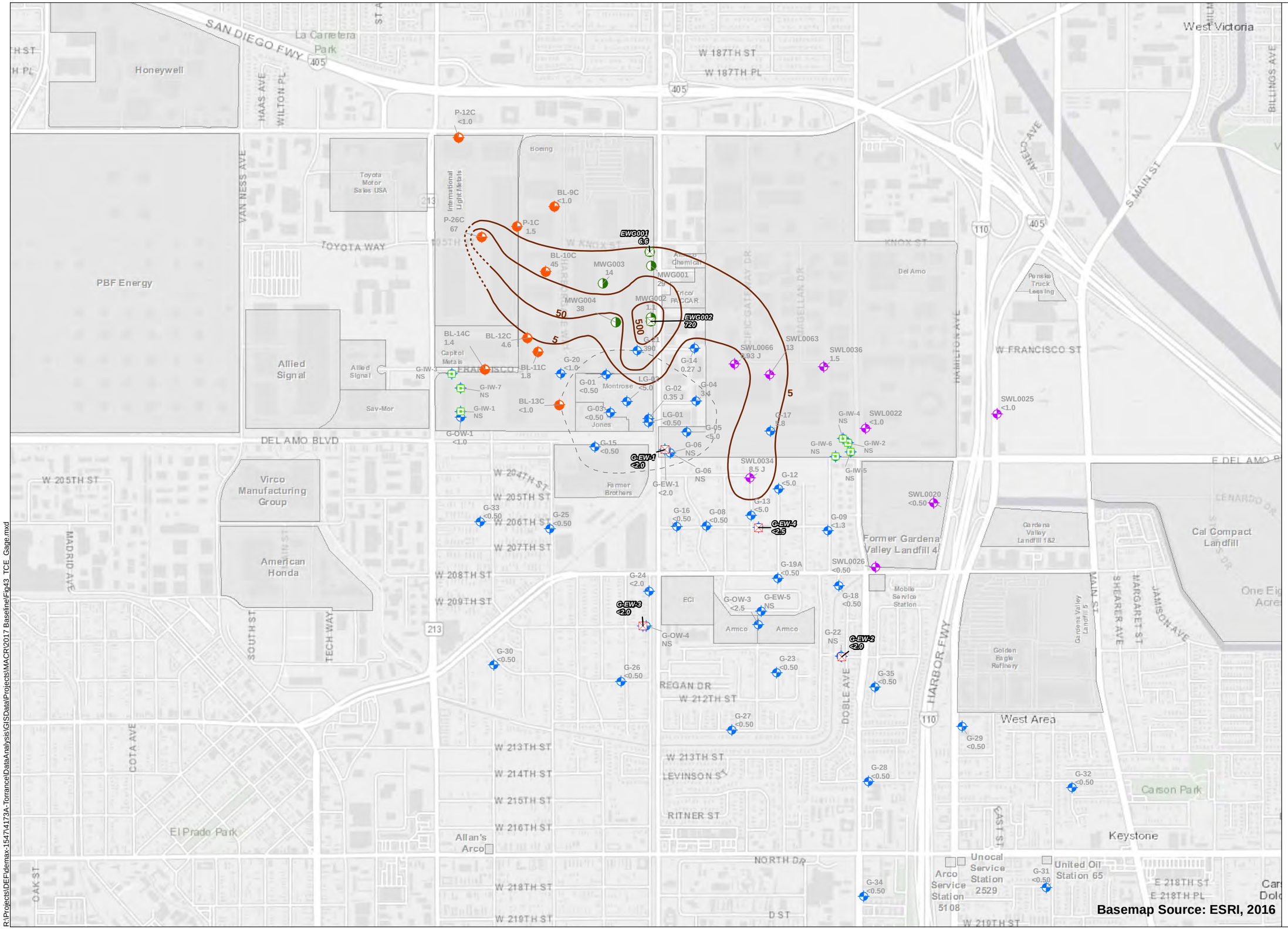

Figure 43

Dissolved Trichloroethene Distribution Gage

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- Trichloroethylene Contour (dashed where inferred)
- Montrose Well Result
- Del Amo Well
- Boeing Well Result
- ILM Well Result
- Jones Well Result
- TGRS Extraction Well
- TGRS Injection Well
- Boeing Extraction Well
- Gage TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) EPA MCL and State MCL is 5 ug/L for Trichloroethene, Source: Montrose Superfund Site ROD (EPA, 1999)
3) TGRS Extraction and Injection Wells displayed and labeled on map, however TGRS wells not sampled as part of 2017 Baseline (exception was MBFB-EW-1)
4) G-EW-4 and G-EW-3 sampled on 5/17/2017;
G-EW-1on 5/18/2017, G-EW-2 on 5/16/2017.

N

0 600 1,200 Feet

1 inch = 1,200 feet

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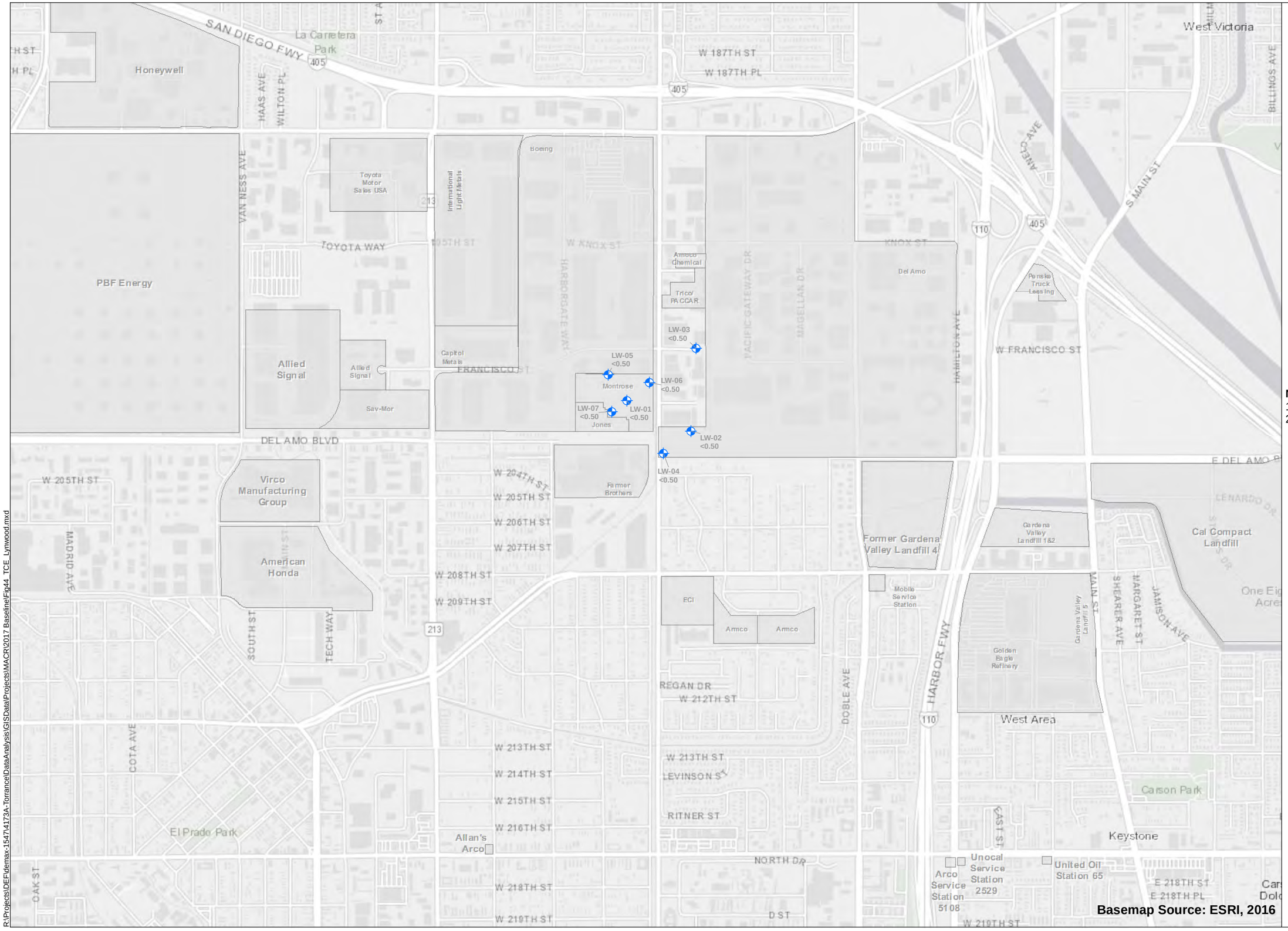
Figure 44

Dissolved Trichloroethene Distribution Lynwood

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR



Notes:
1) Concentration units in ug/L
2) EPA MCL and State MCL is 5 ug/L for Trichloroethene, Source: Montrose Superfund Site ROD (EPA, 1999)

N

0 600 1,200 Feet

1 inch = 1,200 feet

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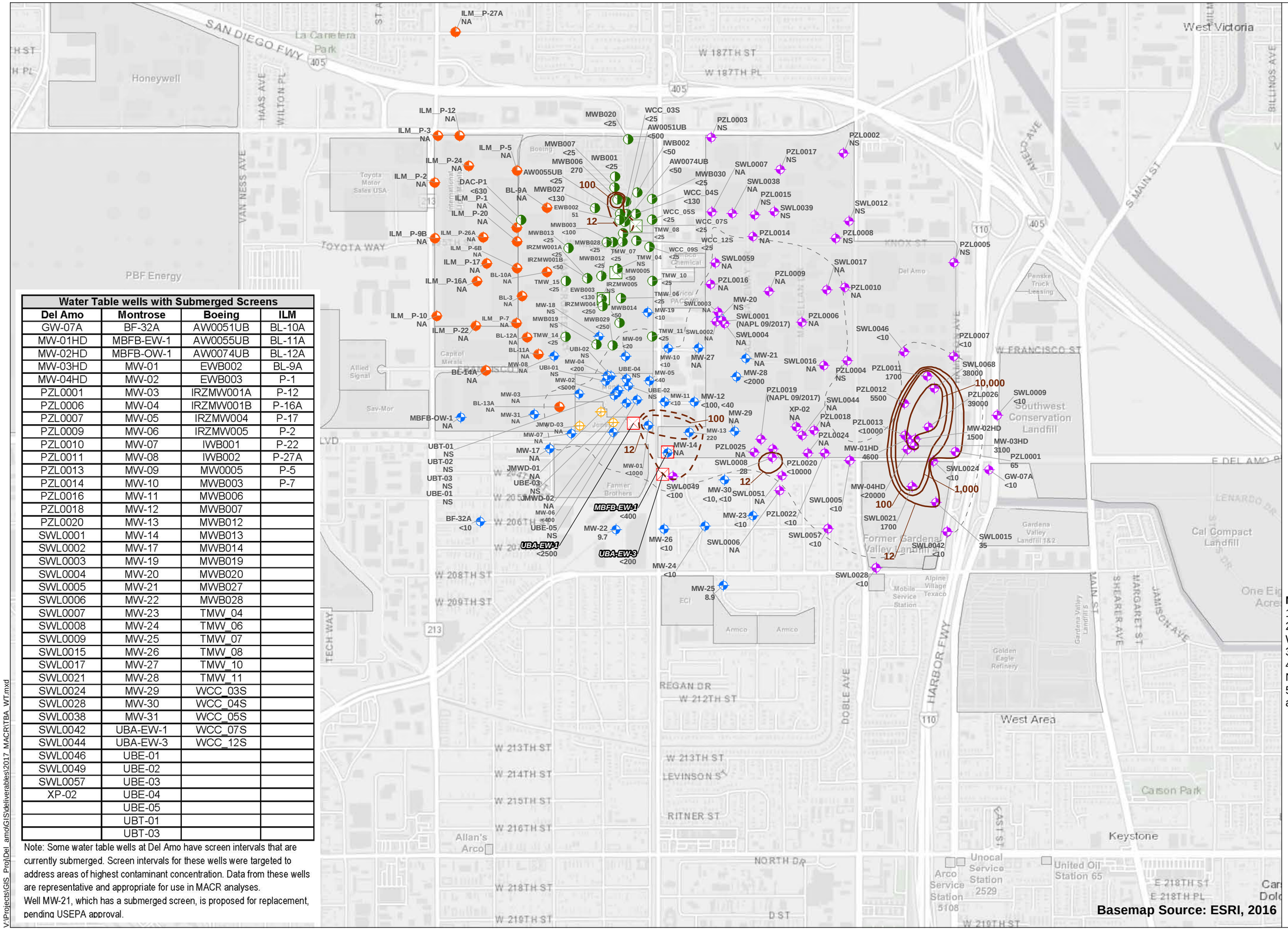
Figure 45

Dissolved TBA Distribution Water Table

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR



Water Table wells with Submerged Screens			
Del Amo	**Montrose**	**Boeing**	**ILM**
GW-07A	BF-32A	AW0051UB	BL-10A
MW-01HD	MBFB-EW-1	AW0055UB	BL-11A
MW-02HD	MBFB-OW-1	AW0074UB	BL-12A
MW-03HD	MW-01	EWB002	BL-9A
MW-04HD	MW-02	EWB003	P-1
PZL0001	MW-03	IRZMW001A	P-12
PZL0006	MW-04	IRZMW001B	P-16A
PZL0007	MW-05	IRZMW004	P-17
PZL0009	MW-06	IRZMW005	P-2
PZL0010	MW-07	IWB001	P-22
PZL0011	MW-08	IWB002	P-27A
PZL0013	MW-09	MW0005	P-5
PZL0014	MW-10	MWB003	P-7
PZL0016	MW-11	MWB006	
PZL0018	MW-12	MWB007	
PZL0020	MW-13	MWB012	
SWL0001	MW-14	MWB013	
SWL0002	MW-17	MWB014	
SWL0003	MW-19	MWB019	
SWL0004	MW-20	MWB020	
SWL0005	MW-21	MWB027	
SWL0006	MW-22	MWB028	
SWL0007	MW-23	TMW_04	
SWL0008	MW-24	TMW_06	
SWL0009	MW-25	TMW_07	
SWL0015	MW-26	TMW_08	
SWL0017	MW-27	TMW_10	
SWL0021	MW-28	TMW_11	
SWL0024	MW-29	WCC_03S	
SWL0028	MW-30	WCC_04S	
SWL0038	MW-31	WCC_05S	
SWL0042	UBA-EW-1	WCC_07S	
SWL0044	UBA-EW-3	WCC_12S	
SWL0046	UBE-01		
SWL0049	UBE-02		
SWL0057	UBE-03		
XP-02	UBE-04		
	UBE-05		
	UBT-01		
	UBT-03		

Note: Some water table wells at Del Amo have screen intervals that are currently submerged. Screen intervals for these wells were targeted to address areas of highest contaminant concentration. Data from these wells are representative and appropriate for use in MACR analyses.
Well MW-21, which has a submerged screen, is proposed for replacement, pending USEPA approval.

TBA isoconcentration line (dashed where inferred)

- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- TGRS Extraction Well
- Boeing Extraction Well
- TGRS Injection Well
- Water Table TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in µg/L
2) BF-32A is screened from the Water Table to the MBFC.
3) NS = Well Not Sampled
4) NA = Well Sampled, but Not Analyzed for TBA
5) UBA-EW-1 sampled 5/17/2017 and UBA-EW-3 sampled 5/18/2017

N

0 600 1,200 Feet

1 inch = 1,200 feet

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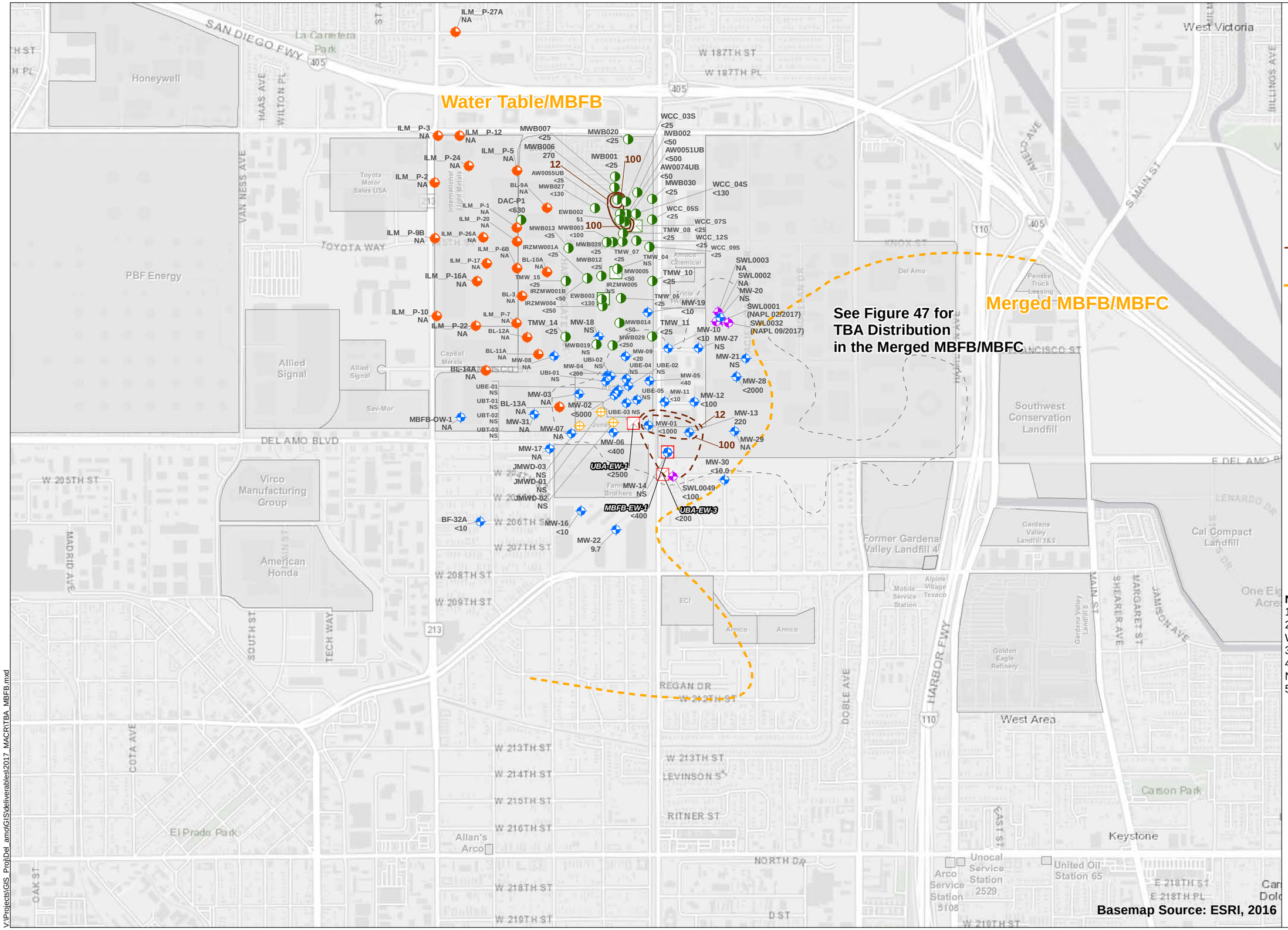

Figure 46

Dissolved TBA Distribution MBFB

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- TBA isoconcentration line (dashed where inferred)
- Demarcation line designating eastern limit of the MBFM that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the Merged MBFB/MBFC.
- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- TGRS Extraction Well
- Boeing Extraction Well
- TGRS Injection Well
- MBFB TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) BF-32A is screened from the Water Table to the MBFC.
3) NS = Well Not Sampled
4) NA = Well Sampled, but Not Analyzed for TBA
5) UBA-EW-1 sampled 5/17/2017

N

0 600 1,200 Feet

1 inch = 1,200 feet

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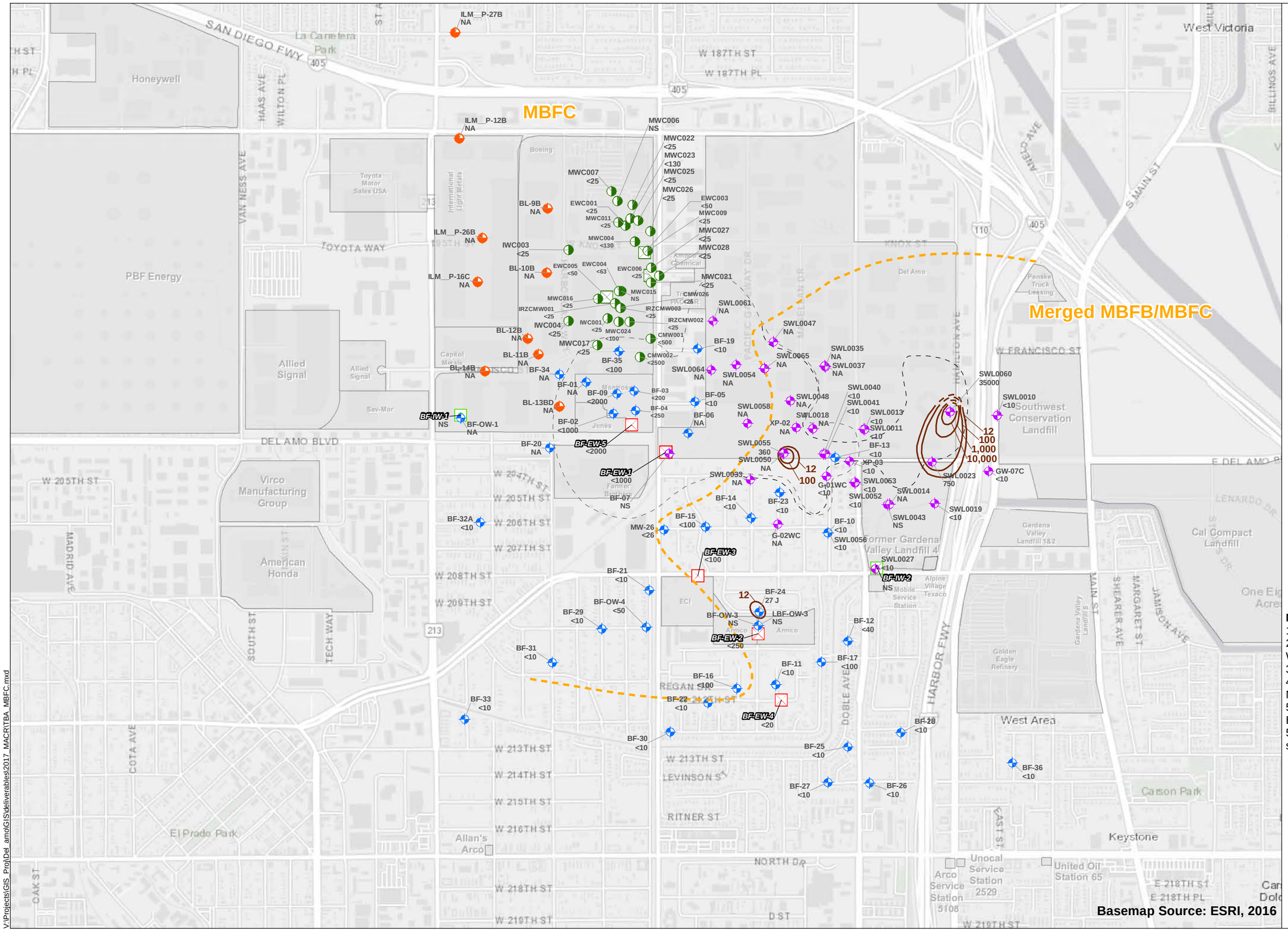

Figure 47

Dissolved TBA Distribution MBFC / Merged MBFB/MBFC

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- TBA isoconcentration line (dashed where inferred)
- Demarcation line designating eastern limit of the MBFM that segregates the MBFB and MBFC. East of the line, the two units are not segregated and collectively form the Merged MBFB/MBFC.
- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- TGRS Extraction Well
- Boeing Extraction Well
- TGRS Injection Well
- MBFC TI Waiver Zone
- MBFB TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) BF-32A is screened from the Water Table to the MBFC.
3) NS = Well Not Sampled
4) NA = Well Sampled, but Not Analyzed for TBA
5) BF-EW-2 sampled on 5/16/2017; BF-EW-4 and BF_EW-3 sampled on 5/18/2017; BF-EW-5 and BF-EW-1 sampled on 5/17/2017

N

0 600 1,200 Feet

1 inch = 1,200 feet

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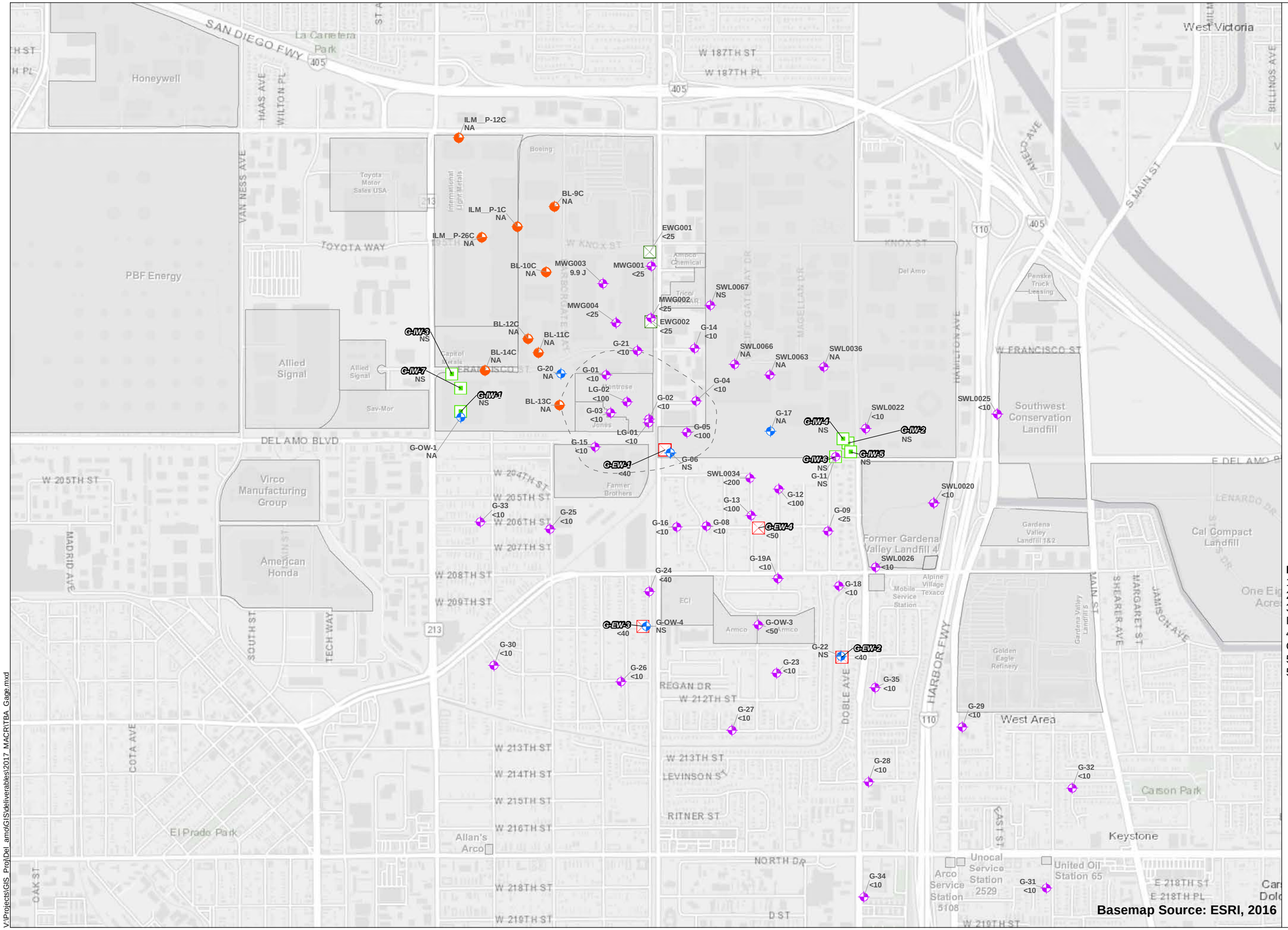

Figure 48

Dissolved TBA Distribution Gage Aquifer

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR

- TBA isoconcentration line (dashed where inferred)
- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- TGRS Extraction Well
- Boeing Extraction Well
- TGRS Injection Well
- Gage TI Waiver Zone
- Facility as Labeled

Notes:
1) Concentration units in ug/L
2) NS = Well Not Sampled
3) NA = Well Sampled, but Not Analyzed for TBA
4) G-EW-2 sampled on 5/16/2017; G-EW-3 and G-EW-4 sampled on 5/17/2017; G-EW-1 sampled on 5/18/2017

N

0 600 1,200 Feet

1 inch = 1,200 feet

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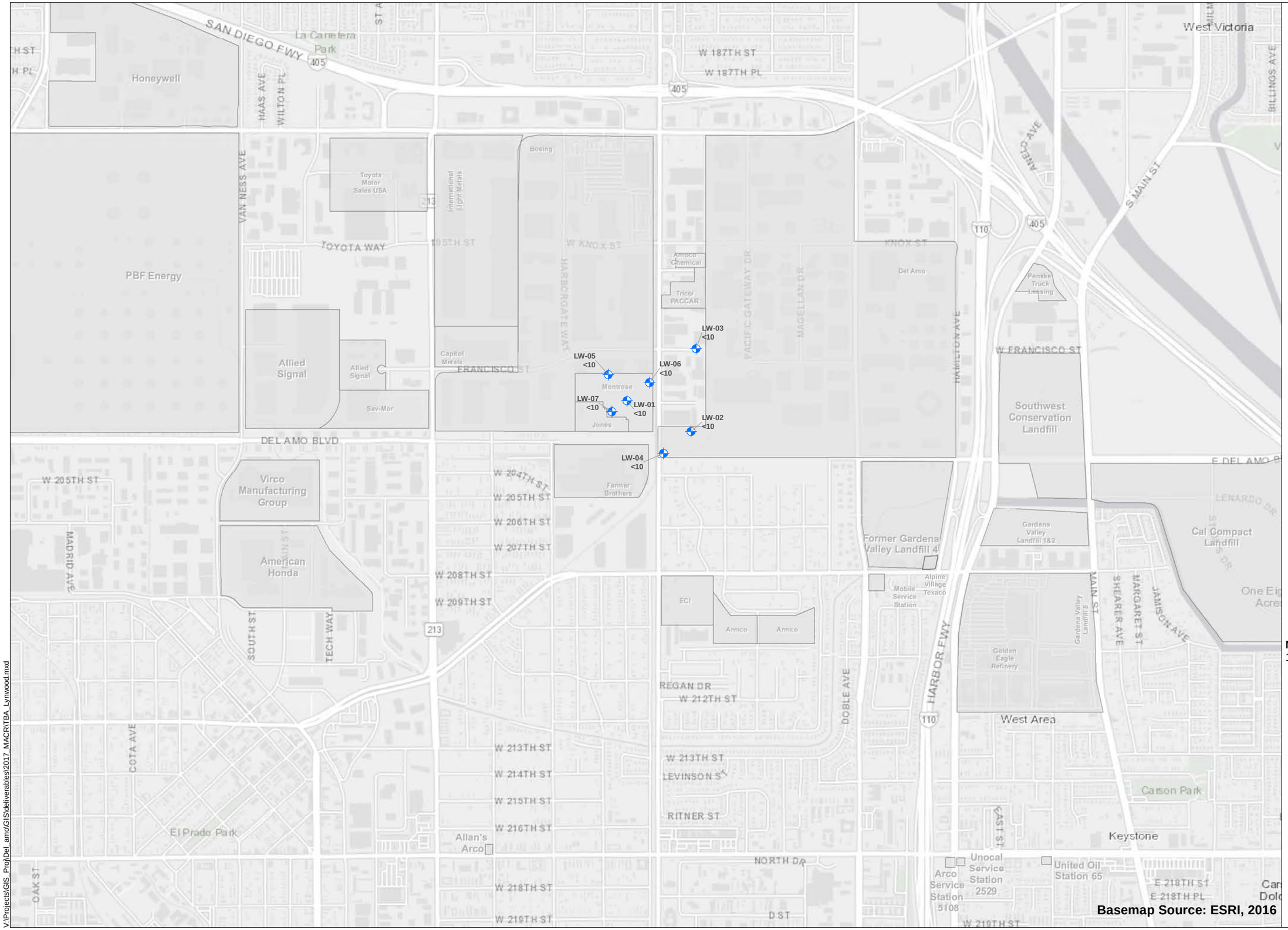
Figure 49

Dissolved TBA Distribution Lynwood Aquifer

Dual Site Groundwater Operable Unit
Los Angeles, California

2017 Baseline MACR



- Montrose Well
- Del Amo Well
- Boeing Well
- ILM Well
- Jones Well
- Facility as Labeled

Notes:
1) Concentration units in ug/L

N

0 600 1,200 Feet

1 inch = 1,200 feet

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