



EXECUTIVE SUMMARY

Pursuant to City of Houston Ordinance 2007-959, Union Pacific Railroad Company (“UPRR”) files this application seeking a Municipal Setting Designation (“MSD”) for the 20.6397-acre property located in Houston, Texas and described as follows: 9800 Clinton Drive, Rains Land and Properties L.P. property, File Number 20060093427, 0.5028 acres; Southern Pacific Company (now Union Pacific Railroad) property, File Numbers B632412, B632414, and B637418, 1.6611 acres; Southern Pacific Company (now Union Pacific Railroad) property, File Number B422875 (Volume 92, Page 543 of the Harris County Deed Records (HCDR)), 1.2796 acres; Harris County property (Volume 380, Page 272 HCDR), 0.0348 acres (Volume 380, Page 272 HCDR), 0.9334 acres (Volume 655, Page 616 HCDR), and 0.0012 acres (Volume 380, Page 272 HCDR); Houston Cement Company, L.P. property, File Number 20060017720, 5.6660 acres; and O’Neal Steel, Inc. property, File Number N316184, 10.5652 acres; all recorded under the noted Harris County Clerk’s File Numbers in the Ezekiel Thomas Survey, Abstract Number 73.

During the 1950’s and early 1960’s, the site was used as a pipe storage yard, a tank car cleaning and repair facility. Beginning in 1963 through 1988, the site was used for pipe coating operations. From 1988 through 1992 the site was used as a metal fabrication facility and pipe storage laydown yard. Metal fabrication operations ceased in 1992. From that period forward, the site has been used by various entities for equipment storage and laydown yard.

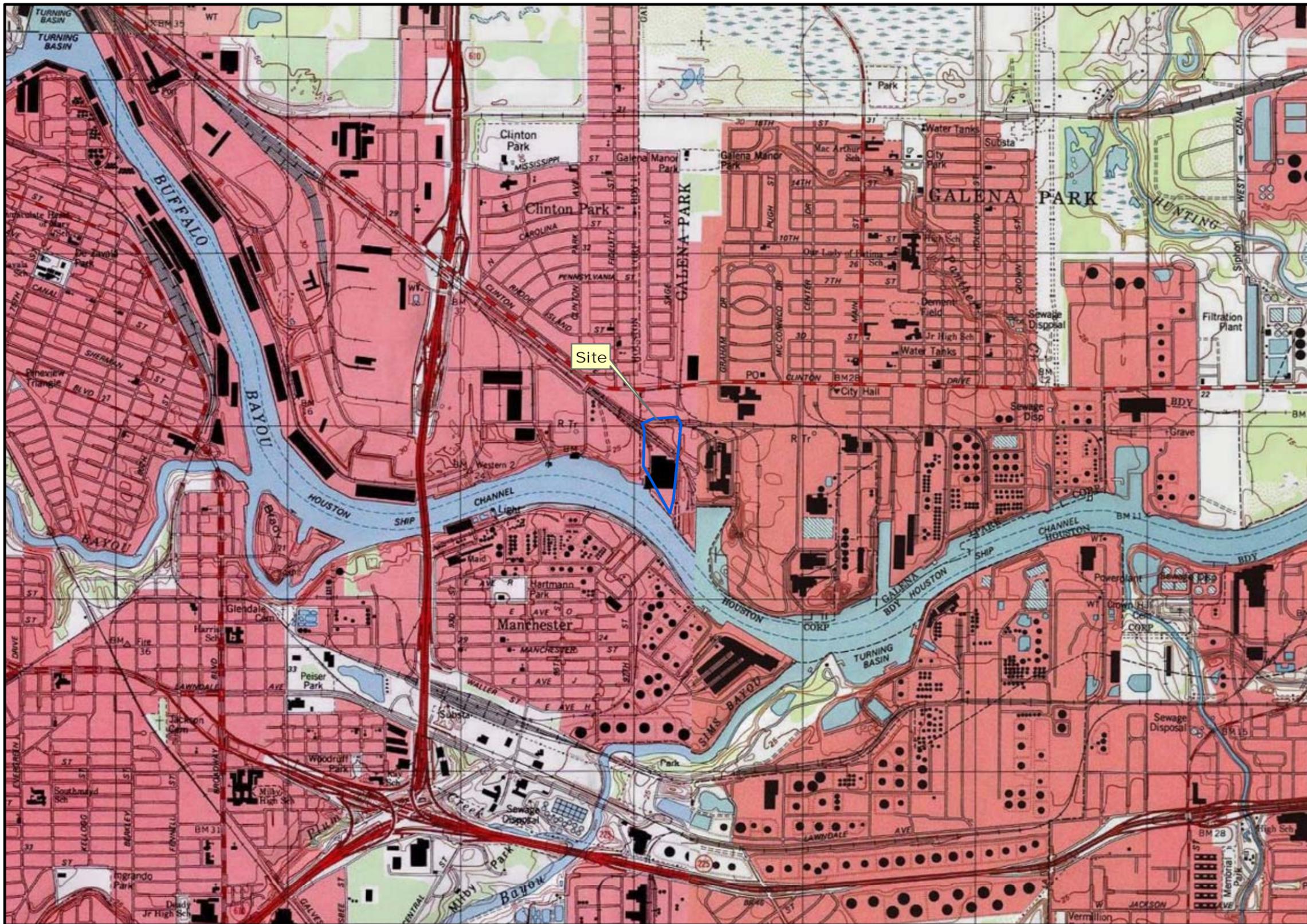
Although UPRR did not cause the contamination, UPRR (as landowner) undertook responsibility for designing and implementing the remediation for impacted soil and groundwater under the Texas Commission on Environmental Quality’s (TCEQ) Voluntary Cleanup Program (VCP). Site investigation activities concluded that releases to soil and ground water occurred at the site primarily from six former earthen impoundments along the southern property boundary. The chemicals of concern (COCs) at the site include arsenic, volatile organic compounds (VOCs), and semi-volatile compounds (SVOCs). Response actions conducted in 1998 included the excavation of approximately 6,500 cubic yards of affected soils from the former impoundments, along the southern boundary of the site, the tank car washing area, and at the former Specialty Products building. Affected soils were subsequently closed in 2007 under Risk Reduction Standard No. 2, with VCP issuing a Final Certificate of Completion on March 27, 2007.

UPRR is seeking a Municipal Setting Designation (“MSD”) for this property to restrict access to groundwater. There is a public drinking water supply system that meets state requirements that supplies or is capable of supplying drinking water to the MSD property and all properties within one-half mile of the MSD property.

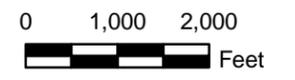
Appendix B

2. A site map showing:
 - a. The location of the designated property.
 - b. The topography of the designated property as indicated on publicly available sources, which must note the watershed and whether the designated property is located in a floodplain or floodway, as those terms are defined in Chapter 19 of the Code.
 - c. The detected area of groundwater contamination.
 - d. The location of all soil sampling locations and all groundwater monitoring wells.
 - e. Groundwater gradients, to the extent known, and direction of groundwater flow.
 - f. The ingestion protective concentration level exceedence zone for each contaminant of concern, to the extent known.

Please see attached site maps.



TEXAS



RE: USGS 7.5 MINUTE TOPOGRAPHIC COUNTY MOSAIC MAP.

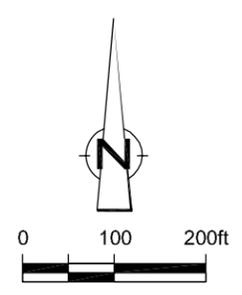
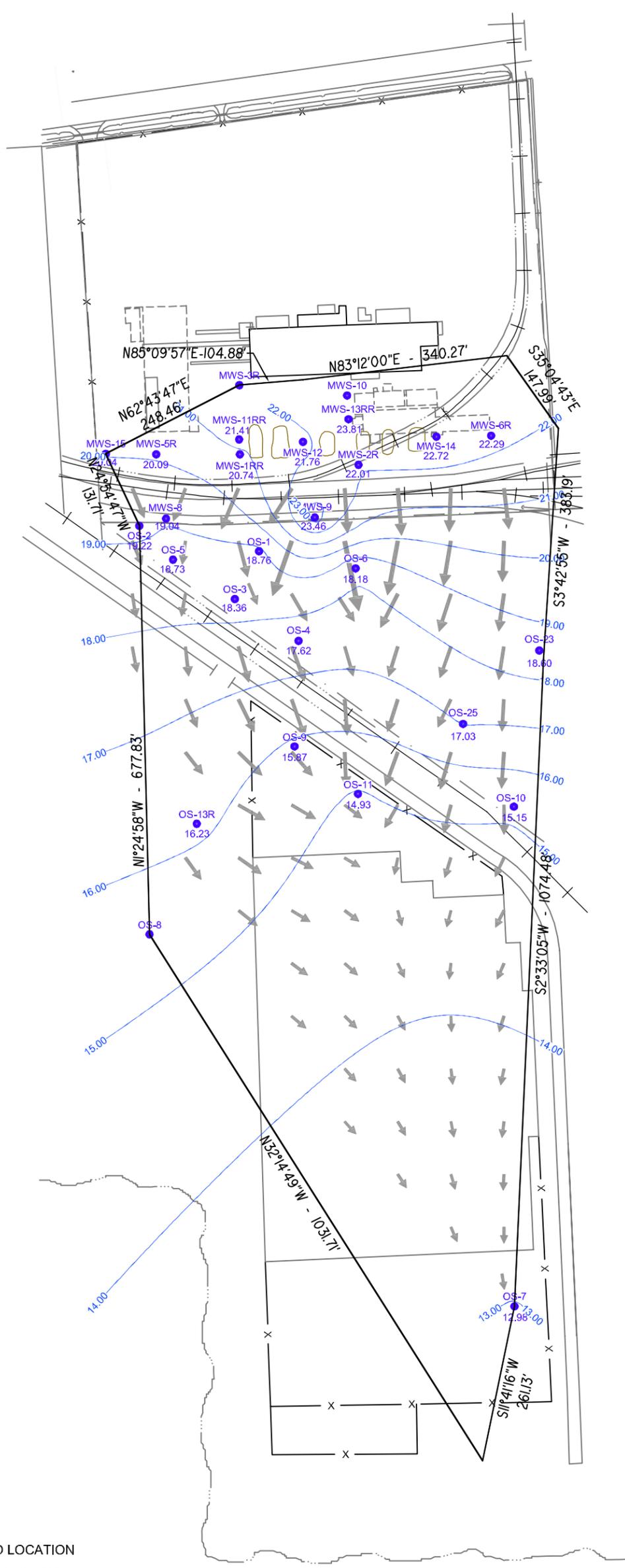
NOTES:

- 1) SITE LOCATED IN BUFFALO BAYOU WATERSHED.
- 2) SITE IS LOCATED IN A 100-YEAR AND A 500-YEAR FLOOD PLAIN.



figure 1
SITE LOCATION MAP
ENCOAT LEASE SITE

Union Pacific Railroad, 9800 Clinton Drive, Houston, Texas



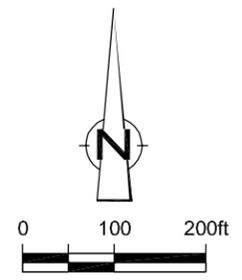
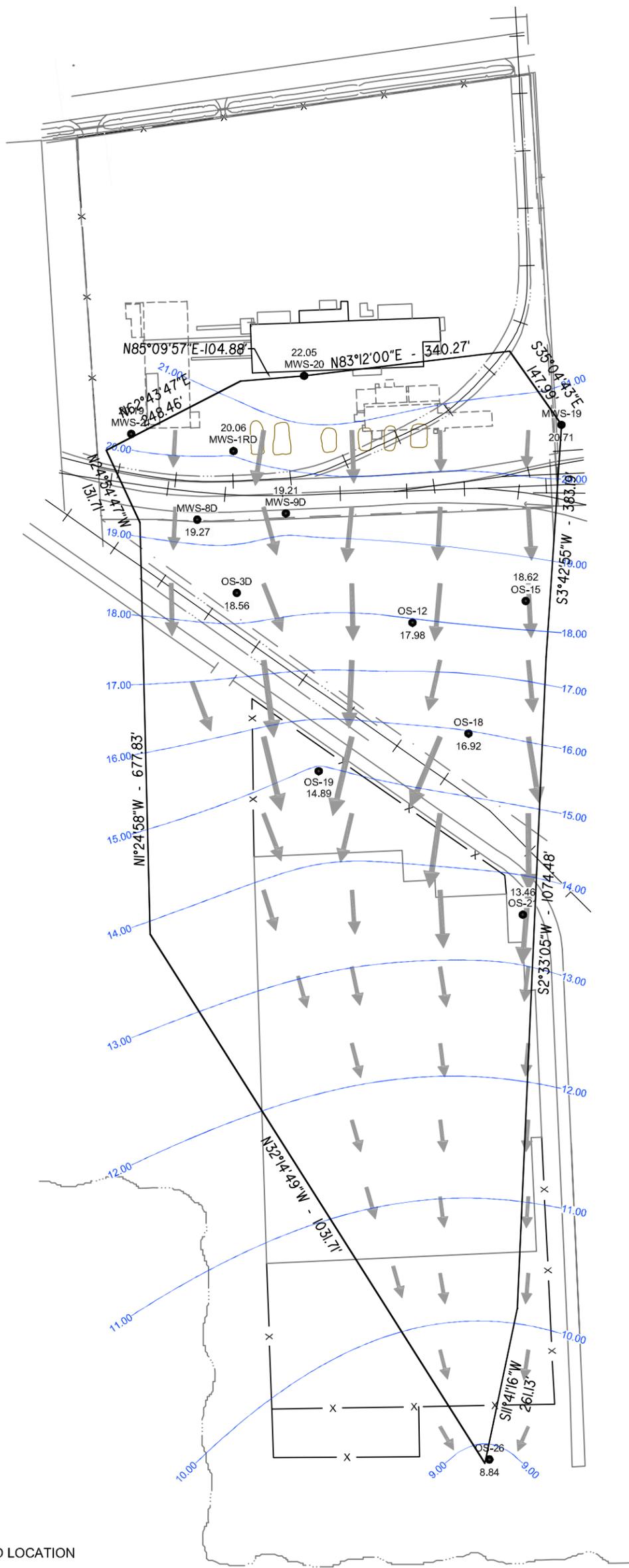
LEGEND

- OS-3 ● MONITORING WELL ID AND LOCATION
- 18.74 — GROUNDWATER ELEVATION (ft AMSL)
- GROUNDWATER CONTOUR
- MSD BOUNDARY
- GROUNDWATER FLOW DIRECTION

figure B-2

FIRST TRANSMISSIVE ZONE POTENTIOMETRIC MAP
APRIL 2010
UNION PACIFIC RAILROAD FORMER ENCOAT LEASE VCP No 796
Houston, Texas





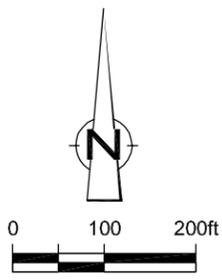
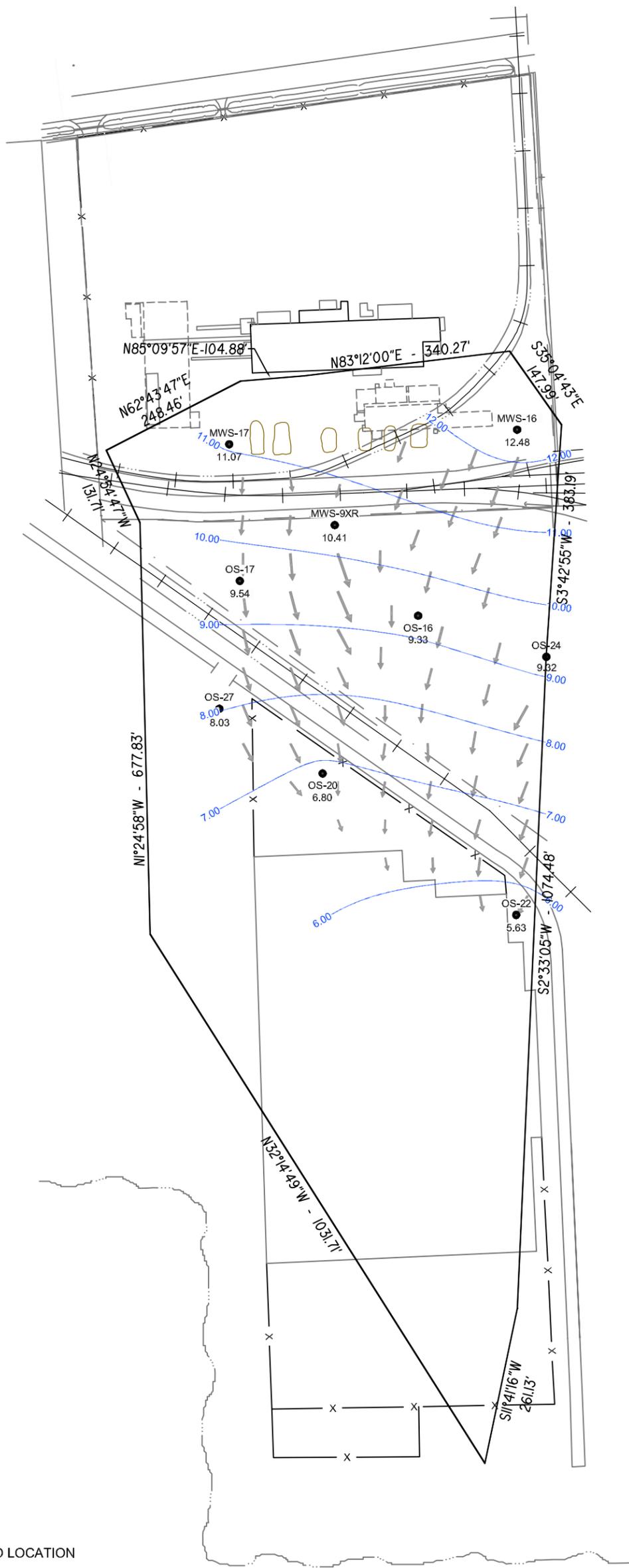
LEGEND

- OS-18 MONITORING WELL ID AND LOCATION
- 16.50 GROUNDWATER ELEVATION (ft AMSL)
- GROUNDWATER CONTOUR
- MSD BOUNDARY
- GROUNDWATER FLOW DIRECTION

figure B-3

SECOND TRANSMISSIVE ZONE POTENTIOMETRIC MAP
APRIL 2010
UNION PACIFIC RAILROAD/FORMER ENCOAT LEASE VCP No 796
Houston, Texas

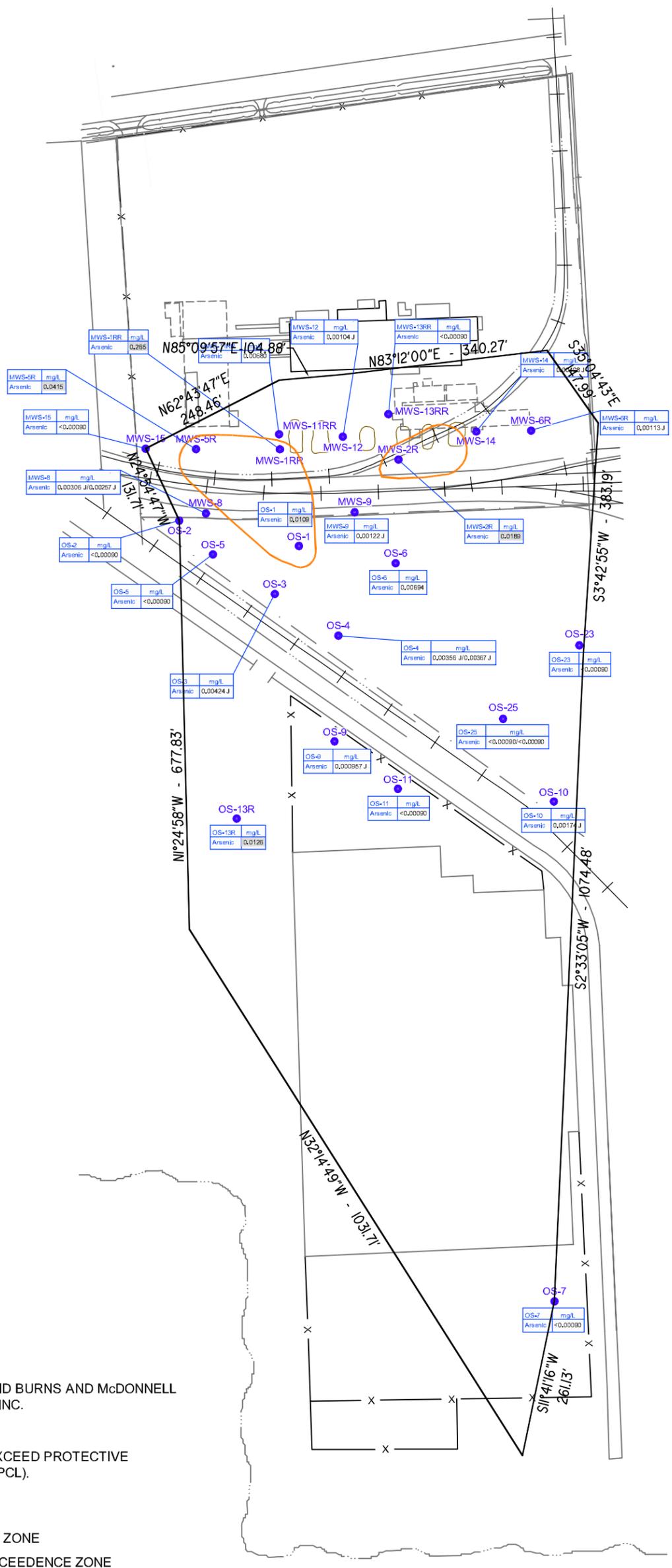
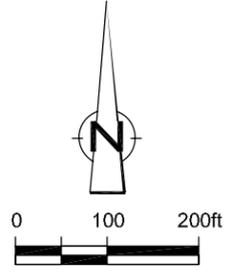




- LEGEND**
- OS-22 MONITORING WELL ID AND LOCATION
 - 5.73 GROUNDWATER ELEVATION (ft AMSL)
 - GROUNDWATER CONTOUR
 - MSD BOUNDARY
 - GROUNDWATER FLOW DIRECTION

figure B-4
THIRD TRANSMISSIVE ZONE POTENTIOMETRIC MAP
 APRIL 2010
 UNION PACIFIC RAILROAD/FORMER ENCOAT LEASE VCP No 796
 Houston, Texas





SOURCE:
ERM-SOUTHWEST INC., AND BURNS AND McDONNELL
ENGINEERING COMPANY, INC.

NOTE:
HIGHLIGHTED RESULTS EXCEED PROTECTIVE
CONCENTRATION LEVEL (PCL).

LEGEND

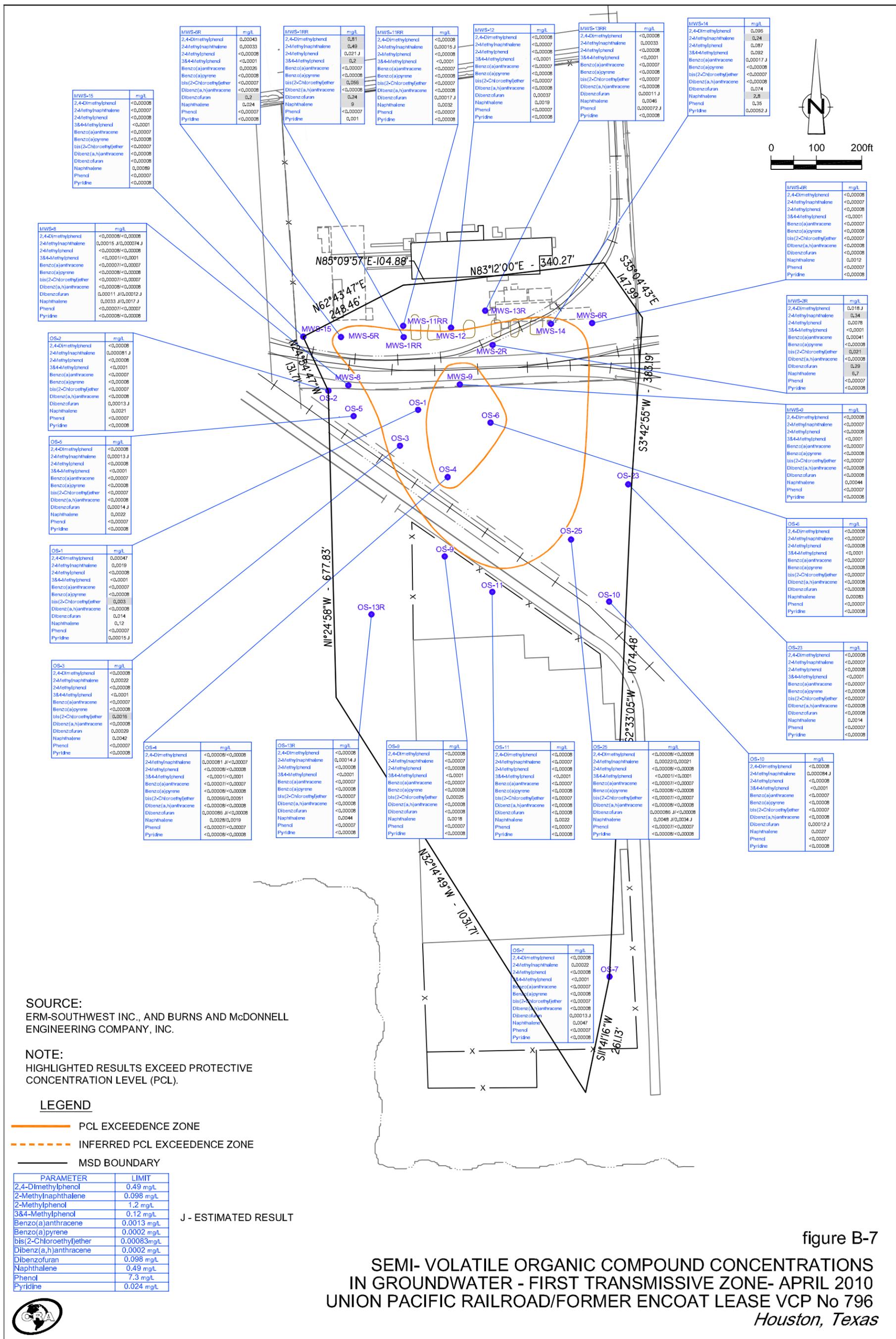
- PCL EXCEEDENCE ZONE
- - - INFERRED PCL EXCEEDENCE ZONE
- MSD BOUNDARY

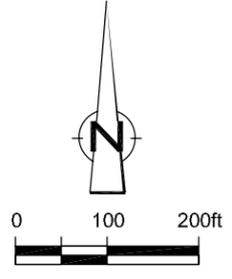
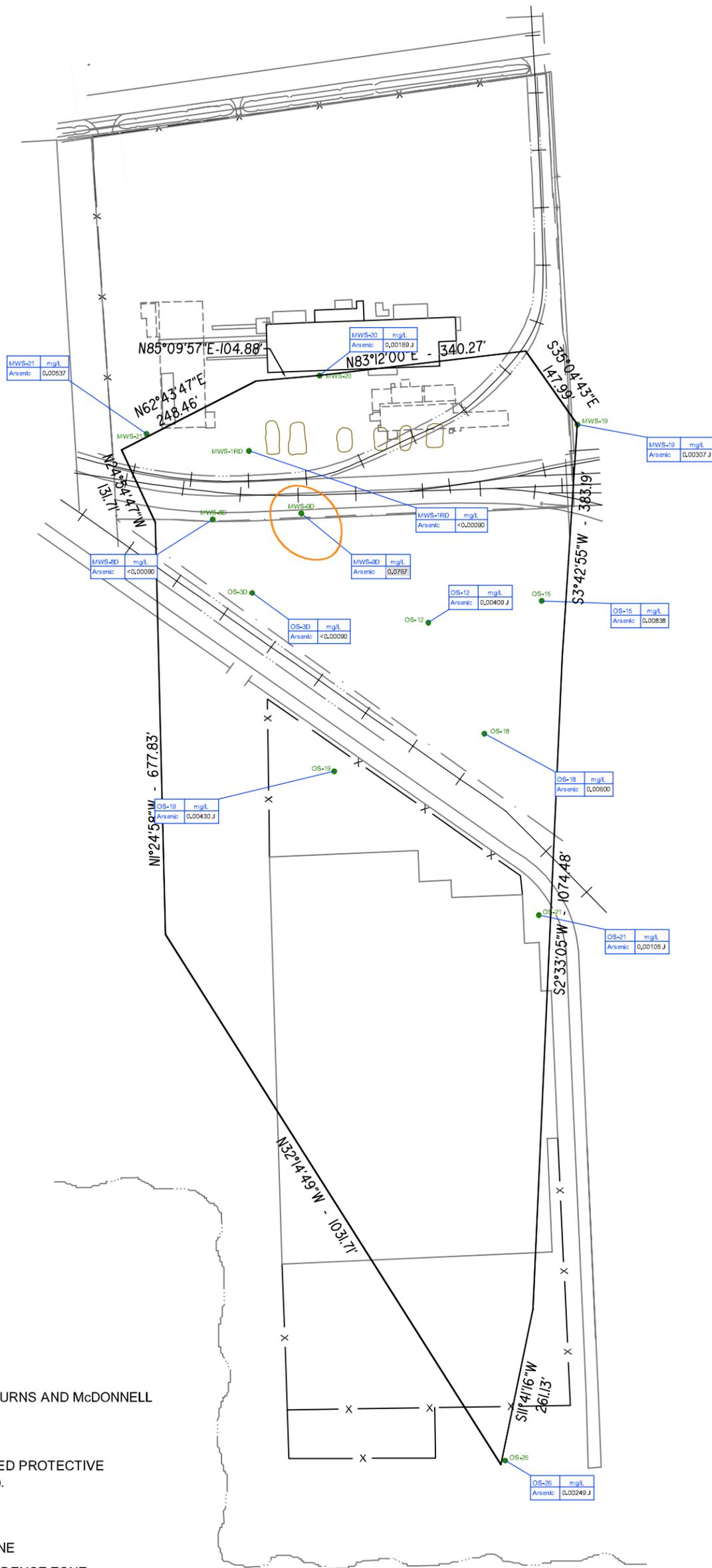
COMPOUND	PCL
Arsenic	0.01 mg/L

J - ESTIMATED RESULT

figure B-5
**ARSENIC CONCENTRATION IN GROUNDWATER
FIRST TRANSMISSIVE ZONE- APRIL 2010
UNION PACIFIC RAILROAD/FORMER ENCOAT LEASE VCP No 796
Houston, Texas**







SOURCE:
ERM-SOUTHWEST INC., AND BURNS AND McDONNELL
ENGINEERING COMPANY, INC.

NOTE:
HIGHLIGHTED RESULTS EXCEED PROTECTIVE
CONCENTRATION LEVEL (PCL).

LEGEND

- PCL EXCEEDENCE ZONE
- - - INFERRED PCL EXCEEDENCE ZONE
- MSD BOUNDARY

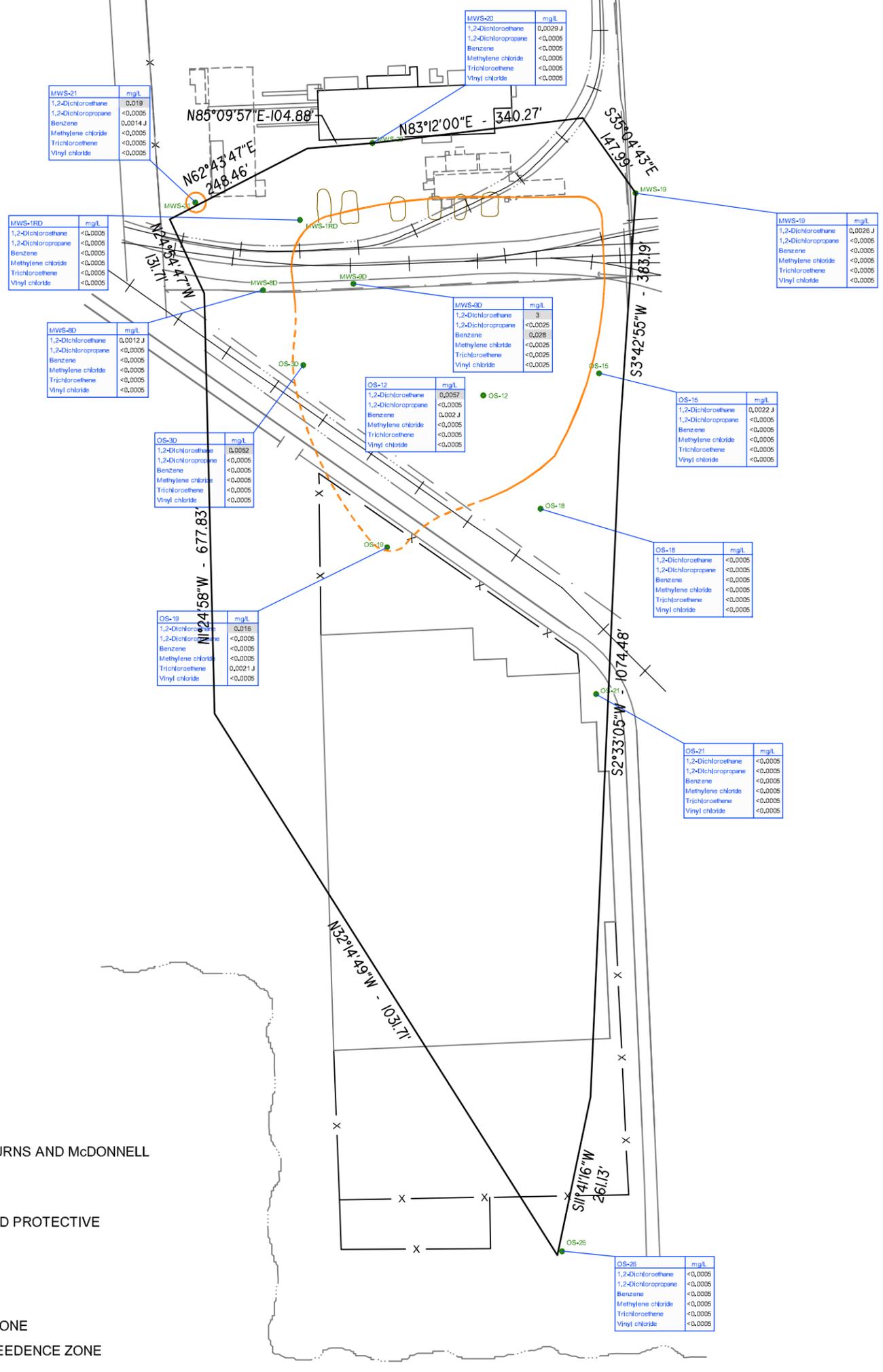
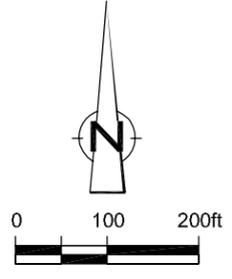
COMPOUND	PCL
Arsenic	0.01 mg/L

J - ESTIMATED RESULT

figure B-8

ARSENIC CONCENTRATION IN GROUNDWATER
SECOND TRANSMISSIVE ZONE- APRIL 2010
UNION PACIFIC RAILROAD/FORMER ENCOAT LEASE VCP No 796
Houston, Texas





SOURCE:
ERM-SOUTHWEST INC., AND BURNS AND McDONNELL
ENGINEERING COMPANY, INC.

NOTE:
HIGHLIGHTED RESULTS EXCEED PROTECTIVE
CONCENTRATION LEVEL (PCL).

LEGEND

- PCL EXCEEDENCE ZONE
- - - INFERRED PCL EXCEEDENCE ZONE
- MSD BOUNDARY

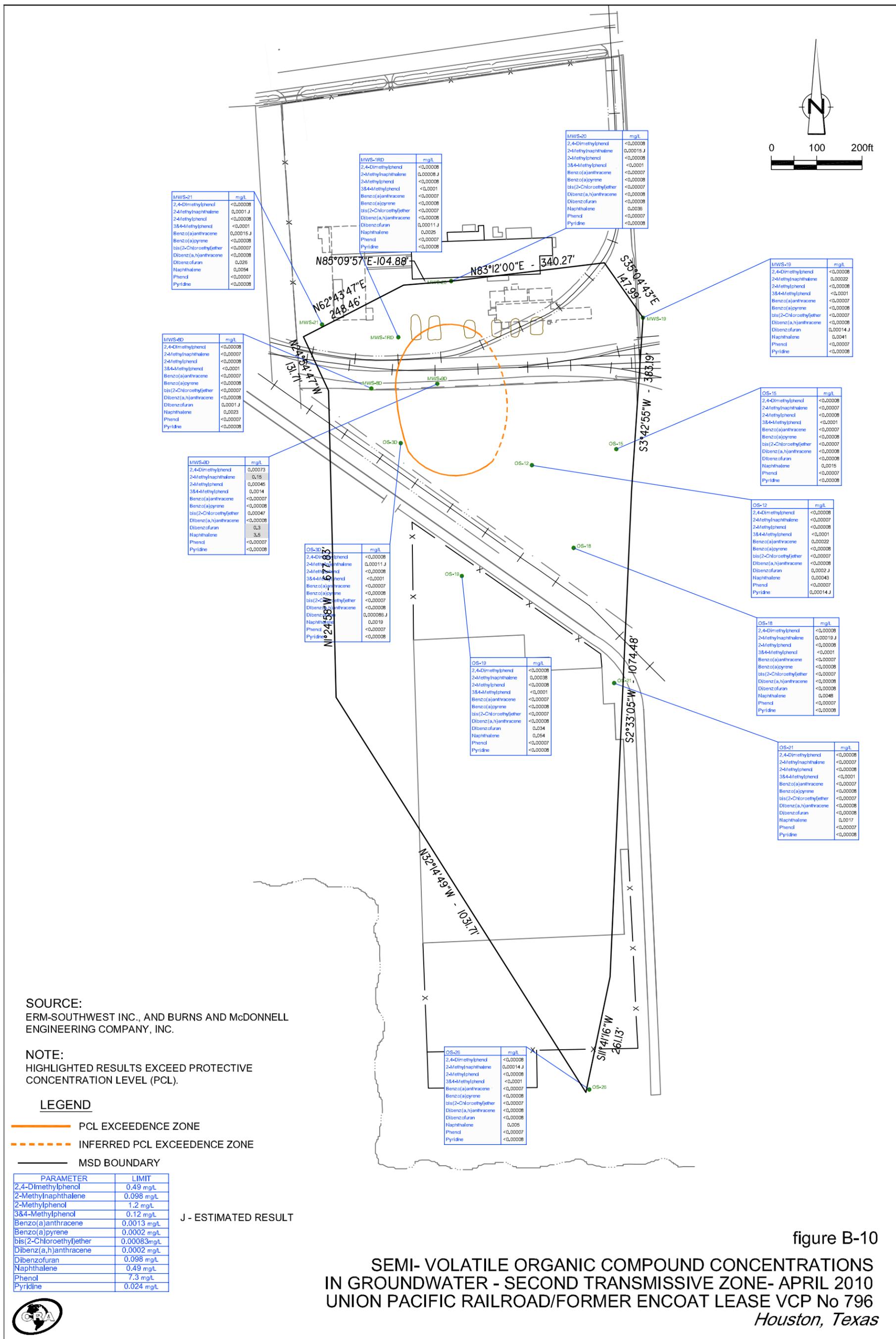
COMPOUND	PCL
1,2-Dichloroethane	0.005 mg/L
1,2-Dichloropropane	0.005 mg/L
Benzene	0.005 mg/L
Methylene chloride	0.005 mg/L
Trichloroethene	0.005 mg/L
Vinyl chloride	0.002 mg/L

J - ESTIMATED RESULT

figure B-9

**VOLATILE ORGANIC COMPOUND CONCENTRATIONS
IN GROUNDWATER - SECOND TRANSMISSIVE ZONE- APRIL 2010
UNION PACIFIC RAILROAD/FORMER ENCOAT LEASE VCP No 796
Houston, Texas**





SOURCE:
ERM-SOUTHWEST INC., AND BURNS AND McDONNELL
ENGINEERING COMPANY, INC.

NOTE:
HIGHLIGHTED RESULTS EXCEED PROTECTIVE
CONCENTRATION LEVEL (PCL).

LEGEND

- PCL EXCEEDENCE ZONE
- - - - - INFERRED PCL EXCEEDENCE ZONE
- MSD BOUNDARY

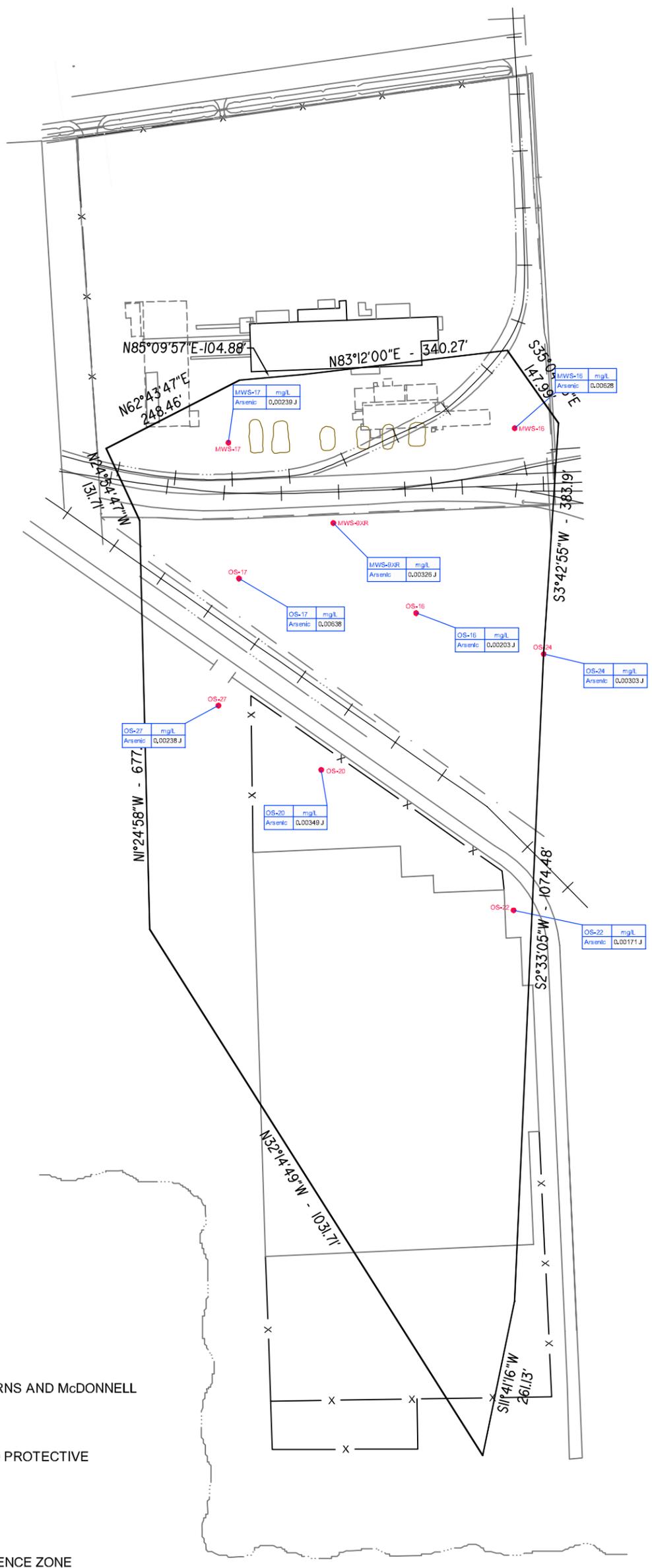
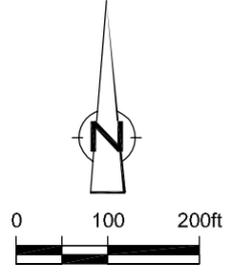
PARAMETER	LIMIT
2,4-Dimethylphenol	0.49 mg/L
2-Methylnaphthalene	0.098 mg/L
2-Methylphenol	1.2 mg/L
3,8,4-Methylphenol	0.12 mg/L
Benzo(a)anthracene	0.0013 mg/L
Benzo(a)pyrene	0.0002 mg/L
bis(2-Chloroethyl)ether	0.00083 mg/L
Dibenz(a,h)anthracene	0.0002 mg/L
Dibenzofuran	0.098 mg/L
Naphthalene	0.49 mg/L
Phenol	7.3 mg/L
Pyridine	0.024 mg/L

J - ESTIMATED RESULT

figure B-10

**SEMI-VOLATILE ORGANIC COMPOUND CONCENTRATIONS
IN GROUNDWATER - SECOND TRANSMISSIVE ZONE- APRIL 2010
UNION PACIFIC RAILROAD/FORMER ENCOAT LEASE VCP No 796
Houston, Texas**





SOURCE:
ERM-SOUTHWEST INC., AND BURNS AND McDONNELL
ENGINEERING COMPANY, INC.

NOTE:
HIGHLIGHTED RESULTS EXCEED PROTECTIVE
CONCENTRATION LEVEL (PCL).

LEGEND

- PCL EXCEEDENCE ZONE
- - - INFERRED PCL EXCEEDENCE ZONE
- MSD BOUNDARY

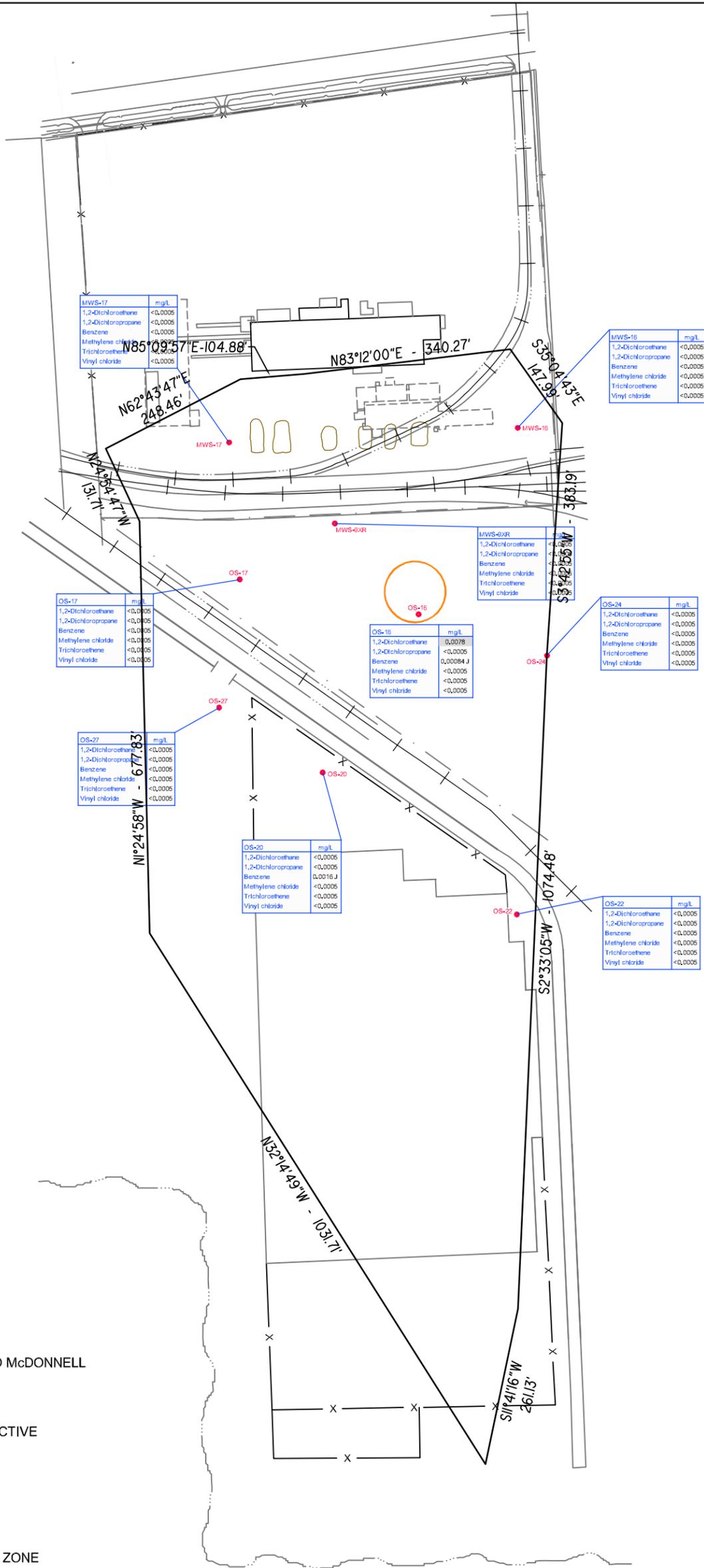
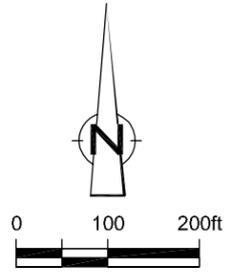
COMPOUND	PCL
Arsenic	0.01 mg/L

J - ESTIMATED RESULT

figure B-11

**ARSENIC CONCENTRATION IN GROUNDWATER
THIRD TRANSMISSIVE ZONE- APRIL 2010
UNION PACIFIC RAILROAD/FORMER ENCOAT LEASE VCP No 796
Houston, Texas**





SOURCE:
ERM-SOUTHWEST INC., AND BURNS AND McDONNELL
ENGINEERING COMPANY, INC.

NOTE:
HIGHLIGHTED RESULTS EXCEED PROTECTIVE
CONCENTRATION LEVEL (PCL).

LEGEND

- PCL EXCEEDENCE ZONE
- - - INFERRED PCL EXCEEDENCE ZONE
- MSD BOUNDARY

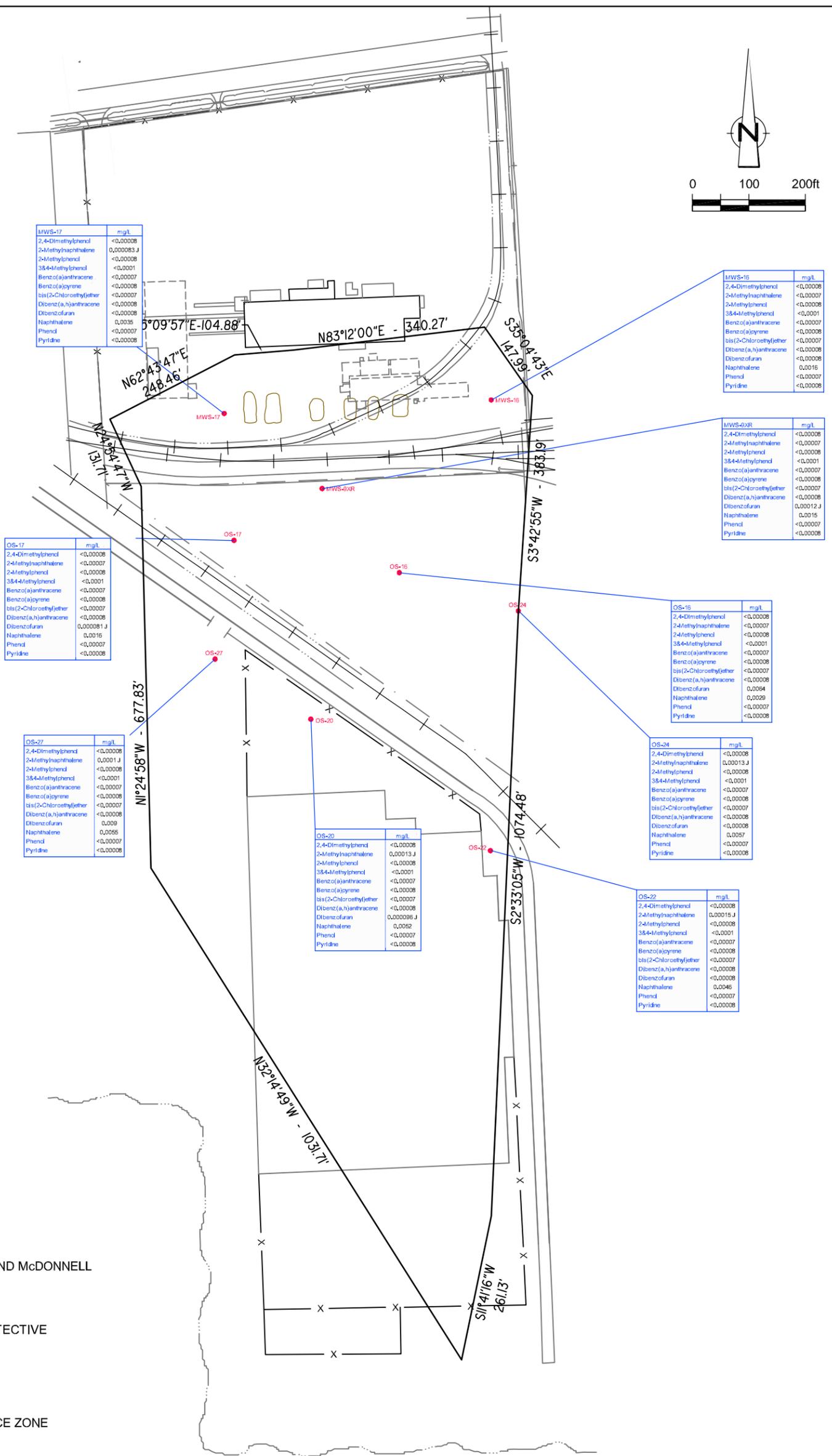
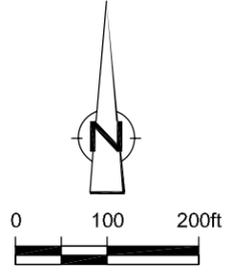
COMPOUND	PCL
1,2-Dichloroethane	0.005 mg/L
1,2-Dichloropropane	0.005 mg/L
Benzene	0.005 mg/L
Methylene chloride	0.005 mg/L
Trichloroethene	0.005 mg/L
Vinyl chloride	0.002 mg/L

J - ESTIMATED RESULT

figure B-12

**VOLATILE ORGANIC COMPOUND CONCENTRATIONS
IN GROUNDWATER - THIRD TRANSMISSIVE ZONE- APRIL 2010
UNION PACIFIC RAILROAD/FORMER ENCOAT LEASE VCP No 796
Houston, Texas**





MWS-17	mg/L
2,4-Dimethylphenol	<0.00008
2-Methylnaphthalene	0.000083 J
2-Methylphenol	<0.00008
3,8,4-Methylphenol	<0.0001
Benzo(a)anthracene	<0.00007
Benzo(a)pyrene	<0.00008
bis(2-Chloroethyl)ether	<0.00007
Dibenz(a,h)anthracene	<0.00008
Dibenzofuran	<0.00008
Naphthalene	0.0055
Phenol	<0.00007
Pyridine	<0.00008

MWS-16	mg/L
2,4-Dimethylphenol	<0.00008
2-Methylnaphthalene	<0.00007
2-Methylphenol	<0.00008
3,8,4-Methylphenol	<0.0001
Benzo(a)anthracene	<0.00007
Benzo(a)pyrene	<0.00008
bis(2-Chloroethyl)ether	<0.00007
Dibenz(a,h)anthracene	<0.00008
Dibenzofuran	<0.00008
Naphthalene	0.0016
Phenol	<0.00007
Pyridine	<0.00008

MWS-4XR	mg/L
2,4-Dimethylphenol	<0.00008
2-Methylnaphthalene	<0.00007
2-Methylphenol	<0.00008
3,8,4-Methylphenol	<0.0001
Benzo(a)anthracene	<0.00007
Benzo(a)pyrene	<0.00008
bis(2-Chloroethyl)ether	<0.00007
Dibenz(a,h)anthracene	<0.00008
Dibenzofuran	0.0012 J
Naphthalene	0.0015
Phenol	<0.00007
Pyridine	<0.00008

OS-17	mg/L
2,4-Dimethylphenol	<0.00008
2-Methylnaphthalene	<0.00007
2-Methylphenol	<0.00008
3,8,4-Methylphenol	<0.0001
Benzo(a)anthracene	<0.00007
Benzo(a)pyrene	<0.00008
bis(2-Chloroethyl)ether	<0.00007
Dibenz(a,h)anthracene	0.000081 J
Naphthalene	0.0016
Phenol	<0.00007
Pyridine	<0.00008

OS-16	mg/L
2,4-Dimethylphenol	<0.00008
2-Methylnaphthalene	<0.00007
2-Methylphenol	<0.00008
3,8,4-Methylphenol	<0.0001
Benzo(a)anthracene	<0.00007
Benzo(a)pyrene	<0.00008
bis(2-Chloroethyl)ether	<0.00007
Dibenz(a,h)anthracene	<0.00008
Dibenzofuran	0.0064
Naphthalene	0.0029
Phenol	<0.00007
Pyridine	<0.00008

OS-27	mg/L
2,4-Dimethylphenol	<0.00008
2-Methylnaphthalene	0.0001 J
2-Methylphenol	<0.00008
3,8,4-Methylphenol	<0.0001
Benzo(a)anthracene	<0.00007
Benzo(a)pyrene	<0.00008
bis(2-Chloroethyl)ether	<0.00007
Dibenz(a,h)anthracene	<0.00008
Dibenzofuran	0.009
Naphthalene	0.0055
Phenol	<0.00007
Pyridine	<0.00008

OS-20	mg/L
2,4-Dimethylphenol	<0.00008
2-Methylnaphthalene	0.00013 J
2-Methylphenol	<0.00008
3,8,4-Methylphenol	<0.0001
Benzo(a)anthracene	<0.00007
Benzo(a)pyrene	<0.00008
bis(2-Chloroethyl)ether	<0.00007
Dibenz(a,h)anthracene	<0.00008
Dibenzofuran	0.000086 J
Naphthalene	0.0052
Phenol	<0.00007
Pyridine	<0.00008

OS-24	mg/L
2,4-Dimethylphenol	<0.00008
2-Methylnaphthalene	0.00013 J
2-Methylphenol	<0.00008
3,8,4-Methylphenol	<0.0001
Benzo(a)anthracene	<0.00007
Benzo(a)pyrene	<0.00008
bis(2-Chloroethyl)ether	<0.00007
Dibenz(a,h)anthracene	<0.00008
Dibenzofuran	<0.00008
Naphthalene	0.0057
Phenol	<0.00007
Pyridine	<0.00008

OS-22	mg/L
2,4-Dimethylphenol	<0.00008
2-Methylnaphthalene	0.00015 J
2-Methylphenol	<0.00008
3,8,4-Methylphenol	<0.0001
Benzo(a)anthracene	<0.00007
Benzo(a)pyrene	<0.00008
bis(2-Chloroethyl)ether	<0.00007
Dibenz(a,h)anthracene	<0.00008
Dibenzofuran	<0.00008
Naphthalene	0.0046
Phenol	<0.00007
Pyridine	<0.00008

SOURCE:
ERM-SOUTHWEST INC., AND BURNS AND McDONNELL
ENGINEERING COMPANY, INC.

NOTE:
HIGHLIGHTED RESULTS EXCEED PROTECTIVE
CONCENTRATION LEVEL (PCL).

LEGEND

- PCL EXCEEDENCE ZONE
- - - - INFERRED PCL EXCEEDENCE ZONE
- MSD BOUNDARY

PARAMETER	LIMIT
2,4-Dimethylphenol	0.49 mg/L
2-Methylnaphthalene	0.098 mg/L
2-Methylphenol	1.2 mg/L
3,8,4-Methylphenol	0.12 mg/L
Benzo(a)anthracene	0.0013 mg/L
Benzo(a)pyrene	0.0002 mg/L
bis(2-Chloroethyl)ether	0.00083 mg/L
Dibenz(a,h)anthracene	0.0002 mg/L
Dibenzofuran	0.098 mg/L
Naphthalene	0.49 mg/L
Phenol	7.3 mg/L
Pyridine	0.024 mg/L

J - ESTIMATED RESULT

figure B-13
SEMI-VOLATILE ORGANIC COMPOUND CONCENTRATIONS
IN GROUNDWATER - THIRD TRANSMISSIVE ZONE- APRIL 2010
UNION PACIFIC RAILROAD/FORMER ENCOAT LEASE VCP No 796
Houston, Texas



Appendix C

- 3. A description of the current use, and, to the extent known, the anticipated uses, of the designated property and properties within 500 feet of the boundary of the designated property.**

The current and anticipated uses, to the extent known, of properties within 500 feet of the Applicant's Property for Municipal Setting Designation ("APMSD") boundary is described as follows:

- The UPRR and Ashgrove portions of the designated property are vacant, with the exception of the UPRR mainline and spur railroad tracks running east-west across the APMSD. South of these properties lies Old Clinton Road, running across the APMSD northwest to southeast, and south of this road is the O'Neal Steel warehouse and facilities.
- Commercial/industrial property exists to the west (agricultural product storage/transportation), north, northeast (oilfield equipment storage/maintenance) and east (concrete storage/preparation/transportation, aggregate supply) of the APMSD.
- The Houston Ship Channel is approximately 100 to 200 feet to the south and southwest of the APMSD.

Appendix D
(See also TCEQ MSD Application #5)

4. For each contaminant of concern within the ingestion protective concentration level exceedence zone, to the extent known, provide the following:
- a. A description of the ingestion protective concentration level exceedence zone and the non-ingestion protective concentration level exceedence zone, including a specification of the horizontal area and the minimum and maximum depth below ground surface.

The horizontal area of the groundwater ingestion protective level concentration (PCL) exceedence zone is approximately 650 feet in length (N to S) and approximately 700 feet wide (W to E). The total area of the PCLE zone is approximately 5.6 acres. The affected groundwater exists within this area from a minimum depth of approximately 20 feet below ground surface (bgs) to approximately 80 feet bgs. Non-ingestion PCLs are not exceeded.

- b. The level of contamination, the ingestion protective concentration level, and the non-ingestion protective concentration level, all expressed as mg/L units.

Groundwater contamination levels, ingestion PCLs and non-ingestion PCLs for the contaminants of concern within the PCL zone are provided in the table below:

Contaminant of Concern	CAS Number	PCL Ingestion (mg/L)	PCL Non-Ingestion (mg/L)	Maximum Concentration (mg/L)
1,2-Dichloroethane	107-06-2	0.005	33	248 (OS-1, 11/2/01)
1,2-Dichloropropane	78-87-5	0.005	120	0.612728 (MWS-1RR, 6/29/04)
2,4-Dimethylphenol	105-67-9	0.49	160,000	1.88128 (MWS-1RR, 6/29/04)
2-Methylnaphthalene	91-57-6	0.098	-	1.572 (MWS-14, 2/6/02)
2-Methylphenol	95-48-7	1.2	100,000	3.35 (MWS-14, 7/1/04)
3&4-Methylphenol	108-39-4 / 106-44-5	6.6 / 0.63	670,000 / 610,000	2.61 JH (MWS-14, 3/28/07)
Arsenic	7440-38-2T	0.01	-	0.35 (MWS-1RR, 9/8/05)
Benzene	71-43-2	0.005	180	1.01 (MWS-14, 7/1/04)
Benzo(a)anthracene	56-55-3	0.0013	2,000	<0.23 (MWS-14, 3/2/01)
Benzo(a)pyrene	50-32-8	0.0002	390	<0.23 (MWS-14, 3/2/01)
bis(2-Chloroethyl)ether	111-44-4	0.00083	93	0.448 (MWS-14, 4/9/08)
Dibenz(a,h)anthracene	53-70-3	0.0002	1,000	<0.23 (MWS-14, 3/2/01)
Dibenzofuran	132-64-9	0.098	-	0.939 (MWS-5R, 11/1/01)
Methylene chloride	75-09-2	0.005	1,300	<2.5 (MWS-1RR, 7/5/01)
Naphthalene	91-20-3	0.49	320	30.62 (MWS-14, 2/6/02)

Phenol	108-95-2	7.3	280,000	13.7 (MWS-14, 7/1/04)
Pyridine	110-86-1	0.024	220	<0.23 (MWS-14, 3/2/01)
Trichloroethene	79-01-6	0.005	160	<0.5 (MWS-1RR, 7/5/01)
Vinyl chloride	75-01-4	0.002	3.6	<0.5 (MWS-1RR, 7/5/01)

c. Its basic geochemical properties (e.g., whether the contaminant of concern migrates with groundwater, floats, or is soluble in water).

The organic site COCs appear to be generated from the release of Coal Tar/Creosote (CT/C) and chlorinated solvents. Dissolved arsenic appears localized in concentrations exceeding the PCL. The organic COCs are relatively insoluble and have an affinity for sorption to soil. COCs range in solubility from 5×10^{-4} mg/L (dibenz(a,h)anthracene) to $8.7 \times 10^{+4}$ mg/L (phenol). COCs range in octanol/water partitioning coefficient (log Koc) from 0.64 (pyridine) to 6.28 (dibenz(a,h)anthracene). It is therefore expected that COC migration in groundwater will be retarded by natural processes.

CT/C and chlorinated solvents tend to have specific gravities greater than water. Dense, Non-Aqueous Phase Liquid (DNAPL) has been observed at the site. After recovery, free DNAPL has not been detected in the monitoring well network since 2005.

Appendix E
(See also TCEQ MSD Application #5)

5. For each contaminant of concern within the designated groundwater, to the extent known, provide:
- a. A description of the ingestion protective concentration level exceedence zone and the non-ingestion protective concentration level exceedence zone, including a specification of the horizontal area and the minimum and maximum depth below ground surface.

The horizontal area of the groundwater ingestion protective level concentration (PCL) exceedence zone is approximately 650 feet in length (N to S) and approximately 700 feet wide (W to E). The total area of the PCLE zone is approximately 5.6 acres. The affected groundwater exists within this area from a minimum depth of approximately 20 feet below ground surface (bgs) to approximately 80 feet bgs. Non-ingestion PCLs are not exceeded.

- b. The level of contamination, the ingestion protective concentration level, and the non-ingestion protective concentration level, all expressed as mg/L units.

Groundwater contamination levels, ingestion PCLs and non-ingestion PCLs for the contaminants of concern within the designated groundwater are provided below:

Contaminant of Concern	CAS Number	PCL Ingestion (mg/L)	PCL Non-Ingestion (mg/L)	Maximum Concentration (mg/L)
1,2-Dichloroethane	107-06-2	0.005	33	248 (OS-1, 11/2/01)
1,2-Dichloropropane	78-87-5	0.005	120	0.612728 (MWS-1RR, 6/29/04)
2,4-Dimethylphenol	105-67-9	0.49	160,000	1.88128 (MWS-1RR, 6/29/04)
2-Methylnaphthalene	91-57-6	0.098	-	1.572 (MWS-14, 2/6/02)
2-Methylphenol	95-48-7	1.2	100,000	3.35 (MWS-14, 7/1/04)
3&4-Methylphenol	108-39-4 / 106-44-5	6.6 / 0.63	670,000 / 610,000	2.61 JH (MWS-14, 3/28/07)
Arsenic	7440-38-2T	0.01	-	0.35 (MWS-1RR, 9/8/05)
Benzene	71-43-2	0.005	180	1.01 (MWS-14, 7/1/04)
Benzo(a)anthracene	56-55-3	0.0013	2,000	<0.23 (MWS-14, 3/2/01)
Benzo(a)pyrene	50-32-8	0.0002	390	<0.23 (MWS-14, 3/2/01)
bis(2-Chloroethyl)ether	111-44-4	0.00083	93	0.448 (MWS-14, 4/9/08)
Dibenz(a,h)anthracene	53-70-3	0.0002	1,000	<0.23 (MWS-14, 3/2/01)
Dibenzofuran	132-64-9	0.098	-	0.939 (MWS-5R, 11/1/01)
Methylene chloride	75-09-2	0.005	1,300	<2.5 (MWS-1RR, 7/5/01)
Naphthalene	91-20-3	0.49	320	30.62 (MWS-14, 2/6/02)

Phenol	108-95-2	7.3	280,000	13.7 (MWS-14, 7/1/04)
Pyridine	110-86-1	0.024	220	<0.23 (MWS-14, 3/2/01)
Trichloroethene	79-01-6	0.005	160	<0.5 (MWS-1RR, 7/5/01)
Vinyl chloride	75-01-4	0.002	3.6	<0.5 (MWS-1RR, 7/5/01)

c. Its basic geochemical properties (e.g., whether the contaminant of concern migrates with groundwater, floats, or is soluble in water).

The organic site COCs appear to be generated from the release of Coal Tar/Creosote (CT/C) and chlorinated solvents. Dissolved arsenic appears localized in concentrations exceeding the PCL. The organic COCs are relatively insoluble and have an affinity for sorption to soil. COCs range in solubility from 5×10^{-4} mg/L (dibenz(a,h)anthracene) to $8.7 \times 10^{+4}$ mg/L (phenol). COCs range in octanol/water partitioning coefficient (log Koc) from 0.64 (pyridine) to 6.28 (dibenz(a,h)anthracene). It is therefore expected that COC migration in groundwater will be retarded by natural processes.

CT/C and chlorinated solvents tend to have specific gravities greater than water. Dense, Non-Aqueous Phase Liquid (DNAPL) has been observed at the site. After recovery, free DNAPL has not been detected in the monitoring well network since 2005.

Appendix F
(See also TCEQ MSD Application #5)

6. A table displaying the following information for each contaminant of concern, to the extent known:
- a. The maximum concentration level for soil and groundwater, the ingestion protective concentration level, and the non-ingestion protective concentration level, all expressed in mg/L units.

All impacted soils have been excavated from the affected areas of the site and have been removed from the site for appropriate disposal. As demonstrated in the Final Soil Closure Report (March 31, 2005) the remaining levels of constituents of concern in on-site soil samples are below the Risk Reduction Standard No. 2 SAI-MSC values in surface soil. TCEQ issued a Final Certificate of Completion of Response Action for the Partial Response Action Area (PRAA) to UPRR on March 27, 2007.

Affected groundwater continues to be monitored on a semiannual basis and appears to be stable or declining in concentration. Groundwater contamination levels, ingestion PCLs and non-ingestion PCLs for the contaminants of concern within the designated groundwater are provided below:

Contaminant of Concern	CAS Number	PCL Ingestion (mg/L)	PCL Non-Ingestion (mg/L)	Maximum Concentration (mg/L)
1,2-Dichloroethane	107-06-2	0.005	33	248 (OS-1, 11/2/01)
1,2-Dichloropropane	78-87-5	0.005	120	0.612728 (MWS-1RR, 6/29/04)
2,4-Dimethylphenol	105-67-9	0.49	160,000	1.88128 (MWS-1RR, 6/29/04)
2-Methylnaphthalene	91-57-6	0.098	-	1.572 (MWS-14, 2/6/02)
2-Methylphenol	95-48-7	1.2	100,000	3.35 (MWS-14, 7/1/04)
3&4-Methylphenol	108-39-4 / 106-44-5	6.6 / 0.63	670,000 / 610,000	2.61 JH (MWS-14, 3/28/07)
Arsenic	7440-38-2T	0.01	-	0.35 (MWS-1RR, 9/8/05)
Benzene	71-43-2	0.005	180	1.01 (MWS-14, 7/1/04)
Benzo(a)anthracene	56-55-3	0.0013	2,000	<0.23 (MWS-14, 3/2/01)
Benzo(a)pyrene	50-32-8	0.0002	390	<0.23 (MWS-14, 3/2/01)
bis(2-Chloroethyl)ether	111-44-4	0.00083	93	0.448 (MWS-14, 4/9/08)
Dibenz(a,h)anthracene	53-70-3	0.0002	1,000	<0.23 (MWS-14, 3/2/01)
Dibenzofuran	132-64-9	0.098	-	0.939 (MWS-5R, 11/1/01)
Methylene chloride	75-09-2	0.005	1,300	<2.5 (MWS-1RR, 7/5/01)
Naphthalene	91-20-3	0.49	320	30.62 (MWS-14, 2/6/02)
Phenol	108-95-2	7.3	280,000	13.7 (MWS-14, 7/1/04)
Pyridine	110-86-1	0.024	220	<0.23 (MWS-14, 3/2/01)
Trichloroethene	79-01-6	0.005	160	<0.5 (MWS-1RR, 7/5/01)

Vinyl chloride	75-01-4	0.002	3.6	<0.5 (MWS-1RR, 7/5/01)
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- b. The critical protective concentration level without the municipal setting designation, highlighting any exceedences.**

See the groundwater table presented in 6A above.

Appendix G

- 7. A statement as to whether the plume of contamination is stable, expanding, or contracting, with the basis for that statement. If this information is not known, a statement of why the information is not known should be attached.**

The contaminant-affected groundwater plume is generally stable or declining at the site. The organic site COCs appear to be generated from the release of Coal Tar/Creosote (CT/C) and chlorinated solvents. Dissolved arsenic appears localized in concentrations exceeding the PCL. The organic COCs are relatively insoluble and have an affinity for sorption to soil. COCs range in solubility from 5×10^{-4} mg/L (dibenz(a,h)anthracene) to 8.7×10^4 mg/L (phenol). COCs range in octanol/water partitioning coefficient (log Koc) from 0.64 (pyridine) to 6.28 (dibenz(a,h)anthracene). It is therefore expected that COC migration in groundwater will be retarded by natural processes. Perimeter monitor wells show seasonal fluctuations but no long-term increasing trends in concentrations.

CT/C and chlorinated solvents tend to have specific gravities greater than water. Dense, Non-Aqueous Phase Liquid (DNAPL) has been observed at the site. After recovery, free DNAPL has not been detected in the monitoring well network since 2005.