

Executive Summary
Former Landreth Metal Site
7135 Ardmore Street, Houston, Texas 77054

The former Landreth Metal site consists of two tracts of land (a 13.2435-acre tract and a 0.4292 tract) located at 7135 Ardmore Street, Houston, Texas 77054. The site has been owned by various companies and used intermittently since 1957 to manufacture and repair industrial and parts. The current land use is commercial/industrial and the property is expected to remain in commercial/industrial use into the foreseeable future. Suspected historical sources of contamination at the site appear to include: 1) a former sump located inside the southeast corner of Building 1A and adjacent underground storage tank located immediately adjacent to the sump outside the southeast corner of Building 1A, and 2) a former machine shop located inside Building 3A. The site is currently in the Corrective Action Program and is in good standing with the Texas Commission on Environmental Quality.

Contaminants of concern (COCs) in the designated groundwater are dissolved chlorinated volatile organic compounds (tetrachloroethene [PCE], trichloroethene [TCE], cis-1,2-dichloroethene [cis-1,2-DCE], trans-1,2-dichloroethene [trans-1,2-DCE], 1,1-dichloroethene [1,1-DCE], vinyl chloride, 1,1,2-trichloroethane [1,1,2-TCA] and 1,2-dichloroethane [1,2-DCA]), petroleum compounds (benzene and ethylbenzene) and arsenic. The lateral extent of the affected groundwater includes two separate areas. The first area extends roughly across the northeastern quadrant of the Designated Property and encompasses Wells MW-3, MW-6, MW-9 and MW-10. The second area extends across the southeastern corner of the Designated Property and encompasses Wells MW-5 and MW-8.

The COCs have impacted the upper water bearing zone which begins at approximately 8 to 15 ft below ground surface and extends to a confining clay layer approximately 30 ft below ground surface. Shallow groundwater generally flows toward the east in the vicinity of the site. A retaining wall and a 12 foot by 12 foot storm sewer constructed for State Highway 288 are present near the eastern property boundary down-gradient of both of the source areas. Based on construction diagrams obtained from TXDOT, these structures intercept groundwater and represent a physical barrier to its migration east of the wall. Stable and/or decreasing concentration trends in the monitoring wells, along with the presence of the retaining wall indicate that the groundwater plume is stable.

Constituents including PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, vinyl chloride, 1,1,2-TCA and 1,2-DCA exceeded the Ingestion Protective Concentration Levels (IPCLs) (the Tier 1 Residential ^{GW}GW_{Ing} PCLs) in one or more of the monitoring wells during the most recent (March 2013) sampling event. These constituents may extend beyond the designated property boundary to the south beneath the City of Houston right-of-way and a short distance east of the site toward State Highway 288 at concentrations above the IPCLs. The retaining wall and storm sewer appear to act as a barrier to constituent migration further east of these features.

TCE and vinyl chloride were detected in groundwater samples at concentrations above the non-IPCLs (Tier I Residential ^{Air}GW_{Inh-V} PCLs) during the March 2013 sampling event. These constituents may extend beyond the designated property boundary to the south beneath the City of Houston right-of-way and a short distance east of the site toward State Highway 288 at concentrations above the non-IPCLs. The retaining wall and storm sewer appear to act as a barrier to constituent migration further east of these features.



Appendix A
Legal Description and Deed

City of Houston Municipal Setting
Designation (MSD) Application for the
former Landreth Metal Facility, 7135
Ardmore Street, Houston, Texas
Baker Hughes, Inc. (BHI)

Appendix A

Legal Description and Deed



Appendix A. Provide a legal description of the boundaries of the designated property, including metes and bounds, and a copy of the deed for the property. A professional surveyor currently registered with the Texas Board of Professional Surveying must certify that all property descriptions with metes and bounds are accurate.

A property survey certified by a professional surveyor registered in Texas is attached. The survey includes a legal description and metes and bounds description of the site. A copy of the property deed is also attached.

Exhibit A
Legal Description and Land Survey

Being a parcel containing 13.2435 acres (576,886 square feet) of land, located in the D. W. C. Harris Survey, Abstract No. 325, Harris County, Texas, being all of the remainder of that certain called 14.473 acre tract (Parcel No. 2) conveyed from Vetco Gray Inc. to Combustion Engineering, Inc. and Baker Hughes Incorporated (in equal undivided interests) by deed dated June 24th, 1988 and recorded under Harris County Clerk's File (HCCF) No. L969161 of the Official Public Records of Real Property of Harris County, Texas (OPRRPHCT), said remainder tract being further conveyed from Combustion Engineering, Inc. to ABB Prospects Inc. (as to a fifty percent interest) by deed dated November 11th, 1999 and recorded under HCCF No. U324474 of said OPRRPHCT; said remainder tract being more particularly described by metes and bounds as follows (the coordinates (and or bearings) shown hereon were derived from redundant RTK GPS observations and are based on the Texas Coordinate System, South Central Zone (4204) NAD 83 CORS adjustment. The distances shown hereon are grid datum. A combined project adjustment factor for this project has not been determined):

BEGINNING at a five-eighths inch iron rod found for the southeast corner of said called 14.473 acre tract and the herein described parcel, being the intersection of the westerly right-of-way line of State Highway (SH) 288 (width varies) and the northerly right-of-way line of Corder Street (also known as Nichols Road) (60 feet wide), and having coordinates of N= 13,816,532.47, E= 3,118,093.85;

THENCE, North 72° 01' 07" West, along said northerly right-of-way line of Corder Street, a distance of 516.34 feet to a five-eighths inch iron rod with E.H.R.&A. cap found for the southwest corner of said called 14.473 acre tract and the herein described parcel, and being the intersection of said northerly right-of-way line of Corder Street and the easterly right-of-way line of Ardmore Street (80 feet wide);

THENCE, North 14° 41' 41" East, along said easterly right-of-way line of Ardmore Street, a distance of 316.85 feet to the southwest corner of a called 1.2215 acre tract conveyed from Baker Hughes Incorporated and ABB Prospects, Inc. to Ardmore Professional Center, LLC by deed dated December 3rd, 2002 and recorded under HCCF No. W286138 of said OPRRPHCT;

THENCE, South 72° 09' 44" East, departing said easterly right-of-way line of Ardmore Street and along the southerly line of said called 1.2215 acre tract, a distance of 95.87 feet to the southeast corner of said called 1.2215 acre tract, and from which a found five-eighths inch iron rod with Russ & Pape cap bears North 02° 08' West, a distance of 0.32 feet;

THENCE, along the easterly lines of said called 1.2215 acre tract, the following seven (7) courses and distances:

North 17° 54' 49" East, a distance of 105.22 feet to an "X" set on concrete for an angle point;

South 72° 05' 26" East, a distance of 36.60 feet to an "X" set on concrete for an angle point;

North 18° 21' 31" East, a distance of 125.84 feet to an angle point;

North 71° 38' 29" West, a distance of 26.00 feet to an "X" set on concrete for an angle point;

North 18° 21' 31" East, a distance of 20.00 feet to an "X" set on concrete for an angle point;

North 71° 38' 29" West, a distance of 11.21 feet to an "X" set on concrete for an angle point;

North 18° 01' 19" East, a distance of 193.16 feet to an "X" set on concrete for the northeast corner of said called 1.2215 acre tract;

THENCE, North 72° 12' 24" West, along the northerly line of said called 1.2215 acre tract, a distance of 121.75 feet to a PK nail found for the northwest corner of said called 1.2215 acre tract, and lying on said easterly right-of-way line of Ardmore Street;

THENCE, North 14° 41' 41" East, along said easterly right-of-way line of Ardmore Street, a distance of 532.33 feet to the northwest corner of said called 14.473 acre tract and the herein described parcel, and being the intersection of said easterly right-of-way line of Ardmore Street and the southerly right-of-way line of Alice Street (also known as Graves Road) (80 feet wide), and from which a found three-quarter inch iron pipe bears South 06° 38' East, a distance of 2.06 feet;

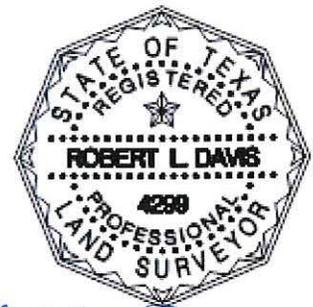
THENCE, South 72° 01' 47" East, along said southerly right-of-way line of Alice Street, a distance of 430.74 feet to a five-eighths inch iron rod found for the northeast corner of said called 14.473 acre tract and the herein described parcel, and being the intersection of said southerly right-of-way line of Alice Street and said westerly right-of-way line of SH 288;

THENCE, South 05° 25' 39" West, along said westerly right-of-way line of SH 288, a distance of 291.44 feet to an angle point in said westerly right-of-way line of SH 288, and from which a found five-eighths inch iron rod bears South 39° 48' West, a distance of 1.12 feet;

THENCE, South 12° 30' 49" West, continuing along said westerly right-of-way line of SH 288, a distance of 1,012.34 feet to the POINT OF BEGINNING, containing 13.2435 acres (576,886 square feet) of land.

This description is based upon an Exhibit Survey performed by Robert L. Davis, Registered Professional Land Surveyor, Texas Registration Number 4299, completed May 31st, 2013, and is on file in the office of Baseline Corporation, Houston, Texas, Job No. 13.039.

May 31st, 2013
RLD
Job No. 13.039
File: H:\2013\13039 MSD 7125 Ardmore\Data\documents\7125 Ardmore MSD_Part 1.docx



Robert L. Davis
6/4/2013

MSD PARCEL "B" BOUNDARY
0.4292 OF ONE ACRE
P. W. ROSE SURVEY
ABSTRACT NUMBER 645
HARRIS COUNTY, TEXAS
PAGE 3 OF 5

Being a parcel containing 0.4292 of one acre (18,697 square feet) of land, located in the P. W. Rose Survey, Abstract No. 645, Harris County, Texas, being all of the remainder of that certain called 6.4938 acre tract (Parcel No. 3) conveyed from Vetco Gray Inc. to Combustion Engineering, Inc. and Baker Hughes Incorporated (in equal undivided interests) by deed dated June 24th, 1988 and recorded under Harris County Clerk's File (HCCF) No. L969161 of the Official Public Records of Real Property of Harris County, Texas (OPRRPHCT), said remainder tract being further conveyed from Combustion Engineering, Inc. to ABB Prospects Inc. (as to a fifty percent interest) by deed dated November 11th, 1999 and recorded under HCCF No. U324474 of said OPRRPHCT; said remainder tract being more particularly described by metes and bounds as follows (the coordinates (and or bearings) shown hereon were derived from redundant RTK GPS observations and are based on the Texas Coordinate System, South Central Zone (4204) NAD 83 CORS adjustment. The distances shown hereon are grid datum. A combined project adjustment factor for this project has not been determined):

BEGINNING at the northeast corner of said called 6.4938 acre tract and the herein described parcel, being the intersection of the westerly right-of-way line of State Highway (SH) 288 (width varies) and the southerly right-of-way line of Corder Street (also known as Nichols Road) (60 feet wide), and having coordinates of N= 13,816,486.67, E= 3,118,040.62, from which a found five-eighths inch iron rod bears South 48° 55' East, a distance of 2.45 feet, a found five-eighths inch iron rod bears South 71° 17' East, a distance of 1.61 feet, and a found five-eighths inch iron rod with Russ & Pape cap bears South 82° 49' East, a distance of 1.22 feet;

THENCE, S 13° 56' 53" W, along said westerly right-of-way line of SH 288, a distance of 149.94 feet to the easterly common corner of the herein described parcel and Unrestricted Reserve "A", Alexan at 288, according to the map or plat recorded at Film Code No. 578280 of the Map Records of Harris County, and from which a found five-eighths inch iron rod with Russ & Pape cap bears South 75° 57' East, a distance of 1.44 feet;

THENCE, N 42° 09' 34" W, departing said westerly right-of-way line of SH 288 and along the northeasterly line of said Unrestricted Reserve "A", a distance of 300.43 feet to the westerly common corner of the herein described parcel and Unrestricted Reserve "A", being on said southerly right-of-way line of Corder Street, and from which a found five-eighths inch iron rod bears South 40° 40' East, a distance of 13.06 feet;

THENCE, S 72° 01' 07" E, along said southerly right-of-way line of Corder Street, a distance of 250.00 feet to the POINT OF BEGINNING, containing 0.4292 of one acre (18,697 square feet) of land.

This description is based upon an Exhibit Survey performed by Robert L. Davis, Registered Professional Land Surveyor, Texas Registration Number 4299, completed May 31st, 2013, and is on file in the office of Baseline Corporation, Houston, Texas, Job No. 13.039.

May 31st, 2013
RLD
Job No. 13.039
File: H:\2013\13039 MSD 7125 Ardmore\Data\documents\7125 Ardmore MSD_Part 2.docx



Robert L. Davis
6/4/2013

ALICE STREET
(80' ROW)

FND. 3/4" IRON PIPE
BEARS S06° 38'E, 2.06'

FND. 5/8" IRON ROD

S72°01'47"E
430.74'

GRID N 13,817,810.90
GRID E 3,118,340.77

S05°25'39"W
291.44'

MSD PARCEL "A"
13.2435 ACRES
576,886 SQ. FT.

FND. 5/8" IRON ROD
BEARS S39° 48'W, 1.12'

Parcel Line Table		
Line #	Length	Direction
L1	36.60'	S72° 05' 26"E
L2	26.00'	N71° 38' 29"W
L3	20.00'	N18° 21' 31"E
L4	11.21'	N71° 38' 29"W

ARDMORE STREET
(80' ROW)

N14°41'41"E
532.33'

(A)
REMAINDER OF CALLED 14.473 ACRES
(PARCEL No. 2)
VETCO GRAY INC.
TO
COMBUSTION ENGINEERING, INC. &
BAKER HUGHES INCORPORATED
(IN EQUAL UNDIVIDED INTERESTS)
H.C.C.F. No. L969161 O.P.R.R.P.H.C.T.
JUNE 24, 1988
AND
COMBUSTION ENGINEERING, INC.
TO
ABB PROSPECTS INC.
(AS TO A FIFTY PERCENT INTEREST)
H.C.C.F. No. U324474 O.P.R.R.P.H.C.T.
NOVEMBER 11, 1999

(B)
CALLED 1.2215 ACRES
BAKER HUGHES INCORPORATED
& ABB PROSPECTS, INC.
TO
ARDMORE PROFESSIONAL CENTER, LLC
H.C.C.F. No. W286138 O.P.R.R.P.H.C.T.
DECEMBER 3, 2002

N72°12'24"W
121.75'

FND. PK NAIL

SET "X"

N18°01'19"E
193.16'

SET "X" L4 SET "X"

SET "X" L2

N18°21'31"E
125.84'

SET "X" L1 SET "X"

N17°54'49"E
105.22'

SET 5/8" IRON ROD
W/"BASELINE CORP."
PLASTIC CAP

S72°09'44"E
95.87'

FND. 5/8" IRON ROD
W/RUSS & PAPE CAP
BEARS N02° 08'W, 0.32'

N14°41'41"E
316.85'

GRID N 13,816,691.87
GRID E 3,117,602.73

POINT OF BEGINNING
GRID N 13,816,532.47
GRID E 3,118,093.85

FND. 5/8" IRON ROD
W/E.H.R.&A. CAP

APPROXIMATE
SURVEY LINE

CORDER STREET
(60' ROW)

N72°01'07"W
516.34'

A-325
A-645

FND. 5/8" IRON ROD

S12°30'49"W
1,012.34'

STATE HIGHWAY No. 288
(WIDTH VARIES)



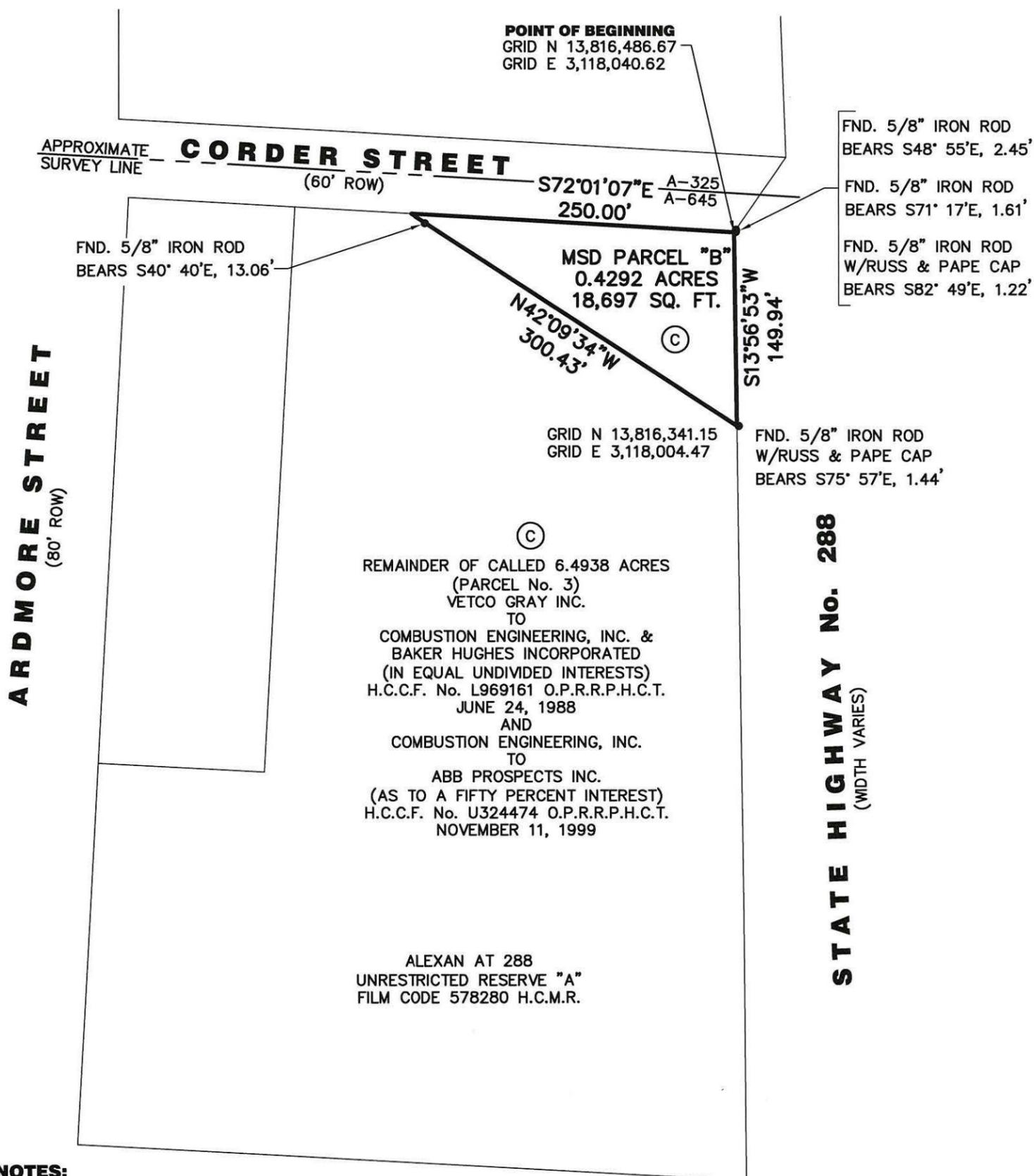
DATE: 05-31-2013
DRAWN BY: CKT
APPROVED BY: RLD
JOB No.: 13.039
FIELD BOOK: NA

A 13.2435 ACRE TRACT
IN THE
D.W.C. HARRIS SURVEY,
ABSTRACT No. 325
HARRIS COUNTY, TEXAS

**BOUNDARY
SURVEY
OF MSD
PARCEL "A"**

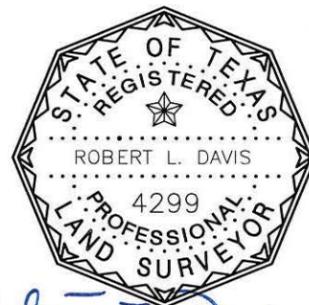
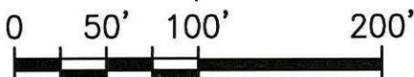
BASELINE
PROFESSIONAL SURVEYORS
1702 SEAMIST DRIVE, SUITE #320
HOUSTON, TEXAS 77008
PHONE (713) 869-0155
FAX (713) 869-1541

NO.	REVISION	DATE



NOTES:

- 1) THE BEARINGS HEREON WERE DERIVED FROM REDUNDANT RTK GPS OBSERVATIONS AND ARE BASED ON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204) NAD 83 CORS ADJUSTMENT. THE DISTANCES AND COORDINATES SHOWN ARE GRID DATUM. A COMBINED PROJECT ADJUSTMENT FACTOR FOR THIS PROJECT HAS NOT BEEN DETERMINED.
- 2) THIS SURVEY DOES NOT PROVIDE ANY DETERMINATION CONCERNING WETLANDS, FAULT LINES, TOXIC WASTE, OR OTHER ENVIRONMENTAL ISSUES.
- 3) THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT. EASEMENTS AND RESTRICTIONS AFFECTING THE SUBJECT PROPERTY MAY EXIST THAT ARE NOT SHOWN HEREON.
- 4) NO BUILDINGS, PAVED AREAS, VISIBLE EVIDENCE OF UTILITIES, OR OTHER IMPROVEMENTS OF ANY SORT ARE SHOWN HEREON.
- 5) A SEPARATE METES AND BOUNDS DESCRIPTION WAS PREPARED IN CONJUNCTION WITH THIS EXHIBIT SURVEY AND IS ON FILE IN THE OFFICE OF BASELINE CORPORATION UNDER JOB NUMBER 13.039.
- 6) H.C.M.R.= HARRIS COUNTY MAP RECORDS
- 7) O.P.R.R.P.H.C.T.= OFFICIAL PUBLIC RECORDS OF REAL PROPERTY HARRIS COUNTY TEXAS
- 8) MSD= MUNICIPAL SETTINGS DESIGNATION



Robert L. Davis
6/14/2013

DATE: 05-31-2013	BOUNDARY SURVEY OF MSD PARCEL "B"		NO.	REVISION	DATE
DRAWN BY: CKT	A 0.4292 ACRE TRACT IN THE P. W. ROSE SURVEY, ABSTRACT No. 645 HARRIS COUNTY, TEXAS				
APPROVED BY: RLD		1702 SEAMIST DRIVE, SUITE #320 HOUSTON, TEXAS 77008			
JOB No.: 13.039		PHONE (713) 869-0155			
FIELD BOOK: NA		FAX (713) 869-1541			
PAGE: 5 OF 5					

X110744
10/15/03 300278907

\$19.00

WARRANTY DEED

THE STATE OF TEXAS

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§
§

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF HARRIS

THAT BAKER HUGHES INCORPORATED, a Delaware corporation, and ABB PROSPECTS, INC., a Delaware corporation ("Grantors"), for TEN DOLLARS (\$10.00) and other good and valuable consideration paid to Grantors by STAR PROPERTIES, L.L.C., a Texas limited liability company ("Grantee"), the receipt and sufficiency of which consideration are hereby acknowledged and confessed by Grantors, have GRANTED, BARGAINED, SOLD, and CONVEYED, and by these presents do GRANT, BARGAIN, SELL, and CONVEY, unto Grantee, that certain 13.2522 acre tract or parcel of real property together with all improvements situated thereon located in Harris County, Texas, and more particularly described on Exhibit A, attached hereto and made a part hereof for all purposes (the "Property").

This Warranty Deed (this "Deed") is expressly made subject to the matters described on Exhibit B, attached hereto and made a part hereof for all purposes to the extent, and only to the extent the same are valid and subsisting and affect all or any part of the Property.

Notwithstanding anything to the contrary herein contained, this Deed is given subject to the restriction that (i) the Property shall hereafter be used only for Commercial Purposes (hereinafter defined) and (ii) no water wells may be drilled on the property (other than in connection with remediation and monitoring activities) for so long as there exist hazardous materials in the groundwater at levels in excess of those permitted by the laws of the State of Texas for drinking water (as to the groundwater) or for residential occupancy (as to the soil). This restriction has been required by Grantors as a material condition to the sale of the Property and is intended to protect human health. This restriction is intended to run with the land and be binding upon Grantee and Grantee's successors and assigns. This restriction may be enforced by Grantors and their respective successors and assigns.

As used herein, "Commercial Purposes" shall mean all commercial/industrial land uses as defined in 30 Tex. Admin. Code § 350.4(a)(13)) or such other use that may, from time to time, be defined as "commercial/industrial" under 30 Tex. Admin. Code § 350.4(a)(13) or any other environmental laws applicable to property within the State of Texas from time to time.

TO HAVE AND TO HOLD the Property, together with all and singular the rights and appurtenances thereunto in anywise belonging, unto Grantee, Grantee's successors and assigns, forever; and each Grantor does hereby bind such Grantor, such Grantor's successors, assigns and legal representatives, to WARRANT and FOREVER DEFEND all and singular the Property unto Grantee, Grantee's successors and assigns, against every

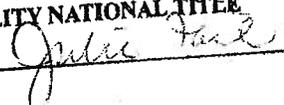
RETURN TO: Julie Fai
FIDELITY NATIONAL TITLE
1900 WEST LOOP SOUTH #760
HOUSTON, TEXAS 77027

We hereby certify that this is a true and correct copy of the original instrument.

WARRANTY DEED

FIDELITY NATIONAL TITLE

By: _____



THE STATE OF TEXAS

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COUNTY OF HARRIS

KNOW ALL MEN BY THESE PRESENTS:

THAT **BAKER HUGHES INCORPORATED**, a Delaware corporation, and **ABB PROSPECTS, INC.**, a Delaware corporation ("Grantors"), for TEN DOLLARS (\$10.00) and other good and valuable consideration paid to Grantors by **STAR PROPERTIES, L.L.C.**, a Texas limited liability company ("Grantee"), the receipt and sufficiency of which consideration are hereby acknowledged and confessed by Grantors, have GRANTED, BARGAINED, SOLD, and CONVEYED, and by these presents do GRANT, BARGAIN, SELL, and CONVEY, unto Grantee, that certain 13.2522 acre tract or parcel of real property together with all improvements situated thereon located in Harris County, Texas, and more particularly described on Exhibit A, attached hereto and made a part hereof for all purposes (the "Property").

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Notwithstanding anything to the contrary herein contained, this Deed is given subject to the restriction that (i) the Property shall hereafter be used only for Commercial Purposes (hereinafter defined) and (ii) no water wells may be drilled on the property (other than in connection with remediation and monitoring activities) for so long as there exist hazardous materials in the groundwater at levels in excess of those permitted by the laws of the State of Texas for drinking water (as to the groundwater) or for residential occupancy (as to the soil). This restriction has been required by Grantors as a material condition to the sale of the Property and is intended to protect human health. This restriction is intended to run with the land and be binding upon Grantee and Grantee's successors and assigns. This restriction may be enforced by Grantors and their respective successors and assigns.

As used herein, "Commercial Purposes" shall mean all commercial/industrial land uses as defined in 30 Tex. Admin. Code § 350.4(a)(13)) or such other use that may, from time to time, be defined as "commercial/industrial" under 30 Tex. Admin. Code § 350.4(a)(13) or any other environmental laws applicable to property within the State of Texas from time to time.

TO HAVE AND TO HOLD the Property, together with all and singular the rights and appurtenances thereunto in anywise belonging, unto Grantee, Grantee's successors and assigns, forever; and each Grantor does hereby bind such Grantor, such Grantor's successors, assigns and legal representatives, to WARRANT and FOREVER DEFEND all and singular the Property unto Grantee, Grantee's successors and assigns, against every

person whomsoever lawfully claiming or to claim the same or any part thereof by, through or under such Grantor, but not otherwise; subject, however, to the matters set forth herein.

GRANTEE, BY ITS ACCEPTANCE OF THIS DEED, ACKNOWLEDGES THAT IT HAS INSPECTED THE PROPERTY AND HAS SATISFIED ITSELF AS TO THE CONDITION OF SAME AND THAT, EXCEPT AS SET FORTH IN ARTICLE IX OF THE AGREEMENT OF PURCHASE AND SALE BETWEEN GRANTOR AND GRANTEE DATED EFFECTIVE JULY 15, 2003, IT ACCEPTS THE PROPERTY "AS IS" AND "WHERE IS" AND WITH ALL FAULTS, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING SPECIFICALLY, WITHOUT LIMITATION, ANY WARRANTY AS TO HABITABILITY, SUITABILITY, MERCHANTABILITY, CONDITION OR FITNESS FOR A PARTICULAR PURPOSE, SAVE AND EXCEPT THE SPECIAL WARRANTY OF TITLE CONTAINED HEREIN.

Grantors warrant payment of all ad valorem taxes on the Property through calendar year 2002. Such taxes for the current year have been prorated as of the date of delivery hereof and Grantee assumes and agrees to pay such ad valorem taxes in full.

EXECUTED on the dates of the acknowledgments set forth below, to be effective however as of the 14th day of October, 2003.

Grantee's Address:

c/o M.Jay Javadi
13630 Beamer, Suite 107
Houston, Texas 77089

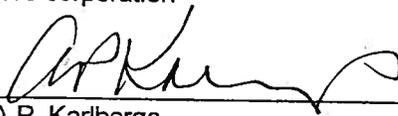
BAKER HUGHES INCORPORATED,
a Delaware corporation

By: _____


G.S. Finley
Vice President

ABB PROSPECTS, INC.,
a Delaware corporation

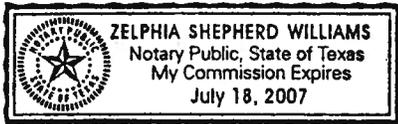
By: _____


A.P. Karlbergs
Vice President

STATE OF TEXAS §
 §
COUNTY OF HARRIS §

This instrument was acknowledged before me on the 14 day of October, 2003, by G.S. Finley, Vice President of Baker Hughes Incorporated, a Delaware corporation, on behalf of said corporation.

(SEAL)



Zelphia Shepherd Williams
Notary Public in and for
the State of Texas
My commission expires: 7/18/2007

STATE OF CONNECTICUT §
 §
COUNTY OF FAIRFIELD §

This instrument was acknowledged before me on the 10th day of October, 2003, by A.P. Karlbergs, Vice President of ABB Prospects, Inc., a Delaware corporation, on behalf of said corporation.

(SEAL)

Gail D. Johnson
Notary Public in and for
the State of Connecticut
My commission expires 09-30-08

Exhibit A

LEGAL DESCRIPTION
13.2522 ACRES
D.W.C. HARRIS SURVEY, ABSTRACT NO. 325
HARRIS COUNTY, TEXAS

Being a certain 13.2522 acre (577,264 square foot) tract of land out of a called 14.473 acre tract as described in deed recorded in Clerk's File No. L969161 of the Official Public Records of Real Property of Harris County, Texas, and being out of Lots 1 & 2, Block 15 of the Old Town of Clinton, as recorded in Volume "X", Page 167 of the Deed Records of Harris County, Texas, situated in the D.W.C. Harris Survey, Abstract No. 325, Harris County, Texas, said 13.2522 acre tract being more particularly described by metes and bound as follows:

Beginning at a found 5/8 inch iron rod for the southwest corner of said 14.473 acre tract, said point being the intersection of the northerly right-of-way line of Corder Street (called 60 foot right-of-way) and the easterly right-of-way line of Ardmore Street (80 foot right-of-way);

Thence, North 14 degrees 39 minutes 25 seconds East, along the easterly right-of-way line of said Ardmore Street, a distance of 317.05 feet to set 5/8 inch capped iron rod for corner;

Thence, South 72 degrees 12 minutes 00 seconds East, a distance of 95.87 feet to a set 5/8 inch capped iron rod for corner;

Thence, North 17 degrees 52 minutes 33 seconds East, a distance of 105.22 feet to a found 5/8 inch iron rod for corner;

Thence, South 72 degrees 07 minutes 42 seconds East, a distance of 36.60 feet to a point for corner;

Thence, North 18 degrees 19 minutes 15 seconds East, a distance of 125.84 feet to a point for corner;

Thence, North 71 degrees 40 minute 45 seconds West, a distance of 26.00 feet to a point for corner;

Thence, North 18 degrees 19 minutes 15 seconds East, a distance of 20.00 feet to a point for corner;

Thence, North 71 degrees 40 minutes 45 seconds West, a distance of 11.21 feet to a point for corner;

Thence, North 17 degrees 59 minutes 03 seconds East, a distance of 193.16 feet to found "X" in concrete;

Thence, North 72 degrees 14 minutes 40 seconds West, a distance of 121.75 feet to a set P.K. nail in the easterly right-of-way line of said Ardmore Street;

Thence, North 14 degrees 39 minutes 25 seconds East, along easterly right-of-way line of said Ardmore Street, a distance of 532.44 feet to a found 5/8 inch iron rod marking the intersection of the easterly right-of-way line of said Ardmore Street and the southerly right-of-way line of Alice Street (80 foot right-of-way);

Thence, South 72 degrees 04 minutes 03 seconds East, along the southerly right-of-way line of said Alice Street, a distance of 431.07 feet to a found 5/8 inch iron rod for the intersection of said southerly right-of-way line and the westerly right-of-way line of State Highway No. 288 (South Freeway – right-of-way varies);

Thence, South 05 degrees 26 minutes 09 seconds West, along the westerly right-of-way line of said State Highway 288, a distance of 291.17 feet to a found 5/8 inch iron rod for an angle point;

Thence, South 12 degrees 27 minutes 38 seconds West, along the westerly right-of-way line of said State Highway No. 288, a distance of 1012.74 feet to a found 5/8 inch iron rod for the intersection of said westerly right-of-way line and the northerly right-of-way line of said Corder Street;

Thence, North 72 degrees 04 minutes 23 seconds West, along the northerly right-of-way line of said Corder Street, a distance of 516.67 feet to the Point of Beginning and containing 13.2522 acres (577,264 square feet) of land.

BEARING ORIENTATION IS BASED ON CITY OF HOUSTON SURVEY MARKERS 5354-1312 AND 5354-1314.

Exhibit B

Permitted Exceptions

1. Real estate taxes and installments of assessments (and liens therefor) on the Property for the year of closing and subsequent years.
2. Visible and apparent easements affecting the Property.
3. Building restrictions and zoning regulations, if any, heretofore or hereafter adopted by any municipal or other public authority relating to all or any portion of the Property, and rent or other regulations or laws, if any, now or hereafter in effect with respect to all or any portion of the Property; and
4. Judgments, if any, docketed against Grantors and any franchise, premium or other similar taxes owing by Grantors and which might constitute liens against the Property or any portion thereof.
5. Easements granted to the City of Houston for sanitary sewer purposes as set forth and defined in instrument recorded in Volume 7047, Page 135 and Volume 7047, Page 141, both of the Deed Records of Harris County, Texas.
6. Ground and aerial easements granted to Houston Lighting and Power Company as set forth and defined under Harris County Clerk's File No. E378575 and H786033.
7. Southwestern Bell Telephone Company easement as set forth and defined under Harris County Clerk's File No. K489727.
8. Access Easement Agreement by and between Baker Hughes Incorporated, ABB Prospects, Inc. and Ardmore Professional Center, LLC, filed for record under Harris County Clerk's File No. W286139.
9. Restrictions and regulations imposed by Ordinance No. 70-346 dated March 4, 1970, a certified copy of which is recorded in Volume 7940, Page 233 of the Deed Records of Harris County, Texas.
10. Terms, conditions and provisions of City of Houston Ordinance #85-1878, a certified copy of which was filed for record on August 1, 1991, under Harris County Clerk's File No. N253886.
11. Terms, conditions and provisions of Ordinance #89-1312 of the City of Houston, a certified copy of which was recorded under Harris County Clerk's File No. M337573.

Deed

L969161

135-65-1513

DEED

THE STATE OF TEXAS §
COUNTY OF HARRIS §

KNOW ALL MEN BY THESE PRESENTS:

That VETCO GRAY, INC., a Delaware Corporation (the "Grantor"), for and in consideration of the sum of Ten and No/100 Dollars (\$10.00) and other good and valuable consideration cash in hand paid by COMBUSTION ENGINEERING, INC., a Delaware Corporation, whose address is 900 Long Ridge Road, Stamford, Connecticut 06902 and BAKER HUGHES INCORPORATED, a Delaware corporation, whose address is P. O. Box 4740, Houston, Texas 77210-4740 (together the "Grantee"), does hereby GRANT, BARGAIN, SELL, TRANSFER and CONVEY unto the Grantee in equal undivided interests the real property, together with all Grantor's improvements and fixtures thereon, situated in Harris County, Texas and described in Exhibit A attached hereto and made a part hereof for all purposes (the "Property").

(2)
lee
lee

17
L

This Deed is made subject to the matters set forth in Exhibit B attached hereto and made a part hereof for all purposes, to the extent the same are validly existing and affect all or portions of the Property.

TO HAVE AND TO HOLD the Property, together with all and singular the rights and appurtenances thereunto in anywise belonging, in equal undivided interests unto the Grantee, its successors and assigns, forever; and the Grantor does hereby bind itself, its successors and assigns, to warrant and forever defend, all and singular the Property unto the Grantee, its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, by, through or under the Grantor, but not otherwise, subject, however, to the matters set forth herein.

Ad valorem taxes on the Property for the current year have been prorated between the Grantor and the Grantee as of the date of delivery hereof.

Ret

Attn: John Hollyfield
Fairlight & Jaworski
1301 McKinney
Houston, Texas 77010
631-6151

135-65-1514

Without limiting the foregoing and for the consideration set forth above, the Grantor does hereby RELEASE, RELINQUISH and QUITCLAIM unto the Grantee, in equal undivided interests all Grantor's right, title and interest in and to (i) any land in the bed of any street, road or avenue (open or proposed) within, in front of or adjoining the Property; (ii) any easement across or adjacent to the Property, existing or abandoned; (iii) any unpaid award for damage to the Property by reason of changes of grade on any street, road or highway; (iv) any wastewater discharge capacity attributable to the Property; and (v) any reversionary rights attributable to the Property.

THE PROPERTY IS SOLD AND ACCEPTED IN ITS "AS IS" CONDITION WITH ALL FAULTS AND WITHOUT ANY WARRANTY OR REPRESENTATION (EXPRESSED OR IMPLIED) AS TO THE SUITABILITY OR CONDITION OF THE PROPERTY OR ITS FITNESS FOR ANY PARTICULAR PURPOSE.

EXECUTED this the 24 day of June, 1988.

VETCO GRAY INC.

By James M Tidwell
Name James M Tidwell
Title President

THE STATE OF NEW YORK §
COUNTY OF NEW YORK §

This instrument was acknowledged before me on the 24 day of June, 1988, by James M. Tidwell, ~~the~~ President of Vetco Gray Inc., a Delaware corporation, on behalf of said corporation.

[Signature]
Notary Public in and for
The State of New York
Notary Public, State of New York
No. 31-42657
Printed [Name] of Notary

My Commission Expires: [Date]
Notary Public, State of New York
No. 31-42657
Qualified in New York County
Commission Expires: April 4, 1990

FILED
DEC 13 1 50 PM '88
[Signature]
COUNTY CLERK
HARLEM COUNTY, N.Y.

EXHIBIT A

PARCEL NO: 1.

BEING a 4.981 acre (called 5 acre) tract of land situated in the D.W.C. Harris Survey, Abstract No.: 325, Harris County, Texas, and being that same property conveyed to the Gray Tool Company, (Tract 3) of record under Harris County Clerks File (H.C.C.F.) Number K-403277 and being part of Block 12, Old Town of Clinton, of record in Volume X., Page 167, in the Harris County Deed Records (all bearings are based on the Texas State Coordinate System, South Central Zone):

BEGINNING at a 5/8-inch iron rod found marking the southwest corner of said Block 12 and the intersection of the easterly right-of-way (R.O.W.) line of Ardmore Street (80 foot wide) with the northerly R.O.W. line of Alice Street (80 foot wide - previously Graves Road), said point bears North 53°38'35" East, 58.28 feet from City of Houston Survey Reference Monument No: 5354-1314;

THENCE, North 14°45'01" East, 525.55 feet along the easterly R.O.W. line of said Ardmore Street, to a 5/8-inch iron rod found for the northwest corner of said called 5 acre tract from which a found 1-inch iron pipe bears South 12°30'00" West, 3.96 feet;

THENCE, South 72°04'08" East, 395.07 feet along the north line of said called 5 acre tract to a 5/8-inch iron rod found for the northeast corner of said called 5 acre tract and being in the westerly R.O.W. line of the South Freeway (State Highway 288) from which a 1-inch iron pipe bears North 08°39'19" East, 450.60 feet and a 1-inch iron pipe bears South 11°42'00" West, 2.00 feet;

THENCE, along the westerly R.O.W. line of said South Freeway the following courses:

South 08°39'19" West, 6.37 feet to a 5/8-inch iron rod set for corner;

South 10°37'27" West, 368.67 feet to a 5/8-inch iron rod found for corner;

South 12°40'55" West, 153.41 feet to a 5/8-inch iron found at the intersection with the north line of aforementioned Alice Street;

THENCE, North 72°04'14" West, 427.86 feet along the north right-of-way line of Alice Street to the POINT OF BEGINNING and containing 4.981 acres of land.

135-65-1516

PARCEL NO: 2

Being a 14.473 acre tract of land situated in the D.V.C. Harris Survey, Abstract No.: 325, Harris County, Texas, and being that same property as conveyed as Tracts 1 and 2 to Gray Tool Company under Harris County Clerks file (H.C.C.F.) Number K-493277 and being part of Lot 1, Block 15, Old Town of Clinton, of record in Volume X., Page 167, in the Harris County Deed Records and being all of the same property conveyed to Vetco Gray Inc. under H.C.C.F. Number K-849451 and being part of Lot 2 of said Block 15, and being further described as follows: (all bearings are referenced to the Texas State Plane Coordinate System, South Central Zone):

BEGINNING at a 5/8-inch iron rod found marking the intersection of the easterly right-of-way (R.O.W.) line of Ardmore Street (80 foot wide) with the southerly R.O.W. line of Alice Street (previously Graves Road - 80.00 foot wide) and being the northwesterly corner of said Block 15, said rod bears South $31^{\circ}54'21''$ East, 50.33 feet from City of Houston Survey Reference Monument No.-5354-1314;

THENCE, South $72^{\circ}04'14''$ East, 431.07 feet along the southerly R.O.W. line of said Alice Street, to a 5/8-inch iron rod set in the westerly R.O.W. line of the South Freeway (State Highway No. 288).

THENCE, South $05^{\circ}25'58''$ West, 291.17 feet along said westerly R.O.W. line of said South Freeway to a 1-1/2-inch iron pipe found for an angle point:

THENCE, South $12^{\circ}27'29''$ West, 1012.74 feet continuing along said westerly R.O.W. line to a 5/8-inch iron rod found marking the intersection with the northerly line of Corder Street (called 60.00 foot wide at this point and previously called Nichols Road):

THENCE, North $72^{\circ}04'34''$ West, 516.67 feet along the north R.O.W. line of said Corder Street to a 5/8-inch iron rod found at the intersection with the easterly R.O.W. line of aforementioned Ardmore Street;

THENCE, North $14^{\circ}39'14''$ East, 1294.57 feet along the westerly R.O.W. line of said Ardmore Street to the POINT OF BEGINNING and containing 14.473 acres of land.

135-65-1517

PARCEL NO: 3

Being a 6.4938 acre tract of land and being that same tract as conveyed to Gray Top Company under Harris County Clerks File (H.C.C.F.) Number H-796272 (called 6.4893 acres), said 6.4938 acre tract being partially located within Ardmore Industrial District, Section One, a subdivision of record in Volume 63, Page 60 in the Harris County Map Records situated in the P.M. Rose Survey, Abstract No. 645, Harris County, Texas and being more particularly described by metes and bounds as follows (all bearings are referenced to the Texas State Plane Coordinate System, South Central Zone):

BEGINNING at a 5/8 inch iron rod found marking the intersection of the southerly right-of-way (R.O.W.) line of Corder Street (previously called Nichols Road, 60.00 feet wide at this point) with the westerly R.O.W. line of the South Freeway (State Highway No. 288) and being the northeasterly corner of said 6.4893 acre tract, said rod bears South 69°33'27" East, 518.14 feet from City of Houston Survey Monument No. 5354-1312:

THENCE, South 13°57'58" West, 524.23 feet along the westerly R.O.W. line of said South Freeway, to a 5/8-inch iron rod set for an angle point:

THENCE, South 14°13'16" West, 209.75 feet continuing along said westerly R.O.W. line, to a 5/8-inch iron rod found marking the corner common to said 6.4893 acre tract and a 8.8604 acre tract of record under H.C.C.F. Number H-594351;

THENCE, North 72°08'45" West, 517.82 feet along the line common to said 6.4893 acre tract and said 8.8604 acre tract, to a 5/8-inch iron rod found in the easterly R.O.W. line of Ardmore Street (100.00 foot wide at this point):

THENCE North 17°51'15" East, 119.24 feet along the said easterly R.O.W. line to a 5/8-inch iron rod found marking a westerly corner of said 6.4893 acre tract:

THENCE, South 72°08'45" East, 128.50 feet to a 5/8-inch iron rod set on the easterly line of Block 1 of aforesaid Ardmore Industrial District and being an interior corner of said 6.4893 acre tract:

THENCE, North 17°51'15" East, 613.52 feet along a westerly line of said 6.4893 acre tract and the easterly line of said Block 1 to a 5/8-inch iron rod set in the southerly R.O.W. line of aforementioned Corder Street:

THENCE, South 72°04'34" East, 340.48 feet along the southerly R.O.W. line of Corder Street to the POINT OF BEGINNING and containing 6.4938 acres of land.

135-65-1518

Parcel No:4

A Certain TRACT of LAND containing 155,575.00 square feet or 3.5715 Acres being out of and a part of Lot 7, Block 14, OLD TOWN of CLINTON SUBDIVISION as per map or plat of said Subdivision recorded in Volume 1, Page 187 of the Deed Records of Harris County, Texas, in the O. W. C. HARRIS SURVEY, Abstract 325, in Houston, Harris County, Texas and being more particularly described by metes and bounds as follows:

COMMENCING at a 3/4 inch iron rod found for the southeasterly corner of Block 14, being the intersection of the westerly line of ARDMORE Street, (80 feet width) and the northerly line of CORDER Street, (60 feet width);

THENCE North 19° 28' 44" East (Called North 18° 45' East), along the westerly line of Ardmore Street being the easterly line of said Block 14, a distance 784.00 feet to a 5/8 inch iron rod set for the southeasterly corner of the herein described tract, said point being the POINT and PLACE of BEGINNING;

THENCE North 16° 22' 44" East (Called North 16° 45' East), along the westerly line of said Ardmore Street, a distance 238.68 feet to a 5/8 inch iron rod set for the northeasterly corner of the herein described Tract, said point being the common southeasterly corner of a 3.8887 Acre Tract;

THENCE North 70° 24' 26" West, along a chain link fence, a distance 839.93 feet to a 5/8 inch iron rod set for the northwesterly corner of the herein described Tract, said point being the common southwesterly corner of a 3.8887 Acre Tract;

THENCE South 16° 28' 44" West (Called South 18° 45' West), a distance 235.50 feet to a 5/8 inch iron rod set for the southwesterly corner of the herein described Tract;

THENCE South 70° 18' 16" East (Called South 70° 00' East), a distance 860.00 feet to the POINT and PLACE of BEGINNING, containing 155,575.00 square feet or 3.5715 Acres more or less.

EXHIBIT B

- (a) Matters shown on map or plat recorded in Volume 63, Page 60, Map Records of Harris County, Texas (affects part of Parcel 3).
- (b) Restrictions and protective covenants set forth in instruments recorded in Volume 8201, Page 381, Deed Records of Harris County, Texas, as modified by instruments recorded under Clerk's File Nos. F-396901, G-854084, G-883133 and G-883134 in the Official Public Records of Real Property of Harris County, Texas, and restrictions and protective covenants set forth in ~~instruments recorded under Clerk's File Nos. E-317900 and E-626618~~ in the Official Public Records of Real Property of Harris County, Texas (affect portions of Parcel 3).
- (c) An easement over a 3,678 square foot strip of land granted to Southwestern Bell Telephone Company by instrument recorded under Clerk's File No. K-489726 of the Official Public Records of Real Property of Harris County, Texas (affects Parcel 1).
- (d) An easement for sanitary sewer purposes, 10 feet wide, granted to the City of Houston by instrument recorded in Volume 7047, Pages 135 and 141 of the Deed Records of Harris County, Texas (affects Parcel 2).
- (e) An unobstructed easement 10 feet in width and 21.5 feet in length at and below ground level and upward to a plane 20 feet above the ground and from said plane and upward 20 feet in width, as granted to Houston Lighting & Power Company by instrument recorded under Clerk's File No. E-378575 in the Official Public Records of Real Property of Harris County, Texas (affects Parcel 2).
- (f) Easement 10 feet in width, together with adjoining unobstructed aerial easements, and an easement 15 feet in width and 22 feet in length for transformer purposes, all as granted to Houston Lighting & Power Company by instrument recorded under Clerk's File No. H-786033 in the Official Public Records of Real Property of Harris County, Texas (affects Parcel 2).
- (g) An easement over a 2,176 square foot strip of land granted to Southwestern Bell Telephone Company by instrument recorded under Clerk's File No. K-489727 in the Official Public Records of Real Property of Harris County, Texas (affects Parcel 2).
- (h) A 10 foot wide sanitary sewer easement extending approximately 5 feet into the East line from the Southeast corner North approximately 201.97 feet and thence extending for a further distance North at a reduced width exiting the property approximately 280 feet North of the Southeast corner, as shown on the survey prepared by R. W. McDonald, Public Surveyor, dated August 20, 1980 (affects Parcel 3).

135-65-1520

- (i) An easement over a 596 square foot strip of land granted to Southwestern Bell Telephone Company by instrument recorded under Clerk's File No. K-489728 in the Official Public Records of Real Property of Harris County, Texas (affects Parcel 3).
- (j) Reservation of a 1/8th non-participating royalty interest in and to all oil, gas and other minerals set forth in instrument recorded in Volume 8016, Page 8, Deed Records of Harris County, Texas (affects part of Parcel 3).
- (k) Building set back line 5 feet in width along the North property line as reflected in instrument recorded in Volume 6249, Page 553, Deed Records of Harris County, Texas (affects Parcel 1).
- (l) Building set back line 10 feet in width along the West property line as reflected by plat recorded in Volume 63, Page 60, Map Records of Harris County, Texas (affects Parcel 3).
- (m) Liens for ad valorem taxes not yet due and payable.
- (n) Maintenance charge reserved in instrument recorded in Volume 8201, Page 381, Deed Records of Harris County, Texas, secured by a lien as set forth therein.

NOT RECORDED OR FILED IN THE OFFICE OF THE RECORDER OF REAL PROPERTY OF HARRIS COUNTY, TEXAS. THIS INSTRUMENT WAS FILED IN THE PUBLIC RECORDS OF HARRIS COUNTY, TEXAS, ON 12/13/1988 AT 10:58 AM. THE INSTRUMENT WAS FILED IN THE PUBLIC RECORDS OF HARRIS COUNTY, TEXAS, ON 12/13/1988 AT 10:58 AM.



DEC 13 1988
 J. L. ...
 COUNTY CLERK
 HARRIS COUNTY, TEXAS

RECORDER'S MEMORANDUM
 At the time of recordation, this instrument was found to be inadequate for the best photographic reproduction because of illegibility, carbon or photo-copy, discolored paper, etc. All blockouts, additions and changes were present at the time the instrument was filed and recorded.



Appendix B

Current Use

City of Houston Municipal Setting
Designation (MSD) Application for the
former Landreth Metal Facility, 7135
Ardmore Street, Houston, Texas
Baker Hughes, Inc. (BHI)

Appendix B

Current Use



Appendix B. A description of the current use, and, to the extent known, the anticipated use(s), of the designated property and properties within 500 feet of the boundary of the designated property.

The current land use of the designated property is light industrial. Current land use within 500 feet of the designated property is mixed commercial/industrial and residential (with the residential consisting of apartment complexes). Land use is expected to remain the same into the foreseeable future.



Appendix C
Site Map

City of Houston Municipal Setting
Designation (MSD) Application for the
former Landreth Metal Facility, 7135
Ardmore Street, Houston, Texas
Baker Hughes, Inc. (BHI)

Appendix C

Site Map

Appendix C. A site map showing:

a. The location of the designated property.

The property location is shown on **Figure C-1**.

b. The topography of the designated property as indicated on publicly available sources, which must note the watershed including the nearest surface water body and whether the designated property is located in a floodplain or floodway, as those terms are defined in Chapter 19 of the Code of Ordinances.

The topography of the designated property is shown in **Figure C-2**. The designated property is not located in a floodplain or floodway, as shown in **Figure C-3**. The property is located in the Brays Bayou watershed as shown in **Figure C-4**.

c. The detected area of groundwater contamination.

Figure C-5 depicts the area containing detectable constituent concentrations.

d. The location of all soil sampling locations and all groundwater monitoring wells.

Soil and groundwater sampling locations are shown on **Figure C-6**.

e. Groundwater gradients, to the extent known, and direction of groundwater flow.

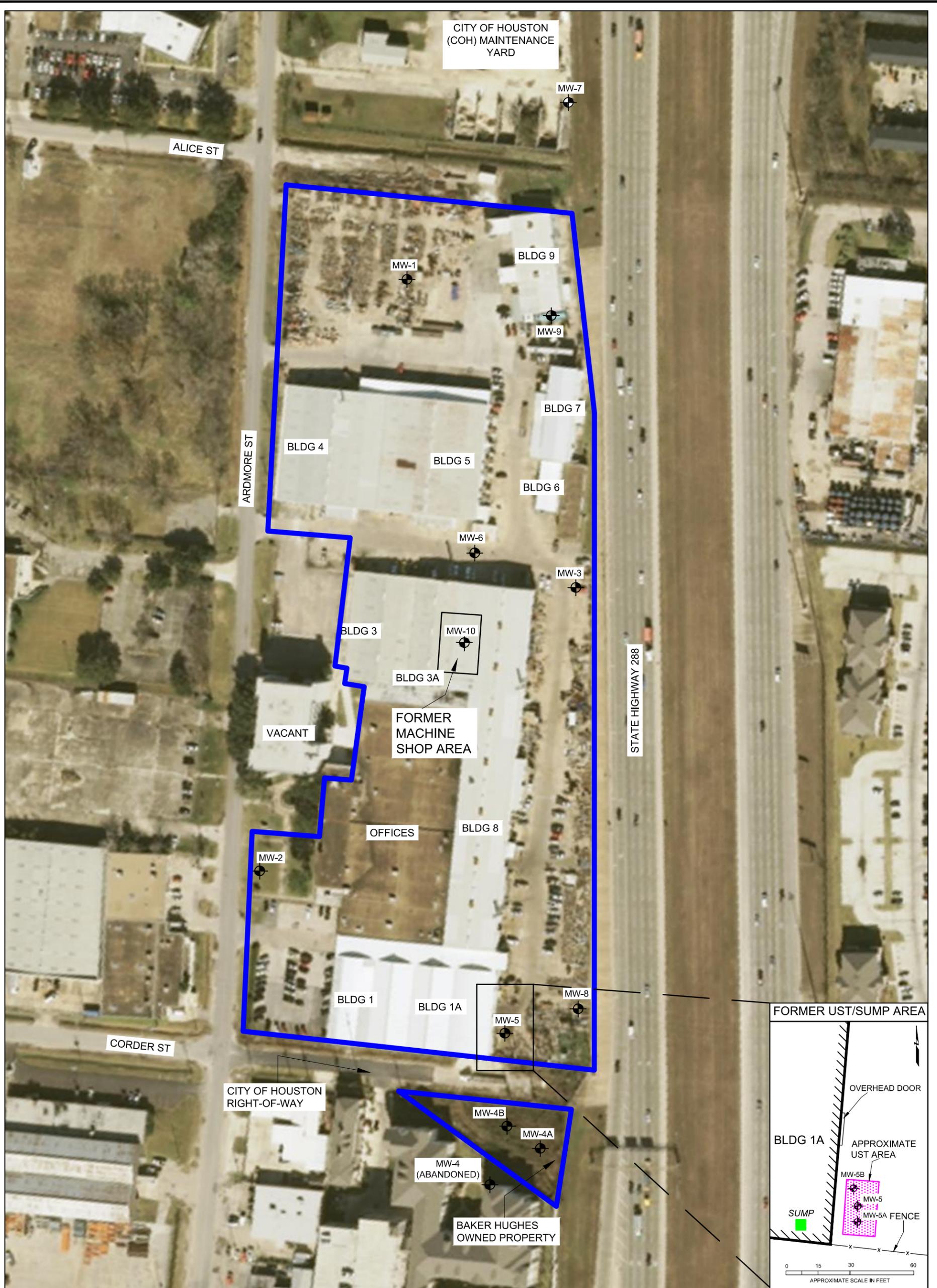
Figure C-7 shows the groundwater gradient in the water-bearing zone and indicates groundwater flow is generally toward the east.

f. The ingestion protective concentration level exceedance zone for each contaminate of concern, to the extent known.

Figures C-8 through C-18 show the ingestion protective concentration level exceedance zones (IPCLEZs) in the upper water-bearing zone for the 11 COCs – tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), 1,1-dichloroethene (1,1-DCE), vinyl chloride, 1,1,2-trichloroethane (1,1,2-TCA), 1,2-dichloroethane (1,2-DCA), benzene, ethylbenzene and arsenic, respectively at the site.

g. Depth to groundwater for each affected zone.

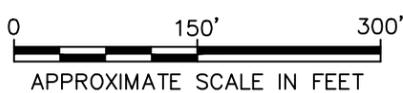
Figure C-19 shows the depth to water for the affected zone.



Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

- MW-5 MONITORING WELL
- APPROXIMATE PROPOSED MSD PROPERTY

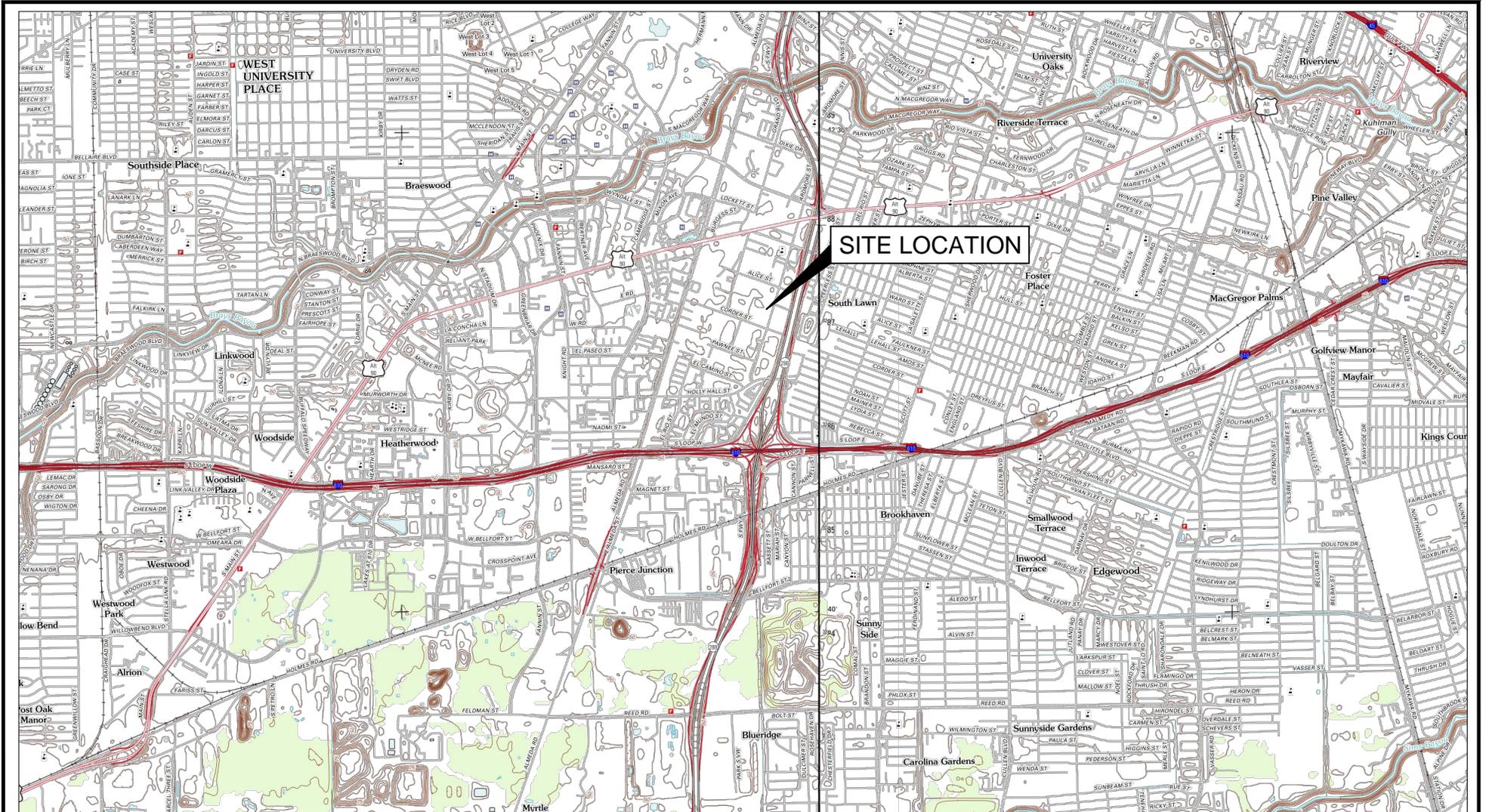


BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

PROPERTY LOCATION MAP



FIGURE
C-1



Source: U.S.G.S 7.5 Minute Topographic Series Map, Bellaire, Texas Quadrangle, 2013 & Park Place, Texas Quadrangle, 2013.

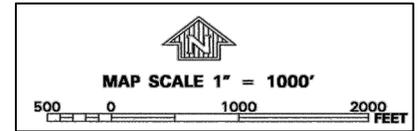
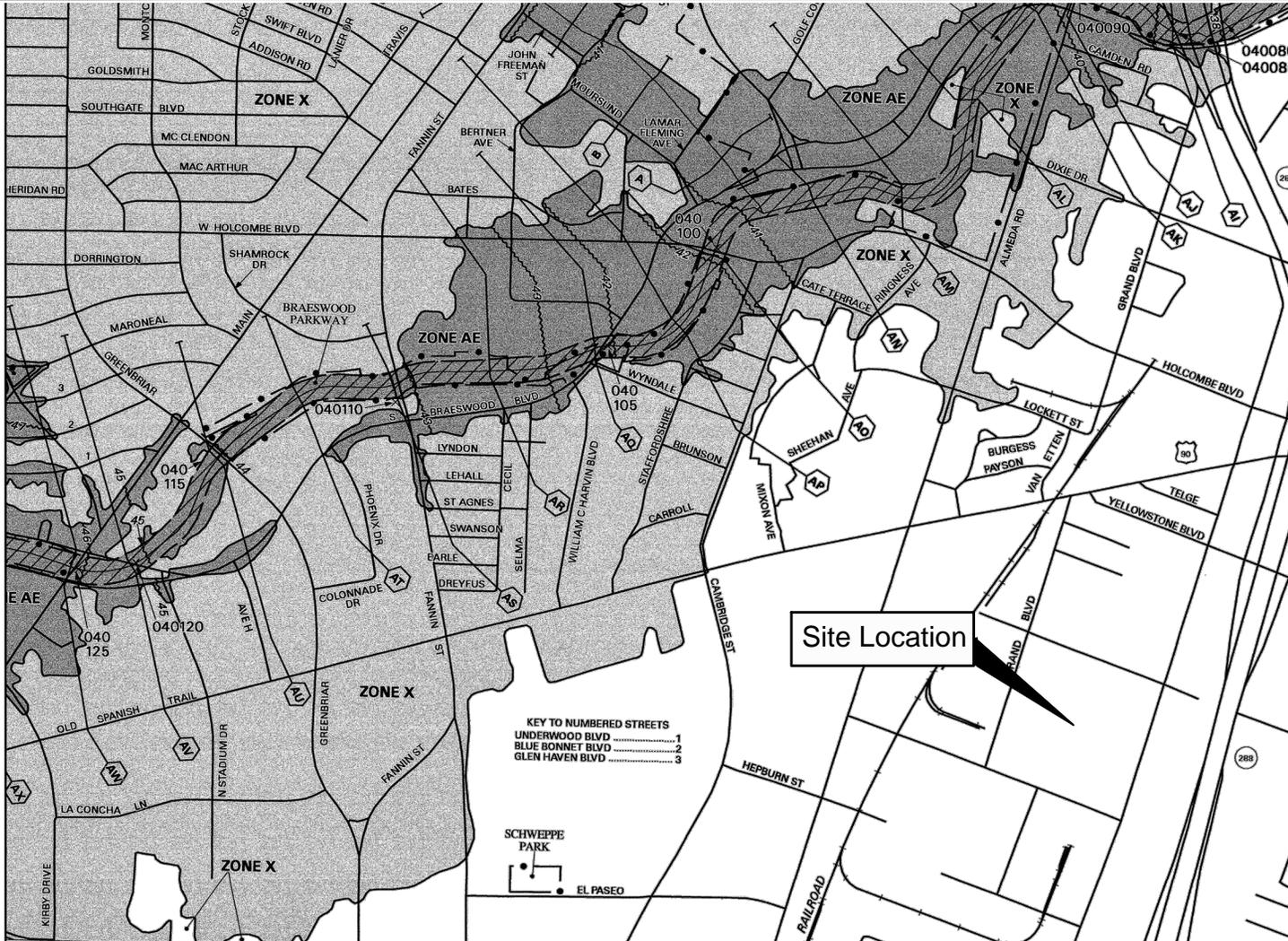
BAKER HUGHES, INC. - 7135 ARDMORE STREET
HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

TOPOGRAPHIC MAP



FIGURE
C-2





PANEL 0860L

**FIRM
 FLOOD INSURANCE RATE MAP**
 HARRIS COUNTY,
 TEXAS
 AND INCORPORATED AREAS

PANEL 860 OF 1150

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
INDUSTRIAL CITY OF	48209	0860	L
WEST UNIVERSITY PLACE, CITY OF	48210	0860	L
SOUTHRIDGE PLACE, CITY OF	48212	0860	L

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER
 48201C0860L**

**MAP REVISED:
 JUNE 18, 2007**

Federal Emergency Management Agency

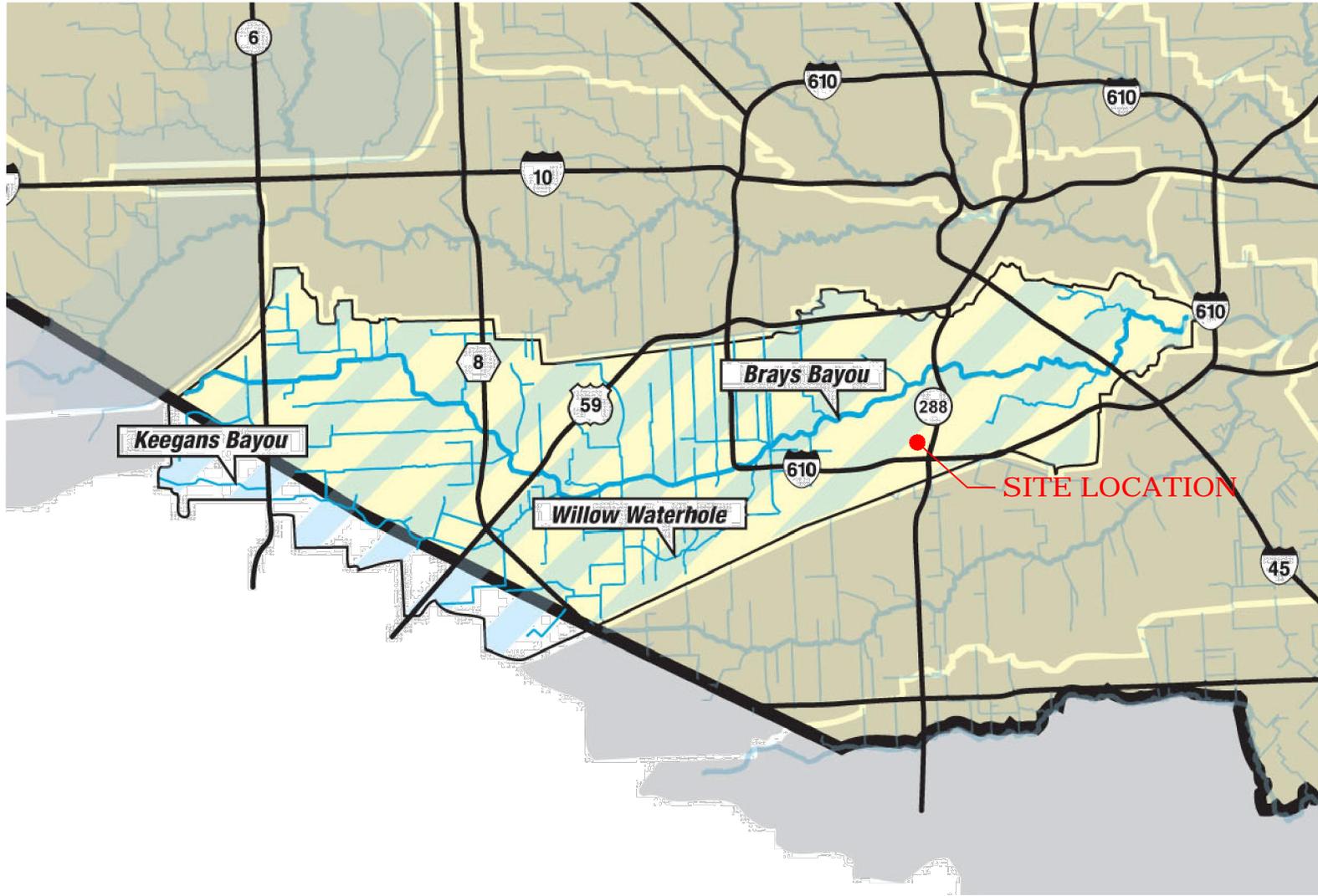
LEGEND:

- ZONE X** AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD W/AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD.
- ZONE AE** THE 1% ANNUAL CHANCE FLOOD (100-YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVEN YEAR. THE SPECIAL FLOOD HAZARD AREA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD.
- ////** THE FLOODWAY IS THE CHANNEL OF A STREAM PLUS ANY ADJACENT FLOODPLAIN AREAS THAT MUST BE KEPT FREE OF ENCROACHMENT SO THAT THE 1% ANNUAL CHANCE FLOOD CAN BE CARRIED WITHOUT SUBSTANTIAL INCREASES IN FLOOD HEIGHTS.

BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

FLOODPLAIN MAP

FIGURE
C-3



NOT TO SCALE

REFERENCE: HARRIS COUNTY FLOOD CONTROL DISTRICT (WATERSHEDS AND CHANNELS REFERENCE GUIDE 12-10-2007)

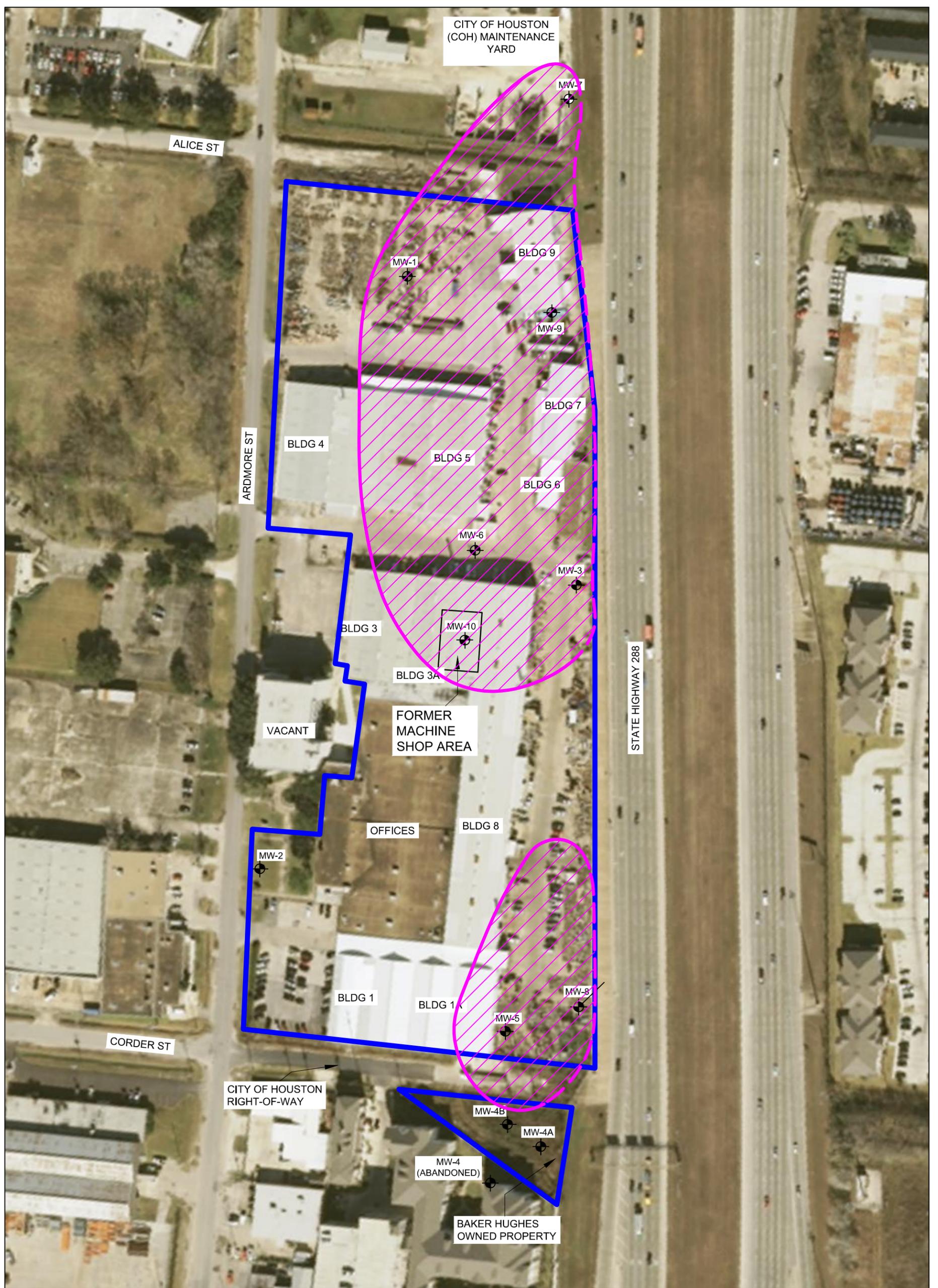
BAKER HUGHES, INC. - 7135 ARDMORE STREET
HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

WATERSHED MAP



FIGURE

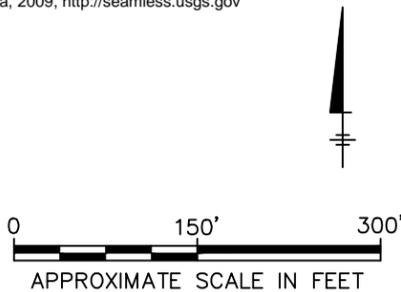
C-4



Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

- MW-5  MONITORING WELL
-  APPROXIMATE PROPOSED MSD PROPERTY
-  AREA OF DETECTED GROUNDWATER CONCENTRATIONS

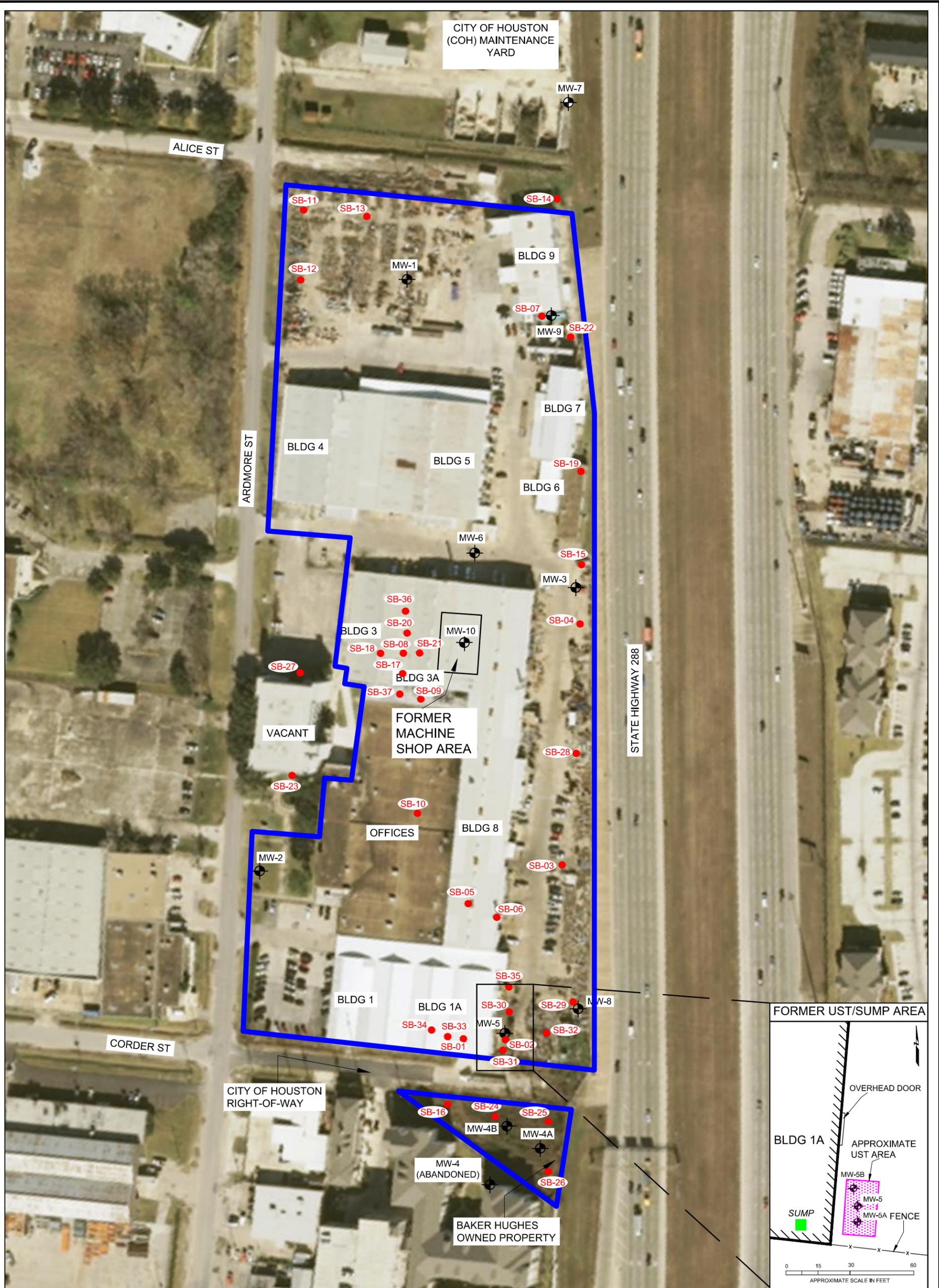


BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

AREA OF DETECTED GROUNDWATER CONCENTRATIONS MAP
 MARCH 2013



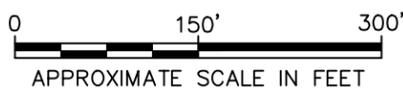
FIGURE
C-5



Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

- MW-5 MONITORING WELL
- SB-27 SOIL BORING
- APPROXIMATE PROPOSED MSD PROPERTY

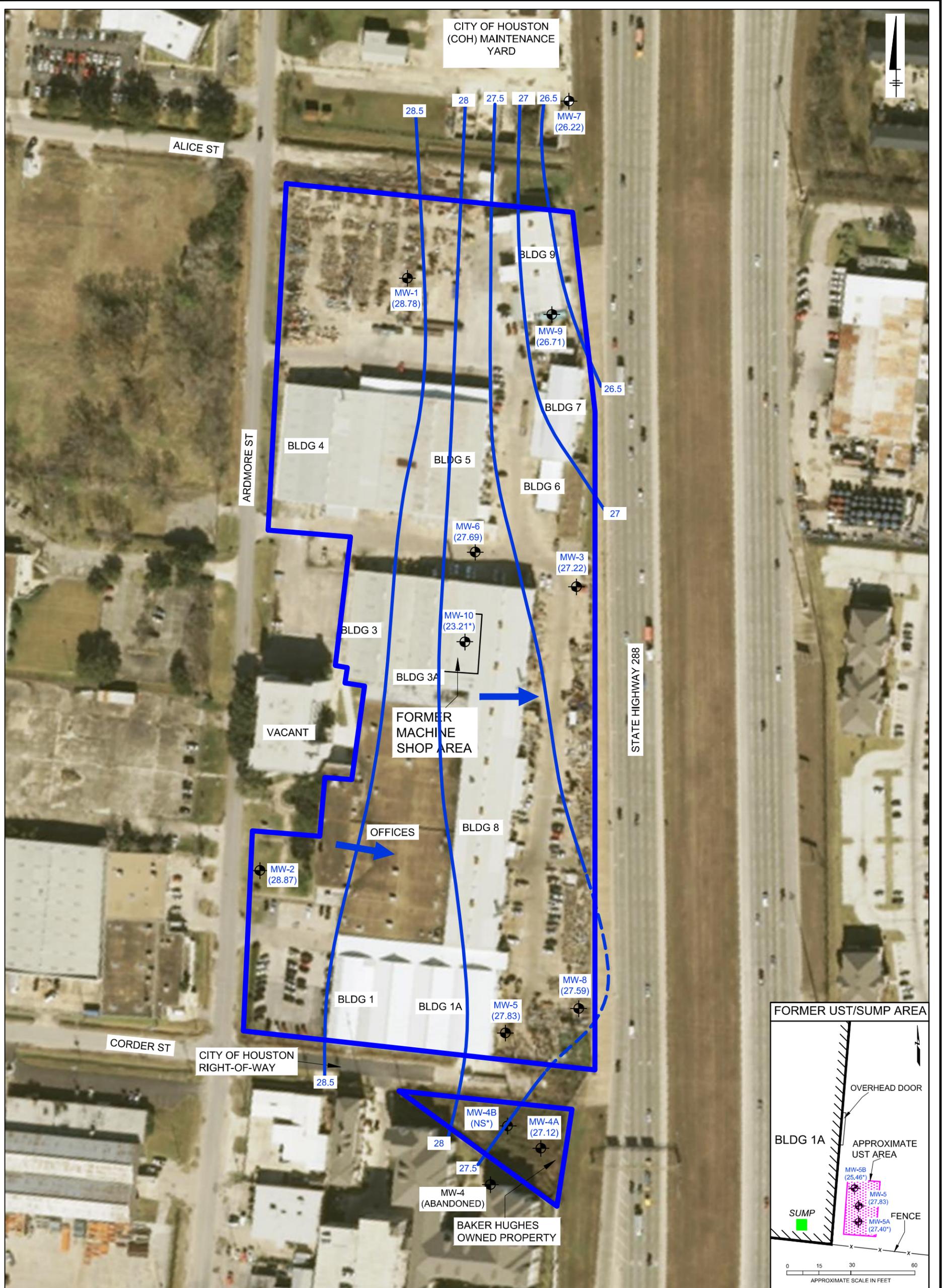


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 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

**SOIL AND GROUNDWATER SAMPLING
 LOCATION MAP**



FIGURE
C-6



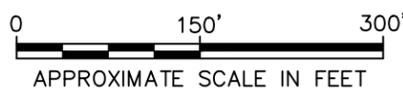
Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

- MW-5 MONITORING WELL
- APPROXIMATE PROPOSED MSD PROPERTY
- (26.00) GROUNDWATER ELEVATION IN FEET
- (NS) NOT SURVEYED
- * DATA NOT USED FOR CONTOURING
- 29 GROUNDWATER CONTOUR LINE IN FEET (DASHED WHERE INFERRED)
- APPARENT GROUNDWATER FLOW DIRECTION

NOTES:

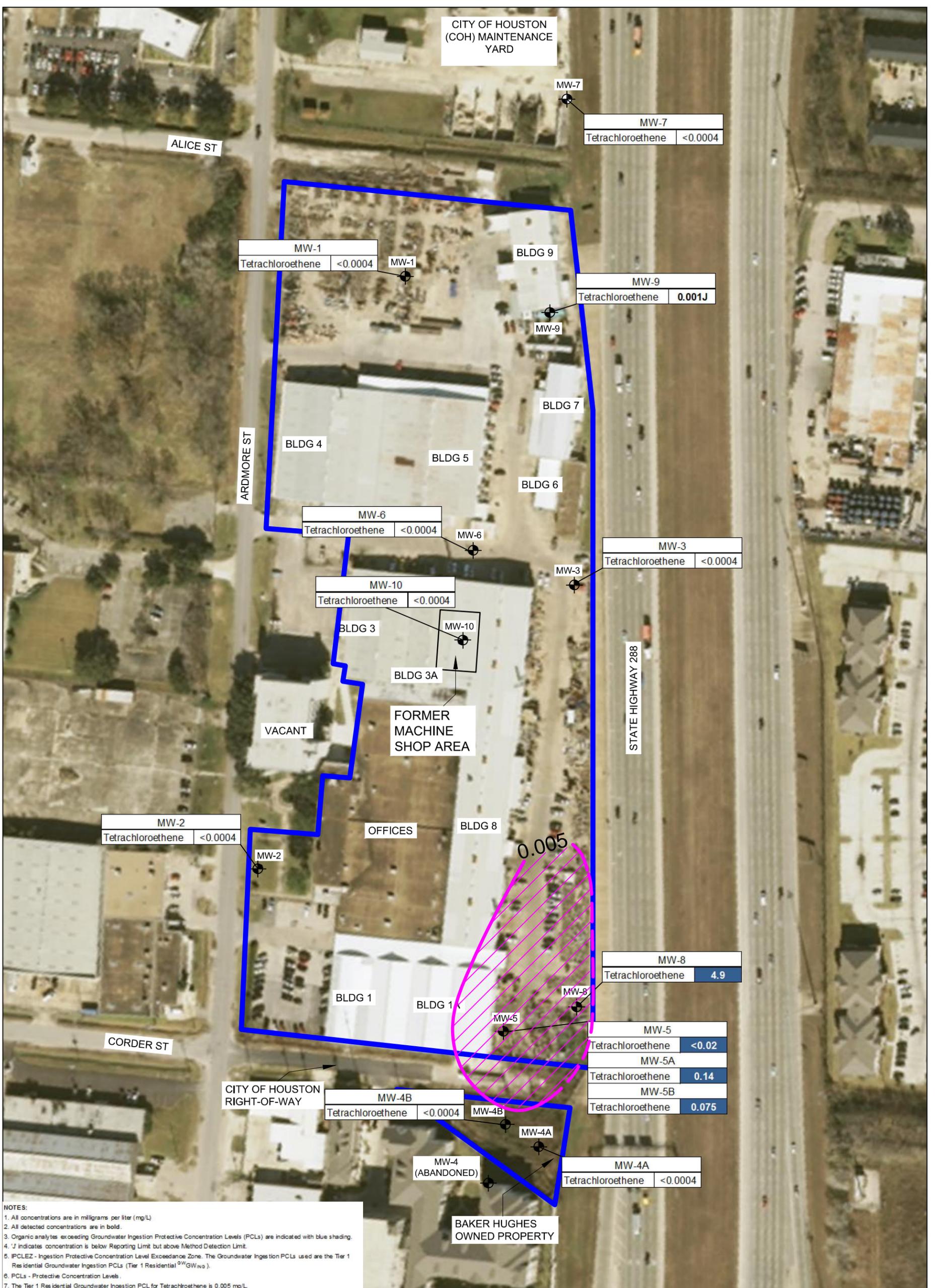
1. GROUNDWATER ELEVATIONS WERE MEASURED MARCH 27, 2013.
2. GROUNDWATER ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL.



BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

**GROUNDWATER GRADIENT MAP
 MARCH 2013**

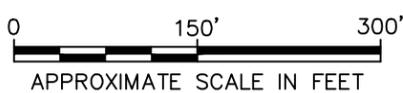
FIGURE
C-7



NOTES:
 1. All concentrations are in milligrams per liter (mg/L)
 2. All detected concentrations are in bold.
 3. Organic analytes exceeding Groundwater Ingestion Protective Concentration Levels (PCLs) are indicated with blue shading.
 4. 'J' indicates concentration is below Reporting Limit but above Method Detection Limit.
 5. IPCLEZ - Ingestion Protective Concentration Level Exceedance Zone. The Groundwater Ingestion PCLs used are the Tier 1 Residential Groundwater Ingestion PCLs (Tier 1 Residential ^{GW}PCLs).
 6. PCLs - Protective Concentration Levels.
 7. The Tier 1 Residential Groundwater Ingestion PCL for Tetrachloroethene is 0.005 mg/L.
 Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

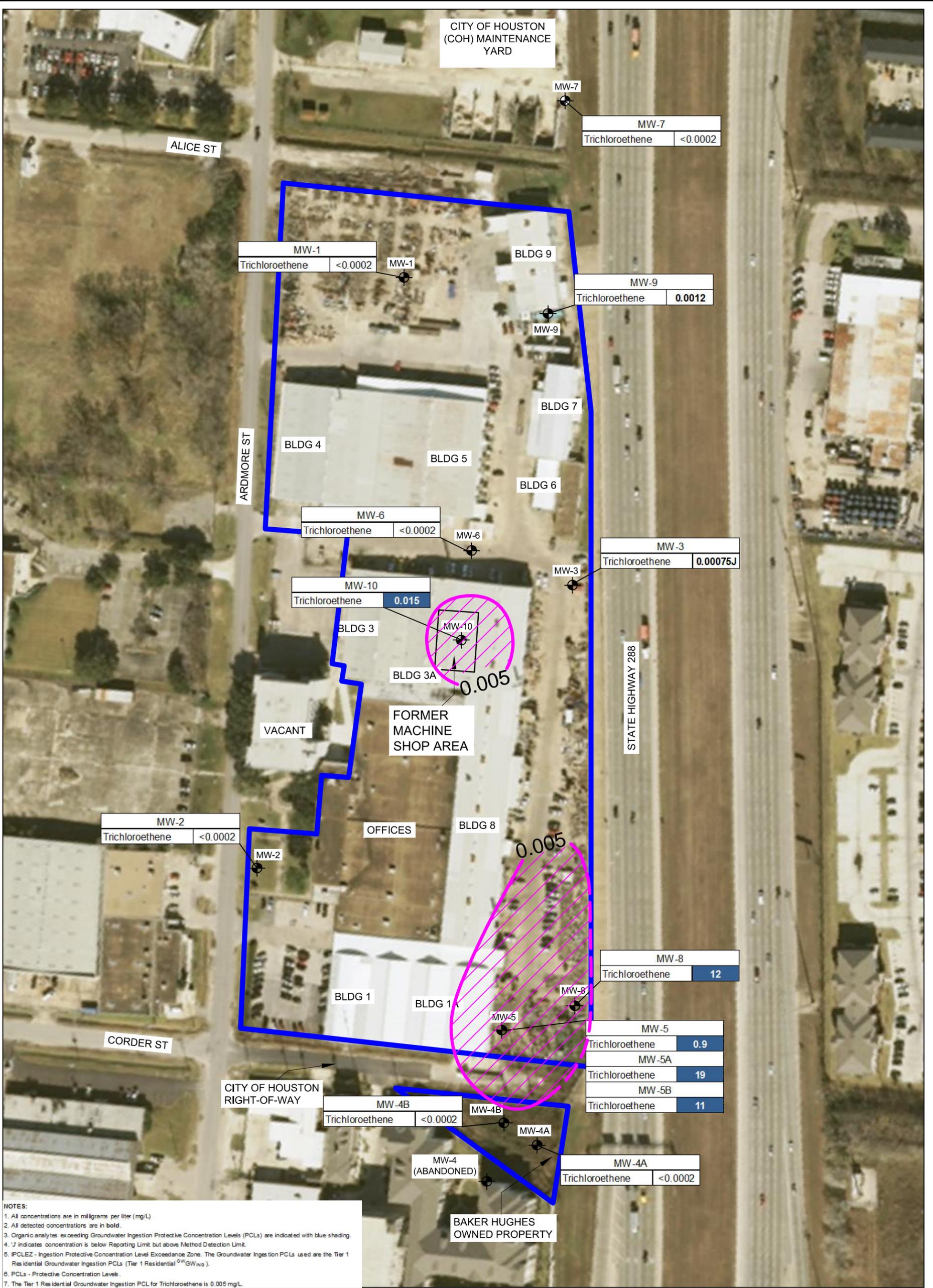
- MW-5 MONITORING WELL
- APPROXIMATE PROPOSED MSD PROPERTY
- TETRACHLOROETHENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)



BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

**TETRACHLOROETHENE IPCLEZ
 MARCH 2013**

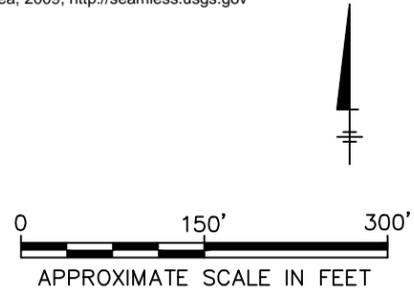
FIGURE
C-8



NOTES:
 1. All concentrations are in milligrams per liter (mg/L)
 2. All detected concentrations are in bold.
 3. Organic analytes exceeding Groundwater Ingestion Protective Concentration Levels (PCLs) are indicated with blue shading.
 4. 'J' indicates concentration is below Reporting Limit but above Method Detection Limit.
 5. IPCLEZ - Ingestion Protective Concentration Level Exceedance Zone. The Groundwater Ingestion PCLs used are the Tier 1 Residential Groundwater Ingestion PCLs (Tier 1 Residential ^{GW}PCLs).
 6. PCLs - Protective Concentration Levels.
 7. The Tier 1 Residential Groundwater Ingestion PCL for Trichloroethene is 0.005 mg/L.
 Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

- MW-5 MONITORING WELL
- APPROXIMATE PROPOSED MSD PROPERTY
- TRICHLOROETHENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)

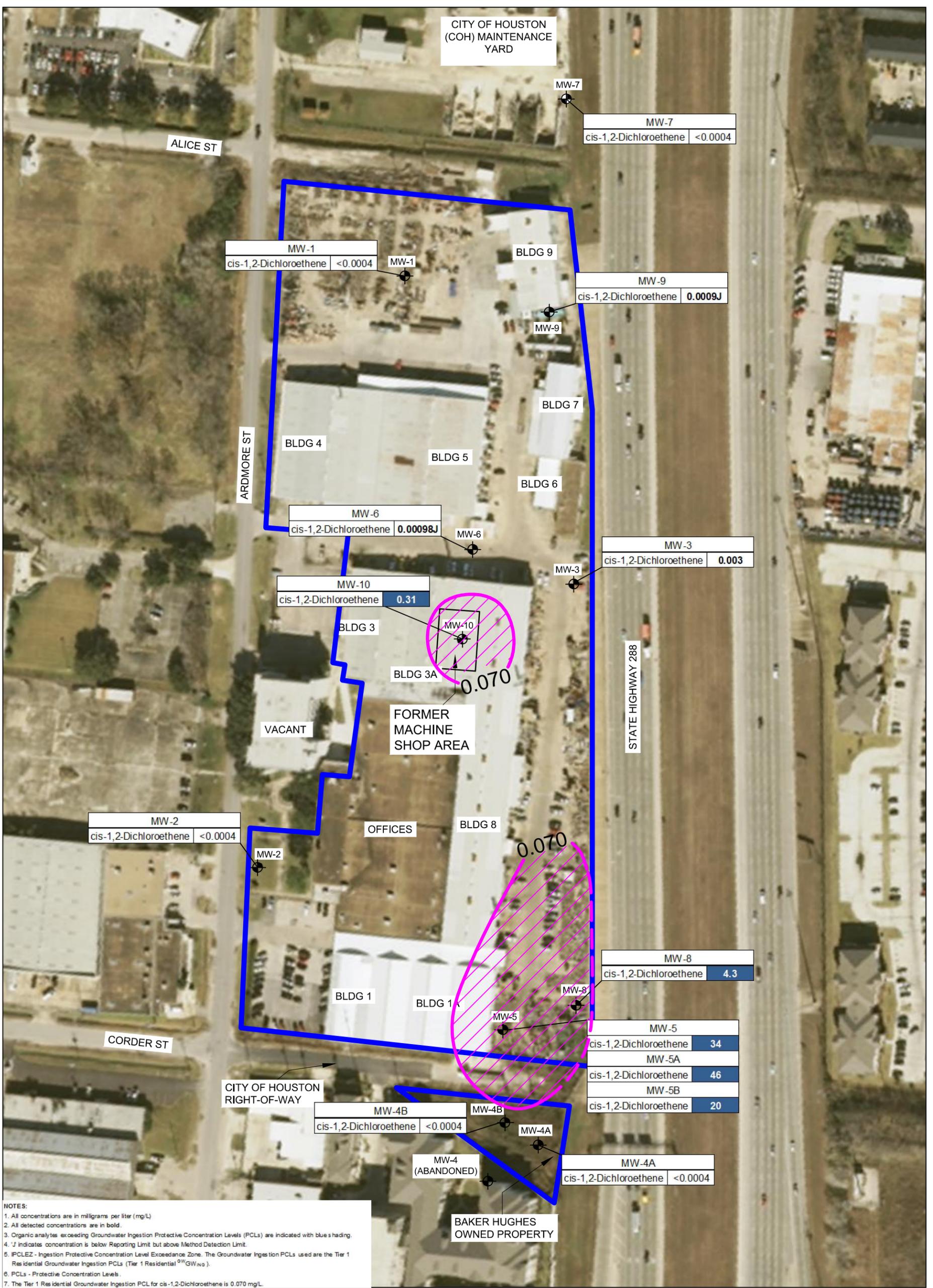


BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

**TRICHLOROETHENE IPCLEZ
 MARCH 2013**

ARCADIS

FIGURE
C-9



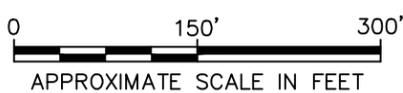
NOTES:

- All concentrations are in milligrams per liter (mg/L)
- All detected concentrations are in bold.
- Organic analytes exceeding Groundwater Ingestion Protective Concentration Levels (PCLs) are indicated with blue shading.
- 'J' indicates concentration is below Reporting Limit but above Method Detection Limit.
- IPCLEZ - Ingestion Protective Concentration Level Exceedance Zone. The Groundwater Ingestion PCLs used are the Tier 1 Residential Groundwater Ingestion PCLs (Tier 1 Residential ^{GW}GW_{ing}).
- PCLs - Protective Concentration Levels
- The Tier 1 Residential Groundwater Ingestion PCL for cis-1,2-Dichloroethene is 0.070 mg/L.

Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

- MW-5 MONITORING WELL
- APPROXIMATE PROPOSED MSD PROPERTY
- CIS-1,2-DICHLOROETHENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)

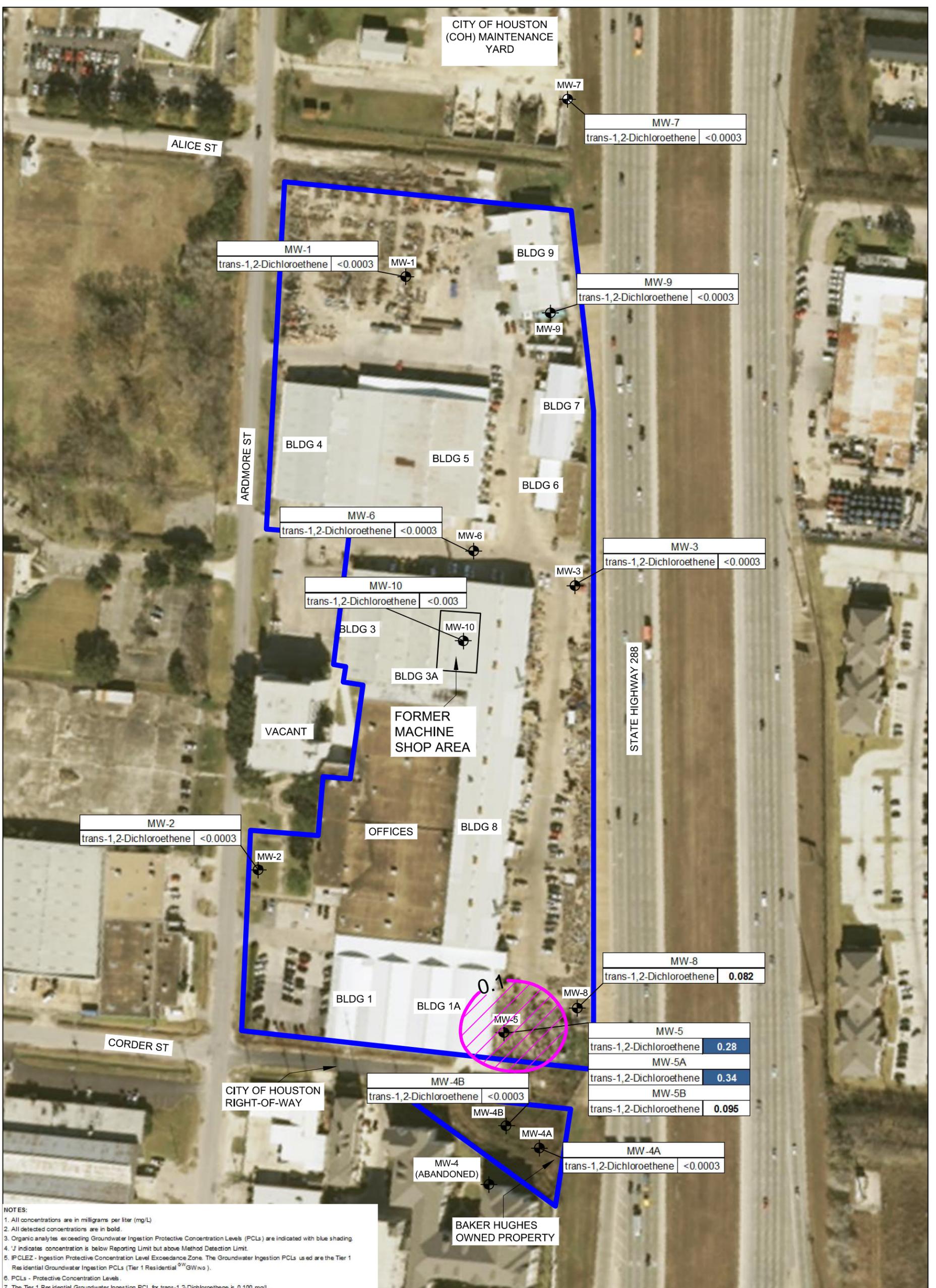


BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

**CIS-1,2-DICHLOROETHENE IPCLEZ
 MARCH 2013**

ARCADIS

FIGURE
C-10



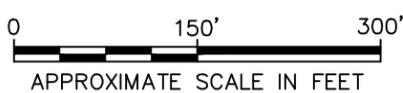
NOTES:
 1. All concentrations are in milligrams per liter (mg/L)
 2. All detected concentrations are in bold.
 3. Organic analytes exceeding Groundwater Ingestion Protective Concentration Levels (PCLs) are indicated with blue shading.
 4. 'J' indicates concentration is below Reporting Limit but above Method Detection Limit.
 5. IPCLEZ - Ingestion Protective Concentration Level Exceedance Zone. The Groundwater Ingestion PCLs used are the Tier 1 Residential Groundwater Ingestion PCLs (Tier 1 Residential ^{GW}GW_{ing}).
 6. PCLs - Protective Concentration Levels.
 7. The Tier 1 Residential Groundwater Ingestion PCL for trans-1,2-Dichloroethene is 0.100 mg/L.
 Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

MW-5 MONITORING WELL

APPROXIMATE PROPOSED MSD PROPERTY

TRANS-1,2-DICHLOROETHENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)

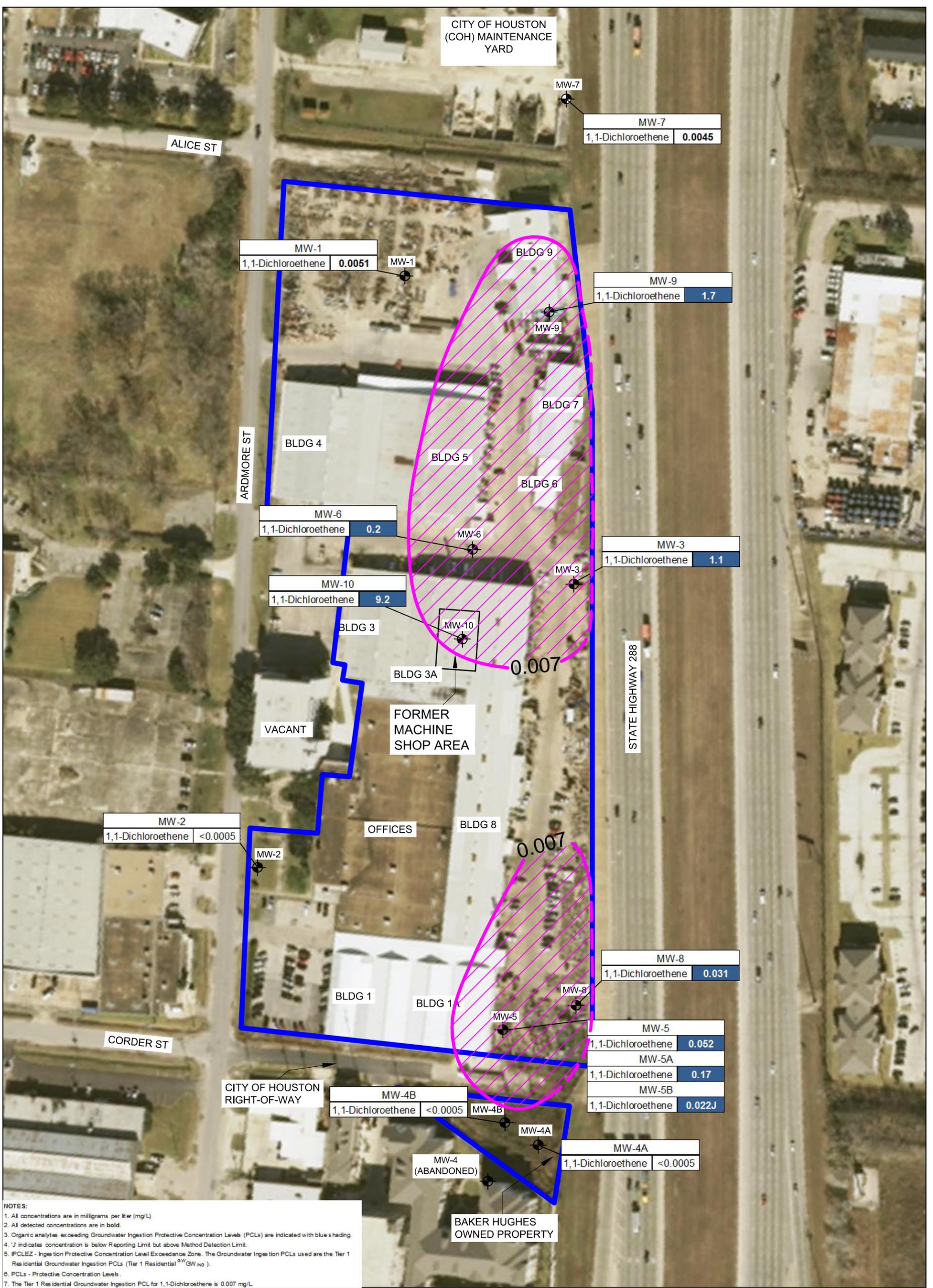


BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

**TRANS-1,2-DICHLOROETHENE IPCLEZ
 MARCH 2013**



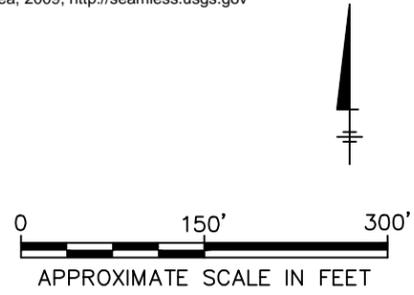
FIGURE
C-11



NOTES:
 1. All concentrations are in milligrams per liter (mg/L)
 2. All detected concentrations are in bold.
 3. Organic analytes exceeding Groundwater Ingestion Protective Concentration Levels (PCLs) are indicated with blue shading.
 4. 'J' indicates concentration is below Reporting Limit but above Method Detection Limit.
 5. IPCLEZ - Ingestion Protective Concentration Level Exceedance Zone. The Groundwater Ingestion PCLs used are the Tier 1 Residential Groundwater Ingestion PCLs (Tier 1 Residential $^{GW}_{ing}$).
 6. PCLs - Protective Concentration Levels.
 7. The Tier 1 Residential Groundwater Ingestion PCL for 1,1-Dichloroethene is 0.007 mg/L.
 Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

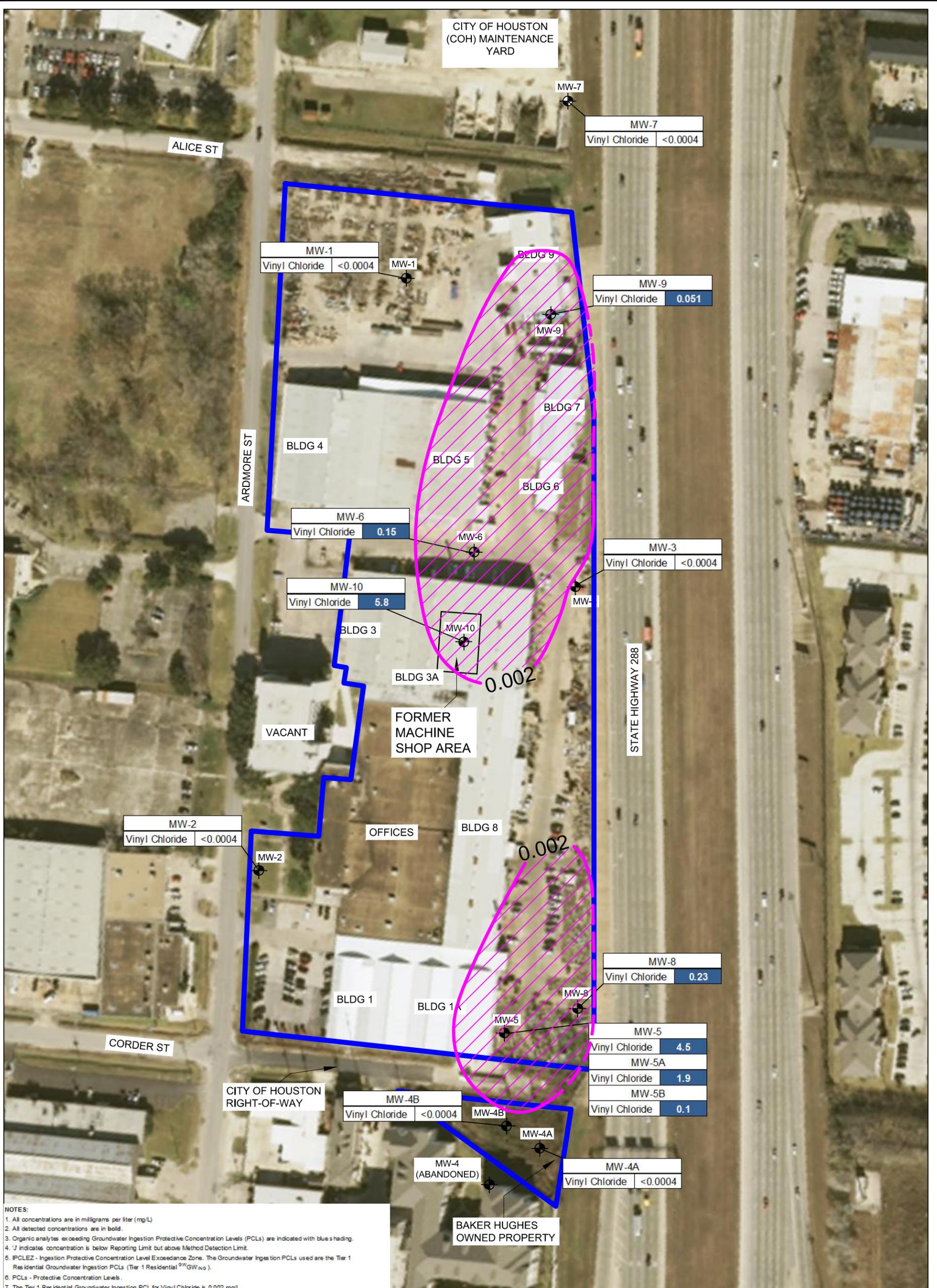
- MW-5 MONITORING WELL
- APPROXIMATE PROPOSED MSD PROPERTY
- 1,1-DICHLOROETHENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)



BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

**1,1-DICHLOROETHENE IPCLEZ
 MARCH 2013**

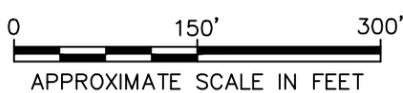
FIGURE
C-12



NOTES:
 1. All concentrations are in milligrams per liter (mg/L)
 2. All detected concentrations are in bold.
 3. Organic analytes exceeding Groundwater Ingestion Protective Concentration Levels (PCLs) are indicated with blue shading.
 4. 'J' indicates concentration is below Reporting Limit but above Method Detection Limit.
 5. IPCLEZ - Ingestion Protective Concentration Level Exceedance Zone. The Groundwater Ingestion PCLs used are the Tier 1 Residential Groundwater Ingestion PCLs (Tier 1 Residential ^{GW}PCLs).
 6. PCLs - Protective Concentration Levels.
 7. The Tier 1 Residential Groundwater Ingestion PCL for Vinyl Chloride is 0.002 mg/L.
 Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

- MW-5 MONITORING WELL
- APPROXIMATE PROPOSED MSD PROPERTY
- VINYL CHLORIDE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)

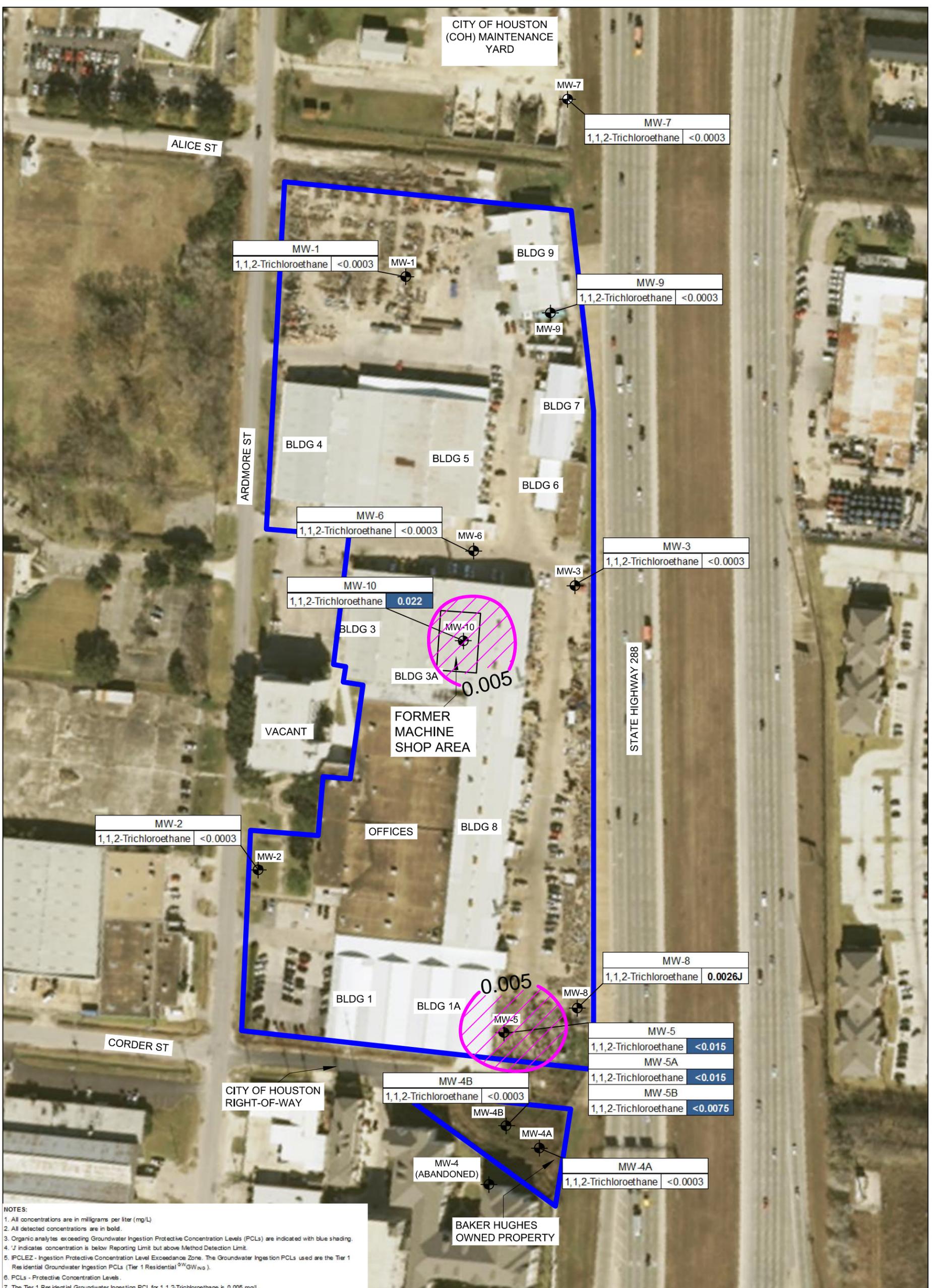


BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

**VINYL CHLORIDE IPCLEZ
 MARCH 2013**



FIGURE
C-13



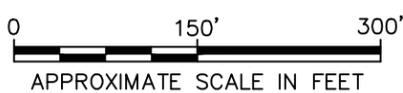
NOTES:
 1. All concentrations are in milligrams per liter (mg/L)
 2. All detected concentrations are in bold.
 3. Organic analytes exceeding Groundwater Ingestion Protective Concentration Levels (PCLs) are indicated with blue shading.
 4. 'J' indicates concentration is below Reporting Limit but above Method Detection Limit.
 5. IPCLEZ - Ingestion Protective Concentration Level Exceedance Zone. The Groundwater Ingestion PCLs used are the Tier 1 Residential Groundwater Ingestion PCLs (Tier 1 Residential ^{GW}PCLs).
 6. PCLs - Protective Concentration Levels.
 7. The Tier 1 Residential Groundwater Ingestion PCL for 1,1,2-Trichloroethane is 0.005 mg/L.
 Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

MW-5 MONITORING WELL

APPROXIMATE PROPOSED MSD PROPERTY

1,1,2-TRICHLOROETHANE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)

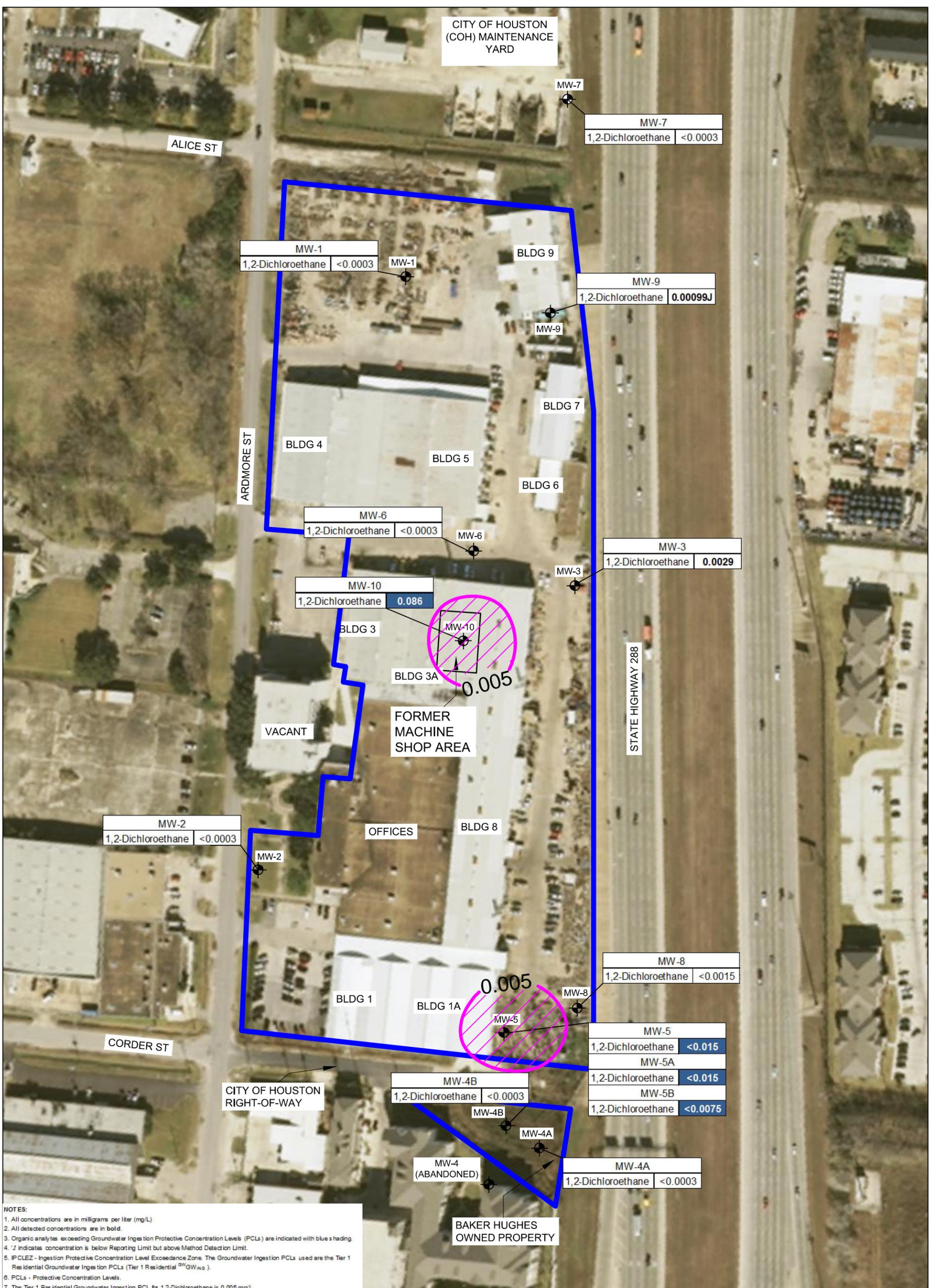


BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

**1,1,2-TRICHLOROETHANE IPCLEZ
 MARCH 2013**



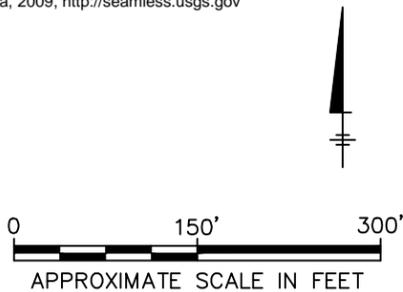
FIGURE
C-14



NOTES:
 1. All concentrations are in milligrams per liter (mg/L)
 2. All detected concentrations are in bold.
 3. Organic analytes exceeding Groundwater Ingestion Protective Concentration Levels (PCLs) are indicated with blue shading.
 4. 'J' indicates concentration is below Reporting Limit but above Method Detection Limit.
 5. IPCLEZ - Ingestion Protective Concentration Level Exceedance Zone. The Groundwater Ingestion PCLs used are the Tier 1 Residential Groundwater Ingestion PCLs (Tier 1 Residential ^{GW}GW_{ING}).
 6. PCLs - Protective Concentration Levels.
 7. The Tier 1 Residential Groundwater Ingestion PCL for 1,2-Dichloroethane is 0.005 mg/L.
 Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

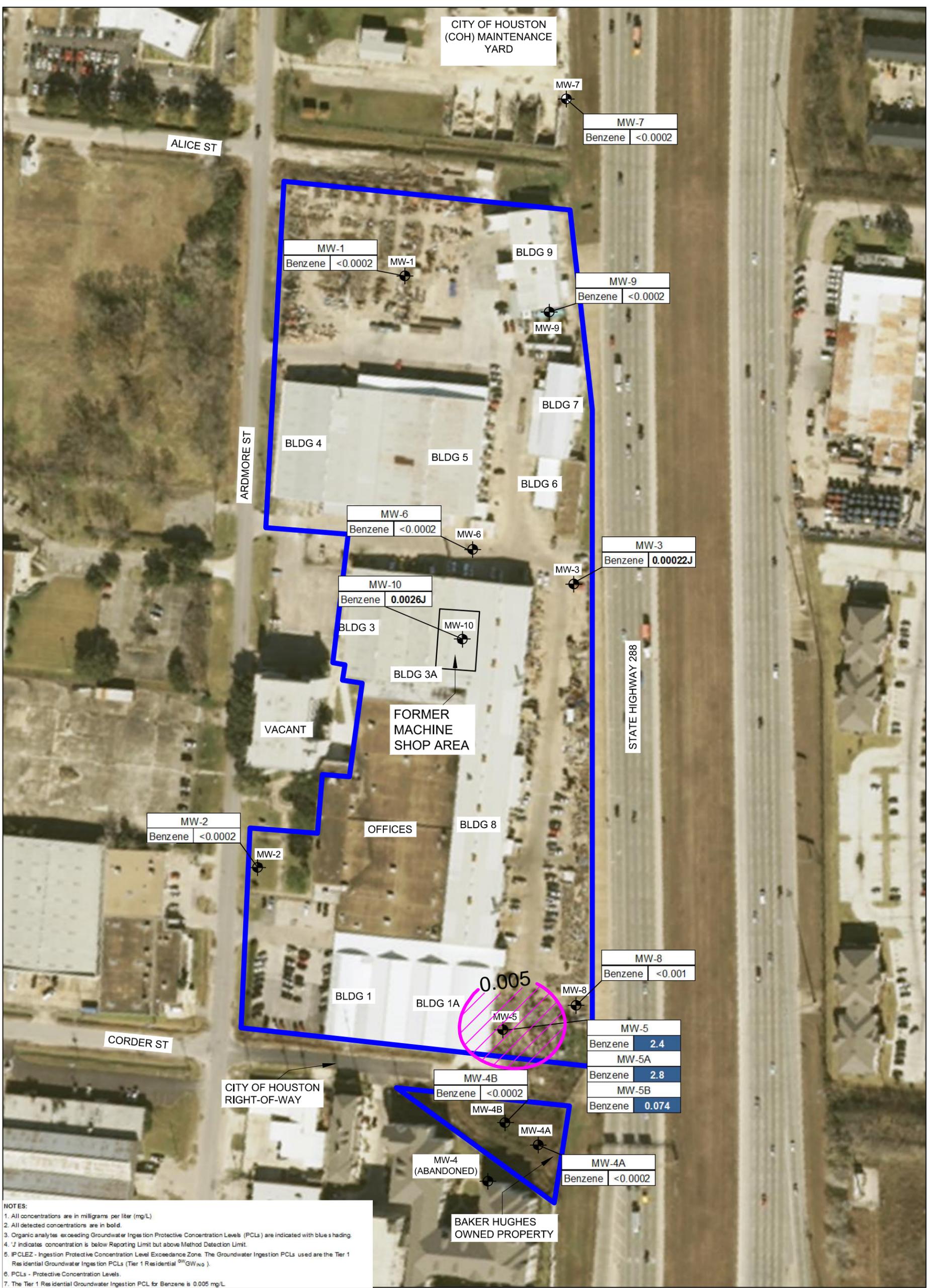
- MW-5 MONITORING WELL
- APPROXIMATE PROPOSED MSD PROPERTY
- 1,2-DICHLOROETHANE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)



BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

**1,2-DICHLOROETHANE IPCLEZ
 MARCH 2013**

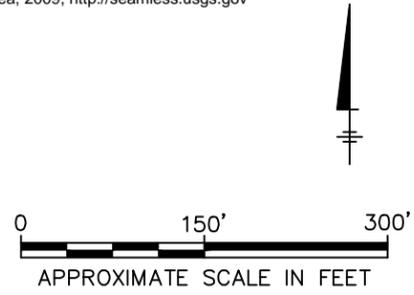
FIGURE
C-15



NOTES:
 1. All concentrations are in milligrams per liter (mg/L)
 2. All detected concentrations are in bold.
 3. Organic analytes exceeding Groundwater Ingestion Protective Concentration Levels (PCLs) are indicated with blue shading.
 4. 'J' indicates concentration is below Reporting Limit but above Method Detection Limit.
 5. IPCLZ - Ingestion Protective Concentration Level Exceedance Zone. The Groundwater Ingestion PCLs used are the Tier 1 Residential Groundwater Ingestion PCLs (Tier 1 Residential ^{GW}GW_{ING}).
 6. PCLs - Protective Concentration Levels.
 7. The Tier 1 Residential Groundwater Ingestion PCL for Benzene is 0.005 mg/L
 Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

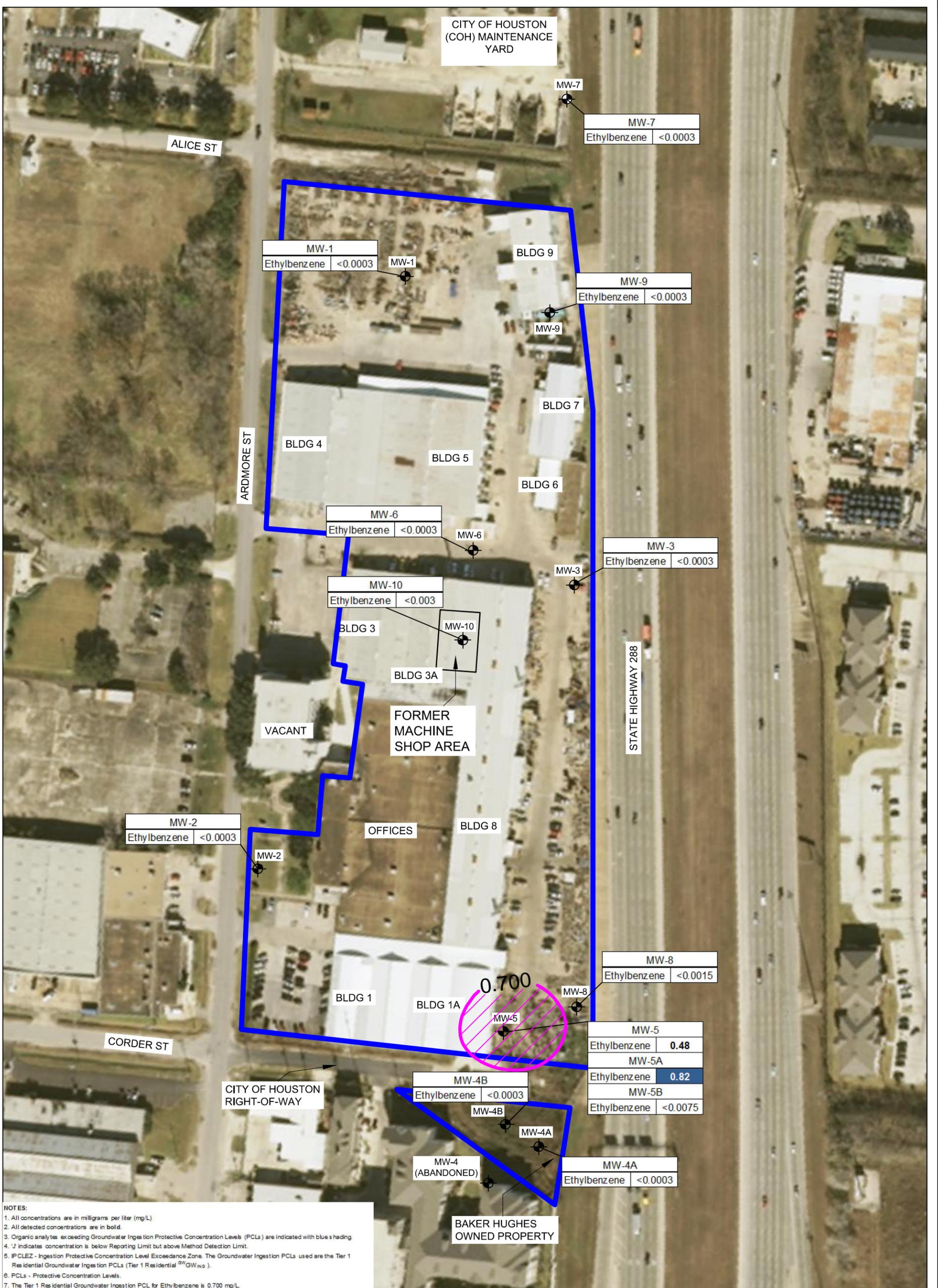
- MW-5 MONITORING WELL
- APPROXIMATE PROPOSED MSD PROPERTY
- BENZENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)



BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

**BENZENE IPCLEZ
 MARCH 2013**

FIGURE
C-16



NOTES:
 1. All concentrations are in milligrams per liter (mg/L)
 2. All detected concentrations are in bold.
 3. Organic analytes exceeding Groundwater Ingestion Protective Concentration Levels (PCLs) are indicated with blue shading.
 4. 'J' indicates concentration is below Reporting Limit but above Method Detection Limit.
 5. IPCLEZ - Ingestion Protective Concentration Level Exceedance Zone. The Groundwater Ingestion PCLs used are the Tier 1 Residential Groundwater Ingestion PCLs (Tier 1 Residential $^{GW}_{ING}$).
 6. PCLs - Protective Concentration Levels.
 7. The Tier 1 Residential Groundwater Ingestion PCL for Ethylbenzene is 0.700 mg/L.

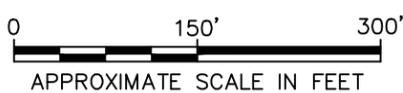
Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

MW-5 MONITORING WELL

APPROXIMATE PROPOSED MSD PROPERTY

ETHYLBENZENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)

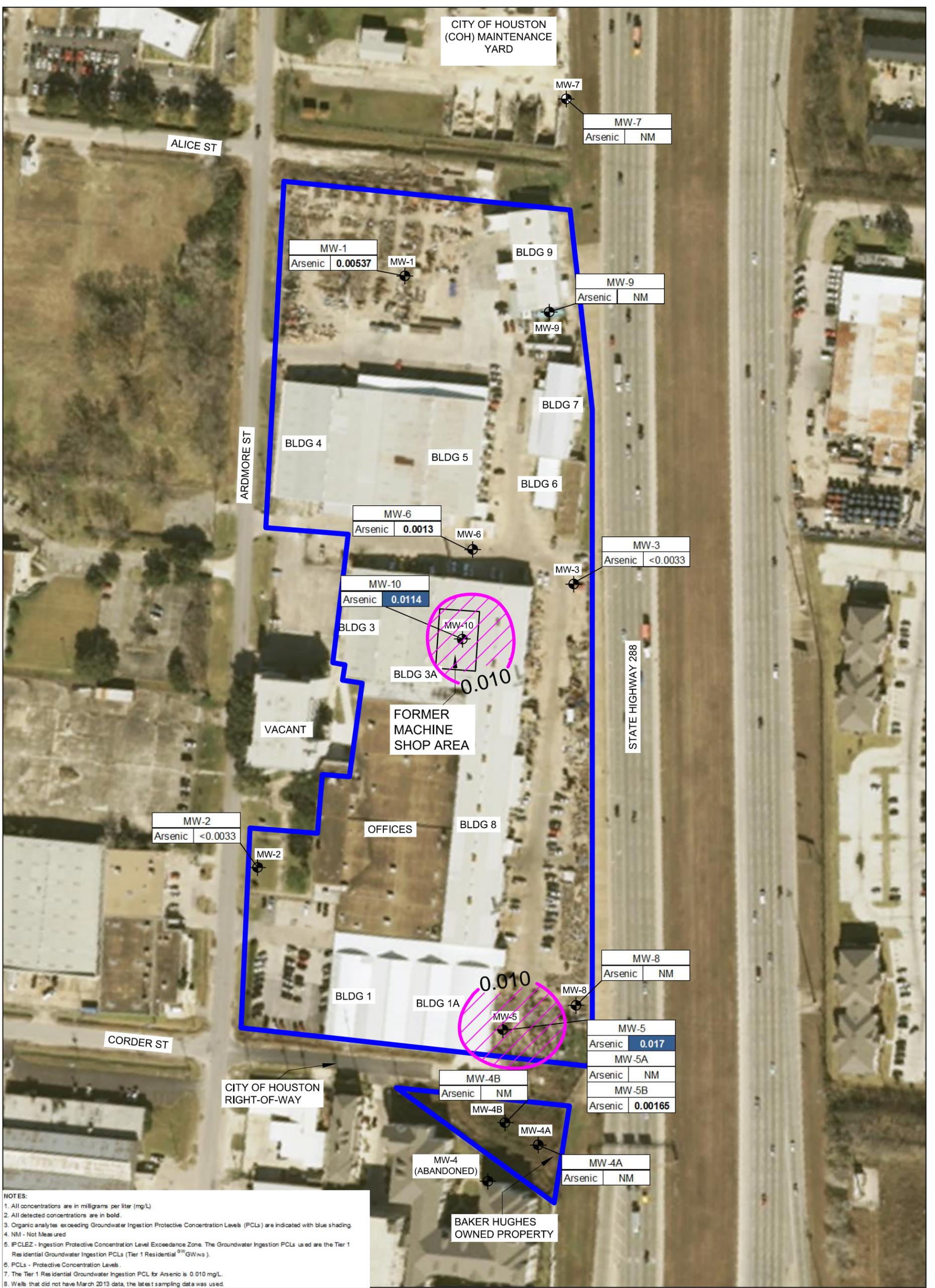


BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

**ETHYLBENZENE IPCLEZ
 MARCH 2013**



FIGURE
C-17



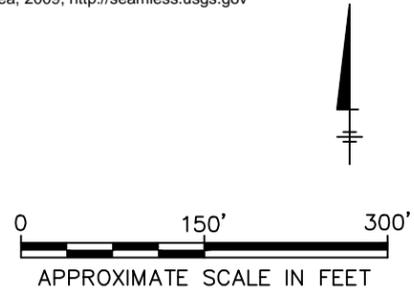
NOTES:

1. All concentrations are in milligrams per liter (mg/L)
2. All detected concentrations are in bold.
3. Organic analytes exceeding Groundwater Ingestion Protective Concentration Levels (PCLs) are indicated with blue shading.
4. NM - Not Measured
5. IPCLZ - Ingestion Protective Concentration Level Exceedance Zone. The Groundwater Ingestion PCLs used are the Tier 1 Residential Groundwater Ingestion PCLs (Tier 1 Residential ²GW_{ING}).
6. PCLs - Protective Concentration Levels
7. The Tier 1 Residential Groundwater Ingestion PCL for Arsenic is 0.010 mg/L.
8. Wells that did not have March 2013 data, the latest sampling data was used.

Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>

LEGEND:

- MW-5 MONITORING WELL
- APPROXIMATE PROPOSED MSD PROPERTY
- ARSENIC CONCENTRATION CONTOUR (DASHED WHERE INFERRED)

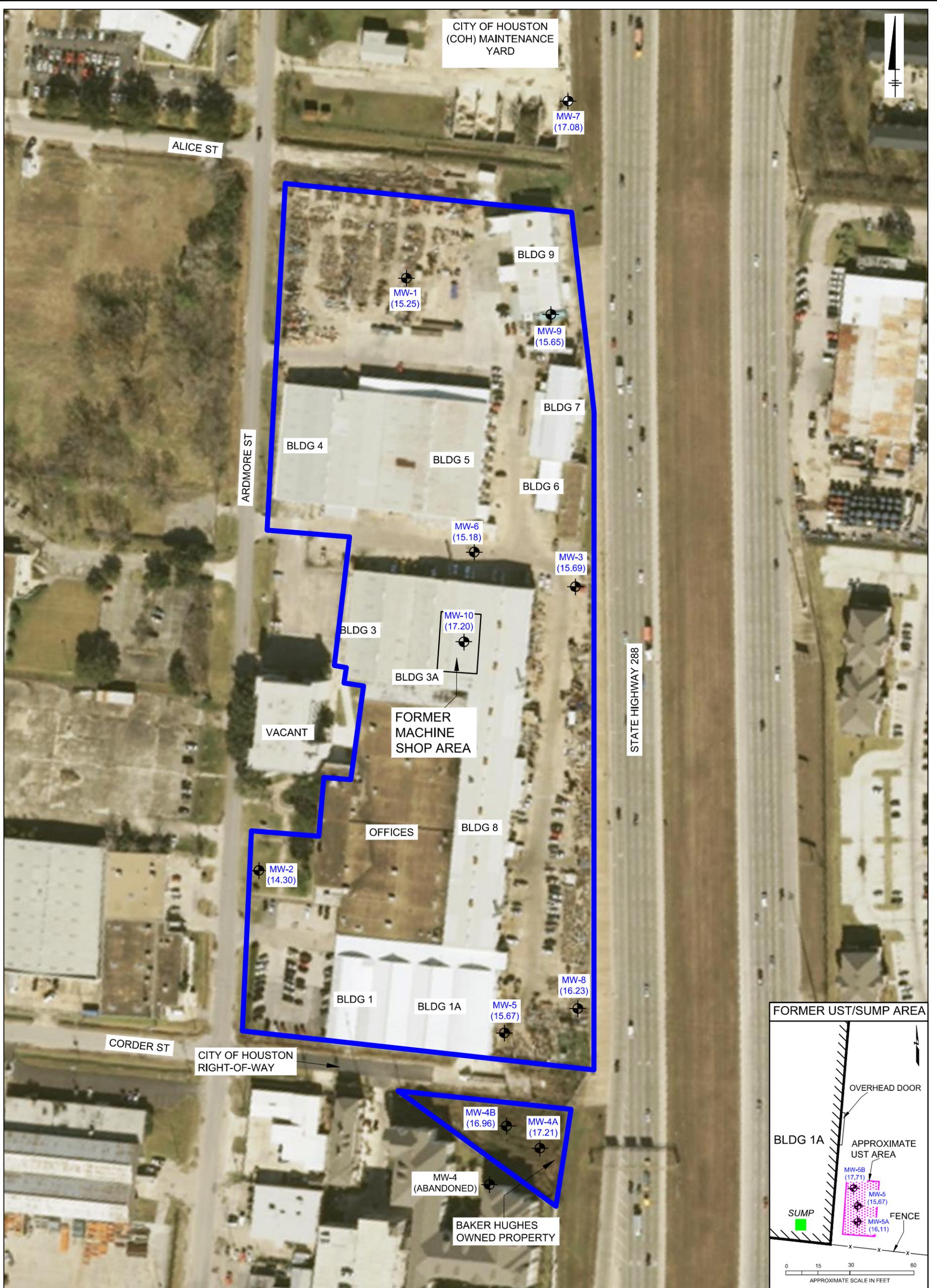


BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

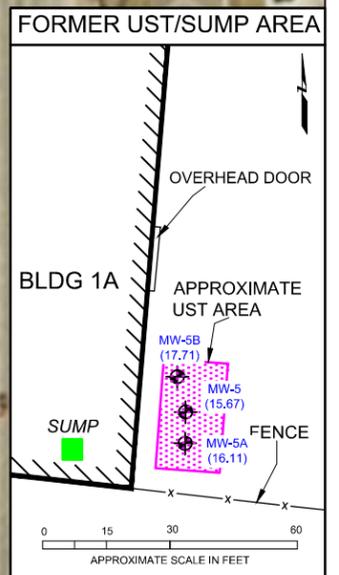
**ARSENIC IPCLEZ
 MARCH 2013**

ARCADIS

FIGURE
C-18



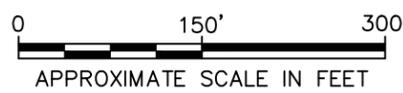
Source: Basemap from USGS High Resolution Orthoimagery for the Houston - Galveston, Texas Urban Area, 2009, <http://seamless.usgs.gov>



LEGEND:

	MONITORING WELL
	APPROXIMATE PROPOSED MSD PROPERTY
	DEPTH TO GROUNDWATER IN FEET

- NOTES:**
- GROUNDWATER DEPTHS WERE MEASURED MARCH 27, 2013.
 - GROUNDWATER DEPTHS ARE FROM TOP OF WELL CASING.



BAKER HUGHES, INC. - 7135 ARDMORE STREET
 HOUSTON, HARRIS COUNTY, TEXAS
MUNICIPAL SETTING DESIGNATION APPLICATION

**DEPTH TO GROUNDWATER MAP
 MARCH 2013**

ARCADIS

FIGURE
C-19



Appendix D
IPCLE Discussion

City of Houston Municipal Setting
Designation (MSD) Application for the
former Landreth Metal Facility, 7135
Ardmore Street, Houston, Texas
Baker Hughes, Inc. (BHI)

Appendix D

IPCLE Discussion

Appendix D. Provide for each contaminant of concern within the designated groundwater:

- a. **A description of the ingestion protective concentration level exceedance zone and the non-ingestion protective concentration level exceedance zone, including a specification of the horizontal area and the minimum and maximum depth below ground surface.**

COCs in the IPCLEZ that exceed the ingestion PCLs are the following:

- Chlorinated volatile organic compounds – tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), 1,1-dichloroethene (1,1-DCE), vinyl chloride, 1,1,2-trichloroethane (1,1,2-TCA) and 1,2-dichloroethane (1,2-DCA).
- Petroleum volatile organic compounds – benzene and ethylbenzene.
- Metals – arsenic.

The upper water-bearing zone in this area begins at approximately 8 ft below ground surface (bgs) and extends to a confining layer approximately 30 ft bgs.

- i. The IPCLEZ for dissolved PCE in the shallow water-bearing zone encompasses an area that extends roughly from the southeast corner of Building 1A (located in the southeast corner of the designated property) to the eastern edge of the designated property. The IPCLEZ for dissolved PCE terminates at the eastern edge of the designated property due to a concrete retaining wall constructed at the eastern edge of the designated property and the western edge of south-bound State Highway 288. The concentrations in the monitoring wells, based on March 2013 data, are summarized in **Table D-1** and a map of the IPCLEZ for PCE is provided as **Figure C-8**.
- ii. There are two discrete IPCLEZs for TCE in the shallow water-bearing zone. The first extends roughly from the southeast corner of Building 1A (located in the southeast corner of the designated property) to the eastern edge of the designated property. The IPCLEZ for dissolved TCE terminates at the eastern edge of the designated property due to the retaining wall constructed at the eastern edge of the designated property and the western edge of south-bound State Highway 288. The second area containing TCE in the shallow water-bearing zone encompasses an area localized around Monitoring Well MW-10 (located in the center of the site inside Building 3A) extending east towards, and terminating prior to Monitoring Well MW-3. The concentrations in the monitoring wells, based on March 2013 data, are summarized in **Table D-1** and a map of the IPCLEZ for TCE is provided as **Figure C-9**.
- iii. There are two discrete IPCLEZs for cis-1,2-DCE in the shallow water-bearing zone. The first extends roughly from the southeast corner of Building 1A (located in the southeast corner of the designated property) to the eastern edge of the designated property. The IPCLEZ for dissolved cis-1,2-DCE terminates at the eastern edge of the designated property due to the retaining wall constructed at the eastern edge of the designated property and the western edge of south-bound State Highway 288. The second area containing cis-1,2-DCE in the shallow water-bearing zone encompasses an area localized around Monitoring Well MW-10 (located in the center of the Site inside Building 3A) extending east towards, and terminating prior to, Monitoring Well MW-3. The concentrations in the monitoring wells, based on March 2013 data, are summarized in **Table D-1** and a map of the IPCLEZ for cis-1,2-DCE is provided as **Figure C-10**.

- iv. The IPCLEZ for dissolved trans-1,2-DCE in the shallow water-bearing zone encompasses an area localized around the southeast corner of Building 1A extending east towards, and terminating prior to, Monitoring Well MW-8. The concentrations in the monitoring wells, based on March 2013 data, are summarized in **Table D-1** and a map of the IPCLEZ for trans-1,2-DCE is provided as **Figure C-11**.
- v. There are two discrete IPCLEZs for 1,1-DCE in the shallow water-bearing zone. The first extends roughly from the southeast corner of Building 1A (located in the southeast corner of the designated property) to the eastern edge of the designated property. The second area containing 1,1-DCE in the shallow water-bearing zone encompasses the northeast portion of the designated property, including Building 3A, 5, 6, 7, 8 and 9 and terminates at the eastern edge of the designated property. The IPCLEZs for dissolved 1,1-DCE terminate at the eastern edge of the designated property due to the retaining wall constructed at the eastern edge of the designated property and the western edge of south-bound State Highway 288. The concentrations in the monitoring wells, based on March 2013 data, are summarized in **Table D-1** and a map of the IPCLEZ for 1,1-DCE is provided as **Figure C-12**.
- vi. There are two discrete IPCLEZs for vinyl chloride in the shallow water-bearing zone. The first extends roughly from the southeast corner of Building 1A (located in the southeast corner of the designated property) to the eastern edge of the designated property. The second area containing vinyl chloride in the shallow water-bearing zone encompasses the northeast portion of the designated property, including Building 3A, 5, 6, 7, 8 and 9 and terminates at the eastern edge of the designated property. The IPCLEZs for dissolved vinyl chloride terminate at the eastern edge of the designated property due to the retaining wall constructed at the eastern edge of the designated property and the western edge of south-bound State Highway 288. The concentrations in the monitoring wells, based on March 2013 data, are summarized in **Table D-1** and a map of the IPCLEZ for vinyl chloride is provided as **Figure C-13**.
- vii. There are two discrete IPCLEZs for 1,1,2-TCA in the shallow water-bearing zone. The first is an area localized near the southeast corner of Building 1A (located in the southeast corner of the designated property). The second area containing 1,1,2-TCA in the shallow water-bearing zone encompasses an area localized around Monitoring Well MW-10 (located in the center of the Site inside Building 3A). The concentrations in the monitoring wells, based on March 2013 data, are summarized in **Table D-1** and a map of the IPCLEZ for 1,1,2-TCA is provided as **Figure C-14**.
- viii. There are two discrete IPCLEZs for dissolved 1,2-DCA in the shallow water-bearing zone. The first is an area localized near the southeast corner of Building 1A (located in the southeast corner of the designated property). The second area containing 1,2-DCA in the shallow water-bearing zone encompasses an area localized around Monitoring Well MW-10 (located in the center of the Site inside Building 3A). The concentrations in the monitoring wells, based on March 2013 data, are summarized in **Table D-1** and a map of the IPCLEZ for 1,2-DCA is provided as **Figure C-15**.
- ix. The IPCLEZ for dissolved benzene in the shallow water-bearing zone encompasses an area localized around the southeast corner of Building 1A extending east towards, and terminating prior to, Monitoring Well MW-8. The concentrations in the monitoring wells, based on March 2013 data, are summarized in **Table D-1** and a map of the IPCLEZ for benzene is provided as **Figure C-16**.
- x. The IPCLEZ for dissolved ethylbenzene in the shallow water-bearing zone encompasses an area localized around the southeast corner of Building 1A. The concentrations in the monitoring wells, based on March 2013 data, are summarized in **Table D-1** and a map of the IPCLEZ for ethylbenzene is provided as **Figure C-17**.

- xi. There are two discrete IPCLEZs for arsenic in the shallow water-bearing zone. The first is an area localized near the southeast corner of Building 1A (located in the southeast corner of the designated property). The second area containing arsenic in the shallow water-bearing zone encompasses an area localized around Monitoring Well MW-10 (located in the center of the Site inside Building 3A). The concentrations in the monitoring wells, based on March 2013 data, are summarized in **Table D-1** and a map of the IPCLEZ for arsenic is provided as **Figure C-18**.

COCs in the non-IPCLEZ that exceed the non-ingestion PCLs ($^{Air}GW_{Inh-V}$) are the following:

- Chlorinated volatile organic compounds –trichloroethene (TCE) and vinyl chloride.

The upper water-bearing zone in this area begins at approximately 8 ft below ground surface (bgs) and extends to a confining layer approximately 30 ft bgs.

- i. The non-IPCLEZ for dissolved TCE in the shallow water-bearing zone encompasses an area that extends roughly from the southeast corner of Building 1A (located in the southeast corner of the designated property) to the eastern edge of the designated property and include Wells MW-5A, MW-5B, and MW-8. The non-IPCLEZ for dissolved TCE terminates at the eastern edge of the designated property due to the retaining wall constructed at the eastern edge of the designated property and the western edge of south-bound State Highway 288. The concentrations of TCE in the monitoring wells are summarized in **Table D-1**.
 - ii. There are two discrete non-IPCLEZs for vinyl chloride in the shallow water-bearing zone. The first is an area localized near the southeast corner of Building 1A (located in the southeast corner of the designated property) and include Wells MW-5 and MW-5a. The second non-IPCLEZ for vinyl chloride in the shallow water-bearing zone encompasses an area localized around Monitoring Well MW-10 (located in the center of the Site inside Building 3A). The concentrations in the monitoring wells are summarized in **Table D-1**.
- b. The level of contamination, the ingestion protective concentration level, and the non-ingestion protective concentration level, all expressed as mg/L units.**

The contamination levels of the COCs in all the monitoring wells within the groundwater plume, based on the most recent sampling event in March 2013, are summarized in **Table D-1**. The ingestion protective concentration levels (IPCLs), which are the Tier 1 Residential $^{GW}GW_{Ing}$ Protective Concentration Levels (PCLs) under the Texas Commission on Environmental Quality's (TCEQ) Texas Risk Reduction Program (TRRP), are given for each COC in mg/L and the concentration in each monitoring well is compared to that value. Exceedences of the IPCLs are highlighted in blue. The non-ingestion protective concentration levels (non-IPCLs) are the Tier 1 Residential $^{Air}GW_{Inh-V}$ PCLs under the TRRP, and are also given for each COC in **Table D-1**. Exceedences of the non-IPCLs are highlighted in orange.

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

The COCs in the IPCLEZ include chlorinated VOCs (PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, vinyl chloride, 1,1,2-TCA and 1,2-DCA), petroleum VOCs (benzene and ethylbenzene) and arsenic, a metal. The COCs can migrate in the dissolved phase with the natural groundwater flow. The PCL exceedance zones for the COCs



are generally consistent with historical data collected at the site and indicate that the overall affected groundwater plume is generally stable and does not show any significant change or expansion.

Chlorinated VOCs can occur as a dense non-aqueous phase liquid (DNAPL) that is denser than water and would be found at the bottom of the water table. Petroleum VOCs can occur as a light non-aqueous phase liquid (LNAPL) that is lighter than water and would be found at the top of the water table. No DNAPL or LNAPL have ever been observed at the Site and the dissolved concentrations of the COCs do not suggest that any NAPL is present.

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**Table D-1. IPCLEZ and Non-IPCLEZ in Groundwater
Former Landreth Metal Facility
Houston, Texas**

	Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2-Dichloroethene (cis-1,2-DCE)	trans-1,2- Dichloroethene	1,1-Dichloroethene (1,1-DCE)	Vinyl Chloride
Ingestion PCL (Tier 1 Residential ^{GW} GW _{Ing} PCL)	0.005	0.005	0.070	0.100	0.007	0.002
Non-Ingestion PCL (Tier I Residential ^{Air} GW _{Inh-V} PCL)	64	3.1	160	99	220	0.49
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-1	<0.0004	<0.0002	<0.0004	<0.0003	0.0051	<0.0004
MW-2	<0.0004	<0.0002	<0.0004	<0.0003	<0.0005	<0.0004
MW-3	<0.0004	0.00075 J	0.003	<0.0003	1.1	<0.0004
MW-4A	<0.0004	<0.0002	<0.0004	<0.0003	<0.0005	<0.0004
MW-4B	<0.0004	<0.0002	<0.0004	<0.0003	<0.0005	<0.0004
MW-5	<0.020	0.9	34	0.28	0.052	4.5
MW-5A	0.140	19	46	0.34	0.17	1.9
MW-5B	0.075	11	20	0.095	0.022 J	0.1
MW-6	<0.0004	<0.0002	0.00098 J	<0.0003	0.2	0.15
MW-7	<0.0004	<0.0002	<0.0004	<0.0003	0.0045	<0.0004
MW-8	4.9	12	4.3	0.082	0.031	0.23
MW-9	0.001 J	0.0012	0.0009 J	<0.0003	1.7	0.051
MW-10	<0.0004	0.015	0.31	<0.003	9.2	5.8

Notes on Page 3.

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**Table D-1. IPCLEZ and Non-IPCLEZ in Groundwater
Former Landreth Metal Facility
Houston, Texas**

	1,1,2-Trichloroethane (1,1,2-TCA)	1,2-Dichloroethane (1,2-DCA)	Benzene	Ethylbenzene	Arsenic
Ingestion PCL (Tier 1 Residential ^{GW} GW _{Ing} PCL)	0.005	0.005	0.005	0.700	0.010
Non-Ingestion PCL (Tier I Residential ^{Air} GW _{Inh-V} PCL)	10	4.3	23	3,800	-
	mg/L	mg/L	mg/L	mg/L	mg/L
MW-1	<0.0003	<0.0003	<0.0002	<0.0003	-
MW-2	<0.0003	<0.0003	<0.0002	<0.0003	-
MW-3	<0.0003	0.0029	0.00022 J	<0.0003	-
MW-4A	<0.0003	<0.0003	<0.0002	<0.0003	-
MW-4B	<0.0003	<0.0003	<0.0002	<0.0003	-
MW-5	<0.015	<0.015	2.4	0.48	0.017
MW-5A	<0.015	<0.015	2.8	0.82	-
MW-5B	<0.0075	<0.0075	0.074	<0.0075	-
MW-6	<0.0003	<0.0003	<0.0002	<0.0003	-
MW-7	<0.0003	<0.0003	<0.0002	<0.0003	-
MW-8	0.0026 J	<0.0015	<0.001	<0.0015	-
MW-9	<0.0003	0.00099 J	<0.0002	<0.0003	-
MW-10	0.022	0.086	0.0026 J	<0.003	0.0114

Notes on Page 3.

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Table D-1. IPCLEZ and Non-IPCLEZ in Groundwater Former Landreth Metal Facility Houston, Texas

Notes:

Concentrations shown are from the March 2013 sampling event.

All concentrations are reported in milligrams per liter (mg/L)

J - compound was detected above the method detection limit but below the sample quantitation limit. Result is estimated.

IPCLEZ - Ingestion Protective Concentration Level Exceedence Zone

"<" constituent was not detected at the reporting limit shown.

Tier 1 Residential ^{GW} PCL - Tier 1 Residential Protective Concentration Level (PCL) for ingestion of groundwater, published by the TCEQ, June 2012.

Tier I Residential ^{Air} PCL - Tier 1 Residential PCL for inhalation of vapor in air immanating from groundwater, published by the TCEQ, June 2012.

Indicates constituent exceeds Ingestion Protective Concentration Level

Indicates constituent exceeds Non-Ingestion Protective Concentration Level and Ingestion Protective Concentration Level



Appendix E
Contaminant of Concern Table

City of Houston Municipal Setting
Designation (MSD) Application for the
former Landreth Metal Facility, 7135
Ardmore Street, Houston, Texas
Baker Hughes, Inc. (BHI)

Appendix E

Contaminant of Concern Table



Appendix E. 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 as mg/L units.**
- b. The critical protective concentration level without the municipal setting designation, highlighting any exceedances.**

Table E-1 shows the maximum concentrations of PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, vinyl chloride, 1,1,2-TCA, 1,2-DCA, benzene, ethylbenzene and arsenic detected in soils compared to the ingestion protective concentration levels (IPCLs). The table includes the sample locations, depths and the sample collection dates. The IPCLs for soil are the Tier 1 Residential ^{GW}Soil_{ing} protective concentration levels (PCLs) published under the Texas Risk Reduction Program (TRRP) by the Texas Commission on Environmental Quality. As shown in **Table E-1**, six of the maximum concentrations in the soil samples (PCE, 1,1-DCE, vinyl chloride, benzene, ethylbenzene and arsenic) exceed their respective IPCLs. These exceedances were confined to two soil boring locations (SB-02 and SB-37).

Table E-2 shows the maximum concentration of PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, vinyl chloride, 1,1,2-TCA, 1,2-DCA, benzene, ethylbenzene and arsenic detected in soils compared to the non-ingestion protective concentration level (non-IPCL). The non-IPCLs in soil for the contaminants of concern are the Tier 1 Residential ^{Tot}Soil_{Comb} PCLs published under TRRP. As shown in **Table E-2**, arsenic is the only COC with a maximum concentration in soil that exceeds the respective non-IPCL (i.e. the critical PCL with an MSD). One soil sample, collected from soil boring location SB-02, exceeded the non-IPCL.

Table E-3 shows the maximum concentrations of PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, vinyl chloride, 1,1,2-TCA, 1,2-DCA, benzene, ethylbenzene and arsenic detected in groundwater during the most recent sampling event in March 2013 compared to the ingestion protective concentration level (IPCL). The IPCLs for the contaminants in groundwater are the Tier 1 Residential ^{GW}GW_{ing} PCLs published under TRRP. As shown in **Table E-3**, the historical maximum concentrations for all eleven (11) of the COCs in groundwater exceed the IPCL (i.e. the critical PCL without an MSD). The IPCL exceedance zones are discussed in Appendix D.

Table E-4 shows the maximum concentration of PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, vinyl chloride, 1,1,2-TCA, 1,2-DCA, benzene, ethylbenzene and arsenic detected in groundwater during the most recent sampling event (March 2013) compared to the non-ingestion protective concentration level (non-IPCL). The non-IPCLs for all eleven contaminants in groundwater are the Tier 1 Residential ^{Air}GW_{Inh-V} PCLs published under TRRP. As shown in **Table E-4**, TCE and vinyl chloride concentrations in groundwater exceed their respective non-IPCLs (i.e. the critical PCL with an MSD). These exceedances occur in Wells MW-5A and MW-10.

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Table E-1 and E-2. Maximum Constituent Concentrations in Soils
 Former Landreth Metal Facility
 Houston, Texas

Table E-1: Maximum Constituent Concentrations in Soils Compared to the IPCLs

Contaminant of Concern	IPCL ^{GW} Soil _{Ing} (mg/kg)	non-IPCL ^{Tot} Soil _{Comb} (mg/kg)	Critical PCL (no MSD) (mg/kg)	Max Concentration (mg/kg)	Date Sampled	Boring ID	Depth (ft-bgs)
Tetrachloroethene (PCE)	0.025	420	0.025	0.069	4/5/2002	SB-02	4
Trichloroethene (TCE)	0.017	11	0.017	Not Detected			
cis-1,2-Dichloroethene (cis-1,2-DCE)	0.12	120	0.12	Not Detected			
trans-1,2-Dichloroethene (trans-1,2-DCE)	0.25	370	0.25	Not Detected			
1,1-Dichloroethene (1,1-DCE)	0.025	1,600	0.025	0.48	8/27/2002	SB-37	12
Vinyl Chloride	0.011	3.4	0.011	0.02	8/27/2002	SB-37	12
1,1,2-Trichloroethane (1,1,2-TCA)	0.01	10	0.01	Not Detected			
1,2-Dichloroethane (1,2-DCA)	0.0069	6.4	0.0069	Not Detected			
Benzene	0.013	69	0.013	4.3	4/5/2002	SB-02	4
Ethylbenzene	3.8	5,300	3.8	25	4/5/2002	SB-02	4
Arsenic	2.5	24	2.5	43.5	4/5/2002	SB-02	4

Indicates sample exceeds the Critical PCL without a Municipal Settings Designation (MSD)

IPCL: Ingestion Protective Concentration Level is the critical PCL without a Municipal Settings Designation (MSD)

Non-IPCL: Non-Ingestion Protective Concentration Level is the critical PCL with a Municipal Settings Designation (MSD)

^{GW}Soil_{Ing} - PCL for ingestion of groundwater leaching from the soil

^{Tot}Soil_{Comb} - PCL for total soil combined (human exposure through inhalation, ingestion and dermal contact)

Table E-2: Maximum Constituent Concentrations in Soil Compared to the Non-IPCLs

Contaminant of Concern	IPCL ^{GW} Soil _{Ing} (mg/kg)	non-IPCL ^{Tot} Soil _{Comb} (mg/kg)	Critical PCL (with MSD) (mg/kg)	Max Concentration (mg/kg)	Date Sampled	Boring ID	Depth (ft-bgs)
Tetrachloroethene (PCE)	0.025	420	420	0.069	4/5/2002	SB-02	4
Trichloroethene (TCE)	0.017	11	11	Not Detected			
cis-1,2-Dichloroethene (cis-1,2-DCE)	0.12	120	120	Not Detected			
trans-1,2-Dichloroethene (trans-1,2-DCE)	0.25	370	370	Not Detected			
1,1-Dichloroethene (1,1-DCE)	0.025	1,600	1,600	0.48	8/27/2002	SB-37	12
Vinyl Chloride	0.011	3.4	3.4	0.02	8/27/2002	SB-37	12
1,1,2-Trichloroethane (1,1,2-TCA)	0.01	10	10	Not Detected			
1,2-Dichloroethane (1,2-DCA)	0.0069	6.4	6.4	Not Detected			
Benzene	0.013	69	69	4.3	4/5/2002	SB-02	4
Ethylbenzene	3.8	5,300	5,300	25	4/5/2002	SB-02	4
Arsenic	2.5	24	24	43.5	4/5/2002	SB-02	4

Indicates sample exceeds the Critical PCL with a Municipal Settings Designation (MSD)

IPCL: Ingestion Protective Concentration Level is the critical PCL without a Municipal Settings Designation (MSD)

Non-IPCL: Non-Ingestion Protective Concentration Level is the critical PCL with a Municipal Settings Designation (MSD)

^{GW}Soil_{Ing} - PCL for ingestion of groundwater leaching from the soil

^{Tot}Soil_{Comb} - PCL for total soil combined (human exposure through inhalation, ingestion and dermal contact)

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Table E-3 and E-4. Maximum Constituent Concentrations in Groundwater
Former Landreth Metal Facility
Houston, Texas

Table E-3: Maximum Constituent Concentrations in Groundwater Compared to the IPCLs

Contaminant of Concern	IPCL ^{GW} GW _{ing} (mg/L)	non-IPCL ^{Air} GW _{inh-v} (mg/L)	Critical PCL (no MSD) (mg/L)	Max Concentration March 2013 Event (mg/L)	Well ID	Historical Max Concentration (mg/L)	Well ID	Date Sampled
Tetrachloroethene (PCE)	0.005	64	0.005	4.9	MW-8	7.0	MW-8	3/29/2007
Trichloroethene (TCE)	0.005	3.1	0.005	19	MW-5A	240	MW-5	5/21/2002
cis-1,2-Dichloroethene (cis-1,2-DCE)	0.070	160	0.070	46	MW-5A	120	MW-5	5/21/02 & 5/12/05
trans-1,2-Dichloroethene (trans-1,2-DCE)	0.100	99	0.100	0.34	MW-5A	0.69	MW-8	8/27/2007
1,1-Dichloroethene (1,1-DCE)	0.007	220	0.007	9.2	MW-10	27	MW-10	5/8/2006
Vinyl Chloride	0.002	0.49	0.002	5.8	MW-10	17.7	MW-10	11/16/2007
1,1,2-Trichloroethane (1,1,2-TCA)	0.005	10	0.005	0.022	MW-10	0.032	MW-5	9/14/2004
1,2-Dichloroethane (1,2-DCA)	0.005	4.3	0.005	0.086	MW-10	0.15	MW-10	11/5/2010
Benzene	0.005	23	0.005	2.8	MW-5A	6.6	MW-5A	11/29/2006
Ethylbenzene	0.700	3,800	0.700	0.82	MW-5A	1.4	MW-5A	3/29/2007
Arsenic	0.010	-	0.010	0.017	MW-5	0.0173	MW-5	6/13/2008

Indicates sample exceeds the Critical PCL without a Municipal Settings Designation (MSD)

IPCL: Ingestion Protective Concentration Level is the critical PCL without a Municipal Settings Designation (MSD)

Non-IPCL: Non-Ingestion Protective Concentration Level is the critical PCL with a Municipal Settings Designation (MSD)

^{GW}Soil_{ing} - PCL for ingestion of groundwater leaching from the soil

^{Air}GW_{inh-v} - Tier 1 PCL for human inhalation of vapors emanating from groundwater

Table E-4: Maximum Constituent Concentrations in Groundwater Compared to the Non-IPCLs

Contaminant of Concern	IPCL ^{GW} GW _{ing} (mg/L)	non-IPCL ^{Air} GW _{inh-v} (mg/L)	Critical PCL (with MSD) (mg/L)	Max Concentration March 2013 Event (mg/L)	Well ID	Historical Max Concentration (mg/L)	Well ID	Date Sampled
Tetrachloroethene (PCE)	0.005	64	64	4.9	MW-8	7.0	MW-8	3/29/2007
Trichloroethene (TCE)	0.005	3.1	3.1	19	MW-5A	240	MW-5	5/21/2002
cis-1,2-Dichloroethene (cis-1,2-DCE)	0.070	160	160	46	MW-5A	120	MW-5	5/21/02 & 5/12/05
trans-1,2-Dichloroethene (trans-1,2-DCE)	0.100	99	99	0.34	MW-5A	0.69	MW-8	8/27/2007
1,1-Dichloroethene (1,1-DCE)	0.007	220	220	9.2	MW-10	27	MW-10	5/8/2006
Vinyl Chloride	0.002	0.49	0.49	5.8	MW-10	17.7	MW-10	11/16/2007
1,1,2-Trichloroethane (1,1,2-TCA)	0.005	10	10	0.022	MW-10	0.032	MW-5	9/14/2004
1,2-Dichloroethane (1,2-DCA)	0.005	4.3	4.3	0.086	MW-10	0.15	MW-10	11/5/2010
Benzene	0.005	23	23	2.8	MW-5A	6.6	MW-5A	11/29/2006
Ethylbenzene	0.700	3,800	3,800	0.82	MW-5A	1.4	MW-5A	3/29/2007
Arsenic	0.010	-	-	0.017	MW-5	0.0173	MW-5	6/13/2008

Indicates sample exceeds the Critical PCL with a Municipal Settings Designation (MSD)

IPCL: Ingestion Protective Concentration Level is the critical PCL without a Municipal Settings Designation (MSD)

Non-IPCL: Non-Ingestion Protective Concentration Level is the critical PCL with a Municipal Settings Designation (MSD)

^{GW}Soil_{ing} - PCL for ingestion of groundwater leaching from the soil

^{Air}GW_{inh-v} - Tier 1 PCL for human inhalation of vapors emanating from groundwater



Appendix F
Additional Property Owners
Communications

City of Houston Municipal Setting
Designation (MSD) Application for the
former Landreth Metal Facility, 7135
Ardmore Street, Houston, Texas
Baker Hughes, Inc. (BHI)

Appendix F

Additional Property Owners Communications



Appendix F. If the plume extends beyond the limits of property owners listed in this application, list the owners of the additional property beneath which the plume(s) extend(s), and a summary of interactions with those property owners about the plume(s) and this MSD application. Please Note: You are not required under this item to notify affected property owners, only to provide a summary or who affected property owners are, and if there have been any communications. "No contact" can be an acceptable answer.

City of Houston, Right-of-Way (Corder Street terminus)

Official notification of potentially affected property was made in 2004. In addition to the initial notification, a letter dated January 24, 2007 was sent to the city. The January 2007 letter included a summary of analytical data and notification that the city right-of way at Corder Street was affected.

Texas Department of Transportation, S.H. 288 (South-bound corridor)

Official notification of potentially affected property was made in 2004. In addition to the initial notification, correspondence from Baker Hughes to the Texas Department of Transportation (TXDOT) is documented by letter, dated January 24, 2007. The January 2007 letter included a summary of analytical data and notification that the TXDOT property might be affected.



Appendix G
Plume Stability

City of Houston Municipal Setting
Designation (MSD) Application for the
former Landreth Metal Facility, 7135
Ardmore Street, Houston, Texas
Baker Hughes, Inc. (BHI)

Appendix G

Plume Stability



Appendix G. A statement as to whether the plume of contamination is stable (i.e. no change), or contracting, and delineated, with the basis for that statement. Please include historical sampling data.

Two former source areas exist at the site: The former UST/Sump Area and the former Machine Shop area. Well MW-5 was installed through the former UST/Sump tankhold and is located in the former UST/Sump area. Well MW-10 is in the former Machine Shop source area. Concentration trends for benzene and parent chlorinated VOCs (PCE and TCE) at Well MW-5 indicate stable or decreasing conditions and strong degradation of chlorinated VOCs in the former UST/Sump source area. Data from Well MW-8, located down-gradient of the former UST/ Sump source area, shows stable or declining trends for all of the COCs. Graphs showing concentration trends for MW-5 and MW-8 are included in this Appendix.

Concentration trends for parent chlorinated VOCs (PCE and TCE) at Well MW-10 indicate decreasing conditions and strong degradation of chlorinated VOCs in the former Machine Shop source area. PCE and TCE concentrations in down-gradient wells MW-3 and MW-9 have generally remained below the PCLs. Concentrations of 1,1-dichloroethene and vinyl chloride have decreased over time in Well MW-3, but have increased slightly in Well MW-9. The increase in degradation products is a result of the reductive dechlorination of the parent constituents, and is not an indication of an unstable plume. Graphs showing concentration trends for MW-3 and MW-9 and MW-10 are included in this Appendix.

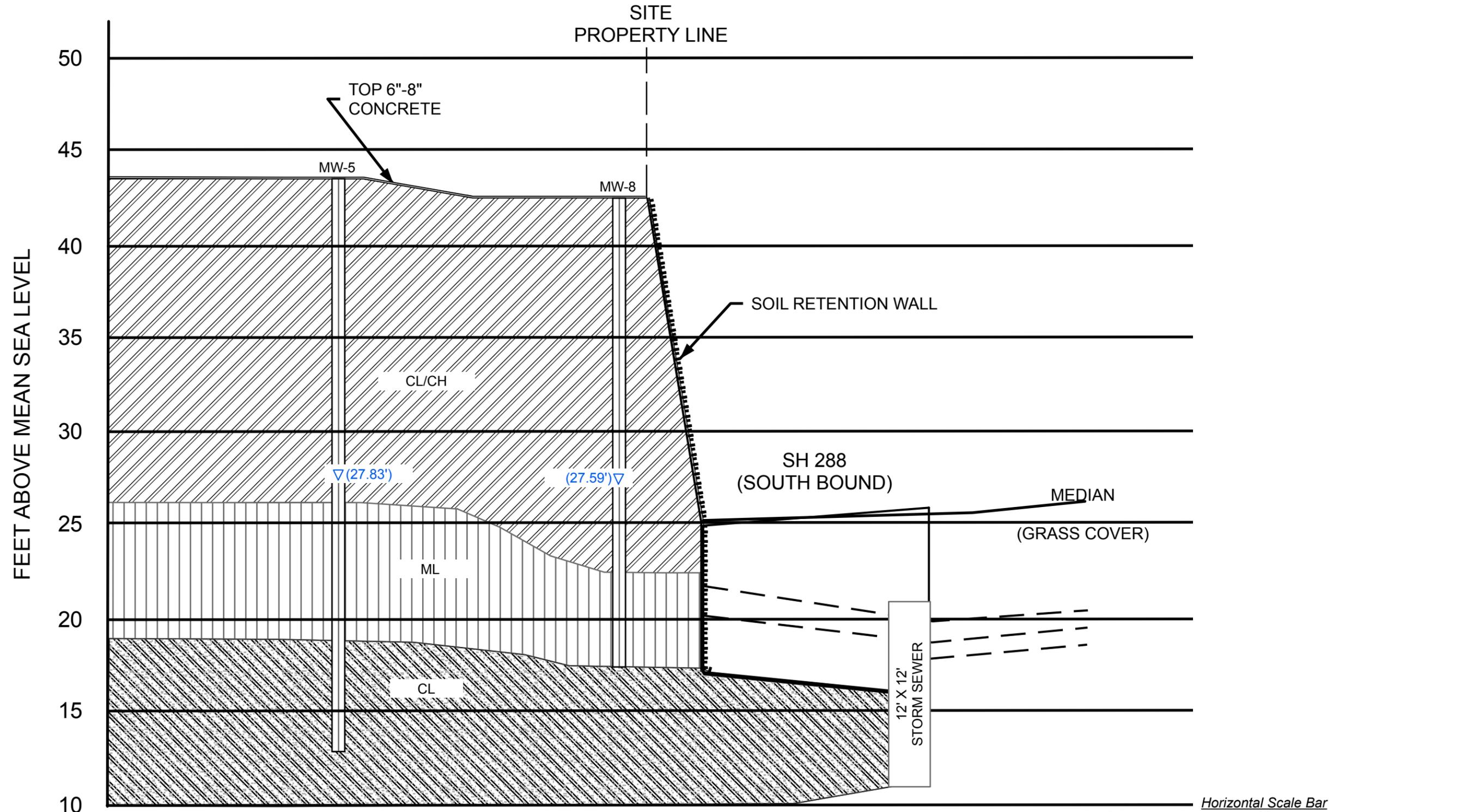
A retaining wall and a 12 foot by 12 foot storm sewer constructed for State Highway 288 are present near the eastern property boundary down-gradient of both of the source areas described above. Based on construction diagrams obtained from TXDOT, these structures intercept groundwater and represent a physical barrier to its migration east of the wall. A cross-section showing the groundwater in relation to these structures is provided as Figure G-1.

At the request of the TCEQ, water samples were collected from the storm sewer within the State Highway 288 right-of-way on December 7, 2004 and analyzed for volatile organic compounds. With the exception of TCE, all analytes were below the Tier I Residential PCLs. TCE was detected at 0.004 and 0.006 mg/L in the two samples. The source of the TCE in the storm sewer samples was not identified, but due to the presence of the retaining wall described above, the TCE in the storm water does not appear to have originated from the shallow groundwater beneath the site.

Based on the information described above, the affected groundwater appears to be stable.

WEST

EAST



LEGEND:

- | | | | | |
|--------------------------|---|---|---|---|
| <p> CL/CH</p> <p> CL</p> | <p>UNSATURATED ZONE - DARK GRAY CLAY (CL/CH); MOIST; HIGH PLASTICITY TRANSITION TO YELLOW/BROWN CLAY WITH GRAY MOTTLE AT DEPTH</p> <p>CONFINED GROUNDWATER BEARING UNIT - SANDY-CLAYEY (ML); MODERATE PLASTICITY.</p> | <p> CL</p> <p> EXISTING STORM SEWER</p> | <p>BOTTOM CONFINING UNIT - LIGHT GRAY SILTY CLAY (CL); DRY; STIFF; SILT CONTENT INCREASES WITH DEPTH.</p> <p>GROUNDWATER ELEVATION, AS MEASURED IN MARCH 2013</p> | <p>NOTE:
 STATIC WATER LEVEL FROM MARCH 2013 MONITORING EVENT, IN FEET ABOVE MEAN SEA LEVEL.</p> <p>SOURCES: ATTACHMENT 3A-2, AFFECTED PROPERTY ASSESSMENT REPORT - 7135 ARDMORE, HOUSTON, HARRIS COUNTY, TX; PREPARED BY WESON, JUNE 2004.</p> <p>STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION: PLAN OF PROPOSED STATE HIGHWAY IMPROVEMENT, 1-610- S.H.288 INTERCHANGE AND S.H.288 MAIN LANES, OCTOBER 28, 1983.</p> |
|--------------------------|---|---|---|---|

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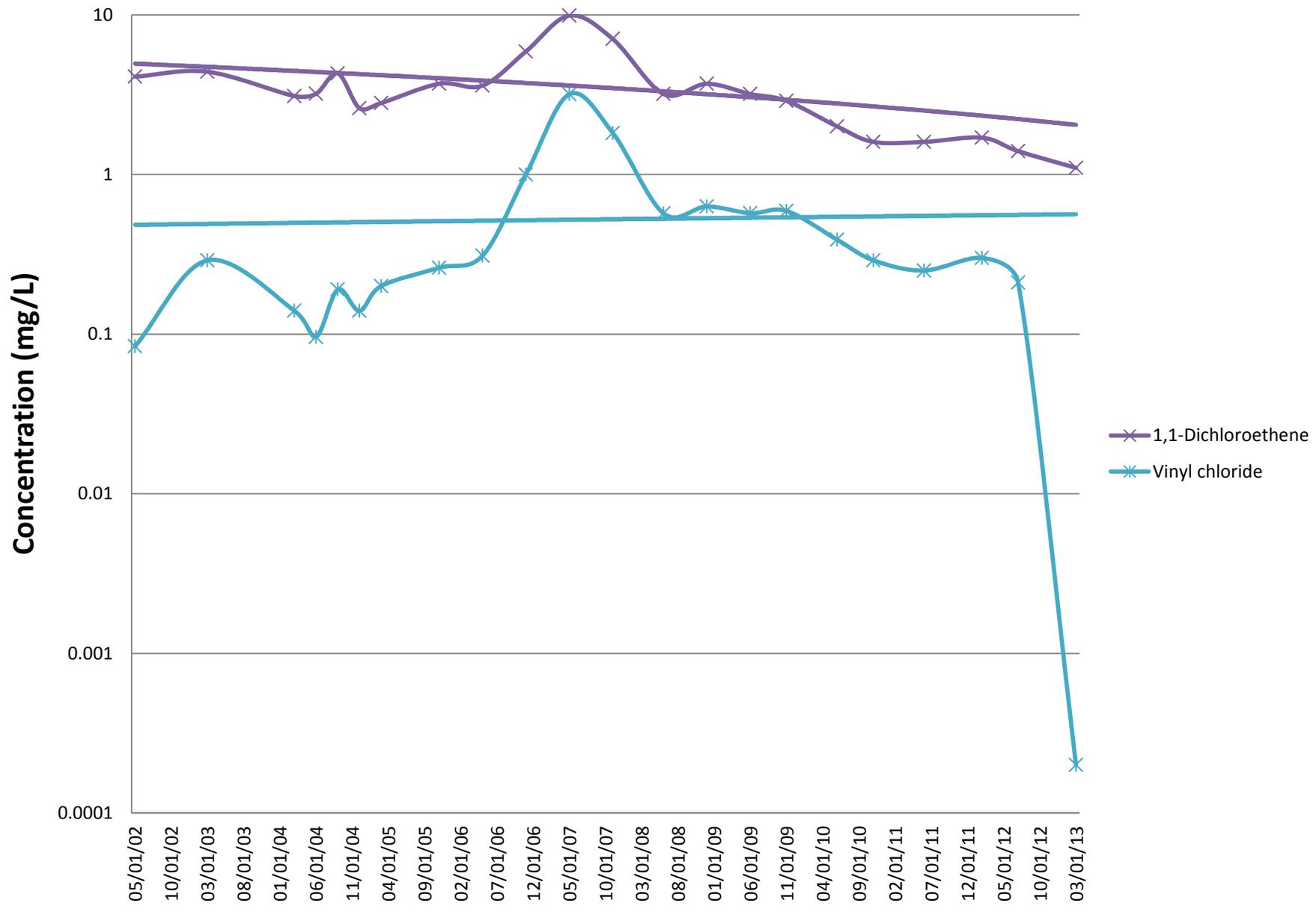


7135 ARDMORE STREET
HOUSTON, HARRIS COUNTY, TEXAS

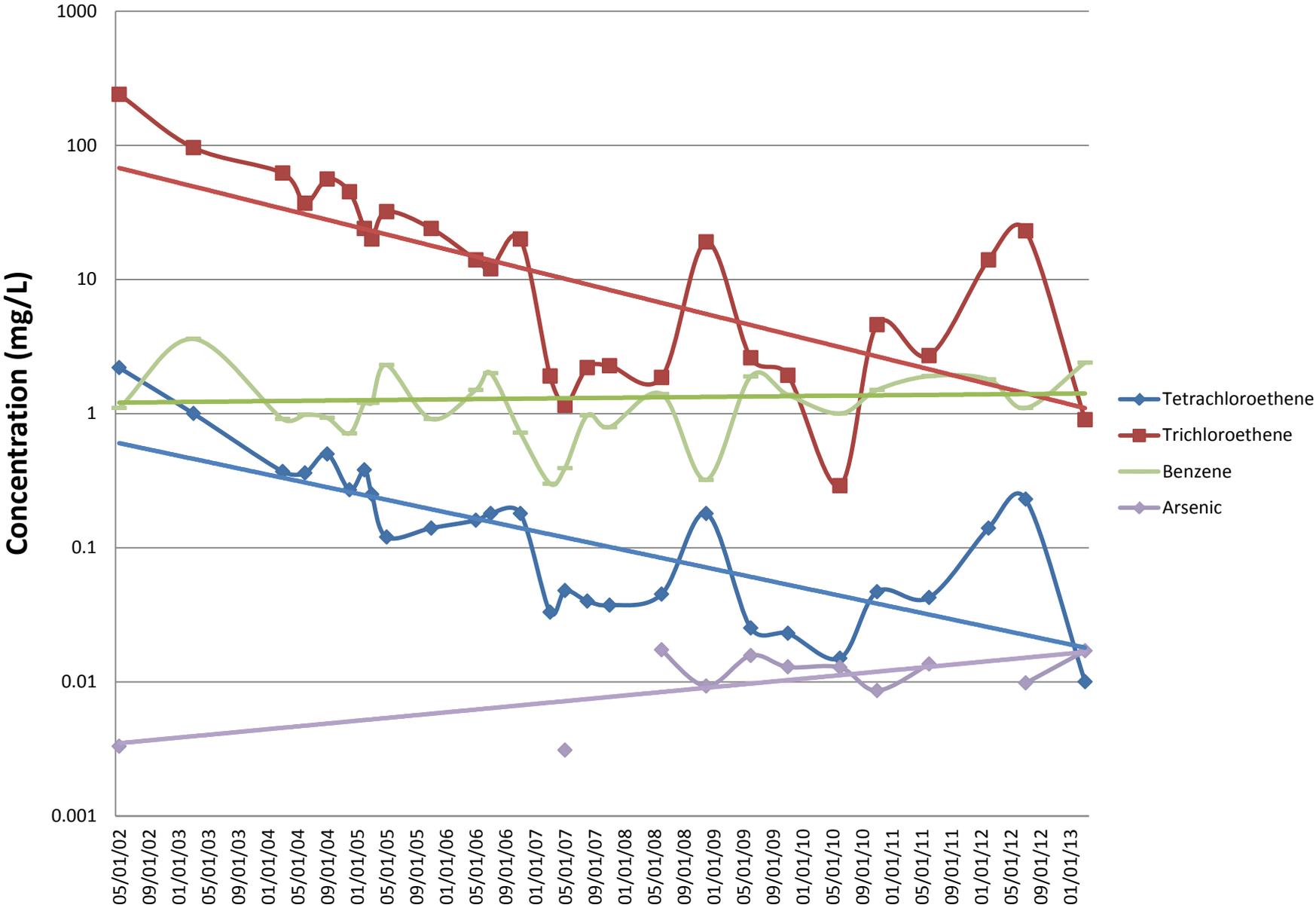
CROSS SECTION

ARCADIS
JUNE 2013
FIGURE G-1

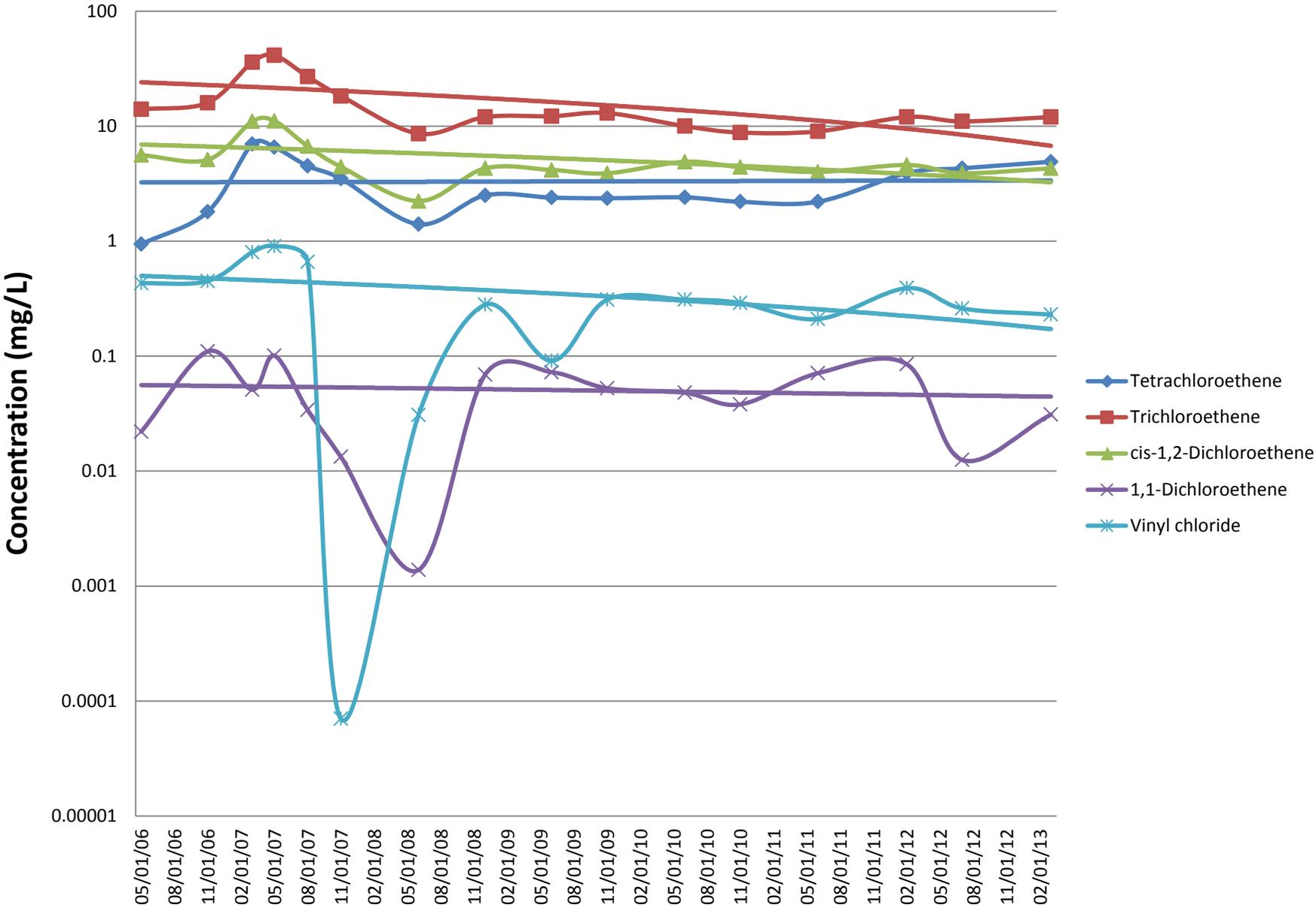
MW-3 Trend Plot



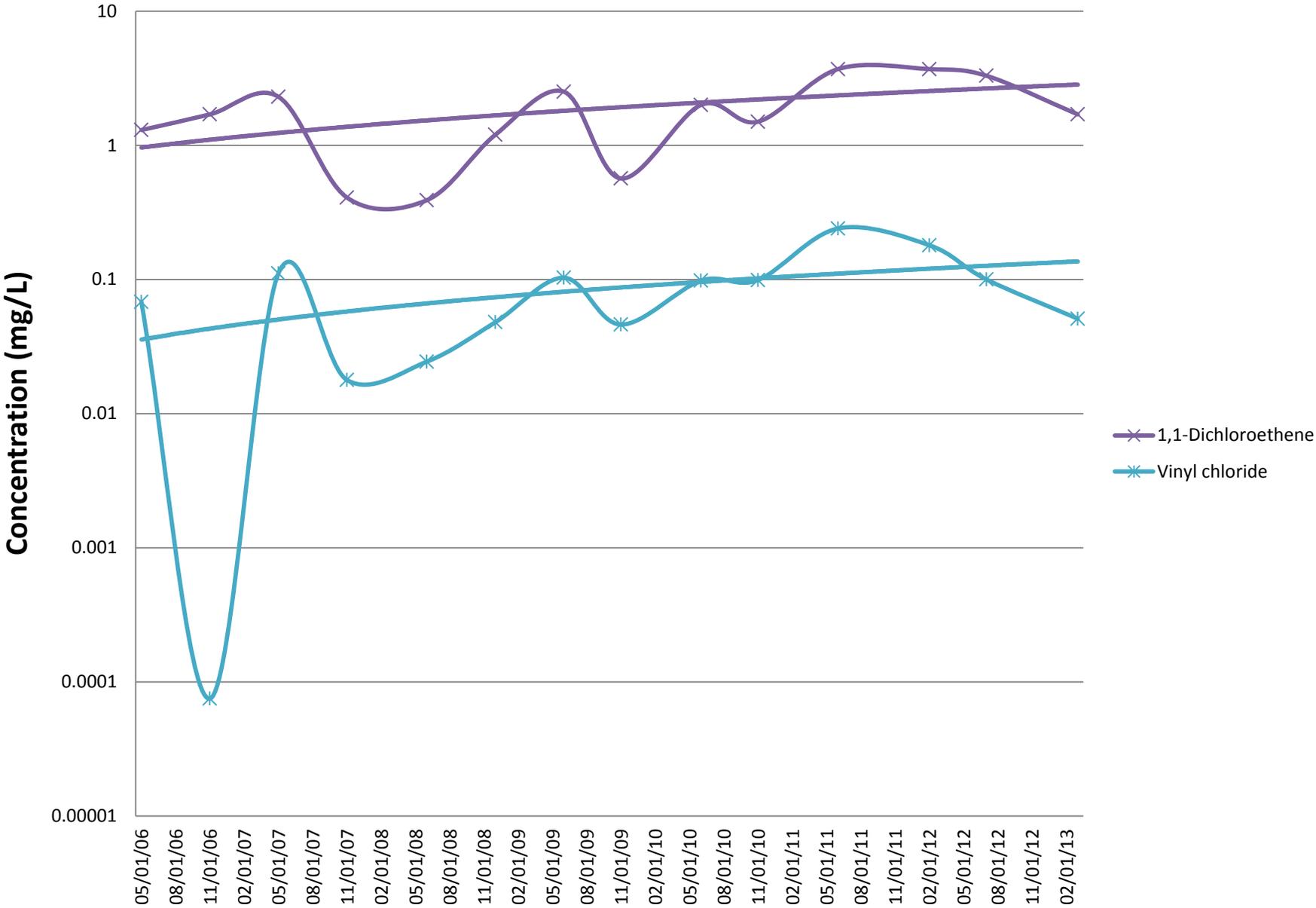
MW-5 Trend Plot



MW-8 Trend Plot



MW-9 Trend Plot



MW-10 Trend Plot

