CITY OF HOUSTON



HOUSTON PUBLIC WORKS HOUSTON WATER DIVISION

EXECUTIVE SUMMARY

Project Overview

InControl Technologies LLC was retained by Southwest Oilfield Products (the Property Owner) to provide environmental consulting services at their facility located at 10340 Wallisville Road in Houston, Harris County, Texas. The facility manufactures pumps, valves and pistons for the oil and gas industry. The subject property is 8.8027 acres in size (**Figure C1**). The facility was constructed in phases between 1955 and 1981. This property contains offices, shipping and receiving, warehousing, machining areas and assembly areas. This facility has an interior paint booth, exterior bead blast booth and indoor and outdoor wash bays. An aerobic septic system and associated spray field is located on the southern portion of the property. The surrounding area is a mix of rural and commercial development (**Figure B**).

Site assessment activities were initiated in June 2015 in areas where historical recognized environmental conditions (RECs) were identified. Site assessment activities have included the collection of multiple soil and groundwater samples to define the nature and extent of impacts to the environment. The subject property was enrolled in the TCEQ Corrective Action Program as Site Number 87218 in April 2016.

The Site is located within the Hunting Bayou Watershed and is located within the 0.2% annual chance (500 year) floodplain (**Figure C2**). A portion of the property is located within the 100-year floodplain (**Figure C3**).

A volatile organic compound (VOC) Protective Concentration Level (PCL) Exceedance (PCLE) zone was identified at the subject property. The primary constituent of concern in groundwater is trichloroethylene (TCE). The PCLE Zone includes TCE and its breakdown products. The PCLE zones are depicted on **Figure C4-1** through **Figure C4-6**.

Historical Environmental Condition

In June 2015, InControl Technologies initiated an extensive site investigation that consisted of the installation of 23 soil borings. Ten of the borings were advanced to a depth of eight feet below grade, and 13 of the borings were advanced into the first groundwater bearing unit (GWBU) and converted to temporary groundwater monitoring wells. An additional nine borings were advanced on the subject property in July 2015. As part of this phase of investigation, seven permanent groundwater monitoring wells (MW-1 through MW-7) were installed in the first GWBU on the subject property.

Additional site assessment activities have been completed between December 2015 and the present. Currently, there are 16 monitoring wells (MW-1 through MW-16) installed in the first GWBU, eight (8)

monitoring wells (MW-1D through MW-8D) are installed in the second GWBU, and three (3) monitoring wells (MW-A through MW-C) installed in the third GWBU.

Numerous soil and groundwater samples have been collected during the site investigations and analyzed for total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs) and RCRA metals. Analytical testing eliminated TPH (in groundwater) and RCRA metals (in both soil and groundwater) as constituents of concern at the property. Trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1-dichloroethene (1,1-DCE) and vinyl chloride are each reported at concentrations above commercial/industrial Tier 1 ^{GW}GW_{Ing} PCLs in groundwater samples collected from each GWBU.

A Soil Vapor Extraction (SVE) system was installed at the property in September 2018 to address ongoing leaching of VOCs to groundwater from the historical soil PCL exceedance zone. This area reported the highest concentration of chlorinated VOCs in soil and is considered the primary source area. The SVE system consisted of nine (9) vapor extraction wells and four (4) air sparge points. The SVE system operated for six months after which confirmation soil samples were collected. The confirmation analytical results indicate a reduction in VOC concentration greater than 95 percent.

In-Situ groundwater response actions were also initiated in October 2019 within the first GWBU in the source area. One year after the in-situ treatments, concentrations in this part of the groundwater plume have decreased greater than 99 percent. Additional in-situ groundwater response actions were completed in downgradient locations of the first GWBU in November 2020.

Twenty-four (24) water wells were identified within a ½ mile radius of the proposed Municipal Setting Designation (MSD) boundary (**Appendix P**). Two water wells were listed in the water well report on the subject property; however, it was verified with Southwest Oilfield Products personnel that these wells are capped and no longer in use. There are no affected or potentially threatened water wells within ½-mile of the subject property.

The direction of groundwater movement is towards the northeast. The groundwater plume likely extends off-site to the east beneath Oates Road. Hunting Bayou is located approximately 350-feet northeast (downgradient) of the proposed MSD boundary. However, two monitoring wells (MW-12 and MW-14) indicate that the shallow groundwater plume does not extend to Hunting Bayou and is therefore not in communication with the bayou.

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.

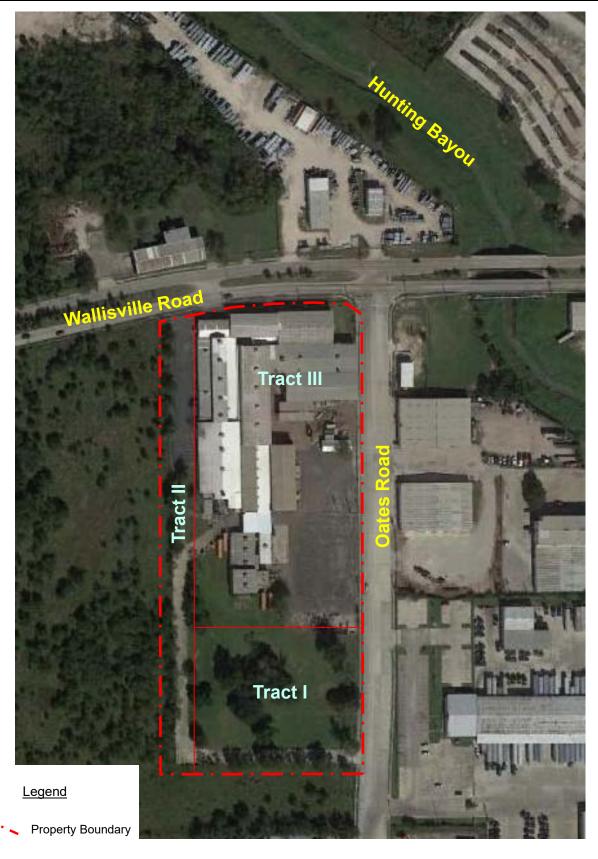
The following boundary surveys with legal descriptions totaling 8.8027 acres are included in this section.

 Tract I
 2.3380 acres

 Tract II
 1.0984 acres

 Tract III
 5.3663 acres

Figure A depicts the proposed MSD boundary for Southwest Oilfield Products located at 10340 Wallisville Road in Houston, Texas.



14731 Pebble Bend Drive Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853

Proposed MSD Boundary

_				
	CLIENT:			PM:
	Southwest Oilfield Products			MFM
	10340 Wallisville Road Houston, Texas 77013			CHECKED:
	SCALE:	DESIGNED:	PROJECT NO:	FIGURE:
	1"=120'	5/12/15	833-103	Α

Electronically Recorded

County: Hams

Date: 5-19

Recording information: Page 48484

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

SPECIAL WARRANTY DEED

STATE OF TEXAS

§

COUNTY OF HARRIS

§ §

Date:

February 5, 2019

Grantor:

Leman Family Trust, acting by and through Chris Leman, John W. Leman, Phillip

Leman and Sandra Leman, Trustees

Grantor's Mailing Address:

Leman Family Trust 7802 Fairdale Lane Houston, Texas 77063

Grantee:

Southwest Oilfield Products, Inc., a Delaware corporation

Grantee's Mailing Address:

c/o American Block Company 6311 Breen Road Houston, Texas 77086

Consideration:

In and for the sum of Ten and No/100 Dollars (\$10.00), and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged.

Property:

See Exhibit "A" attached hereto.

Reservations and Exceptions to Conveyance and Warranty:

See Exhibit "B" attached hereto.

Grantor, for the Consideration, and subject to the Reservations and Exceptions to Conveyance and Warranty, grants, sells and conveys to Grantee the Property, together with: (i) all and singular, all of Grantor's right, title and interest in and to any and all rights, benefits, privileges,

easements, tenements, and appurtenances thereon and pertaining thereto, (ii) any and all improvements, fixtures and buildings located on such Property, (iii) all strips and gores adjacent to such Property; and (iv) and all right, title and interest of Grantor in all development rights and rights appurtenant thereto, TO HAVE AND TO HOLD unto Grantee and Grantee's heirs, successors and assigns forever. Grantor binds Grantor and Grantor's heirs, successors and assigns to warrant and forever defend, all and singular, the Property unto Grantee and Grantee's heirs, successors and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, by, through or under Grantor, but not otherwise, subject to the Reservations and Exceptions to Conveyance and Warranty.

GRANTEE IS TAKING THE PROPERTY IN AN ARM'S-LENGTH AGREEMENT BETWEEN THE PARTIES. THE CONSIDERATION WAS BARGAINED ON THE BASIS OF AN "AS IS, WHERE IS" TRANSACTION AND REFLECTS THE AGREEMENT OF THE PARTIES THAT THERE ARE NO REPRESENTATIONS OR EXPRESS OR IMPLIED WARRANTIES EXCEPT FOR THE SPECIAL WARRANTY OF TITLE EXPRESSLY PROVIDED HEREIN. GRANTEE HAS NOT RELIED ON ANY INFORMATION OTHER THAN GRANTEE'S INSPECTION.

Where the context requires, singular nouns and pronouns include the plural.

[signature pages follow]

	GRANTOR:
	LEMAN FAMILY TRUST
	By: Chris Leman, Trustee
	STATE OF §
	COUNTY OF §
	This instrument was acknowledged before me on this day of, 2018, by Chris Leman, Trustee of the Leman Family Trust, on behalf of said Trust.
	NOTARY PUBLIC, STATE OF
	By: John W. Leman, Trustee
	STATE OF TEXAS § COUNTY OF HARRIS §
W	This instrument was acknowledged before me on this 28 day of 2018, by John W. Leman, Trustee of the Leman Family Trust, on behalf of said Trust.
THE OF THE OWNER	FRANCISCA GOMEZ Notary Public-State of Texas Notary ID #128433676 Commission Exp. NOV. 03, 2022

By: Phillip Leman, Trustee
STATE OF §
COUNTY OF §
This instrument was acknowledged before me on thisday of, 2018, by Phillip Leman, Trustee of the Leman Family Trust, on behalf of said Trust.
NOTARY PUBLIC, STATE OF
By: Sandre Leman, Trustee
STATE OF Lex as §
COUNTY OF Mortgograng
2018, by Sandra Leman, Trustee of the Leman Family Trust, on behalf of said Trust.
SUSAN R GATES NOTARY PUBLIC, STATE OF JLYGO NOTARY PUBLIC STATE OF TEXAS MY COMM. EXP. 08/15/2021 NOTARY IB 12952497-8

By: Thillip Leman, Trustee
STATE OF <u>Fexas</u> §
COUNTY OF Haves §
This instrument was acknowledged before me on this
TAN M. TANG My Notary ID # 125913136 Expires November 14, 2022 NOTARY PUBLIC, STATE OF TEXAS
By: Sandra Leman, Trustee
STATE OF §
COUNTY OF §
This instrument was acknowledged before me on this day of
NOTARY PUBLIC, STATE OF

EXHIBIT "A"

DESCRIPTION OF THE PROPERTY

[attached]

FIELD NOTE DESCRIPTION OF 2.3380 ACRES (101,845 SQUARE FEET) BEING THE RESIDUE OF THAT CERTAIN CALLED 3.6 ACRE TRACT CONVEYED TO LEMAN FAMILY TRUST, BY INSTRUMENT RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20120604477 OF THE HARRIS COUNTY DEED RECORDS AND LOCATED IN THE REELS & TROBOUGH SURVEY, A-59, HARRIS COUNTY, TEXAS, SAID 2.3380 ACRE TRACT BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS (ALL COORDIANTES AND BEARINGS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE. ALL DISTANCES ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING A COMBINED SCALE FACTOR OF 0.99989729):

COMMENCING at (X=3,158,902.20, Y=13,854,650.76) a point in the original right-of-way line of Oates Road (60 feet wide) for the Northeast corner of that certain 1.20523 acre tract (Tract 23) described in deed to FVL, Ltd., recorded under H.C.C.F. No. U126977, in the East line of said called 3.6 acre tract and the Southeast corner of that certain called 0.1387 acre tract (right-of-way easement for the widening of Oates Road) conveyed to the City of Houston by instrument recorded under H.C.C.F. No. 20080283151;

THENCE, South 87°36'29" West, a distance of 16.03 feet to an "X" cut in concrete found in the West right-of-way line of Oates Road (80 feet wide) for the Southwest corner of said called 0.1387 acre tract, said "X" also marks the Southeast corner and POINT OF BEGINNING (X=3,158,886.18, Y=13,854,650.09) of the herein described tract;

THENCE, South 87°36'29" West, along the North line of said called 1.20523 acre tract, a distance of 333.76 feet (called 350.00 feet) an "X" cut in concrete set in the West line of said called 3.6 acre tract for the Southeast corner of that certain called 1.09807 acre tract recorded under H.C.C.F. No. E146101 and the Southwest corner of the herein described tract;

THENCE, North 02°34'27" West (called North), along the West line of said 3.6 acre tract, a distance of 298.14 feet to a 1-inch iron pipe found for the Southwest corner of that certain called 5.4 acre tract recorded under H.C.C.F. No. 20120604473, said iron pipe also marks the Northwest corner of said called 3.6 acre tract and the herein described tract;

THENCE, North 87°36'29" East (called \$ 89°55' E), along the North line of said called 3.6 acre tract, a distance of 345.38 feet (called 350.00 feet) to a 5/8 inch iron rod with cap set in the West right-of-way line of Oates Road (80 feet wide), for the Northeast corner of the herein described tract;

THENCE, in a Southerly direction, along the West line of said called 0.1387 acre tract, being the West right-of-way line of Oates Road, the following three (3) courses and distances:

THENCE, South 02°27'31" East, 57.17 feet to a 5/8 inch iron rod with cap set for the Point of Curvature of a curve to the Right;

THENCE, along and with said curve to the Right, having radius of 1960.00 feet, a central angle of 03°28'28", an arc length of 118.86 feet and a chord bearing and distance of \$ 00°43'17" E, 118.84 feet to a 5/8 inch iron rod with cap set for the Point of Tangency of said curve;

THENCE, South 01°00'57" West, 122.40 feet to the POINT OF BEGINNING and containing 2.3380 acres (101,845 square feet) of land, more or less,

CENTURY ENGINEERING, INC.
Dated this 29th day of May, 2018
Revised this 2nd day of August, 2018
Revised this 21st day of August, 2018
Revised this 6th day of September, 2018

Bernerd F. Johnson

Registered Professional Land Surveyor No. 4314

CEI JOB NO. 15045-00.00 (QW17) SV 15045A.T

TRACT II

FIELD NOTE DESCRIPTION OF 1.0984 ACRES (47,845 SQUARE FEET) BEING ALL OF THAT CERTAIN CALLED 1.09807 ACRE TRACT DESCRIBED BY INSTRUMENT RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. E146101 OF THE HARRIS COUNTY DEED RECORDS AND LOCATED IN THE REELS & TROBOUGH SURVEY, A-59, HARRIS COUNTY, TEXAS, SAID 1.0984 ACRE TRACT BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS (ALL COORDINATES AND BEARINGS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, ALL DISTANCES ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING A COMBINED SCALE FACTOR OF 0.99989729);

COMMENCING at (X=3,158,902.20, Y=13,854,650.76) a point in the original right-of-way line of Oates Road (60 feet wide) for the Northeast corner of that certain 1.20523 acre tract (Tract 23) described in deed to FVL, Ltd., recorded under H.C.C.F. No. U126977, in the East line of that certain called 3.6 acre tract recorded under H.C.C.F. No. 20120604477 and the Southeast corner of that certain called 0.1387 acre tract (right-of-way easement for the widening of Oates Road) conveyed to the City of Houston by instrument recorded under H.C.C.F. No. 20080283151;

THENCE, South 87°36'29" West, along the North line of said called 1.20523 acre tract, at 16.03 feet pass an "X" cut in concrete found in the West right-of-way line of Oates Road (80 feet wide) for the Southwest corner of said called 0.1387 acre tract, and continuing a total distance of 349.79 feet to an "X" cut in concrete set in the West line of said called 3.6 acre tract for the Southeast corner of that certain called 1.09807 acre tract and the POINT OF BEGINNING (X=3,158,552.72, Y=13,854,636.16) of the herein described tract;

THENCE, South 87°36'29" West (called N 89°56' W), along the South line of said called 1.09807 acre tract, a distance of 50.00 feet to a point for the Southwest corner of the herein described tract, from which a fence corner post bears S 87°35' W, 0.40 feet;

THENCE, North 02°34'27" West (called North), along the West line of said 1.09807 acre tract, a distance of 951.93 feet (called 952.00 feet) to a 5/8 inch iron rod with cap found in the South right-of-way line of Wallisville Road (width varies) for the Northwest corner of the herein described tract, said iron rod falling in the arc of a curve to the Right;

THENCE, in an Easterly direction, along the South right-of-way line of Wallisville Road, with said curve to the Right, having radius of 1096.28 feet, a central angle of 02°39'33", an arc length of 50.88 feet and a chord bearing and distance of N 76°46'16" E, 50.88 feet to a 5/8 inch iron rod with cap found for the Northwest corner of that certain called 5.4 acre tract recorded under H.C.C.F. No. 20120604473, said iron rod also marks the Northeast corner of said called 1.09807 acre tract and the herein described tract;

THENCE, South 02°34'27" East (called South), along the East line of said 1.09807 acre tract, at 663.36 feet pass a 1-inch iron pipe found for the Southwest corner of said called 5.4 acre tract and continuing a total distance of 961.50 feet (called 961.24 feet) to the POINT OF BEGINNING and containing 1.0984 acres (47,845 square feet) of land, more or less.

CENTURY ENGINEERING, INC.
Dated this 29th day of May, 2018
Revised this 2nd day of August, 2018
Revised this 21st day of August, 2018
Revised this 6th day of September, 2018

Bernerd F. Johnson

Registered Professional Land Surveyor No. 4314

CEI JOB NO. 15045-00.00 (QW17) SV 15045A.T



TRACT III

FIELD NOTE DESCRIPTION OF 5.3663 ACRES (233,756 SQUARE FEET) BEING THE RESIDUE OF THAT CERTAIN CALLED 5.4 ACRE TRACT CONVEYED TO LEMAN FAMILY TRUST, BY INSTRUMENT RECORDED UNDER HARRIS COUNTY CLERK'S FILE NO. 20120604473 OF THE HARRIS COUNTY DEED RECORDS AND LOCATED IN THE REELS & TROBOUGH SURVEY, A-59, HARRIS COUNTY, TEXAS, SAID 5.3663 ACRE TRACT BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS (ALL COORDINATES AND BEARINGS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE. ALL DISTANCES ARE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIFLYING A COMBINED SCALE FACTOR OF 0.99989729):

BEGINNING at (X=3,158,840.32, Y=13,855,625.62) a 5/8 inch iron rod with cap set at the intersection of South right-of-way line of Wallisville Road (width varies) and the West right-of-way line of Oates Road (80 feet wide) for the Northwest corner of that certain called 0.1387 acre tract (right-of-way easement for the widening of Oates Road) conveyed to the City of Houston by instrument recorded under H.C.C.F. No. 20080283151, said iron rod also marks the Northerly most Northeast corner of the herein described tract;

THENCE, South 47°26'03" East, along the cutback line at said intersection, a distance of 21.22 feet to a 5/8 inch iron rod with cap found in the West right-of-way line of Oates Road (80 feet wide) for cutback of said called 0.1387 acre tract and the Easterly most Northeast corner of the herein described tract;

THENCE, South 02°27'31" East along the West line of West right-of-way line of Oates Road (80 feet wide) and said called 0.1387 acre tract, a distance of 663.46 feet to a 5/8 inch iron rod with cap set in the South line of said called 5.4 acre tract for the Southeast corner of the herein described tract;

THENCE, South 87°36'29" West, along the South line of said called 5.4 acre tract, a distance of 345.38 feet to a 1-inch iron pipe found in the East line of that certain called 1.09807 acre tract recorded under H.C.C.F. No. E146101 for the Southwest corner of said called 5.4 acre tract and the herein described tract;

THENCE, North 02°34'27" West (called North), along the East line of said 1.09807 acre tract, a distance of 663.36 feet (called 665.51 feet) to a 5/8 inch iron rod found in the South right-of-way line of said Wallisville Road for the Northwest corner of said called 5.4 acre tract and the herein described tract, said iron rod falling in the arc of a curve to the Right;

THENCE, in a Easterly direction, along the South right-of-way line of Wallisville Road, with said curve to the Right, having radius of 1096.28 feet, a central angle of 09°29'21", an arc length of 181.56 feet and a chord bearing and distance of N 82°50'43" E, 181.36 feet to a 5/8 inch iron rod with cap set for the Point of Tangency of said curve;

THENCE, North 87°35'24" East, continuing along the South right-of-way line of Wallisville Road, a distance of 150.97 feet to the POINT OF BEGINNING and containing 5.3663 acres (233,756 square feet) of land, more or less.

CENTURY ENGINEERING, INC.
Dated this 29th day of May, 2018
Revised this 2nd day of August, 2018
Revised this 21st day of August, 2018
Revised this 6th day of September, 2018

Bernerd F. Johnson Registered Professional Land Surveyor No. 4314

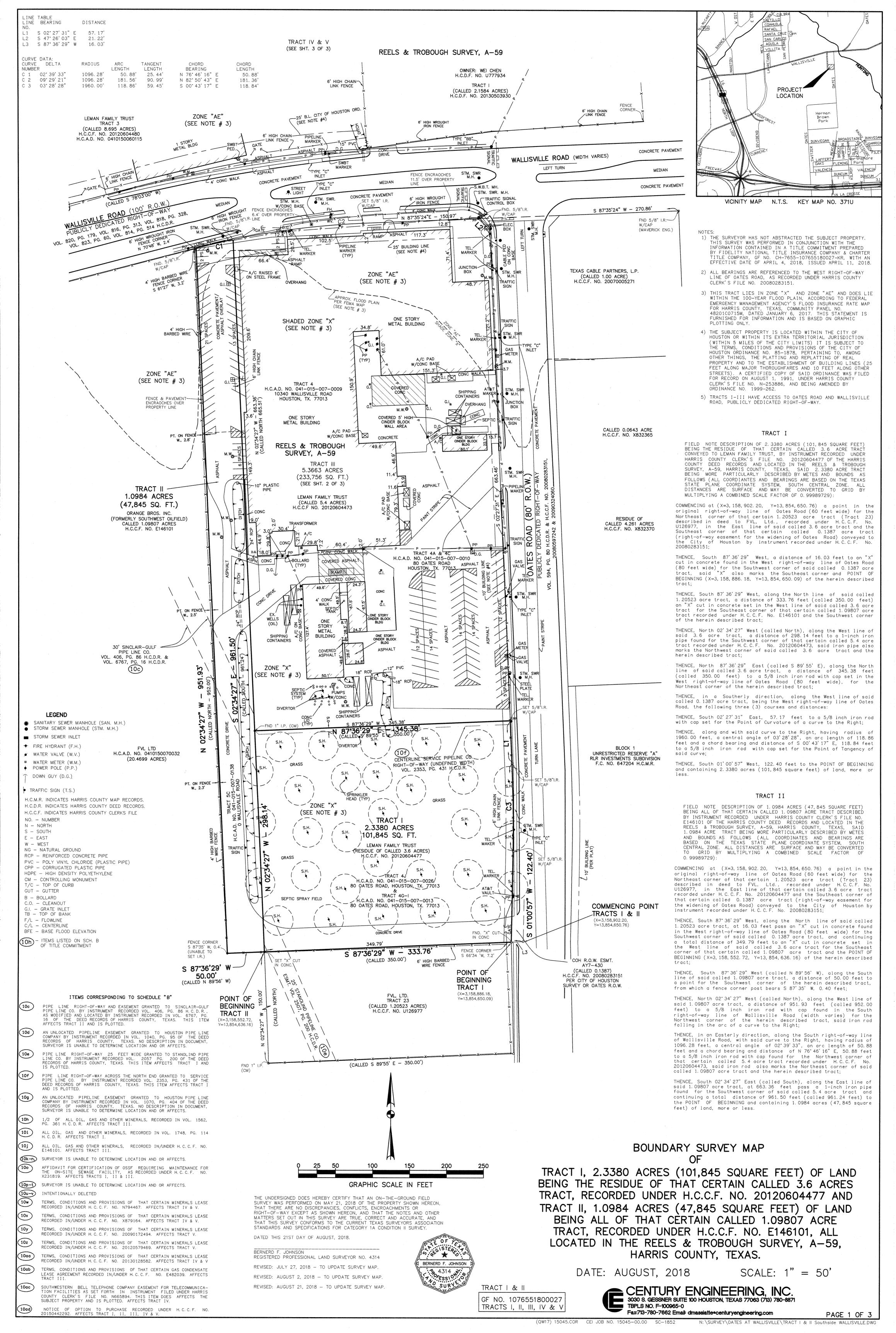
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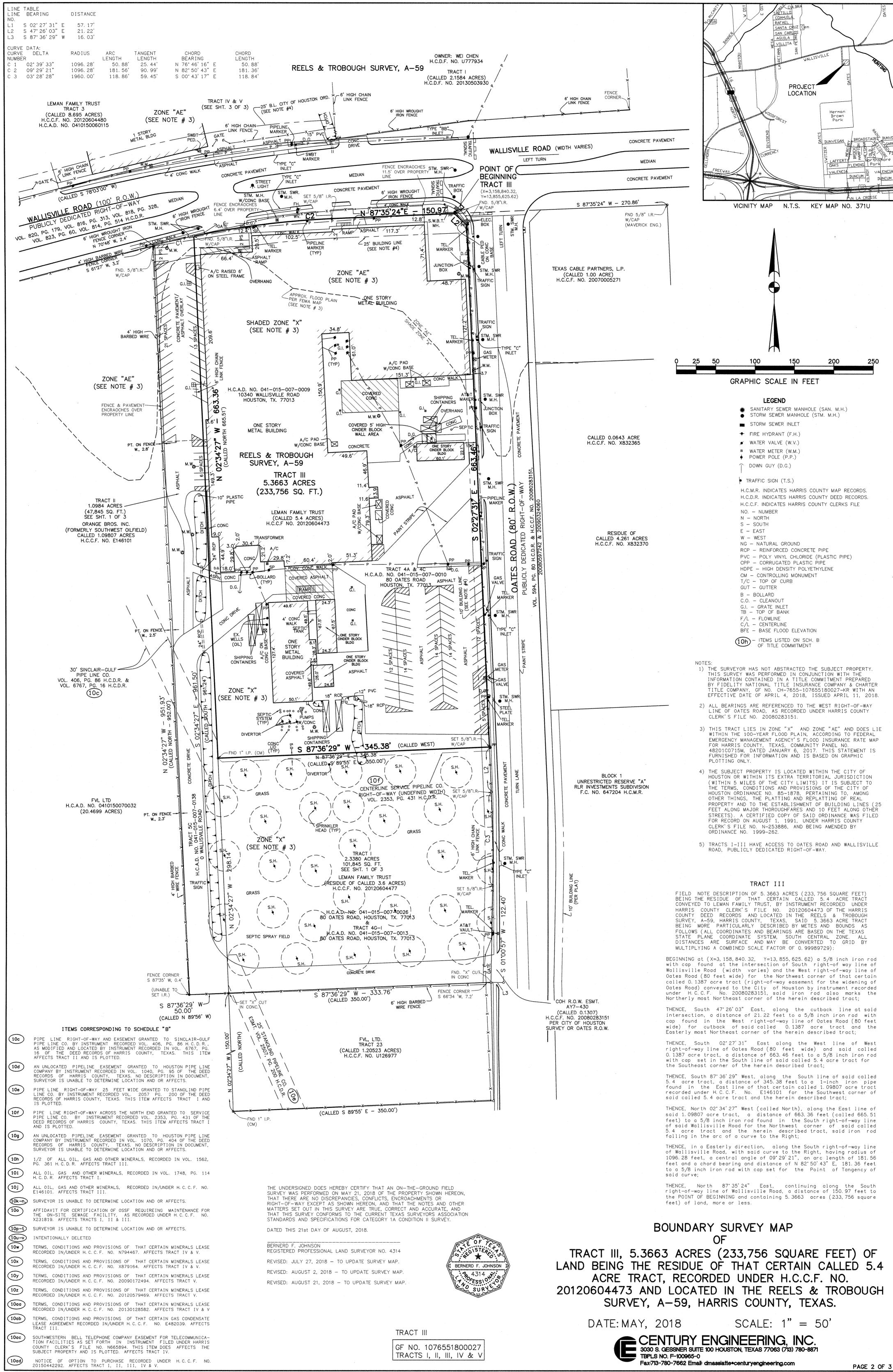


EXHIBIT "B"

RESERVATIONS AND EXCEPTIONS TO CONVEYANCE AND WARRANTY

- 1. Mechanic's, carrier's, workmen's, repairmen's or other like lien, pledge, claim, charge security interest or other encumbrance (collectively, "Liens") arising or incurred in the ordinary course of business as to which the underlying obligation is not yet overdue or delinquent;
- 2. Liens for taxes that are not due and payable or that may thereafter be paid without penalty or that are being contested in good faith by appropriate proceedings;
- 3. Any use restrictions, easements, covenants, right-of-way, or similar matters (but not including Liens), that individually or in the aggregate, are not material in character or amount or do not materially detract from the value or utility of the assets subject thereto;
- 4. Zoning, building or other similar restrictions; and
- 5. Whether or not recorded, restrictions, covenants, conditions, easements, rights-of-way, mineral and royalty reservations and mineral leases, zoning ordinances and other similar Liens affecting the Property which, in the aggregate, are not substantial in amount, and which do not in any case materially detract from the value of the Property subject thereto or materially interfere with the ordinary conduct of the business of Grantor.





(QW17) 15045.COR CEI JOB NO. 15045-00.00 SC-1852 N:\SURVEY\OATES AT WALLISVILLE\TRACT III 5.3663 Acres Southside WALLISVILLE.DWG

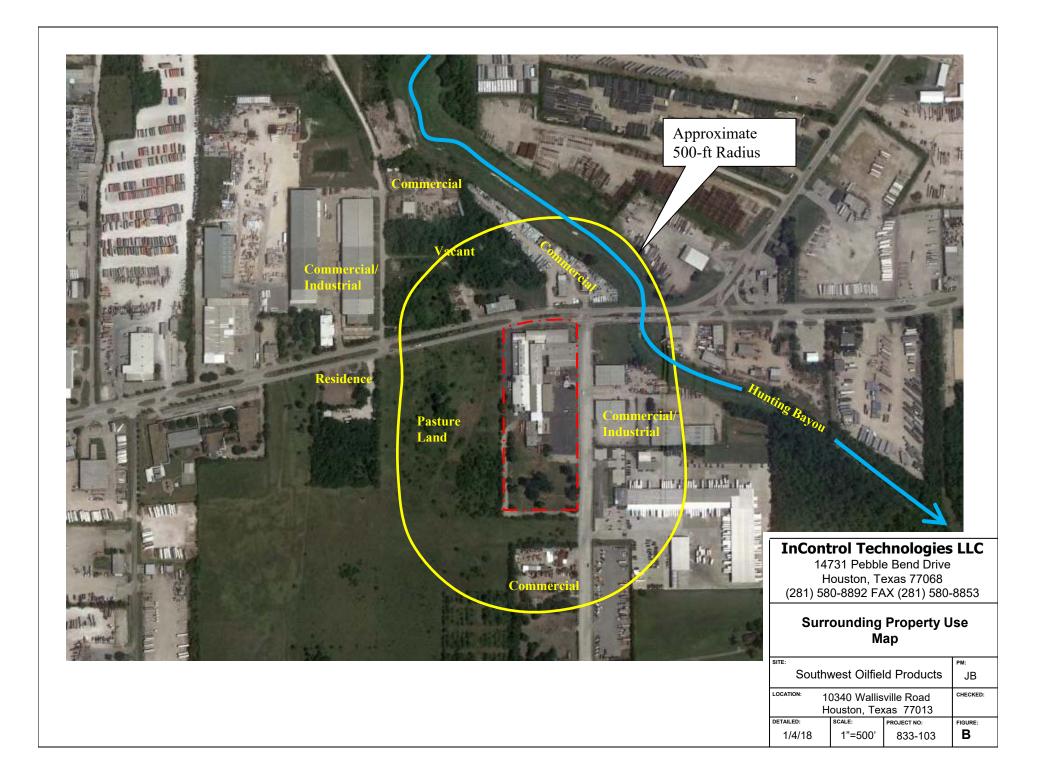
Appendix B

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 proposed MSD area is 8.8027-acres located in a relatively undeveloped area of northeast Houston, Harris County, Texas. Southwest Oilfield Products was constructed in phases between 1955 and 1981. The property is located east-northeast of downtown Houston and within the City of Houston corporate limits. The property is located in a mix of rural and commercial/industrial development. **Figure B** provides a description of the surrounding land use within 500-feet of the site.

The surrounding land use is described as:

- North Wallisville Road followed by commercial development;
- East Oates Road followed by commercial development;
- South undeveloped, rural property; and
- West undeveloped.



Appendix C

A site map showing:

- a. The location of the designated property.
- b. The topography of the designated property as indicated on publicly available sources, which must note the watershed <u>including the nearest surface water body</u> 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.
- c. The detected area of groundwater contamination.
- d. The location of all soil sampling locations and all groundwater monitoring wells.
- e. Groundwater gradients, to the extent known, and direction of groundwater flow.
- f. The ingestion protective concentration level exceedance zone for each contaminant of concern, to the extent known.
- g. Depth to groundwater for each affected zone.

The following is a listing of figures included in **Appendix C**.

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Figure C1 – Topographic Map
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Figure C2 – Watershed Map

Figure C3 - Flood Insurance Rate Map

Figure C4-1 – TCE Concentrations in Groundwater – 1st GWBU (September 2020)

Figure C4-2 – VC Concentrations in Groundwater – 1st GWBU (September 2020)

Figure C4-3 – TCE Concentrations in Groundwater – 2nd GWBU (September 2020)

Figure C4-4 – VC Concentrations in Groundwater – 2nd GWBU (September 2020)

Figure C4-5 – TCE Concentrations in Groundwater – 3rd GWBU (September 2020)

Figure C4-6 – VC Concentrations in Groundwater – 3rd GWBU (September 2020)

Figure C5-1 – Soil Sample Location Map

Figure C5-2 – Groundwater Sample Location Map

Figure C6-1 – Potentiometric Surface Map – 1st GWBU (September 2020)

Figure C6-2 – Potentiometric Surface Map – 2nd GWBU (September 2020)

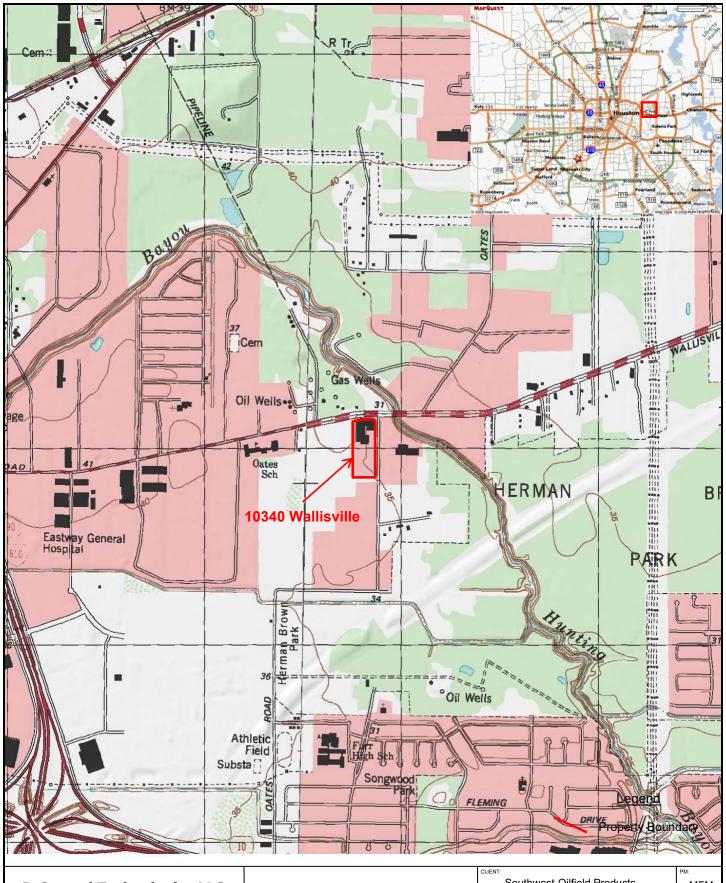
Figure C6-3 – Potentiometric Surface Map – 3rd GWBU (September 2020)

The subject property is located within the Hunting Bayou watershed (**Figure C2**), and the property is located within the 500-year floodplain (**Figure C3**).

The chemicals of concern (COCs) are chlorinated volatile organic compounds (VOCs) primarily TCE and vinyl chloride. Concentrations above the Protective Concentration Levels (PCLs) are present in the first, second and third groundwater bearing units (GWBUs) at the property. **Figure C4-1** and **Figure C4-2** depict the groundwater PCLE zones for TCE and vinyl chloride in the first GWBU during the most recent sampling event (September 2020). **Figure C4-3** and **Figure C4-4** depict the groundwater PCLE zones for TCE and vinyl chloride in the second GWBU during the most recent sampling event (September 2020). **Figure C4-5** and **Figure C4-6** depict the groundwater PCLE zones for TCE and vinyl chloride in the third GWBU during the most recent sampling event (September 2020). The sampling locations are depicted on **Figures C5-1** and **C5-2**.

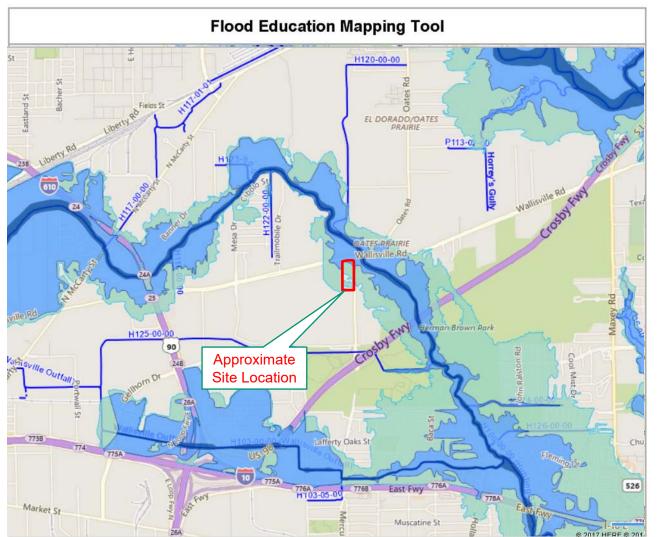
The groundwater plume is believed to originate from two source areas. The primary source area is a historical vapor degreasing unit that was located in the western most building near MW-2 and MW-3. A minor source area is the interior paint booth located in the northeast corner of the facility. The direction of groundwater flow in the first and second GWBUs is towards the northeast toward Hunting Bayou. The direction of groundwater flow in the third GWBU is towards the northwest. Both the 1st and 2nd GWBU plumes extend beneath Oates Road.

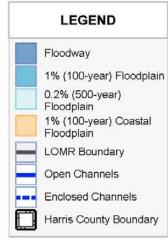
Based on site lithology, the first GWBU is encountered at a depth between 25 and 28 feet below grade. The second GWBU is encountered between the approximate depths of 45 and 50 feet below grade. The third GWBU is encountered between the approximate depths of 65 and 75 feet below grade. The average depth to the potentiometric surface was between 9 and 11 ft below grade during the most recent groundwater monitoring event.



14731 Pebble Bend Drive Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853 **Topographic Map**

CLIENT:			PM:
Southwest Oilfield Products			MFM
10340 Wallisville Road Houston, Texas 77013			CHECKED:
SCALE:	DESIGNED:	PROJECT NO:	FIGURE:
JB	11/24/15	833-103	C1









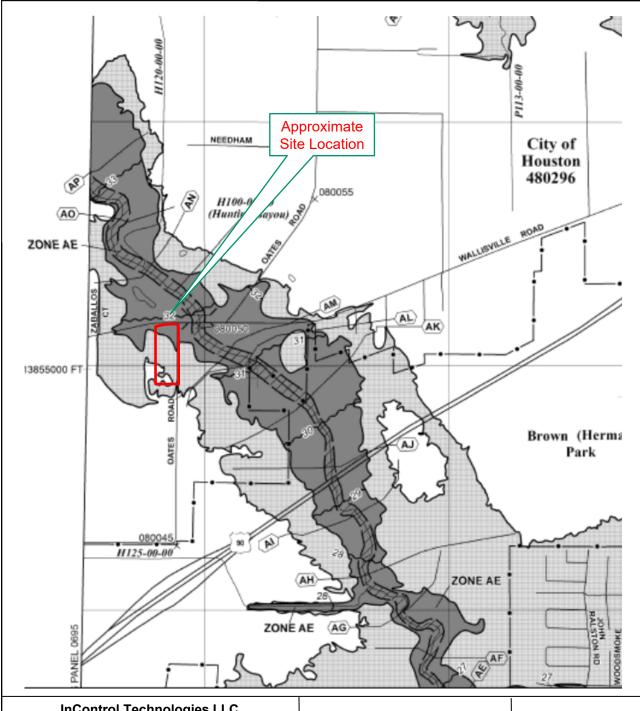
DISCLAIMER: The Harris County Flood Control District's Flood Education Mapping Tool is for general information purposes only and may not be suitable for legal, engineering or surveying purposes. The floodplains shown on this mapping tool are those delineated on the Federal Emergency Management Agency's (FEMA) effective Flood Insurance Rate Map (FIRM or floodplain map) for Harris County that was adopted in 2007, as well as updates that have been made through a Letter of Map Revision (LOMR) since 2007. This mapping tool is not an effective FIRM. The effective FIRM is produced, maintained and published by FEMA and not by the Harris County Flood Control District. Please visit FEMA's Map Service Center at www.msc.fema.gov to view the effective FIRM for Harris County. For an official floodplain determination, please contact an insurance agent or mortgage lender. This map is a representation and approximation of the relative location of geographic information, land marks and physical addresses.

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14731 Pebble Bend Drive Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853 Flood Plain and Watershed Map

Southwest Oilfield Products

10340 Wallisville Road Houston, TX 77013			CHECKED:
DETAILED:	PM:	PROJECT NO:	FIGURE:
1/4/18		833_101	C2



LEGEND



SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% ohence 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. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

No base flood elevations determined.

ZONE AE Base flood elevations determined. ZONE AH

Flood depths of 1 to 3 feet (usually areas of ponding); base flood

ZONE AO

Flood depths of 1 to 3 feet (usually sheet flow on stoping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

Area of special flood hazard formerly protected from the 1% annual channe flood event by a flood control system that was subsequently desertified. Zone AB indicates that the former flood control system is being restored to provide protection from the 1% annual channe or greater flood event.

Area to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no base flood elevations determined. ZONE A99

ZONE V

Coastal flood zone with velocity hazard (wave action); base flood slevations ZONEVE



ZONE AR

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encochment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X

Areas of 0.2% annual chance flood; areas of 1% annual chance flood with 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.

OTHER AREAS

Areas determined to be outside the 0.2% annual chance floodplain.

Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

ZONE X

OTHERWISE PROTECTED AREAS (OPAs)

areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

Floodplain boundary Floodway boundary Zone D boundary

1/4/18



Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or velocities.

Base Flood Elevation line and value; elevation in feet*

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14731 Pebble Bend Drive Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853 **Flood Insurance Rate** Map

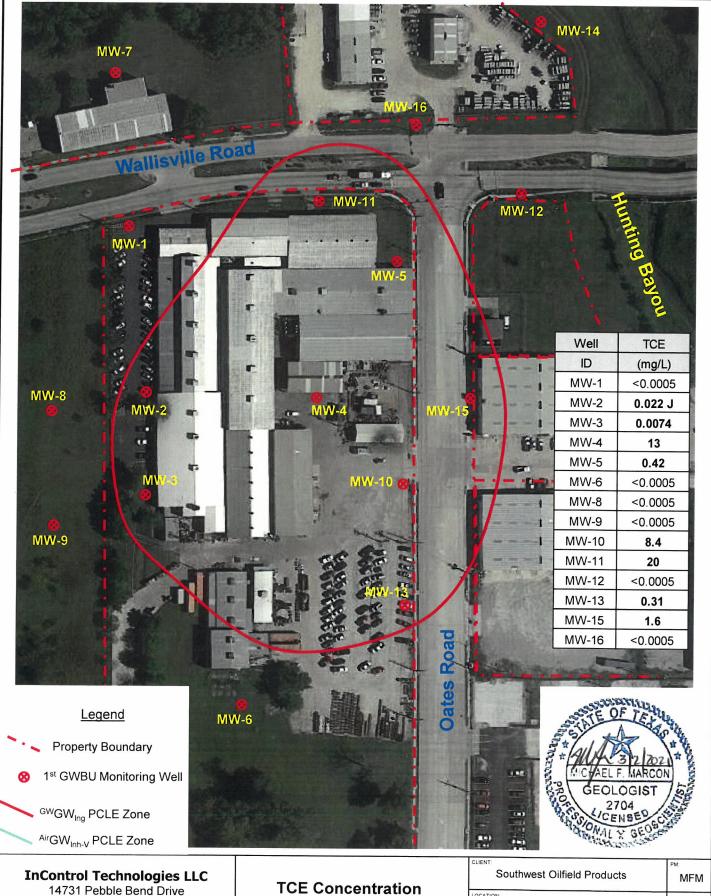
Southwest Oilfield Products

LOCATION:		llisville Road TX 77013	CHECKED:
DETAILED:	PM:	PROJECT NO:	FIGURE:

833-101

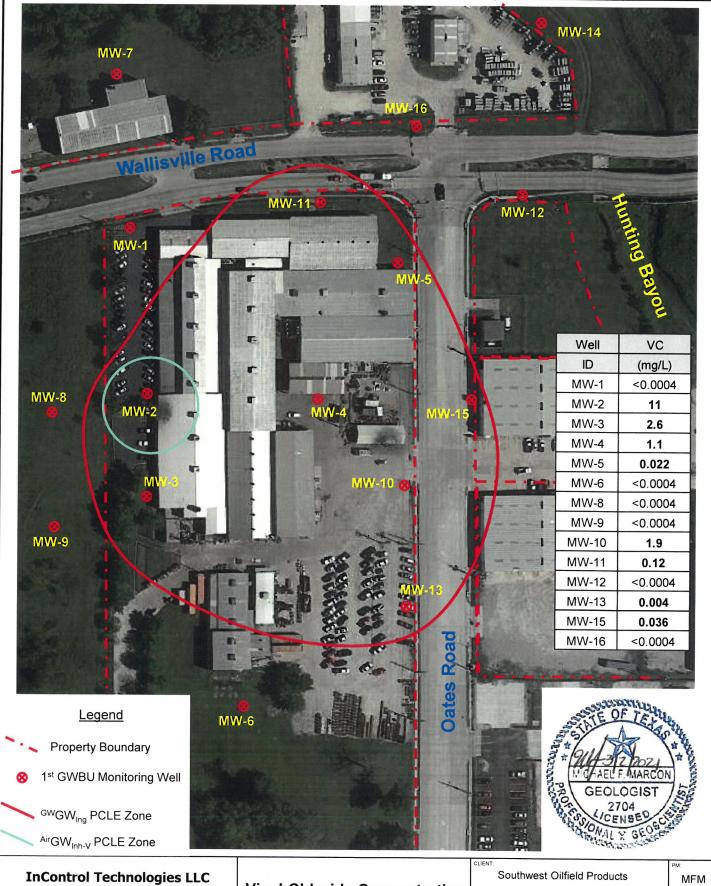
CP

C3



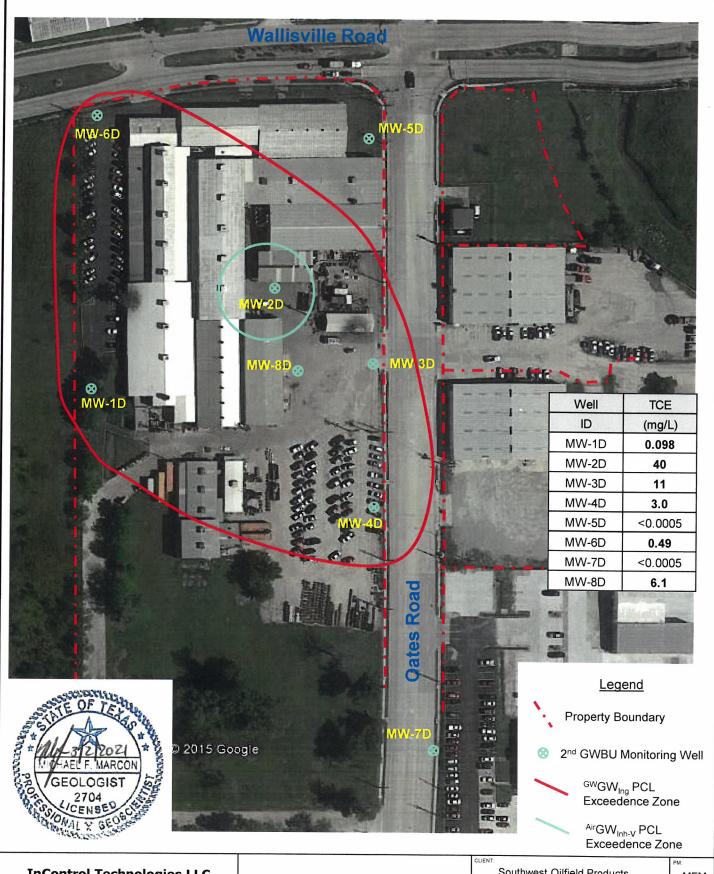
14731 Pebble Bend Drive Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853 in Groundwater – 1st GWBU

Southwest Oilfield Products			MFM
10340 Wallisville Road Houston, Texas 77013			CHECKED:
1"=120'	DESIGNED:	PROJECT NO:	FIGURE:
1 -120	9/15/2020		C4-1



14731 Pebble Bend Drive Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853 Vinyl Chloride Concentration in Groundwater – 1st GWBU

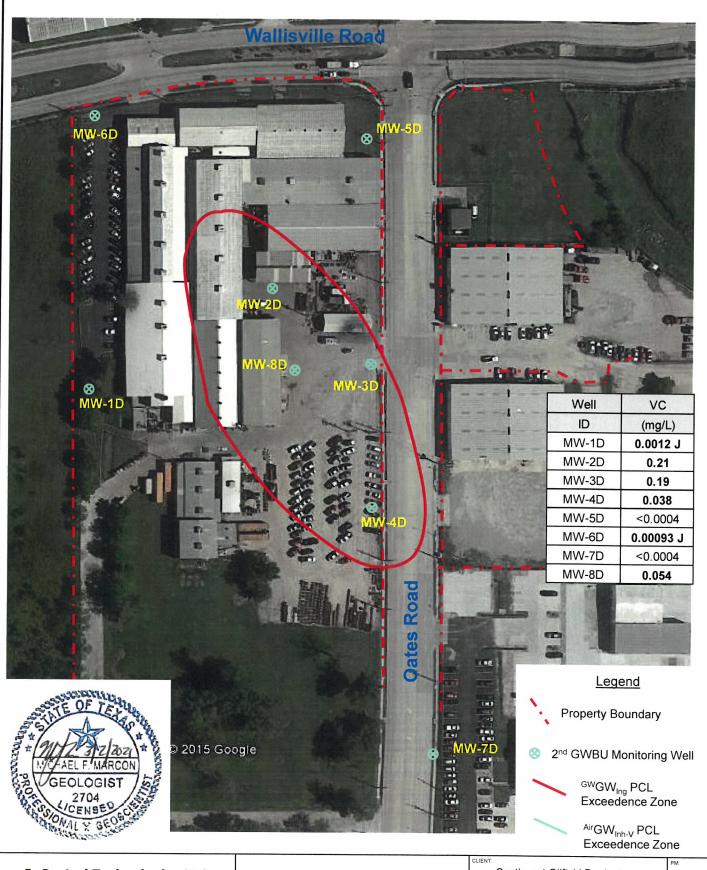
Southwest Oilfield Products			MFM
10340 Wallisville Road Houston, Texas 77013			CHECKED:
SCALE:	DESIGNED:	PROJECT NO:	FIGURE:
1"=120'	9/15/202	20	C4-2



14731 Pebble Bend Drive Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853

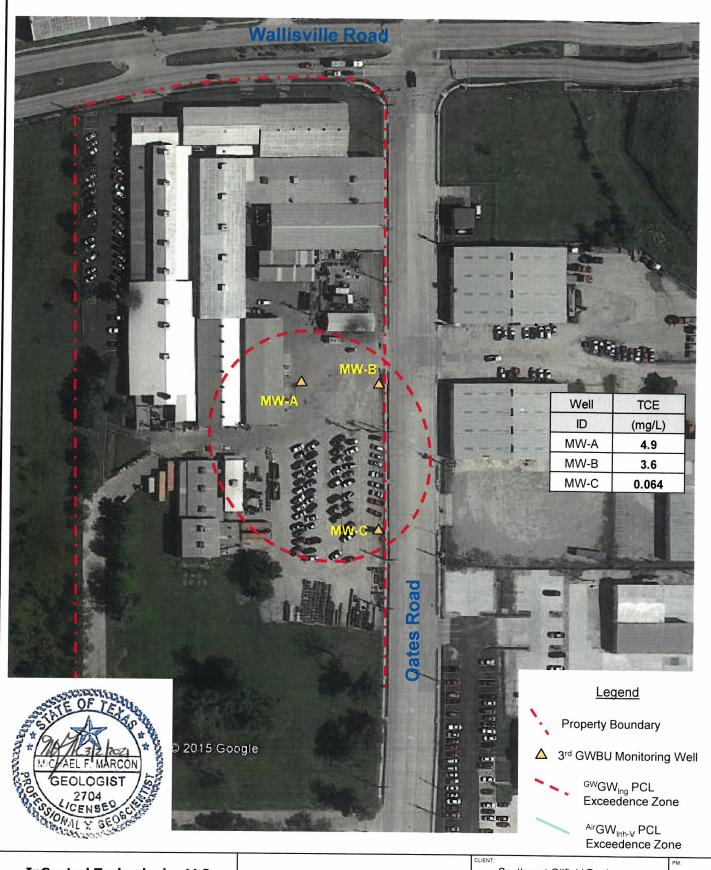
TCE Concentration in Groundwater - 2nd GWBU

Southwes	PM: MFM		
10340 Wallisville Road Houston, Texas 77013			CHECKED:
SCALE:	DESIGNED:	PROJECT NO:	FIGURE:
1"=120'	9/15/2020		C4-3



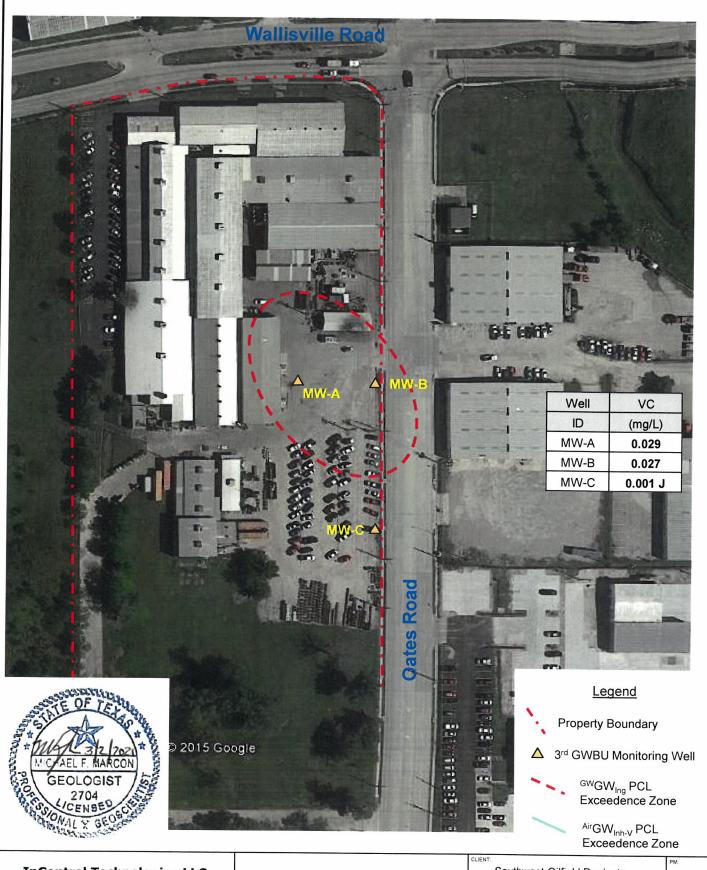
14731 Pebble Bend Drive Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853 Vinyl Chloride Concentration in Groundwater – 2nd GWBU

Southw	PM: MFM		
10340 Wallisville Road Houston, Texas 77013			CHECKED:
SCALE:	DESIGNED:	PROJECT NO:	FIGURE:
1"=120'	9/15/202	0	C4-4



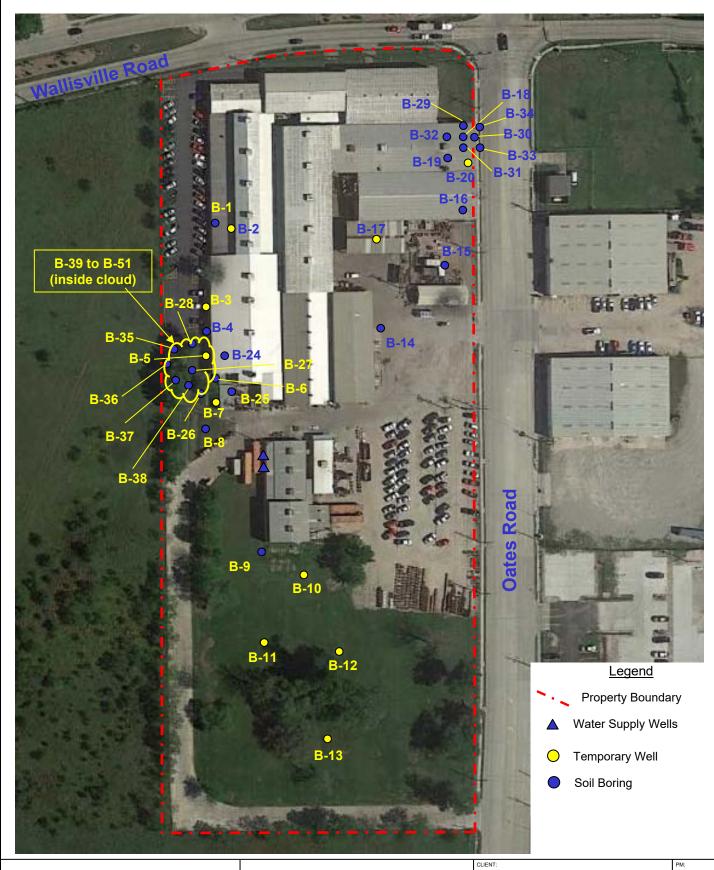
14731 Pebble Bend Drive Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853 TCE Concentration in Groundwater – 3rd GWBU

Southwest Oilfield Products			PM: MFM
10340 Wallisville Road Houston, Texas 77013			CHECKED:
SCALE:	DESIGNED:	PROJECT NO:	FIGURE:
1"=120'	9/15/2020		C4-5



14731 Pebble Bend Drive Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853 Vinyl Chloride Concentration in Groundwater – 3rd GWBU

CLIENT: Southwest Oilfield Products			PM: MFM
10340 Wallisville Road Houston, Texas 77013			CHECKED:
SCALE:	DESIGNED:	PROJECT NO:	FIGURE:
1"=120'	9/15/2020		C4-6

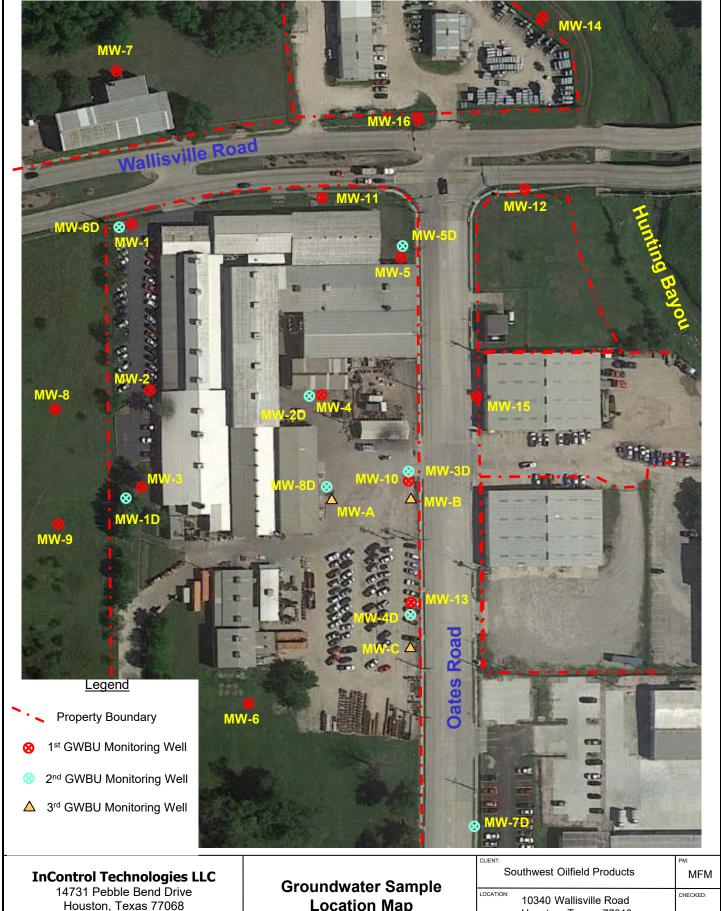


InControl Technologies LLC 14731 Pebble Bend Drive

14/31 Pebble Bend Drive Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853

Soil Sample Location Map

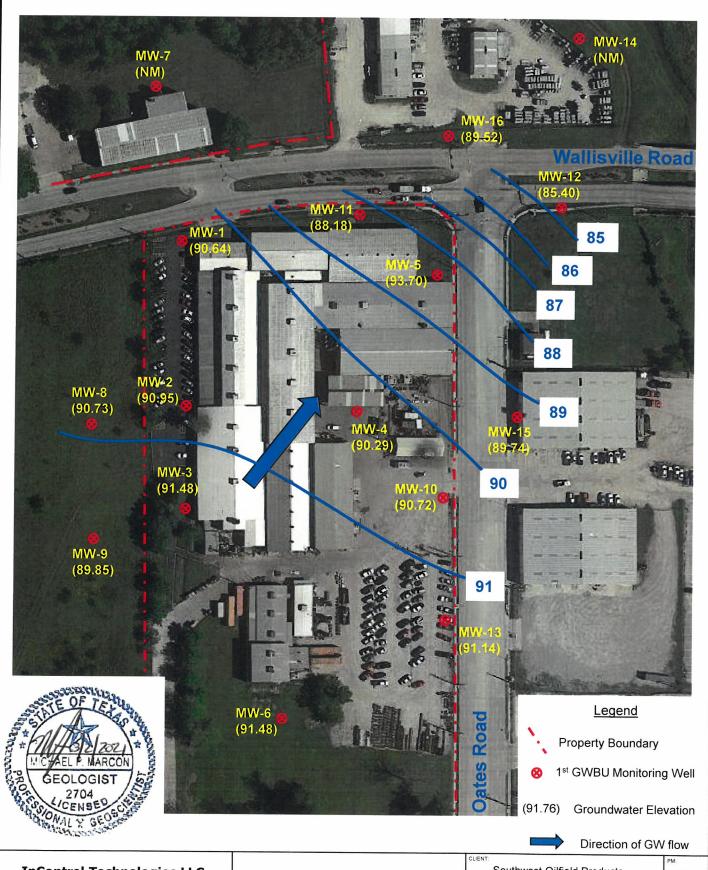
CLIENT:	PM:		
Southwes	thwest Oilfield Products MFM		
10340 Wallisville Road Houston, Texas 77013			CHECKED:
SCALE:	DESIGNED:		FIGURE:
1"=120'	11/11/16	833-103	C5-1



Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853

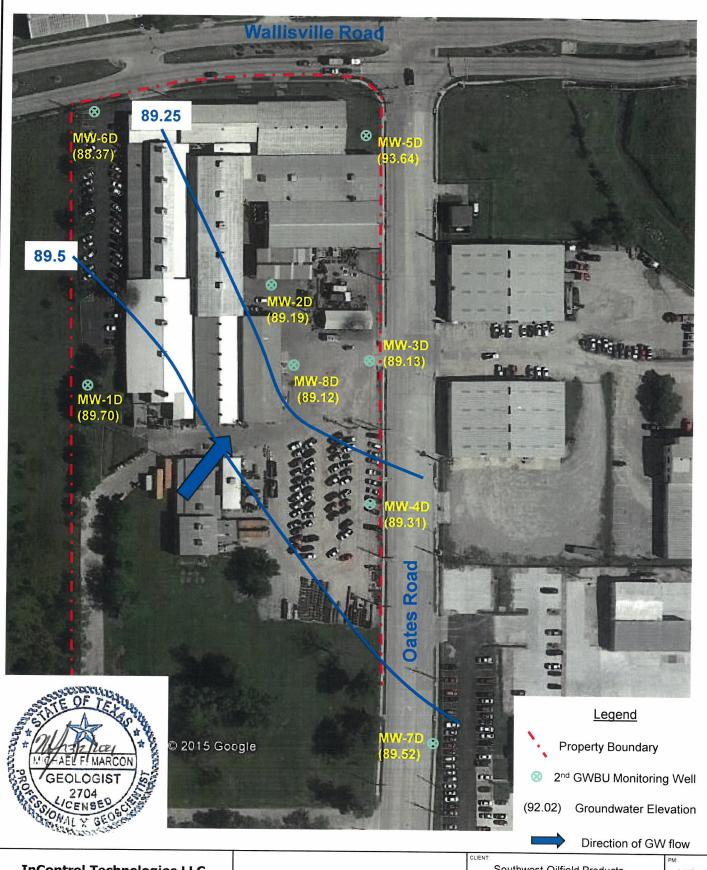
Location Map

	CLIENT: Southwes	PM: MFM		
1) Wallisville Road on, Texas 77013		CHECKED:
	SCALE:	DESIGNED:	PROJECT NO:	FIGURE:
	1"=120'	10/21/17		C5-2



14731 Pebble Bend Drive Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853 Potentiometric Surface Map (1st GWBU)

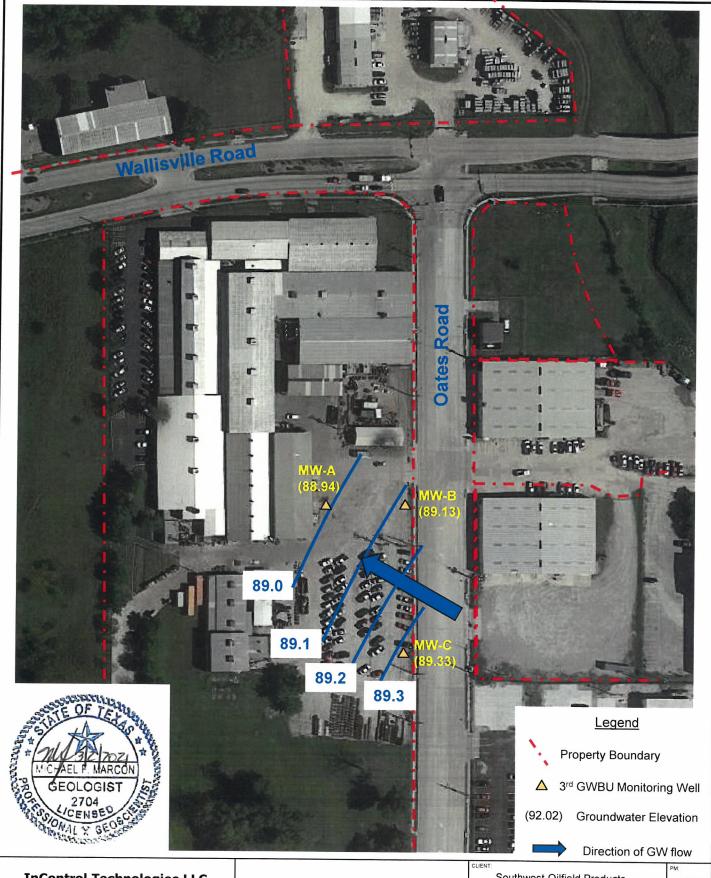
	- Di	rection of G	VV IIOW
Southwest Oilfield Products			MFM
10340 Wallisville Road Houston, Texas 77013			CHECKED
SCALE:	DESIGNED:	PROJECT NO:	FIGURE:
1"=120'	1/24/2020)	C6-1



InControl Technologies LLC

14731 Pebble Bend Drive Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853 Potentiometric Surface Map (2nd GWBU)

	Dile	ction of G	/V IIOW
Southwes	st Oilfield Pro	ducts	PM: MFM
) Wallisville R on, Texas 77		CHECKED:
SCALE:	DESIGNED:	PROJECT NO:	FIGURE:
1"=120'	9/11/2020		C6-2



InControl Technologies LLC

14731 Pebble Bend Drive Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853 Potentiometric Surface Map (3rd GWBU)

,	Southwes	t Oilfield Prod	ducts	PM: MFM
	Houst) Wallisville R on, Texas 77		CHECKED:
	SCALE:	DESIGNED:	PROJECT NO:	FIGURE:
	1"=120'	9/11/2020		C6-3

Appendix D

For each contaminant of concern within the designated groundwater:

- a. A description of the ingestion protective concentration level exceedance zone and the noningestion protective concentration level exceedance zone, including a specification of the horizontal area and the minimum and maximum depth below ground surface.
- b. The level of contamination, the ingestion protective concentration level, and the non-ingestion protective concentration level, all expressed as mg/L units.
- c. Its basic geochemical properties (e.g. whether the contaminant of concern migrates with groundwater, floats, or is soluble in water).

A) Groundwater PCLE Zone – A review of recent groundwater sampling data indicates that the COCs that currently exceed the Tier 1 ^{GW}GW_{Ing} PCLs are trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), vinyl chloride (VC) and 1,1,2-trichloroethane. PCLE zones for the primary compounds (TCE and VC) are depicted for each of the GWBUs on Figures C4-1 through C4-6 and are discussed in detail below. The area of affected groundwater is delineated to the extent possible given the lack of access from off-site property owners on the east side of Oates Road. A comparison of the groundwater analytical results with applicable non-ingestion protective concentration levels (AirGW_{Inh-V}) indicates that one of the groundwater samples (MW-2) has reported COC concentrations (TCEQ and vinyl chloride) above the AirGW_{Inh-V} PCL.

The primary source of groundwater impacts appears to be a historical vapor degreasing unit located near MW-2 on the property. The highest groundwater concentrations are noted in MW-2 followed by MW-3. The plume has migrated laterally in the first and second GWBUs towards Oates Road to the east. Groundwater monitoring over the past several years indicates that the plume is stable. Groundwater data suggests a significant amount of natural attenuation is occurring. The presence of the breakdown compounds (cis-1,2-DCE and VC) are confirmation of the natural attenuation. In addition, the decline in concentration from the historical source areas to the downgradient edge of the plume suggests that the concentrations are effectively attenuating, and the plume is not expanding. A comparison of the groundwater sampling results with applicable non-ingestion protective concentration levels (AirGWInh-V) indicates that one groundwater sample (MW-2) historically reported COC concentrations above the AirGWInh-V PCL. Therefore, based on the recent groundwater monitoring results, there is currently a non-ingestion protective concentration level exceedance zone within the proposed MSD boundary.

Based on site lithology, the first groundwater bearing unit is encountered at a general depth between 20 and 28 feet below grade. The second groundwater bearing unit is encountered between the approximate depths of 45 and 50 feet below grade. The average depth to the potentiometric surface was between 10 and 12 ft bgs during the most recent groundwater monitoring event.

B) Groundwater Data Ingestion PCL Exceedances – The following table represents the most recent groundwater monitoring data for the site collected in September 2020.

Table D1 – Groundwater Ingestion PCL Exceedances in First Groundwater Bearing Unit

Monitoring Well ID	PCE	TCE	1,1-DCE	Cis-1,2-DCE	VC
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Tier 1 GWGWIng PCL	0.005	0.005	0.007	0.07	0.002
Tier 1 Air GWInh-V PCL	840	33	2,300	1,700	6.4
MW-1	<0.0006	<0.0005	<0.0005	<0.0006	<0.0004
MW-2	<0.006	0.022 J	0.0087 J	3.6	11
MW-3	<0.0006	0.0074	0.002 J	0.63	2.6
MW-4	<0.015	13	0.12 J	7.6	1.1
MW-5	<0.0006	0.42	0.0045 J	0.32	0.022
MW-6	<0.0006	<0.0005	<0.0005	<0.0006	<0.0004
MW-7	NS	NS	NS	NS	NS
MW-8	<0.0006	<0.0005	<0.0005	<0.0006	<0.0004
MW-9	<0.0006	<0.0005	<0.0005	<0.0006	<0.0004
MW-10	<0.015	8.4	2.2	16	1.9
MW-11	< 0.03	20	0.03 J	0.96	0.12
MW-12	<0.0006	<0.0005	<0.0005	<0.0006	<0.0004
MW-13	<0.0006	0.31	0.0025 J	0.19	0.004
MW-14	NS	NS	NS	NS	NS
MW-15	<0.0006	1.6	0.34	1.2	0.036
MW-16	<0.0006	<0.0005	<0.0005	<0.0006	<0.0004

Table D2 – Groundwater Ingestion PCL Exceedances in Second Groundwater Bearing Unit

Monitoring Well ID	PCE (mg/L)	TCE (mg/L)	1,1-DCE (mg/L)	Cis-1,2-DCE (mg/L)	VC (mg/L)
Tier 1 GWGWing PCL	0.005	0.005	0.007	0.07	0.002
Tier 1 AirGW _{Inh-V} PCL	840	33	2,300	1,700	6.4
MW-1D	<0.0006	0.098	0.0073	0.074	0.0012 J
MW-2D	<0.03	40	0.042 J	2.3	0.21
MW-3D	<0.015	11	0.22	2.1	0.19
MW-4D	<0.006	3	0.011 J	1.3	0.038
MW-5D	<0.0006	<0.0005	<0.0005	<0.0006	<0.0004
MW-6D	<0.0006	0.49	<0.0005	0.0051	0.00093 J
MW-7D	<0.0006	<0.0005	<0.0005	<0.0006	<0.0004
MW-8D	0.0088 J	6.1	0.11	1.6	0.054

Table D3 – Groundwater Ingestion PCL Exceedances in Third Groundwater Bearing Unit

Monitoring Well ID	PCE	TCE	1,1-DCE	Cis-1,2-DCE	VC
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Tier 1 GWGWIng PCL	0.005	0.005	0.007	0.07	0.002
Tier 1 Air GWInh-V PCL	840	33	2,300	1,700	6.4
MW-A	0.009 J	4.9	0.043 J	0.78	0.029
MW-B	<0.006	3.6	0.028 J	0.8	0.027
MW-C	<0.0006	0.064	0.0006 J	0.035	0.001 J

Notes – Values in **Bold** exceed the ^{GW}GW_{Ing} PCL (ingestion PCLE)

All groundwater COC concentrations observed at the site to date are currently less than the AirGW_{Inh-V} non-ingestion PCL with the exception of vinyl chloride in MW-2 and TCE in MW-2D. Therefore, there is currently a small non-ingestion PCLE zone on the subject property.

C) Groundwater COCs – The chemicals of concern (COCs) detected in groundwater samples (chlorinated VOCs) are associated with the historic vapor degreasing operations at Southwest Oilfield Products within the proposed MSD boundary. Chlorinated VOCs are characterized by their high volatility, high densities, low viscosities, low interfacial tension, low absolute solubilities, high relative solubilities, low portioning to soil materials and low degradability. Chlorinated VOCs will dissolve in water at low concentrations but once the groundwater has reached the saturation limit for that compound, the VOCs will form a separate phase in equilibrium with the water. Because chlorinated VOCs have higher densities relative to water, the separate phase will "sink". However, these compounds tend to form microdroplets which adhere to the soil particles within the saturated unit.

It is also common for these chemicals to collect within the capillary fringe between the vadose zone and the saturated unit. Because of these characteristics, these compounds are referred to as "dense non-aqueous phase liquids" (DNAPLs). In extremely high concentrations, DNAPLs can penetrate the water table and form "pools" on the top of less permeable layers. Historically, DNAPL has not been identified in any of the monitor wells within the groundwater monitor well network and is not expected to be present at this site given the relatively low concentration of chlorinated solvents detected in groundwater.

Based on the field observations and laboratory results, it appears that the groundwater COCs on the subject property are dissolved in the shallow groundwater.

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 exceedences.

Appendix E contains tables summarizing the concentration levels for the primary chemicals of concern in soil and groundwater. The tables include the concentration, the ingestion protective concentration limits (^{GW}Soil_{Ing} for soil and ^{GW}GW_{Ing} for groundwater), the non-ingestion protective concentration limits for soil (^{Tot}Soil_{Comb} and ^{Air}Soil_{Inh-V}) and groundwater (^{Air}GW_{Inh-V}), the critical protective concentration limits assuming no MSD is in place (^{GW}Soil_{Ing} for soil and ^{GW}GW_{Ing} for groundwater), and the critical PCLs assuming that an MSD is in place (^{Tot}Soil_{Comb} for soil and ^{Air}GW_{Inh-V} for groundwater).

Table E1 is a summary of Volatile Organic Compounds (VOCs) in Soil.

Table E2 is a summary of Volatile Organic Compounds (VOCs) in Groundwater - First GWBU

Table E3 is a summary of Volatile Organic Compounds (VOCs) in Groundwater - Second GWBU

Table E4 is a summary of Volatile Organic Compounds (VOCs) in Groundwater - Third GWBU

Sample ID	Depth	Date	by/6a/ (6a/6a)	B) Sy Cy Cy	g % (g) (g)	© (cis-1,2-DCE	© trans-1,2-DCE	Wg/kg)	mg/S/2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	2-Butanone	(mg/kg)
7	^{fotal} Soil _{Com}	b	1400	40	6400	790	1200	15	220	160	190000	440000
Residenti	al Assessn	nent Level	0.05	0.034	0.05	0.25	0.49	0.022	49	53	29	43
Cri	tical ^{GW} Soi	I _{Ina}	0.05	0.034	0.05	0.25	0.49	0.022	140	160	87	130
	Air Soil Inh-V	j	1600	43	7300	1300	1300	72	220	160	280000	840000
B-1	4-5	6/12/15	<0.00099	<0.00084	<0.0007	<0.0011	<0.0007	<0.0011	<0.0015	<0.0011	<0.0018	<0.0044
B-2	4-5	6/12/15	<0.00077	<0.00066	<0.00055	<0.00088	<0.00055	<0.00088	<0.0012	<0.00088	<0.0014	<0.0034
B-3	4-5	6/10/15	<0.0008	<0.00068	<0.00057	0.0017 J	<0.00057	<0.00091	<0.0013	<0.00091	<0.0015	<0.0035
B-4	4-5	6/10/15	<0.00096	<0.00082	<0.00068	<0.0011	<0.00068	<0.0011	<0.0015	<0.0011	<0.0018	<0.0042
B-5	4-5	6/10/15	0.051	26	0.0047 J	1.6	<0.00061	0.035	<0.0013	<0.00097	<0.0016	<0.0038
B-6	7-8	6/10/15	<0.00086	0.062	<0.00061	1.7	0.0046 J	0.06	<0.0014	<0.00098	<0.0016	0.018 J
B-7	4-5	6/10/15	<0.00083	<0.00071	<0.00059	<0.00095	<0.00059	<0.00095	<0.0013	<0.00095	<0.0015	<0.0037
B-8	4-5	6/10/15	<0.0008	0.0016 J	<0.00057	<0.00091	<0.00057	<0.00091	<0.0013	<0.00091	<0.0015	<0.0035
B-9	4-5	6/11/15	<0.00086	<0.00074	<0.00062	<0.00099	<0.00062	<0.00099	<0.0014	<0.00099	<0.0016	<0.0038
B-10	4-5	6/11/15	<0.00083	<0.00071	<0.00059	<0.00095	<0.00059	<0.00095	<0.0013	<0.00095	<0.0015	<0.0037
B-11	4-5	6/10/15	<0.00081	<0.0007	<0.00058	<0.00093	<0.00058	<0.00093	<0.0013	<0.00093	<0.0015	<0.0036
B-12	4-5	6/10/15	<0.00079	<0.00068	<0.00057	<0.00091	<0.00057	<0.00091	<0.0012	<0.00091	<0.0015	<0.0035
B-13	4-5	6/10/15	<0.00072	<0.00062	<0.00052	<0.00083	<0.00052	<0.00083	<0.0011	<0.00083	<0.0013	<0.0032
B-16	1-2	6/12/15	<0.00097	<0.00084	<0.0007	<0.0011	<0.0007	<0.0011	<0.0015	<0.0011	<0.0018	0.052
B-17	4-5	6/11/15	<0.00084	<0.00072	<0.0006	<0.00097	<0.0006	<0.00097	<0.0013	<0.00097	<0.0016	<0.0037
B-18	7-8	6/12/15	<0.0088	<0.0076	<0.0063	<0.01	<0.0063	<0.01	0.18	0.061 J	14	45
B-19	1-2	6/12/15	<0.00098	<0.00084	<0.0007	<0.0011	<0.0007	<0.0011	0.0084	0.0037 J	0.028	0.39
B-20	1-2	6/12/15	<0.00083	<0.00071	<0.00059	<0.00095	<0.00059	<0.00095	<0.0013	<0.00095	<0.0015	0.13
B-21	4-5	6/11/15	<0.00083	<0.00071	<0.00059	<0.00095	<0.00059	<0.00095	<0.0013	<0.00095	<0.0015	<0.0037
B-22 B-23	4-5 4-5	6/11/15 6/11/15	<0.00089	<0.00076	<0.00063	<0.001 <0.001	<0.00063	<0.001 <0.001	<0.0014	<0.001 <0.001	<0.0016	<0.0039
D-23	4-0	0/11/15	<0.0009	<0.00077	<0.00064	~ 0.001	<0.00064	~ 0.001	<0.0014	~ 0.001	<0.0017	<0.004

Sample	Depth	Date	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-DCE	trans-1,2-DCE	Vinyl chloride	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	2-Butanone	Acetone
ID			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Т	^{fotal} Soil _{Com}	b	1400	40	6400	790	1200	15	220	160	190000	440000
Residenti	al Assessn	nent Level	0.05	0.034	0.05	0.25	0.49	0.022	49	53	29	43
Cri	tical ^{GW} Soi	I _{Ina}	0.05	0.034	0.05	0.25	0.49	0.022	140	160	87	130
	Air Soil Inh-V	Ĭ	1600	43	7300	1300	1300	72	220	160	280000	840000
B-24	10-11	7/6/15	<0.00085	<0.00073	<0.0006	0.0059 J	<0.0006	<0.00097	<0.0013	<0.00097	<0.0016	<0.0038
B-25	4-5	7/6/15	<0.00088	0.0044 J	<0.00063	0.002 J	<0.00063	<0.001	<0.0014	<0.001	<0.0016	<0.0039
B-26	4-5	7/6/15	<0.00083	0.0041 J	<0.00059	0.0021 J	<0.00059	<0.00094	<0.0013	<0.00094	<0.0015	<0.0037
B-27	6-7	7/6/15	0.0089	19	0.005 J	5	0.014	0.024	<0.0014	<0.001	<0.0016	<0.0039
B-28	4-5	7/6/15	<0.00083	0.021	<0.00059	0.046	<0.00059	<0.00095	<0.0013	<0.00095	<0.0015	<0.0037
B-29	10-11	7/6/15	<0.00085	0.0029 J	<0.00061	<0.00097	<0.00061	<0.00097	0.013	<0.00097	0.007 J	0.029
B-30	1-2	7/6/15	<0.0088	0.038 J	<0.0063	<0.01	<0.0063	<0.01	0.026 J	<0.01	<0.016	<0.039
B-31	7-8	7/6/15	<0.0094	0.036 J	<0.0067	<0.011	<0.0067	<0.011	<0.015	<0.011	2.8	5.1
B-32	0-1	7/6/15	<0.00077	0.0024 J	<0.00055	<0.00088	<0.00055	<0.00088	0.043	0.011	<0.0014	0.04
B-33	6-8	12/22/15	<0.0009	<0.00077	<0.00064	<0.001	<0.00064	<0.001	<0.0014	<0.0014	<0.0017	<0.004
B-34	6-8	12/22/15	<0.00088	<0.00075	<0.00063	<0.001	<0.00063	<0.001	<0.001	<0.001	<0.0016	<0.0039
B-35	6-8	12/9/15	<0.00081	0.010	<0.00058	0.052	<0.00058	<0.00092	<0.0013	<0.00092	<0.0015	<0.0036
B-36	6-8	12/9/15	<0.00096	0.012	<0.00068	0.017	<0.00068	<0.0011	<0.0015	<0.0011	<0.0018	<0.0042
B-37	6-8	12/9/15	<0.0008	<0.00069	<0.00057	<0.00092	<0.00057	<0.00092	<0.0013	<0.00092	<0.0015	<0.0036
B-38	6-8	12/9/15	<0.0008	<0.00068	<0.00057	<0.00091	<0.00057	<0.00091	<0.0012	<0.00091	<0.0015	<0.0035
MW-2D	44-45	3/17/16	<0.00068	0.028	<0.00048	<0.00077	<0.00048	<0.00077	<0.0011	<0.00077	<0.0013	<0.003
MW-3D	59-60	3/17/16	<0.00067	0.1	0.001 J	0.017	<0.00048	<0.00076	<0.001	<0.00076	<0.0012	<0.003
B-39	7-8	2/19/19	<0.00069	<0.00059	<0.00049	<0.00079	<0.00049	<0.00079	<0.00098	<0.00079	<0.0013	<0.002
B-40	7-8	2/19/19	0.0011 J	0.056	<0.00045	0.03	<0.00045	<0.00072	<0.0009	<0.00072	<0.0012	<0.0018
B-41	7-8	2/19/19	< 0.00067	0.0015 J	<0.00048	0.0025 J	<0.00048	<0.00077	<0.00096	<0.00077	< 0.0013	<0.0019

Sample ID	Depth	Date	Sylonoethene (6)	mg/kg) Trichloroethene	a dy (g) (g) (g)	(mg/kg)	Syltrans-1,2-DCE	(mg/kg)	Sylvarianethylbenzene	Sylva, 3,5-Trimethylbenzene	(mg/kg)	(mg/kg)
Т	^{rotal} Soil _{Com}	b	1400	40	6400	790	1200	15	220	160	190000	440000
Residenti	al Assessn	nent Level	0.05	0.034	0.05	0.25	0.49	0.022	49	53	29	43
Cri	tical ^{GW} Soi	I _{Ing}	0.05	0.034	0.05	0.25	0.49	0.022	140	160	87	130
	Air Soil Inh-V		1600	43	7300	1300	1300	72	220	160	280000	840000
B-42	6-8	3/25/19	0.0033 J	0.0093	0.0015 J	2.1	0.0022 J	0.0035	<0.001	<0.00082	<0.0013	0.0033 J
B-43	6-8	3/25/19	0.002 J	0.0015 J	<0.00055	<0.00088	<0.00055	0.0029	<0.0011	<0.00088	<0.0014	0.034
B-44	6-8	3/25/19	0.003 J	0.0019 J	0.0019 J	3.1	0.0024 J	0.068	<0.00089	<0.00071	<0.0012	0.0076 J
B-45	4-5	9/2/20	<0.00069	0.0089	0.0078	4.2	<0.00049	0.51	<0.00099	<0.00079	<0.0013	<0.002
B-46	4-5	9/2/20	0.0058	0.17	<0.00046	<0.00074	<0.00046	<0.00074	<0.00093	<0.00074	<0.0012	<0.0019
B-47	4-5	9/2/20	<0.00064	0.0059	<0.00046	0.015	<0.00046	0.048	<0.00091	<0.00073	<0.0012	<0.0018
B-48	B-48 4-5 9/2/20		0.012	2.7	0.0071	3.7	0.011	0.46	<0.00097	<0.00077	<0.0013	0.012 J
B-49	4-5	9/2/20	<0.00069	<0.00059	<0.00049	<0.00078	<0.00049	<0.00078	<0.00098	<0.00078	<0.0013	<0.002
B-50	4-5	9/2/20	<0.00068	0.0098	<0.00049	0.0039 J	<0.00049	<0.00078	<0.00097	<0.00078	<0.0013	<0.0019
B-51	4-5	9/2/20	<0.00072	<0.00062	<0.00051	0.0045 J	<0.00051	0.4	<0.001	<0.00082	<0.0013	<0.0021

Notes: Data compared to Tier 1 Commercial / Industrial PCLs.

Samples analyzed by EPA Method 8260. Only constituents that are detected are shown.

<: Analyte was not detected at or above the reported sample detection limit

J: Analyte detected below the quantitation limit

Sample ID	Depth	Date	Benzene (mg/kg)	by/garbon disulfide	(mg/kg)	© By/benzene	B % sopropylbenzene	Methyl tert-butyl ether	B)/kg)	B n-Propylbenzene (5)	Toluene (mg/kg)	(mg/kg)
٦	^{Fotal} Soil _{Com}	b	240	13000	26	29000	11000	2000	360	7300	42000	12000
	al Assessn		0.026	14	1	7.6	350	0.62	31	45	8.2	120
Cri	tical ^{GW} Soi	I _{Ina}	0.026	41	3	7.6	1000	1.9	93	130	8.2	120
	Air Soil Inh-V	g	270	15000	26	41000	13000	2300	370	8900	88000	13000
B-1	4-5	6/12/15	<0.0007	<0.00084	0.09	<0.00099	<0.0013	<0.0007	<0.0011	<0.0013	0.0039 J	0.0034 J
B-2	4-5	6/12/15	<0.00055	<0.00066	<0.00055	< 0.00077	<0.00099	<0.00055	<0.00088	<0.00099	<0.00066	<0.0026
B-3	4-5	6/10/15	<0.00057	<0.00068	<0.00057	<0.0008	<0.001	<0.00057	<0.00091	<0.001	<0.00068	<0.0027
B-4	4-5	6/10/15	<0.00068	<0.00082	0.0037 J	<0.00096	<0.0012	<0.00068	<0.0011	<0.0012	<0.00082	<0.0033
B-5	4-5	6/10/15	<0.00061	0.0037 J	<0.00061	<0.00085	<0.0011	<0.00061	0.011	<0.0011	0.01	<0.0029
B-6	7-8	6/10/15	<0.00061	<0.00074	<0.00061	<0.00086	<0.0011	<0.00061	0.0028 J	<0.0011	<0.00074	<0.003
B-7	4-5	6/10/15	<0.00059	<0.00071	<0.00059	<0.00083	<0.0011	<0.00059	<0.00095	<0.0011	<0.00071	<0.0028
B-8	4-5	6/10/15	<0.00057	<0.00068	<0.00057	<0.0008	<0.001	<0.00057	<0.00091	<0.001	<0.00068	<0.0027
B-9	4-5	6/11/15	<0.00062	<0.00074	0.0046 J	<0.00086	<0.0011	<0.00062	<0.00099	<0.0011	<0.00074	<0.003
B-10	4-5	6/11/15	<0.00059	<0.00071	<0.00059	<0.00083	<0.0011	<0.00059	<0.00095	<0.0011	<0.00071	<0.0029
B-11	4-5	6/10/15	<0.00058	<0.0007	<0.00058	<0.00081	<0.001	<0.00058	<0.00093	<0.001	<0.0007	<0.0028
B-12	4-5	6/10/15	<0.00057	<0.00068	<0.00057	<0.00079	<0.001	<0.00057	<0.00091	<0.001	<0.00068	<0.0027
B-13	4-5	6/10/15	<0.00052	<0.00062	0.011	<0.00072	<0.00093	<0.00052	<0.00083	<0.00093	<0.00062	<0.0025
B-16	1-2	6/12/15	<0.0007	<0.00084	0.012	<0.00097	<0.0013	<0.0007	<0.0011	<0.0013	0.006 J	<0.0033
B-17	4-5	6/11/15	<0.0006	<0.00072	0.0031 J	<0.00084	<0.0011	0.0015 J	0.0061	<0.0011	<0.00072	<0.0029
B-18	7-8	6/12/15	<0.0063	0.072 J	<0.0063	6.4	0.079	<0.0063	0.03 J	0.041 J	240	37
B-19	1-2	6/12/15	0.014	<0.00084	<0.0007	0.54	0.004 J	0.0035 J	0.0015 J	0.0035 J	1.3	1.7
B-20	1-2	6/12/15	<0.00059	0.0074 J	0.016	<0.00083	0.0073	<0.00059	<0.00095	<0.0011	0.024	<0.0028
B-21 B-22	4-5	6/11/15	<0.00059	<0.00071	<0.00059	<0.00083	<0.0011	<0.00059	<0.00095	<0.0011	<0.00071	<0.0028
B-22	4-5 4-5	6/11/15 6/11/15	<0.00063	<0.00076	<0.00063	<0.00089	<0.0011 <0.0012	<0.00063 <0.00064	<0.001 <0.001	<0.0011	<0.00076	<0.003
D-23	4-0	0/11/15	<0.00064	<0.00077	<0.00064	<0.0009	~U.UU12	~ 0.00064	~ 0.001	<0.0012	0.003 J	<0.0031

F												
Sample	Depth	Date	Benzene	Carbon disulfide	Chloroform	Ethylbenzene	Isopropylbenzene	Methyl tert-butyl ether	Naphthalene	n-Propylbenzene	Toluene	Xylenes,Total
ID			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Т	^{Fotal} Soil _{Com}	b	240	13000	26	29000	11000	2000	360	7300	42000	12000
Residentia	al Assessn	nent Level	0.026	14	1	7.6	350	0.62	31	45	8.2	120
Cri	tical ^{GW} Soi	l _{Ing}	0.026	41	3	7.6	1000	1.9	93	130	8.2	120
	Air Soil Inh-V	Ĭ	270	15000	26	41000	13000	2300	370	8900	88000	13000
B-24	10-11	7/6/15	<0.0006	<0.00073	0.0067	<0.00085	<0.0011	<0.0006	<0.00097	<0.0011	0.02	<0.0029
B-25	4-5	7/6/15	< 0.00063	<0.00076	0.0057 J	0.0014 J	<0.0011	<0.00063	<0.001	<0.0011	0.016	0.0081 J
B-26	4-5	7/6/15	<0.00059	<0.00071	<0.00059	<0.00083	<0.0011	<0.00059	<0.00094	<0.0011	0.0074	<0.0028
B-27	6-7	7/6/15	<0.00063	<0.00075	0.0035 J	<0.00088	<0.0011	<0.00063	<0.001	<0.0011	0.0048 J	<0.003
B-28	4-5	7/6/15	<0.00059	<0.00071	0.0013 J	<0.00083	<0.0011	<0.00059	<0.00095	<0.0011	0.0035 J	<0.0028
B-29	10-11	7/6/15	<0.00061	<0.00073	0.017	0.077	0.0029 J	<0.00061	0.0022 J	0.003 J	0.013	0.0087 J
B-30	1-2	7/6/15	0.014 J	<0.0075	<0.0063	0.69	<0.011	<0.0063	<0.01	<0.011	2.1	2.1
B-31	7-8	7/6/15	0.0087 J	<0.0081	<0.0067	0.83	<0.012	<0.0067	<0.011	<0.012	160	4.5
B-32	0-1	7/6/15	0.00056 J	<0.00066	<0.00055	0.0084	0.016	<0.00055	0.006	0.011	0.016	0.28
B-33	6-8	12/22/15	<0.00064	<0.00077	<0.00075	<0.0009	<0.0012	<0.00064	<0.001	<0.0012	<0.00077	<0.0013
B-34	6-8	12/22/15	<0.00063	<0.00064	<0.00063	<0.00088	<0.0011	<0.00063	<0.001	<0.0011	<0.00075	<0.0013
B-35	6-8	12/9/15	<0.00058	<0.00069	<0.00058	<0.00081	<0.001	<0.00058	<0.00092	<0.001	<0.00069	<0.0028
B-36	6-8	12/9/15	<0.00068	<0.00082	<0.00068	<0.00096	<0.0012	<0.00068	<0.0011	<0.0012	<0.00082	<0.0033
B-37	6-8	12/9/15	<0.00057	<0.00069	<0.00057	<0.0008	<0.001	<0.00057	<0.00092	<0.001	<0.00069	<0.0028
B-38	6-8	12/9/15	<0.00057	<0.00068	<0.00057	<0.0008	<0.001	<0.00057	<0.00091	<0.001	<0.00068	<0.0027
MW-2D	44-45	3/17/16	<0.00048	<0.00058	<0.00048	<0.00068	<0.00087	<0.00048	<0.00077	<0.00087	<0.00058 <0.00057	<0.0023
MW-3D	59-60	3/17/16	<0.00048	<0.00057	<0.00048	<0.00067	<0.00086	<0.00048	<0.00076	<0.00086		<0.0023
B-39	7-8	2/19/19	<0.00049	<0.00059	<0.00049	0.00076 J	<0.00088	<0.00049	<0.00079	<0.00088	0.047	0.0036 J
B-40	7-8	2/19/19	<0.00045	<0.00054	<0.00045	<0.00063	<0.00081	<0.00045	<0.00072	<0.00081	0.052	<0.0009
B-41	7-8	2/19/19	<0.00048	<0.00058	<0.00048	0.00093 J	<0.00087	<0.00048	<0.00077	<0.00087	0.16	0.0047 J

Sample Depth Date		(mg/kg)	(bay/ban) (bay/ban)	(mg/kg)	(mg/kg)	B Sykploses Sopropylbenzene	methyl tert-butyl ether	Naphthalene	(mg/kg)	Toluene (mg/kg)	B) (b)/kg) (b)	
T	otal Soil Com	•	240	13000	26	29000	11000	2000	360	7300	42000	12000
	al Assessm		0.026	14	1	7.6	350	0.62	31	45	8.2	120
Cri	tical ^{GW} Soi	I _{Ing}	0.026	41	3	7.6	1000	1.9	93	130	8.2	120
	Air Soil Inh-V	Ĭ	270	15000	26	41000	13000	2300	370	8900	88000	13000
B-42	6-8	3/25/19	< 0.00051	<0.00062	<0.00051	<0.00072	<0.00092	<0.00051	<0.00082	<0.00092	<0.00062	<0.001
B-43	6-8	3/25/19	<0.00055	<0.00066	<0.00055	<0.00077	<0.00099	<0.00055	<0.00088	<0.00099	<0.00066	<0.0011
B-44	6-8	3/25/19	<0.00045	<0.00054	<0.00045	<0.00062	<0.0008	<0.00045	<0.00071	<0.0008	0.0015 J	0.0029 J
B-45	4-5	9/2/20	<0.00049	<0.00059	<0.00049	<0.00069	<0.00089	<0.00049	<0.00079	<0.00089	<0.00059	<0.00099
B-46	4-5	9/2/20	<0.00046	<0.00056	<0.00046	<0.00065	<0.00084	<0.00046	<0.00074	<0.00084	<0.00056	<0.00093
B-47	4-5	9/2/20	<0.00046	<0.00055	<0.00046	<0.00064	<0.00082	<0.00046	<0.00073	<0.00082	<0.00055	<0.00091
B-48	B-48 4-5 9/2/20		<0.00048	<0.00058	<0.00048	<0.00068	<0.00087	<0.00048	<0.00077	<0.00087	<0.00058	<0.00097
B-49	4-5	9/2/20	<0.00049	<0.00059	<0.00049	<0.00069	<0.00088	<0.00049	<0.00078	<0.00088	<0.00059	<0.00098
B-50	4-5	9/2/20	<0.00049	<0.00058	<0.00049	<0.00068	<0.00087	<0.00049	<0.00078	<0.00087	<0.00058	<0.00097
B-51	4-5	9/2/20	<0.00051	<0.00062	<0.00051	<0.00072	<0.00093	<0.00051	<0.00082	<0.00093	<0.00062	<0.001

Notes: Data compared to Tier 1 Commercial / Industrial PCLs.

Samples analyzed by EPA Method 8260. Only constituents that are detected are shown.

<: Analyte was not detected at or above the reported sample detection limit

J: Analyte detected below the quantitation limit

Sample ID	Date	ய Od (mg/L)	Ш Р (mg/L)	(mg/L)	(mg/L)	(mg/L)	(T/Sum)	Vinyl chloride	(mg/-/ (1,1,2-TCA
^{GW} G	SW _{Ing}	0.005	0.005	15	0.007	0.07	0.1	0.002	0.005
^{Air} G\	N _{Inh-V}	840	33	60000	2300	1700	1100	6.4	130
MW-1	7/14/15 1/22/16 8/10/16 11/9/16 3/23/17 11/30/17 4/25/18 9/20/18 2/11/19 5/28/19 1/23/20 9/8/20	<0.0006 <0.0006 <0.0005 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	<0.0005 <0.0005 <0.0004 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	<0.0004 <0.0004 <0.0005 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0006 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	<0.0006 <0.0004 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0004 <0.0004 <0.0005 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005
MW-2	7/14/15 1/22/16 8/10/16 11/9/16 3/23/17 7/17/17 11/30/17 4/25/18 9/19/18 2/11/19 5/28/19 1/23/20 9/8/20	<0.03 0.0075 J 0.0081 J 0.01 J <0.015 0.017 J <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.006	21 20 26 34 31 62 50 52 49 38 31 0.053 0.022 J	<0.02 <0.004 <0.004 <0.001 <0.008 <0.02 <0.02 <0.02 <0.02 <0.02 <0.02 0.002 J	0.07 J 0.083 0.092 0.11 0.075 J 0.15 0.054 J 0.28 0.13 J 0.093 J 0.082 J 0.0056 J 0.0087 J	28 33 40 54 43 77 61 76 63 46 33 1.7 3.6	<0.2 0.28 J 0.2 J <0.4 <0.2 <0.4 <0.2 1.3 J 0.28 J 0.2 J 0.17 J 0.15 J 0.047 J	7 7.9 7.3 7.6 6.4 12 5.7 12 9.9 6.8 6 6.3	<0.025 0.0094 J 0.006 J 0.0066 J <0.012 <0.01 <0.025 <0.025 <0.025 <0.025 <0.025 <0.005 <0.005

(3/2/2021) SWOP MSD Tables - C-I PCLs

Table E2 Summary of Volatile Organic Compounds in Groundwater - First GWBU Southwest Oilfield Products 10340 Wallisville Road Houston, Texas 77013

SWR No. 87218

Sample ID	Date	ш (mg/L)	EDL (mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L/ans-1,2-DCE	(mg/L)	(mg/L),1,2-TCA
GWG	SW _{Ing}	0.005	0.005	15	0.007	0.07	0.1	0.002	0.005
Air G \	N _{Inh-V}	840	33	60000	2300	1700	1100	6.4	130
MW-3	7/14/15 1/22/16 8/10/16 11/9/16 3/23/17 7/17/17 11/30/17 4/25/18 9/20/18 2/11/19 5/28/19 1/23/20 9/8/20	<0.03 <0.006 0.0086 J <0.006 0.0064 J 0.005 <0.015 <0.015 <0.006 <0.006 <0.003 <0.0006	37 23 23 21 13 15 25 15 21 8.7 8.7 1.6 0.0074	<0.02 0.0081 J <0.004 <0.004 <0.004 <0.001 <0.01 <0.01 <0.01 <0.004 <0.004 <0.004 J	0.098 J 0.063 0.033 J 0.044 J 0.015 J 0.032 J 0.027 J 0.11 J 0.045 J 0.011 J 0.014 J 0.0026 J 0.002 J	39 27 15 19 6.8 11 22 9.3 21 5.4 6.1 1.2 0.63	0.29 J 0.23 J 0.095 J 0.11 J <0.08 <0.08 0.14 J <0.1 <0.1 <0.04 <0.04 <0.02 <0.01	12 6.6 3.5 3.6 1.1 1.7 3.4 1.3 2.7 0.21 0.3 0.97 2.6	<0.025 0.0072 J <0.005 <0.005 <0.005 <0.0012 <0.012 <0.012 <0.012 <0.005 <0.005 <0.005 <0.005 <0.005
MW-4	7/14/15 1/22/16 8/10/16 11/10/16 3/24/17 7/18/17 12/1/17 4/25/18 9/20/18 2/12/19 5/28/19 1/23/20 9/10/20	<0.015 0.0081 J 0.0096 J 0.01 J <0.012 0.013 J 0.009 J 0.037 J 0.0076 J <0.003 <0.006 0.011 J <0.015	16 18 19 26 20 23 8.9 20 18 1.6 17	0.065 J 0.072 0.082 0.088 0.082 J 0.13 0.096 0.17 0.11 0.012 J 0.093 0.082 0.071 J	0.13 0.14 0.16 0.17 0.15 0.24 0.14 0.26 0.16 0.016 J 0.15 0.13 0.12 J	4.9 5.7 5.4 7.8 6.1 7.5 3.3 7.2 8.2 0.94 8.9 9 7.6	0.052 J 0.055 J 0.042 J <0.4 <0.1 <0.04 <0.08 <0.1 0.007 J 0.077 J 0.074 J <0.1	0.530 0.47 0.67 0.68 0.72 1.2 0.86 1.5 1.2 0.12 1.3 0.98 1.1	<0.012 0.0062 J <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.0025 <0.005 <0.005 <0.005

Table E2 Summary of Volatile Organic Compounds in Groundwater - First GWBU Southwest Oilfield Products 10340 Wallisville Road Houston, Texas 77013

SWR No. 87218

Sample ID	Date	₩ (mg/L)	32 (mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L) Vinyl chloride	(mg/L)
^{GW} G	iW _{Ing}	0.005	0.005	15	0.007	0.07	0.1	0.002	0.005
^{Air} G\	N _{Inh-V}	840	33	60000	2300	1700	1100	6.4	130
MW-5	7/14/15 1/22/16 8/9/16 11/10/16 3/23/17 7/18/17 12/1/17 4/25/18 9/20/18 2/12/19 5/29/19 1/23/20 9/9/20	<0.0006 <0.003 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	0.53 5.5 0.32 0.35 0.20 0.093 0.36 0.041 0.017 0.014 0.0092 0.011 0.42	0.00092 J 0.005 J 0.00057 J 0.00048 J <0.0004 <0.0005 J <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 J	0.0019 J 0.025 J 0.003 J 0.0025 J 0.0013 J 0.00056 J 0.0005 <0.0005 <0.0005 <0.0005 <0.0005	0.2 1.4 0.17 0.2 0.083 0.047 0.14 0.027 0.022 0.012 0.0091 0.013 0.32	<0.002 <0.002 <0.002 0.0015 J 0.0006 J <0.0004 0.00097 J <0.0004 <0.0004 <0.0004 <0.0004 0.0004	0.0081 0.12 0.015 0.012 0.007 0.0033 0.0095 0.0053 0.0016 J 0.0011 J 0.0011 J 0.00099 J 0.022	<0.0005 <0.0025 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005
MW-6	7/14/15 1/22/16 8/9/16 11/10/16 12/1/17 4/25/18 2/11/19 5/29/19 1/24/20 9/9/20	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	0.002 J <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	0.0011 J <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005

Sample	Date	PCE	TCE	1,1-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl chloride	1,1,2-TCA
ID		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
^{GW} G	i W Ing	0.005	0.005	15	0.007	0.07	0.1	0.002	0.005
^{Air} GV	N _{Inh-V}	840	33	60000	2300	1700	1100	6.4	130
MW-7	7/14/15 1/22/16 8/9/16 2/11/19 5/29/19 1/23/20 1/22/16 8/9/16 11/9/16 2/11/19 5/29/19 1/23/20 9/9/20	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	0.001 J <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005
MW-9	1/22/16 8/9/16 11/9/16 7/17/17 2/11/19 5/29/19 1/23/20 9/9/20	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	0.0048 J <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	0.0014 J <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005

Table E2 Summary of Volatile Organic Compounds in Groundwater - First GWBU Southwest Oilfield Products 10340 Wallisville Road Houston, Texas 77013

SWR No. 87218

Sample ID	Date 6W _{Ing}	(mg/L) 0.005	(mg/L) 0.005	15 (mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	0.005 (L/2-TCA
AirCI	N _{Inh-V}	840	33	60000	2300	1700	1100	6.4	130
MW-10	1/22/16 8/9/16 11/9/16 3/23/17 7/17/17 11/30/17 4/25/18 9/19/18 2/12/19 5/29/19 1/24/20 9/10/20	<0.006 <0.006 <0.006 <0.006 <0.006 <0.006 <0.005 <0.006 <0.006 <0.006 <0.006 <0.006 <0.006	7.1 8.8 8.6 9.5 9.4 8.1 11 9.9 8.5 4.4 8	0.025 J 0.032 J 0.034 J 0.04 J 0.045 J 0.053 0.058 <0.01 0.041 J 0.0053 J 0.034 J 0.033 J	1.9 2.7 2.7 3.1 3.1 2.2 4.3 0.19 3.3 0.19 2.8 2.2	8.5 11 12 14 14 12 20 1.3 16 4.9 15	<0.04 0.058 J 0.064 J 0.079 J 0.1 J 0.081 J <0.01 0.081 J <0.04 0.088 J <0.1	0.37 0.49 0.49 0.67 0.81 1.0 0.98 0.08 0.95 0.069 1.5 1.9	0.014 J 0.017 J 0.015 J 0.017 J 0.02 J 0.019 J <0.012 0.019 J <0.005 0.019 J 0.019 J
MW-11	1/22/16 8/9/16 11/10/16 3/24/17 7/17/17 12/1/17 4/26/18 9/20/18 2/12/19 5/29/19 1/23/20 9/9/20	<0.0006 <0.003 <0.003 <0.006 <0.006 <0.006 <0.015 <0.006 <0.006 <0.006 <0.006 <0.006	4.3 4.5 5.7 5.8 6.5 6.6 9.4 9.7 11 14 15	0.0039 J 0.0025 J 0.0027 J 0.0033 J <0.004 <0.004 0.0045 J <0.001 <0.004 <0.004 0.0041 J <0.02	0.0096 0.0074 J 0.0085 J 0.0098 J 0.013 J 0.0059 J 0.047 J 0.017 J 0.017 J 0.019 J 0.022 J 0.03 J	0.18 0.16 0.2 0.23 0.3 0.27 0.49 0.45 0.54 0.6 0.79 0.96	0.0051 0.0033 J 0.004 J 0.0045 J 0.0053 J 0.005 J <0.01 0.0079 J 0.0089 J 0.011 J <0.02	0.035 0.025 0.031 0.036 0.049 0.039 0.089 0.067 0.067 0.074 0.083 0.12	0.0021 J <0.0025 <0.0025 <0.0025 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005

Table E2
Summary of Volatile Organic Compounds in Groundwater - First GWBU
Southwest Oilfield Products
10340 Wallisville Road
Houston, Texas 77013
SWR No. 87218

Sample ID	Date	BCE (mg/L)	32 (mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
^{GW} G	i W Ing	0.005	0.005	15	0.007	0.07	0.1	0.002	0.005
^{Air} G\	N _{Inh-V}	840	33	60000	2300	1700	1100	6.4	130
MW-12	1/22/16 8/9/16 11/10/16 3/23/17 7/18/17 11/30/17 4/26/18 9/19/18 2/12/19 5/28/19 1/23/20 9/8/20	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005
MW-13	7/17/17 12/1/17 4/25/18 9/19/18 2/11/19 5/29/19 1/24/20 9/9/20	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	0.082 0.088 0.096 0.062 0.093 0.092 0.19 0.31	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	0.0016 J 0.0013 J 0.0049 J 0.0011 J 0.0015 J 0.0015 J 0.002 J 0.0025 J	0.062 0.062 0.081 0.051 0.075 0.07 0.13 0.19	<0.0004 <0.0004 0.0025 J 0.003 J 0.0029 J 0.0043 J 0.0089 0.0051	<0.0004 0.0008 J 0.0045 0.0011 J 0.0015 J 0.0024 0.004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005

Table E2

Summary of Volatile Organic Compounds in Groundwater - First GWBU Southwest Oilfield Products 10340 Wallisville Road Houston, Texas 77013 SWR No. 87218

Sample ID	Date	BG (mg/L)	EDL (mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L) Vinyl chloride	(mg/L),2-TCA
^{GW} G	W_{lng}	0.005	0.005	15	0.007	0.07	0.1	0.002	0.005
^{Air} GV	N _{Inh-V}	840	33	60000	2300	1700	1100	6.4	130
MW-14	10/9/17 11/30/17 4/26/18 9/19/18 2/12/19 5/28/19 1/23/20	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005
MW-15	5/29/19 1/23/20 9/8/20	<0.003 <0.003 <0.0006	1.4 1.4 1.6	0.0042 J 0.004 J 0.0049 J	0.28 0.26 0.34	0.91 0.89 1.2	0.0053 J 0.0049 J <0.01	0.02 0.02 0.036	<0.0025 <0.0025 0.002 J
MW-16	9/9/20	<0.0006	<0.0005	<0.0004	<0.0005	<0.0006	<0.0004	<0.0004	<0.0005

Notes:

Data compared to Tier 1 Commercial / Industrial PCLs.

Samples analyzed by EPA Method 8260. Only constituents that are detected are shown.

Shaded concentrations exceed the applicable regulatory standard in **BOLD**.

<: Analyte was not detected at or above the reported sample detection limit.

J: Analyte detected below the quantitation limit

Sample ID	Date	E (mg/L)	EDL (mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/Lrans-1,2-DCE	(mg/L)	(mg/L)
^{GW} G	W _{Ing}	0.005	0.005	15	0.007	0.07	0.1	0.002	0.005
^{Air} GV	V _{Inh-V}	840	33	60000	2300	1700	1100	6.4	130
MW-1D	1/22/16 8/10/16 11/9/16 3/24/17 7/17/17 11/30/17 4/25/18 9/20/18 2/11/19 5/29/19 2/6/20 9/8/20	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	0.19 0.13 0.12 0.12 0.11 0.082 0.14 0.11 0.11 0.11 0.12 0.098	0.00074 J 0.00052 J 0.00059 J 0.00071 J 0.00056 J <0.0004 0.00089 J 0.00067 J 0.00072 J 0.00076 J 0.00071 J 0.00048 J	0.01 0.0091 0.009 0.011 0.0094 0.0078 0.015 0.0099 0.011 0.012 0.011	0.018 0.04 0.045 0.032 0.027 0.044 0.033 0.025 0.028 0.029 0.028	0.00068 J 0.00077 J 0.00084 J 0.00085 J 0.00065 J 0.0029 J 0.0007 J 0.00077 J 0.00087 J 0.00082 J 0.0011 J	0.0014 J 0.0013 J 0.0015 J 0.0017 J <0.0004 0.0012 J 0.005 0.0018 J 0.0018 J 0.0019 J 0.0017 J 0.0012 J	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005
MW-2D	3/21/16 8/10/16 11/10/16 3/24/17 7/18/17 12/1/17 4/25/18 9/20/18 2/12/19 5/28/19 2/6/20 9/10/20	<0.006 <0.006 <0.006 <0.006 <0.005 <0.015 <0.015 <0.015 <0.003 <0.006 0.0073 J <0.03	15 13 13 21 21 20 24 18 3.1 22 32 40	<0.004 <0.004 <0.004 <0.004 <0.001 <0.01 <0.01 <0.002 <0.004 <0.004 <0.004	0.036 J 0.022 J 0.032 J 0.034 J 0.039 J 0.031 J 0.11 J 0.027 J 0.0034 J 0.027 J 0.033 J 0.042 J	1.1 0.8 0.9 1.3 1.4 1.2 1.5 1.2 0.15 1.4 1.6 2.3	0.016 J 0.01 J 0.016 J 0.018 J 0.025 J 0.018 J 0.067 J 0.015 J <0.002 0.017 J 0.016 J 0.024 J	0.13 0.089 0.12 0.14 0.15 0.12 0.21 0.13 0.014 0.14 0.14	0.0059 J <0.005 <0.005 0.0054 J 0.0053 J <0.012 <0.012 <0.012 <0.0025 0.0051 J 0.0071 J <0.025

Sample ID ^{GW} G	Date W _{ing}	(mg/L) 0.005	(mg/L)	(mg/L)	(mg/L)	(mg/L) 0.07	(DCE) (mg/L) (L)	(mg/L) 0.002	0.005
^{Air} GV	V _{Inh-V}	840	33	60000	2300	1700	1100	6.4	130
MW-3D	3/21/16 8/9/16 11/9/16 3/24/17 7/17/17 11/30/17 4/25/18 9/19/18 2/12/19 5/29/19 2/6/20 9/9/20	<0.006 0.0014 J <0.006 <0.006 <0.006 <0.006 0.03 J <0.015 <0.0006 0.0017 J <0.006 <0.015	7.2 5.5 6.4 9.6 9.3 6.9 10 8.6 0.52 6.9 7.3	<0.004 0.0046 J <0.004 0.0072 J 0.0082 J 0.0047 J 0.0074 J 0.039 J <0.0004 0.035 0.032 J 0.01 J	0.15 0.1 0.15 0.18 0.26 0.1 0.21 3.1 0.0077 2.9 2.5 0.22	0.81 1.8 1.9 1.5 1.7 0.87 1.4 16 0.055 13 13	<0.004 <0.004 <0.0004 0.0079 J 0.013 J 0.0053 J 0.087 J 0.0087 J 0.00048 J 0.062 J 0.076 J 0.058 J	0.05 0.035 0.046 0.059 0.076 0.04 0.088 0.99 0.0023 1.2 1.4 0.19	<0.005 0.0015 J <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 0.02 J <0.0005 0.018 0.016 J <0.012
MW-4D	8/10/16 11/9/16 3/24/17 7/17/17 12/1/17 4/25/18 9/19/18 2/11/19 5/29/19 2/6/20 9/9/20	0.0055 0.0073 0.0078 0.0093 J 0.0039 J 0.016 J <0.006 <0.006 <0.006 <0.006 <0.006	2.7 3.6 3.1 3.0 3.2 3.4 3.7 3.7 3.6 3	0.0054 0.0066 0.0075 0.0062 J 0.0054 0.0056 J 0.0064 J 0.0074 J 0.0066 J 0.0071 J 0.005 J	0.012 0.014 0.017 0.014 J 0.011 0.025 0.013 J 0.018 J 0.015 J 0.016 J 0.011 J	1.2 1.5 1.3 1.2 1.1 1.7 1.5 1.7 1.8 1.5	<0.02 <0.02 <0.02 <0.02 <0.02 0.1 J 0.057 0.048 J 0.048 J 0.027 J 0.016 J	0.033 0.038 0.047 0.037 0.036 0.044 0.046 0.05 0.055 0.043 0.038	0.00091 J 0.0011 J 0.0011 J <0.0025 0.00095 J <0.0025 <0.005 <0.005 <0.005 <0.005

Table E3
Summary of Volatile Organic Compounds in Groundwater - Second GWBU
Southwest Oilfield Products
10340 Wallisville Road
Houston, Texas 77013
SWR No. 87218

Sample ID	Date	ш О д (mg/L)	BOL (mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/r)	(mg/L)
^{GW} G ^I	W _{Ina}	0.005	0.005	15	0.007	0.07	0.1	0.002	0.005
^{Air} GW	V _{Inh-V}	840	33	60000	2300	1700	1100	6.4	130
MW-5D	8/9/16 11/10/16 3/24/17 7/18/17 12/1/17 4/25/18 9/20/18 2/12/19 5/29/19 2/6/20 9/9/20	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	0.00074 J 0.0013 J <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005
MW-6D	7/17/17 11/30/17 4/25/18 9/20/18 2/11/19 5/28/19 2/6/20 9/8/20	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	0.73 0.94 0.64 0.69 0.76 0.58 1.00 0.49	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 0.0036 J 0.0011 J <0.0005 0.00055 J <0.0005 <0.0005	0.01 0.02 0.019 0.051 0.022 0.086 0.02 0.0051	<0.0004 <0.0004 0.0027 J 0.003 J 0.00054 J 0.00049 J <0.0006 J <0.0004	<0.0004 0.0016 J 0.0058 0.0011 J 0.0026 0.0028 0.0032 0.00093 J	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005

Table E3 Summary of Volatile Organic Compounds in Groundwater - Second GWBU Southwest Oilfield Products 10340 Wallisville Road Houston, Texas 77013

SWR No. 87218

Sample ID	Date	DCE (mg/l)	1CE	1,1-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl chloride	1,1,2-TCA
	Wing	(mg/L) 0.005	(mg/L) 0.005	(mg/L) 15	(mg/L) 0.007	(mg/L) 0.07	(mg/L) 0.1	(mg/L) 0.002	(mg/L) 0.005
GWGW _{Ing}		840	33	60000	2300	1700	1100	6.4	130
MW-7D	7/18/17 11/30/17 4/26/18 9/19/18 2/12/19 5/28/19 2/6/20 9/8/20	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005	<0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006 <0.0006	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004 <0.0004	<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005
MW-8D	7/18/17 11/30/17 4/25/18 9/20/18 2/11/19 5/29/19 2/6/20 9/9/20	0.007 J 0.0065 J 0.034 J <0.012 0.008 J 0.0069 J 0.0086 J 0.0088 J	3.9 4.9 6.2 4.8 5.7 5.5 5.6	0.0081 J 0.0074 J 0.012 J 0.01 J 0.01 J 0.0091 J 0.0088 J 0.0093 J	0.037 0.018 J 0.078 0.096 J 0.046 J 0.048 J 0.045 J 0.11	0.56 0.51 0.88 1.5 0.8 0.75 0.78	0.003 J 0.003 J 0.067 0.011 J 0.049 J 0.056 0.022 J 0.021 J	0.025 0.021 0.06 0.056 0.032 0.031 0.029 0.054	<0.0025 <0.0025 <0.005 <0.01 <0.005 <0.005 <0.005 <0.005

Notes:

Data compared to Tier 1 Commercial / Industrial PCLs.

Samples analyzed by EPA Method 8260. Only constituents that are detected are shown. Shaded concentrations exceed the applicable regulatory standard in **BOLD**.

<: Analyte was not detected at or above the reported sample detection limit.

J: Analyte detected below the quantitation limit

Table E4 Summary of Volatile Organic Compounds in Groundwater - Third GWBU Southwest Oilfield Products 10340 Wallisville Road Houston, Texas 77013

SWR No. 87218

Sample ID	Date	B (mg/L)	30 (mg/L)	(mg/L)	(mg/L)	(mg/L)	ش رکا (Trans-1,2-DCE	(Ed) Vinyl chloride	(mg/L), 1, 2-TCA
^{GW} G	W_{lng}	0.005	0.005	15	0.007	0.07	0.1	0.002	0.005
^{Air} GV	N _{Inh-V}	840	33	60000	2300	1700	1100	6.4	130
MW-A	6/26/18	0.0096 J	4.7	0.0092 J	0.078	1.2	0.010 J	0.052	<0.0005
	9/20/18	<0.006	4.7	0.0089 J	0.038 J	0.67	0.039 J	0.029	<0.005
	2/11/19	0.0086 J	5.9	0.011 J	0.098	1.7	0.012 J	0.056	<0.005
	5/29/19	<0.006	3.7	0.0066 J	0.065	1.3	0.008 J	0.042	<0.005
	1/29/20	0.0068 J	4.7	0.0078 J	0.038	0.65	0.030	0.024	<0.005
	9/10/20	0.009 J	4.9	0.0076 J	0.043 J	0.78	0.120	0.029	<0.005
MW-B	5/29/19	<0.006	3.1	0.0047 J	0.037 J	0.92	0.0072 J	0.034	<0.005
	1/29/20	0.0046 J	3.5	0.0051 J	0.031	0.80	0.0067 J	0.024	<0.005
	9/9/20	<0.006	3.6	0.0045 J	0.028 J	0.80	0.0071 J	0.027	<0.005
MW-C	5/29/19	<0.0006	0.058	<0.0004	0.00064 J	0.03	<0.0004	0.0011 J	<0.0005
	1/29/20	<0.0006	0.048	<0.0004	<0.0005	0.023	<0.0004	<0.0004	<0.0005
	9/9/20	<0.0006	0.064	<0.0004	0.0006 J	0.035	0.00041 J	0.001 J	<0.0005

Notes:

Data compared to Tier 1 Commercial / Industrial PCLs.

Samples analyzed by EPA Method 8260. Only constituents that are detected are shown. Shaded concentrations exceed the applicable regulatory standard in **BOLD**.

- <: Analyte was not detected at or above the reported sample detection limit.
- J: Analyte detected below the quantitation limit

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 the 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 of who affected property owners are, and if there have been any communications. "No contact" can be an acceptable answer.*

Shallow groundwater has been affected by dissolved phase chlorinated VOCs. The area of affected groundwater associated with the property is depicted on **Figures C4-1 to C4-6**. Based on the results of the most recent groundwater monitoring and sampling event conducted in September 2020, the area of affected groundwater extends off-site to the east across Oates Road in the downgradient direction.

The plume may extend beneath the following properties:

Property Address	Owner Name	Owner Mailing Address	HCAD Property ID
			No.
Oates Road Right of	City of Houston	PO Box 1562	N/A
Way		Houston, Texas 77251-1562	
10413 Wallisville Road	GSE Family LLC	10413 Wallisville Road	041-015-006-0360
	•	Houston, Texas 77013	
0 Wallisville Road	Houston TKCCP	1 Comcast Center	138-316-001-0001
	Holdings	Philadelphia, PA 19103-2838	
87 Oates Road	Nutt Investments	85 Oates Road, Building 2A	041-015-007-0135
		Houston, Texas 77013	
85 Oates Road	RJ Corman	85 Oates Road, Building 1	041-015-007-0121
	Equipment	Houston, Texas 77013	

Each of these off-site properties denied site access to conduct environmental investigations. Each of these off-site properties was notified between June 2017 and July 2020 in accordance with 30 TAC §350.55 of the environmental investigations conducted with regards to the Southwest Oilfield Products.

Appendix G

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

Shallow groundwater is affected by dissolved phase chlorinated VOCs including trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), vinyl chloride, and 1,1-dichloroethene (1,1-DCE). These chemicals are associated with the historic operations of the Southwest Oilfield Products property located at 10340 Wallisville Road. Southwest Oilfield Products (SWOP) manufactures pumps, valves and pistons for the oil and gas industry and has operated at this location. The property contains space used for offices, shipping and receiving, warehousing for raw/finished product, machining and assembly areas. Historically, chlorinated VOCs were utilized at this facility as degreasing agents. These types of chemicals can migrate rapidly in the sub-surface and quickly reach equilibrium once the ongoing contributing mass source is eliminated.

The operational history of the property and the extensive site investigations identified former vapor degreasing operations as the primary source of impact of the chlorinated VOCs. The two nearest groundwater sampling locations are MW-2 and MW-3. 25 soil borings have been advanced to investigate the primary source area. The lateral extent of groundwater impact is delineated in the first GWBU, and the plume appears to be stable in concentrations (**Tables E2, E3 and E4**).

A combination of soil and groundwater response actions have been completed within the source area. These activities included operating a soil vapor extraction (SVE) system to address shallow soil concentrations and conducting in-situ bioaugmentation treatments within the first GWBU to address groundwater concentrations. These response actions have been successful and have created decreasing concentration trends in the analytical data. Since chlorinated VOCs are no longer utilized at the property, there is low potential for further contribution.

The contaminant plume has not changed in area since the monitoring program was initiated in 2015. Stable or decreasing concentrations are present across the contaminant plume.

Appendix H

A statement as to whether contamination on and off the designated property <u>without</u> a Municipal Setting Designation <u>will exceed</u> a residential assessment level as defined in the Texas Risk Reduction Program or analogous residential level set by EPA, if known, and the basis for that statement.

On the Designated Property

PCE, TCE, cis-1,2-DCE, vinyl chloride, and 1,1-DCE are reported at concentrations that do or have exceeded TRRP residential assessment levels without a municipal setting designation (^{GW}GW_{Ing}) (**Figures C4-1 through C4-6**, **Table E2**, **E3 and E4**). A review of the most recent groundwater sampling data (September 2020) within the proposed MSD boundary confirms these findings.

Off the Designated Property

The distribution of the analytical concentrations indicates that the groundwater plume likely extends to off-site properties on the east side of Oates Road; however, off-site access negotiations with these properties have been denied to confirm off-site impacts. Groundwater samples collected from off-site groundwater monitoring wells installed within City of Houston right-of-way report concentrations of the constituents of concern above TRRP residential assessment levels without a municipal setting designation (GWGWIng).

Appendix I

A statement as to whether contamination on and off the designated property with a Municipal Setting Designation will exceed a residential assessment level as defined in the Texas Risk Reduction Program or analogous residential level set by EPA, if known, and the basis for that statement.

Currently, two groundwater samples (MW-2 and MW-2D) report a constituent concentration above the TRRP residential ingestion exceedance level with a municipal setting designation (AirGW_{Inh-V}). MW-2 is installed in the first groundwater bearing unit while MW-2D is installed within the second groundwater bearing unit. Response actions have been completed to reduce COC concentrations in these areas to reduce concentrations less than the TRRP residential ingestion exceedance level with a municipal setting designation (AirGW_{Inh-V}). There will be no future contamination exceedance anticipated with the municipal designation for the subject property.