ADEQ Arizona Department of Environmental Quality

TECHNICAL SUPPORT DOCUMENT

PROPOSED UNDERGROUND STORAGE TANK (UST) RELEASE CASE CLOSURE EVALUATION SUMMARY

LUST Case File #: 5524.01
Facility ID # 0-010217
Maricopa County

Cactus Candy Company
3002 North 24th Street
Phoenix, Arizona 85016

Background:
The Site is located at the northwest corner of Pinchot Avenue and 24th Street in Phoenix. Prior to 1980, the Site was a former gasoline service station. The former UST system had one 7,500-gallon and one 10,000-gallon USTs located near the southern property line. Two fuel dispenser islands were located northeast of the USTs near 24th Street. The tanks were not registered and the type of fuel stored is unknown, but likely included leaded gasoline. Both USTs reportedly were abandoned in place with cement slurry in June 1980. Cactus Candy has occupied the Site since 2008 and is not the UST owner/operator.

A limited site assessment performed in 2008 identified hydrocarbon contamination in soils beneath the east end of the 7,500 –gallon UST from 26 feet below ground surface (bgs) to the depth of the boring of 71 feet bgs. LUST release #5524.01 was assigned. The ADEQ State Lead Unit (SLU) initiated site characterization activities in 2011 with Terranext. Soil borings were drilled and sampled around the abandoned USTs, at each former fuel dispenser and along the former product piping. No hydrocarbon contaminants were identified beneath the former dispensers or along the product lines. Gasoline contamination was identified in the clayey soils beneath the former UST area. Soil contamination was defined laterally within the property boundaries and extended vertically from approximately 25 feet below ground surface (bgs) to groundwater which was encountered under confined conditions at approximately 90 feet bgs. Six groundwater monitoring wells were installed to assess the extent of the volatile organic compounds (VOCs) in groundwater which extends in a south-southwesterly direction from the former USTs to about the southern edge of Pinchot Avenue.

The residual groundwater contaminant plume consists of gasoline constituents, with 1, 2-dichloroethane (1, 2-DCA) concentrations remaining above the Arizona Aquifer Water Quality Standard (AWQS) of 5 micrograms per liter (µg/L) at the source well (MW-1). The compound 1, 2-DCA is a component of leaded gasoline. Trimethylbenzenes (TMBs) are also present in the source well, but no AWQS have been established for TMBs.

Threatened or impacted drinking water wells:
The contaminant plume has impacted the Upper Aquifer Unit of the Phoenix Basin, which is not used for potable water supply near the subject site. Water supply wells in the central Phoenix Basin typically derive water from the Middle and Lower Aquifer Units. Currently the City of Phoenix (COP) uses surface water [Salt River Project (SRP) reservoirs and the Colorado River]

as its main source of drinking water. Nearly 50% comes from the Colorado River, which may begin to have shortages as soon as 2020 according to the Bureau of Reclamation. Because of this, COP views all water within their service area boundary as a potential water supply source in the event that Colorado River allocations are curtailed during a drought declaration.

ADEQ conducted a review of the Arizona Department of Water Resources (ADWR) available records to identify potential water production wells within one-half mile of the subject site. ADEQ identified 66 registered wells. Sixty-three of the wells are registered as monitoring or "other". One well is registered as an "exempt" well and is owned by Arizona Public Service (APS). The APS well is a cathodic protection well and does not withdraw groundwater. Two wells are registered as "non-exempt" wells that are used as recovery wells by SRP according to ADWR. Neither of the SRP wells are located down gradient of the LUST site. SRP Well 16E-8.0N (ADWR 55-617715) and SRP Well 16E-6.8N (ADWR 55-617726) has not shown 1,2-DCA contamination present over laboratory reporting limits. The wells were last sampled in May 2017, according to the water provider questionnaire returned by SRP. SRP did not object to the proposed closure in their questionnaire. There are no COP wells located within 1 mile of the LUST site.

This LUST site is located within the boundaries of the East Central Phoenix (ECP)- 32nd Street and Indian School Road Water Quality Assurance Revolving Fund (WQARF) plume. This LUST site is also just northeast of the ECP 24th Street and Grand Avenue WQARF site. The groundwater contaminants at both WQARF sites are chlorinated solvents related to dry cleaning operations. A WQARF groundwater monitoring well (24MW-04B) is located just southwest of the LUST site. The June 2019 *Remedial Investigation Report for the East Central Phoenix 24th Street and Grand Canal Water Quality Assurance Revolving Fund Site* was reviewed. Groundwater data collected in monitoring well 24MW-04B between 2015 and 2018 has not shown any petroleum related contamination.

The lateral extent of the dissolved contaminant plume has significantly shrunk and it is currently restricted to the immediate vicinity of well MW-1. The remaining VOC with concentrations that exceed AWQS is 1, 2-DCA. 1, 2-DCA has not been detected in down gradient wells over AWQS since February 2014.

Any new or replacement well located at or near this LUST site would need to meet the criteria of A.A.C. R12-15-1302 (B) (3).

Other exposure pathways:
Soil samples collected between 5 and 15 feet had no VOC contamination present over an applicable regulatory standard, so dermal contact and ingestion are not complete exposure pathways. In March 2013, a shallow soil vapor survey was conducted to evaluate residual subsurface soil VOC contamination for vapor intrusion risk. The soil vapor survey demonstrates the inhalation exposure route shows an acceptable cancer and non-cancer risk. Based on the results of a field receptor survey, there are no surface water, agricultural, or ecological receptors within one-quarter mile of the site.

Groundwater plume stability:
Since November 2014,VOC concentration have been below AWQS in groundwater monitor wells MW-5 and MW-6, located in the down gradient and cross gradient directions from the source area. The groundwater contaminant plume of release related compounds was reduced by in-situ chemical oxidation (ISCO). As of May 2019, all petroleum related chemicals of concern (CoCs) in the groundwater are below AWQS with the exception of 1, 2-DCA at the source well (MW-1). 1, 2-DCA is a recalcitrant compound and remediation can be slow. The general direction of groundwater flow beneath the site is to the south-southwest. An initial Mann-Kendall assessment on benzene was done using the entire analytical data from 2014 through 2018. The trend is downward with a confidence of over 99%. For the second plot the data from 2016 through 2018 was used to remove the influence of the initial drop in concentration from over 5,000 µg/L in MW-2. This trend is also downward. A Mann-Kendall assessment of COCs was again conducted using groundwater data between November 2016 and March 2019 (post-ISCO) in MW-1 and MW-4. The assessment shows a decreasing trend for 1, 1, 2-DCA in both monitoring wells and a stable and no trend for TMBs, in each well.

Analytical data from monitoring wells associated with the ECP- 24th Street and Grand Canal WQARF site that are down gradient of this LUST site, have not shown any petroleum related contamination above laboratory reporting limits.

Characterization of the groundwater plume:
Six monitoring wells were installed (four on-site and two off-site) and groundwater samples for VOC analysis have been collected since 2011. Sampling results indicate that the plume is characterized and contained to the site at the source. VOC concentrations in groundwater have declined between December 2011 and May 2019. In December 2011, MW-2 had the highest concentration of benzene and 1, 2-DCA at 5,100 µg/L and 290 µg/L, respectively.

Currently, only the concentration of 1, 2-DCA in well MW-1 exceeds the AWQS. Between August 2017 and May 2019, the concentration of 1, 2-DCA decreased from 290 µg/L to 22 µg/L. The benzene concentration decreased from 230 µg/L to 0.39 µg/L over the same time.

Natural Attenuation:
Natural attenuation processes include diffusion, dispersion, sorption, volatilization, and biodegradation. A decreasing trend in VOC concentrations in groundwater has been established, which supports that natural attenuation is occurring. Hydrologic and geochemical data can be used to indirectly demonstrate the type(s) of natural attenuation processes. The extent of the dissolved 1,2-DCA plume is restricted to the immediate vicinity of source well MW-1.

Natural attenuation monitoring was conducted at the site from September 2012 through November 2014 to assess whether the groundwater plume would attenuate under natural conditions; however, analytical results for samples collected from off-site well MW-5 indicated that elevated concentrations of benzene and 1,2-DCA persisted near the down gradient edge of the plume. In-situ chemical oxidation (ISCO) using PersulfOx® injections were therefore performed at all six monitor wells in December 2014 and again in May 2015 to enhance the degradation of the dissolved contaminants.

Baseline dissolved oxygen (DO) and oxidation reduction potential (ORP) measurements indicated predominantly anaerobic groundwater conditions in all six monitor wells, weak oxidation potentials in wells MW-2 through MW-6 and weak reduction potential in well MW-1. ISCO injections increased DO concentrations in all six wells. Observations and DO measurements from October 2015 indicated ongoing chemical oxidation within and near wells MW-1 through MW-5. Residual oxidant also was observed in wells MW-1, MW-2 and MW-5 during the April 2016 sampling event. Oxidation of remaining petroleum hydrocarbon contamination by residual PersulfOx® and DO supersaturated groundwater conditions continued based on the data collected through May 2019.

Removal or control of the source of contamination:
Based on persistent concentrations of petroleum constituents in groundwater, ISCO was conducted during December 2014 and May 2015. PersulfOx® residue was observed directly in the monitoring wells MW-1 through MW-5 during subsequent DO/ORP profiling and sampling events. It appeared to restrict groundwater recharge into those wells during purging. The residue was comprised primarily of the silica powder used as a catalyst in the PersulfOx® product. On June 28, 2016, the monitoring wells (MW1-MW5) were flushed three well volumes of fresh water to improve permeability near the wells and allow the collection of groundwater samples more representative of aquifer conditions.

Groundwater below the site remained in contact with gasoline contamination following two ISCO events. Monitoring wells MW-1 and MW-4 previously were placed in the source area and declining water levels below the site had exposed more of the screened interval of these wells in the lower vadose zone. Accordingly, implementation of soil vapor extraction (SVE) using those wells was selected as a cost-effective remedial alternative to remove gasoline contamination from near the groundwater surface. As only two wells with limited screened intervals were to be used and the contaminant mass considered relatively small, a small-scale system was proposed. The presence of 1,2-DCA also precluded the use of a catalytic oxidizer for treatment of recovered vapors. A treatment of recovered vapors using a thermal oxidizer also would have required gas service and a scrubber for chlorinated exhaust. Based on contaminant mass and composition, space limitations and permitting considerations, granular activated carbon (GAC) was selected to treat recovered vapors. With the exception of short shutdown periods related to power disrputions, conducting maintenance and GAC change-outs, the SVE system operated continuously from May 17, 2017 through June 11, 2018. Thereafter, a pulsed-mode of SVE operations was conducted until the system was intentionally shut-down on January 16, 2019. Calculations using influent vapor analytical results and system operational data indicate that the total mass of volatile fuel hydrocarbons in the C4 to Cl0 range extracted by the system was 6,072.2 pounds. This represents approximately 979 gallons of gasoline removed from the subsurface.

Requirements of A.R.S. §49-1005(D) and (E): The results of the corrective action completed at the site assure protection of public health, welfare and the environment, to the extent practicable, the clean-up activities competed at this site allow for the maximum beneficial use of the site, while being reasonable, necessary and cost effective.

Other information that is pertinent to the LUST case closure approval:

The facility and LUST files were reviewed for information regarding prior cleanup activities, prior site uses and operational history of the UST system prior to removal.

Groundwater data tables:

Groundwater data for MW-1 (source well)
Total Depth: 109 feet. Screened 89-109 feet.

Date	Benzene (µg/L) AWQS 5.0 µg/L	1,2-DCA (µg/L) AWQS 5.0 µg/L	Depth to Water (feet)
December 2011	**46**	**8.5**	83.83
September 2012	**5.1**	<2.0	87.69
June 2013	**130**	4.6	89.32
February 2014	**300**	**11**	91.28
November 2014	**130**	**37**	91.68
December 3-4, 2014 ISCO			
February 2015	**110**	**150**	92.27
May 5, 2015 ISCO			
May 2015	<2.0	<2.0	93.01
October 2015	**11**	**16**	93.14
February 2016	**12**	**9.6**	93.06
November 2016	**86**	**110**	95.03
May 2017 SVE start			
August 2017	**230**	**290**	93.71
March 2018	**47**	**230**	94.45
June 2018	**7.3**	**130**	94.64
June 2018 SVE (continuous) end			
September 2018	2.5	**78**	94.24
December 2018	**5.9**	**38**	94.04
January 2019 SVE (pulsed) end			
March 2019	0.92	**27**	95.19
May 2019	0.39	**22**	95.00

Groundwater data for MW-2 (cross to down gradient of MW-1 to the southwest)
Total Depth: 110 feet. Screened 89.5-109.5 feet.

Date	Benzene (µg/L) AWQS 5.0 µg/L	1,2-DCA (µg/L) AWQS 5.0 µg/L	Depth to Water (feet)
December 2011	**5,100**	**290**	83.11
September 2012	**100**	**35**	86.61
June 2013	**5.8**	**7.4**	88.83
February 2014	**37**	4.4	90.88
November 2014	**290**	**22**	91.29
February 2015	**8.7**	**23**	91.95

May 2015	<2.0	<2.0	92.96
October 2015	**7.2**	<2.0	92.75
February 2016	**9.4**	2.5	92.69
November 2016	**83**	**8.6**	94.66
May 2017 SVE start			
August 2017	<2.0	**8.3**	94.12
March 2018	<2.0	4.1	94.04
June 2018 SVE (continuous) end			
June 2018	<2.0	<2.0	94.23
September 2018	<2.0	<2.0	93.83
December 2018	<2.0	<2.0	93.65
January 2019 SVE (pulsed) end			
March 2019	<2.0	<2.0	94.74
May 2019	<2.0	<2.0	94.56

Groundwater data for MW-3 (up gradient of MW-1 to the northeast)
Total Depth: 110 feet. Screened 89-109 feet.

Date	**Benzene (µg/L) AWQS 5.0 µg/L**	**1,2-DCA (µg/L) AWQS 5.0 µg/L**	**Depth to Water (feet)**
December 2011	**20**	<2.0	83.81
September 2012	<2.0	<2.0	86.89
June 2013	<2.0	<2.0	89.12
February 2014	**9.8**	<2.0	91.11
November 2014	4.6	**18**	91.52
February 2015	<1.2	**11**	92.11
May 2015	<2.0	<2.0	92.92
October 2015	**5.1**	2.5	93.03
February 2016	<2.0	<2.0	92.92
November 2016	**27**	**5.9**	94.80
May 2017 SVE start			
August 2017	<2.0	<2.0	94.40
March 2018	<2.0	<2.0	94.32
June 2018 SVE (continuous) end			
June 2018	<2.0	<2.0	94.49
September 2018	<2.0	<2.0	94.10
December 2018	<2.0	<2.0	93.89
January 2019 SVE (pulsed) end			
March 2019	<2.0	<2.0	95.03
May 2019	<2.0	<2.0	94.85

Groundwater well MW-4 (cross to down gradient of source to the southwest)
Total Depth: 110 feet. Screened 90-110 feet.

Date	Benzene (µg/L) AWQS 5.0 µg/L	1,2-DCA (µg/L) AWQS 5.0 µg/L	Depth to Water (feet)
September 2012	**89**	**13**	86.73
June 2013	**10**	3.2	88.99
February 2014	**54**	4.0	90.99
November 2014	**56**	**19**	91.43
December 3-4, 2014 ISCO			
February 2015	**520**	**99**	92.03
May 5, 2015 ISCO			
May 2015	<2.0	<2.0	92.95
October 2015	**55**	4.4	92.89
February 2016	**16**	<2.0	92.79
June 28, 2016 ISCO			
November 2016	**17**	**19**	94.79
May 2017 SVE start			
August 2017	**150**	**72**	94.02
March 2018	**<20**	66	94.33
June 2018 SVE (continuous) end			
June 2018	**<10**	**26**	94.45
September 2018	<2.0	**9.8**	94.01
December 2018	<1.2	<3.1	93.77
January 2019 SVE (pulsed) end			
March 2019	<0.60	<1.6	94.88
May 2019	<1.2	<3.1	94.68

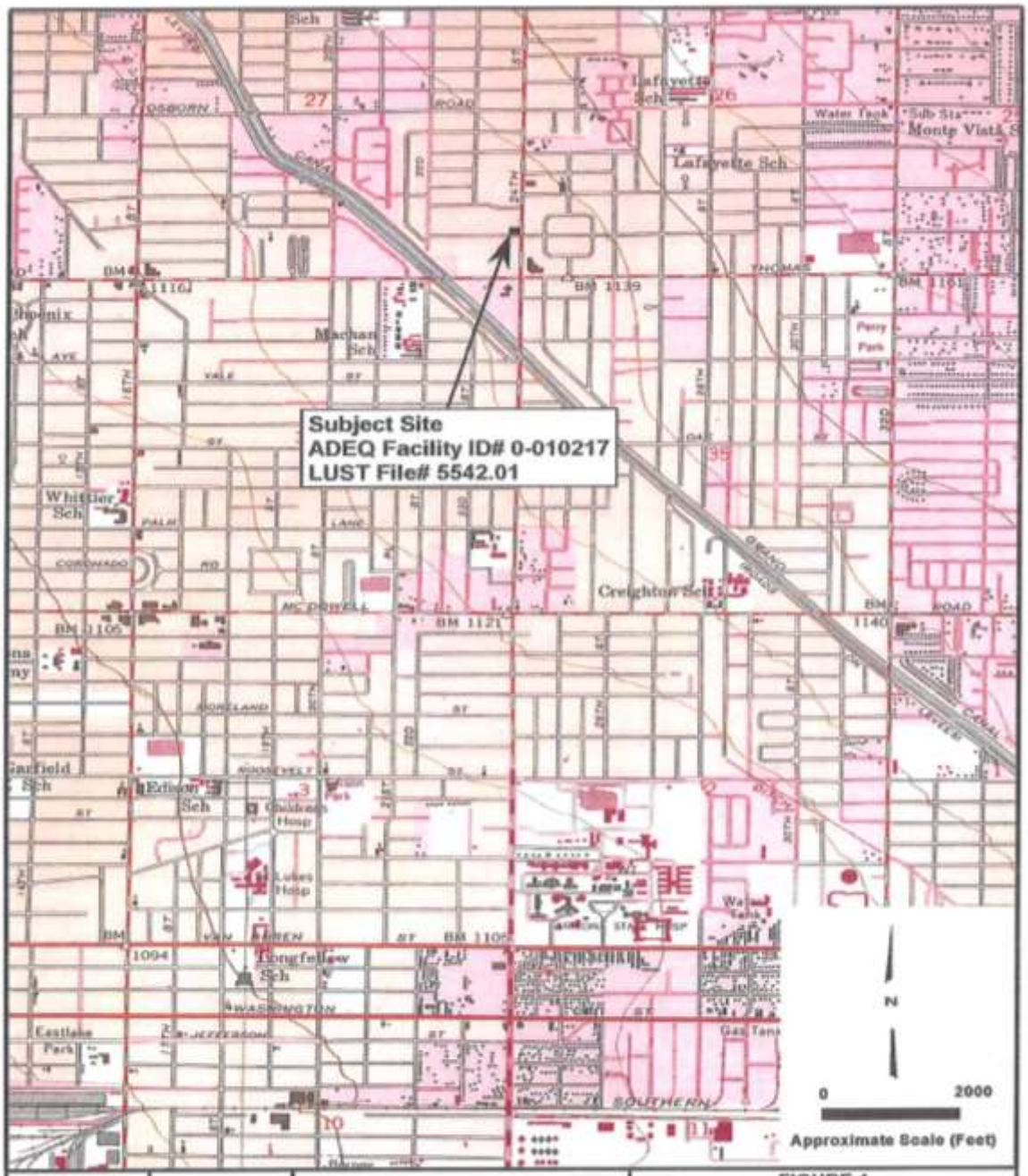
Groundwater data for MW-5 (off-site down gradient from MW-1 to the southwest)
Total Depth: 110 feet. Screened 85-105 feet.

Date	Benzene AWQS 5.0 µg/L	1,2-DCA AWQS 5.0 µg/L	Depth to Water (feet)
September 2012	<2.0	**15**	87.09
June 2013	**32**	**6.4**	89.34
February 2014	**8.6**	**6.3**	91.35
November 2014	<2.0	2.0	91.78
December 3-4, 2014 ISCO			
February 2015	<1.2	<3.1	92.51
May 5, 2015 ISCO			
May 2015	<2.0	<2.0	93.02
October 2015	<2.0	<2.0	93.31
February 2016	<2.0	<2.0	93.22
November 2016	<2.0	<2.0	95.13
May 2017 SVE start			
August 2017	<2.0	<2.0	94.62
March 2018	<2.0	<2.0	94.50

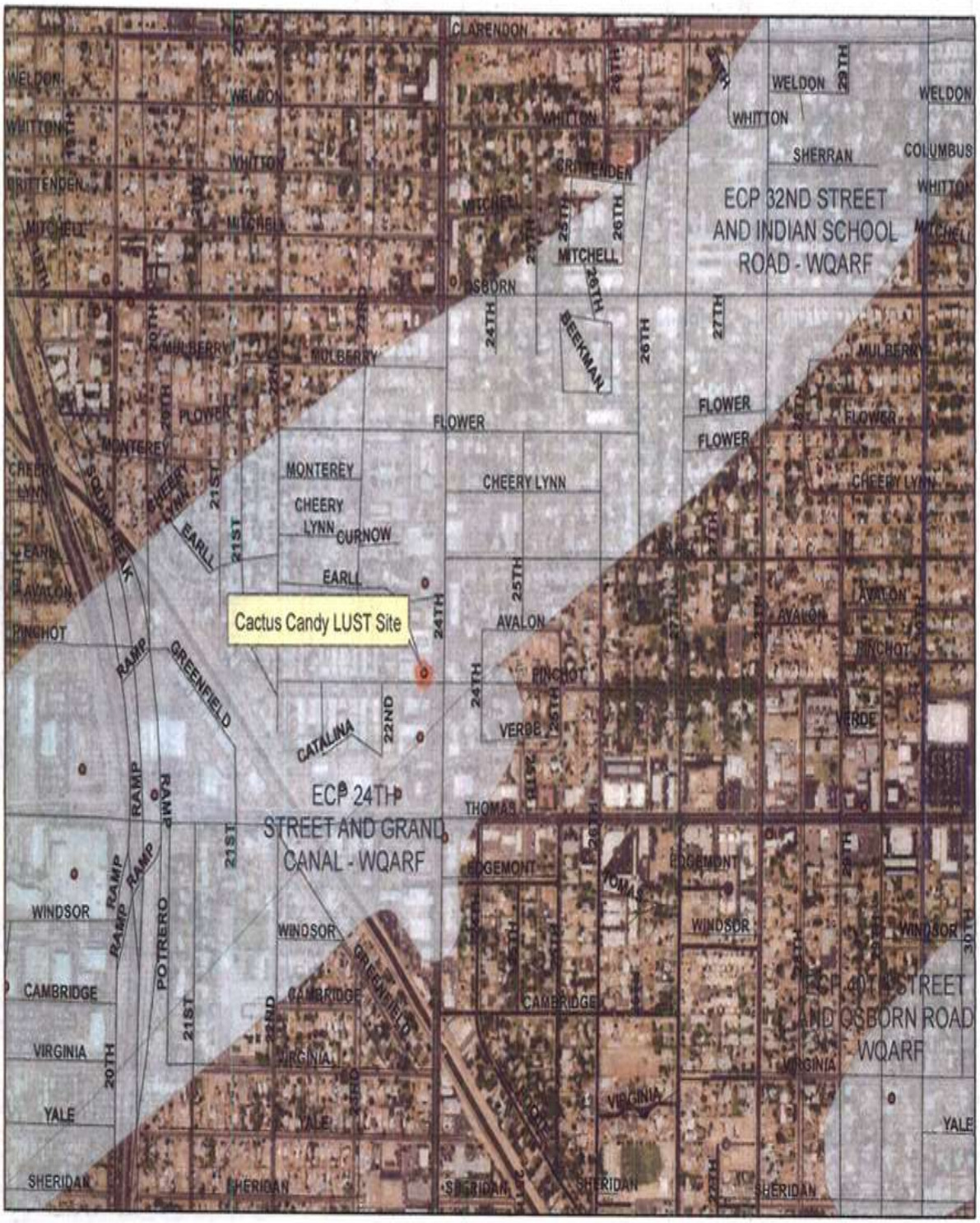
June 2018 SVE (continuous) end			
June 2018	<2.0	<2.0	94.68
September 2018	<2.0	<2.0	94.29
December 2018	<2.0	<2.0	94.08
January 2019 SVE (pulsed) end			
March 2019	<2.0	<2.0	95.16
May 2019	<2.0	<2.0	94.98

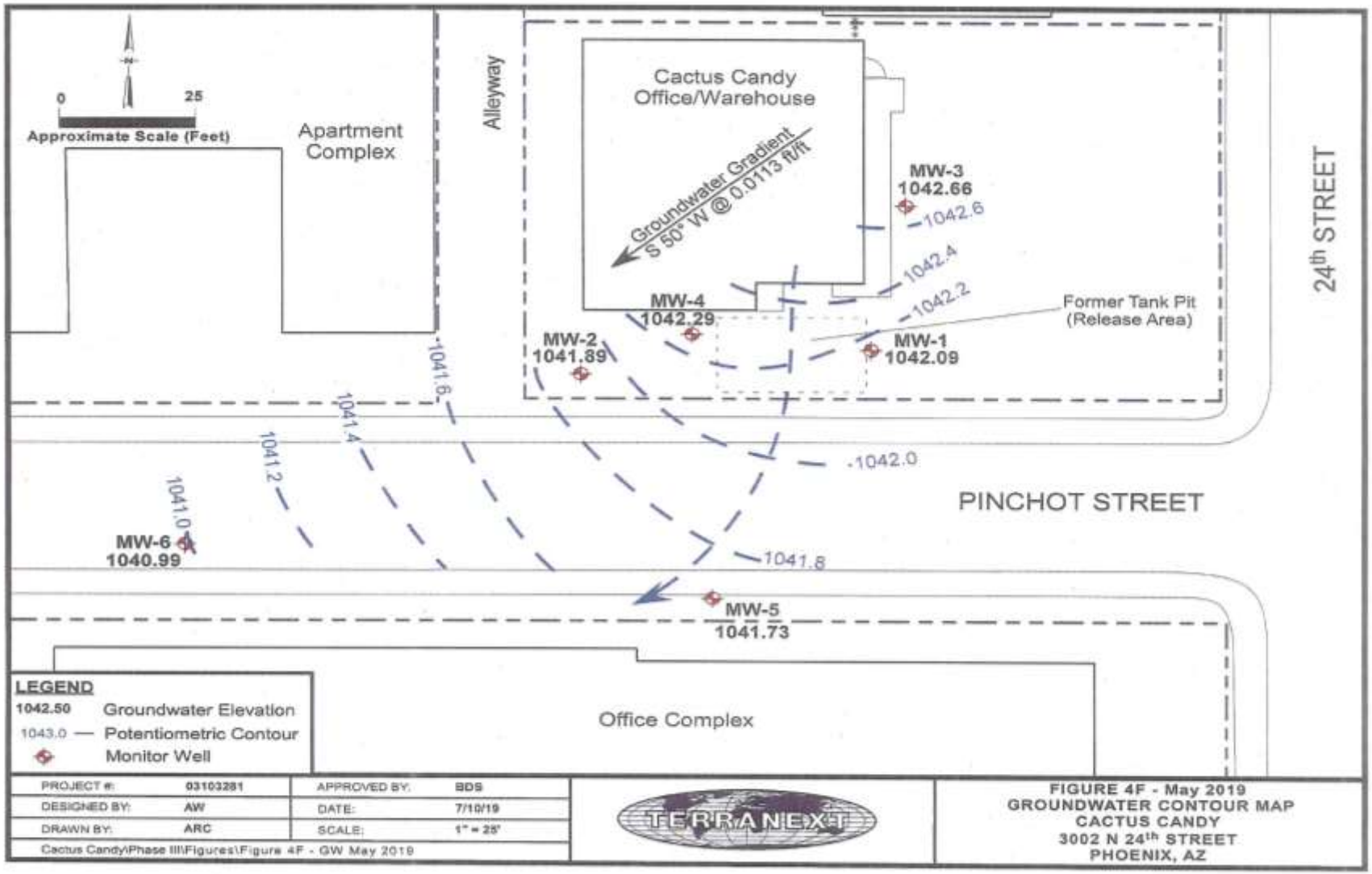
Groundwater data for MW-6 (off-site down gradient from MW-1 to the west-southwest)
Total Depth: 110 feet. Screened 90-110 feet.

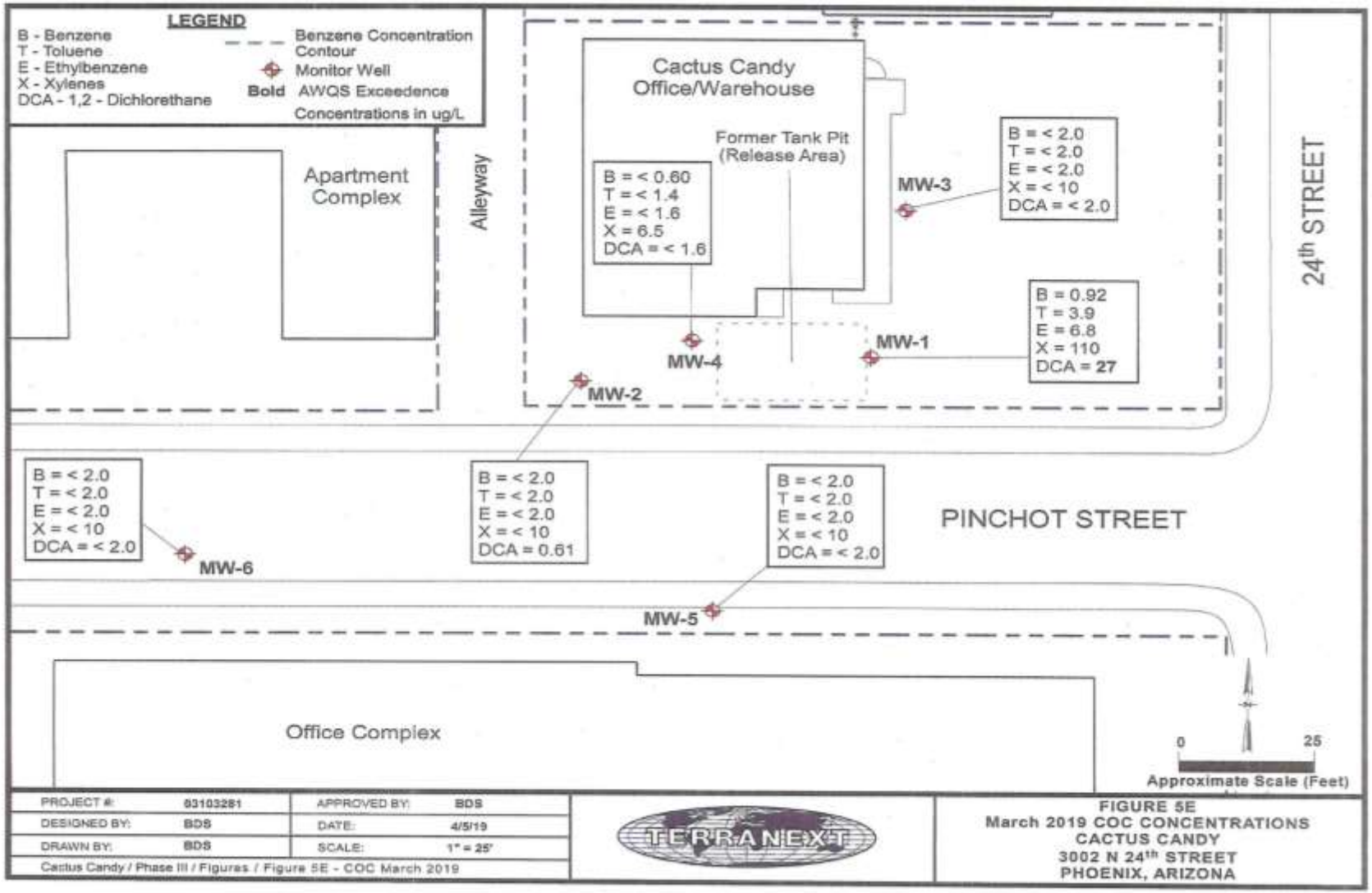
Date	**Benzene AWQS 5.0 µg/L**	**1,2-DCA AWQS 5.0 µg/L**	**Depth to Water (feet)**
September 2012	<2.0	<2.0	86.95
June 2013	<2.0	**6.5**	89.23
February 2014	<2.0	2.7	91.31
November 2014	<2.0	<2.0	91.75
December 3-4, 2014 ISCO			
February 2015	<2.0	<2.0	92.25
May 5, 2015 ISCO			
May 2015	<2.0	<2.0	92.59
October 2015	<2.0	<2.0	93.01
February 2016	<2.0	<2.0	93.01
November 2016	<2.0	<2.0	95.07
May 2017 SVE start			
August 2017	<2.0	<2.0	94.43
March 2018	<2.0	<2.0	94.38
June 2018 SVE (continuous) end			
June 2018	<2.0	<2.0	94.53
September 2018	<2.0	<2.0	94.17
December 2018	<2.0	<2.0	94.03
January 2019 SVE end			
March 2019	<2.0	<2.0	95.10
May 2019	<2.0	<2.0	94.93

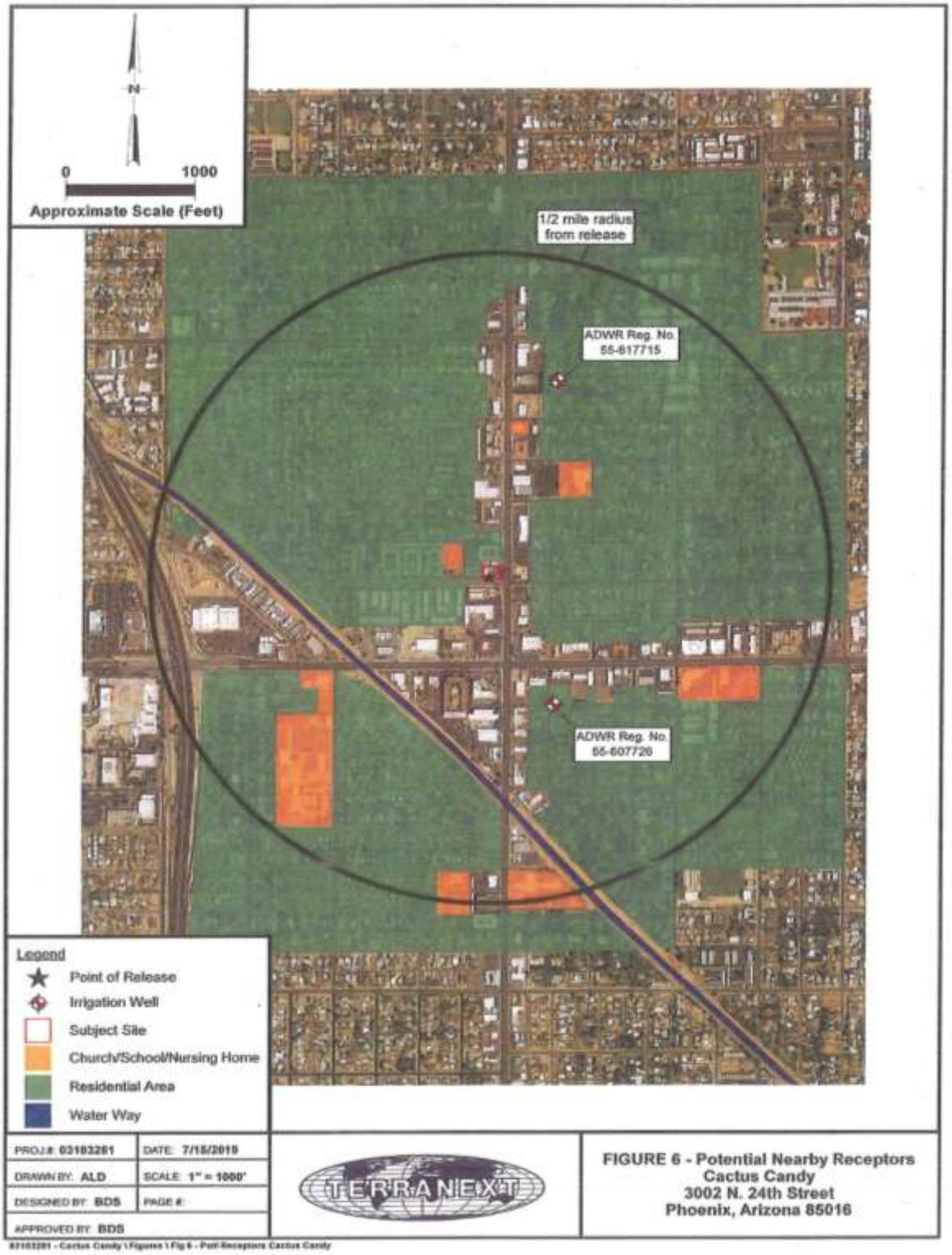


PROJ.#: 03103281	DATE: 3/13/18	TERRANEXT
DRAWN BY: KMJ	SCALE: 1" = 2000'	FIGURE 1 Site Location Map Cactus Candy 3002 N 24th Street Phoenix, Arizona
DESIGNED BY: KMJ	APPROVED BY: BDS	
03103281 / Cactus Candy /Fig 1 Site Location Map		


Cactus Candy LUST Site
ECP 32ND STREET AND INDIAN SCHOOL ROAD - WQARF
ECP 24TH STREET AND GRAND CANAL - WQARF
ECP 40TH STREET AND OSBORN ROAD WQARF
CLARENDON
WELDON
WHITTON
GRITTENDEN
MITCHELL
OSBORN
MULBERRY
FLOWER
MONTEREY
CHEERY LYNN
EARLL
CURNOW
AVALON
PINCHOT
VERDE
THOMAS
EDGEMONT
WINDSOR
CAMBRIDGE
VIRGINIA
YALE
SHERIDAN
SHERRAN
COLUMBUS
BEEKMAN
GREENFIELD
CATALINA
POTRERO
RAMP
21ST
22ND
24TH
25TH
26TH
27TH
28TH
29TH
20TH


0
25
Approximate Scale (Feet)
Apartment Complex
Alleyway
Cactus Candy Office/Warehouse
Groundwater Gradient S 50° W @ 0.0113 ft/ft
MW-3 1042.66
1042.6
1042.4
1042.2
MW-4 1042.29
MW-2 1041.89
MW-1 1042.09
Former Tank Pit (Release Area)
24th STREET
1041.6
1041.4
1041.2
1041.0
1042.0
PINCHOT STREET
MW-6 1040.99
1041.8
MW-5 1041.73
Office Complex
LEGEND
1042.50 Groundwater Elevation
1043.0 Potentiometric Contour
Monitor Well
PROJECT #: 03103281
APPROVED BY: BDS
DESIGNED BY: AW
DATE: 7/10/19
DRAWN BY: ARC
SCALE: 1" = 25'
Cactus Candy\Phase III\Figures\Figure 4F - GW May 2019
TERRANEXT
FIGURE 4F - May 2019
GROUNDWATER CONTOUR MAP
CACTUS CANDY
3002 N 24th STREET
PHOENIX, AZ


LEGEND
B - Benzene
T - Toluene
E - Ethylbenzene
X - Xylenes
DCA - 1,2 - Dichlorethane
Benzene Concentration Contour
Monitor Well
Bold AWQS Exceedence
Concentrations in ug/L
Cactus Candy Office/Warehouse
Former Tank Pit (Release Area)
Apartment Complex
Alleyway
24th STREET
PINCHOT STREET
Office Complex
MW-1
B = 0.92
T = 3.9
E = 6.8
X = 110
DCA = 27
MW-2
B = < 2.0
T = < 2.0
E = < 2.0
X = < 10
DCA = 0.61
MW-3
B = < 2.0
T = < 2.0
E = < 2.0
X = < 10
DCA = < 2.0
MW-4
B = < 0.60
T = < 1.4
E = < 1.6
X = 6.5
DCA = < 1.6
MW-5
B = < 2.0
T = < 2.0
E = < 2.0
X = < 10
DCA = < 2.0
MW-6
B = < 2.0
T = < 2.0
E = < 2.0
X = < 10
DCA = < 2.0
0
25
Approximate Scale (Feet)
PROJECT #: 93103281
APPROVED BY: BDS
DESIGNED BY: BDS
DATE: 4/5/19
DRAWN BY: BDS
SCALE: 1" = 25'
Cactus Candy / Phase III / Figures / Figure 5E - COC March 2019
TERRANEXT
FIGURE 5E
March 2019 COC CONCENTRATIONS
CACTUS CANDY
3002 N 24th STREET
PHOENIX, ARIZONA


N
0
1000
Approximate Scale (Feet)
1/2 mile radius from release
ADWR Reg. No. 55-617715
ADWR Reg. No. 55-607726
Legend
Point of Release
Irrigation Well
Subject Site
Church/School/Nursing Home
Residential Area
Water Way
PROJ.#: 03103281
DATE: 7/15/2019
DRAWN BY: ALD
SCALE: 1" = 1000'
DESIGNED BY: BDS
PAGE #:
APPROVED BY: BDS
TERRANEXT
FIGURE 6 - Potential Nearby Receptors
Cactus Candy
3002 N. 24th Street
Phoenix, Arizona 85016

ADEQ Arizona Department of Environmental Quality

Email completed form to: dg1@azdeq.gov

UST- LUST Section

GROUNDWATER USE QUESTIONNAIRE

LUST FACILITY NAME Cactus Candy

ADDRESS 3002 N. 24th Street, Phoenix, 85016

LUST FACIITY ID 0-010217

LUST CASE NO 5524.01

Please answer all questions. Mark "UNK" if the answer is unknown to you at the time of completion. Please attach any additional pages as needed.

Water user municipality/utility name: Salt River Project

Date Questionnaire was completed: July 23, 2019

Contact Name: Karis Nelson

Title: Senior Environmental Scientist

Address: Environmental Compliance and Permitting

PAB 359, P.O. Box 52025, Phoenix, AZ 85072

Phone Number: 602-236-2916

Email address: karis.nelson@srpnet.com

1. Please indicate current or near future anticipated groundwater development by the municipality/utility within 1 mile of the above named LUST site.

   SRP operates water conveyance structures and groundwater supply wells within a 1-mile radius of the LUST site. SRP wells within the 1-mile radius include: 16.0E-6.8N and 16.0E-8.0N. The SRP wells produce water for SRP shareholder use. For the reasonably foreseeable future groundwater development, please see the response to question #2, below.

2. What is the future use (up to 100 years) for groundwater within 1 mile of the above named LUST site?

SRP anticipates that all of the properties near the subject area, including the groundwater supply wells and the conveyance structures, will remain in use over the next 100 years. Additionally, water from the supply wells in the vicinity could be included in the raw drinking water supply for the City of Goodyear (Goodyear), once the future Goodyear water treatment plant starts treating its raw water delivered by SRP.

SRP entered into an Agreement with Goodyear in 2017 to wheel Goodyear's surface water supplies through the SRP water delivery system to the future Goodyear water treatment plant. Although the water delivered to Goodyear will primarily be Goodyear's surface water supplies (i.e., entitlement of Central Arizona Project water), from an operational perspective some of that water may physically be comingled with water from groundwater wells that discharge from around the site.

3. Is the municipality/utility currently sampling groundwater wells within 1 mile of the above named LUST site? If so, how often is the sampling conducted? Are analytical results being submitted electronically to ADEQ's the groundwater database? If not, will you share the data with ADEQ?

SRP conducts routine groundwater sampling of its wells. Water quality records are submitted electronically to the ADEQ groundwater database.

4. Are there any groundwater wells owned by the water provider that are known to have been affected by the above named LUST site? If so, please list the ADWR well identification numbers. What is the current status of these wells (e.g.- shut down, still pumping)?

Based upon recent sampling results (2009-present), the SRP groundwater wells are not known to be affected by the LUST site:

16.0E-8.0N (55-607715) Active Well – Levels of BTEX and 1,2-DCA were below laboratory reporting limits in May 2017. Levels of MTBE were below laboratory reporting limits in August 2009.

16.0E-6.8N (55-607726) Active Well – Levels of BTEX and 1,2-DCA were below laboratory reporting limits in May 2017. Levels of MTBE were below laboratory reporting limits in January 2011.

5. What is the future use (up to 100 years) for any wells that have been impacted by the above named LUST site?

   Please see above responses to questions #2 and #4.

6. Is there any other information you wish to provide to assist ADEQ in the LUST case closure evaluation of this site?

   SRP has concerns about the potential future migration of contaminants towards our groundwater production wells. SRP's water supply wells are a critical resource, especially in drought conditions. It is very important that SRP has a reliable supply of water to meet customer and shareholder needs.