Former Fort Ord Sites 2 and 12 Data and Status

HTW BCT Meeting, July 17, 2020

Table 1: June 2020 – Sites 2/12 GWTP and SVTU Statistics

Monthly Statistics	Volume Treated	Average Flow	Percent of Time Online	COC Mass Removed (pounds)
April 2020 GWTP	5,953,320 gal	138 gpm	99.9	0.29
May 2020 GWTP	6,102,600 gal	137 gpm	97.6	0.34
June 2020 GWTP	5,961,600 gal	138 gpm	100	0.33
Total since April 1999	2.153 billion gal			491
April 2020 SVTU	3,177,720 scf	546 scfm	11.9	0.01
May 2020 SVTU	26,294,400 scf	660 scfm	99.7	0.13
June 2020 SVTU	15,998,400 scf	660 scfm	51.2	0.08
Total since September 2015	1.375 billion scf			9.7

Table 2: June 2020 – Sites 2/12 Treated Water Analytical Results at TS-212-INJ

COC	Discharge Limit (µg/L)[2]	Sample Date / Analytical Results			
		4/7/20	4/22/20	5/6/20	6/30/20
1,1-Dichloroethene (1,1-DCE)	6.0	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)
1,2-Dichloroethane (1,2-DCA)	0.50	0.12 J	0.20 J	0.19 J	0.12 J
1,3-dichloropropene (1,3-DCP)[1]	0.50	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)
Chloroform	2.0	0.23 J	0.37 J	0.37 J	0.24 J
cis-1,2-dichloroethene (cis-1,2-DCE)	6.0	0.60	0.98	0.98	0.77
Tetrachloroethene (PCE)	5.0	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)
Trichloroethene (TCE)	5.0	ND (0.25)	ND (0.25)	ND (0.25)	0.11 J
Vinyl Chloride (VC)	0.10	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)

Notes:
[1] The reported value is the sum of both cis- and trans-isomers.
[2] Discharge limits are the ACLs for injection over the plume.
J: Estimated results below the limit of quantitation (LOQ).
ND: The analyte was not detected at or above the limit of detection (LOD).
gpm: gallon(s) per minute
gal: gallon(s)
COC: chemical of concern
NS: Not sampled
scf: standard cubic foot or feet
scfm: standard cubic feet per minute
µg/L: micrograms per liter
Results in gray are ND
*Preliminary data

April 2020 Key Events for Sites 2/12

- April 9: Sites 2/12 GWTP offline one hour due to power issue. HMI not operable, replacement ordered.
- April 27: Restarted Sites 2/12 SVTU with VE-12-09 online due to First Quarter results at SG-12-04 above SGCL.

May 2020 Key Events for Sites 2/12

- May 4: Sites 2/12 GWTP goes offline 5.5 hours due to loss of communications at OU2 GWTP.
- May 20: Sites 2/12 SVTU offline for 2 hours for maintenance.
- May 24: Sites 2/12 GWTP goes offline 12 hours due to loss of communications at OU2 GWTP.
- May 26-29: Second Quarter 2020 Soil Gas Monitoring Event. Second Rebound Study sampling event.
- May 27: Sampled VE-12-09

June 2020 Key Events for Sites 2/12

- June 1-5: Second Quarter 2020 Groundwater Monitoring Event.
- June 16: Sites 2/12 SVTU shut down due to high discharge pressure in GAC units.

July 2020 Key Events for Sites 2/12

- None.

Aug 2020 Key Events for Sites 2/12

- Aug 31-Sept 4: Third Quarter 2020 Groundwater Monitoring Event.

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Table 3. Sites 2/12 Soil Gas Monitoring Results

Soil Gas Probe ID	PCE				TCE				Schedule
	3Q 2019	4Q 2019	1Q 2020	2Q 2020*	3Q 2019	4Q 2019	1Q 2020	2Q 2020*	
SG-12-01-30	NS	NS	230	ND	NS	NS	ND	ND	INV
SG-12-01-58	NS	NS	230	ND	NS	NS	ND	ND	RB
SG-12-01-65	ND	ND	210	ND	ND	ND	ND	ND	Q[2]
SG-12-02-10	*1,300*	*1,200*	*790*	*970*	ND	ND	ND	ND	Q[1]
SG-12-02-20	*860*	NS	NS	NS	ND	NS	NS	NS	A
SG-12-02-30	*810*	NS	NS	NS	ND	NS	NS	NS	A
SG-12-02-40	*690*	NS	NS	NS	ND	NS	NS	NS	A
SG-12-02-50	*630*	NS	NS	NS	45 J	NS	NS	NS	A
SG-12-02-57	570	NS	NS	NS	ND	NS	NS	NS	A
SG-12-02-65	580	NS	NS	NS	ND	NS	NS	NS	A
SG-12-04-10	62 J	98	120	ND	580	*910*	**1,300**	ND	Q[1]
SG-12-04-20	NS	NS	110	ND	NS	NS	**1,100**	52 J	INV
SG-12-04-40	NS	NS	92	ND	NS	NS	90	ND	INV
SG-12-04-50	NS	NS	92	52 J	NS	NS	630	140	INV
SG-12-04-58	NS	NS	110	ND	NS	NS	440	46 J	INV
SG-12-04-65	54 J	110	97	ND	400	440	*890*	150	Q[2]
SG-12-06-10	84	150	120	ND	ND	ND	ND	ND	Q[1]
SG-12-06-70	95	NS	160	NS	ND	NS	ND	NS	R
SG-12-07-65	NS	NS	380	NS	NS	NS	51 J	NS	RB
SG-12-08-70	NS	NS	160	NS	NS	NS	ND	NS	RB
SG-12-14-70	NS	NS	ND	NS	NS	NS	52 J	NS	RB
SG-12-16-60	ND	NS	NS	NS	560	NS	NS	NS	R
SG-12-16-70	NS	NS	ND	NS	NS	NS	470	NS	RB
SG-12-17-40	ND	NS	NS	NS	640	NS	NS	NS	A
SG-12-17-60	NS	NS	ND	NS	NS	NS	740	NS	RB
SG-12-18-70	NS	NS	ND	NS	NS	NS	ND	NS	RB
SG-12-20-10	*1,200*	NS	NS	NS	ND	NS	NS	NS	A
SG-12-20-20	*750*	NS	NS	NS	ND	NS	NS	NS	A
SG-12-20-70	*NS*	NS	320	NS	NS	NS	ND	NS	RB

Notes:

*Preliminary results

A = Annual

J = estimated result below the limit of quantitation (LOQ)

INV = investigation

ND = not detected above the limit of detection (LOD)

NS = not sampled

Q = Quarterly

R = Removed

RB = Rebound probe

Concentrations in **bold** exceed the SGCL

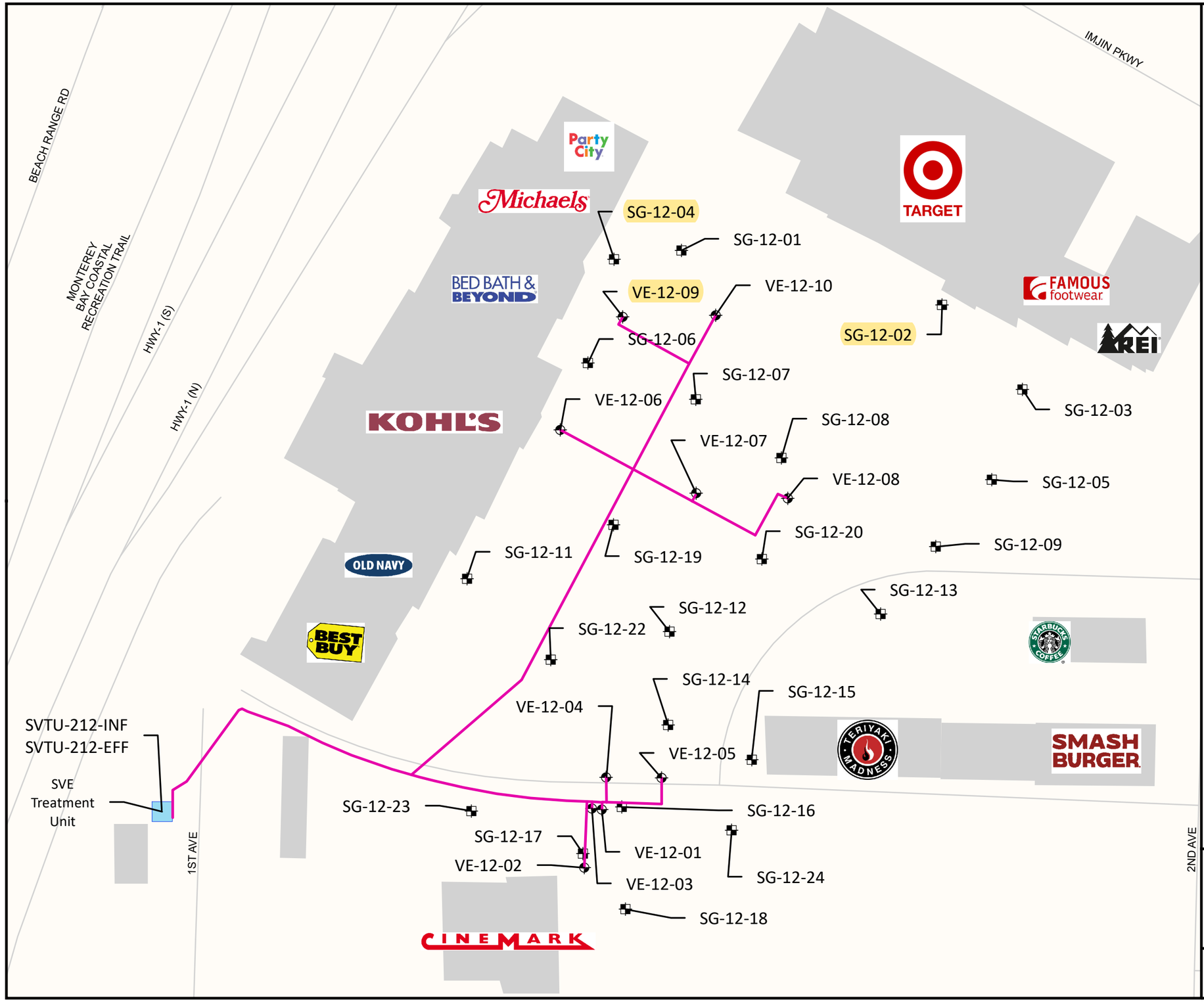
Concentrations in *italics* exceed the SG-SL

Results reported in micrograms per cubic meter (µg/m^3)

[1] Quarterly probe due to proximity of store front in an area of historic soil gas concentrations above the SGCL.

[2] Will continue to sample probe quarterly if it is within the vicinity of the current groundwater plume above the ACL (probe adjacent to deepest probe will be sampled in lieu if deepest probe is in saturated zone).

	SGCL (µg/m^3)	*SG-SL (µg/m^3)*
PCE	**1,800**	*603*
TCE	**1,000**	*888*



EXPLANATION

- Site 12 Soil Gas Probe Cluster
- Site 12 Soil Vapor Extraction Well
- Soil Vapor Extraction Pipeline
- Facilities
- Roads
- SVE Treatment Unit
- Former Fort Ord Boundary

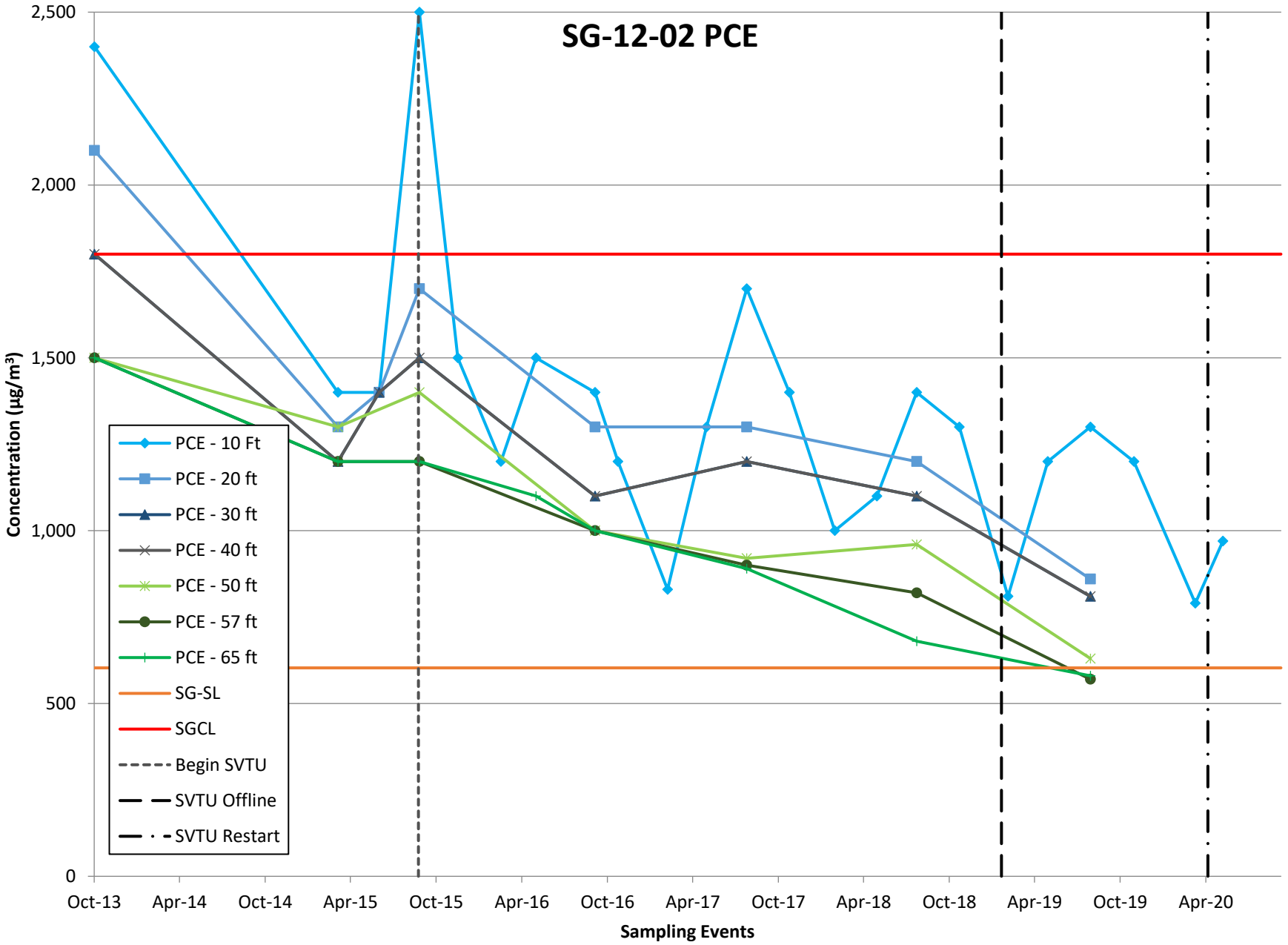
N

0 250 500 Feet

SITE VICINITY AND SOIL GAS PROBE AND SVE WELL LOCATIONS

Sites 2 and 12, Fourth Quarter 2019
Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

Ahtna | Date: 3/26/2019 | Figure: 3


SG-12-02 PCE
Concentration (µg/m³)
2,500
2,000
1,500
1,000
500
0
Oct-13
Apr-14
Oct-14
Apr-15
Oct-15
Apr-16
Oct-16
Apr-17
Oct-17
Apr-18
Oct-18
Apr-19
Oct-19
Apr-20
Sampling Events
PCE - 10 Ft
PCE - 20 ft
PCE - 30 ft
PCE - 40 ft
PCE - 50 ft
PCE - 57 ft
PCE - 65 ft
SG-SL
SGCL
Begin SVTU
SVTU Offline
SVTU Restart

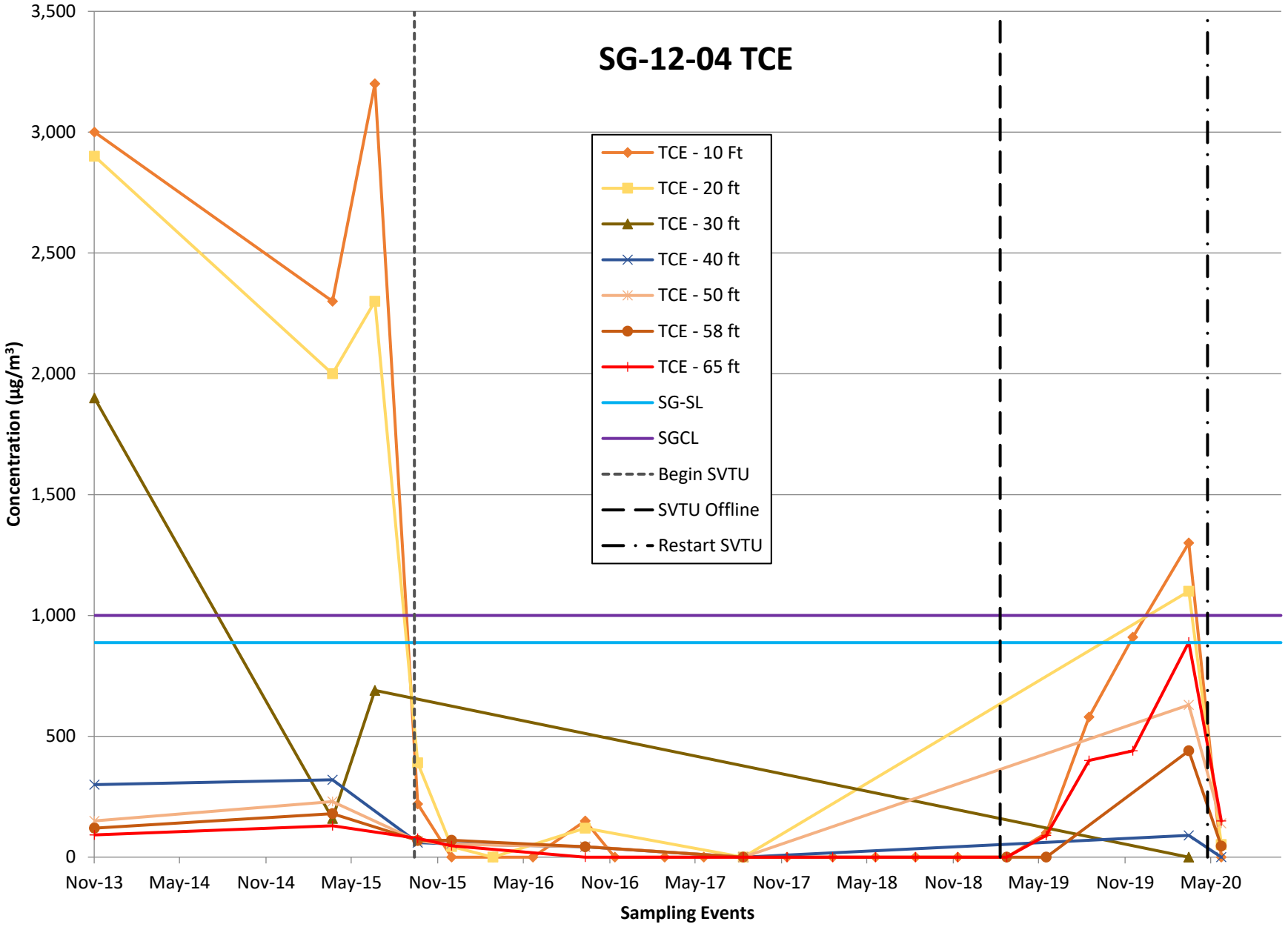

SG-12-04 TCE
TCE - 10 Ft
TCE - 20 ft
TCE - 30 ft
TCE - 40 ft
TCE - 50 ft
TCE - 58 ft
TCE - 65 ft
SG-SL
SGCL
Begin SVTU
SVTU Offline
Restart SVTU
Concentration (µg/m³)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Nov-13
May-14
Nov-14
May-15
Nov-15
May-16
Nov-16
May-17
Nov-17
May-18
Nov-18
May-19
Nov-19
May-20
Sampling Events

Table 4. Sites 2/12 Northern SVE Well Field Monitoring Results

	North SVE Field									
	VE-12-06		VE-12-07		VE-12-08		VE-12-09		VE-12-10	
Sample Date	PCE	TCE	PCE	TCE	PCE	TCE	PCE	TCE	PCE	TCE
9/16/2015	*1,700*	ND	*1,200*	ND	**2,100**	ND	*1,500*	48	460	ND
9/22/2015	*1,100*	ND	*750*	ND	*1,200*	ND	*1,100*	86	230	ND
9/29/2015	*940*	ND	*860*	ND	*970*	ND	*1,100*	90	220	ND
10/6/2015	*680*	ND	560	ND	*670*	ND	*870*	53	180	ND
11/12/2015	260	ND	180	84	310	ND	410	ND	97	ND
12/8/2015	230	ND	130	180	260	ND	350	ND	ND	ND
3/1/2016	66	ND	ND	ND	130	ND	190	ND	44	ND
6/6/2016	130	ND	55	ND	120	ND	190	ND	48	ND
9/30/2016^	54	ND	130	ND	190	ND	310	ND	92	ND
11/16/2016	77 J	ND	NS	NS	NS	NS	220	ND	92	ND
3/1/2017	ND	ND	NS	NS	NS	NS	160	ND	46 J	ND
5/23/2017	ND	ND	NS	NS	NS	NS	110	ND	ND	ND
8/8/2017	ND	ND	NS	NS	120	ND	170	ND	ND	ND
11/15/2017	ND	ND	NS	NS	NS	NS	66 J	ND	ND	ND
2/20/2018	ND	ND	NS	NS	NS	NS	74 J	ND	ND	ND
5/22/2018	ND	ND	NS	NS	NS	NS	64 J	ND	ND	ND
8/22/2018	NS	NS	NS	NS	NS	NS	ND	ND	NS	NS
11/13/2018	NS	NS	NS	NS	NS	NS	ND	ND	NS	NS
2/27/2019	ND	ND	NS	NS	NS	NS	ND	ND	NS	NS
5/22/2019	ND	ND	NS	NS	NS	NS	64 J	ND	NS	NS
5/27/2020*	NS	NS	NS	NS	NS	NS	64 J	ND	NS	NS

Notes:
ND = not detected above the limit of detection (LOD)
NS = not sampled
Concentrations in **bold** exceed the SGCL
Concentrations in *italics* exceed the SG-SL
Results reported in micrograms per cubic meter (µg/m^3)
^SVE Northern well field offline mid-July to Sept 23, 2016 (approx. 10 weeks), and online for one week prior to sampling for rebound study on May 22, 2019. Restarted SVE on April 27, 2020 due to SG-12-04 result above SGCL in 2020-1Q event.

*Preliminary results

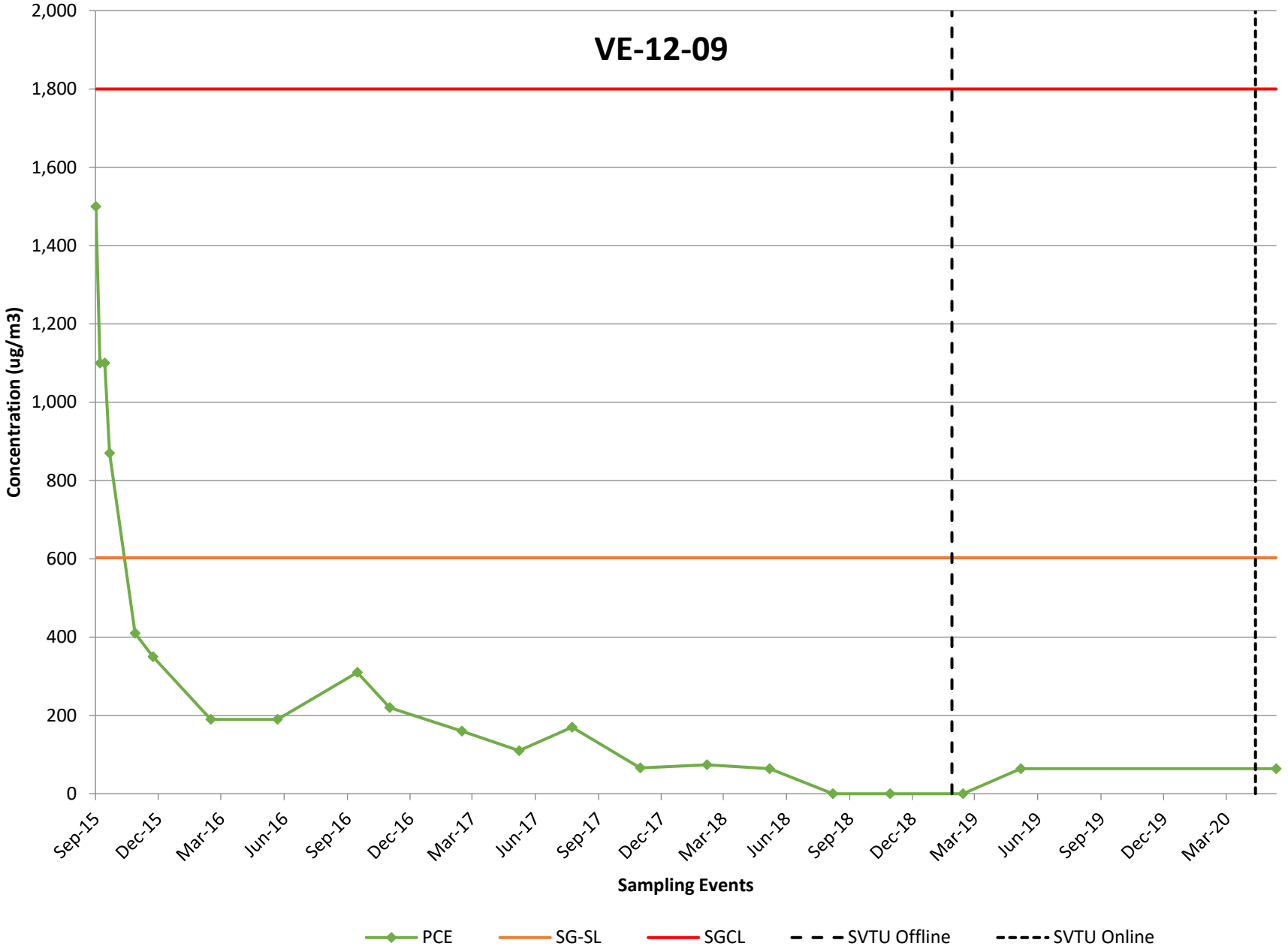

VE-12-09
Concentration (ug/m3)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
Sep-15
Dec-15
Mar-16
Jun-16
Sep-16
Dec-16
Mar-17
Jun-17
Sep-17
Dec-17
Mar-18
Jun-18
Sep-18
Dec-18
Mar-19
Jun-19
Sep-19
Dec-19
Mar-20
Sampling Events
PCE
SG-SL
SGCL
SVTU Offline
SVTU Online

Table 5. Sites 2/12 SVTU Monitoring Results

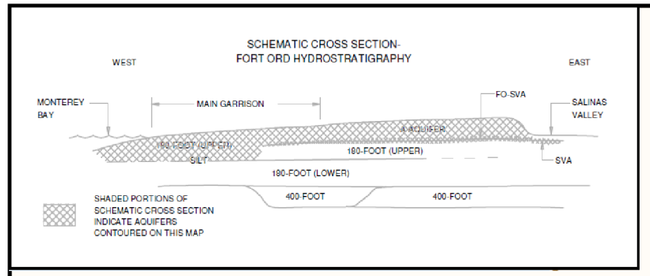
	PCE		TCE	
Sample Date	**SVE-12-INF**	**SVE-12-EFF**	**SVE-12-INF**	**SVE-12-EFF**
9/16/2015	*1,500*	ND	38	ND
9/22/2015	*1,100*	ND	61	ND
9/29/2015	*710*	ND	57	ND
10/6/2015	370	1.3 J	43	ND
11/12/2015	240	0.80 J	92	ND
12/8/2015	160	ND	100	ND
3/1/2016	65 J+	ND	49 J+	ND
6/7/2016	50	ND	31	ND
9/14/2016	1.3 J+	ND	9.7 J+	ND
9/30/2016	130	NS	6.0	NS
11/16/2016	29	ND	16	2.7
3/1/2017	27 J+	ND	12 J	4.5 J
5/23/2017	30	ND	19	14
8/8/2017	34	ND	17	11
11/15/2017	49	ND	4.8	7.4
2/20/2018	34	0.72 J	6.9	28
5/22/2018	37	5.9	6.1	38
8/22/2018	21	ND	5.5	25
11/13/2018	26	ND	5.8	16
5/27/2020*	64	25	14	31

Notes:
*Preliminary results
J = estimated result below the limit of quantitation (LOQ) with a potential low (-) or high (+) bias
ND = not detected above the limit of detection (LOD)
NS = not sampled
Concentrations in **bold** exceed the SGCL
Concentrations in *italics* exceed the SG-SL
Results reported in micrograms per cubic meter ($\mu g/m^3$)
SVTU Effluent emission AERSCREEN Modeling discharge compliance calculation results are:
Rule 207 Emission: 0.003 pounds VOCs per day (less than limit of 25 pounds per day)
Rule 1000 Hazard Index: 0.00005 (less than limit of 1.0)
Rule 1000 Excess Cancer Risk: 0.0144×10^{-5} (less than limit of 1×10^{-5})

Table 6. Sites 2/12 Select Groundwater Extraction/Monitoring Well Data

Well Identification[3]	Select COC Concentrations (µg/L)[4]							
	3Q 2019	4Q 2019	1Q 2020	2Q 2020*	3Q 2019	4Q 2019	1Q 2020	2Q 2020*
	TCE				PCE			
ACL:	5.0				5.0			
EW-12-03-180M	1.7	1.3	2.1	0.62	ND (0.25)	0.25 J	ND (0.25)	ND (0.25)
EW-12-05-180M	1.9	2.1	0.60	2.1	0.71	0.66	0.68	0.95
EW-12-07-180M	1.1	0.81	0.78	0.63	0.28 J	0.27 J	0.24 J	0.19 J
EW-12-08-180U	0.47 J	0.36 J	0.31 J	0.35 J	**14.1**	**13.5**	**8.4**	**13.1**
MW-12-09R-180	1.9	1.7	2.3	1.4	0.28 J	0.29 J	0.34 J	0.30 J
MW-12-14-180M	2.4	1.5	1.6	1.9	0.28 J	0.34 J	0.31 J	0.43 J
MW-12-16-180M	1.2	1.5	1.8	1.8	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)
MW-12-20-180U	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	2.7	**5.6**	0.94	2.0
MW-12-21-180U	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	0.28 J	0.38 J	0.35 J	0.23 J
MW-12-24-180U	0.13 J	ND (0.25)	ND (0.25)	ND (0.25)	1.8	3.1	0.60	0.94
MW-12-28-180U	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	0.33 J	0.31 J	0.52	0.42 J
MW-12-32-180U	0.42 J	0.54	0.84	0.57	0.41 J	0.54	0.71	0.48 J

Notes:
[1] The reported value is the sum of both cis- and trans-isomers.
[2] Discharge limits are the ACLs for injection over the plume.
[3] Extraction wells not listed have met the QAPP decision rules to no longer operate.
[4] Concentration in **bold** and shaded exceeds the Aquifer Cleanup Level (ACL). Concentrations in gray text are ND.
J: Estimated results below the limit of quantitation (LOQ)
ND: The analyte was not detected at or above the limit of detection (LOD)
COC: chemical of concern
µg/L: micrograms per liter
* Preliminary data



MW-02-10-180
13TH ST
IMJIN PKWY
IMJIN PKWY
MW-12-19-180U
MW-12-19-180M
MW-12-20-180U
PCE: 5.6
EW-12-08-180U
PCE: 13.5
MW-12-14-180M
PCE: 0.34 J
MW-12-18-180U
EW-12-05-180M
PCE: 0.66
MW-12-21-180U
PCE: 0.38 J
MW-12-22-180U
PCE: 0.31 J
5
MW-12-24-180U
PCE: 3.1
MW-12-25-180U
MW-12-23-180U
MW-12-09R-180
PCE: 0.29 J
MW-02-05-180
BEACH RANGE RD
MONTEREY BAY COASTAL RECREATION TRAIL
HWY-1 (S)
HWY-1 (N)
MW-12-17-180U
MW-12-28-180U
PCE: 0.31 J
MW-12-26-180U
MW-12-15-180M
PCE: 0.22 J
MW-12-29-180U
PCE: 0.35 J
MW-12-27-180U
EW-12-07-180M
PCE: 0.27 J
MW-12-01-180
PCE: 0.31 J
MW-12-30-180U
PCE: 0.41 J
EW-12-03-180M
PCE: 0.25 J
MW-12-16-180M
2ND AVE
MW-02-13-180M
EW-12-03-180U
1ST AVE
MW-12-31-180M
MW-12-12-180L
MW-12-32-180U
PCE: 0.54
MW-02-13-180U
MW-12-05-180
10TH ST
MW-12-08-180
EW-12-04-180U
EW-12-04-180M
1ST AVE
MW-12-07-180

EXPLANATION

- Monitoring Well Not Sampled
- Monitoring Well with No PCE Detection
- Monitoring Well with PCE Less than ACL
- Monitoring Well with PCE Detection Above or Equal to ACL
- Extraction Well Not Sampled
- Extraction Well with PCE Less than ACL
- Extraction Well with PCE Detection Above or Equal to ACL

EW-12-08-180U
PCE 13.5
Well ID - Bold when ACL Exceeded TCE and/or PCE concentration (µg/L) with validation/lab qualifier.

Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in µg/L.

- General Groundwater Flow Direction
- 5 Tetrachloroethene (PCE)
- Roads
- Facilities

NOTES:

(1) Samples were collected between December 2, 2019 and December 6, 2019.
(2) Contour is based on one interpretation of the data that was available at the time this report was prepared; other interpretations may be possible.
(3) Contours based on highest value obtained from multiple bags where applicable.
(4) Other COC ACL Exceedances detected beyond the extent of the PCE Plume are illustrated when present.

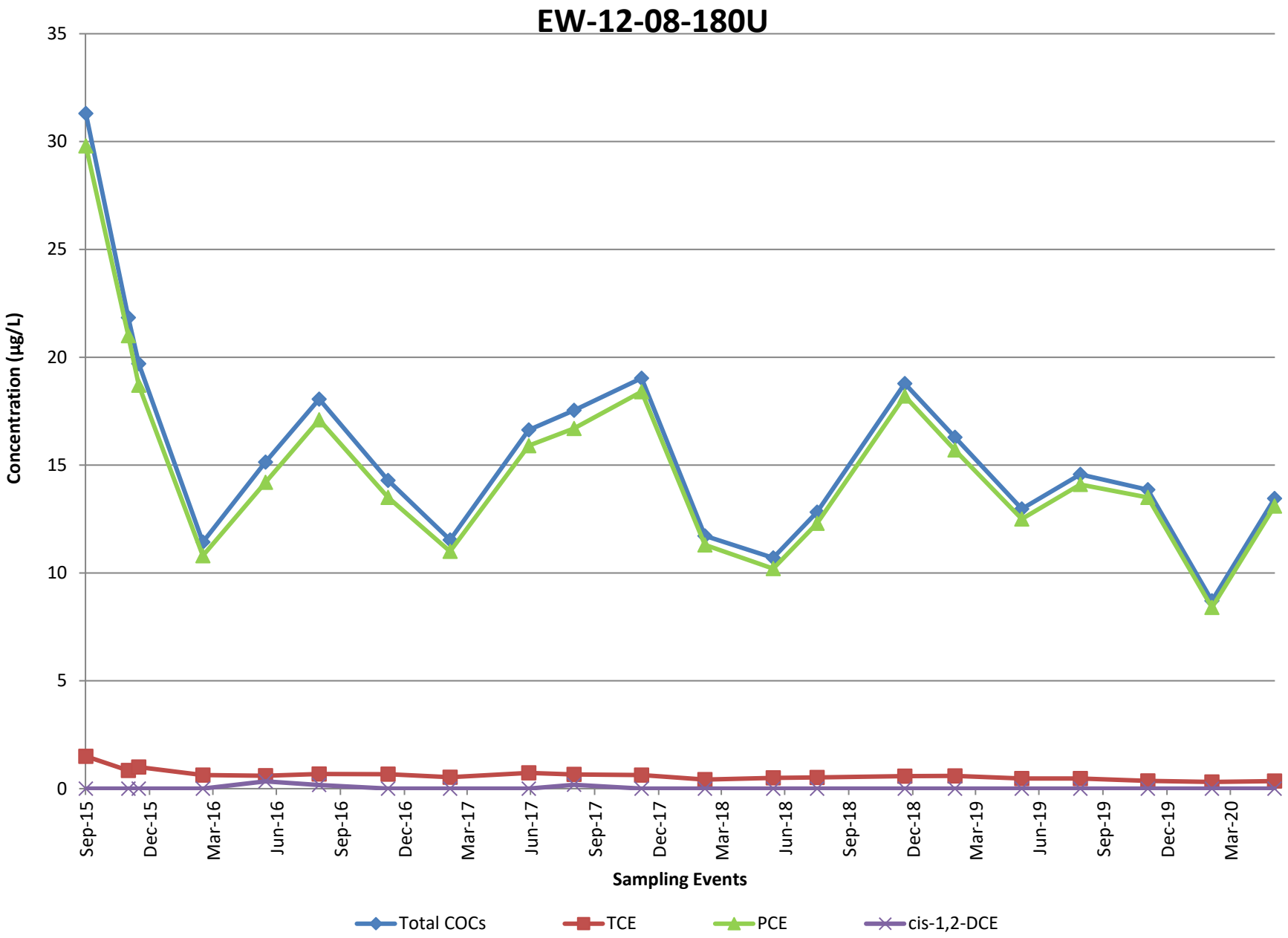
N

0 300 600 Feet

GROUNDWATER PCE CONCENTRATIONS
UPPER 180-FOOT AQUIFER WEST OF THE SVA
FOURTH QUARTER 2019

Sites 2 and 12, Fourth Quarter 2019
Groundwater and Soil Gas Monitoring and Treatment System Report, Former Fort Ord, California

Ahtna | Date: 3/24/2020 | Figure: 12


EW-12-08-180U
Concentration (µg/L)
35
30
25
20
15
10
5
0
Sep-15
Dec-15
Mar-16
Jun-16
Sep-16
Dec-16
Mar-17
Jun-17
Sep-17
Dec-17
Mar-18
Jun-18
Sep-18
Dec-18
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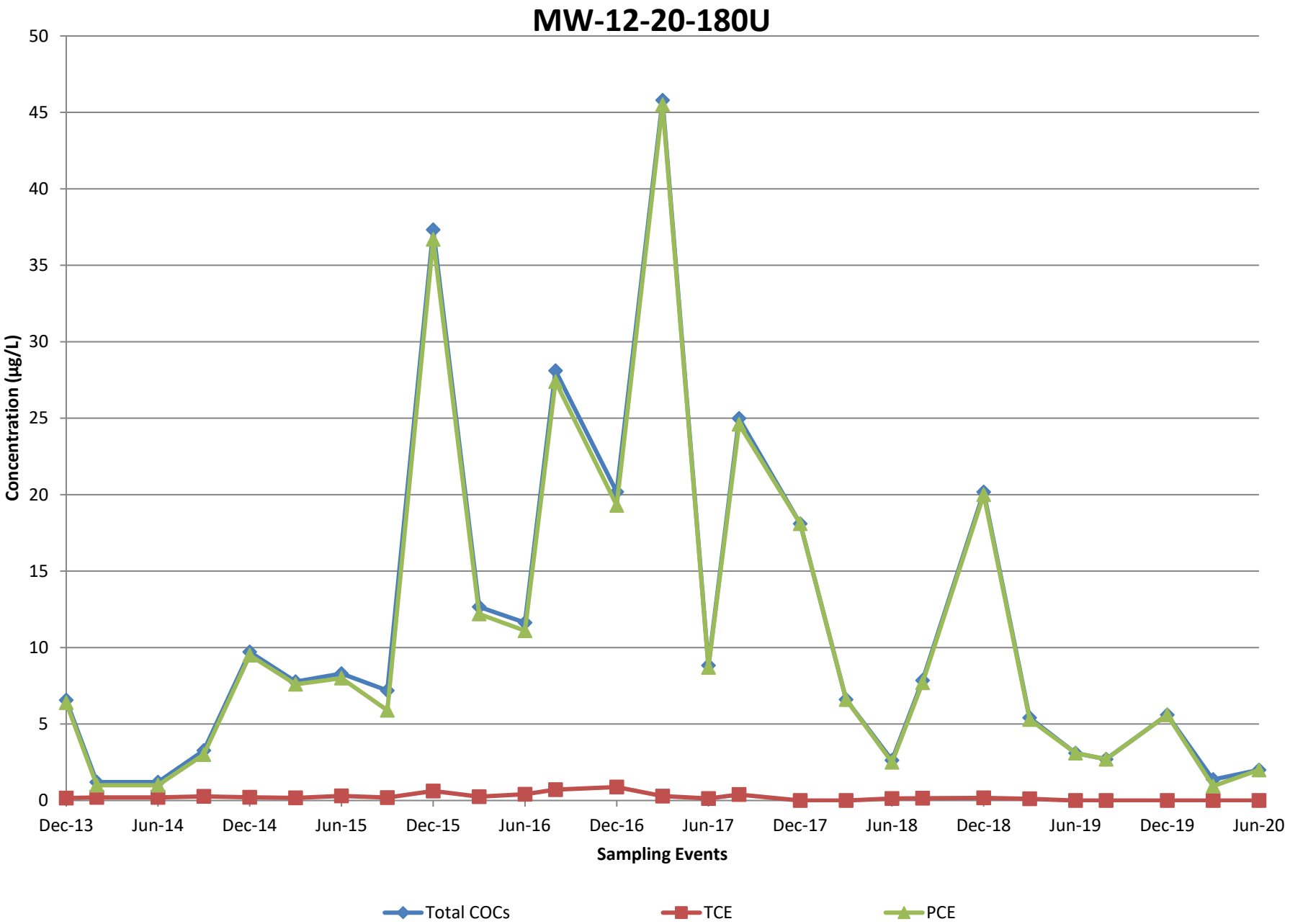
Sep-19
Dec-19
Mar-20
Sampling Events
Total COCs
TCE
PCE
cis-1,2-DCE


MW-12-20-180U
Concentration (µg/L)
50
45
40
35
30
25
20
15
10
5
0
Dec-13
Jun-14
Dec-14
Jun-15
Dec-15
Jun-16
Dec-16
Jun-17
Dec-17
Jun-18
Dec-18
Jun-19
Dec-19
Jun-20
Sampling Events
Total COCs
TCE
PCE