

## HTW BCT, April 11, 2018

**Table 1:** Sites 2/12 GWTP and SVTU Statistics as of March 31, 2018

Monthly Statistics	Volume Treated	Average Flow	Percent of Time Online	COC Mass Removed (pounds)
March 2018 GWTP	4,852,297 gal	109 gpm	85.8	0.26
Total since April 1999	2.017 billion gal			483
March 2018 SVTU	22,824,184 scf	532 scfm	99.5	0.06
Total since Sept 2015	1.095 billion scf			9.2

**Table 2:** March 2018 – Sites 2/12 Treated Water Analytical Results at TS-212-INJ

COC	Discharge Limit (µg/L) <sup>2</sup>	Sample Date / Analytical Results
		Not Sampled
1,1-Dichloroethene (1,1-DCE)	6.0	NS
1,2-Dichloroethane (1,2-DCA)	0.50	NS
1,3-dichloropropene (1,3-DCP) <sup>1</sup>	0.50	NS
Chloroform	2.0	NS
cis-1,2-dichloroethene (cis-1,2-DCE)	6.0	NS
Tetrachloroethene (PCE)	5.0	NS
Trichloroethene (TCE)	5.0	NS
Vinyl Chloride (VC)	0.10	NS

**Notes:**

<sup>1</sup>The reported value is the sum of both cis- and trans-isomers.

<sup>2</sup>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

**March 2018 Key Events for Sites 2/12**

- March 1: Sites 2/12 GWTP shutdown for 16 hours due to power outage.
- March 5-8: First Quarter 2018 Groundwater Monitoring Program. EW-12-06-180M pump failure, not sampled.
- March 13: Sites 2/12 GWTP shutdown for 12 hours due to power outage.
- March 26-29: Sites 2/12 shutdown for 78 hours for JV construction at OU2 GWTP.
- March 29: GAC removal at INF-02-03-180.

**April 2018 Key Events for Sites 2/12**

- Coordinate with POM DPW for sulfuric acid removal.
- Prepare for 2018 decommissioning of one Sites 2/12 monitoring well.

**Table 3:** Sites 2/12 Well Decommissioning 2018\*

Well ID	Aquifer	Notes
MW-02-12-180	A	Located in sensitive biological habitat. Well installed in 1996. Last sampled in 2006, TCE always below ACL, currently used for DTW but not needed.

**Notes:**

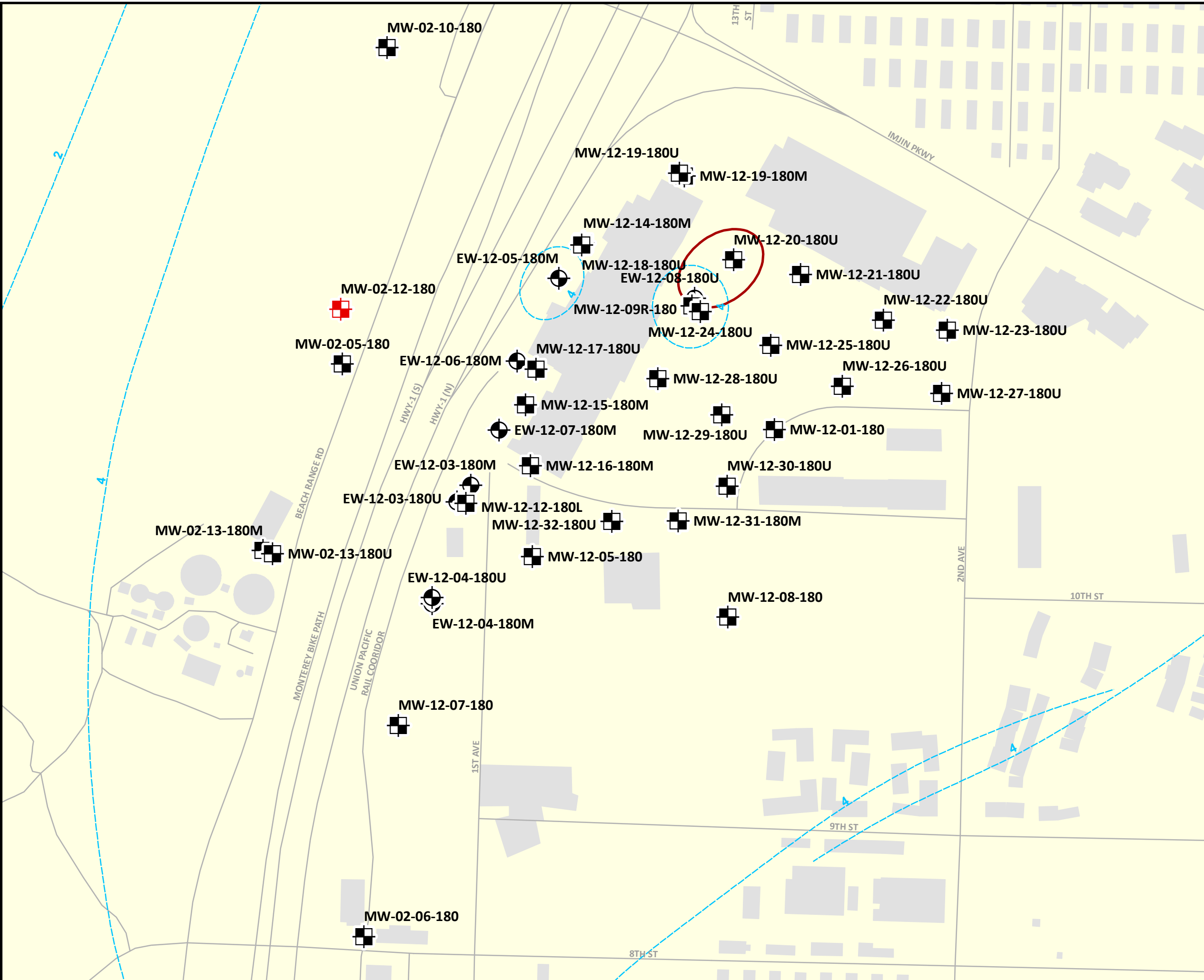
\* Sampling no longer conducted and water levels unnecessary as listed in the Sites 2/12 Annual Report.

No well installations will be conducted at Sites 2/12 in 2018.

ACL: aquifer cleanup level

TCE: trichloroethene





**Legend**

- Roads
- PCE (5 ug/L) 2017-4Q
- Groundwater Elevation (ft MSL) 2017-4Q
- ▭ Former Fort Ord Boundary
- ▭ Buildings

**Sites 2/12 Well Type**

- ⊕ Extraction Well
- ⊞ Monitoring Well
- ⊞ Monitoring Well - To Decommission

0 150 300 600 Feet

N

**Sites 2/12 Monitoring Well Decommissioning Location**

Well Decommissioning Work Plan  
Former Fort Ord, California

**Table 4.** Sites 2/12 Select Groundwater Extraction/Monitoring Well Data

Well Identification <sup>3</sup>	Select COC Concentrations (µg/L) <sup>4</sup>							
	4Q 2017	1Q 2018*	4Q 2017	1Q 2018*	4Q 2018		1Q 2018*	
	TCE		PCE		TPH-GRO (C6-10)	TPH-DRO (C10-28)	TPH Diesel (C10-24)	TPH Motor Oil (C24-36)
ACL:	5.0		5.0		100 (screening level)			
EW-12-03-180M	4.8	2.2	0.52	0.13 J	NS	NS	NS	NS
EW-12-05-180M	2.4	2.1	0.83	0.80	NS	NS	NS	NS
EW-12-06-180M	3.2	NS	0.48 J	NS	NS	NS	NS	NS
EW-12-07-180M	3.1	2.7	0.46 J	0.51	NS	NS	NS	NS
EW-12-08-180U	0.63	0.42 J	<b>18.4</b>	<b>11.3</b>	NS	NS	NS	NS
MW-12-09R-180	4.4	3.9	0.52	0.49 J	NS	NS	NS	NS
MW-12-14-180M	<b>7.6</b>	2.1	0.86	0.39 J	NS	NS	NS	NS
MW-12-16-180M	1.6	1.8	ND (0.25)	ND (0.25)	NS	NS	NS	NS
MW-12-18-180U	NS	NS	NS	NS	NS	NS	41 JY	ND (94)
MW-12-19-180U	NS	NS	NS	NS	NS	NS	ND (16)	ND (96)
MW-12-19-180M	NS	NS	NS	NS	NS	NS	ND (16)	ND (96)
MW-12-20-180U	ND (0.25)	ND (0.25)	<b>18.1</b>	<b>6.6</b>	ND (50)	<b>262</b>	<b>210 Y [17 JY]</b>	ND (96)
MW-12-21-180U	ND (0.25)	ND (0.25)	0.56	0.35 J	NS	NS	23 JY	ND (94)
MW-12-24-180U	ND (0.25)	0.17 J	3.2	2.0	NS	NS	33 JY	ND (96)
MW-12-25-180U	ND (0.25)	ND (0.25)	0.47 J	0.34 J	NS	NS	20 JY	ND (94)
MW-12-28-180U	0.11 J	0.44 J	0.56	0.16 J	NS	NS	NS	NS
MW-12-31-180M	0.31 J	0.26 J	0.15 J	ND (0.25)	NS	NS	NS	NS
MW-12-32-180U	1.8	1.2	0.50	0.36 J	NS	NS	NS	NS

**Notes:**

<sup>1</sup> The reported value is the sum of both cis- and trans-isomers.

<sup>2</sup> Discharge limits are the ACLs for injection over the plume.

<sup>3</sup> Extraction wells not listed have met the QAPP decision rules to no longer operate.

<sup>4</sup> 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)

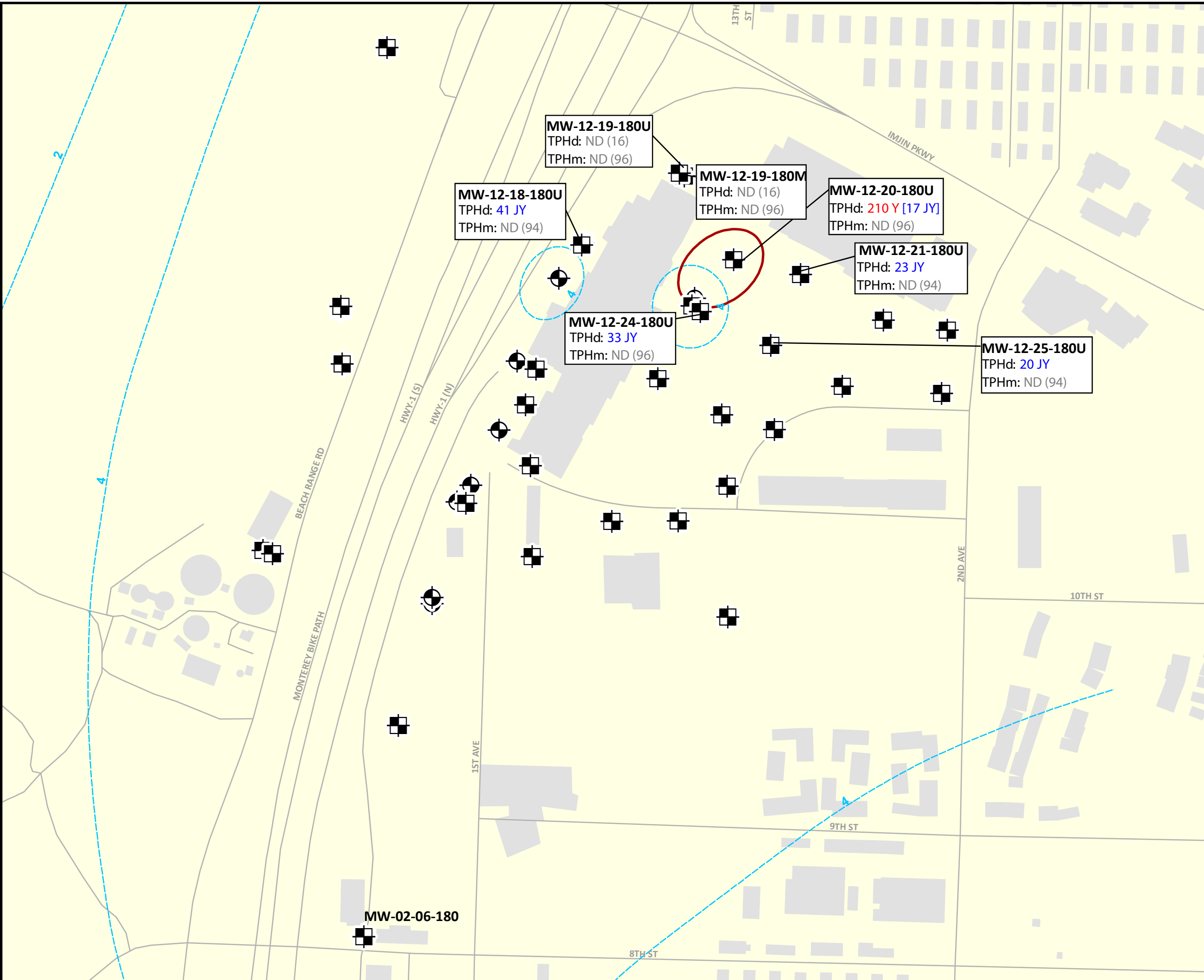
Results in brackets are after silica gel cleanup to remove polar non-petroleum hydrocarbons (TPH only)

COC: chemical of concern NS: Not sampled µg/L: micrograms per liter \* Preliminary results

TPH: total petroleum hydrocarbons

Y: sample exhibits chromatographic pattern which does not resemble standard





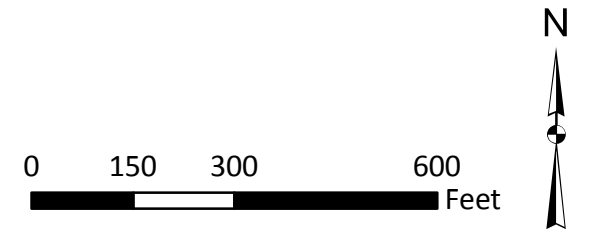
**Legend**

- Roads
- PCE (5 ug/L) 2017-4Q
- - - Groundwater Elevation (ft MSL) 2017-4Q
- ▭ Former Fort Ord Boundary
- ▭ Buildings

**Sites 2/12 Well Type**

- ⊗ Extraction Well
- ⊠ Monitoring Well

Notes:  
 TPHd: total petroleum hydrocarbons - diesel  
 TPHm: total petroleum hydrocarbons - motor oil  
 ND (94): not detected at the limit of detection  
 J: estimated results below the limit of quantitation  
 Y: chromatogram doesn't resemble standard  
 Results are in micrograms per liter (ug/L)  
 Results in [brackets] are with silica gel cleanup  
 Results in red are above the screening level  
 Results in blue are estimated (J)  
 Results in gray are not detected (ND)



**Groundwater  
 Total Petroleum Hydrocarbons  
 Concentrations**

Sites 2 and 12 First Quarter 2018  
 Groundwater and Soil Gas Monitoring  
 and Treatment System Report  
 Former Fort Ord, California

**Table 5. Sites 2/12 Northern SVE Well Field Monitoring Results**

Sample Date	North SVE Field									
	VE-12-06		VE-12-07		VE-12-08		VE-12-09		VE-12-10	
	PCE	TCE	PCE	TCE	PCE	TCE	PCE	TCE	PCE	TCE
9/16/2015	<i>1,700</i>	ND	<i>1,200</i>	ND	<b>2,100</b>	ND	<i>1,500</i>	48	460	ND
9/22/2015	<i>1,100</i>	ND	<i>750</i>	ND	<i>1,200</i>	ND	<i>1,100</i>	86	230	ND
9/29/2015	<i>940</i>	ND	<i>860</i>	ND	<i>970</i>	ND	<i>1,100</i>	90	220	ND
10/6/2015	<i>680</i>	ND	<i>560</i>	ND	<i>670</i>	ND	<i>870</i>	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

**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 ( $\mu\text{g}/\text{m}^3$ )

\*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.

**Table 6. Sites 2/12 SVTU Monitoring Results**

Sample Date	PCE		TCE	
	SVE-12-INF	SVE-12-EFF	SVE-12-INF	SVE-12-EFF
9/16/2015	<i>1,500</i>	ND	38	ND
9/22/2015	<i>1,100</i>	ND	61	ND
9/29/2015	<i>710</i>	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

**Notes:**

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

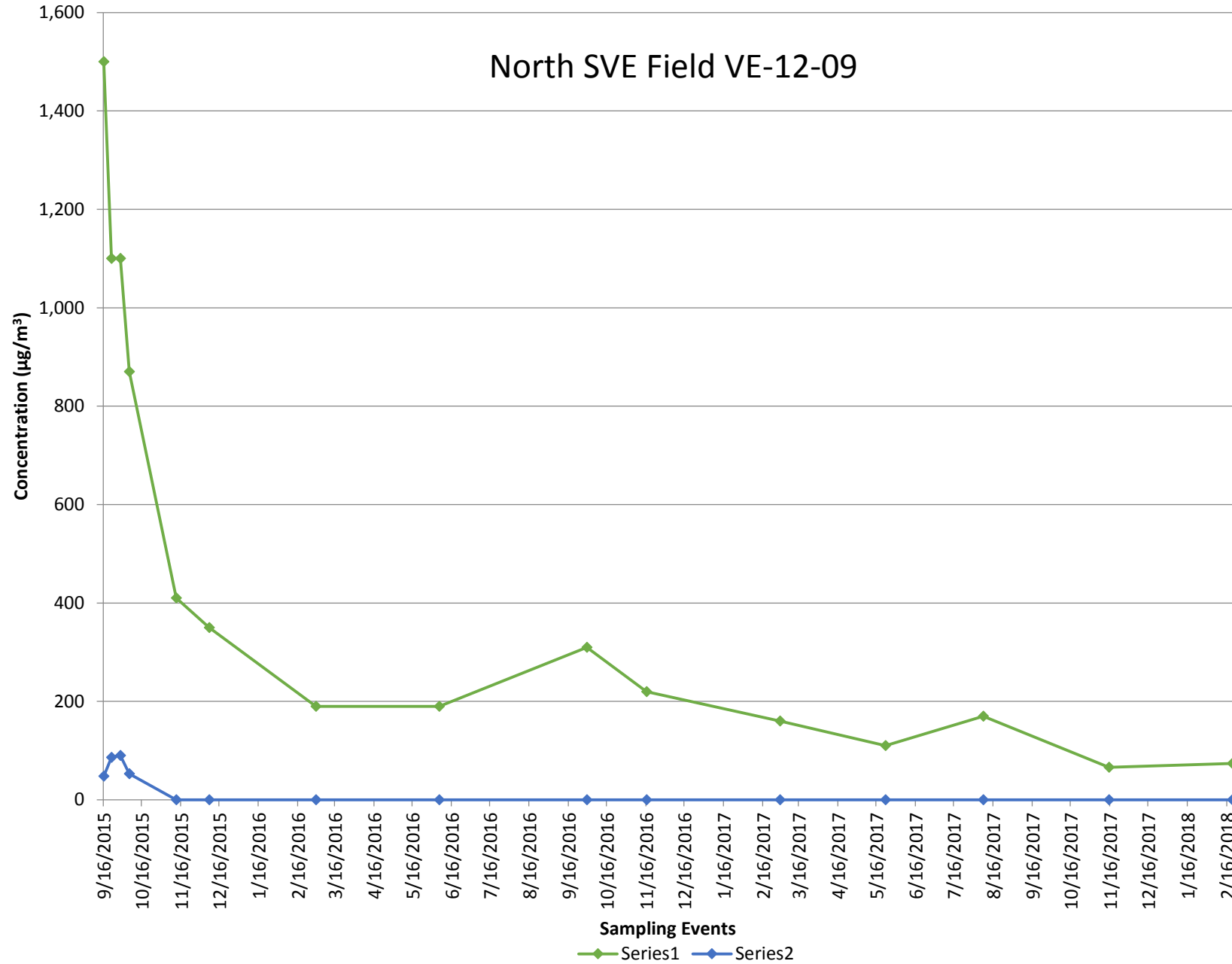
Results reported in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )

SVTU Effluent emission AERSCREEN Modeling discharge compliance calculation results are:

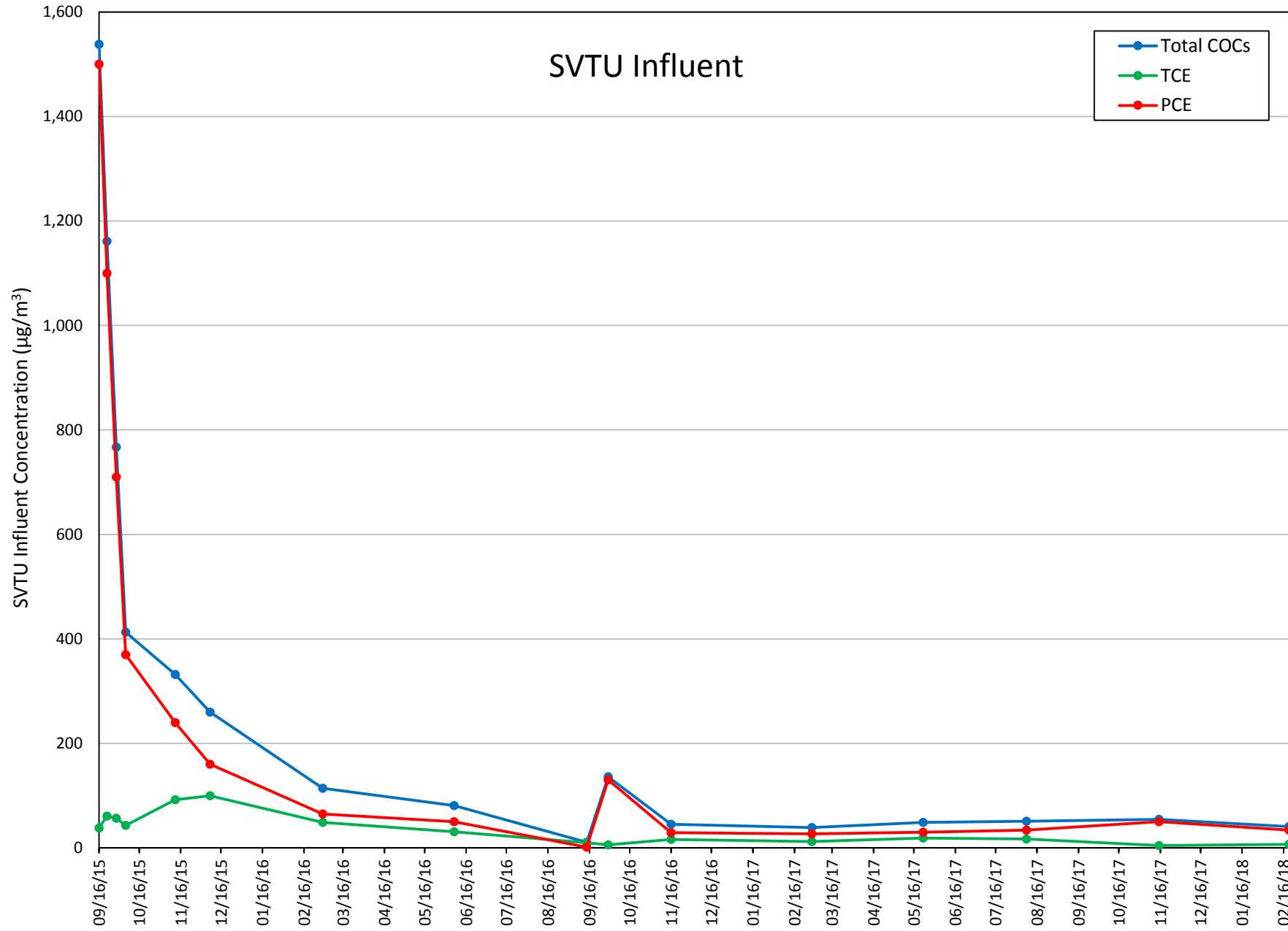
Rule 207 Emission: 0.002 pounds VOCs per day (less than limit of 25 pounds per day)

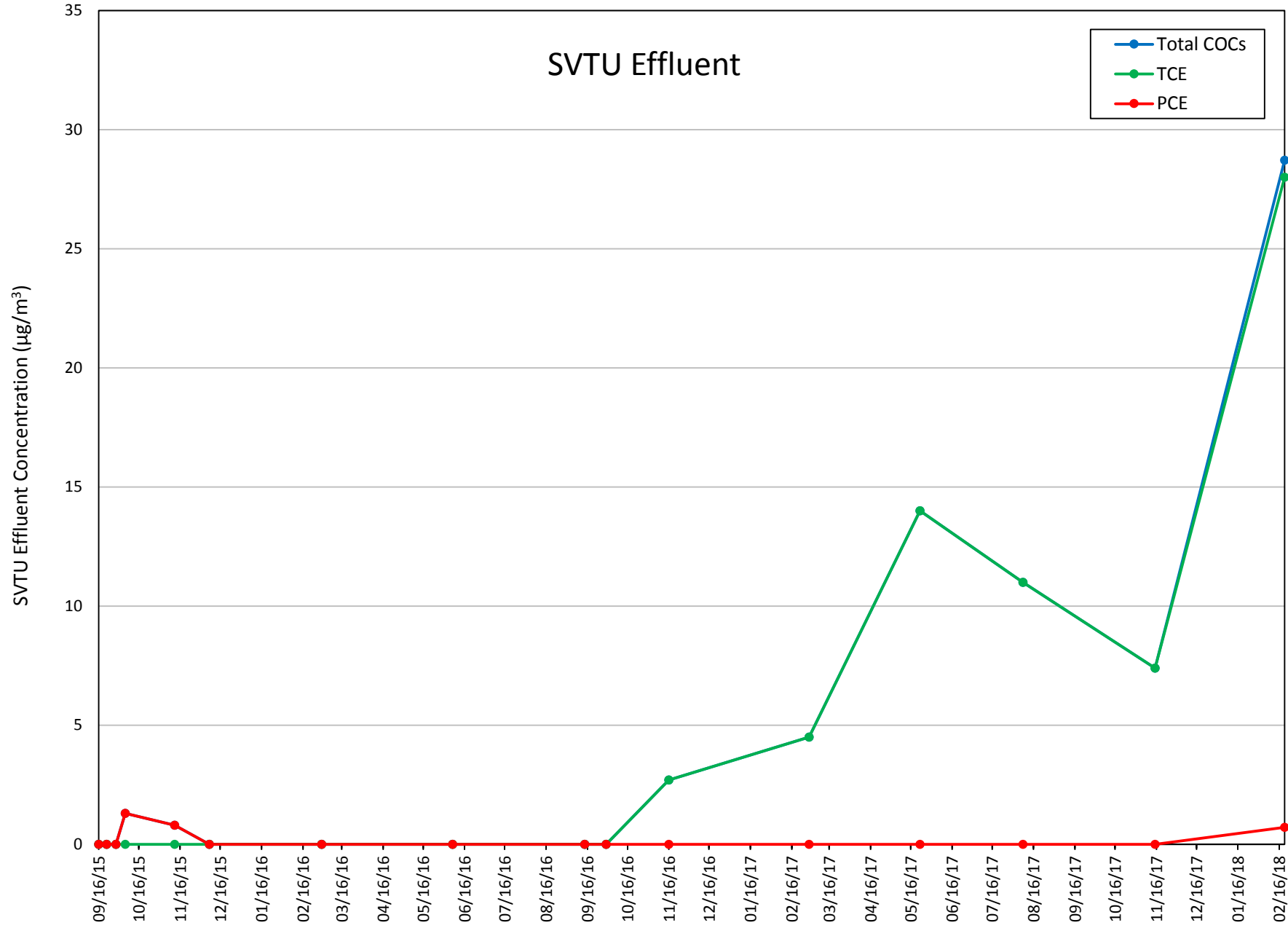
Rule 1000 Hazard Index: 0.00001 (less than limit of 1.0)

Rule 1000 Excess Cancer Risk:  $0.0079 \times 10^{-5}$  (less than limit of  $1 \times 10^{-5}$ )



	<b>SGCL (µg/m³)</b>	<i>SG-SL (µg/m³)</i>
PCE	<b>1,800</b>	603
TCE	<b>1,000</b>	888







**Table 7.** Sites 2/12 Soil Gas Monitoring Results - North

Soil Gas Probe ID	3Q 2017	4Q 2017	1Q 2018	3Q 2017	4Q 2017	1Q 2018	Schedule
	PCE			TCE			
SG-12-01-65	NS	ND	ND	NS	ND	ND	Q <sup>2</sup>
SG-12-02-10	<i>1,700</i>	<i>1,400</i>	<i>1,000</i>	ND	ND	ND	Q <sup>1</sup>
SG-12-04-10	ND	ND	ND	ND	ND	ND	Q <sup>1</sup>
SG-12-04-65	90	ND	ND	ND	ND	ND	Q <sup>2</sup>
SG-12-06-10	ND	ND	ND	ND	ND	ND	Q <sup>1</sup>
SG-12-06-60	ND	ND	ND	ND	ND	ND	Q <sup>2</sup>
SG-12-07-65	130	ND	ND	ND	ND	ND	Q <sup>2</sup>

**Table 8.** Sites 2/12 Soil Gas Monitoring Results - South

Soil Gas Probe ID	3Q 2017	4Q 2017	1Q 2018	3Q 2017	4Q 2017	1Q 2018	Schedule
	PCE			TCE			
SG-12-16-50	ND	ND	ND	53 J	340	350	BR
SG-12-16-60	ND	ND	ND	ND	340	420	BR
SG-12-16-70	ND	ND	ND	ND	310	380	BR
SG-12-17-40	ND	ND	ND	130	200	220	BA
SG-12-17-60	ND	ND	ND	ND	96	170	BR
SG-12-17-75	ND	ND	ND	ND	ND	ND	BR

	SGCL (µg/m <sup>3</sup> )	SG-SL (µg/m <sup>3</sup> )
PCE	<b>1,800</b>	603
TCE	<b>1,000</b>	888

**Notes:**

A = Annual

B = sampled for 4Q17 and 1Q18 for rebound study

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

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

NS = not sampled

Q = Quarterly

R = Removed

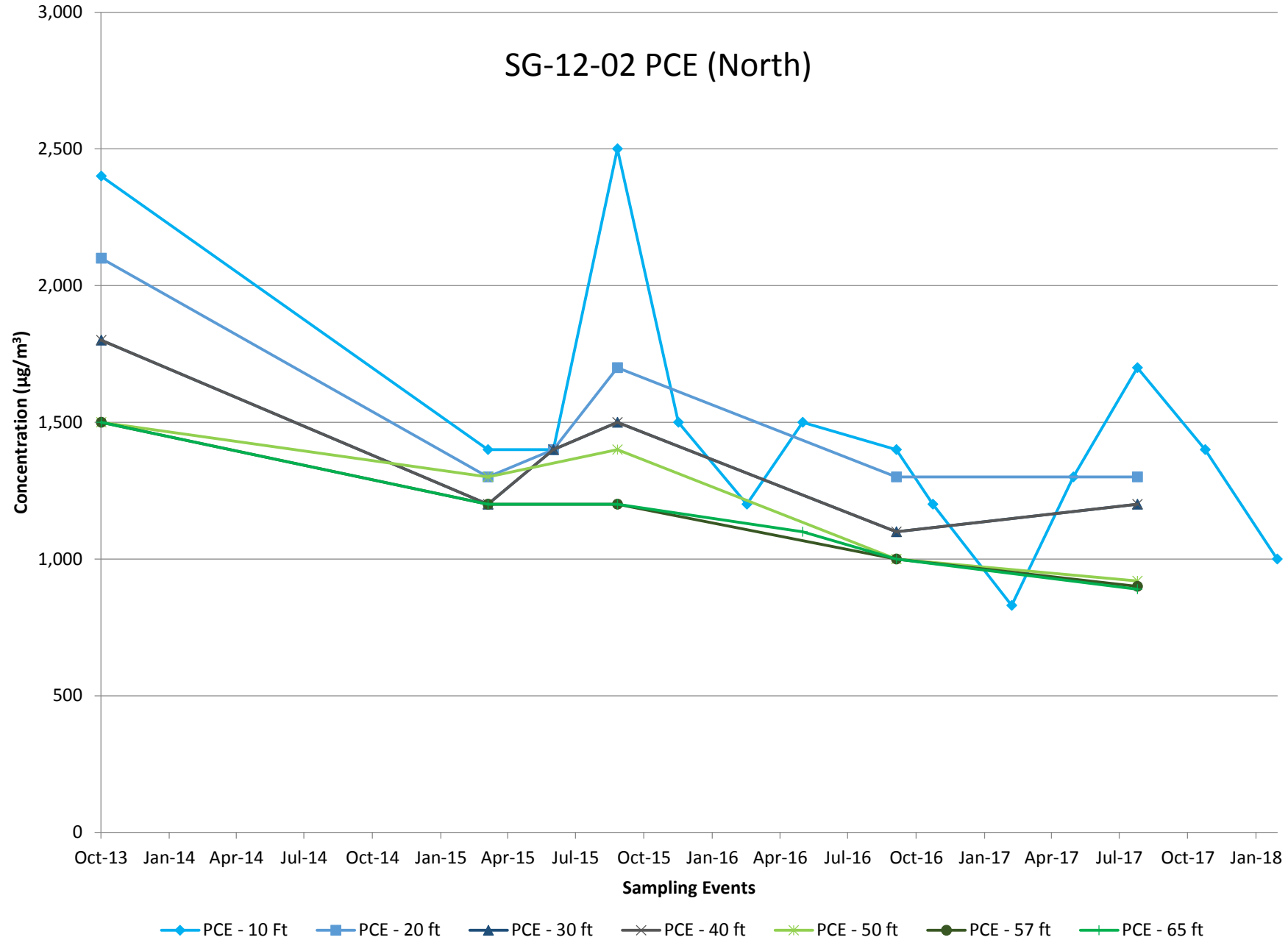
Concentrations in **bold** exceed the SGCL

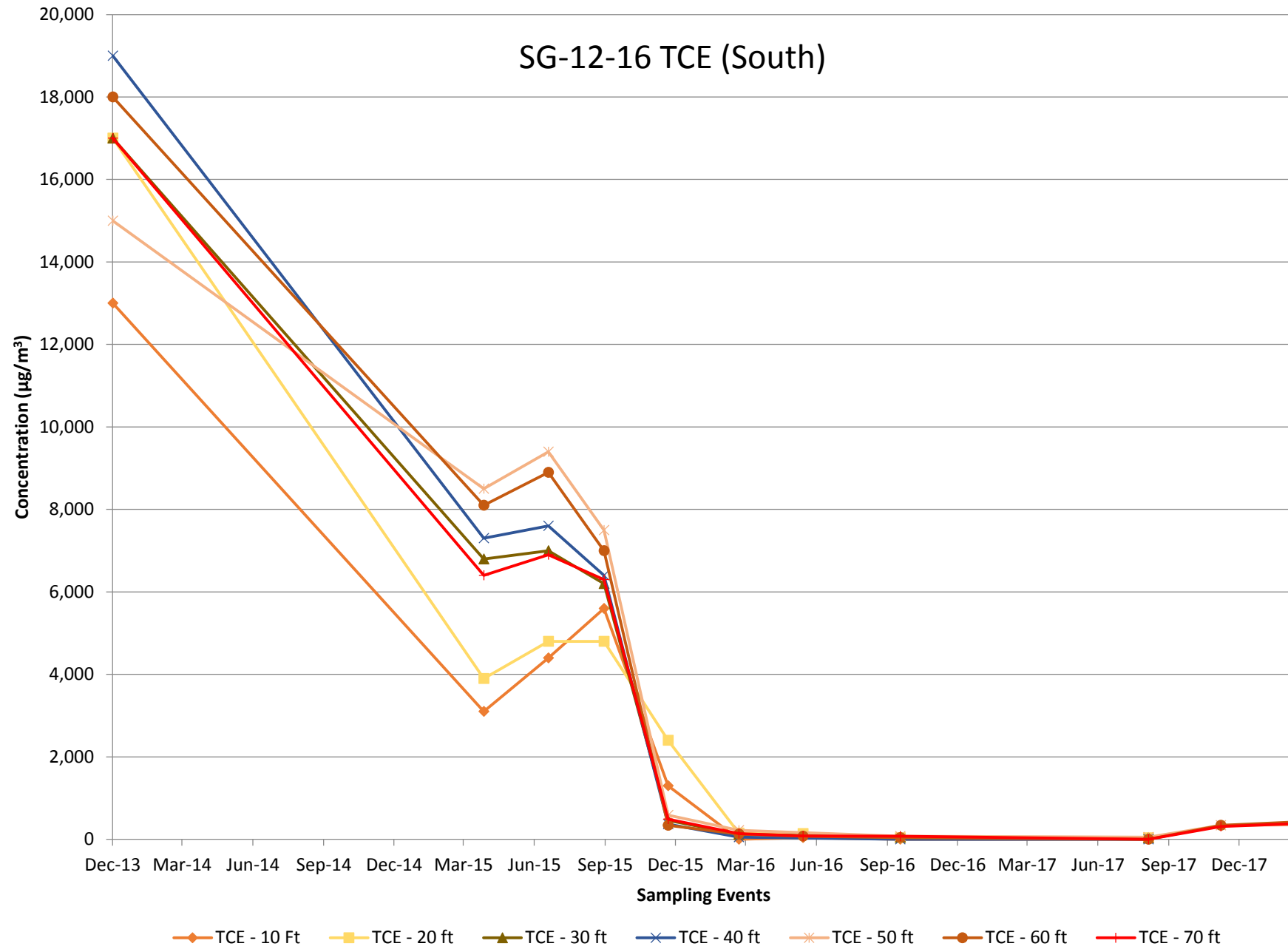
Concentrations in *italics* exceed the SG-SL

Results reported in micrograms per cubic meter (µg/m<sup>3</sup>)

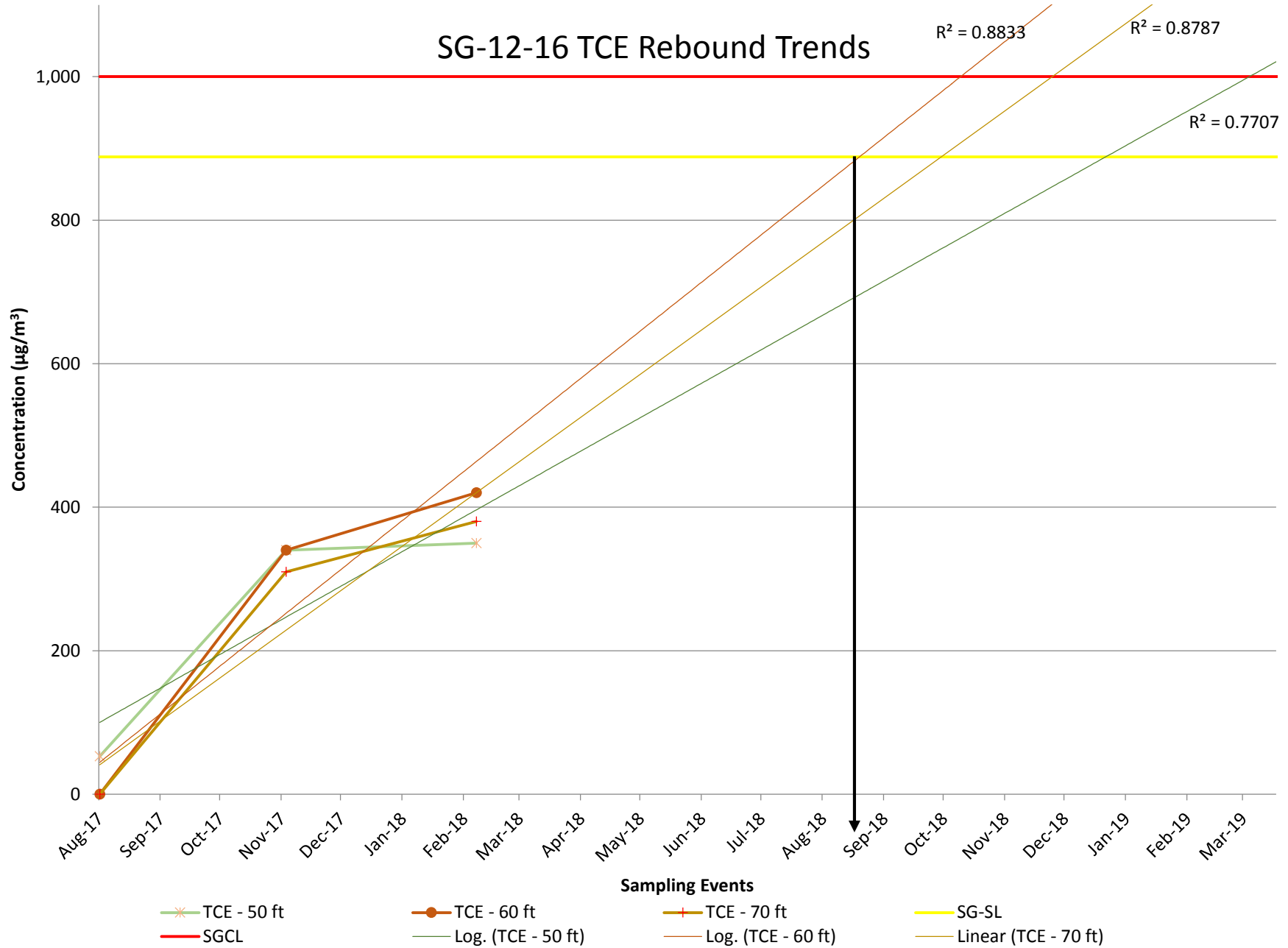
<sup>1</sup> Quarterly probe due to proximity of store front in an area of historic soil gas concentrations above the SGCL.

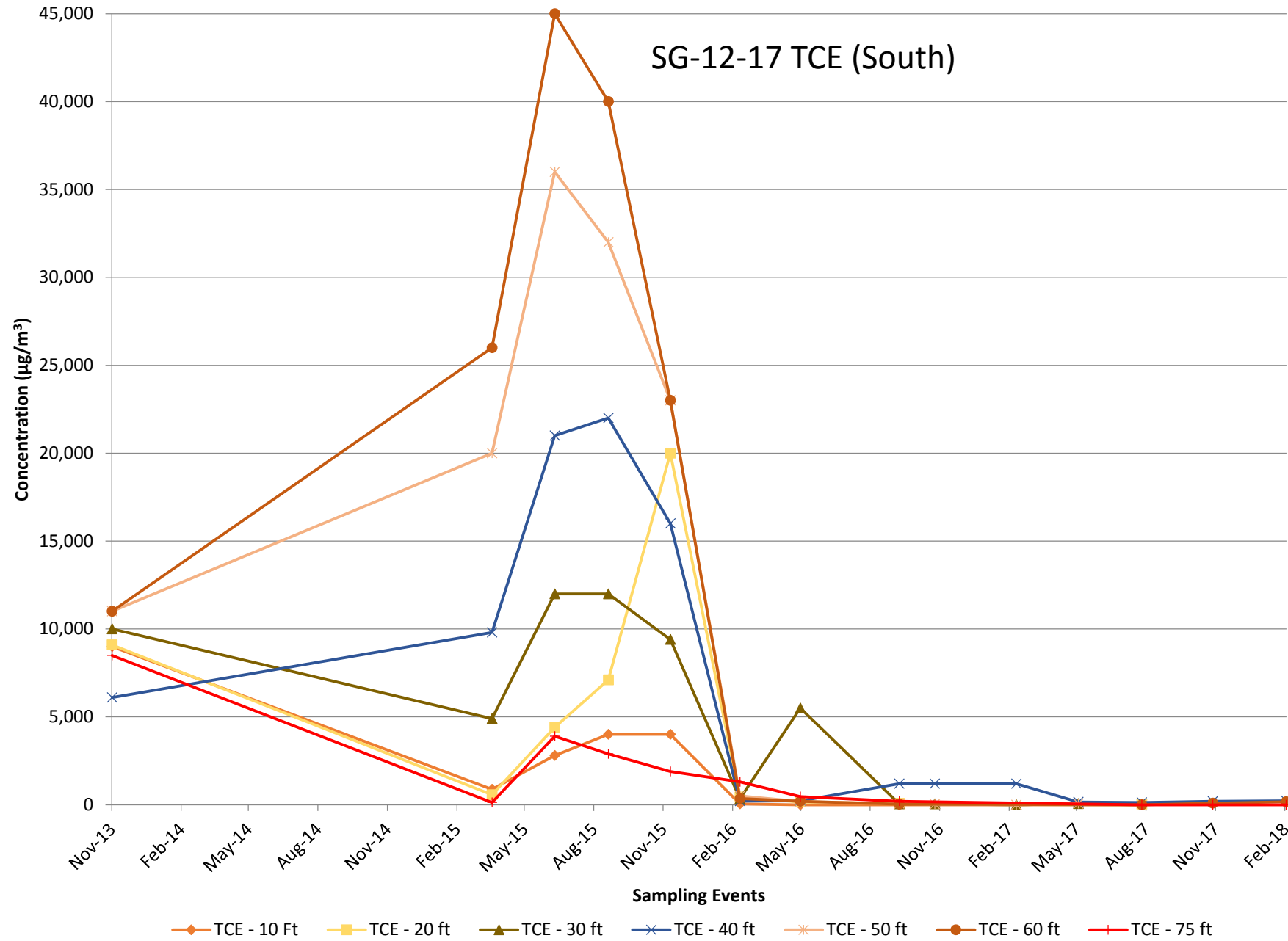
<sup>2</sup> Will continue to sample probe quarterly if it is within the vicinity of the current groundwater plume above the ACL (probe adjacent to deepest probe will be sampled in lieu if deepest probe is in saturated zone).



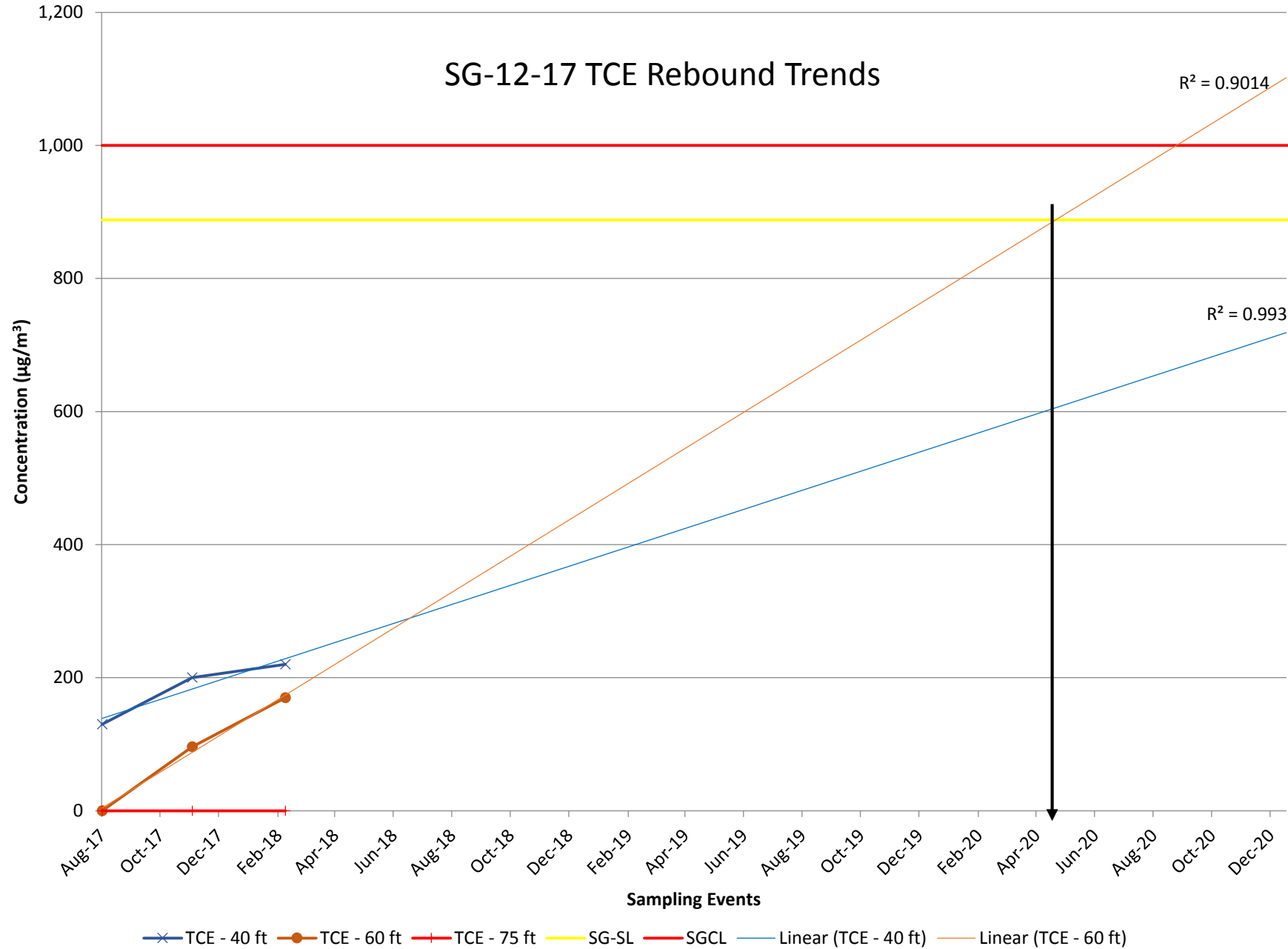


	SGCL (µg/m <sup>3</sup> )	SG-SL (µg/m <sup>3</sup> )
TCE	1,000	888





	SGCL (µg/m <sup>3</sup> )	SG-SL (µg/m <sup>3</sup> )
TCE	1,000	888



	SGCL (µg/m <sup>3</sup> )	SG-SL (µg/m <sup>3</sup> )
TCE	1,000	888