



**BANDERA ROAD
GROUND WATER PLUME
SUPERFUND SITE**

JULY 19, 2012

PRESENTATION OUTLINE

Municipal Well and Monitor Well Sampling
Results From May 2012

Recent EPA Sampling Activities

HAPSITE Sampling

PRP Supplemental Remedial Investigation
Sampling Activities

Municipal Well Sampling

- Leon Valley municipal water wells were sampled on May 7, 2012. No volatile organic compounds were detected.



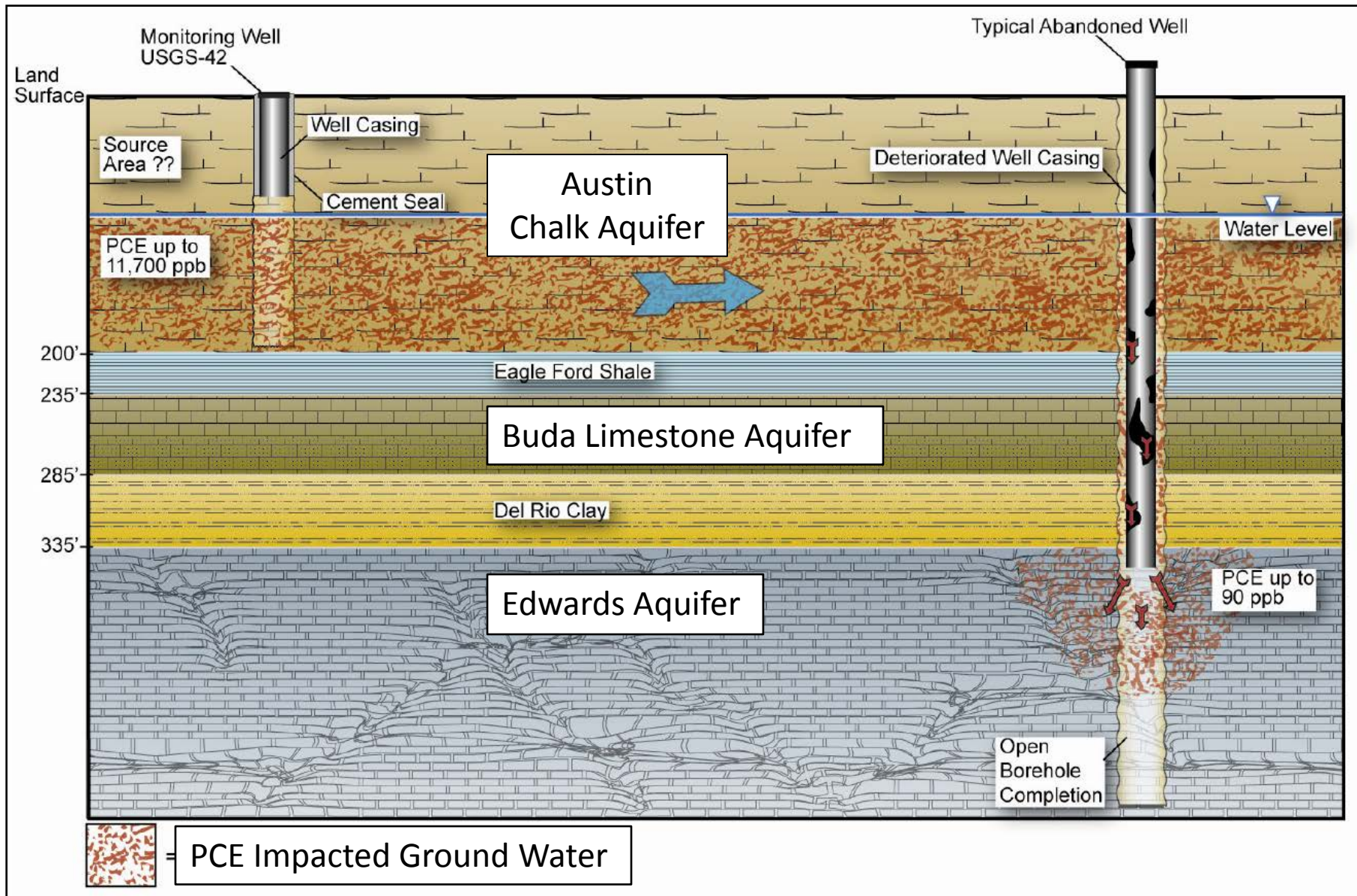
EPA MAY 7 – 11, 2012 SAMPLING EVENT

- Ground water samples collected from thirteen (13) monitoring wells and two (2) municipal public water supply wells
- Four (4) indoor air samples and one background air sample
- Two (2) sub-slab vapor samples from the Pilgrim Cleaners facility
- Sixteen (16) soil gas samples (8 Summa Canister Samples)
- Eight (8) soil samples
- Thirty (30) HAPSITE sampling locations

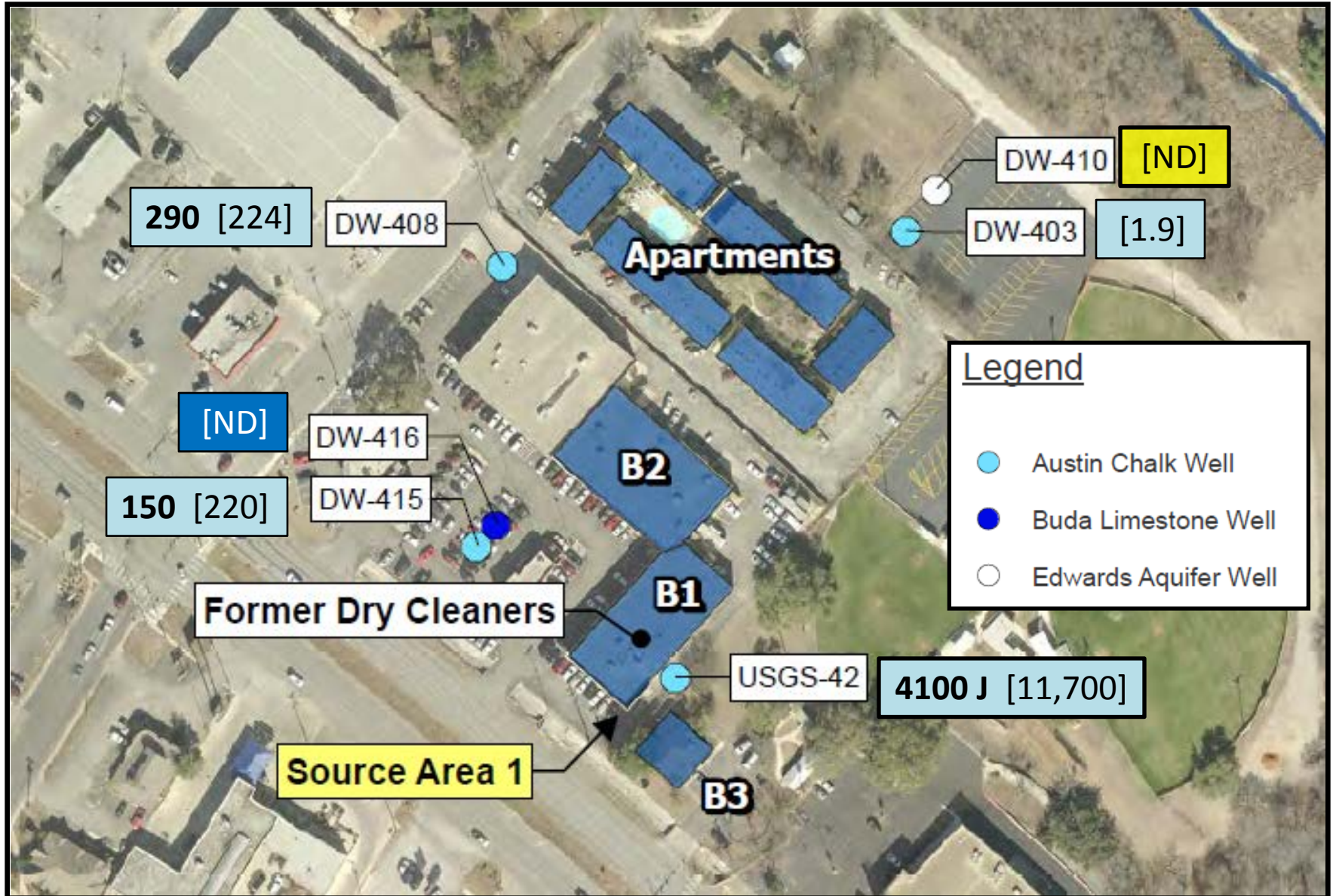
SAMPLE LOCATIONS (44) - MAY 7-10, 2012

WATER WELL SAMPLES	SOIL	SOIL GAS	INDOOR AIR
USGS-18 – Pubic Water Supply	VI-213-1-2 ft bgs	VI-214-SGA (Summa)	VI-102-CIA (Cash Advance)
USGS-50 – Public Water Supply	VI-214-1-2 ft bgs	VI-218-SGA	VI-118-CIA (Veterinary Clinic)
USGS-42 (Austin Chalk)	VI-217-1-2 ft bgs	VI-219-SGA (Summa)	VI-228-CIA (Apartments)
DW-404 (Austin Chalk)	VI-218-1-2 ft bgs	VI-217-SGA	VI-BKG-04 (Apartments)
DW-407 (Austin Chalk)	VI-219-1-2 ft bgs	VI-213-SGA	VI-229-Pilgrims
DW-408 (Austin Chalk)	VI-221	VI-215-SGA (Summa)	
DW-413 (Buda)	VI-222	VI-216-SGA (Summa)	
DW-414 (Austin Chalk)	VI-226	VI-220-SGA	
DW-415 (Austin Chalk)		VI-206-SGA (Summa)	
Terracon-1 (Shallow 35')		VI-221-SGA (Summa)	
Terracon-2 (Shallow 35')		VI-222-SGA (Summa)	
MW2-6535 (Austin Chalk)		VI-223-SGA	
MW-3-6200 (Austin Chalk)		VI-224-SGA (Summa)	
MW4-6535 (Shallow 35')		VI-225-SGA	
MW5-7007 (Austin Chalk)		VI-226-SGA	
		VI-227-SGA	

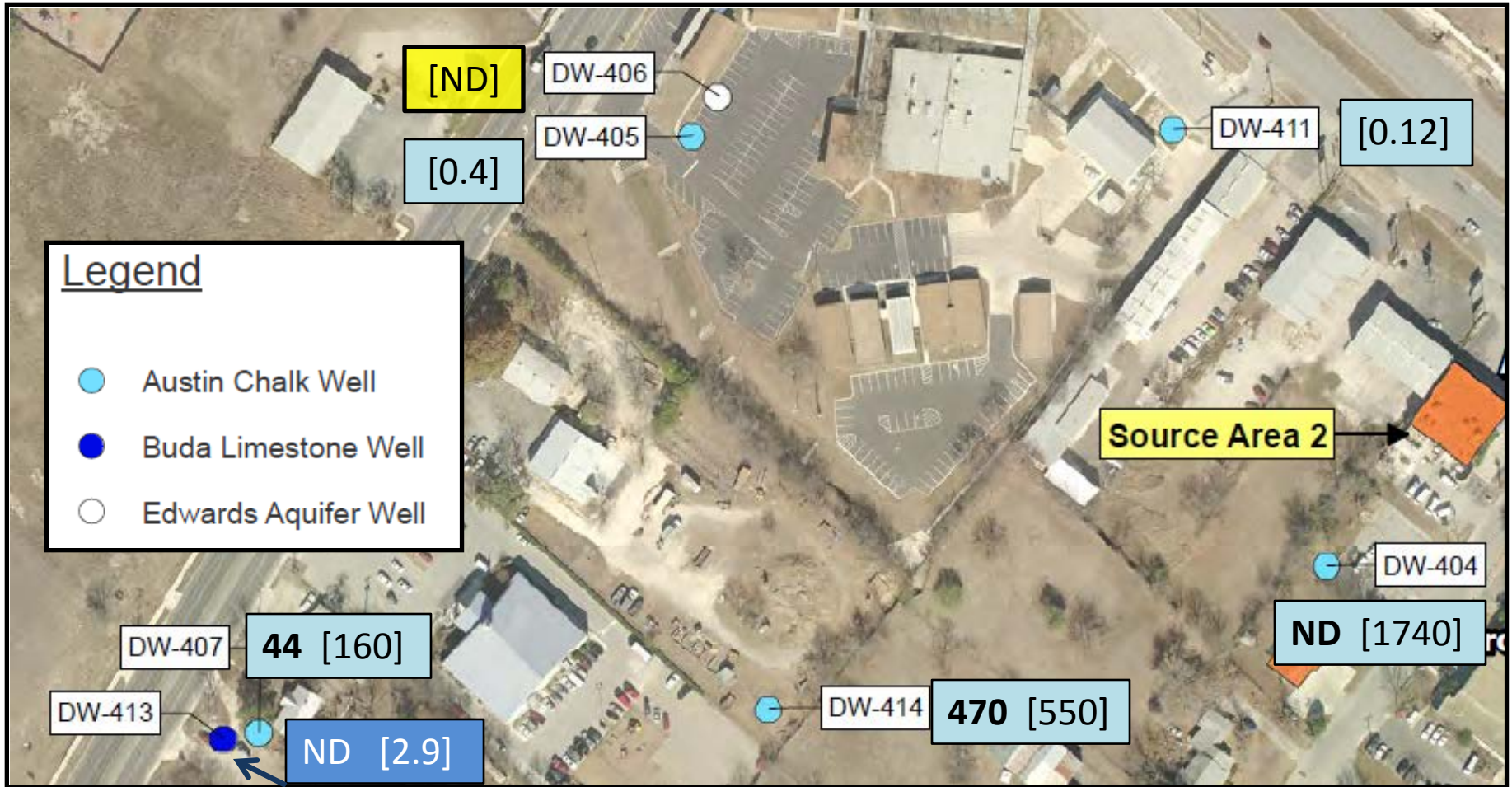
BANDERA ROAD – GEOLOGIC CROSS SECTION



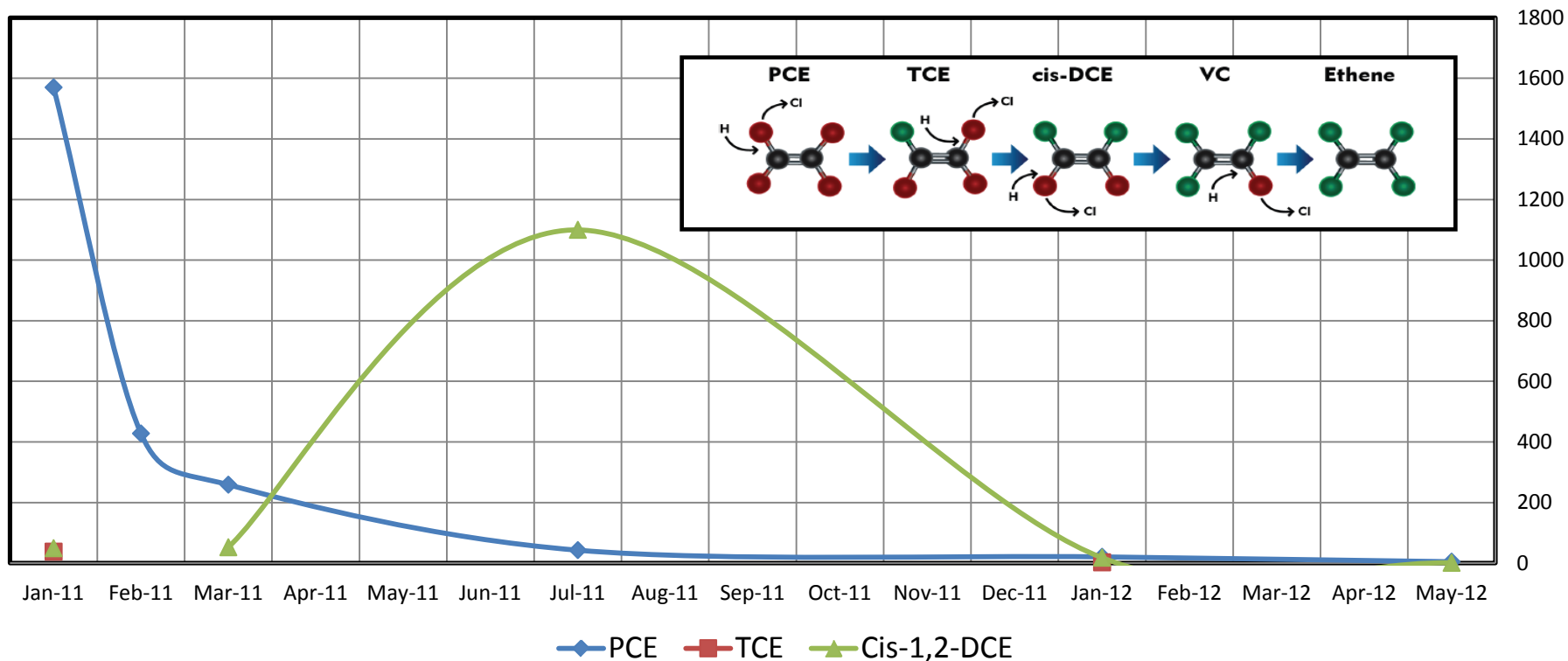
PCE Detections ($\mu\text{g/L}$) – May 2012 and Historical High [#]



PCE Detections ($\mu\text{g/L}$) – May 2012 and Historical High [#]



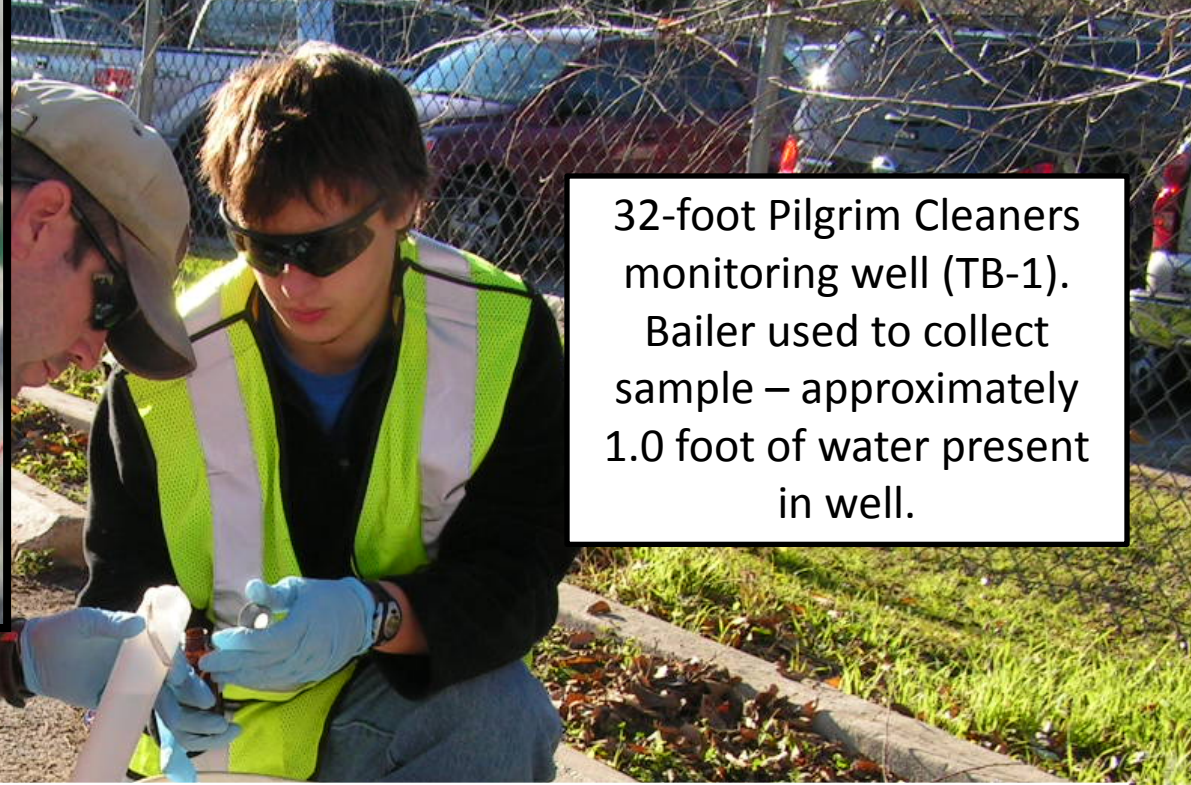
DW-404 - Insitu Bioremediation Pilot Study



Target Compound	January 2011 (µg/L)	February 2011 (µg/L)	March 2011 (µg/L)	July 2011 (µg/L)	January 2012 (µg/L)	May 2012 (µg/L)
PCE	1,570	428	259	43	21	5 U
TCE	37.9	U	U	U	2.7 J	5 U
Cis-1,2-DCE	49.4	U	52.5 J	1100	18	5 U

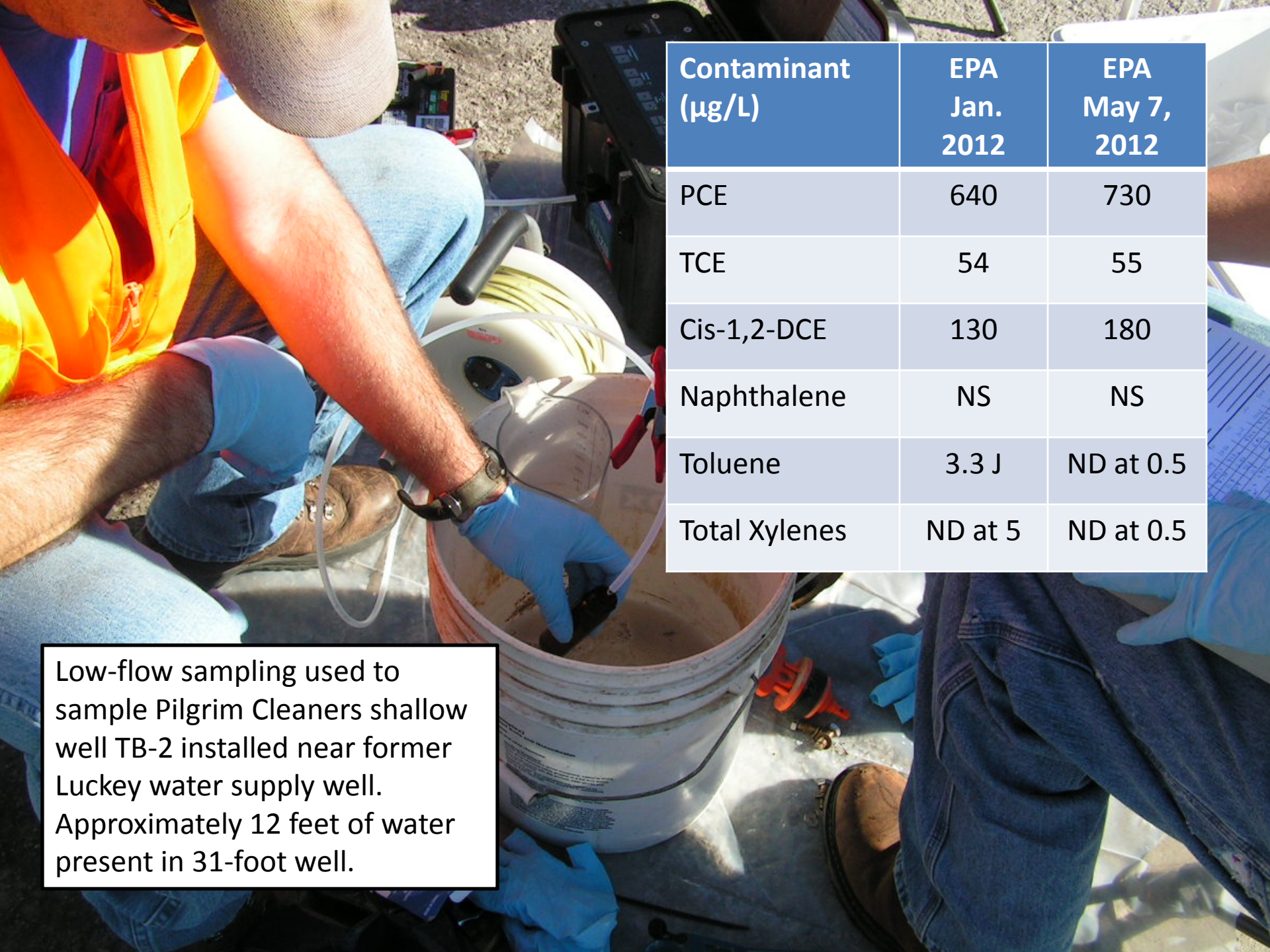


Pilgrim
Cleaners



32-foot Pilgrim Cleaners monitoring well (TB-1).
Bailer used to collect sample – approximately 1.0 foot of water present in well.

Contaminant	Concentration January 11, 2012 ($\mu\text{g/L}$)	Concentration May 8, 2012 ($\mu\text{g/L}$)
PCE	130	94
TCE	2.6 J	2.0
Cis-1,2-DCE	2.4 J	2.2



Contaminant (µg/L)	EPA Jan. 2012	EPA May 7, 2012
PCE	640	730
TCE	54	55
Cis-1,2-DCE	130	180
Naphthalene	NS	NS
Toluene	3.3 J	ND at 0.5
Total Xylenes	ND at 5	ND at 0.5

Low-flow sampling used to sample Pilgrim Cleaners shallow well TB-2 installed near former Luckey water supply well. Approximately 12 feet of water present in 31-foot well.

PCE SOIL DETECTIONS ($\mu\text{g}/\text{kg}$)

Sample Locations - Active Dry Cleaner and Auto Repair Facility

140 1.5-2 ft bgs
93 2-3 ft bgs
22 7-8 ft bgs

VI-222
6.0 U Jv

VI-221
6.6 U

VI-226
3.2 L Jv

VI-216

VI-215

VI-214

5.9 U Jv

VI-225
29 1.5-2 ft bgs
24 2-3 ft bgs

VI-206

VI-227

VI-217
18

VI-218
5.7 U

VI-213

6.6 U

Cap

VI-220

VI-219
5.0 U

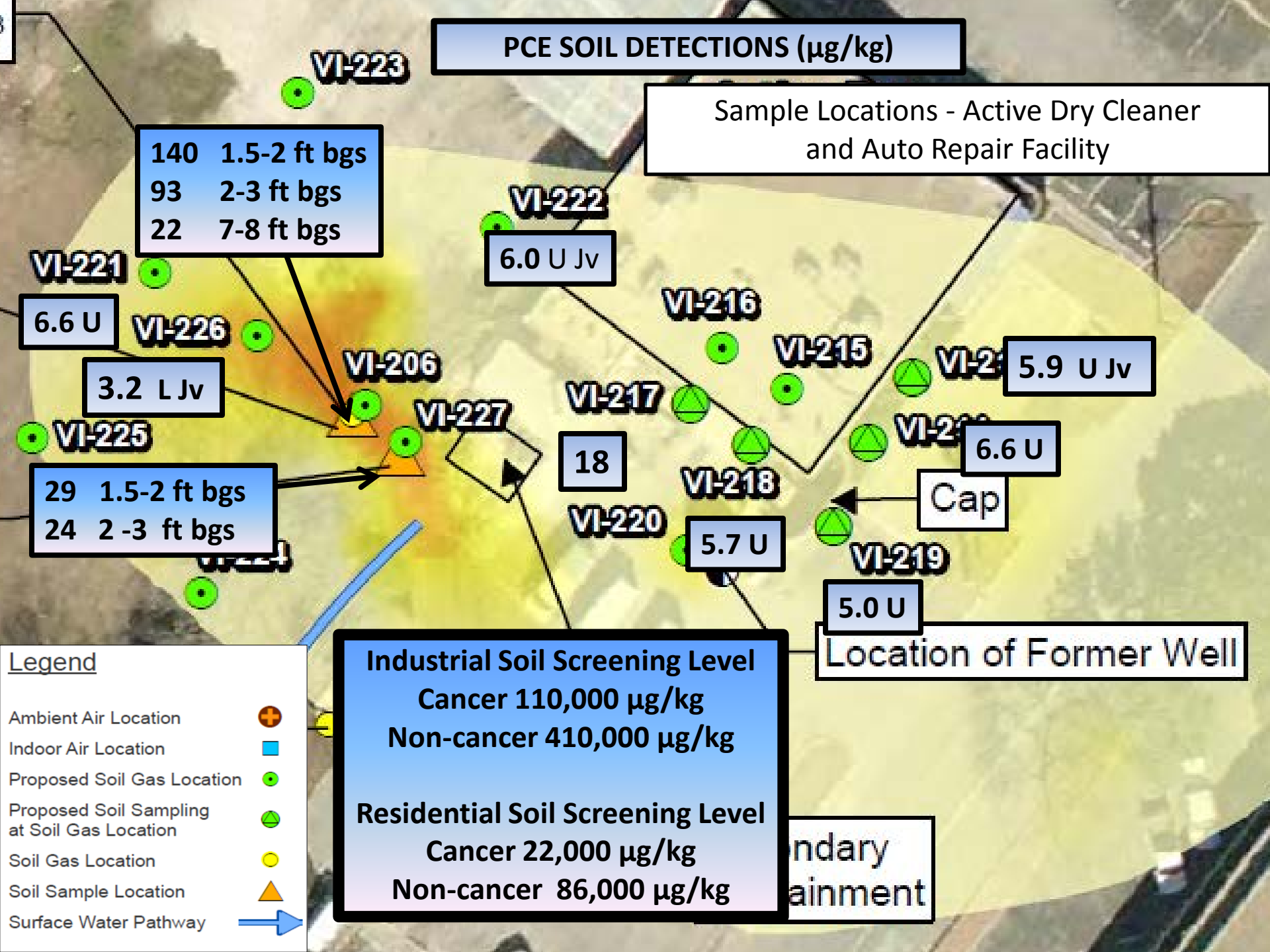
Location of Former Well

Industrial Soil Screening Level
Cancer 110,000 $\mu\text{g}/\text{kg}$
Non-cancer 410,000 $\mu\text{g}/\text{kg}$

Residential Soil Screening Level
Cancer 22,000 $\mu\text{g}/\text{kg}$
Non-cancer 86,000 $\mu\text{g}/\text{kg}$

Boundary
ainment

- Legend**
- Ambient Air Location +
 - Indoor Air Location ■
 - Proposed Soil Gas Location ●
 - Proposed Soil Sampling at Soil Gas Location ●
 - Soil Gas Location ●
 - Soil Sample Location ▲
 - Surface Water Pathway →



BANDERA ROAD SAMPLING LOCATIONS

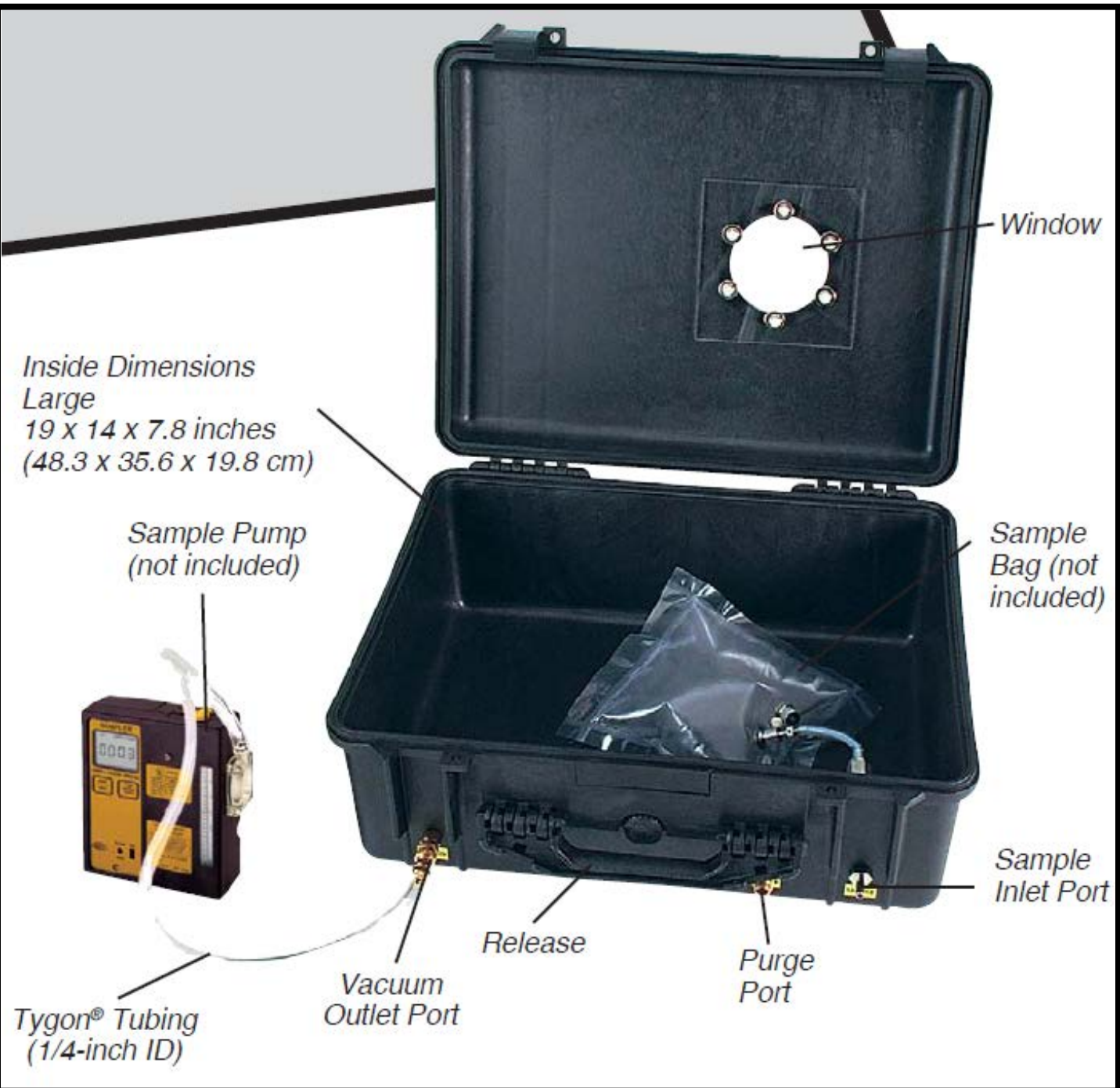
HAPSITE ANALYSIS



Soil Cuttings in Bag (2)
Soil Gas Samples (10)
Air Samples (10)



Water Headspace Samples (7)



*Inside Dimensions
Large
19 x 14 x 7.8 inches
(48.3 x 35.6 x 19.8 cm)*

*Sample Pump
(not included)*

Window

Sample Bag (not included)

Sample Inlet Port

Purge Port

Release

Vacuum Outlet Port

*Tygon® Tubing
(1/4-inch ID)*

HAPSITE ER UNIT SET UP AT LEON VALLEY FIRE STATION

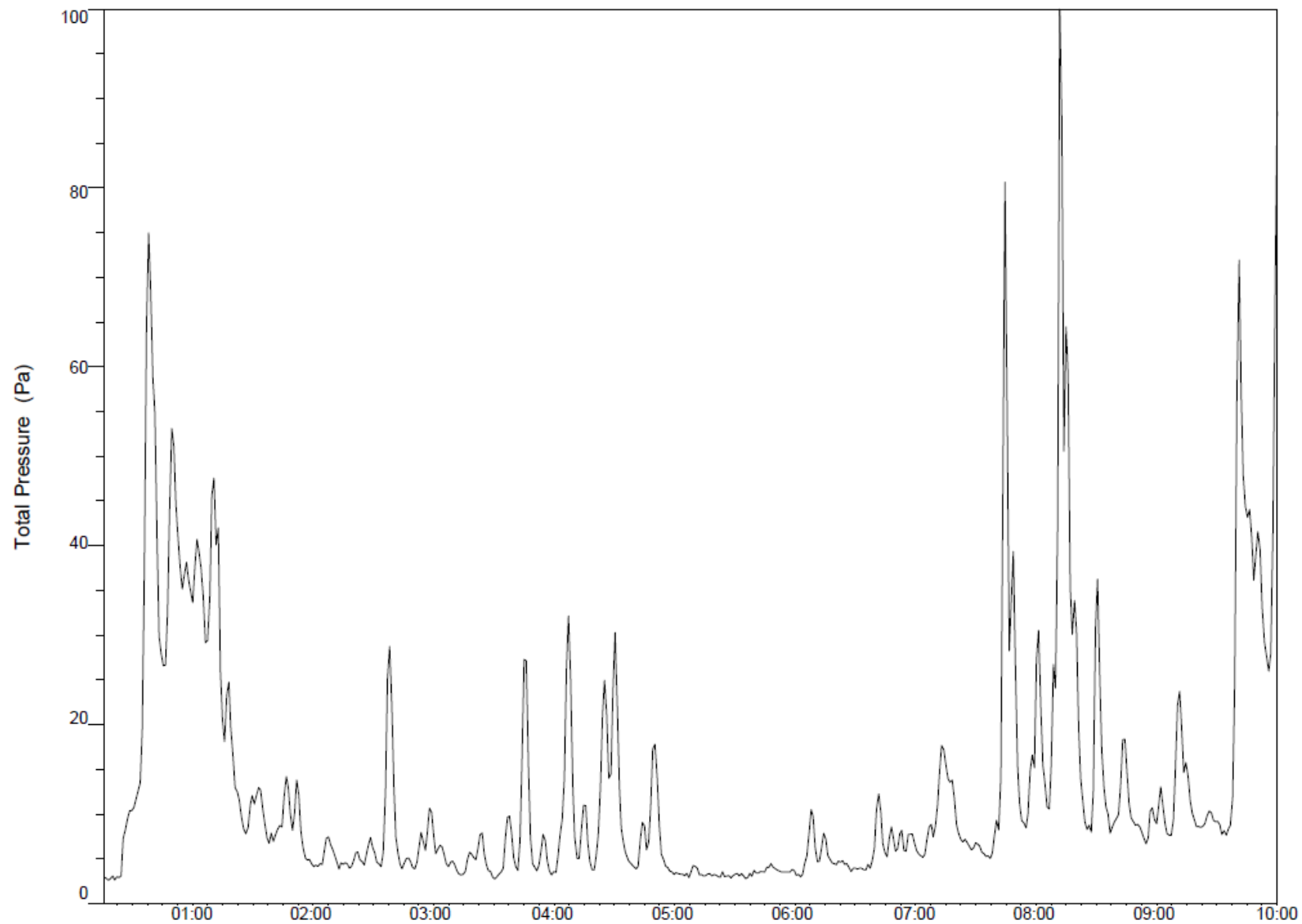


HAPSITE SAMPLE LOCATIONS (29)

Water Headspace	Soil Cuttings in Bag	SOIL GAS	AIR
MW2-6535	VI-213-1-2' bgs	VI-206-SGA	Pilgrim Cleaners
MW4-6535	VI-214-1-2' bgs	VI-215-SGA	Pilgrim Cleaners – East wall port
MW5-7007		VI-216-SGA	Pilgrim Cleaners – Back door vent
DW-404		VI-218-SGA	Savings Square Mitigation - South
DW-408		VI-221-SGA	Savings Square Mitigation - North
Terracon-2		VI-222-SGA	VI-BKG-04-CIA – Apartments SE Corner
USGS-42		VI-223-SGA	VI-102-CIA – Cash Advance
		VI-224-SGA	VI-118-CIA – Veterinary Clinic
		VI-225-SGA	VI-228 CIA - Apartments
		VI-226-SGA	VI-229-CIA – Pilgrims

ER IQ Data

TIC_Max = 1,482,988 : TIC/TIC_Max = 88% : TIC = 1,313,237 : Scan Set #1 : Scan # 557



HAPSITE DATA REPORT

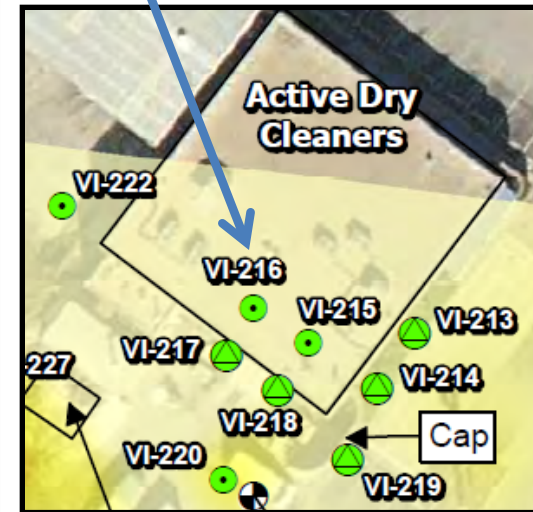
#28	Ethylbenzene		18.55
RT=	04:16.2	Fit=98.8	ppb
#29	m-and p-Xylene		
			17.79
RT=	04:16.2	Fit=96.3	ppb
#30	Styrene		
			5.764
RT=	04:50.8	Fit=71.4	ppb
#31	o-Xylene		
			29.79
RT=	04:50.8	Fit=63.5	ppb
#32	Benzene, 1-ethyl-4-methyl- (p-ethylto...		
			1.283
RT=	06:07.4	Fit=99.1	ppb
#33	Benzene, 1,3,5-trimethyl-		
			30.63
RT=	06:14.9	Fit=98.7	ppb
#34	Benzene, 1,2,4-trimethyl-		
			3.724
RT=	06:42.1	Fit=98.7	ppb

Fit is based on a scale of 100.

- 70: Good
- 80: Better
- 90: Best

Pilgrim Cleaners – Sub-Slab Soil Gas Sample

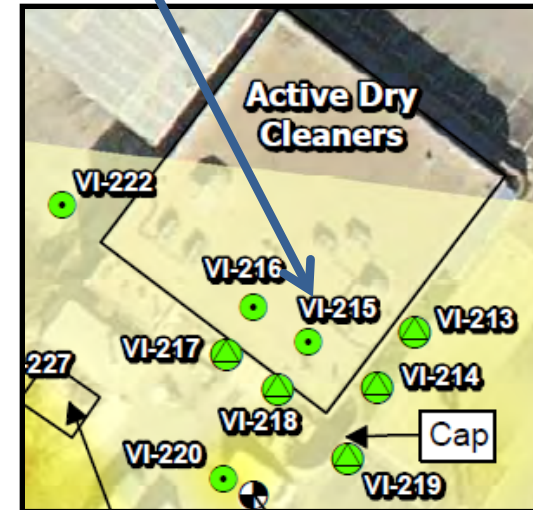
VI-216-HS-SGA	HAPSITE 5/10/2012		
	FIT	ppb	μg/m ³
Vinyl Chloride	97.1	26.04	66.56
1,2-Dichloroethene	88.5	280.06	1,111.08
1,1-Dichloroethene	91.9	1,977.25	8,006.04
1,2-Dichloroethene (E)	95.3	14,240.55	56,496.25
Trichloroethylene (TCE)	89.1	287.28	1,543.91
Toluene	93.6	3.853	14.51
Tetrachloroethene (PCE)	94.7	21,543.37	146,089.60



HAPSITE_ER_Air_Tri-Bed_PPB_Quant_38.hps

Pilgrim Cleaners – Sub-Slab Soil Gas Sample

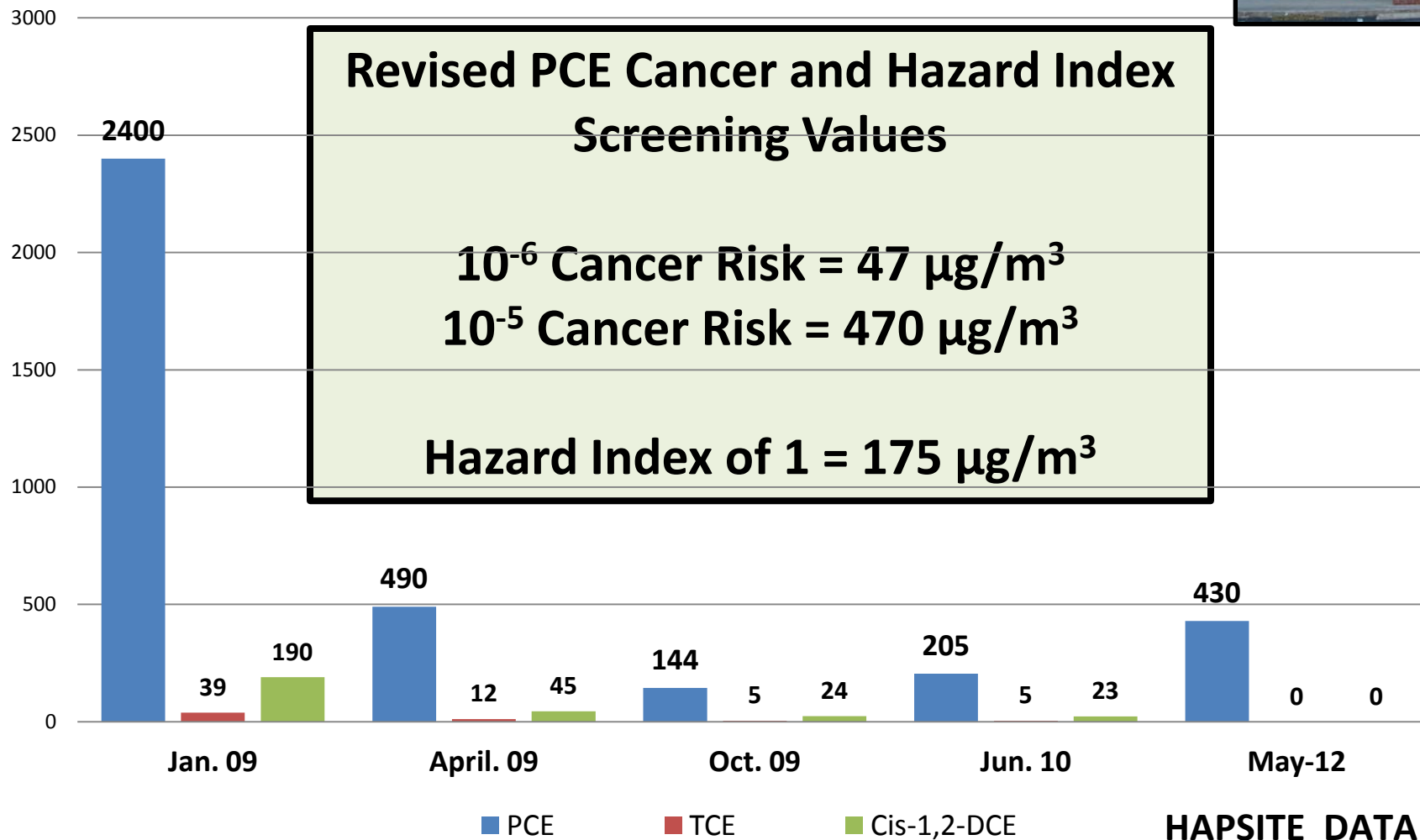
VI-215-HS-SGA	HAPSITE 5/10/2012		
	FIT	ppb	$\mu\text{g}/\text{m}^3$
Trichloroethylene (TCE)	94.5	13.44	72.23
Toluene	98.1	42.91	161.64
Tetrachloroethene (PCE)	96.5	3,923.10	26,603.27
Ethylbenzene	93.7	3.732	16.21
m-and p-Xylene	94.9	1.224	5.32
O-Xylene	68.2	17.93	77.88
1,3,5-trimethylbenzene	88.4	26.40	129.79



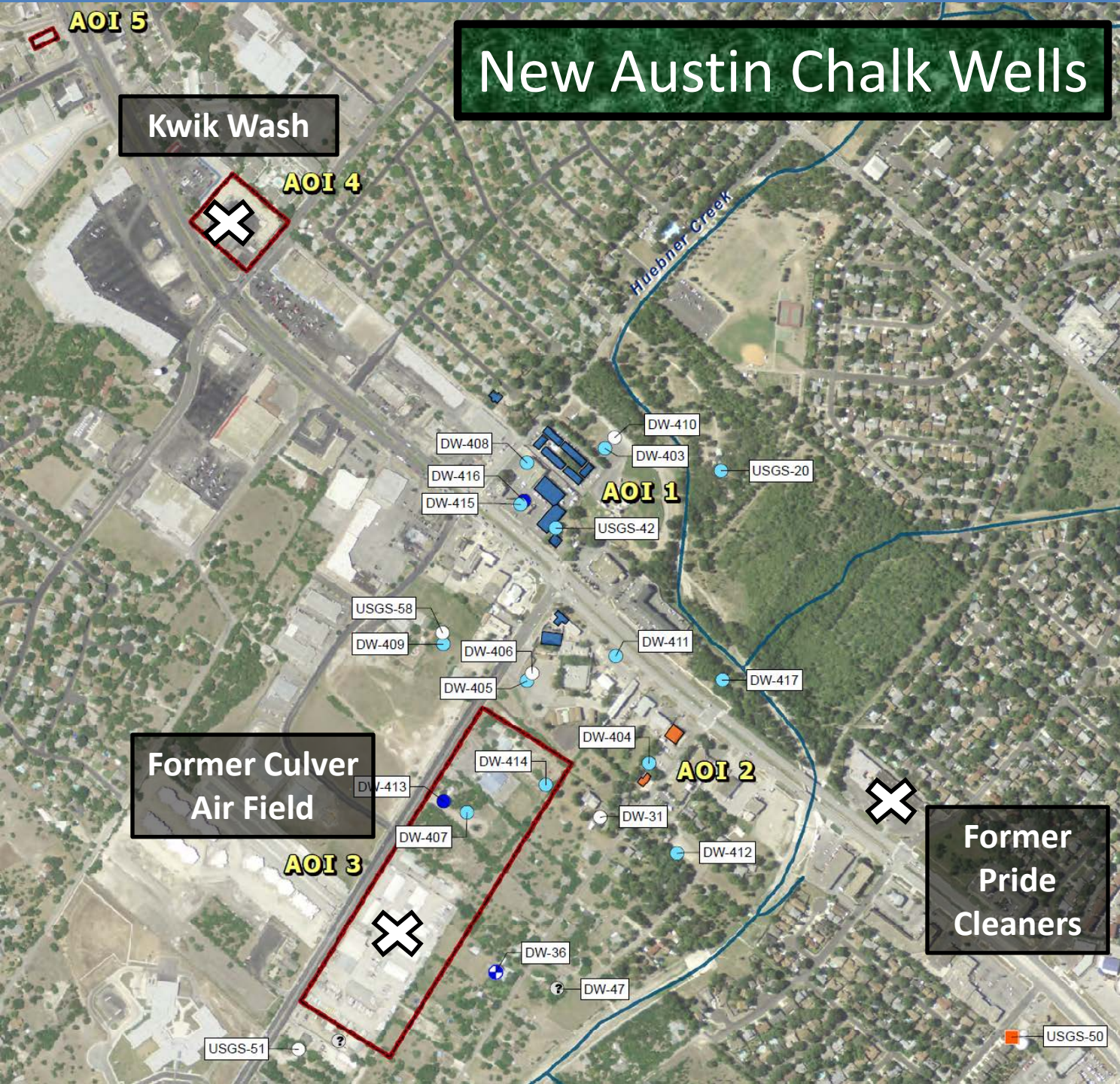
HAPSITE_ER_Air_Tri-Bed_PPB_Quant_37.hps



Indoor Air Concentrations - Advance America Cash Advance

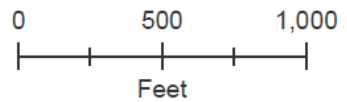


New Austin Chalk Wells

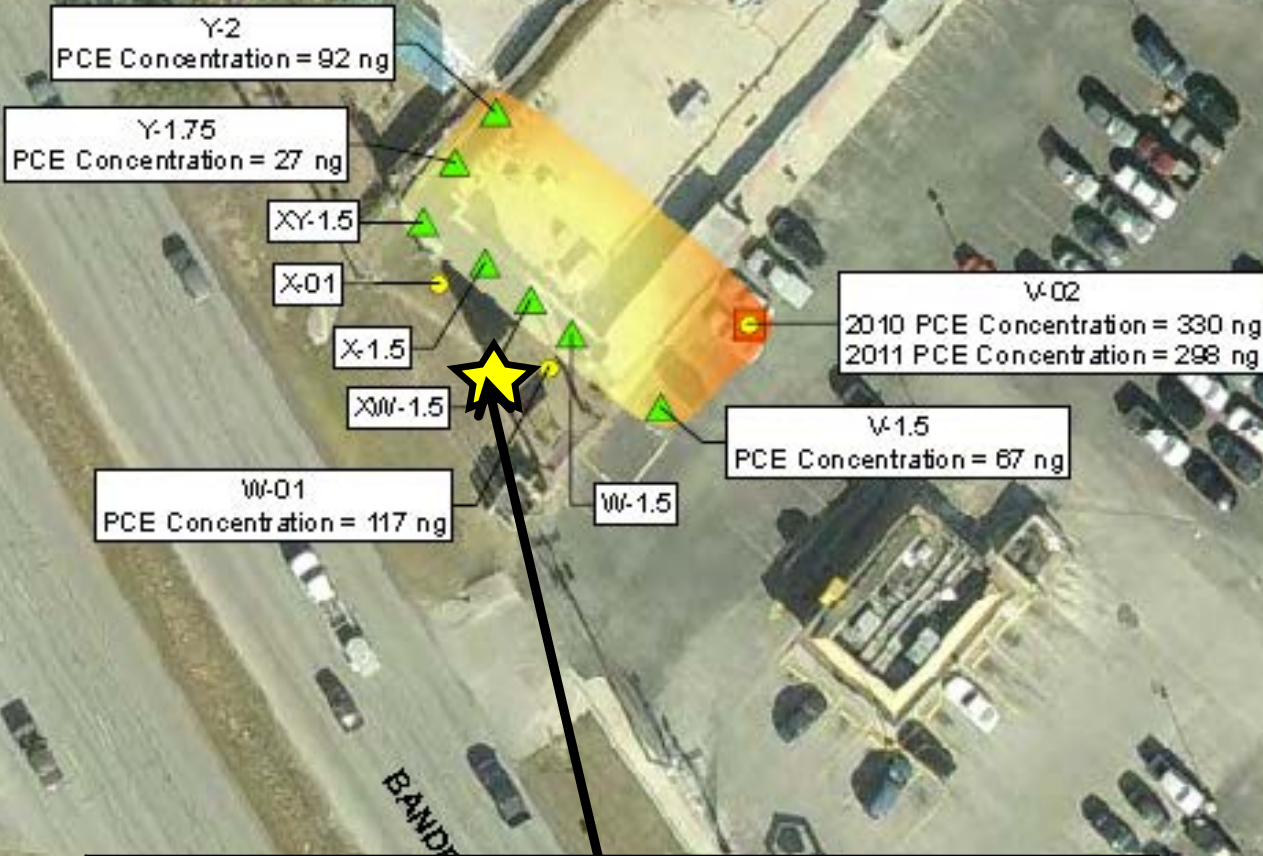


Legend

- Austin Chalk Well
- Austin Chalk/Buda Limestone Well
- Buda Limestone Well
- Edwards Aquifer Well
- Municipal Well
- Unknown Aquifer Well
- Buildings Included in Area of Investigation 1
- Buildings Included in Area of Investigation 2
- Other Areas of Investigation



KWIK WASH CLEANERS



Legend

- January 2011 Passive Soil Gas Locations ▲
- October 2010 Passive Soil Gas Locations ●
- Resample Passive Soil Gas Sample ■

Tetrachloroethene Concentration

Color Scale in Nanograms

300
250
200
150
100
50
0

Notes:

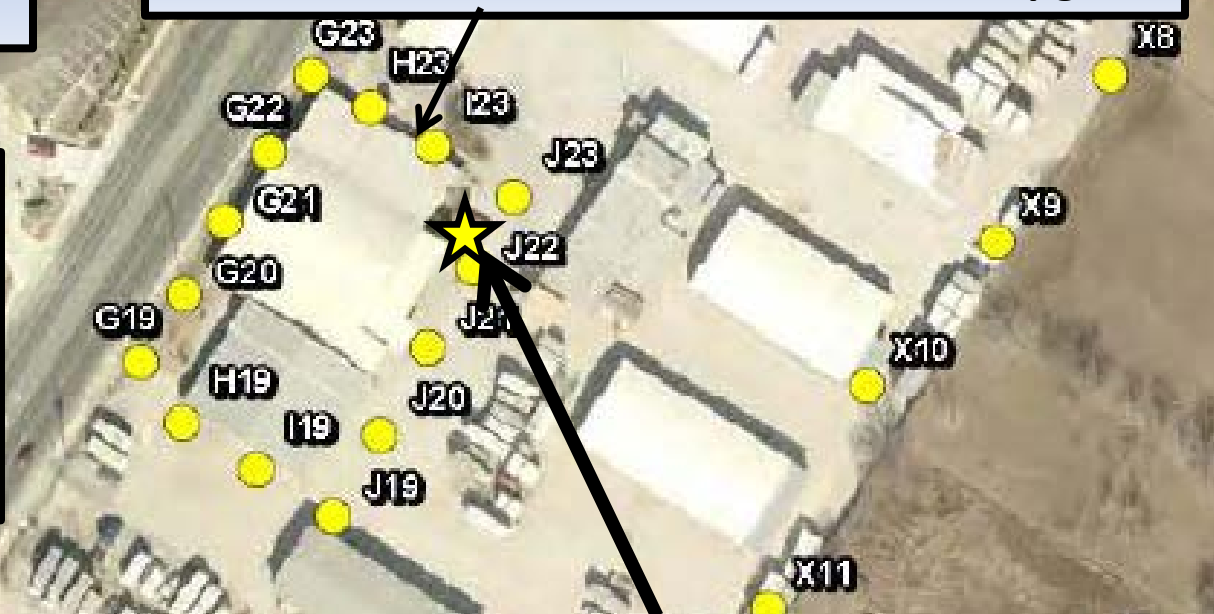
1. PCE concentrations from January 2011 samples
2. PCE - Tetrachloroethene
3. ng - nanogram

MW5 – 7007 Bandera Road (Austin Chalk Well)	
Compound Detected (µg/L)	EPA CLP Lab Data (May 2012)
Tetrachloroethene (PCE)	0.76 LJ

Former Culver
Air Field

Former Edwards Aquifer Well (MW-37 now P&A)
had maximum PCE concentration of 60.4 µg/L

Trace levels of
methylene chloride
up to 165 nano
grams detected in
passive soil gas
samples.



MW3 – 6200 Grissom Road (Austin Chalk Well)

Compound Detected (µg/L)	March 1, 2012 (EPA)	March 1, 2012 (PRP Preliminary Data)	May 7, 2012 (EPA)
Cis-1,2-DCE	0.26 LJ	U	U
Trichloroethene (TCE)	0.17 LJ	U	0.23 LJ
Tetrachloroethene (PCE)	2.0	2.26 B	6.3
Carbon tetrachloride	U	U	0.10 LJ

No prior EPA investigation activities occurred at this location

Former Pride Cleaners and Laundry – 6535 Bandera Road

Compound Detected ($\mu\text{g/L}$)	MW2 (Austin Chalk Well)		MW4 (Alluvium/Shallow Well)	
	March 1, 2012 PRP Preliminary Data	May 7, 2012 EPA	March 1, 2012 PRP Preliminary Data	May 7, 2012 EPA
Tetrachloroethene (PCE)	2.26 B	5.3	0.586 J B	1.3 L J
Cis-1,2-Dichloroethene	U	1.3 L J	U	U
Carbon disulfide	U	U	0.367 J	U
Benzene	U	U	0.0976 J	U
Chloroform	U	U	0.3 J	U
Methylcyclohexane	U	U	1.74	U



Former Pride Cleaners Location

0.28 Mile

Leon Valley Public Water Supply
Grasshill Well
(No VOCs Detected in May 2012)

Sampling Date	Leon Valley Municipal Public Water Supply Wells		
	7520 Huebner Road – USGS-18 (µg/L)	6210 Grass Hill - USGS-50 (µg/L)	
		Original Sample	Duplicate Sample
06/10/2009	0.18 J	0.14 J	0.19 J
06/07/2010	0.10 LJ	0.18 LJ	0.19 LJ
07/12/2010	0.17 LJ	0.24 LJ	0.24 LJ
04/13/2011	U	0.21 LJ	0.20 LJ
10/17/2011	U	U	0.23 LJ
05/07/2012	U	U	U

Notes:

J Estimated value

L Reported concentration below the Contract Required Quantitation Limit

U Compound was not detected at or above the sample detection limit (0.5 µg/L)

EPA/TCEQ Points of Contact

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