



MEETING MINUTES

**20th Street & Factor Avenue
Water Quality Assurance Revolving Fund (WQARF) Site
Community Advisory Board (CAB) Meeting**

**March 26, 2014, 6 – 7 p.m.
Yuma County Main Library, Meeting Room A
2951 S. 21st Dr., Yuma, AZ 85364**

MINUTES

CAB Members Present: Silvia Gunderman, Richard Loebig

CAB Members Absent: Greg Ferguson, Karl Enockson, Kyle Smith, Richard McCloud, Miram Thornton

ADEQ Staff Present: Scott Goodwin, Project Manager; Delfina Olivarez, Community Involvement Coordinator

Members of Public Present: Dick Fisher, community member; Rick Loebig, resident and business owner; Steve Matowick, resident

1. Welcome and Introductions

The meeting began at 6 p.m. Ms. Olivarez conducted introductions.

2. Vote on 5/15/13, 8/14/13 and 1/29/14 Meeting Minutes

No quorum.

3. CAB comments on Community Involvement Plan and Charter

No quorum.

4. Draft Remedial Investigation (RI) Report Review (see attached presentation)

Mr. Goodwin gave a site update and discussed the soil vapor monitoring results of January and February 2011. Mr. Goodwin explained Soil Vapor Screening Levels (SVSLs) and the fact that the 2011 results are below EPA screening levels in both residential and commercial areas of the site. Mr. Goodwin then talked about Proposed Remedial Objectives for the site.

5. Solicitation of public comments on Draft RI

No comments.

6. Solicitation of Remedial Objectives

Silvia Gunderman, Mr. Loebig and Mr. Matowick officially commented to remediate all waters at the site to meet drinking water standards.

7. *Call to the Public

No questions.

8. Future Meeting Plans/Agenda Discussion

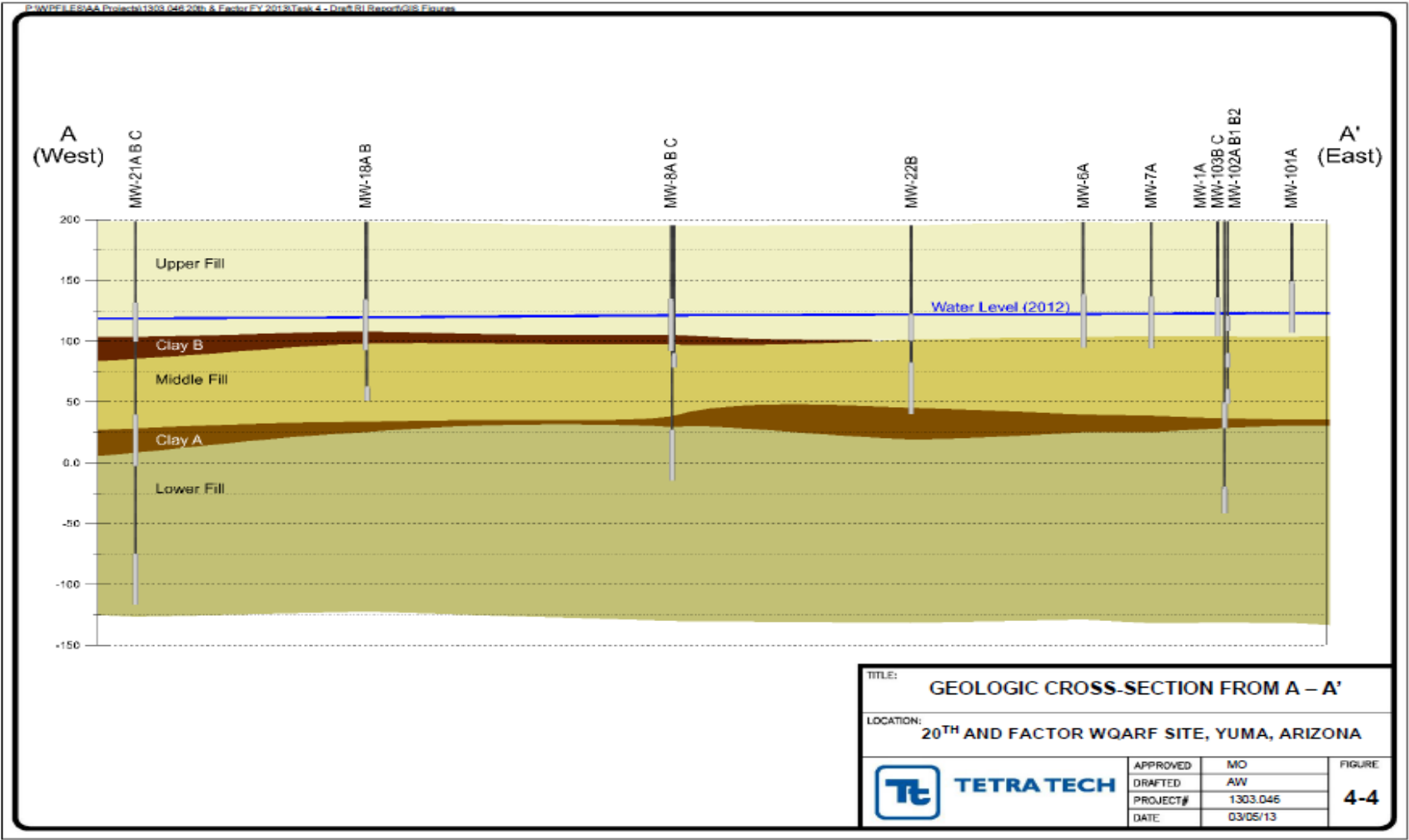
July 23, 2014, 6 p.m.

9. Adjournment

*This meeting was recorded on a digital device as a record of the proceedings. To listen to a recording, or for additional information about the content of this meeting, contact:
ADEQ: Caroline Oppleman at 602-771-6890.*



20th Street & Factor Avenue
Water Quality Assurance Revolving Fund
Site
March 26, 2014



P:\WPFILES\AA\Projects\303 049 20th & Factor PZ014\Task 4.3 - GW Monitoring and Sampling\Groundwater Sampling\GIS Maps



Allice Byrne School

St. Francis School

Ron Marlin

MW-26A
118.04

MW-11A
117.84

MW-21A
117.13

MW-13A
117.83

MW-17A
118.86

PZ-2A
NM

MW-18A
117.84

PZ-1A
NM

MW-28A
119.87

MW-27A
120.08

DMW-10
NM

DEW-18
NM

MW-15A
118.08

MW-8A
119.72

MW-12A
Obstructed

MW-7A
NM

DMW-11
121.12

DMW-18
NM

MW-22A
120.18

DMW-26
120.78

MW-2A
120.83

DMW-8
NM

MW-9A
118.22

MW-14A
119.88

DMW-16
NM

DMW-17
NM

MW-1A
120.89

MW-102A
121.00

MW-20A
119.42

MW-8A
120.83

MW-1A
120.89

MW-101A
121.23

MW-10A
118.01

MW-5A
120.67

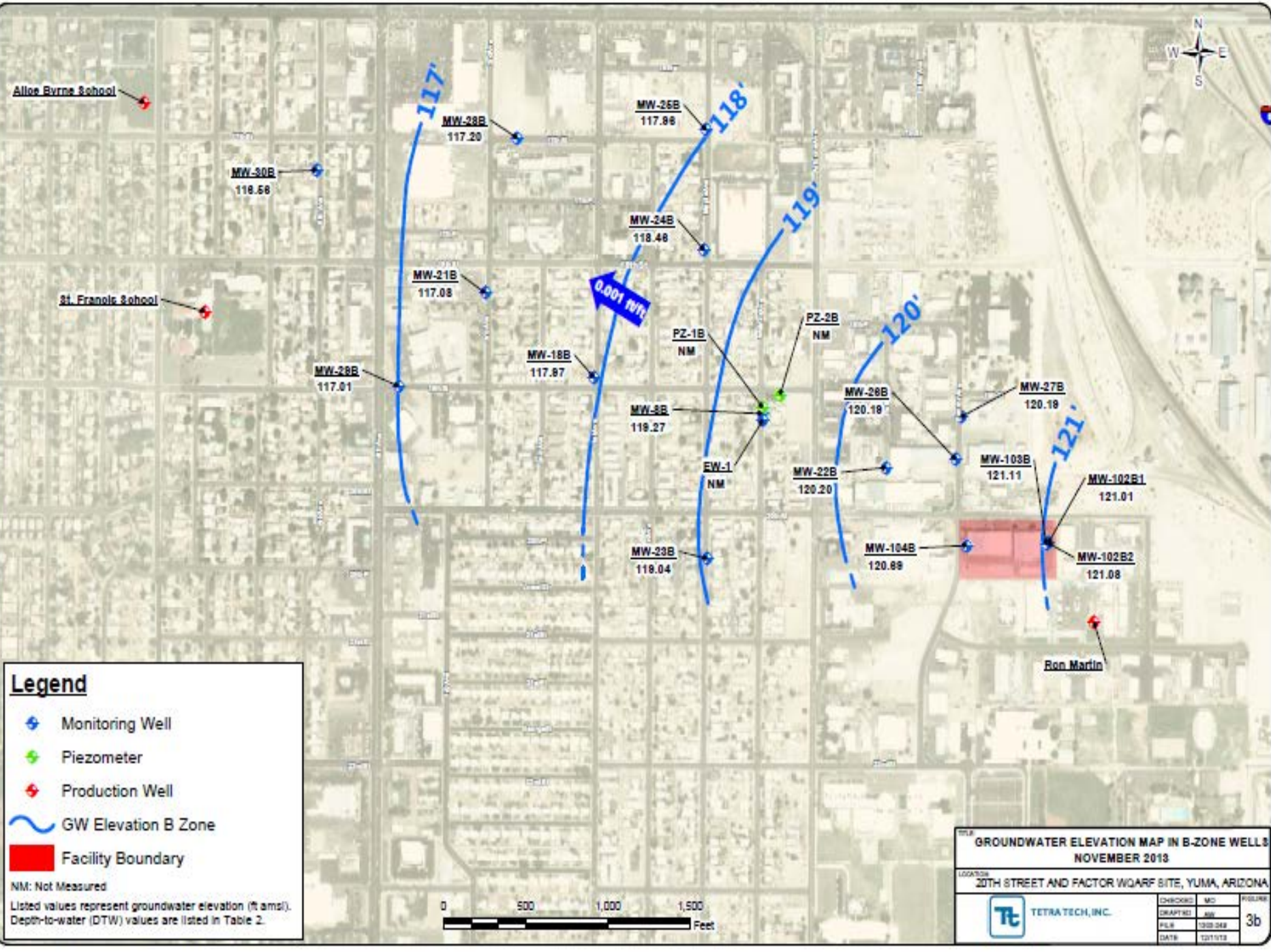
MW-3A
121.02

MW-19A
120.00

MW-4A
120.80

MW-18A
119.81

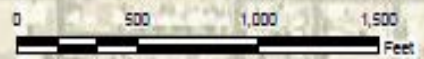
PMWSP-LESMA, Project 1303.066 20th & Factor F1201 47 task 4.3 - GW Monitoring and Sampling Groundwater Sampling GIS Map



Legend

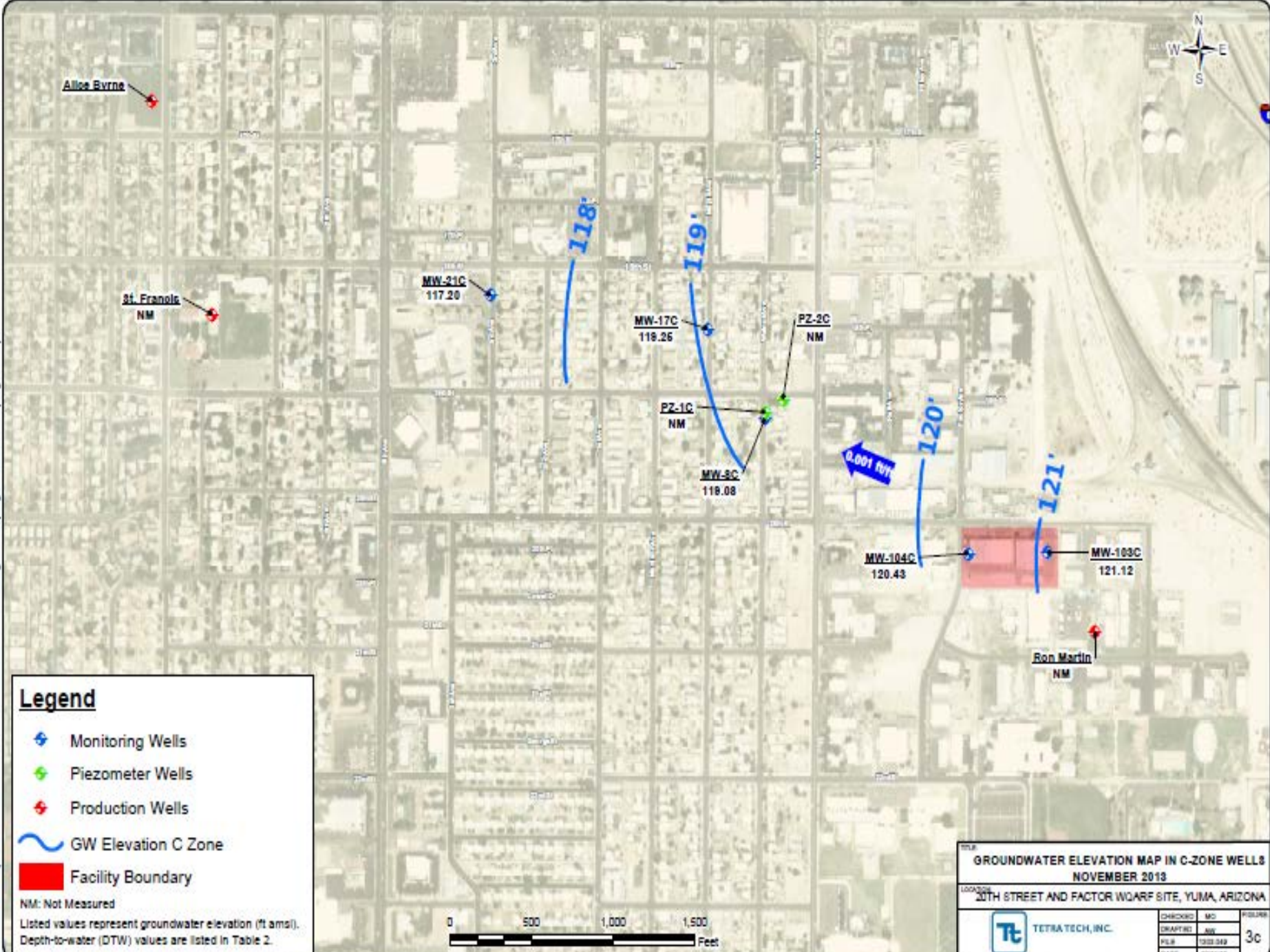
- Monitoring Well
- Piezometer
- Production Well
- GW Elevation B Zone
- Facility Boundary

NM: Not Measured
 Listed values represent groundwater elevation (ft amsl).
 Depth-to-water (DTW) values are listed in Table 2.



TITLE GROUNDWATER ELEVATION MAP IN B-ZONE WELLS NOVEMBER 2013			
LOCATION 20TH STREET AND FACTOR WQARF SITE, YUMA, ARIZONA			
	CHECKED: MD	FILE	1303.066
	DRAWN: AM	DATE	12/11/13
	TETRA TECH, INC.		3b

P:\WPFILES\A\Projects\1303 049 20th & Factor\Factor\FY2014\Task 4.3 - GW Monitoring and Sampling\Groundwater Sampling\0318 Maps



Alice Byrne

St. Francis
NM

MW-21C
117.20

MW-17C
118.26

PZ-2C
NM

PZ-1C
NM

MW-3C
118.08

MW-104C
120.43

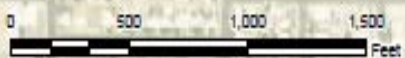
MW-103C
121.12

Ron Martin
NM

Legend

- Monitoring Wells
- Piezometer Wells
- Production Wells
- GW Elevation C Zone
- Facility Boundary

NM: Not Measured
Listed values represent groundwater elevation (ft amsl).
Depth-to-water (DTW) values are listed in Table 2.



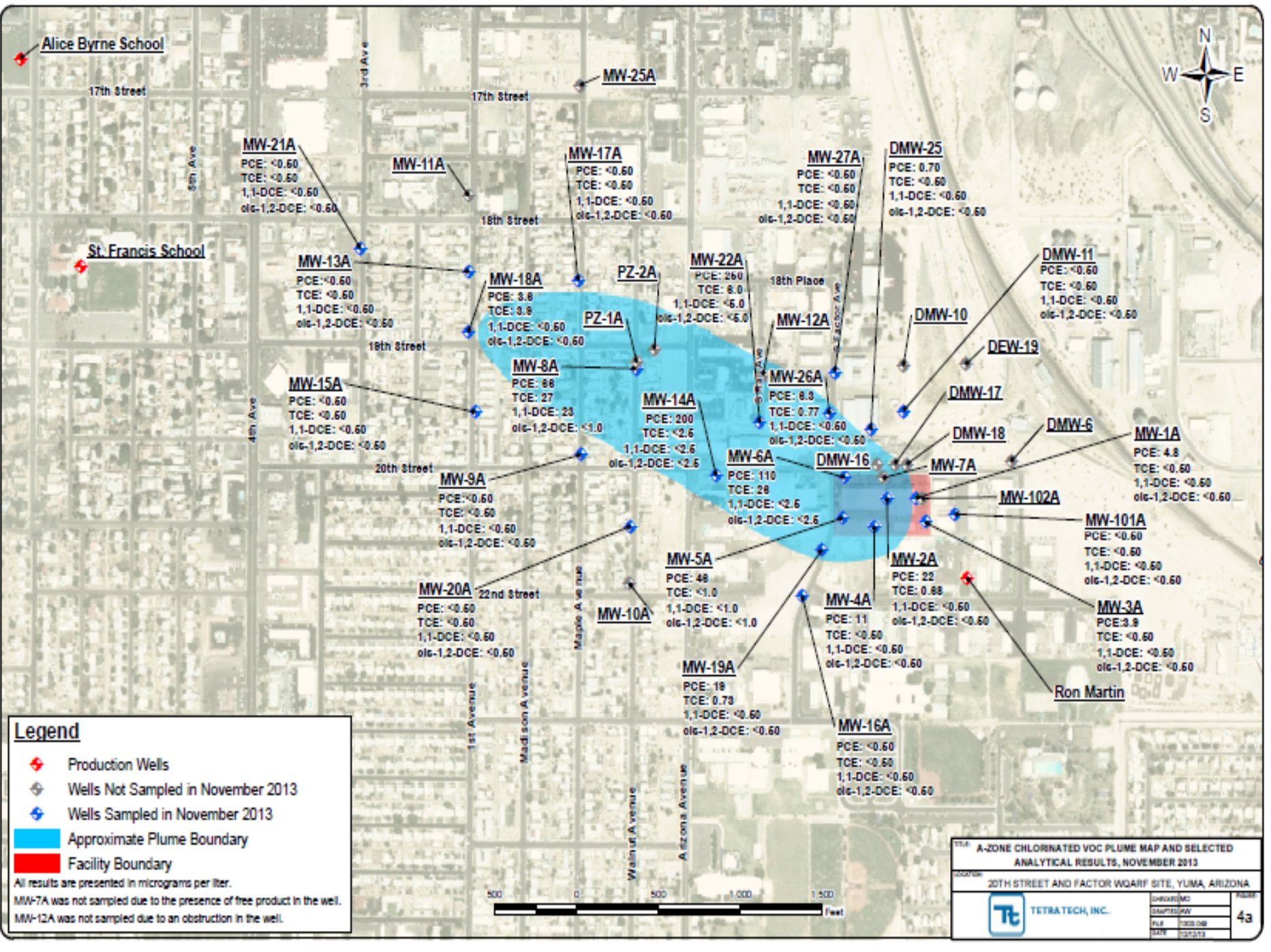
GROUNDWATER ELEVATION MAP IN C-ZONE WELLS
NOVEMBER 2013

20TH STREET AND FACTOR WQARF SITE, YUMA, ARIZONA



TETRA TECH, INC.

CHECKED	MC	FIGURE
DRAWN	JW	3c
FILE	1303_049	
DATE	12/11/13	

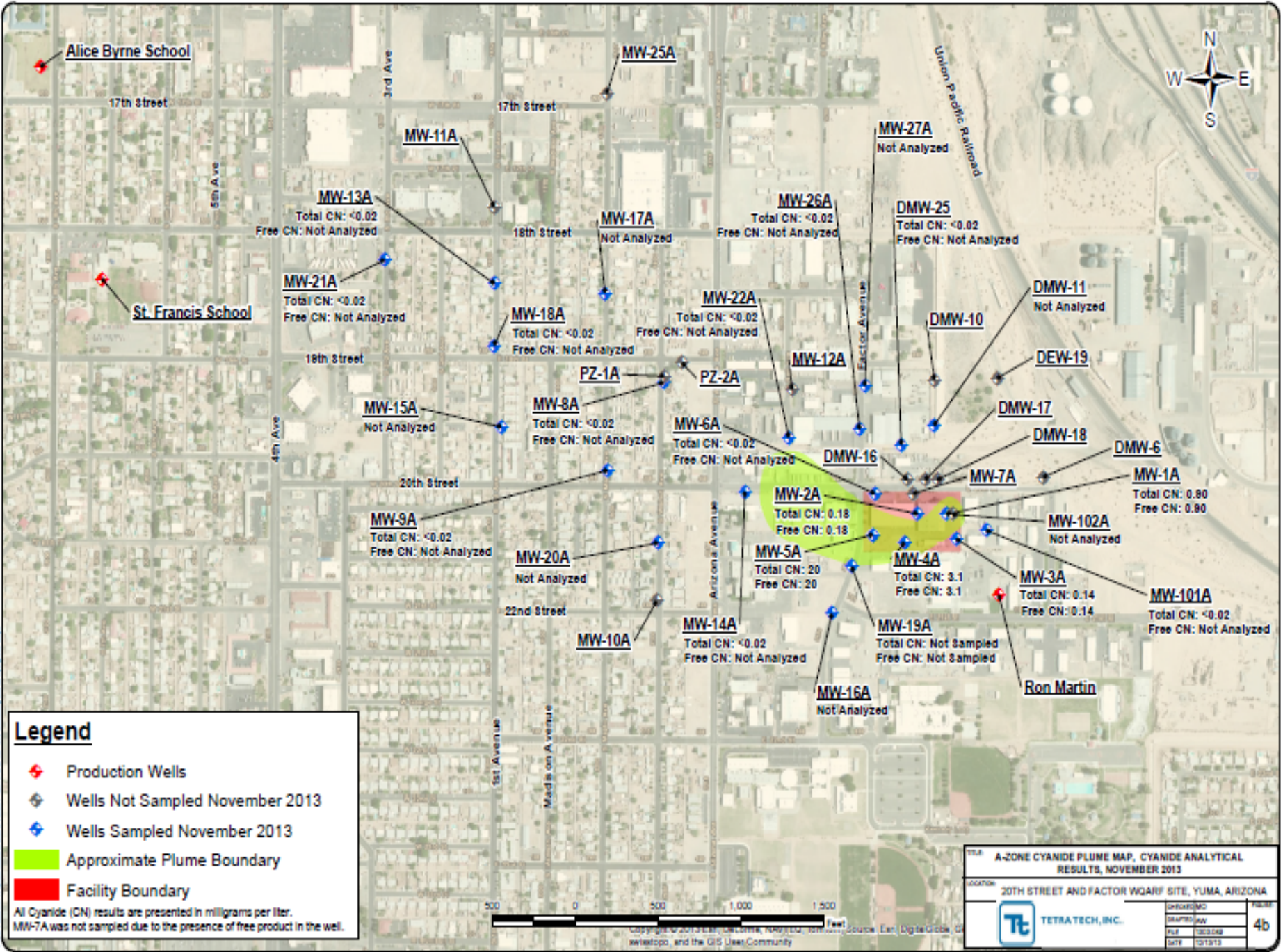


Legend

- ◆ Production Wells
- ◆ Wells Not Sampled in November 2013
- ◆ Wells Sampled in November 2013
- Approximate Plume Boundary
- Facility Boundary

All results are presented in micrograms per liter.
 MW-7A was not sampled due to the presence of free product in the well.
 MW-12A was not sampled due to an obstruction in the well.

A-ZONE CHLORINATED VOC PLUME MAP AND SELECTED ANALYTICAL RESULTS, NOVEMBER 2013					
20TH STREET AND FACTOR WQARF SITE, YUMA, ARIZONA					
TETRA TECH, INC.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">DATE</td> <td style="font-size: small;">DRAWN BY</td> </tr> <tr> <td style="font-size: small;">REV</td> <td style="font-size: small;">DATE</td> </tr> </table>	DATE	DRAWN BY	REV	DATE
DATE	DRAWN BY				
REV	DATE				
43					

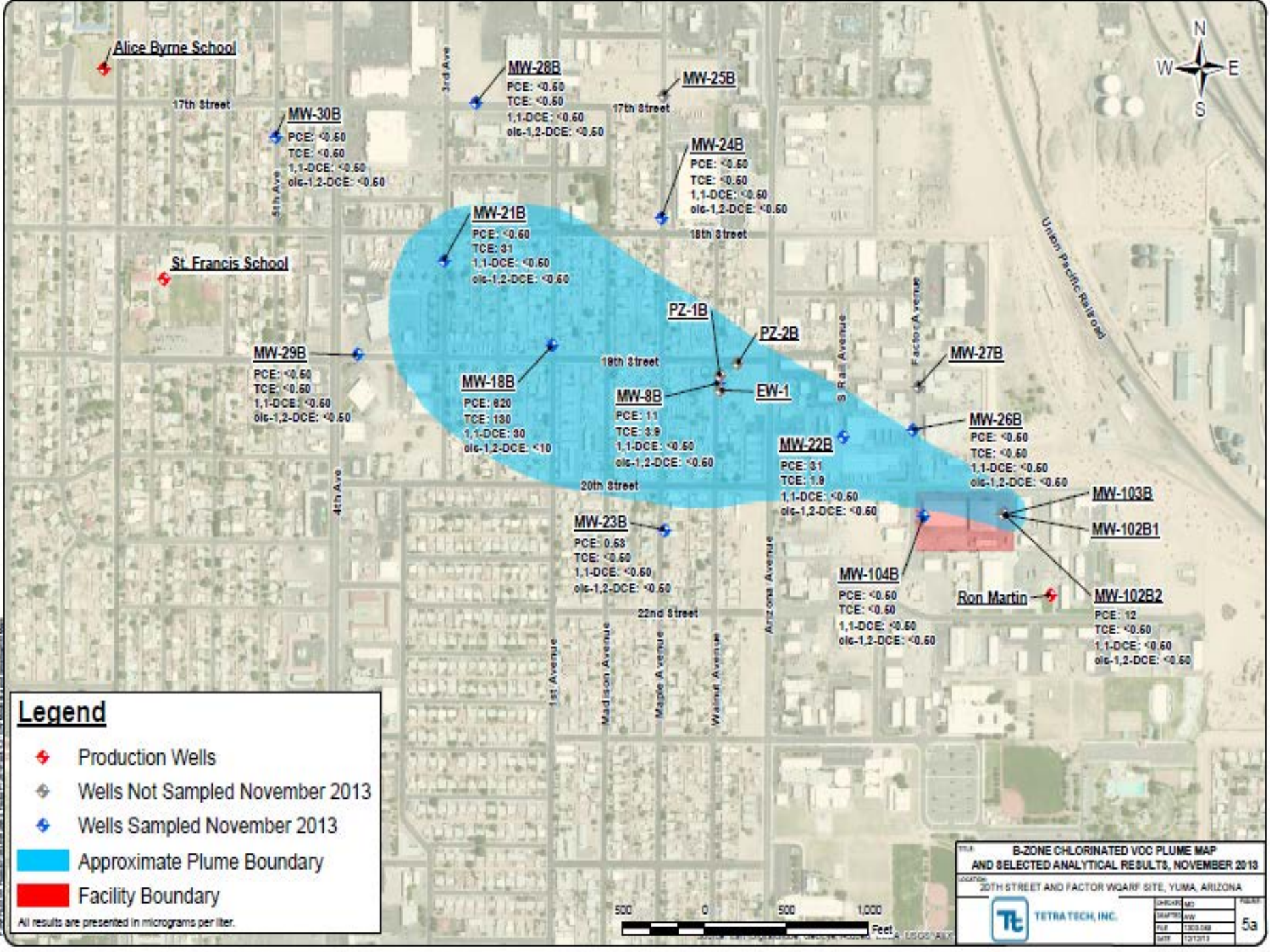


Legend

- ◆ Production Wells
- ◆ Wells Not Sampled November 2013
- ◆ Wells Sampled November 2013
- Approximate Plume Boundary
- Facility Boundary

All Cyanide (CN) results are presented in milligrams per liter.
 MW-7A was not sampled due to the presence of free product in the well.

TITLE A-ZONE CYANIDE PLUME MAP, CYANIDE ANALYTICAL RESULTS, NOVEMBER 2013							
LOCATION 20TH STREET AND FACTOR WQARF SITE, YUMA, ARIZONA							
TETRA TECH, INC.	<table border="1"> <tr> <td>DATE: 12/18/13</td> <td>FILE: 083.008</td> </tr> <tr> <td>DRAWN: JAV</td> <td>SCALE:</td> </tr> <tr> <td>CHECKED: MD</td> <td>PROJECT:</td> </tr> </table>	DATE: 12/18/13	FILE: 083.008	DRAWN: JAV	SCALE:	CHECKED: MD	PROJECT:
DATE: 12/18/13	FILE: 083.008						
DRAWN: JAV	SCALE:						
CHECKED: MD	PROJECT:						
4b							

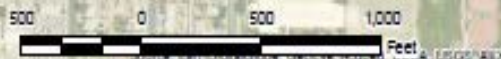


Legend

- Production Wells
- Wells Not Sampled November 2013
- Wells Sampled November 2013
- Approximate Plume Boundary
- Facility Boundary

All results are presented in micrograms per liter.

Well ID	PCE	TCE	1,1-DCE	o1c-1,2-DCE
MW-28B	<0.60	<0.60	<0.60	<0.60
MW-25B	<0.60	<0.60	<0.60	<0.60
MW-24B	<0.60	<0.60	<0.60	<0.60
MW-21B	<0.60	<0.60	<0.60	<0.60
MW-18B	820	130	30	<10
MW-8B	11	3.9	<0.60	<0.60
MW-22B	31	1.8	<0.60	<0.60
MW-26B	<0.60	<0.60	<0.60	<0.60
MW-103B	<0.60	<0.60	<0.60	<0.60
MW-102B1	<0.60	<0.60	<0.60	<0.60
MW-102B2	12	<0.60	<0.60	<0.60
MW-23B	0.63	<0.60	<0.60	<0.60
MW-29B	<0.60	<0.60	<0.60	<0.60
MW-30B	<0.60	<0.60	<0.60	<0.60
PZ-1B				
PZ-2B				
EW-1				



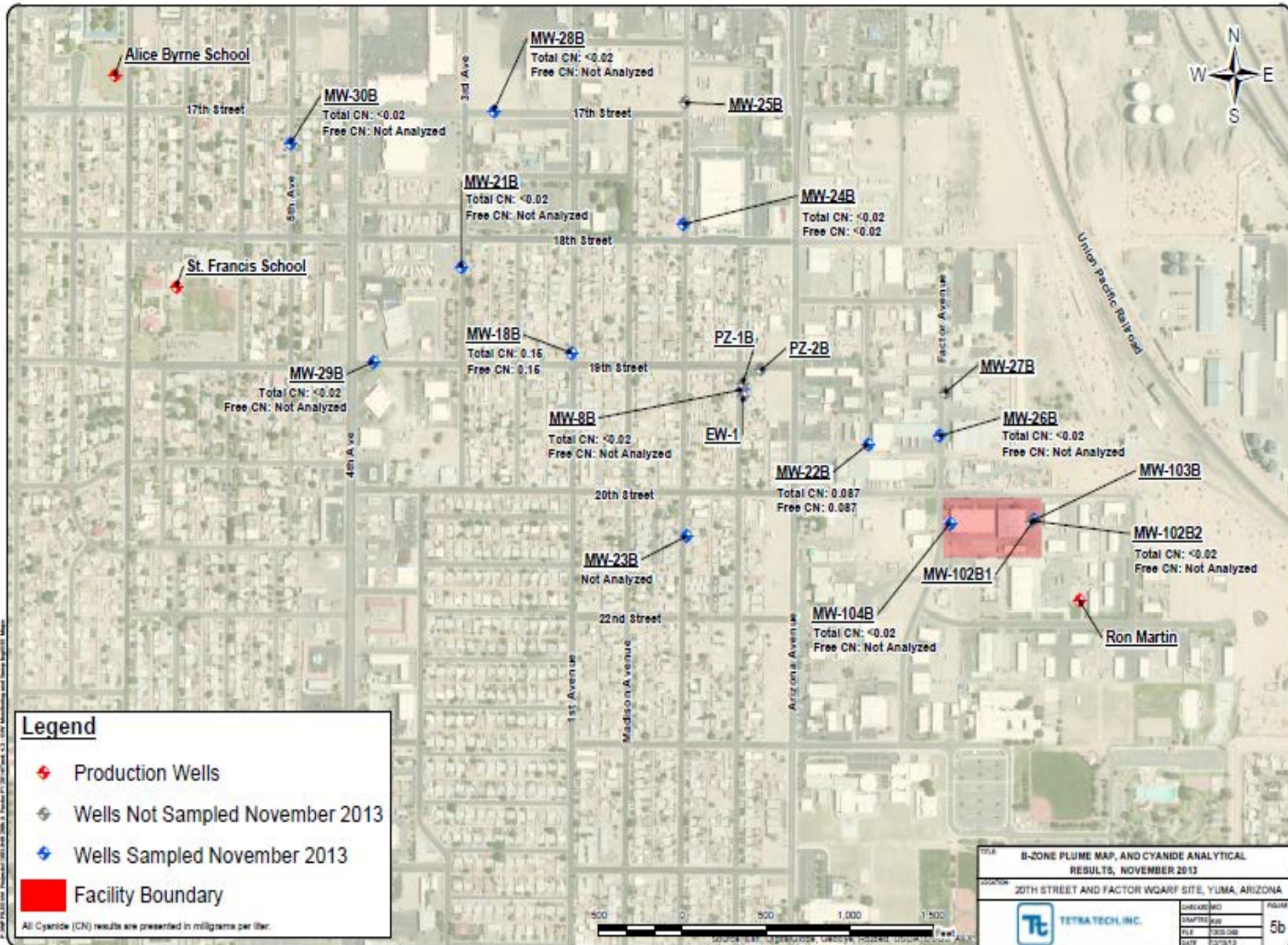
B-ZONE CHLORINATED VOC PLUME MAP AND SELECTED ANALYTICAL RESULTS, NOVEMBER 2013

LOCATION: 20TH STREET AND FACTOR WQARF SITE, YUMA, ARIZONA

DATE: 11/13/13	SCALE: 1:1000
FILE: 1303.08	DATE: 11/13/13

Tt TETRA TECH, INC.

5a



Legend

- ◆ Production Wells
- ◆ Wells Not Sampled November 2013
- ◆ Wells Sampled November 2013
- Facility Boundary

All Cyanide (CN) results are presented in milligrams per liter.

TITLE B-ZONE PLUME MAP, AND CYANIDE ANALYTICAL RESULTS, NOVEMBER 2013		
LOCATION 20TH STREET AND FACTOR WQRF SITE, YUMA, ARIZONA		
TETRA TECH, INC.	DATE: 11/13/13 DRAWN BY: [Name] FILE: [Name] DATE: 11/13/13	PAGE: 5b



Alice Byrne

PCE: <0.60
TCE: <0.60
1,1-DCE: <0.60
cis-1,2-DCE: <0.60
Total CN: <0.02
Free CN: Not Analyzed

St. Francis

PCE: <0.60
TCE: <0.60
1,1-DCE: <0.60
cis-1,2-DCE: <0.60
Total CN: <0.02
Free CN: Not Analyzed

MW-21C

PCE: <0.60
TCE: <0.60
1,1-DCE: <0.60
cis-1,2-DCE: <0.60
Total CN: <0.02
Free CN: Not Analyzed

MW-17C

PZ-1C

PZ-2C

MW-8C

PCE: 4.8
TCE: 2.0
1,1-DCE: <0.60
cis-1,2-DCE: <0.60
Total CN: <0.02
Free CN: Not Analyzed

MW-103C

PCE: 1.1
TCE: <0.60
1,1-DCE: <0.60
cis-1,2-DCE: <0.60
Total CN: <0.02
Free CN: Not Analyzed

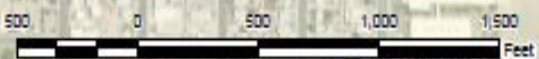
MW-104C

Ron Martin

Legend

- Production Wells
- Wells Not Sampled November 2013
- Wells Sampled November 2013
- Facility Boundary

VOC results are presented in micrograms per liter.
Cyanide (CN) results are presented in milligrams per liter.



TITLE: C-ZONE MAP, SELECTED ANALYTICAL RESULTS, NOVEMBER 2013

LOCATION: 20TH STREET AND FACTOR WQARF SITE, YUMA, ARIZONA

DATE	11/07/13
FILE	200349
DRWTR	JWW
CHECKED BY	

6

SOURCE: ESRI, DIGITALGLOBE, GEBCO, HERE, HOUDR, USGS, USGS-REX

Soil Vapor Screening Levels (SVSLs) are risk-based concentrations considered protective of human health should the chemical(s) detected in the soil vapor migrate into an occupied structure. Per the EPA Office of Solid Waste and emergency Response (OSWER) 2012 guidance, SVSLs are generally developed by dividing an acceptable risk-based concentration of a particular chemical in indoor air by an attenuation factor. An attenuation factor represents the reduction in vapor concentrations between a subsurface source and indoor air. In a March 2012 publication, the EPA recommended using a default sub slab soil vapor attenuation factor for slab-on-grade construction of 0.03. For the compounds of concern, the SVSL is calculated as:

$$\text{SVSL} = \frac{\text{The allowed indoor air level (from EPA Regional Screening Levels)}}{\text{The attenuation factor}}$$

The PCE indoor air screening level (1 in 1 million risk level) is 9.4 ug/m³,

$$\text{Therefore, PCE SVSL} = \frac{9.4 \text{ ug/m}^3}{0.03} = 313 \text{ ug/m}^3$$

The TCE indoor air screening level (1 in 1 million risk level) is 0.43 ug/m³,

$$\text{Therefore, TCE SVSL} = \frac{0.43 \text{ ug/m}^3}{0.03} = 14.3 \text{ ug/m}^3$$

The Non cancer Hazardous Index, (HI) must also be evaluated.

The PCE indoor air screening level for an HI of 1 is 42 ug/m³, and the TCE screening level for an HI of 1 is 2.1 ug/m³.

$$\text{Therefore, PCE HI SVSL} = \frac{42 \text{ ug/m}^3}{0.03} = 1,400 \text{ ug/m}^3$$

$$\text{Therefore, TCE HI SVSL} = \frac{2.1 \text{ ug/m}^3}{0.03} = 70 \text{ ug/m}^3$$

Commercial Soil Vapor Screening Levels

The PCE commercial indoor air screening level (1 in 100,000 risk level) is 470 ug/m³,

$$\text{Therefore, PCE Commercial SVSL} = \frac{470 \text{ ug/m}^3}{0.03} = 15,667 \text{ ug/m}^3$$

The TCE commercial indoor air screening level (1 in 100,000 risk level) is 30 ug/m³,

$$\text{Therefore, TCE Commercial SVSL} = \frac{30.0 \text{ ug/m}^3}{0.03} = 1,000 \text{ ug/m}^3$$

The Non cancer HI must also be evaluated.

The PCE commercial indoor air screening level for an HI of 1 is 180 ug/m³, and the TCE commercial indoor screening level for an HI of 1 is 8.8 ug/m³.

$$\text{Therefore, PCE Commercial HI SVSL} = \frac{180 \text{ ug/m}^3}{0.03} = 6,000 \text{ ug/m}^3$$

$$\text{Therefore, TCE Commercial HI SVSL} = \frac{8.8 \text{ ug/m}^3}{0.03} = 293.3 \text{ ug/m}^3$$



Summary Table for Soil Vapor Screening Levels

Compound	Residential Cancer Risk	Residential HI	Commercial Cancer Risk	Commercial HI
PCE	313	1,400	15,670	6,000
TCE	14	70	1,000	293
HCN	N/A	28	N/A	117

Bold = driving concentration

Units ug/m³

HI = Hazard Index

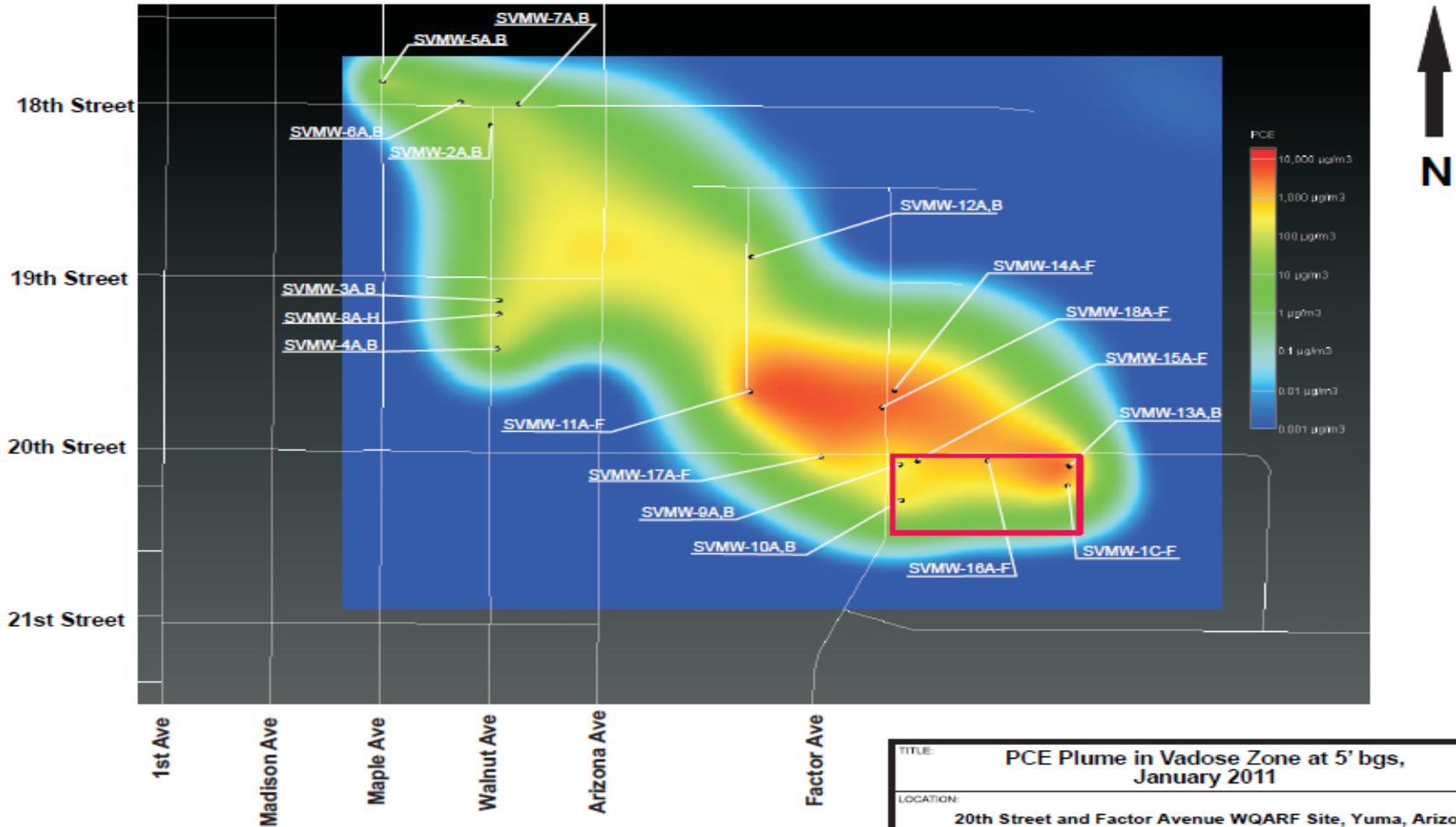
N/A = Not applicable



Hydrogen Cyanide Soil Vapor Sampling

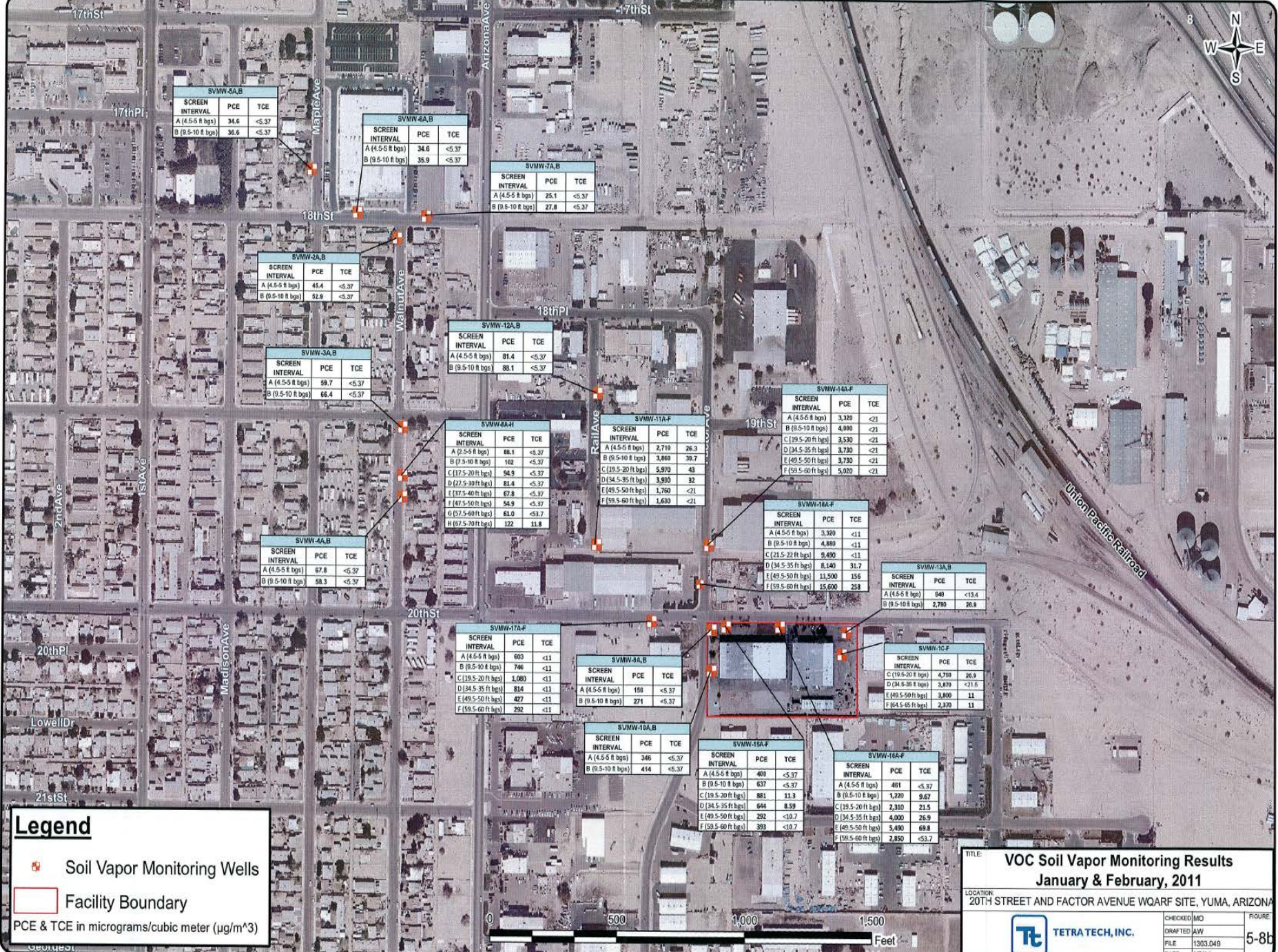
Permanent soil vapor probes were extensively sampled in 2011 for hydrogen cyanide. Hydrogen cyanide was not detected above a concentration of 7.85 ug/m³.

Generalized PCE Soil Vapor Concentrations



*Note:
 Facility Boundary

TITLE: PCE Plume in Vadose Zone at 5' bgs, January 2011		
LOCATION: 20th Street and Factor Avenue WQARF Site, Yuma, Arizona		
	APPROVED: JZ	FIGURE
	DRAFTED: BB	5-2
	PROJECT#: 1303.049	
	DATE: 12/11/13	



SVMW-5A,B			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	34.6	<5.37	
B (9.5-10 ft bgs)	36.6	<5.37	

SVMW-4A,B			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	34.6	<5.37	
B (9.5-10 ft bgs)	35.9	<5.37	

SVMW-7A,B			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	25.1	<5.37	
B (9.5-10 ft bgs)	27.8	<5.37	

SVMW-2A,B			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	45.4	<5.37	
B (9.5-10 ft bgs)	52.8	<5.37	

SVMW-12A,B			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	81.4	<5.37	
B (9.5-10 ft bgs)	88.1	<5.37	

SVMW-3A,B			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	59.7	<5.37	
B (9.5-10 ft bgs)	66.4	<5.37	

SVMW-11A-F			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	2,710	26.3	<21
B (9.5-10 ft bgs)	3,880	30.7	<21
C (19.5-20 ft bgs)	5,970	43	<21
D (34.5-35 ft bgs)	5,930	32	<21
E (49.5-50 ft bgs)	1,760	<21	<21
F (59.5-60 ft bgs)	1,630	<21	<21

SVMW-14A-F			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	3,320	<21	
B (9.5-10 ft bgs)	4,000	<21	
C (19.5-20 ft bgs)	3,530	<21	
D (34.5-35 ft bgs)	3,730	<21	
E (49.5-50 ft bgs)	3,730	<21	
F (59.5-60 ft bgs)	5,020	<21	

SVMW-8A-H			
SCREEN INTERVAL	PCE	TCE	
A (2.5-3 ft bgs)	88.1	<5.37	
B (7.5-10 ft bgs)	102	<5.37	
C (17.5-20 ft bgs)	94.9	<5.37	
D (27.5-30 ft bgs)	81.4	<5.37	
E (37.5-40 ft bgs)	67.8	<5.37	
F (47.5-50 ft bgs)	54.9	<5.37	
G (57.5-60 ft bgs)	61.0	<5.37	
H (67.5-70 ft bgs)	122	11.8	

SVMW-18A-F			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	3,320	<11	
B (9.5-10 ft bgs)	4,880	<11	
C (21.5-22 ft bgs)	9,490	<11	
D (34.5-35 ft bgs)	8,140	31.7	
E (49.5-50 ft bgs)	11,500	156	
F (59.5-60 ft bgs)	15,600	258	

SVMW-13A,B			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	940	<13.4	
B (9.5-10 ft bgs)	2,780	26.9	

SVMW-17A-F			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	603	<11	
B (9.5-10 ft bgs)	746	<11	
C (19.5-20 ft bgs)	1,080	<11	
D (34.5-35 ft bgs)	814	<11	
E (49.5-50 ft bgs)	427	<11	
F (59.5-60 ft bgs)	292	<11	

SVMW-9A,B			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	156	<5.37	
B (9.5-10 ft bgs)	271	<5.37	

SVMW-15A-F			
SCREEN INTERVAL	PCE	TCE	
C (19.5-20 ft bgs)	881	11.3	
D (34.5-35 ft bgs)	644	8.59	
E (49.5-50 ft bgs)	292	<10.7	
F (59.5-60 ft bgs)	393	<10.7	

SVMW-10A,B			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	346	<5.37	
B (9.5-10 ft bgs)	414	<5.37	

SVMW-15A-F			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	460	<5.37	
B (9.5-10 ft bgs)	637	<5.37	
C (19.5-20 ft bgs)	881	11.3	
D (34.5-35 ft bgs)	644	8.59	
E (49.5-50 ft bgs)	292	<10.7	
F (59.5-60 ft bgs)	393	<10.7	

SVMW-16A-F			
SCREEN INTERVAL	PCE	TCE	
A (4.5-5 ft bgs)	461	<5.37	
B (9.5-10 ft bgs)	1,220	9.67	
C (19.5-20 ft bgs)	2,310	21.5	
D (34.5-35 ft bgs)	4,000	26.9	
E (49.5-50 ft bgs)	5,490	69.8	
F (59.5-60 ft bgs)	2,850	<53.7	

Legend

- Soil Vapor Monitoring Wells
- Facility Boundary

PCE & TCE in micrograms/cubic meter ($\mu\text{g}/\text{m}^3$)

TITLE VOC Soil Vapor Monitoring Results
January & February, 2011

LOCATION 20TH STREET AND FACTOR AVENUE WQARF SITE, YUMA, ARIZONA

Tetra Tech, Inc.

CHECKED	MO	FIGURE
DRAFTED	AW	5-8t
FILE	1303.049	
DATE	1/8/14	



Remedial Investigation Comments

RI Comments

When you are called on, please state the following:

Name

Organization/Company

Address

Phone and/or e-mail

Summarize your Comment

Please remember, all comments must be received by 5:00pm on April 8, 2014.

Remedial Objectives (ROs) under R18-16-406(I)(4) are established for the current and reasonably foreseeable uses of land and beneficial uses of waters of the state.

ROs are the clean-up goals determined for a specific site.

ROs will be framed as uses of a resource to be protected, when the use needs to be available and how long a specific use might be needed by the affected public.

ROs must be determined with input and discussion with land owners, local governments, water providers, and the public including the CAB members for the site.

Example ROs from another WQARF site.

To restore soil conditions to the remediation standards for residential and non-residential use specified in A.A.C. R18-7-203 (specifically background remediation standards prescribed in R18-7-204, predetermined remediation standards prescribed in R18-7-205, or site specific remediation standards prescribed in R18-7-206) that are applicable to the hazardous substances identified. This action is needed for the present time and for as long as the level of contamination in the soil threatens its use as a residential or non-residential property.

The remedial objective for regional groundwater at the site is to protect for the use of the groundwater supply by the City of Phoenix, and SRP. This action is currently needed and will be needed if/when groundwater use changes to municipal/drinking water uses. This action will be needed for as long as the level of contamination in the groundwater threatens the use of the regional groundwater for municipal/drinking water uses.

- Example RO comment: “ I would like the ground water at the site cleaned so it can be used for drinking water if needed.”

When you are called on, please state the following:

- Name
- Organization/Company
- Address
- Phone and/or e-mail
- Summarize your Comment
- Please remember, all comments must be received by 5:00pm on April 8, 2014.

Questions?

Contact Information

Scott Goodwin, Project Manager
Remedial Projects Section

sdg@azdeq.gov

(602) 771-4452, 1800-234-5677 ext 771-4452

Delfina Olivarez, Community Involvement Coordinator
Remedial Projects Section

dco@azdeq.gov

(602) 771-4710, 1800-234-5677 ext 771-4710