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Site LF004 Landfill Remedial Action

BCT Conference Call
17 October 2019

Battle Ready…Built Right!

ED_005025_00010471-00001

LF004 Recent and Upcoming Activities

- Post remediation soil gas sampling is complete
- Draft annual landfill inspection report under regulatory review since 17 Jun 2019
- Annual landfill inspection scheduled for 23 Oct 2019
- Planning in progress for decommissioning of SVE and IWAS treatment systems
- Semi-annual PDB sampling scheduled for Oct/Nov 2019

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Site FT002
Fire Training Area Remedial Action

BCT Conference Call
17 October 2019

Site FT002 Update

- AF approved keeping the DEUR in place Nov 2018
- AF will prepare Explanation of Significant Differences (ESD) document to add the land use control to the ROD
- Responses to EPA and ADEQ comments on Remedial Action Completion Report under final AF review. Report is being revised in accordance with the responses to comments.
- If necessary, a technical conference call with regulatory agencies to resolve comments can be scheduled

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Site SS017

Old Pesticide/Paint Shop

BCT Conference Call

19 September 2019

Site SS017 Groundwater Monitoring Update Path Forward

- Q3 (Aug) 2018 data summary report submitted 12 Apr 2019 is under regulatory review
- Annual (Nov) 2018 groundwater report submitted 18 Apr 2019. Reissued hard copy reports on 30 Apr 2019. Report is under regulatory review.
- Q3 2019 quarterly sampling completed in Aug 2019. Preliminary results on next slide
- Q2 (Jun) 2019 data summary report under AF review.

Site SS017 MW02
August 2019
Preliminary Groundwater Monitoring Summary

- **Dieldrin exceeded the EPA Health Advisory of 0.2 µg/L in MW02 at (0.380 µg/L) dup (0.330 µg/L)(previous sample 0.087 µg/L)**

- **Aldrin was detected at a concentration of 0.0009 J µg/L in the duplicate sample but not detected in the original SS017-MW02 sample. The results were below the EPA RSL of 0.057 µg/L**

- **Chlordane exceeded the EPA RSL of 0.02 µg/L but not MCL of 2.0 µg/L : (0.058 µg/L) dup (0.055 µg/L)**

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Site SS017 MW02
August 2019
Preliminary Groundwater Monitoring Summary

- Endrin was detected at concentrations of 0.003 and 0.0028 (duplicate) µg/L. The results were below the EPA RSL of 0.046 µg/L.
- 4,4'-DDD was detected at a concentration of 0.0012 J µg/L and not detected in the duplicate sample. The results were below the EPA RSL of 0.057 µg/L.
- 4,4'-DDE was detected at concentrations of 0.00098 J and 0.00082 J (duplicate) µg/L. The results were below the EPA RSL of 0.046 µg/L.

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Parcel K-1-2 Property Transfer

- Draft FOST and SEBS issued 30 November 2018
- ADEQ comments received 3 and 7 January 2019
- Draft final FOST and SEBS including RTC to ADEQ comments posted for public comment. Comment period end 25 Mar 2019; no comments received.
- EPA comments received 11 Mar 2019
- Draft final FOST and SEBS issued to ASU for coordination
- FOST (final version in track changes responding to EPA comments) was issued via email for regulatory concurrence 24 Jul 2019 with follow up email 9 Aug 2019
- FOST clean copy with all revisions, responses to comment and ADEQ requested changes issued 15 Oct 2019
- Final FOST to be routed for AF signature after regulatory concurrence
- Draft DEUR and assignment package to be prepared

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Site ST035
Former Building 760

BCT Conference Call
17 October 2019

ST035 Update

- SVE system and enclosure decommissioning completed in July. ASU has indicated that the concrete pad, walls, and fencing will be retained for use by facilities management.
- Well abandonment activities began on 12 Oct 2019

ED_005025_00010471-00011

Partial Deletion

BCT Conference Call
17 October 2019

PARTIAL DELETION UPDATE

- Draft table and figure submitted for regulatory review on 29 Sep 2014
- Comments received by ADEQ during Sep 2014 BCT meeting addressed in follow on email. No comments received from EPA.
- Deletion on hold during SS017 and ST012 informal disputes
- Final deletion tables and figure ready for submittal and provided to BCT in April 2019 BCT meeting
- Draft NOIPD AF review complete on 15 Oct 2019
- Draft NOIPD submittal for ADEQ/EPA review scheduled for Oct 2019

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Site ST012

Former Liquid Fuel Storage Area

BCT Conference Call

17 October 2019

Site ST012 Outline

- Summary of activities since Sep BCT call
- Update on SVE system (JP-4 equivalent of methane)
- LNAPL removal update
- Updated on benzene and sulfate concentrations
- Pilot study extraction/injection update
- Path forward

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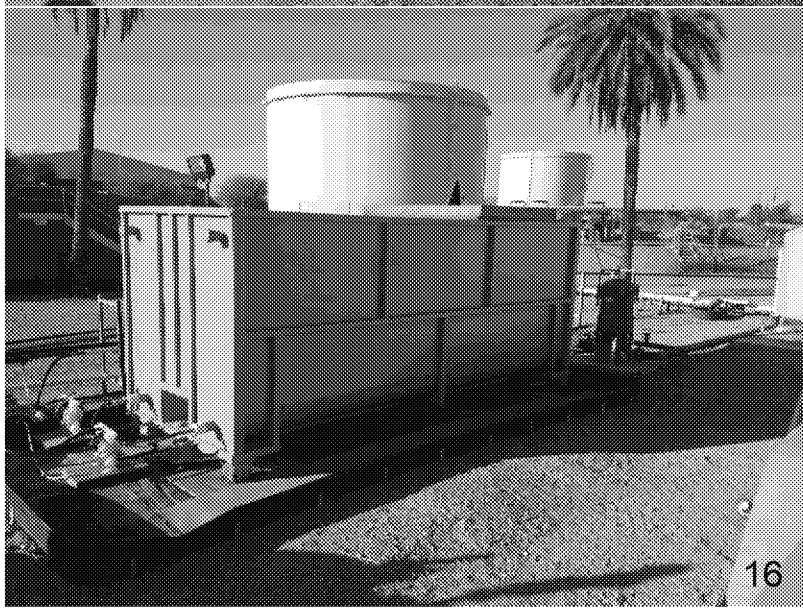
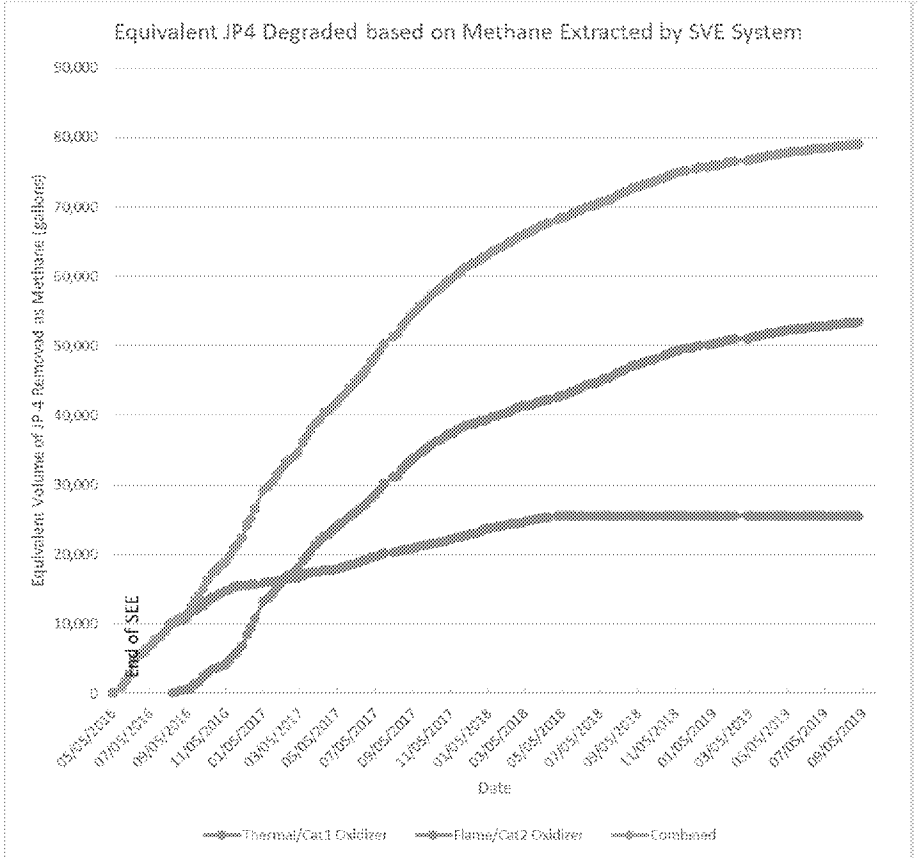
Site ST012 Activities Since Sep

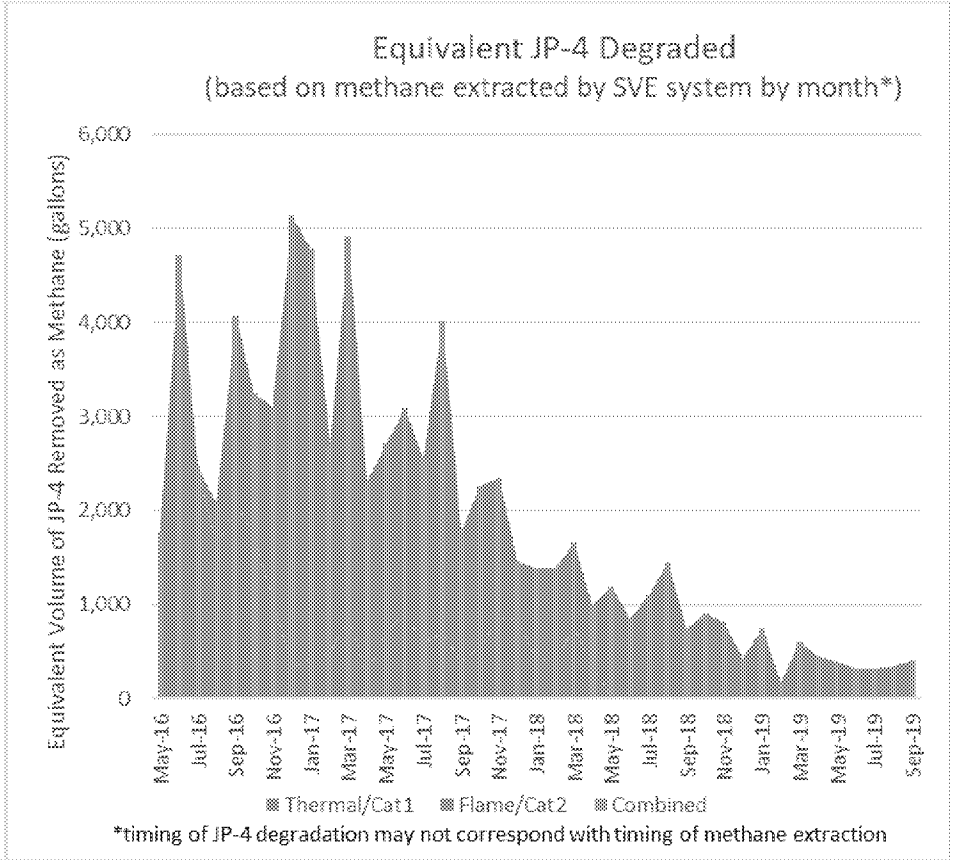
- **Continued SVE operation**
- **LNAPL screening in select wells**
- **Operation of Extraction and Treatment**
  - **Pump Maintenance**
    - Extraction pumps in LSZ12 and LSZ43 repaired
    - LSZ12 pump failed – failed wiring suspected
    - Evaluating pump options for potential extraction at W36 during subphase 4
  - **Shut down extraction at LSZ09 and CZ18**
    - LSZ37 not shut down yet based on decreasing or inconsistent sulfate concentration
  - **Carbon Vessel Pressure**
    - Adjusted chemical treatment has improved biological control
- **Sodium sulfate injections (detail on later slides)**



JP-4 Degradation Based on Methane Removed with SVE

Site ST012 SVE System Equivalent JP-4 Degradation Based on Methane Removed





- Estimates through 26 Sep 2019
- Estimated JP-4 degradation as methane is in addition to JP-4 removal reported for SVE
- Thermal/Cat1 oxidizer changed from SVE to groundwater treatment end of Apr (low methane concentrations recently observed but attributed to vapor bleed through closed valve from SVE)
- Flame oxidizer treating combined SVE and air stripper intermittently in Nov 2018 – Jan 2019
- Flame oxidizer replaced by catalytic oxidizer (Cat2) 7 Feb to 26 Feb 2019

LNAPL Removal Update (through 15 Oct)

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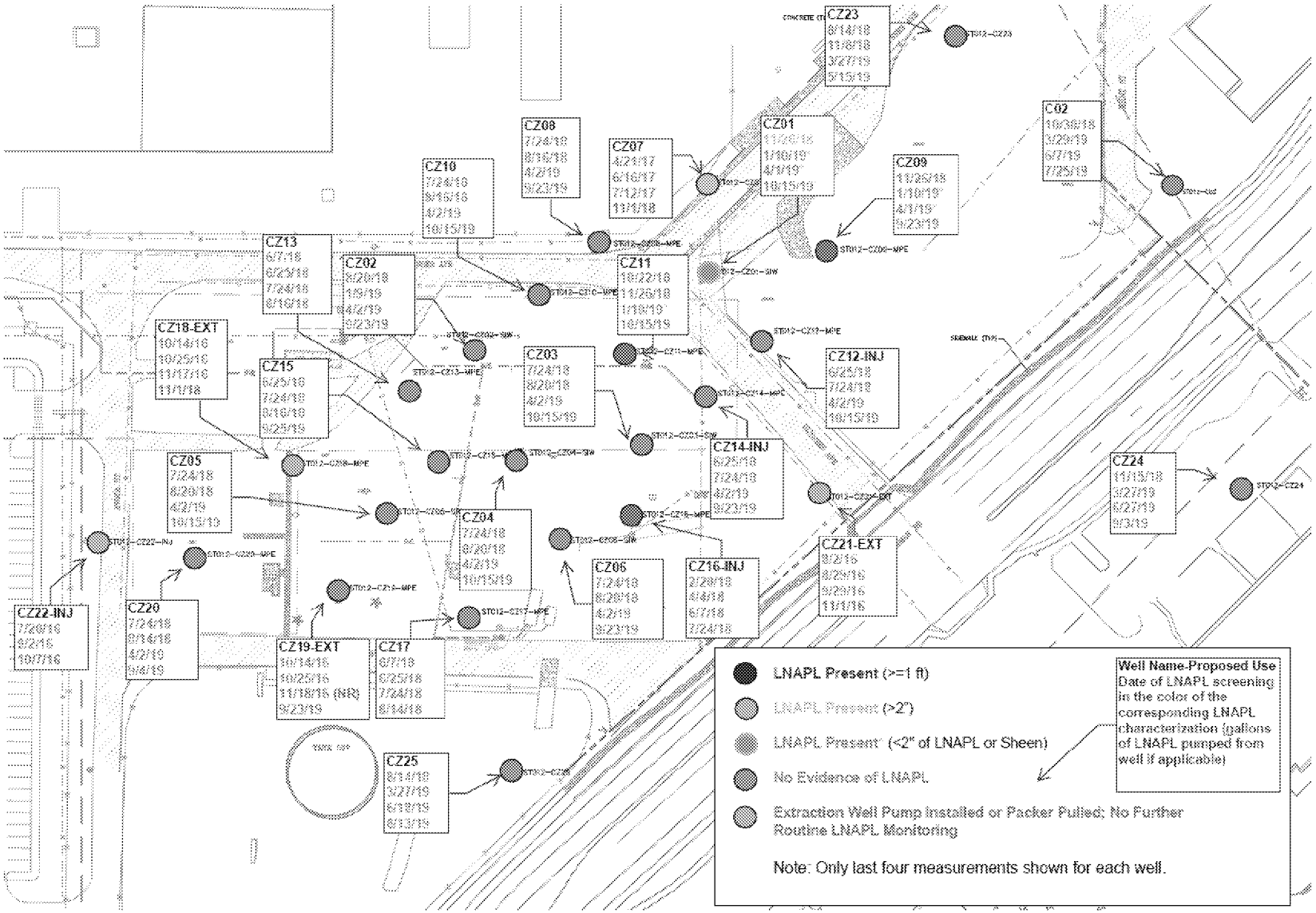
LNAPL Monitoring/Removal Status Cobble Zone



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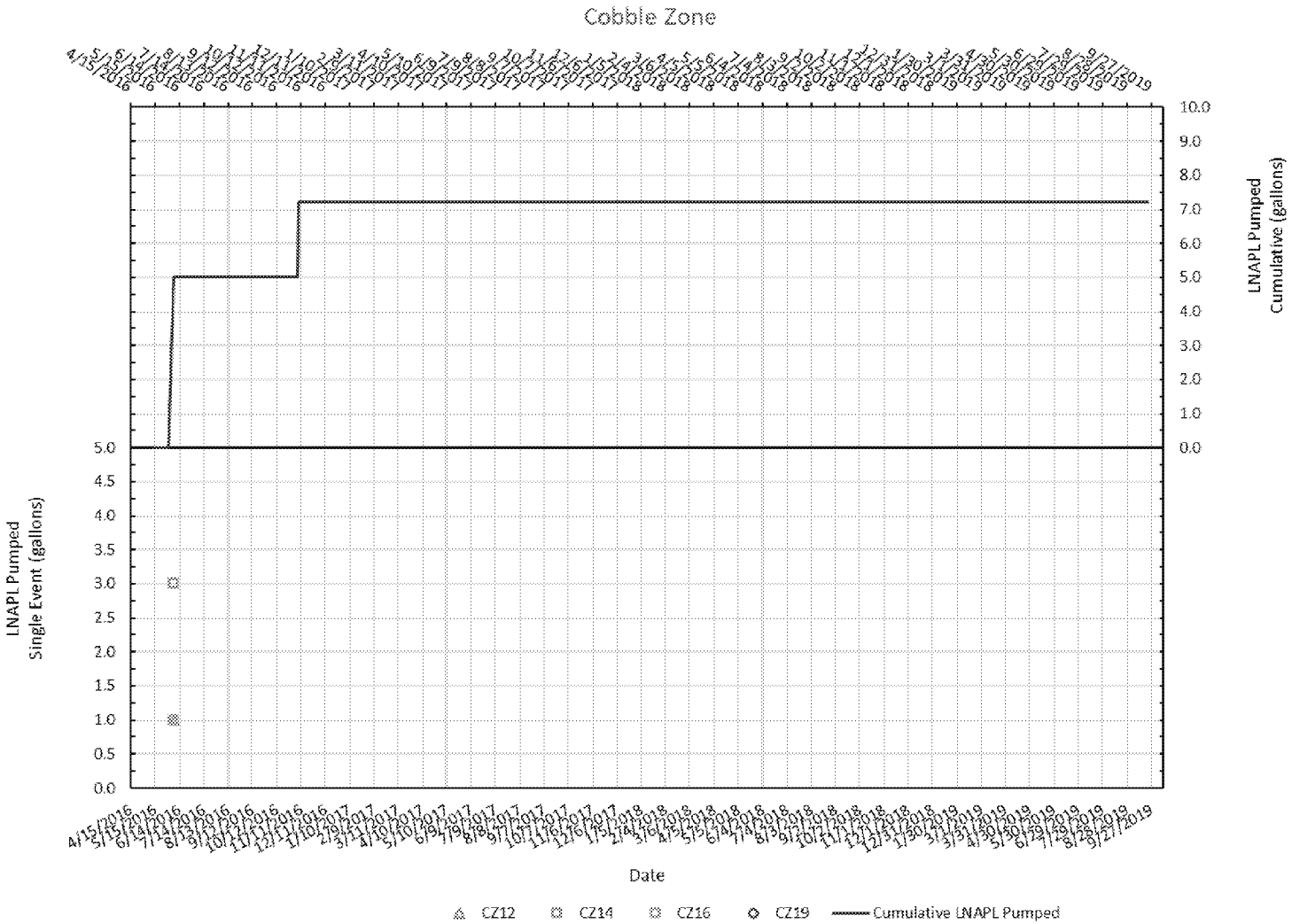
LNAPL Monitoring/Removal Status
Cobble Zone



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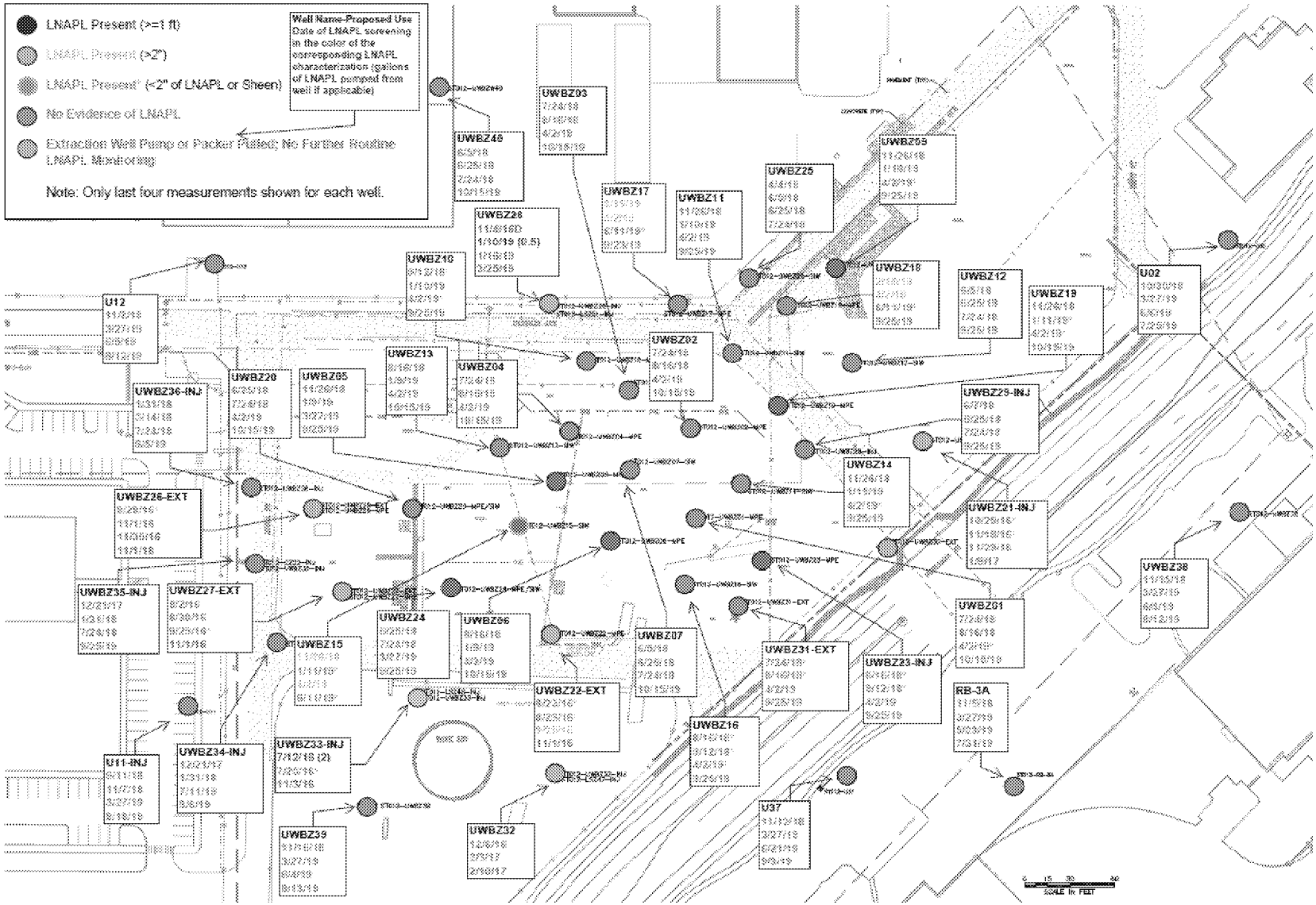
LNAPL Monitoring/Removal Status
Upper Water Bearing Zone



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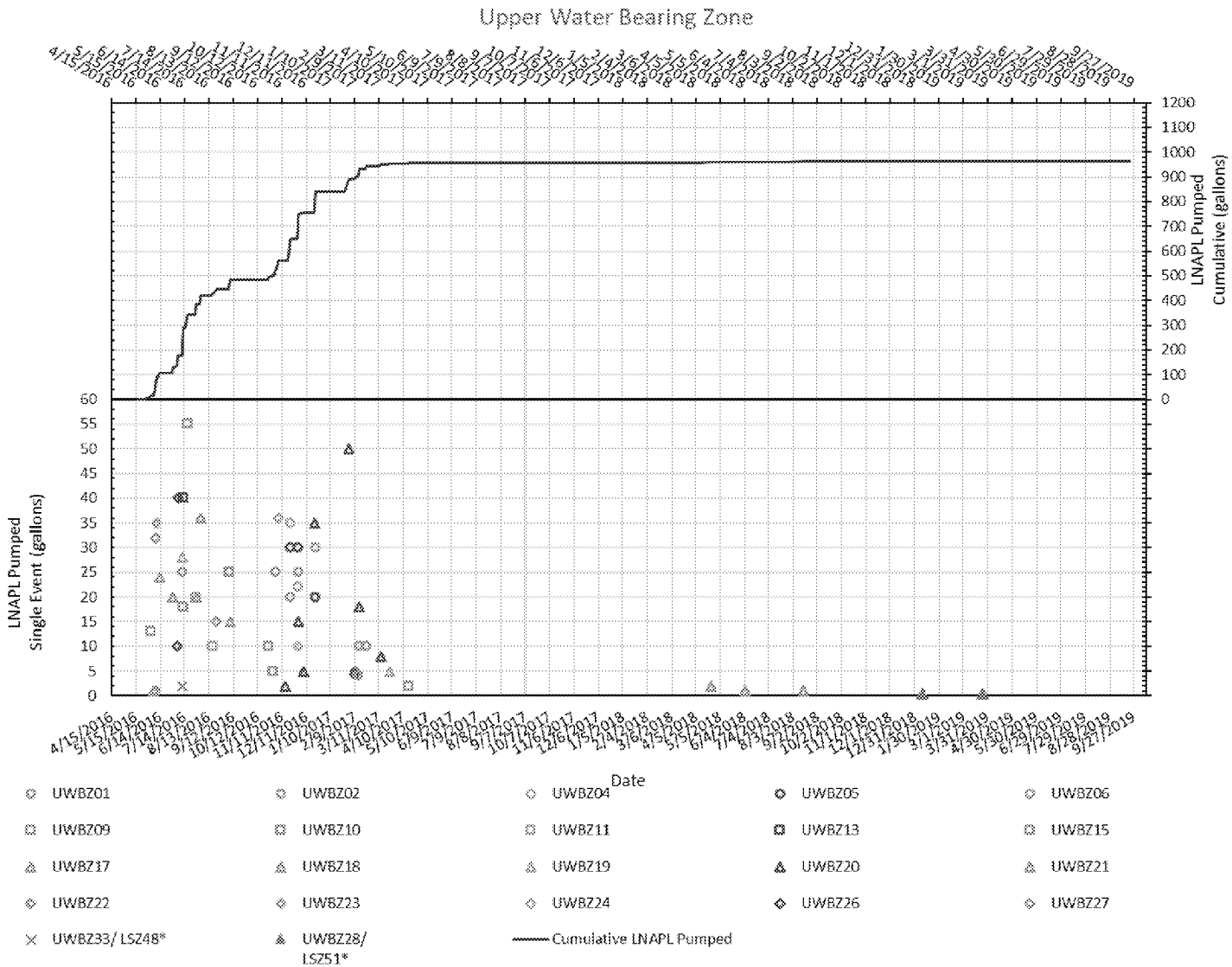
LNAPL Monitoring/Removal Status
Upper Water Bearing Zone



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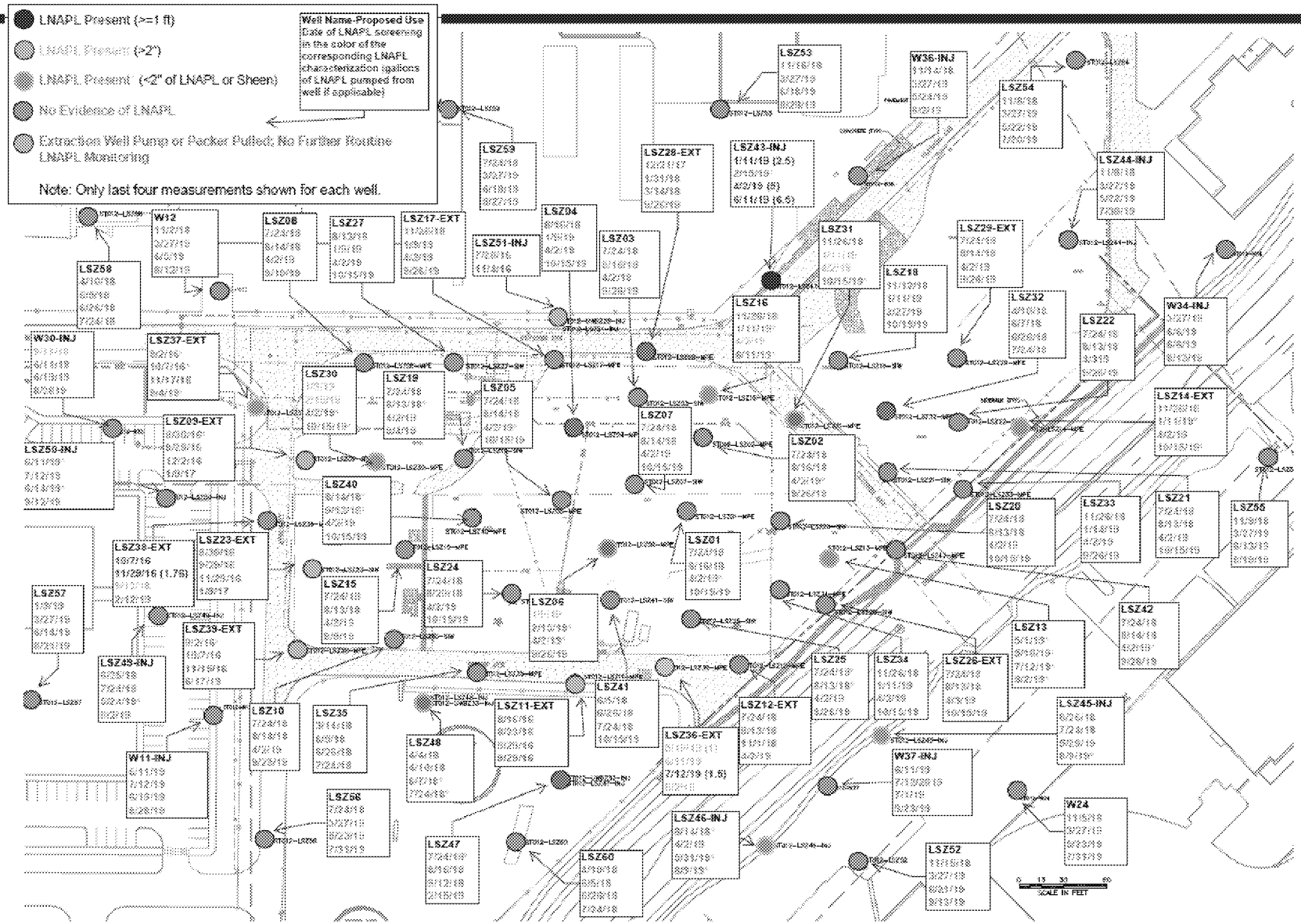
LNAPL Monitoring/Removal Status
Lower Saturated Zone



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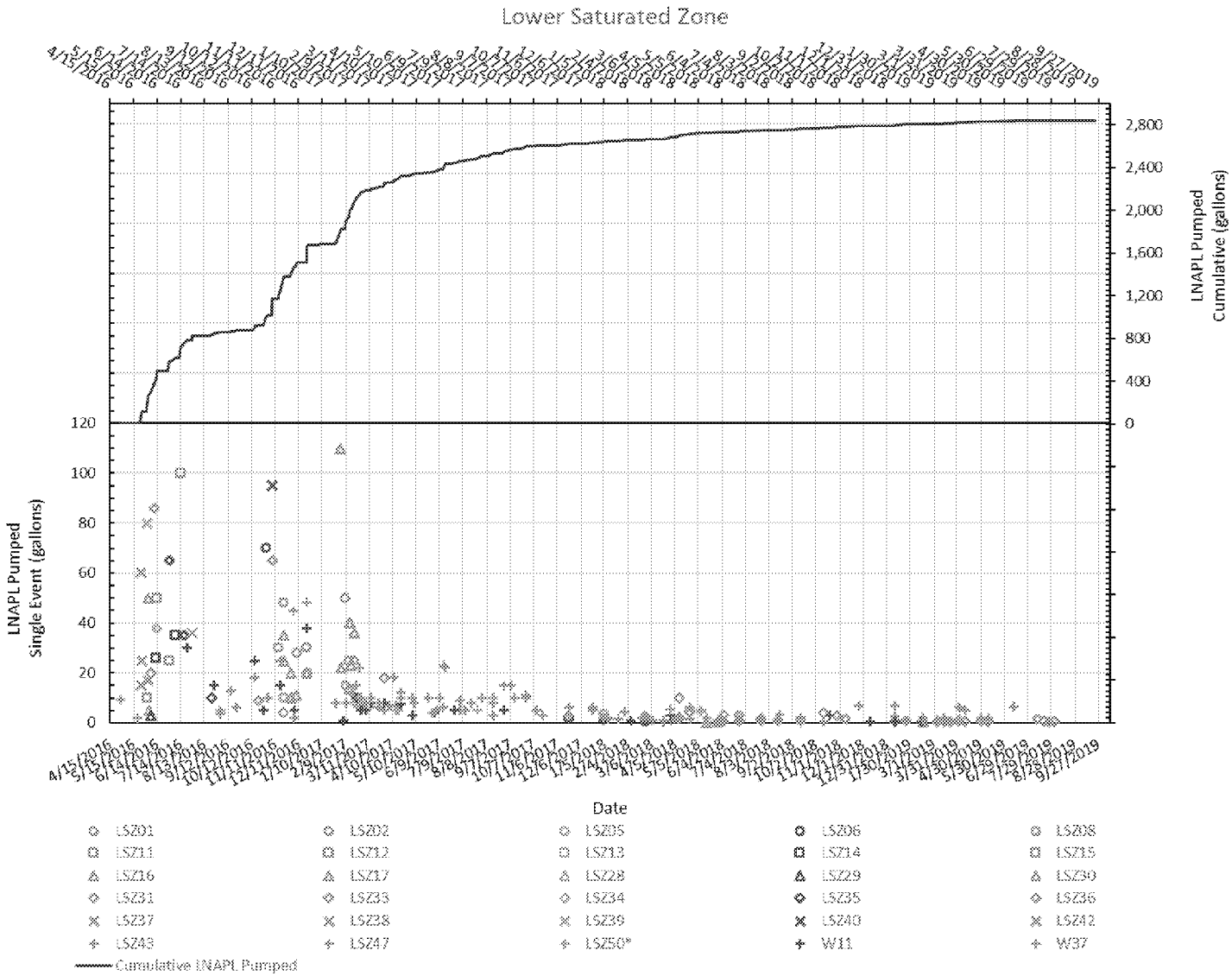
LNAPL Monitoring/Removal
Lower Saturated Zone



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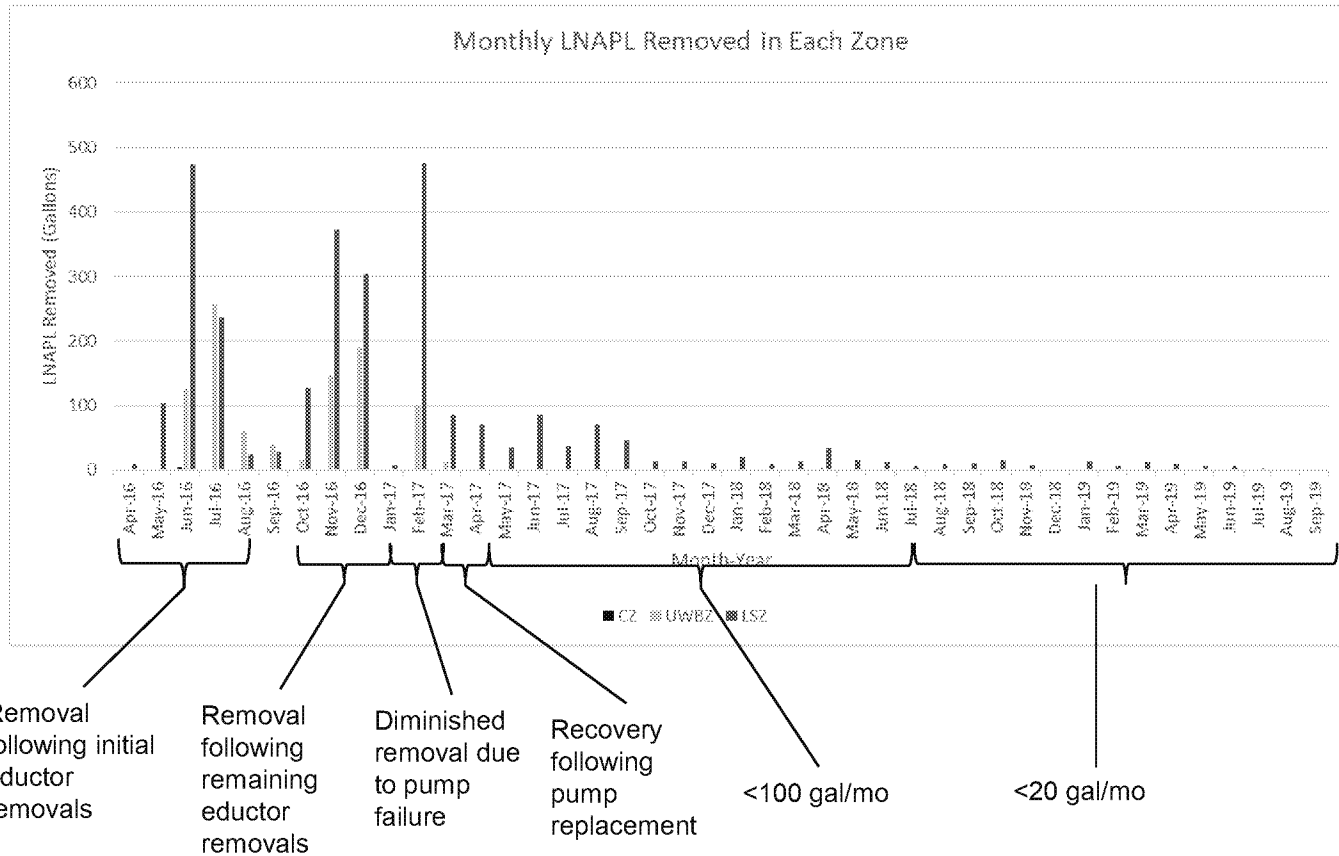
ST012 LNAPL Removal Summary

- CZ – 7 gallons of LNAPL removed. None since Nov 2016
- UWBZ - 963 gallons of LNAPL removed. None since Apr update.
- LSZ - 2,844 gallons of LNAPL removed. None removed since Sept update. (LNAPL was removed from LSZ43 recently [after the data period of this update])



Removal following initial eductor removals

Removal following remaining eductor removals

Diminished removal due to pump failure

Recovery following pump replacement

<100 gal/mo

<20 gal/mo

ED_005025_00010471-00026

Preliminary Third Quarter Groundwater Sampling Results

ED_005025_00010471-00027

Sampling Summary

- **Sampling included:**
  - Extraction Wells
  - Injection Wells (where injections took place)
  - Monitoring Wells (in areas where injections took place)
  - Perimeter Wells
- **General Observations**
  - Benzene at perimeter well UWBZ38 decreased to 3.2 µg/L
  - Benzene concentration greater than 500 µg/L in a limited area in CZ
  - Sulfate distribution expanding to target treatment areas

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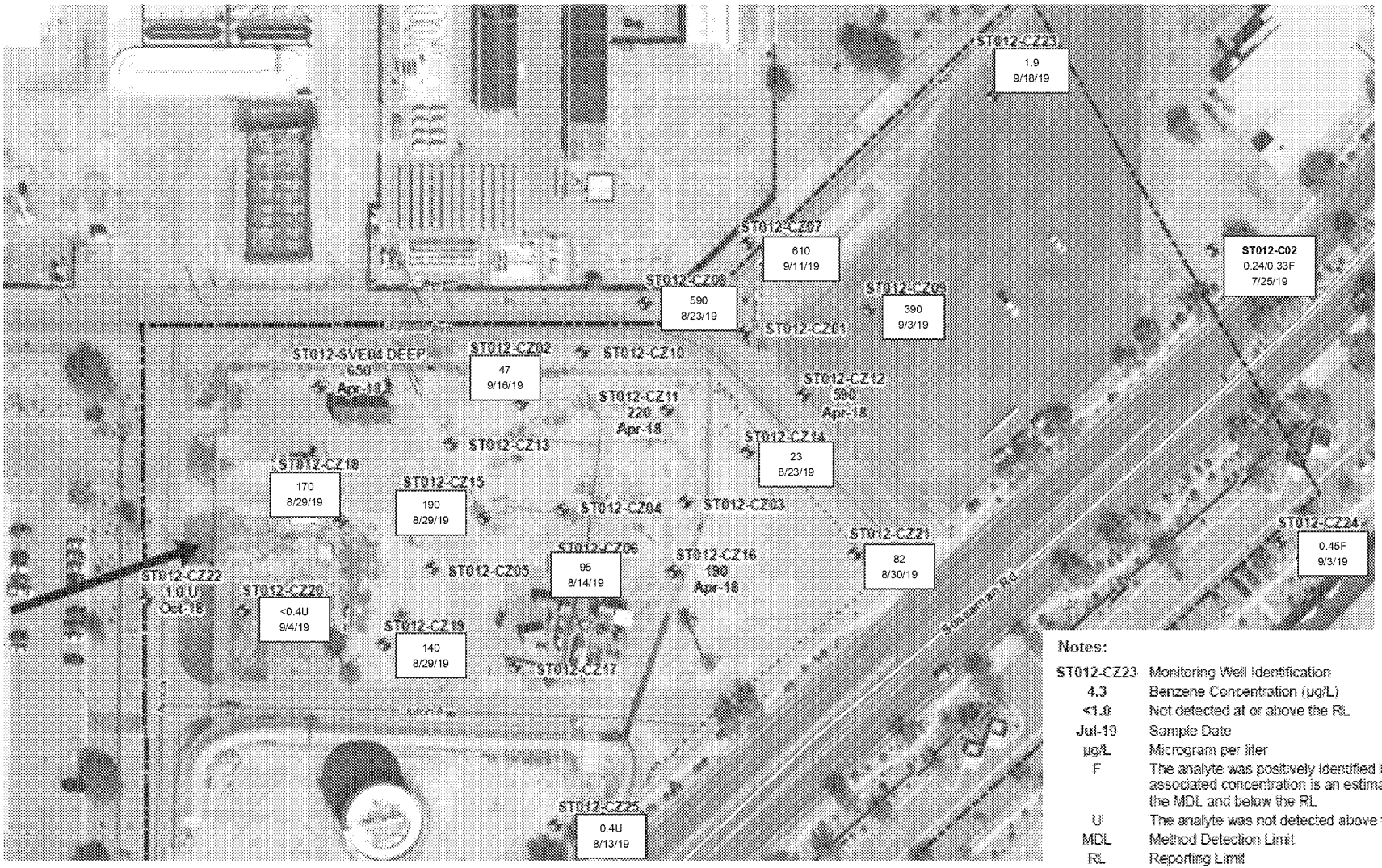
Site ST012 Benzene (µg/L) in CZ

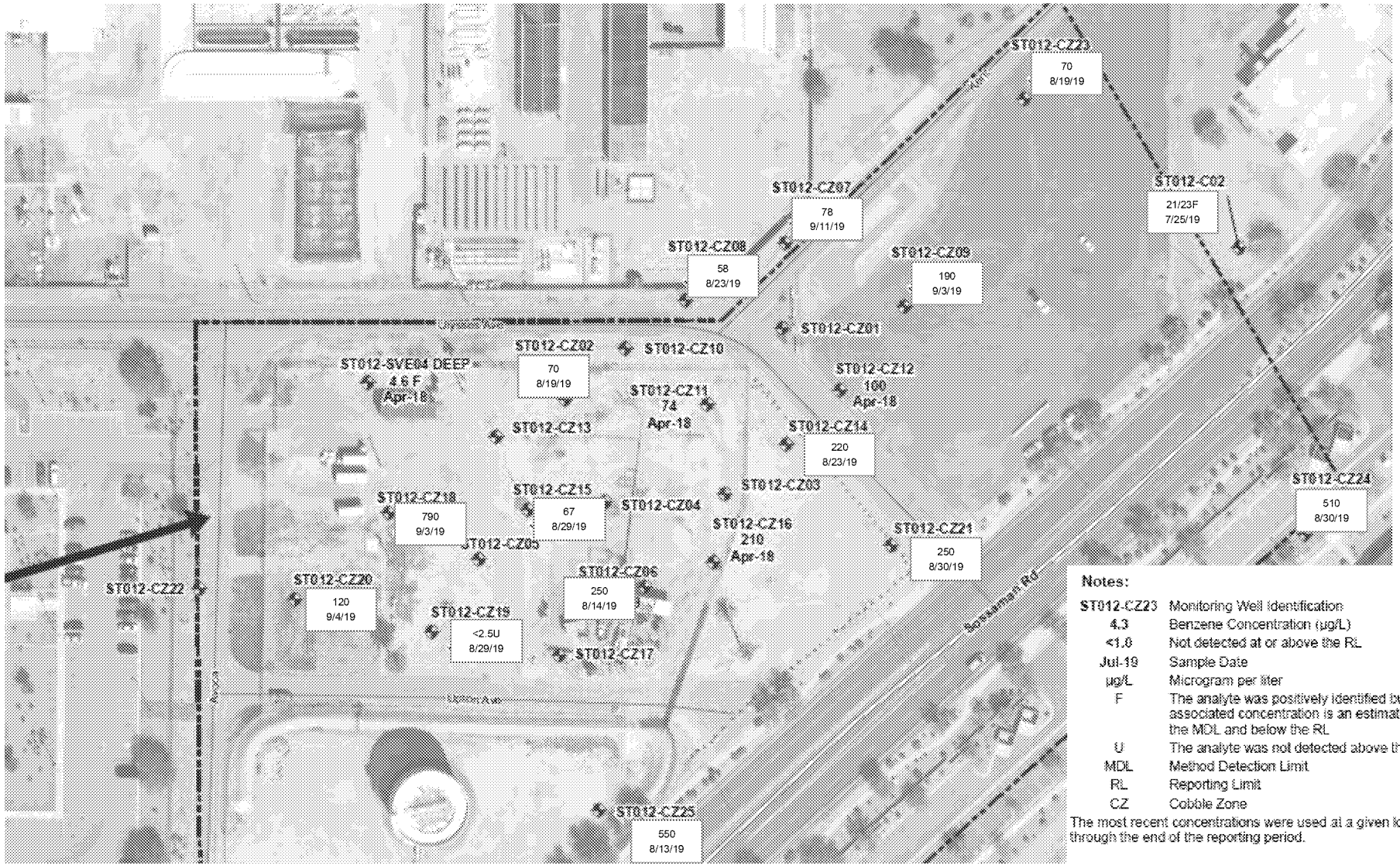


Notes:

ST012-CZ23	Monitoring Well Identification
4.3	Benzene Concentration (µg/L)
<1.0	Not detected at or above the RL
Jul-19	Sample Date
µg/L	Microgram per liter
F	The analyte was positively identified but the associated concentration is an estimation above the MDL and below the RL
U	The analyte was not detected above the RL
MDL	Method Detection Limit
RL	Reporting Limit
CZ	Cobble Zone

The most recent concentration was used at a given location through the end of the reporting period.

Site ST012 Sulfate (mg/L) in CZ

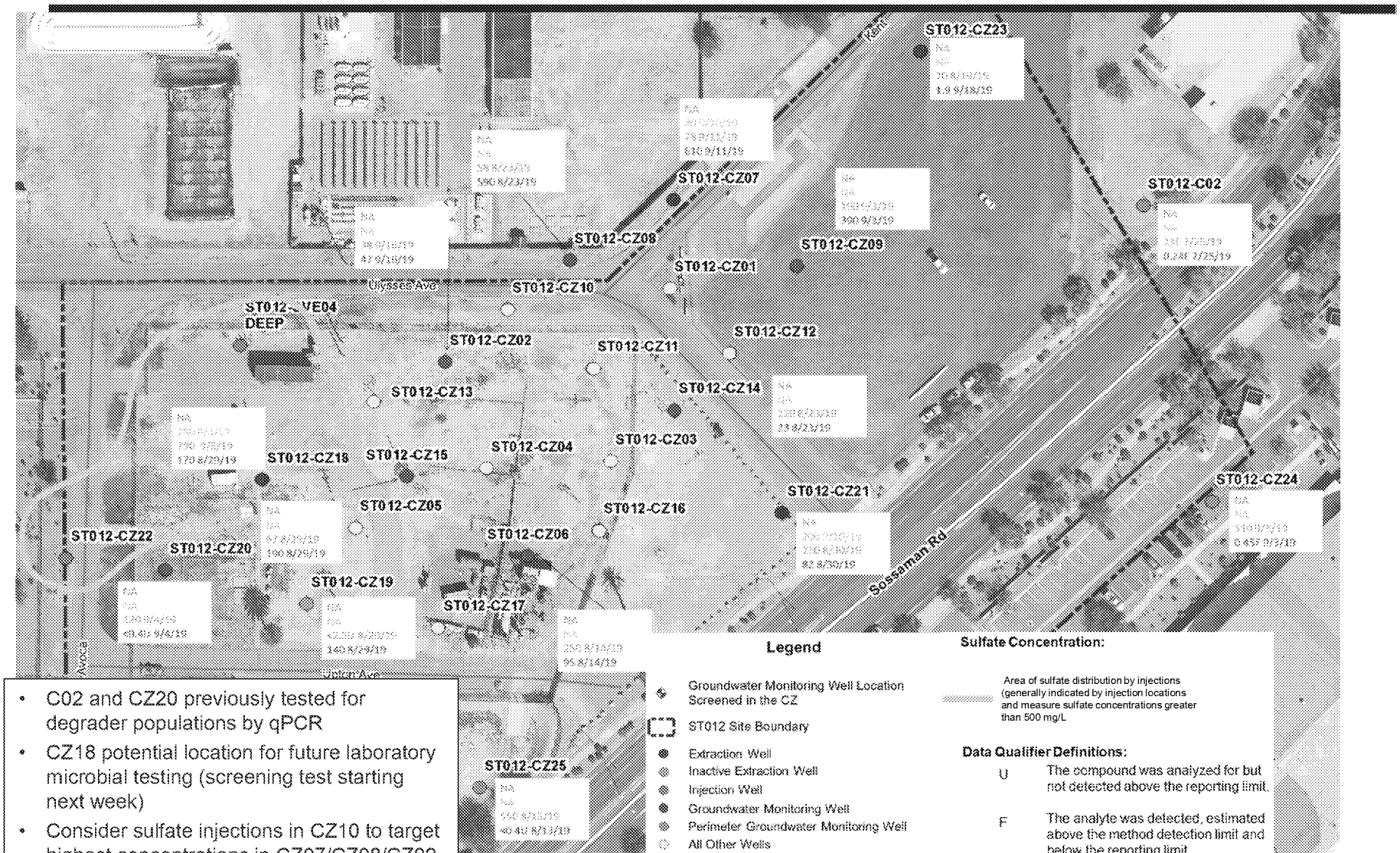


Notes:

ST012-CZ23	Monitoring Well Identification
4.3	Benzene Concentration (µg/L)
<1.0	Not detected at or above the RL
Jul-19	Sample Date
µg/L	Microgram per liter
F	The analyte was positively identified but the associated concentration is an estimation above the MDL and below the RL
U	The analyte was not detected above the RL
MDL	Method Detection Limit
RL	Reporting Limit
CZ	Cobble Zone

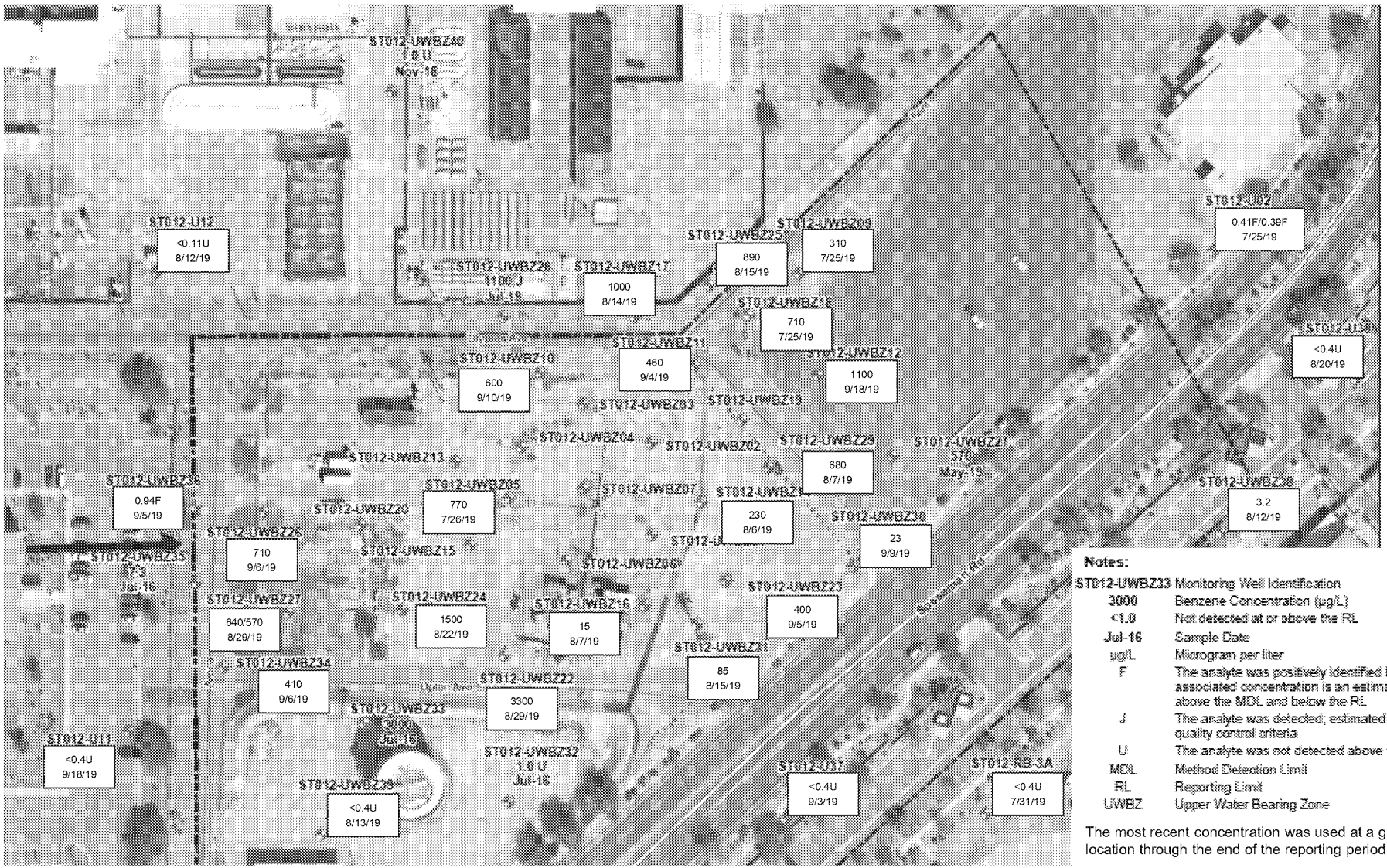
The most recent concentrations were used at a given location through the end of the reporting period.

EBR Treatment Area in CZ



- C02 and CZ20 previously tested for degrader populations by qPCR
- CZ18 potential location for future laboratory microbial testing (screening test starting next week)
- Consider sulfate injections in CZ10 to target highest concentrations in CZ07/CZ08/CZ09 area

Site ST012 Benzene (µg/L) in UWBZ

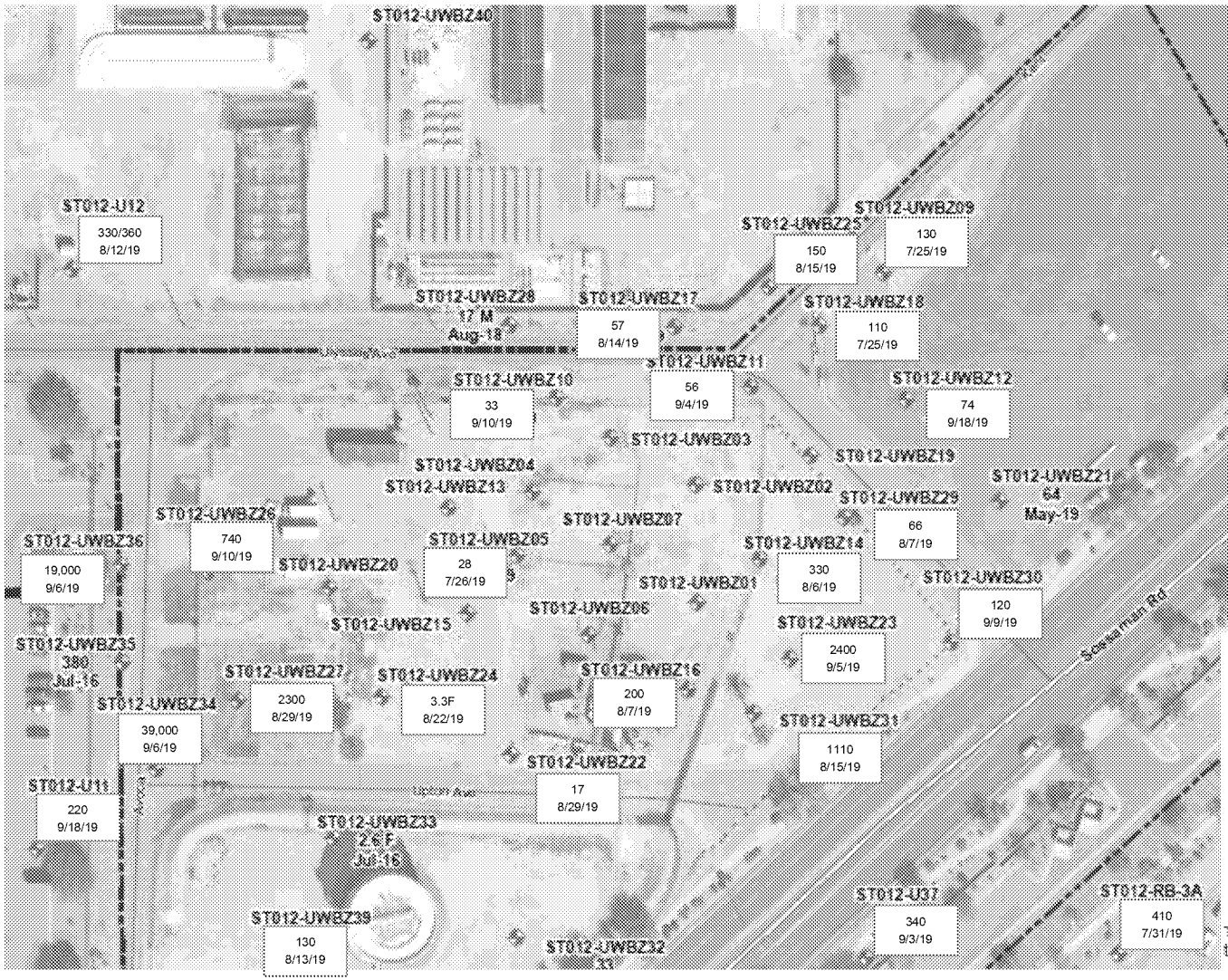


Notes:

ST012-UWBZ33	Monitoring Well Identification
3000	Benzene Concentration (µg/L)
<1.0	Not detected at or above the RL
Jul-16	Sample Date
µg/L	Microgram per liter
F	The analyte was positively identified but the associated concentration is an estimation above the MDL and below the RL
J	The analyte was detected; estimated due to quality control criteria
U	The analyte was not detected above the RL
MDL	Method Detection Limit
RL	Reporting Limit
UWBZ	Upper Water Bearing Zone

The most recent concentration was used at a given location through the end of the reporting period.

Site ST012 Sulfate (mg/L) in UWBZ



Notes:

ST012-CZ23	Monitoring Well Identification
4.3	Benzene Concentration (µg/L)
<1.0	Not detected at or above the RL
Jul-19	Sample Date
µg/L	Microgram per liter
F	The analyte was positively identified but the associated concentration is an estimation above the MDL and below the RL
U	The analyte was not detected above the RL
MDL	Method Detection Limit
RL	Reporting Limit
CZ	Cobble Zone

The most recent concentrations were used at a given location through the end of the reporting period.

EBR Treatment Areas in UWBZ

Area of sulfate distribution by injections (generally indicated by injection locations and measure sulfate concentrations greater than 500 mg/L

Data Qualifier Definitions:

U The compound was analyzed for but not detected above the reporting limit.

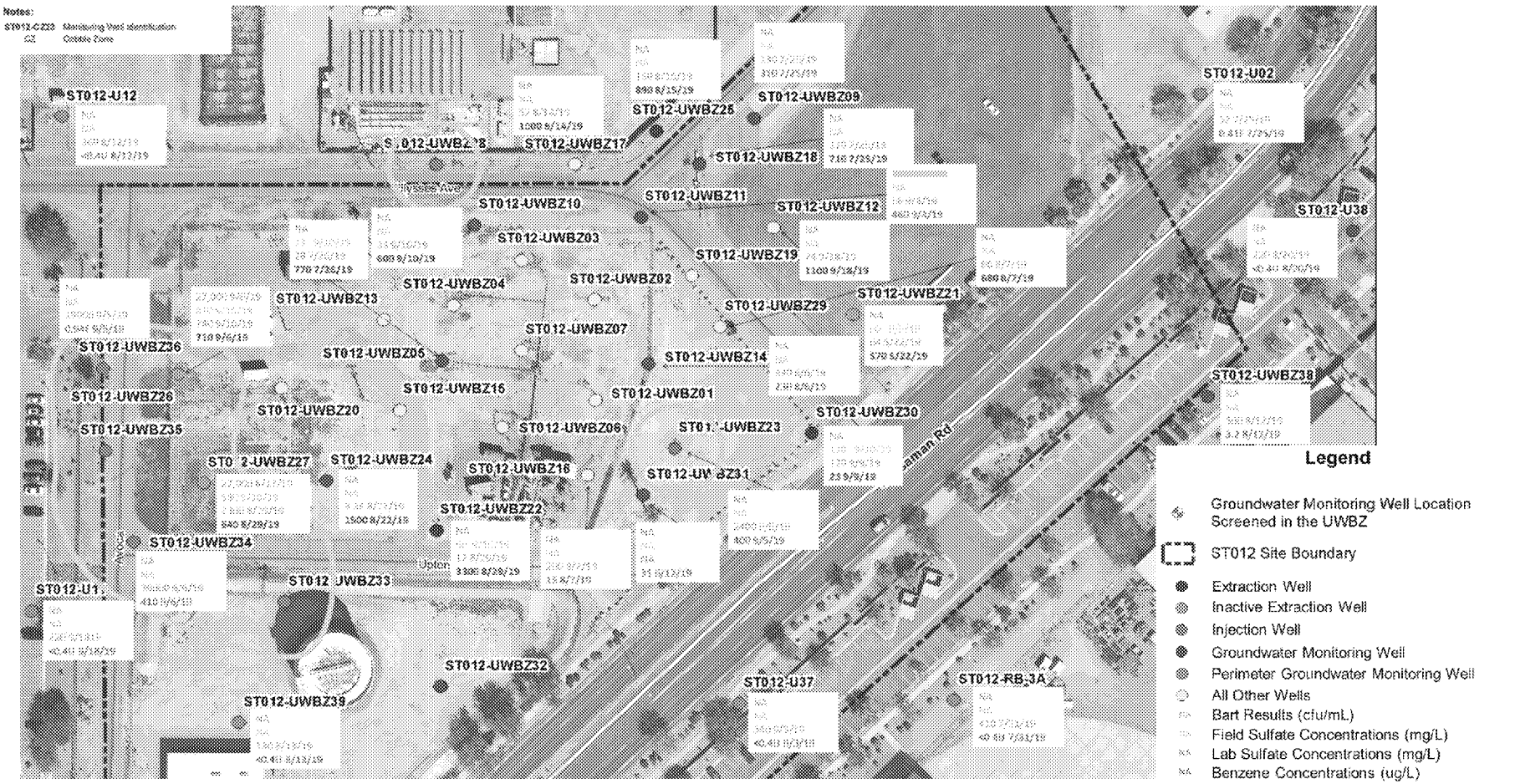
J The analyte was detected, estimated above the method detection limit and below the reporting limit.

Notes:

ST012-CZ23 Monitoring Well identification

CZ Cobble Zone

- Sulfate in UWBZ21 recently increased
- UWBZ24 and UWBZ31 previously tested for degrader populations by qPCR
- UWBZ26 and UWBZ27 potential location for future laboratory microbial testing



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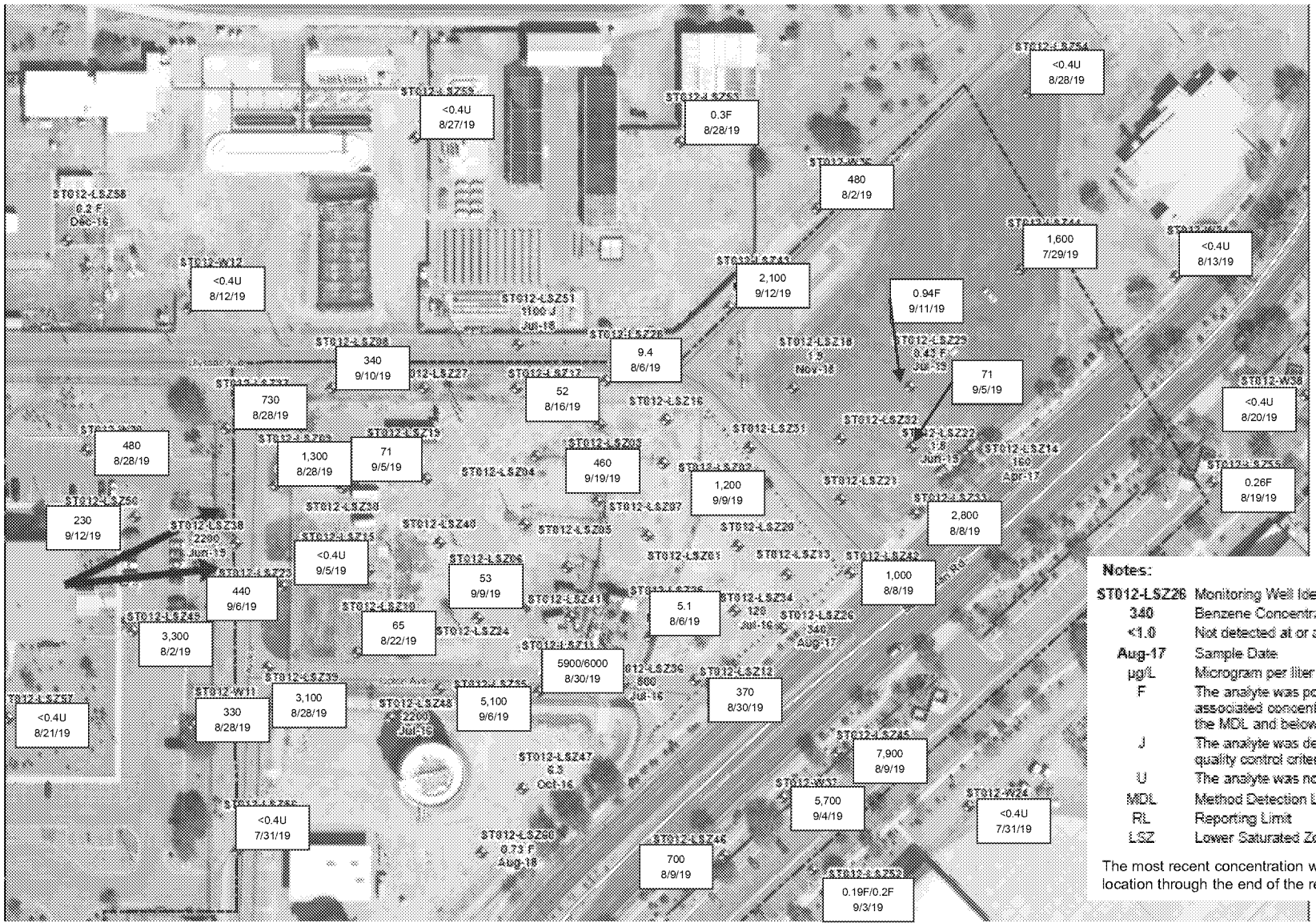
Site ST012 Benzene (mg/L) in LSZ

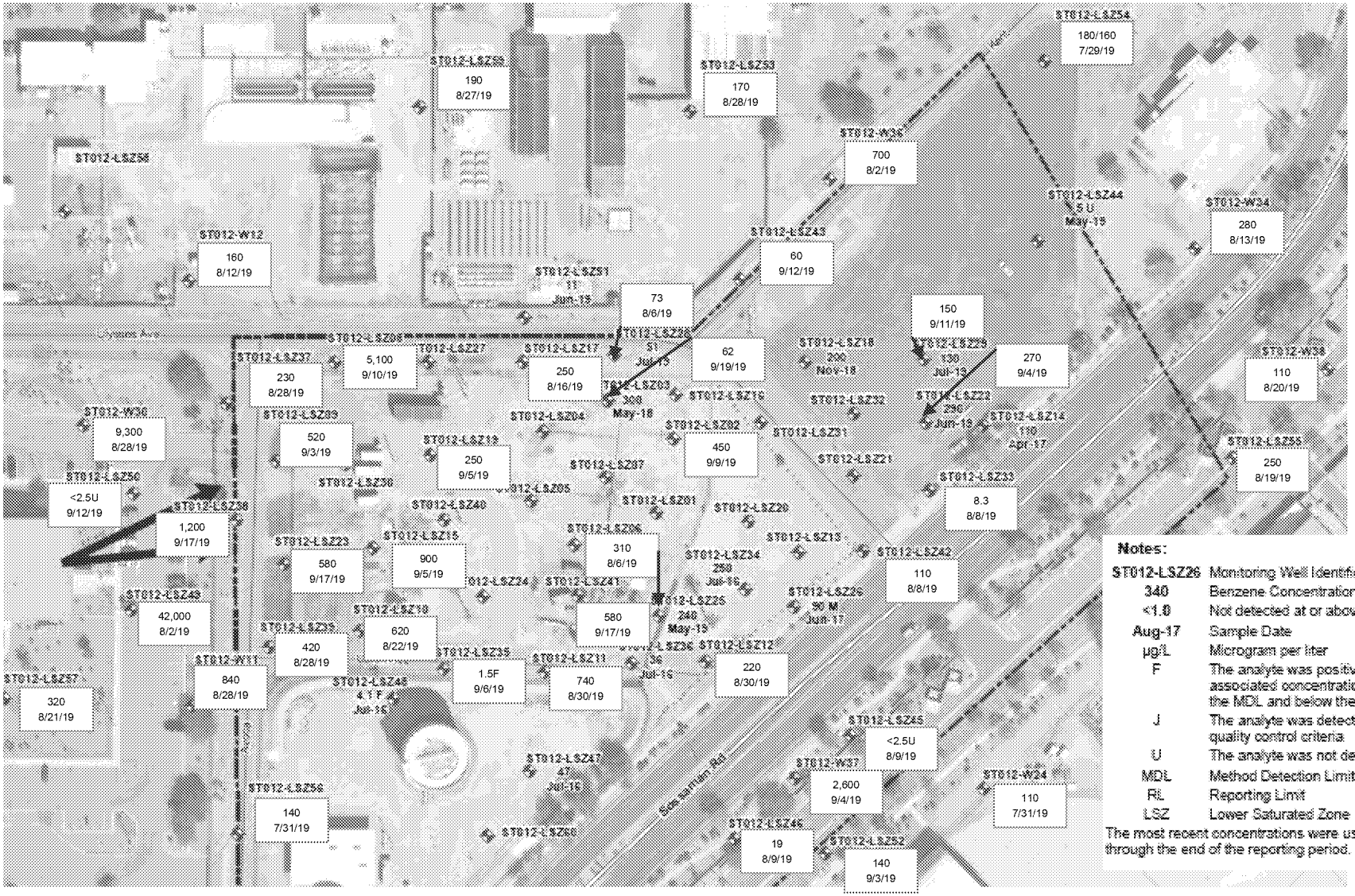


Notes:

ST012-LSZ26	Monitoring Well Identification
340	Benzene Concentration (µg/L)
<1.0	Not detected at or above the RL
Aug-17	Sample Date
µg/L	Microgram per liter
F	The analyte was positively identified but the associated concentration is an estimation above the MDL and below the RL
J	The analyte was detected: estimated due to quality control criteria
U	The analyte was not detected above the RL
MDL	Method Detection Limit
RL	Reporting Limit
LSZ	Lower Saturated Zone

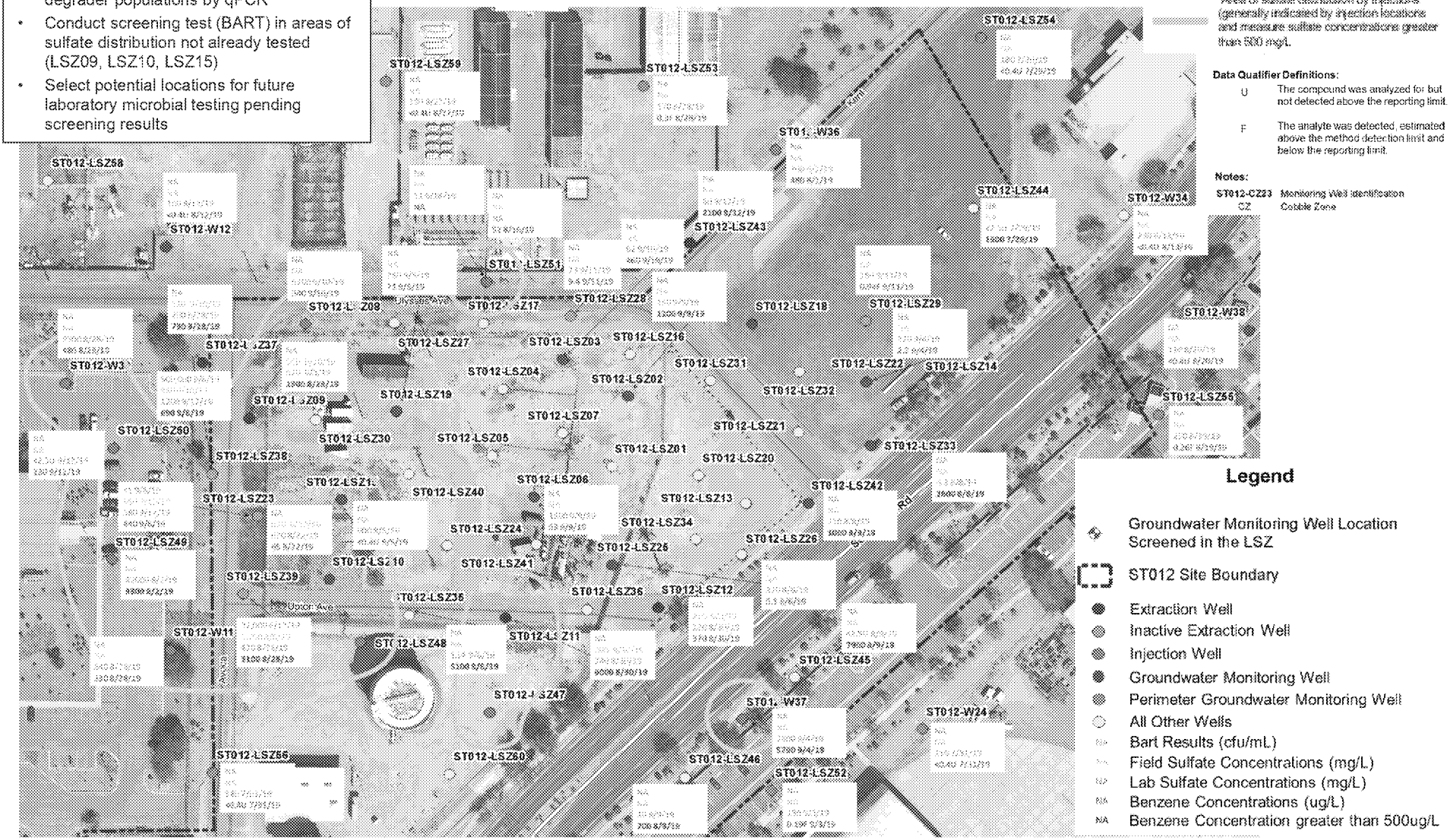
The most recent concentration was used at a given location through the end of the reporting period.

Site ST012 Sulfate (mg/L) in LSZ



EBR Treatment Areas in LSZ

- LSZ10 and LSZ42 previously tested for degrader populations by qPCR
- Conduct screening test (BART) in areas of sulfate distribution not already tested (LSZ09, LSZ10, LSZ15)
- Select potential locations for future laboratory microbial testing pending screening results



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Pilot Study Injection/Extraction Update

Site ST012 Extraction System Performance

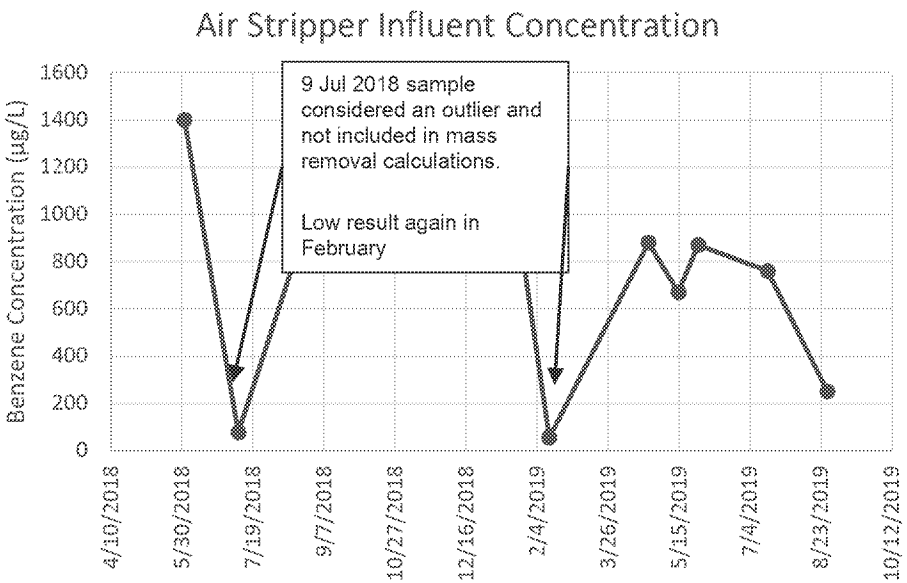
Extraction Well	Calculated Average Extraction Rate in Period gpm	Maximum Temperature °F	Most Recent Temperature °F	Cumulative Extraction gallons	Note
ST012-CZ07	6.8	175	142	3,752,737	
ST012-CZ18	Off	136	126	3,019,867	Extraction stopped due to sulfate presence
ST012-CZ19	NA				Eliminated as an extraction well by FVM#7
ST012-CZ21	1.0	150	140	441,689	Totalizer reading suspect
ST012-CZ23	2.4	101	99	283,486	
CZ Subtotal				7,497,780	
ST012-UWBZ21		162	105	591,514	Pneumatic pump, currently down
ST012-UWBZ22	0.3	146	123	447,364	Totalizer reading suspect
ST012-UWBZ25	0.7	168	163	105,987	
ST012-UWBZ26	Off	133	114	2,408,709	Extraction stopped due to sulfate presence
ST012-UWBZ27	Off	128	94	130,012	Extraction stopped due to sulfate presence
ST012-UWBZ30		172	96	1,397,235	Pneumatic pump, pumping intermittently, counter suspect
UWBZ Subototal*				6,349,254	
ST012-LSZ09	Off	140	130	2,748,461	Extraction stopped due to sulfate presence
ST012-LSZ11	0.5	139	90	3,396,881	Flow meter troubleshooting
ST012-LSZ12	4.5	130	106	1,800,113	Pump down, electrical issue
ST012-LSZ23	Off	113	94	3,638,934	Extraction stopped due to sulfate presence
ST012-LSZ28	NA	162		18,899	Eliminated as an extraction well by FVM#7
ST012-LSZ29	NA	>170		17	Eliminated as an extraction well by FVM#7
ST012-LSZ37	9.9	132	88	5,911,776	
ST012-LSZ38	Off	160	90	941,898	Extraction stopped due to sulfate presence
ST012-LSZ39	Off	92	78	1,250,933	Extraction stopped due to sulfate presence
ST012-LSZ43	7.7	140	140	407,448	
ST012-UWBZ28/LSZ51		146	128	2,536,868	Extraction stopped, changed to injection end of subphase 2
LSZ Subtotal*				21,383,795	
Total of Wells	33.8			35,230,828	
Treatment System	36.6			25,906,499	

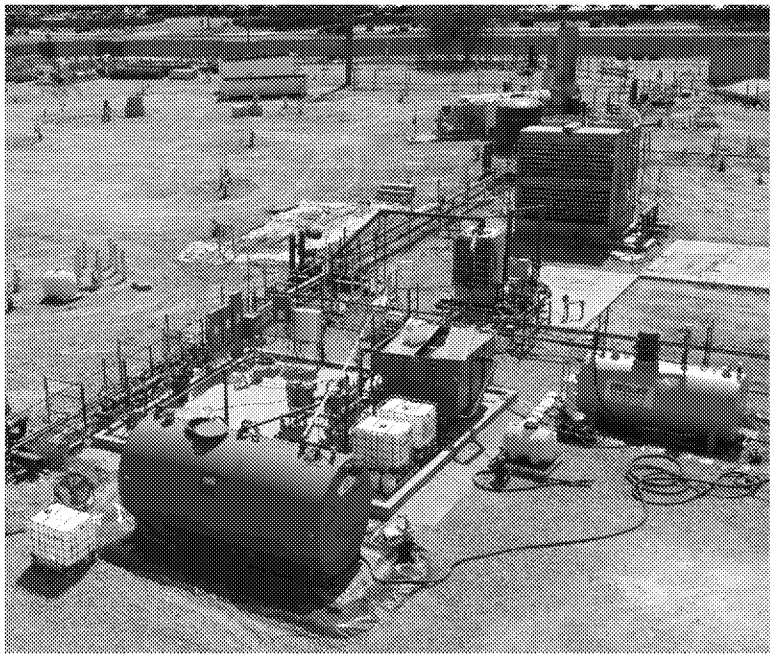
Data is preliminary

* Includes 1/2 of ST012-UWBZ28/LSZ51

Site ST012 Extraction System Performance

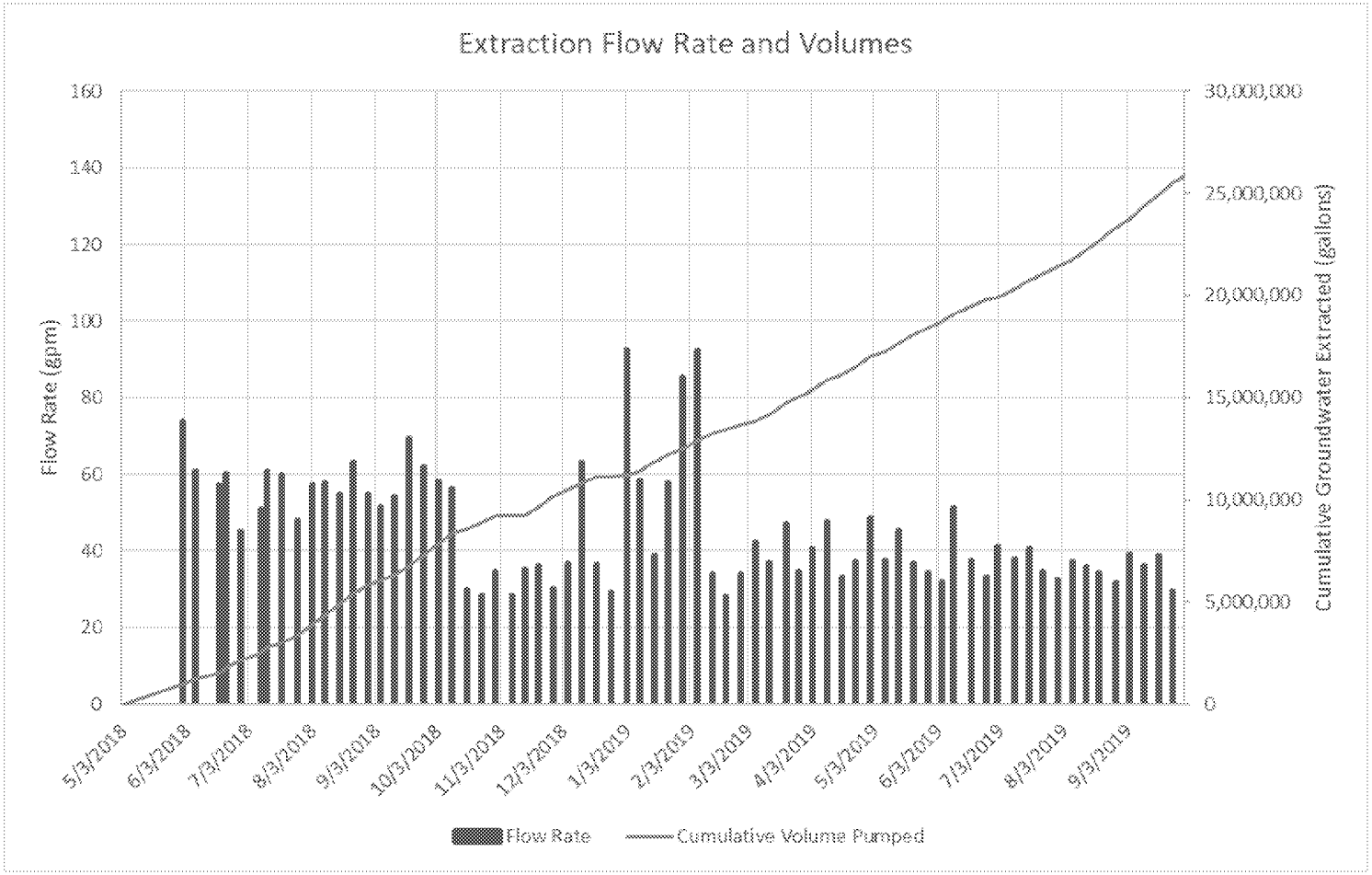
- No LNAPL has been recovered since extraction started up
- All extraction pumps except LSZ12 working
- CZ18, UWBZ21, UWBZ26, UWBZ27, LSZ09, LSZ23, LSZ38, and LSZ39 turned off due to sulfate presence
- Benzene air stripper influent at 250 µg/L for September sample
- CZ23 result 1.9 µg/L in September





Site ST012 Extraction System Performance

- **Overall Extraction Rates and Cumulative Volume Extracted**
- **Overall Extraction Rates are down due to turning off wells**



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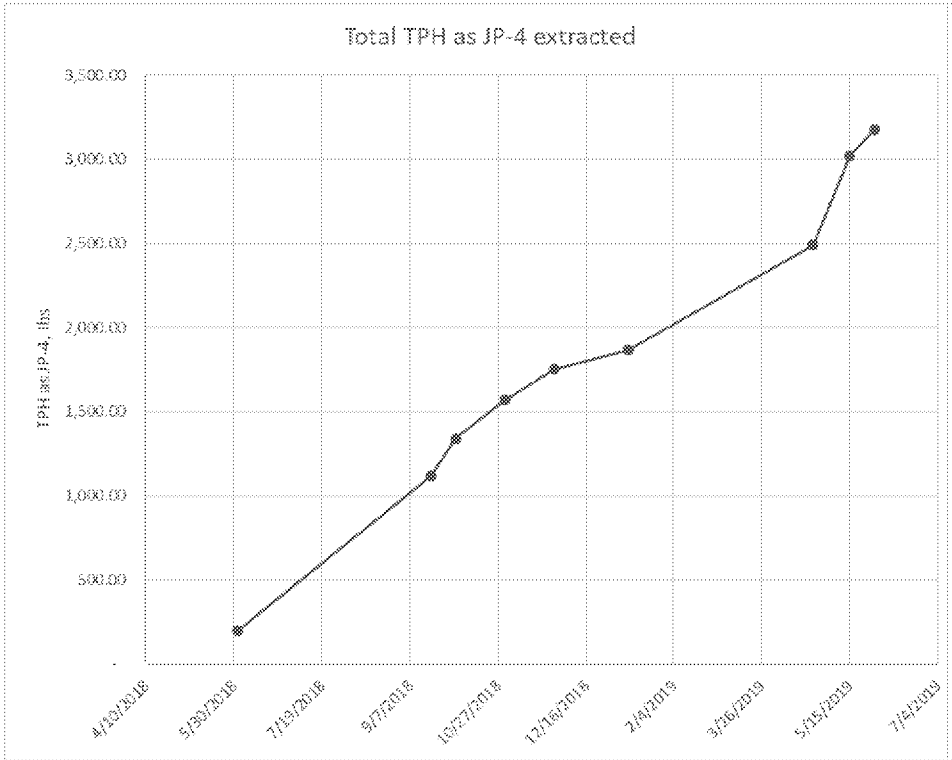
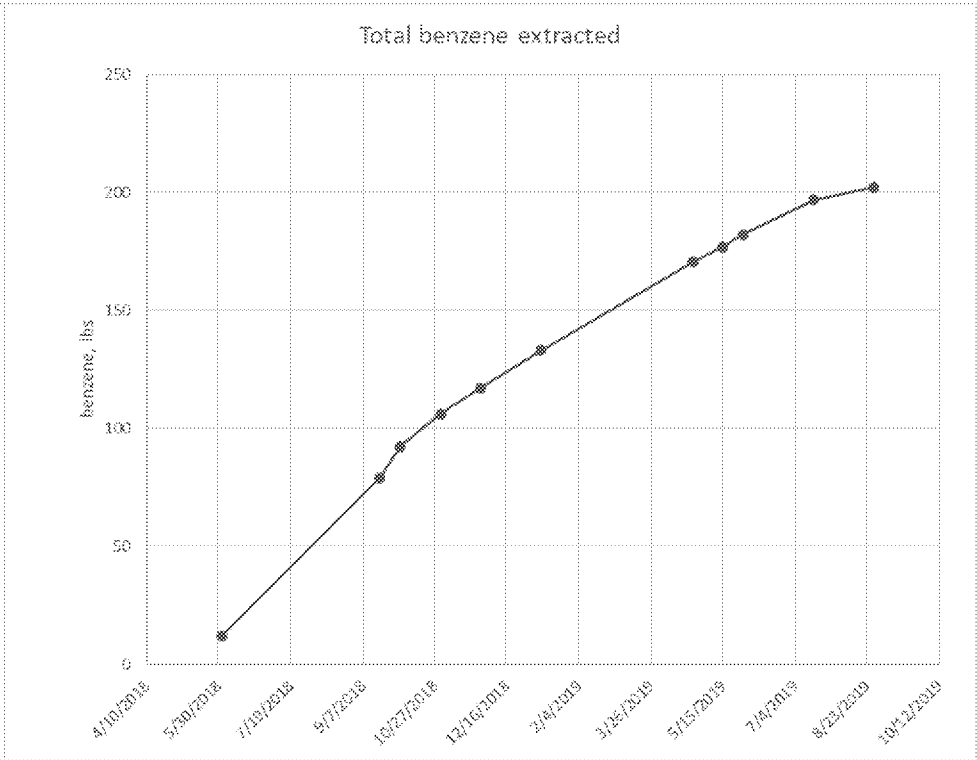
Site ST012 Extraction System Performance

- **Estimated Mass Removal by Extraction**





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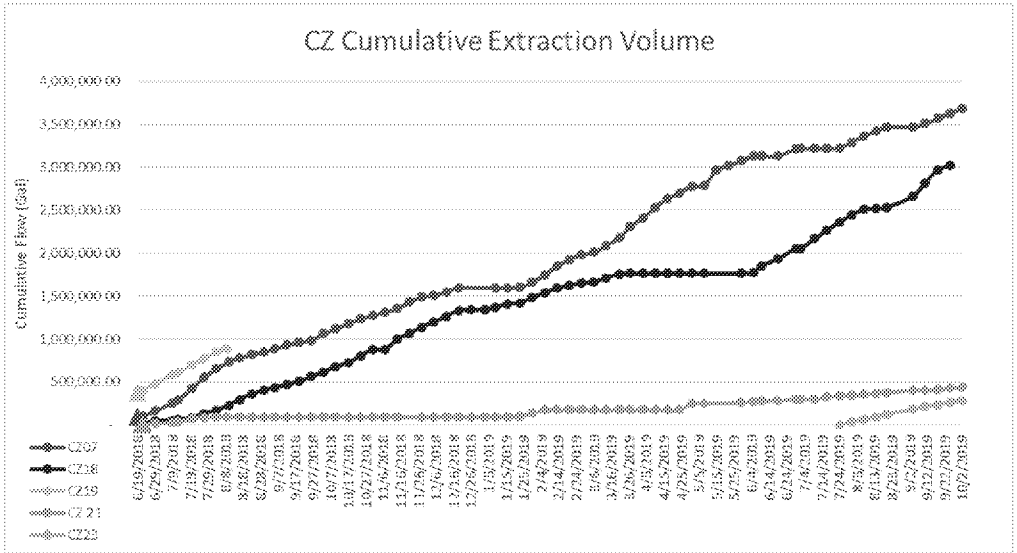
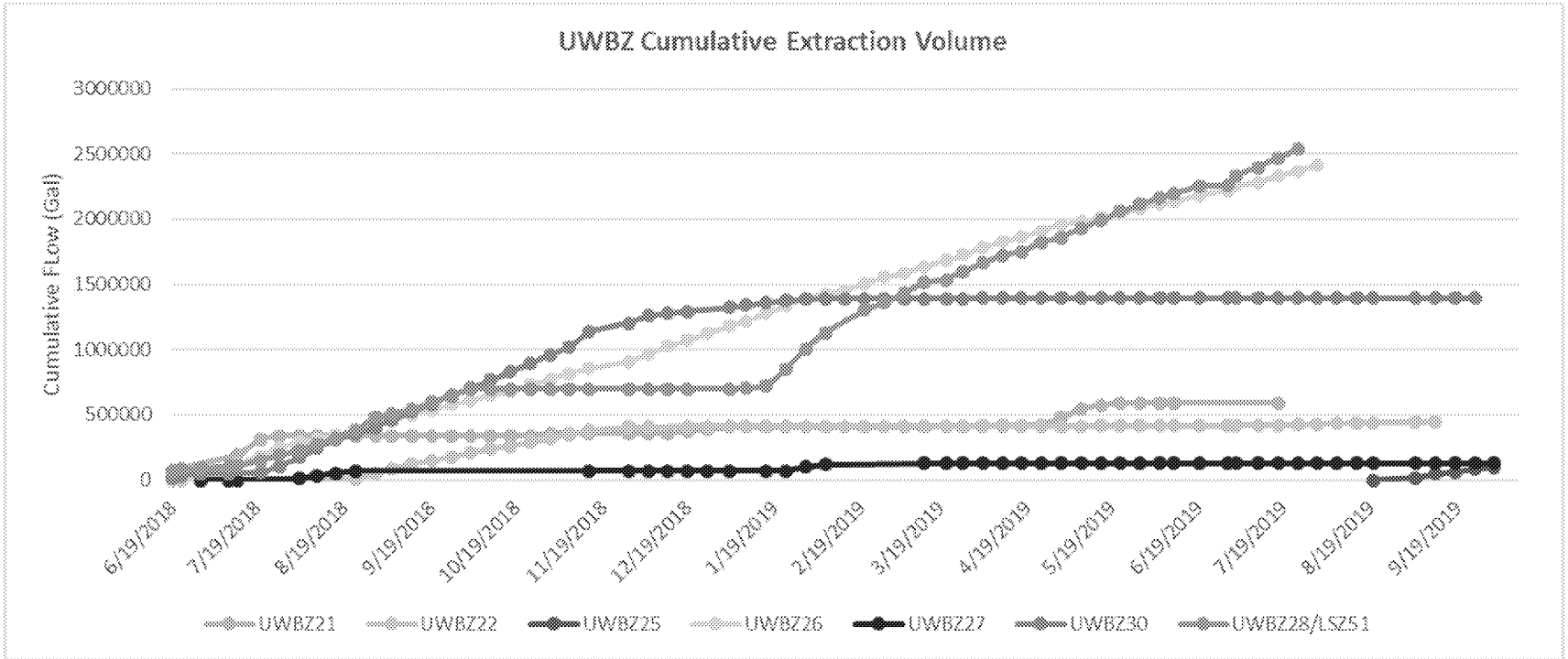
Cumulative Extraction Volume and Analytical Data by Well - Cobble Zone

Well ID	Date Sampled	Benzene Concentration, µg/L
ST012-CZ07	4/30/2018	230
	11/1/2018	600
	2/11/2019	410
	6/18/2019	320
	9/11/2019	610
ST012-CZ18	4/3/2018	1200
	11/1/2018	260
	2/11/2019	260
	6/14/2019	140
	8/29/2019	170
ST012-CZ19	5/9/2018	3.1
	6/24/2019	160
	8/29/2019	140
ST012-CZ21	4/12/2018	680
	6/17/2019	91
	8/30/2019	82
ST012-CZ23	7/12/2019	4.3
	9/18/2019	1.9

- Most recent baseline and operating (when available) benzene analytical result listed (Aug/Sep 2019 added)



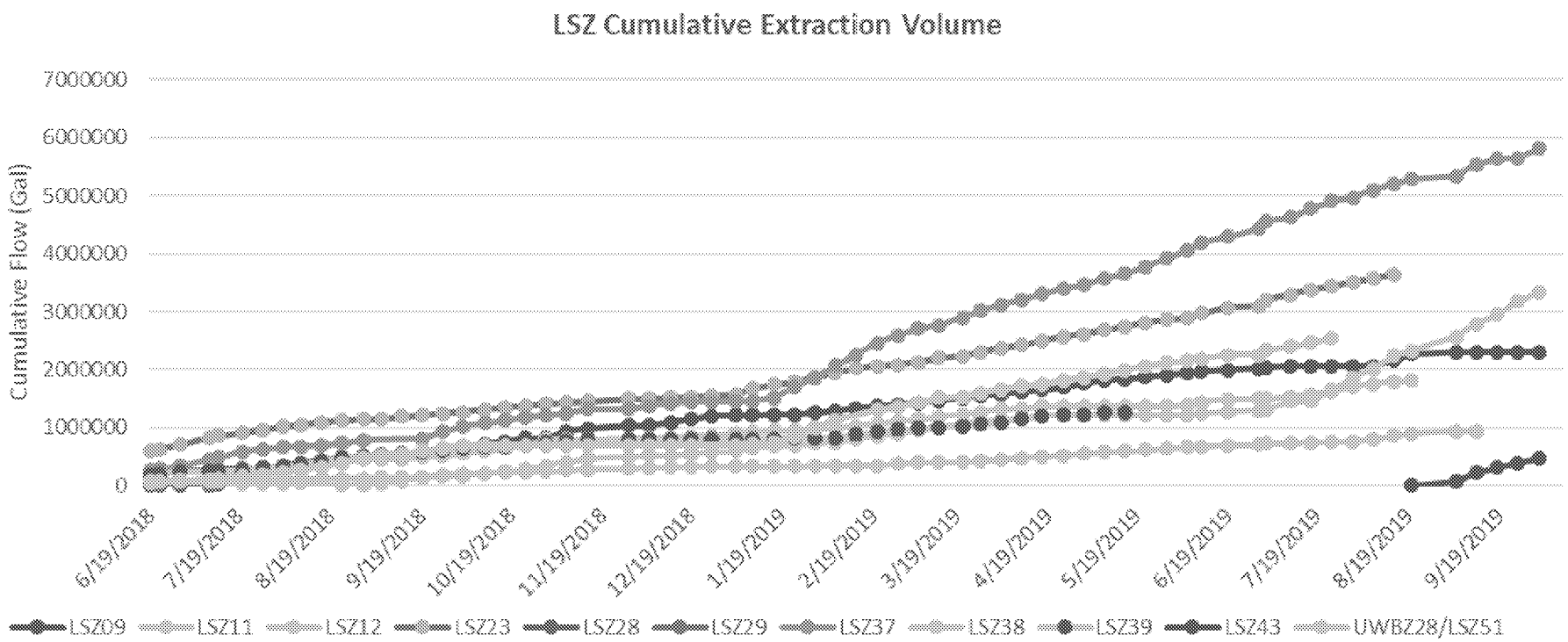
Cumulative Extraction Volume by Well - Upper Water Bearing Zone



Analytical Data by Extraction Well - Upper Water Bearing Zone

Well ID	Date Sampled	Benzene Concentration, µg/L
ST012-UWBZ21	8/9/2017	3400
	5/22/2019	570
ST012-UWBZ22	5/9/2018	1900
	2/11/2019	2800
	7/11/2019	2300
	8/29/2019	3300
ST012-UWBZ26	4/3/2018	3500
	4/3/2018	3700
	2/12/2019	2900
	6/14/2019	2100
	8/29/2019	3800
	9/6/2019	710
ST012-UWBZ27	4/3/2018	1500
	2/12/2019	460
	6/14/2019	350
	8/29/2019	640/570
ST012-UWBZ28/LSZ51	5/9/2018	1700
	3/25/2019	650
ST012-UWBZ30	5/9/2018	6000
	2/13/2019	21
	6/14/2019	840
	9/9/2019	23

Cumulative Extraction Volume by Well
Lower Saturated Zone



ED_005025_00010471-00046

Analytical Data by Extraction Well
Lower Saturated Zone

Well ID	Date Sampled	Benzene Concentration, µg/L
ST012-LSZ09	4/3/2018	2100
	2/12/2019	1000
	6/14/2019	630D
	8/28/2019	1300
ST012-LSZ11	5/9/2018	2100
	2/12/2019	3500
	6/18/2019	4800D
	8/30/2019	5900/6000
ST012-LSZ12	5/9/2018	1400
	11/1/2018	420
	2/12/2019	470
	6/19/2019	220
	8/30/2019	370
ST012-LSZ23	4/3/2018	1600
	2/12/2019	790
	6/14/2019	950
	8/28/2019	160
	9/6/2019	440
ST012-LSZ37	4/12/2018	2700
	2/12/2019	460
	6/14/2019	540
	8/28/2019	730
ST012-LSZ38	4/3/2018	3000
	11/1/2018	1300
	2/12/2019	2100
	6/14/2019	2200
	8/28/2019	1800
	9/6/2019	690

Analytical Data by Extraction Well Lower Saturated Zone (Cont.)

Well ID	Date Sampled	Benzene Concentration, µg/L
ST012-LSZ39	2/12/2019	130
	6/17/2019	4500
	8/28/2019	3100
ST012-LSZ43	5/24/2019	320
	9/12/2019	2100
ST012-UWBZ28/LSZ51	5/9/2018	1700
	3/25/2019	650

Site ST012 Injection Progress

- Injections continued in Sept
- 321 tons injected through 30 Sept 2019 (322 tons planned through subphase 2)
- 23.6 tons injected since last update
- Subphase 3 injections ongoing (started on 30 Sep 2019)

Date	Volume (gallons)	Number of Bags of Sulfate Added	Calculated Na2SO4 Conc. g/L	Calculated SO4 Conc. g/L	Locations(% of volume if multiple locations)
9/5/2019	---	---			LSZ51 (2.3 tons)
9/23/2019	8000	4	113	76	UWBZ28 (1.8 tons)
9/24/2019	8000	4	113	76	UWBZ28 (3.8 tons)
9/25/2019	8000	4	113	76	UWBZ28 (4.2 tons)
9/26/2019	6000	3	113	76	UWBZ28 (3.8 tons)
9/27/2019	4000	2	113	76	UWBZ28 (5.0 tons)
9/30/2019	8000	4	113	76	UWBZ33 (2.7 tons)

Site ST012 Sulfate Field Screening

Date	Sulfate Concentration (mg/L)																							
	CZ02	CZ18	CZ07	CZ20	CZ21	UWBZ15	UWBZ21	UWBZ22	UWBZ24	UWBZ26	UWBZ27	WBZ26/LSZ	UWBZ30	LSZ09	LSZ10	LSZ11	LSZ12	LSZ23	LSZ35	LSZ37	LSZ38	LSZ39	LSZ43	LSZ47
12/17/2018	---	---	---	---	---	---	---	30	---	---	15	---	---	---	---	---	---	---	---	---	---	---	---	---
12/21/2018	---	---	---	---	---	---	---	45	---	---	30	---	---	---	---	---	---	---	---	---	---	---	---	---
12/26/2018	---	---	---	---	---	---	---	146	---	---	>150	---	---	---	---	---	---	---	---	---	---	---	---	---
1/15/2019	---	---	---	---	---	---	---	45	---	---	71	---	---	---	---	---	---	---	---	---	---	---	---	---
1/18/2019	---	---	---	---	---	---	---	40	---	---	57	---	---	---	---	---	---	---	---	---	---	---	---	---
1/21/2019	---	---	---	---	---	---	---	38	---	---	66	---	---	---	---	---	---	---	---	---	---	---	---	---
1/24/2019	---	---	---	---	---	---	---	41	---	---	48	---	---	---	---	---	---	---	---	---	---	---	---	---
1/25/2019	---	---	---	---	---	---	---	250	---	---	50	---	---	---	---	---	---	---	---	---	---	---	---	---
1/28/2019	---	---	---	---	---	---	---	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1/29/2019	---	---	---	---	---	---	---	35	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1/31/2019	---	---	---	---	---	---	---	89	---	22	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2/1/2019	---	---	---	---	---	---	---	57	---	9	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2/5/2019	---	---	---	---	---	---	---	37	---	25	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2/11/2019	---	---	---	---	---	---	---	37	---	10	54	---	---	---	---	---	---	---	---	---	---	---	---	---
2/15/2019	---	---	---	---	---	---	---	36	---	12	48	---	---	---	---	---	---	---	---	---	---	---	---	---
2/18/2019	---	---	---	---	---	---	---	40	---	16	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2/22/2019	---	---	---	---	---	---	---	---	---	22	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2/25/2019	---	---	---	---	---	---	---	---	---	38	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3/1/2019	---	---	---	---	---	---	---	---	---	66	94	---	---	---	---	---	---	---	---	---	---	---	---	---
3/4/2019	---	---	---	---	---	---	---	---	---	67	112	---	---	---	---	---	---	---	---	---	---	---	---	---
3/8/2019	---	---	---	---	---	---	---	---	---	104	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3/11/2019	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3/15/2019	---	---	---	---	---	---	---	---	---	101	119	---	---	---	---	---	---	---	---	---	---	---	---	---
3/20/2019	---	---	---	---	---	---	---	---	---	---	97	---	---	---	---	---	---	---	---	---	---	---	---	---
3/29/2019	---	---	---	---	---	---	---	---	---	99	350	---	---	---	---	---	---	---	---	---	---	350	---	---
4/8/2019	---	---	---	---	---	---	---	---	---	81	297	---	---	---	---	---	---	---	---	---	---	153	---	---
4/16/2019	---	---	---	---	---	---	---	---	---	150	520	---	---	---	---	---	---	---	---	---	---	210	---	---
4/23/2019	---	---	---	---	---	---	---	---	---	---	1330	6	---	---	---	---	---	---	---	---	20	1330	---	---
4/26/2019	---	---	---	---	---	---	---	---	---	---	570	18	---	---	---	---	---	---	---	---	70	1330	---	---
5/1/2019	---	---	---	---	---	---	---	---	---	---	1110	12	---	---	---	---	---	---	---	---	77	1330	---	630
5/8/2019	---	---	---	---	26	---	---	---	---	---	720	---	---	---	---	---	---	---	---	---	---	1330	---	---
5/13/2019	1	---	11	0	---	4	7	---	1	17	---	1	10	20	90	4	21	---	59	---	12	---	---	---
5/15/2019	---	---	---	---	---	---	---	---	---	---	1330	---	---	---	---	---	---	---	---	---	---	1330	---	---
5/22/2019	---	---	---	---	---	---	---	---	---	---	1330	0	---	---	---	160	---	---	---	170	---	1330	---	---
5/29/2019	10	---	60	0	230	10	30	---	10	270	2000	20	110	1000	1810	90	30	610	0	200	130	1330	---	---
6/5/2019	---	---	80	---	280	180	---	0	---	160	1240	---	180	320	830	100	---	630	0	290	100	---	---	0
6/11/2019	0	---	---	0	230	---	30	---	0	280	---	0	120	320	830	---	0	740	---	410	150	1330	---	---
6/18/2019	---	---	110	---	250	10	---	20	---	280	1080	---	120	570	1020	250	---	670	10	400	240	---	---	-
6/25/2019	100	---	---	80	240	---	610	---	0	370	---	0	110	450	860	---	10	630	---	200	90	720	---	---
7/2/2019	---	---	140	---	180	50	---	270	---	650	1270	---	150	470	920	230	---	540	40	370	130	---	---	0
7/9/2019	100	---	---	510	600	---	540	---	0	640	---	10	150	450	870	---	200	750	---	420	350	1330	---	---
7/16/2019	---	---	10	---	250	0	---	0	---	640	290	---	100	220	820	280	---	630	10	430	430	---	---	0
7/23/2019	90	1000	---	430	210	---	480	---	0	630	---	10	270	200	790	---	200	590	---	390	410	1330	---	---
7/30/2019	---	--	10	---	230	60	---	0	---	630	900	---	240	310	740	170	---	600	40	400	400	---	---	0
8/6/2019	90	480	---	450	270	---	500	---	0	800	---	off	250	660	780	---	200	760	---	290	530	1330	---	---
8/13/2019	---	--	0	---	200	40	---	0	---	580	800	---	110	300	700	200	---	780	---	300	560	---	---	0
8/20/2019	70	600	---	480	240	---	480	---	0	840	---	off	100	650	860	---	190	740	---	250	430	---	---	---
8/27/2019	---	--	off	---	230	10	---	10	---	1370	900	---	130	560	720	340	---	690	---	290	430	---	---	0
9/3/2019	0	280	---	0	210	---	60	---	0	710	---	off	110	580	670	---	210	670	---	200	1000	---	---	---
9/10/2019	---	--		---	200	13	---	60	---	810	580	---	110	580	650	300	---	650	---	210	980	---	---	0
9/17/2019	10	1030	---	0	250	---	1000	---	0	470	---	off	100	510	590	---	280	580	---	360	970	---	---	---
9/24/2019	---	--	100	---	240	12	---	10	---	880	540	---	100	590	590	330	---	900	---	350	870	---	20	0
10/1/2019	0	760	---	0	220	---	1000	---	0	830	---	off	90	570	600	---	300	550	---	300	850	---	20	---
10/8/2019	---	--	40	---	260	30	---	0	---	830	600	---	80	710	570	400	---	720	---	340	1500	---	off	0

CZ07 — Screening location is an extraction location

CZ20 — Screening location is a monitoring well

CZ18, UWBZ26, UWBZ27, LSZ09, LSZ23, LSZ38 and LSZ39 extraction shut down

Site ST012 Sulfate Field Screening

- LSZ09, UWBZ21, and CZ18 – recently shut down based on sulfate screening. Perform screening test for SRB and time zero sampling.
- LSZ37 – had indications of sulfate from injections but recently decreasing

Site ST012 Path Forward Oct-Nov

- Continued SVE operation
- Continue pump repairs
- Pilot Study Implementation
  - Continue mixing sulfate batches and inject according to plan (FVM7) Phase 1 subphase 3 injections with the modifications previously presented
  - Perform SRB screening (BART) test and time zero sampling at recently shut down extraction wells and select monitoring wells

Air Force Civil Engineer Center

2019 BCT MEETINGS/CONFERENCE CALLS SCHEDULE DELIVERABLE TRACKING

BCT Conference Call

17 October 2019

BCT GENERAL UPDATE AND ACTION ITEMS

BCT Conference Call
17 October 2019