Air Force Civil Engineer Center

FORMER
WILLIAMS AIR FORCE BASE

Site ST012
Former Liquid Fuel Storage Area

BCT Conference Call
20 July 2017

ED_005025_00013146-00001

Site ST012 Outline

- Summary of Activities Since June BCT call
- Update on JP-4 degradation based on methane at SVE system
- LNAPL Monitoring/Removal Update
- Perimeter Groundwater Concentration Update
- Containment Well Testing
- Path Forward

ED_005025_00013146-00002

Site ST012 Activities Since May

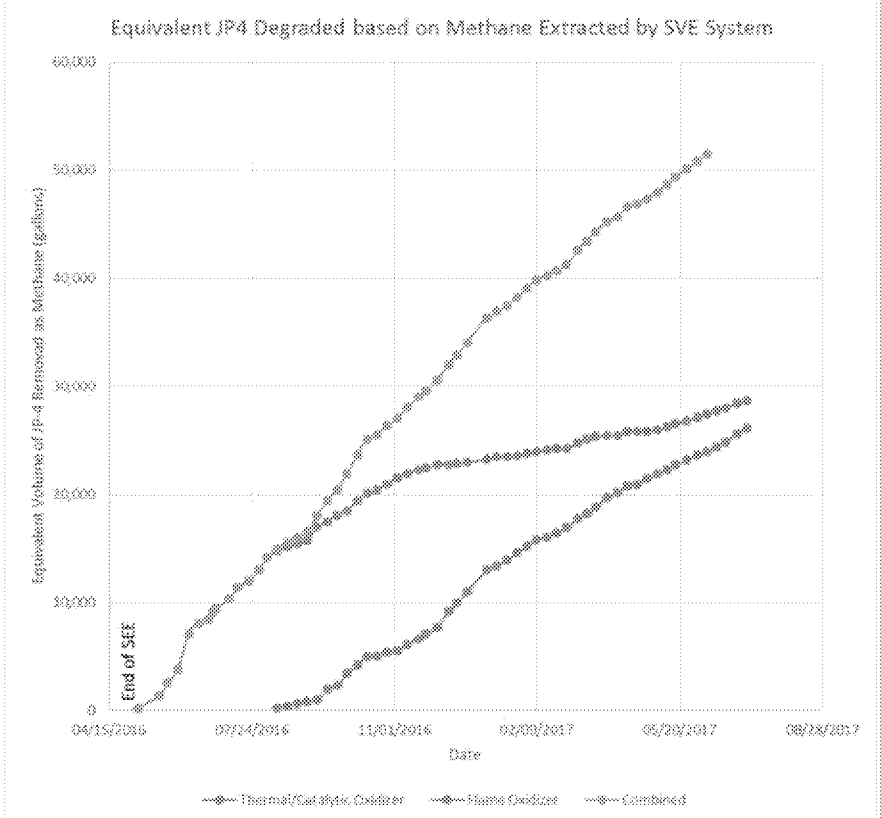
- Continued SVE operation
  - June laboratory data not yet available for Q2 summary
- Continued LNAPL screening in accessible SEE wells and Phase I characterization wells
- Ran tests on several containment wells with submersible pumps

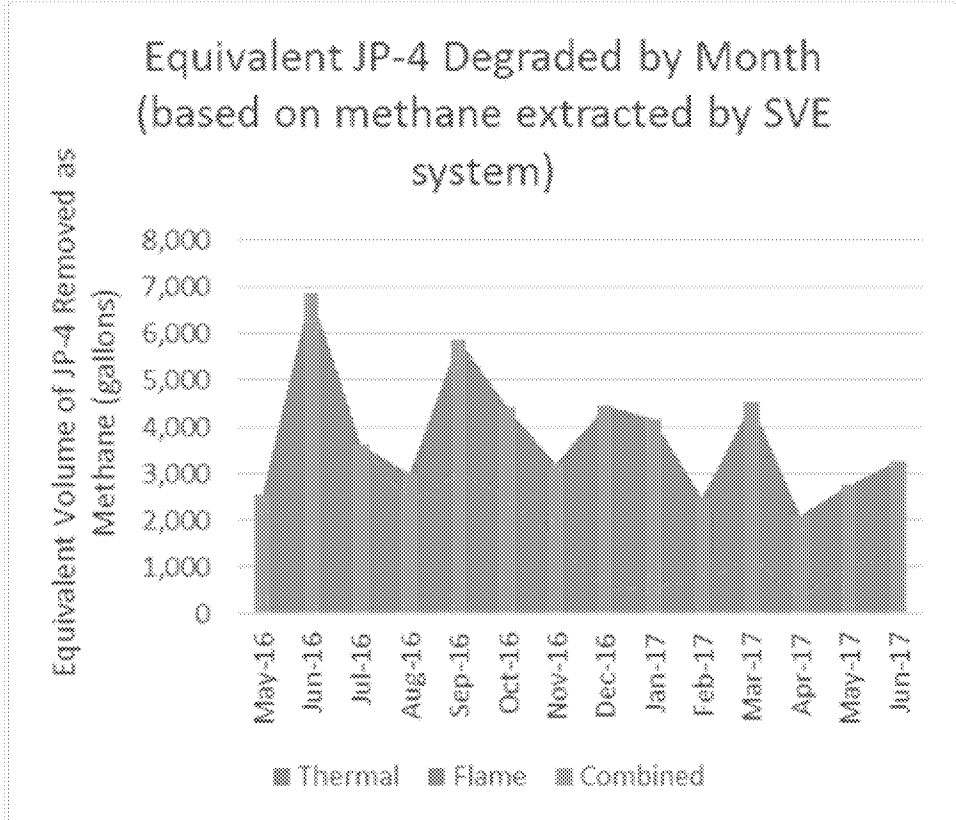
ED_005025_00013146-00003

JP-4 Degradation Based on Methane Removed with SVE (through 7 Jul)

ED_005025_00013146-00004

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





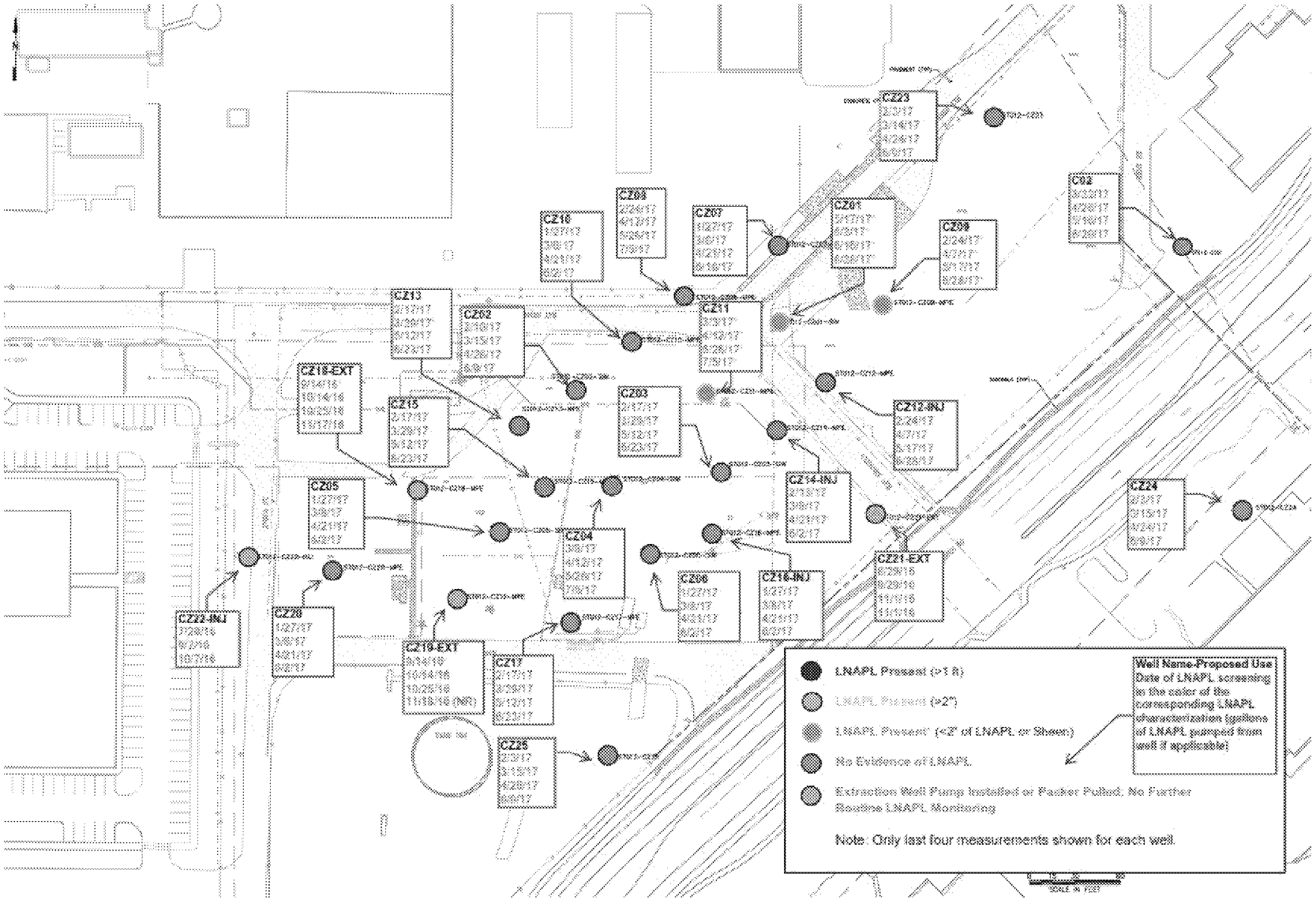
Estimated JP-4 degradation as methane is in addition to JP-4 removal reported for SVE

ED_005025_00013146-00005

LNAPL Monitoring Update (through 7 Jul)

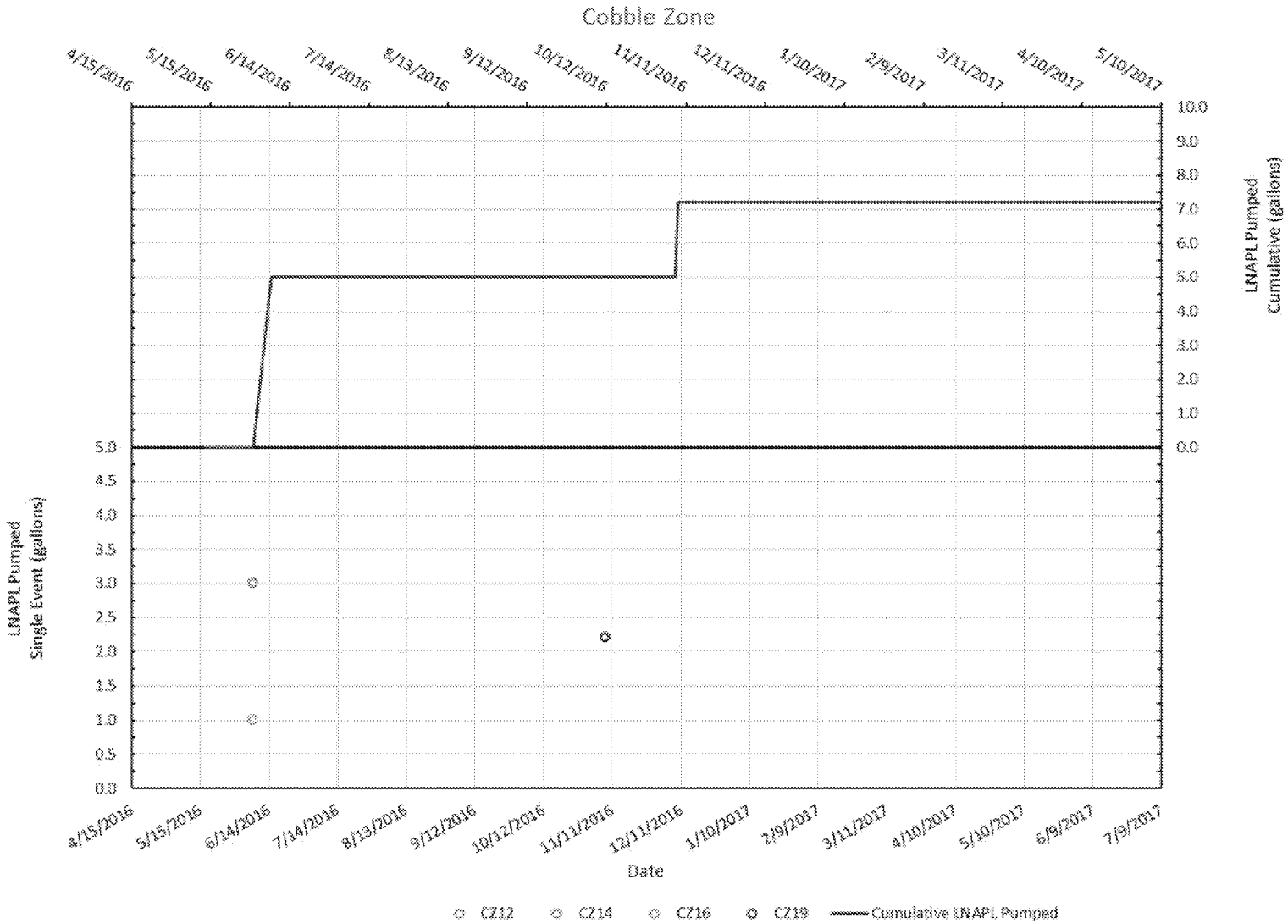
ED_005025_00013146-00006

LNAPL Monitoring/Removal Status
Cobble Zone



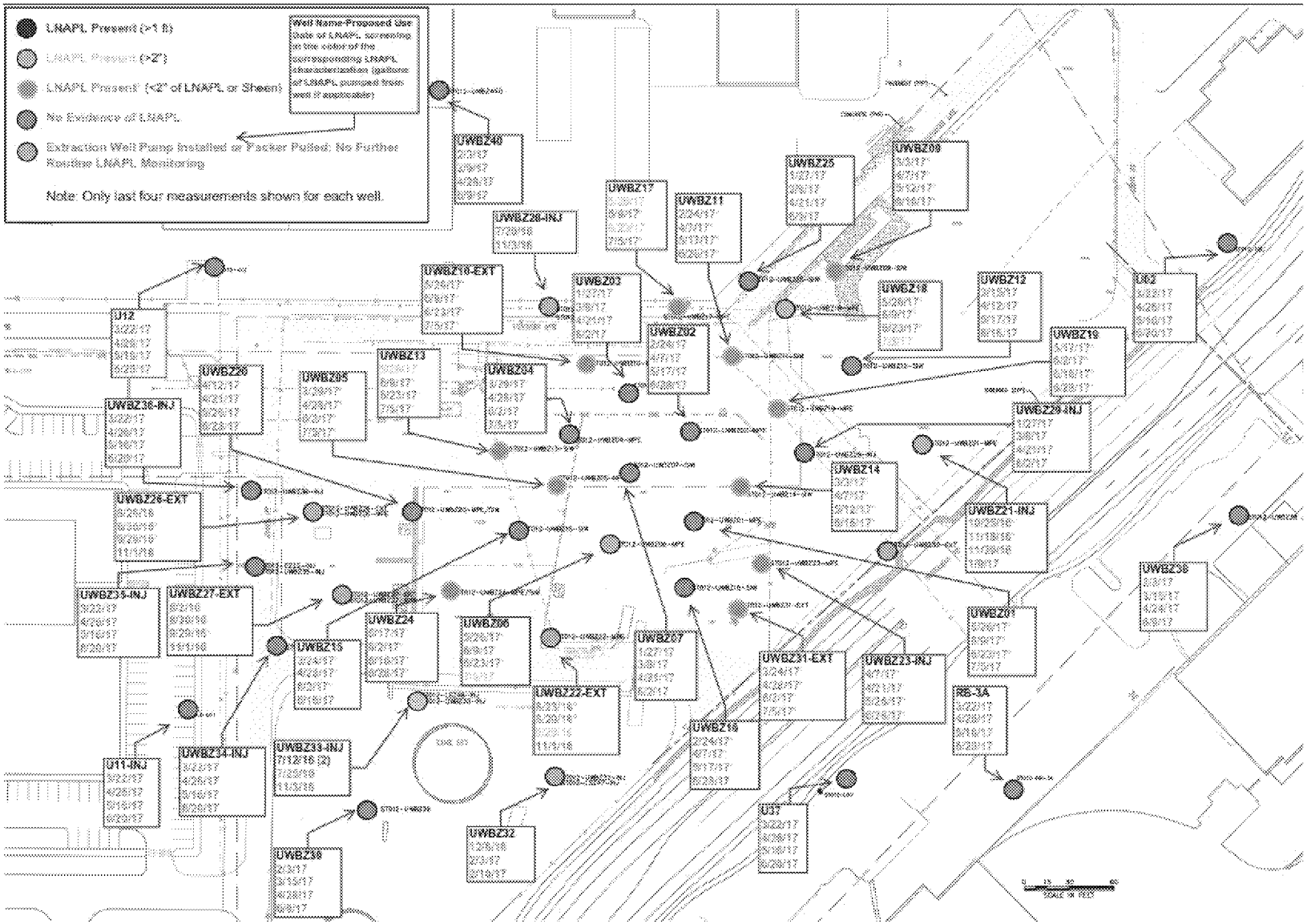
ED_005025_00013146-00007

LNAPL Monitoring/Removal Status
Cobble Zone



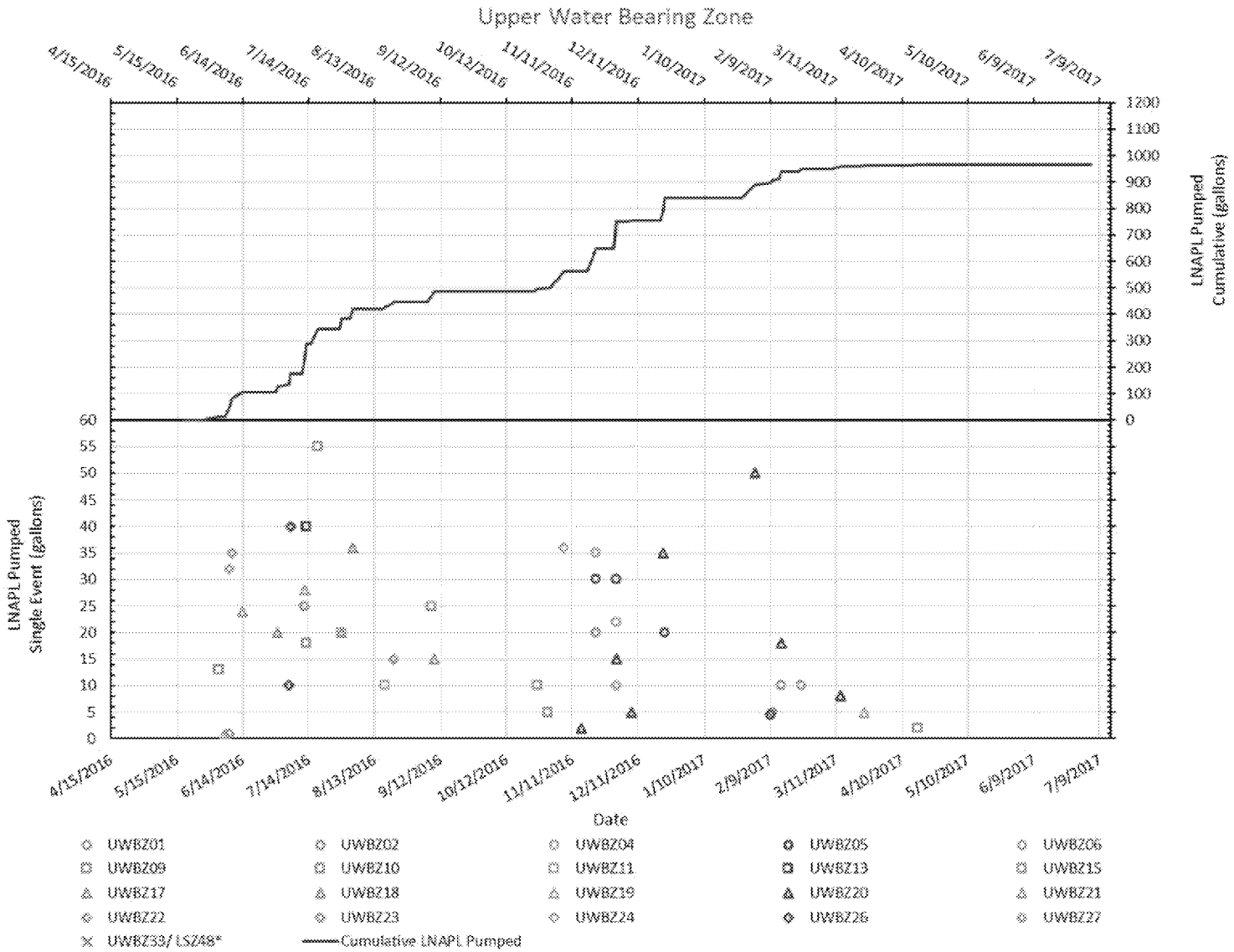
ED_005025_00013146-00008

LNAPL Monitoring/Removal Status
Upper Water Bearing Zone



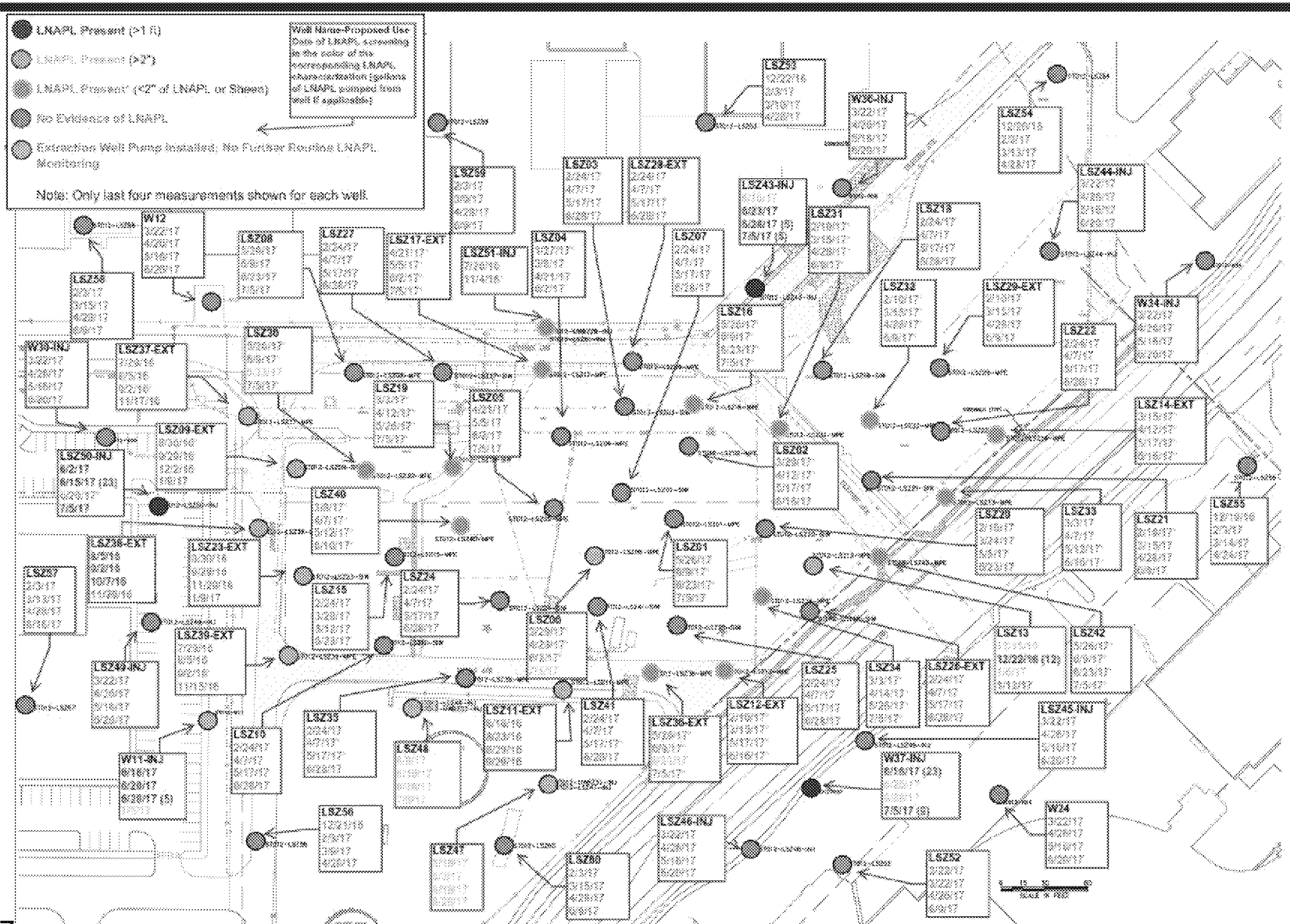
ED_005025_00013146-00009

LNAPL Monitoring/Removal Status
Upper Water Bearing Zone



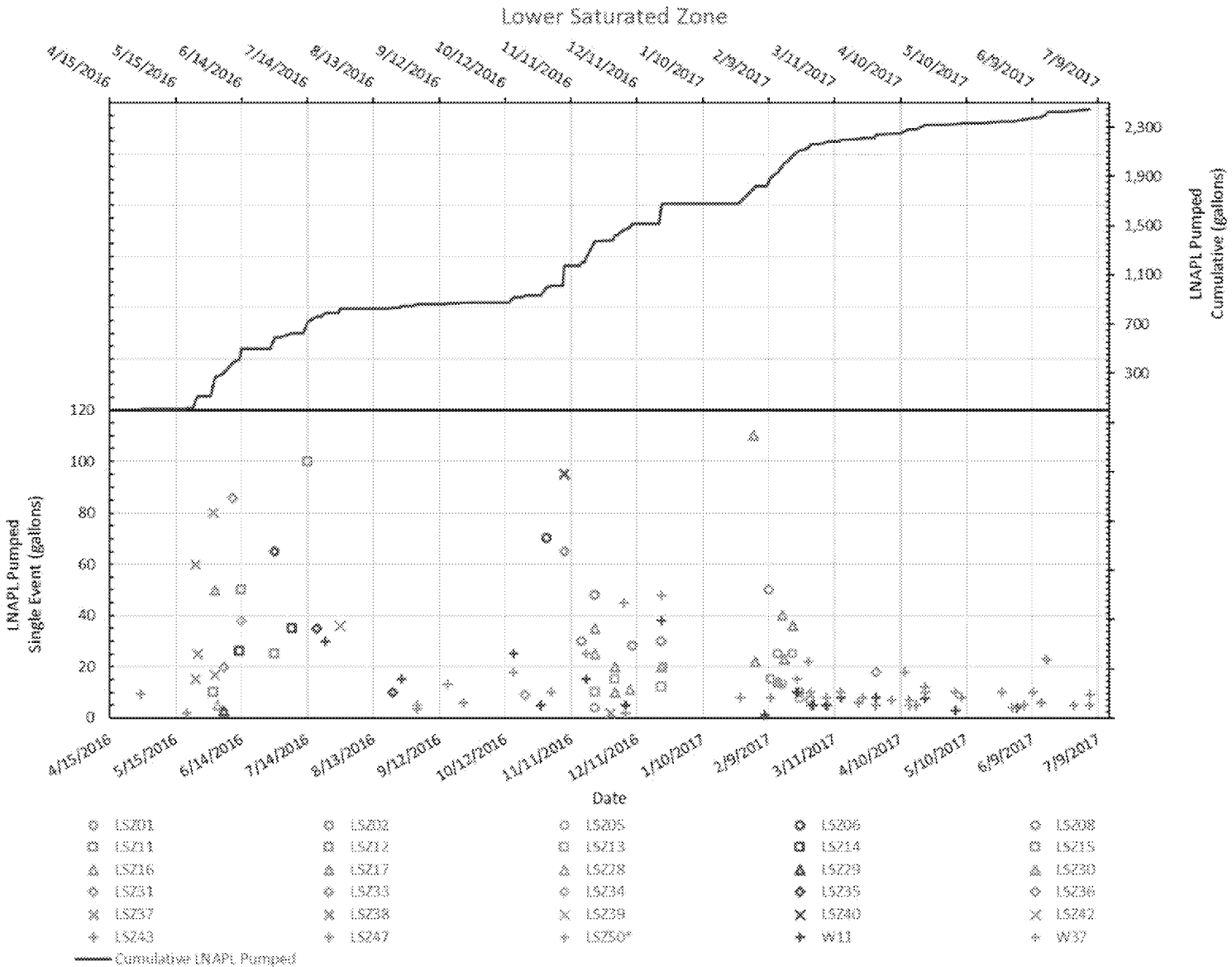
ED_005025_00013146-00010

LNAPL Monitoring/Removal Status
Lower Saturated Zone



ED_005025_00013146-00011

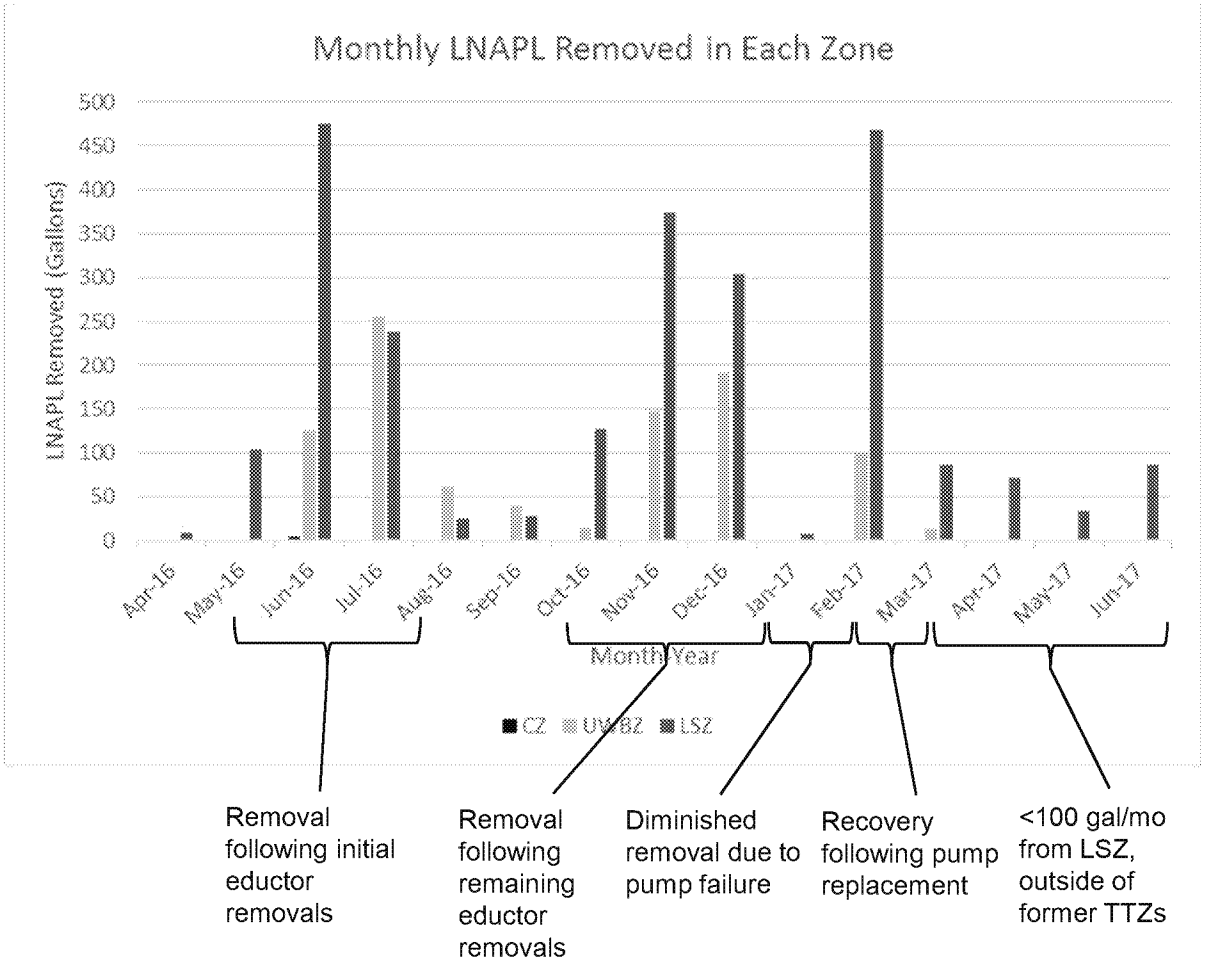
LNAPL Monitoring/Removal Status
Lower Saturated Zone



ED_005025_00013146-00012

ST012 LNAPL Monitoring/Removal Summary

- CZ – ~7 gallons of LNAPL removed. None since Jun 2017 BCT update
- UWBZ - ~950 gallons of LNAPL removed. None since Jun 2017 update.
- LSZ - ~2,450 gallons of LNAPL removed. ~100 gallons removed since Jun 2017 update. All LNAPL removed since Jun 2017 from wells outside TTZ perimeter (W11,W37, LSZ43, LSZ50).

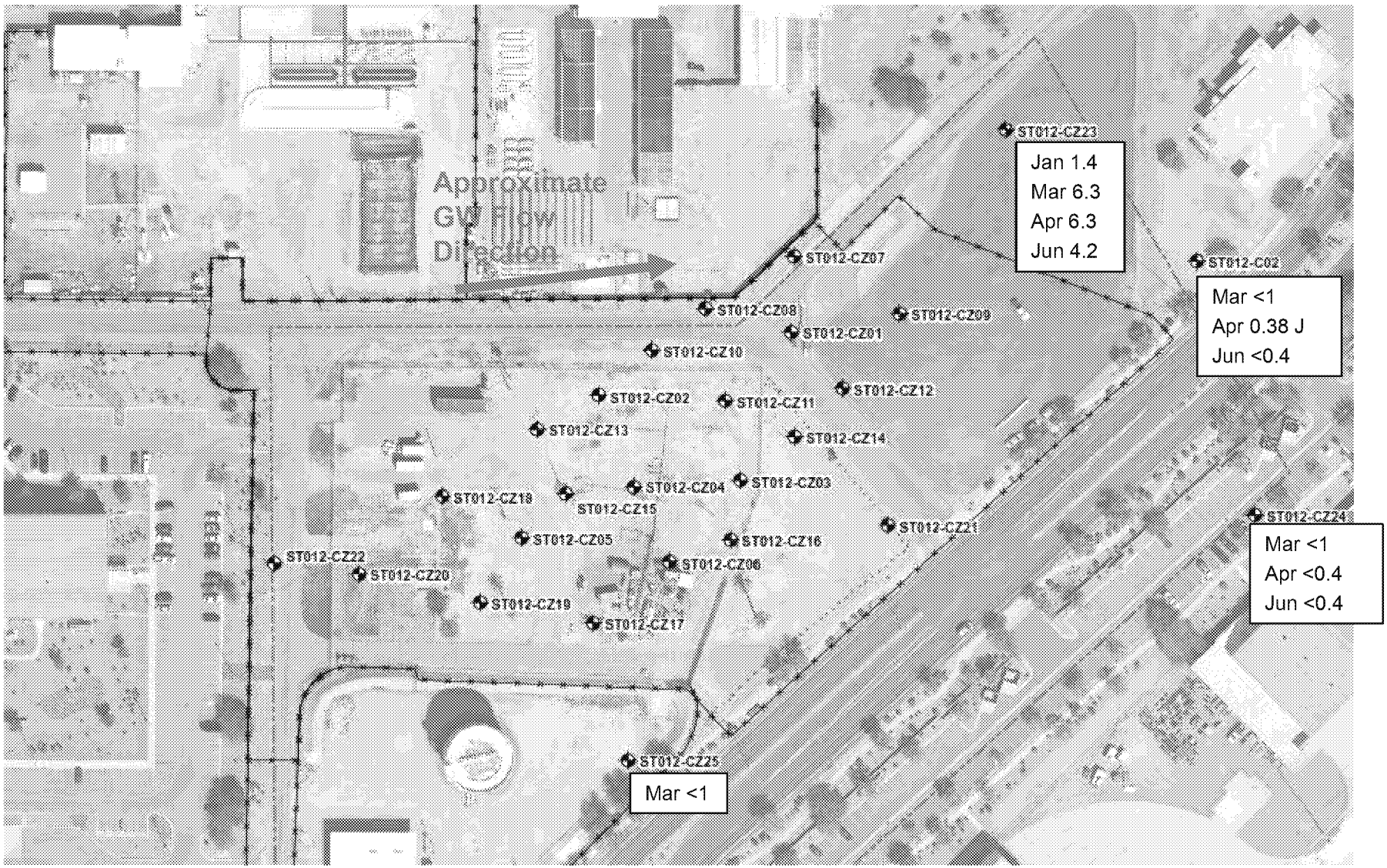


ED_005025_00013146-00013

Groundwater Concentrations

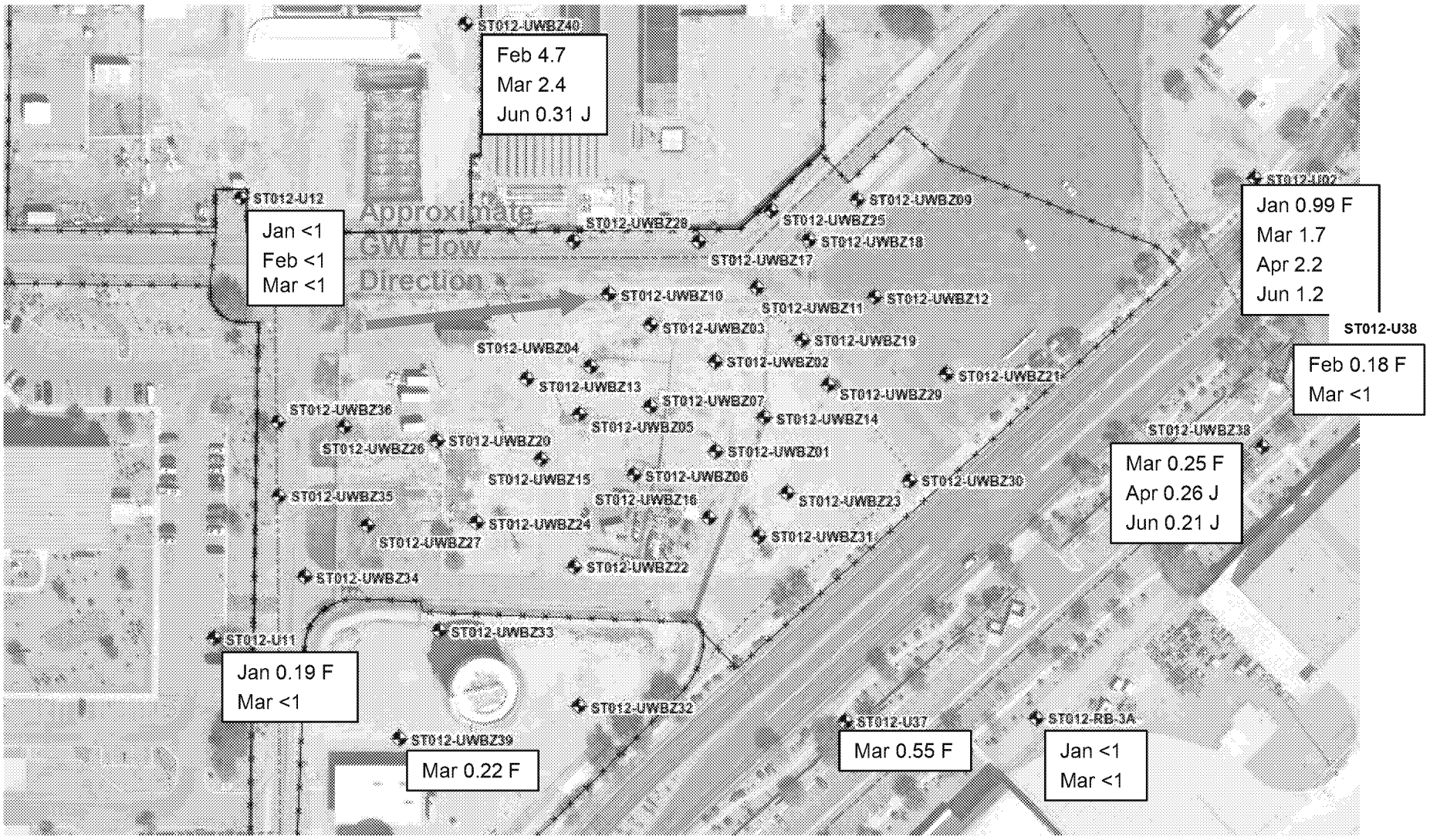
ED_005025_00013146-00014

Site ST012 CZ Perimeter Benzene Groundwater Results (µg/L)



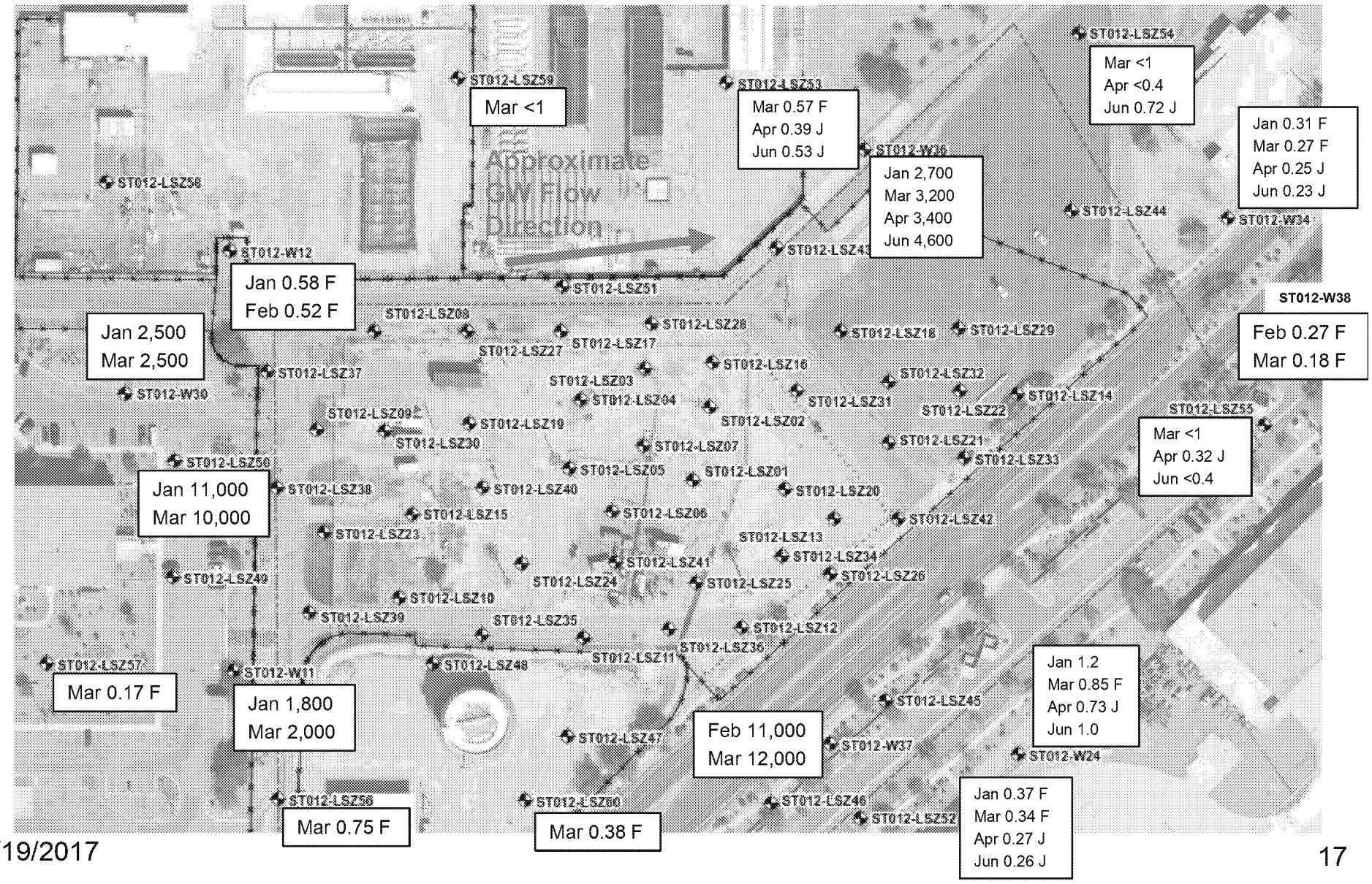
ED_005025_00013146-00015

Site ST012 UWBZ Perimeter Benzene Groundwater Results (µg/L)



ED_005025_00013146-00016

Site ST012 LSZ Perimeter Benzene Groundwater Results (µg/L)



ED_005025_00013146-00017

Containment Well Testing

ED_005025_00013146-00018

Site ST012 Containment Well Testing

- **Pump testing on several containment wells**
  - CZ: ST012-CZ18, ST012-CZ19, ST012-CZ21
  - UWBZ: ST012-UWBZ22, ST012-UWBZ26, ST012-UWBZ27, ST012-UWBZ30
  - LSZ: ST012-LSZ09, ST012-LSZ11, ST012-LSZ23, ST012-LSZ37, ST012-LSZ38, ST012-LSZ39
- **Evaluated**
  - Temperature stabilization
  - Jar test for LNAPL presence

ED_005025_00013146-00019

Site ST012 Containment Well Testing

- **Temperature during test pumping was stable at or below threshold levels for discharge**
- **LNAPL presence absent or minimal**

Location	Stabilized Temperature (°F)	Stabalized Flow Rate (gpm)	Jar Test Notes
CZ-18	140	15	Slight separation. Strong odor.
CZ-19	138	15	No separation. No sheen. Slight odor.
CZ-21	145	NA	No separation. No sheen. Strong odor.
UWBZ-22	150	4.5	No separation. Sheen. Slight odor.
UWBZ-26	125	8.5	No separation. Sheen. Slight odor.
UWBZ-27	130	12	No separation. No sheen. Low odor.
UWBZ-30	152	11	No separation. No sheen. Low odor.
LSZ-09	135	9.5	No separation. No sheen. Low odor.
LSZ-11	118	~1	No separation. No sheen. Strong odor.
LSZ-23	130	11	No separation. No sheen. Strong odor.
LSZ-37	100	14	No separation. Sheen. Slight odor.
LSZ-38	120	3	No separation. Sheen. Low odor.
LSZ-39	105	8.5	No separation. Sheen. Low odor.

Site ST012 Path Forward

- Revised Draft Final RD/RAWP Amendment 2 Submittal — Aug 2017
- Baseline Resampling — Sep 2017
- Order Sodium Sulfate — Sep 2017
- Install Injection Components — Sep-Oct 2017
- Start Extraction — Oct-Nov 2017
  - Evaluate effect on LNAPL accumulation/recovery
- Begin Injections — Dec 2017

ED_005025_00013146-00021

AF/EPA/ADEQ letters/comments since March BCT call

- **EPA Modeling Comments (24 Mar 2017)**
  - Responses in preparation (AF review)
- **ADEQ Mass Estimate Calculations Comments (16 May 2017)**
  - Responses in preparation (AF review)
- **EPA/ADEQ Time of Remediation Estimates (30 May 2017)**
  - Responses in preparation
- **EBR Checklist (21 Jun 2017)**
  - Response in preparation – to be transmitted with Addendum 2

ED_005025_00013146-00022

Air Force Civil Engineer Center

2017 BCT MEETINGS/CONFERENCE CALLS SCHEDULE DELIVERABLE TRACKING

BCT Conference Call

20 July 2017

ED_005025_00013146-00023

Air Force Civil Engineer Center

ACTION ITEMS

BCT Conference Call

20 July 2017

ED_005025_00013146-00024