

**Contractor Workshop 2016**

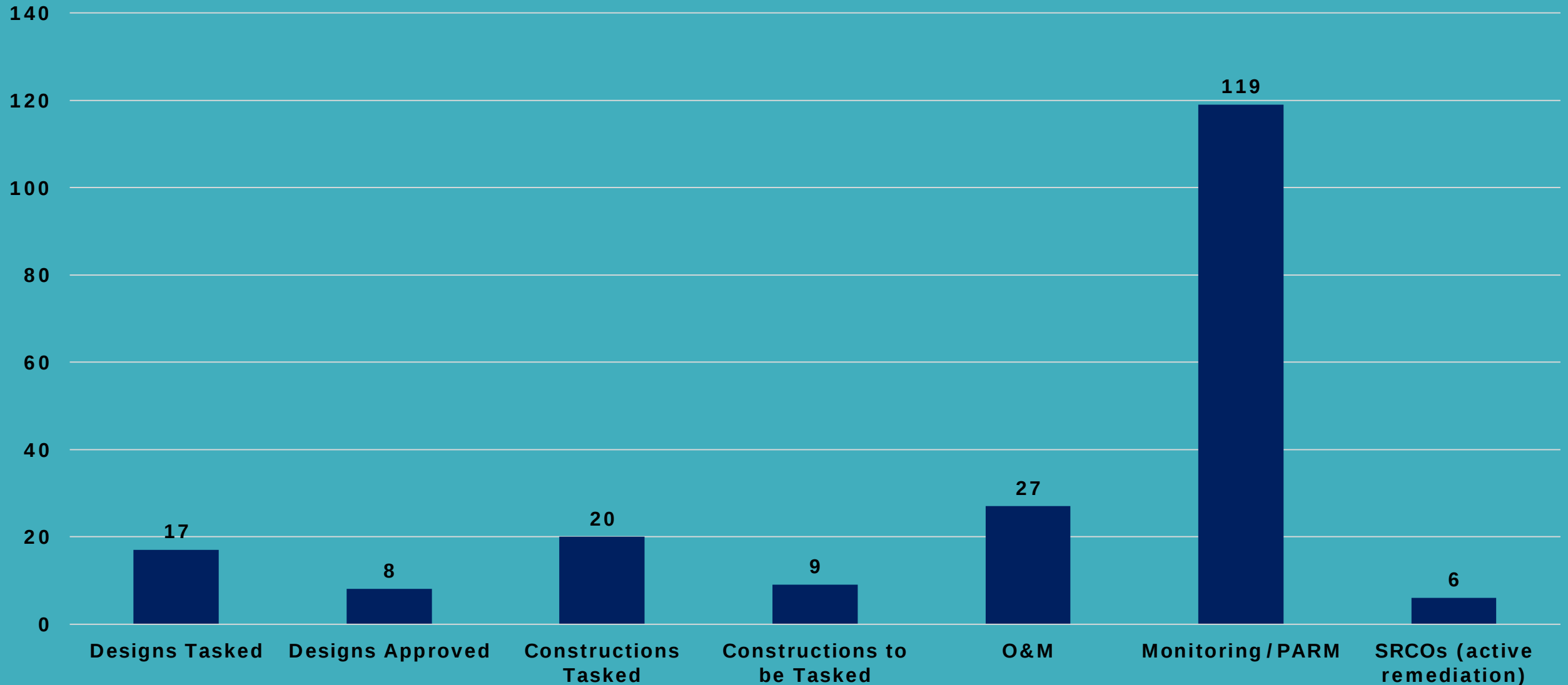
**Waste Site Cleanup Section**

**May 24 – 25, 2016**

# **ENGINEERING UPDATE**

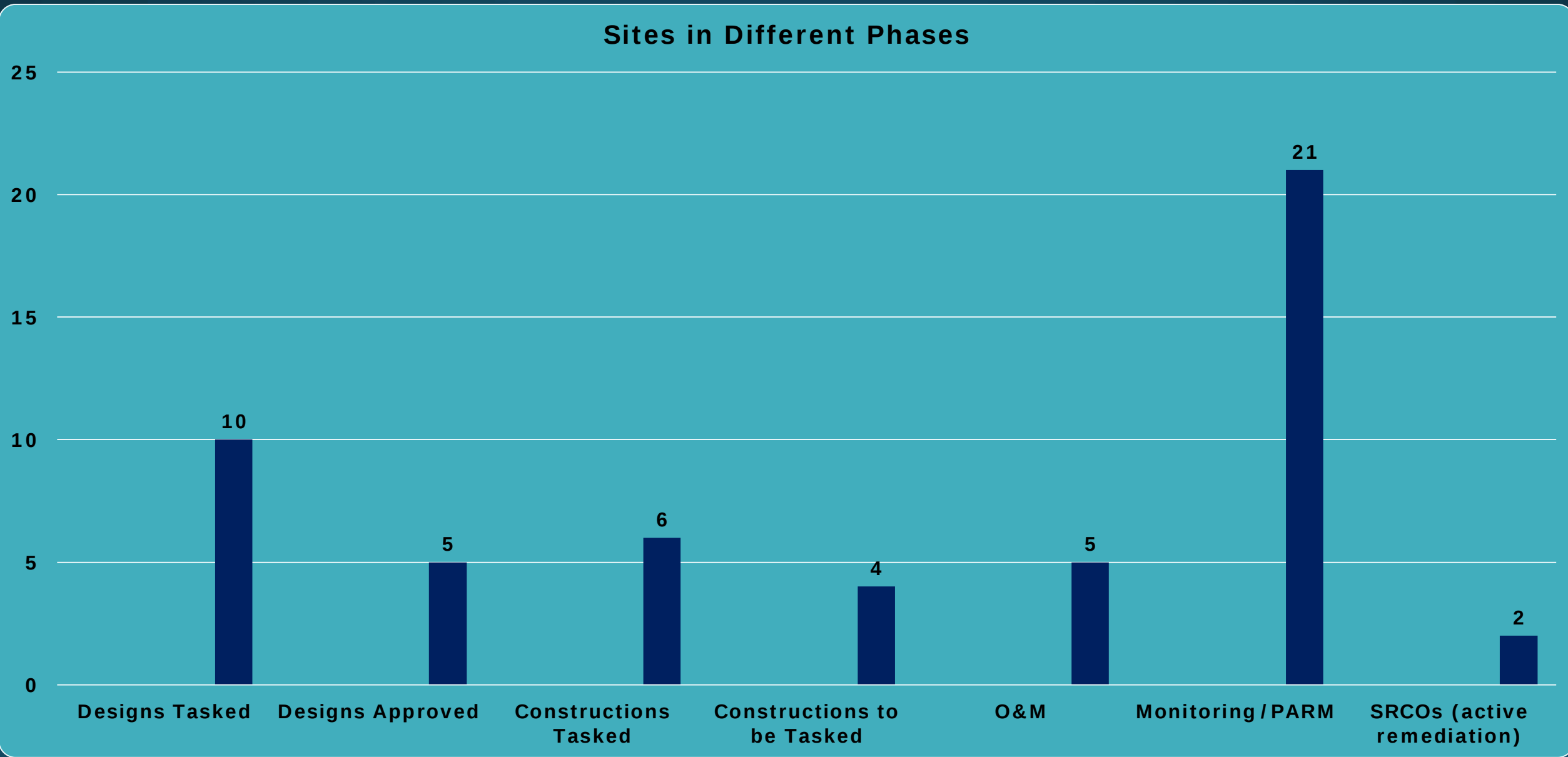
# Engineering Stats – Drycleaning Sites 2015 - 2016

Sites in Different Phases



# Engineering Stats – State Lead Sites 2015 - 2016

Sites in Different Phases



# **Selected Technologies – Drycleaning 2015 – 2016**

## **■ Soil**

- SVE - 14**
- Excavation - 7**

## **■ Groundwater**

- In-situ Bioremediation - 10**
- In-situ Bioaugmentation - 2**
- In-situ Chemical Oxidation - 2**
- In-situ Chemical Reduction - 2**
- Multi-phase extraction - 1**

# **Selected Technologies – State Lead**

## **2015 - 2016**

- **Soil**
  - **SVE - 1**
  - **Excavation - 8**
  
- **Groundwater**
  - **In-situ Bioremediation - 5**
  - **Pump & Treat - 1**

# How were the SVE Systems Shutdown?

- **SVE system shutdowns – 26 sites**
  - **Active PCE drycleaners – 10**
  - **Low permeability soils – 2**
  - **LASR – 2**
  - **PBC – 2**

# **Performance Based Contracting Update**

- **Sites in PBC – 4**
  - **Technology implemented – SVE**
  - **Startup dates – April, May, & June 2014, & August 2015**
  - **Working on SRCO for one site, one site is in PARM, and the other two are in review for milestone verifications**
- **Currently reviewing the PBC proposals for two sites & waiting on another one**

# PBC Sites – Where are we now?

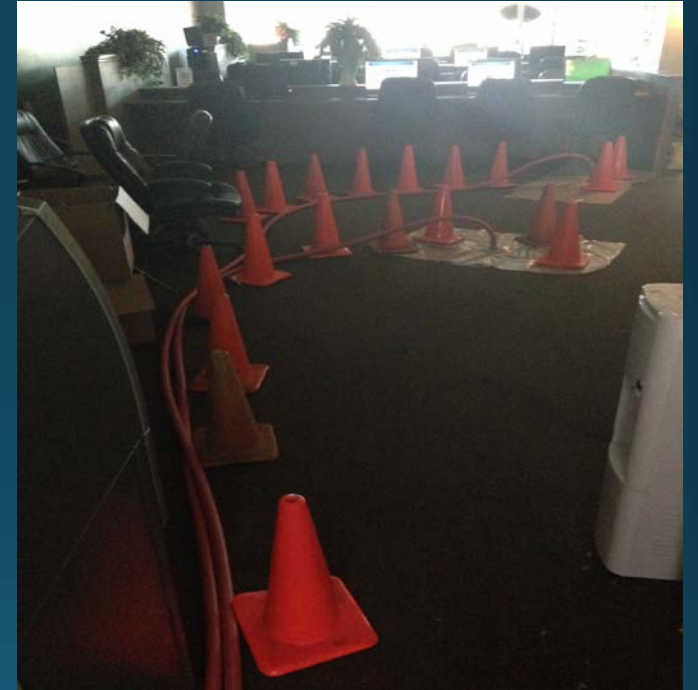
| SITE NAME           | LOCATION | FACILITY I.D. | CONTRACTOR    | DRYCLEANER STATUS / CURRENT BUSINESS | SVE STARTUP / SHUTDOWN DATE | TOTAL SYSTEM RUNTIME (hrs.) | INFLUENT TOTAL CEs - STARTUP / SHUTDOWN (mg / m3) | TOTAL MASS RECOVERED (lbs.) | COMMENTS                                                                                                                             |
|---------------------|----------|---------------|---------------|--------------------------------------|-----------------------------|-----------------------------|---------------------------------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Adams Cleaners      | Orlando  | 489502038     | Earth Systems | Active                               | 4 / 16 / 14 - 11 / 16 / 15  | 4636                        | 232.917 / 4.803                                   | 122                         | Soil confirm sampling < SCTLs - 1 / 11 / 16; GW sampling (2 MWs > GCTLs for Bromodichloromethane) - 10 / 28 - 29 / 15; site in PARM  |
| Dryclean USA #11501 | Orlando  | 489502186     | Earth Systems | Closed / Vacant                      | 5 / 1 / 14 - 4 / 20 / 15    | 2347                        | 11.1 / 0.109                                      | 0.96                        | Soil confirm sampling < SCTLs - 4 / 20 / 15; GW sampling < GCTLs - 10 / 29 / 15; working on SRCO                                     |
| Sunland Cleaners    | Longwood | 599501330     | Earth Systems | Active                               | 6 / 9 / 2014                | 5858*                       | 4.786 / 4.145                                     | 13.19                       | GW sampling (PCE in 2 MWs > GCTLs {11.4 & 5.5 ppb}; TCE in 1 MW > GCTL {5.2 ppb}) - 10 / 15; 3rd milestone verification under review |
| Michael the Cleaner | Sarasota | 589502384     | GHD           | Drop-off                             | 8 / 26 / 2015               | 4083*                       | 52.311 / 0.500<br>0.984 / 746                     | 699*                        | 2nd milestone verification under review; data is from 1st semi-annual report; O&M ongoing                                            |

# **MAGS Test – Another Refresher**

- **Install MAGS wells at known source areas**
- **Screen MAGS wells at least a foot above the water table**
- **Run the MAGS test at different applied vacuums (different settings of bleed valve)**
- **Have an adequate sized blower for the test**
- **Select air samples should be sent to fixed lab for analyses**

# Methane and Bioremediation Sites

- **Elevated levels of methane is generated in the subsurface at some anaerobic bioremediation sites**
- **The USGS recommends that ground water methane concentrations greater than 10 mg/l are an indication that methane concentrations may become a hazard (USGS, 2006)**



# Methane Concentrations at some Bioremediation Sites

- **Lake Lucina - CarBstrate™ (Aug 11-14, 2014/Nov 10-13, 2014/March 16-20, 2015/Aug 31 – September 4, 2015)**
  - 67 µg/l – 110 µg/l (12/3/15)
- **Celebrity Cleaners – 3DME with BDI / August 26-29, 2014**
  - 2,900 µg/l – 11,000 µg/l (10/27/15)
- **Viking Plaza – SRS-SD with TSI-DC microbial culture / March 2015**
  - 250 µg/l – 5,300 µg/l (9/17/15)
- **60 Minute Cleaners – 3DME & CRS / May 11 – 14, 2015**
  - 0.72 µg/l – 5,800 µg/l (2/17/16)
- **DC Depot (Fort Lauderdale) – EOS®Pro / July 14-22, 2015**
  - 2,710 µg/l – 4,270 µg/l (1/13/16)
  - 3,800 µg/l – 9,930 µg/l (3/22/16); shallow MW – 3,210 µg/l

# What do we monitor for Methane at these sites?

- Are source area groundwater concentrations > 10 mg/l
  - Are there any receptors or structures present?
  - Depth at which elevated concentrations exist
    - Initiate methane monitoring
      - measure soil gas concentrations in the remediation area
- Soil gas (sub slab) > 10% of LEL (5,000 ppmv)
  - Indoor air concentrations should be measured
- Soil gas (sub slab) < 10% of LEL with groundwater concentrations > 10 mg/l
  - Monitor quarterly
- Soil gas (sub slab) > 10% of LEL with groundwater concentrations > 10 mg/l
  - Mitigate
- Indoor Air > 10% of LEL
  - Evacuate / Mitigate

# Daily Construction Status Reports

## Excavation Photographs April 14 , 2016

**Former Barker Chemical Company  
White Residence  
Inglis, FL  
FACID# 188**

### Health & Safety:

- Daily H&S tailgate meetings: 1
- Lost time injuries to date: 0
- OSHA recordable to date: 0
- First aid/injuries to date: 0

### Site activities:

- Loaded trucks from stockpiled soil for T&D to landfill.
  - See detailed weight list from landfill
- Soil was excavated and stockpiled.
  - See attached map for excavation
- Maintain dust monitoring equipment and weather station
- Water site for dust control periodically

### Work Scheduled for This Week:

- Continue with excavation according to ISR Plan

### Action Items / Other:

- Order equipment and schedule excavation at Kellman/Mikkanen property
  - Tentative start date April 20.

### Personnel Onsite Hours:

- Nichols: 10.5
- Albritton: 0
- Kuilema: 10
- Ouchie: 10.5

### Problems and Resolutions:

- No reported problems at project site.



*Watering stockpile for dust control*



*Excavation looking south-southeast. Orange soil is footprint of former residence*



*Eastern edge of property looking toward west*



*Panoramic facing north*

## Excavation Photographs April 18 , 2016

**Former Barker Chemical Company  
White Residence  
Mikkanen Residence  
Inglis, FL  
FACID# 188**

### Health & Safety:

- Daily H&S tailgate meetings: 1
- Lost time injuries to date: 0
- OSHA recordable to date: 0
- First aid/injuries to date: 0

### Site activities (White):

- Loaded trucks for T&D to landfill.
  - See detailed weight list from landfill
  - See attached map for excavation
- Backfill excavation
  - 26 trucks delivered to site
  - Backfill compacted in 1 ft lifts
- Maintain dust monitoring equipment and weather station
- Water site for dust control periodically

### Site activities (Mikkanen):

- Hand excavate marked utilities located within proposed excavation area
- Stake out excavation

### Work Scheduled for this week:

- (White Residence)
  - Finish excavation and load out of soils
  - Finish backfill and compaction
  - Release site to DEO for construction
- (Mikkanen Residence)
  - Finish excavation and backfilling

### Action Items / Other:

- Schedule field density tests for White residence
- GPS excavation limits at Mikkanen residence and map.

### Personnel Onsite Hours:

- Nichols: 11
- Curry: 11
- Kuilema: 11
- Ouchie: 11

### Problems and Resolutions:

- Discrepancy continues with field scales vs landfill scales.
  - Check field scale calibration. Calibration was last conducted on Feb 2016.



*Backfilling activities. Weather station in forefront*

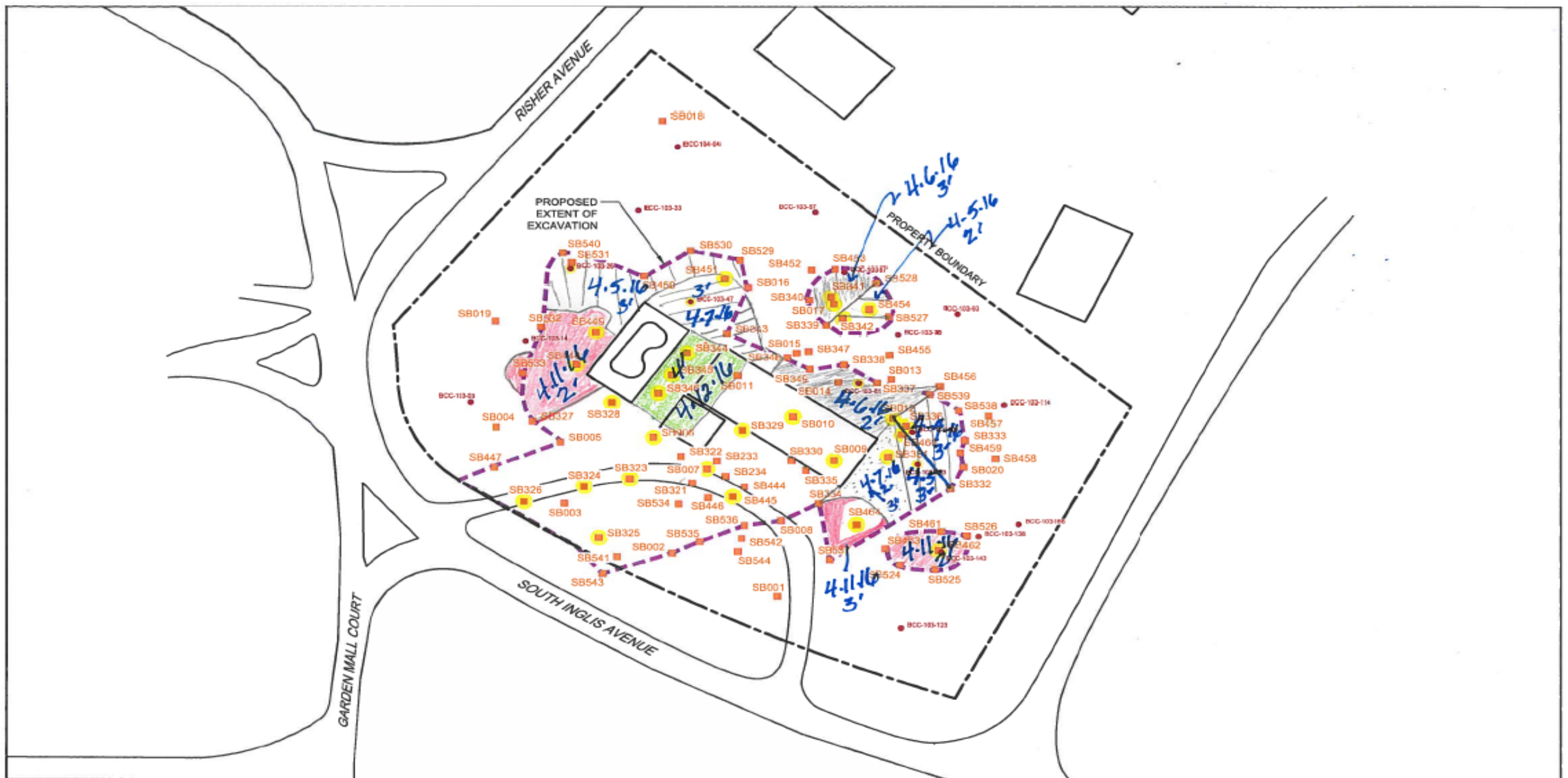


*Excavation looking to southeast*



*Excavation looking to south-southwest*

# Site map tracking daily extent of excavation



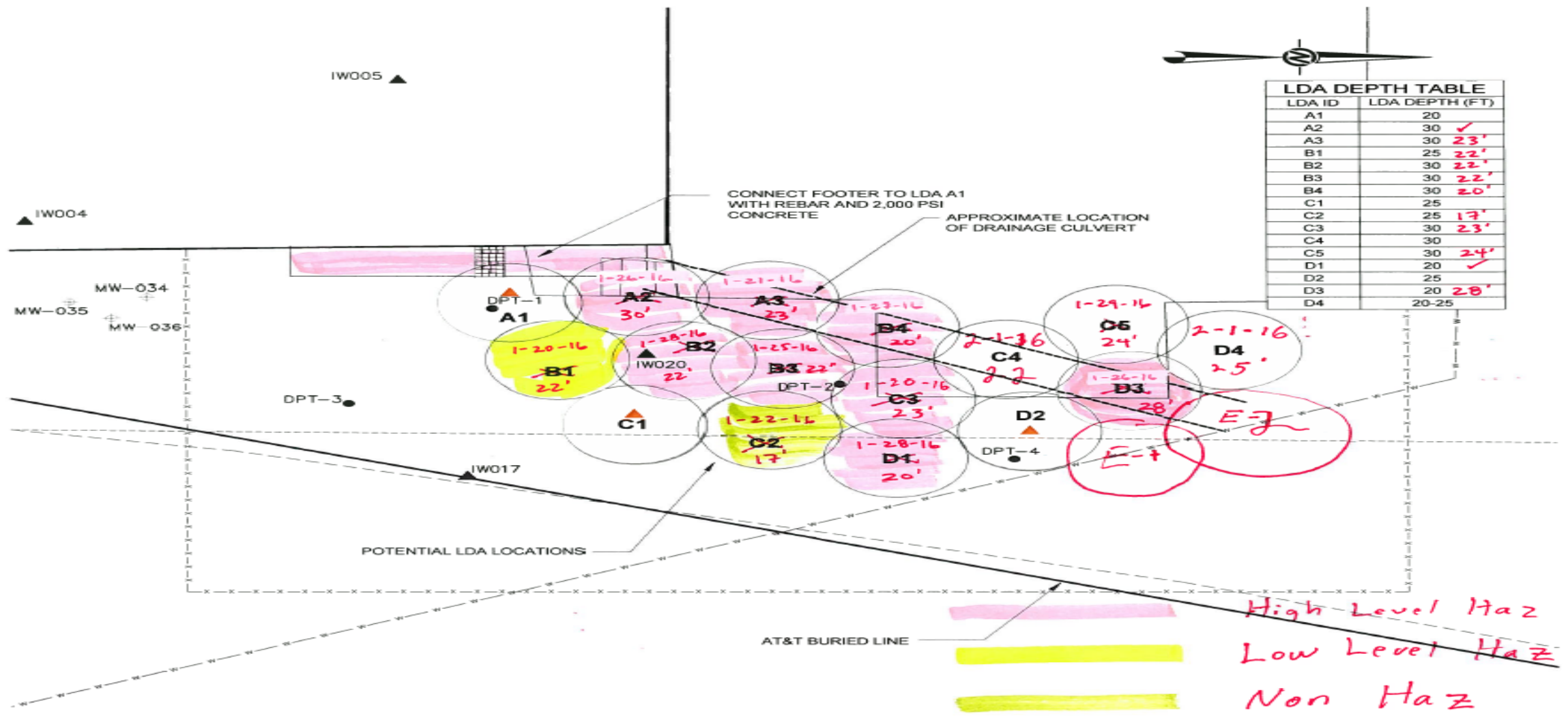
# Panoramic view of ongoing excavation



# Detailed daily weight list from landfill

| Ticket #     | Date       | Truck | Manifest | UOM | Tons            | Previous Total: |
|--------------|------------|-------|----------|-----|-----------------|-----------------|
| 237461       | 04/12/2016 | ST248 | 2927818  | TN  | 30.72           | <b>1241.34</b>  |
| 237463       | 04/12/2016 | ST291 | 2927817  | TN  | 27.48           |                 |
| 237470       | 04/12/2016 | ST526 | 2927819  | TN  | 27.80           |                 |
| 237473       | 04/12/2016 | ST598 | 2927821  | TN  | 27.46           |                 |
| 237477       | 04/12/2016 | ST286 | 2927822  | TN  | 26.14           |                 |
| 237478       | 04/12/2016 | ST584 | 2927823  | TN  | 28.34           |                 |
| 237479       | 04/12/2016 | ST235 | 2927820  | TN  | 26.97           |                 |
| 237483       | 04/12/2016 | ST556 | 2927824  | TN  | 27.59           |                 |
| 237518       | 04/12/2016 | ST271 | 2927825  | TN  | 25.53           |                 |
| 237526       | 04/12/2016 | ST535 | 2927826  | TN  | 28.29           |                 |
| 237528       | 04/12/2016 | ST574 | 2927827  | TN  | 28.10           |                 |
| 237558       | 04/12/2016 | ST567 | 2927828  | TN  | 27.14           |                 |
| 237559       | 04/12/2016 | ST592 | 2927829  | TN  | 27.14           |                 |
| 237576       | 04/12/2016 | ST570 | 2927830  | TN  | 32.03           |                 |
| 237579       | 04/12/2016 | ST271 | 2927831  | TN  | 30.80           |                 |
| 237587       | 04/12/2016 | ST110 | 2927832  | TN  | 28.82           |                 |
| Daily Total: |            |       |          |     | 450.35          |                 |
| Proj Total   |            |       |          |     | <b>1,691.69</b> |                 |

U:\FLETCHER\PEP\DOJDC No 014 One, Cleveland, 2015 SamplingMachine Trainings\FLETCHER-00014-0114.docx P:\GJ\PEP 8 Modified: blazaro 01/28/2016 8:24 PM Printed: blazaro 01/28/2016 Jacksonville, FL



# Construction Completion Status Reports

## Construction Status Report- October 31, 2014

### Health & Safety

- Daily H&S tailgate meetings: 3
- Lost time injuries to date: 0
- OSHA recordable to date: 0
- First aid/injuries to date: 0

### Project Work Completed:

#### Fieldwork Activities –

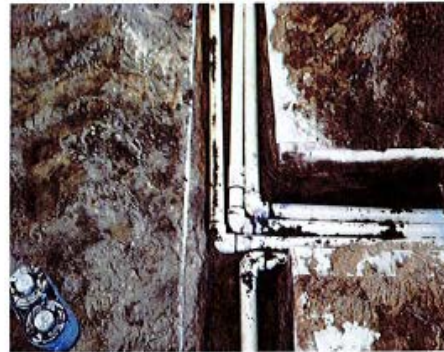
- Utility locate completed.
- Saw cut and removed Concrete/Asphalt from interior/exterior trench.
- Installed interior/exterior piping and connections to all 4 SVE wells to outside building and capped below ground.
- Completed trench backfill and compaction.
- Poured concrete and restored trenches.

### Work Scheduled for Next Period:

- Complete/Submit Interior Construction Completion Report.

### Action Items / Other:

- Remove 2 drums IDW (soil)



Interior Trenching and Piping.



Interior Concrete Restoration.



Exterior Concrete Restoration.



Exterior Trench Extended Beyond Overhang

## Documentation of Source Removal / System Construction – November 14, 2015

### Health & Safety

- Lost time injuries: 0
- OSHA recordable: 0
- First aid/injuries: 0

### Source Removal:

- Completed backfilling excavation and trenches
- Repaired well casings for 4 monitor wells that were air sparge wells
- Installed dowel rods and rebar
- Passed M-D County inspection
- Poured concrete

### New System Construction:

- Delivered system trailer to Site
- Installed above grade piping
- Jacked up trailer (per M-D County flood codes) and installed hurricane tie-downs
- Installed fence around trailer compound
- Complete electric hookup and finish VE piping to trailer on 11/16

### Deliverable Schedule/WCD-TACO:

- Executed WCD on 11/10
- System startup scheduled for 11/20, pending M-D County inspections
- Need TACO for time extension due to permitting delays; System Startup Report to be submitted by 12/31/15



Excavation backfilled. Rebar and new well manholes installed.



View south from bay. Concrete restored.



Fence installed around system trailer. Note restored concrete above trench.



6 SVE lines stubbed up / labeled in system compound.

# Looking Forward

- **Update on P.E. Seals – physical documents versus electronic documents**
- **O&M Tables**
- **O&M Reports – reporting requirements**

