



Countywide Recycling & Disposal Facility

Remediation Unit

**Monthly Progress Report
Of
Operations, Monitoring & Maintenance Activities**

August 2011

Prepared By:

Countywide Recycling & Disposal Facility

Remediation Unit

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East Sparta, Ohio

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Introduction

This document provides a monthly report of activities conducted in August 2011, as required by the Operations, Monitoring, and Maintenance (OM&M) Plan. The OM&M plan was developed for the Countywide Recycling and Disposal Facility, Remediation Unit, and adopted by the Ohio Environmental Protection Agency (OEPA) on September 30, 2009. The primary objectives of the monitoring portion of this plan are as follows:

1. Monitor status/progression of the reaction.
2. Monitor characteristics of leachate and gas.
3. Track settlement and slope movement/stability of waste mass and perimeter berms.
4. Monitor exposure conditions for engineered components.
5. Determine when conditions are suitable for composite capping.
6. Assess conditions requiring notification, repair, further evaluation or corrective action.
7. Provide a summary of monitoring and data collection, relevant activities conducted since the prior report, trigger events, and conditions which may require additional non-routine activities or investigation.

The OM&M Plan also requires inspections, routine maintenance, and other activities that are not required to be presented in this submission. These activities are documented as required, and records are retained in the OM&M Managers office.

1. Monthly Summary Narrative

During the month of August, all daily, weekly, and monthly tasks were completed as required. These tasks included regular monitoring, inspections, and maintenance. The following items were also completed in August; Annual carbon monoxide sampling in all accessible vertical gas wells, annual flow meter calibration at the landfill gas flares, annual submittal of the corrective action cost estimate update, quarterly gas readings at soil gas probes, and quarterly leachate sampling. The South Slope Relocation Certification Report was also submitted in August.

In August, Republic received OEPA approval to discontinue temperature monitoring at cleanout 6B. Republic also received approval to adjust the frequency of dioxin and furan analysis of leachate to an annual basis.

During the month of August, a section of dual contained force main which transmits leachate from the south valve house to the 500K tank area was replaced. Also during August, Countywide evaluated conditions within the 500K leachate tank and worked with the manufacturers of the tank and sealant to derive a solution. It is expected that the sealant will be replaced and the tank put back into service in September.

2. New Construction

No new construction was conducted during the month of August.

3. Major Non-Routine Maintenance, Repairs or Events

As discussed in Section 1, a section of dual contained force main was replaced in August. No other major non-routine maintenance, repairs, or events occurred in August.

4. New Trigger Events

Settlement

Areas of 2% or greater annualized settlement are depicted on the monthly settlement survey maps. Per the OM&M Plan, an exceedance of this settlement rate should only be considered a trigger if it occurs in a location where it had not been exceeded in the previous event. The majority, if not all, of the areas exceeding the settlement rate in August have exceeded the trigger in prior months.

Areas along the toe of the waste mass have consistently shown false triggers due to the accuracy limits of the survey equipment and thickness of waste mass. These instances have been discussed on an ongoing basis during Team Countywide meetings. Upon extensive review and discussion, it has been mutually agreed upon that these values do not represent cause for immediate concern. Pin and plate monitoring along the toe of slope and near the waste limits supports that there is limited settlement/movement in these areas.

The settlement data across the facility was evaluated and is within the ranges and trends observed in prior months. The rate of settlement per day appears to be within typical ranges and trends, though an increase in the breadth of the settlement in the primary reaction area has been observed in the August data. There does not appear to be any anomalies or significant excursions outside the trends within the settlement data set. The settlement data and pin and plate data do not suggest that the settlement observed should cause concern from a slope stability or engineering control integrity standpoint.

Pin/Plate Monitoring

No pin or plate triggers were observed during the month of August.

Annual Carbon Monoxide Sampling and Analysis

During the first week of August, Republic completed the annual sampling event of all accessible vertical gas extraction wells, and samples collected were submitted and analyzed for carbon monoxide. Per the OM&M Plan, a trigger consists of a carbon monoxide concentration of greater than 100 parts per million (ppm) in any well where the result was less than 100 ppm in the prior event. The following wells exhibited a trigger based upon the the August 2011 sampling and analysis event; PW-103R, PW-160, PW-171, PW-367, and T1R. Each of these wells exhibits typical reaction gas composition and each are within the area influenced by the reaction. As such, Republic does not observe the need for any further action related to the trigger observed at these wells.

5. Investigation Results from Previous Trigger Events

It was agreed upon between Republic and the Agencies that the values resulting in triggers during the July 2011 monitoring period were consistent with ranges and trends previously reflected, and represent no significant anomalies when compared to prior ongoing trends. The analysis of these triggers did not prompt any additional measures beyond the requirements of the OM&M Plan and ongoing activities.

6. Trend Graphs and Drawings

The graphs, tables, and figures required by the OM&M Plan are included in the attachments to this report. Due to the vast number of these and the detail that they provide, a full written summary is not provided in this document. The data will be discussed in depth at the Team Countywide

Meeting. The August monitoring data is generally within the ranges and trending of that observed in prior months.

7. Review of Potential Need to Extend Temporary FML Cap

Currently, the Remediation Unit consists of approximately 18 acres which do not have a temporary cap. Volume 1, Section 7.1 of the OM&M Plan details conditions which would initiate an assessment which could require installation of temporary cap in this area. Such conditions include;

- Uncontrollable odor or fugitive emissions,
- Unusual settlement (Incremental settlement greater than 2% per year),
- Atypical or uncontrollable leachate outbreaks,
- Methane/carbon dioxide ratio less than 1.0,
- Maximum wellhead temperatures greater than 150°F,
- Maximum carbon monoxide greater than 100 ppmv.

At this time, the conditions observed in this area supplemented by the data collected during monitoring and inspections do not indicate the need for expansion of the temporary cap.

8. Petitions to Perform Work

The monitoring and inspections conducted during the operating period do not indicate the need for additional work which would require approval. As such, there are no petitions to perform such work at this time.

9. Proposed OM&M Plan Revisions

During August, Republic received OEPA approval to discontinue temperature monitoring at cleanout 6B. Republic also received approval to adjust the frequency of dioxin and furan analysis of leachate to an annual basis. Republic does not believe that an official revision of the plan is warranted for these changes; rather documentation of these approvals will be included in the plan.

10. Odor Summary/Complaints

During the month of August, no odor complaints were received by Republic Services.



9/14/11

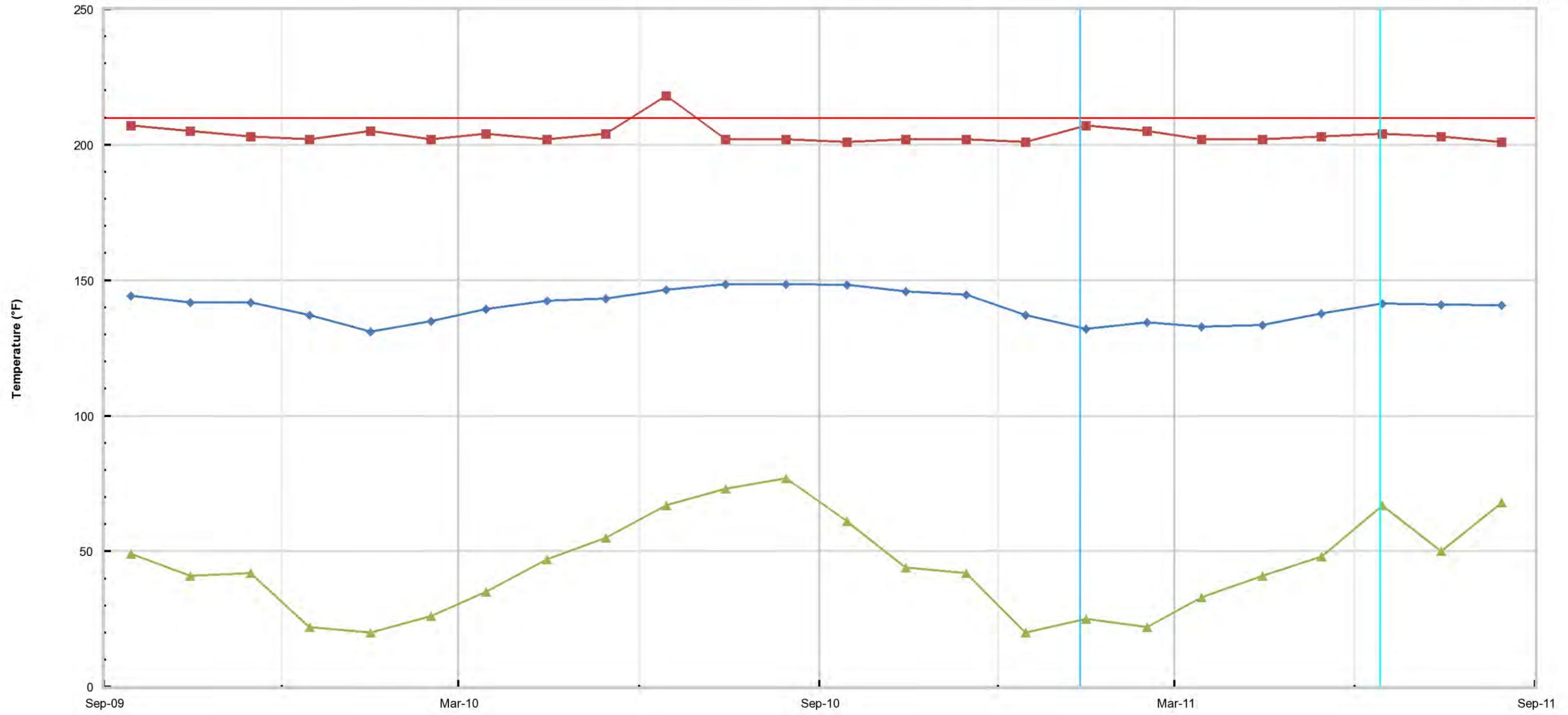
Michael Darnell
OM&M Manager

Date

Attachment 1

Graphs

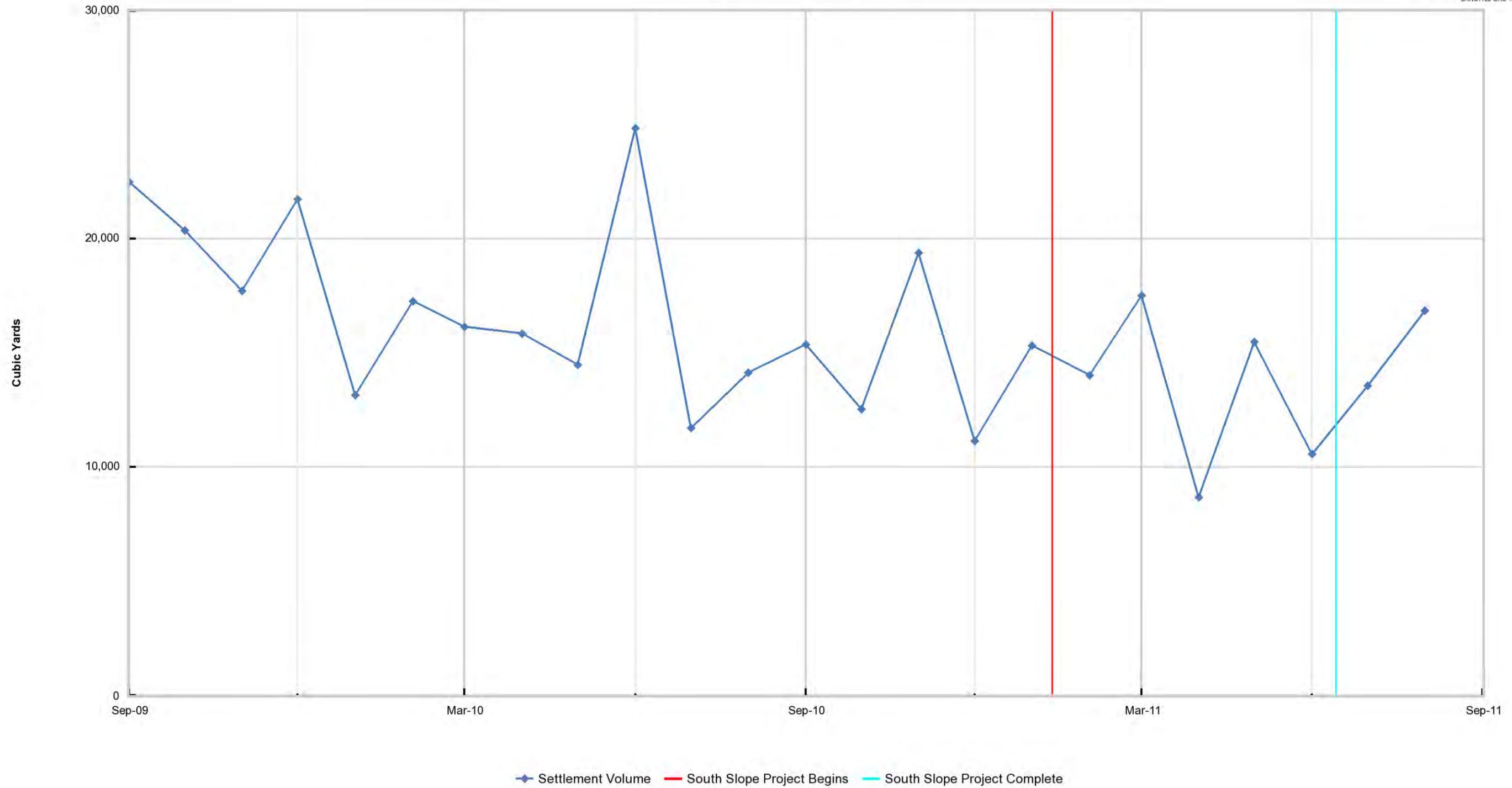
Graph 1 Wellhead Temperature



■ Maximum Temperature
 ◆ Average Temperature
 ▲ Minimum Temperature
 — Temperature Trigger
| South Slope Project Begins
 | South Slope Project Complete

1. Maximum temperature depicted for June 2010 represents a single occurrence of a wellhead temperature over 210 degrees at a single well, caused by wellhead pressure. It does not represent a sustained temperature. Upon vacuum adjustment at the well, temperature returned to normal trend, below 210 degrees .

Graph 2 Settlement Volume



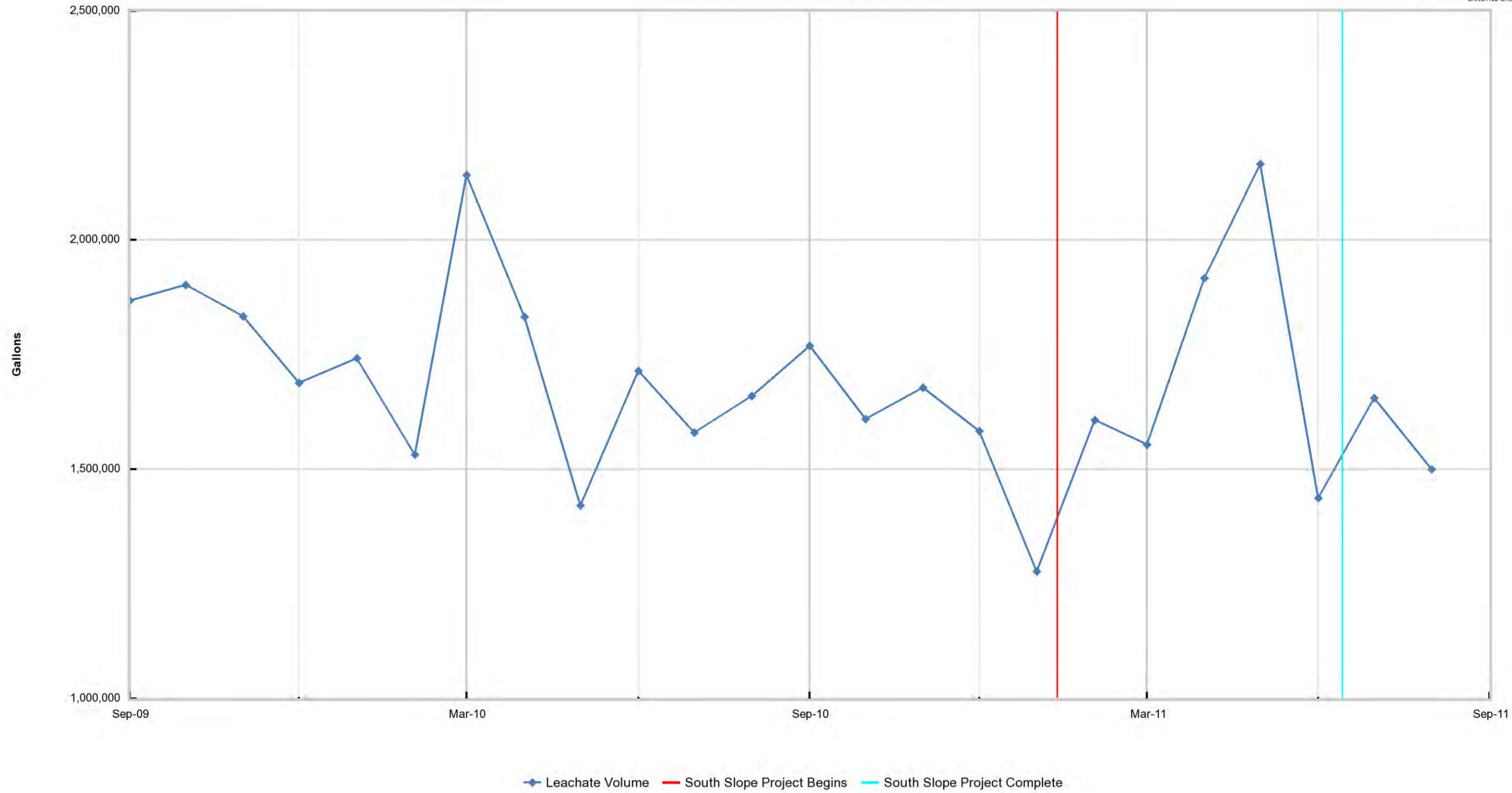
1. Information presented prior to October 2009 was compiled from data prepared and presented by SCS Engineers for Countywide Recycling and Disposal Facility.

2. Data presented on monthly basis.

3. Settlement volume reported prior to the 4th quarter of 2009 is for a limited area of the 88-acre reaction area.

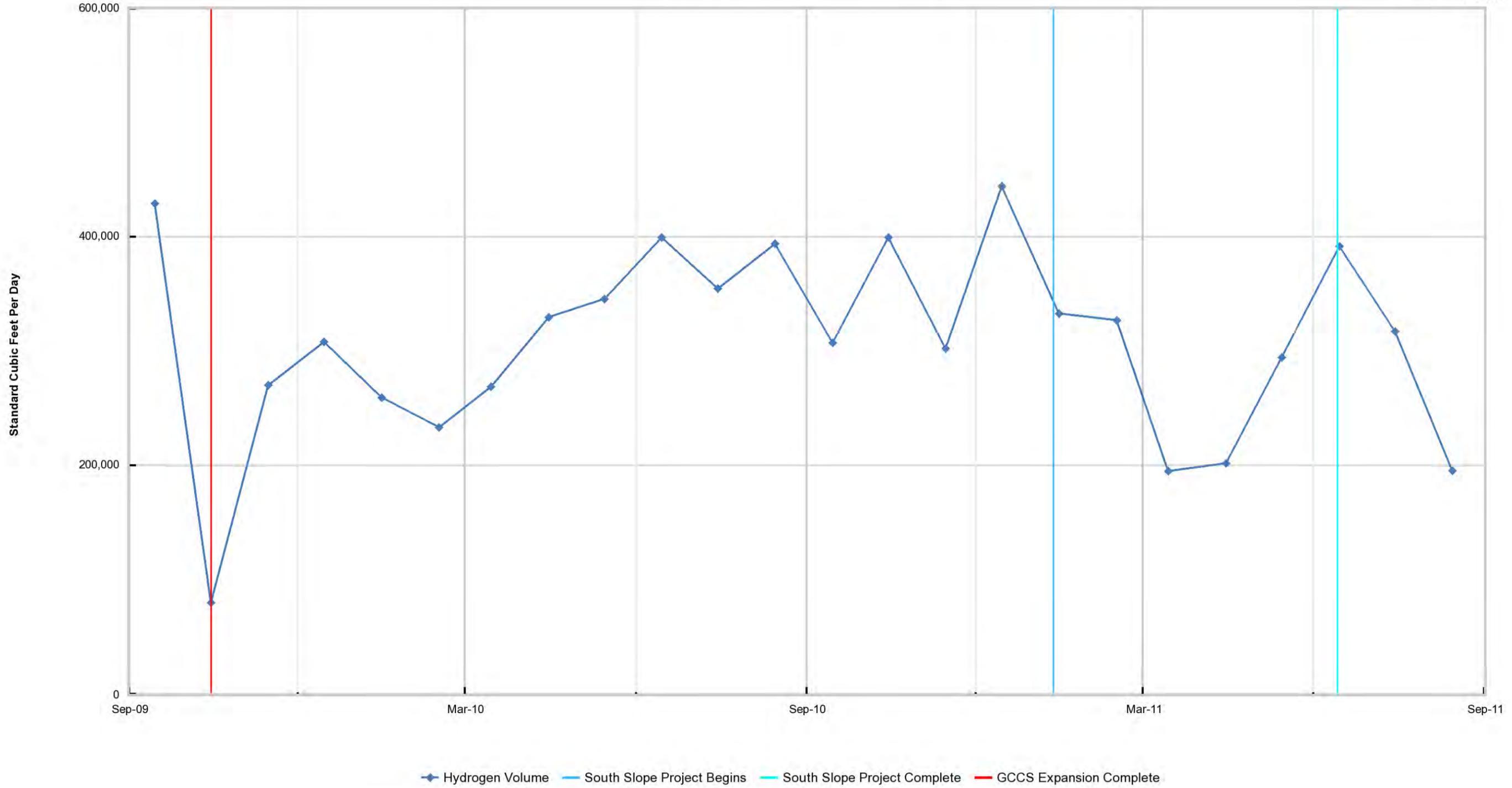
4. The south slope project excavation and relocation areas were excluded from settlement monitoring during the months of January through April 2011. Areas which had been capped were monitored in May and June 2011. Full data comparisons are available in July 2011.

Graph 3 Leachate Volume



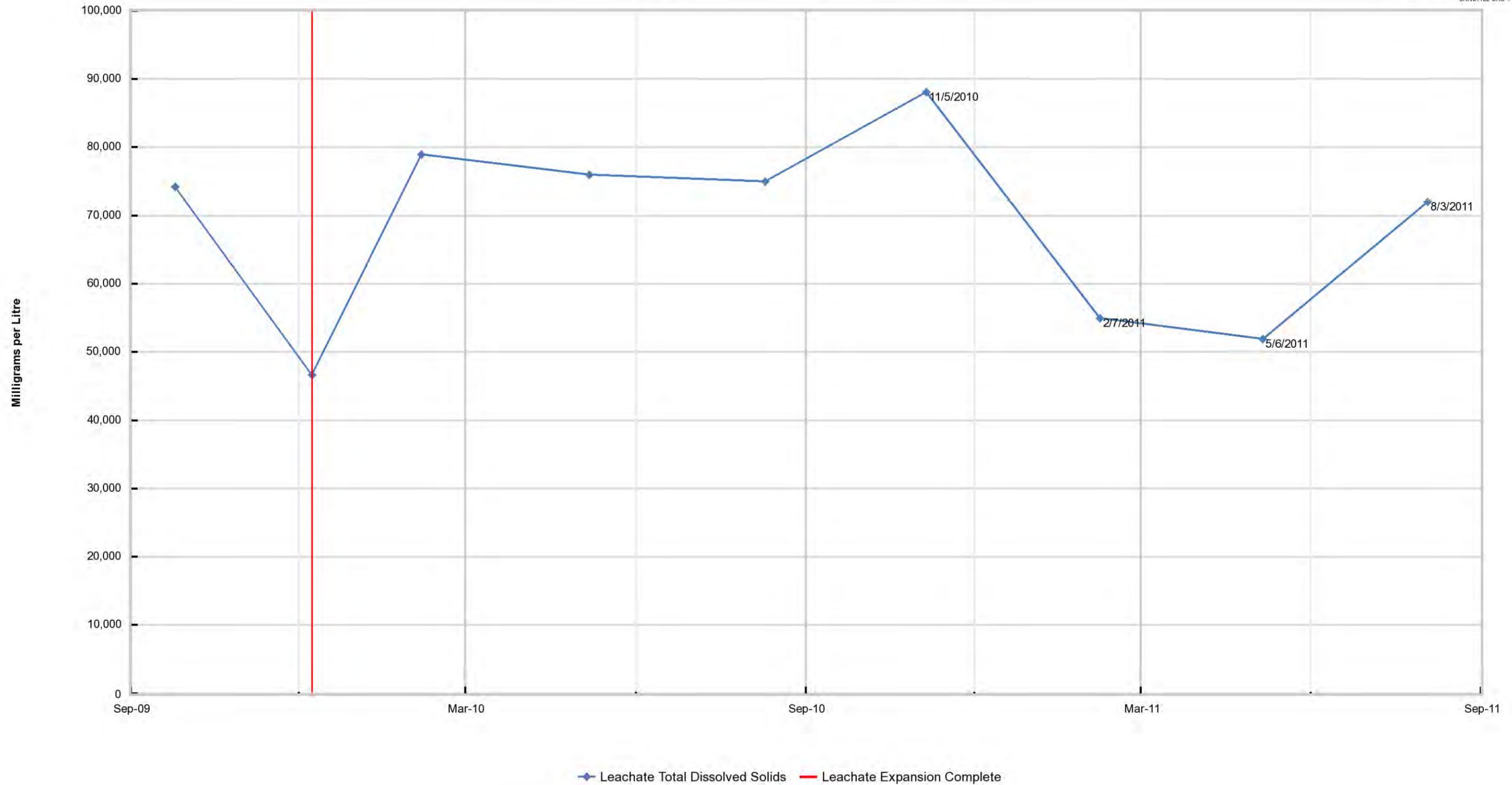
1. A freeboard of approximately 6 feet, approximately 90,000-gallons, is typically maintained at the 500,000-gallon tank. This freeboard volume was removed in July for tank cleaning and inspection. As such, the July 2010 leachate volume is elevated due to removal of this liquid.
2. Leachate generated from the Remediation Unit was stored in the same storage tank as that generated from the Operational Unit during the period July 19, 2010 through August 9, 2010 due to cleaning and maintenance to the Remediation storage tank. As such, the volume of leachate generated from the Remediation Unit was estimated for that period based upon typical daily averages.
3. The “Valley” represented in January 2011 was due to leachate volume generated in January but hauled out in February. Accordingly, this resulted in a “peak” in February 2011.
4. The increase in volume observed in April and May 2011 is related to significant precipitation through the month. This resulted in an influx of surface water directly into the leachate collection system due to exposed areas as part of the South Slope Project.
5. It should be noted that Notes 1 and 2 also apply to the July and August 2011 reporting periods due to tank cleaning and inspection.

Graph 4 Hydrogen Volume



1. Decrease in March and April related to elimination of extraction points related to south slope project.
2. Increase in May and June related to installation of temporary cap and extraction points on south slope. Indicates increase in collection versus increase in production.

Graph 5 Leachate Total Dissolved Solids



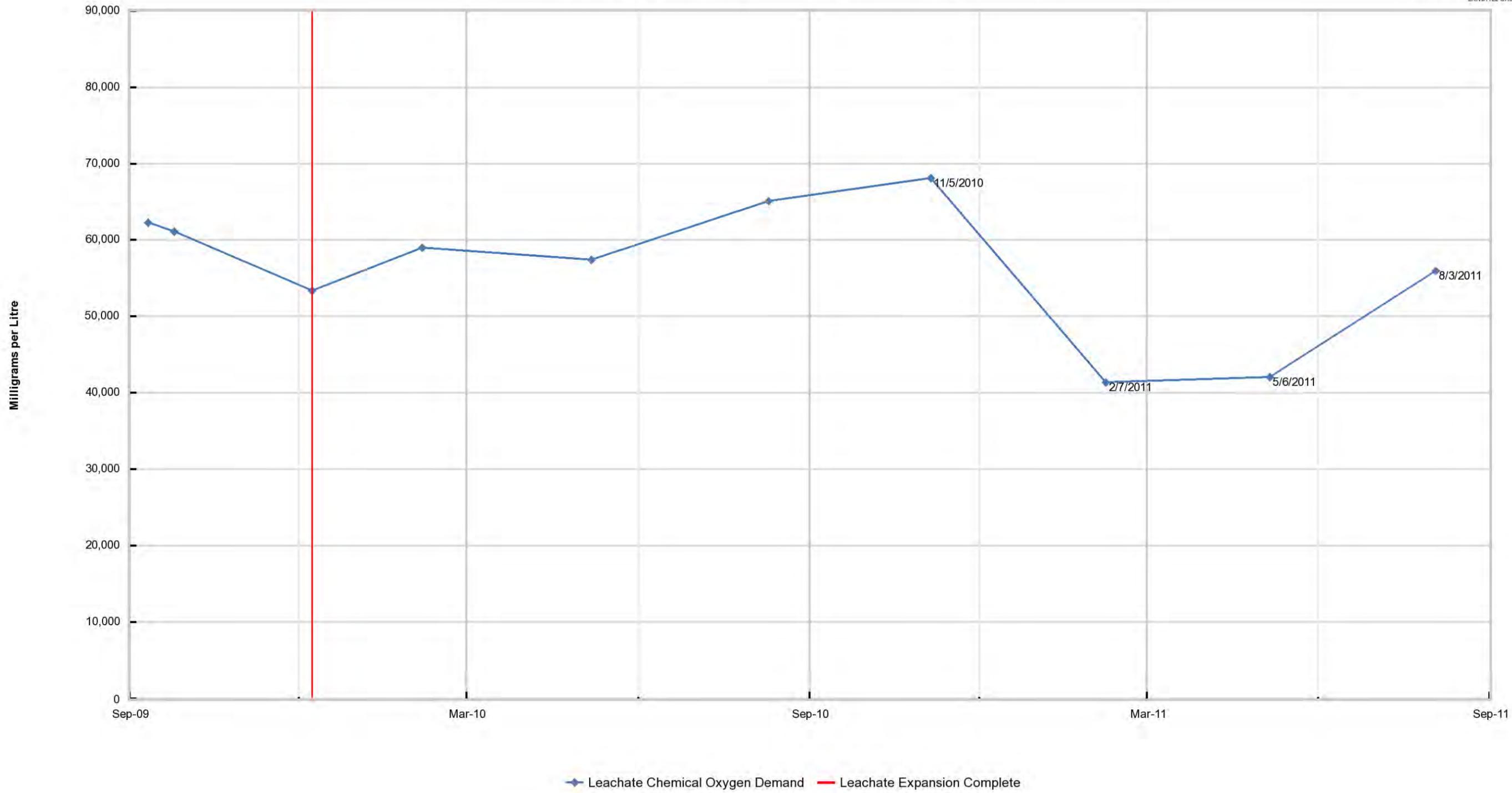
Information presented prior to October 2009 was compiled from data prepared and presented by AECOM for Countywide Recycling and Disposal Facility.

2. Data shown prior to October 2009 are flow-weighted averages of data from the East, North and South leachate collection tanks. Data from December 2009 is from combined Tank East 500.

3. Data shown prior to October 2009 comprises data from the leachate collection system only, and excludes certain leachate toe drains, sumps and gas collection wells.

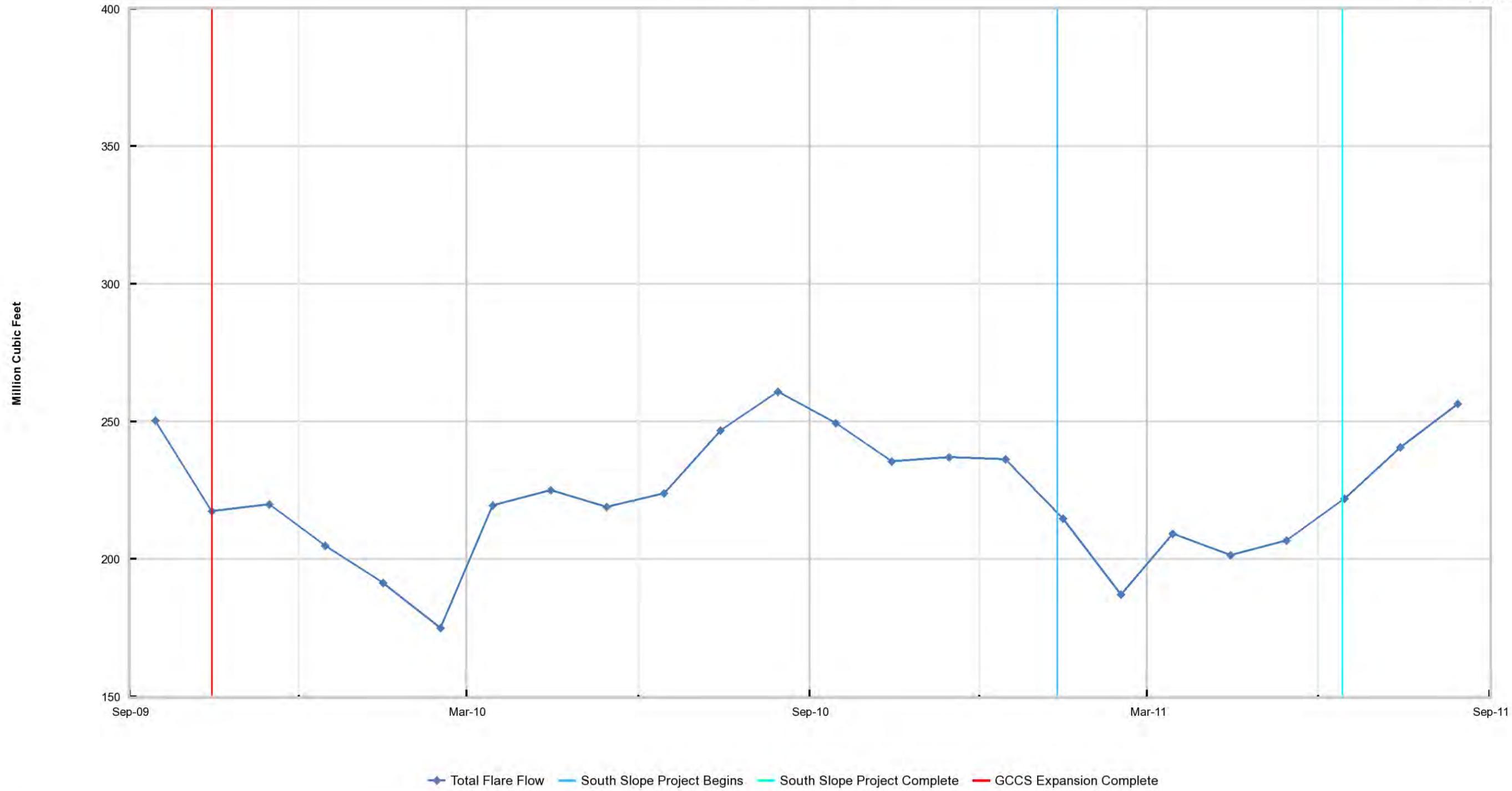
4. Data labels beginning in October 2009 indicate date of quarterly analytical sampling.

Graph 6 Leachate Chemical Oxygen Demand



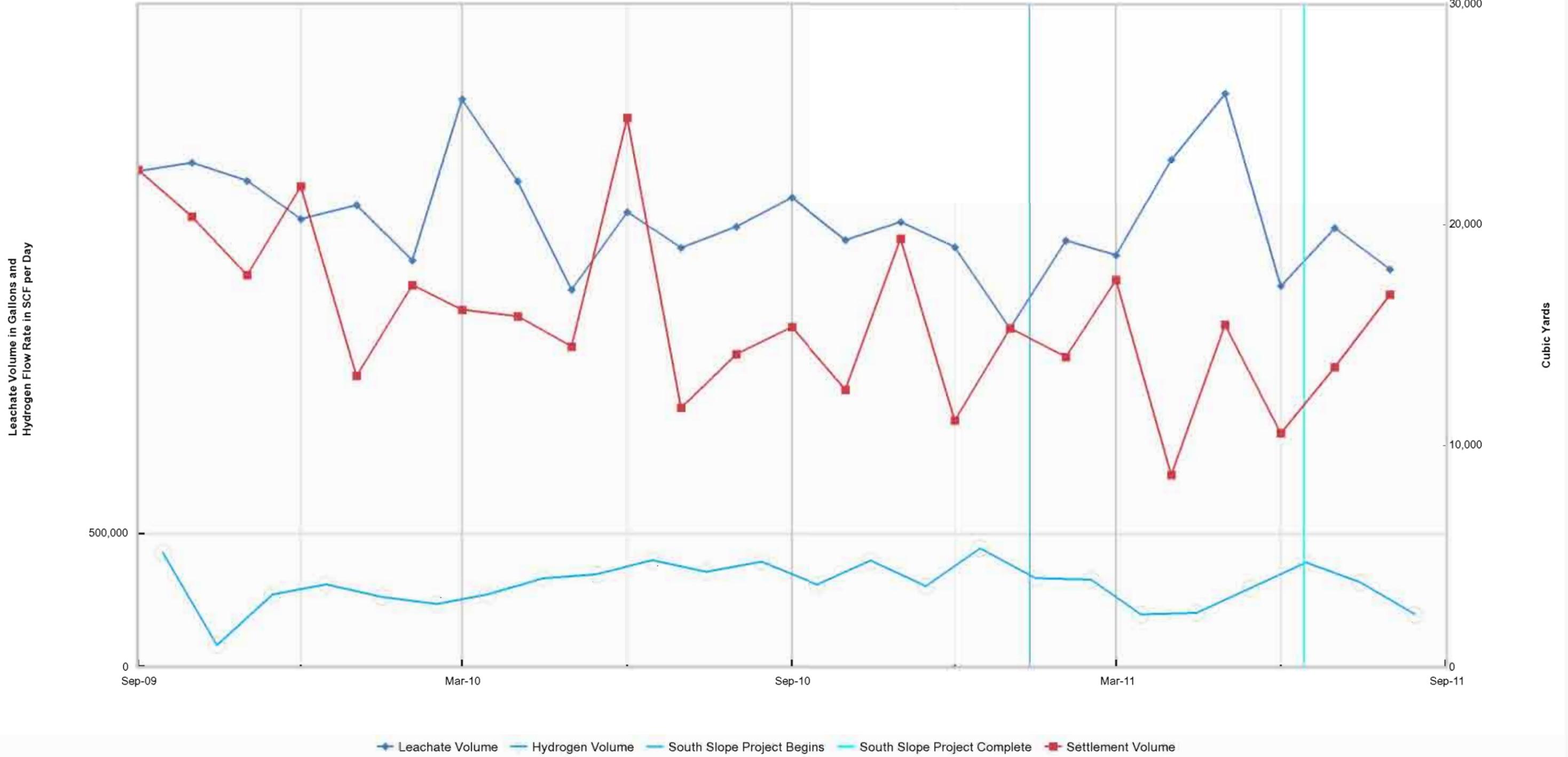
1. Information presented prior to October 2009 was compiled from data prepared and presented by AECOM for Countywide Recycling and Disposal Facility.
2. Data shown prior to October 2009 are flow-weighted averages of data from the East, North and South leachate collection tanks. Data from December 2009 is from combined Tank East 500.
3. Data shown prior to October 2009 comprises data from the leachate collection system only, and excludes certain leachate toe drains, sumps and gas collection wells.
4. Data labels beginning in October 2009 indicate date of quarterly analytical sampling.

Graph 7 Total Flare Flow

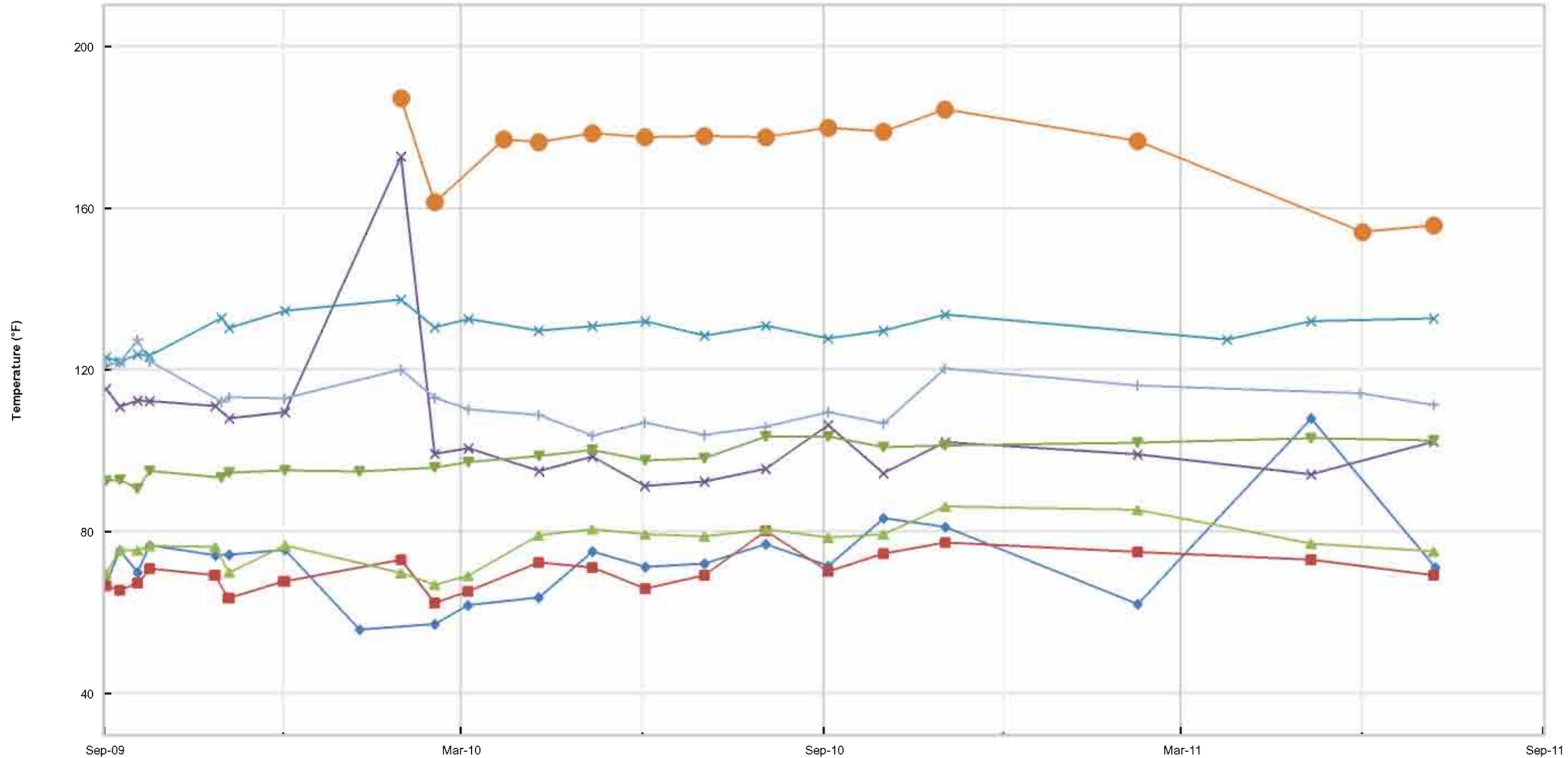


1. Increased flare flow in August 2010 is at least partially due to recalibration of flow meters during the reporting period.

Graph 8 Combined Leachate, Hydrogen and Settlement Volume

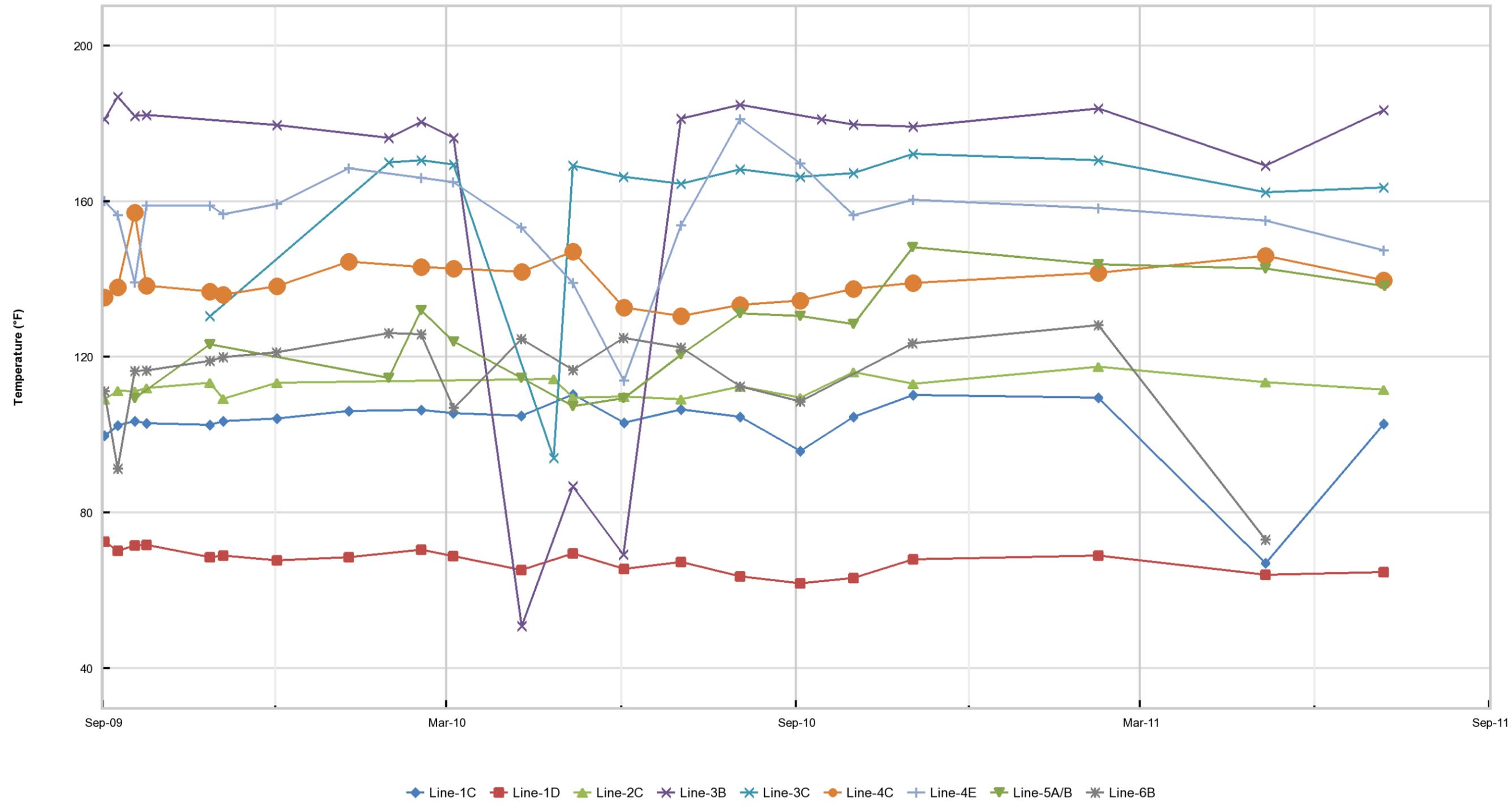


Graph 9 Leachate Sump Temperature



◆ Sump-1 ■ Sump-2N ▲ Sump-2S ✕ Sump-3 ✕ Sump-4 ● Sump-5A/B + Sump-5C/D ▼ Sump-7

Graph 10 Leachate Cleanout Temperature



1. Republic received OEPA approval to discontinue temperature monitoring at Line 6B in August 2011.

Attachment 2

Tables

| Parameter Name | Value | Qualifi | Units | Detection Lin | Units |
|------------------------------------|-------|---------|-------|---------------|-----------|
| Volatile Organic Compounds | | | | | |
| 1,1,1,2-Tetrachloroethane | < | 50 | U | ug/L | 50 ug/L |
| 1,1,1-Trichloroethane | < | 50 | U | ug/L | 50 ug/L |
| 1,1,2,2-Tetrachloroethane | < | 50 | U | ug/L | 50 ug/L |
| 1,1,2-Trichloroethane | < | 50 | U | ug/L | 50 ug/L |
| 1,1-Dichloroethane | < | 50 | U | ug/L | 50 ug/L |
| 1,1-Dichloroethene | < | 50 | U | ug/L | 50 ug/L |
| 1,2,3-Trichloropropane | < | 50 | U | ug/L | 50 ug/L |
| 1,2-Dibromo-3-chloropropane (DBCP) | < | 100 | U | ug/L | 100 ug/L |
| 1,2-Dibromoethane (EDB) | < | 50 | U | ug/L | 50 ug/L |
| 1,2-Dichlorobenzene | < | 50 | U | ug/L | 50 ug/L |
| 1,2-Dichloroethane | < | 50 | U | ug/L | 50 ug/L |
| 1,2-Dichloropropane | < | 50 | U | ug/L | 50 ug/L |
| 1,4-Dichlorobenzene | | 17 | J | ug/L | 50 ug/L |
| 2-Butanone (MEK) | | 14000 | | ug/L | 5000 ug/L |
| 2-Hexanone | < | 500 | U | ug/L | 500 ug/L |
| 4-Methyl-2-pentanone (MIBK) | | 580 | | ug/L | 500 ug/L |
| Acetone | | 22000 | | ug/L | 5000 ug/L |
| Acrylonitrile | < | 1000 | U | ug/L | 1000 ug/L |
| Benzene | | 110 | | ug/L | 50 ug/L |
| Bromochloromethane | < | 50 | U | ug/L | 50 ug/L |
| Bromodichloromethane | < | 50 | U | ug/L | 50 ug/L |
| Bromoform | < | 50 | U | ug/L | 50 ug/L |
| Carbon disulfide | < | 50 | U | ug/L | 50 ug/L |
| Carbon tetrachloride | < | 50 | U | ug/L | 50 ug/L |
| Chlorobenzene | < | 50 | U | ug/L | 50 ug/L |
| Chloroethane | < | 50 | U | ug/L | 50 ug/L |
| Chloroform | < | 50 | U | ug/L | 50 ug/L |
| Chloromethane | < | 50 | U | ug/L | 50 ug/L |
| cis-1,2-Dichloroethene | < | 50 | U | ug/L | 50 ug/L |
| cis-1,3-Dichloropropene | < | 50 | U | ug/L | 50 ug/L |
| Dibromochloromethane | < | 50 | U | ug/L | 50 ug/L |
| Ethylbenzene | | 15 | J | ug/L | 50 ug/L |
| Methylene bromide | < | 50 | U | ug/L | 50 ug/L |
| Methylene chloride | < | 50 | U | ug/L | 50 ug/L |
| Methyl iodide | < | 50 | U | ug/L | 50 ug/L |
| Styrene | < | 50 | U | ug/L | 50 ug/L |
| Tetrachloroethene | < | 50 | U | ug/L | 50 ug/L |
| Toluene | | 42 | J | ug/L | 50 ug/L |
| trans-1,2-Dichloroethene | < | 50 | U | ug/L | 50 ug/L |
| trans-1,3-Dichloropropene | < | 50 | U | ug/L | 50 ug/L |
| trans-1,4-Dichloro-2-butene | < | 50 | U | ug/L | 50 ug/L |
| Trichloroethene | | 9.3 | J,B | ug/L | 50 ug/L |
| Trichlorofluoromethane | < | 50 | U | ug/L | 50 ug/L |
| Vinyl acetate | < | 100 | U | ug/L | 100 ug/L |
| Vinyl chloride | < | 50 | U | ug/L | 50 ug/L |
| Xylenes (total) | | 56 | J | ug/L | 100 ug/L |

Table 1. Leachate Constituent Summary

Dioxins/Furans

| | | | | |
|---------------------|---|--------|------|-----------|
| 1,2,3,4,6,7,8-HpCDD | | 230 J | pg/L | 500 pg/L |
| 1,2,3,4,6,7,8-HpCDF | < | 500 U | pg/L | 500 pg/L |
| 1,2,3,4,7,8,9-HpCDF | < | 500 U | pg/L | 500 pg/L |
| 1,2,3,4,7,8-HxCDD | < | 500 U | pg/L | 500 pg/L |
| 1,2,3,4,7,8-HxCDF | < | 500 U | pg/L | 500 pg/L |
| 1,2,3,6,7,8-HxCDD | < | 500 U | pg/L | 500 pg/L |
| 1,2,3,6,7,8-HxCDF | < | 500 U | pg/L | 500 pg/L |
| 1,2,3,7,8,9-HxCDD | < | 500 U | pg/L | 500 pg/L |
| 1,2,3,7,8,9-HxCDF | < | 500 U | pg/L | 500 pg/L |
| 1,2,3,7,8-PeCDD | < | 500 U | pg/L | 500 pg/L |
| 1,2,3,7,8-PeCDF | < | 500 U | pg/L | 500 pg/L |
| 2,3,4,6,7,8-HxCDF | < | 500 U | pg/L | 500 pg/L |
| 2,3,4,7,8-PeCDF | < | 500 U | pg/L | 500 pg/L |
| 2,3,7,8-TCDD | < | 100 U | pg/L | 100 pg/L |
| 2,3,7,8-TCDF | < | 100 U | pg/L | 100 pg/L |
| OCDD | | 1800 B | pg/L | 1000 pg/L |
| OCDF | | 65 J | pg/L | 1000 pg/L |
| Total HpCDD | | 460 J | pg/L | 500 pg/L |
| Total HpCDF | | 30 QJ | pg/L | 500 pg/L |
| Total HxCDD | | 140 J | pg/L | 500 pg/L |
| Total HxCDF | < | 500 U | pg/L | 500 pg/L |
| Total PeCDD | < | 500 U | pg/L | 500 pg/L |
| Total PeCDF | < | 500 U | pg/L | 500 pg/L |
| Total TCDD | < | 100 U | pg/L | 100 pg/L |
| Total TCDF | < | 100 U | pg/L | 100 pg/L |

Metals

| | | | | |
|-----------|---|---------|------|-------------|
| Aluminum | < | 20000 U | ug/L | 20000 ug/L |
| Antimony | < | 1000 U | ug/L | 1000 ug/L |
| Arsenic | < | 500 U | ug/L | 500 ug/L |
| Barium | | 1400 | ug/L | 1000 ug/L |
| Beryllium | < | 300 U | ug/L | 300 ug/L |
| Cadmium | < | 200 U | ug/L | 200 ug/L |
| Calcium | | 3200000 | ug/L | 100000 ug/L |
| Chromium | | 540 | ug/L | 500 ug/L |
| Cobalt | < | 500 U | ug/L | 500 ug/L |
| Copper | < | 500 U | ug/L | 500 ug/L |
| Iron | | 960000 | ug/L | 10000 ug/L |
| Lead | | 540 | ug/L | 300 ug/L |
| Magnesium | | 990000 | ug/L | 100000 ug/L |
| Manganese | | 74000 | ug/L | 500 ug/L |
| Nickel | < | 1000 U | ug/L | 1000 ug/L |
| Selenium | < | 500 U | ug/L | 500 ug/L |
| Silver | < | 300 U | ug/L | 300 ug/L |
| Sodium | | 9400000 | ug/L | 100000 ug/L |
| Thallium | < | 1000 U | ug/L | 1000 ug/L |
| Vanadium | < | 700 U | ug/L | 700 ug/L |
| Zinc | | 29000 | ug/L | 5000 ug/L |

Table 1. Leachate Constituent Summary

Field Parameters**General Chemistry**

| | | | |
|------------------------------|---------|------|-----------|
| Ammonia | 2800 | mg/L | 50 mg/L |
| Chemical Oxygen Demand (COD) | 56000 | mg/L | 2000 mg/L |
| Chloride | 25000 | mg/L | 500 mg/L |
| Fluoride | < 100 U | mg/L | 100 mg/L |
| Nitrate-Nitrite | < 2.5 U | mg/L | 2.5 mg/L |
| Sulfate | 940 | mg/L | 100 mg/L |
| Total Alkalinity | 9400 | mg/L | 500 mg/L |
| Total Dissolved Solids | 72000 | mg/L | 200 mg/L |
| Turbidity | 240 | ntu | 13 ntu |

Notes:

1. Results shown are reported for sample collected from the East 500 Leachate Tank on August 3, 2011 and were submitted to Test America Laboratories for analysis.

2. Laboratory Qualifiers:

- G The reporting limit is elevated due to matrix interference.
- J Amount reported is less than reportable limit
- a Spike analyte recovery is outside control limits
- D Dilution and reporting limit raised.☒
- U Non detect
- Q Estimated maximum concentration
- B Method Blank Contamination
- NC The recovery and/or RPD (relevant percent distance) were not calculated
- MSB The recovery and RPD may be outside control limits because the sample amount was greater than 4X the spike amount.

Table 2. Liquid Levels and Percent Perforations Exposed

| Well ID | B1R | B2R | C1R(2) | C2R | D1 | D2R | E1 | E2R | F1-M | F2 | I1R | J1R | K1R | N1R | PW-0041R(2) | PW-101 | PW-102 | PW-103R | |
|--|--------|--------|---------|--------|---------|--------|--------|--------|--------|--------|--------|---------|---------|---------|-------------|--------|------------|---------|-----|
| Total Constructed Casing Length (ft) | 36 | 79 | 48 | 124 | 58 | 124 | 71 | 124 | 61 | 69 | 121 | 122 | 56 | 122 | 81 | 78 | 78 | 106 | |
| Total Constructed Perforated Pipe Length (ft) | 16 | 54 | 23 | 99 | 36 | 99 | 45 | 99 | 39 | 44 | 96 | 97 | 31 | 97 | 55 | 60 | 60 | 81 | |
| June, 2011 | | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | 6/21 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| Depth To Fluid (ft) | N/A | N/A | 23.5 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| Measured Depth To Bottom (ft) | N/A | N/A | 43.6 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| Potential Exposed Perforations | N/A | N/A | 18.6 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| Actual Exposed Perforations | N/A | N/A | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| July, 2011 | | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 7/22 | N/A | N/A | N/A | 7/22 | N/A | N/A | N/A | N/A | N/A | N/A | |
| Depth To Fluid (ft) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | | N/A | N/A | N/A | 95.9 | N/A | N/A | N/A | N/A | N/A | N/A | |
| Measured Depth To Bottom (ft) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 41.8 | N/A | N/A | N/A | 117.4 | N/A | N/A | N/A | N/A | N/A | N/A | |
| Potential Exposed Perforations | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 16.8 | N/A | N/A | N/A | 92.4 | N/A | N/A | N/A | N/A | N/A | N/A | |
| Actual Exposed Perforations | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 0 | N/A | N/A | N/A | 70.9 | N/A | N/A | N/A | N/A | N/A | N/A | |
| August, 2011 | | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | 8/5 | 8/9 | N/A | 8/9 | N/A | 8/9 | 8/9 | 8/9 | 8/9 | 8/9 | 8/9 | 8/9 | N/A | N/A | 8/9 | N/A | 8/9 |
| Depth To Fluid (ft) | N/A | N/A | 25.9 | N/A | N/A | 52.7 | N/A | | 15.1 | 31.2 | 17.5 | 95.9 | 19.1 | N/A | N/A | 33.4 | N/A | 55.7 | |
| Measured Depth To Bottom (ft) | N/A | N/A | 43.6 | N/A | N/A | 52.7 | N/A | 42.3 | 47.3 | 59.8 | 87.7 | 117.6 | 50.8 | N/A | N/A | 74.2 | N/A | 100.3 | |
| Potential Exposed Perforations | N/A | N/A | 18.6 | N/A | N/A | 27.7 | N/A | 17.3 | 25.3 | 34.8 | 62.7 | 92.6 | 25.8 | N/A | N/A | 56.2 | N/A | 75.3 | |
| Actual Exposed Perforations | N/A | N/A | 0.9 | N/A | N/A | 27.7 | N/A | 0 | 0 | 6.2 | 0 | 70.9 | 0 | N/A | N/A | 15.4 | N/A | 30.7 | |
| Well ID | PW-104 | PW-105 | PW-106R | PW-107 | PW-108R | PW-109 | PW-110 | PW-111 | PW-112 | PW-113 | PW-114 | PW-115R | PW-117R | PW-118R | PW-119R | PW-120 | PW-121R(2) | PW-122R | |
| Total Constructed Casing Length (ft) | 78 | 63 | 69 | 64 | 60 | 35 | 29 | 60 | 75 | 75 | 75 | 83 | 105 | 89 | 72 | 78 | 36 | 43 | |
| Total Constructed Perforated Pipe Length (ft) | 60 | 60 | 45 | 45 | 26 | 19 | 13 | 44 | 59 | 60 | 60 | 60 | 80 | 64 | 50 | 60 | 19 | 25 | |
| June, 2011 | | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| Depth To Fluid (ft) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| Measured Depth To Bottom (ft) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| Potential Exposed Perforations | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| Actual Exposed Perforations | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| July, 2011 | | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| Depth To Fluid (ft) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| Measured Depth To Bottom (ft) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| Potential Exposed Perforations | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| Actual Exposed Perforations | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| August, 2011 | | | | | | | | | | | | | | | | | | | |
| Date | N/A | 8/9 | 8/5 | 8/5 | 8/9 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 | N/A | 8/5 | N/A | N/A | 8/5 | N/A | N/A | N/A | |
| Depth To Fluid (ft) | N/A | 34.7 | 56 | 59.1 | 47.7 | 28.5 | 20.8 | 63.8 | 72.8 | 72 | N/A | 76.4 | N/A | N/A | 61.5 | N/A | N/A | N/A | |
| Measured Depth To Bottom (ft) | N/A | 34.7 | 62.5 | 61.2 | 47.7 | 36.4 | 31.5 | 64.4 | 79.8 | 77 | N/A | 77.1 | N/A | N/A | 63.9 | N/A | N/A | N/A | |
| Potential Exposed Perforations | N/A | 31.7 | 38.5 | 42.2 | 13.7 | 20.4 | 15.5 | 48.4 | 63.8 | 62 | N/A | 54.1 | N/A | N/A | 41.9 | N/A | N/A | N/A | |
| Actual Exposed Perforations | N/A | 31.7 | 32 | 40.1 | 13.7 | 12.5 | 4.8 | 48.4 | 56.8 | 57 | N/A | 53.4 | N/A | N/A | 39.5 | N/A | N/A | N/A | |

Table 2. Liquid Levels and Percent Perforations Exposed

| Well ID | PW-123 | PW-124 | PW-125 | PW-127 | PW-128 | PW-129 | PW-130 | PW-131R | PW-132R | PW-141R | PW-142R | PW-144 | PW-145 | PW-146 | PW-147R | PW-148 | PW-149 | PW-14R(3) |
|---|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|--------|--------|---------|---------|--------|--------|-----------|
| Total Constructed Casing Length (ft) | 78 | 63 | 75 | 75 | 119.7 | 121 | 121 | 81 | 62 | 104 | 81 | 102 | 120 | 120 | 81 | 53 | 51 | 44 |
| Total Constructed Perforated Pipe Length (ft) | 60 | 45 | 60 | 60 | 103 | 103 | 103 | 58 | 40 | 80 | 58 | 82 | 100 | 100 | 58 | 33 | 31 | 21 |
| June, 2011 | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 6/21 | N/A | N/A |
| Depth To Fluid (ft) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 28.5 | N/A | N/A |
| Measured Depth To Bottom (ft) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 45 | N/A | N/A |
| Potential Exposed Perforations | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 25 | N/A | N/A |
| Actual Exposed Perforations | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 8.5 | N/A | N/A |
| July, 2011 | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 7/22 | N/A | N/A |
| Depth To Fluid (ft) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 39.7 | N/A | N/A |
| Measured Depth To Bottom (ft) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 45 | N/A | N/A |
| Potential Exposed Perforations | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 25 | N/A | N/A |
| Actual Exposed Perforations | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 19.7 | N/A | N/A |
| August, 2011 | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | 8/9 | 8/9 | 8/9 | 8/9 | 8/9 | N/A | 8/9 | 8/9 | 8/5 | N/A | 8/9 | 8/9 | N/A | 8/5 | N/A | N/A |
| Depth To Fluid (ft) | N/A | N/A | 39.8 | 54.3 | 56.1 | 59.2 | 60.1 | N/A | 35 | 43.2 | 56.8 | N/A | 49.4 | 42.1 | N/A | 41.2 | N/A | N/A |
| Measured Depth To Bottom (ft) | N/A | N/A | 67 | 66.2 | 89.4 | 107.6 | 109 | N/A | 42.3 | 91.7 | 74.2 | N/A | 112.9 | 111.1 | N/A | 45.3 | N/A | N/A |
| Potential Exposed Perforations | N/A | N/A | 52 | 51.2 | 72.7 | 89.6 | 91 | N/A | 20.3 | 67.7 | 51.2 | N/A | 92.9 | 91.1 | N/A | 25.3 | N/A | N/A |
| Actual Exposed Perforations | N/A | N/A | 24.8 | 39.3 | 39.4 | 41.2 | 42.1 | N/A | 13 | 19.2 | 33.8 | N/A | 29.4 | 22.1 | N/A | 21.2 | N/A | N/A |
| Well ID | PW-150 | PW-151 | PW-152 | PW-153 | PW-154 | PW-155 | PW-156 | PW-157 | PW-158R | PW-159 | PW-160 | PW-161 | PW-162 | PW-163R | PW-164 | PW-165 | PW-166 | PW-167R |
| Total Constructed Casing Length (ft) | 50 | 43 | 42 | 52 | 42 | 40 | 112 | 112 | 104 | 119 | 119 | 117 | 102 | 100 | 119 | 119 | 119 | 81 |
| Total Constructed Perforated Pipe Length (ft) | 30 | 23 | 22 | 32 | 22 | 22 | 89 | 89 | 80 | 97 | 97 | 95 | 80 | 75 | 97 | 97 | 95 | 58 |
| June, 2011 | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Depth To Fluid (ft) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Measured Depth To Bottom (ft) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Potential Exposed Perforations | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Actual Exposed Perforations | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| July, 2011 | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | N/A | 7/22 | N/A | N/A | N/A | N/A | 7/22 | N/A | N/A |
| Depth To Fluid (ft) | N/A | N/A | N/A | 95.5 | N/A | N/A | N/A | N/A | 99.5 | N/A | N/A |
| Measured Depth To Bottom (ft) | N/A | N/A | N/A | 111.4 | N/A | N/A | N/A | N/A | 115.5 | N/A | N/A |
| Potential Exposed Perforations | N/A | N/A | N/A | 89.4 | N/A | N/A | N/A | N/A | 93.5 | N/A | N/A |
| Actual Exposed Perforations | N/A | N/A | N/A | 73.5 | N/A | N/A | N/A | N/A | 77.5 | N/A | N/A |
| August, 2011 | | | | | | | | | | | | | | | | | | |
| Date | 8/5 | N/A | N/A | 8/5 | N/A | N/A | 8/9 | 8/9 | 8/9 | 8/9 | 8/9 | 8/9 | 8/9 | 8/9 | 8/9 | 8/9 | 8/9 | N/A |
| Depth To Fluid (ft) | 33.2 | N/A | N/A | 44.5 | N/A | N/A | 71.7 | 46.6 | 48.2 | 48.6 | 96.9 | 40.9 | 46.1 | 41.8 | 42.1 | 99.4 | 45.7 | N/A |
| Measured Depth To Bottom (ft) | 45.2 | N/A | N/A | 44.5 | N/A | N/A | 104.1 | 104.8 | 97.6 | 113.5 | 110.9 | 113.8 | 92.2 | 91 | 104.2 | 115.6 | 92.8 | N/A |
| Potential Exposed Perforations | 25.2 | N/A | N/A | 24.5 | N/A | N/A | 81.1 | 81.8 | 73.6 | 91.5 | 88.9 | 91.8 | 70.2 | 66 | 82.2 | 93.6 | 68.8 | N/A |
| Actual Exposed Perforations | 13.2 | N/A | N/A | 24.5 | N/A | N/A | 48.7 | 23.6 | 24.2 | 26.6 | 74.9 | 18.9 | 24.1 | 16.8 | 20.1 | 77.4 | 21.7 | N/A |

Table 2. Liquid Levels and Percent Perforations Exposed

| Well ID | PW-168(M) | PW-169 | PW-170 | PW-171 | PW-172 | PW-173 | PW-174 | PW-175 | PW-176 | PW-177 | PW-178 | PW-179 | PW-180 | PW-181 | PW-182 | PW-307 | PW-358 | PW-361 |
|---|-----------|--------|--------|--------|--------|--------|--------|-----------|-----------|--------|-----------|-----------|-----------|--------|--------|--------|--------|--------|
| Total Constructed Casing Length (ft) | 94 | 85 | 41 | 47 | 117 | 114 | 105 | 81 | 77 | 44 | 34 | 61 | 93 | 85 | 42 | 62 | 62 | 104 |
| Total Constructed Perforated Pipe Length (ft) | 68 | 15 | 18 | 22 | 92 | 90 | 80 | 58 | 55 | 24 | 14 | 36 | 68 | 60 | 17 | 42 | 38 | 80 |
| June, 2011 | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | N/A | 6/21 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 6/21 | 6/21 | N/A | 6/21 | N/A |
| Depth To Fluid (ft) | N/A | N/A | N/A | 25.8 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 23.8 | 21.8 | N/A | 54 | N/A |
| Measured Depth To Bottom (ft) | N/A | N/A | N/A | 45.1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 74.1 | 39.9 | N/A | 63.4 | N/A |
| Potential Exposed Perforations | N/A | N/A | N/A | 20.1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 49.1 | 14.9 | N/A | 39.4 | N/A |
| Actual Exposed Perforations | N/A | N/A | N/A | 0.8 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 0 | 0 | N/A | 30 | N/A |
| July, 2011 | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | N/A | 7/22 | N/A | 7/22 | 7/22 | N/A | N/A | N/A | N/A | N/A | N/A | 7/22 | 7/22 | 7/22 | 7/23 | 7/22 |
| Depth To Fluid (ft) | N/A | N/A | N/A | 39.7 | N/A | 37.7 | 20.7 | N/A | N/A | N/A | N/A | N/A | N/A | 24.1 | 31.8 | 31.3 | 32.6 | 90.3 |
| Measured Depth To Bottom (ft) | N/A | N/A | N/A | 45.4 | N/A | 106.2 | 98.4 | N/A | N/A | N/A | N/A | N/A | N/A | 74.3 | 41.5 | 56.6 | 64.3 | 101.8 |
| Potential Exposed Perforations | N/A | N/A | N/A | 20.4 | N/A | 82.2 | 73.4 | N/A | N/A | N/A | N/A | N/A | N/A | 49.3 | 16.5 | 36.6 | 40.3 | 77.8 |
| Actual Exposed Perforations | N/A | N/A | N/A | 14.7 | N/A | 13.7 | 0 | N/A | N/A | N/A | N/A | N/A | N/A | 0 | 6.8 | 11.3 | 8.6 | 66.3 |
| August, 2011 | | | | | | | | | | | | | | | | | | |
| Date | 8/5 | 8/5 | 8/5 | 8/9 | 8/9 | 8/9 | 8/9 | N/A | 8/9 | 8/9 | 8/9 | 8/5 | N/A | 8/9 | 8/5 | 8/9 | 8/9 | 8/9 |
| Depth To Fluid (ft) | 83.5 | 53.9 | 28.7 | 39.7 | 38.7 | 38.7 | 26 | N/A | 24.3 | 32.3 | 32.1 | 38 | N/A | 64.9 | 32.2 | 32.2 | 33.7 | 91.2 |
| Measured Depth To Bottom (ft) | 106.3 | 55.9 | 42.7 | 45.2 | 113.8 | 106.4 | 98.7 | N/A | 24.3 | 42.4 | 32.1 | 60.2 | N/A | 98.1 | 39.8 | 56.6 | 63.5 | 106.1 |
| Potential Exposed Perforations | 80.3 | 0 | 19.7 | 20.2 | 88.8 | 82.4 | 73.7 | N/A | 2.3 | 22.4 | 12.1 | 35.2 | N/A | 73.1 | 14.8 | 36.6 | 39.5 | 82.1 |
| Actual Exposed Perforations | 57.5 | 0 | 5.7 | 14.7 | 13.7 | 14.7 | 1 | N/A | 2.3 | 12.3 | 12.1 | 13 | N/A | 39.9 | 7.2 | 12.2 | 9.7 | 67.2 |
| Well ID | PW-362B | PW-363 | PW-364 | PW-366 | PW-367 | PW-368 | PW-369 | PW-43R(2) | PW-56R(2) | PW-57R | PW-61R(2) | PW-62R(2) | PW-A1R(2) | Q1R | S1R | T1R | U1R | W-10 |
| Total Constructed Casing Length (ft) | 79 | 82 | 82 | 39 | 53 | 47 | 38 | 103 | 103 | 85 | 67 | 91 | 61.5 | 64 | 125 | 123 | 113 | 100 |
| Total Constructed Perforated Pipe Length (ft) | 53 | 58 | 58 | 25 | 39 | 33 | 24 | 84 | 84 | 67 | 42 | 73 | 38 | 30 | 100 | 100 | 88 | 85 |
| June, 2011 | | | | | | | | | | | | | | | | | | |
| Date | N/A | 6/21 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Depth To Fluid (ft) | N/A | 37.7 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Measured Depth To Bottom (ft) | N/A | 79 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Potential Exposed Perforations | N/A | 55 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Actual Exposed Perforations | N/A | 13.7 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| July, 2011 | | | | | | | | | | | | | | | | | | |
| Date | 7/22 | 7/22 | 7/23 | N/A | 7/22 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 7/22 |
| Depth To Fluid (ft) | 35.1 | 39.7 | 39.1 | N/A | 26.4 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 47 |
| Measured Depth To Bottom (ft) | 76.5 | 79.7 | 76.9 | N/A | 51.4 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 107.6 |
| Potential Exposed Perforations | 50.5 | 55.7 | 52.9 | N/A | 37.4 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 82.6 |
| Actual Exposed Perforations | 9.1 | 15.7 | 15.1 | N/A | 12.4 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 22 |
| August, 2011 | | | | | | | | | | | | | | | | | | |
| Date | 8/9 | 8/9 | 8/9 | 8/9 | 8/9 | 8/9 | 8/9 | 8/5 | 8/9 | 8/9 | N/A | 8/9 | N/A | 8/5 | 8/9 | 8/9 | 8/9 | 8/5 |
| Depth To Fluid (ft) | 54.6 | 40.7 | 38.2 | 19.3 | 36.8 | 21.4 | 27 | 57.9 | 55.6 | 21.5 | N/A | 40.1 | N/A | 45.7 | 79.8 | 54.3 | 56.2 | 22.7 |
| Measured Depth To Bottom (ft) | 77 | 79.8 | 79 | 38.8 | 51.5 | 48.8 | 38.8 | 81 | 87.5 | 76.1 | N/A | 78.5 | N/A | 49.5 | 110.7 | 118.5 | 108 | 38.7 |
| Potential Exposed Perforations | 51 | 55.8 | 55 | 24.8 | 37.5 | 34.8 | 24.8 | 62 | 68.5 | 58.1 | N/A | 60.5 | N/A | 15.5 | 85.7 | 95.5 | 83 | 23.7 |
| Actual Exposed Perforations | 28.6 | 16.7 | 14.2 | 5.3 | 22.8 | 7.4 | 13 | 38.9 | 36.6 | 3.5 | N/A | 22.1 | N/A | 11.7 | 54.8 | 31.3 | 31.2 | 7.7 |

Table 2. Liquid Levels and Percent Perforations Exposed

| Well ID | W-11 | W-12R | W-13R | W1R | W-1R | W1R(2) | W-2R(M) | W-3 | W-31R | W-32R | W-33 | W-34 | W-35 | W-36 | W-37 | W-38 | W-39 | W-4 |
|---|------|-------|-------|------|------|--------|---------|------|-------|-------|------|------|------|------|------|------|------|------|
| Total Constructed Casing Lngth (ft) | 51 | 44 | 44 | 89 | 47 | 82 | 85 | 33 | 92 | 54 | 56 | 81 | 68 | 70 | 83 | 83 | 85 | 37 |
| Total Constructed Perforated Pipe Length (ft) | 94 | 21 | 21 | 64 | 20 | 48 | 65 | 12 | 72 | 29 | 34 | 43 | 46 | 35 | 62 | 57 | 62 | 16 |
| June, 2011 | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | N/A | N/A | N/A | 6/21 | N/A | N/A | 6/21 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Depth To Fluid (ft) | N/A | N/A | N/A | N/A | N/A | 39.2 | N/A | N/A | 82.6 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Measured Depth To Bottom (ft) | N/A | N/A | N/A | N/A | N/A | 58.2 | N/A | N/A | 91.1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Potential Exposed Perforations | N/A | N/A | N/A | N/A | N/A | 24.2 | N/A | N/A | 71.1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Actual Exposed Perforations | N/A | N/A | N/A | N/A | N/A | 5.2 | N/A | N/A | 62.6 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| July, 2011 | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | N/A | 7/23 | N/A | 7/23 | N/A | N/A | 7/23 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Depth To Fluid (ft) | N/A | N/A | N/A | 21 | N/A | 48.2 | N/A | N/A | 43.3 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Measured Depth To Bottom (ft) | N/A | N/A | N/A | 41.5 | N/A | 58.1 | N/A | N/A | 91.2 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Potential Exposed Perforations | N/A | N/A | N/A | 16.5 | N/A | 24.1 | N/A | N/A | 71.2 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Actual Exposed Perforations | N/A | N/A | N/A | 0 | N/A | 14.2 | N/A | N/A | 23.3 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| August, 2011 | | | | | | | | | | | | | | | | | | |
| Date | 8/5 | 8/5 | 8/5 | N/A | 8/5 | 8/9 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 |
| Depth To Fluid (ft) | 28.5 | 38.4 | 32.2 | N/A | 21.5 | 46.6 | 35.3 | 31 | 44.5 | 43.8 | 29.1 | 50 | 46.1 | 45.2 | 41.4 | 40.5 | 57.2 | 29.2 |
| Measured Depth To Bottom (ft) | 38.8 | 41.1 | 36.9 | N/A | 41.5 | 57.8 | 80.5 | 32.5 | 91.5 | 52.6 | 53.7 | 73.5 | 46.1 | 68.2 | 67.9 | 56.7 | 71.3 | 36.8 |
| Potential Exposed Perforations | 81.8 | 18.1 | 13.9 | N/A | 14.5 | 23.8 | 60.5 | 11.5 | 71.5 | 27.6 | 31.7 | 35.5 | 24.1 | 33.2 | 46.9 | 30.7 | 48.3 | 15.8 |
| Actual Exposed Perforations | 71.5 | 15.4 | 9.2 | N/A | 0 | 12.6 | 15.3 | 10 | 24.5 | 18.8 | 7.1 | 12 | 24.1 | 10.2 | 20.4 | 14.5 | 34.2 | 8.2 |
| June, 2011 | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | 6/21 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 6/21 | N/A | 6/21 | 6/21 | N/A | 6/21 | 6/21 |
| Depth To Fluid (ft) | N/A | N/A | 54.8 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 31.9 | N/A | 22.9 | 21.2 | N/A | 30.1 | 29.5 |
| Measured Depth To Bottom (ft) | N/A | N/A | 82.4 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 34.3 | N/A | 48.9 | 35.2 | N/A | 41 | 62.5 |
| Potential Exposed Perforations | N/A | N/A | 57.4 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 17.3 | N/A | 31.9 | 18.2 | N/A | 24 | 40.5 |
| Actual Exposed Perforations | N/A | N/A | 29.8 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 14.9 | N/A | 5.9 | 4.2 | N/A | 13.1 | 7.5 |
| July, 2011 | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | 7/23 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 7/22 | N/A | N/A | 7/22 | N/A | 7/22 | 7/23 |
| Depth To Fluid (ft) | N/A | N/A | 42.6 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 32 | N/A | N/A | 17.6 | N/A | 35.8 | 47 |
| Measured Depth To Bottom (ft) | N/A | N/A | 82.3 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 34.3 | N/A | N/A | 35.1 | N/A | 39.2 | 62.3 |
| Potential Exposed Perforations | N/A | N/A | 57.3 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 17.3 | N/A | N/A | 18.1 | N/A | 22.2 | 40.3 |
| Actual Exposed Perforations | N/A | N/A | 17.6 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 15 | N/A | N/A | 0.6 | N/A | 18.8 | 25 |
| August, 2011 | | | | | | | | | | | | | | | | | | |
| Date | 8/5 | 8/5 | 8/9 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 | 8/9 | 8/9 | 8/5 | 8/9 | 8/9 | 8/5 | 8/9 |
| Depth To Fluid (ft) | 78 | 31.8 | 43.3 | 63.5 | 70.8 | 82 | 48.3 | 39.3 | 30.8 | 24 | 33.9 | 31.9 | 17.7 | 23.6 | 29.9 | 33.4 | 36.7 | 32.2 |
| Measured Depth To Bottom (ft) | 78 | 34.6 | 76.7 | 81.4 | 101 | 97.6 | 59.4 | 46 | 31 | 32.6 | 37.6 | 34.2 | 44.7 | 48.7 | 35.1 | 55.6 | 39.1 | 61.1 |
| Potential Exposed Perforations | 53 | 12.6 | 51.7 | 56.4 | 64 | 67.6 | 24.4 | 21 | 7 | 13.6 | 15.6 | 17.2 | 42.7 | 31.7 | 18.1 | 38.6 | 22.1 | 39.1 |
| Actual Exposed Perforations | 53 | 9.8 | 18.3 | 38.5 | 33.8 | 52 | 13.3 | 14.3 | 6.8 | 5 | 11.9 | 14.9 | 15.7 | 6.6 | 12.9 | 16.4 | 19.7 | 10.2 |
| June, 2011 | | | | | | | | | | | | | | | | | | |
| Date | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Depth To Fluid (ft) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Measured Depth To Bottom (ft) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Potential Exposed Perforations | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Actual Exposed Perforations | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Table 2. Liquid Levels and Percent Perforations Exposed

| Well ID | PW-123R | B2R2 | PW418 | PW419 | PW420 | PW417 | PW-114R | PW-118R2 | PW421 |
|--|---------|------|-------|-------|-------|-------|---------|----------|-------|
| Total Constructed Casing Length (ft) | 48 | 74 | 39 | 43 | 62 | 60 | 99 | 99 | 89 |
| Total Constructed Perforated Pipe Length (ft) | 31 | 52 | 24 | 23 | 42 | 40 | 84 | 0 | 74 |
| June, 2011 | | | | | | | | | |
| Date | N/A | 6/21 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Depth To Fluid (ft) | N/A | 30.8 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Measured Depth To Bottom (ft) | N/A | 70.5 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Potential Exposed Perforations | N/A | 48.5 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Actual Exposed Perforations | N/A | 8.8 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| July, 2011 | | | | | | | | | |
| Date | N/A | 7/23 | N/A | N/A | N/A | 7/22 | N/A | N/A | N/A |
| Depth To Fluid (ft) | N/A | 45.8 | N/A | N/A | N/A | 43.5 | N/A | N/A | N/A |
| Measured Depth To Bottom (ft) | N/A | 67 | N/A | N/A | N/A | 58.7 | N/A | N/A | N/A |
| Potential Exposed Perforations | N/A | 45 | N/A | N/A | N/A | 38.7 | N/A | N/A | N/A |
| Actual Exposed Perforations | N/A | 23.8 | N/A | N/A | N/A | 23.5 | N/A | N/A | N/A |
| August, 2011 | | | | | | | | | |
| Date | 8/9 | 8/9 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 | 8/5 |
| Depth To Fluid (ft) | 34.3 | 36.2 | 28.9 | 38.7 | 41.5 | 37.5 | 87.8 | 96.1 | 93 |
| Measured Depth To Bottom (ft) | 44.6 | 67.1 | 44.6 | 48.4 | 69 | 64.2 | 102.8 | 103.2 | 93.3 |
| Potential Exposed Perforations | 27.6 | 45.1 | 29.6 | 28.4 | 49 | 44.2 | 87.8 | 4.2 | 78.3 |
| Actual Exposed Perforations | 17.3 | 14.2 | 13.9 | 18.7 | 21.5 | 17.5 | 72.8 | 0 | 78.3 |

Based upon discussions during the Team Countywide meeting on April 28, 2010, the table was revised to reflect potential exposed perforations (feet of constructed perforations above measured depth to bottom) and actual exposed perforations (potential exposed perforations minus measured thickness of liquid).

Table 3: West Slope Piezometer Readings

| Installation Information | Piezometer I.D. | WBPZ-1 upper | | WBPZ-1 lower | | WBPZ-2 upper | | WBPZ-3 upper | | WBPZ-3 lower | |
|---|-------------------------|-----------------|-------------------------------------|-----------------|-------------------------------------|-----------------|-------------------------------------|-----------------|-------------------------------------|-----------------|-------------------------------------|
| | Ground Elevation | 1124.3 | | 1124.3 | | 1135.8 | | 1145.7 | | 1145.7 | |
| | Depth to Transducer | 74.5 | | 102.0 | | 85.5 | | 59.5 | | 84.5 | |
| | Elevation of Transducer | 1049.8 | | 1022.3 | | 1050.3 | | 1086.2 | | 1061.2 | |
| | | Total Head (ft) | Pore Pressure (ft H ₂ O) | Total Head (ft) | Pore Pressure (ft H ₂ O) | Total Head (ft) | Pore Pressure (ft H ₂ O) | Total Head (ft) | Pore Pressure (ft H ₂ O) | Total Head (ft) | Pore Pressure (ft H ₂ O) |
| "Apparent" Piezometric Surface (see Note 1) | 10/16/2009 | 1050.1 | 0.34 | < 1022.3 | -0.01 | < 1050.3 | -0.05 | < 1086.2 | -0.24 | 1062.7 | 1.50 |
| | 11/2/2009 | 1050.0 | 0.17 | < 1022.3 | -0.45 | < 1050.3 | -0.21 | < 1086.2 | -0.42 | 1061.4 | 0.17 |
| | 12/1/2009 | 1050.2 | 0.39 | < 1022.3 | -0.49 | < 1050.3 | -0.27 | < 1086.2 | -0.52 | 1061.3 | 0.08 |
| | 1/6/2010 | 1049.8 | 0.00 | < 1022.3 | -0.65 | < 1050.3 | -0.42 | < 1086.2 | -0.65 | < 1061.2 | -0.36 |
| | 2/1/2010 | < 1049.8 | -0.04 | < 1022.3 | -0.70 | < 1050.3 | -0.48 | < 1086.2 | -0.70 | < 1061.2 | -0.67 |
| | 3/4/2010 | 1049.9 | 0.14 | < 1022.3 | -0.51 | < 1050.3 | -0.31 | < 1086.2 | -0.54 | < 1061.2 | -0.49 |
| | 4/8/2010 | 1050.1 | 0.33 | < 1022.3 | -0.35 | < 1050.3 | -0.14 | < 1086.2 | -0.35 | < 1061.2 | -0.39 |
| | 5/6/2010 | < 1049.8 | -0.15 | < 1022.3 | -0.80 | < 1050.3 | -0.62 | < 1086.2 | -0.81 | < 1061.2 | -0.75 |
| | 6/2/2010 | 1049.9 | 0.07 | < 1022.3 | -0.54 | < 1050.3 | -0.35 | < 1086.2 | -0.63 | < 1061.2 | -0.60 |
| | 7/2/2010 | < 1049.8 | -0.05 | < 1022.3 | -0.77 | < 1050.3 | -0.57 | < 1086.2 | -0.73 | < 1061.2 | -0.67 |
| | 8/2/2010 | < 1049.8 | -0.04 | < 1022.3 | -0.75 | < 1050.3 | -0.57 | < 1086.2 | -0.71 | < 1061.2 | -0.65 |
| | 9/2/2010 | < 1049.8 | -0.04 | < 1022.3 | -0.75 | < 1050.3 | -0.57 | < 1086.2 | -0.72 | < 1061.2 | -0.67 |
| | 10/1/2010 | < 1049.8 | -0.13 | < 1022.3 | -0.82 | < 1050.3 | -0.67 | < 1086.2 | -0.78 | < 1061.2 | -0.67 |
| | 11/1/2010 | < 1049.8 | -0.16 | < 1022.3 | -0.9 | < 1050.3 | -0.69 | < 1086.2 | -0.82 | < 1061.2 | -0.7 |
| | 12/2/2010 | < 1049.8 | -0.24 | < 1022.3 | -0.90 | < 1050.3 | -0.82 | < 1086.2 | -0.94 | < 1061.2 | -0.74 |
| | 1/1/2011 | 1049.9 | 0.08 | < 1022.3 | -0.65 | < 1050.3 | -0.49 | < 1086.2 | -0.61 | < 1061.2 | -0.60 |
| | 2/3/2011 | < 1049.8 | -0.38 | < 1022.3 | -1.02 | < 1050.3 | -0.96 | < 1086.2 | -1.09 | < 1061.2 | -0.08 |
| 3/1/2011 | < 1049.8 | -0.45 | < 1022.3 | -1.04 | < 1050.3 | -1.01 | < 1086.2 | -1.13 | < 1061.2 | -0.81 | |
| 4/4/2011 | 1049.9 | 0.14 | < 1022.3 | -0.056 | < 1050.3 | -0.42 | < 1086.2 | -0.54 | < 1061.2 | -0.54 | |
| 5/2/2011 | < 1049.8 | -0.07 | < 1022.3 | -0.72 | < 1050.3 | -0.65 | < 1086.2 | -0.75 | < 1061.2 | -0.59 | |
| 6/1/2011 | 1049.8 | 0.03 | < 1022.3 | -0.52 | 1051.14 | 0.84 | < 1086.2 | -0.66 | < 1061.2 | -0.52 | |
| 7/1/2011 | < 1049.8 | -0.49 | < 1022.3 | -1.14 | < 1050.3 | -1.09 | < 1086.2 | -1.16 | < 1061.2 | -1.01 | |
| 8/2/2011 | < 1049.8 | -0.22 | < 1022.3 | -0.55 | < 1050.3 | -0.51 | < 1086.2 | -0.70 | < 1061.2 | -0.57 | |
| 9/2/2011 | < 1049.8 | -0.12 | < 1022.3 | -0.76 | < 1050.3 | -0.72 | < 1086.2 | -0.78 | < 1061.2 | -0.62 | |
| | For F.S. < 1.5 | Note 3 | | 1048.0 | | 1081.0 | | Note 3 | | 1095.0 | |
| | For F.S. < 1.2 | Note 3 | | 1102.0 | | 1120.0 | | Note 3 | | 1116.0 | |

Notes:

1. The piezometric surface is present at, or below, the elevation provided in ft.-MSL. The number in parentheses represents the water column pressure exerted on the transducer--a zero or negative pressure indicates non-saturated conditions causing soil suction.
2. If the apparent piezometric surface rises above this elevation, the trigger has occurred.
3. This is a redundant installation that can be used in event of failure of the corresponding lower transducer.

Attachment 3

Figures

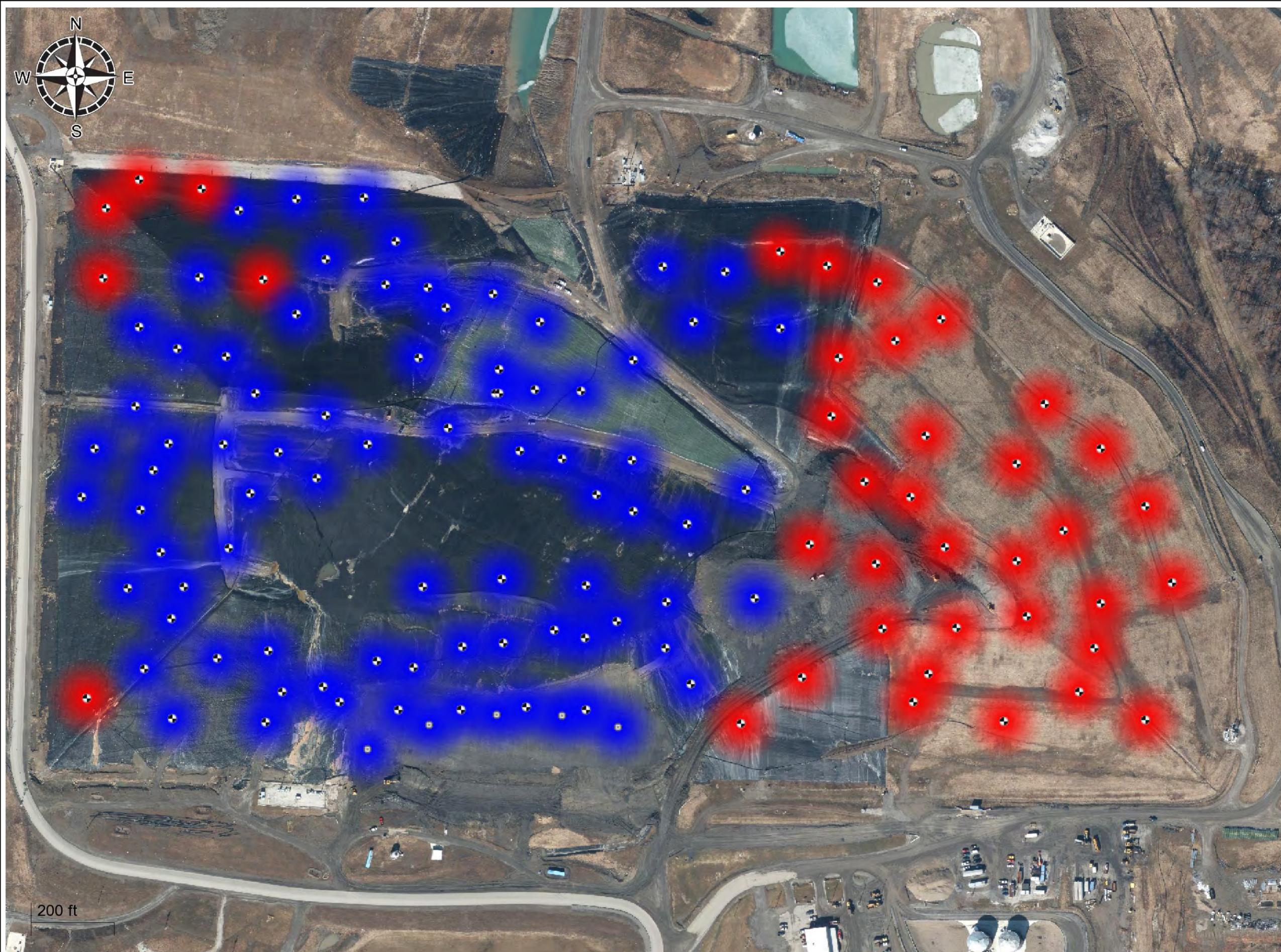


Figure 1
Average Methane to Carbon Dioxide Ratio
 Countywide Recycling and Disposal Facility
 3619 Gracemont St. S.W.
 East Sparta, Ohio

Operation, Monitoring and Maintenance (OM&M) Plan
 Monthly Report

Color Legend

- < 1
- > 1
- No Data Available

Symbol Legend

- Gas Well
- (Red symbol denotes rise in value category from previous reporting period.)*
- (Green symbol denotes decrease in value category from previous reporting period.)*

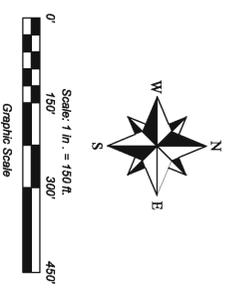
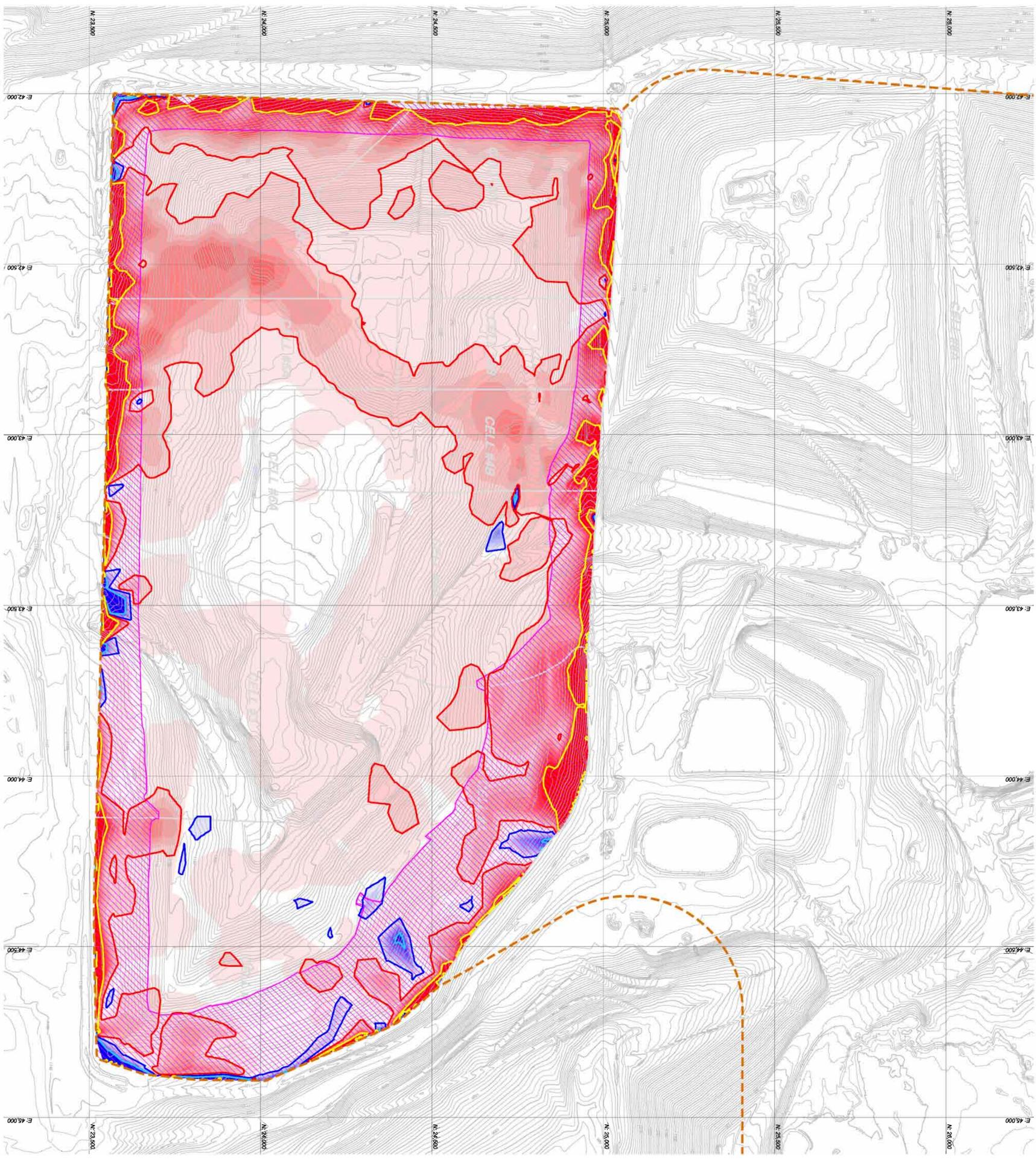
A radius influence of 100 feet is assumed at each device.

Reporting Period: August, 2011

Map Generated On: 09/09/2011



200 ft



LEGEND:

- 1.75' EXISTING CONTOUR (AERIAL MAPPING 300'/11), CTR INT. = 2' (SHOWN FOR REFERENCE ONLY)
- 1.0% RATE OF SETTLEMENT LIMIT
- 2% RATE OF SETTLEMENT LIMIT
- 2% RATE OF RISE IN ELEVATION
- 10% RATE OF RISE IN ELEVATION
- 5.00' OF WASTE DEPTH

ANNUALIZED RATE (%) OF SETTLEMENT

COLOR LEGEND

- Greater than 10.0%
- 8.0% TO 9.0%
- 7.0% TO 8.0%
- 6.0% TO 7.0%
- 5.0% TO 6.0%
- 4.0% TO 5.0%
- 3.0% TO 4.0%
- 2.0% TO 3.0%
- 0.0% TO 2.0%
- 0.0% TO 0.0%
- 1.0% TO -2.0%
- 2.0% TO -3.0%
- 3.0% TO -4.0%
- 4.0% TO -5.0%
- 5.0% TO -6.0%
- 6.0% TO -7.0%
- 7.0% TO -8.0%
- 8.0% TO -9.0%
- 9.0% TO -10.0%
- Greater than -10.0%

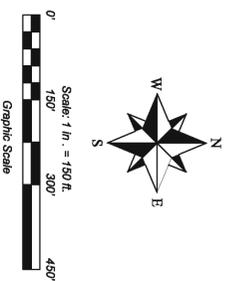
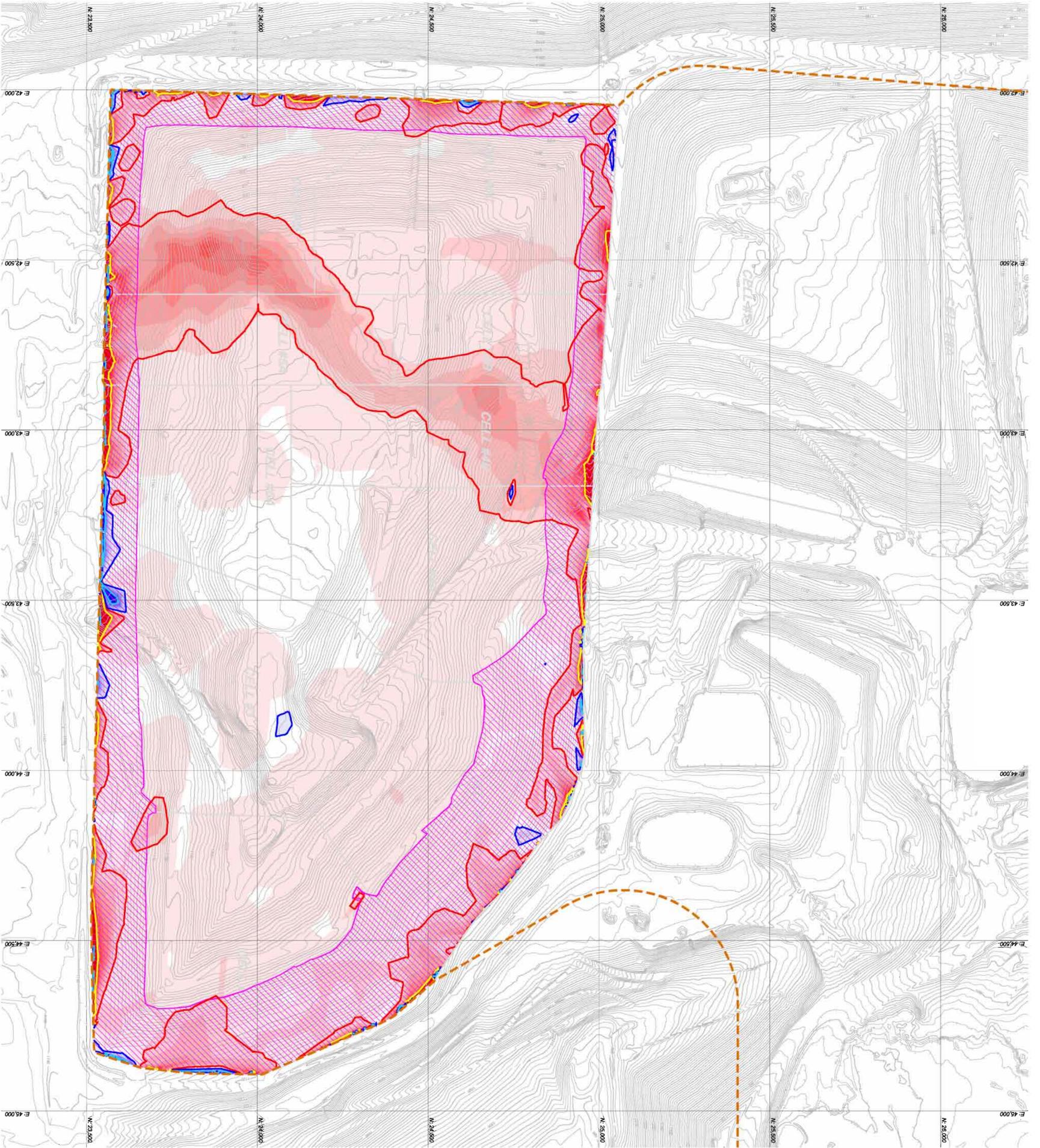
| ISSUE DATE | 09/08/11 | SCALE | 1" = 150' | CTR INT. | 2' | |
|-------------|----------|-------------|-----------|----------|--------|--------|
| SURVEYED BY | MD/AG | CHECKED BY | CCV | | | |
| DRAWN BY | BWS | APPROVED BY | CRB | | | |
| REV | DATE | DESCRIPTION | DWN BY | DES BY | CHK BY | APP BY |
| | | | | | | |

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 e-mail: de@div-eng.com

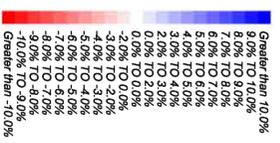
COUNTYWIDE RDF

PROJECT: **88 Ac. REMEDIATION UNIT**

SHEET TITLE: **INCREMENTAL SETTLEMENT MAP (AUGUST 2011)**



- LEGEND:**
- 175- EXISTING CONTOUR (AERIAL MAPPING 3001/11), CTR INT. = 2'
(SHOWN FOR REFERENCE ONLY)
 - % RATE OF SETTLEMENT LIMIT
 - >10% RATE OF SETTLEMENT LIMIT
 - >2% RATE OF RISE IN ELEVATION
 - >10% RATE OF RISE IN ELEVATION
 - < 500' OF WASTE DEPTH



GENERAL NOTE:
THIS MAP REPRESENTS THE AVERAGE ANNUALIZED MONTHLY SETTLEMENT FOR THE TIME PERIOD FROM JUNE 2011 THRU AUGUST 2011.

COUNTYWIDE RDF
PROJECT: 88 Ac. REMEDIATION UNIT
SHEET TITLE: AVERAGE ANNUALIZED MONTHLY SETTLEMENT (JUNE 2011 - AUGUST 2011)

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225 FAIR AVENUE, N.E.
NEW PHILADELPHIA, OH 44663
Phone: (330) 364-1631
Fax: (330) 364-4333
E-mail: deil@div-eng.com

| ISSUE DATE | 09/06/11 | SCALE | 1" = 150' | CTR INT. | 2' | |
|-------------|----------|-------------|-----------|----------|--------|--------|
| SURVEYED BY | MO/AG | CHECKED BY | CCV | | | |
| DRAWN BY | BWS | APPROVED BY | CRB | | | |
| REV | DATE | DESCRIPTION | DWN BY | DES BY | CHK BY | APP BY |
| | | | | | | |

FIGURE:
2A

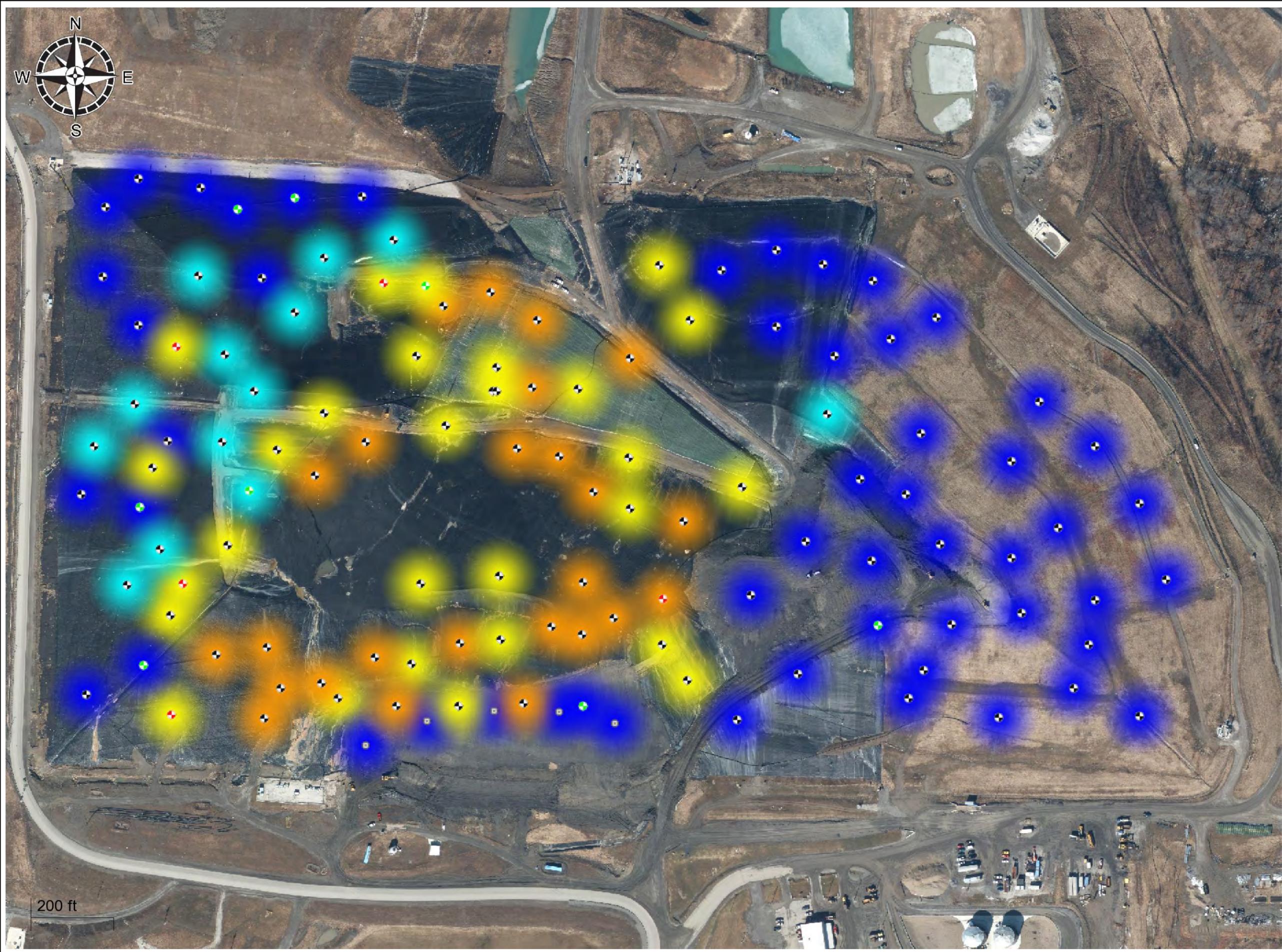


Figure 3
Average Wellhead
Temperature
 Countywide Recycling
 and Disposal Facility
 3619 Gracemont St. S.W.
 East Sparta, Ohio

Operation, Monitoring and Maintenance (OM&M) Plan
 Monthly Report

Color Legend (deg F)

- < 131
- 131 < 150
- 150 < 180
- 180 < 210
- > 210
- No Data Available

Symbol Legend

- Gas Well
- (Red symbol denotes rise in value category from previous reporting period.)
- (Green symbol denotes decrease in value category from previous reporting period.)

A radius influence of 100 feet is assumed at each device.

Reporting Period: August, 2011
 Map Generated On: 09/09/2011

REPUBLIC SERVICES
SANBORN HEAD
 LANDFILL GAS MANAGEMENT SUITE™

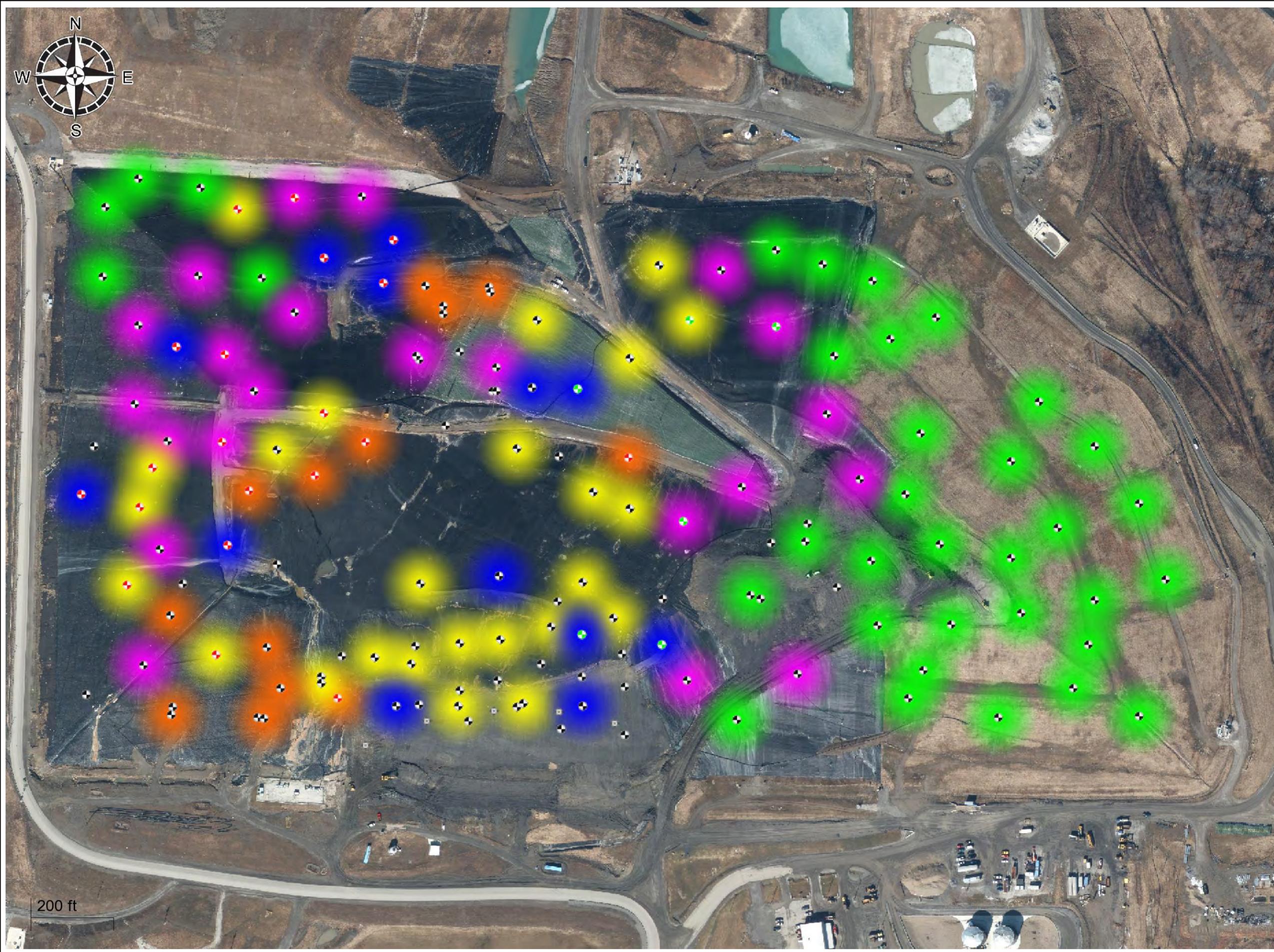


Figure 4
Carbon Monoxide
Distribution
 Countywide Recycling
 and Disposal Facility
 3619 Gracemont St. S.W.
 East Sparta, Ohio

Operation, Monitoring and Maintenance (OM&M) Plan
 Monthly Report

Color Legend (deg F)

- < 100
- 100 < 500
- 500 < 1000
- 1000 < 2000
- > 2000
- No Data Available

Symbol Legend

- Gas Well
- (Red symbol denotes rise in value category from previous reporting period.)
- (Green symbol denotes decrease in value category from previous reporting period.)

A radius influence of 100 feet is assumed at each device.

Reporting Period: August, 2011

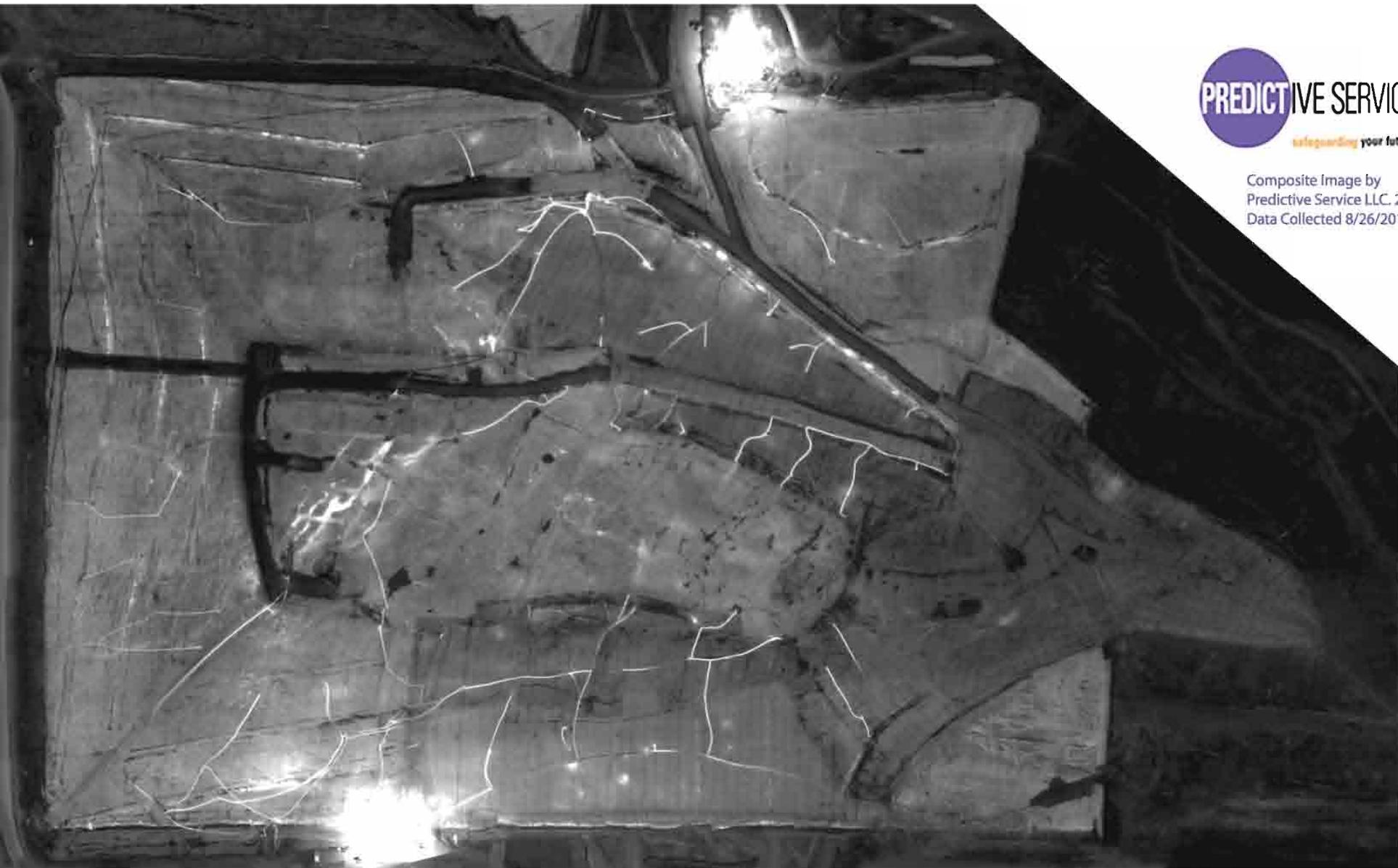
Map Generated On: 09/09/2011



SANBORN HEAD
 LANDFILL GAS MANAGEMENT SUITE™

200 ft

Figure 5.



Composite Image by
Predictive Service LLC. 216.378.3500
Data Collected 8/26/2011

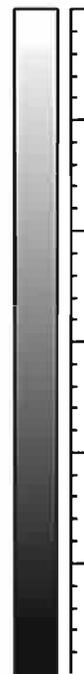
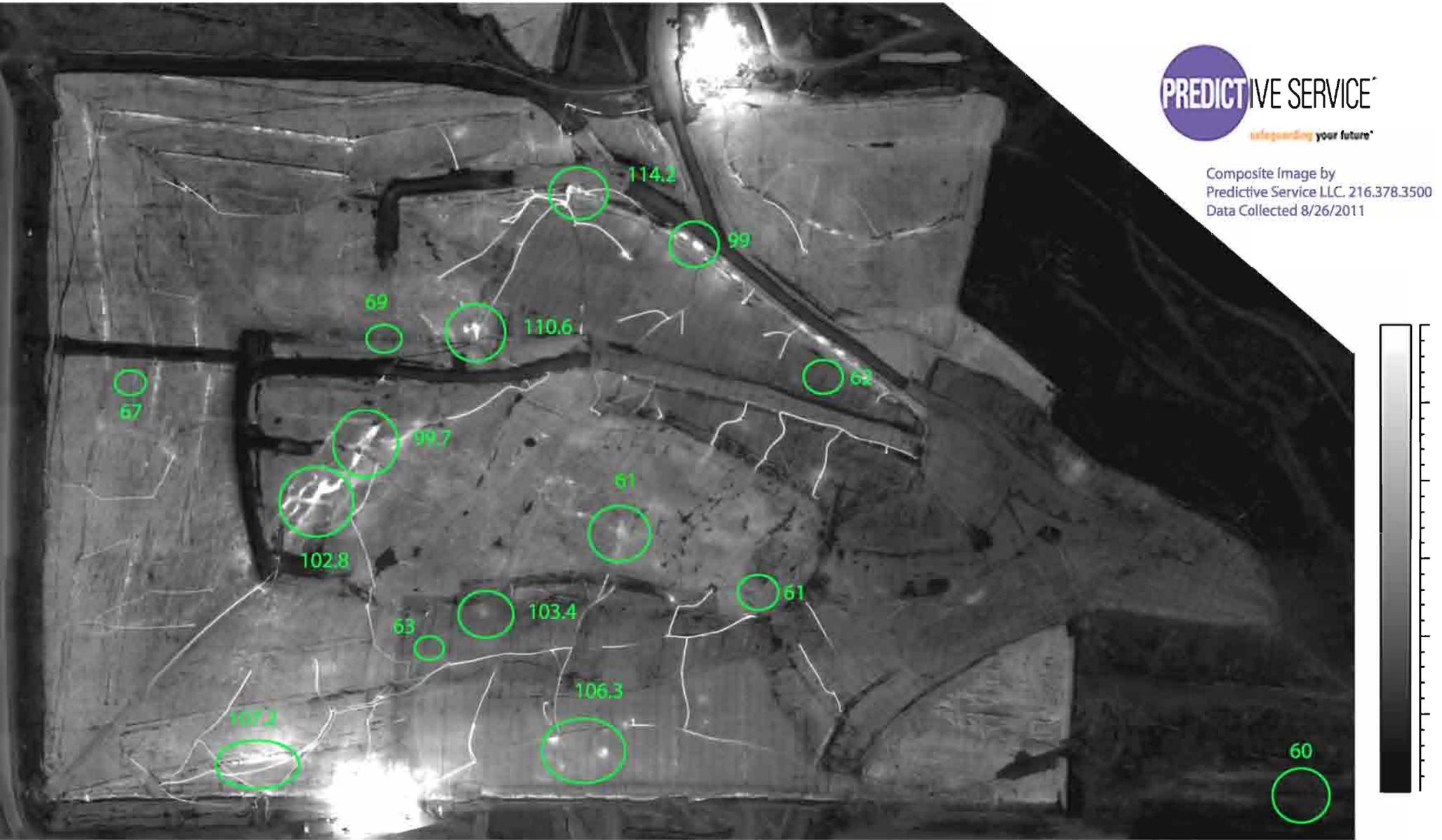
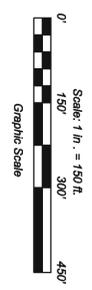
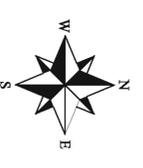
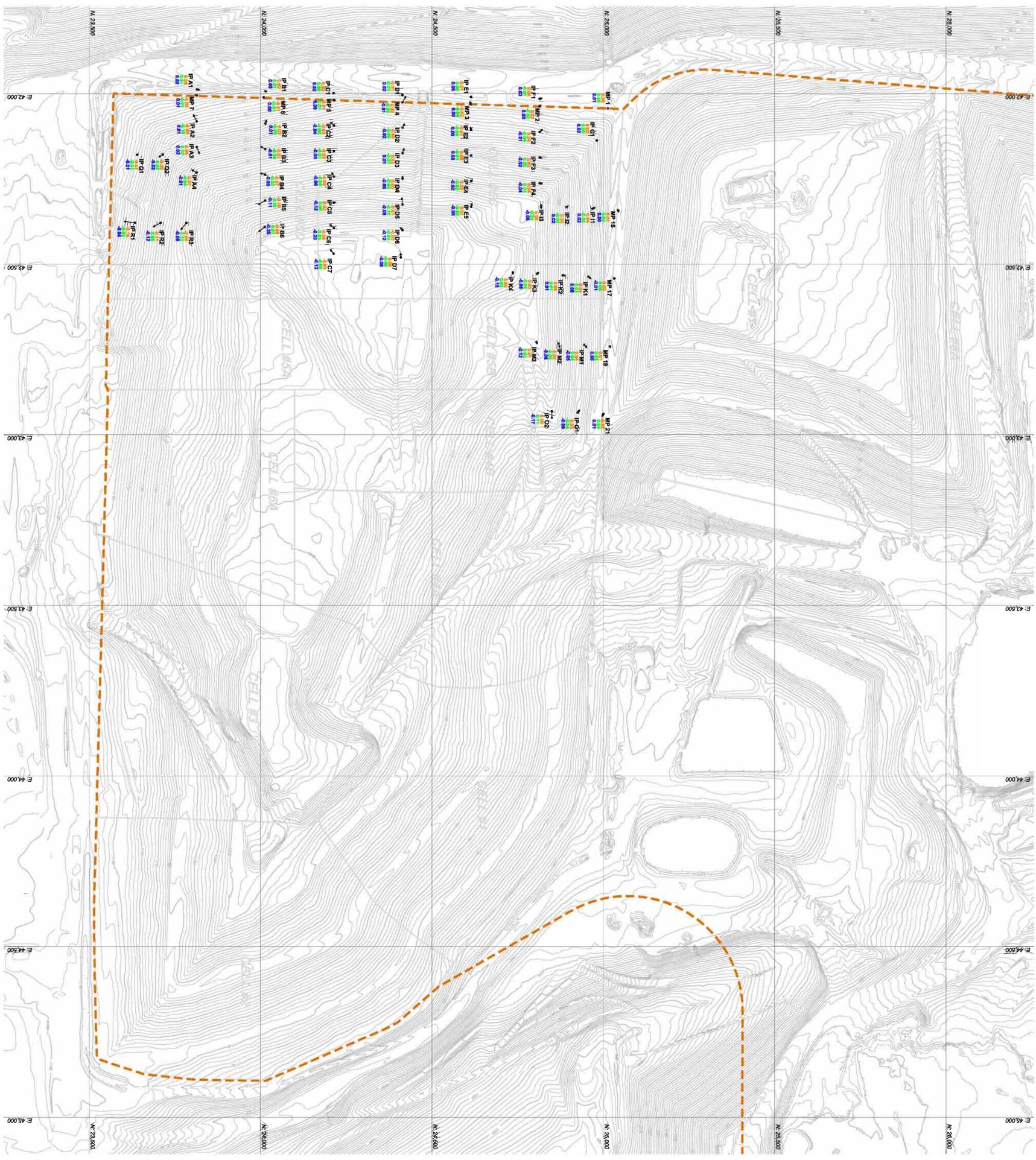


Figure 5a





LEGEND:
 -120-
 EXISTING CONTOUR (AERIAL MAPPING 3/01/11), CTR INT. = 2'
 (SHOWN FOR REFERENCE ONLY)

VECTOR LABELING CONVENTION:

IP S2
 CHANGE IN NORTHING (N)
 CHANGE IN EASTING (E)
 CHANGE IN ELEVATION (E)

- GENERAL NOTES:**
- 1) SLOPE PIN MOVEMENT VECTORS WERE PROVIDED BY P.J. CAREY & ASSOCIATES, P.C.
 - 2) VECTORS DEMONSTRATE THE HORIZONTAL MOVEMENT BETWEEN THE DATES OF 7/28/11 & 8/24/11.

COUNTYWIDE RDF

PROJECT: **88 Ac. REMEDIATION UNIT**

SHEET TITLE: **SLOPE PIN MOVEMENT VECTORS (AUGUST 2011)**

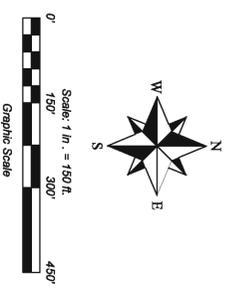
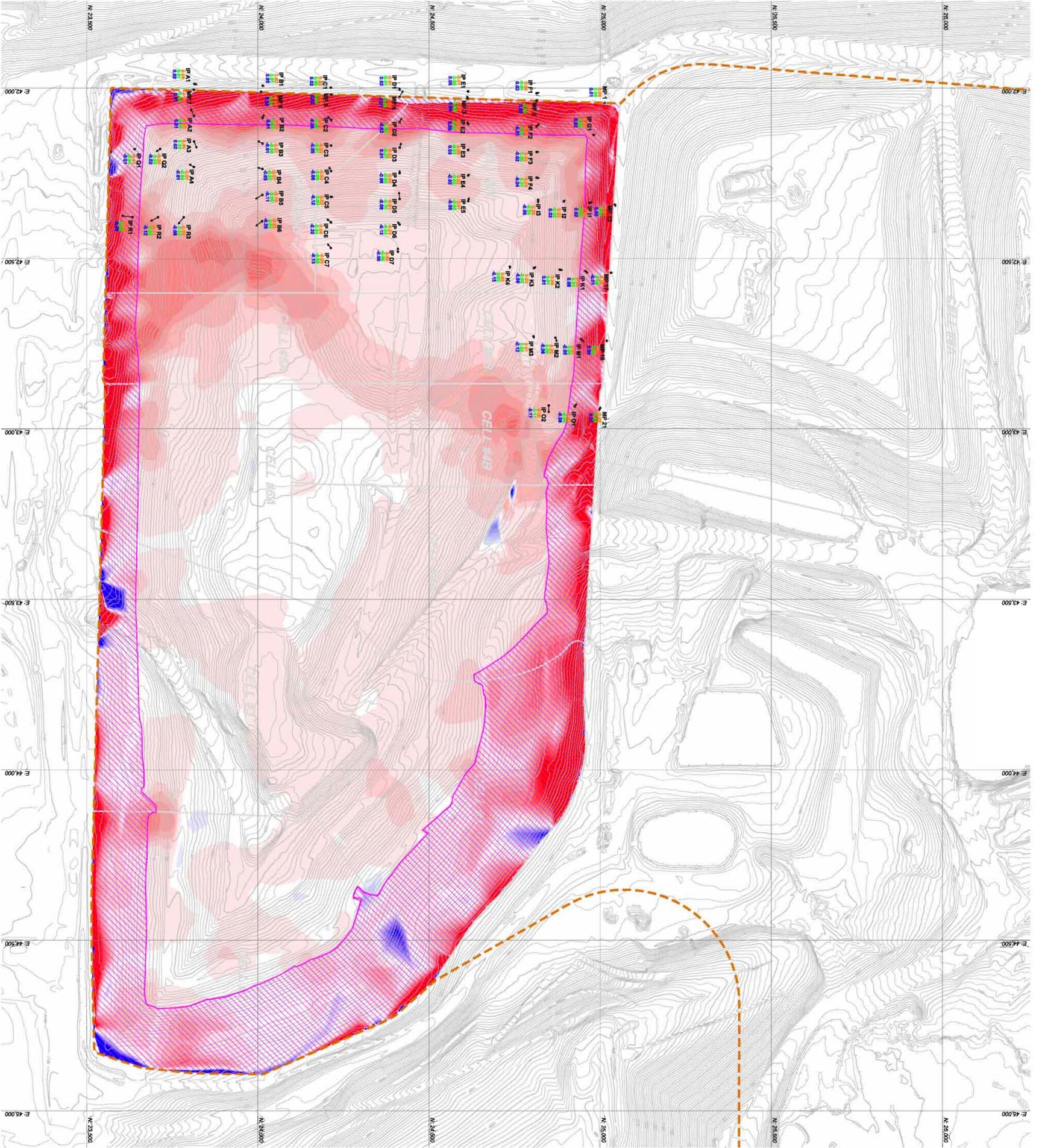
6

Diversified Engineering Inc.
 CONSULTING ENGINEERS & SURVEYORS

225 FAIR AVENUE, N.E.
 NEW PHILADELPHIA, OH 44663

Phone: (330) 364-1631
 Fax: (330) 364-1634
 E-mail: de@div-eng.com

| ISSUE DATE | 08/06/11 | SCALE | 1" = 150' | CTR INT. | 2' | |
|-------------|----------|-------------|-----------|----------|--------|--------|
| SURVEYED BY | MO/AG | CHECKED BY | CCV | | | |
| DRAWN BY | EWS | APPROVED BY | CRB | | | |
| REV | DATE | DESCRIPTION | DWN BY | DES BY | CHK BY | APP BY |
| | | | | | | |



LEGEND:

— 1'-2" — EXISTING CONTOUR (AERIAL MAPPING 3/01/11), CTR INT. = 2'
 (SHOWN FOR REFERENCE ONLY)

▨ ≤ 60" OF WASTE DEPTH

ANNUALIZED RATE (%) OF SETTLEMENT

COLOR LEGEND

- Greater than 10.0%
- 8.0% TO 9.0%
- 7.0% TO 8.0%
- 6.0% TO 7.0%
- 5.0% TO 6.0%
- 4.0% TO 5.0%
- 3.0% TO 4.0%
- 2.0% TO 3.0%
- 0.0% TO 2.0%
- 0.0% TO 0.0%
- 1.0% TO -2.0%
- 2.0% TO -3.0%
- 3.0% TO -4.0%
- 4.0% TO -5.0%
- 5.0% TO -6.0%
- 6.0% TO -7.0%
- 7.0% TO -8.0%
- 8.0% TO -9.0%
- 9.0% TO -10.0%
- Greater than -10.0%

VECTOR LABELING CONVENTION:

IP S2
 CHANGE IN NORTHING (ft)
 CHANGE IN EASTING (ft)

GENERAL NOTES:

- 1) SLOPE PIN MOVEMENT VECTORS WERE PROVIDED BY P.J. CAREY & ASSOCIATES, P.C.
- 2) VECTORS DEMONSTRATE THE HORIZONTAL MOVEMENT BETWEEN THE DATES OF 7/28/11 & 8/24/11.

| ISSUE DATE | 09/06/11 | SCALE | 1" = 150' | CTR INT. | 2' | |
|-------------|----------|-------------|-----------|----------|--------|--------|
| SURVEYED BY | MO/AG | CHECKED BY | CCV | | | |
| DRAWN BY | BWS | APPROVED BY | CRB | | | |
| REV | DATE | DESCRIPTION | DWN BY | DES BY | CHK BY | APP BY |
| | | | | | | |

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 E-mail: de@div-eng.com

COUNTYWIDE RDF

PROJECT: **88 Ac. REMEDIATION UNIT**

SHEET TITLE: **INCREMENTAL SETTLEMENT MAP w/ SLOPE PIN MOVEMENT VECTORS (AUGUST 2011)**

Attachment 4
Pin and Plate Evaluation

September 2, 2011

Mr. Michael Darnell
Division Manager
Republic Services
Countywide RDF
3619 Gracemont Street, SW
East Sparta, Ohio 44626

RE: Evaluation of Pin Movements
Countywide Slopes
August Period (7/28/11 – 8/24/11)

Dear Mike,

We have reviewed the pin survey data from the West and North Slopes at Countywide. The surveys during the August monitoring period (7/28/11 – 8/24/11) by Diversified Engineering, Inc. (DEI) were performed using optical survey methods for all pins (as of 10/5/2010).

The survey data has been presented in accordance with Section 6.5.4 of the Operation, Maintenance and Monitoring Plan, creating Figures 11 through 16 only for those points exceeding the trigger levels, as requested by Jerry Parker of the OH EPA. In addition, two vector plot maps that depict the horizontal pin movements for the monitoring period and since the onset of monitoring (October 6, 2009) are attached. Two tables which show the horizontal rate of movement for the monitoring period and elevation motion since the original monitoring survey (October 6, 2009) are attached after the aforementioned figures. Please note the at the reference elevation for pin IP-E1, IP-F1, MP-4 and MP-5 have been adjusted, as per the agreement with OH EPA. The baseline elevation of IP-F1 was re-established at the beginning of May 2010, MP-4 and MP-5 were re-established on November 30, 2010, IP-E1 was re-established on February 22, 2011 and IP-C1 was re-established on May 2, 2011. This is noted on the vector plot depicting movements since the beginning of the monitoring and in the Change of Elevation table. MP-9 through MP-13 were physically re-established on June 14, 2011 following damage during the winter and or removal during the South Slope Excavation. These points (MP-9 through MP-13) will be monitored in the future using the 6/14/2011 survey datum.

A review of the data for this monitoring period shows:

- No pins exceeded the trigger rate of 0.05 ft per day of horizontal movement during the monitoring period.
- No pins exceeded the vertical trigger of more than 0.05 ft of upward motion since inception of monitoring for the readings.

In accordance with the agreement with OH EPA no additional profile or pin plots are included when no triggers are exceeded during the monitoring period.

Based on the review of the data, no signs of instability are indicated. I hope this information is helpful to you. Please call if there are any questions.

Sincerely,

A handwritten signature in blue ink that reads "Peter J. Carey". The signature is written in a cursive style with a large initial 'P' and a long, sweeping underline.

Peter J. Carey, PE
President

**CHANGE IN ELEVATION (FT)
CALCULATED BASED ON ORIGINAL SURVEY DATE OF 10-06-09**

| ID | 8/9/11 | 8/24/11 |
|-------|--------|---------|
| IP G1 | -1.31 | -1.31 |
| IP I1 | -0.30 | -0.30 |
| IP I2 | -0.47 | -0.47 |
| IP I3 | -1.86 | -1.90 |
| IP K1 | -0.09 | -0.05 |
| IP K2 | -0.58 | -0.59 |
| IP K3 | -2.28 | -2.36 |
| IP K4 | -4.46 | -4.59 |
| IP M1 | -0.14 | -0.12 |
| IP M2 | -0.88 | -0.89 |
| IP M3 | -2.31 | -2.33 |
| IP O1 | -0.36 | -0.42 |
| IP O2 | -2.33 | -2.44 |
| MP 13 | | |
| MP 15 | -0.04 | -0.02 |
| MP 17 | 0.00 | 0.01 |
| MP 19 | -0.05 | -0.02 |
| MP 21 | -0.06 | -0.02 |
| IP R1 | -0.75 | -0.78 |
| IP R2 | -0.91 | -0.97 |
| IP R3 | -1.84 | -1.89 |
| IP R4 | -3.03 | |
| IP S1 | | |
| IP S2 | | |
| IP S3 | | |
| IP S4 | | |
| IP S5 | | |
| IP T1 | | |
| IP T2 | | |
| IP T3 | | |
| IP T4 | | |
| IP T5 | | |
| IP T6 | | |
| IP U1 | | |
| IP U2 | | |
| IP U3 | | |
| IP U4 | | |
| IP U5 | | |
| IP U6 | | |
| IP V1 | | |
| IP V2 | | |
| IP V3 | | |
| IP V4 | | |
| IP V5 | | |
| IP V6 | | |
| IP W1 | | |
| IP W2 | | |
| IP W3 | | |
| IP W4 | | |
| IP W5 | | |
| IP W6 | | |

1. Data compiled by PJ Carey Associates, PC.
2. Survey provided by DEI beginning on October 6, 2009.
3. Highlighted regions indicate points which there was a positive change greater than 0.05 ft in elevation since October 6, 2009.

**CHANGE IN ELEVATION (FT)
CALCULATED BASED ON ORIGINAL SURVEY DATE OF 10-06-09**

| ID | 8/9/11 | 8/24/11 |
|----------|--------|---------|
| MP 10 | | |
| MP 11 | | |
| MP 12 | | |
| IP A1 | -0.09 | -0.01 |
| IP A2 | -0.57 | -0.56 |
| IP A3 | -1.17 | -1.15 |
| IP A4 | -1.24 | -1.24 |
| IP B1 | 0.01 | 0.03 |
| IP B2 | -0.89 | -0.88 |
| IP B3 | -0.43 | -0.44 |
| IP B4 | -1.57 | -1.60 |
| IP B5 | -2.56 | -2.64 |
| IP B6 | -4.65 | -4.89 |
| IP B7 | | |
| IP C1 | 0.02 | 0.03 |
| IP C2 | -0.73 | -0.76 |
| IP C3 | -0.67 | -0.73 |
| IP C4 | -1.43 | -1.51 |
| IP C5 | -2.68 | -2.78 |
| IP C6 | -3.86 | -4.00 |
| IP C7 | -3.80 | -3.90 |
| IP D1 | -0.02 | 0.00 |
| IP D2 | -0.80 | -0.82 |
| IP D3 | -0.56 | -0.57 |
| IP D4 | -1.55 | -1.60 |
| IP D5 | -2.08 | -2.16 |
| IP D6 | -3.36 | -3.42 |
| IP D7 | -3.41 | -3.47 |
| IP E1*** | -0.02 | 0.02 |
| IP E2 | -1.19 | -1.20 |
| IP E3 | -0.87 | -0.86 |
| IP E4 | -1.32 | -1.35 |
| IP E5 | -2.04 | -2.09 |
| IP F1 * | 0.02 | 0.04 |
| IP F2 | -1.19 | -1.20 |
| IP F3 | -1.25 | -1.26 |
| IP F4 | -1.70 | -1.72 |
| IP Q1 | -0.76 | -0.76 |
| IP Q2 | -1.15 | -1.16 |
| MP 1 | -0.04 | -0.03 |
| MP 2 | 0.01 | 0.00 |
| MP 3 | 0.01 | -0.01 |
| MP 4** | 0.03 | 0.01 |
| MP 5** | 0.01 | 0.01 |
| MP 6 | -0.05 | -0.08 |
| MP 7 | -0.09 | -0.09 |
| MP 8 | 0.00 | 0.00 |
| MP 9 | | |
| MP' 10 | 0.01 | 0.01 |
| MP' 11 | 0.01 | 0.01 |
| MP' 12 | 0.03 | 0.01 |
| MP' 13 | 0.00 | 0.00 |
| MP' 9 | 0.02 | 0.00 |

* On May 10, 2010, Ohio EPA approved an increase the baseline elevation of Iron Pin F1 from the original elevation of 1141.06', established on October 6, 2009, to 1141.15' due to the effects of frost heave.

** On November 22, 2010, Ohio EPA approved an increase the baseline elevation of monitoring points MP-4 and MP-5 from the original elevation of 1154.82' and 1152.34', established on October 6, 2009, to 1154.88' and 1152.39', surveyed on November 30, 2010, respectively.

***The Ohio EPA approved an increase of the baseline elevation of monitoring point IP E1 from the original elevation of 1143.41', established on October 6, 2009 to 1143.52', surveyed on February 22, 2011. On May 2, the Ohio EPA approved an increase in the baseline elevation of IP C1 from the original elevation of 1145.00' to 1145.04 established on May 2, 2011

NOTE: MP 9 through 13 were re-established June 14, 2011. The re-established points are denoted with a " ' ".

1. Data compiled by PJ Carey Associates, PC.
2. Survey provided by DEI beginning on October 6, 2009.
3. Highlighted regions indicate points which there was a positive change greater than 0.05 ft in elevation since October 6, 2009.

HORIZONTAL RATE OF MOVEMENT (FT/DAY)

CALCULATED BASED ON PREVIOUS READING AT EACH POINT

| ID | 8/9/11 | 8/24/11 |
|-------|---------|---------|
| IP G1 | 0.0000 | 0.0013 |
| IP I1 | 0.0019 | 0.0043 |
| IP I2 | 0.00083 | 0.0024 |
| IP I3 | 0.0012 | 0.0041 |
| IP K1 | 0.0012 | 0.0036 |
| IP K2 | 0.00083 | 0.0030 |
| IP K3 | 0.0000 | 0.0024 |
| IP K4 | 0.00083 | 0.0013 |
| IP M1 | 0.0025 | 0.0054 |
| IP M2 | 0.00083 | 0.0049 |
| IP M3 | 0.00083 | 0.0027 |
| IP O1 | 0.0019 | 0.0048 |
| IP O2 | 0.0025 | 0.0053 |
| MP 13 | | |
| MP 15 | 0.0019 | 0.0015 |
| MP 17 | 0.0017 | 0.0019 |
| MP 19 | 0.0000 | 0.0015 |
| MP 21 | 0.0012 | 0.0034 |
| IP R1 | 0.0034 | 0.0080 |
| IP R2 | 0.011 | 0.0015 |
| IP R3 | 0.0012 | 0.0085 |
| IP R4 | 0.0012 | |
| IP S1 | | |
| IP S2 | | |
| IP S3 | | |
| IP S4 | | |
| IP S5 | | |
| IP T1 | | |
| IP T2 | | |
| IP T3 | | |
| IP T4 | | |
| IP T5 | | |
| IP T6 | | |
| IP U1 | | |
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| IP U4 | | |
| IP U5 | | |
| IP U6 | | |
| IP V1 | | |
| IP V2 | | |
| IP V3 | | |
| IP V4 | | |
| IP V5 | | |
| IP V6 | | |
| IP W1 | | |
| IP W2 | | |
| IP W3 | | |
| IP W4 | | |
| IP W5 | | |
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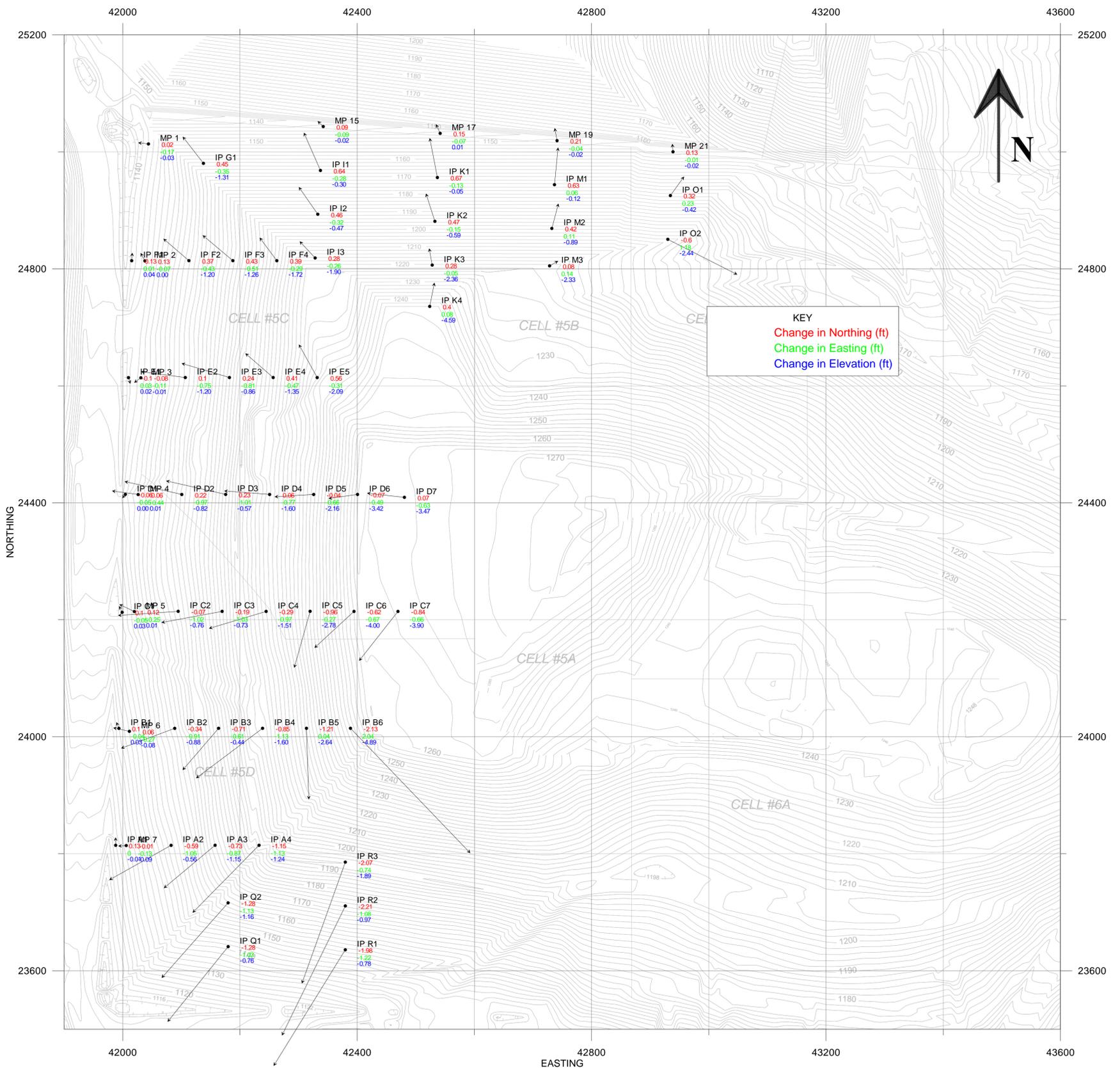
HORIZONTAL RATE OF MOVEMENT (FT/DAY)

CALCULATED BASED ON PREVIOUS READING AT EACH POINT

| ID | 8/9/11 | 8/24/11 |
|--------|---------|---------|
| MP 10 | | |
| MP 11 | | |
| MP 12 | | |
| IP A1 | 0.0000 | 0.0027 |
| IP A2 | 0.00083 | 0.0078 |
| IP A3 | 0.0012 | 0.0069 |
| IP A4 | 0.0012 | 0.0057 |
| IP B1 | 0.0019 | 0.0027 |
| IP B2 | 0.0012 | 0.0045 |
| IP B3 | 0.0019 | 0.0063 |
| IP B4 | 0.0000 | 0.0049 |
| IP B5 | 0.0012 | 0.0069 |
| IP B6 | 0.0012 | 0.0067 |
| IP B7* | | |
| IP C1 | 0.0012 | 0.0021 |
| IP C2 | 0.0024 | 0.0051 |
| IP C3 | 0.0000 | 0.0015 |
| IP C4 | 0.00083 | 0.0039 |
| IP C5 | 0.0024 | 0.0015 |
| IP C6 | 0.0000 | 0.0052 |
| IP C7* | 0.004 | 0.005 |
| IP D1 | 0.0026 | 0.0030 |
| IP D2 | 0.0000 | 0.0045 |
| IP D3 | 0.0026 | 0.0033 |
| IP D4 | 0.0017 | 0.0040 |
| IP D5 | 0.00083 | 0.0060 |
| IP D6 | 0.0033 | 0.0020 |
| IP D7* | 0.0008 | 0.003 |
| IP E1 | 0.0019 | 0.00094 |
| IP E2 | | |
| IP E3 | 0.00083 | 0.0013 |
| IP E4 | 0.00083 | 0.0015 |
| IP E5 | 0.0000 | 0.0034 |
| IP F1 | 0.0025 | 0.0047 |
| IP F2 | 0.0019 | 0.0052 |
| IP F3 | 0.00083 | 0.0013 |
| IP F4 | 0.0019 | 0.0019 |
| IP Q1 | 0.00083 | 0.00067 |
| IP Q2 | 0.0019 | 0.0033 |
| MP 1 | 0.0012 | 0.00094 |
| MP 2 | 0.00083 | 0.0015 |
| MP 3 | 0.0019 | 0.0020 |
| MP 4 | 0.0026 | 0.0057 |
| MP 5 | 0.0000 | 0.00094 |
| MP 6 | 0.0017 | 0.0021 |
| MP 7 | 0.00083 | 0.0015 |
| MP 8 | | |
| MP 9 | | |
| MP' 10 | 0.00083 | 0.0024 |
| MP' 11 | 0.0000 | 0.0030 |
| MP' 12 | 0.0019 | 0.0015 |
| MP' 13 | 0.0017 | 0.00094 |
| MP' 9 | 0.0034 | 0.0015 |

Notes:

1. Data compiled by PJ Carey & Associates, PC.
2. Survey provided by DEI beginning on October 6, 2009.
3. Highlighted regions indicate pins which the horizontal rate of movement exceed the trigger value of 0.05 ft/day.
4. All pins are surveyed using optical methods except pins B7, C7, & D7, which were surveyed using GPS up until October 5, 2010. Since October 5, 2010 all pins are surveyed using optical methods.
5. Values reported are limited to their respective significant digit.
6. MP 9 through 13 were re-established June 14, 2011. The re-established points are denoted with a " ' ".



NOTE:

1. TOPOGRAPHY PROVIDED BY DIVERSIFIED ENGINEERING INC AS PART OF THE "88 REMEDIATION UNIT SLOPE PINS AND MONITORING PLATES LOCATION" PROJECT, DRAWING DATED 7/21/2009.
2. HORIZONTAL MOVEMENT VECTORS ARE PLOTTED TO A 1 INCH = 1 FOOT SCALE. 
3. ON MAY 10, 2010, OHIO EPA APPROVED AN INCREASE OF THE BASELINE ELEVATION OF IRON PIN F1 FROM THE ORIGINAL ELEVATION OF 1141.06', ESTABLISHED ON OCTOBER 6, 2009, TO 1141.15' DUE TO THE EFFECTS OF FROST HEAVE.
4. ON NOVEMBER 22, 2010, OHIO EPA APPROVED AN INCREASE OF THE BASELINE ELEVATION OF MONITORING POINTS MP-4 AND MP-5 FROM THE ORIGINAL ELEVATION OF 1154.82' AND 1152.34', ESTABLISHED ON OCTOBER 6, 2009, TO 1154.88' AND 1152.39', SURVEYED ON NOVEMBER 30, 2010, RESPECTIVELY.
5. THE OHIO EPA APPROVED AN INCREASE OF THE BASELINE ELEVATION OF MONITORING POINT IP E1 FROM THE ORIGINAL ELEVATION OF 1143.41', ESTABLISHED ON OCTOBER 6, 2009 TO 1143.52', SURVEYED ON FEBRUARY 22, 2011.
6. THE OHIO EPA APPROVED AN INCREASE OF THE BASELINE ELEVATION OF MONITORING POINT IP C1 FROM THE ORIGINAL ELEVATION OF 1145.00', ESTABLISHED ON OCTOBER 6, 2009 TO 1145.04', SURVEYED ON MAY 2, 2011.
7. VERTICAL MOVEMENT TRIGGER WAS NOT EXCEEDED DURING MONITORING PERIOD.
8. MP 9 THROUGH 13 WERE RE-ESTABLISHED JUNE 14, 2011 AND ARE NOT SHOWN ON THIS UNTIL AFTER THE JUNE 2011 PERIOD

HORIZONTAL MOVEMENTS
BETWEEN 10/06/2009 & 8/24/2011