



Via FedEx

November 11, 2013  
In reply, refer to SHEA-114245

Regional Water Quality Control Board, Los Angeles Region  
320 West 4th Street, Suite 200  
Los Angeles, California 90013

Attention: Information Technology Unit

Subject: Third Quarter 2013 NPDES Discharge Monitoring Report  
Compliance File CI-6027 and NPDES No. CA0001309  
Santa Susana Field Laboratory  
Simi Valley, California

The Boeing Company (Boeing) hereby submits this Discharge Monitoring Report (DMR) addressing activities related to the Santa Susana Field Laboratory (Santa Susana Site) stormwater outfalls (Figure 1) that occurred during the period of 1 July through 30 September 2013 (Third Quarter 2013). This DMR was prepared as required by and in accordance with National Pollutant Discharge Elimination System (NPDES) Permit No. CA0001309 (Permit) and under regulatory oversight of the Los Angeles Regional Water Quality Control Board (Regional Board). Included are summary tables of best management practices (BMPs), stormwater sample analytical results, rainfall quantities, liquid waste shipments, and laboratory analytical reports for stormwater samples.

Hard copies of this DMR are available to the public at California State University at Northridge Library; Simi Valley Library; and the Platt Branch of the Los Angeles Library. An electronic version of this DMR is located at:

[http://www.boeing.com/aboutus/environment/santa\\_susana/ents/monitoring\\_reports.html](http://www.boeing.com/aboutus/environment/santa_susana/ents/monitoring_reports.html)

### THIRD QUARTER 2013 DMR CONTENTS

This discharge monitoring report includes the following sections and appendices:

- **Discharge Summary:** This section describes the number of rain events, the number of samples collected, the sample date, and the sample location during Third Quarter 2013. Table I summarizes the Third Quarter 2013 sampling record by outfall, location, and sample type collected per the requirements of the NPDES Permit.
- **Third Quarter 2013 Summary of Compliance:** This section provides a summary of sample results that exceeded NPDES Permit limits in Third Quarter 2013.
- **Third Quarter 2013 Santa Susana Site-wide Storm Water Pollution Prevention Plan (SWPPP)/BMP Activities:** This section presents site-wide SWPPP activities and BMPs related to demolition, Interim Source Removal Actions (ISRA), the BMP Plan, Northern Drainage, and other

activities implemented in Third Quarter 2013. Table II summarizes specific BMP activities by outfall location.

- **Data Validation and Quality Control:** This section discusses data validation results and any laboratory or field corrective actions.
- **Appendix A** provides a summary of measured Third Quarter 2013 precipitation at the Santa Susana Site.
- **Appendix B** tabulates liquid waste shipment details.
- **Appendix C** presents chemical analytical results of Third Quarter 2013 stormwater samples in tabular form by outfall location, constituents evaluated (analytes), sample dates, and data validation qualifiers.
- **Appendix D** contains copies of laboratory analytical reports, chains of custody, and data validation reports.

Summary notes, abbreviations, and data validation codes used in the analytical data summary tables are included as flysheets in Appendices C and D.

#### DISCHARGE SUMMARY

The Santa Susana Site did not experience a rain event that produced greater than 0.1 inches of rainfall within a 24-hour period during Third Quarter 2013 (see Appendix A). No discharges occurred at any outfalls located at the Santa Susana Site, and therefore no samples were collected. One offsite stormwater sample was collected at the Arroyo Simi – Frontier Park (RSW-002) location in Simi Valley. Table I summarizes the Third Quarter 2013 sampling record by outfall, location, and sample type collected per the requirements of the NPDES Permit.

**TABLE I: Sampling Record during Third Quarter 2013**

| <b>Date</b> | <b>Outfall/Location</b>                          | <b>Samples Collected<br/>(i.e., grab, composite)</b> |
|-------------|--|--|
| 8/20/2013   | Arroyo Simi Frontier Park –(RSW-002) – Quarterly | Grab   |

The sample was submitted to and analyzed by TestAmerica Laboratories, Inc., a California-certified analytical laboratory in Irvine, per the NPDES Permit requirements.

#### THIRD QUARTER 2013 SUMMARY OF COMPLIANCE

No stormwater discharges occurred from the Santa Susana Site during Third Quarter 2013. As such, there are no reportable compliance issues for this period. No constituents exceeded established receiving water limits in the quarterly sample collected at Arroyo Simi sample location RSW-002; Third Quarter 2013 sample results are therefore in full compliance.

**THIRD QUARTER 2013 SITE-WIDE SWPPP/BMP ACTIVITIES**

Boeing implemented significant SWPPP- and BMP-related activities to assist in improving storm water quality and compliance at the Santa Susana Site. Table II summarizes by outfall watershed the Santa Susana Site-wide SWPPP and specific BMP activities completed in Third Quarter 2013. Specific BMP projects include: demolition-related BMPs; Outfall 008/009 ISRA BMPs; BMP Plan-related BMPs; and Northern Drainage BMPs.

**TABLE II: Boeing's Third Quarter 2013 BMP Activities**

| OUTFALL (Location)                                 | BMP ACTIVITIES DURING THIRD QUARTER 2013  |
|--|---|
| 001<br>(South Slope below<br>Perimeter Pond)       | Inspected the outfall and flume for any excess sediment/debris. Observed sediment and erosion controls around the perimeter of the outfall and Outfall 001 drainage. Checked sample box and flow meter control box for the presence of debris and/or animals. Flow meter reset and tape replaced on a monthly basis. Cleaned sample box and the outfall area and performed weed abatement.  |
| 002<br>(South Slope below<br>R-2 Ponds)            | Conducted sediment and erosion control inspections around the perimeter and at Outfall 002 drainage. Inspected outfall and flume for any excess sediment/debris. Cleaned sediment and debris from the flume and sample box. Checked flow meter control box for the presence of debris and/or animals. Flow meter reset and tape replaced on a monthly basis. Completed maintenance inspection and reset the automated composite sampling equipment (auto samplers). Cleaned sample box and the outfall area and performed weed abatement.                     |
| 003<br>(Radioactive Material<br>Handling Facility) | Conducted sediment and erosion control inspections. Inspected flume and sample box for any excess sediment/debris. Conducted maintenance inspections of the structural BMPs, including the stormwater retention basin and conveyance and filter systems. Checked sample box and flow meter control box for spiders and presence of debris and/or animals. Flow meter reset and tape replaced on a monthly basis. Cleaned sample box and the outfall area, performed weed abatement, and cleared vegetation.   |
| 004<br>(Sodium Reactor<br>Experiment)              | Inspected the flume, outfall, and liner for any excess sediment/debris. Conducted sediment and erosion control inspections near the outfall. Conducted maintenance inspections of the structural BMPs, including the stormwater retention system, and conveyance and filter systems. Completed inspection of dedicated retention tanks. Checked sample box and flow meter control box for the presence of debris and/or animals. Reset flow meter and replaced tape on a monthly basis. Cleaned sample box and the outfall area and performed weed abatement. |
| 005<br>(Former Sodium<br>Disposal Facility - 1)    | Conducted sediment and erosion control inspections. Inspected the outfall and flume for any excess sediment/debris. Completed maintenance inspections of structural BMPs, including the conveyance and stormwater retention systems and sediment basin liner. Cleaned sample box and the outfall area and performed weed abatement.   |
| 006<br>(Former Sodium                              | Inspected the flume, outfall and liner for any excess sediment/debris. Cleaned sample box and the outfall area and performed weed abatement.  |

| OUTFALL (Location)      | BMP ACTIVITIES DURING THIRD QUARTER 2013   |
|-------------------------|--|
| Disposal Facility - 2)  | along the walking trail and in the media bed. Checked sample box and flow meter control box for the presence of debris and/or animals. Reset flow meter and replaced tape on a monthly basis. Conducted sediment and erosion control inspections near the outfall. Completed inspection of dedicated retention tanks. Completed maintenance inspections of the structural BMPs, including the stormwater retention and filter systems.   |
| 007<br>(Building 100)   | Conducted sediment and erosion control inspections at the perimeter of Outfall 007. Observed sediment basin liner and outfall for any excess sediment/debris or deficiencies. Cleaned sample box and the outfall area and performed weed abatement. Completed maintenance inspections of the conveyance system, stormwater retention system, and sediment basin liner. Checked high level float/switch in sedimentation basin. Completed inspection of dedicated retention tanks.  |
| 008<br>(Happy Valley)   | Conducted sediment and erosion control inspections near the perimeter of the outfall and within the Outfall 008 drainage. Observed the outfall and flume for any excess sediment/debris, and cleared excess sediment from the flume. Checked sample box and flow meter control box for the presence of debris and/or animals. Reset flow meter and replaced tape on a monthly basis. Cleaned sample box and the outfall area and performed weed abatement.   |
| 009<br>(WS-13 Drainage) | <p><i>Outfall BMPs:</i> Checked sample box and flow meter control box for spiders and presence of rodents/animals. Reset flow meter and replaced tape on a monthly basis. The sample box and outfall area were cleaned, and weeding was conducted.</p> <p><i>Culvert Modification (CM)-9:</i> Inspected riprap and culvert intake improvements made during Second Quarter 2013.</p> <p><i>Restoration, Monitoring and Mitigation Plan (RMMP) BMPs:</i> Inspected plantings and pole cuttings in the Northern Drainage and replaced water replenishment cartons at each plant. Selective weeding was performed at plantings to remove invasive species. Inspected structural BMPs.</p> <p><i>National Aeronautics and Space Administration (NASA) ISRA BMPs:</i> Temporary BMPs (sand bag berms, fiber rolls, and plastic tarps) at Expendable Launch Vehicle (ELV)-1C were maintained during ISRA implementation. Portable pump, generator, and metal plate removed from temporary sand bag Berm A. Continued construction of permanent BMPs in the ELV channel. Completed restoration and installation of temporary BMPs at Liquid Oxygen Plant (LOX) ISRA areas.</p> <p><i>Lower Parking Lot BMP:</i> Inspected plantings and implemented a watering plan. Inspected sediment basin, including fiber rolls, the biofilter, including the riprap berm placed at the west end. Compacted fill, added gravel at the biofilter, and performed selective weeding.</p> |
| 010<br>(Building 203)   | Conducted maintenance inspections of structural BMPs, including the filter media and conveyance and stormwater retention systems. Completed inspection of dedicated retention tanks. Maintained and inspected sediment   |

| OUTFALL (Location)                                  | BMP ACTIVITIES DURING THIRD QUARTER 2013  |
|---|---|
|   | and erosion controls within areas of disturbance or sparse vegetation. Checked sample box and flow meter control box for the presence of debris and/or animals. Reset flow meter and replaced tape on a monthly basis. Cleaned sample box and the outfall area and performed weed abatement.  |
| 011<br>(Perimeter Pond)                             | Conducted maintenance inspections of structural BMPs, including the weir, filter media, and pump and conveyance systems. Conducted sediment and erosion control inspections at flume, drainage area, perimeter of outfall, pond, and around the conveyance system. Checked sample box and flow meter control box for the presence of debris and/or animals. Reset flow meter and replaced tape on a monthly basis. Cleaned sample box and the outfall area and performed weed abatement.                                    |
| 012<br>(Alfa Test Stand)                            | Conducted maintenance inspections of structural BMPs, including pump, conveyance system, and retention tank. Observed condition of the sand bag berm. Inspected outfall and perimeter for presence of rodents/animals. Cleaned sample box and the outfall area and performed weed abatement.  |
| 013<br>(Bravo Test Stand)                           | Conducted maintenance inspections of structural BMPs, including pump, conveyance system and retention tank. Observed condition of the sand bag berm. Inspected outfall and perimeter for presence of rodents/animals. Cleaned sample box and the outfall area and performed weed abatement.   |
| 014<br>(Advanced Propulsion Test Facility)          | Conducted maintenance inspections of structural BMPs. Observed the condition and integrity of the liner and berm. Observed sediment and erosion control BMPs around outfall perimeter. Cleaned sample box and the outfall area and performed weed abatement.  |
| 018<br>(R-2 Spillway)                               | Conducted maintenance inspections of structural BMPs, including the filter media and conveyance system. Checked sample box and flow meter control box for the presence of debris and/or animals. Reset flow meter and replaced tape on a monthly basis. Cleaned sample box and the outfall area and performed weed abatement. Inspected post-demo BMPs implemented at B4011, B4006, L85 Area, and the former compressed gases storage facility near Silvernale Pond, including sand bags, rip rap, gravel, and fiber rolls. |
| 019<br>(Area I Groundwater Extraction [GET] System) | The system has remained off since the completion of the RD-10 pump test on April 14, 2013. No NPDES sampling was performed in the Third Quarter 2013 at the Area I GET System. No water was pumped or discharged from WS-9A in the Third Quarter 2013.  |
| RSW-002<br>(Arroyo Simi- Frontier Park)             | Collected receiving water sample at Arroyo Simi – Frontier Park location. Conducted monthly receiving water inspections.  |

Boeing also continued to implement the individual SWPPPs during Third Quarter 2013 and BMP inspections were completed in accordance with the State of California Construction General Permit requirements.

Efforts to plan and implement BMPs for pre- and post-soil disturbance activities in construction/demolition and ISRA areas are discussed further below. Demolition projects comprise areas of disturbed soil from recent demolition and post-demolition restoration. ISRA areas are those subject to ongoing soil removal and/or remediation, post-remediation, and restoration activities.

### **Demolition-Related BMP Activities**

Previously active areas are being demolished and prepared for restoration in an effort to return the Santa Susana Site back to its natural habitat. Demolition activities are ongoing at several facility locations, but have ceased within Area IV. Debris, metal, concrete, and asphalt are segregated upon demolition and transported to a waste or recycling facility per Boeing's waste management plan and in accordance with local, state, and federal regulations. Construction BMPs are implemented before, during, and after demolition activities.

Restoration activities, including the installation of erosion and sediment control BMPs, are conducted following the completion of demolition activities. Third Quarter 2013 restoration BMPs included the installation of fiber rolls, riprap channels, and sand bags. As part of the long-term BMP maintenance plan, the sand bags are removed once vegetation has returned. Hydroseed and hydromulch placed on these areas in Second Quarter 2013 were inspected during Third Quarter 2013 to monitor growth. Boeing will continue demolition activities to remove impervious surfaces and reduce stormwater runoff, implement BMPs to address erosion and sedimentation, and return the Santa Susana Site to its natural habitat.

### **Outfall 008/009 ISRA and BMP Plan-Related Activities**

Boeing continued ISRA activities in the Outfall 008 and 009 watersheds during Third Quarter 2013 to address constituents in soil that may contribute to NPDES Permit limit/benchmark exceedances in stormwater. ISRA soil removal within Outfall 008 was completed on 19 October 2009, and ISRA soil removal conducted within the Outfall 009 watershed continued during Third Quarter 2013. ISRA Implementation reports are submitted to the Regional Board summarizing all ISRA activities for each phase of work performed<sup>1</sup>.

The Stormwater Expert Panel (Expert Panel) prepared BMP plans and submittals on behalf of NASA and Boeing to meet Outfall 008/009 Permit limits/benchmarks established in the NPDES Permit (Order No. R4-2010-0090). These plans are considered conceptual designs and recommendations for BMPs which were identified based on an evaluation of NPDES Permit compliance and ISRA/BMP stormwater monitoring results. The following BMP plans have been submitted to the Regional Board and are located on Boeing's Santa Susana Site webpage under Outfall 008/009 ISRA and BMP related activities<sup>2</sup>:

- 2010 BMP Plan Outfalls 008 and 009 BMP Watersheds (MWH et al., 2010);
- 2011 BMP Plan Addendum (Geosyntec and the Expert Panel, 2011); and
- 2012 BMP Plan Addendum (Geosyntec and the Expert Panel, 2012).

<sup>1</sup> Available at: [http://www.boeing.com/boeing/aboutus/environment/santa\\_susana/isra.page](http://www.boeing.com/boeing/aboutus/environment/santa_susana/isra.page)

<sup>2</sup> Available at: [http://www.boeing.com/boeing/aboutus/environment/santa\\_susana/isra.page](http://www.boeing.com/boeing/aboutus/environment/santa_susana/isra.page)

All completed Expert Panel-recommended BMPs are discussed in the ISRA Performance Monitoring and BMP Monitoring Report for Outfalls 008 and 009 Watersheds and submitted to the Regional Board for each rainy season (Boeing, 2012). These BMPs are also outlined in agency biweekly meetings and special Santa Susana Site walks with the public, Regional Board, and other agencies to demonstrate Boeing and NASA's commitment to achieve the water quality requirements of the NPDES Permit.

The BMP activities discussed below were performed, commenced, or completed during Third Quarter 2013 in coordination with the Expert Panel.

**A. Lower Parking Lot BMP**

The Lower Parking Lot BMP is a stormwater treatment BMP designed and built to capture, convey, and treat stormwater runoff from the lower lot and Instrument and Equipment Laboratories (IEL) watersheds. The need for a treatment BMP at the Lower Parking Lot BMP was first proposed in the 2010 BMP Plan (MWH et al., 2010). The Lower Parking Lot BMP consists of a 30,000-gallon cistern, a stormwater conveyance line, a sediment basin, and a media biofilter. Ventura County inspectors conducted building and grading inspections at various periods during the construction of the Lower Parking Lot BMP. Construction activities were completed on 15 March 2013 and a Regional Board and public tour of the completed Lower Parking Lot BMP was conducted on 20 March 2013.

Third Quarter 2013 activities included an inspection to verify that the sedimentation basin and biofilter were free of sediment and debris, a check of the cistern area and pump, and an inspection of the respective BMPs placed during Second Quarter 2013.

**B. NASA ELV BMPs**

The bidding process for the NASA ELV BMPs was completed in May 2013, and construction activities for the BMPs and drainage improvements at the ELV channel commenced in June 2013. The purpose of these stormwater BMPs is to improve stormwater quality from the ELV area before it is conveyed to Outfall 009.

Construction activities completed in Third Quarter 2013 included removal of the asphalt drainage swale, placement of geotextile and straw wattles, installation of a wet well near Helipad Road, trenching for a stormwater conveyance line, and placement of a gravel surface for stormwater storage tanks, and hydroseeding (twice). Three storage tanks, two with tube settlers and one containing filter media, were also installed in the area.

**C. CM-9 Upgrades**

CM-9 upgrades were recommended in the 2012 BMP Plan Addendum and construction of these upgrades was completed in March 2013. The purpose of these BMPs is to slow road runoff, reduce erosion along roadway slopes into the CM-9 runoff inlet, and provide additional infiltration upstream of CM-9. The need for improvements to the CM-9 media filter will be further evaluated in the next rainy season.

#### D. Third Quarter 2013 NASA and Boeing ISRA Activities

In addition to activities performed in coordination with the Expert Panel, the following ISRA activities were performed for Outfall 008/009 during Third Quarter 2013:

- Sampling and ISRA Implementation:
  - Completed restoration and installation of temporary BMPs at the former LOX ISRA areas;
  - Completed planned excavation activities at LOX ISRA areas;
  - Collected a sidewall confirmation soil sample at ISRA area LOX-1B-2;
  - Collected floor confirmation and regional board split soil samples at ISRA areas LOX-1B-1, LOX-1B-2, and LOX-1B-3;
  - Collected waste characterization soil samples from a debris pile near LOX ISRA areas;
  - Received concurrence from Department of Toxic Substances Control (DTSC) and RWQCB that LOX ISRA excavation activities are complete;
  - Installed a curb along the asphalt adjacent to ISRA area ELV-1C to direct stormwater runoff toward the Helipad BMP; and
  - Continued planning activities for ISRA implementation at ISRA area ELV-1D.
- Surveys, Monitoring, and Inspections:
  - Performed weekly, pre-rain event, rain event, and post-rain event SWPPP inspections at 2010 and 2011/2012 ISRA areas per the ISRA SWPPP;
  - Inspected condition of plants installed within the Northern Drainage;
  - Surveyed ISRA areas IEL-3, AP/STP-1C-2, ELV-1D, LOX-1B-1, LOX-1B-2, and LOX-1B-3;
  - Conducted post-excavation boundary survey at LOX ISRA areas;
  - Conducted ISRA Performance Monitoring and BMP Subarea Monitoring inspections; and
  - Performed biological surveys of ISRA area AP/STP-1C-2.
- ISRA BMPs Implemented:
  - Inspected and maintained BMPs implemented at ISRA areas at ELV and LOX.

Boeing continues to conduct bi-weekly status meetings and submit monthly and quarterly progress reports to Regional Board staff on the progress of ISRA activities and the BMP Plan<sup>3</sup>. Boeing is committed to restoring the ISRA areas immediately following cleanup activities and works closely with the Regional Board, DTSC, and the Expert Panel to ensure that restoration is comprehensive.

<sup>3</sup> Available at: [http://www.boeing.com/boeing/aboutus/environment/santa\\_susana/isra.page](http://www.boeing.com/boeing/aboutus/environment/santa_susana/isra.page)



#### **E. Northern Drainage BMPs**

Boeing has actively worked to restore the Northern Drainage following cleanup activities performed under the oversight of the DTSC and in accordance with the requirements of Regional Board Cleanup and Abatement Order No. R4-2007-0054. The restoration and mitigation activities proposed in the RMMP plan<sup>4</sup> were implemented in 2012.

Monitoring and maintenance of plantings and pole cuttings were conducted in the Third Quarter 2013. Water replenishment cartons were replenished to provide plants with a water source for three months and selective weeding was performed to remove invasive plants. Plant monitoring will continue for a minimum of five years and supplemental baseline geomorphic surveys will continue for two to three years depending on the need to reassess the sediment conditions in the drainage. Water replenishment cartons will be replaced until the plants are well established. Structural BMPs were also inspected monthly to evaluate conditions and performance during rain events.

#### **REASONABLE POTENTIAL ANALYSIS**

No stormwater discharges occurred from the Santa Susana Site and no new stormwater discharge data became available during Third Quarter 2013. A reasonable potential analysis was therefore not triggered and reasonable potential analysis tables not included in this report.

#### **DATA VALIDATION AND QUALITY CONTROL**

In accordance with current federal and state Environmental Protection Agency guidelines and procedures, or as specified in the NPDES Monitoring and Reporting Program, chemical and radiological analyses of water samples were completed at a State of California-certified laboratory. Data validation was performed on the analytical results and quality control elements were found to be within acceptable limits for the analytical methods reported, except as noted on the analytical summary tables. As noted above, measures were implemented by the analytical laboratory to monitor and/or evaluate low level detections, to analyze for interferences, and to ensure that cross contamination did not occur. Laboratory analytical reports, including validation reports and notes, are included in Appendix D. Attachment H of the NPDES Permit issued to the Santa Susana Site presents the State Board minimum levels (MLs) for use in reporting and determining compliance with NPDES Permit limits.

The analytical laboratory achieved these MLs for this reporting period when technically possible. When elevated laboratory reporting limits (RLs) were noted, the laboratory maximum detectable limits (MDLs) remained below the State of California MLs. However, some constituents' daily MDLs in the NPDES Permit are less than their respective MLs, and less than the RL. In cases where the NPDES Permit limit is less than the RL and ML, the RL was used to determine compliance. The specific constituents that have NPDES daily maximum or monthly average Permit limits that are less than the RL and ML are: mercury, bis(2-ethylhexyl)phthalate, polychlorinated biphenyls (PCBs) (Aroclor congeners), chlordane, Dichlorodiphenyldichloroethane (DDD), Dichlorodiphenyldichloroethylene (DDE),

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<sup>4</sup> Available at: [http://www.boeing.com/aboutus/environment/santa\\_susana/tech\\_reports.html](http://www.boeing.com/aboutus/environment/santa_susana/tech_reports.html)

Dichlorodiphenyltrichloroethane (DDT), dieldrin, toxaphene, and chlorpyrifos. These compounds were either not a required analyte or not detected above the RL in all of the water samples collected during Third Quarter 2013.

#### **FACILITY CONTACT**

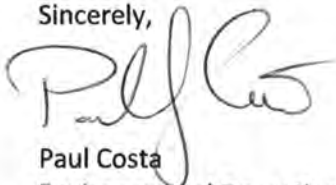
If there are any questions regarding this DMR or its enclosures, you may contact Mr. Paul Costa at (818) 466-8778.

#### **CERTIFICATION**

I certify under penalty of law that this document and all appendices were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for a knowing violation.

Executed on the 11th of November 2013 at The Boeing Company, Santa Susana Site

Sincerely,



Paul Costa  
Environmental Operations and Compliance Manager  
Santa Susana Field Laboratory  
Environment, Health and Safety

LB:jrc

#### **Enclosures:**

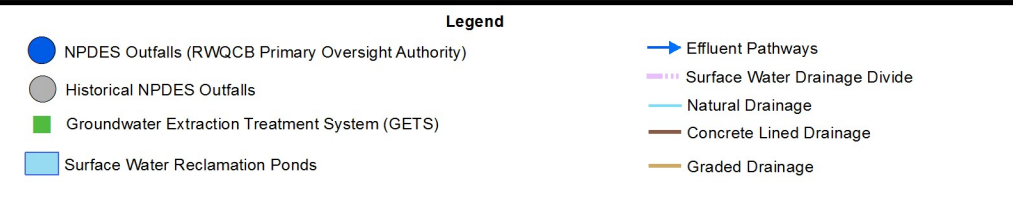
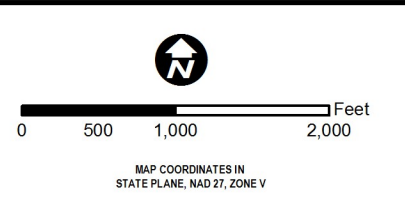
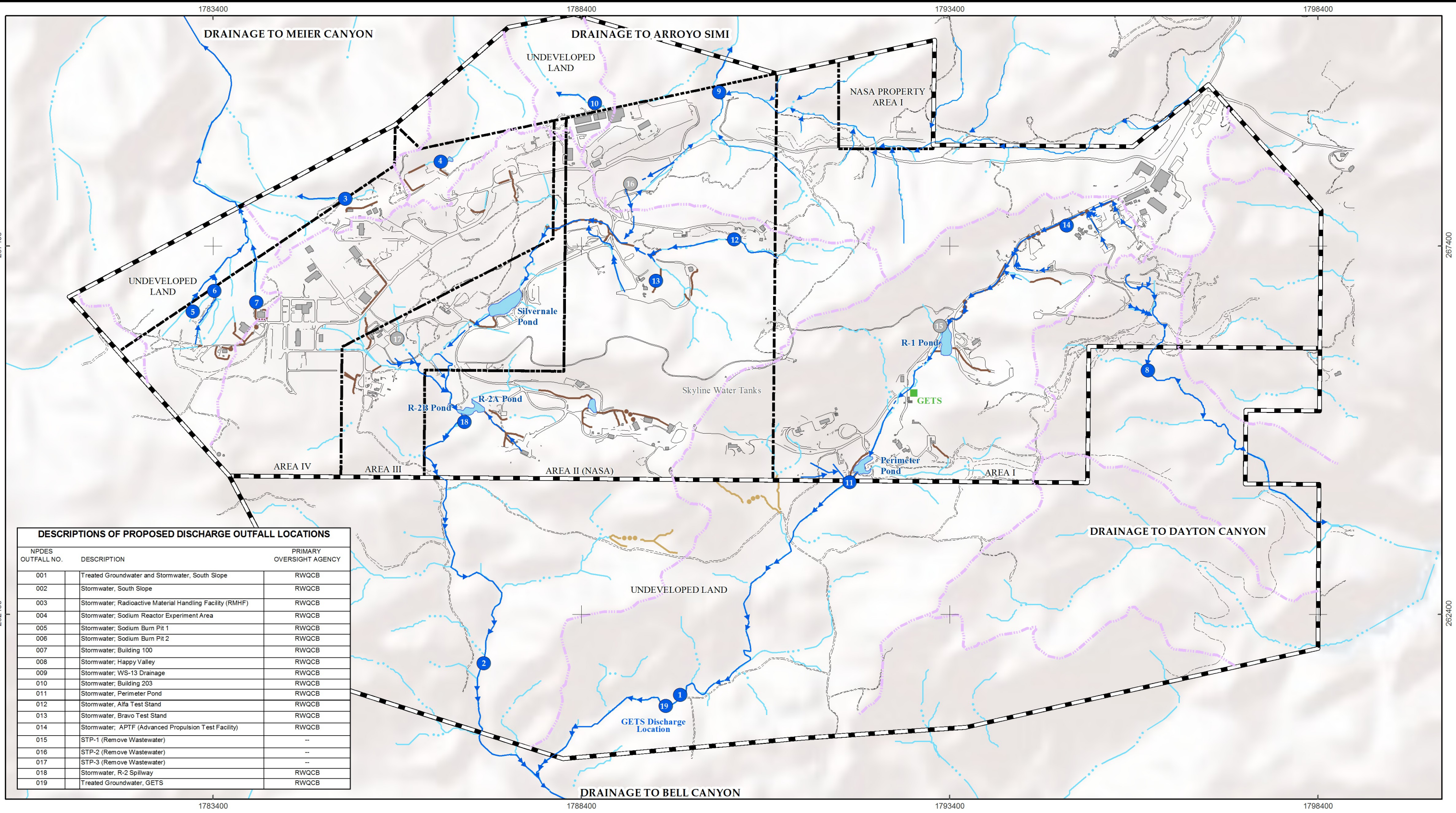
##### References

Figures 1 - Site Map with Outfall Locations and Storm Water Drainages  
Appendix A - Third Quarter 2013 Rainfall Data Summary  
Appendix B - Third Quarter 2013 Liquid Waste Shipment Summary Table  
Appendix C - Third Quarter 2013 Discharge Monitoring Data Summary Tables  
Appendix D - Third Quarter 2013 Analytical Laboratory Report, Chain of Custody, and Validation Report

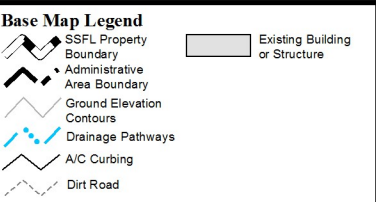
cc: Ms. Cassandra Owens, RWQCB  
Mr. Mark Malinowski, DTSC  
Mr. Robert Marshall, CSU Northridge Library  
Mr. Derek Stalcup, Simi Valley Library  
Ms. Lynn Light, Los Angeles Library Platt Branch

## References

1. Boeing, 2012. ISRA Performance Monitoring and Potential BMP Subarea Monitoring for the Outfalls 008 and 009 Watersheds, 2011/2012 Rainy Season, The Boeing Company, Santa Susana Field Laboratory, Canoga Park, California (Order No. R4-2010-0090; NPDES No. CA0001309, CI No. 6027; and California Water Code §13304 Order; No. CA0001309, CI No. 1111, Site ID No. 2040109). August 31.
2. Geosyntec and the Expert Panel, 2011. 2011 BMP Plan Addendum, The Boeing Company, Santa Susana Field Laboratory, Canoga Park, Canoga Park, California (Order No. R4-2010-0090; NPDES No. CA0001309, CI No. 6027). September 28.
3. Geosyntec and the Expert Panel, 2012. 2012 BMP Plan Addendum, The Boeing Company, Santa Susana Field Laboratory, Canoga Park, Canoga Park, California (Order No. R4-2010-0090; NPDES No. CA0001309, CI No.6027). September 28.
4. MWH Americas, Inc. et al, 2010. Best Management Practices (BMP) Plan, Outfalls 008 and 009 Watersheds, The Boeing Company, Santa Susana Field Laboratory, Canoga Park, California (Order No. R4-2010-0090; NPDES No. CA0001309, CI No. 6027). October 14.



## NPDES Permit Compliance 2nd Quarter 2013 Discharge Monitoring Report



**APPENDIX A**

**Third Quarter 2013 Rainfall Data Summary**









**APPENDIX B**

**Third Quarter 2013 Liquid Waste Shipment Summary Tables**

**TABLE B-1**  
 THIRD QUARTER 2013 LIQUID WASTE SHIPMENT SUMMARY TABLE  
 NPDES PERMIT CA0001309  
 THE BOEING COMPANY  
 SANTA SUSANA FIELD LABORATORY

| DATE SHIPPED | MANIFEST TRACKING NUMBER | TYPE OF LIQUID  | QTY. | UNITS | TRANSPORTER  | DESTINATION  |
|--------------|--------------------------|---|------|-------|--|--|
| 7/10/2013    | 006635328FLE             | HAZARDOUS WASTE LIQUID<br>(CARBON, TRICHLOROETHYLENE)                           | 1075 | P     | Clean Harbors Environmental Services Inc<br>1737 East Denni Street, Wilmington, CA 90744 | Clean Harbors Deer Park LLC<br>2027 Independence Parkview South, La Porte, TX 77571      |
| 7/10/2013    | 006635329FLE             | WASTE POTASSIUM PERMANGANATE  | 5182 | P     |  | Clean Harbors Environmental Services Inc<br>1737 East Denni Street, Wilmington, CA 90744 |
|              |                          | WASTE POTASSIUM PERMANGANATE  | 436  | P     |  |  |
| 7/17/2013    | 006514690FLE             | HAZARDOUS WASTE LIQUID<br>(CARBON, TRICHLOROETHYLENE)                           | 790  | P     |  | Clean Harbors Deer Park LLC<br>2027 Independence Parkview South, La Porte, TX 77571      |
| 7/17/2013    | 006514693FLE             | HAZARDOUS WASTE LIQUID (TRICHLOROETHYLENE, MUD)                                 | 932  | P     |  | Clean Harbors Aragonite LLC<br>11600 North Aptus Road, Grantsville, UT 84029             |
|              |                          | HAZARDOUS WASTE LIQUID (TRICHLOROETHYLENE, MUD)                                 | 490  | P     |  |  |
| 7/24/2013    | 006514713FLE             | HAZARDOUS WASTE LIQUID (TRICHLOROETHYLENE)                                      | 4520 | G     |  | Siemens Water Technologies, LLC<br>5375 South Boyle Avenue, Los Angeles, CA 90058        |
| 7/24/2013    | 006514717FLE             | NON-RCRA HAZARDOUS WASTE LIQUIDS<br>(NON PCB BALLASTS)                          | 392  | P     |  | Clean Harbors Environmental Services Inc<br>1737 East Denni Street, Wilmington, CA 90744 |
| 7/24/2013    | 006514720FLE             | WASTE CORROSIVE LIQUIDS, TOXIC<br>(SODIUM HYDROXIDE, SODIUM CYANIDE)            | 6    | P     |  | Clean Harbors Environmental Services Inc<br>1737 East Denni Street, Wilmington, CA 90744 |
|              |                          | WASTE CORROSIVE LIQUID, ACIDIC, INORGANIC<br>(HYDROCHLORIC ACID, SULFURIC ACID) | 12   | P     |  |  |
|              |                          | NON-RCRA HAZARDOUS WASTE LIQUIDS<br>(DEBRIS, SULFURIC ACID)                     | 9    | P     |  |  |
| 7/24/2013    | 006514722FLE             | NON-RCRA HAZARDOUS WASTE LIQUIDS (OIL, WATER)                                   | 5    | P     |  | Clean Harbors Buttonwillow LLC<br>2500 West Lokern Road, Buttonwillow, CA 93206          |
| 8/29/2013    | 010392860JJK             | NON-RCRA HAZARDOUS WASTE LIQUIDS (OIL, WATER)                                   | 1564 | P     |  | Clean Harbors Environmental Services Inc<br>1737 East Denni Street, Wilmington, CA 90744 |
| 8/29/2013    | 010392861JJK             | WASTE CORROSIVE LIQUIDS, TOXIC<br>(SODIUM HYDROXIDE, SODIUM CYANIDE)            | 12   | P     |  | Clean Harbors Environmental Services Inc<br>1737 East Denni Street, Wilmington, CA 90744 |
|              |                          | WASTE SODIUM HYDROXIDE SOLUTION   | 7    | P     |  |  |
|              |                          | NON-RCRA HAZARDOUS WASTE LIQUIDS<br>(IRON REAGENT, WATER)                       | 15   | P     |  |  |
|              |                          | NON-RCRA HAZARDOUS WASTE LIQUIDS<br>(DEBRIS, SULFURIC ACID)                     | 68   | P     |  |  |
| 8/29/2013    | 010392862JJK             | WASTE TOXIC LIQUIDS, ORGANIC<br>(CHROMIUM, PETROLEUM, HYDROCARBON)              | 17   | P     |  | Clean Harbors Environmental Services Inc<br>1737 East Denni Street, Wilmington, CA 90744 |
|              |                          | WASTE TOXIC LIQUIDS, ORGANIC<br>(METHANOL, TRICHLOROETHYLENE)                   | 11   | P     |  |  |
|              |                          | NON-RCRA HAZARDOUS WASTE LIQUIDS (OIL, WATER)                                   | 72   | P     |  |  |
|              |                          | NON-RCRA HAZARDOUS WASTE LIQUIDS (OIL, WATER)                                   | 60   | P     |  |  |
|              |                          | NON-RCRA HAZARDOUS WASTE LIQUIDS<br>(NON PCB BALLASTS)                          | 393  | P     |  |  |
| 9/10/2013    | 10392884JJK              | HAZARDOUS WASTE LIQUID (TRICHLOROETHYLENE, MUD)                                 | 46   | P     | Clean Harbors Environmental Services Inc<br>1737 East Denni Street, Wilmington, CA 90744 |  |
|              |                          | HAZARDOUS WASTE LIQUID (TRICHLOROETHYLENE, WATER)                               | 2400 | P     |  |  |
|              |                          | NON-RCRA HAZARDOUS WASTE LIQUIDS (OIL, WATER)                                   | 7    | P     |  |  |
| 9/18/2013    | 010392826JJK             | HAZARDOUS WASTE LIQUID (TRICHLOROETHYLENE)                                      | 16   | P     | Clean Harbors Environmental Services Inc<br>1737 East Denni Street, Wilmington, CA 90744 |  |
|              |                          | NON-RCRA HAZARDOUS WASTE LIQUID<br>(DEBRIS, SULFURIC ACID)                      | 37   | P     |  |  |
| 9/18/2013    | 010392827JJK             | HAZARDOUS WASTE LIQUID (ACETONE, TCE)   | 111  | P     | Clean Harbors Environmental Services Inc<br>1737 East Denni Street, Wilmington, CA 90744 |  |
| 9/26/2013    | 010392829JJK             | HAZARDOUS WASTE LIQUID (ACETONE, TCE)   | 2207 | P     | Clean Harbors Environmental Services Inc<br>1737 East Denni Street, Wilmington, CA 90744 |  |

**TABLE B-1**  
 THIRD QUARTER 2013 LIQUID WASTE SHIPMENT SUMMARY TABLE  
 NPDES PERMIT CA0001309  
 THE BOEING COMPANY  
 SANTA SUSANA FIELD LABORATORY

| DATE SHIPPED | JOB NUMBER | TYPE OF LIQUID   | QTY. | UNITS | TRANSPORTER  | DESTINATION  |
|--------------|------------|--|------|-------|--|--------------|
| 7/2/2013     | 33285      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     | Southwest Processors Inc.<br>4120 Bandini Blvd. Vernon, CA 90058 | LACSD Saugus |
| 7/2/2013     | 33286      | WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT (STP #2) | 5000 | G     |  |              |
| 7/2/2013     | 33287      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 7/9/2013     | 34114      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 7/9/2013     | 34115      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 7/9/2013     | 34116      | WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT (STP #2) | 5000 | G     |  |              |
| 7/16/2013    | 34139      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 7/16/2013    | 34140      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #2)  | 5000 | G     |  |              |
| 7/30/2013    | 34208      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 7/30/2013    | 34209      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 7/30/2013    | 34210      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #2)  | 5000 | G     |  |              |
| 8/6/2013     | 33344      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #2)  | 5000 | G     |  |              |
| 8/6/2013     | 33345      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 8/6/2013     | 33346      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 8/13/2013    | 33381      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 8/13/2013    | 33382      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 8/13/2013    | 33383      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #2)  | 5000 | G     |  |              |
| 8/20/2013    | 33409      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 8/20/2013    | 33410      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 8/20/2013    | 33411      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 8/27/2013    | 33444      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 8/27/2013    | 33445      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #2)  | 5000 | G     |  |              |
| 8/27/2013    | 33446      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 9/3/2013     | 33469      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #2)  | 5000 | G     |  |              |
| 9/3/2013     | 33470      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 9/3/2013     | 33471      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 9/10/2013    | 33506      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #2)  | 5000 | G     |  |              |
| 9/10/2013    | 33507      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 9/10/2013    | 33508      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 9/17/2013    | 34244      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 9/17/2013    | 34245      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 9/17/2013    | 34246      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 9/24/2013    | 34279      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #2)  | 5000 | G     |  |              |
| 9/24/2013    | 34280      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |
| 9/24/2013    | 34281      | WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)  | 5000 | G     |  |              |

G = Gallons  
 P = Pounds

**APPENDIX C**

**Third Quarter 2013 Discharge Monitoring Data Summary Tables**

**THIRD QUARTER 2013  
REPORTING SUMMARY NOTES  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**Notes:**

1. TCDD TEQs for the purpose of determining permit compliance are the sum of the products of the detected dioxin congener concentration multiplied by that congener's toxicity equivalency factor (TEF) and bioaccumulation equivalency factor (BEF). The resulting compliance TCDD TEQ does not include those congener concentrations that are reported as DNQ, as specified on Page 37 of the NPDES permit.
2. pH was determined with a field instrument and was noted as such. These results were not validated.
3. The NPDES monthly average permit limit for mercury of 0.05 µg/L (Outfall 019) is not achievable by the laboratory; therefore, the laboratory MDL of 0.10 µg/L was used to determine compliance.
4. All of the following abbreviations and/or notes may not occur on every table.

---

|              |  |
|--------------|--|
| -92.9 +/-200 | A negative radiochemical analytical result indicates the count rate of the sample was less than the background condition   |
| \$           | reported result or other information was incorrectly reported by the laboratory; result was corrected by the data validator  |
| --           | based on validation of the data, a qualifier was not required  |
| -/-          | no permit limit established for daily maximum or monthly average   |
| <(value)     | analyte not detected at a concentration greater than or equal to the DL, MDL, or RL (see laboratory report for specific detail)  |
| *            | result not validated   |
| *1           | improper preservation of sample  |
| *2           | the ICP/MS ppb check standard was recovered above the control limit; therefore, the constituent detected was qualified as estimated (J)  |
| *3           | initial and or continuing calibration recoveries were outside acceptable control limits  |
| *5           | blank spike/blank spike duplicate relative percent difference was outside the control limit  |
| *10          | value was estimated detect or estimated non detect (J,UJ) due to deficiencies in quantitation of the constituent including constituents reported by the laboratory as Estimated Maximum Possible Concentration (EMPC) values |
| *11          | no calibration was performed for this compound; result is reported as a tentatively identified compound (TIC)  |

**THIRD QUARTER 2013  
REPORTING SUMMARY NOTES  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

|           |  |
|-----------|--|
| * II *III | Unusual problems found with the data that have been described in Section II, "sample management", or Section III, "method analysis". The number following the asterisk (*) will indicated the validation report section where a description of the problem can be found. |
| ANR       | analysis not required; e.g., constituent or outfall was not required by the permit to be sampled and analyzed over the reporting period (annual, semi-annual, etc.)  |
| B         | laboratory method blank contamination  |
| BA        | relative percent difference out of control   |
| BEF       | bioaccumulation equivalency factor   |
| BU        | analyzed out of holding time   |
| BV        | sample received after holding time expired   |
| C         | calibration %RSD or %D were noncompliant   |
| C5        | Calibration verification %R was outside method control limits  |
| %D        | percent difference between the initial and continuing calibration relative response factors  |
| deg F     | degrees Fahrenheit   |
| DL        | detection limit  |
| DNQ       | detected but not quantified (constituent value greater than or equal to the laboratory method detection limit and less then the laboratory reporting limit)  |
| E         | duplicates show poor agreement   |
| ft/sec    | feet per second  |
| H         | holding time was exceeded  |
| I         | ICP interference check solution results were unsatisfactory  |
| J         | estimated value, result lower than the detection limit   |
| J, DX     | estimated value, value < lowest standard (MQL), but > than MDL   |
| K         | The sample dilution's set-up did not meet the oxygen depletion criteria of at least 2 mg/l. Therefore, the reported result is an estimated value only.   |
| L2        | the laboratory control sample %R was below the method control limits   |
| L         | laboratory control sample %R was outside control limits  |
| LOD       | limit of detection   |
| LQ        | LCS/LCSD recovery above method control limits  |
| M1        | matrix spike (MS) and/or MS duplicate were above the acceptance limits due to sample matrix interference   |
| M2        | the MS and/or MS duplicate were below the acceptance limits due to sample matrix interference  |
| MDA       | minimum detectable activity  |
| MDL       | method detection limit   |
| MGD       | million gallons per day  |
| MHA*      | Due to high level of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information.   |

**THIRD QUARTER 2013  
REPORTING SUMMARY NOTES  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

|                 |   |
|-----------------|---|
| mg/L            | milligrams per liter  |
| ml/L/hr         | milliliters per liter per hour  |
| MPN/100 ml      | most probable number per 100 milliliters  |
| NA              | not applicable; no permit limit established for the constituent and/or outfall  |
| ND              | analyte value less than the LOD or MDL  |
| NM              | not measured or determined  |
| NTU             | nephelometric turbidity unit  |
| pCi/L           | picocuries per liter  |
| Q               | matrix spike recovery outside of control limits   |
| R               | as a validation qualifier, results are rejected; the presence or absence of analyte cannot be verified  |
| R               | (reason code in parentheses) %R for calibration not within control limits   |
| RL              | laboratory reporting limit  |
| RL-1            | reporting limit raised due to sample matrix effects   |
| %RSD            | percent relative standard deviation   |
| S               | surrogate recovery was outside control limits   |
| TEQ             | toxic equivalent  |
| T               | presumed contamination, as indicated by a detect in the trip blank  |
| TU <sub>c</sub> | toxicity units (chronic)  |
| U               | result not detected   |
| µg/L            | micrograms per liter  |
| UJ              | result not detected at the estimated reporting limit  |
| umhos/cm        | micromhos per centimeter  |
| WHO TEF         | World Health Organization toxic equivalency factor  |
| ^               | analysis not completed due to hold time exceedence or insufficient sample volume  |
| #               | Per ORDER NO. R4-2010-0090 page 23 Footnote 1. The effluent limitations for total suspended solids and settleable solids are not applicable for discharges during wet weather. During wet weather flow, a discharge event is greater than 0.1 inches of rainfall in a 24-hour period. No more than one sample per week need be obtained during extended periods of rainfall or the discharge of collected stormwater. A storm event must be preceded by at least 72 hours of dry weather. |
| (4.0)3.1/-      | Represents (Dry Weather Limit) Wet Weather Limit / Monthly Average Limit.   |

**ARROYO SIMI (Frontier Park Receiving Water)**

**THIRD QUARTER 2013 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**July 1 through September 30, 2013**

| ANALYTE        | UNITS      | Permit Limit<br>Daily<br>Max/Monthly<br>Avg | 8/20/2013      |             |                         |
|----------------|------------|---|----------------|-------------|-------------------------|
|                |            |   | SAMPLE<br>TYPE | RESULT      | VALIDATION<br>QUALIFIER |
| Water Velocity | ft/sec     | -/-   | Meas           | 0.033       | *                       |
| pH (Field)     | pH Units   | 6.5-8.5/-                                   | Grab           | 7.15        | *                       |
| Temperature    | F          | -/-   | Grab           | 64.33       | *                       |
| E. Coli        | MPN/100 ml | 235/-                                       | ANR            | ANR         | ANR                     |
| Fecal Coliform | MPN/100 ml | 400/-                                       | ANR            | ANR         | ANR                     |
| Hardness       | mg/L       | -/-   | Grab           | 680         | --                      |
| 4,4'-DDD       | ug/L       | 0.0014/-                                    | Grab           | ND < 0.0038 | *                       |
| 4,4'-DDE       | ug/L       | 0.001/-                                     | Grab           | ND < 0.0029 | *                       |
| 4,4'-DDT       | ug/L       | 0.001/-                                     | Grab           | ND < 0.0038 | *                       |
| Aroclor 1016   | ug/L       | 0.0003/-                                    | Grab           | ND < 0.24   | *                       |
| Aroclor 1221   | ug/L       | 0.0003/-                                    | Grab           | ND < 0.24   | *                       |
| Aroclor 1232   | ug/L       | 0.0003/-                                    | Grab           | ND < 0.24   | *                       |
| Aroclor 1242   | ug/L       | 0.0003/-                                    | Grab           | ND < 0.24   | *                       |
| Aroclor 1248   | ug/L       | 0.0003/-                                    | Grab           | ND < 0.24   | *                       |
| Aroclor 1254   | ug/L       | 0.0003/-                                    | Grab           | ND < 0.24   | *                       |
| Aroclor 1260   | ug/L       | 0.0003/-                                    | Grab           | ND < 0.24   | *                       |
| Chlordane      | ug/L       | 0.001/-                                     | Grab           | ND < 0.077  | *                       |
| Chlorpyrifos   | ug/L       | 0.02/-                                      | Grab           | ND < 0.078  | *                       |
| Diazinon       | ug/L       | 0.16/-                                      | Grab           | ND < 0.098  | *                       |
| Dieldrin       | ug/L       | 0.0002/-                                    | Grab           | ND < 0.0019 | *                       |
| Toxaphene      | ug/L       | 0.0003/-                                    | Grab           | ND < 0.24   | *                       |



**APPENDIX D**

**Third Quarter 2013 Analytical Laboratory Report,  
Chain of Custody, and Validation Report**

**APPENDIX D**

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**Section 1 - Arroyo Simi-Frontier Park – August 20, 2013 - MEC<sup>x</sup> Data Validation Report**

**Section 2 - Arroyo Simi-Frontier Park – August 20, 2013 –  
Test America Analytical Laboaatory Reports**

## **APPENDIX D**

### **Section 1**

**Arroyo Simi-Frontier Park – August 30, 2013  
MEC<sup>x</sup> Data Validation Report**



# DATA VALIDATION REPORT

Boeing SSFL NPDES

SAMPLE DELIVERY GROUP: 440-54918-1

Prepared by

MEC<sup>x</sup>, LP  
12269 East Vassar Drive  
Aurora, CO 80014

## I. INTRODUCTION

Task Order Title: Boeing SSFL NPDES  
Contract Task Order: 1261.100D.00  
Sample Delivery Group: 440-54918-1  
Project Manager: B. Kelly  
Matrix: Water  
QC Level: IV  
No. of Samples: 1  
No. of Reanalyses/Dilutions: 0  
Laboratory: TestAmerica-Irvine

**Table 1. Sample Identification**

| Client ID      | Laboratory ID | Sub-Laboratory ID | Matrix | Collected            | Method   |
|----------------|---------------|-------------------|--------|----------------------|----------|
| Arroyo Simi-FP | 440-54918-1   | N/A               | Water  | 8/20/2013 9:45:00 AM | SM 2340B |

## II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of 4°C ±2°C. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact.

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### Data Qualifier Reference Table

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| Qualifier | Organics  | Inorganics  |
|-----------|---|---|
| U         | The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.  | The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only. |
| J         | The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  | The associated value is an estimated quantity.  |
| N         | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."   | Not applicable.   |
| NJ        | The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.   | Not applicable.   |
| UJ        | The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. | The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.  |
| R         | The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.  | The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.  |

---

### Qualification Code Reference Table

| Qualifier | Organics   | Inorganics  |
|-----------|--|---|
| H         | Holding times were exceeded.   | Holding times were exceeded.  |
| S         | Surrogate recovery was outside QC limits.                                      | The sequence or number of standards used for the calibration was incorrect                    |
| C         | Calibration %RSD or %D was noncompliant.                                       | Correlation coefficient is <0.995.  |
| R         | Calibration RRF was <0.05.   | %R for calibration is not within control limits.  |
| B         | Presumed contamination as indicated by the preparation (method) blank results. | Presumed contamination as indicated by the preparation (method) or calibration blank results. |
| L         | Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits. | Laboratory Control Sample %R was not within control limits.                                   |
| Q         | MS/MSD recovery was poor or RPD high.  | MS recovery was poor.   |
| E         | Not applicable.  | Duplicates showed poor agreement.   |
| I         | Internal standard performance was unsatisfactory.                              | ICP ICS results were unsatisfactory.  |
| A         | Not applicable.  | ICP Serial Dilution %D were not within control limits.  |
| M         | Tuning (BFB or DFTPP) was noncompliant.  | Not applicable.   |
| T         | Presumed contamination as indicated by the trip blank results.                 | Not applicable.   |
| +         | False positive – reported compound was not present.                            | Not applicable.   |
| -         | False negative – compound was present but not reported.                        | Not applicable.   |
| F         | Presumed contamination as indicated by the FB or ER results.                   | Presumed contamination as indicated by the FB or ER results.                                  |
| \$        | Reported result or other information was incorrect.                            | Reported result or other information was incorrect.   |
| ?         | TIC identity or reported retention time has been changed.                      | Not applicable.   |

**Qualification Code Reference Table Cont.**

---

|           |  |  |
|-----------|--|--|
| D         | The analysis with this flag should not be used because another more technically sound analysis is available.   | The analysis with this flag should not be used because another more technically sound analysis is available.   |
| P         | Instrument performance for pesticides was poor.  | Post Digestion Spike recovery was not within control limits.   |
| DNQ       | The reported result is above the method detection limit but is less than the reporting limit.  | The reported result is above the method detection limit but is less than the reporting limit.  |
| *II, *III | Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. | Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found. |

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### III. Method Analyses

#### A. EPA METHOD SM2340B—Hardness

Reviewed By: P. Meeks

Date Reviewed: October 3, 2013

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC<sup>x</sup> Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0)*, *EPA Methods 200.7 and SM2340B*, and the *National Functional Guidelines for Inorganic Data Review (7/02)*.

- Holding Times: The analytical holding time, six months for ICP metals, was met.
- Calibration: Calibration criteria were met. All initial and continuing calibration recoveries were within 90-110%. CRDL recoveries were within the control limits of 70-130%.
- Blanks: The method blank and CCBs had no applicable detects.
- Interference Check Samples: Recoveries were within the method-established control limits.
- Blank Spikes and Laboratory Control Samples: Recoveries were within method-established control limits.
- Laboratory Duplicates: No laboratory duplicate analysis was performed on the sample in this SDG.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG but were not reported by the laboratory and were therefore not assessed.
- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.
- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either “J+” or “J-”; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, “J,” and coded with “DNQ,” in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
- Field Duplicates: There were no field duplicate samples identified for this SDG.

---

# Validated Sample Result Forms 440-54918-1

---

*Analysis Method*    *SM 2340B*

---

**Sample Name**    Arroyo Simi-FP                      **Matrix Type:**    Water                      **Validation Level:**    IV

**Lab Sample Name:**    440-54918-1                      **Sample Date:**    8/20/2013 9:45:00 AM

---

| <b>Analyte</b>     | <b>CAS No</b> | <b>Result Value</b> | <b>RL</b> | <b>MDL</b> | <b>Result Units</b> | <b>Lab Qualifier</b> | <b>Validation Qualifier</b> | <b>Validation Notes</b> |
|--------------------|---------------|---------------------|-----------|------------|---------------------|----------------------|-----------------------------|-------------------------|
| Hardness, as CaCO3 | STL00009      | 680                 | 0.33      | 0.17       | mg/L                |                      |                             |                         |

---

**APPENDIX D**

**Section 2**

**Arroyo Simi-Frontier Park – August 30, 2013  
Test America Analytical Laboratory Report**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Irvine

17461 Derian Ave

Suite 100

Irvine, CA 92614-5817

Tel: (949)261-1022

TestAmerica Job ID: 440-54918-1

Client Project/Site: Quarterly Arroyo Simi-Frontier Park

For:

MWH Americas Inc

618 Michillinda Avenue, Suite 200

Arcadia, California 91007

Attn: Bronwyn Kelly



Authorized for release by:

9/4/2013 4:15:45 PM

Debby Wilson, Project Manager I

[debby.wilson@testamericainc.com](mailto:debby.wilson@testamericainc.com)

### LINKS

Review your project  
results through

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Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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I certify under penalty of perjury that the information contained in this report and all attachments was produced in accordance with the indicated methods and laboratory standard operating procedures, except as noted, and are complete and accurate to the best of my knowledge and belief. Subcontract laboratory reports that are attached have been evaluated for completeness and quality control acceptability.



---

Debby Wilson  
Project Manager I  
9/4/2013 4:15:45 PM



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# Sample Summary

Client: MWH Americas Inc  
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-54918-1

---

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 440-54918-1   | Arroyo Simi-FP   | Water  | 08/20/13 09:45 | 08/20/13 14:50 |

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# Case Narrative

Client: MWH Americas Inc  
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-54918-1

**Job ID: 440-54918-1**

**Laboratory: TestAmerica Irvine**

## Narrative

**Job Narrative  
440-54918-1**

### Comments

No additional comments.

### Receipt

The sample was received on 8/20/2013 2:50 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.3° C.

### GC/MS Semi VOA

Method(s) 525.2: The laboratory control sample (LCS) for batch 125998 recovered outside control limits for the following analytes: Chlorpyrifos. This analyte was biased high in the LCS and was not detected in the associated sample; therefore, the data have been reported.

Method(s) 525.2: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 125998. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No other analytical or quality issues were noted.

### GC Semi VOA

Method(s) 608: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 127348. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch. (LCS 440-127348/4-A)

Method(s) 608: Surrogate was not spiked in the LCS. The LCSD was spiked with surrogate with good recovery. Target analytes had recoveries within acceptance limits for both LCS/LCD. (LCS 440-127348/2-A)

No other analytical or quality issues were noted.

### Metals

No analytical or quality issues were noted.

### Organic Prep

No analytical or quality issues were noted.

# Client Sample Results

Client: MWH Americas Inc  
 Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-54918-1

**Client Sample ID: Arroyo Simi-FP**

**Lab Sample ID: 440-54918-1**

**Date Collected: 08/20/13 09:45**

**Matrix: Water**

**Date Received: 08/20/13 14:50**

**Method: 525.2 - Semivolatile Organic Compounds (GC/MS)**

| Analyte                     | Result    | Qualifier | RL       | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|-------|------|---|----------------|----------------|---------|
| Chlorpyrifos                | ND        | LQ        | 0.98     | 0.078 | ug/L |   | 08/21/13 09:13 | 08/21/13 19:49 | 1       |
| Diazinon                    | ND        |           | 0.24     | 0.098 | ug/L |   | 08/21/13 09:13 | 08/21/13 19:49 | 1       |
| Surrogate                   | %Recovery | Qualifier | Limits   |       |      |   | Prepared       | Analyzed       | Dil Fac |
| 1,3-Dimethyl-2-nitrobenzene | 103       |           | 70 - 130 |       |      |   | 08/21/13 09:13 | 08/21/13 19:49 | 1       |
| Perylene-d12                | 97        |           | 70 - 130 |       |      |   | 08/21/13 09:13 | 08/21/13 19:49 | 1       |
| Triphenylphosphate          | 112       |           | 70 - 130 |       |      |   | 08/21/13 09:13 | 08/21/13 19:49 | 1       |

**Method: 608 - Organochlorine Pesticides in Water**

| Analyte               | Result    | Qualifier | RL       | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------|-----------|-----------|----------|--------|------|---|----------------|----------------|---------|
| Chlordane (technical) | ND        |           | 0.096    | 0.077  | ug/L |   | 08/27/13 11:25 | 08/28/13 16:56 | 1       |
| Dieldrin              | ND        |           | 0.0048   | 0.0019 | ug/L |   | 08/27/13 11:25 | 08/28/13 16:56 | 1       |
| Toxaphene             | ND        |           | 0.48     | 0.24   | ug/L |   | 08/27/13 11:25 | 08/28/13 16:56 | 1       |
| 4,4'-DDD              | ND        |           | 0.0048   | 0.0038 | ug/L |   | 08/27/13 11:25 | 08/28/13 16:56 | 1       |
| 4,4'-DDE              | ND        |           | 0.0048   | 0.0029 | ug/L |   | 08/27/13 11:25 | 08/28/13 16:56 | 1       |
| 4,4'-DDT              | ND        |           | 0.0096   | 0.0038 | ug/L |   | 08/27/13 11:25 | 08/28/13 16:56 | 1       |
| Surrogate             | %Recovery | Qualifier | Limits   |        |      |   | Prepared       | Analyzed       | Dil Fac |
| Tetrachloro-m-xylene  | 51        |           | 35 - 115 |        |      |   | 08/27/13 11:25 | 08/28/13 16:56 | 1       |

**Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)**

| Analyte                       | Result    | Qualifier | RL       | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------|-----------|----------|------|------|---|----------------|----------------|---------|
| Aroclor 1016                  | ND        |           | 0.48     | 0.24 | ug/L |   | 08/27/13 11:25 | 08/27/13 20:03 | 1       |
| Aroclor 1221                  | ND        |           | 0.48     | 0.24 | ug/L |   | 08/27/13 11:25 | 08/27/13 20:03 | 1       |
| Aroclor 1232                  | ND        |           | 0.48     | 0.24 | ug/L |   | 08/27/13 11:25 | 08/27/13 20:03 | 1       |
| Aroclor 1242                  | ND        |           | 0.48     | 0.24 | ug/L |   | 08/27/13 11:25 | 08/27/13 20:03 | 1       |
| Aroclor 1248                  | ND        |           | 0.48     | 0.24 | ug/L |   | 08/27/13 11:25 | 08/27/13 20:03 | 1       |
| Aroclor 1254                  | ND        |           | 0.48     | 0.24 | ug/L |   | 08/27/13 11:25 | 08/27/13 20:03 | 1       |
| Aroclor 1260                  | ND        |           | 0.48     | 0.24 | ug/L |   | 08/27/13 11:25 | 08/27/13 20:03 | 1       |
| Surrogate                     | %Recovery | Qualifier | Limits   |      |      |   | Prepared       | Analyzed       | Dil Fac |
| DCB Decachlorobiphenyl (Surr) | 80        |           | 45 - 120 |      |      |   | 08/27/13 11:25 | 08/27/13 20:03 | 1       |

**Method: SM 2340B - Total Hardness (as CaCO3) by calculation**

| Analyte            | Result | Qualifier | RL   | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------------|--------|-----------|------|------|------|---|----------|----------------|---------|
| Hardness, as CaCO3 | 680    |           | 0.33 | 0.17 | mg/L |   |          | 08/21/13 11:22 | 1       |

# Method Summary

Client: MWH Americas Inc  
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-54918-1

| Method   | Method Description                                    | Protocol  | Laboratory |
|----------|---|-----------|------------|
| 525.2    | Semivolatile Organic Compounds (GC/MS)                | EPA       | TAL IRV    |
| 608      | Organochlorine Pesticides in Water                    | 40CFR136A | TAL IRV    |
| 608      | Polychlorinated Biphenyls (PCBs) (GC)                 | 40CFR136A | TAL IRV    |
| SM 2340B | Total Hardness (as CaCO <sub>3</sub> ) by calculation | SM        | TAL IRV    |

#### Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

#### Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# Lab Chronicle

Client: MWH Americas Inc  
 Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-54918-1

**Client Sample ID: Arroyo Simi-FP**

**Lab Sample ID: 440-54918-1**

**Date Collected: 08/20/13 09:45**

**Matrix: Water**

**Date Received: 08/20/13 14:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 525.2        |     |            | 1025 mL        | 1 mL         | 125998       | 08/21/13 09:13       | CN      | TAL IRV |
| Total/NA  | Analysis   | 525.2        |     | 1          |                |              | 126217       | 08/21/13 19:49       | CP      | TAL IRV |
| Total/NA  | Prep       | 608          |     |            | 1040 mL        | 2 mL         | 127348       | 08/27/13 11:25       | AC      | TAL IRV |
| Total/NA  | Analysis   | 608          |     | 1          |                |              | 127595       | 08/27/13 20:03       | JM      | TAL IRV |
| Total/NA  | Prep       | 608          |     |            | 1040 mL        | 2 mL         | 127348       | 08/27/13 11:25       | AC      | TAL IRV |
| Total/NA  | Analysis   | 608          |     | 1          |                |              | 127679       | 08/28/13 16:56       | KS      | TAL IRV |
| Total/NA  | Analysis   | SM 2340B     |     | 1          |                |              | 125050       | 08/21/13 11:22       | FR      | TAL IRV |

**Laboratory References:**

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



# QC Sample Results

Client: MWH Americas Inc  
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-54918-1

## Method: 525.2 - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 440-125998/1-A**

**Matrix: Water**

**Analysis Batch: 126217**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 125998**

| Analyte      | MB Result | MB Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------|-----------|--------------|------|-------|------|---|----------------|----------------|---------|
| Chlorpyrifos | ND        |              | 1.0  | 0.080 | ug/L |   | 08/21/13 09:13 | 08/21/13 17:59 | 1       |
| Diazinon     | ND        |              | 0.25 | 0.10  | ug/L |   | 08/21/13 09:13 | 08/21/13 17:59 | 1       |

| Surrogate                   | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------------|----------------|---------|
| 1,3-Dimethyl-2-nitrobenzene | 96           |              | 70 - 130 | 08/21/13 09:13 | 08/21/13 17:59 | 1       |
| Perylene-d12                | 89           |              | 70 - 130 | 08/21/13 09:13 | 08/21/13 17:59 | 1       |
| Triphenylphosphate          | 109          |              | 70 - 130 | 08/21/13 09:13 | 08/21/13 17:59 | 1       |

**Lab Sample ID: LCS 440-125998/2-A**

**Matrix: Water**

**Analysis Batch: 126217**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 125998**

| Analyte      | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|--------------|-------------|------------|---------------|------|---|------|----------|
| Chlorpyrifos | 5.00        | 7.53       | LQ            | ug/L |   | 151  | 70 - 130 |
| Diazinon     | 5.00        | 5.61       |               | ug/L |   | 112  | 70 - 130 |

| Surrogate                   | LCS %Recovery | LCS Qualifier | Limits   |
|-----------------------------|---------------|---------------|----------|
| 1,3-Dimethyl-2-nitrobenzene | 81            |               | 70 - 130 |
| Perylene-d12                | 97            |               | 70 - 130 |
| Triphenylphosphate          | 103           |               | 70 - 130 |

**Lab Sample ID: LCSD 440-125998/3-A**

**Matrix: Water**

**Analysis Batch: 126217**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 125998**

| Analyte      | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD | RPD Limit |
|--------------|-------------|-------------|----------------|------|---|------|----------|-----|-----------|
| Chlorpyrifos | 5.00        | 5.86        |                | ug/L |   | 117  | 70 - 130 | 25  | 30        |
| Diazinon     | 5.00        | 4.33        |                | ug/L |   | 87   | 70 - 130 | 26  | 30        |

| Surrogate                   | LCSD %Recovery | LCSD Qualifier | Limits   |
|-----------------------------|----------------|----------------|----------|
| 1,3-Dimethyl-2-nitrobenzene | 95             |                | 70 - 130 |
| Perylene-d12                | 96             |                | 70 - 130 |
| Triphenylphosphate          | 109            |                | 70 - 130 |

## Method: 608 - Organochlorine Pesticides in Water

**Lab Sample ID: MB 440-127348/1-A**

**Matrix: Water**

**Analysis Batch: 127679**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 127348**

| Analyte               | MB Result | MB Qualifier | RL     | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------|-----------|--------------|--------|--------|------|---|----------------|----------------|---------|
| Chlordane (technical) | ND        |              | 0.10   | 0.080  | ug/L |   | 08/27/13 11:25 | 08/28/13 15:13 | 1       |
| Dieldrin              | ND        |              | 0.0050 | 0.0020 | ug/L |   | 08/27/13 11:25 | 08/28/13 15:13 | 1       |
| Toxaphene             | ND        |              | 0.50   | 0.25   | ug/L |   | 08/27/13 11:25 | 08/28/13 15:13 | 1       |
| 4,4'-DDD              | ND        |              | 0.0050 | 0.0040 | ug/L |   | 08/27/13 11:25 | 08/28/13 15:13 | 1       |
| 4,4'-DDE              | ND        |              | 0.0050 | 0.0030 | ug/L |   | 08/27/13 11:25 | 08/28/13 15:13 | 1       |
| 4,4'-DDT              | ND        |              | 0.010  | 0.0040 | ug/L |   | 08/27/13 11:25 | 08/28/13 15:13 | 1       |

TestAmerica Irvine

# QC Sample Results

Client: MWH Americas Inc  
 Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-54918-1

## Method: 608 - Organochlorine Pesticides in Water (Continued)

**Lab Sample ID: MB 440-127348/1-A**  
**Matrix: Water**  
**Analysis Batch: 127679**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 127348**

| Surrogate            | MB MB     |           | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|----------------|----------------|---------|
|                      | %Recovery | Qualifier |          |                |                |         |
| Tetrachloro-m-xylene | 63        |           | 35 - 115 | 08/27/13 11:25 | 08/28/13 15:13 | 1       |

**Lab Sample ID: LCS 440-127348/2-A**  
**Matrix: Water**  
**Analysis Batch: 127679**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 127348**

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |       |
|----------|-------------|------------|---------------|------|---|------|--------------|-------|
|          |             |            |               |      |   |      | Dieldrin     | 0.500 |
| 4,4'-DDD | 0.500       | 0.444      |               | ug/L |   | 89   | 55 - 120     |       |
| 4,4'-DDE | 0.500       | 0.419      |               | ug/L |   | 84   | 50 - 120     |       |
| 4,4'-DDT | 0.500       | 0.452      |               | ug/L |   | 90   | 55 - 120     |       |

| Surrogate            | LCS LCS   |           | Limits   |
|----------------------|-----------|-----------|----------|
|                      | %Recovery | Qualifier |          |
| Tetrachloro-m-xylene | 0.6       | LG        | 35 - 115 |

**Lab Sample ID: LCSD 440-127348/3-A**  
**Matrix: Water**  
**Analysis Batch: 127679**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 127348**

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits |   | RPD |       |
|----------|-------------|-------------|----------------|------|---|------|--------------|---|-----|-------|
|          |             |             |                |      |   |      |              |   | RPD | Limit |
| Dieldrin | 0.500       | 0.420       |                | ug/L |   | 84   | 55 - 115     | 1 | 30  |       |
| 4,4'-DDD | 0.500       | 0.438       |                | ug/L |   | 88   | 55 - 120     | 1 | 30  |       |
| 4,4'-DDE | 0.500       | 0.430       |                | ug/L |   | 86   | 50 - 120     | 3 | 30  |       |
| 4,4'-DDT | 0.500       | 0.456       |                | ug/L |   | 91   | 55 - 120     | 1 | 30  |       |

| Surrogate            | LCSD LCSD |           | Limits   |
|----------------------|-----------|-----------|----------|
|                      | %Recovery | Qualifier |          |
| Tetrachloro-m-xylene | 64        |           | 35 - 115 |

## Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

**Lab Sample ID: MB 440-127348/1-A**  
**Matrix: Water**  
**Analysis Batch: 127595**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 127348**

| Analyte      | MB MB  |           | RL   | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|------|------|---|----------------|----------------|---------|
|              | Result | Qualifier |      |      |      |   |                |                |         |
| Aroclor 1016 | ND     |           | 0.50 | 0.25 | ug/L |   | 08/27/13 11:25 | 08/27/13 19:17 | 1       |
| Aroclor 1221 | ND     |           | 0.50 | 0.25 | ug/L |   | 08/27/13 11:25 | 08/27/13 19:17 | 1       |
| Aroclor 1232 | ND     |           | 0.50 | 0.25 | ug/L |   | 08/27/13 11:25 | 08/27/13 19:17 | 1       |
| Aroclor 1242 | ND     |           | 0.50 | 0.25 | ug/L |   | 08/27/13 11:25 | 08/27/13 19:17 | 1       |
| Aroclor 1248 | ND     |           | 0.50 | 0.25 | ug/L |   | 08/27/13 11:25 | 08/27/13 19:17 | 1       |
| Aroclor 1254 | ND     |           | 0.50 | 0.25 | ug/L |   | 08/27/13 11:25 | 08/27/13 19:17 | 1       |
| Aroclor 1260 | ND     |           | 0.50 | 0.25 | ug/L |   | 08/27/13 11:25 | 08/27/13 19:17 | 1       |

| Surrogate                     | MB MB     |           | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------|-----------|----------|----------------|----------------|---------|
|                               | %Recovery | Qualifier |          |                |                |         |
| DCB Decachlorobiphenyl (Surr) | 78        |           | 45 - 120 | 08/27/13 11:25 | 08/27/13 19:17 | 1       |

TestAmerica Irvine

# QC Sample Results

Client: MWH Americas Inc  
 Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-54918-1

## Method: 608 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

**Lab Sample ID: LCS 440-127348/4-A**

**Matrix: Water**

**Analysis Batch: 127595**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 127348**

| Analyte      | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|--------------|-------------|------------|---------------|------|---|------|--------------|
| Aroclor 1016 | 4.00        | 3.28       |               | ug/L |   | 82   | 50 - 115     |
| Aroclor 1260 | 4.00        | 3.35       |               | ug/L |   | 84   | 60 - 120     |

| Surrogate                     | LCS %Recovery | LCS Qualifier | Limits   |
|-------------------------------|---------------|---------------|----------|
| DCB Decachlorobiphenyl (Surr) | 83            |               | 45 - 120 |

**Lab Sample ID: LCSD 440-127348/5-A**

**Matrix: Water**

**Analysis Batch: 127595**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 127348**

| Analyte      | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|--------------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Aroclor 1016 | 4.00        | 3.23        |                | ug/L |   | 81   | 50 - 115     | 0   | 30        |
| Aroclor 1260 | 4.00        | 3.35        |                | ug/L |   | 84   | 60 - 120     | 0   | 25        |

| Surrogate                     | LCSD %Recovery | LCSD Qualifier | Limits   |
|-------------------------------|----------------|----------------|----------|
| DCB Decachlorobiphenyl (Surr) | 83             |                | 45 - 120 |

# QC Association Summary

Client: MWH Americas Inc  
 Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-54918-1

## GC/MS Semi VOA

### Prep Batch: 125998

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-54918-1         | Arroyo Simi-FP         | Total/NA  | Water  | 525.2  |            |
| LCS 440-125998/2-A  | Lab Control Sample     | Total/NA  | Water  | 525.2  |            |
| LCSD 440-125998/3-A | Lab Control Sample Dup | Total/NA  | Water  | 525.2  |            |
| MB 440-125998/1-A   | Method Blank           | Total/NA  | Water  | 525.2  |            |

### Analysis Batch: 126217

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-54918-1         | Arroyo Simi-FP         | Total/NA  | Water  | 525.2  | 125998     |
| LCS 440-125998/2-A  | Lab Control Sample     | Total/NA  | Water  | 525.2  | 125998     |
| LCSD 440-125998/3-A | Lab Control Sample Dup | Total/NA  | Water  | 525.2  | 125998     |
| MB 440-125998/1-A   | Method Blank           | Total/NA  | Water  | 525.2  | 125998     |

## GC Semi VOA

### Prep Batch: 127348

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-54918-1         | Arroyo Simi-FP         | Total/NA  | Water  | 608    |            |
| LCS 440-127348/2-A  | Lab Control Sample     | Total/NA  | Water  | 608    |            |
| LCS 440-127348/4-A  | Lab Control Sample     | Total/NA  | Water  | 608    |            |
| LCSD 440-127348/3-A | Lab Control Sample Dup | Total/NA  | Water  | 608    |            |
| LCSD 440-127348/5-A | Lab Control Sample Dup | Total/NA  | Water  | 608    |            |
| MB 440-127348/1-A   | Method Blank           | Total/NA  | Water  | 608    |            |

### Analysis Batch: 127595

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-54918-1         | Arroyo Simi-FP         | Total/NA  | Water  | 608    | 127348     |
| LCS 440-127348/4-A  | Lab Control Sample     | Total/NA  | Water  | 608    | 127348     |
| LCSD 440-127348/5-A | Lab Control Sample Dup | Total/NA  | Water  | 608    | 127348     |
| MB 440-127348/1-A   | Method Blank           | Total/NA  | Water  | 608    | 127348     |

### Analysis Batch: 127679

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 440-54918-1         | Arroyo Simi-FP         | Total/NA  | Water  | 608    | 127348     |
| LCS 440-127348/2-A  | Lab Control Sample     | Total/NA  | Water  | 608    | 127348     |
| LCSD 440-127348/3-A | Lab Control Sample Dup | Total/NA  | Water  | 608    | 127348     |
| MB 440-127348/1-A   | Method Blank           | Total/NA  | Water  | 608    | 127348     |

## Metals

### Analysis Batch: 125050

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method   | Prep Batch |
|---------------|------------------|-----------|--------|----------|------------|
| 440-54918-1   | Arroyo Simi-FP   | Total/NA  | Water  | SM 2340B |            |



# Definitions/Glossary

Client: MWH Americas Inc  
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-54918-1

## Qualifiers

### GC/MS Semi VOA

| Qualifier | Qualifier Description                         |
|-----------|---|
| LQ        | LCS/LCSD recovery above method control limits |

### GC Semi VOA

| Qualifier | Qualifier Description                             |
|-----------|---|
| LG        | LG=Surrogate recovery below the acceptance limits |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| α              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CNF            | Contains no Free Liquid   |
| DER            | Duplicate error ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision level concentration  |
| MDA            | Minimum detectable activity   |
| EDL            | Estimated Detection Limit   |
| MDC            | Minimum detectable concentration  |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative error ratio  |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

# Certification Summary

Client: MWH Americas Inc  
Project/Site: Quarterly Arroyo Simi-Frontier Park

TestAmerica Job ID: 440-54918-1

## Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

| Authority                | Program                     | EPA Region | Certification ID  | Expiration Date |
|--------------------------|-----------------------------|------------|-------------------|-----------------|
| Alaska                   | State Program               | 10         | CA01531           | 06-30-14        |
| Arizona                  | State Program               | 9          | AZ0671            | 10-13-13        |
| California               | LA Cty Sanitation Districts | 9          | 10256             | 01-31-14        |
| California               | NELAP                       | 9          | 1108CA            | 01-31-14        |
| California               | State Program               | 9          | 2706              | 06-30-14        |
| Guam                     | State Program               | 9          | Cert. No. 12.002r | 01-28-14 *      |
| Hawaii                   | State Program               | 9          | N/A               | 01-31-14        |
| Nevada                   | State Program               | 9          | CA015312007A      | 07-31-14        |
| New Mexico               | State Program               | 6          | N/A               | 01-31-14        |
| Northern Mariana Islands | State Program               | 9          | MP0002            | 01-31-14        |
| Oregon                   | NELAP                       | 10         | 4005              | 09-12-13        |
| USDA                     | Federal                     |            | P330-09-00080     | 06-06-14        |
| USEPA UCMR               | Federal                     | 1          | CA01531           | 01-31-15        |


\* Expired certification is currently pending renewal and is considered valid.

TestAmerica Irvine

440-54918  
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# CHAIN OF CUSTODY FORM

Test America Version 7/19/2010

| <b>Client Name/Address:</b><br>MWH-Arcadia<br>618 Michillinda Avenue, Suite 200<br>Arcadia, CA 91007             |               | <b>Project:</b><br>Boeing-SSFL NPDES<br>Quarterly Arroyo Simi-Frontier<br>Park |            | <b>Phone Number:</b><br>(626) 568-6691<br><b>Fax Number:</b><br>(626) 568-6515 |                  | <b>Field readings:</b><br>Temp = 17.96°C<br>pH = 7.15<br>Water Velocity (Ft/second) = 1/30<br>Time of readings = 0900 |                               |                                       |                                |  |  |
|--|---------------|--|------------|--|------------------|---|-------------------------------|---------------------------------------|--------------------------------|--|--|
| <b>Test America Contact:</b> Debby Wilson<br><b>Project Manager:</b> Bronwyn Kelly<br><b>Sampler:</b> NEAL SMITH |               | <b>ANALYSIS REQUIRED</b>   |            | <b>Comments</b><br>EXTRACT WITH 0.36<br>HOURS OF SAMPLING                      |                  | <br>440-54918 Chain of Custody       |                               |                                       |                                |  |  |
| Sample Description   | Sample Matrix | Container Type   | # of Cont. | Sampling Date/Time   | Preservative     | Bottle #  | Hardness as CaCO <sub>3</sub> | PCBs (608)                            | Chlorpyrifos, Diazinon (525.2) | Chlordane, Dieldrin, Toxaphene (608), 4,4-DD, 4,4-DDE, 4,4-DDT |  |
| Arroyo Simi-FP   | W             | 1L Poly  | 1          | 8/20/13 0900   | HNO <sub>3</sub> | 1   | X                             |                                       |                                |  |  |
| Arroyo Simi-FP   | W             | 1L Amber   | 2          | 8/20/13 0915   | None             | 2A, 2B  | X                             |                                       |                                |  |  |
| Arroyo Simi-FP   | W             | 1L Amber   | 2          | 8/20/13 0930   | HCl              | 3A, 3B  |                               | X                                     |                                |  |  |
| Arroyo Simi-FP   | W             | 1L Amber   | 2          | 8/20/13 0945   | None             | 4A, 4B  |                               | X                                     |                                |  |  |
| Relinquished By  |               | Date/Time:   |            | Received By  |                  | Date/Time:  |                               | Turn around Time: (check)             |                                | On Ice: <input checked="" type="checkbox"/>                    |  |
| <i>Debby Wilson</i>  |               | 8-20-13 11:50  |            | <i>Bronwyn Kelly</i>   |                  | 8-20-13 11:50   |                               | 24 Hours <input type="checkbox"/>     |                                | 5 Days <input type="checkbox"/>                                |  |
| Relinquished By  |               | Date/Time:   |            | Received By  |                  | Date/Time:  |                               | 48 Hours <input type="checkbox"/>     |                                | 10 Days <input type="checkbox"/>                               |  |
| <i>Neal Smith</i>  |               | 8-20-13 14:50  |            | <i>Olivia Dan</i>  |                  | 08/20/13 14:50  |                               | 72 Hours <input type="checkbox"/>     |                                | Normal <input checked="" type="checkbox"/>                     |  |
| Relinquished By  |               | Date/Time:   |            | Received By  |                  | Date/Time:  |                               | Sample integrity: (check)             |                                | Intact <input checked="" type="checkbox"/>                     |  |
|  |               |  |            |  |                  |   |                               | Data Requirements: (check)            |                                | No Level IV <input type="checkbox"/>                           |  |
|  |               |  |            |  |                  |   |                               | All Level IV <input type="checkbox"/> |                                | NPDES Level IV <input checked="" type="checkbox"/>             |  |



## Login Sample Receipt Checklist

Client: MWH Americas Inc

Job Number: 440-54918-1

**Login Number: 54918**

**List Number: 1**

**Creator: Perez, Angel**

**List Source: TestAmerica Irvine**

| Question   | Answer | Comment    |
|--|--------|------------|
| Radioactivity wasn't checked or is <=/ background as measured by a survey meter. | N/A    |            |
| The cooler's custody seal, if present, is intact.                                | N/A    |            |
| Sample custody seals, if present, are intact.                                    | N/A    |            |
| The cooler or samples do not appear to have been compromised or tampered with.   | N/A    |            |
| Samples were received on ice.  | True   |            |
| Cooler Temperature is acceptable.  | True   |            |
| Cooler Temperature is recorded.  | True   |            |
| COC is present.  | True   |            |
| COC is filled out in ink and legible.  | True   |            |
| COC is filled out with all pertinent information.                                | True   |            |
| Is the Field Sampler's name present on COC?                                      | True   | Neal Smith |
| There are no discrepancies between the containers received and the COC.          | True   |            |
| Samples are received within Holding Time.  | True   |            |
| Sample containers have legible labels.   | True   |            |
| Containers are not broken or leaking.  | True   |            |
| Sample collection date/times are provided.                                       | True   |            |
| Appropriate sample containers are used.  | True   |            |
| Sample bottles are completely filled.  | True   |            |
| Sample Preservation Verified.  | N/A    |            |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |            |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |            |
| Multiphasic samples are not present.   | True   |            |
| Samples do not require splitting or compositing.                                 | True   |            |
| Residual Chlorine Checked.   | N/A    |            |

