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Via FedEx

February 13, 2012

In reply refer to SHEA-111775

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

Attention: Information Technology Unit

Reference: Compliance File CI-6027 and NPDES No. CA0001309

Subject: Fourth Quarter 2011 NPDES Discharge Monitoring Report  
Submittal – Santa Susana Site

Dear Sir/Madam:

The Boeing Company (Boeing) hereby submits the Fourth Quarter 2011 Discharge Monitoring Report (DMR) for the Santa Susana Field Laboratory (Santa Susana Site). In conformance with National Pollutant Discharge Elimination System (NPDES) Permit No. CA0001309 (NPDES Permit), this report includes the field actions and results from activities related to the Santa Susana Site surface water outfalls (**Figure 1**) that occurred during the period of October 1 through December 31, 2011 (Fourth Quarter 2011). Included are summary tables of surface water sample analytical results, rainfall summaries, liquid waste shipment summaries, and surface water sample laboratory analytical reports.

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:

[www.boeing.com/aboutus/environment/santa\\_susana/programs.html](http://www.boeing.com/aboutus/environment/santa_susana/programs.html).

#### **FOURTH QUARTER 2011 DMR CONTENTS AND DISCHARGE SUMMARY**

**Figure 1** is a map showing the location of the regulated outfalls for the Santa Susana Site. A summary of the Fourth Quarter 2011 measured precipitation at the Santa Susana Site is presented in **Appendix A**. All sanitary wastes from the domestic sewage treatment plants (STPs I, II, and III) were shipped off-site for disposal. These data and details of all other liquid waste shipments are summarized in **Appendix B**.

The Santa Susana Site experienced five rain events that produced greater than 0.1 inch of rainfall within a 24-hour period (see **Appendix A**) and five storm water related samples were collected in the Fourth Quarter 2011. Additionally, a quarterly sample was collected at the Arroyo Simi receiving water location in Simi Valley on November 10, 2011. A quarterly sample was collected at Outfall 019 the Groundwater Extraction Treatment System (GETS) on October 19-20, 2011, and a monthly sample was collected at the GETS on November 16-17, 2011. **Table 1** summarizes the Fourth Quarter 2011 sampling record by outfall/location where flow was observed, and sample type collected per the requirements of the NPDES Permit.

**Table 1: Sampling Record during the Fourth Quarter 2011**

<b>Date</b>	<b>Outfall/Location</b>	<b>Samples Collected (i.e., grab, composite)</b>
10/5/2011	Outfall 009 (WS-13 Drainage)	Grab & Composite
10/19/2011	Outfall 019 (GETS)	Grab
10/20/2011	Outfall 019 (GETS)	Composite
11/6/2011	Outfall 009 (WS-13 Drainage)	Grab & Composite
11/10/2011	Arroyo Simi Receiving Water	Grab
11/12/2011	Outfall 009 (WS-13 Drainage)	Grab & Composite
11/16/2011	Outfall 019 (GETS)	Grab
11/17/2011	Outfall 019 (GETS)	Composite
11/20/2011	Outfall 009 (WS-13 Drainage)	Grab & Composite
12/12/2011	Outfall 009 (WS-13 Drainage)	Grab & Composite

All samples were submitted to and analyzed by a California-certified analytical laboratory per the NPDES Permit requirements. Analytical results from these Fourth Quarter 2011 storm water samples are presented in tabular form by outfall location; constituents evaluated (analytes), sample dates, and data validation qualifiers in **Appendices C** and **D**.

A summary table of NPDES Permit effluent limit exceedances and/or benchmark limits based on the surface water analytical data is provided in **Appendix E**. In addition, the results of a reasonable potential analysis (RPA) utilizing updated monitoring data are provided in **Appendix F**. **Appendix G** contains copies of the laboratory analytical reports, chains of custody, and data validation reports.

Included in **Appendices C** through **F** are a compilation of notes, abbreviations, and data validation codes that are used in the analytical data summary tables.

## **SUMMARY OF NONCOMPLIANCE**

During the Fourth Quarter 2011, there were two constituent concentrations that exceeded permit limits. The GETS quarterly sample collected on October 19-20, 2011, indicated an elevated concentration of chloride and total dissolved solids (TDS). The referenced instance of noncompliance is summarized further below.

### **Chloride**

Chloride exceeded the NPDES Permit limit of 150 mg/l with a result of 250 mg/l in the quarterly sample collected from the GETS on October 19-20, 2011. The elevated concentration was caused from an overdosing of calcium chloride solution into the treatment system. Calcium chloride is being introduced at the end of the treatment processes in order to prevent an NPDES permit exceedance in chronic toxicity.

### **TDS**

TDS exceeded the NPDES Permit limit of 950 mg/l with a result of 1100 mg/l in the quarterly sample collected from the GETS on October 19-20, 2011. Similar to the elevated concentration of chloride, the elevated TDS was caused from an overdosing of calcium chloride solution into the treatment system as discussed in the previous paragraph.

The GETS actively utilizes ion exchange media to remove targeted metals. However the ion exchange media, when brand new is non-selective, and thus initially removes all the metal ions within the process stream. As a result the process water lacks the buffering needed to support aquatic life as determined in the chronic toxicity test. After the system is operated for a period of the time the ion exchange media slowly begins to release (desorb) the metal ions (calcium, magnesium, potassium, etc.) and only adsorbs targeted metals specific to the media.

Internal field testing methods such as pH, hardness, alkalinity, etc. kits were used throughout the system to ensure the buffering and other parameters were adequate and within limits, however additional testing to verify overdosing of calcium chloride did not take place. When the ion exchange media was replaced in August, the calcium chloride dosing rate was increased to account for lack of buffering in the process water but was not decreased quickly enough thus overcompensating and increasing the buffering (chloride) in the process water.

The following corrective measure has been implemented in an effort to prevent chloride and TDS exceedances in the future. Following an ion exchange media change-out the system will be re-started in "recycle" and the operator will check for hardness, chloride, and TDS at several sample locations using HACH® field test kits (hardness and chloride) and a Horiba U-22 Water Quality Instrument. After verifying the measured constituent concentration levels are within NPDES permit limits the system is returned to "normal" operation and allowed to discharge.

## **FOURTH QUARTER 2011 SITE-WIDE STORM WATER POLLUTION PREVENTION PLAN (SWPPP)/BEST MANAGEMENT PRACTICES (BMP) ACTIVITIES**

During the Fourth Quarter 2011, Boeing continued to implement the site-wide SWPPP's. Boeing conducted monthly, pre- and post-storm season inspections as required by the site-wide SWPPP to identify and mitigate any on-site conditions identified that may affect the quality of storm water runoff from the Santa Susana Site in accordance with the State of California General Industrial Storm Water Permit (No. CAS000001) (General Permit) SWPPP requirements.

Site-wide BMP activities also include inspection of Solid Waste Management Units (SWMUs). Per SWPPP requirements, SWMU inspections are completed three times a year during the months of January, April and September. A discussion of the SWMU inspections for 2011 will be included in the Annual Report for 2011 and inspections completed in January 2012 will be included in the First Quarter 2012 DMR.

Site-wide activities also include the inspection of outfalls and outfall perimeters, inspection of storm water pumping and conveyance system, inspection of specific BMP activities at each outfall location may include inspections of erosion and sediment control BMPs, flume and sample box condition, flow meter calibrations, surface water catchment or sedimentation basin condition, liner integrity, filter media condition, system pump and conveyance condition, and retention tank inspection. General maintenance and housekeeping of outfalls may include removal of sediment, removal of leaf litter, filter media replacement, liner repair or replacement, implementation of additional BMPs, and weed abatement.

During the Fourth Quarter 2011, Boeing continued to implement the individual SWPPP's. As part of the implementation of the SWPPP's, BMP inspections are completed in order to identify and mitigate any on-site conditions identified that may affect the quality of storm water runoff from the Santa Susana Site. BMP inspections were completed in accordance with the State of California General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order NO. 2009-0009-DWQ; NPDES NO. CAS000002 (General Construction Permit) SWPPP requirements. Inspections were conducted before and after qualifying rain events, and during extended rainfall lasting longer than 24-hours as required by the General Permit.

Construction, demolition and Interim Source Removal Action (ISRA) activities are included in the General Construction Permit SWPPP requirements. Efforts to plan and implement BMPs for pre- and post-soil disturbance activities for demolition and ISRA areas are discussed in Table 1 and summarized further in sections below. The demolition and ISRA areas include both the areas of disturbed soil from recent demolition, soil removal, or remediation activities and areas that are post-remediation, post-demolition, and now in restoration.

**Table 2** below is a summary of the specific BMP activities by outfall location that were conducted during the Fourth Quarter 2011.

**Table 2: Boeing's BMP Activities During the Fourth Quarter 2011**

<b>OUTFALL (Location)</b>	<b>BMP ACTIVITIES DURING FOURTH QUARTER 2011</b>
001 (South Slope below Perimeter Pond)	Inspected the outfall and flume for any excess sediment/debris. Flume clear of sediment and debris. Observed sediment and erosion controls around the perimeter of the outfall and Outfall 001 drainage. Checked sample box, flow meter control box for the presence of debris and/or animals. Flow meter reset and tape replaced on monthly basis. Repaired ISCO sample box lock.
002 (South Slope below R-2 Pond)	Conducted sediment and erosion control inspections around the perimeter of outfall and OF002 drainage. Inspected outfall and flume for any excess sediment/debris. Flume and outfall clear of sediment and debris. Checked sample box, flow meter control box for the presence of debris and/or animals. Flow meter reset and tape replaced on monthly basis. Completed maintenance inspection and reset of ISCO sampler.
003 Radioactive Material Handling Facility (RMHF)	Conducted sediment and erosion control inspections. Inspected flume and outfall for any excess sediment/debris. Flume and outfall clear of sediment and debris. Maintenance inspections were conducted of the structural BMPs including the storm water retention basin, conveyance and filter system. Checked sample box, flow meter control box for spiders and presence of the presence of debris and/or animals. Flow meter reset and tape replaced on monthly basis. Installed sediment and erosion control including fiber rolls silts fencing and hydroseed in drainage areas above the outfall.
004 Sodium Reactor Experiment Area (SRE)	Inspected the flume, outfall and liner for any excess sediment/debris. Conducted sediment and erosion control inspections near the outfall. Maintenance inspections were conducted of the structural BMPs including the storm water retention system, conveyance and filter system. Completed inspection of dedicated retention tanks. Checked sample box, flow meter control box for the presence of debris and/or animals. Flow meter reset and tape replaced on monthly basis. Repaired ISCO sample box lock.
005 Former Sodium Disposal Facility (FSDf-1)	Conducted sediment and erosion control inspections. Inspected the outfall and flume for any excess sediment/debris. Completed maintenance inspections on structural BMPs including the conveyance, storm water retention system, and sediment basin liner. Completed inspection of dedicated retention tanks. Installed seven tanks near Building 009 for additional retention.
006 (FSDf-2)	Inspected the flume, outfall and liner for any excess sediment/debris. Outfall clear of sediment and debris. Conducted sediment and erosion control inspections near the outfall. Completed maintenance inspections on the structural BMPs including the storm water retention system and filter system. Checked sample box, flow meter control box

OUTFALL (Location)	BMP ACTIVITIES DURING FOURTH QUARTER 2011
	the presence of debris and/or animals. Flow meter reset and tape replaced on monthly basis. Completed inspection of dedicated retention tanks. Installed seven tanks near Building 009 for additional retention.
007 (Building 100)	Conducted sediment and erosion control inspections at perimeter of outfall. Observed the sediment basin liner and outfall for any excess sediment/debris or deficiencies. Completed maintenance inspection of the conveyance system, storm water retention system, and sediment basin liner. Checked high level float/switch in sedimentation basin. Completed inspection of dedicated retention tanks. Installed seven tanks near Building 009 for additional retention. Repaired the ISCO sample box lock.
008 (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. Checked sample box, flow meter control box for the presence of debris and/or animals. Flow meter reset and tape replaced on monthly basis. Completed weekly inspections of approximately eight hundred native plants within Outfall 008. Applied hydroseed to the abandoned road on the west side of Happy Valley. Repaired the ISCO sample box lock.
009 (WS-13 Drainage)	Checked sample box, flow meter control box for spiders and presence of rodents/animals. Flow meter reset and tape replaced on monthly basis. Completed weekly inspections of approximately twelve hundred native plants within the Outfall 009 watershed. Applied hydromulch/hydroseed to areas behind Building 1436 (B1436), the B-1 Area (B-1) retention and filter media areas, the Lower Lot, at the site of the former Liquid Oxygen Plant area (LOX), and the former Groundwater Treatment Units (GTU) located along Area II Road near Ash Pile/Sewage Treatment Plant (AP/STP). Maintained and inspected sediment and erosion controls. Completed the B-1 basin upgrade: compacted and re-graded the area east of the retention basin; performed soil roughening; and installed additional erosion control measures. Nearly completed the B-1 culvert filter bed reconstruction (replaced filter media and gravel around the drain), replaced torn silt fence, and added 6" rip rap near the media filter. In the B-1 drainage adjusted the position of large rip rap and added 6" rip rap to the culvert entrance and installed additional sand bags, rip rap, and check dams. Replaced silt fencing at ISRA area B1-1A, moved rip rap down slope at ISRA area B1-1D, and restored gravel bag berm and fiber rolls at the B-1 entrance. Applied hydroseed to the former Canyon facility. Replaced broken sand bags and fiber rolls installed along the Area II Road at the Component Testing Lab (CTL)-I abandoned road entrance. Removed excess soil built up behind silt fence below ISRA area

OUTFALL (Location)	BMP ACTIVITIES DURING FOURTH QUARTER 2011
	<p>CTLI-1. Replaced old fiber rolls along Area II Road with biodegradable fiber rolls. Completed installation of sand bag berm in the LOX area, and geogrid along the road. Maintained plastic sheeting covering ISRA area expendable launch vehicle (ELV)-1C. Installed two additional retention tanks at the west end of the Helipad and constructed two sand bag berms on the Helipad to slow flow velocities, reduce sediment loads and increase infiltration before flow reaches Outfall 009. Implemented construction BMPs prior to ISRA soil removal activities at AP/STP. Covered and secured all ISRA area excavations and stockpiles in AP/STP with plastic, sand bags and biodegradable fiber rolls.</p>
<p>010 (Building 203)</p>	<p>Maintenance inspections were conducted on structural BMPs including the filter media, conveyance and the storm water retention system. Completed inspection of dedicated retention tanks. Removed pump at base of filtration media/system for maintenance. Implemented weed abatement near the outfall. Maintained and inspected sediment and erosion controls within areas of disturbance or sparse vegetation. Checked sample box, flow meter control box for the presence of debris and/or animals. Flow meter reset and tape replaced on monthly basis. Repaired ISCO sample box lock. Reconnect ISCO samplers to sample containers.</p>
<p>011 (Perimeter Pond)</p>	<p>Maintenance inspections were conducted on structural BMPs including the weir, filter media, pump and conveyance system. Conducted sediment and erosion control inspections at flume, drainage area, perimeter of outfall, pond and around conveyance system. Checked sample box, flow meter control box for the presence of debris and/or animals. Flow meter reset and tape replaced on monthly basis. Installed ISCO flow samplers for rainy season. Installed sediment and erosion control BMPs and applied hydroseed to three former GTU in Area I and at the substation area of CTL-I along Area I Road. Installed sediment and erosion control BMPs and application of hydroseed at CTL-III and CTL-III spillway the former CTL-V facility, and the turn-around road near CTL-V. Installed silt fence, gravel, check dams, sand bags, burlap gravel bags, and biodegradable fiber rolls following removal of culvert adjacent to Perimeter Pond and the Area I Burn Pit.</p>
<p>012 (ALFA Test Stand)</p>	<p>Maintenance inspections were conducted on 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. Installed biodegradable fiber rolls and applied hydroseed at the former Alfa GTU.</p>
<p>013 (BRAVO Test Stand)</p>	<p>Maintenance inspections were conducted on structural BMPs including pump, conveyance system and retention tank. Observed condition of</p>

OUTFALL (Location)	BMP ACTIVITIES DURING FOURTH QUARTER 2011
	the sand bag berm. Inspected outfall and perimeter for presence of rodents/animals. Installed biodegradable fiber rolls and applied hydroseed at the former Bravo GTU.
014 (APTF Test Stand)	Maintenance inspections were conducted on structural BMPs Observed the condition and integrity of the liner and berm. Observed sediment and erosion control BMPs around outfall perimeter. Added tank for additional storm water retention.
018 (R-2 Spillway)	Maintenance inspections were conducted on structural BMPs including the filter media and conveyance system. Checked sample box, flow meter control box for the presence of debris and/or animals. Flow meter reset and tape replaced on monthly basis. Added gravel to areas of loose soil around the Outfall 018 Stormwater Treatment System (STS). Installed biodegradable fiber rolls at the former Area III GTU, Delta GTU, and Hydrogen Lab parking lot. Applied hydroseed to former GTU in Area III near the Sewage Treatment Plant, the former Delta GTU in Area II, and the parking lot across from the Hydrogen Lab.
019 Groundwater Extraction Treatment System (GETS)	Site services replaced pressure regulator on the potable water line that services the GETS. Site services installed local disconnect for pump PC-200. Clack Birm vessels were backwashed due to high pressures. Two liquid phase granular activated carbon (LPGAC) vessels were replaced with fresh virgin coconut shell carbon. Two temporary Clack Birm vessels were removed. Two permanent Clack Brim vessels were installed and anchored. An automated pH adjustment system was installed. System will remain shut down until new Clack Birm media arrives at the end of January 2012.

**Demolition and BMP Plan Related Activities**

Boeing is committed to the reinstatement of the site to its natural habitat. Previously active areas are now being demolished and prepared for restoration. During the Fourth Quarter 2011, demolition of structural features at the former CTL-III Facility, and the inactive GTUs in Areas I, II, and III. Additionally, the concrete features near the site of the former CTL-I facility and the asphalt from the parking lot across from the Hydrogen Lab in Area III were also removed. All debris, metal, concrete, and asphalt was segregated upon removal and transported to a waste or recycling facility per the waste management plan and in accordance with all local, state, and federal regulations. Construction BMPs were implemented before, during and after demolition activities.

Upon completion of demolition activities, post-demolition and restoration and efforts include the implementation of erosion and sediment control BMPs including hydroseed. During the Fourth Quarter 2011 gravel, water bars/bio-swales, rip rap, check dams, organic matting, silt fence, fiber



rolls, and earth berms were installed at the former CTL-III facility. Additionally, gravel, rip rap, check dams, gravel bags, sand bags, and silt fence were also added at the former CTL-III spillway during the Fourth Quarter 2011. Hydroseed was applied to enhance growth of plants and stabilize disturbed soil in these post-demolition areas. In the Fourth Quarter 2011, hydroseed application was completed at the following locations: CTL-V on November 28, 2011, Canyon on December 1, 2011, eight inactive GTUs in the Areas I, II, and III on December 2, 2011, the parking lot across from the Hydrogen lab in Area III on December 2, 2011, the substation area at CTL-I in Area I on December 2, 2011, CTL-III spillway on December 2, 2011, CTL-III on December 21, 2011, and the B1436 lower lot on December 21, 2011.

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

Pursuant to the December 3, 2008 Section 13304 Order issued by the Los Angeles Regional Water Quality Control Board (Regional Board), Boeing has been proceeding with ISRA activities in the Outfall 008 and 009 watersheds to address constituents that have exceeded NPDES Permit limits/benchmarks. ISRA soil removal within Outfall 008 were completed on October 19, 2009 and phase II ISRA soil removal conducted within Outfall 009 was completed during the First Quarter 2011. Phase III ISRA work began in Second Quarter 2011.

During the Fourth Quarter 2011, Boeing:

- Conducted sediment and erosion control inspections near the perimeter of Outfall 008 and within the Outfall 008 drainage.
- Observed Outfall 008 and 009 flumes for any excess sediment/debris, checked the sample boxes and flow meter control boxes for spiders and presence of rodents/animals, and reset the flow meters and replaced tape on monthly basis.
- Completed weekly inspections of approximately eight hundred native plants with Outfall 008 and approximately twelve hundred native plants within the Outfall 009 watershed.
- Applied hydromulch/hydroseed to completed ISRA area B1-2 retention area, around the B-1 filter media bed, behind B1436, the Lower Lot, in the former LOX area, and the former GTU located along Area II road near AP/STP;
- Completed excavations and collected confirmation soil samples at ISRA areas AP/STP-1E-2, AP/STP-1B and AP/STP-1C-2;
- Conducted rain event Performance Monitoring and BMP Subarea Monitoring activities, including sampling;
- In coordination with the Surface Water Expert Panel:
  - Continued construction planning activities for the treatment BMP in the Lower Parking Lot Soil Stockpile area, including discussions with Southern California Edison (SCE) about work within their easement and revising Ventura County grading permit application. Continued preparation of and finalized a memorandum recommending a source of compost for onsite use on November 30, 2011;
  - Hosted a surface water site tour with members of the public and Regional Board on October 6, 2011;

- Began planning activities for the BMPs at the Helipad and ELV near the corner of Helipad Road and Area 2 Road;
- Evaluated alternatives to mitigate the clogging of the B-1 culvert modification underdrain system by filter media and finalized a design based on the evaluation of the results of the media sieve analysis and the aggregate underdrain backfill bench-scale test;
- Completed the 2011-2012 Rainy Season Sampling Analysis Plan (SAP) and submitted the report to the Regional Board on December 12, 2011;
- Submitted electronically the ISRA SWPPP Revision 3 to the Regional Board's Stormwater Multi-Application Report Tracking System (SMARTS) on December 13, 2011;
- Conducted restoration activities B-1 following pipeline removal. Activities included installing rip rap and sand bags along the top of the B-1 drainage slope, installing rip rap channels down the B-1 drainage slope, re-grading the upper B-1 area to direct storm water flow towards the B-1 basin or slope rip rap channels, and installing rip rap behind the silt fence along the B-1 culvert modification.
- Performed maintenance and reconstructed at the B-1 filter media bed;
- Replaced silt fencing at former ISRA area B1-1A and hydroseeded surrounding area;
- Moved rip rap along surface water pathway downslope from B1-1D;
- Installed biodegradable fiber rolls and gravel bags at the B-1 entrance;
- Completed installation of biodegradable fiber rolls, gravel filter bags, and application of hydromulch/hydroseed at the Lower Lot;
- Replaced broken sand bags installed along the CTLI-1 abandoned road;
- Installed S-shaped fiber rolls along areas of rilling/channeling below ISRA area CTLI-1A;
- Removed excess soil built up behind silt fence below CTLI-1;
- Replaced straw wattles with biodegradable fiber rolls along Area II Road between culvert modification (CM)-6 and CM-11;
- Covered active ISRA excavation areas and soil stockpiles with plastic, installed biodegradable fiber rolls around the perimeter and secured with sand bags prior to rain events;
- Installed temporary BMP at the Helipad that includes two rows of sand bag berms; Added two tanks at the west end of the Helipad for additional retention;
- Replaced broken sand bags, installed additional bags around the perimeter, and installed new plastic sheeting covering ISRA area ELV-1C; and
- Conducted SWPPP inspections per the ISRA SWPPP.

Boeing continues to conduct bi-weekly status meetings, and submit monthly and quarterly progress reports to Regional Board Staff on the progress of the ISRA activities<sup>1</sup>. Boeing is committed to the restoration of the ISRA areas immediately following clean-up activities and works closely with the Department of Toxic Substances Control (DTSC) and Surface Water Expert Panel to ensure that restoration is comprehensive.

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

### **Northern Drainage and BMP Plan Related Activities**

Boeing has actively worked to restore the Northern Drainage following clean-up activities performed under the oversight of the DTSC in accordance with the requirements of Regional Board Cleanup and Abatement Order (CAO) No. R4-2007-0054.

DTSC issued a Certification of Completion on April 29, 2011, stating that the response actions required under the Imminent and Substantial Endangerment Determination and Order and Remedial Action Order (ISE/RA Order), Santa Susana Field Laboratory, Ventura County, California (CAD 093365435 and CA 1800090010) were successfully performed, the contaminants of concern had been removed, and remaining concentrations no longer posed an immediate risk to humans or environmental receptors (DTSC, 2011). Boeing and NASA worked with the Surface Water Expert Panel to develop a site-specific Restoration, Mitigation, and Monitoring Plan (RMMP) for the areas of the Northern Drainage that were subject to this Order. The RMMP was submitted to the Regional Board on October 5, 2011 (Haley & Aldrich, 2011) and provides a detailed summary and conceptual designs for restoration and stabilization of the banks and bottom of the Northern Drainage, as well as mitigation and monitoring for riparian plants removed during remediation. Boeing will continue to collect surface water samples and submit monthly monitoring reports as stated in the CAO for three additional storm events.

As part of the continued collaborative effort to implement erosion and sediment control BMPs to stabilize disturbed soil including hydroseed application. Hydroseed was applied to several areas in the Northern Drainage in the Fourth Quarter 2011.

### **Outfalls 011 and 018 STSs and BMP Plan Related Activities**

The construction of the STS at Outfall 011 was completed in the Fourth Quarter 2011 with testing and optimization beginning in the First Quarter 2012. The optimization of Outfall 018 STS continued through the Fourth Quarter 2011. Specific details of these activities were as follows:

- Installing general site lighting at Outfall 011 and 018;
- Installed conduits and wires throughout Outfalls 011 and 018;
- Painted handrails and other miscellaneous equipment at Outfall 011 and 018;
- Constructed office trailer at Outfall 011;
- Installed local control panel for the ACTIFLO unit at Outfall 011;
- Installed and conducted pressure test on chemical feed lines at Outfall 011;
- Installed utility water line at Outfall 011;
- Installed an elevated, grated platform around the bag filters at Outfall 011;
- Constructed satellite accumulation housings for Outfall 011;
- Installed pH and turbidity meters throughout Outfall 011 STS;
- Installed solids transfer pump from the weir tank to mixer tank at Outfall 011;

- Installed treatment system piping and sample ports throughout Outfall 011;
- Installed pressure relief valves and high/low switches for feed pumps at Outfall 011;
- Installed air vent drain lines on sand filter and granular activated carbon (GAC) vessels at Outfall 011;
- Installed safety showers at Outfall 011;
- Installed 8" bag filters at Outfall 011;
- Constructed chemical skid units at Outfall 011;
- Modified the overflow drain on the oxidation contact tank (OCT) at Outfall 011;
- Installed float switches on buffer, mixer, and backwash tanks at Outfall 011;
- Installed plate settler at Outfall 011;
- Installed instrumentation on the OCT line at Outfall 018;
- Constructing an elevated, grated platform with stairs and railings around the bag filters at Outfall 018;
- Installed re-circulation line from the sand filter bank 2 effluent line to buffer tank at Outfall 018;
- Calibrated chemical pumps and pH meters at Outfall 018;
- Installed filter press at Outfall 018; and
- Processed solids at Outfall 018

It is anticipated that Outfall 018 STS startup and optimization will continue through the First Quarter 2012. Outfall 011 STS startup and optimization will begin in the First Quarter 2012 with optimization to be completed throughout the remainder of the rainy season and following non-rainy season. While these systems are currently under optimization, storm water control measures are in place to meet storm water quality objectives including the existing flow through media beds.

#### **REASONABLE POTENTIAL ANALYSIS**

Analytical sample results accumulated during the Fourth Quarter 2011 for Outfall 009, Outfall 019 and the Arroyo Simi Receiving Water (RSW-002) sample point were added to the RPA dataset as per the MWH, Americas Inc. and Flow Science RPA procedures (MWH and Flow Science, 2006). The analytical results for this sampling period did not trigger reasonable potential for any constituents not already regulated under the current NPDES Permit. Complete RPA tables for the outfall monitoring group are provided in **Appendix F**.

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

In accordance with current Environmental Protection Agency (EPA) guidelines and procedures, or as specified in the NPDES Monitoring and Reporting Program, chemical analyses of surface water discharge and receiving 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 its low level detections, to analyze for interferences and to ensure that cross contamination does not occur in the future. Laboratory analytical reports, including validation reports and notes, are included in **Appendix G**. Attachment T-A of the NPDES Permit issued to the SSFL presents the State of California Water Resources Control Board (SWRCB or "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 Permit limits that are less than the RL and ML are: mercury, bis(2-ethylhexyl)phthalate, cyanide, polychlorinated biphenyls (PCBs) (Aroclor congeners), chlordane, dichlorodiphenyldichloroethane (DDD), dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), dieldrin, toxaphene, and chlorpyrifos. These compounds were either not a required analyte or not detected in all of the surface water/receiving water samples collected during Fourth Quarter 2011.

#### **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 13th of February 2012, at The Boeing Company, Santa Susana Site.

Sincerely,



Tom Gallacher  
Director  
Santa Susana Field Laboratory  
Environment, Health and Safety

TG:LB:jag

Enclosures:

Figure: 1 Storm Water Drainage System and Outfall Locations

Appendices: A Fourth Quarter 2011 Rainfall Data Summary  
B Fourth Quarter 2011 Liquid Waste Shipment Summary Tables  
C Fourth Quarter 2011 Summary Tables, Discharge Monitoring Data  
D Fourth Quarter 2011 Radiological Monitoring Data  
E Fourth Quarter 2011 Summary of Permit Limit Exceedances  
F Fourth Quarter 2011 RPA Summary Tables  
G Fourth Quarter 2011 Analytical Laboratory Reports, Chain-of- Custody, and Validation Reports

cc: Ms. Cassandra Owens, Regional Water Quality Control Board  
Mr. Rick Brausch, Department of Toxic Substances Control  
Mr. Gerard Abrams, Department of Toxic Substances Control  
Mr. Robert Marshall, California State University – Northridge, Library  
Mr. Gabriel Lundeen, Simi Valley Library  
Ms. Lynn Light, Platt Branch, Los Angeles Library

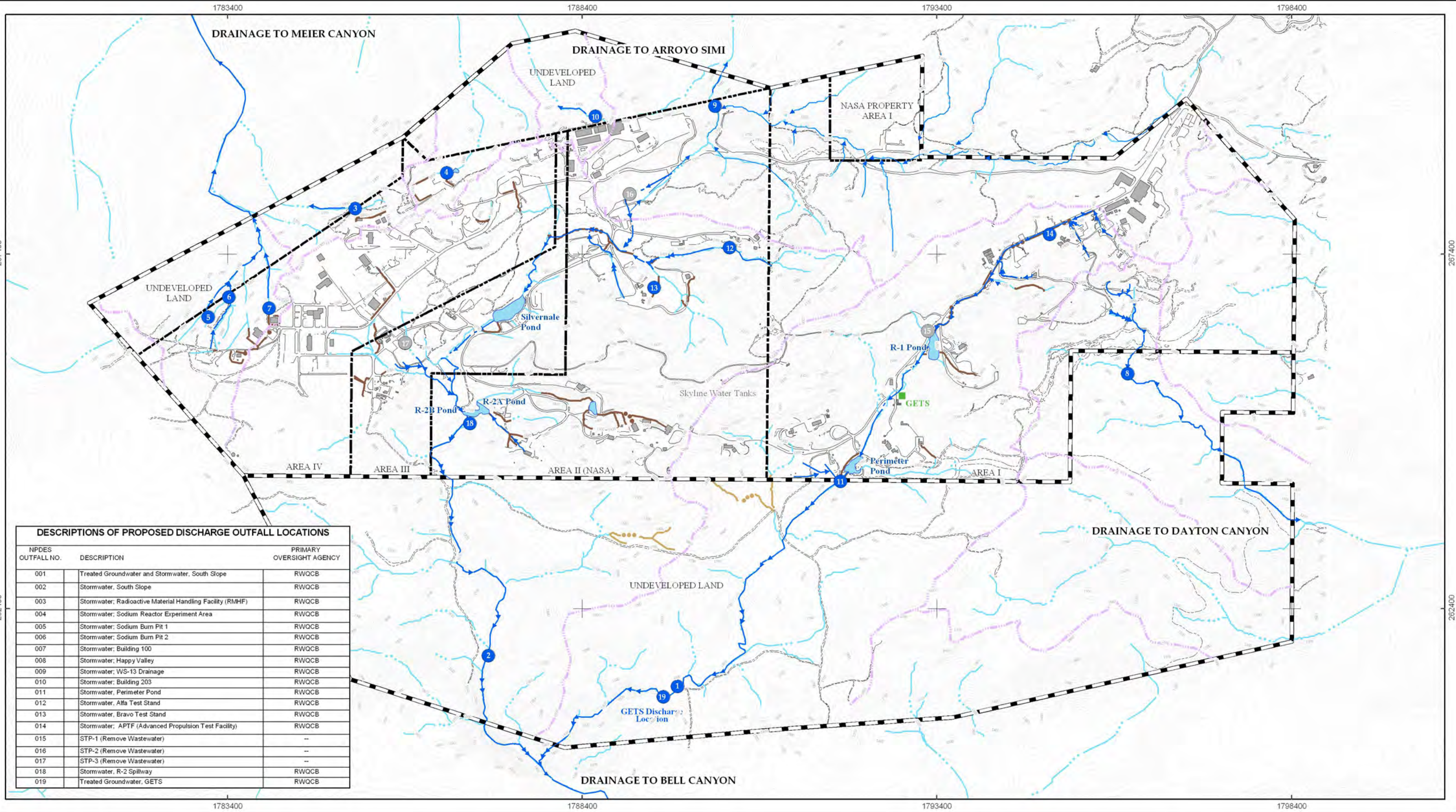
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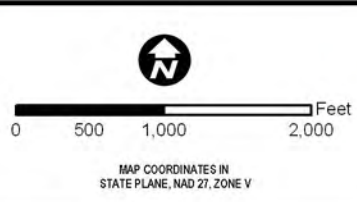
FIGURE 1

STORM WATER DRAINAGE SYSTEM AND OUTFALL LOCATIONS



**DESCRIPTIONS OF PROPOSED DISCHARGE OUTFALL LOCATIONS**

NPDES OUTFALL NO.	DESCRIPTION	PRIMARY OVERSIGHT AGENCY
001	Treated Groundwater and Stormwater, South Slope	RWQCB
002	Stormwater, South Slope	RWQCB
003	Stormwater; Radioactive Material Handling Facility (RMHF)	RWQCB
004	Stormwater; Sodium Reactor Experiment Area	RWQCB
005	Stormwater; Sodium Burn Pit 1	RWQCB
006	Stormwater; Sodium Burn Pit 2	RWQCB
007	Stormwater; Building 100	RWQCB
008	Stormwater; Happy Valley	RWQCB
009	Stormwater; WS-13 Drainage	RWQCB
010	Stormwater; Building 203	RWQCB
011	Stormwater, Perimeter Pond	RWQCB
012	Stormwater, Alfa Test Stand	RWQCB
013	Stormwater, Bravo Test Stand	RWQCB
014	Stormwater; APTF (Advanced Propulsion Test Facility)	RWQCB
015	STP-1 (Remove Wastewater)	--
016	STP-2 (Remove Wastewater)	--
017	STP-3 (Remove Wastewater)	--
018	Stormwater, R-2 Spillway	RWQCB
019	Treated Groundwater, GETS	RWQCB



- Legend**
- NPDES Outfalls (RWQCB Primary Oversight Authority)
  - Historical NPDES Outfalls
  - Groundwater Extraction Treatment System (GETS)
  - Effluent Pathways
  - Surface Water Drainage Divide
  - Natural Drainage
  - Concrete Lined Drainage
  - Graded Drainage
  - Surface Water Reclamation Ponds

- Base Map Legend**
- SSFL Property Boundary
  - Administrative Area Boundary
  - Ground Elevation Contours
  - Drainage Pathways
  - A/C Curbing
  - Dirt Road
  - Existing Building or Structure

**Site Map with Outfall Locations and Storm Water Drainage Systems**

Date: April 12, 2010  
 File: \\U:\spas\intapp1\del\rocketdyne\gis\Master\GISFiles\SiteWideProjects\NPDES\NPDES\_StorageWaterDrainage.mxd

**MWH** FIGURE 1



APPENDIX A

FOURTH QUARTER 2011 RAINFALL DATA SUMMARY

**TABLE A  
DAILY RAINFALL SUMMARY**

**THE BOEING COMPANY  
NPDES PERMIT NUMBER  
CA0001309**

Station: AREA4  
Parameter: Rain  
Month/Year: October 2011

**HOUR OF THE DAY**

	Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	3	0	0	0	0	0	0	INV	0.00p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	5	0	0	0	0	0.05	0.04	0.07	0.05	0.07	0.14	0.18	0.16	0.14	0	0	0	0	0	0	0	0	0	0	0	0.90
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
D	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
A	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Y	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
O	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
F	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
T	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
H	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
E	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	20	0	0	0	0	0	0	0.54D	9.43D	2.74D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
M	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
O	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
N	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
T	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
H	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00

INV = Negative under range, invalid hour  
p = power failure, invalid hour  
D = marked down, invalid hour

**TABLE A  
DAILY RAINFALL SUMMARY**

**THE BOEING COMPANY  
NPDES PERMIT NUMBER  
CA0001309**

Station: AREA4  
Parameter: Rain  
Month/Year: November 2011

**HOUR OF THE DAY**

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
2	0	0	0	0	0	0	0	0	0	0	0.00p	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
4	0	0	0	0.02	0.01	0	0	0	0	0	0	0.04	0	0	0.03	0.02	0.01	0	0	0	0	0	0	0	0	0.13
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
6	0	0	0	0	0	0.05	0.23	0.16	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0	0.45
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
11	0	0	0	0	0	0	0	0	0	0	0	0	0.00p	0	0	0	0	0	0	0	0	0	0.07	0.14	0.26	0.47
12	0.02	0.2	0.03	0	0.02	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0.01	0	0	0	0	0	0	0.29
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02	0.01	0	0.03
20	0	0	0	0	0	0	0.01	0	0	0.06	0.2	0.29	0.01p	0.08	0.07	0.01	0.01	0	0	0	0	0	0.01	0	0	0.74
21	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00

p = Power failure, invalid hour

**TABLE A  
DAILY RAINFALL SUMMARY**

**THE BOEING COMPANY  
NPDES PERMIT NUMBER  
CA0001309**

Station: AREA4  
Parameter: Rain  
Month/Year: December 2011

**HOUR OF THE DAY**

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
2	0	0	0	0	0	0	0	0	0	0	0.00p	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
5	0	0	0	0	0	0	0	0	0	0	0	0	0.00D	0.00p	0	0	0	0	0	0	0	0	0	0	0.00
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
12	0	0	0.01	0.02	0.03	0	0.06	0.21	0.13	0.09	0.05	0.03	0	0	0	0	0	0	0	0.01	0	0	0	0	0.64
13	0.02	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0	0	0	0	0	0	0	0	0.05
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.07	0.01	0	0	0	0	0	0.08
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00

D  
A  
Y  
  
O  
F  
  
T  
H  
E  
  
M  
O  
N  
T  
H

D = Marked down, valid hour  
p = Power failure, invalid hour

APPENDIX B

FOURTH QUARTER 2011 LIQUID WASTE SHIPMENTS SUMMARY  
TABLES

**TABLE B-1  
THE BOEING COMPANY**

**NPDES PERMIT CA0001309  
LIQUID WASTE SHIPMENTS**

**October 2011**

<b>DATE SHIPPED</b>	<b>TYPE OF LIQUID</b>	<b>QTY.</b>	<b>UNITS</b>	<b>TRANSPORTER</b>	<b>DESTINATION</b>
10/4/2011	HAZARDOUS WASTE LIQUID (TRICHLOROETHENE)	568	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA
10/4/2011	HAZARDOUS WASTE LIQUID (CADMIUM, CHROMIUM)	132	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA
10/11/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
10/11/2011	WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
10/11/2011	WASTE WATER FROM AREA III SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
10/11/2011	WASTE WATER FROM AREA III SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson
10/13/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
10/13/2011	WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
10/13/2011	WASTE WATER FROM AREA III SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson
10/14/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson
10/18/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
10/18/2011	WASTE WATER FROM AREA III SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
10/18/2011	WASTE WATER FROM AREA III SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson
10/25/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
10/25/2011	WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
10/25/2011	WASTE WATER FROM AREA III SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson

**TABLE B-2  
THE BOEING COMPANY**

**NPDES PERMIT CA0001309  
LIQUID WASTE SHIPMENTS**

**November 2011**

<b>DATE SHIPPED</b>	<b>TYPE OF LIQUID</b>	<b>QTY.</b>	<b>UNITS</b>	<b>TRANSPORTER</b>	<b>DESTINATION</b>
11/1/2011	WASTE WATER FROM AREA III PIT 2 SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
11/1/2011	WASTE WATER FROM AREA III PIT 3 SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson
11/2/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	500	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
11/2/2011	WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT	4500	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
11/2/2011	WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson
11/7/2011	HAZARDOUS WASTE LIQUID (TRICHLOROETHENE)	103	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA
11/8/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
11/8/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
11/8/2011	WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson
11/15/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
11/15/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
11/15/2011	WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson
11/15/2011	NON HAZARDOUS WASTE LIQUID (WATER)	324	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA
11/15/2011	HAZARDOUS WASTE FLAMMABLE LIQUIDS	80	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA
11/15/2011	NON-RCRA HAZARDOUS WASTE LIQUID (LABPACK)	14	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA
11/15/2011	NON-RCRA HAZARDOUS WASTE LIQUID (RESINS, ADHESIVES)	204	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA
11/15/2011	HAZARDOUS WASTE LIQUID (CADMIUM, LEAD)	1007	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA

**TABLE B-2  
THE BOEING COMPANY**

**NPDES PERMIT CA0001309  
LIQUID WASTE SHIPMENTS**

**November 2011**

<b>DATE SHIPPED</b>	<b>TYPE OF LIQUID</b>	<b>QTY.</b>	<b>UNITS</b>	<b>TRANSPORTER</b>	<b>DESTINATION</b>
11/15/2011	HAZARDOUS WASTE LIQUID (METHANOL, WATER)	683	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA
11/15/2011	HAZARDOUS WASTE LIQUID (TRICHLOROETHENE)	348	P	MP ENVIRONMENTAL SERVICES	SIEMENS WATER TECHNOLOGIES 5375 S. BOYLE AVE., LOS ANGELES, CA 90058
11/15/2011	HAZARDOUS WASTE LIQUID (CADMIUM, CHROMIUM)	110	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA
11/15/2011	NON-RCRA HAZARDOUS WASTE LIQUID (OIL, WATER)	14	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA
11/22/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
11/22/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
11/22/2011	WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson
11/29/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
11/29/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
11/29/2011	WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson



**TABLE B-3  
THE BOEING COMPANY**

**NPDES PERMIT CA0001309  
LIQUID WASTE SHIPMENTS**

**December 2011**

<b>DATE SHIPPED</b>	<b>TYPE OF LIQUID</b>	<b>QTY.</b>	<b>UNITS</b>	<b>TRANSPORTER</b>	<b>DESTINATION</b>
12/6/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
12/6/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson
12/13/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
12/13/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson
12/19/2011	HAZARDOUS WASTE LIQUID (TRICHLOROETHENE)	4320	P	MP ENVIRONMENTAL SERVICES	SIEMENS WATER TECHNOLOGIES 5375 S. BOYLE AVE., LOS ANGELES, CA 90058
12/20/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
12/20/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
12/20/2011	WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson
12/20/2011	HAZARDOUS WASTE LIQUID (AMINES)	12	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA
12/20/2011	NON-RCRA HAZARDOUS WASTE LIQUID (LABPACK)	38	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA
12/20/2011	NON-RCRA HAZARDOUS WASTE LIQUID (LABPACK)	30	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA
12/29/2011	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
12/29/2011	WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Saugus
12/29/2011	WASTE WATER FROM AREA III SEWAGE TREATMENT PLANT	5000	GAL.	SOUTHWEST PROCESSORS INC. 4120 BANDINI BLVD. LOS ANGELES, CA 90058	LACSD Carson
12/29/2011	NON HAZARDOUS WASTE LIQUID (WATER)	58	P	VEOLIA ES TECH. SOLUTIONS LLC 1704 WEST FIRST STREET, AZUSA, CA 91702	VEOLIA ES TECH. SOLUTIONS LLC AZUSA, CA

APPENDIX C

FOURTH QUARTER 2011 SUMMARY TABLES, DISCHARGE  
MONITORING DATA

**FOURTH QUARTER 2011  
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 TEF and 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. Since pH does not have an RL, the possible pH range is shown in the RL column.
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.

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-92.9 +/-200	A negative radiochemical analytical result indicates the count rate of the sample was less than the background condition
--	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
*III	unusual problems found with the data that have been described in section III of the validation report
ANR	analysis not required; e.g., constituent or outfall was not required by the permit to be sampled and analyzed (annual, semi-annual, etc.)
B	laboratory method blank contamination
BEF	Bioaccumulation Equivalency Factor
C	calibration %RSD or %D were noncompliant
Comp	Composite
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 than the laboratory reporting limit)
J	estimated value
Ja	estimated value

**FOURTH QUARTER 2011  
REPORTING SUMMARY NOTES  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

L	laboratory control sample %R was outside control limits
LOD	limit of detection
M1, pH, P	matrix spike (MS) and/or MS duplicate were above the acceptance limits due to sample matrix interference, pH = 7.0, sample as received not preserved in accordance to the referenced analytical method
MDA	minimal detectable amount/activity
MDL	method detection limit
MEAS	Measured
MGD	million gallons per day
mg/L	milligrams per liter
MPN/100ml	most probable number per 100 milliliters
ND	analyte value less than the LOD or MDL
NTU	nephelometric turbidity unit
pCi/L	picocuries per liter
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
TEQ	toxic equivalent
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
(4.0)3.1/-	Represents (Dry Weather Limit) Wet Weather Limit / Monthly Average Limit.

**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

October 1 through December 31, 2011

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	10/5/2011			11/6/2011		
			SAMPLE TYPE	RESULT	VALIDATION QUALIFIER	SAMPLE TYPE	RESULT	VALIDATION QUALIFIER
Chloride	mg/L	150/-	Comp	2.6	*	Comp	2.0	*
Fluoride	mg/L	1.6/-	ANR	ANR	ANR	ANR	ANR	ANR
Nitrate + Nitrite as Nitrogen (N)	mg/L	10/-	Comp	0.70	*	Comp	0.65	*
Oil & Grease	mg/L	15/-	Grab	ND < 1.3	*	Grab	ND < 1.3	*
Perchlorate	ug/L	6.0/-	Comp	ND < 0.95	U	ANR	ANR	ANR
pH (Field)	pH units	6.5-8.5/-	Grab	7.1	*	Grab	7.9	*
Sulfate	mg/L	250/-	Comp	6.5	*	Comp	4.2	*
Temperature	deg. F	86/-	Grab	60	*	Grab	58	*
Total Cyanide	ug/L	9.5/-	Comp	ND < 2.2	M1, pH, P*	Comp	ND < 2.2	*
Total Dissolved Solids	mg/L	850/-	Comp	55	*	Comp	50	*
Total Suspended Solids	mg/L	-/-	Comp	6.0	J (DNQ)	Comp	6.0	J (DNQ)
Volume Discharged	MGD	17.8/-	Meas	0.05181	*	Meas	0.03588	*
<b>METALS</b>								
Aluminum	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Antimony	ug/L	6.0/-	Comp	0.57	Ja* (DNQ)	Comp	0.54	J* (DNQ)
Antimony, dissolved	ug/L	-/-	Comp	0.65	Ja* (DNQ)	Comp	0.35	J*
Arsenic	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Beryllium	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Boron	mg/L	1.0/-	ANR	ANR	ANR	ANR	ANR	ANR
Cadmium	ug/L	4.0/-	Comp	ND < 0.10	*	Comp	ND < 0.10	*
Cadmium, dissolved	ug/L	-/-	Comp	ND < 0.10	*	Comp	ND < 0.10	*
Chromium	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Copper	ug/L	14/-	Comp	6.5	*	Comp	3.5	*
Copper, dissolved	ug/L	-/-	Comp	6.2	*	Comp	4.3	*
Iron	mg/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Lead	ug/L	5.2/-	Comp	2.7	*	Comp	1.5	*
Lead, dissolved	ug/L	-/-	Comp	0.94	Ja* (DNQ)	Comp	0.40	J*
Mercury	ug/L	0.13/-	Comp	ND < 0.10	U	Comp	ND < 0.10	U
Mercury, dissolved	ug/L	-/-	Comp	ND < 0.10	U	Comp	ND < 0.10	U
Nickel	ug/L	100/-	ANR	ANR	ANR	ANR	ANR	ANR
Selenium	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Silver	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Thallium	ug/L	2.0/-	Comp	ND < 0.20	*	Comp	0.23	J* (DNQ)
Thallium, dissolved	ug/L	-/-	Comp	ND < 0.20	*	Comp	ND < 0.20	*
Vanadium	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Zinc	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
<b>ORGANICS</b>								
Benzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Carbon Tetrachloride	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chloroform	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,1-Dichloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,2-Dichloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,1-Dichloroethene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Ethylbenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Tetrachloroethene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Toluene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Xylenes (Total)	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,1,1-Trichloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,1,2-Trichloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Trichloroethene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Trichlorofluoromethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Vinyl chloride	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR

**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

October 1 through December 31, 2011

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	10/5/2011			11/6/2011		
			SAMPLE TYPE	RESULT	VALIDATION QUALIFIER	SAMPLE TYPE	RESULT	VALIDATION QUALIFIER
<b>ADDITIONAL ANALYTES</b>								
1,1,2,2-Tetrachloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,2,4-Trichlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,2-Dichlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,2-Dichloropropane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,2-Diphenylhydrazine/Azobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,3-Dichlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,4-Dichlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,4,6-Trichlorophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,4-Dichlorophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,4-Dimethylphenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,4-Dinitrophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,4-Dinitrotoluene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,6-Dinitrotoluene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Chloroethylvinylether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Chloronaphthalene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Chlorophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Nitrophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
3,3'-Dichlorobenzidine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4,4'-DDD	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4,4'-DDE	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4,4'-DDT	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4-Bromophenylphenylether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4-Chloro-3-methylphenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4-Chlorophenylphenylether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4-Nitrophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Acenaphthene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Acrolein	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Acrylonitrile	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Acute Toxicity	% SURVIVAL	70-100/-	ANR	ANR	ANR	ANR	ANR	ANR
Aldrin	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
alpha-BHC	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Anthracene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1016	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1221	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1232	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1242	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1248	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1254	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1260	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzidine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(a)anthracene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(a)pyrene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(b)fluoranthene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(g,h,i)perylene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(k)fluoranthene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
beta-BHC	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
bis (2-Chloroethyl) ether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
bis (2-ethylhexyl) Phthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
bis(2-Chloroethoxy) methane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
bis(2-Chloroisopropyl) ether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Bromodichloromethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR

**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

October 1 through December 31, 2011

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	10/5/2011			11/6/2011		
			SAMPLE TYPE	RESULT	VALIDATION QUALIFIER	SAMPLE TYPE	RESULT	VALIDATION QUALIFIER
Bromoform	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Bromomethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Butylbenzylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chlordane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chloromethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chronic Toxicity	TUC	1/-	Comp	1.0	*	Comp	1.0	*
Chrysene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
cis-1,3-Dichloropropene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
delta-BHC	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Dibenzo(a,h)anthracene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Dibromochloromethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Dieldrin	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Diethylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Dimethylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Di-n-butylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Di-n-octylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endosulfan I	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endosulfan II	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endosulfan sulfate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endrin	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endrin aldehyde	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Fluoranthene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Fluorene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Heptachlor	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Heptachlor epoxide	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Hexachlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Hexachlorobutadiene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Hexachlorocyclopentadiene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Hexachloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Isophorone	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Lindane (gamma-BHC)	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Methylene Chloride	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Naphthalene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Nitrobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
n-Nitrosodimethylamine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
n-Nitroso-di-n-propylamine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
n-Nitrosodiphenylamine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Pentachlorophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Phenanthrene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Phenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Pyrene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Toxaphene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
trans-1,2-Dichloroethene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
trans-1,3-Dichloropropene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR

**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

October 1 through December 31, 2011

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	11/12/2011			11/20/2011		
			SAMPLE TYPE	RESULT	VALIDATION QUALIFIER	SAMPLE TYPE	RESULT	VALIDATION QUALIFIER
Chloride	mg/L	150/-	Comp	1.7	*	Comp	1.8	*
Fluoride	mg/L	1.6/-	ANR	ANR	ANR	ANR	ANR	ANR
Nitrate + Nitrite as Nitrogen (N)	mg/L	10/-	Comp	0.59	*	Comp	0.40	*
Oil & Grease	mg/L	15/-	Grab	ND < 1.3	*	Grab	ND < 1.3	*
Perchlorate	ug/L	6.0/-	ANR	ANR	ANR	ANR	ANR	ANR
pH (Field)	pH units	6.5-8.5/-	Grab	6.9	*	Grab	7.4	*
Sulfate	mg/L	250/-	Comp	5.2	*	Comp	22	*
Temperature	deg. F	86/-	Grab	58	*	Grab	60	*
Total Cyanide	ug/L	9.5/-	Comp	ND < 2.2	*	Comp	ND < 2.2	*
Total Dissolved Solids	mg/L	850/-	Comp	41	*	Comp	50	*
Total Suspended Solids	mg/L	-/-	Comp	2.0	J (DNQ)	Comp	4.0	J (DNQ)
Volume Discharged	MGD	17.8/-	Meas	0.105005	*	Meas	0.088575	*
<b>METALS</b>								
Aluminum	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Antimony	ug/L	6.0/-	Comp	ND < 0.30	*	Comp	ND < 0.30	*
Antimony, dissolved	ug/L	-/-	Comp	ND < 0.30	*	Comp	ND < 0.30	*
Arsenic	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Beryllium	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Boron	mg/L	1.0/-	ANR	ANR	ANR	ANR	ANR	ANR
Cadmium	ug/L	4.0/-	Comp	ND < 0.10	*	Comp	ND < 0.10	*
Cadmium, dissolved	ug/L	-/-	Comp	ND < 0.10	*	Comp	ND < 0.10	*
Chromium	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Copper	ug/L	14/-	Comp	2.8	*	Comp	1.6	Ja* (DNQ)
Copper, dissolved	ug/L	-/-	Comp	2.1	*	Comp	1.8	Ja* (DNQ)
Iron	mg/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Lead	ug/L	5.2/-	Comp	2.4	*	Comp	1.1	*
Lead, dissolved	ug/L	-/-	Comp	0.52	J*	Comp	ND < 0.20	*
Mercury	ug/L	0.13/-	Comp	ND < 0.10	U	Comp	ND < 0.10	U
Mercury, dissolved	ug/L	-/-	Comp	ND < 0.10	U	Comp	ND < 0.10	U
Nickel	ug/L	100/-	ANR	ANR	ANR	ANR	ANR	ANR
Selenium	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Silver	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Thallium	ug/L	2.0/-	Comp	ND < 0.20	*	Comp	ND < 0.20	*
Thallium, dissolved	ug/L	-/-	Comp	ND < 0.20	*	Comp	ND < 0.20	*
Vanadium	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Zinc	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
<b>ORGANICS</b>								
Benzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Carbon Tetrachloride	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chloroform	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,1-Dichloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,2-Dichloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,1-Dichloroethene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Ethylbenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Tetrachloroethene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Toluene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Xylenes (Total)	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,1,1-Trichloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,1,2-Trichloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Trichloroethene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Trichlorofluoromethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Vinyl chloride	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR



**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

October 1 through December 31, 2011

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	11/12/2011			11/20/2011		
			SAMPLE TYPE	RESULT	VALIDATION QUALIFIER	SAMPLE TYPE	RESULT	VALIDATION QUALIFIER
<b>ADDITIONAL ANALYTES</b>								
1,1,2,2-Tetrachloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,2,4-Trichlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,2-Dichlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,2-Dichloropropane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,2-Diphenylhydrazine/Azobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,3-Dichlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,4-Dichlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,4,6-Trichlorophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,4-Dichlorophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,4-Dimethylphenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,4-Dinitrophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,4-Dinitrotoluene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,6-Dinitrotoluene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Chloroethylvinylether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Chloronaphthalene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Chlorophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Nitrophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
3,3'-Dichlorobenzidine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4,4'-DDD	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4,4'-DDE	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4,4'-DDT	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4-Bromophenylphenylether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4-Chloro-3-methylphenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4-Chlorophenylphenylether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4-Nitrophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Acenaphthene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Acrolein	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Acrylonitrile	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Acute Toxicity	% SURVIVAL	70-100/-	ANR	ANR	ANR	ANR	ANR	ANR
Aldrin	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
alpha-BHC	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Anthracene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1016	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1221	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1232	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1242	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1248	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1254	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1260	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzidine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(a)anthracene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(a)pyrene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(b)fluoranthene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(g,h,i)perylene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(k)fluoranthene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
beta-BHC	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
bis (2-Chloroethyl) ether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
bis (2-ethylhexyl) Phthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
bis(2-Chloroethoxy) methane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
bis(2-Chloroisopropyl) ether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Bromodichloromethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR

**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

October 1 through December 31, 2011

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	11/12/2011			11/20/2011		
			SAMPLE TYPE	RESULT	VALIDATION QUALIFIER	SAMPLE TYPE	RESULT	VALIDATION QUALIFIER
Bromoform	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Bromomethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Butylbenzylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chlordane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chloromethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chronic Toxicity	TUC	1/-	ANR	ANR	ANR	ANR	ANR	ANR
Chrysene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
cis-1,3-Dichloropropene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
delta-BHC	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Dibenzo(a,h)anthracene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Dibromochloromethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Dieldrin	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Diethylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Dimethylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Di-n-butylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Di-n-octylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endosulfan I	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endosulfan II	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endosulfan sulfate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endrin	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endrin aldehyde	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Fluoranthene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Fluorene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Heptachlor	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Heptachlor epoxide	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Hexachlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Hexachlorobutadiene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Hexachlorocyclopentadiene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Hexachloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Isophorone	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Lindane (gamma-BHC)	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Methylene Chloride	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Naphthalene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Nitrobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
n-Nitrosodimethylamine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
n-Nitroso-di-n-propylamine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
n-Nitrosodiphenylamine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Pentachlorophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Phenanthrene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Phenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Pyrene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Toxaphene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
trans-1,2-Dichloroethene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
trans-1,3-Dichloropropene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR

**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

October 1 through December 31, 2011

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	12/12/2011		
			SAMPLE TYPE	RESULT	VALIDATION QUALIFIER
Chloride	mg/L	150/-	Comp	1.2	--
Fluoride	mg/L	1.6/-	ANR	ANR	ANR
Nitrate + Nitrite as Nitrogen (N)	mg/L	10/-	Comp	0.40	--
Oil & Grease	mg/L	15/-	Grab	ND < 1.3	U
Perchlorate	ug/L	6.0/-	ANR	ANR	ANR
pH (Field)	pH units	6.5-8.5/-	Grab	6.9	*
Sulfate	mg/L	250/-	Comp	36	--
Temperature	deg. F	86/-	Grab	53	*
Total Cyanide	ug/L	9.5/-	Comp	ND < 2.2	UJ (R)
Total Dissolved Solids	mg/L	850/-	Comp	69	--
Total Suspended Solids	mg/L	-/-	Comp	6.0	J (DNQ)
Volume Discharged	MGD	17.8/-	Meas	0.09197	*
<b>METALS</b>					
Aluminum	ug/L	-/-	ANR	ANR	ANR
Antimony	ug/L	6.0/-	Comp	0.67	J (DNQ)
Antimony, dissolved	ug/L	-/-	Comp	0.55	J (DNQ)
Arsenic	ug/L	-/-	ANR	ANR	ANR
Beryllium	ug/L	-/-	ANR	ANR	ANR
Boron	mg/L	1.0/-	ANR	ANR	ANR
Cadmium	ug/L	4.0/-	Comp	ND < 0.10	U
Cadmium, dissolved	ug/L	-/-	Comp	ND < 0.10	U
Chromium	ug/L	-/-	ANR	ANR	ANR
Copper	ug/L	14/-	Comp	2.3	--
Copper, dissolved	ug/L	-/-	Comp	1.5	J (DNQ)
Iron	mg/L	-/-	ANR	ANR	ANR
Lead	ug/L	5.2/-	Comp	1.3	--
Lead, dissolved	ug/L	-/-	Comp	0.21	J (DNQ)
Mercury	ug/L	0.13/-	Comp	ND < 0.10	U
Mercury, dissolved	ug/L	-/-	Comp	ND < 0.10	U
Nickel	ug/L	100/-	ANR	ANR	ANR
Selenium	ug/L	-/-	ANR	ANR	ANR
Silver	ug/L	-/-	ANR	ANR	ANR
Thallium	ug/L	2.0/-	Comp	ND < 1.0	U (B)
Thallium, dissolved	ug/L	-/-	Comp	ND < 0.20	U
Vanadium	ug/L	-/-	ANR	ANR	ANR
Zinc	ug/L	-/-	ANR	ANR	ANR
<b>ORGANICS</b>					
Benzene	ug/L	-/-	ANR	ANR	ANR
Carbon Tetrachloride	ug/L	-/-	ANR	ANR	ANR
Chloroform	ug/L	-/-	ANR	ANR	ANR
1,1-Dichloroethane	ug/L	-/-	ANR	ANR	ANR
1,2-Dichloroethane	ug/L	-/-	ANR	ANR	ANR
1,1-Dichloroethene	ug/L	-/-	ANR	ANR	ANR
Ethylbenzene	ug/L	-/-	ANR	ANR	ANR
Tetrachloroethene	ug/L	-/-	ANR	ANR	ANR
Toluene	ug/L	-/-	ANR	ANR	ANR
Xylenes (Total)	ug/L	-/-	ANR	ANR	ANR
1,1,1-Trichloroethane	ug/L	-/-	ANR	ANR	ANR
1,1,2-Trichloroethane	ug/L	-/-	ANR	ANR	ANR
Trichloroethene	ug/L	-/-	ANR	ANR	ANR
Trichlorofluoromethane	ug/L	-/-	ANR	ANR	ANR
Vinyl chloride	ug/L	-/-	ANR	ANR	ANR

**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

October 1 through December 31, 2011

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	12/12/2011		
			SAMPLE TYPE	RESULT	VALIDATION QUALIFIER
<b>ADDITIONAL ANALYTES</b>					
1,1,2,2-Tetrachloroethane	ug/L	-/-	ANR	ANR	ANR
1,2,4-Trichlorobenzene	ug/L	-/-	ANR	ANR	ANR
1,2-Dichlorobenzene	ug/L	-/-	ANR	ANR	ANR
1,2-Dichloropropane	ug/L	-/-	ANR	ANR	ANR
1,2-Diphenylhydrazine/Azobenzene	ug/L	-/-	ANR	ANR	ANR
1,3-Dichlorobenzene	ug/L	-/-	ANR	ANR	ANR
1,4-Dichlorobenzene	ug/L	-/-	ANR	ANR	ANR
2,4,6-Trichlorophenol	ug/L	-/-	ANR	ANR	ANR
2,4-Dichlorophenol	ug/L	-/-	ANR	ANR	ANR
2,4-Dimethylphenol	ug/L	-/-	ANR	ANR	ANR
2,4-Dinitrophenol	ug/L	-/-	ANR	ANR	ANR
2,4-Dinitrotoluene	ug/L	-/-	ANR	ANR	ANR
2,6-Dinitrotoluene	ug/L	-/-	ANR	ANR	ANR
2-Chloroethylvinylether	ug/L	-/-	ANR	ANR	ANR
2-Chloronaphthalene	ug/L	-/-	ANR	ANR	ANR
2-Chlorophenol	ug/L	-/-	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	ug/L	-/-	ANR	ANR	ANR
2-Nitrophenol	ug/L	-/-	ANR	ANR	ANR
3,3'-Dichlorobenzidine	ug/L	-/-	ANR	ANR	ANR
4,4'-DDD	ug/L	-/-	ANR	ANR	ANR
4,4'-DDE	ug/L	-/-	ANR	ANR	ANR
4,4'-DDT	ug/L	-/-	ANR	ANR	ANR
4-Bromophenylphenylether	ug/L	-/-	ANR	ANR	ANR
4-Chloro-3-methylphenol	ug/L	-/-	ANR	ANR	ANR
4-Chlorophenylphenylether	ug/L	-/-	ANR	ANR	ANR
4-Nitrophenol	ug/L	-/-	ANR	ANR	ANR
Acenaphthene	ug/L	-/-	ANR	ANR	ANR
Acrolein	ug/L	-/-	ANR	ANR	ANR
Acrylonitrile	ug/L	-/-	ANR	ANR	ANR
Acute Toxicity	% SURVIVAL	70-100/-	ANR	ANR	ANR
Aldrin	ug/L	-/-	ANR	ANR	ANR
alpha-BHC	ug/L	-/-	ANR	ANR	ANR
Anthracene	ug/L	-/-	ANR	ANR	ANR
Aroclor-1016	ug/L	-/-	ANR	ANR	ANR
Aroclor-1221	ug/L	-/-	ANR	ANR	ANR
Aroclor-1232	ug/L	-/-	ANR	ANR	ANR
Aroclor-1242	ug/L	-/-	ANR	ANR	ANR
Aroclor-1248	ug/L	-/-	ANR	ANR	ANR
Aroclor-1254	ug/L	-/-	ANR	ANR	ANR
Aroclor-1260	ug/L	-/-	ANR	ANR	ANR
Benzidine	ug/L	-/-	ANR	ANR	ANR
Benzo(a)anthracene	ug/L	-/-	ANR	ANR	ANR
Benzo(a)pyrene	ug/L	-/-	ANR	ANR	ANR
Benzo(b)fluoranthene	ug/L	-/-	ANR	ANR	ANR
Benzo(g,h,i)perylene	ug/L	-/-	ANR	ANR	ANR
Benzo(k)fluoranthene	ug/L	-/-	ANR	ANR	ANR
beta-BHC	ug/L	-/-	ANR	ANR	ANR
bis (2-Chloroethyl) ether	ug/L	-/-	ANR	ANR	ANR
bis (2-ethylhexyl) Phthalate	ug/L	-/-	ANR	ANR	ANR
bis(2-Chloroethoxy) methane	ug/L	-/-	ANR	ANR	ANR
bis(2-Chloroisopropyl) ether	ug/L	-/-	ANR	ANR	ANR
Bromodichloromethane	ug/L	-/-	ANR	ANR	ANR

**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

October 1 through December 31, 2011

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	12/12/2011		
			SAMPLE TYPE	RESULT	VALIDATION QUALIFIER
Bromoform	ug/L	-/-	ANR	ANR	ANR
Bromomethane	ug/L	-/-	ANR	ANR	ANR
Butylbenzylphthalate	ug/L	-/-	ANR	ANR	ANR
Chlordane	ug/L	-/-	ANR	ANR	ANR
Chlorobenzene	ug/L	-/-	ANR	ANR	ANR
Chloroethane	ug/L	-/-	ANR	ANR	ANR
Chloromethane	ug/L	-/-	ANR	ANR	ANR
Chronic Toxicity	TUC	1/-	ANR	ANR	ANR
Chrysene	ug/L	-/-	ANR	ANR	ANR
cis-1,3-Dichloropropene	ug/L	-/-	ANR	ANR	ANR
delta-BHC	ug/L	-/-	ANR	ANR	ANR
Dibenzo(a,h)anthracene	ug/L	-/-	ANR	ANR	ANR
Dibromochloromethane	ug/L	-/-	ANR	ANR	ANR
Dieldrin	ug/L	-/-	ANR	ANR	ANR
Diethylphthalate	ug/L	-/-	ANR	ANR	ANR
Dimethylphthalate	ug/L	-/-	ANR	ANR	ANR
Di-n-butylphthalate	ug/L	-/-	ANR	ANR	ANR
Di-n-octylphthalate	ug/L	-/-	ANR	ANR	ANR
Endosulfan I	ug/L	-/-	ANR	ANR	ANR
Endosulfan II	ug/L	-/-	ANR	ANR	ANR
Endosulfan sulfate	ug/L	-/-	ANR	ANR	ANR
Endrin	ug/L	-/-	ANR	ANR	ANR
Endrin aldehyde	ug/L	-/-	ANR	ANR	ANR
Fluoranthene	ug/L	-/-	ANR	ANR	ANR
Fluorene	ug/L	-/-	ANR	ANR	ANR
Heptachlor	ug/L	-/-	ANR	ANR	ANR
Heptachlor epoxide	ug/L	-/-	ANR	ANR	ANR
Hexachlorobenzene	ug/L	-/-	ANR	ANR	ANR
Hexachlorobutadiene	ug/L	-/-	ANR	ANR	ANR
Hexachlorocyclopentadiene	ug/L	-/-	ANR	ANR	ANR
Hexachloroethane	ug/L	-/-	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	ug/L	-/-	ANR	ANR	ANR
Isophorone	ug/L	-/-	ANR	ANR	ANR
Lindane (gamma-BHC)	ug/L	-/-	ANR	ANR	ANR
Methylene Chloride	ug/L	-/-	ANR	ANR	ANR
Naphthalene	ug/L	-/-	ANR	ANR	ANR
Nitrobenzene	ug/L	-/-	ANR	ANR	ANR
n-Nitrosodimethylamine	ug/L	-/-	ANR	ANR	ANR
n-Nitroso-di-n-propylamine	ug/L	-/-	ANR	ANR	ANR
n-Nitrosodiphenylamine	ug/L	-/-	ANR	ANR	ANR
Pentachlorophenol	ug/L	-/-	ANR	ANR	ANR
Phenanthrene	ug/L	-/-	ANR	ANR	ANR
Phenol	ug/L	-/-	ANR	ANR	ANR
Pyrene	ug/L	-/-	ANR	ANR	ANR
Toxaphene	ug/L	-/-	ANR	ANR	ANR
trans-1,2-Dichloroethene	ug/L	-/-	ANR	ANR	ANR
trans-1,3-Dichloropropene	ug/L	-/-	ANR	ANR	ANR

**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**Sample Type: Composite  
Sample Date: October 5, 2011**

<b>ANALYTE</b>	<b>LAB LOD (ug/L)</b>	<b>LAB RL (ug/L)</b>	<b>LAB RESULT (ug/L)</b>	<b>VALIDATION QUALIFIER</b>	<b>1998 WHO TEF</b>	<b>BEF Great Lakes Water Quality Initiative</b>	<b>TCDD Equivalent (w/out DNQ Values) (ug/L)</b>
1,2,3,4,6,7,8-HpCDD	5.50E-06	5.00E-05	2.50E-05	J (DNQ)	0.01	0.05	ND
1,2,3,4,6,7,8-HpCDF	7.30E-06	5.00E-05	ND	UJ (*III)	0.01	0.01	ND
1,2,3,4,7,8,9-HpCDF	1.00E-05	5.00E-05	ND	U	0.01	0.4	ND
1,2,3,4,7,8-HxCDD	6.40E-06	5.00E-05	ND	U	0.1	0.3	ND
1,2,3,4,7,8-HxCDF	8.00E-06	5.00E-05	ND	U	0.1	0.08	ND
1,2,3,6,7,8-HxCDD	6.40E-06	5.00E-05	ND	U	0.1	0.1	ND
1,2,3,6,7,8-HxCDF	7.20E-06	5.00E-05	ND	U	0.1	0.2	ND
1,2,3,7,8,9-HxCDD	5.40E-06	5.00E-05	ND	U	0.1	0.1	ND
1,2,3,7,8,9-HxCDF	9.00E-06	5.00E-05	ND	U	0.1	0.6	ND
1,2,3,7,8-PeCDD	1.20E-05	5.00E-05	ND	U	1	0.9	ND
1,2,3,7,8-PeCDF	1.40E-05	5.00E-05	ND	U	0.05	0.2	ND
2,3,4,6,7,8-HxCDF	7.20E-06	5.00E-05	ND	U	0.1	0.7	ND
2,3,4,7,8-PeCDF	1.60E-05	5.00E-05	ND	U	0.5	1.6	ND
2,3,7,8-TCDD	4.30E-06	1.00E-05	ND	U	1	1	ND
2,3,7,8-TCDF	5.30E-06	1.00E-05	ND	U	0.1	0.8	ND
OCDD	1.70E-05	1.00E-04	2.30E-04	--	0.0001	0.01	2.30E-10
OCDF	1.00E-05	1.00E-04	ND	UJ (*III)	0.0001	0.02	ND

<b>TCDD TEQ w/out DNQ Values</b>	<b>2.30E-10</b>
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**TCDD TEQ BENCHMARK LIMIT = 2.80E-08**

See attached notes for abbreviations, definitions, and other explanations for the data presented in this table.

**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**Sample Type: Composite  
Sample Date: November 6, 2011**

<b>ANALYTE</b>	<b>LAB LOD (ug/L)</b>	<b>LAB RL (ug/L)</b>	<b>LAB RESULT (ug/L)</b>	<b>VALIDATION QUALIFIER</b>	<b>1998 WHO TEF</b>	<b>BEF Great Lakes Water Quality Initiative</b>	<b>TCDD Equivalent (w/out DNQ Values) (ug/L)</b>
1,2,3,4,6,7,8-HpCDD	6.10E-07	5.00E-05	ND	U (B)	0.01	0.05	ND
1,2,3,4,6,7,8-HpCDF	3.50E-07	5.00E-05	6.70E-06	J (DNQ)	0.01	0.01	ND
1,2,3,4,7,8,9-HpCDF	4.70E-07	5.00E-05	ND	U (B)	0.01	0.4	ND
1,2,3,4,7,8-HxCDD	5.20E-07	5.00E-05	ND	UJ (*III)	0.1	0.3	ND
1,2,3,4,7,8-HxCDF	3.50E-07	5.00E-05	ND	U (B)	0.1	0.08	ND
1,2,3,6,7,8-HxCDD	4.60E-07	5.00E-05	ND	UJ (*III)	0.1	0.1	ND
1,2,3,6,7,8-HxCDF	3.20E-07	5.00E-05	ND	U (B)	0.1	0.2	ND
1,2,3,7,8,9-HxCDD	4.50E-07	5.00E-05	ND	UJ (*III)	0.1	0.1	ND
1,2,3,7,8,9-HxCDF	3.60E-07	5.00E-05	ND	U (B)	0.1	0.6	ND
1,2,3,7,8-PeCDD	1.00E-06	5.00E-05	ND	U	1	0.9	ND
1,2,3,7,8-PeCDF	9.40E-07	5.00E-05	1.60E-06	J (DNQ)	0.05	0.2	ND
2,3,4,6,7,8-HxCDF	3.10E-07	5.00E-05	ND	U (B)	0.1	0.7	ND
2,3,4,7,8-PeCDF	1.00E-06	5.00E-05	ND	U	0.5	1.6	ND
2,3,7,8-TCDD	5.80E-07	1.00E-05	ND	U	1	1	ND
2,3,7,8-TCDF	7.50E-07	1.00E-05	ND	U	0.1	0.8	ND
OCDD	1.50E-06	1.00E-04	3.20E-04	--	0.0001	0.01	3.20E-10
OCDF	8.50E-07	1.00E-04	ND	U (B)	0.0001	0.02	ND

<b>TCDD TEQ w/out DNQ Values</b>	<b>3.20E-10</b>
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**TCDD TEQ BENCHMARK LIMIT = 2.80E-08**

See attached notes for abbreviations, definitions, and other explanations for the data presented in this table.

**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**Sample Type: Composite  
Sample Date: November 12, 2011**

<b>ANALYTE</b>	<b>LAB LOD (ug/L)</b>	<b>LAB RL (ug/L)</b>	<b>LAB RESULT (ug/L)</b>	<b>VALIDATION QUALIFIER</b>	<b>1998 WHO TEF</b>	<b>BEF Great Lakes Water Quality Initiative</b>	<b>TCDD Equivalent (w/out DNQ Values) (ug/L)</b>
1,2,3,4,6,7,8-HpCDD	1.80E-06	5.00E-05	ND	U (B)	0.01	0.05	ND
1,2,3,4,6,7,8-HpCDF	1.10E-06	5.00E-05	ND	U (B)	0.01	0.01	ND
1,2,3,4,7,8,9-HpCDF	1.50E-06	5.00E-05	ND	U (B)	0.01	0.4	ND
1,2,3,4,7,8-HxCDD	1.10E-06	5.00E-05	1.70E-06	J (DNQ)	0.1	0.3	ND
1,2,3,4,7,8-HxCDF	7.40E-07	5.00E-05	ND	U (B)	0.1	0.08	ND
1,2,3,6,7,8-HxCDD	1.00E-06	5.00E-05	ND	U (B)	0.1	0.1	ND
1,2,3,6,7,8-HxCDF	7.00E-07	5.00E-05	ND	U (B)	0.1	0.2	ND
1,2,3,7,8,9-HxCDD	8.60E-07	5.00E-05	ND	U (B)	0.1	0.1	ND
1,2,3,7,8,9-HxCDF	8.10E-07	5.00E-05	ND	U (B)	0.1	0.6	ND
1,2,3,7,8-PeCDD	2.80E-06	5.00E-05	ND	U	1	0.9	ND
1,2,3,7,8-PeCDF	2.30E-06	5.00E-05	ND	U (B)	0.05	0.2	ND
2,3,4,6,7,8-HxCDF	6.70E-07	5.00E-05	ND	UJ (*III)	0.1	0.7	ND
2,3,4,7,8-PeCDF	2.40E-06	5.00E-05	ND	U	0.5	1.6	ND
2,3,7,8-TCDD	1.30E-06	1.00E-05	ND	U	1	1	ND
2,3,7,8-TCDF	2.80E-06	1.00E-05	ND	U	0.1	0.8	ND
OCDD	5.80E-06	6.80E-04	ND	U (B)	0.0001	0.01	ND
OCDF	2.20E-06	1.00E-04	ND	U (B)	0.0001	0.02	ND

<b>TCDD TEQ w/out DNQ Values</b>	<b>ND</b>
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**TCDD TEQ BENCHMARK LIMIT = 2.80E-08**

See attached notes for abbreviations, definitions, and other explanations for the data presented in this table.



## OUTFALL 009 (WS-13 Drainage)

### FOURTH QUARTER 2011 REPORTING SUMMARY THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY NPDES PERMIT CA0001309

Sample Type: Composite  
Sample Date: November 20, 2011

ANALYTE	LAB LOD (ug/L)	LAB RL (ug/L)	LAB RESULT (ug/L)	VALIDATION QUALIFIER	1998 WHO TEF	BEF Great Lakes Water Quality Initiative	TCDD Equivalent (w/out DNQ Values) (ug/L)
1,2,3,4,6,7,8-HpCDD	8.60E-07	5.00E-05	ND	U (B)	0.01	0.05	ND
1,2,3,4,6,7,8-HpCDF	8.10E-07	5.00E-05	ND	UJ (*III)	0.01	0.01	ND
1,2,3,4,7,8,9-HpCDF	1.20E-06	5.00E-05	ND	UJ (*III)	0.01	0.4	ND
1,2,3,4,7,8-HxCDD	7.90E-07	5.00E-05	ND	U (B)	0.1	0.3	ND
1,2,3,4,7,8-HxCDF	5.40E-07	5.00E-05	ND	U (B)	0.1	0.08	ND
1,2,3,6,7,8-HxCDD	7.20E-07	5.00E-05	ND	U (B)	0.1	0.1	ND
1,2,3,6,7,8-HxCDF	5.10E-07	5.00E-05	1.70E-06	J (DNQ)	0.1	0.2	ND
1,2,3,7,8,9-HxCDD	7.00E-07	5.00E-05	ND	U (B)	0.1	0.1	ND
1,2,3,7,8,9-HxCDF	5.50E-07	5.00E-05	ND	U (B)	0.1	0.6	ND
1,2,3,7,8-PeCDD	1.60E-06	5.00E-05	ND	U	1	0.9	ND
1,2,3,7,8-PeCDF	1.60E-06	5.00E-05	ND	U	0.05	0.2	ND
2,3,4,6,7,8-HxCDF	4.60E-07	5.00E-05	ND	U (B)	0.1	0.7	ND
2,3,4,7,8-PeCDF	1.80E-06	5.00E-05	ND	U	0.5	1.6	ND
2,3,7,8-TCDD	1.40E-06	1.00E-05	ND	U	1	1	ND
2,3,7,8-TCDF	1.10E-06	1.00E-05	ND	U	0.1	0.8	ND
OCDD	3.40E-06	1.00E-04	4.20E-04	--	0.0001	0.01	4.20E-10
OCDF	2.20E-06	1.00E-04	ND	U (B)	0.0001	0.02	ND

<b>TCDD TEQ w/out DNQ Values</b>	<b>4.20E-10</b>
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TCDD TEQ BENCHMARK LIMIT = 2.80E-08

See attached notes for abbreviations, definitions, and other explanations for the data presented in this table.

**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**Sample Type: Composite  
Sample Date: December 12, 2011**

<b>ANALYTE</b>	<b>LAB LOD (ug/L)</b>	<b>LAB RL (ug/L)</b>	<b>LAB RESULT (ug/L)</b>	<b>VALIDATION QUALIFIER</b>	<b>1998 WHO TEF</b>	<b>BEF Great Lakes Water Quality Initiative</b>	<b>TCDD Equivalent (w/out DNQ Values) (ug/L)</b>
1,2,3,4,6,7,8-HpCDD	6.60E-07	5.00E-05	ND	U (B)	0.01	0.05	ND
1,2,3,4,6,7,8-HpCDF	8.10E-07	5.00E-05	ND	U (B)	0.01	0.01	ND
1,2,3,4,7,8,9-HpCDF	1.10E-06	5.00E-05	ND	U (B)	0.01	0.4	ND
1,2,3,4,7,8-HxCDD	1.00E-06	5.00E-05	ND	U (B)	0.1	0.3	ND
1,2,3,4,7,8-HxCDF	1.10E-06	5.00E-05	ND	U (B)	0.1	0.08	ND
1,2,3,6,7,8-HxCDD	9.00E-07	5.00E-05	ND	U (B)	0.1	0.1	ND
1,2,3,6,7,8-HxCDF	1.00E-06	5.00E-05	ND	U (B)	0.1	0.2	ND
1,2,3,7,8,9-HxCDD	8.10E-07	5.00E-05	ND	U (B)	0.1	0.1	ND
1,2,3,7,8,9-HxCDF	1.10E-06	5.00E-05	ND	U (B)	0.1	0.6	ND
1,2,3,7,8-PeCDD	1.90E-06	5.00E-05	ND	U (B)	1	0.9	ND
1,2,3,7,8-PeCDF	2.70E-06	5.00E-05	ND	U	0.05	0.2	ND
2,3,4,6,7,8-HxCDF	8.70E-07	5.00E-05	ND	U (B)	0.1	0.7	ND
2,3,4,7,8-PeCDF	3.20E-06	5.00E-05	ND	U (B)	0.5	1.6	ND
2,3,7,8-TCDD	1.10E-06	1.00E-05	ND	U	1	1	ND
2,3,7,8-TCDF	2.10E-06	1.00E-05	ND	U	0.1	0.8	ND
OCDD	2.60E-06	1.00E-04	2.00E-04	--	0.0001	0.01	2.00E-10
OCDF	1.30E-06	1.00E-04	ND	U (B)	0.0001	0.02	ND

<b>TCDD TEQ w/out DNQ Values</b>	<b>2.00E-10</b>
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**TCDD TEQ BENCHMARK LIMIT = 2.80E-08**

See attached notes for abbreviations, definitions, and other explanations for the data presented in this table.

**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

October 1 through December 31, 2011

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	10/5/2011			11/6/2011			11/12/2011		
			Sample Type	Result	Concentration Result Validation Qualifier	Sample Type	Result	Concentration Result Validation Qualifier	Sample Type	Result	Concentration Result Validation Qualifier
Max Discharge for event	MGD	17.8	Meas	0.05181		Meas	0.03588		Meas	0.10501	
Chloride	LBS/DAY	22,268/-	Comp	1.12	*	Comp	0.60	*	Comp	1.49	*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	1,485/-	Comp	0.30	*	Comp	0.19	*	Comp	0.52	*
Oil & Grease	LBS/DAY	2,227/-	Grab	ND	*	Grab	ND	*	Grab	ND	*
Perchlorate	LBS/DAY	0.89/-	Comp	ND	U	ANR	ANR	ANR	ANR	ANR	ANR
Sulfate	LBS/DAY	37,113/-	Comp	2.81	*	Comp	1.26	*	Comp	4.55	*
Total Cyanide	LBS/DAY	1.4/-	Comp	ND	M1, pH, P*	Comp	ND	*	Comp	ND	*
Total Dissolved Solids	LBS/DAY	126,184/-	Comp	23.77	*	Comp	14.96	*	Comp	35.91	*
Antimony	LBS/DAY	0.89/-	Comp	0.0002	Ja* (DNQ)	Comp	0.0002	J* (DNQ)	Comp	ND	*
Copper	LBS/DAY	2.1/-	Comp	0.003	*	Comp	0.0010	*	Comp	0.002	*
Lead	LBS/DAY	0.77/-	Comp	0.001	*	Comp	0.0004	*	Comp	0.002	*
Mercury	LBS/DAY	0.02/-	Comp	ND	U	Comp	ND	U	Comp	ND	U
Thallium	LBS/DAY	0.3/-	Comp	ND	*	Comp	0.0001	J* (DNQ)	Comp	ND	*
TCDD TEQ_NoDNQ	LBS/DAY	4.20E-09/-	Comp	9.94E-14	--	Comp	9.58E-14	--	Comp	ND	--

**OUTFALL 009 (WS-13 Drainage)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**October 1 through December 31, 2011**

ANALYTE	UNITS	11/20/2011			12/12/2011		
		Sample Type	Result	Concentration Result Validation Qualifier	Sample Type	Result	Concentration Result Validation Qualifier
Max Discharge for event	MGD	Meas	0.08858		Meas	0.09197	
Chloride	LBS/DAY	Comp	1.33	*	Comp	0.92	--
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	Comp	0.30	*	Comp	0.31	--
Oil & Grease	LBS/DAY	Grab	ND	*	Grab	ND	U
Perchlorate	LBS/DAY	ANR	ANR	ANR	ANR	ANR	ANR
Sulfate	LBS/DAY	Comp	16.25	*	Comp	27.61	--
Total Cyanide	LBS/DAY	Comp	ND	*	Comp	ND	UJ (R)
Total Dissolved Solids	LBS/DAY	Comp	36.94	*	Comp	52.93	--
Antimony	LBS/DAY	Comp	ND	*	Comp	0.001	J (DNQ)
Copper	LBS/DAY	Comp	0.001	Ja* (DNQ)	Comp	0.002	--
Lead	LBS/DAY	Comp	0.001	*	Comp	0.001	--
Mercury	LBS/DAY	Comp	ND	U	Comp	ND	U
Thallium	LBS/DAY	Comp	ND	*	Comp	ND	U (B)
TCDD TEQ_NoDNQ	LBS/DAY	Comp	3.10E-13	--	Comp	1.53E-13	--

**OUTFALL 019 (Treatment System)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

October 1 through December 31, 2011

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	10/19/2011-10/20/2011 <sup>(a)</sup>			11/16/2011-11/17/2011 <sup>(a)</sup>		
			SAMPLE TYPE	RESULT	VALIDATION QUALIFIER	SAMPLE TYPE	RESULT	VALIDATION QUALIFIER
Ammonia as Nitrogen (N)	mg/L	10.1/1.96	Comp	0.840	*	Comp	ND < 0.50	*
Biochemical Oxygen Demand (BOD 5 day)	mg/L	30/20	Comp	ND < 0.50	*	Comp	ND < 0.50	*
Chloride	mg/L	150/-	Comp	250	--	Comp	34	*
Dissolved Oxygen	mg/L	-/-	Grab	4.53	*	ANR	ANR	ANR
Specific Conductivity (Lab)	umhos/cm	-/-	Grab	1100	--	ANR	ANR	ANR
Surfactants (MBAS)	mg/L	0.5/-	Comp	ND < 0.050	*	Comp	ND < 0.050	*
Fluoride	mg/L	1.6/-	ANR	ANR	ANR	ANR	ANR	ANR
Nitrate + Nitrite as Nitrogen (N)	mg/L	8/-	Comp	ND < 0.75	U	Comp	ND < 0.15	*
Nitrate as Nitrogen (N)	mg/L	8/-	Comp	0.13	J (Q)	Comp	ND < 0.060	*
Nitrite-N	mg/L	1/-	Comp	ND < 0.45	U	Comp	ND < 0.090	*
Oil & Grease	mg/L	15/10	Grab	ND < 1.3	*	Grab	ND < 1.3	*
Perchlorate	ug/L	6.0/-	Comp	ND < 0.95	U	Comp	ND < 0.95	U
pH (Field)	pH units	6.5-8.5/-	Grab	6.9	*	Grab	7.1	*
Total Settleable Solids	ml/L	0.3/0.1	Grab	ND < 0.10	*	Comp	ND < 0.10	*
Sulfate	mg/L	300/-	Comp	150	J (Q)	Comp	150	*
Temperature	deg. F	86/-	Grab	76	*	Grab	57	*
Total Cyanide	ug/L	8.5/4.3	Comp	ND < 2.2	*	Comp	ND < 2.2	*
Total Dissolved Solids	mg/L	950/-	Comp	1100	--	Comp	490	*
Hardness	mg/L	-/-	Comp	630	--	ANR	ANR	ANR
Hardness, dissolved	mg/L	-/-	Comp	580	--	ANR	ANR	ANR
Total Organic Carbon	mg/L	-/-	Comp	0.55	J (DNQ)	Comp	ND < 0.50	*
Total Residual Chlorine (Field)	mg/L	0.1/-	ANR	ANR	ANR	ANR	ANR	ANR
Total Suspended Solids	mg/L	45/15	Comp	ND < 1.0	*	Comp	ND < 1.0	*
Turbidity	NTU	-/-	Comp	0.070	J (DNQ)	Comp	0.11	J (DNQ)
Volume Discharged	MGD	160/-	Meas	0.028	*	ANR	0.029	*
<b>METALS</b>								
Antimony	ug/L	6.0/-	ANR	ANR	ANR	ANR	ANR	ANR
Arsenic	ug/L	10/-	ANR	ANR	ANR	ANR	ANR	ANR
Barium	mg/L	1.0/-	ANR	ANR	ANR	ANR	ANR	ANR
Beryllium	ug/L	4.0/-	ANR	ANR	ANR	ANR	ANR	ANR
Boron	mg/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Cadmium	ug/L	(4.0)3.1/2.0	Comp	ND < 0.10	*	Comp	ND < 0.10	*
Cadmium, dissolved	ug/L	-/-	Comp	ND < 0.10	*	Comp	ND < 0.10	*
Calcium	mg/L	-/-	Comp	210	--	ANR	ANR	ANR
Calcium, Dissolved	mg/L	-/-	Comp	200	--	ANR	ANR	ANR
Chromium	ug/L	16/8	ANR	ANR	ANR	ANR	ANR	ANR
Chromium VI	ug/L	16/8	ANR	ANR	ANR	ANR	ANR	ANR
Cobalt	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Copper	ug/L	14/7.1	Comp	ND < 0.50	*	Comp	0.58	Ja* (DNQ)
Copper, dissolved	ug/L	-/-	Comp	0.79	Ja* (DNQ)	Comp	0.73	Ja* (DNQ)
Iron	mg/L	0.3/-	ANR	ANR	ANR	ANR	ANR	ANR
Lead	ug/L	5.2/2.6	Comp	0.37	Ja* (DNQ)	Comp	ND < 0.20	*
Lead, dissolved	ug/L	-/-	Comp	0.32	Ja* (DNQ)	Comp	ND < 0.20	*
Magnesium	mg/L	-/-	Comp	24	--	ANR	ANR	ANR
Magnesium, Dissolved	mg/L	-/-	Comp	23	--	ANR	ANR	ANR
Manganese	ug/L	50/-	ANR	ANR	ANR	ANR	ANR	ANR
Mercury	ug/L	0.10/0.05	Comp	ND < 0.10	U	Comp	ND < 0.10	U
Mercury, dissolved	ug/L	-/-	Comp	ND < 0.10	U	Comp	ND < 0.10	U
Nickel	ug/L	96/35	ANR	ANR	ANR	ANR	ANR	ANR
Selenium	ug/L	(5)8.2/4.1	Comp	ND < 0.50	*	Comp	ND < 0.50	*
Selenium, dissolved	ug/L	-/-	Comp	ND < 0.50	*	Comp	ND < 0.50	*
Silver	ug/L	4.1/2.0	ANR	ANR	ANR	ANR	ANR	ANR
Thallium	ug/L	2.0/-	ANR	ANR	ANR	ANR	ANR	ANR
Vanadium	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Zinc	ug/L	119/54	Comp	11.6	J (DNQ)	Comp	6.6	J (DNQ)
Zinc, Dissolved	ug/L	-/-	Comp	12.1	J (DNQ)	Comp	8.2	J (DNQ)
<b>ORGANICS</b>								

See attached notes for abbreviations, definitions, and other explanations for the data presented.

(a) Based on peak LA River flow, sampling event on 10/19-10/20/11 and 11/16-11/17/11 are dry discharges.

**OUTFALL 019 (Treatment System)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

October 1 through December 31, 2011

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	10/19/2011-10/20/2011 <sup>(a)</sup>			11/16/2011-11/17/2011 <sup>(a)</sup>		
			SAMPLE TYPE	RESULT	VALIDATION QUALIFIER	SAMPLE TYPE	RESULT	VALIDATION QUALIFIER
Benzene	ug/L	-/-	Grab	ND < 0.28	*	Grab	ND < 0.28	*
Carbon Tetrachloride	ug/L	-/-	Grab	ND < 0.28	L, C*	Grab	ND < 0.28	*
Chloroform	ug/L	-/-	Grab	ND < 0.33	*	Grab	ND < 0.33	*
1,1-Dichloroethane	ug/L	-/-	Grab	ND < 0.40	*	Grab	ND < 0.40	*
1,2-Dichloroethane	ug/L	-/-	Grab	ND < 0.28	*	Grab	ND < 0.28	*
1,1-Dichloroethene	ug/L	6.0/3.2	Grab	ND < 0.42	*	Grab	ND < 0.42	*
1,4-Dioxane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Ethylbenzene	ug/L	-/-	Grab	ND < 0.25	*	Grab	ND < 0.25	*
Tetrachloroethene	ug/L	-/-	Grab	ND < 0.32	*	Grab	ND < 0.32	*
Toluene	ug/L	-/-	Grab	ND < 0.36	*	Grab	ND < 0.36	*
Xylenes (Total)	ug/L	-/-	Grab	ND < 0.90	*	Grab	ND < 0.90	*
1,1,1-Trichloroethane	ug/L	-/-	Grab	ND < 0.30	L*	Grab	ND < 0.30	*
1,1,2-Trichloroethane	ug/L	-/-	Grab	ND < 0.30	*	Grab	ND < 0.30	*
Trichloroethene	ug/L	5.0/-	Grab	ND < 0.26	*	Grab	ND < 0.26	*
Trichlorofluoromethane	ug/L	-/-	Grab	ND < 0.34	L*	Grab	ND < 0.34	*
Trichlorotrifluoroethane (Freon 113)	ug/L	-/-	Grab	ND < 0.50	*	Grab	ND < 0.50	*
Vinyl Chloride	ug/L	-/-	Grab	ND < 0.40	*	Grab	ND < 0.40	*
<b>TPH</b>								
EFH (C13 - C22)	mg/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
GRO (C4 - C12)	mg/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
<b>ADDITIONAL ANALYTES</b>								
1,2-Dichloro-1,1,2-trifluoroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,1,2,2-Tetrachloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,2,4-Trichlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,2-Dichlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,2-Dichloropropane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,2-Diphenylhydrazine/Azobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,3-Dichlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
1,4-Dichlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,4,6-Trichlorophenol	ug/L	13/6.5	Comp	ND < 0.0952	*	Comp	ND < 0.094	*
2,4-Dichlorophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,4-Dimethylphenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,4-Dinitrophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2,4-Dinitrotoluene	ug/L	18/9.1	Comp	ND < 0.190	*	Comp	ND < 0.19	*
2,6-Dinitrotoluene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Chloroethylvinylether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Chloronaphthalene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Chlorophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Methyl-4,6-dinitrophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
2-Nitrophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
3,3'-Dichlorobenzidine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4,4'-DDD	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4,4'-DDE	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4,4'-DDT	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4-Bromophenylphenylether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4-Chloro-3-methylphenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4-Chlorophenylphenylether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
4-Nitrophenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Acenaphthene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Acrolein	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Acrylonitrile	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Acute Toxicity	% SURVIVAL	70-100/-	Comp	100	*	ANR	ANR	ANR
Aldrin	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
alpha-BHC	ug/L	0.03/0.01	Comp	ND < 0.0024	*	Comp	ND < 0.0024	*
Anthracene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1016	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1221	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1232	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR

See attached notes for abbreviations, definitions, and other explanations for the data presented.

(a) Based on peak LA River flow, sampling event on 10/19-10/20/11 and 11/16-11/17/11 are dry discharges.

**OUTFALL 019 (Treatment System)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**October 1 through December 31, 2011**

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	10/19/2011-10/20/2011 <sup>(a)</sup>			11/16/2011-11/17/2011 <sup>(a)</sup>		
			SAMPLE TYPE	RESULT	VALIDATION QUALIFIER	SAMPLE TYPE	RESULT	VALIDATION QUALIFIER
Aroclor-1242	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1248	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1254	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Aroclor-1260	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzidine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(a)anthracene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(a)pyrene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(b)fluoranthene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(g,h,i)perylene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Benzo(k)fluoranthene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
beta-BHC	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
bis (2-Chloroethyl) ether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
bis (2-ethylhexyl) Phthalate	ug/L	4.0/-	Comp	1.70	B, Ja* (DNQ)	Comp	2.5	B, Ja* (DNQ)
bis(2-Chloroethoxy) methane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
bis(2-Chloroisopropyl) ether	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Bromodichloromethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Bromoform	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Bromomethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Butylbenzylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chlordane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chloromethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Chronic Toxicity	TUC	1.0/-	ANR	ANR	ANR	ANR	ANR	ANR
Chrysene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
cis-1,2-Dichloroethene	ug/L	-/-	Grab	ND < 0.32	*	Grab	ND < 0.32	*
cis-1,3-Dichloropropene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Cyclohexane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
delta-BHC	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Dibenzo(a,h)anthracene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Dibromochloromethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Dieldrin	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Diethylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Dimethylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Di-n-butylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Di-n-octylphthalate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endosulfan I	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endosulfan II	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endosulfan sulfate	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endrin	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Endrin aldehyde	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Fluoranthene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Fluorene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Heptachlor	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Heptachlor epoxide	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Hexachlorobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Hexachlorobutadiene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Hexachlorocyclopentadiene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Hexachloroethane	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Indeno(1,2,3-cd)pyrene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Isophorone	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Lindane (gamma-BHC)	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Methylene Chloride	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Monomethyl Hydrazine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Naphthalene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Nitrobenzene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
n-Nitrosodimethylamine	ug/L	16/8.1	Comp	ND < 0.0952	*	Comp	ND < 0.094	*
n-Nitroso-di-n-propylamine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR

See attached notes for abbreviations, definitions, and other explanations for the data presented.

(a) Based on peak LA River flow, sampling event on 10/19-10/20/11 and 11/16-11/17/11 are dry discharges.

**OUTFALL 019 (Treatment System)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

October 1 through December 31, 2011

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	10/19/2011-10/20/2011 <sup>(a)</sup>			11/16/2011-11/17/2011 <sup>(a)</sup>		
			SAMPLE TYPE	RESULT	VALIDATION QUALIFIER	SAMPLE TYPE	RESULT	VALIDATION QUALIFIER
n-Nitrosodiphenylamine	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Pentachlorophenol	ug/L	16.5/8.2	Comp	ND < 0.0952	*	Comp	ND < 0.094	*
Phenanthrene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Phenol	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Pyrene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
Toxaphene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
trans-1,2-Dichloroethene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR
trans-1,3-Dichloropropene	ug/L	-/-	ANR	ANR	ANR	ANR	ANR	ANR

See attached notes for abbreviations, definitions, and other explanations for the data presented.

(a) Based on peak LA River flow, sampling event on 10/19-10/20/11 and 11/16-11/17/11 are dry discharges.



**Outfall 019 (Treatment System)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**Sample Type: Composite  
Sample Date: October 19-20, 2011**

<b>ANALYTE</b>	<b>LAB LOD (ug/L)</b>	<b>LAB RL (ug/L)</b>	<b>LAB RESULT (ug/L)</b>	<b>VALIDATION QUALIFIER</b>	<b>1998 WHO TEF</b>	<b>BEF Great Lakes Water Quality Initiative</b>	<b>TCDD Equivalent (w/out DNQ Values) (ug/L)</b>
1,2,3,4,6,7,8-HpCDD	9.80E-07	5.00E-05	ND	U (B)	0.01	0.05	ND
1,2,3,4,6,7,8-HpCDF	7.60E-07	5.00E-05	ND	U (B)	0.01	0.01	ND
1,2,3,4,7,8,9-HpCDF	1.00E-06	5.00E-05	ND	U (B)	0.01	0.4	ND
1,2,3,4,7,8-HxCDD	1.70E-06	5.00E-05	ND	U (B)	0.1	0.3	ND
1,2,3,4,7,8-HxCDF	1.30E-06	5.00E-05	ND	U (B)	0.1	0.08	ND
1,2,3,6,7,8-HxCDD	1.70E-06	5.00E-05	ND	U (B)	0.1	0.1	ND
1,2,3,6,7,8-HxCDF	1.30E-06	5.00E-05	ND	U (B)	0.1	0.2	ND
1,2,3,7,8,9-HxCDD	1.40E-06	5.00E-05	ND	U (B)	0.1	0.1	ND
1,2,3,7,8,9-HxCDF	1.30E-06	5.00E-05	ND	U (B)	0.1	0.6	ND
1,2,3,7,8-PeCDD	5.90E-06	5.00E-05	ND	U	1	0.9	ND
1,2,3,7,8-PeCDF	3.80E-06	5.00E-05	ND	U	0.05	0.2	ND
2,3,4,6,7,8-HxCDF	1.10E-06	5.00E-05	ND	U (B)	0.1	0.7	ND
2,3,4,7,8-PeCDF	4.00E-06	5.00E-05	ND	U	0.5	1.6	ND
2,3,7,8-TCDD	2.50E-06	1.00E-05	ND	U	1	1	ND
2,3,7,8-TCDF	1.80E-06	1.00E-05	ND	U	0.1	0.8	ND
OCDD	3.30E-06	1.00E-04	ND	U (B)	0.0001	0.01	ND
OCDF	2.60E-06	1.00E-04	ND	U (B)	0.0001	0.02	ND

<b>TCDD TEQ w/out DNQ Values</b>	<b>ND</b>
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**TCDD TEQ BENCHMARK LIMIT = 2.80E-08**

See attached notes for abbreviations, definitions, and other explanations for the data presented in this table.

**Outfall 019 (Treatment System)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**Sample Type: Composite  
Sample Date: November 16-17, 2011**

<b>ANALYTE</b>	<b>LAB LOD (ug/L)</b>	<b>LAB RL (ug/L)</b>	<b>LAB RESULT (ug/L)</b>	<b>VALIDATION QUALIFIER</b>	<b>1998 WHO TEF</b>	<b>BEF Great Lakes Water Quality Initiative</b>	<b>TCDD Equivalent (w/out DNQ Values) (ug/L)</b>
1,2,3,4,6,7,8-HpCDD	5.70E-07	5.00E-05	ND	U (B)	0.01	0.05	ND
1,2,3,4,6,7,8-HpCDF	3.50E-07	5.00E-05	ND	U (B)	0.01	0.01	ND
1,2,3,4,7,8,9-HpCDF	4.30E-07	5.00E-05	ND	U (B)	0.01	0.4	ND
1,2,3,4,7,8-HxCDD	4.80E-07	5.00E-05	ND	U	0.1	0.3	ND
1,2,3,4,7,8-HxCDF	2.30E-07	5.00E-05	1.60E-06	J (DNQ)	0.1	0.08	ND
1,2,3,6,7,8-HxCDD	4.30E-07	5.00E-05	ND	U	0.1	0.1	ND
1,2,3,6,7,8-HxCDF	2.20E-07	5.00E-05	ND	UJ (*III)	0.1	0.2	ND
1,2,3,7,8,9-HxCDD	4.20E-07	5.00E-05	ND	U	0.1	0.1	ND
1,2,3,7,8,9-HxCDF	2.40E-07	5.00E-05	ND	UJ (*III)	0.1	0.6	ND
1,2,3,7,8-PeCDD	1.10E-06	5.00E-05	ND	U	1	0.9	ND
1,2,3,7,8-PeCDF	9.70E-07	5.00E-05	ND	U	0.05	0.2	ND
2,3,4,6,7,8-HxCDF	2.10E-07	5.00E-05	ND	U	0.1	0.7	ND
2,3,4,7,8-PeCDF	1.10E-06	5.00E-05	ND	U	0.5	1.6	ND
2,3,7,8-TCDD	6.50E-07	1.00E-05	ND	U	1	1	ND
2,3,7,8-TCDF	6.30E-07	1.00E-05	ND	U	0.1	0.8	ND
OCDD	1.60E-06	1.00E-04	1.20E-04	--	0.0001	0.01	1.20E-10
OCDF	5.50E-07	1.00E-04	ND	U (B)	0.0001	0.02	ND

<b>TCDD TEQ w/out DNQ Values</b>	<b>1.20E-10</b>
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**TCDD TEQ BENCHMARK LIMIT = 2.80E-08**

See attached notes for abbreviations, definitions, and other explanations for the data presented in this table.

**OUTFALL 019 (Treatment System)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**October 1 through December 31, 2011**

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	10/19/2011-10/20/2011			11/16/2011-11/17/2011		
			Sample Type	Result	Concentration Result Validation Qualifier	Sample Type	Result	Concentration Result Validation Qualifier
Max Discharge for event	MGD	160	Meas	0.02844		Meas	0.02928	
Ammonia as Nitrogen (N)	LBS/DAY	13,500/2615	Comp	0.20	*	Comp	ND	*
Biochemical Oxygen Demand (BOD 5 day)	LBS/DAY	40,032/26,700	Comp	ND	*	Comp	ND	*
Chloride	LBS/DAY	200,160/-	Comp	59.29	--	Comp	8.30	*
Surfactants (MBAS)	LBS/DAY	667/-	Comp	ND	*	Comp	ND	*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	10,700/-	Comp	ND	U	Comp	ND	*
Nitrate as Nitrogen (N)	LBS/DAY	10,700/-	Comp	0.03	J (Q)	Comp	ND	*
Nitrite-N	LBS/DAY	1,334/-	Comp	ND	U	Comp	ND	*
Oil & Grease	LBS/DAY	20,016/13,344	Grab	ND	*	Grab	ND	*
Perchlorate	LBS/DAY	8.0/-	Comp	ND	U	Comp	ND	U
Sulfate	LBS/DAY	400,320/-	Comp	35.57	J (Q)	Comp	36.63	*
Total Cyanide	LBS/DAY	11/5.7	Comp	ND	*	Comp	ND	*
Total Dissolved Solids	LBS/DAY	1,270,000/-	Comp	260.88	--	Comp	119.64	*
Total Suspended Solids	LBS/DAY	60,048/20,016	Comp	ND	*	Comp	ND	*
Cadmium	LBS/DAY	4.1/2.7	Comp	ND	*	Comp	ND	*
Copper	LBS/DAY	19/9.5	Comp	ND	*	Comp	0.0001	Ja* (DNQ)
Lead	LBS/DAY	6.9/3.5	Comp	0.0001	Ja* (DNQ)	Comp	ND	*
Mercury	LBS/DAY	0.13/0.07	Comp	ND	U	Comp	ND	U
Selenium	LBS/DAY	11/5.5	Comp	ND	*	Comp	ND	*
Zinc	LBS/DAY	159/72	Comp	0.003	J (DNQ)	Comp	0.002	J (DNQ)
1,1-Dichloroethene	LBS/DAY	8.0/4.3	Grab	ND	*	Grab	ND	*
Trichloroethene	LBS/DAY	6.7/-	Grab	ND	*	Grab	ND	*
2,4,6-Trichlorophenol	LBS/DAY	17/8.7	Comp	ND	*	Comp	ND	*
2,4-Dinitrotoluene	LBS/DAY	24/12	Comp	ND	*	Comp	ND	*
alpha-BHC	LBS/DAY	0.04/0.013	Comp	ND	*	Comp	ND	*
bis (2-ethylhexyl) Phthalate	LBS/DAY	5.3/-	Comp	0.0004	B, Ja* (DNQ)	Comp	0.001	B, Ja* (DNQ)
n-Nitrosodimethylamine	LBS/DAY	22/10.8	Comp	ND	*	Comp	ND	*
Pentachlorophenol	LBS/DAY	22/10.9	Comp	ND	*	Comp	ND	*
TCDD TEQ_NoDNQ	LBS/DAY	3.70E-08/1.9E-08	Comp	ND	--	Comp	2.93E-14	--

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

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**October 1 through December 31, 2011**

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	11/10/2011		
			SAMPLE TYPE	RESULT	VALIDATION QUALIFIER
Dissolved Oxygen	mg/L	5.0 Min/-	ANR	ANR	ANR
pH (Field)	pH Units	6.5-8.5/-	Grab	7.3	*
Temperature	F	-/-	Grab	64	*
Hardness	mg/L	-/-	Grab	820	--
E. Coli	MPN/100 mL	235/-	ANR	ANR	ANR
Fecal Coliform	MPN/100 mL	400/-	ANR	ANR	ANR
Water Velocity	ft/sec	-/-	Meas	2.86	*
Magnesium	mg/L	-/-	Grab	66	--
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	C5* (C5)
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 < 0.076	*
Chlorpyrifos	ug/L	0.02/-	Grab	ND < 0.080	*
Diazinon	ug/L	0.16/-	Grab	ND < 0.040	*
Dieldrin	ug/L	0.0002/-	Grab	ND < 0.0019	*
Toxaphene	ug/L	0.0003/-	Grab	ND < 0.24	*

APPENDIX D

FOURTH QUARTER 2011 RADIOLOGICAL MONITORING DATA

**FOURTH QUARTER 2011  
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 TEF and 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. Since pH does not have an RL, the possible pH range is shown in the RL column.
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
--	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
*III	unusual problems found with the data that have been described in section III of the validation report
ANR	analysis not required; e.g., constituent or outfall was not required by the permit to be sampled and analyzed (annual, semi-annual, etc.)
B	laboratory method blank contamination
BEF	Bioaccumulation Equivalency Factor
C	calibration %RSD or %D were noncompliant
Comp	Composite
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 than the laboratory reporting limit)
J	estimated value
Ja	estimated value

**FOURTH QUARTER 2011  
REPORTING SUMMARY NOTES  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

L	laboratory control sample %R was outside control limits
LOD	limit of detection
M1, pH, P	matrix spike (MS) and/or MS duplicate were above the acceptance limits due to sample matrix interference, pH = 7.0, sample as received not preserved in accordance to the referenced analytical method
MDA	minimal detectable amount/activity
MDL	method detection limit
MEAS	Measured
MGD	million gallons per day
mg/L	milligrams per liter
MPN/100ml	most probable number per 100 milliliters
ND	analyte value less than the LOD or MDL
NTU	nephelometric turbidity unit
pCi/L	picocuries per liter
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
TEQ	toxic equivalent
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
(4.0)3.1/-	Represents (Dry Weather Limit) Wet Weather Limit / Monthly Average Limit.

**OUTFALL 009 (WS-13 Drainage)**

**FORUTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**October 1 through December 31, 2011**

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	10/05/2011 (Comp)			11/06/2011 (Comp)		
			RESULT	MDA	VALIDATION QUALIFIER	RESULT	MDA	VALIDATION QUALIFIER
<b>RADIOACTIVITY</b>								
Gross Alpha	pCi/L	15/-	1.49 ± 0.39	0.327	J (DNQ)	0.563 ± 0.29	0.366	J (DNQ)
Gross Beta	pCi/L	50/-	2.95 ± 0.58	0.798	J (DNQ)	1.7 ± 0.55	0.824	J (DNQ)
Strontium-90	pCi/L	8.0/-	-0.047 ± 0.35	0.824	U	0.03 ± 0.26	0.511	U
Total Combined Radium-226 & Radium 228	pCi/L	5.0/-	0.28 ± 0.44	1.09	U	0.33 ± 0.41	0.97	U
Tritium	pCi/L	20000/-	-66.2 ± 120	206	U	-3.07 ± 92	156	U
Uranium, Total	pCi/L	20/-	0.07 ± 0.013	0.022	--	0.107 ± 0.014	0.017	J (DNQ)
Potassium-40	pCi/L	-/-	ND < 13	13	U	ND < 26.2	26.2	U
Cesium 137	pCi/L	200/-	ND < 1.06	1.06	U	ND < 0.966	0.966	U



**OUTFALL 009 (WS-13 Drainage)**

**FORUTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**October 1 through December 31, 2011**

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	11/12/2011 (Comp)			11/20/2011 (Comp)		
			RESULT	MDA	VALIDATION QUALIFIER	RESULT	MDA	VALIDATION QUALIFIER
<b>RADIOACTIVITY</b>								
Gross Alpha	pCi/L	15/-	0.757 ± 0.29	0.335	J (L, DNQ)	0.368 ± 0.19	0.209	J (DNQ)
Gross Beta	pCi/L	50/-	2.33 ± 0.64	0.945	J (DNQ)	1.64 ± 0.60	0.912	J (DNQ)
Strontium-90	pCi/L	8.0/-	0.015 ± 0.33	0.745	U	0.039 ± 0.37	0.798	U
Total Combined Radium-226 & Radium 228	pCi/L	5.0/-	0.64 ± 0.44	1.04	U	0.79 ± 0.53	1.35	U
Tritium	pCi/L	20000/-	-5.76 ± 220	142	U	-20.4 ± 89	152	U
Uranium, Total	pCi/L	20/-	0.061 ± 0.010	0.017	J (DNQ)	0.365 ± 0.040	0.017	J (DNQ)
Potassium-40	pCi/L	-/-	ND < 12.4	12.4	U	ND < 18	18	U
Cesium 137	pCi/L	200/-	ND < 1.07	1.07	U	ND < 1.25	1.25	U

**OUTFALL 009 (WS-13 Drainage)**

**FORUTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**October 1 through December 31, 2011**

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	12/12/2011 (Comp)		
			RESULT	MDA	VALIDATION QUALIFIER
<b>RADIOACTIVITY</b>					
Gross Alpha	pCi/L	15/-	0.621 ± 0.32	0.409	J (C, DNQ)
Gross Beta	pCi/L	50/-	1.59 ± 0.59	0.896	J (DNQ)
Strontium-90	pCi/L	8.0/-	0.094 ± 0.48	1.05	U
Total Combined Radium-226 & Radium 228	pCi/L	5.0/-	0.11 ± 0.36	1.01	U
Tritium	pCi/L	20000/-	-33.7 ± 91	156	U
Uranium, Total	pCi/L	20/-	0.05 ± 0.009	0.016	J (DNQ)
Potassium-40	pCi/L	-/-	ND < 19.5	19.5	U
Cesium 137	pCi/L	200/-	ND < 1.6	1.6	U

**OUTFALL 019 (Treatment System)**

**FOURTH QUARTER 2011 REPORTING SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

**October 1 through December 31, 2011**

ANALYTE	UNITS	Permit Limit Daily Max/Monthly Avg	10/19-20/2011 (Comp)			11/16-17/2011 (Comp)		
			RESULT	MDA	VALIDATION QUALIFIER	RESULT	MDA	VALIDATION QUALIFIER
<b>RADIOACTIVITY</b>								
Gross Alpha	pCi/L	15/-	1.7 ± 2.0	3.04	UJ (C)	0.304 ± 0.92	1.54	UJ (C)
Gross Beta	pCi/L	50/-	11.8 ± 1.5	1.9	--	3.65 ± 1.2	1.88	J (DNQ)
Strontium-90	pCi/L	8.0/-	0.245 ± 0.49	1.01	U	0.098 ± 0.26	0.56	U
Total Combined Radium-226 & Radium 228	pCi/L	5.0/-	0.68 ± 0.47	1.21	U	0.02 ± 0.55	1.52	U
Tritium	pCi/L	20000/-	-130 ± 100	185	U	-68.5 ± 92	160	U
Uranium, Total	pCi/L	20/-	0.221 ± 0.025	0.019	J (DNQ)	0.174 ± 0.020	0.017	J (DNQ)
Potassium-40	pCi/L	-/-	ND < 41.3	41.3	U	ND < 15.1	15.1	U
Cesium 137	pCi/L	200/-	ND < 2.15	2.15	U	ND < 1.3	1.3	U

See attached notes for abbreviations, definitions,  
and other explanations for the data presented.

APPENDIX E

FOURTH QUARTER 2011 SUMMARY OF PERMIT LIMIT  
EXCEEDANCES

**FOURTH QUARTER 2011  
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 TEF and 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. Since pH does not have an RL, the possible pH range is shown in the RL column.
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
--	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
*III	unusual problems found with the data that have been described in section III of the validation report
ANR	analysis not required; e.g., constituent or outfall was not required by the permit to be sampled and analyzed (annual, semi-annual, etc.)
B	laboratory method blank contamination
BEF	Bioaccumulation Equivalency Factor
C	calibration %RSD or %D were noncompliant
Comp	Composite
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 than the laboratory reporting limit)
J	estimated value
Ja	estimated value

**FOURTH QUARTER 2011  
REPORTING SUMMARY NOTES  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

L	laboratory control sample %R was outside control limits
LOD	limit of detection
M1, pH, P	matrix spike (MS) and/or MS duplicate were above the acceptance limits due to sample matrix interference, pH = 7.0, sample as received not preserved in accordance to the referenced analytical method
MDA	minimal detectable amount/activity
MDL	method detection limit
MEAS	Measured
MGD	million gallons per day
mg/L	milligrams per liter
MPN/100ml	most probable number per 100 milliliters
ND	analyte value less than the LOD or MDL
NTU	nephelometric turbidity unit
pCi/L	picocuries per liter
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
TEQ	toxic equivalent
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
(4.0)3.1/-	Represents (Dry Weather Limit) Wet Weather Limit / Monthly Average Limit.

**SUMMARY OF PERMIT LIMIT EXCEEDANCES**

**FOURTH QUARTER 2011  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

<b>DAILY MAX PERMIT LIMIT EXCEEDANCES</b>							
<b>OUTFALL</b>	<b>LOCATIONS</b>	<b>SAMPLE DATE</b>	<b>ANALYTE</b>	<b>PERMIT LIMIT DAILY MAX</b>	<b>DAILY MAX RESULT</b>	<b>UNITS</b>	<b>VALIDATION QUALIFIER</b>
Outfall 019	Treatment System	10/20/11	Chloride	150	250	mg/L	--
Outfall 019	Treatment System	10/20/11	Total Dissolved Solids	950	1100	mg/L	--

APPENDIX F

FOURTH QUARTER 2011 REASONABLE POTENTIAL  
ANALYSIS (RPA) SUMMARY TABLES



**FOURTH QUARTER 2011 REASONABLE POTENTIAL ANALYSIS SUMMARY  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

1. The following Reasonable Potential Analysis (RPA) provides the analytical results as performed by the procedures outlined in *Reasonable Potential Analysis Methodology Technical Memo* (MWH and Flow Science, 2006).
2. The monitoring data set utilized to conduct the RPA consists of all applicable and relevant data from August 2004 through the present reporting quarter.
3. As directed by the CTR and the Regional Water Control Board 2,3,7,8-TCDD (Dioxin) values are to be expressed in NPDES permitting and this RPA as TCDD Total Equivalence units (TEQs). A TCDD TEQ is determined by multiplying each of the seventeen dioxin and furan congeners by their respective total equivalence factor (TEF) and bioaccumulation factor (BEF), and summing the results of those products. For the purposes of this RPA, the resulting TCDD TEQ does not include those congener concentrations that are reported as DNQ, as specified on Page 37, of the NPDES Permit Effective July 19, 2010.
4. In calculating the average, standard deviation, coefficient of variation, and projected maximum effluent concentration (99/99), one-half of the MDL was used for concentration results reported as ND. Data reported with qualifiers were not included in this RPA as Boeing believes qualified data are not "appropriate, valid, relevant, (nor) representative"<sup>1</sup> of storm water constituents and are therefore not utilized in its RPA.
5. All of the following abbreviations and/or notes may not occur on every table.

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**Definition of Acronyms, Abbreviations, and Terminology Used**

>=	Greater than or equal to
*	Freshwater aquatic life criteria for metals are expressed as a function of total hardness (mg/L) in the water body. The equations are provided in the CTR, (US EPA, 2000). Values displayed correspond to a total hardness of 100 mg/l.
µg/L	Concentration units, micrograms per liter
All Data Qualified	All available monitoring data are qualified and no statistical analysis is performed.
Annually	The 2009 NPDES Permit requires annual monitoring.
Available Data < DL	All available monitoring data that are not qualified are below detection limits.
B	Background
C	Concentration
CCC	Criterion Continuous Concentration
CMC	Criterion Maximum Concentration
CTR	California Toxics Rule
CV	Coefficient of Variation
DL	Detection Limit
EPA TSD	EPA's Technical Support Document for Water Quality Based Toxics Control, (see references).

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<sup>1</sup> SIP, p. 5.

**FOURTH QUARTER 2011 REASONABLE POTENTIAL ANALYSIS SUMMARY  
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SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

Definition of Acronyms, Abbreviations, and Terminology Used (Continued)

Fibers/L	Units for asbestos concentration, fibers per liter
HH O	Human Health criteria for consumption of Organisms only
HH W&O	Human Health criteria for consumption of Water and Organisms
MEC	Maximum Observed Effluent Concentration
Min	Minimum
NA	Not Applicable
Narrative	Water quality criteria are expressed as a narrative objective rather than a numeric objective, and therefore are not part of the statistical RPA calculations.
None	No available CTR or Basin Plan criteria.
pH Dependent	CTR Criteria are based on pH.
Once Per Discharge	The 2009 NPDES Permit requires monitoring once per discharge event.
Qualified Data	Data qualifier definitions are: (a) J- The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL), (b) U/UJ- The analyte was not detected in the sample at the detection limit /estimated detection limit (EDL), (c) B- Analyte found in sample and associated blank, and (d) DNQ- Detected Not Quantified.
Reserved	EPA has reserved the CTR criteria.
RPA	Reasonable Potential Analysis
SIP	The State Water Resources Control Board "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California," (see references).
Tot	Total

Priority Pollutant RPA Column Explanation

CTR	Provides CTR constituent reference number.
Constituent	Provides CTR constituent common name.
Units	Provides the data set's concentration units as referenced by 2009 NPDES Permit.
MEC	Provides the outfall monitoring group's maximum value from the applicable data set.
CV	Equal to the standard deviation divided by the average of the applicable data set. If the number of samples is less than 10, the CV is assumed to be 0.6.
<i>Step 1 identifies all applicable water quality criteria.</i>	
CTR Criteria	Concentration criteria as listed in the CTR.
CMC = Acute	The Freshwater CMC is listed as the acute concentration criterion.
CCC = Chronic	The Freshwater CCC is listed as the chronic concentration criterion.
HH W& O(Not App)	The HH W&O is deemed not applicable based on past Regional Board RPAs.
HH O = HH	The HH O is listed as the CTR human health concentration criterion.
Basin Plan Criteria	Applicable Basin Plan Criteria are listed for the Los Angeles River and/or Calleguas Creek watersheds.

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C = Lowest Criteria	The comparison concentration (C) is equal to the lowest criterion for a constituent based on the CMC, CCC, HH O, and Basin Plan Criteria listed.
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**Priority Pollutant RPA Column Explanation (Continued)**

<i>Step 2 defines the applicable data set.</i>	
Is Effluent Data Available	If there is available monitoring data that is not qualified and above DL, then YES. If not, then NO.
<i>Step 3 determines the maximum observed effluent concentration.</i>	
Was Constituent Detected in Effluent Data	If the constituent was detected, then YES. If all monitoring data are non-detect or qualified then NO.
Are all DL >C	If constituent was detected in effluent data then not applicable (NA). If constituent was not detected and all analysis detection limits are less than the comparison concentration, then YES, if not then NO.
If DL > C MEC = Min (DL)	If the previous cell answer was yes, then the MEC is equal to the minimum detection limit. If not, then NA.
<i>Step 4 compares the MEC to the lowest applicable water quality criteria.</i>	
MEC >= C	If the MEC is greater than or equal to the comparison concentration then YES, if not then NO.

Note: Steps 5 and 6 of the Priority Pollutant RPA do not apply to Boeing SSFL because the Regional Board gives no consideration for receiving water background constituent concentrations. Furthermore, Boeing SSFL defers the application of best professional judgment in Step 7 and final determination of reasonable potential in Step 8 to the Regional Board Staff.

**Nonpriority Pollutant RPA Column Explanation**

Constituent	Provides the Non Priority Pollutant constituent common name
Monitoring	Provides the 2009 NPDES Permit directed monitoring frequency
Units	Provides the data set's concentration units as referenced by 2009 NPDES Permit
Number of Samples	Provides the number of available samples that are not qualified
MEC	Provides the outfall monitoring group's maximum value from the applicable data set
CV	Equal to the standard deviation divided by the average of the applicable data set. If the number of samples is less than 10, the CV is assumed to be 0.6.
Multiplier	Utilizes the EPA's TSD calculation to determine multiplier for which the maximum effluent concentration is calculated. (MWH and Flow Science, 2006, or EPA TSD, 1991)
Projected Maximum Effluent Concentration	Utilizes the product of the multiplier and the MEC as an estimate for the projected maximum effluent concentration.
Dilution Ratio	The Regional Board allocates no dilution ratio to Boeing SSFL.
Background Concentration	The Regional Board allocates no background concentration to Boeing SSFL.
Projected Maximum Receiving Water Concentration	The Regional Board estimates the projected maximum receiving water concentration as equal to the projected maximum effluent concentration.

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Nonpriority Pollutant RPA Column Explanation (Continued)

Step 1, Determine Water Quality Objectives	The water quality objective is based on appropriate Basin Plan criteria.
BU – Beneficial Use Protection, NC – Human noncarcinogen, AP- Aquatic Life Protection, TMDL – Total Maximum Daily Load	This is the Regional Board’s Basis for determining if reasonable potential should be evaluated for a non-priority pollutant.

Note: Boeing SSFL has completed appropriate statistical calculations, but defers the application of best professional judgment and the final determination of reasonable potential to the Regional Board Staff.

References

Los Angeles Regional Water Quality Control Board, “Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, (Basin Plan).” June 13, 1994.

MWH and Flow Science, “Reasonable Potential Analysis Methodology Technical Memo- Version 1, Final, Santa Susan Field Laboratory, Ventura County, California.” April 28, 2006.

State Water Resources Control Board, “Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, (SIP)” Resolution No. 2005-0019, February 24, 2005.

US EPA, *40CFR part 131, Water Quality Standards; Establishment of numeric Criteria for Priority Toxic Pollutants for the State of California*,(CTR) Federal Registry, May 18, 2000, pp. 31682-31719.

US EPA, “Technical Support Document for Water Quality-based Toxics Control.” EPA/505/2-90-001, PB-91-127415, March 1991.

**Table F1  
REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS, (OUTFALL 009)**

**FOURTH QUARTER 2011  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

						Step 1: Water Quality Criteria, Determine C					Step 2	Step 3			Step 4	
						CTR CRITERIA				Basin Plan Title 22 GWR	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
Outfall	CTR	Constituent	Units	MEC	CV	Freshwater CMC = Acute	Human Health CCC = Chronic	HH W&O (Not App)	HH O = HH							
3_7,9-10	001	Antimony	ug/L	0.57	0.6	NONE	NONE	14	4300	6	6	Yes	Yes	NA	NA	No
3_7,9-10	002	Arsenic	ug/L	All Data Qualified	0.6	340	150	NONE	NONE	10	50	No	No	No	NA	No
3_7,9-10	003	Beryllium	ug/L	All Data Qualified	0.6	NONE	NONE	Narrative	Narrative	4	4	No	No	No	NA	No
3_7,9-10	004	Cadmium	ug/L	Available Data <DL	0.6		2.46	Narrative	Narrative	5	2.46	Yes	No	No	NA	No
3_7,9-10	005a	Chromium	ug/L	All Data Qualified	0.6		206	Narrative	Narrative		206.98	No	No	No	NA	No
3_7,9-10	005b	Chromium VI	ug/L	All Data Qualified	0.6	16.3	11.4	Narrative	Narrative	50	11.43	No	No	No	NA	No
3_7,9-10	006	Copper	ug/L	6.5	0.6		9.3	1300	NONE		9.33	Yes	Yes	NA	NA	No
3_7,9-10	007	Lead	ug/L	2.7	0.6		3.18	Narrative	Narrative		3.18	Yes	Yes	NA	NA	No
3_7,9-10	008	Mercury	ug/L	All Data Qualified	0.6	Reserved	Reserved	0.05	0.051	2	0.05	No	No	No	NA	No
3_7,9-10	009	Nickel	ug/L	All Data Qualified	0.6		52	610	4600	100	52.16	No	No	No	NA	No
3_7,9-10	010	Selenium	ug/L	All Data Qualified	0.6	Reserved	5	Narrative	Narrative	50	5.00	No	No	No	NA	No
3_7,9-10	011	Silver	ug/L	All Data Qualified	0.6		none	NONE	NONE		4.06	No	No	No	NA	No
3_7,9-10	012	Thallium	ug/L	0.23	0.6	NONE	NONE	1.7	6.3	2	2.00	Yes	Yes	NA	NA	No
3_7,9-10	013	Zinc	ug/L	All Data Qualified	0.6		119.8	none	NONE		119.82	No	No	No	NA	No
3_7,9-10	014	Total Cyanide	ug/L	Available Data <DL	0.6	22	5.2	700	220000	200	5.2	Yes	No	No	NA	No
3_7,9-10	015	Asbestos	Fibers/L	All Data Qualified	0.6	NONE	NONE	7000000	NONE	7000000	700000	No	No	No	NA	No
3_7,9-10	016	TCDD TEQ_NoDNQ	ug/L	4.20E-10	0.6	NONE	NONE	1.30E-08	1.40E-08	3.00E-05	1.40E-08	Yes	Yes	NA	NA	No
3_7,9-10	017	Acrolein	ug/L	All Data Qualified	0.6	NONE	NONE	320	780		780	No	No	No	NA	No
3_7,9-10	018	Acrylonitrile	ug/L	All Data Qualified	0.6	NONE	NONE	0.059	0.66		0.66	No	No	No	NA	No
3_7,9-10	019	Benzene	ug/L	All Data Qualified	0.6	NONE	NONE	1.2	71	1	1	No	No	No	NA	No
3_7,9-10	020	Bromoform	ug/L	All Data Qualified	0.6	NONE	NONE	4.3	360		360	No	No	No	NA	No
3_7,9-10	021	Carbon Tetrachloride	ug/L	All Data Qualified	0.6	NONE	NONE	0.25	4.4	600	4.4	No	No	No	NA	No
3_7,9-10	022	Chlorobenzene	ug/L	All Data Qualified	0.6	NONE	NONE	680	21000		21000	No	No	No	NA	No
3_7,9-10	023	Dibromochloromethane	ug/L	All Data Qualified	0.6	NONE	NONE	0.401	34		34	No	No	No	NA	No
3_7,9-10	024	Chloroethane	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	025	2-Chloroethylvinylether	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	026	Chloroform	ug/L	All Data Qualified	0.6	NONE	NONE	Reserved	Reserved		NONE	No	No	No	NA	No
3_7,9-10	027	Bromodichloromethane	ug/L	All Data Qualified	0.6	NONE	NONE	0.56	46		46	No	No	No	NA	No
3_7,9-10	028	1,1-Dichloroethane	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE	5	5	No	No	No	NA	No
3_7,9-10	029	1,2-Dichloroethane	ug/L	All Data Qualified	0.6	NONE	NONE	0.38	99	0.5	0.5	No	No	No	NA	No
3_7,9-10	030	1,1-Dichloroethene	ug/L	All Data Qualified	0.6	NONE	NONE	0.057	3.2	6	3.2	No	No	No	NA	No
3_7,9-10	031	1,2-Dichloropropane	ug/L	All Data Qualified	0.6	NONE	NONE	0.52	39	5	5	No	No	No	NA	No
3_7,9-10	032	1,3-Dichloropropene (Total)	ug/L	All Data Qualified	0.6	NONE	NONE	10	1700	0.5	0.5	No	No	No	NA	No
3_7,9-10	033	Ethylbenzene	ug/L	All Data Qualified	0.6	NONE	NONE	3100	29000	0.7	0.7	No	No	No	NA	No
3_7,9-10	034	Bromomethane	ug/L	All Data Qualified	0.6	NONE	NONE	48	4000		4000	No	No	No	NA	No
3_7,9-10	035	Chloromethane	ug/L	All Data Qualified	0.6	NONE	NONE	Narrative	Narrative		NONE	No	No	No	NA	No
3_7,9-10	036	Methylene chloride	ug/L	All Data Qualified	0.6	NONE	NONE	4.7	1600		1600	No	No	No	NA	No
3_7,9-10	037	1,1,2,2-Tetrachloroethane	ug/L	All Data Qualified	0.6	NONE	NONE	0.17	11	1	1	No	No	No	NA	No
3_7,9-10	038	Tetrachloroethene	ug/L	All Data Qualified	0.6	NONE	NONE	0.8	8.85	5	5	No	No	No	NA	No
3_7,9-10	039	Toluene	ug/L	All Data Qualified	0.6	NONE	NONE	6800	200000	150	150	No	No	No	NA	No
3_7,9-10	040	trans-1,2-Dichloroethene	ug/L	All Data Qualified	0.6	NONE	NONE	700	140000	10	10	No	No	No	NA	No
3_7,9-10	041	1,1,1-Trichloroethane	ug/L	All Data Qualified	0.6	NONE	NONE	Narrative	Narrative	200	200	No	No	No	NA	No
3_7,9-10	042	1,1,2-trichloroethane	ug/L	All Data Qualified	0.6	NONE	NONE	0.6	42	5	5	No	No	No	NA	No
3_7,9-10	043	Trichloroethene	ug/L	All Data Qualified	0.6	NONE	NONE	2.7	81	5	5	No	No	No	NA	No
3_7,9-10	044	Vinyl chloride	ug/L	All Data Qualified	0.6	NONE	NONE	2	525	0.5	0.5	No	No	No	NA	No
3_7,9-10	045	2-chlorophenol	ug/L	All Data Qualified	0.6	NONE	NONE	120	400		400	No	No	No	NA	No
3_7,9-10	046	2,4-Dichlorophenol	ug/L	All Data Qualified	0.6	NONE	NONE	93	790		790	No	No	No	NA	No

**Table F1**  
**REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS, (OUTFALL 009)**

**FOURTH QUARTER 2011**  
**THE BOEING COMPANY**  
**SANTA SUSANA FIELD LABORATORY**  
**NPDES PERMIT CA0001309**

						Step 1: Water Quality Criteria, Determine C					Step 2	Step 3			Step 4	
						CTR CRITERIA				Basin Plan Title 22 GWR	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
Outfall	CTR	Constituent	Units	MEC	CV	Freshwater CMC = Acute	Human Health CCC = Chronic	HH W&O (Not App)	HH O = HH							
3_7,9-10	047	2,4-dimethylphenol	ug/L	All Data Qualified	0.6	NONE	NONE	540	2300		2300	No	No	No	NA	No
3_7,9-10	048	2-Methyl-4,6-dinitrophenol	ug/L	All Data Qualified	0.6	NONE	NONE	13.4	765		765	No	No	No	NA	No
3_7,9-10	049	2,4-dinitrophenol	ug/L	All Data Qualified	0.6	NONE	NONE	70	14000		14000	No	No	No	NA	No
3_7,9-10	050	2-nitrophenol	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	051	4-nitrophenol	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	052	4-Chloro-3-methylphenol	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	053	Pentachlorophenol	ug/L	All Data Qualified	0.6	pH dependent	pH dependent	0.28	8.2	1	1	No	No	No	NA	No
3_7,9-10	054	Phenol	ug/L	All Data Qualified	0.6	NONE	NONE	21000	4600000		4600000	No	No	No	NA	No
3_7,9-10	055	2,4,6-Trichlorophenol	ug/L	All Data Qualified	0.6	NONE	NONE	2.1	6.5		6.5	No	No	No	NA	No
3_7,9-10	056	Acenaphthene	ug/L	All Data Qualified	0.6	NONE	NONE	1200	2700		2700	No	No	No	NA	No
3_7,9-10	057	Acenaphthylene	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	058	Anthracene	ug/L	All Data Qualified	0.6	NONE	NONE	9600	110000		110000	No	No	No	NA	No
3_7,9-10	059	Benzidine	ug/L	All Data Qualified	0.6	NONE	NONE	0.00012	0.00054		0.00054	No	No	No	NA	No
3_7,9-10	060	Benzo(a)Anthracene	ug/L	All Data Qualified	0.6	NONE	NONE	0.0044	0.049		0.049	No	No	No	NA	No
3_7,9-10	061	Benzo(a)Pyrene	ug/L	All Data Qualified	0.6	NONE	NONE	0.0044	0.049		0.049	No	No	No	NA	No
3_7,9-10	062	Benzo(b)Fluoranthene	ug/L	All Data Qualified	0.6	NONE	NONE	0.0044	0.049		0.049	No	No	No	NA	No
3_7,9-10	063	Benzo(g,h,i)Perylene	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	064	Benzo(k)Fluoranthene	ug/L	All Data Qualified	0.6	NONE	NONE	0.0044	0.049		0.049	No	No	No	NA	No
3_7,9-10	065	Bis(2-Chloroethoxy) methane	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	066	bis (2-Chloroethyl) ether	ug/L	All Data Qualified	0.6	NONE	NONE	0.031	1.4		1.4	No	No	No	NA	No
3_7,9-10	067	Bis(2-Chloroisopropyl) Ether	ug/L	All Data Qualified	0.6	NONE	NONE	1400	170000		170000	No	No	No	NA	No
3_7,9-10	068	bis (2-ethylhexyl) Phthalate	ug/L	All Data Qualified	0.6	NONE	NONE	1.8	5.9	4	4	No	No	No	NA	No
3_7,9-10	069	4-Bromophenylphenylether	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	070	Butylbenzylphthalate	ug/L	All Data Qualified	0.6	NONE	NONE	3000	5200		5200	No	No	No	NA	No
3_7,9-10	071	2-Chloronaphthalene	ug/L	All Data Qualified	0.6	NONE	NONE	1700	4300		4300	No	No	No	NA	No
3_7,9-10	072	4-Chlorophenylphenylether	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	073	Chrysene	ug/L	All Data Qualified	0.6	NONE	NONE	0.0044	0.049		0.049	No	No	No	NA	No
3_7,9-10	074	Dibenzo(a,h)Anthracene	ug/L	All Data Qualified	0.6	NONE	NONE	0.0044	0.049		0.049	No	No	No	NA	No
3_7,9-10	075	1,2-Dichlorobenzene	ug/L	All Data Qualified	0.6	NONE	NONE	2700	17000	600	600	No	No	No	NA	No
3_7,9-10	076	1,3-Dichlorobenzene	ug/L	All Data Qualified	0.6	NONE	NONE	400	2600		2600	No	No	No	NA	No
3_7,9-10	077	1,4-Dichlorobenzene	ug/L	All Data Qualified	0.6	NONE	NONE	400	2600	5	5	No	No	No	NA	No
3_7,9-10	078	3,3'-Dichlorobenzidine	ug/L	All Data Qualified	0.6	NONE	NONE	0.04	0.077		0.077	No	No	No	NA	No
3_7,9-10	079	Diethylphthalate	ug/L	All Data Qualified	0.6	NONE	NONE	23000	120000		120000	No	No	No	NA	No
3_7,9-10	080	Dimethylphthalate	ug/L	All Data Qualified	0.6	NONE	NONE	313000	2900000		2900000	No	No	No	NA	No
3_7,9-10	081	Di-n-butylphthalate	ug/L	All Data Qualified	0.6	NONE	NONE	2700	12000		12000	No	No	No	NA	No
3_7,9-10	082	2,4-Dinitrotoluene	ug/L	All Data Qualified	0.6	NONE	NONE	0.11	9.1		9.1	No	No	No	NA	No
3_7,9-10	083	2,6-Dinitrotoluene	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	084	Di-n-octylphthalate	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	085	1,2-Diphenylhydrazine	ug/L	All Data Qualified	0.6	NONE	NONE	0.04	0.54		0.54	No	No	No	NA	No
3_7,9-10	086	Fluoranthene	ug/L	All Data Qualified	0.6	NONE	NONE	300	370		370	No	No	No	NA	No
3_7,9-10	087	Fluorene	ug/L	All Data Qualified	0.6	NONE	NONE	1300	14000		14000	No	No	No	NA	No
3_7,9-10	088	Hexachlorobenzene	ug/L	All Data Qualified	0.6	NONE	NONE	0.00075	0.00077		0.00077	No	No	No	NA	No
3_7,9-10	089	Hexachlorobutadiene	ug/L	All Data Qualified	0.6	NONE	NONE	0.44	50		50	No	No	No	NA	No
3_7,9-10	090	Hexachlorocyclopentadiene	ug/L	All Data Qualified	0.6	NONE	NONE	240	17000		17000	No	No	No	NA	No
3_7,9-10	091	Hexachloroethane	ug/L	All Data Qualified	0.6	NONE	NONE	1.9	8.9		8.9	No	No	No	NA	No
3_7,9-10	092	Indeno(1,2,3-cd)Pyrene	ug/L	All Data Qualified	0.6	NONE	NONE	0.0044	0.049		0.049	No	No	No	NA	No
3_7,9-10	093	Isophorone	ug/L	All Data Qualified	0.6	NONE	NONE	8.4	600		600	No	No	No	NA	No

**Table F1  
REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS, (OUTFALL 009)**

**FOURTH QUARTER 2011  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

						Step 1: Water Quality Criteria, Determine C					Step 2	Step 3			Step 4	
						CTR CRITERIA				Basin Plan Title 22 GWR	C = Lowest Criteria	Is Effluent Data Available	Was Constituent Detected in Effluent Data	Are all Detection Limits > C	If DL > C, MEC = Min (DL)	MEC >= C
Outfall	CTR	Constituent	Units	MEC	CV	Freshwater CMC = Acute	Human Health CCC = Chronic	HH W&O (Not App)	HH O = HH							
3_7,9-10	094	Naphthalene	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	095	Nitrobenzene	ug/L	All Data Qualified	0.6	NONE	NONE	17	1900		1900	No	No	No	NA	No
3_7,9-10	096	N-Nitrosodimethylamine	ug/L	All Data Qualified	0.6	NONE	NONE	0.00069	8.1		8.1	No	No	No	NA	No
3_7,9-10	097	n-Nitroso-di-n-propylamine	ug/L	All Data Qualified	0.6	NONE	NONE	0.005	1.4		1.4	No	No	No	NA	No
3_7,9-10	098	N-Nitrosodiphenylamine	ug/L	All Data Qualified	0.6	NONE	NONE	5	16		16	No	No	No	NA	No
3_7,9-10	099	Phenanthrene	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	100	Pyrene	ug/L	All Data Qualified	0.6	NONE	NONE	960	11000		11000	No	No	No	NA	No
3_7,9-10	101	1,2,4-Trichlorobenzene	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	102	Aldrin	ug/L	All Data Qualified	0.6	3	NONE	0.00013	0.00014		0.00014	No	No	No	NA	No
3_7,9-10	103	alpha-BHC	ug/L	All Data Qualified	0.6	NONE	NONE	0.0039	0.013		0.013	No	No	No	NA	No
3_7,9-10	104	beta-BHC	ug/L	All Data Qualified	0.6	NONE	NONE	0.014	0.046		0.046	No	No	No	NA	No
3_7,9-10	105	Lindane (gamma-BHC)	ug/L	All Data Qualified	0.6	0.95	NONE	0.019	0.063	0.2	0.063	No	No	No	NA	No
3_7,9-10	106	delta-BHC	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
3_7,9-10	107	Chlordane	ug/L	All Data Qualified	0.6	2.4	0.0043	0.00057	0.00059		0.00059	No	No	No	NA	No
3_7,9-10	108	4,4'-DDT	ug/L	All Data Qualified	0.6	1.1	0.001	0.00059	0.00059		0.00059	No	No	No	NA	No
3_7,9-10	109	4,4'-DDE	ug/L	All Data Qualified	0.6	NONE	NONE	0.00059	0.00059		0.00059	No	No	No	NA	No
3_7,9-10	110	4,4'-DDD	ug/L	All Data Qualified	0.6	NONE	NONE	0.00083	0.00084		0.00084	No	No	No	NA	No
3_7,9-10	111	Dieldrin	ug/L	All Data Qualified	0.6	0.24	0.056	0.00014	0.00014		0.00014	No	No	No	NA	No
3_7,9-10	112	Endosulfan I	ug/L	All Data Qualified	0.6	0.22	0.056	110	240		0.056	No	No	No	NA	No
3_7,9-10	113	Endosulfan II	ug/L	All Data Qualified	0.6	0.22	0.056	110	240		0.056	No	No	No	NA	No
3_7,9-10	114	Endosulfan Sulfate	ug/L	All Data Qualified	0.6	NONE	NONE	110	240		240	No	No	No	NA	No
3_7,9-10	115	Endrin	ug/L	All Data Qualified	0.6	0.086	0.036	0.76	0.81		0.036	No	No	No	NA	No
3_7,9-10	116	Endrin Aldehyde	ug/L	All Data Qualified	0.6	NONE	NONE	0.76	0.81		0.81	No	No	No	NA	No
3_7,9-10	117	Heptachlor	ug/L	All Data Qualified	0.6	0.52	0.0038	0.00021	0.00021		0.00021	No	No	No	NA	No
3_7,9-10	118	Heptachlor Epoxide	ug/L	All Data Qualified	0.6	0.52	0.0038	0.0001	0.00011		0.00011	No	No	No	NA	No
3_7,9-10	119	Aroclor-1016	ug/L	All Data Qualified	0.6	NONE	0.014	0.00017	0.00017		0.00017	No	No	No	NA	No
3_7,9-10	120	Aroclor-1221	ug/L	All Data Qualified	0.6	NONE	0.014	0.00017	0.00017		0.00017	No	No	No	NA	No
3_7,9-10	121	Aroclor-1232	ug/L	All Data Qualified	0.6	NONE	0.014	0.00017	0.00017		0.00017	No	No	No	NA	No
3_7,9-10	122	Aroclor-1242	ug/L	All Data Qualified	0.6	NONE	0.014	0.00017	0.00017		0.00017	No	No	No	NA	No
3_7,9-10	123	Aroclor-1248	ug/L	All Data Qualified	0.6	NONE	0.014	0.00017	0.00017		0.00017	No	No	No	NA	No
3_7,9-10	124	Aroclor-1254	ug/L	All Data Qualified	0.6	NONE	0.014	0.00017	0.00017		0.00017	No	No	No	NA	No
3_7,9-10	125	Aroclor-1260	ug/L	All Data Qualified	0.6	NONE	0.014	0.00017	0.00017		0.00017	No	No	No	NA	No
3_7,9-10	126	Toxaphene	ug/L	All Data Qualified	0.6	0.73	0.0002	0.0073	0.00075		0.0002	No	No	No	NA	No
3_7,9-10	127	E. Coli	MPN/100 ml	All Data Qualified	0.6	NA	NA	NA	NA	235	MPN/100 ml	No	No	No	NA	No

**Table F1  
REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS, (OUTFALL 019)**

**FOURTH QUARTER 2011  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

						Step 1: Water Quality Criteria, Determine C					Step 2	Step 3			Step 4	
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Outfall	CTR	Constituent	Units	MEC	CV	Freshwater CMC = Acute	Human Health CCC = Chronic	HH W&O (Not App)	HH O = HH							
19	001	Antimony	ug/L	All Data Qualified	0.6	NONE	NONE	14	4300	6	6	No	No	No	NA	No
19	002	Arsenic	ug/L	All Data Qualified	0.6	340	150	NONE	NONE	10	50	No	No	No	NA	No
19	003	Beryllium	ug/L	All Data Qualified	0.6	NONE	NONE	Narrative	Narrative	4	4	No	No	No	NA	No
19	004	Cadmium	ug/L	Available Data <DL	0.6		2.46	Narrative	Narrative	5	2.46	Yes	No	No	NA	No
19	005a	Chromium	ug/L	All Data Qualified	0.6		206	Narrative	Narrative		206.98	No	No	No	NA	No
19	005b	Chromium VI	ug/L	All Data Qualified	0.6	16.3	11.4	Narrative	Narrative	50	11.43	No	No	No	NA	No
19	006	Copper	ug/L	0.58	0.6		9.3	1300	NONE		9.33	Yes	Yes	NA	NA	No
19	007	Lead	ug/L	0.37	0.6		3.18	Narrative	Narrative		3.18	Yes	Yes	NA	NA	No
19	008	Mercury	ug/L	All Data Qualified	0.6	Reserved	Reserved	0.05	0.051	2	0.05	No	No	No	NA	No
19	009	Nickel	ug/L	All Data Qualified	0.6		52	610	4600	100	52.16	No	No	No	NA	No
19	010	Selenium	ug/L	Available Data <DL	0.6	Reserved	5	Narrative	Narrative	50	5	Yes	No	No	NA	No
19	011	Silver	ug/L	All Data Qualified	0.6	4.06	none	NONE	NONE		4.06	No	No	No	NA	No
19	012	Thallium	ug/L	All Data Qualified	0.6	NONE	NONE	1.7	6.3	2	2	No	No	No	NA	No
19	013	Zinc	ug/L	All Data Qualified	0.6	120	120	none	NONE		119.8	No	No	No	NA	No
19	014	Total Cyanide	ug/L	Available Data <DL	0.6	22	5.2	700	220000	200	5.2	Yes	No	No	NA	No
19	015	Asbestos	Fibers/L	All Data Qualified	0.6	NONE	NONE	7000000	NONE	7000000	700000	No	No	No	NA	No
19	016	TCDD TEQ_NoDNQ	ug/L	1.20E-10	0.6	NONE	NONE	1.30E-08	1.40E-08	0.00003	0.0	Yes	Yes	NA	NA	No
19	017	Acrolein	ug/L	All Data Qualified	0.6	NONE	NONE	320	780		780	No	No	No	NA	No
19	018	Acrylonitrile	ug/L	All Data Qualified	0.6	NONE	NONE	0.059	0.66		0.66	No	No	No	NA	No
19	019	Benzene	ug/L	Available Data <DL	0.6	NONE	NONE	1.2	71	1	1	Yes	No	No	NA	No
19	020	Bromoform	ug/L	All Data Qualified	0.6	NONE	NONE	4.3	360		360	No	No	No	NA	No
19	021	Carbon Tetrachloride	ug/L	Available Data <DL	0.6	NONE	NONE	0.25	4.4	600	4.4	Yes	No	No	NA	No
19	022	Chlorobenzene	ug/L	All Data Qualified	0.6	NONE	NONE	680	21000		21000	No	No	No	NA	No
19	023	Dibromochloromethane	ug/L	All Data Qualified	0.6	NONE	NONE	0.401	34		34	No	No	No	NA	No
19	024	Chloroethane	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	025	2-Chloroethylvinylether	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	026	Chloroform	ug/L	Available Data <DL	0.6	NONE	NONE	Reserved	Reserved		NONE	Yes	No	No	NA	No
19	027	Bromodichloromethane	ug/L	All Data Qualified	0.6	NONE	NONE	0.56	46		46	No	No	No	NA	No
19	028	1,1-Dichloroethane	ug/L	Available Data <DL	0.6	NONE	NONE	NONE	NONE	5	5	Yes	No	No	NA	No
19	029	1,2-Dichloroethane	ug/L	Available Data <DL	0.6	NONE	NONE	0.38	99	0.5	0.5	Yes	No	No	NA	No
19	030	1,1-Dichloroethene	ug/L	Available Data <DL	0.6	NONE	NONE	0.057	3.2	6	3.2	Yes	No	No	NA	No
19	031	1,2-Dichloropropane	ug/L	All Data Qualified	0.6	NONE	NONE	0.52	39	5	5	No	No	No	NA	No
19	032	1,3-Dichloropropene (Total)	ug/L	All Data Qualified	0.6	NONE	NONE	10	1700	0.5	0.5	No	No	No	NA	No
19	033	Ethylbenzene	ug/L	Available Data <DL	0.6	NONE	NONE	3100	29000	0.7	0.7	Yes	No	No	NA	No
19	034	Bromomethane	ug/L	All Data Qualified	0.6	NONE	NONE	48	4000		4000	No	No	No	NA	No
19	035	Chloromethane	ug/L	All Data Qualified	0.6	NONE	NONE	Narrative	Narrative		NONE	No	No	No	NA	No
19	036	Methylene chloride	ug/L	All Data Qualified	0.6	NONE	NONE	4.7	1600		1600	No	No	No	NA	No
19	037	1,1,2,2-Tetrachloroethane	ug/L	All Data Qualified	0.6	NONE	NONE	0.17	11	1	1	No	No	No	NA	No
19	038	Tetrachloroethene	ug/L	Available Data <DL	0.6	NONE	NONE	0.8	8.85	5	5	Yes	No	No	NA	No
19	039	Toluene	ug/L	Available Data <DL	0.6	NONE	NONE	6800	200000	150	150	Yes	No	No	NA	No
19	040	trans-1,2-Dichloroethene	ug/L	All Data Qualified	0.6	NONE	NONE	700	140000	10	10	No	No	No	NA	No
19	041	1,1,1-Trichloroethane	ug/L	Available Data <DL	0.6	NONE	NONE	Narrative	Narrative	200	200	Yes	No	No	NA	No
19	042	1,1,2-trichloroethane	ug/L	Available Data <DL	0.6	NONE	NONE	0.6	42	5	5	Yes	No	No	NA	No
19	043	Trichloroethene	ug/L	Available Data <DL	0.6	NONE	NONE	2.7	81	5	5	Yes	No	No	NA	No
19	044	Vinyl chloride	ug/L	Available Data <DL	0.6	NONE	NONE	2	525	0.5	0.5	Yes	No	No	NA	No
19	045	2-chlorophenol	ug/L	All Data Qualified	0.6	NONE	NONE	120	400		400	No	No	No	NA	No
19	046	2,4-Dichlorophenol	ug/L	All Data Qualified	0.6	NONE	NONE	93	790		790	No	No	No	NA	No



**Table F1  
REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS, (OUTFALL 019)**

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NPDES PERMIT CA0001309**

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19	047	2,4-dimethylphenol	ug/L	All Data Qualified	0.6	NONE	NONE	540	2300		2300	No	No	No	NA	No
19	048	2-Methyl-4,6-dinitrophenol	ug/L	All Data Qualified	0.6	NONE	NONE	13.4	765		765	No	No	No	NA	No
19	049	2,4-dinitrophenol	ug/L	All Data Qualified	0.6	NONE	NONE	70	14000		14000	No	No	No	NA	No
19	050	2-nitrophenol	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	051	4-nitrophenol	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	052	4-Chloro-3-methylphenol	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	053	Pentachlorophenol	ug/L	Available Data <DL	0.6	pH dependent	pH dependent	0.28	8.2	1	1	Yes	No	No	NA	No
19	054	Phenol	ug/L	All Data Qualified	0.6	NONE	NONE	21000	4600000		4600000	No	No	No	NA	No
19	055	2,4,6-Trichlorophenol	ug/L	Available Data <DL	0.6	NONE	NONE	2.1	6.5		6.5	Yes	No	No	NA	No
19	056	Acenaphthene	ug/L	All Data Qualified	0.6	NONE	NONE	1200	2700		2700	No	No	No	NA	No
19	057	Acenaphthylene	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	058	Anthracene	ug/L	All Data Qualified	0.6	NONE	NONE	9600	110000		110000	No	No	No	NA	No
19	059	Benzidine	ug/L	All Data Qualified	0.6	NONE	NONE	0.00012	0.00054		0.00054	No	No	No	NA	No
19	060	Benzo(a)Anthracene	ug/L	All Data Qualified	0.6	NONE	NONE	0.0044	0.049		0.049	No	No	No	NA	No
19	061	Benzo(a)Pyrene	ug/L	All Data Qualified	0.6	NONE	NONE	0.0044	0.049		0.049	No	No	No	NA	No
19	062	Benzo(b)Fluoranthene	ug/L	All Data Qualified	0.6	NONE	NONE	0.0044	0.049		0.049	No	No	No	NA	No
19	063	Benzo(g,h,i)Perylene	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	064	Benzo(k)Fluoranthene	ug/L	All Data Qualified	0.6	NONE	NONE	0.0044	0.049		0.049	No	No	No	NA	No
19	065	Bis(2-Chloroethoxy) methane	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	066	bis (2-Chloroethyl) ether	ug/L	All Data Qualified	0.6	NONE	NONE	0.031	1.4		1.4	No	No	No	NA	No
19	067	Bis(2-Chloroisopropyl) Ether	ug/L	All Data Qualified	0.6	NONE	NONE	1400	170000		170000	No	No	No	NA	No
19	068	bis (2-ethylhexyl) Phthalate	ug/L	2.5	0.6	NONE	NONE	1.8	5.9	4	4	Yes	Yes	NA	NA	No
19	069	4-Bromophenylphenylether	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	070	Butylbenzylphthalate	ug/L	All Data Qualified	0.6	NONE	NONE	3000	5200		5200	No	No	No	NA	No
19	071	2-Chloronaphthalene	ug/L	All Data Qualified	0.6	NONE	NONE	1700	4300		4300	No	No	No	NA	No
19	072	4-Chlorophenylphenylether	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	073	Chrysene	ug/L	All Data Qualified	0.6	NONE	NONE	0.0044	0.049		0.049	No	No	No	NA	No
19	074	Dibenzo(a,h)Anthracene	ug/L	All Data Qualified	0.6	NONE	NONE	0.0044	0.049		0.049	No	No	No	NA	No
19	075	1,2-Dichlorobenzene	ug/L	All Data Qualified	0.6	NONE	NONE	2700	17000	600	600	No	No	No	NA	No
19	076	1,3-Dichlorobenzene	ug/L	All Data Qualified	0.6	NONE	NONE	400	2600		2600	No	No	No	NA	No
19	077	1,4-Dichlorobenzene	ug/L	All Data Qualified	0.6	NONE	NONE	400	2600	5	5	No	No	No	NA	No
19	078	3,3'-Dichlorobenzidine	ug/L	All Data Qualified	0.6	NONE	NONE	0.04	0.077		0.077	No	No	No	NA	No
19	079	Diethylphthalate	ug/L	All Data Qualified	0.6	NONE	NONE	23000	120000		120000	No	No	No	NA	No
19	080	Dimethylphthalate	ug/L	All Data Qualified	0.6	NONE	NONE	313000	2900000		2900000	No	No	No	NA	No
19	081	Di-n-butylphthalate	ug/L	All Data Qualified	0.6	NONE	NONE	2700	12000		12000	No	No	No	NA	No
19	082	2,4-Dinitrotoluene	ug/L	Available Data <DL	0.6	NONE	NONE	0.11	9.1		9.1	Yes	No	No	NA	No
19	083	2,6-Dinitrotoluene	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	084	Di-n-octylphthalate	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	085	1,2-Diphenylhydrazine	ug/L	All Data Qualified	0.6	NONE	NONE	0.04	0.54		0.54	No	No	No	NA	No
19	086	Fluoranthene	ug/L	All Data Qualified	0.6	NONE	NONE	300	370		370	No	No	No	NA	No
19	087	Fluorene	ug/L	All Data Qualified	0.6	NONE	NONE	1300	14000		14000	No	No	No	NA	No
19	088	Hexachlorobenzene	ug/L	All Data Qualified	0.6	NONE	NONE	0.00075	0.00077		0.00077	No	No	No	NA	No
19	089	Hexachlorobutadiene	ug/L	All Data Qualified	0.6	NONE	NONE	0.44	50		50	No	No	No	NA	No
19	090	Hexachlorocyclopentadiene	ug/L	All Data Qualified	0.6	NONE	NONE	240	17000		17000	No	No	No	NA	No
19	091	Hexachloroethane	ug/L	All Data Qualified	0.6	NONE	NONE	1.9	8.9		8.9	No	No	No	NA	No
19	092	Indeno(1,2,3-cd)Pyrene	ug/L	All Data Qualified	0.6	NONE	NONE	0.0044	0.049		0.049	No	No	No	NA	No
19	093	Isophorone	ug/L	All Data Qualified	0.6	NONE	NONE	8.4	600		600	No	No	No	NA	No

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19	095	Nitrobenzene	ug/L	All Data Qualified	0.6	NONE	NONE	17	1900		1900	No	No	No	NA	No
19	096	N-Nitrosodimethylamine	ug/L	Available Data <DL	0.6	NONE	NONE	0.00069	8.1		8.1	Yes	No	No	NA	No
19	097	n-Nitroso-di-n-propylamine	ug/L	All Data Qualified	0.6	NONE	NONE	0.005	1.4		1.4	No	No	No	NA	No
19	098	N-Nitrosodiphenylamine	ug/L	All Data Qualified	0.6	NONE	NONE	5	16		16	No	No	No	NA	No
19	099	Phenanthrene	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	100	Pyrene	ug/L	All Data Qualified	0.6	NONE	NONE	960	11000		11000	No	No	No	NA	No
19	101	1,2,4-Trichlorobenzene	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	102	Aldrin	ug/L	All Data Qualified	0.6	3	NONE	0.00013	0.00014		0.00014	No	No	No	NA	No
19	103	alpha-BHC	ug/L	Available Data <DL	0.6	NONE	NONE	0.0039	0.013		0.013	Yes	No	No	NA	No
19	104	beta-BHC	ug/L	All Data Qualified	0.6	NONE	NONE	0.014	0.046		0.046	No	No	No	NA	No
19	105	Lindane (gamma-BHC)	ug/L	All Data Qualified	0.6	0.95	NONE	0.019	0.063	0.2	0.063	No	No	No	NA	No
19	106	delta-BHC	ug/L	All Data Qualified	0.6	NONE	NONE	NONE	NONE		NONE	No	No	No	NA	No
19	107	Chlordane	ug/L	All Data Qualified	0.6	2.4	0.0043	0.00057	0.00059		0.00059	No	No	No	NA	No
19	108	4,4'-DDT	ug/L	All Data Qualified	0.6	1.1	0.001	0.00059	0.00059		0.00059	No	No	No	NA	No
19	109	4,4'-DDE	ug/L	All Data Qualified	0.6	NONE	NONE	0.00059	0.00059		0.00059	No	No	No	NA	No
19	110	4,4'-DDD	ug/L	All Data Qualified	0.6	NONE	NONE	0.00083	0.00084		0.00084	No	No	No	NA	No
19	111	Dieldrin	ug/L	All Data Qualified	0.6	0.24	0.056	0.00014	0.00014		0.00014	No	No	No	NA	No
19	112	Endosulfan I	ug/L	All Data Qualified	0.6	0.22	0.056	110	240		0.056	No	No	No	NA	No
19	113	Endosulfan II	ug/L	All Data Qualified	0.6	0.22	0.056	110	240		0.056	No	No	No	NA	No
19	114	Endosulfan Sulfate	ug/L	All Data Qualified	0.6	NONE	NONE	110	240		240	No	No	No	NA	No
19	115	Endrin	ug/L	All Data Qualified	0.6	0.086	0.036	0.76	0.81		0.036	No	No	No	NA	No
19	116	Endrin Aldehyde	ug/L	All Data Qualified	0.6	NONE	NONE	0.76	0.81		0.81	No	No	No	NA	No
19	117	Heptachlor	ug/L	All Data Qualified	0.6	0.52	0.0038	0.00021	0.00021		0.00021	No	No	No	NA	No
19	118	Heptachlor Epoxide	ug/L	All Data Qualified	0.6	0.52	0.0038	0.0001	0.00011		0.00011	No	No	No	NA	No
19	119	Aroclor-1016	ug/L	All Data Qualified	0.6	NONE	0.014	0.00017	0.00017		0.00017	No	No	No	NA	No
19	120	Aroclor-1221	ug/L	All Data Qualified	0.6	NONE	0.014	0.00017	0.00017		0.00017	No	No	No	NA	No
19	121	Aroclor-1232	ug/L	All Data Qualified	0.6	NONE	0.014	0.00017	0.00017		0.00017	No	No	No	NA	No
19	122	Aroclor-1242	ug/L	All Data Qualified	0.6	NONE	0.014	0.00017	0.00017		0.00017	No	No	No	NA	No
19	123	Aroclor-1248	ug/L	All Data Qualified	0.6	NONE	0.014	0.00017	0.00017		0.00017	No	No	No	NA	No
19	124	Aroclor-1254	ug/L	All Data Qualified	0.6	NONE	0.014	0.00017	0.00017		0.00017	No	No	No	NA	No
19	125	Aroclor-1260	ug/L	All Data Qualified	0.6	NONE	0.014	0.00017	0.00017		0.00017	No	No	No	NA	No
19	126	Toxaphene	ug/L	All Data Qualified	0.6	0.73	0.0002	0.0073	0.00075		0.0002	No	No	No	NA	No
19	127	E. Coli	MPN/100 ml	All Data Qualified	0.6	NA	NA	NA	NA	235	MPN/100 ml	No	No	No	NA	No

**Table F2  
REASONABLE POTENTIAL ANALYSIS FOR SECONDARY POLLUTANTS, (OUTFALL 009)**

**FOURTH QUARTER 2011  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

<b>Outfall</b>	<b>Constituent</b>	<b>Monitoring</b>	<b>Units</b>	<b>Number of Samples</b>	<b>MEC</b>	<b>CV</b>	<b>Multiplier</b>	<b>Projected Maximum Effluent Concentration (99/99)</b>	<b>Dilution Ratio</b>	<b>Background Concentration</b>	<b>Projected Maximum Receiving Water Concentration</b>	<b>Step 1, Determine Water Quality Objectives</b>	<b>BU - Beneficial use protection NC-Human noncarcinogen AP-Aquatic life protection</b>
3_7,9-10	Boron	Annual	mg/L	0	All Data Qualified	0.6	All Data Qualified	All Qualified Data	0	0	NA	1	BU
3_7,9-10	Chloride	Discharge	mg/L	5	2.6	0.6	4.2	10.9	0	0	10.9	150	BU
3_7,9-10	Fluoride	Annual	mg/L	0	All Data Qualified	0.6	All Data Qualified	All Qualified Data	0	0	NA	1.6	BU
3_7,9-10	Nitrate + Nitrite as Nitrogen (N)	Discharge	mg/L	5	0.7	0.6	4.2	2.9	0	0	2.9	8	BU/TMDL
3_7,9-10	Oil & Grease	Discharge	mg/L	4	Available Data <DL	0.6	4.7	Available Data < DL	0	0	NA	10	BU
3_7,9-10	Sulfate	Discharge	mg/L	5	36	0.6	4.2	150.9	0	0	150.9	300	BU
3_7,9-10	Total Dissolved Solids	Discharge	mg/L	5	69	0.6	4.2	289.3	0	0	289.3	150	BU
3_7,9-10	Total Suspended Solids	Annual	mg/L	0	All Data Qualified	0.6	All Data Qualified	All Qualified Data	0	0	NA	45	BU

**Table F2  
REASONABLE POTENTIAL ANALYSIS FOR SECONDARY POLLUTANTS, (OUTFALL 019)**

**FOURTH QUARTER 2011  
THE BOEING COMPANY  
SANTA SUSANA FIELD LABORATORY  
NPDES PERMIT CA0001309**

<b>Outfall</b>	<b>Constituent</b>	<b>Monitoring</b>	<b>Units</b>	<b>Number of Samples</b>	<b>MEC</b>	<b>CV</b>	<b>Multiplier</b>	<b>Projected Maximum Effluent Concentration (99/99)</b>	<b>Dilution Ratio</b>	<b>Background Concentration</b>	<b>Projected Maximum Receiving Water Concentration</b>	<b>Step 1, Determine Water Quality Objectives</b>	<b>BU - Beneficial use protection NC-Human noncarcinogen AP-Aquatic life protection</b>
19	Barium	Annual	mg/L	0	All Data Qualified	0.6	All Data Qualified	All Qualified Data	0	0	NA	1000	BU
19	Biochemical Oxygen Demand (BOD 5 day)	Discharge	mg/L	2	Available Data <DL	0.6	7.4	Available Data < DL	0	0	NA	20	BU
19	Chloride	Discharge	mg/L	2	250	0.6	7.4	1848	0	0	1848	150	BU
19	Fluoride	Discharge	mg/L	0	All Data Qualified	0.6	All Data Qualified	All Qualified Data	0	0	NA	1.6	BU
19	Nitrate + Nitrite as Nitrogen (N)	Discharge	mg/L	1	Available Data <DL	0.6	13.2	Available Data < DL	0	0	NA	8	BU/TMDL
19	Oil & Grease	Discharge	mg/L	2	Available Data <DL	0.6	7.4	Available Data < DL	0	0	NA	10	BU
19	Sulfate	Discharge	mg/L	1	150	0.6	13.2	1980	0	0	1980	300	BU
19	Surfactants (MBAS)	Discharge	mg/L	2	Available Data <DL	0.6	7.4	Available Data < DL	0	0	NA	0.5	BU
19	Total Dissolved Solids	Discharge	mg/L	2	1100	0.6	7.4	8133	0	0	8133	150	BU
19	Total Settleable Solids	Discharge	ml/L	2	Available Data <DL	0.6	7.4	Available Data < DL	0	0	NA	0.3	BU
19	Total Suspended Solids	Discharge	mg/L	2	Available Data <DL	0.6	7.4	Available Data < DL	0	0	NA	45	BU