



Federal Express

August 12, 2011

In reply refer to SHEA-111376

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

Attention: Information Technology Unit

Dear Sir/Madam,

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

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

The Boeing Company (Boeing) hereby submits the Second 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 April 1 through June 30, 2011 (Second 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.

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.

SECOND 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 Second 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**.



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The Santa Susana Site experienced two daily rain events that produced greater than 0.1 inch of rainfall within a 24-hour period (see **Appendix A**) on May 17, and May 18, 2011. Prior to and following each rain event, field inspections were conducted at each stormwater outfall location to determine flow volumes for each rain event. None of the stormwater outfalls located on the Santa Susana Site flowed as a result of these events. Outfall 019 (Groundwater Extraction Treatment System) did discharge during the Second Quarter 2011 and samples were collected per the NPDES Permit requirements as indicated in **Table 1** below. Additionally, samples were collected at the Arroyo Simi receiving water location in Simi Valley. **Table 1** summarizes the Second Quarter 2011 sampling record by outfall/location where flow was observed, and sample type collected per the requirements of the NPDES Permit.

Table 1. Second Quarter 2011 Sampling Record -- Boeing SSFL

Date	Outfall/Location	Samples Collected (i.e., grab, composite)
5/12/2011	Arroyo Simi Receiving Water	Grab
6/1-2/2011 & 6/10/2011	Outfall 019 (GETS)	Grab & Composite

All samples were submitted to and analyzed by a California-certified analytical laboratory per the NPDES Permit requirements. Analytical results from the Second Quarter 2011 samples are presented in tabular form by outfall location, constituents evaluated (analytes), sample dates, and data validation qualifiers in **Appendices C**. **Appendix D** contains copies of the laboratory analytical reports, chains of custody, data validation reports, compilation of notes, abbreviations, and data validation codes.

As required by the NPDES Permit, bioassessment review was conducted on May 13, 2011. However, because all drainages associated with NPDES Permit-regulated outfalls at the Santa Susana Site were dry at the time of sampling, the biologist determined that there was no suitable habitat from which to complete the bioassessment sampling. A copy of the bioassessment report summarizing these findings is included in **Appendix E**.

SUMMARY OF NONCOMPLIANCE

All samples collected during the Second Quarter 2011 were in compliance and no exceedances were reported. As such, there are no noncompliance issues to report for this period. Additionally, no constituents were detected in the receiving water sample greater than the receiving water limits for the Arroyo Simi as defined in the NPDES permit.



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Boeing is committed to fulfilling the requirements of the NPDES permit and continues to take actions to reduce the regulated constituents. The following is a discussion of those activities taken during the Second Quarter 2011.

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

Irrespective of the sampling results, Boeing continued to implement the site-wide Storm Water Pollution Prevention Plan (SWPPP) throughout Second Quarter 2011. Boeing conducted monthly, and 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. Inspections throughout the rainy season on a weekly basis, before a forecasted storm, after a rain event, at 24-hour intervals during extended rain events, and quarterly during the non-rainy season based on SWPPP requirements in Order No. 2009-0009-DWQ effective July 1st, 2010, and at any other time or intervals of time as needed.

Specific BMP activities at each outfall location may include inspections of erosion and sediment control BMPs, flume and sample box condition, 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 to removal of sediment, removal of leaf litter, filter media replacement, liner repair or replacement, implementation of additional BMPs, and weed abatement. The inspections during the Second Quarter 2011 were completed on a pre- and post-storm basis during any rain event, weekly and monthly in the non-rainy season.

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

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Table 2: Boeing's BMP Activities during the Second Quarter 2011

OUTFALL (Location)	BMP ACTIVITIES DURING SECOND QUARTER 2011
001 (South Slope below Perimeter Pond)	Conducted sediment mapping in Outfall 001 and observed sediment build up gradient of outfall, near flume and in flume area. Removed leaf litter and debris from sample box area. Performed sediment and debris removal at flume and sample location. Performed weed abatement around outfall access and flume area. Performed calibration check on outfall flow meter on June 10, 2011
002 (South Slope below R-2 Pond)	Conducted sediment mapping in Outfall 002 and observed sediment from east slope of drainage and up gradient of outfall near the flume and in the flume. Removed leaf litter and debris from sample box location. Checked sample box, flow meter control box, and sample areas for spiders and presence of rodents/animals, etc. Performed sediment and debris removal at flume and sample location. Performed weed abatement. Performed calibration check on outfall flow meter on June 10, 2011.
003 (RMHF)	Inspected the structural BMP, stormwater retention and filter system for defects. Sediment and debris were observed and removed at flume and sample location. Weed abatement was also completed at the outfall. The outfall flow meter was calibrated on June 15, 2011. Stormwater was retained in tanks and stored for treatment at Outfall 018.
004 (SRE)	Examined the structural BMP and stormwater filter system. Removed the additional tanks previously used for retention. Debris was observed and removed in and near the flume and sample box. Performed weed abatement. The outfall flow meter was calibrated on June 8, 2011. Retained stormwater in tanks and stored for treatment at Outfall 018.
005 (FSDF-1)	Inspected the structural BMPs and storm water filter system for deficiencies. Some debris was observed and removed near the flume and sample area. Removed the additional tanks previously added for retention. Performed weed abatement.
006 (FSDF-2)	Inspected the structural BMP and storm water filter system for defects. Examined the retention tanks near the outfall.

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OUTFALL (Location)	BMP ACTIVITIES DURING SECOND QUARTER 2011
	Removed sediment and debris from the flume and sample location. Weed abatement was performed near flume outfall location. The outfall flow meter was calibrated on June 8, 2011. Retained stormwater in tanks and stored for treatment at Outfall 018.
007 (Building 100)	Structural BMPs and storm water filter system were observed in nominal condition and appear to be operational. Observed and removed some sediment and debris near the flume and sample location. Additional tanks added for retention are still present. Weed abatement was completed near flume at outfall perimeter.
008 (Happy Valley)	Reinstalled and maintained sediment and erosion controls along fire roads. Conducted sediment and erosion control BMP inspections. Performed weed abatement near flume and outfall perimeter. The outfall flow meter was calibrated on June 15, 2011. Completed weekly inspections of approximately eight hundred native plants with Outfall 008.
009 (WS-13 Drainage)	Removed excess sediment from culvert basins. Installed velocity dissipation rip/rap in areas of scouring. Completed weekly inspections of approximately twelve hundred native plants within the Outfall 009 watershed. Completed road rehabilitation of dirt road along dirt water. Reinstalled and maintained sediment and erosion controls within areas of disturbance or sparse vegetation. Sediment and erosion control BMP inspections are in nominal condition.. Performed sediment and debris removal at flume and sample location. Performed weed abatement near flume and outfall. The outfall flow meter was calibrated on June 21, 2011.
010 (Building 203)	Structural BMPs and storm water filter system were observed in nominal condition and appear to be operational. Excess sediment from flume and sample location was removed. Maintained outfall access and removed any weeds. The outfall flow meter was calibrated on June 21, 2011. Retained stormwater in tanks and stored for treatment at Outfall 018.
011 (Perimeter Pond)	BMP and drainage system were inspected and were in nominal condition. Performed sediment and debris removal at outfall



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OUTFALL (Location)	BMP ACTIVITIES DURING SECOND QUARTER 2011
	and sample location. Performed weed abatement at outfall. The outfall flow meter was calibrated on June 8, 2011.
012 (ALFA Test Stand)	Structural BMPs were observed in nominal condition and appear to be operational. Sand bags and are in good condition. Some debris removed from outfall location.
013 (BRAVO Test Stand)	Structural BMPs were observed in nominal condition and appear to be operational. Removed loose debris from outfall and sample location.
014 (APTF Test Stand)	Structural BMPs were observed in nominal condition and appear to be operational. The liner was inspected and appears to be without tears or rips.
018 (R-2 Spillway)	Structural BMPs and storm water filter system were observed in nominal condition and appear to be operational. Some sediment and debris were observed and removed near the flume and sample location. Performed weed abatement. The outfall flow meter was calibrated on June 8, 2011.
019 (GETS)	Groundwater Extraction Treatment System (GETS) is operational. Quarterly maintenance was performed on the air compressor, which also included belt inspections and an oil change. On May 16, 2011, two media vessels were installed to enhance the filtration system. The system was run on re-circulation on May 17, 2011 and stored in frac tanks until discharged on June 1, 2011. Treated ground water is discharged below the Outfall 001 location.

Demolition and BMP Plan Related Activities

Boeing is committed to restoration of the site to its natural habitat and previously active areas are now being demolished and the areas are being prepared for rehabilitated. During the Second Quarter 2011, demolition of structural features in Area I at the CTL-V and Canyon areas was completed. Demolition of the areas included the removal of concrete and metal structures, concrete slabs, debris containing metal and rebar, piping associated with utility conveyance, and asphalt road cover. 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. Planning of BMPs and implementation of BMPs pre- and post-demolition of the CTL-V and Canyon areas include:



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- Pre-demolition BMP strategy planning was performed at CTL-V and Canyon;
- Installation of tracking controls by installing truck stabilizers or rumble plates at the entrance/exit to the CTL-V and to Canyon;
- A water truck was used for dust and wind erosion control at CTL-V and Canyon;
- Vehicle cleaning and maintenance was performed offsite;
- All segregated materials were stockpiled and covered; and
- Segregated debris and material were hauled offsite per the waste management plan.

In addition to the demolition of the CTL-V and Canyon areas, soil removal was also completed as part of the ISRA program at the IEL-2 location in Area I. In accordance with the NPDES permit and site wide SWPPP, all work performed on ISRA areas within the watersheds of Outfalls 008 and 009 require implementation of BMP plans and practices. These BMPs are implemented in order to reasonably control erosion, sedimentation and turbidity and continue to protect the surface waters within the Outfall 008 watershed, the Outfall 009 watershed and the Northern Drainage. Additionally, regular inspection schedules, Performance Monitoring, and BMP sampling are completed in order to maintain quality and ensure compliance.

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 Interim Source Removal Action (ISRA) activities in the Outfall 008 and 009 watersheds to address constituents that have exceeded NPDES Permit limits/benchmarks. ISRA removals within Outfall 008 were completed on October 19, 2009 and phase II ISRA work conducted within Outfall 009 was completed during the Second Quarter 2011.

During the Second Quarter 2011, Boeing:

- Presented confirmation soil sampling results from ISRA area IEL-2 to RWQCB, and received RWQCB concurrence that excavations are complete;
- Completed post-excavation activities at ISRA areas including post-excavation topographic surveys, backfill and re-contouring of excavations, post-restoration topographic surveys, and BMPs installation;
- Coordinated with the Surface Water Expert Panel, and continued design of final sediment control BMP at B1-2 to capture eroded sediment and reduce peak flows from the B-1 area;
- Began design of a treatment BMP in the Lower Parking Lot Soil Stockpile area in coordination with the Surface Water expert panel;



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- Continued the evaluation of bank stabilization at LOX in the Outfall 009 watershed;
- Completed road rehabilitation of dirt road near Area II Landfill in the Outfall 009 watershed;
- Collected performance monitoring and BMP subarea surface water samples during a rain event that occurred in the Second Quarter 2011;
- Conducted a field audit of Performance Monitoring and BMP sub-watershed sampling;
- Conducted weekly SWPPP inspections during the rainy season and quarterly SWPPP inspections during the non-rainy season; and
- Submitted the Phase II (2010) Implementation Report to RWQCB.

Boeing continues to conduct weekly status meetings, and submit monthly and quarterly progress reports to RWQCB Staff on the progress of the ISRA activities¹. 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.

Northern Drainage 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. Specifically, Boeing:

- Performed weekly inspection of native plants installed along the Northern Drainage by a biologist to observe the condition of new plants;
- Removed accumulated sediment within culverts discharging into the Northern Drainage to ensure that the media within the culvert modification areas will properly filter surface runoff before it is conveyed into the Northern Drainage;
- Completed a site visit with the Surface water Expert Panel to discuss restoration and mitigation/monitoring plans for the Northern Drainage;
- Continued to identify areas with poor vegetation and bare soil for the as-needed installation of BMPs; and
- Maintained and inspected current BMPs throughout the drainage; and
- Began preparation of a site-specific restoration, mitigation, and monitoring plan for the Northern Drainage.

¹ Available at http://www.boeing.com/aboutus/environment/santa_susana/isra.html



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DTSC issued a Certification of Completion on April 29, 2011 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), stating that the response actions were successfully performed, the contaminants of concern had been removed (DTSC, 2011). Boeing is developing a site-specific restoration, mitigation, and monitoring plan for the areas of the Northern Drainage that were subject to this Order with support from the Surface Water Expert Panel. This plan is scheduled to be submitted during the Third Quarter 2011.

Outfalls 011 and 018 Treatment Systems

The construction of the storm water treatment systems (STSs) at Outfalls 011 and 018 continued throughout the Second Quarter 2011. The Outfall 018 STS construction activities were in the final stages and optimizations of individual systems were executed. Construction activities at the Outfall 011 STS continued in the Second Quarter 2011. Specific details of these activities were as follows:

- Continued installation of main piping and valves between equipment at Outfall 011 and Outfall 018;
- Installed oxidation contact tanks, solids weir tank, mixer tank; supernatant tank, solids holding tank, and office trailer at Outfall 018.
- Installed electrical conduits and lines at Outfall 018;
- Construction and installation of the lamella plate settler at Outfall 018;
- Worked on the electrical panel and other miscellaneous electrical work on the ACTIFLO, sand filters, and granular activated carbon units at OF018;
- Installed flow meters, valves, air compressors, and appurtenances at Outfall 018;
- Installed supports for the oxidation tanks at Outfall 018;
- Installed crosswalk between sand filter banks at Outfall 018;
- Completed ACTIFLO dry check at Outfall 018;
- Installed chemical skid units on pads and secondary chemical injection boxes at injection locations throughout the treatment system at Outfall 018;
- Installed the gooseneck on the effluent line at Outfall 018;
- Installed trough and French drain at Outfall 018;
- Installed filter feed pumps, solids transfer pumps, backwash pump, and flash mix pumps at Outfall 018;
- Installed 60" x 60" sump pump drain at Outfall 018;



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- Completed hydrostatic testing of lines and connections at Outfall 018;
- Installed sand filters and granular activated carbon filters at Outfall 011;
- Installed solids weir tank, mixer tank, and supernatant tank at Outfall 011;
- Conducted topographic survey at Outfall 011; and
- Drilled, installed, and poured concrete footing for cartridge filters steel plate anchor rods at Outfall 011.

It is anticipated that Outfall 018 STS will be completed in the Third Quarter 2011 with additional modification or optimization to be conducted during the Fourth Quarter 2011 and throughout the following dry season. The Outfall 011 STS will be completed in the Fourth Quarter 2011 with additional modification or optimization to be completed throughout the remainder of the wet season and following dry season.

REASONABLE POTENTIAL ANALYSIS (RPA)

No surface water discharges occurred as result of rain events at the Santa Susana Site and therefore no new analytical results became available during the Second Quarter of 2011 to trigger reasonable potential. Therefore, RPA tables are not included in this report.

DATA VALIDATION AND QUALITY CONTROL DISCUSSION

In accordance with current 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 D**. 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



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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, DDD, DDE, 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 Second 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 11th of August 2011, at The Boeing Company, Santa Susana Site.

Sincerely,

A handwritten signature in blue ink that reads "Paul Costa".

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

LB:bjc



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Figure: 1 Storm Water Drainage System and Outfall Locations

Appendices: A Second Quarter 2011 Rainfall Data Summary
B Second Quarter 2011 Liquid Waste Shipment Summary Tables
C Second Quarter 2011 Summary Tables
D Second Quarter 2011 Analytical Laboratory Reports, Chain-of-Custody, and Validation Reports
E Bioassessment Report

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

Reference:

California Environmental Protection Agency (EPA) Department of Toxic Substances Control (DTSC), 2011. *"Certification of Completion for Actions Under Imminent and Substantial Endangerment Determination and Order, Docket Number I/SED 07/08-002, Northern Drainage Area, Santa Susana Field Laboratory, Ventura County, California,"* 29 April.