

The Boeing Company
Santa Susana Field Laboratory
5800 Woolsey Canyon Road
Canoga Park, CA 91304-1148

Via Federal Express

November 13, 2009
In reply refer to SHEA-109336

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: Third Quarter 2009 NPDES Discharge Monitoring Report Submittal
Santa Susana Site

Dear Sir/Madam,

The Boeing Company (Boeing) hereby submits the Discharge Monitoring Report (DMR) for the Santa Susana Field Laboratory (Santa Susana site) for the Third Quarter of 2009. This DMR provides the results of the activities that occurred for the Santa Susana site outfalls (Figure 1) for the period of July 1st through September 30th of 2009 as required by National Pollutant Discharge Elimination System (NPDES) Permit No. CA0001309 (NPDES Permit).

This quarterly DMR provides information and data, including summary tables of surface water sample analytical results, rainfall summaries, liquid waste shipment summaries, and surface water sample laboratory analytical reports. The DMR is provided for the Santa Susana site outfalls authorized by the NPDES Permit. This document will be made available electronically at:

http://www.boeing.com/aboutus/environment/santa_susana/ents/monitoring_reports.html

Additionally, hard copies of this DMR are available at the following: California State University at Northridge Library; Simi Valley Library; and the Platt Branch, Los Angeles Library.

THIRD QUARTER 2009 DISCHARGE MONITORING REPORT (DMR) CONTENTS AND DISCHARGE SUMMARY

Figure 1 is a site location map indicating the locations of the regulated outfalls at the Santa Susana site. A summary of the Third Quarter 2009 precipitation measured 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. Details of all liquid waste shipments including the STP waste are summarized in Appendix B.

No rain events occurred during the Third Quarter 2009. On July 21, and September 14, 2009 routine audits and maintenance were conducted at the meteorological station. These records of precipitation should not be considered as rainfall, as noted with the appropriate qualifier in the rainfall data summary table provided in Appendix A.

A sample was collected on August 27, 2009 for the receiving water location at the Arroyo Simi and was submitted to a State of California-certified analytical laboratory. Appendix C contains a summary table of analytical results for the surface water sample collected during the Third Quarter 2009. This table identifies the sampling location, the constituents evaluated (analytes), the date of sampling, the analytical result, and data validation qualifiers.

Appendix D contains a copy of the data validation report, laboratory analytical results, and chain of custody. Quarterly Summary Notes are a compilation of notes, abbreviations, and data validation codes that are used in the analytical data summary table and are included as a supplement in Appendix C.

SUMMARY OF NONCOMPLIANCE

No surface water discharges occurred from the Santa Susana site during the Third Quarter 2009. 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.

THIRD QUARTER 2009 SITE-WIDE ACTIVITIES

Despite having no surface water monitoring events from the Santa Susana site in the Third Quarter of 2009, Boeing continues to implement the Storm Water Pollution Prevention Plan (SWPPP). Activities throughout the Santa Susana site included site-wide inspections to identify sources of pollutants associated with current activities that may affect the quality of storm water. During the Third Quarter of 2009, these activities included the demolition of buildings, concrete foundations, metal, and other debris removals. Individual construction SWPPPs for demolition projects are being implemented during the demolition process. Additional activities that Boeing has completed or is currently conducting include: the Northern Drainage activities, media pilot study, significant best management practice (BMP) upgrades, autosampler installation, and ISRA related activities as discussed below.

Northern Drainage

Phase II clay target removal in the Northern Drainage using a vacuum truck and manual excavation between the Former Shooting Range and Outfall 009 were conducted during the Third Quarter of 2009. Boeing also performed hand-excavation of visible clay targets and black foam material within the Northern Drainage on the Brandeis-Bardin Campus of American Jewish University property. Sediment and erosion control BMPs consisting of fiber rolls, straw bales, and silt fencing have been installed in the Northern Drainage watershed downstream of the excavation areas to minimize the potential for erosion along the drainage. BMPs will be implemented throughout the duration of the project and the rainy season. Hydroseeding in the Northern Drainage cleanup areas is scheduled during the Fourth Quarter 2009.





Media Pilot Study

Expert Panel member, Dr. Robert Pitt of the University of Alabama, has lead a research investigation on filtration media performance. With lab work managed by Dr. Shirley Clark of Penn State and study design input from Geosyntec Consultants and the other members of the Expert Panel, Dr. Pitt developed a media study work plan with the objective of (1) providing data to inform stormwater filtration BMP design (e.g., optimal media combinations and depths), and (2) assessing the potential of media to achieve the BMP performance objectives (i.e., the SSFL NPDES permit limits) in a most cost-effective manner (e.g., considering maintenance frequency). Bench-scale column and batch tests were performed, and results are expected at the end of 2009. The purpose of the column tests were to assess flow-through rates, time (or cumulative solids loading) until clogging/maintenance, time until breakthrough, effects of media depth (or contact time), achievable effluent concentrations, optimal combinations of media, and potential for anion release. The purpose of the batch tests were to assess pollutant uptake capacity and removal kinetics, and performance under aerobic vs anaerobic conditions. The study used stormwater samples collected at the Penn State Harrisburg campus. The study results are expected to provide valuable information on filtration media performance for stormwater treatment BMP design.

Significant BMP Activities

The following sections list actions taken during the Third Quarter 2009 at the Santa Susana site in preparation of the upcoming 2009/2010 Storm Season.

Installation of Electrical Power

Electrical drawings were developed and permit applications were taken to support the delivery of electricity at specific locations for the Santa Susana site. The installation of electrical power will support the necessary BMP upgrades discussed. The installation of this electrical distribution system is intended to replace the diesel powered generators that had been in use in the past. This upgrade will reduce the air emissions resulting from this activity, be less disruptive to the wildlife that inhabits the area, and will provide more flexibility in the future if additional BMP support equipment installation becomes necessary.

Outfall 004

During the Third Quarter, planning and design was completed for a substantial modification to the Outfall 004 BMP. The service road to the north of the Sodium Reactor Experiment (SRE) area conveys significant portions of storm water from the northern hillside. Check dams were installed to retain storm water on this service road and reduce peak flows to the structural BMP. At the foot of the service road, a small gabion dam structure was built to collect storm water runoff prior to the structural BMP and is designed to transfer water upstream to the SRE retention. In addition, a 20,000 gallon tank has been placed upstream of the outfall for increased storm water retention.

An extended sand filter was modified and the sand filter media was replaced to improve the filtration of storm water that flows down the service road prior to its entry into the structural BMP where it is filtered again through zeolite and granular activated carbon (GAC). To support future upgrades that increases retention and evaporation of storm water, a sump was installed at the effluent section of the structural BMP where a pump can be placed. This sump is a 1,100 gallon tank placed next to the outfall to capture storm water that may discharge from the structural BMP. From this 1,100 gallon tank, storm water can be transferred to the additional storm water SRE retention area or the 20,000 gallon tank in the

upper portions of the drainage. When installed, the pump will transfer effluent storm water to the upstream where it will be retained and evaporated. Design for the electricity to power the pump was completed in the Third Quarter 2009.

Outfalls 005/007

Design was completed for delivery of electricity, installation of pumps, and retention tanks for these outfalls. At these outfalls, the water that accumulates in the impoundments will be pumped to retention tanks where it will be sampled and hauled offsite for disposal or hauled to Silvernale for discharge through the Outfall 018 treatment system, depending on volumes and storm conditions.

Outfalls 011/018

Designs were completed for delivery of electricity, pumps, and temporary treatment systems at these outfalls. Installation of electricity was initiated and pumps were delivered. The temporary treatment systems will treat water that accumulates in the R-1/perimeter ponds (Outfall 011) and the Silvernale/R-2 ponds (Outfall 018). The temporary treatment systems will be used for the 2009-2010 storm season until purchased treatment systems can be designed, procured, and installed.

The temporary treatment system at Outfall 011 will consist of a two stage sand filter followed by 1 micron bag filters followed by GAC filters. An oxidant feed will be employed to remove metals in the sand filters.

The temporary treatment system at Outfall 018 will consist of a two stage sand filter followed by a 1 micron bag filter followed by GAC filters. An oxidant feed will be employed to remove metals in the sand filters. There will be a coagulant feed to remove turbidity, fine particulates, and associated metals and other constituents in the sand filters. .

Auto Sampler Installation for Composite Sampling

During the Third Quarter, design of the auto sampling systems to collect composite samples was completed and installation was initiated. The auto sampling systems consist of two peristaltic pumps with computer controllers to collect flow-weighted composite samples. The pumps will draw samples from the flumes at the outfalls or from sample boxes downstream of the flumes and discharge these samples into Teflon lined 55-gallon drums. Two drums, pumps, and controllers are being installed at each outfall. Two drums are needed so that sufficient sample volume can be captured for a wide range of storm sizes over a 24 hour period or the duration of the storm, whichever is lesser. Hydrologic modeling was conducted in the Third Quarter to estimate the ranges of storms anticipated and the volumes of water that may result from those storms so that the controllers can be appropriately programmed based on the forecasted storm.

ISRA Related Activities

Pursuant to the December 3, 2008 Section 13304 Order issued by the RWQCB, Boeing is proceeding with interim source removal activities (ISRA) in the Outfall 008 watershed to address constituents that have exceeded NPDES permit limits/benchmarks. Source removal activities began in the Outfall 008 watershed on August 25, 2009. Since the start of source removal activities approximately 4,000 cubic yards of soil has been excavated, and 110 confirmation samples collected. Restoration activities for ISRA Outfall 008 area will be implemented once confirmation sampling and source removal activities are complete.



During rain events, the excavation areas will be covered with plastic and sand bags to protect excavation areas before the restoration activities are complete.

BMPs were implemented during the ISRA excavation activities to minimize the transportation of sediment into the Outfall 008 watershed. Prior to the start of removal activities in August, hay bales and silt fencing were installed in the drainages below the disturbed areas of the Outfall 008 watershed. Shaker/rubble plates were installed at the entrance and exit of the work area to reduce sediment tracking from the construction site onto private or public roads. Stock piles were covered during nights and weekends, and on windy days to control dust from the stock pile area. A water hose was utilized to suppress dust during the excavation of soil from the removal areas.



Boeing continues to submit monthly and quarterly progress reports to Regional Board Staff on progress of the ISRA activities including permit status. ISRA related documents can be found electronically at:

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

Specific activities by outfall are also identified in Table 1.

Table 1: BMP Activities during the Third Quarter 2009

OUTFALL	BMP ACTIVITIES DURING THIRD QUARTER 2009
001 (South Slope below Perimeter Pond)	Inspected erosion control BMPs, performed maintenance on the flume and conducted housekeeping activities at the sample location. Removed burned vegetation under direction of a biologist. Hydroseeded approximately 2.0 acres. Began process of installing automatic composite samplers.
002 (South Slope below R-2 Pond)	Inspected erosion control BMPs, performed maintenance on the flume and conducted housekeeping activities at the sample location. Removed burned vegetation under direction of a biologist. Hydroseeded approximately 2.5 acres. Began process of installing automatic composite samplers.
003 (RMHF)	Conducted structural BMP and storm water filter system inspections. Performed maintenance on flume and conducted housekeeping activities at the sample location. Performed calibration check on outfall flow meter. Began process of installing automatic composite samplers.
004 (SRE)	Conducted structural BMP and storm water filter system inspections. Performed maintenance on flume and conducted housekeeping activities at the sample location. Began replacement of sand media bed and installation of water retention BMPs as discussed previously. Performed calibration check on outfall flow meter. Began process of installing automatic composite samplers.
005 (FSDF-1)	Conducted sedimentation basin and storm water filter system inspections. Conducted housekeeping activities at the sample location.
006 (FSDF-2)	Conducted structural BMP and storm water filter system inspections. Performed maintenance on flume and conducted



OUTFALL	BMP ACTIVITIES DURING THIRD QUARTER 2009
	housekeeping activities at the sample location. Rinsed filtration media beds. Performed calibration check on outfall flow meter. Began installation of automatic composite samplers.
007 (Building 100)	Conducted BMP, sedimentation basin and storm water filter system inspections. Conducted housekeeping activities at the outfall and sample location.
008 (Happy Valley)	Inspected erosion control BMPs, performed maintenance on the flume and conducted housekeeping activities at the sample location. Conducted ISRA work. Began process of installing automatic composite samplers.
009 (WS-13 Drainage)	Inspected erosion control BMPs, performed maintenance on the flume and conducted housekeeping activities at the sample location and reviewed implementation of erosion and sediment control plans for the Northern Drainage project areas. Performed calibration check on outfall flow meter. Fiber rolls were installed in July and additional hydroseed were also installed in September to stabilize soil in the areas disturbed by culvert maintenance activities in the Outfall 009 Watershed. Began process of installing automatic composite samplers.
010 (Building 203)	Conducted structural BMP and sedimentation/filtration basin inspections. Performed maintenance on the flume and conducted housekeeping activities at the sample location. Performed calibration check on outfall flow meter. Began process of installing automatic composite samplers.
011 (Perimeter Pond)	Conducted BMP and drainage system inspections. Performed maintenance and conducted housekeeping at the sample location. Began upgrade modification of BMP for bulk media placement. Began process of installing automatic composite samplers.
012 (ALFA Test Stand)	Conducted inspection of structural BMPs. Performed maintenance and conducted housekeeping activities at the sample location. Cleaned sediment and supervac paint chips from test stand, also put in diversion from the hillside to prevent sediment runoff. Began filtration media rinse.
013 (BRAVO Test Stand)	Conducted inspection of structural BMPs. Performed maintenance and conducted housekeeping activities at the sample location. Began filtration media rinse.
014 (APTF Test Stand)	Conducted inspection of BMPs. Performed maintenance and conducted housekeeping activities at the sample location. Continued post-demolition activities at APTF that includes: installation/maintenance of BMPs, erosion control and soil stabilization BMPs installation such as fiber rolls, silt fence, hydroseed.
018 (R-2 Spillway)	Conducted structural BMP inspections. Performed housekeeping activities at the sample location. Conducted filtration media rinse. Began process of procuring and

OUTFALL	BMP ACTIVITIES DURING THIRD QUARTER 2009
	designs of the stormwater treatment system including ACTIFLO. Began installation of automatic composite samplers.
019 (GETS)	Groundwater Extraction Treatment System (GETS) under construction. Treated ground water hauled off-site, no discharges.



REASONABLE POTENTIAL ANALYSIS (RPA)

No surface water discharges occurred from the Santa Susana site and no new surface water discharge data became available during the Third Quarter of 2009. Accordingly, the analytical results for this sampling period did not 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 monitoring program, chemical analyses of the receiving water sample 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 the laboratory reporting limits (RLs) were elevated, the laboratory maximum detectable limits (MDLs) were below the State of California MLs. However, some constituents' daily maximum discharge limits 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, DDD, DDE, DDT, dieldrin, toxaphene, and chlorpyrifos. None of these compounds were detected in the receiving water sample for the Third Quarter of 2009.

FACILITY CONTACT

If there are any questions regarding this report or its enclosures, you may contact Ms. Lori Blair at (818) 466-8741.

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 November 2009 at The Boeing Company, Santa Susana site.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tom Gallacher'.

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

LB:bjc
Attachments

Attachments:

Figure: 1 - Storm Water Drainage System and Outfall Locations

- Appendices:
- A Third Quarter 2009 Rainfall Data Summary
 - B Third Quarter 2009 Liquid Waste Shipment Summary Tables
 - C Third Quarter 2009 Summary Tables, Receiving Water Location (Arroyo Simi – Frontier Park)
 - D Third Quarter 2009 Analytical Laboratory Report, Chain-of-Custody, and Validation Report

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