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FEDERAL EXPRESS

August 14, 2009
In reply refer to SHEA-108975



Regional Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Attention: Technical Support Unit

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

Subject: Second Quarter 2009 NPDES Discharge Monitoring Report
Submittal–Santa Susana Field Laboratory

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 Second Quarter of 2009. This DMR provides the results of the sampling that occurred for the Santa Susana site outfalls (Figure 1) and the receiving water for the period of April 1st through June 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.

**SECOND QUARTER 2009 DISCHARGE MONITORING REPORT (DMR)
CONTENTS AND DISCHARGE SUMMARY**

Figure 1 is a site location map indicating the locations of the outfalls at the Santa Susana site. A summary of the Second Quarter 2009 precipitation measured at the Santa Susana site is presented in Appendix A. All sanitary wastes from the

domestic sewage treatment plants (STPs) (STPs I, II, and III) were shipped off-site and appropriately managed. Details of all liquid waste shipments including the STP waste are summarized in Appendix B.

As detailed in Appendix A, no daily rain events with greater than 0.1 inches of rainfall in a 24-hour period were observed by Boeing during the Second Quarter 2009. Samples were collected for receiving water sampling at Arroyo Simi and submitted to and analyzed by a State of California-certified analytical laboratory. Appendix C contains a summary table of analytical results for surface water samples collected during the Second Quarter 2009. This table identifies the sampling location, the constituents evaluated (analytes), the date of sampling, the analytical result, and data validation qualifiers.

A bioassessment review was conducted for the Second Quarter of 2009 as required by the permit. However, all drainages associated with Permit-regulated outfalls at the Santa Susana site were dry and the biologist determined that due to the naturally occurring lack of water there was no suitable habitat at this time from which to complete the bioassessment sampling.

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 Second Quarter 2009. As such, we are reporting full compliance for this period. Additionally, no constituents were detected in receiving water samples greater than the receiving water limits for the Arroyo Simi.

SECOND QUARTER 2009 SITE-WIDE ACTIVITIES

Despite having no surface water monitoring events from the Santa Susana site in the Second 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. Demolition of buildings, concrete foundations, metal, and other associated debris removals began during the Second Quarter 2009. 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, culvert maintenance, treatment system pilot study, and ISRA related activities as discussed below.

Northern Drainage

The Northern Drainage lead and clay target debris removal associated with the former shooting range resumed in June 2009 and clean up efforts are expected to continue through December 2009. 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 and will be implemented throughout the duration of the project. Hydroseeding of the areas associated with the Northern Drainage cleanup effort is scheduled prior to the rainy season.

Culvert Maintenance

Culvert maintenance, as part of the 2nd quarter on-going ENTS project, was completed in April 2009 at eleven culverts feeding into the Northern Drainage on both Sage Ranch and Boeing property. These culvert maintenance activities resulted in reduced water velocities and sediment loadings from eleven side drainages into the Outfall 009 primary drainage. This was accomplished by installing customized headwalls with a filter chamber into existing culverts and lining those culverts. The headwalls have weirs that slow water velocities and create an upstream detention basin in which settling occurs. The overflow passes through a filter box that removes additional pollutants. The culverts were also lined to reduce erosion of older culvert material and discharges of pollutants from the culverts themselves. Fiber rolls and hydroseed were also installed to stabilize soil in the areas disturbed by culvert maintenance activities.

Treatment System Pilot Study

Boeing continues its efforts to improve treatment capabilities at Outfalls 005/007, 011 and 018 watersheds prior to its discharge. Because of the size of these watersheds, the extraordinarily low effluent limits, and the advanced technology required for treatment, developing such a system requires pilot testing. Boeing has been engaged in pilot testing of different aspects and process options for this treatment system for over two years. During the first quarter of 2009, Boeing implemented a pilot-testing program at R-2 Pond proximate to Outfall 018. Initially, the pilot system had the same treatment train utilized during the tests conducted in the summer of 2008 (i.e., sand filters, multimedia filters, cartridge filters, and granular activated carbon). However, the rain events during the first quarter 2009 demonstrated that sediment loads during some rain events were too high to be controlled with physical filtration units. The influent turbidity measured during the 2008 summer pilot study increased more than ten-fold, from 100 NTU to 1000-1200 Nephelometric Turbidity Units (NTU).

Boeing responded by implementing an ACTIFLO process (rapid clarification) test at pilot scale during the second quarter, as an alternative to control high turbidity peaks and protect the rest of the system from solids overload. This system required coagulation and flocculation chemicals (ferric sulfate and anionic polymer) that were able to reduce influent turbidities ranging between 1000-2000 NTU to approximately 3-5 NTU. Also during the ACTIFLO process test, physical filtration performance of multimedia filters, granular activated carbon, and ion-exchange units showed success reducing targeted constituents when they followed the strong, sediment-reducing ACTIFLO process. Initial results from the pilot study suggest that the ACTIFLO process indicates almost complete removal of targeted metals (iron, manganese, lead, mercury, and copper), when combined with potassium permanganate as an oxidant. During the second quarter of 2009, additional pilot



testing was conducted to further treat the ACTIFLO process effluent with ultrafiltration membranes, using a Toray demonstration scale unit. The purpose was to remove turbidity to even lower levels. Approximately 4000 analysis were conducted as part of the pilot testing activities. This data is currently being compiled in a summary report.

Based on the final results of the pilot test, selected filter media and processes will be included in the final treatment system to improve water quality discharges from within the context of the iterative BMP process. Implementation of additional BMPs based upon the pilot program results will likely commence during the upcoming rainy season at the Santa Susana site.

ISRA Related Activities

Pursuant to the December 3, 2008 Section 13304 Order issued by the RWQCB, Boeing is proceeding with source removal activities in the Outfall 008 and 009 watersheds to address constituents that have exceeded NPDES permit limits/benchmarks. The Interim Source Removal Action (ISRA) Workplan was submitted to the Los Angeles Regional Water Quality Control Board (Regional Board) on May 1, 2009 for approval. Archaeological and biological review and surveys in addition to data gap and supplemental extent sampling is currently ongoing with source removal activities scheduled to begin in August 2009. Boeing continues to submit weekly and monthly 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 Second Quarter 2009 by Outfall location.

OUTFALL	BMP ACTIVITIES DURING SECOND 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. Performed calibration check on outfall flow meter. Inspected watershed areas and planned for additional revegetation measures to be implemented.
002 (South Slope below R-2 Pond)	Inspected erosion control BMPs, performed maintenance on the flume and conducted housekeeping activities at the outfall sample location. Performed calibration check on outfall flow meter. Inspected watershed areas and planned for additional revegetation measures to be implemented.
003 (RMHF)	Conducted structural BMP and stormwater filter system inspections. Performed maintenance on the flume and conducted housekeeping activities at the outfall sample location. Performed calibration check on outfall flow meter.



OUTFALL	BMP ACTIVITIES DURING SECOND QUARTER 2009
004 (SRE)	Conducted structural BMP and stormwater filter system inspections. Performed maintenance on flume and conducted housekeeping activities at the outfall sample location. Performed calibration check on outfall flow meter. Initiated designs for the BMP upgrades.
005 (FSDF-1)	Conducted BMP, sedimentation basin and stormwater filter system inspections. Conducted housekeeping activities at the outfall sample location. Prepared for the electrical upgrade to Outfall 005 for stormwater treatment system.
006 (FSDF-2)	Conducted structural BMP and stormwater filter system inspections. Performed maintenance on flume and conducted housekeeping activities at the outfall sample location. Performed calibration check on outfall flow meter.
007 (Building 100)	Conducted BMP, sedimentation basin and stormwater filter system inspections. Conducted housekeeping activities at the outfall sample location. Prepared for the electrical upgrade to Outfall 007 for stormwater treatment system.
008 (Happy Valley)	Inspected and maintained erosion control BMPs, performed maintenance on the flume and conducted housekeeping activities at the outfall sample location. Continued progress with the Expert Panel on site restoration. Continued progress on permitting and planning for ISRAs. Submitted Final ISRA Workplan. Performed calibration check on outfall flow meter.
009 (WS-13 Drainage)	Inspected and maintained erosion control BMPs, performed maintenance on the flume and conducted housekeeping activities at the outfall sample location. Performed calibration check on outfall flow meter. Continued progress with the Expert Panel on site restoration. Completed culvert maintenance activities. Continued progress on permitting and planning for ISRA. Submitted Final ISRA Workplan and reviewed implementation of erosion and sediment control plans for the Northern Drainage project areas. Resumed the Northern Drainage lead and clay target debris removal.
010 (Building 203)	Conducted structural BMP and sedimentation/filtration basin inspections. Performed maintenance on the flume and conducted housekeeping activities at the outfall sample location. Performed calibration check on outfall flow meter.
011 (Perimeter Pond)	Conducted BMP and drainage system inspections. Performed maintenance and conducted housekeeping at the outfall sample location. Performed calibration



OUTFALL	BMP ACTIVITIES DURING SECOND QUARTER 2009
	check on outfall flow meter. Prepared for the electrical upgrade to Outfall 011 for stormwater treatment system.
012 (ALFA Test Stand)	Conducted inspection of structural BMPs. Performed maintenance and conducted housekeeping activities at the outfall sample location. Replaced high-density polyethylene (HDPE) liner. Cleaned sediment and test stand of paint chips and put in diversion from the hillside to prevent sediment loading of BMP.
013 (BRAVO Test Stand)	Conducted inspection of structural BMPs. Performed maintenance and conducted housekeeping activities at the Outfall sample location. Placement of HDPE liner.
014 (APTF Test Stand)	Completed demolition of APTF and associated structures. Initiated installation of new erosion and sediment control BMPs throughout and adjacent to the demolished facility.
018 (R-2 Spillway)	Conducted structural BMP inspections. Performed housekeeping activities at the Outfall sample location. Completed ACTIFLO enhanced coagulation and Toray microfiltration membrane pilot studies. Performed calibration check on outfall flow meter. Prepared for the electrical upgrade to Outfall 018 for stormwater treatment system.
019 (GETS)	Groundwater Extraction Treatment System (GETS) under construction. Treated ground water hauled off-site. No discharges.

REASONABLE POTENTIAL ANALYSIS

No surface water discharges occurred from the Santa Susana site and no new surface water discharge data became available during the Second 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 surface water discharge and receiving water samples were completed at a State of California certified laboratory. Data validation was performed on a percentage of 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. Laboratory analytical reports, including validation reports and notes, are included in Appendix D. Attachment T-A of the NPDES Permit issued to the Santa Susana site presents the

State of California Water Resources Control Board (SWRCB) 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 California state MLs. However, some constituents' daily maximum or monthly average 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, 4,4-DDD, 4,4-DDE, 4,4-DDT, dieldrin, toxaphene, and chlorpyrifos.



FACILITY CONTACT

If there are any questions regarding this DMR 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 14th of August 2009 at The Boeing Company, Santa Susana site.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas D. Gallacher".

Thomas D. Gallacher
Director
Santa Susana Field Laboratory
Environment, Health and Safety

LB:bjc

Figure: 1 Storm Water Drainage System and Outfall Locations

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

cc: Ms. Cassandra Owens, Regional Water Quality Control Board
 Mr. Jim Pappas, Department of Toxic Substances Control
 Mr. Stephen Baxter, Department of Toxic Substances Control
 Mr. Robert Marshall, California State University – Northridge, Library
 Ms. Dale Redfield, Simi Valley Library
 Ms. Lynn Light, Platt Branch, Los Angeles Library

