DRAINAGE TO MEIER CANYON

DRAINAGE TO ARROYO SIMI

AREA I (NASA)

AREA IV

AREA II (NASA)

AREA III

AREA I

Silvernale Pond

R-2A Pond

R-2B Pond

R-1 Pond

Perimeter Pond

GETS

UNDEVELOPED LAND

DRAINAGE TO DAYTON CANYON

DRAINAGE TO BELL CANYON

DESCRIPTIONS OF DISCHARGE OUTFALL LOCATIONS

NPDES OUTFALL	DESCRIPTION	PRIMARY OVERSIGHT AGENCY
001	Treated Groundwater and Stormwater, South Slope	RWQCB
002	Stormwater, South Slope	RWQCB
003	Stormwater, Radioactive Materials Handling Facility	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, Advanced Propulsion Test Facility	RWQCB
015	STP-1 (Removed from permit)	--
016	STP-2 (Removed from permit)	--
017	STP-3 (Removed from permit)	--
018	Stormwater, R-2 Pond Spillway	RWQCB
019	Treated Groundwater (GET System)	RWQCB

LEGEND

- NPDES OUTFALL
- FORMER NPDES OUTFALL
- GROUNDWATER EXTRACTION TREATMENT SYSTEM (GETS)
- EFFLUENT PATHWAY
- SURFACE WATER DRAINAGE DIVIDE
- DIRT ROAD
- PAVED ROAD
- ELEVATION CONTOUR
- BUILDING/STRUCTURE FOOTPRINT
- SSFL PROPERTY BOUNDARY
- ADMINISTRATIVE AREA BOUNDARY
- SURFACE WATER POND

N W E S

0 1,200 2,400

SCALE IN FEET

HALEY & ALDRICH

NPDES PERMIT COMPLIANCE FIRST QUARTER 2014
DISCHARGE MONITORING REPORT
THE BOEING COMPANY
VENTURA COUNTY, CALIFORNIA

SITE MAP WITH OUTFALL LOCATIONS AND STORM WATER DRAINAGES

SCALE: AS SHOWN
MAY 2014

FIGURE 1

G:\40458_SSFL\GlobalGIS\MapProjects\2014-05\40458-023-0001-OutfallLocations.mxd

APPENDIX A

First Quarter 2014 Rainfall Data Summary

TABLE A
DAILY RAINFALL SUMMARY

THE BOEING COMPANY
NPDES PERMIT CA0001309

Station: AREA 1
Parameter: Rain
Month/Year: January 2014

HOUR OF THE DAY

DAY OF THE MONTH	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
31	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

TABLE A
DAILY RAINFALL SUMMARY

THE BOEING COMPANY
NPDES PERMIT CA0001309

Station: AREA 1
Parameter: Rain
Month/Year: February 2014

HOUR OF THE DAY

DAY OF THE MONTH	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.15	0.05	0.01	0.00	0.00	0.01	0.01	0.02	0.00	0.27
7	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.06	0.10	0.04	0.25
27	0.11	0.22	0.08	0.11	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.55
28	0.06	0.09	0.24	0.22	0.47	0.18	0.42	0.09	0.07	0.10	0.01	0.03	0.17	0.28	0.04	0.09	0.02	0.22	0.01	0.01	0.01	0.00	0.02	0.04	2.89

TABLE A
DAILY RAINFALL SUMMARY

THE BOEING COMPANY
NPDES PERMIT CA0001309

Station: AREA 1
Parameter: Rain
Month/Year: March 2014

HOUR OF THE DAY

DAY OF THE MONTH	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
1	0.00	0.01	0.03	0.04	0.03	0.11	INV	INV	INV	INV	INV	INV	0.05p	0.02	0.02	0.15	0.00	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.48*
2	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10d	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	INV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.03	0.07

Flags: p = Power failure, invalid hour
d = Marked down, invalid hour
INV = Negative under range, invalid hour. Malfunction in the sensor produced an erroneous rainfall measurement of <0.

Notes: * = The Area 1 rain gauge malfunctioned between 0600 -1200 on March 1. The B1436 rain gauge measured 0.42" during that time and was added to the Area I rain gauge data for a total 0.9" on March 1.

APPENDIX B

First Quarter 2014 Liquid Waste Shipment Summary Table

TABLE B
LIQUID WASTE SHIPMENTS

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

DATE SHIPPED	MANIFEST TRACKING NUMBER	TYPE OF LIQUID	QTY.	UNITS	TRANSPORTER	DESTINATION
1/8/2014	006792587FLE	WASTE FLAMMABLE LIQUIDS (ISOPROPYL ALCOHOL)	8	P	Clean Harbors Environmental Services	Clean Harbors Aragonite LLC 11600 North Aptus Road, Grantsville, UT 84029
		WASTE AMMONIA SOLUTIONS (AMMONIA SOLUTIONS)	11	P		
1/14/2014	010392706JJK	HAZARDOUS WASTE LIQUID (TRICHLOROETHYLENE)	8020	P		Siemens Water Technologies, LLC 5375 South Boyle Avenue, Los Angeles, CA 90058
1/15/2014	010392711JJK	HAZARDOUS WASTE LIQUID (ACETONE, TETRACHLOROETHYLENE)	2109	P		Clean Harbors Aragonite LLC 11600 North Aptus Road, Grantsville, UT 84029
1/15/2014	010392713JJK	WASTE NITRIC ACID OTHER THAN RED FUMING, WITH NOT MORE THAN 20% NITRIC ACID (NITRIC ACID)	4	P		Clean Harbors Wilmington LLC 1737 East Denni Street, Wilmington, CA 90744
		WASTE HYDROCHLORIC ACID SOLUTION	4	P		
		HAZARDOUS WASTE LIQUID (LEAD, CADMIUM)	985	P		
		NON-RCRA HAZARDOUS WASTE LIQUIDS (HYDREX)	164	P		
2/5/2014	007479339FLE	HAZARDOUS WASTE LIQUID (ACETONE, TETRACHLOROETHYLENE)	6283	P	Clean Harbors Environmental Services	Clean Harbors Aragonite LLC 11600 North Aptus Road, Grantsville, UT 84029
2/12/2014	010392716JJK	WASTE SODIUM HYDROXIDE SOLUTION	417	P		
2/26/2014	010392721JJK	NON-RCRA HAZARDOUS WASTE LIQUIDS (OIL, WATER)	20	P		
2/26/2014	010392722JJK	WASTE FORMALDEHYDE SOLUTIONS, FLAMMABLE (FORMALDEHYDE, POTASSIUM HYDROGEN PHTHALATE)	29	P		
		HAZARDOUS WASTE LIQUID (TRICHLOROETHYLENE)	410	P		
		HAZARDOUS WASTE LIQUID (ACETONE, TETRACHLOROETHYLENE)	21466	P		
3/12/2014	007479586FLE	HAZARDOUS WASTE LIQUID (CHROMIUM)	491	P		
		HAZARDOUS WASTE LIQUID (CHROMIUM)	186	P		
3/12/2014	007479587FLE	HAZARDOUS WASTE LIQUID (SEDIMENT CHROMIUM)	55	P		
3/12/2014	007479588FLE	WASTE CORROSIVE LIQUID, BASIC, INORGANIC (SODIUM HYDROXIDE)	12	P		
		HAZARDOUS WASTE LIQUID (TRICHLOROETHYLENE)	990	P		
3/12/2014	007479592FLE	WASTE CORROSIVE LIQUID, BASIC, INORGANIC (BENTONITE, SODIUM HYDROXIDE)	253	P		Clean Harbors Aragonite LLC 11600 North Aptus Road, Grantsville, UT 84029
		WASTE CORROSIVE LIQUID, BASIC, INORGANIC (BENTONITE, SODIUM HYDROXIDE)	305	P		
		HAZARDOUS WASTE LIQUID (CHROMIUM, SELENIUM)	1136	P		
3/26/2014	007479645FLE	WASTE PAINT (PAINT, XYLENE)	22	P		
		WASTE AMINES, LIQUID, CORROSIVE (POLYAMIDE HARDNER)	23	P		

TABLE B
LIQUID WASTE SHIPMENTS

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

DATE SHIPPED	MANIFEST TRACKING NUMBER	TYPE OF LIQUID	QTY.	UNITS	TRANSPORTER	DESTINATION
1/7/2014	32800	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G	Southwest Processors Inc. 4120 Bandini Blvd. Vernon, CA 90058	LACSD
1/7/2014	32801	WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT (STP #2)	5000	G		
1/7/2014	32802	WASTE WATER FROM AREA II SEWAGE TREATMENT PLANT (STP #2)	5000	G		
1/14/2014	32834	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
1/14/2014	32835	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
1/14/2014	32836	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
1/21/2014	32867	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
1/21/2014	32868	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
1/21/2014	32869	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
1/28/2014	32901	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
1/28/2014	32902	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
1/28/2014	32903	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
2/4/2014	32935	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
2/4/2014	32936	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
2/4/2014	32937	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
2/11/2014	32970	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
2/11/2014	32971	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
2/11/2014	32972	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
2/18/2014	33003	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
2/18/2014	33004	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
2/18/2014	33005	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
2/25/2014	33739	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
2/25/2014	33740A	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
2/25/2014	33740	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
3/4/2014	33777	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
3/4/2014	33778	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
3/4/2014	33779	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
3/11/2014	34522	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
3/11/2014	34523	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
3/11/2014	34524	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
3/18/2014	34562	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
3/18/2014	34563	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
3/18/2014	34564	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
3/25/2014	34598	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
3/25/2014	34599	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		
3/25/2014	34600	WASTE WATER FROM AREA I SEWAGE TREATMENT PLANT (STP #1)	5000	G		

APPENDIX C

First Quarter 2014 Discharge Monitoring Data Summary Tables

FIRST QUARTER 2014
REPORTING SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Notes:

1. TCDD TEQs for the purpose of determining permit compliance are the sum of the products of the detected dioxin congener concentration multiplied by that congener's toxicity equivalency factor (TEF) and bioaccumulation equivalency factor (BEF). The resulting compliance TCDD TEQ does not include those congener concentrations that are reported as DNQ, as specified on Page 37 of the NPDES permit.

2. pH was determined with a field instrument and was noted as such. These results were not validated.

3. All of the following abbreviations and/or notes may not occur on every table.

4. J(DNQ) flagged results are included in the data charts; however, these results are considered to be estimated values and as such are not used to quantify the chemical concentration for compliance purposes. ND results are included in the data charts and are shown as zero. Refer to Appendix H for a list of reporting limits by constituent.

5. pH and temperature are identified on the table as daily maximum discharge limits. The NPDES permit limit has an instantaneous minimum (6.5) and maximum (8.5) for pH and an instantaneous maximum of 86^{o}F for temperature.

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

	reported by the laboratory as Estimated Maximum Possible Concentration (EMPC) values
*11	no calibration was performed for this compound; result is reported as a tentatively identified compound (TIC)
* II *III	Unusual problems found with the data that have been described in Section II, “sample management”, or Section III, “method analysis”. The number following the asterisk (*) will indicated the validation report section where a description of the problem can be found.
ANR	analysis not required; e.g., constituent or outfall was not required by the permit to be sampled and analyzed over the reporting period (annual, semi-annual, etc.)
B	laboratory method blank contamination
BA	relative percent difference out of control
BEF	bioaccumulation equivalency factor
BU	analyzed out of holding time
BV	sample received after holding time expired
C	calibration %RSD or %D were noncompliant
Comp	Composite sample type
C5	Calibration verification %R was outside method control limits
CEs/100 ml	cell equivalents per 100 milliliters
D	The analysis with this flag should not be used because another more technically sound analysis is available
%D	percent difference between the initial and continuing calibration relative response factors
deg F	degrees Fahrenheit
DL	detection limit
DNQ	detected but not quantified (constituent value greater than or equal to the laboratory method detection limit and less then the laboratory reporting limit)
E	duplicates show poor agreement
ft/sec	feet per second
H	holding time was exceeded
I	ICP interference check solution results were unsatisfactory
J	estimated value, result lower than the detection limit
J, DX	estimated value, value < lowest standard (MQL), but > than MDL
K	The sample dilution’s set-up did not meet the oxygen depletion criteria of at least 2 mg/l. Therefore, the reported result is an estimated value only.
L2	the laboratory control sample %R was below the method control limits
L	laboratory control sample %R was outside control limits
lbs/day	Pounds per day
LOD	limit of detection
LQ	LCS/LCSD recovery above method control limits

FIRST QUARTER 2014
REPORTING SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

M1	matrix spike (MS) and/or MS duplicate were above the acceptance limits due to sample matrix interference
M2	the MS and/or MS duplicate were below the acceptance limits due to sample matrix interference
MDA/MDC	minimum detectable activity/ minimum detectable concentration
MDL	method detection limit
Meas	Measure sample type
MFL	million fibers per liter
MGD	million gallons per day
MHA*	Due to high level of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information.
mg/L	milligrams per liter
mg/kg	milligrams per kilogram
ml/L/hr	milliliters per liter per hour
MPN/100 ml	most probable number per 100 milliliters
NA	not applicable; no permit limit established for the constituent and/or outfall
ND	analyte value less than the LOD or MDL
NM	not measured or determined
NTU	nephelometric turbidity unit
pCi/L	picocurries per liter
Q	matrix spike recovery outside of control limits
R	as a validation qualifier, results are rejected; the presence or absence of analyte cannot be verified
R	(reason code in parentheses) %R for calibration not within control limits
RL	laboratory reporting limit
RL-1	reporting limit raised due to sample matrix effects
%RSD	percent relative standard deviation
% survival	percent survival
S	surrogate recovery was outside control limits
TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
TEQ	toxic equivalent
T	presumed contamination, as indicated by a detect in the trip blank
TU_c	toxicity units (chronic)
U	result not detected
µg/L	micrograms per liter
µg/kg	micrograms per kilogram
UJ	result not detected at the estimated reporting limit
umhos/cm	micromhos per centimeter
WHO TEF	World Health Organization toxic equivalency factor
^	analysis not completed due to hold time exceedence or insufficient sample volume

FIRST QUARTER 2014
REPORTING SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

#	Per ORDER NO. R4-2010-0090 page 23 Footnote 1. The effluent limitations for total suspended solids and settable solids are not applicable for discharges during wet weather. During wet weather flow, a discharge event is greater than 0.1 inches of rainfall in a 24-hour period. No more than one sample per week need be obtained during extended periods of rainfall or the discharge of collected stormwater. A storm event must be preceded by at least 72 hours of dry weather.
(4.0)3.1/-	Represents (Dry Weather Limit) Wet Weather Limit / Monthly Average Limit.

OUTFALL 009 (WS-13 DRAINAGE)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				2/28/2014 (Grab) - 03/01/2014 (Composite)		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**VALIDATION QUALIFIER**
Volume Discharged	MGD	17.89/-	1/Discharge	Meas	1.7337	*
CONVENTIONAL POLLUTANTS						
Oil & Grease	mg/L	15/-	1/Discharge	Grab	ND < 1.3	*
pH (Field)	pH units	6.5-8.5/-	1/Discharge	Grab	5.5	*
PRIORITY POLLUTANTS						
Antimony	ug/L	6.0/-	1/Discharge	Composite	0.7	J (DNQ)
Cadmium	ug/L	4.0/-	1/Discharge	Composite	ND < 0.25	U
Copper	ug/L	14/-	1/Discharge	Composite	8.2	--
Lead	ug/L	5.2/-	1/Discharge	Composite	9.6	--
Mercury	ug/L	0.13/-	1/Discharge	Composite	ND < 0.1	U
Nickel	ug/L	100/-	1/Year	Composite	7.3	J (DNQ)
Selenium	ug/L	-/-	1/Discharge	Composite	ND < 0.5	U
Thallium	ug/L	2.0/-	1/Discharge	Composite	ND < 0.5	U
Total Cyanide	ug/L	9.5/-	1/Discharge	Composite	ND < 3	*
Zinc	ug/L	-/-	1/Discharge	Composite	50	--
NON-CONVENTIONAL POLLUTANTS						
Acute Toxicity	% SURVIVAL	70-90/-	1/Year	Grab	100	*
Boron	mg/L	1.0/-	1/Year	Composite	0.044	J (DNQ)
Chloride	mg/L	150/-	1/Discharge	Composite	5.5	*
Chronic Toxicity	TUC	1/-	1st & 2nd rain event/Year	Composite	1.0	*
Fluoride	mg/L	1.6/-	1/Year	Composite	0.16	*
Nitrate + Nitrite as Nitrogen (N)	mg/L	10/-	1/Discharge	Composite	0.99	*
Perchlorate	ug/L	6.0/-	1/Discharge	Composite	ND < 0.95	*
Sulfate	mg/L	250/-	1/Discharge	Composite	6.6	*
Temperature (Field)	deg. F	86/-	1/Discharge	Grab	54.9	*
Total Dissolved Solids	mg/L	850/-	1/Discharge	Composite	51	*
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	ug/L	-/-	1/Year	Grab	ND < 0.25	*
1,1,2,2-Tetrachloroethane	ug/L	-/-	1/Year	Grab	ND < 0.25	*
1,1,2-Trichloroethane	ug/L	-/-	1/Year	Grab	ND < 0.25	*
1,1-Dichloroethane	ug/L	-/-	1/Year	Grab	ND < 0.25	*
1,1-Dichloroethene	ug/L	-/-	1/Year	Grab	ND < 0.25	*
1,2,4-Trichlorobenzene	ug/L	-/-	1/Year	Composite	ND < 0.474	U
1,2-Dichlorobenzene	ug/L	-/-	1/Year	Composite	ND < 0.19	U
1,2-Dichlorobenzene	ug/L	-/-	1/Year	Grab	ND < 0.5	*
1,2-Dichloroethane	ug/L	-/-	1/Year	Grab	ND < 0.25	*
1,2-Dichloropropane	ug/L	-/-	1/Year	Grab	ND < 0.25	*
1,2-Diphenylhydrazine/Azobenzene	ug/L	-/-	1/Year	Composite	ND < 0.474	U
1,3-Dichlorobenzene	ug/L	-/-	1/Year	Composite	ND < 0.19	U
1,3-Dichlorobenzene	ug/L	-/-	1/Year	Grab	ND < 0.25	*
1,4-Dichlorobenzene	ug/L	-/-	1/Year	Composite	ND < 0.19	U
1,4-Dichlorobenzene	ug/L	-/-	1/Year	Grab	ND < 0.25	*
2,4,6-Trichlorophenol	ug/L	-/-	1/Year	Composite	ND < 0.474	U
2,4-Dichlorophenol	ug/L	-/-	1/Year	Composite	ND < 0.948	U
2,4-Dimethylphenol	ug/L	-/-	1/Year	Composite	ND < 0.948	U
2,4-Dinitrophenol	ug/L	-/-	1/Year	Composite	ND < 1.9	U
2,4-Dinitrotoluene	ug/L	-/-	1/Year	Composite	ND < 1.9	U
2,6-Dinitrotoluene	ug/L	-/-	1/Year	Composite	ND < 1.9	U
2-Chloroethylvinylether	ug/L	-/-	1/Year	Grab	ND < 1	*
2-Chloronaphthalene	ug/L	-/-	1/Year	Composite	ND < 0.19	U

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

OUTFALL 009 (WS-13 DRAINAGE)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				2/28/2014 (Grab) - 03/01/2014 (Composite)		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**VALIDATION QUALIFIER**
2-Chlorophenol	ug/L	-/-	1/Year	Composite	ND < 0.474	U
2-Methyl-4,6-Dinitrophenol	ug/L	-/-	1/Year	Composite	ND < 1.9	U
2-Nitrophenol	ug/L	-/-	1/Year	Composite	ND < 0.948	U
3,3'-Dichlorobenzidine	ug/L	-/-	1/Year	Composite	ND < 1.9	U
4,4'-DDD	ug/L	-/-	1/Year	Composite	ND < 0.0038	*
4,4'-DDE	ug/L	-/-	1/Year	Composite	ND < 0.0029	*
4,4'-DDT	ug/L	-/-	1/Year	Composite	ND < 0.0038	*
4-Bromophenylphenylether	ug/L	-/-	1/Year	Composite	ND < 0.474	U
4-Chloro-3-methylphenol	ug/L	-/-	1/Year	Composite	ND < 0.19	U
4-Chlorophenylphenylether	ug/L	-/-	1/Year	Composite	ND < 0.19	U
4-Nitrophenol	ug/L	-/-	1/Year	Composite	ND < 1.9	U
Acenaphthene	ug/L	-/-	1/Year	Composite	ND < 0.19	U
Acenaphthylene	ug/L	-/-	1/Year	Composite	ND < 0.19	U
Acrolein	ug/L	-/-	1/Year	Grab	ND < 2.5	*
Acrylonitrile	ug/L	-/-	1/Year	Grab	ND < 1	*
Aldrin	ug/L	-/-	1/Year	Composite	ND < 0.0014	*
alpha-BHC	ug/L	-/-	1/Year	Composite	ND < 0.0024	*
Anthracene	ug/L	-/-	1/Year	Composite	ND < 0.19	U
Aroclor 1016	ug/L	-/-	1/Year	Composite	ND < 0.24	*
Aroclor 1221	ug/L	-/-	1/Year	Composite	ND < 0.24	*
Aroclor 1232	ug/L	-/-	1/Year	Composite	ND < 0.24	*
Aroclor 1242	ug/L	-/-	1/Year	Composite	ND < 0.24	*
Aroclor 1248	ug/L	-/-	1/Year	Composite	ND < 0.24	*
Aroclor 1254	ug/L	-/-	1/Year	Composite	ND < 0.24	*
Aroclor 1260	ug/L	-/-	1/Year	Composite	ND < 0.24	*
Arsenic	ug/L	-/-	1/Year	Composite	ND < 7	U
Asbestos	MFL	-/-	1/Year	Composite	ND < 1.9	*
Benzene	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Benzidine	ug/L	-/-	1/Year	Composite	ND < 4.74	U
Benzo(a)anthracene	ug/L	-/-	1/Year	Composite	ND < 1.9	U
Benzo(a)pyrene	ug/L	-/-	1/Year	Composite	ND < 0.474	U
Benzo(b)fluoranthene	ug/L	-/-	1/Year	Composite	ND < 0.948	U
Benzo(g,h,i)Perylene	ug/L	-/-	1/Year	Composite	ND < 1.9	U
Benzo(k)fluoranthene	ug/L	-/-	1/Year	Composite	ND < 0.237	U
Beryllium	ug/L	-/-	1/Year	Composite	ND < 0.9	U
beta-BHC	ug/L	-/-	1/Year	Composite	ND < 0.0038	*
Bis (2-Chloroethoxy) Methane	ug/L	-/-	1/Year	Composite	ND < 0.19	U
Bis (2-Chloroethyl) Ether	ug/L	-/-	1/Year	Composite	ND < 0.19	U
Bis (2-Chloroisopropyl) Ether	ug/L	-/-	1/Year	Composite	ND < 0.19	U
Bis (2-Ethylhexyl) Phthalate	ug/L	-/-	1/Year	Composite	ND < 1.9	U
Bromodichloromethane	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Bromoform	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Bromomethane	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Butylbenzylphthalate	ug/L	-/-	1/Year	Composite	ND < 1.9	U
Carbon Tetrachloride	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Chlordane	ug/L	-/-	1/Year	Composite	ND < 0.076	*
Chlorobenzene	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Chloroethane	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Chloroform	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Chloromethane	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Chromium	ug/L	-/-	1/Year	Composite	7.9	--

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

OUTFALL 009 (WS-13 DRAINAGE)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				2/28/2014 (Grab) - 03/01/2014 (Composite)		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**VALIDATION QUALIFIER**
Chromium VI	ug/L	-/-	1/Year	Grab	0.41	J (DNQ)
Chrysene	ug/L	-/-	1/Year	Composite	ND < 0.19	U
cis-1,3-Dichloropropene	ug/L	-/-	1/Year	Grab	ND < 0.25	*
delta-BHC	ug/L	-/-	1/Year	Composite	ND < 0.0033	*
Dibenzo(a,h)anthracene	ug/L	-/-	1/Year	Composite	ND < 0.237	U
Dibromochloromethane	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Dieldrin	ug/L	-/-	1/Year	Composite	ND < 0.0019	*
Diethylphthalate	ug/L	-/-	1/Year	Composite	ND < 0.474	U
Dimethylphthalate	ug/L	-/-	1/Year	Composite	ND < 0.237	U
Di-n-butylphthalate	ug/L	-/-	1/Year	Composite	ND < 0.948	U
Di-n-octylphthalate	ug/L	-/-	1/Year	Composite	ND < 1.9	U
Endosulfan I	ug/L	-/-	1/Year	Composite	ND < 0.0029	*
Endosulfan II	ug/L	-/-	1/Year	Composite	ND < 0.0019	*
Endosulfan Sulfate	ug/L	-/-	1/Year	Composite	ND < 0.0029	*
Endrin	ug/L	-/-	1/Year	Composite	ND < 0.0019	*
Endrin Aldehyde	ug/L	-/-	1/Year	Composite	ND < 0.0019	*
Ethylbenzene	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Fluoranthene	ug/L	-/-	1/Year	Composite	ND < 0.19	U
Fluorene	ug/L	-/-	1/Year	Composite	ND < 0.19	U
Heptachlor	ug/L	-/-	1/Year	Composite	ND < 0.0029	*
Heptachlor Epoxide	ug/L	-/-	1/Year	Composite	ND < 0.0024	*
Hexachlorobenzene	ug/L	-/-	1/Year	Composite	ND < 0.474	U
Hexachlorobutadiene	ug/L	-/-	1/Year	Composite	ND < 0.474	U
Hexachlorocyclopentadiene	ug/L	-/-	1/Year	Composite	ND < 1.9	U
Hexachloroethane	ug/L	-/-	1/Year	Composite	ND < 0.474	U
Indeno(1,2,3-cd)pyrene	ug/L	-/-	1/Year	Composite	ND < 0.948	U
Isophorone	ug/L	-/-	1/Year	Composite	ND < 0.474	U
Lindane (gamma-BHC)	ug/L	-/-	1/Year	Composite	ND < 0.0029	*
Methylene chloride	ug/L	-/-	1/Year	Grab	ND < 0.88	*
Naphthalene	ug/L	-/-	1/Year	Composite	ND < 0.474	U
Naphthalene	ug/L	-/-	1/Year	Grab	ND < 0.4	*
Nitrobenzene	ug/L	-/-	1/Year	Composite	ND < 0.474	U
N-Nitrosodimethylamine	ug/L	-/-	1/Year	Composite	ND < 0.948	U
N-Nitroso-di-n-propylamine	ug/L	-/-	1/Year	Composite	ND < 0.948	U
N-Nitrosodiphenylamine	ug/L	-/-	1/Year	Composite	ND < 0.474	U
Pentachlorophenol	ug/L	-/-	1/Year	Composite	1.46	J (DNQ)
Phenanthrene	ug/L	-/-	1/Year	Composite	ND < 0.19	U
Phenol	ug/L	-/-	1/Year	Composite	ND < 0.474	U
Pyrene	ug/L	-/-	1/Year	Composite	ND < 0.19	U
Silver	ug/L	-/-	1/Year	Composite	ND < 0.5	*
Tetrachloroethene	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Toluene	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Toxaphene	ug/L	-/-	1/Year	Composite	ND < 0.24	*
trans-1,2-Dichloroethene	ug/L	-/-	1/Year	Grab	ND < 0.25	*
trans-1,3-Dichloropropene	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Trichloroethene	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Vinyl chloride	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Xylenes (Total)	ug/L	-/-	1/Year	Grab	ND < 0.5	*
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
Aluminum	ug/L	-/-	1/Year	Composite	4,400	--
Chlorpyrifos	ug/L	-/-	1/Year	Composite	ND < 0.34	U

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

OUTFALL 009 (WS-13 DRAINAGE)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				2/28/2014 (Grab) - 03/01/2014 (Composite)		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**VALIDATION QUALIFIER**
Diazinon	ug/L	-/-	1/Year	Composite	ND < 0.14	U
E. Coli	MPN/100mL	-/-	1/Year	Grab	>=1,600	--
Fecal Coliform	MPN/100mL	-/-	1/Year	Grab	>=1,600	--
Hardness	mg/L	-/-	1/Year	Composite	28	--
Iron	mg/L	-/-	1/Year	Composite	6.2	--
Total Suspended Solids	mg/L	-/-	1/Year	Composite	120	--
Trichlorofluoromethane	ug/L	-/-	1/Year	Grab	ND < 0.25	*
Vanadium	ug/L	-/-	1/Year	Composite	13	--
ADDITIONAL POLLUTANTS						
Alkalinity as CaCO3	mg/L	-/-	Additional	Grab	16	*
Aluminum, dissolved	ug/L	-/-	Additional	Composite	190	--
Antimony, dissolved	ug/L	-/-	Additional	Composite	ND < 0.5	U
Arsenic, dissolved	ug/L	-/-	Additional	Composite	ND < 7	U
Beryllium, dissolved	ug/L	-/-	Additional	Composite	ND < 0.9	U
Bicarbonate Alkalinity as CaCO3	mg/L	-/-	Additional	Grab	16	*
Boron, dissolved	mg/L	-/-	Additional	Composite	0.039	J (DNQ)
Cadmium, dissolved	ug/L	-/-	Additional	Composite	ND < 0.25	U
Carbonate Alkalinity as CaCO3	mg/L	-/-	Additional	Grab	ND < 4	*
Chromium, dissolved	ug/L	-/-	Additional	Composite	ND < 2	U
Copper, dissolved	ug/L	-/-	Additional	Composite	3.7	--
Dissolved Oxygen (Field)	mg/L	-/-	Additional	Grab	5.2	*
Hardness, dissolved	mg/L	-/-	Additional	Composite	19	--
Hydroxide Alkalinity as CaCO3	mg/L	-/-	Additional	Grab	ND < 4	*
Iron, dissolved	mg/L	-/-	Additional	Composite	0.19	--
Lead, dissolved	ug/L	-/-	Additional	Composite	0.51	J (DNQ)
Mercury, dissolved	ug/L	-/-	Additional	Composite	ND < 0.1	U
Nickel, dissolved	ug/L	-/-	Additional	Composite	2	J (DNQ)
Selenium, dissolved	ug/L	-/-	Additional	Composite	ND < 0.5	U
Silver, dissolved	ug/L	-/-	Additional	Composite	ND < 0.5	*
Thallium, dissolved	ug/L	-/-	Additional	Composite	ND < 0.5	U
Vanadium, dissolved	ug/L	-/-	Additional	Composite	ND < 3	U
Zinc, Dissolved	ug/L	-/-	Additional	Composite	ND < 14	U (B)

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

OUTFALL 009 (WS-13 DRAINAGE)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Sample Type Composite
Sample Date March 01, 2014

ANALYTE	SAMPLE FREQUENCY	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	1/Discharge	1.25E-05	5.00E-05	2.59E-04	--		0.01	0.05	**1.30E-07**
1,2,3,4,6,7,8-HpCDF	1/Discharge	6.50E-06	5.00E-05	4.21E-05	J (DNQ)		0.01	0.01	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	1.25E-05	5.00E-05	4.57E-06	UJ (*III)		0.01	0.4	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	1.25E-05	5.00E-05	ND	U		0.1	0.3	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	6.50E-06	5.00E-05	2.61E-06	UJ (*III)		0.1	0.08	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	1.25E-05	5.00E-05	9.82E-06	UJ (*III)		0.1	0.1	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	1.25E-05	5.00E-05	1.93E-06	UJ (*III)		0.1	0.2	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	1.25E-05	5.00E-05	1.04E-05	UJ (*III)		0.1	0.1	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	6.50E-06	5.00E-05	ND	U		0.1	0.6	**ND**
1,2,3,7,8-PeCDD	1/Discharge	6.50E-06	5.00E-05	ND	U		1	0.9	**ND**
1,2,3,7,8-PeCDF	1/Discharge	6.50E-06	5.00E-05	ND	U		0.05	0.2	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	6.50E-06	5.00E-05	ND	U		0.1	0.7	**ND**
2,3,4,7,8-PeCDF	1/Discharge	6.20E-06	5.00E-05	ND	U		0.5	1.6	**ND**
2,3,7,8-TCDD	1/Discharge	2.50E-06	1.00E-05	ND	U		1	1	**ND**
2,3,7,8-TCDF	1/Discharge	2.50E-06	1.00E-05	ND	U		0.1	0.8	**ND**
OCDD	1/Discharge	5.00E-05	1.00E-04	2.53E-03	--		0.0001	0.01	**2.53E-09**
OCDF	1/Discharge	2.50E-05	1.00E-04	1.47E-04	--		0.0001	0.02	**2.94E-10**
TCDD TEQ w/out DNQ Values									**1.32E-07**

TCDD TEQ (PRIORITY POLLUTANTS) PERMIT LIMIT = 2.80E-08

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

OUTFALL 009 (WS-13 DRAINAGE)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				03/01/2014 (Composite)		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15/-	1/Discharge	4.53 ± 1.61	1.63	J (C)
Gross Beta	pCi/L	50/-	1/Discharge	7.88 ± 1.39	1.17	--
Strontium-90	pCi/L	8.0/-	1/Discharge	0.355 ± 0.194	0.287	--
Total Combined Radium-226 & Radium 228	pCi/L	5.0/-	1/Discharge	0.780 ± 0.29	0.051	--
Tritium	pCi/L	20000/-	1/Discharge	11.7 ± 150	277	U
ADDITIONAL POLLUTANTS						
Cesium 137	pCi/L	200/-	1/Discharge	-1.30 ± 6.36	11.5	U
Uranium, Total	pCi/L	20/-	1/Discharge	0.139 ± 0.157	0.218	U
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-/-	1/Discharge	-27.8 ± 152	169	U

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OUTFALL 009 (WS-13 DRAINAGE)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				2/28/2014 (Grab) - 03/01/2014 (Composite)		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**Sample Frequency**	**Sample Type**	**Result**	**Concentration Result Validation Qualifier**
Volume Discharged	MGD	17.89/-		Meas	1.7337	*
CONVENTIONAL POLLUTANTS						
Oil & Grease	LBS/DAY	2,227/-	1/Discharge	Grab	ND	*
PRIORITY POLLUTANTS						
Antimony	LBS/DAY	0.89/-	1/Discharge	Composite	0.01	J (DNQ)
Cadmium	LBS/DAY	0.59/-	1/Discharge	Composite	ND	U
Copper	LBS/DAY	2.1/-	1/Discharge	Composite	0.12	--
Lead	LBS/DAY	0.77/-	1/Discharge	Composite	0.14	--
Mercury	LBS/DAY	0.02/-	1/Discharge	Composite	ND	U
Nickel	LBS/DAY	14.9/-	1/Year	Composite	0.11	J (DNQ)
TCDD TEQ_NoDNQ	LBS/DAY	4.20E-09/-	1/Discharge	Composite	1.91E-09	--
Thallium	LBS/DAY	0.3/-	1/Discharge	Composite	ND	U
Total Cyanide	LBS/DAY	1.4/-	1/Discharge	Composite	ND	*
NON-CONVENTIONAL POLLUTANTS						
Boron	LBS/DAY	148/-	1/Year	Composite	0.64	J (DNQ)
Chloride	LBS/DAY	22,268/-	1/Discharge	Composite	79.52	*
Fluoride	LBS/DAY	238/-	1/Year	Composite	2.31	*
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	1,485/-	1/Discharge	Composite	14.31	*
Perchlorate	LBS/DAY	0.89/-	1/Discharge	Composite	ND	--
Sulfate	LBS/DAY	37,113/-	1/Discharge	Composite	95.43	*
Total Dissolved Solids	LBS/DAY	126,184/-	1/Discharge	Composite	737.40	*

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

OUTFALL 010 (BUILDING 203)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				2/28/2014		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**VALIDATION QUALIFIER**
Volume Discharged	MGD	17.89/-	1/Discharge	Meas	0.00082105	*
CONVENTIONAL POLLUTANTS						
Oil & Grease	mg/L	15/-	1/Discharge	Grab	ND < 1.3	U
pH (Field)	pH units	6.5-8.5/-	1/Discharge	Grab	7.38	*
PRIORITY POLLUTANTS						
Antimony	ug/L	6.0/-	1/Discharge	Grab	0.7	J (DNQ)
Cadmium	ug/L	4.0/-	1/Discharge	Grab	ND < 0.25	U
Copper	ug/L	14/-	1/Discharge	Grab	12	--
Lead	ug/L	5.2/-	1/Discharge	Grab	5.6	--
Mercury	ug/L	0.13/-	1/Discharge	Grab	ND < 0.1	U
Nickel	ug/L	100/-	1/Year	Grab	7.9	J (DNQ)
Selenium	ug/L	-/-	1/Discharge	Grab	ND < 0.5	U
Thallium	ug/L	2.0/-	1/Discharge	Grab	ND < 0.5	U
Total Cyanide	ug/L	9.5/-	1/Discharge	Grab	ND < 3	U
Zinc	ug/L	-/-	1/Discharge	Grab	62	--
NON-CONVENTIONAL POLLUTANTS						
Acute Toxicity	% SURVIVAL	70-90/-	1/Year	Grab	100	*
Boron	mg/L	1.0/-	1/Year	Grab	0.097	--
Chloride	mg/L	150/-	1/Discharge	Grab	6.3	--
Chronic Toxicity	TUC	1/-	1st & 2nd rain event/Year	Grab	1.0	*
Fluoride	mg/L	1.6/-	1/Year	Grab	0.12	--
Nitrate + Nitrite as Nitrogen (N)	mg/L	10/-	1/Discharge	Grab	2	--
Perchlorate	ug/L	6.0/-	1/Discharge	Grab	ND < 0.95	U
Sulfate	mg/L	250/-	1/Discharge	Grab	15	--
Temperature (Field)	deg. F	86/-	1/Discharge	Grab	59.2	*
Total Dissolved Solids	mg/L	850/-	1/Discharge	Grab	120	--
REMAINING PRIORITY POLLUTANTS						
1,1,1-Trichloroethane	ug/L	-/-	1/Year	Grab	ND < 0.25	U
1,1,2,2-Tetrachloroethane	ug/L	-/-	1/Year	Grab	ND < 0.25	U
1,1,2-Trichloroethane	ug/L	-/-	1/Year	Grab	ND < 0.25	U
1,1-Dichloroethane	ug/L	-/-	1/Year	Grab	ND < 0.25	U
1,1-Dichloroethene	ug/L	-/-	1/Year	Grab	ND < 0.25	U
1,2,4-Trichlorobenzene	ug/L	-/-	1/Year	Grab	ND < 0.474	U
1,2-Dichlorobenzene	ug/L	-/-	1/Year	Grab	ND < 0.19	U
1,2-Dichlorobenzene	ug/L	-/-	1/Year	Grab	ND < 0.5	U
1,2-Dichloroethane	ug/L	-/-	1/Year	Grab	ND < 0.25	U
1,2-Dichloropropane	ug/L	-/-	1/Year	Grab	ND < 0.25	U
1,2-Diphenylhydrazine/Azobenzene	ug/L	-/-	1/Year	Grab	ND < 0.474	U
1,3-Dichlorobenzene	ug/L	-/-	1/Year	Grab	ND < 0.19	U
1,3-Dichlorobenzene	ug/L	-/-	1/Year	Grab	ND < 0.25	U
1,4-Dichlorobenzene	ug/L	-/-	1/Year	Grab	ND < 0.19	U
1,4-Dichlorobenzene	ug/L	-/-	1/Year	Grab	ND < 0.25	U
2,4,6-Trichlorophenol	ug/L	-/-	1/Year	Grab	ND < 0.474	U
2,4-Dichlorophenol	ug/L	-/-	1/Year	Grab	ND < 0.948	U
2,4-Dimethylphenol	ug/L	-/-	1/Year	Grab	ND < 0.948	U

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

OUTFALL 010 (BUILDING 203)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				2/28/2014		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**VALIDATION QUALIFIER**
2,4-Dinitrophenol	ug/L	-/-	1/Year	Grab	ND < 1.9	U
2,4-Dinitrotoluene	ug/L	-/-	1/Year	Grab	ND < 1.9	U
2,6-Dinitrotoluene	ug/L	-/-	1/Year	Grab	ND < 1.9	U
2-Chloroethylvinylether	ug/L	-/-	1/Year	Grab	ND < 1	U
2-Chloronaphthalene	ug/L	-/-	1/Year	Grab	ND < 0.19	U
2-Chlorophenol	ug/L	-/-	1/Year	Grab	ND < 0.474	U
2-Methyl-4,6-Dinitrophenol	ug/L	-/-	1/Year	Grab	ND < 1.9	U
2-Nitrophenol	ug/L	-/-	1/Year	Grab	ND < 0.948	U
3,3'-Dichlorobenzidine	ug/L	-/-	1/Year	Grab	ND < 1.9	U
4,4'-DDD	ug/L	-/-	1/Year	Grab	ND < 0.0038	U
4,4'-DDE	ug/L	-/-	1/Year	Grab	ND < 0.0028	U
4,4'-DDT	ug/L	-/-	1/Year	Grab	ND < 0.0038	U
4-Bromophenylphenylether	ug/L	-/-	1/Year	Grab	ND < 0.474	U
4-Chloro-3-methylphenol	ug/L	-/-	1/Year	Grab	ND < 0.19	U
4-Chlorophenylphenylether	ug/L	-/-	1/Year	Grab	ND < 0.19	U
4-Nitrophenol	ug/L	-/-	1/Year	Grab	ND < 1.9	U
Acenaphthene	ug/L	-/-	1/Year	Grab	ND < 0.19	U
Acenaphthylene	ug/L	-/-	1/Year	Grab	ND < 0.19	U
Acrolein	ug/L	-/-	1/Year	Grab	ND < 2.5	U
Acrylonitrile	ug/L	-/-	1/Year	Grab	ND < 1	U
Aldrin	ug/L	-/-	1/Year	Grab	ND < 0.0014	U
alpha-BHC	ug/L	-/-	1/Year	Grab	ND < 0.0024	U
Anthracene	ug/L	-/-	1/Year	Grab	ND < 0.19	U
Aroclor 1016	ug/L	-/-	1/Year	Grab	ND < 0.24	U
Aroclor 1221	ug/L	-/-	1/Year	Grab	ND < 0.24	U
Aroclor 1232	ug/L	-/-	1/Year	Grab	ND < 0.24	U
Aroclor 1242	ug/L	-/-	1/Year	Grab	ND < 0.24	U
Aroclor 1248	ug/L	-/-	1/Year	Grab	ND < 0.24	U
Aroclor 1254	ug/L	-/-	1/Year	Grab	ND < 0.24	U
Aroclor 1260	ug/L	-/-	1/Year	Grab	ND < 0.24	U
Arsenic	ug/L	-/-	1/Year	Grab	ND < 7	U
Benzene	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Benzidine	ug/L	-/-	1/Year	Grab	ND < 4.74	U
Benzo(a)anthracene	ug/L	-/-	1/Year	Grab	ND < 1.9	U
Benzo(a)pyrene	ug/L	-/-	1/Year	Grab	ND < 0.474	U
Benzo(b)fluoranthene	ug/L	-/-	1/Year	Grab	ND < 0.948	U
Benzo(g,h,i)Perylene	ug/L	-/-	1/Year	Grab	ND < 1.9	U
Benzo(k)fluoranthene	ug/L	-/-	1/Year	Grab	ND < 0.237	U
Beryllium	ug/L	-/-	1/Year	Grab	1.2	J (DNQ)
beta-BHC	ug/L	-/-	1/Year	Grab	ND < 0.0038	U
Bis (2-Chloroethoxy) Methane	ug/L	-/-	1/Year	Grab	ND < 0.19	U
Bis (2-Chloroethyl) Ether	ug/L	-/-	1/Year	Grab	ND < 0.19	U
Bis (2-Chloroisopropyl) Ether	ug/L	-/-	1/Year	Grab	ND < 0.19	U
Bis (2-Ethylhexyl) Phthalate	ug/L	-/-	1/Year	Grab	6.71	--
Bromodichloromethane	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Bromoform	ug/L	-/-	1/Year	Grab	ND < 0.25	U

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

OUTFALL 010 (BUILDING 203)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				2/28/2014		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**VALIDATION QUALIFIER**
Bromomethane	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Butylbenzylphthalate	ug/L	-/-	1/Year	Grab	ND < 1.9	U
Carbon Tetrachloride	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Chlordane	ug/L	-/-	1/Year	Grab	ND < 0.075	U
Chlorobenzene	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Chloroethane	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Chloroform	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Chloromethane	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Chromium	ug/L	-/-	1/Year	Grab	9.7	--
Chromium VI	ug/L	-/-	1/Year	Grab	0.47	J (DNQ)
Chrysene	ug/L	-/-	1/Year	Grab	ND < 0.19	U
cis-1,3-Dichloropropene	ug/L	-/-	1/Year	Grab	ND < 0.25	U
delta-BHC	ug/L	-/-	1/Year	Grab	ND < 0.0033	U
Dibenzo(a,h)anthracene	ug/L	-/-	1/Year	Grab	ND < 0.237	U
Dibromochloromethane	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Dieldrin	ug/L	-/-	1/Year	Grab	ND < 0.0019	U
Diethylphthalate	ug/L	-/-	1/Year	Grab	0.887	J (DNQ)
Dimethylphthalate	ug/L	-/-	1/Year	Grab	0.501	--
Di-n-butylphthalate	ug/L	-/-	1/Year	Grab	ND < 0.948	U
Di-n-octylphthalate	ug/L	-/-	1/Year	Grab	ND < 1.9	U
Endosulfan I	ug/L	-/-	1/Year	Grab	ND < 0.0028	U
Endosulfan II	ug/L	-/-	1/Year	Grab	ND < 0.0019	U
Endosulfan Sulfate	ug/L	-/-	1/Year	Grab	ND < 0.0028	U
Endrin	ug/L	-/-	1/Year	Grab	ND < 0.0019	U
Endrin Aldehyde	ug/L	-/-	1/Year	Grab	ND < 0.0019	U
Ethylbenzene	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Fluoranthene	ug/L	-/-	1/Year	Grab	ND < 0.19	U
Fluorene	ug/L	-/-	1/Year	Grab	ND < 0.19	U
Heptachlor	ug/L	-/-	1/Year	Grab	ND < 0.0028	U
Heptachlor Epoxide	ug/L	-/-	1/Year	Grab	ND < 0.0024	U
Hexachlorobenzene	ug/L	-/-	1/Year	Grab	ND < 0.474	U
Hexachlorobutadiene	ug/L	-/-	1/Year	Grab	ND < 0.474	U
Hexachlorocyclopentadiene	ug/L	-/-	1/Year	Grab	ND < 1.9	U
Hexachloroethane	ug/L	-/-	1/Year	Grab	ND < 0.474	U
Indeno(1,2,3-cd)pyrene	ug/L	-/-	1/Year	Grab	ND < 0.948	U
Isophorone	ug/L	-/-	1/Year	Grab	ND < 0.474	U
Lindane (gamma-BHC)	ug/L	-/-	1/Year	Grab	ND < 0.0028	U
Methylene chloride	ug/L	-/-	1/Year	Grab	ND < 0.88	U
Naphthalene	ug/L	-/-	1/Year	Grab	ND < 0.474	U
Nitrobenzene	ug/L	-/-	1/Year	Grab	ND < 0.474	U
N-Nitrosodimethylamine	ug/L	-/-	1/Year	Grab	ND < 0.948	U
N-Nitroso-di-n-propylamine	ug/L	-/-	1/Year	Grab	ND < 0.948	U
N-Nitrosodiphenylamine	ug/L	-/-	1/Year	Grab	ND < 0.474	U
Pentachlorophenol	ug/L	-/-	1/Year	Grab	ND < 0.948	U
Phenanthrene	ug/L	-/-	1/Year	Grab	ND < 0.19	U
Phenol	ug/L	-/-	1/Year	Grab	5.8	--

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OUTFALL 010 (BUILDING 203)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				2/28/2014		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**VALIDATION QUALIFIER**
Pyrene	ug/L	-/-	1/Year	Grab	ND < 0.19	U
Silver	ug/L	-/-	1/Year	Grab	ND < 0.5	U
Tetrachloroethene	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Toluene	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Toxaphene	ug/L	-/-	1/Year	Grab	ND < 0.24	U
trans-1,2-Dichloroethene	ug/L	-/-	1/Year	Grab	ND < 0.25	U
trans-1,3-Dichloropropene	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Trichloroethene	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Vinyl chloride	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Xylenes (Total)	ug/L	-/-	1/Year	Grab	ND < 0.5	U
EFFLUENT MONITORING (NO LIMITATIONS) POLLUTANTS						
Aluminum	ug/L	-/-	1/Year	Grab	6,100	--
Chlorpyrifos	ug/L	-/-	1/Year	Grab	ND < 0.077	U
Diazinon	ug/L	-/-	1/Year	Grab	ND < 0.096	U (H,I)
E. Coli	MPN/100mL	-/-	1/Year	Grab	350	--
Fecal Coliform	MPN/100mL	-/-	1/Year	Grab	350	--
Hardness	mg/L	-/-	1/Year	Grab	56	--
Iron	mg/L	-/-	1/Year	Grab	7.8	--
Total Suspended Solids	mg/L	-/-	1/Year	Grab	160	--
Trichlorofluoromethane	ug/L	-/-	1/Year	Grab	ND < 0.25	U
Vanadium	ug/L	-/-	1/Year	Grab	17	--
ADDITIONAL POLLUTANTS						
Aluminum, dissolved	ug/L	-/-	Additional	Grab	150	--
Antimony, dissolved	ug/L	-/-	Additional	Grab	ND < 0.5	U
Arsenic, dissolved	ug/L	-/-	Additional	Grab	ND < 7	U
Beryllium, dissolved	ug/L	-/-	Additional	Grab	ND < 0.9	U
Boron, dissolved	mg/L	-/-	Additional	Grab	0.1	--
Cadmium, dissolved	ug/L	-/-	Additional	Grab	ND < 0.25	U
Chromium, dissolved	ug/L	-/-	Additional	Grab	ND < 2	U
Copper, dissolved	ug/L	-/-	Additional	Grab	3.6	--
Dissolved Oxygen (Field)	mg/L	-/-	Additional	Grab	5.85	*
Hardness, dissolved	mg/L	-/-	Additional	Grab	31	--
Iron, dissolved	mg/L	-/-	Additional	Grab	0.11	--
Lead, dissolved	ug/L	-/-	Additional	Grab	ND < 0.5	U
Mercury, dissolved	ug/L	-/-	Additional	Grab	ND < 0.1	UJ (R)
Nickel, dissolved	ug/L	-/-	Additional	Grab	2.2	J (DNQ)
Selenium, dissolved	ug/L	-/-	Additional	Grab	ND < 0.5	U
Silver, dissolved	ug/L	-/-	Additional	Grab	ND < 0.5	U
Thallium, dissolved	ug/L	-/-	Additional	Grab	ND < 0.5	U
Vanadium, dissolved	ug/L	-/-	Additional	Grab	ND < 3	U
Zinc, Dissolved	ug/L	-/-	Additional	Grab	ND < 12	U (B)

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

OUTFALL 010 (BUILDING 203)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
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Sample Type Grab
Sample Date February 28, 2014

ANALYTE	SAMPLE FREQUENCY	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	1/Discharge	1.25E-05	5.00E-05	7.19E-05	--		0.01	0.05	**3.60E-08**
1,2,3,4,6,7,8-HpCDF	1/Discharge	6.50E-06	5.00E-05	1.47E-05	J (DNQ)		0.01	0.01	**ND**
1,2,3,4,7,8,9-HpCDF	1/Discharge	1.25E-05	5.00E-05	ND	U		0.01	0.4	**ND**
1,2,3,4,7,8-HxCDD	1/Discharge	1.25E-05	5.00E-05	ND	U		0.1	0.3	**ND**
1,2,3,4,7,8-HxCDF	1/Discharge	6.50E-06	5.00E-05	ND	U		0.1	0.08	**ND**
1,2,3,6,7,8-HxCDD	1/Discharge	1.25E-05	5.00E-05	3.86E-06	UJ (*III)		0.1	0.1	**ND**
1,2,3,6,7,8-HxCDF	1/Discharge	1.25E-05	5.00E-05	ND	U		0.1	0.2	**ND**
1,2,3,7,8,9-HxCDD	1/Discharge	1.25E-05	5.00E-05	ND	U		0.1	0.1	**ND**
1,2,3,7,8,9-HxCDF	1/Discharge	6.50E-06	5.00E-05	ND	U		0.1	0.6	**ND**
1,2,3,7,8-PeCDD	1/Discharge	6.50E-06	5.00E-05	ND	U		1	0.9	**ND**
1,2,3,7,8-PeCDF	1/Discharge	6.50E-06	5.00E-05	ND	U		0.05	0.2	**ND**
2,3,4,6,7,8-HxCDF	1/Discharge	6.50E-06	5.00E-05	ND	U		0.1	0.7	**ND**
2,3,4,7,8-PeCDF	1/Discharge	6.20E-06	5.00E-05	ND	U		0.5	1.6	**ND**
2,3,7,8-TCDD	1/Discharge	2.50E-06	1.00E-05	ND	U		1	1	**ND**
2,3,7,8-TCDF	1/Discharge	2.50E-06	1.00E-05	ND	U		0.1	0.8	**ND**
OCDD	1/Discharge	5.00E-05	1.00E-04	7.64E-04	--		0.0001	0.01	**7.64E-10**
OCDF	1/Discharge	2.50E-05	1.00E-04	4.35E-05	J (DNQ)		0.0001	0.02	**ND**

TCDD TEQ w/out DNQ Values	**3.67E-08**

TCDD TEQ (PRIORITY POLLUTANTS) PERMIT LIMIT = 2.80E-08

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

OUTFALL 010 (BUILDING 203)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				02/28/2014 (Grab)		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**RESULT**	**MDA**	**VALIDATION QUALIFIER**
NON-CONVENTIONAL POLLUTANTS						
Gross Alpha	pCi/L	15/-	1/Discharge	1.38 ± 1.19	1.79	UJ (C)
Gross Beta	pCi/L	50/-	1/Discharge	5.02 ± 1.08	1.02	--
Strontium-90	pCi/L	8.0/-	1/Discharge	0.237 ± 0.217	0.349	U
Total Combined Radium-226 & Radium 228	pCi/L	5.0/-	1/Discharge	0.465 ± 0.28	0.0611	--
Tritium	pCi/L	20000/-	1/Discharge	6.31 ± 147	273	U
ADDITIONAL POLLUTANTS						
Cesium 137	pCi/L	200/-	1/Discharge	0.827 ± 6.59	12.2	U
Uranium, Total	pCi/L	20/-	1/Discharge	0.372 ± 0.198	0.164	--
ADDITIONAL POLLUTANTS WITHOUT LIMITS						
Potassium-40	pCi/L	-/-	1/Discharge	-6.27 ± 107	188	U

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OUTFALL 010 (BUILDING 203)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				2/28/2014		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**Sample Frequency**	**Sample Type**	**Result**	**Concentration Result Validation Qualifier**
Volume Discharged	MGD	17.89/-		Meas	0.00082105	
CONVENTIONAL POLLUTANTS						
Oil & Grease	LBS/DAY	2,227/-	1/Discharge	Grab	ND	U
PRIORITY POLLUTANTS						
Antimony	LBS/DAY	0.89/-	1/Discharge	Grab	4.79E-06	J (DNQ)
Cadmium	LBS/DAY	0.59/-	1/Discharge	Grab	ND	U
Copper	LBS/DAY	2.1/-	1/Discharge	Grab	8.22E-05	--
Lead	LBS/DAY	0.77/-	1/Discharge	Grab	3.83E-05	--
Mercury	LBS/DAY	0.02/-	1/Discharge	Grab	ND	U
Nickel	LBS/DAY	14.9/-	1/Year	Grab	5.41E-05	J (DNQ)
TCDD TEQ_NoDNQ	LBS/DAY	4.20E-09/-	1/Discharge	Grab	2.51E-13	--
Thallium	LBS/DAY	0.3/-	1/Discharge	Grab	ND	U
Total Cyanide	LBS/DAY	1.4/-	1/Discharge	Grab	ND	U
NON-CONVENTIONAL POLLUTANTS						
Boron	LBS/DAY	148/-	1/Year	Grab	6.64E-04	--
Chloride	LBS/DAY	22,268/-	1/Discharge	Grab	4.31E-02	--
Fluoride	LBS/DAY	238/-	1/Year	Grab	8.22E-04	--
Nitrate + Nitrite as Nitrogen (N)	LBS/DAY	1,485/-	1/Discharge	Grab	1.37E-02	--
Perchlorate	LBS/DAY	0.89/-	1/Discharge	Grab	ND	U
Sulfate	LBS/DAY	37,113/-	1/Discharge	Grab	1.03E-01	--
Total Dissolved Solids	LBS/DAY	126,184/-	1/Discharge	Grab	8.22E-01	--

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

ARROYO SIMI (FRONTIER PARK RECEIVING WATER)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				2/28/2014		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**VALIDATION QUALIFIER**
POLLUTANTS WITH LIMITS						
4,4'-DDD	ug/L	0.0014/-	1/Quarter	Grab	ND < 0.0038	*
4,4'-DDE	ug/L	0.001/-	1/Quarter	Grab	ND < 0.0029	*
4,4'-DDT	ug/L	0.001/-	1/Quarter	Grab	ND < 0.0038	*
Aroclor 1016	ug/L	0.0003/-	1/Quarter	Grab	ND < 0.24	*
Aroclor 1221	ug/L	0.0003/-	1/Quarter	Grab	ND < 0.24	*
Aroclor 1232	ug/L	0.0003/-	1/Quarter	Grab	ND < 0.24	*
Aroclor 1242	ug/L	0.0003/-	1/Quarter	Grab	ND < 0.24	*
Aroclor 1248	ug/L	0.0003/-	1/Quarter	Grab	ND < 0.24	*
Aroclor 1254	ug/L	0.0003/-	1/Quarter	Grab	ND < 0.24	*
Aroclor 1260	ug/L	0.0003/-	1/Quarter	Grab	ND < 0.24	*
Chlordane	ug/L	0.001/-	1/Quarter	Grab	ND < 0.077	*
Chlorpyrifos	ug/L	0.02/-	1/Quarter	Grab	ND < 0.077	*
Diazinon	ug/L	0.16/-	1/Quarter	Grab	ND < 0.096	*
Dieldrin	ug/L	0.0002/-	1/Quarter	Grab	ND < 0.0019	*
E. Coli	MPN/100 ml	235/-	1/Year	Grab	>=1,600	--
Fecal Coliform	MPN/100 ml	400/-	1/Year	Grab	>=1,600	--
pH (Field)	pH Units	6.5-8.5/-	1/Quarter	Grab	7.24	*
Toxaphene	ug/L	0.0003/-	1/Quarter	Grab	ND < 0.24	*
POLLUTANTS WITHOUT LIMITS						
Hardness	mg/L	-/-	1/Quarter	Grab	210	--
Temperature (Field)	deg F	-/-	1/Quarter	Grab	58.01	*
Total Suspended Solids	mg/L	-/-	1/Year	Grab	460	--
Water Velocity	ft/sec	-/-	1/Quarter	Meas	0.33	*
ADDITIONAL POLLUTANTS						
Dissolved Oxygen (Field)	mg/L	-/-	Additional	Grab	7.77	*
Turbidity (Field)	NTU	-/-	Additional	Grab	800	*

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

ARROYO SIMI (FRONTIER PARK RECEIVING WATER)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				3/10/2014		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**VALIDATION QUALIFIER**
POLLUTANTS WITH LIMITS						
4,4'-DDD	ug/L	0.0014/-	1/Quarter	ANR	ANR	ANR
4,4'-DDE	ug/L	0.001/-	1/Quarter	ANR	ANR	ANR
4,4'-DDT	ug/L	0.001/-	1/Quarter	ANR	ANR	ANR
Aroclor 1016	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1221	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1232	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1242	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1248	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1254	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1260	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Chlordane	ug/L	0.001/-	1/Quarter	ANR	ANR	ANR
Chlorpyrifos	ug/L	0.02/-	1/Quarter	ANR	ANR	ANR
Diazinon	ug/L	0.16/-	1/Quarter	ANR	ANR	ANR
Dieldrin	ug/L	0.0002/-	1/Quarter	ANR	ANR	ANR
E. Coli	MPN/100 ml	235/-	1/Year	Grab	170	--
Fecal Coliform	MPN/100 ml	400/-	1/Year	Grab	240	--
pH (Field)	pH Units	6.5-8.5/-	1/Quarter	Grab	7.55	*
Toxaphene	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
POLLUTANTS WITHOUT LIMITS						
Hardness	mg/L	-/-	1/Quarter	ANR	ANR	ANR
Temperature (Field)	deg F	-/-	1/Quarter	Grab	66.74	*
Total Suspended Solids	mg/L	-/-	1/Year	ANR	ANR	ANR
Water Velocity	ft/sec	-/-	1/Quarter	ANR	ANR	ANR
ADDITIONAL POLLUTANTS						
Dissolved Oxygen (Field)	mg/L	-/-	Additional	Grab	8.65	*
Turbidity (Field)	NTU	-/-	Additional	ANR	ANR	ANR

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

ARROYO SIMI (FRONTIER PARK RECEIVING WATER)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				3/14/2014		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**VALIDATION QUALIFIER**
POLLUTANTS WITH LIMITS						
4,4'-DDD	ug/L	0.0014/-	1/Quarter	ANR	ANR	ANR
4,4'-DDE	ug/L	0.001/-	1/Quarter	ANR	ANR	ANR
4,4'-DDT	ug/L	0.001/-	1/Quarter	ANR	ANR	ANR
Aroclor 1016	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1221	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1232	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1242	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1248	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1254	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1260	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Chlordane	ug/L	0.001/-	1/Quarter	ANR	ANR	ANR
Chlorpyrifos	ug/L	0.02/-	1/Quarter	ANR	ANR	ANR
Diazinon	ug/L	0.16/-	1/Quarter	ANR	ANR	ANR
Dieldrin	ug/L	0.0002/-	1/Quarter	ANR	ANR	ANR
E. Coli	MPN/100 ml	235/-	1/Year	Grab	23	--
Fecal Coliform	MPN/100 ml	400/-	1/Year	Grab	23	--
pH (Field)	pH Units	6.5-8.5/-	1/Quarter	Grab	7.75	*
Toxaphene	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
POLLUTANTS WITHOUT LIMITS						
Hardness	mg/L	-/-	1/Quarter	ANR	ANR	ANR
Temperature (Field)	deg F	-/-	1/Quarter	Grab	61.7	*
Total Suspended Solids	mg/L	-/-	1/Year	ANR	ANR	ANR
Water Velocity	ft/sec	-/-	1/Quarter	ANR	ANR	ANR
ADDITIONAL POLLUTANTS						
Dissolved Oxygen (Field)	mg/L	-/-	Additional	Grab	10.06	*
Turbidity (Field)	NTU	-/-	Additional	ANR	ANR	ANR

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

ARROYO SIMI (FRONTIER PARK RECEIVING WATER)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				3/19/2014		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**VALIDATION QUALIFIER**
POLLUTANTS WITH LIMITS						
4,4'-DDD	ug/L	0.0014/-	1/Quarter	ANR	ANR	ANR
4,4'-DDE	ug/L	0.001/-	1/Quarter	ANR	ANR	ANR
4,4'-DDT	ug/L	0.001/-	1/Quarter	ANR	ANR	ANR
Aroclor 1016	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1221	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1232	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1242	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1248	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1254	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1260	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Chlordane	ug/L	0.001/-	1/Quarter	ANR	ANR	ANR
Chlorpyrifos	ug/L	0.02/-	1/Quarter	ANR	ANR	ANR
Diazinon	ug/L	0.16/-	1/Quarter	ANR	ANR	ANR
Dieldrin	ug/L	0.0002/-	1/Quarter	ANR	ANR	ANR
E. Coli	MPN/100 ml	235/-	1/Year	Grab	540	--
Fecal Coliform	MPN/100 ml	400/-	1/Year	Grab	540	--
pH (Field)	pH Units	6.5-8.5/-	1/Quarter	Grab	6.1	*
Toxaphene	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
POLLUTANTS WITHOUT LIMITS						
Hardness	mg/L	-/-	1/Quarter	ANR	ANR	ANR
Temperature (Field)	deg F	-/-	1/Quarter	Grab	56.84	*
Total Suspended Solids	mg/L	-/-	1/Year	ANR	ANR	ANR
Water Velocity	ft/sec	-/-	1/Quarter	ANR	ANR	ANR
ADDITIONAL POLLUTANTS						
Dissolved Oxygen (Field)	mg/L	-/-	Additional	Grab	8.17	*
Turbidity (Field)	NTU	-/-	Additional	Grab	7.5	*

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

ARROYO SIMI (FRONTIER PARK RECEIVING WATER)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				3/24/2014		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**VALIDATION QUALIFIER**
POLLUTANTS WITH LIMITS						
4,4'-DDD	ug/L	0.0014/-	1/Quarter	ANR	ANR	ANR
4,4'-DDE	ug/L	0.001/-	1/Quarter	ANR	ANR	ANR
4,4'-DDT	ug/L	0.001/-	1/Quarter	ANR	ANR	ANR
Aroclor 1016	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1221	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1232	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1242	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1248	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1254	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Aroclor 1260	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
Chlordane	ug/L	0.001/-	1/Quarter	ANR	ANR	ANR
Chlorpyrifos	ug/L	0.02/-	1/Quarter	ANR	ANR	ANR
Diazinon	ug/L	0.16/-	1/Quarter	ANR	ANR	ANR
Dieldrin	ug/L	0.0002/-	1/Quarter	ANR	ANR	ANR
E. Coli	MPN/100 ml	235/-	1/Year	Grab	170	--
Fecal Coliform	MPN/100 ml	400/-	1/Year	Grab	170	--
pH (Field)	pH Units	6.5-8.5/-	1/Quarter	Grab	6.89	*
Toxaphene	ug/L	0.0003/-	1/Quarter	ANR	ANR	ANR
POLLUTANTS WITHOUT LIMITS						
Hardness	mg/L	-/-	1/Quarter	ANR	ANR	ANR
Temperature (Field)	deg F	-/-	1/Quarter	Grab	60.22	*
Total Suspended Solids	mg/L	-/-	1/Year	ANR	ANR	ANR
Water Velocity	ft/sec	-/-	1/Quarter	ANR	ANR	ANR
ADDITIONAL POLLUTANTS						
Dissolved Oxygen (Field)	mg/L	-/-	Additional	Grab	5.95	*
Turbidity (Field)	NTU	-/-	Additional	ANR	ANR	ANR

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

ARROYO SIMI (FRONTIER PARK RECEIVING WATER)

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Sample Type: Grab
Sample Date February 28, 2014

ANALYTE	SAMPLE FREQUENCY	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	1/Year	1.25E-05	5.00E-05	1.03E-04	--		0.01	0.05	**5.15E-08**
1,2,3,4,6,7,8-HpCDF	1/Year	6.50E-06	5.00E-05	3.80E-05	J(DNQ)		0.01	0.01	**ND**
1,2,3,4,7,8,9-HpCDF	1/Year	1.25E-05	5.00E-05	ND	U		0.01	0.4	**ND**
1,2,3,4,7,8-HxCDD	1/Year	1.25E-05	5.00E-05	ND	U		0.1	0.3	**ND**
1,2,3,4,7,8-HxCDF	1/Year	6.50E-06	5.00E-05	ND	U		0.1	0.08	**ND**
1,2,3,6,7,8-HxCDD	1/Year	1.25E-05	5.00E-05	ND	U		0.1	0.1	**ND**
1,2,3,6,7,8-HxCDF	1/Year	1.25E-05	5.00E-05	9.58E-06	UJ(*III)		0.1	0.2	**ND**
1,2,3,7,8,9-HxCDD	1/Year	1.25E-05	5.00E-05	5.20E-06	J(DNQ)		0.1	0.1	**ND**
1,2,3,7,8,9-HxCDF	1/Year	6.50E-06	5.00E-05	ND	U		0.1	0.6	**ND**
1,2,3,7,8-PeCDD	1/Year	6.50E-06	5.00E-05	ND	U		1	0.9	**ND**
1,2,3,7,8-PeCDF	1/Year	6.50E-06	5.00E-05	ND	U		0.05	0.2	**ND**
2,3,4,6,7,8-HxCDF	1/Year	6.50E-06	5.00E-05	ND	U		0.1	0.7	**ND**
2,3,4,7,8-PeCDF	1/Year	6.20E-06	5.00E-05	ND	U		0.5	1.6	**ND**
2,3,7,8-TCDD	1/Year	2.50E-06	1.00E-05	ND	U		1	1	**ND**
2,3,7,8-TCDF	1/Year	2.50E-06	1.00E-05	ND	U		0.1	0.8	**ND**
OCDD	1/Year	5.00E-05	1.00E-04	8.81E-04	--		0.0001	0.01	**8.81E-10**
OCDF	1/Year	2.50E-05	1.00E-04	8.19E-05	J(DNQ)		0.0001	0.02	**ND**

TCDD TEQ w/out DNQ Values	**5.24E-08**

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

ARROYO SIMI (FRONTIER PARK RECEIVING WATER), SEDIMENT

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

January 1 through March 31, 2014

				3/19/2014		
ANALYTE	**UNITS**	**Permit Limit Daily Max/Monthly Avg**	**SAMPLE FREQUENCY**	**SAMPLE TYPE**	**RESULT**	**VALIDATION QUALIFIER**
POLLUTANTS WITH LIMITS						
4,4'-DDD	ug/kg	14/-	1/Year	Grab	ND < 1.5	*
4,4'-DDE	ug/kg	170/-	1/Year	Grab	ND < 1.5	*
4,4'-DDT	ug/kg	25/-	1/Year	Grab	ND < 1.5	*
Aroclor 1016	ug/kg	25,700/-	1/Year	Grab	ND < 17	*
Aroclor 1221	ug/kg	25,700/-	1/Year	Grab	ND < 17	*
Aroclor 1232	ug/kg	25,700/-	1/Year	Grab	ND < 17	*
Aroclor 1242	ug/kg	25,700/-	1/Year	Grab	ND < 17	*
Aroclor 1248	ug/kg	25,700/-	1/Year	Grab	ND < 17	*
Aroclor 1254	ug/kg	25,700/-	1/Year	Grab	ND < 17	*
Aroclor 1260	ug/kg	25,700/-	1/Year	Grab	ND < 17	*
Chlordane	ug/kg	3.3/-	1/Year	Grab	ND < 10	*
Toxaphene	ug/kg	230/-	1/Year	Grab	ND < 50	*
POLLUTANTS WITHOUT LIMITS						
Percent Moisture	%	-/-	1/Year	Grab	22	*
Ammonia as Nitrogen (N)	mg/kg	-/-	1/Year	Grab	3.35	J (DNQ)
Bivalve Embryo toxicity	%	-/-	1/Year	Grab	100	*
Conductivity (Field)	umhos/cm	-/-	1/Year	Grab	2.2	*
Dieldrin	ug/L	-/-	1/Year	Grab	ND < 1.5	*
Dissolved Oxygen (Field)	mg/L	-/-	1/Year	Grab	8.17	*
pH (Field)	pH Units	-/-	1/Year	Grab	6.1	*
Sediment toxicity	%	-/-	1/Year	Grab	100	*
Temperature (Field)	deg F	-/-	1/Year	Grab	56.8	*
Total Organic Carbon	mg/kg	-/-	1/Year	Grab	ND < 2,500	*
Water Velocity	ft/sec	-/-	1/Year	Meas	0.0	*
PARTICLE SIZE DISTRIBUTION						
Coarse Sand	%	-/-	1/Year	Grab	12.85	*
Fine Sand	%	-/-	1/Year	Grab	4.27	*
Gravel	%	-/-	1/Year	Grab	8.63	*
Medium Sand	%	-/-	1/Year	Grab	73.94	*
Silt/Clay	%	-/-	1/Year	Grab	0.31	*
ADDITIONAL POLLUTANTS						
Turbidity (Field)	NTU	-/-	Additional	Grab	7.5	*

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

APPENDIX D

First Quarter 2014 Summary of Permit Limit Exceedances

FIRST QUARTER 2014
REPORTING SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

Notes:

1. TCDD TEQs for the purpose of determining permit compliance are the sum of the products of the detected dioxin congener concentration multiplied by that congener's toxicity equivalency factor (TEF) and bioaccumulation equivalency factor (BEF). The resulting compliance TCDD TEQ does not include those congener concentrations that are reported as DNQ, as specified on Page 37 of the NPDES permit.

2. pH was determined with a field instrument and was noted as such. These results were not validated.

3. All of the following abbreviations and/or notes may not occur on every table.

4. J(DNQ) flagged results are included in the data charts; however, these results are considered to be estimated values and as such are not used to quantify the chemical concentration for compliance purposes. ND results are included in the data charts and are shown as zero. Refer to Appendix H for a list of reporting limits by constituent.

5. pH and temperature are identified on the table as daily maximum discharge limits. The NPDES permit limit has an instantaneous minimum (6.5) and maximum (8.5) for pH and an instantaneous maximum of 86^{o}F for temperature.

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

	reported by the laboratory as Estimated Maximum Possible Concentration (EMPC) values
*11	no calibration was performed for this compound; result is reported as a tentatively identified compound (TIC)
* II *III	Unusual problems found with the data that have been described in Section II, “sample management”, or Section III, “method analysis”. The number following the asterisk (*) will indicated the validation report section where a description of the problem can be found.
ANR	analysis not required; e.g., constituent or outfall was not required by the permit to be sampled and analyzed over the reporting period (annual, semi-annual, etc.)
B	laboratory method blank contamination
BA	relative percent difference out of control
BEF	bioaccumulation equivalency factor
BU	analyzed out of holding time
BV	sample received after holding time expired
C	calibration %RSD or %D were noncompliant
Comp	Composite sample type
C5	Calibration verification %R was outside method control limits
CEs/100 ml	cell equivalents per 100 milliliters
D	The analysis with this flag should not be used because another more technically sound analysis is available
%D	percent difference between the initial and continuing calibration relative response factors
deg F	degrees Fahrenheit
DL	detection limit
DNQ	detected but not quantified (constituent value greater than or equal to the laboratory method detection limit and less then the laboratory reporting limit)
E	duplicates show poor agreement
ft/sec	feet per second
H	holding time was exceeded
I	ICP interference check solution results were unsatisfactory
J	estimated value, result lower than the detection limit
J, DX	estimated value, value < lowest standard (MQL), but > than MDL
K	The sample dilution’s set-up did not meet the oxygen depletion criteria of at least 2 mg/l. Therefore, the reported result is an estimated value only.
L2	the laboratory control sample %R was below the method control limits
L	laboratory control sample %R was outside control limits
lbs/day	Pounds per day
LOD	limit of detection
LQ	LCS/LCSD recovery above method control limits

FIRST QUARTER 2014
REPORTING SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

M1	matrix spike (MS) and/or MS duplicate were above the acceptance limits due to sample matrix interference
M2	the MS and/or MS duplicate were below the acceptance limits due to sample matrix interference
MDA/MDC	minimum detectable activity/ minimum detectable concentration
MDL	method detection limit
Meas	Measure sample type
MFL	million fibers per liter
MGD	million gallons per day
MHA*	Due to high level of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information.
mg/L	milligrams per liter
mg/kg	milligrams per kilogram
ml/L/hr	milliliters per liter per hour
MPN/100 ml	most probable number per 100 milliliters
NA	not applicable; no permit limit established for the constituent and/or outfall
ND	analyte value less than the LOD or MDL
NM	not measured or determined
NTU	nephelometric turbidity unit
pCi/L	picocurries per liter
Q	matrix spike recovery outside of control limits
R	as a validation qualifier, results are rejected; the presence or absence of analyte cannot be verified
R	(reason code in parentheses) %R for calibration not within control limits
RL	laboratory reporting limit
RL-1	reporting limit raised due to sample matrix effects
%RSD	percent relative standard deviation
% survival	percent survival
S	surrogate recovery was outside control limits
TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
TEQ	toxic equivalent
T	presumed contamination, as indicated by a detect in the trip blank
TU_c	toxicity units (chronic)
U	result not detected
µg/L	micrograms per liter
µg/kg	micrograms per kilogram
UJ	result not detected at the estimated reporting limit
umhos/cm	micromhos per centimeter
WHO TEF	World Health Organization toxic equivalency factor
^	analysis not completed due to hold time exceedence or insufficient sample volume

FIRST QUARTER 2014
REPORTING SUMMARY NOTES
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

#	Per ORDER NO. R4-2010-0090 page 23 Footnote 1. The effluent limitations for total suspended solids and settable solids are not applicable for discharges during wet weather. During wet weather flow, a discharge event is greater than 0.1 inches of rainfall in a 24-hour period. No more than one sample per week need be obtained during extended periods of rainfall or the discharge of collected stormwater. A storm event must be preceded by at least 72 hours of dry weather.
(4.0)3.1/-	Represents (Dry Weather Limit) Wet Weather Limit / Monthly Average Limit.

SUMMARY OF PERMIT LIMIT EXCEEDANCES

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

DAILY MAX PERMIT LIMIT EXCEEDANCES								
OUTFALL	**LOCATIONS**	**SAMPLE DATE**	**SAMPLE TYPE**	**ANALYTE**	**PERMIT LIMIT DAILY MAX**	**DAILY MAX RESULT**	**UNITS**	**VALIDATION QUALIFIER**
Outfall 009	WS-13 Drainage	3/1/2014	Comp	Lead	5.2/-	9.6	ug/L	--
Outfall 009	WS-13 Drainage	2/28/2014	Grab	pH (Field)	6.5-8.5/-	5.5	pH units	*
Outfall 009	WS-13 Drainage	3/1/2014	Comp	TCDD TEQ w/out DNQ Values	2.80E-08	1.32E-07	ug/L	--
Outfall 010	Building 203	2/28/2014	Grab	Lead	5.2/-	5.6	ug/L	--
Outfall 010	Building 203	2/28/2014	Grab	TCDD TEQ w/out DNQ Values	2.80E-08	3.67E-08	ug/L	--

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

SUMMARY OF PERMIT LIMIT EXCEEDANCES

FIRST QUARTER 2014 REPORTING SUMMARY
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY
NPDES PERMIT CA0001309

SINGLE SAMPLE MAXIMUM RECEIVING WATER LIMIT EXCEEDANCES								
OUTFALL	**LOCATIONS**	**SAMPLE DATE**	**SAMPLE TYPE**	**ANALYTE**	**PERMIT LIMIT DAILY MAX**	**DAILY MAX RESULT**	**UNITS**	**VALIDATION QUALIFIER**
Arroyo Simi	Frontier Park Receiving Water	2/28/2014	Grab	E. Coli	235/-	>=1,600	MPN/100mL	--
Arroyo Simi	Frontier Park Receiving Water	2/28/2014	Grab	Fecal Coliform	400/-	>=1,600	MPN/100mL	--
Arroyo Simi	Frontier Park Receiving Water	3/19/2014	Grab	E. Coli	235/-	540	MPN/100mL	--
Arroyo Simi	Frontier Park Receiving Water	3/19/2014	Grab	Fecal Coliform	400/-	540	MPN/100mL	--
Arroyo Simi	Frontier Park Receiving Water	3/19/2014	Grab	pH (Field)	6.1	6.5-8.5	pH Units	*

GEOMETRIC MEAN RECEIVING WATER LIMIT EXCEEDANCES								
OUTFALL	**LOCATIONS**	**SAMPLE DATE**	**SAMPLE TYPE**	**ANALYTE**	**PERMIT LIMIT DAILY MAX**	**DAILY MAX RESULT**	**UNITS**	**VALIDATION QUALIFIER**
Arroyo Simi	Frontier Park Receiving Water	02/28-3/24/2014	Grab	E. Coli	126	225	MPN/100 ml	--
Arroyo Simi	Frontier Park Receiving Water	02/28-3/24/2014	Grab	Fecal Coliform	200	241	MPN/100 ml	--

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

APPENDIX E

First Quarter 2014 Analytical Laboratory Reports, Chain of Custody, and Validation Reports

APPENDIX E

TABLE OF CONTENTS

Section No.

DATA VALIDATION REPORT

Haley & Aldrich Boeing SSFL Stormwater

SAMPLE DELIVERY GROUP: 440-71418-1

Prepared by

MEC^X
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Haley & Aldrich Boeing SSFL Stormwater
Contract Task Order:	1272.003H.01 001
Sample Delivery Group:	440-71418-1
Project Manager:	K. Miller
Matrix:	Water
QC Level:	IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica Irvine

Table 1. Sample Identification

Sample Name	*Lab Sample Name*	*Sub-Lab Sample Name*	*Matrix*	*Collection*	*Method*
Outfall009_20140228_Comp	440-71648-1	N/A	Water	3/1/2014 2:13:00 PM	E1613B, E200.7, E200.8, E245.1, E625, E900, E901.1, E903.0, E904.0, E905.0, E906.0, EPA-600, 100.2 (R 94 134), HASL-300 U Mod, SM2540D, SW8141A
Outfall009_20140228_Grab	440-71418-1	N/A	Water	2/28/2014 9:00:00 AM	E218.6, SM9221E, SM9221F

II. Sample Management

No anomalies were observed regarding sample management. The sample in this SDG was received at the laboratories on ice. The sample was transported directly from the field via courier and was received at TestAmerica-Irvine within the temperature limits of 4°C ±2°C. According to the laboratory sample receipt log for this SDG, the sample containers were received intact and properly preserved, if applicable. The COC was appropriately signed and dated by field and laboratory personnel. Custody seals were intact upon receipt at TestAmerica-Denver but were not utilized for the samples shipped to TestAmerica-St. Louis.

A revised COC was provided in the data package. This COC noted several requested analyses were not to be performed as they were not required by the permit. The case narrative for this SDG noted that as a preserved container was not received for the 525.2 analysis, an unpreserved sample was analyzed instead by Method 8141A for chlorpyrifos and diazinon. The client approved the alternate analysis.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin
Date Reviewed: April 3, 2014

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613B*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review* (2011).

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.

- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.

    - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed prior to the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.

    - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.

- Calibration: Calibration criteria were met.

    - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs ≤20% for the 15 native compounds (calibration by isotope dilution) and ≤35% for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613B control limits for all standards.

    - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of the analytical sequence. The VER was acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613B. The ion abundance ratios and relative retention times were within the method control limits.

- Blanks: The method blank had a detect below the reporting limit for OCDD at 0.0000072 µg/L; however, the concentration of OCDD in the associated sample significantly exceeded the method blank concentration and required no qualification. The method blank had no other detects above the estimated detection limit (EDL).

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613B.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: This SDG had no identified field duplicate samples.

- Internal Standards Performance: The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613B. As 2,3,7,8-TCDF was not detected in the sample, confirmation analysis was unnecessary.

- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613B.

- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike concentrations. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." Any detects between the EDL and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

  Several isomer target compounds were reported as EMPCs in the sample. The EMPC results were qualified as estimated nondetects, "UJ," at the level of the EMPC. Totals HpCDF, HxCDD, HxCDF, PeCDF, and TCDF were also flagged by the laboratory as containing one or more EMPC peaks. The results for the totals were qualified as estimated, "J."

B. EPA METHODS 200.7, 200.8, and 245.1—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: April 3, 2014

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 200.7, 200.8, 245.1*, *Standard Methods for the Examination of Water and Wastewater Method* (2012) *2340B*, and the *National Functional Guidelines for Inorganic Data Review* (2010).

- Holding Times: Analytical holding times, six months for ICP and ICP-MS metals and 28 days for mercury, were met.

- Tuning: The mass calibration and resolution checks criteria were met. All tuning solution %RSDs were ≤5%, and all masses of interest were calibrated to ≤ 0.1 amu and ≤0.9 amu at 10% peak height.

- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP and ICP-MS metals and 85-115% for mercury. The total magnesium and aluminum CRI recoveries were above the control limit; however, as the samples were detected at concentrations more similar to the CCV, no qualifications were applied. The remaining CRDL/CRI recoveries were within the control limits of 70-130%.

- Blanks: Dissolved zinc was detected in the method blank at 16.4 µg/L; therefore, dissolved zinc in the sample was qualified as nondetected, "U," at the level of contamination. Dissolved calcium, total calcium, total zinc, and hardness were also detected in the method blank, but not at sufficient concentrations to qualify the site sample. Method blanks and CCBs had no other detects.

- Interference Check Samples: Recoveries were within 80-120%. There were negative results and detects for some unspiked analytes in the ICSAs; however, as the sample concentrations of the interferents were significantly lower than the interferent ICSA concentrations, the sample was not assessed for matrix interference.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG for all total analytes and dissolved mercury. Results were not assessed when the native concentration was more than 4× the spike amount. Recoveries and RPDs were within laboratory-established QC limits.

- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.

- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration.

- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method

detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

C. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks
Date Reviewed: April 8, 2014

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the *EPA Methods 900.0, 901.1, 903.1, 904.0, 905.0, and 906.0, HASL-300 modified,* and the *National Functional Guidelines for Inorganic Data Review* (2010).

- Holding Times: The tritium sample was analyzed within 180 days of collection. All remaining aliquots were preserved within the five-day holding time.

- Calibration: The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

    The radium-226 and gross alpha detector efficiencies were less than 20%; therefore, detects for these analytes were qualified as estimated, "J," in the sample. The remaining detector efficiencies were greater than 20%.

    The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were within the laboratory control limits. The uranium initial and continuing calibration efficiency checks were within the laboratory established control limits. The gamma spectroscopy analytes were determined at the maximum photopeak energy and all daily and annual checks were within the laboratory control limits.

- Blanks: There were no analytes detected in the method blanks or CCBs.

- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratory-established control limits.

- Laboratory Duplicates: A laboratory duplicate analysis was performed on the sample in this SDG for tritium. Tritium was not detected in either sample.

- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed for the sample in this SDG. Method accuracy was evaluated based on the LCS results.

- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample results and MDCs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDC and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDC.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

D. EPA METHOD 8141A—Diazinon and Chlorpyrifos

Reviewed By: L. Calvin
Date Reviewed: April 3, 2014

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in *EPA Method 8141A*, and the *National Functional Guidelines for Organic Data Review* (2008).

- Holding Times: The unpreserved water sample was extracted within seven days of collection and analyzed within 40 days of extraction.

- Calibration: Calibration criteria were met. The initial calibration average RRFs were ≥0.05 and %RSDs ≤20%. The ICV and continuing calibration RRFs were ≥0.05 and %Ds were within ≤15%.

- Blanks: The method blank had no target compound detects.

- Blank Spikes and Laboratory Control Samples: The recoveries and RPDs were within laboratory-established control limits.

- Surrogate Recovery: Recoveries were within the laboratory-established control limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample in this SDG. Method accuracy and precision were evaluated based on the LCS/LCSD results.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: This SDG had no identified field duplicate samples.

- Internal Standards Performance: The internal standard area counts were within the method control limits established by the continuing calibration standards of ±50%, and retention times were within ±30 seconds.

- Compound Identification: Compound identification was verified. The laboratory analyzed for chlorpyrifos and diazinon by Method 8141A. The sample was analyzed on two analytical columns for compound confirmation; however, neither target compound was detected. Review of the sample chromatograms, retention times, and spectra indicated no problems with target compound identification.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Reported nondetects are valid to the reporting limit.

- System Performance: Review of the raw data indicated no problems with system performance.

E. EPA METHOD 625 (Low Level)—Semivolatile Organic Compounds (SVOCs)

Reviewed By: L. Calvin
Date Reviewed: April 3, 2014

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Semivolatile Organics (DVP-3, Rev. 0), EPA Method 8270C*, and the *National Functional Guidelines for Organic Data Review* (2008).

- Holding Times: Extraction and analytical holding times were met. The unpreserved water sample was extracted within seven days of collection and analyzed within 40 days of extraction.

- GC/MS Tuning: The DFTPP met the method ion abundance criteria. The sample was analyzed within 12 hours of the DFTPP injection time.

- Calibration: Initial calibration average RRFs were ≥0.05. The initial calibration %RSDs were ≤35% or r^2 values ≥0.990. ICV and CCV RRFs were ≥0.05, and %Ds were ≤20%.

- Blanks: The method blank had a detect below the reporting limit for benzoic acid at 2.36(J) µg/L. Benzoic acid detected in the sample was qualified as nondetected, "U," at the reporting limit. The method blank had no other target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established control limits. The RPD for 3,3'-dichlorobenzidine exceeded the control limit of ≤25%, at 32%; however, as recoveries were acceptable and 3,3'-dichlorobenzidine was not detected in the associated sample, no qualification was necessary. Remaining RPDs were within the laboratory-established control limit.

- Surrogate Recovery: Surrogate recoveries were within laboratory-established control limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample from this SDG. Evaluation of method accuracy and precision was based on LCS/LCSD results.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: This SDG had no identified field duplicate samples.

- Internal Standards Performance: The internal standard area counts and retention times were within the control limits of -50%/+100% for internal standard areas and ±30 seconds for retention times established by the continuing calibration standards.

- Compound Identification: Compound identification was verified. The laboratory analyzed semivolatile target compounds by Method 625. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any result reported between the MDL and the reporting limit was

qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the reporting limit.

- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG.

- System Performance: Review of the raw data indicated no problems with system performance.

F. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks
Date Reviewed: April 3, 2014

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 100.2 (600 R 94 134)*, *Standard Methods for the Examination of Water and Wastewater* (2006) *Methods 2540D, 9221E, and 9221F*, and the *National Functional Guidelines for Inorganic Data Review* (2010).

- Holding Times: The e. coli and fecal coliform analytical holding times are listed as immediate. As the sample was prepared within eight hours of collection, no qualifications were required. TSS was analyzed within seven days of collection. The asbestos sample was filtered within 48 hours of collection.

- Calibration: Calibration criteria were met. The balance calibration logs and biological controls were acceptable.

- Blanks: TSS was not detected in the method blank. The method blank is not applicable to the biological methods. No asbestos blank was analyzed.

- Blank Spikes and Laboratory Control Samples: The TSS recovery was within laboratory-established QC limits. The LCS is not applicable to the biological or asbestos methods.

- Laboratory Duplicates: A laboratory duplicate analysis was performed on the sample in this SDG for TSS the RPD was within the laboratory control limit.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD samples are not applicable to these methods.

- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with

"DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

Outfall009_20140228_Grab

ANALYSIS OF WATER FOR ASBESTOS BY TEM (EPA-600 R 94 134) EPA 100.2

LAB.NO. 160466
CLIENT: Test America, Irvine
DATE: 3/28/2014

Laboratory I.D.	Client I.D.	FILTER MEDIA DATA			No. of G.O.	Analyzed Area, mm^2	Sample Volume (mL)
		Type	Diameter mm	Effective Area mm^2			
160466-1	440-71648-1	MCE	47	1017	10	0.106	5
3-25-14-BL	EMS Blank	MCE	47	1017	10	0.106	500

* FOR FIBERS > 10µm ONLY

INDIVIDUAL ANALYTICAL RESULTS

Laboratory I.D.	Client I.D.	No of Asbestos Fibers	Detection Limit (MF/L)	Concentration MFL Fibers >10 µm
160466-1	440-71648-1	ND	1.9	< 1.9
3-25-14-BL	EMS Blank	ND	0.02	< 0.02 U

The analysis was carried out to the approved TEM method. This laboratory is in compliance with the quality specified by the method.

Authorized Signature

NA Not Applicable
ND None Detected
MCE Mixed Cellulose Ester
GO Grid Openings
MFL Million Fibers per Liter

LEVEL IV

Validated Sample Result Forms: 440714181

Analysis Method E1613B

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	N	39001-02-0	0.000147	0.0000948	0.0	ug/L			
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	N	3268-87-9	0.00253	0.0000948	0.0	ug/L	B		
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	N	67562-39-4	0.0000421	0.0000474	0.0	ug/L	J	J	DNQ
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	N	35822-46-9	0.000259	0.0000474	0.0	ug/L			
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	N	55673-89-7	0.00000457	0.0000474	0.0	ug/L	QJ	UJ	*III
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	N	70648-26-9	0.00000261	0.0000474	0.0	ug/L	QJ	UJ	*III
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	N	39227-28-6		0.0000474	0.0	ug/L	U	U	
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	57117-44-9	0.00000193	0.0000474	0.0	ug/L	QJ	UJ	*III
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	N	57653-85-7	0.00000982	0.0000474	0.0	ug/L	QJ	UJ	*III
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	N	72918-21-9		0.0000474	0.0	ug/L	U	U	
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	N	19408-74-3	0.0000104	0.0000474	0.0	ug/L	QJ	UJ	*III
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	N	57117-41-6		0.0000474	0.0	ug/L	U	U	
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	N	40321-76-4		0.0000474	0.0	ug/L	U	U	
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	60851-34-5		0.0000474	0.0	ug/L	U	U	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	N	57117-31-4		0.0000474	0.0	ug/L	U	U	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	N	51207-31-9		0.0000094	0.0	ug/L	U	U	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	N	1746-01-6		0.0000094	0.0	ug/L	U	U	
Total Heptachlorodibenzofuran (HpCDF)	N	38998-75-3	0.000113	0.0000474	0.0	ug/L	Q	J	*III
Total Heptachlorodibenzo-p-dioxin (HpCDD)	N	37871-00-4	0.000613	0.0000474	0.0	ug/L			

Analysis Method E1613B

Total Hexachlorodibenzofuran (HxCDF)	N	55684-94-1	0.0000699	0.00004740.0		ug/L	JQ	J	*III
Total Hexachlorodibenzo-p-dioxin (HxCDD)	N	34465-46-8	0.0000618	0.00004740.0		ug/L	JQ	J	*III
Total Pentachlorodibenzofuran (PeCDF)	N	30402-15-4	0.0000107	0.00004740.0		ug/L	QJ	J	DNQ, *III
Total Pentachlorodibenzo-p-dioxin (PeCDD)	N	36088-22-9		0.00004740.0		ug/L	U	U	
Total Tetrachlorodibenzofuran (TCDF)	N	55722-27-5	0.00000136	0.00000940.0		ug/L	QJ	J	DNQ, *III
Total Tetrachlorodibenzo-p-dioxin (TCDD)	N	41903-57-5		0.00000940.0		ug/L	U	U	

Analysis Method E200.7

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	4400	50	25	ug/L			
Aluminum	D	7429-90-5	190	50	25	ug/L	QP		
Arsenic	T	7440-38-2		10	7.0	ug/L	U	U	
Arsenic	D	7440-38-2		10	7.0	ug/L	UQP	U	
Beryllium	T	7440-41-7		2.0	0.90	ug/L	U	U	
Beryllium	D	7440-41-7		2.0	0.90	ug/L	UQP	U	
Boron	D	7440-42-8	0.039	0.050	0.025	mg/L	J,DXQP	J	DNQ
Boron	T	7440-42-8	0.044	0.050	0.025	mg/L	J,DX	J	DNQ
Calcium	T	7440-70-2	6.4	0.10	0.050	mg/L	MB		
Calcium	D	7440-70-2	5.3	0.10	0.050	mg/L	MBQP		
Chromium	T	7440-47-3	7.9	5.0	2.0	ug/L			
Chromium	D	7440-47-3		5.0	2.0	ug/L	UQP	U	
Hardness as CaCO3	T	HARDNESSCACO3	28	0.33	0.17	mg/L			
Hardness as CaCO3	D	HARDNESSCACO3	19	0.33	0.17	mg/L	MBQP		
Iron	D	7439-89-6	0.19	0.040	0.020	mg/L	QP		
Iron	T	7439-89-6	6.2	0.040	0.020	mg/L			
Nickel	T	7440-02-0	7.3	10	2.0	ug/L	J,DX	J	DNQ
Nickel	D	7440-02-0	2.0	10	2.0	ug/L	J,DXQP	J	DNQ
Vanadium	D	7440-62-2		10	3.0	ug/L	UQP	U	
Vanadium	T	7440-62-2	13	10	3.0	ug/L			
Zinc	D	7440-66-6	14	20	9.0	ug/L	J,DXMBQ	U	B
Zinc	T	7440-66-6	50	20	9.0	ug/L	MB		

Analysis Method E200.8

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	D	7440-36-0		2.0	0.50	ug/L	UQP	U	
Antimony	T	7440-36-0	0.70	2.0	0.50	ug/L	J,DX	J	DNQ
Cadmium	T	7440-43-9		1.0	0.25	ug/L	U	U	
Cadmium	D	7440-43-9		1.0	0.25	ug/L	UQP	U	
Copper	D	7440-50-8	3.7	2.0	0.50	ug/L	QP		
Copper	T	7440-50-8	8.2	2.0	0.50	ug/L			
Lead	D	7439-92-1	0.51	1.0	0.50	ug/L	J,DXQP	J	DNQ
Lead	T	7439-92-1	9.6	1.0	0.50	ug/L			
Selenium	D	7782-49-2		2.0	0.50	ug/L	UQP	U	
Selenium	T	7782-49-2		2.0	0.50	ug/L	U	U	
Thallium	T	7440-28-0		1.0	0.50	ug/L	U	U	
Thallium	D	7440-28-0		1.0	0.50	ug/L	UQP	U	

Analysis Method E218.6

Sample Name Outfall009_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 9:00:00 AM **Validation Level:** 3

Lab Sample Name: 440-71418-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chromium VI (Hexavalent)	N	18540-29-9	0.41	1.0	0.25	ug/L	J,DX	J	DNQ

Analysis Method E245.1

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	D	7439-97-6		0.20	0.10	ug/L	UQP	U	
Mercury	T	7439-97-6		0.20	0.10	ug/L	U	U	

Analysis Method E625

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,4-Trichlorobenzene	N	120-82-1		0.948	0.474	ug/L	U	U	
1,2-Dichlorobenzene	N	95-50-1		0.474	0.190	ug/L	U	U	
1,2-Diphenylhydrazine	N	122-66-7		0.948	0.474	ug/L	U	U	
1,3-Dichlorobenzene	N	541-73-1		0.474	0.190	ug/L	U	U	
1,4-Dichlorobenzene	N	106-46-7		0.474	0.190	ug/L	U	U	
2,2'-oxybis(1-Chloropropane)	N	108-60-1		0.474	0.190	ug/L	U	U	
2,4,6-Trichlorophenol	N	88-06-2		0.948	0.474	ug/L	U	U	
2,4-Dichlorophenol	N	120-83-2		1.90	0.948	ug/L	U	U	
2,4-Dimethylphenol	N	105-67-9		1.90	0.948	ug/L	U	U	
2,4-Dinitrophenol	N	51-28-5		4.74	1.90	ug/L	U	U	
2,4-Dinitrotoluene	N	121-14-2		4.74	1.90	ug/L	U	U	
2,6-Dinitrotoluene	N	606-20-2		4.74	1.90	ug/L	U	U	
2-Chloronaphthalene	N	91-58-7		0.474	0.190	ug/L	U	U	
2-Chlorophenol	N	95-57-8		0.948	0.474	ug/L	U	U	
2-Nitrophenol	N	88-75-5		1.90	0.948	ug/L	U	U	
3,3'-Dichlorobenzidine	N	91-94-1		4.74	1.90	ug/L	UBA	U	
4,6-Dinitro-2-methylphenol	N	534-52-1		4.74	1.90	ug/L	U	U	
4-Bromophenyl phenyl ether	N	101-55-3		0.948	0.474	ug/L	U	U	
4-Chloro-3-methylphenol	N	59-50-7		1.90	0.190	ug/L	U	U	
4-Chlorophenyl phenyl ether	N	7005-72-3		0.474	0.190	ug/L	U	U	
4-Nitrophenol	N	100-02-7		4.74	1.90	ug/L	U	U	
Acenaphthene	N	83-32-9		0.474	0.190	ug/L	U	U	
Acenaphthylene	N	208-96-8		0.474	0.190	ug/L	U	U	
Anthracene	N	120-12-7		0.474	0.190	ug/L	U	U	
Benzidine	N	92-87-5		9.48	4.74	ug/L	U	U	
Benzo(a)anthracene	N	56-55-3		4.74	1.90	ug/L	U	U	
Benzo(a)pyrene	N	50-32-8		1.90	0.474	ug/L	U	U	
Benzo(b)fluoranthene	N	205-99-2		1.90	0.948	ug/L	U	U	
Benzo(g,h,i)perylene	N	191-24-2		4.74	1.90	ug/L	U	U	
Benzo(k)fluoranthene	N	207-08-9		0.474	0.237	ug/L	U	U	
bis(2-Chloroethoxy)methane	N	111-91-1		0.474	0.190	ug/L	U	U	
bis(2-Chloroethyl)ether	N	111-44-4		0.474	0.190	ug/L	U	U	
bis(2-Ethylhexyl)phthalate	N	117-81-7		4.74	1.90	ug/L	U	U	
Butyl benzylphthalate	N	85-68-7		4.74	1.90	ug/L	U	U	
Chrysene	N	218-01-9		0.474	0.190	ug/L	U	U	
Dibenz(a,h)anthracene	N	53-70-3		0.474	0.237	ug/L	U	U	
Diethyl phthalate	N	84-66-2		0.948	0.474	ug/L	U	U	

Analysis Method E625

Dimethyl phthalate	N	131-11-3		0.474	0.237	ug/L	U	U	
Di-n-butylphthalate	N	84-74-2		1.90	0.948	ug/L	U	U	
Di-n-octyl phthalate	N	117-84-0		4.74	1.90	ug/L	U	U	
Fluoranthene	N	206-44-0		0.474	0.190	ug/L	U	U	
Fluorene	N	86-73-7		0.474	0.190	ug/L	U	U	
Hexachlorobenzene	N	118-74-1		0.948	0.474	ug/L	U	U	
Hexachlorobutadiene	N	87-68-3		1.90	0.474	ug/L	U	U	
Hexachlorocyclopentadiene	N	77-47-4		4.74	1.90	ug/L	U	U	
Hexachloroethane	N	67-72-1		2.84	0.474	ug/L	U	U	
Indeno(1,2,3-cd)pyrene	N	193-39-5		1.90	0.948	ug/L	U	U	
Isophorone	N	78-59-1		0.948	0.474	ug/L	U	U	
Naphthalene	N	91-20-3		0.948	0.474	ug/L	U	U	
Nitrobenzene	N	98-95-3		0.948	0.474	ug/L	U	U	
N-Nitrosodimethylamine	N	62-75-9		1.90	0.948	ug/L	U	U	
N-Nitrosodi-n-propylamine	N	621-64-7		1.90	0.948	ug/L	U	U	
N-Nitrosodiphenylamine	N	86-30-6		0.948	0.474	ug/L	U	U	
Pentachlorophenol	N	87-86-5	1.46	1.90	0.948	ug/L	J,DX	J	DNQ
Phenanthrene	N	85-01-8		0.474	0.190	ug/L	U	U	
Phenol	N	108-95-2		0.948	0.474	ug/L	U	U	
Pyrene	N	129-00-0		0.474	0.190	ug/L	U	U	

Analysis Method E900

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha Analytes	N	GROSSALPHA	4.53	1.63	0	pCi/L		J	C
Gross Beta Analytes	N	GROSSBETA	7.88	1.17	0	pCi/L			

Analysis Method E901.1

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	N	10045-97-3	-1.30	11.5	0	pCi/L	U	U	
Potassium-40	N	13966-00-2	-27.8	169	0	pCi/L	U	U	

Analysis Method E903.0

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	N	13982-63-3	0.180	0.0510	0	pCi/L		J	C

Analysis Method E904.0

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	N	15262-20-1	0.600	0.418	0	pCi/L			

Analysis Method E905.0

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	N	10098-97-2	0.355	0.287	0	pCi/L			

Analysis Method E906.0

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	N	10028-17-8	11.7	277	0	pCi/L	U	U	

Analysis Method HASL-300 U Mod

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total	N	URANIUM	0.139	0.218	0	pCi/L	U	U	

Analysis Method RADIUM

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226 & 228	N	RADIUM226228	0.780	0.051	0	pCi/L			

Analysis Method SM2540D

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids (TSS)	N	TSS	120	5.0	2.5	mg/L			

Analysis Method SM9221E

Sample Name Outfall009_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 9:00:00 AM **Validation Level:** 3

Lab Sample Name: 440-71418-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Fecal Coliform Bacteria	N	COLIFORMFECAL	1600	1.8	0	mpn/100	>=		

Analysis Method SM9221F

Sample Name Outfall009_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 9:00:00 AM **Validation Level:** 3

Lab Sample Name: 440-71418-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Escherichia coli	N	ECOLI	1600	1.8	0	mpn/100	>=		

Analysis Method SW8141

Sample Name Outfall009_20140228_Co **Matrix Type:** WM **Result Type:** TRG

Sample Date: 3/1/2014 2:13:00 PM **Validation Level:** 3

Lab Sample Name: 440-71648-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chlorpyrifos	N	2921-88-2		1.4	0.34	ug/L	U	U	
Diazinon	N	333-41-5		0.47	0.14	ug/L	U	U	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-71418-1
Client Project/Site: Boeing SSFL Outfall 009 Annual
Revision: 6

For:
Haley & Aldrich, Inc.
9040 Friars Rd.
San Diego, California 92108

Attn: Nancy Gardiner

Debby Wilson

Authorized for release by:
5/8/2014 5:47:26 PM

Debby Wilson, Manager of Project Management
(949)261-1022
debby.wilson@testamericainc.com

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

Debby Wilson
Manager of Project Management
5/8/2014 5:47:26 PM

Table of Contents

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-71418-1	Outfall009_20140228_Grab	Water	02/28/14 09:00	02/28/14 13:34
440-71418-2	TB-20140228	Water	02/28/14 09:00	02/28/14 13:34
440-71648-1	Outfall 009_20140228_Comp	Water	03/01/14 02:13	03/01/14 16:30

Job ID: 440-71418-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-71418-1

Comments
Revised to remove Magnesium per chain of custody. Revised to include dioxin. Revised to add Silver. Due to lab error, several analytes were preliminarily reported that are not listed in the permit. This final report does not include the following analytes not listed in the permit: 1,2,3-Trichloropropane,2-Methylnaphthalene,2-Methylphenol,2-Nitroaniline,3-Nitroaniline,4-Chloroaniline,4-Methylphenol,4-Nitroaniline,Aniline,Benzoic acid,Benzyl Alcohol,cis-1,2-Dichloroethene,Dibenzofuran,1,2-Dibromoethane (Ethylene Dibromide),Diisopropyl ether,Methyl Tert Butyl Ether,Tert-Amyl Methyl Ether,Tert-Butyl Ethyl Ether,Tert-Butyl Alcohol. When VOCs/SVOCs are analyzed, there are over 100 analytes that could be reported and these analytes listed above were mistakenly checked to be reported.

Receipt
The samples were received on 2/28/2014 1:34 PM and 3/1/2014 4:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.3º C, 2.8º C and 3.3º C.

A hydrochloric preserved amber was not received for method 525 for analysis of chlorpyrifos and diazinon. Per client approval, the unpreserved bottle was analyzed for these 2 compounds by EPA method 8141A.

GC/MS VOA
Method(s) 624: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with batch 166328 were outside control limits: (440-71418-1 MS), (440-71418-1 MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

GC/MS Semi VOA
Method(s) 625: The method blank for batch 166462 contained Benzoic Acid above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with batch 166462.

Method(s) 625: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 166462 recovered outside control limits for the following analytes: 3,3-Dichlorobenzidine. Individual recoveries were within acceptable limits.

No other analytical or quality issues were noted.

HPLC
Method(s) 218.6: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 165606 for hex chromium were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No other analytical or quality issues were noted.

GC Semi VOA
Method(s) 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 166337 and 167011. See Blank Spike and Blank Spike Duplicate. (LCS 440-166337/6-A)

Method(s) 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with batch 166337. (LCS 440-166337/2-A)

No other analytical or quality issues were noted.

RAD

Job ID: 440-71418-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) 1664A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with batch 168817.

No other analytical or quality issues were noted.

Biology
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Dioxin
Analytical notes included in the attached pdf report from TestAmerica Knoxville

Organic Prep 8141A / 3510C

Method(s) 3510/8141AC: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with batch 216000. A LCSD was performed.

Method(s) 3510C/8141A: The following sample(s) formed emulsions during the extraction procedure: Outfall 009_20140228_Comp (440-71648-1). The emulsions were broken up using Pourbacks for all 3 spins

Client Sample ID: Outfall009_20140228_Grab
Date Collected: 02/28/14 09:00
Date Received: 02/28/14 13:34

Lab Sample ID: 440-71418-1
Matrix: Water

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/04/14 09:44	1
2-Chloroethyl vinyl ether	ND		2.0	1.0	ug/L			03/01/14 16:16	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Acrolein	ND		5.0	2.5	ug/L			03/01/14 16:16	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/01/14 16:16	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/04/14 09:44	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/04/14 09:44	1
1,2-Dichlorobenzene	ND		0.50	0.50	ug/L			03/04/14 09:44	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/04/14 09:44	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/04/14 09:44	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/04/14 09:44	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Benzene	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Bromoform	ND		1.0	0.25	ug/L			03/04/14 09:44	1
Bromomethane	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Chloroethane	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Chloroform	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Chloromethane	ND		0.50	0.25	ug/L			03/04/14 09:44	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/04/14 09:44	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Toluene	ND		0.50	0.25	ug/L			03/04/14 09:44	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/04/14 09:44	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Trichloroethene	ND		0.50	0.25	ug/L			03/04/14 09:44	1
Naphthalene	ND		1.0	0.40	ug/L			03/04/14 09:44	1
Xylenes, Total	ND		1.0	0.50	ug/L			03/04/14 09:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*80 - 128*		*03/01/14 16:16*	*1*
Dibromofluoromethane (Surr)	*118*		*76 - 132*		*03/01/14 16:16*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*03/04/14 09:44*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*03/04/14 09:44*	*1*
Toluene-d8 (Surr)	*110*		*80 - 128*		*03/04/14 09:44*	*1*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**0.41**	**J,DX**	1.0	0.25	ug/L			02/28/14 18:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		4.8	1.3	mg/L		03/13/14 10:13	03/13/14 10:47	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-1

Client Sample ID: Outfall009_20140228_Grab

Lab Sample ID: 440-71418-1

Date Collected: 02/28/14 09:00

Matrix: Water

Date Received: 02/28/14 13:34

Method: SM 9221E - Coliforms, Fecal (Multiple-Tube Fermentation)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coliform, Fecal	>=1600		1.8	1.8	MPN/100mL			02/28/14 14:46	1

Method: SM 9221F - E.Coli (Multiple-Tube Fermentation; EC-MUG)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Escherichia coli	>=1600		1.8	1.8	MPN/100mL			02/28/14 14:46	1

Client Sample ID: TB-20140228

Lab Sample ID: 440-71418-2

Date Collected: 02/28/14 09:00

Matrix: Water

Date Received: 02/28/14 13:34

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/04/14 09:15	1
2-Chloroethyl vinyl ether	ND		2.0	1.0	ug/L			03/01/14 10:01	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Acrolein	ND		5.0	2.5	ug/L			03/01/14 10:01	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/01/14 10:01	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/04/14 09:15	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/04/14 09:15	1
1,2-Dichlorobenzene	ND		0.50	0.50	ug/L			03/04/14 09:15	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/04/14 09:15	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/04/14 09:15	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/04/14 09:15	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Benzene	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Bromoform	ND		1.0	0.25	ug/L			03/04/14 09:15	1
Bromomethane	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Chloroethane	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Chloroform	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Chloromethane	ND		0.50	0.25	ug/L			03/04/14 09:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/04/14 09:15	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Toluene	ND		0.50	0.25	ug/L			03/04/14 09:15	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/04/14 09:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Trichloroethene	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Naphthalene	ND		1.0	0.40	ug/L			03/04/14 09:15	1
Ethyl tert-butyl ether	ND		0.50	0.25	ug/L			03/04/14 09:15	1
Xylenes, Total	ND		1.0	0.50	ug/L			03/04/14 09:15	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-1

Client Sample ID: TB-20140228

Lab Sample ID: 440-71418-2

Date Collected: 02/28/14 09:00

Matrix: Water

Date Received: 02/28/14 13:34

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 128		03/01/14 10:01	1
Dibromofluoromethane (Surr)	106		76 - 132		03/01/14 10:01	1
4-Bromofluorobenzene (Surr)	110		80 - 120		03/04/14 09:15	1
Dibromofluoromethane (Surr)	93		76 - 132		03/04/14 09:15	1
Toluene-d8 (Surr)	110		80 - 128		03/04/14 09:15	1

Client Sample ID: Outfall 009_20140228_Comp

Lab Sample ID: 440-71648-1

Date Collected: 03/01/14 02:13

Matrix: Water

Date Received: 03/01/14 16:30

Method: 625 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
Acenaphthylene	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
Anthracene	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
Benzidine	ND		9.48	4.74	ug/L		03/04/14 12:12	03/12/14 14:58	1
Benzo[a]anthracene	ND		4.74	1.90	ug/L		03/04/14 12:12	03/12/14 14:58	1
Benzo[b]fluoranthene	ND		1.90	0.948	ug/L		03/04/14 12:12	03/12/14 14:58	1
Benzo[k]fluoranthene	ND		0.474	0.237	ug/L		03/04/14 12:12	03/12/14 14:58	1
Benzo[a]pyrene	ND		1.90	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1
Bis(2-chloroethoxy)methane	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
Bis(2-chloroethyl)ether	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
Bis(2-ethylhexyl) phthalate	ND		4.74	1.90	ug/L		03/04/14 12:12	03/12/14 14:58	1
4-Bromophenyl phenyl ether	ND		0.948	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1
Butyl benzyl phthalate	ND		4.74	1.90	ug/L		03/04/14 12:12	03/12/14 14:58	1
4-Chloro-3-methylphenol	ND		1.90	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
2-Chloronaphthalene	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
2-Chlorophenol	ND		0.948	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1
4-Chlorophenyl phenyl ether	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
Chrysene	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
Dibenz(a,h)anthracene	ND		0.474	0.237	ug/L		03/04/14 12:12	03/12/14 14:58	1
Di-n-butyl phthalate	ND		1.90	0.948	ug/L		03/04/14 12:12	03/12/14 14:58	1
1,2-Dichlorobenzene	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
1,3-Dichlorobenzene	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
1,4-Dichlorobenzene	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
3,3'-Dichlorobenzidine	ND	BA	4.74	1.90	ug/L		03/04/14 12:12	03/12/14 14:58	1
2,4-Dichlorophenol	ND		1.90	0.948	ug/L		03/04/14 12:12	03/12/14 14:58	1
Diethyl phthalate	ND		0.948	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1
2,4-Dimethylphenol	ND		1.90	0.948	ug/L		03/04/14 12:12	03/12/14 14:58	1
Dimethyl phthalate	ND		0.474	0.237	ug/L		03/04/14 12:12	03/12/14 14:58	1
4,6-Dinitro-2-methylphenol	ND		4.74	1.90	ug/L		03/04/14 12:12	03/12/14 14:58	1
2,4-Dinitrophenol	ND		4.74	1.90	ug/L		03/04/14 12:12	03/12/14 14:58	1
2,4-Dinitrotoluene	ND		4.74	1.90	ug/L		03/04/14 12:12	03/12/14 14:58	1
2,6-Dinitrotoluene	ND		4.74	1.90	ug/L		03/04/14 12:12	03/12/14 14:58	1
Di-n-octyl phthalate	ND		4.74	1.90	ug/L		03/04/14 12:12	03/12/14 14:58	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.948	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1
Fluoranthene	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
Fluorene	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
Hexachlorobenzene	ND		0.948	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1

Client Sample ID: Outfall 009_20140228_Comp
Date Collected: 03/01/14 02:13
Date Received: 03/01/14 16:30

Lab Sample ID: 440-71648-1
Matrix: Water

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		1.90	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1
Hexachloroethane	ND		2.84	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1
Hexachlorocyclopentadiene	ND		4.74	1.90	ug/L		03/04/14 12:12	03/12/14 14:58	1
Indeno[1,2,3-cd]pyrene	ND		1.90	0.948	ug/L		03/04/14 12:12	03/12/14 14:58	1
Isophorone	ND		0.948	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1
Naphthalene	ND		0.948	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1
Nitrobenzene	ND		0.948	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1
2-Nitrophenol	ND		1.90	0.948	ug/L		03/04/14 12:12	03/12/14 14:58	1
4-Nitrophenol	ND		4.74	1.90	ug/L		03/04/14 12:12	03/12/14 14:58	1
N-Nitrosodimethylamine	ND		1.90	0.948	ug/L		03/04/14 12:12	03/12/14 14:58	1
N-Nitrosodiphenylamine	ND		0.948	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1
N-Nitrosodi-n-propylamine	ND		1.90	0.948	ug/L		03/04/14 12:12	03/12/14 14:58	1
Pentachlorophenol	**1.46**	**J,DX**	1.90	0.948	ug/L		03/04/14 12:12	03/12/14 14:58	1
Phenanthrene	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
Phenol	ND		0.948	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1
Pyrene	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1
1,2,4-Trichlorobenzene	ND		0.948	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1
2,4,6-Trichlorophenol	ND		0.948	0.474	ug/L		03/04/14 12:12	03/12/14 14:58	1
Benzo[g,h,i]perylene	ND		4.74	1.90	ug/L		03/04/14 12:12	03/12/14 14:58	1
bis (2-chloroisopropyl) ether	ND		0.474	0.190	ug/L		03/04/14 12:12	03/12/14 14:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*50 - 120*	*03/04/14 12:12*	*03/12/14 14:58*	*1*
2-Fluorophenol	*65*		*30 - 120*	*03/04/14 12:12*	*03/12/14 14:58*	*1*
2,4,6-Tribromophenol	*93*		*40 - 120*	*03/04/14 12:12*	*03/12/14 14:58*	*1*
Nitrobenzene-d5	*87*		*45 - 120*	*03/04/14 12:12*	*03/12/14 14:58*	*1*
Terphenyl-d14	*80*		*37 - 144*	*03/04/14 12:12*	*03/12/14 14:58*	*1*
Phenol-d6	*68*		*35 - 120*	*03/04/14 12:12*	*03/12/14 14:58*	*1*

Method: 608 PCB LL - Polychlorinated Biphenyls (PCBs) Low level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.48	0.24	ug/L		03/04/14 06:40	03/06/14 20:53	1
Aroclor 1221	ND		0.48	0.24	ug/L		03/04/14 06:40	03/06/14 20:53	1
Aroclor 1232	ND		0.48	0.24	ug/L		03/04/14 06:40	03/06/14 20:53	1
Aroclor 1242	ND		0.48	0.24	ug/L		03/04/14 06:40	03/06/14 20:53	1
Aroclor 1248	ND		0.48	0.24	ug/L		03/04/14 06:40	03/06/14 20:53	1
Aroclor 1254	ND		0.48	0.24	ug/L		03/04/14 06:40	03/06/14 20:53	1
Aroclor 1260	ND		0.48	0.24	ug/L		03/04/14 06:40	03/06/14 20:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*81*		*45 - 120*	*03/04/14 06:40*	*03/06/14 20:53*	*1*

Method: 608 Pesticides - Organochlorine Pesticides Low level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0048	0.0014	ug/L		03/04/14 06:40	03/05/14 20:00	1
alpha-BHC	ND		0.0048	0.0024	ug/L		03/04/14 06:40	03/05/14 20:00	1
beta-BHC	ND		0.0095	0.0038	ug/L		03/04/14 06:40	03/05/14 20:00	1
Chlordane (technical)	ND		0.095	0.076	ug/L		03/04/14 06:40	03/05/14 20:00	1
delta-BHC	ND		0.0048	0.0033	ug/L		03/04/14 06:40	03/05/14 20:00	1
Dieldrin	ND		0.0048	0.0019	ug/L		03/04/14 06:40	03/05/14 20:00	1

Client Sample ID: Outfall 009_20140228_Comp
Date Collected: 03/01/14 02:13
Date Received: 03/01/14 16:30

Lab Sample ID: 440-71648-1
Matrix: Water

Method: 608 Pesticides - Organochlorine Pesticides Low level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan I	ND		0.0048	0.0029	ug/L		03/04/14 06:40	03/05/14 20:00	1
Endosulfan II	ND		0.0048	0.0019	ug/L		03/04/14 06:40	03/05/14 20:00	1
Endosulfan sulfate	ND		0.0095	0.0029	ug/L		03/04/14 06:40	03/05/14 20:00	1
Endrin	ND		0.0048	0.0019	ug/L		03/04/14 06:40	03/05/14 20:00	1
Endrin aldehyde	ND		0.0095	0.0019	ug/L		03/04/14 06:40	03/05/14 20:00	1
gamma-BHC (Lindane)	ND		0.0095	0.0029	ug/L		03/04/14 06:40	03/05/14 20:00	1
Heptachlor	ND		0.0095	0.0029	ug/L		03/04/14 06:40	03/05/14 20:00	1
Heptachlor epoxide	ND		0.0048	0.0024	ug/L		03/04/14 06:40	03/05/14 20:00	1
Toxaphene	ND		0.48	0.24	ug/L		03/04/14 06:40	03/05/14 20:00	1
4,4'-DDD	ND		0.0048	0.0038	ug/L		03/04/14 06:40	03/05/14 20:00	1
4,4'-DDE	ND		0.0048	0.0029	ug/L		03/04/14 06:40	03/05/14 20:00	1
4,4'-DDT	ND		0.0095	0.0038	ug/L		03/04/14 06:40	03/05/14 20:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*45*		*35 - 115*	*03/04/14 06:40*	*03/05/14 20:00*	*1*

Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorpyrifos	ND		1.4	0.34	ug/L		03/07/14 17:38	03/12/14 06:32	1
Diazinon	ND		0.47	0.14	ug/L		03/07/14 17:38	03/12/14 06:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Chlormefos	*75*		*49 - 171*	*03/07/14 17:38*	*03/12/14 06:32*	*1*
Triphenylphosphate	*102*		*60 - 154*	*03/07/14 17:38*	*03/12/14 06:32*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.5**		1.0	0.50	mg/L			03/04/14 10:56	2
Nitrate Nitrite as N	**0.99**		0.15	0.070	mg/L			03/01/14 17:31	1
Sulfate	**6.6**		1.0	0.50	mg/L			03/04/14 10:56	2

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			03/12/14 16:58	1

Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B)

Analyte	Result	Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.00000947	0.00000375	ug/L		03/06/14 10:00	03/17/14 15:54	1
Total TCDD	ND		0.00000947	0.00000375	ug/L		03/06/14 10:00	03/17/14 15:54	1
1,2,3,7,8-PeCDD	ND		0.0000474	0.00000253	ug/L		03/06/14 10:00	03/17/14 15:54	1
Total PeCDD	ND		0.0000474	0.00000253	ug/L		03/06/14 10:00	03/17/14 15:54	1
1,2,3,4,7,8-HxCDD	ND		0.0000474	0.00000263	ug/L		03/06/14 10:00	03/17/14 15:54	1
1,2,3,6,7,8-HxCDD	**0.00000982**	**Q J**	0.0000474	0.00000301	ug/L		03/06/14 10:00	03/17/14 15:54	1
1,2,3,7,8,9-HxCDD	**0.0000104**	**Q J**	0.0000474	0.00000261	ug/L		03/06/14 10:00	03/17/14 15:54	1
Total HxCDD	**0.0000618**	**J Q**	0.0000474	0.00000261	ug/L		03/06/14 10:00	03/17/14 15:54	1
1,2,3,4,6,7,8-HpCDD	**0.000259**		0.0000474	0.00000436	ug/L		03/06/14 10:00	03/17/14 15:54	1
Total HpCDD	**0.000613**		0.0000474	0.00000436	ug/L		03/06/14 10:00	03/17/14 15:54	1
OCDD	**0.00253**	**B**	0.0000948	0.00000393	ug/L		03/06/14 10:00	03/17/14 15:54	1

Client Sample ID: Outfall 009_20140228_Comp
Date Collected: 03/01/14 02:13
Date Received: 03/01/14 16:30

Lab Sample ID: 440-71648-1
Matrix: Water

Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B) (Continued)

Analyte	Result	Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.00000947	0.00000297	ug/L		03/06/14 10:00	03/17/14 15:54	1
Total TCDF	**0.00000136**	**Q J**	0.00000947	0.00000297	ug/L		03/06/14 10:00	03/17/14 15:54	1
1,2,3,7,8-PeCDF	ND		0.0000474	0.00000186	ug/L		03/06/14 10:00	03/17/14 15:54	1
2,3,4,7,8-PeCDF	ND		0.0000474	0.00000179	ug/L		03/06/14 10:00	03/17/14 15:54	1
Total PeCDF	**0.0000107**	**Q J**	0.0000474	0.00000179	ug/L		03/06/14 10:00	03/17/14 15:54	1
1,2,3,4,7,8-HxCDF	**0.00000261**	**Q J**	0.0000474	0.00000171	ug/L		03/06/14 10:00	03/17/14 15:54	1
1,2,3,6,7,8-HxCDF	**0.00000193**	**Q J**	0.0000474	0.00000174	ug/L		03/06/14 10:00	03/17/14 15:54	1
2,3,4,6,7,8-HxCDF	ND		0.0000474	0.00000146	ug/L		03/06/14 10:00	03/17/14 15:54	1
1,2,3,7,8,9-HxCDF	ND		0.0000474	0.00000176	ug/L		03/06/14 10:00	03/17/14 15:54	1
Total HxCDF	**0.0000699**	**J Q**	0.0000474	0.00000146	ug/L		03/06/14 10:00	03/17/14 15:54	1
1,2,3,4,6,7,8-HpCDF	**0.0000421**	**J**	0.0000474	0.00000230	ug/L		03/06/14 10:00	03/17/14 15:54	1
1,2,3,4,7,8,9-HpCDF	**0.00000457**	**Q J**	0.0000474	0.00000292	ug/L		03/06/14 10:00	03/17/14 15:54	1
Total HpCDF	**0.000113**	**Q**	0.0000474	0.00000230	ug/L		03/06/14 10:00	03/17/14 15:54	1
OCDF	**0.000147**		0.0000948	0.00000228	ug/L		03/06/14 10:00	03/17/14 15:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*92*		*35 - 197*	*03/06/14 10:00*	*03/17/14 15:54*	*1*

Internal Standard	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*82*		*25 - 164*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-1,2,3,7,8-PeCDD	*82*		*25 - 181*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-1,2,3,4,7,8-HxCDD	*90*		*32 - 141*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-1,2,3,6,7,8-HxCDD	*85*		*28 - 130*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*90*		*23 - 140*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-OCDD	*86*		*17 - 157*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-2,3,7,8-TCDF	*70*		*24 - 169*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-1,2,3,7,8-PeCDF	*82*		*24 - 185*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-2,3,4,7,8-PeCDF	*68*		*21 - 178*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-1,2,3,4,7,8-HxCDF	*81*		*26 - 152*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-1,2,3,6,7,8-HxCDF	*77*		*26 - 123*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-2,3,4,6,7,8-HxCDF	*82*		*28 - 136*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-1,2,3,7,8,9-HxCDF	*95*		*29 - 147*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*81*		*28 - 143*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*85*		*26 - 138*	*03/06/14 10:00*	*03/17/14 15:54*	*1*
13C-OCDF	*80*		*17 - 157*	*03/06/14 10:00*	*03/17/14 15:54*	*1*

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**4400**		50	25	ug/L		03/12/14 10:13	03/12/14 17:53	1
Arsenic	ND		10	7.0	ug/L		03/12/14 10:13	03/12/14 17:53	1
Boron	**0.044**	**J,DX**	0.050	0.025	mg/L		03/12/14 10:13	03/12/14 17:53	1
Beryllium	ND		2.0	0.90	ug/L		03/12/14 10:13	03/12/14 17:53	1
Chromium	**7.9**		5.0	2.0	ug/L		03/12/14 10:13	03/12/14 17:53	1
Iron	**6.2**		0.040	0.020	mg/L		03/12/14 10:13	03/13/14 14:59	1
Nickel	**7.3**	**J,DX**	10	2.0	ug/L		03/12/14 10:13	03/12/14 17:53	1
Vanadium	**13**		10	3.0	ug/L		03/12/14 10:13	03/12/14 17:53	1
Zinc	**50**	**MB**	20	9.0	ug/L		03/12/14 10:13	03/12/14 17:53	1
Hardness, as CaCO3	**28**		0.33	0.17	mg/L		03/12/14 10:13	03/12/14 17:53	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-1

Client Sample ID: Outfall 009_20140228_Comp
Date Collected: 03/01/14 02:13
Date Received: 03/01/14 16:30

Lab Sample ID: 440-71648-1
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	190	QP	50	25	ug/L		03/10/14 09:25	03/10/14 23:10	1
Arsenic	ND	QP	10	7.0	ug/L		03/10/14 09:25	03/10/14 23:10	1
Boron	0.039	J,DX QP	0.050	0.025	mg/L		03/10/14 09:25	03/10/14 23:10	1
Beryllium	ND	QP	2.0	0.90	ug/L		03/10/14 09:25	03/10/14 23:10	1
Chromium	ND	QP	5.0	2.0	ug/L		03/10/14 09:25	03/10/14 23:10	1
Iron	0.19	QP	0.040	0.020	mg/L		03/10/14 09:25	03/10/14 23:10	1
Nickel	2.0	J,DX QP	10	2.0	ug/L		03/10/14 09:25	03/10/14 23:10	1
Vanadium	ND	QP	10	3.0	ug/L		03/10/14 09:25	03/10/14 23:10	1
Zinc	14	J,DX MB QP	20	9.0	ug/L		03/10/14 09:25	03/10/14 23:10	1
Hardness, as CaCO3	19	MB QP	0.33	0.17	mg/L		03/10/14 09:25	03/10/14 23:10	1

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		03/12/14 12:34	03/12/14 17:50	1
Copper	8.2		2.0	0.50	ug/L		03/12/14 12:34	03/12/14 17:50	1
Lead	9.6		1.0	0.50	ug/L		03/12/14 12:34	03/12/14 17:50	1
Antimony	0.70	J,DX	2.0	0.50	ug/L		03/12/14 12:34	03/12/14 17:50	1
Selenium	ND		2.0	0.50	ug/L		03/12/14 12:34	03/12/14 17:50	1
Thallium	ND		1.0	0.50	ug/L		03/12/14 12:34	03/12/14 17:50	1
Silver	ND		1.0	0.50	ug/L		03/12/14 12:34	03/12/14 17:50	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	QP	1.0	0.25	ug/L		03/10/14 09:45	03/10/14 21:53	1
Copper	3.7	QP	2.0	0.50	ug/L		03/10/14 09:45	03/10/14 21:53	1
Lead	0.51	J,DX QP	1.0	0.50	ug/L		03/10/14 09:45	03/10/14 21:53	1
Antimony	ND	QP	2.0	0.50	ug/L		03/10/14 09:45	03/10/14 21:53	1
Selenium	ND	QP	2.0	0.50	ug/L		03/10/14 09:45	03/10/14 21:53	1
Thallium	ND	QP	1.0	0.50	ug/L		03/10/14 09:45	03/10/14 21:53	1
Silver	ND	QP	1.0	0.50	ug/L		03/10/14 09:45	03/10/14 21:53	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		03/13/14 08:13	03/13/14 16:47	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	QP	0.20	0.10	ug/L		03/13/14 07:36	03/13/14 15:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	51		10	5.0	mg/L			03/06/14 15:35	1
Total Suspended Solids	120		5.0	2.5	mg/L			03/07/14 14:15	1
Cyanide, Total	ND		5.0	3.0	ug/L		03/05/14 16:59	03/05/14 22:04	1
Fluoride	0.16		0.10	0.020	mg/L			03/10/14 13:27	1

Client Sample ID: Outfall 009_20140228_Comp
Date Collected: 03/01/14 02:13
Date Received: 03/01/14 16:30

Lab Sample ID: 440-71648-1
Matrix: Water

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**4.53**		1.52	1.61	1.63	pCi/L	03/11/14 12:28	03/17/14 07:29	1
Gross Beta	**7.88**		1.15	1.39	1.17	pCi/L	03/11/14 12:28	03/17/14 07:29	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-1.30	U	6.36	6.36	11.5	pCi/L	03/04/14 15:31	03/05/14 19:22	1
Potassium-40	-27.8	U	152	152	169	pCi/L	03/04/14 15:31	03/05/14 19:22	1

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.180**		0.0588	0.0610	0.0510	pCi/L	03/04/14 14:21	03/26/14 06:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*03/04/14 14:21*	*03/26/14 06:49*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.600**		0.283	0.289	0.418	pCi/L	03/04/14 14:31	03/14/14 10:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*03/04/14 14:31*	*03/14/14 10:57*	*1*
Y Carrier	*83.5*		*40 - 110*	*03/04/14 14:31*	*03/14/14 10:57*	*1*

Method: 905 - Strontium-90 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	**0.355**		0.192	0.194	0.287	pCi/L	03/06/14 12:43	03/17/14 15:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*81.9*		*40 - 110*	*03/06/14 12:43*	*03/17/14 15:53*	*1*
Y Carrier	*96.0*		*40 - 110*	*03/06/14 12:43*	*03/17/14 15:53*	*1*

Method: 906.0 - Tritium, Total (LSC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	11.7	U	150	150	277	pCi/L	03/19/14 07:01	03/20/14 16:52	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.139	U	0.157	0.157	0.218	pCi/L	03/11/14 09:43	03/12/14 17:40	1

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-1

Client Sample ID: Outfall 009_20140228_Comp
Lab Sample ID: 440-71648-1
Date Collected: 03/01/14 02:13
Matrix: Water
Date Received: 03/01/14 16:30

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.780		0.29	0.29	0.051	pCi/L		03/26/14 00:49	1

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-1

Method	Method Description	Protocol	Laboratory
624	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL IRV
625	Semivolatile Organic Compounds (GC/MS)	EPA	TAL IRV
608 PCB LL	Polychlorinated Biphenyls (PCBs) Low level	40CFR136A	TAL IRV
608 Pesticides	Organochlorine Pesticides Low level	40CFR136A	TAL IRV
8141A	Organophosphorous Pesticides (GC)	SW846	TAL DEN
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	TAL IRV
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
314.0	Perchlorate (IC)	EPA	TAL IRV
1613B	Dioxins/Furans, HRGC/HRMS (1613B)	EPA-5	TAL KNX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL IRV
200.8	Metals (ICP/MS)	EPA	TAL IRV
245.1	Mercury (CVAA)	EPA	TAL IRV
1664A	HEM and SGT-HEM	1664A	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL IRV
SM 4500 CN E	Cyanide, Total (Low Level)	SM	TAL IRV
SM 4500 F C	Fluoride	SM	TAL IRV
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	TAL SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
905	Strontium-90 (GFPC)	EPA	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
SM 9221E	Coliforms, Fecal (Multiple-Tube Fermentation)	SM	TAL IRV
SM 9221F	E.Coli (Multiple-Tube Fermentation; EC-MUG)	SM	TAL IRV
Acute FH minnow, EPA/821-R02-012	Bioassay	NONE	SC0127
Asbestos	EPA 100.2 Asbestos in Drinking Water	NONE	EMS Labs
Chronic Cerio, EPA/821-R02-013	Bioassay	NONE	SC0127
Human Bacteriodales	General Sub Contract Method	NONE	EMSL

Protocol References:

1664A = EPA-821-98-002

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

DOE = U.S. Department of Energy

EPA = US Environmental Protection Agency

EPA-5 = EPA-5

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NONE = NONE

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

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-1

Method	Method Description	Protocol	Laboratory

Laboratory References:

EMS Labs = EMS Laboratories Pasadena, CA, 117 West Bellevue Drive, Ste 3, Pasadena, CA 91105-2503

EMSL = EMSL Analytical, Inc., 200 Rt 130 North, Cinnaminson, NJ 08077

SC0127 = Aquatic Testing Laboratories, 4350 Transport #107, Ventura, CA 93003

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-1

Client Sample ID: Outfall009_20140228_Grab

Lab Sample ID: 440-71418-1

Date Collected: 02/28/14 09:00
Matrix: Water
Date Received: 02/28/14 13:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	10 mL	10 mL	166328	03/04/14 09:44	MM1	TAL IRV
Total/NA	Analysis	624		1	10 mL	10 mL	165919	03/01/14 16:16	TN	TAL IRV
Total/NA	Analysis	218.6		1	10 mL		165606	02/28/14 18:35	QPD	TAL IRV
Total/NA	Prep	1664A			1050 mL	1000 mL	168817	03/13/14 10:13	DA	TAL IRV
Total/NA	Analysis	1664A		1	1050 mL	1000 mL	168833	03/13/14 10:47	DA	TAL IRV
Total/NA	Analysis	SM 9221E		1	100 mL	100 mL	166533		KN1	TAL IRV
							(Start)	02/28/14 14:46		
							(End)	03/02/14 13:28		
Total/NA	Analysis	SM 9221F		1	100 mL	100 mL	166535		KN1	TAL IRV
							(Start)	02/28/14 14:46		
							(End)	03/02/14 13:28		

Client Sample ID: TB-20140228

Lab Sample ID: 440-71418-2

Date Collected: 02/28/14 09:00
Matrix: Water
Date Received: 02/28/14 13:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	10 mL	10 mL	166328	03/04/14 09:15	MM1	TAL IRV
Total/NA	Analysis	624		1	10 mL	10 mL	165919	03/01/14 10:01	TN	TAL IRV

Client Sample ID: Outfall 009_20140228_Comp

Lab Sample ID: 440-71648-1

Date Collected: 03/01/14 02:13
Matrix: Water
Date Received: 03/01/14 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1055 mL	2 mL	166462	03/04/14 12:12	BB	TAL IRV
Total/NA	Analysis	625		1	1055 mL	2 mL	168395	03/12/14 14:58	VS	TAL IRV
Total/NA	Prep	608			1050 mL	2 mL	166337	03/04/14 06:40	AC	TAL IRV
Total/NA	Analysis	608 PCB LL		1	1050 mL	2 mL	167229	03/06/14 20:53	JM	TAL IRV
Total/NA	Prep	608			1050 mL	2 mL	166337	03/04/14 06:40	AC	TAL IRV
Total/NA	Analysis	608 Pesticides		1	1050 mL	2 mL	166771	03/05/14 20:00	KS	TAL IRV
Total/NA	Prep	3510C			1054.5 mL	2000 uL	216000	03/07/14 17:38	IBM	TAL DEN
Total/NA	Analysis	8141A		1	1054.5 mL	2000 uL	216330	03/12/14 06:32	AMP	TAL DEN
Total/NA	Analysis	300.0		2	5 mL		166203	03/04/14 10:56	NN	TAL IRV
Total/NA	Analysis	300.0		1	5 mL		165941	03/01/14 17:31	NN	TAL IRV
Total/NA	Analysis	314.0		1	1 mL		168453	03/12/14 16:58	CH	TAL IRV
Total	Prep	1613			1055 mL	20 uL	4065015_P	03/06/14 10:00		TAL KNX
Total	Analysis	1613B		1			4065015	03/17/14 15:54	KBL	TAL KNX
Dissolved	Filtration	FILTRATION			250 mL	250 mL	166031	03/02/14 22:34	SN	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	167768	03/10/14 09:25	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		1	25 mL	25 mL	168091	03/10/14 23:10	DP	TAL IRV
Total Recoverable	Prep	200.2			25 mL	25 mL	168494	03/12/14 10:13	ND	TAL IRV
Total Recoverable	Analysis	200.7 Rev 4.4		1	25 mL	25 mL	168941	03/13/14 14:59	TK	TAL IRV

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-1

Client Sample ID: Outfall 009_20140228_Comp — **Lab Sample ID: 440-71648-1**

Date Collected: 03/01/14 02:13 — **Matrix: Water**

Date Received: 03/01/14 16:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.2			25 mL	25 mL	168494	03/12/14 10:13	ND	TAL IRV
Total Recoverable	Analysis	200.7 Rev 4.4		1	25 mL	25 mL	168689	03/12/14 17:53	EN	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	166031	03/02/14 22:34	SN	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	167775	03/10/14 09:45	ND	TAL IRV
Dissolved	Analysis	200.8		1	25 mL	25 mL	168114	03/10/14 21:53	RC	TAL IRV
Total Recoverable	Prep	200.2			25 mL	25 mL	168548	03/12/14 12:34	ND	TAL IRV
Total Recoverable	Analysis	200.8		1	25 mL	25 mL	168765	03/12/14 17:50	RC	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	166031	03/02/14 22:34	SN	TAL IRV
Dissolved	Prep	245.1			20 mL	20 mL	168757	03/13/14 07:36	JS1	TAL IRV
Dissolved	Analysis	245.1		1	20 mL	20 mL	168953	03/13/14 15:16	DB	TAL IRV
Total/NA	Prep	245.1			20 mL	20 mL	168770	03/13/14 08:13	JS1	TAL IRV
Total/NA	Analysis	245.1		1	20 mL	20 mL	169065	03/13/14 16:47	DB	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	167190	03/06/14 15:35	XL	TAL IRV
Total/NA	Analysis	SM 2540D		1	200 mL	1000 mL	167473	03/07/14 14:15	NTN	TAL IRV
Total/NA	Prep	Distill/CN			50 mL	50 mL	166911	03/05/14 16:59	BT	TAL IRV
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	166965	03/05/14 22:04	BT	TAL IRV
Total/NA	Analysis	SM 4500 F C		1		25 mL	167873	03/10/14 13:27	KYP	TAL IRV
Total/NA	Prep	Evaporation			200 mL	1.0 g	109795	03/11/14 12:28	BLH	TAL SL
Total/NA	Analysis	900.0		1	200 mL		110775	03/17/14 07:29	RTM	TAL SL
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	108350	03/04/14 15:31	RLS	TAL SL
Total/NA	Analysis	901.1		1	1000 mL		108756	03/05/14 19:22	SMP	TAL SL
Total/NA	Prep	PrecSep-21			960.91 mL	1.0 g	108343	03/04/14 14:21	RLS	TAL SL
Total/NA	Analysis	903.0		1	960.91 mL		112760	03/26/14 06:49	MLK	TAL SL
Total/NA	Prep	PrecSep_0			960.91 mL	1.0 g	108344	03/04/14 14:31	RLS	TAL SL
Total/NA	Analysis	904.0		1	960.91 mL		110545	03/14/14 10:57	RTM	TAL SL
Total/NA	Prep	PrecSep-7			969.40 mL	1.0 g	108916	03/06/14 12:43	RLS	TAL SL
Total/NA	Analysis	905		1	969.40 mL		110775	03/17/14 15:53	RTM	TAL SL
Total/NA	Prep	LSC_Dist_Susp			100.1 mL	1.0 g	111474	03/19/14 07:01	NMN	TAL SL
Total/NA	Analysis	906.0		1	100.1 mL		111974	03/20/14 16:52	MLK	TAL SL
Total/NA	Prep	ExtChrom			499.52 mL	1.0 mL	109757	03/11/14 09:43	MLM	TAL SL
Total/NA	Analysis	A-01-R		1	499.52 mL		109998	03/12/14 17:40	LES	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			113022	03/26/14 00:49	MCF	TAL SL

Laboratory References:

EMS Labs = EMS Laboratories Pasadena, CA, 117 West Bellevue Drive, Ste 3, Pasadena, CA 91105-2503

EMSL = EMSL Analytical, Inc., 200 Rt 130 North, Cinnaminson, NJ 08077

SC0127 = Aquatic Testing Laboratories, 4350 Transport #107, Ventura, CA 93003

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Method: 624 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-165919/4
Matrix: Water
Analysis Batch: 165919

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		2.0	1.0	ug/L			03/01/14 08:59	1
Acrolein	ND		5.0	2.5	ug/L			03/01/14 08:59	1
Acrylonitrile	ND		2.0	1.0	ug/L			03/01/14 08:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 128*		*03/01/14 08:59*	*1*
Dibromofluoromethane (Surr)	*108*		*76 - 132*		*03/01/14 08:59*	*1*

Lab Sample ID: LCS 440-165919/5
Matrix: Water
Analysis Batch: 165919

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2-Chloroethyl vinyl ether			25.0	27.5		ug/L		110	37 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*106*		*80 - 128*
Dibromofluoromethane (Surr)	*108*		*76 - 132*

Lab Sample ID: 440-71366-D-1 MS
Matrix: Water
Analysis Batch: 165919

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
2-Chloroethyl vinyl ether	ND		25.0	25.8		ug/L		103	10 - 140		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*108*		*80 - 128*
Dibromofluoromethane (Surr)	*108*		*76 - 132*

Lab Sample ID: 440-71366-D-1 MSD
Matrix: Water
Analysis Batch: 165919

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Chloroethyl vinyl ether	ND		25.0	27.4		ug/L		110	10 - 140	6	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*106*		*80 - 128*
Dibromofluoromethane (Surr)	*109*		*76 - 132*

Lab Sample ID: MB 440-166328/3
Matrix: Water
Analysis Batch: 166328

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			03/04/14 07:53	1

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-166328/3
Matrix: Water
Analysis Batch: 166328

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		0.50	0.25	ug/L			03/04/14 07:53	1
1,1,2-Trichloroethane	ND		0.50	0.25	ug/L			03/04/14 07:53	1
1,1-Dichloroethane	ND		0.50	0.25	ug/L			03/04/14 07:53	1
1,1-Dichloroethene	ND		0.50	0.25	ug/L			03/04/14 07:53	1
1,2-Dichlorobenzene	ND		0.50	0.50	ug/L			03/04/14 07:53	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			03/04/14 07:53	1
1,2-Dichloropropane	ND		0.50	0.25	ug/L			03/04/14 07:53	1
1,3-Dichlorobenzene	ND		0.50	0.25	ug/L			03/04/14 07:53	1
1,4-Dichlorobenzene	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Benzene	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Bromoform	ND		1.0	0.25	ug/L			03/04/14 07:53	1
Bromomethane	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Chlorobenzene	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Dibromochloromethane	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Chloroethane	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Chloroform	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Chloromethane	ND		0.50	0.25	ug/L			03/04/14 07:53	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Bromodichloromethane	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Ethylbenzene	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Methylene Chloride	ND		2.0	0.88	ug/L			03/04/14 07:53	1
Tetrachloroethene	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Toluene	ND		0.50	0.25	ug/L			03/04/14 07:53	1
trans-1,2-Dichloroethene	ND		0.50	0.25	ug/L			03/04/14 07:53	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Trichlorofluoromethane	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Vinyl chloride	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Trichloroethene	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Naphthalene	ND		1.0	0.40	ug/L			03/04/14 07:53	1
Ethyl tert-butyl ether	ND		0.50	0.25	ug/L			03/04/14 07:53	1
Xylenes, Total	ND		1.0	0.50	ug/L			03/04/14 07:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*		*03/04/14 07:53*	*1*
Dibromofluoromethane (Surr)	*95*		*76 - 132*		*03/04/14 07:53*	*1*
Toluene-d8 (Surr)	*109*		*80 - 128*		*03/04/14 07:53*	*1*

Lab Sample ID: LCS 440-166328/4
Matrix: Water
Analysis Batch: 166328

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	27.3		ug/L		109	70 - 130
1,1,2,2-Tetrachloroethane	25.0	27.5		ug/L		110	63 - 130
1,1,2-Trichloroethane	25.0	25.8		ug/L		103	70 - 130
1,1-Dichloroethane	25.0	24.1		ug/L		96	64 - 130
1,1-Dichloroethene	25.0	30.3		ug/L		121	70 - 130

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-166328/4
Matrix: Water
Analysis Batch: 166328

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	25.0	27.3		ug/L		109	70 - 130
1,2-Dichloroethane	25.0	26.9		ug/L		108	57 - 138
1,2-Dichloropropane	25.0	27.1		ug/L		108	67 - 130
1,3-Dichlorobenzene	25.0	26.5		ug/L		106	70 - 130
1,4-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130
Benzene	25.0	25.6		ug/L		103	68 - 130
Bromoform	25.0	29.2		ug/L		117	60 - 148
Bromomethane	25.0	23.6		ug/L		94	64 - 139
Carbon tetrachloride	25.0	30.6		ug/L		122	60 - 150
Chlorobenzene	25.0	25.6		ug/L		102	70 - 130
Dibromochloromethane	25.0	28.2		ug/L		113	69 - 145
Chloroethane	25.0	18.7		ug/L		75	64 - 135
Chloroform	25.0	24.2		ug/L		97	70 - 130
Chloromethane	25.0	25.1		ug/L		101	47 - 140
cis-1,3-Dichloropropene	25.0	31.3		ug/L		125	70 - 133
Bromodichloromethane	25.0	28.5		ug/L		114	70 - 132
Ethylbenzene	25.0	28.7		ug/L		115	70 - 130
Methylene Chloride	25.0	25.0		ug/L		100	52 - 130
Tetrachloroethene	25.0	28.4		ug/L		113	70 - 130
Toluene	25.0	26.3		ug/L		105	70 - 130
trans-1,2-Dichloroethene	25.0	27.4		ug/L		110	70 - 130
trans-1,3-Dichloropropene	25.0	30.5		ug/L		122	70 - 132
Trichlorofluoromethane	25.0	28.1		ug/L		113	60 - 150
Vinyl chloride	25.0	25.7		ug/L		103	59 - 133
Trichloroethene	25.0	27.7		ug/L		111	70 - 130
Naphthalene	25.0	28.3		ug/L		113	60 - 140
Ethyl tert-butyl ether	25.0	25.3		ug/L		101	60 - 136
Xylenes, Total	75.0	89.6		ug/L		119	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*76 - 132*
Toluene-d8 (Surr)	*104*		*80 - 128*

Lab Sample ID: 440-71418-1 MS
Matrix: Water
Analysis Batch: 166328

Client Sample ID: Outfall009_20140228_Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		25.0	31.7		ug/L		127	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	27.5		ug/L		110	63 - 130
1,1,2-Trichloroethane	ND		25.0	29.0		ug/L		116	70 - 130
1,1-Dichloroethane	ND		25.0	23.2		ug/L		93	65 - 130
1,1-Dichloroethene	ND		25.0	26.1		ug/L		104	70 - 130
1,2-Dichlorobenzene	ND		25.0	28.2		ug/L		113	70 - 130
1,2-Dichloroethane	ND		25.0	25.7		ug/L		103	56 - 146
1,2-Dichloropropane	ND		25.0	29.4		ug/L		117	69 - 130
1,3-Dichlorobenzene	ND		25.0	27.5		ug/L		110	70 - 130

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-71418-1 MS
Matrix: Water
Analysis Batch: 166328

Client Sample ID: Outfall009_20140228_Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND		25.0	26.7		ug/L		107	70 - 130
Benzene	ND		25.0	26.9		ug/L		107	66 - 130
Bromoform	ND		25.0	29.2		ug/L		117	59 - 150
Bromomethane	ND		25.0	28.9		ug/L		116	62 - 131
Carbon tetrachloride	ND		25.0	31.2		ug/L		125	60 - 150
Chlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130
Dibromochloromethane	ND		25.0	28.5		ug/L		114	70 - 148
Chloroethane	ND		25.0	21.8		ug/L		87	68 - 130
Chloroform	ND		25.0	25.3		ug/L		101	70 - 130
Chloromethane	ND		25.0	29.3		ug/L		117	39 - 144
cis-1,3-Dichloropropene	ND		25.0	33.8	LM	ug/L		135	70 - 133
Bromodichloromethane	ND		25.0	31.6		ug/L		127	70 - 138
Ethylbenzene	ND		25.0	28.8		ug/L		115	70 - 130
Methylene Chloride	ND		25.0	22.5		ug/L		90	52 - 130
Tetrachloroethene	ND		25.0	27.5		ug/L		110	70 - 137
Toluene	ND		25.0	28.9		ug/L		115	70 - 130
trans-1,2-Dichloroethene	ND		25.0	24.4		ug/L		98	70 - 130
trans-1,3-Dichloropropene	ND		25.0	33.3		ug/L		133	70 - 138
Trichlorofluoromethane	ND		25.0	31.7		ug/L		127	60 - 150
Vinyl chloride	ND		25.0	29.2		ug/L		117	50 - 137
Trichloroethene	ND		25.0	28.1		ug/L		113	70 - 130
Naphthalene	ND		25.0	29.2		ug/L		117	60 - 140
Ethyl tert-butyl ether	ND		25.0	25.6		ug/L		102	70 - 130
Xylenes, Total	ND		75.0	84.9		ug/L		113	70 - 133

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*76 - 132*
Toluene-d8 (Surr)	*112*		*80 - 128*

Lab Sample ID: 440-71418-1 MSD
Matrix: Water
Analysis Batch: 166328

Client Sample ID: Outfall009_20140228_Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		25.0	28.4		ug/L		113	70 - 130	11	20
1,1,2,2-Tetrachloroethane	ND		25.0	27.2		ug/L		109	63 - 130	1	30
1,1,2-Trichloroethane	ND		25.0	28.6		ug/L		114	70 - 130	2	25
1,1-Dichloroethane	ND		25.0	25.5		ug/L		102	65 - 130	9	20
1,1-Dichloroethene	ND		25.0	30.2		ug/L		121	70 - 130	15	20
1,2-Dichlorobenzene	ND		25.0	27.0		ug/L		108	70 - 130	4	20
1,2-Dichloroethane	ND		25.0	28.8		ug/L		115	56 - 146	11	20
1,2-Dichloropropane	ND		25.0	29.3		ug/L		117	69 - 130	0	20
1,3-Dichlorobenzene	ND		25.0	26.5		ug/L		106	70 - 130	4	20
1,4-Dichlorobenzene	ND		25.0	26.1		ug/L		104	70 - 130	2	20
Benzene	ND		25.0	26.8		ug/L		107	66 - 130	0	20
Bromoform	ND		25.0	29.5		ug/L		118	59 - 150	1	25
Bromomethane	ND		25.0	25.6		ug/L		103	62 - 131	12	25

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-71418-1 MSD
Matrix: Water
Analysis Batch: 166328

Client Sample ID: Outfall009_20140228_Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon tetrachloride	ND		25.0	31.3		ug/L		125	60 - 150	0	25
Chlorobenzene	ND		25.0	26.2		ug/L		105	70 - 130	0	20
Dibromochloromethane	ND		25.0	28.6		ug/L		114	70 - 148	0	25
Chloroethane	ND		25.0	27.4		ug/L		110	68 - 130	23	25
Chloroform	ND		25.0	25.9		ug/L		104	70 - 130	2	20
Chloromethane	ND		25.0	24.3		ug/L		97	39 - 144	19	25
cis-1,3-Dichloropropene	ND		25.0	34.0	LM	ug/L		136	70 - 133	0	20
Bromodichloromethane	ND		25.0	30.7		ug/L		123	70 - 138	3	20
Ethylbenzene	ND		25.0	28.9		ug/L		116	70 - 130	0	20
Methylene Chloride	ND		25.0	26.4		ug/L		106	52 - 130	16	20
Tetrachloroethene	ND		25.0	27.6		ug/L		110	70 - 137	0	20
Toluene	ND		25.0	28.3		ug/L		113	70 - 130	2	20
trans-1,2-Dichloroethene	ND		25.0	28.4		ug/L		114	70 - 130	15	20
trans-1,3-Dichloropropene	ND		25.0	33.0		ug/L		132	70 - 138	1	25
Trichlorofluoromethane	ND		25.0	31.8		ug/L		127	60 - 150	0	25
Vinyl chloride	ND		25.0	26.4		ug/L		106	50 - 137	10	30
Trichloroethene	ND		25.0	28.3		ug/L		113	70 - 130	1	20
Naphthalene	ND		25.0	28.0		ug/L		112	60 - 140	4	30
Ethyl tert-butyl ether	ND		25.0	27.4		ug/L		110	70 - 130	7	25
Xylenes, Total	ND		75.0	87.7		ug/L		117	70 - 133	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*76 - 132*
Toluene-d8 (Surr)	*113*		*80 - 128*

Method: 625 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-166462/1-A
Matrix: Water
Analysis Batch: 168395

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 166462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
Acenaphthylene	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
Anthracene	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
Benzidine	ND		10.0	5.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
Benzo[a]anthracene	ND		5.00	2.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
Benzo[b]fluoranthene	ND		2.00	1.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
Benzo[k]fluoranthene	ND		0.500	0.250	ug/L		03/04/14 12:12	03/11/14 23:23	1
Benzo[a]pyrene	ND		2.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
Bis(2-chloroethoxy)methane	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
Bis(2-chloroethyl)ether	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
Bis(2-ethylhexyl) phthalate	ND		5.00	2.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
4-Bromophenyl phenyl ether	ND		1.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
Butyl benzyl phthalate	ND		5.00	2.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
4-Chloro-3-methylphenol	ND		2.00	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
2-Chloronaphthalene	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-166462/1-A
Matrix: Water
Analysis Batch: 168395

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 166462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	ND		1.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
4-Chlorophenyl phenyl ether	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
Chrysene	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
Dibenz(a,h)anthracene	ND		0.500	0.250	ug/L		03/04/14 12:12	03/11/14 23:23	1
Di-n-butyl phthalate	ND		2.00	1.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
1,2-Dichlorobenzene	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
1,3-Dichlorobenzene	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
1,4-Dichlorobenzene	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
3,3'-Dichlorobenzidine	ND		5.00	2.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
2,4-Dichlorophenol	ND		2.00	1.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
Diethyl phthalate	ND		1.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
2,4-Dimethylphenol	ND		2.00	1.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
Dimethyl phthalate	ND		0.500	0.250	ug/L		03/04/14 12:12	03/11/14 23:23	1
4,6-Dinitro-2-methylphenol	ND		5.00	2.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
2,4-Dinitrophenol	ND		5.00	2.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
2,4-Dinitrotoluene	ND		5.00	2.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
2,6-Dinitrotoluene	ND		5.00	2.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
Di-n-octyl phthalate	ND		5.00	2.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
Fluoranthene	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
Fluorene	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
Hexachlorobenzene	ND		1.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
Hexachlorobutadiene	ND		2.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
Hexachloroethane	ND		3.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
Hexachlorocyclopentadiene	ND		5.00	2.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
Indeno[1,2,3-cd]pyrene	ND		2.00	1.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
Isophorone	ND		1.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
Naphthalene	ND		1.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
Nitrobenzene	ND		1.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
2-Nitrophenol	ND		2.00	1.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
4-Nitrophenol	ND		5.00	2.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
N-Nitrosodimethylamine	ND		2.00	1.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
N-Nitrosodiphenylamine	ND		1.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
N-Nitrosodi-n-propylamine	ND		2.00	1.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
Pentachlorophenol	ND		2.00	1.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
Phenanthrene	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
Phenol	ND		1.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
Pyrene	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1
1,2,4-Trichlorobenzene	ND		1.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
2,4,6-Trichlorophenol	ND		1.00	0.500	ug/L		03/04/14 12:12	03/11/14 23:23	1
Benzo[g,h,i]perylene	ND		5.00	2.00	ug/L		03/04/14 12:12	03/11/14 23:23	1
bis (2-chloroisopropyl) ether	ND		0.500	0.200	ug/L		03/04/14 12:12	03/11/14 23:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*50 - 120*	*03/04/14 12:12*	*03/11/14 23:23*	*1*
2-Fluorophenol	*61*		*30 - 120*	*03/04/14 12:12*	*03/11/14 23:23*	*1*
2,4,6-Tribromophenol	*74*		*40 - 120*	*03/04/14 12:12*	*03/11/14 23:23*	*1*

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-166462/1-A
Matrix: Water
Analysis Batch: 168395

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 166462

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	64		45 - 120	03/04/14 12:12	03/11/14 23:23	1
Terphenyl-d14	96		37 - 144	03/04/14 12:12	03/11/14 23:23	1
Phenol-d6	69		35 - 120	03/04/14 12:12	03/11/14 23:23	1

Lab Sample ID: LCS 440-166462/2-A
Matrix: Water
Analysis Batch: 168395

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 166462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	10.0	7.866		ug/L		79	47 - 145
Acenaphthylene	10.0	8.448		ug/L		84	33 - 145
Anthracene	10.0	8.657		ug/L		87	27 - 133
Benzidine	10.0	ND		ug/L		34	20 - 168
Benzo[a]anthracene	10.0	9.189		ug/L		92	33 - 143
Benzo[b]fluoranthene	10.0	8.296		ug/L		83	24 - 159
Benzo[k]fluoranthene	10.0	8.389		ug/L		84	11 - 162
Benzo[a]pyrene	10.0	8.478		ug/L		85	17 - 163
Bis(2-chloroethoxy)methane	10.0	8.360		ug/L		84	33 - 184
Bis(2-chloroethyl)ether	10.0	7.211		ug/L		72	12 - 158
Bis(2-ethylhexyl) phthalate	10.0	8.670		ug/L		87	8 - 158
4-Bromophenyl phenyl ether	10.0	8.504		ug/L		85	53 - 127
Butyl benzyl phthalate	10.0	9.057		ug/L		91	10 - 152
4-Chloro-3-methylphenol	10.0	8.916		ug/L		89	22 - 147
2-Chloronaphthalene	10.0	7.146		ug/L		71	52 - 126
2-Chlorophenol	10.0	7.262		ug/L		73	23 - 134
4-Chlorophenyl phenyl ether	10.0	7.865		ug/L		79	25 - 158
Chrysene	10.0	8.357		ug/L		84	17 - 168
Dibenz(a,h)anthracene	10.0	8.719		ug/L		87	10 - 227
Di-n-butyl phthalate	10.0	9.608		ug/L		96	1 - 118
1,2-Dichlorobenzene	10.0	6.331		ug/L		63	32 - 129
1,3-Dichlorobenzene	10.0	6.097		ug/L		61	10 - 172
1,4-Dichlorobenzene	10.0	6.223		ug/L		62	20 - 124
3,3'-Dichlorobenzidine	10.0	6.630		ug/L		66	10 - 262
2,4-Dichlorophenol	10.0	8.036		ug/L		80	39 - 135
Diethyl phthalate	10.0	9.085		ug/L		91	10 - 114
2,4-Dimethylphenol	10.0	7.996		ug/L		80	32 - 119
Dimethyl phthalate	10.0	8.631		ug/L		86	10 - 112
4,6-Dinitro-2-methylphenol	10.0	8.615		ug/L		86	10 - 181
2,4-Dinitrophenol	10.0	7.779		ug/L		78	10 - 191
2,4-Dinitrotoluene	10.0	8.670		ug/L		87	39 - 139
2,6-Dinitrotoluene	10.0	8.500		ug/L		85	50 - 158
Di-n-octyl phthalate	10.0	9.972		ug/L		100	4 - 146
1,2-Diphenylhydrazine(as Azobenzene)	10.0	8.487		ug/L		85	59 - 124
Fluoranthene	10.0	8.962		ug/L		90	26 - 137
Fluorene	10.0	8.353		ug/L		84	59 - 121
Hexachlorobenzene	10.0	7.948		ug/L		79	10 - 152
Hexachlorobutadiene	10.0	5.761		ug/L		58	24 - 116

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-166462/2-A
Matrix: Water
Analysis Batch: 168395

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 166462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachloroethane	10.0	5.710		ug/L		57	33 - 75
Hexachlorocyclopentadiene	10.0	3.701	J,DX	ug/L		37	10 - 70
Indeno[1,2,3-cd]pyrene	10.0	9.222		ug/L		92	10 - 171
Isophorone	10.0	8.457		ug/L		85	21 - 196
Naphthalene	10.0	7.038		ug/L		70	21 - 133
Nitrobenzene	10.0	7.459		ug/L		75	35 - 180
2-Nitrophenol	10.0	7.304		ug/L		73	29 - 182
4-Nitrophenol	10.0	8.059		ug/L		81	10 - 132
N-Nitrosodimethylamine	10.0	7.777		ug/L		78	46 - 104
N-Nitrosodiphenylamine	10.0	8.647		ug/L		86	57 - 106
N-Nitrosodi-n-propylamine	10.0	8.189		ug/L		82	10 - 230
Pentachlorophenol	10.0	9.792		ug/L		98	14 - 176
Phenanthrene	10.0	8.490		ug/L		85	54 - 120
Phenol	10.0	7.736		ug/L		77	5 - 112
Pyrene	10.0	9.378		ug/L		94	52 - 115
1,2,4-Trichlorobenzene	10.0	6.409		ug/L		64	44 - 142
2,4,6-Trichlorophenol	10.0	8.332		ug/L		83	37 - 144
Benzo[g,h,i]perylene	10.0	9.024		ug/L		90	10 - 219
bis (2-chloroisopropyl) ether	10.0	7.114		ug/L		71	36 - 166

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*74*		*50 - 120*
2-Fluorophenol	*71*		*30 - 120*
2,4,6-Tribromophenol	*88*		*40 - 120*
Nitrobenzene-d5	*74*		*45 - 120*
Terphenyl-d14	*91*		*37 - 144*
Phenol-d6	*75*		*35 - 120*

Lab Sample ID: LCSD 440-166462/3-A
Matrix: Water
Analysis Batch: 168395

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 166462

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	10.0	6.872		ug/L		69	47 - 145	13	20
Acenaphthylene	10.0	7.449		ug/L		74	33 - 145	13	20
Anthracene	10.0	7.982		ug/L		80	27 - 133	8	20
Benzidine	10.0	ND		ug/L		45	20 - 168	27	35
Benzo[a]anthracene	10.0	8.458		ug/L		85	33 - 143	8	20
Benzo[b]fluoranthene	10.0	7.994		ug/L		80	24 - 159	4	25
Benzo[k]fluoranthene	10.0	8.062		ug/L		81	11 - 162	4	20
Benzo[a]pyrene	10.0	7.972		ug/L		80	17 - 163	6	25
Bis(2-chloroethoxy)methane	10.0	7.752		ug/L		78	33 - 184	8	20
Bis(2-chloroethyl)ether	10.0	6.201		ug/L		62	12 - 158	15	20
Bis(2-ethylhexyl) phthalate	10.0	8.193		ug/L		82	8 - 158	6	20
4-Bromophenyl phenyl ether	10.0	7.680		ug/L		77	53 - 127	10	25
Butyl benzyl phthalate	10.0	8.526		ug/L		85	10 - 152	6	20
4-Chloro-3-methylphenol	10.0	7.605		ug/L		76	22 - 147	16	25
2-Chloronaphthalene	10.0	6.154		ug/L		62	52 - 126	15	20

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-166462/3-A
Matrix: Water
Analysis Batch: 168395

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 166462

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Chlorophenol			10.0	6.298		ug/L		63	23 - 134	14	25
4-Chlorophenyl phenyl ether			10.0	7.076		ug/L		71	25 - 158	11	20
Chrysene			10.0	7.369		ug/L		74	17 - 168	13	20
Dibenz(a,h)anthracene			10.0	6.752		ug/L		68	10 - 227	25	25
Di-n-butyl phthalate			10.0	9.032		ug/L		90	1 - 118	6	20
1,2-Dichlorobenzene			10.0	5.360		ug/L		54	32 - 129	17	25
1,3-Dichlorobenzene			10.0	5.215		ug/L		52	10 - 172	16	25
1,4-Dichlorobenzene			10.0	5.287		ug/L		53	20 - 124	16	25
3,3'-Dichlorobenzidine			10.0	4.788	J,DX BA	ug/L		48	10 - 262	32	25
2,4-Dichlorophenol			10.0	7.122		ug/L		71	39 - 135	12	20
Diethyl phthalate			10.0	8.433		ug/L		84	10 - 114	7	30
2,4-Dimethylphenol			10.0	6.925		ug/L		69	32 - 119	14	25
Dimethyl phthalate			10.0	7.860		ug/L		79	10 - 112	9	30
4,6-Dinitro-2-methylphenol			10.0	7.157		ug/L		72	10 - 181	18	25
2,4-Dinitrophenol			10.0	7.483		ug/L		75	10 - 191	4	25
2,4-Dinitrotoluene			10.0	7.962		ug/L		80	39 - 139	9	20
2,6-Dinitrotoluene			10.0	7.806		ug/L		78	50 - 158	9	20
Di-n-octyl phthalate			10.0	8.907		ug/L		89	4 - 146	11	20
1,2-Diphenylhydrazine(as Azobenzene)			10.0	7.691		ug/L		77	59 - 124	10	25
Fluoranthene			10.0	8.739		ug/L		87	26 - 137	3	20
Fluorene			10.0	7.455		ug/L		75	59 - 121	11	20
Hexachlorobenzene			10.0	7.133		ug/L		71	10 - 152	11	20
Hexachlorobutadiene			10.0	5.028		ug/L		50	24 - 116	14	25
Hexachloroethane			10.0	4.975		ug/L		50	33 - 75	14	25
Hexachlorocyclopentadiene			10.0	3.599	J,DX	ug/L		36	10 - 70	3	30
Indeno[1,2,3-cd]pyrene			10.0	7.354		ug/L		74	10 - 171	23	25
Isophorone			10.0	7.449		ug/L		74	21 - 196	13	20
Naphthalene			10.0	6.093		ug/L		61	21 - 133	14	20
Nitrobenzene			10.0	6.516		ug/L		65	35 - 180	13	25
2-Nitrophenol			10.0	6.529		ug/L		65	29 - 182	11	25
4-Nitrophenol			10.0	7.315		ug/L		73	10 - 132	10	30
N-Nitrosodimethylamine			10.0	6.677		ug/L		67	46 - 104	15	35
N-Nitrosodiphenylamine			10.0	7.514		ug/L		75	57 - 106	14	20
N-Nitrosodi-n-propylamine			10.0	7.335		ug/L		73	10 - 230	11	20
Pentachlorophenol			10.0	8.398		ug/L		84	14 - 176	15	25
Phenanthrene			10.0	7.818		ug/L		78	54 - 120	8	20
Phenol			10.0	6.949		ug/L		69	5 - 112	11	25
Pyrene			10.0	7.646		ug/L		76	52 - 115	20	25
1,2,4-Trichlorobenzene			10.0	5.568		ug/L		56	44 - 142	14	20
2,4,6-Trichlorophenol			10.0	7.084		ug/L		71	37 - 144	16	30
Benzo[g,h,i]perylene			10.0	7.052		ug/L		71	10 - 219	25	25
bis (2-chloroisopropyl) ether			10.0	6.173		ug/L		62	36 - 166	14	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*65*		*50 - 120*
2-Fluorophenol	*62*		*30 - 120*
2,4,6-Tribromophenol	*80*		*40 - 120*

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-166462/3-A
Matrix: Water
Analysis Batch: 168395

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 166462

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Nitrobenzene-d5	*67*		*45 - 120*
Terphenyl-d14	*78*		*37 - 144*
Phenol-d6	*67*		*35 - 120*

Method: 608 PCB LL - Polychlorinated Biphenyls (PCBs) Low level

Lab Sample ID: MB 440-166337/1-A
Matrix: Water
Analysis Batch: 167229

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 166337

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.50	0.25	ug/L		03/04/14 06:40	03/06/14 16:10	1
Aroclor 1221	ND		0.50	0.25	ug/L		03/04/14 06:40	03/06/14 16:10	1
Aroclor 1232	ND		0.50	0.25	ug/L		03/04/14 06:40	03/06/14 16:10	1
Aroclor 1242	ND		0.50	0.25	ug/L		03/04/14 06:40	03/06/14 16:10	1
Aroclor 1248	ND		0.50	0.25	ug/L		03/04/14 06:40	03/06/14 16:10	1
Aroclor 1254	ND		0.50	0.25	ug/L		03/04/14 06:40	03/06/14 16:10	1
Aroclor 1260	ND		0.50	0.25	ug/L		03/04/14 06:40	03/06/14 16:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*107*		*45 - 120*	*03/04/14 06:40*	*03/06/14 16:10*	*1*

Lab Sample ID: LCS 440-166337/6-A
Matrix: Water
Analysis Batch: 167229

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 166337

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor 1016			2.00	1.70		ug/L		85	50 - 115		
Aroclor 1260			2.00	1.85		ug/L		93	60 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*112*		*45 - 120*

Lab Sample ID: LCSD 440-166337/7-A
Matrix: Water
Analysis Batch: 167229

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 166337

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016			2.00	1.75		ug/L		88	50 - 115	3	30
Aroclor 1260			2.00	1.85		ug/L		93	60 - 120	0	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*111*		*45 - 120*

Method: 608 Pesticides - Organochlorine Pesticides Low level

Lab Sample ID: MB 440-166337/1-A
Matrix: Water
Analysis Batch: 166771

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 166337

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0050	0.0015	ug/L		03/04/14 06:40	03/05/14 16:46	1
alpha-BHC	ND		0.0050	0.0025	ug/L		03/04/14 06:40	03/05/14 16:46	1
beta-BHC	ND		0.010	0.0040	ug/L		03/04/14 06:40	03/05/14 16:46	1
Chlordane (technical)	ND		0.10	0.080	ug/L		03/04/14 06:40	03/05/14 16:46	1
delta-BHC	ND		0.0050	0.0035	ug/L		03/04/14 06:40	03/05/14 16:46	1
Dieldrin	ND		0.0050	0.0020	ug/L		03/04/14 06:40	03/05/14 16:46	1
Endosulfan I	ND		0.0050	0.0030	ug/L		03/04/14 06:40	03/05/14 16:46	1
Endosulfan II	ND		0.0050	0.0020	ug/L		03/04/14 06:40	03/05/14 16:46	1
Endosulfan sulfate	ND		0.010	0.0030	ug/L		03/04/14 06:40	03/05/14 16:46	1
Endrin	ND		0.0050	0.0020	ug/L		03/04/14 06:40	03/05/14 16:46	1
Endrin aldehyde	ND		0.010	0.0020	ug/L		03/04/14 06:40	03/05/14 16:46	1
gamma-BHC (Lindane)	ND		0.010	0.0030	ug/L		03/04/14 06:40	03/05/14 16:46	1
Heptachlor	ND		0.010	0.0030	ug/L		03/04/14 06:40	03/05/14 16:46	1
Heptachlor epoxide	ND		0.0050	0.0025	ug/L		03/04/14 06:40	03/05/14 16:46	1
Toxaphene	ND		0.50	0.25	ug/L		03/04/14 06:40	03/05/14 16:46	1
4,4'-DDD	ND		0.0050	0.0040	ug/L		03/04/14 06:40	03/05/14 16:46	1
4,4'-DDE	ND		0.0050	0.0030	ug/L		03/04/14 06:40	03/05/14 16:46	1
4,4'-DDT	ND		0.010	0.0040	ug/L		03/04/14 06:40	03/05/14 16:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*73*		*35 - 115*	*03/04/14 06:40*	*03/05/14 16:46*	*1*

Lab Sample ID: LCS 440-166337/2-A
Matrix: Water
Analysis Batch: 166771

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 166337

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.250	0.148		ug/L		59	40 - 115
alpha-BHC	0.250	0.170		ug/L		68	45 - 115
beta-BHC	0.250	0.158		ug/L		63	55 - 115
delta-BHC	0.250	0.196		ug/L		78	55 - 115
Dieldrin	0.250	0.187		ug/L		75	55 - 115
Endosulfan I	0.250	0.181		ug/L		72	55 - 115
Endosulfan II	0.250	0.190		ug/L		76	55 - 120
Endosulfan sulfate	0.250	0.194		ug/L		78	60 - 120
Endrin	0.250	0.193		ug/L		77	55 - 115
Endrin aldehyde	0.250	0.208		ug/L		83	50 - 120
gamma-BHC (Lindane)	0.250	0.168		ug/L		67	45 - 115
Heptachlor	0.250	0.176		ug/L		70	45 - 115
Heptachlor epoxide	0.250	0.179		ug/L		72	55 - 115
4,4'-DDD	0.250	0.188		ug/L		75	55 - 120
4,4'-DDE	0.250	0.180		ug/L		72	50 - 120
4,4'-DDT	0.250	0.206		ug/L		83	55 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*70*		*35 - 115*

Method: 608 Pesticides - Organochlorine Pesticides Low level (Continued)

Lab Sample ID: LCSD 440-166337/3-A
Matrix: Water
Analysis Batch: 166771

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 166337

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin			0.250	0.126		ug/L		51	40 - 115	16	30
alpha-BHC			0.250	0.139		ug/L		56	45 - 115	20	30
beta-BHC			0.250	0.149		ug/L		60	55 - 115	6	30
delta-BHC			0.250	0.184		ug/L		73	55 - 115	6	30
Dieldrin			0.250	0.177		ug/L		71	55 - 115	5	30
Endosulfan I			0.250	0.169		ug/L		68	55 - 115	7	30
Endosulfan II			0.250	0.184		ug/L		74	55 - 120	3	30
Endosulfan sulfate			0.250	0.191		ug/L		76	60 - 120	2	30
Endrin			0.250	0.183		ug/L		73	55 - 115	5	30
Endrin aldehyde			0.250	0.203		ug/L		81	50 - 120	3	30
gamma-BHC (Lindane)			0.250	0.145		ug/L		58	45 - 115	14	30
Heptachlor			0.250	0.150		ug/L		60	45 - 115	16	30
Heptachlor epoxide			0.250	0.166		ug/L		66	55 - 115	8	30
4,4'-DDD			0.250	0.182		ug/L		73	55 - 120	3	30
4,4'-DDE			0.250	0.172		ug/L		69	50 - 120	5	30
4,4'-DDT			0.250	0.203		ug/L		81	55 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*54*		*35 - 115*

Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 280-216000/1-A
Matrix: Water
Analysis Batch: 216330

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 216000

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorpyrifos	ND		1.5	0.36	ug/L		03/07/14 17:38	03/12/14 04:52	1
Diazinon	ND		0.50	0.15	ug/L		03/07/14 17:38	03/12/14 04:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Chlormefos	*73*		*49 - 171*	*03/07/14 17:38*	*03/12/14 04:52*	*1*
Triphenylphosphate	*94*		*60 - 154*	*03/07/14 17:38*	*03/12/14 04:52*	*1*

Lab Sample ID: LCS 280-216000/2-A
Matrix: Water
Analysis Batch: 216330

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 216000

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorpyrifos			4.00	3.30		ug/L		83	35 - 124
Diazinon			4.00	3.52		ug/L		88	46 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Chlormefos	*87*		*49 - 171*
Triphenylphosphate	*106*		*60 - 154*

Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCSD 280-216000/3-A
Matrix: Water
Analysis Batch: 216330

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 216000

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorpyrifos			4.00	3.37		ug/L		84	35 - 124	2	34
Diazinon			4.00	3.46		ug/L		87	46 - 115	2	40

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Chlormefos	*85*		*49 - 171*
Triphenylphosphate	*98*		*60 - 154*

Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

Lab Sample ID: MB 440-165606/3
Matrix: Water
Analysis Batch: 165606

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		1.0	0.25	ug/L			02/28/14 06:26	1

Lab Sample ID: LCS 440-165606/2
Matrix: Water
Analysis Batch: 165606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			50.0	50.3		ug/L		101	90 - 110		

Lab Sample ID: MRL 440-165606/4
Matrix: Water
Analysis Batch: 165606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent			1.00	1.13		ug/L		113	50 - 150		

Lab Sample ID: 440-71405-A-3 MS
Matrix: Water
Analysis Batch: 165606

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	760		500	1110	LN	ug/L		70	90 - 110		

Lab Sample ID: 440-71405-A-3 MSD
Matrix: Water
Analysis Batch: 165606

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	760		500	1180	LN	ug/L		84	90 - 110	6	10

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-165941/4
Matrix: Water
Analysis Batch: 165941

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		150	70	mg/L			03/01/14 11:09	1

Lab Sample ID: MB 440-166203/4
Matrix: Water
Analysis Batch: 166203

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			03/03/14 17:15	1
Sulfate	ND		0.50	0.25	mg/L			03/03/14 17:15	1

Lab Sample ID: LCS 440-166203/2
Matrix: Water
Analysis Batch: 166203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.65		mg/L		93	90 - 110
Sulfate	5.00	4.54		mg/L		91	90 - 110

Lab Sample ID: 440-71579-C-1 MS
Matrix: Water
Analysis Batch: 166203

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	6.4		5.00	10.5		mg/L		82	80 - 120
Sulfate	5.6		5.00	9.78		mg/L		84	80 - 120

Lab Sample ID: 440-71579-C-1 MSD
Matrix: Water
Analysis Batch: 166203

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	6.4		5.00	10.7		mg/L		86	80 - 120	2	20
Sulfate	5.6		5.00	9.98		mg/L		88	80 - 120	2	20

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-168453/3
Matrix: Water
Analysis Batch: 168453

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	0.95	ug/L			03/12/14 09:17	1

Lab Sample ID: LCS 440-168453/6
Matrix: Water
Analysis Batch: 168453

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	25.0	28.5		ug/L		114	85 - 115

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 440-168453/5
Matrix: Water
Analysis Batch: 168453

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.04		ug/L		101	75 - 125

Lab Sample ID: 440-72320-M-3 MS
Matrix: Water
Analysis Batch: 168453

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	ND		25.0	24.8		ug/L		99	80 - 120

Lab Sample ID: 440-72320-M-3 MSD
Matrix: Water
Analysis Batch: 168453

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		25.0	24.3		ug/L		97	80 - 120	2	20

Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B)

Lab Sample ID: H4C060000015B
Matrix: Water
Analysis Batch: 4065015

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 4065015_P

Analyte	MB Result	MB Qualifier	ML	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000100	0.00000470	ug/L		03/06/14 10:00	03/14/14 23:44	1
Total TCDD	ND		0.0000100	0.00000470	ug/L		03/06/14 10:00	03/14/14 23:44	1
1,2,3,7,8-PeCDD	ND		0.0000500	0.00000226	ug/L		03/06/14 10:00	03/14/14 23:44	1
Total PeCDD	ND		0.0000500	0.00000226	ug/L		03/06/14 10:00	03/14/14 23:44	1
1,2,3,4,7,8-HxCDD	ND		0.0000500	0.00000167	ug/L		03/06/14 10:00	03/14/14 23:44	1
1,2,3,6,7,8-HxCDD	ND		0.0000500	0.00000194	ug/L		03/06/14 10:00	03/14/14 23:44	1
1,2,3,7,8,9-HxCDD	ND		0.0000500	0.00000167	ug/L		03/06/14 10:00	03/14/14 23:44	1
Total HxCDD	ND		0.0000500	0.00000167	ug/L		03/06/14 10:00	03/14/14 23:44	1
1,2,3,4,6,7,8-HpCDD	ND		0.0000500	0.00000300	ug/L		03/06/14 10:00	03/14/14 23:44	1
Total HpCDD	ND		0.0000500	0.00000300	ug/L		03/06/14 10:00	03/14/14 23:44	1
OCDD	0.00000722	Q J	0.000100	0.00000221	ug/L		03/06/14 10:00	03/14/14 23:44	1
2,3,7,8-TCDF	ND		0.0000100	0.00000345	ug/L		03/06/14 10:00	03/14/14 23:44	1
Total TCDF	ND		0.0000100	0.00000345	ug/L		03/06/14 10:00	03/14/14 23:44	1
1,2,3,7,8-PeCDF	ND		0.0000500	0.00000211	ug/L		03/06/14 10:00	03/14/14 23:44	1
2,3,4,7,8-PeCDF	ND		0.0000500	0.00000189	ug/L		03/06/14 10:00	03/14/14 23:44	1
Total PeCDF	ND		0.0000500	0.00000189	ug/L		03/06/14 10:00	03/14/14 23:44	1
1,2,3,4,7,8-HxCDF	ND		0.0000500	0.000000940	ug/L		03/06/14 10:00	03/14/14 23:44	1
1,2,3,6,7,8-HxCDF	ND		0.0000500	0.000000910	ug/L		03/06/14 10:00	03/14/14 23:44	1
2,3,4,6,7,8-HxCDF	ND		0.0000500	0.000000870	ug/L		03/06/14 10:00	03/14/14 23:44	1
1,2,3,7,8,9-HxCDF	ND		0.0000500	0.000000980	ug/L		03/06/14 10:00	03/14/14 23:44	1
Total HxCDF	ND		0.0000500	0.000000870	ug/L		03/06/14 10:00	03/14/14 23:44	1
1,2,3,4,6,7,8-HpCDF	ND		0.0000500	0.00000156	ug/L		03/06/14 10:00	03/14/14 23:44	1
1,2,3,4,7,8,9-HpCDF	ND		0.0000500	0.00000224	ug/L		03/06/14 10:00	03/14/14 23:44	1
Total HpCDF	ND		0.0000500	0.00000156	ug/L		03/06/14 10:00	03/14/14 23:44	1
OCDF	ND		0.000100	0.00000287	ug/L		03/06/14 10:00	03/14/14 23:44	1

Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B) (Continued)

Lab Sample ID: H4C060000015B
Matrix: Water
Analysis Batch: 4065015

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 4065015_P

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	100		35 - 197	03/06/14 10:00	03/14/14 23:44	1

Internal Standard	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	85		25 - 164	03/06/14 10:00	03/14/14 23:44	1
13C-1,2,3,7,8-PeCDD	96		25 - 181	03/06/14 10:00	03/14/14 23:44	1
13C-1,2,3,4,7,8-HxCDD	93		32 - 141	03/06/14 10:00	03/14/14 23:44	1
13C-1,2,3,6,7,8-HxCDD	89		28 - 130	03/06/14 10:00	03/14/14 23:44	1
13C-1,2,3,4,6,7,8-HpCDD	87		23 - 140	03/06/14 10:00	03/14/14 23:44	1
13C-OCDD	82		17 - 157	03/06/14 10:00	03/14/14 23:44	1
13C-2,3,7,8-TCDF	81		24 - 169	03/06/14 10:00	03/14/14 23:44	1
13C-1,2,3,7,8-PeCDF	90		24 - 185	03/06/14 10:00	03/14/14 23:44	1
13C-2,3,4,7,8-PeCDF	79		21 - 178	03/06/14 10:00	03/14/14 23:44	1
13C-1,2,3,4,7,8-HxCDF	81		26 - 152	03/06/14 10:00	03/14/14 23:44	1
13C-1,2,3,6,7,8-HxCDF	79		26 - 123	03/06/14 10:00	03/14/14 23:44	1
13C-2,3,4,6,7,8-HxCDF	81		28 - 136	03/06/14 10:00	03/14/14 23:44	1
13C-1,2,3,7,8,9-HxCDF	90		29 - 147	03/06/14 10:00	03/14/14 23:44	1
13C-1,2,3,4,6,7,8-HpCDF	82		28 - 143	03/06/14 10:00	03/14/14 23:44	1
13C-1,2,3,4,7,8,9-HpCDF	77		26 - 138	03/06/14 10:00	03/14/14 23:44	1
13C-OCDF	77		17 - 157	03/06/14 10:00	03/14/14 23:44	1

Lab Sample ID: H4C060000015C
Matrix: Water
Analysis Batch: 4065015

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 4065015_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			0.000200	0.000195		ug/L		97	67 - 158		
1,2,3,7,8-PeCDD			0.00100	0.000993		ug/L		99	70 - 142		
1,2,3,4,7,8-HxCDD			0.00100	0.000933		ug/L		93	70 - 164		
1,2,3,6,7,8-HxCDD			0.00100	0.000955		ug/L		96	76 - 134		
1,2,3,7,8,9-HxCDD			0.00100	0.000941		ug/L		94	64 - 162		
1,2,3,4,6,7,8-HpCDD			0.00100	0.000911		ug/L		91	70 - 140		
OCDD			0.00200	0.00184	B	ug/L		92	78 - 144		
2,3,7,8-TCDF			0.000200	0.000203		ug/L		102	75 - 158		
1,2,3,7,8-PeCDF			0.00100	0.000934		ug/L		93	80 - 134		
2,3,4,7,8-PeCDF			0.00100	0.000934		ug/L		93	68 - 160		
1,2,3,4,7,8-HxCDF			0.00100	0.000929		ug/L		93	72 - 134		
1,2,3,6,7,8-HxCDF			0.00100	0.000945		ug/L		94	84 - 130		
2,3,4,6,7,8-HxCDF			0.00100	0.000947		ug/L		95	70 - 156		
1,2,3,7,8,9-HxCDF			0.00100	0.000955		ug/L		95	78 - 130		
1,2,3,4,6,7,8-HpCDF			0.00100	0.000916		ug/L		92	82 - 122		
1,2,3,4,7,8,9-HpCDF			0.00100	0.000907		ug/L		91	78 - 138		
OCDF			0.00200	0.00184		ug/L		92	63 - 170		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	103		31 - 191

Method: 1613B - Dioxins/Furans, HRGC/HRMS (1613B) (Continued)

Lab Sample ID: H4C060000015C
Matrix: Water
Analysis Batch: 4065015

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 4065015_P

Internal Standard	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	86		20 - 175
13C-1,2,3,7,8-PeCDD	101		21 - 227
13C-1,2,3,4,7,8-HxCDD	92		21 - 193
13C-1,2,3,6,7,8-HxCDD	84		25 - 163
13C-1,2,3,4,6,7,8-HpCDD	95		26 - 166
13C-OCDD	97		13 - 199
13C-2,3,7,8-TCDF	84		22 - 152
13C-1,2,3,7,8-PeCDF	96		21 - 192
13C-2,3,4,7,8-PeCDF	89		13 - 328
13C-1,2,3,4,7,8-HxCDF	83		19 - 202
13C-1,2,3,6,7,8-HxCDF	82		21 - 159
13C-2,3,4,6,7,8-HxCDF	84		22 - 176
13C-1,2,3,7,8,9-HxCDF	86		17 - 205
13C-1,2,3,4,6,7,8-HpCDF	86		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	80		20 - 186
13C-OCDF	86		13 - 199

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-168494/1-A
Matrix: Water
Analysis Batch: 168689

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 168494

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		50	25	ug/L		03/12/14 10:13	03/12/14 17:48	1
Arsenic	ND		10	7.0	ug/L		03/12/14 10:13	03/12/14 17:48	1
Boron	ND		0.050	0.025	mg/L		03/12/14 10:13	03/12/14 17:48	1
Beryllium	ND		2.0	0.90	ug/L		03/12/14 10:13	03/12/14 17:48	1
Chromium	ND		5.0	2.0	ug/L		03/12/14 10:13	03/12/14 17:48	1
Nickel	ND		10	2.0	ug/L		03/12/14 10:13	03/12/14 17:48	1
Vanadium	ND		10	3.0	ug/L		03/12/14 10:13	03/12/14 17:48	1
Zinc	9.65	J,DX	20	9.0	ug/L		03/12/14 10:13	03/12/14 17:48	1
Hardness, as CaCO3	ND		0.33	0.17	mg/L		03/12/14 10:13	03/12/14 17:48	1

Lab Sample ID: MB 440-168494/1-A
Matrix: Water
Analysis Batch: 168941

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 168494

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.040	0.020	mg/L		03/12/14 10:13	03/13/14 14:55	1

Lab Sample ID: LCS 440-168494/2-A
Matrix: Water
Analysis Batch: 168689

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 168494

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	500	493		ug/L		99	85 - 115
Arsenic	500	498		ug/L		100	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-168494/2-A
Matrix: Water
Analysis Batch: 168689

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 168494

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.500	0.488		mg/L		98	85 - 115
Beryllium	500	513		ug/L		103	85 - 115
Chromium	500	497		ug/L		99	85 - 115
Nickel	500	534		ug/L		107	85 - 115
Vanadium	500	517		ug/L		103	85 - 115
Zinc	500	503		ug/L		101	85 - 115

Lab Sample ID: LCS 440-168494/2-A
Matrix: Water
Analysis Batch: 168941

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 168494

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.500	0.516		mg/L		103	85 - 115

Lab Sample ID: 440-71648-1 MS
Matrix: Water
Analysis Batch: 168689

Client Sample ID: Outfall 009_20140228_Comp
Prep Type: Total Recoverable
Prep Batch: 168494

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	4400		500	6450	BB	ug/L		409	70 - 130
Arsenic	ND		500	501		ug/L		100	70 - 130
Boron	0.044	J,DX	0.500	0.537		mg/L		99	70 - 130
Beryllium	ND		500	519		ug/L		104	70 - 130
Chromium	7.9		500	503		ug/L		99	70 - 130
Nickel	7.3	J,DX	500	538		ug/L		106	70 - 130
Vanadium	13		500	526		ug/L		103	70 - 130
Zinc	50	MB	500	537		ug/L		97	70 - 130

Lab Sample ID: 440-71648-1 MS
Matrix: Water
Analysis Batch: 168941

Client Sample ID: Outfall 009_20140228_Comp
Prep Type: Total Recoverable
Prep Batch: 168494

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	6.2		0.500	6.49	BB	mg/L		57	70 - 130

Lab Sample ID: 440-71648-1 MSD
Matrix: Water
Analysis Batch: 168689

Client Sample ID: Outfall 009_20140228_Comp
Prep Type: Total Recoverable
Prep Batch: 168494

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	4400		500	5550	BB	ug/L		230	70 - 130	15	20
Arsenic	ND		500	495		ug/L		99	70 - 130	1	20
Boron	0.044	J,DX	0.500	0.539		mg/L		99	70 - 130	0	20
Beryllium	ND		500	513		ug/L		103	70 - 130	1	20
Chromium	7.9		500	508		ug/L		100	70 - 130	1	20
Nickel	7.3	J,DX	500	531		ug/L		105	70 - 130	1	20
Vanadium	13		500	530		ug/L		104	70 - 130	1	20
Zinc	50	MB	500	539		ug/L		98	70 - 130	0	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 440-71648-1 MSD — **Client Sample ID: Outfall 009_20140228_Comp**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 168941 — **Prep Batch: 168494**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	6.2		0.500	5.58	BB	mg/L		-124	70 - 130	15	20

Lab Sample ID: MB 440-166031/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 168091 — **Prep Batch: 167768**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		50	25	ug/L		03/10/14 09:25	03/10/14 22:55	1
Arsenic	ND		10	7.0	ug/L		03/10/14 09:25	03/10/14 22:55	1
Boron	ND		0.050	0.025	mg/L		03/10/14 09:25	03/10/14 22:55	1
Beryllium	ND		2.0	0.90	ug/L		03/10/14 09:25	03/10/14 22:55	1
Chromium	ND		5.0	2.0	ug/L		03/10/14 09:25	03/10/14 22:55	1
Iron	ND		0.040	0.020	mg/L		03/10/14 09:25	03/10/14 22:55	1
Nickel	ND		10	2.0	ug/L		03/10/14 09:25	03/10/14 22:55	1
Vanadium	ND		10	3.0	ug/L		03/10/14 09:25	03/10/14 22:55	1
Zinc	16.4	J,DX	20	9.0	ug/L		03/10/14 09:25	03/10/14 22:55	1
Hardness, as CaCO3	0.176	J,DX	0.33	0.17	mg/L		03/10/14 09:25	03/10/14 22:55	1

Lab Sample ID: LCS 440-166031/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 168091 — **Prep Batch: 167768**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	500	444		ug/L		89	85 - 115
Arsenic	500	491		ug/L		98	85 - 115
Boron	0.500	0.469		mg/L		94	85 - 115
Beryllium	500	487		ug/L		97	85 - 115
Chromium	500	479		ug/L		96	85 - 115
Iron	0.500	0.490		mg/L		98	85 - 115
Nickel	500	471		ug/L		94	85 - 115
Vanadium	500	493		ug/L		99	85 - 115
Zinc	500	487		ug/L		97	85 - 115

Lab Sample ID: 440-71673-F-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 168091 — **Prep Batch: 167768**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	57	QP	500	541		ug/L		97	70 - 130
Arsenic	ND	QP	500	511		ug/L		102	70 - 130
Boron	0.065	QP	0.500	0.556		mg/L		98	70 - 130
Beryllium	ND	QP	500	508		ug/L		102	70 - 130
Chromium	ND	QP	500	496		ug/L		99	70 - 130
Iron	0.066	QP	0.500	0.568		mg/L		100	70 - 130
Nickel	2.4	J,DX QP	500	482		ug/L		96	70 - 130
Vanadium	ND	QP	500	515		ug/L		103	70 - 130
Zinc	10	J,DX MB	500	504		ug/L		99	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 440-71673-F-1-D MSD
Matrix: Water
Analysis Batch: 168091

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 167768

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	57	QP	500	554		ug/L		99	70 - 130	2	20
Arsenic	ND	QP	500	518		ug/L		104	70 - 130	1	20
Boron	0.065	QP	0.500	0.561		mg/L		99	70 - 130	1	20
Beryllium	ND	QP	500	518		ug/L		104	70 - 130	2	20
Chromium	ND	QP	500	500		ug/L		100	70 - 130	1	20
Iron	0.066	QP	0.500	0.580		mg/L		103	70 - 130	2	20
Nickel	2.4	J,DX QP	500	489		ug/L		97	70 - 130	1	20
Vanadium	ND	QP	500	521		ug/L		104	70 - 130	1	20
Zinc	10	J,DX MB	500	509		ug/L		100	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-168548/1-A
Matrix: Water
Analysis Batch: 168765

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 168548

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		03/12/14 12:34	03/12/14 17:45	1
Copper	ND		2.0	0.50	ug/L		03/12/14 12:34	03/12/14 17:45	1
Lead	ND		1.0	0.50	ug/L		03/12/14 12:34	03/12/14 17:45	1
Antimony	ND		2.0	0.50	ug/L		03/12/14 12:34	03/12/14 17:45	1
Selenium	ND		2.0	0.50	ug/L		03/12/14 12:34	03/12/14 17:45	1
Thallium	ND		1.0	0.50	ug/L		03/12/14 12:34	03/12/14 17:45	1
Silver	ND		1.0	0.50	ug/L		03/12/14 12:34	03/12/14 17:45	1

Lab Sample ID: LCS 440-168548/2-A
Matrix: Water
Analysis Batch: 168765

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 168548

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	81.2		ug/L		102	85 - 115
Copper	80.0	80.2		ug/L		100	85 - 115
Lead	80.0	84.5		ug/L		106	85 - 115
Antimony	80.0	82.0		ug/L		103	85 - 115
Selenium	80.0	81.3		ug/L		102	85 - 115
Thallium	80.0	82.6		ug/L		103	85 - 115
Silver	80.0	80.4		ug/L		100	85 - 115

Lab Sample ID: 440-71648-1 MS
Matrix: Water
Analysis Batch: 168765

Client Sample ID: Outfall 009_20140228_Comp
Prep Type: Total Recoverable
Prep Batch: 168548

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		80.0	80.9		ug/L		101	70 - 130
Copper	8.2		80.0	84.5		ug/L		95	70 - 130
Lead	9.6		80.0	92.5		ug/L		104	70 - 130
Antimony	0.70	J,DX	80.0	77.1		ug/L		96	70 - 130
Selenium	ND		80.0	78.4		ug/L		98	70 - 130

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 440-71648-1 MS
Matrix: Water
Analysis Batch: 168765

Client Sample ID: Outfall 009_20140228_Comp
Prep Type: Total Recoverable
Prep Batch: 168548

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	ND		80.0	81.8		ug/L		102	70 - 130
Silver	ND		80.0	80.7		ug/L		101	70 - 130

Lab Sample ID: 440-71648-1 MSD
Matrix: Water
Analysis Batch: 168765

Client Sample ID: Outfall 009_20140228_Comp
Prep Type: Total Recoverable
Prep Batch: 168548

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		80.0	77.9		ug/L		97	70 - 130	4	20
Copper	8.2		80.0	84.4		ug/L		95	70 - 130	0	20
Lead	9.6		80.0	91.7		ug/L		103	70 - 130	1	20
Antimony	0.70	J,DX	80.0	71.4		ug/L		88	70 - 130	8	20
Selenium	ND		80.0	77.5		ug/L		97	70 - 130	1	20
Thallium	ND		80.0	81.3		ug/L		102	70 - 130	1	20
Silver	ND		80.0	78.2		ug/L		98	70 - 130	3	20

Lab Sample ID: MB 440-166031/1-C
Matrix: Water
Analysis Batch: 168114

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 167775

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.25	ug/L		03/10/14 09:45	03/10/14 21:34	1
Copper	ND		2.0	0.50	ug/L		03/10/14 09:45	03/10/14 21:34	1
Lead	ND		1.0	0.50	ug/L		03/10/14 09:45	03/10/14 21:34	1
Antimony	ND		2.0	0.50	ug/L		03/10/14 09:45	03/10/14 21:34	1
Selenium	ND		2.0	0.50	ug/L		03/10/14 09:45	03/10/14 21:34	1
Thallium	ND		1.0	0.50	ug/L		03/10/14 09:45	03/10/14 21:34	1
Silver	ND		1.0	0.50	ug/L		03/10/14 09:45	03/10/14 21:34	1

Lab Sample ID: LCS 440-166031/2-C
Matrix: Water
Analysis Batch: 168114

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 167775

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	80.0	74.8		ug/L		94	85 - 115
Copper	80.0	79.5		ug/L		99	85 - 115
Lead	80.0	77.2		ug/L		97	85 - 115
Antimony	80.0	78.0		ug/L		98	85 - 115
Selenium	80.0	80.7		ug/L		101	85 - 115
Thallium	80.0	76.2		ug/L		95	85 - 115
Silver	80.0	81.2		ug/L		102	85 - 115

Lab Sample ID: 440-71553-O-1-D MS
Matrix: Water
Analysis Batch: 168114

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 167775

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND	QP	80.0	76.0		ug/L		95	70 - 130
Copper	3.6		80.0	84.2		ug/L		101	70 - 130

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 440-71553-O-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 168114 — **Prep Batch: 167775**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND	QP	80.0	78.2		ug/L		98	70 - 130
Antimony	ND	QP	80.0	79.7		ug/L		100	70 - 130
Selenium	ND		80.0	81.0		ug/L		101	70 - 130
Thallium	ND	QP	80.0	77.3		ug/L		97	70 - 130
Silver	ND	QP	80.0	80.4		ug/L		101	70 - 130

Lab Sample ID: 440-71553-O-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 168114 — **Prep Batch: 167775**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND	QP	80.0	74.9		ug/L		94	70 - 130	1	20
Copper	3.6		80.0	82.2		ug/L		98	70 - 130	2	20
Lead	ND	QP	80.0	78.1		ug/L		98	70 - 130	0	20
Antimony	ND	QP	80.0	79.0		ug/L		99	70 - 130	1	20
Selenium	ND		80.0	80.4		ug/L		100	70 - 130	1	20
Thallium	ND	QP	80.0	78.0		ug/L		97	70 - 130	1	20
Silver	ND	QP	80.0	80.4		ug/L		100	70 - 130	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 440-168770/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 169065 — **Prep Batch: 168770**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		03/13/14 08:13	03/13/14 16:42	1

Lab Sample ID: LCS 440-168770/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 169065 — **Prep Batch: 168770**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	8.00	8.28		ug/L		104	85 - 115

Lab Sample ID: 440-71648-1 MS — **Client Sample ID: Outfall 009_20140228_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 169065 — **Prep Batch: 168770**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		8.00	8.24		ug/L		103	70 - 130

Lab Sample ID: 440-71648-1 MSD — **Client Sample ID: Outfall 009_20140228_Comp**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 169065 — **Prep Batch: 168770**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		8.00	8.46		ug/L		106	70 - 130	3	20

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: MB 440-166031/1-E — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 168953 — **Prep Batch: 168757**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.10	ug/L		03/13/14 07:36	03/13/14 15:11	1

Lab Sample ID: LCS 440-166031/2-E — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 168953 — **Prep Batch: 168757**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	8.00	8.29		ug/L		104	85 - 115

Lab Sample ID: 440-71648-1 MS — **Client Sample ID: Outfall 009_20140228_Comp**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 168953 — **Prep Batch: 168757**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	QP	8.00	7.67		ug/L		96	70 - 130

Lab Sample ID: 440-71648-1 MSD — **Client Sample ID: Outfall 009_20140228_Comp**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 168953 — **Prep Batch: 168757**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	QP	8.00	8.12		ug/L		102	70 - 130	6	20

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 440-168817/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 168833 — **Prep Batch: 168817**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.0	1.4	mg/L		03/13/14 10:13	03/13/14 10:47	1

Lab Sample ID: LCS 440-168817/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 168833 — **Prep Batch: 168817**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	20.0	16.6		mg/L		83	78 - 114

Lab Sample ID: LCSD 440-168817/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 168833 — **Prep Batch: 168817**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	20.0	16.1		mg/L		80	78 - 114	3	11

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-167190/1
Matrix: Water
Analysis Batch: 167190

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			03/06/14 15:35	1

Lab Sample ID: LCS 440-167190/2
Matrix: Water
Analysis Batch: 167190

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	958		mg/L		96	90 - 110

Lab Sample ID: 440-72002-A-1 DU
Matrix: Water
Analysis Batch: 167190

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1700		1650		mg/L		0.5	5

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-167473/2
Matrix: Water
Analysis Batch: 167473

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.50	mg/L			03/07/14 14:15	1

Lab Sample ID: LCS 440-167473/1
Matrix: Water
Analysis Batch: 167473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	1000	1030		mg/L		103	85 - 115

Lab Sample ID: 440-71648-1 DU
Matrix: Water
Analysis Batch: 167473

Client Sample ID: Outfall 009_20140228_Comp
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	120		126		mg/L		7	10

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 440-166911/1-A
Matrix: Water
Analysis Batch: 166965

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 166911

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	3.0	ug/L		03/05/14 16:59	03/05/14 22:04	1

Method: SM 4500 CN E - Cyanide, Total (Low Level) (Continued)

Lab Sample ID: LCS 440-166911/2-A
Matrix: Water
Analysis Batch: 166965

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 166911

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	100	101		ug/L		101	90 - 110

Lab Sample ID: 440-71837-L-5-B MS
Matrix: Water
Analysis Batch: 166965

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 166911

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND		100	97.4		ug/L		97	70 - 115

Lab Sample ID: 440-71837-L-5-C MSD
Matrix: Water
Analysis Batch: 166965

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 166911

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		100	96.1		ug/L		96	70 - 115	1	15

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 440-167873/10
Matrix: Water
Analysis Batch: 167873

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.020	mg/L			03/10/14 10:56	1

Lab Sample ID: LCS 440-167873/9
Matrix: Water
Analysis Batch: 167873

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.995	0.939		mg/L		94	90 - 110

Lab Sample ID: 440-71565-D-5 MS
Matrix: Water
Analysis Batch: 167873

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.31		1.00	1.37		mg/L		106	80 - 120

Lab Sample ID: 440-71565-D-5 MSD
Matrix: Water
Analysis Batch: 167873

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.31		1.00	1.37		mg/L		106	80 - 120	0	20

Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

Lab Sample ID: MB 160-109795/1-A
Matrix: Water
Analysis Batch: 110776

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 109795

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.7193	U	0.882	0.886	1.46	pCi/L	03/11/14 12:28	03/16/14 20:17	1
Gross Beta	-0.07036	U	0.523	0.523	0.934	pCi/L	03/11/14 12:28	03/16/14 20:17	1

Lab Sample ID: LCS 160-109795/2-A
Matrix: Water
Analysis Batch: 110776

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 109795

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.1	56.17		7.90	1.58	pCi/L	112	75 - 125

Lab Sample ID: LCSB 160-109795/3-A
Matrix: Water
Analysis Batch: 110776

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 109795

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	97.8	99.03		10.4	0.906	pCi/L	101	75 - 125

Lab Sample ID: 440-71432-P-1-J MS
Matrix: Water
Analysis Batch: 110776

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 109795

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	0.735	U	50.1	56.38		7.70	1.16	pCi/L	112	35 - 150

Lab Sample ID: 440-71432-P-1-K MSBT
Matrix: Water
Analysis Batch: 110776

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 109795

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	1.87		97.8	101.9		10.7	0.863	pCi/L	102	89 - 143

Lab Sample ID: 440-71432-P-1-I DU
Matrix: Water
Analysis Batch: 110776

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 109795

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	MDC	Unit	RER	RER Limit
Gross Alpha	0.735	U	1.226	U	0.896	1.27	pCi/L	0.29	1
Gross Beta	1.87		1.799		0.668	0.844	pCi/L	0.05	1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-108350/1-A
Matrix: Water
Analysis Batch: 108749

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 108350

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.3382	U	6.82	6.82	13.1	pCi/L	03/04/14 15:31	03/05/14 19:17	1
Potassium-40	-46.42	U	206	206	242	pCi/L	03/04/14 15:31	03/05/14 19:17	1

Lab Sample ID: LCS 160-108350/2-A
Matrix: Water
Analysis Batch: 108751

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 108350

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Americium-241	137000	136200		15700	469	pCi/L	99	90 - 111
Cesium-137	50300	50870		5050	174	pCi/L	101	90 - 111
Cobalt-60	58600	58100		5730	88.8	pCi/L	99	89 - 110

Lab Sample ID: 440-71432-P-1-D DU
Matrix: Water
Analysis Batch: 108757

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 108350

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	MDC	Unit	RER	RER Limit
Cesium-137	-0.785	U	2.559	U	5.71	9.99	pCi/L	0.28	1
Potassium-40	-58.4	U	-90.57	U	429	228	pCi/L	0.04	1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-108343/1-A
Matrix: Water
Analysis Batch: 112760

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 108343

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.01807	U	0.0276	0.0276	0.0476	pCi/L	03/04/14 14:21	03/26/14 06:48	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*107*		*40 - 110*	*03/04/14 14:21*	*03/26/14 06:48*	*1*

Lab Sample ID: LCS 160-108343/2-A
Matrix: Water
Analysis Batch: 112760

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 108343

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.2	10.45		1.01	0.0622	pCi/L	93	68 - 137

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*

Method: 903.0 - Radium-226 (GFPC) (Continued)

Lab Sample ID: 440-71553-A-3-J DU
Matrix: Water
Analysis Batch: 112760

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 108343

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	MDC	Unit	RER	RER Limit
Radium-226	0.0759		0.04733	U	0.0422	0.0647	pCi/L	0.34	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*105*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-108344/1-A
Matrix: Water
Analysis Batch: 110545

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 108344

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.02881	U	0.162	0.162	0.287	pCi/L	03/04/14 14:31	03/14/14 10:56	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*107*		*40 - 110*	*03/04/14 14:31*	*03/14/14 10:56*	*1*
Y Carrier	*86.3*		*40 - 110*	*03/04/14 14:31*	*03/14/14 10:56*	*1*

Lab Sample ID: LCS 160-108344/2-A
Matrix: Water
Analysis Batch: 110545

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 108344

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Radium-228	3.94	3.581		0.510	0.305	pCi/L	91	56 - 140

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*106*		*40 - 110*
Y Carrier	*86.3*		*40 - 110*

Lab Sample ID: 440-71553-A-3-K DU
Matrix: Water
Analysis Batch: 110545

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 108344

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	MDC	Unit	RER	RER Limit
Radium-228	0.224	U	0.5199		0.237	0.337	pCi/L	0.68	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*105*		*40 - 110*
Y Carrier	*89.2*		*40 - 110*

Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-108916/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110775 — **Prep Batch: 108916**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.2009	U	0.159	0.160	0.252	pCi/L	03/06/14 12:43	03/17/14 15:52	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*91.1*		*40 - 110*	*03/06/14 12:43*	*03/17/14 15:52*	*1*
Y Carrier	*90.4*		*40 - 110*	*03/06/14 12:43*	*03/17/14 15:52*	*1*

Lab Sample ID: LCS 160-108916/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110775 — **Prep Batch: 108916**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Strontium-90			9.12	9.942		0.987		0.263	pCi/L	109	90 - 134		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*92.4*		*40 - 110*
Y Carrier	*86.7*		*40 - 110*

Lab Sample ID: 440-71553-A-3-G DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110775 — **Prep Batch: 108916**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)		MDC	Unit			RER	RER Limit
Strontium-90	0.0228	U		-0.07515	U	0.141		0.266	pCi/L			0.32	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Sr Carrier	*88.5*		*40 - 110*
Y Carrier	*93.6*		*40 - 110*

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-111474/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 111974 — **Prep Batch: 111474**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	86.04	U	160	160	276	pCi/L	03/19/14 07:01	03/20/14 16:04	1

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: LCS 160-111474/2-A
Matrix: Water
Analysis Batch: 111974

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 111474

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Tritium			3600	3543		524		279	pCi/L	98	74 - 114		

Lab Sample ID: 440-71553-Y-1-B MS
Matrix: Water
Analysis Batch: 111974

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 111474

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Tritium	6.31	U	3600	3709		537		276	pCi/L	103	67 - 130		

Lab Sample ID: 440-71648-1 DU
Matrix: Water
Analysis Batch: 111974

Client Sample ID: Outfall 009_20140228_Comp
Prep Type: Total/NA
Prep Batch: 111474

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)		MDC	Unit			RER	RER Limit
Tritium	11.7	U		27.93	U	150		273	pCi/L			0.05	1

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-109757/1-A
Matrix: Water
Analysis Batch: 109997

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 109757

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	-0.04656	U	0.168	0.168	0.269	pCi/L	03/11/14 09:43	03/12/14 17:40	1

Lab Sample ID: LCS 160-109757/2-A
Matrix: Water
Analysis Batch: 110043

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 109757

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Uranium-234			12.7	13.83		1.62		0.261	pCi/L	109	84 - 120		
Uranium-238			13.0	13.09		1.55		0.202	pCi/L	101	83 - 121		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Uranium-232	*80.6*		*30 - 110*

Lab Sample ID: 440-71432-P-1-G DU
Matrix: Water
Analysis Batch: 110056

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 109757

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)		MDC	Unit			RER	RER Limit
Total Uranium	0.116	U		0.01477	U	0.1538		0.251	pCi/L			0.36	1

GC/MS VOA

Analysis Batch: 165919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71366-D-1 MS	Matrix Spike	Total/NA	Water	624	
440-71366-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	624	
440-71418-1	Outfall009_20140228_Grab	Total/NA	Water	624	
440-71418-2	TB-20140228	Total/NA	Water	624	
LCS 440-165919/5	Lab Control Sample	Total/NA	Water	624	
MB 440-165919/4	Method Blank	Total/NA	Water	624	

Analysis Batch: 166328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71418-1	Outfall009_20140228_Grab	Total/NA	Water	624	
440-71418-1 MS	Outfall009_20140228_Grab	Total/NA	Water	624	
440-71418-1 MSD	Outfall009_20140228_Grab	Total/NA	Water	624	
440-71418-2	TB-20140228	Total/NA	Water	624	
LCS 440-166328/4	Lab Control Sample	Total/NA	Water	624	
MB 440-166328/3	Method Blank	Total/NA	Water	624	

GC/MS Semi VOA

Prep Batch: 166462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	625	
LCS 440-166462/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 440-166462/3-A	Lab Control Sample Dup	Total/NA	Water	625	
MB 440-166462/1-A	Method Blank	Total/NA	Water	625	

Analysis Batch: 168395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	625	166462
LCS 440-166462/2-A	Lab Control Sample	Total/NA	Water	625	166462
LCSD 440-166462/3-A	Lab Control Sample Dup	Total/NA	Water	625	166462
MB 440-166462/1-A	Method Blank	Total/NA	Water	625	166462

GC Semi VOA

Prep Batch: 166337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	608	
LCS 440-166337/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 440-166337/6-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 440-166337/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 440-166337/7-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 440-166337/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 166771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	608 Pesticides	166337
LCS 440-166337/2-A	Lab Control Sample	Total/NA	Water	608 Pesticides	166337
LCSD 440-166337/3-A	Lab Control Sample Dup	Total/NA	Water	608 Pesticides	166337
MB 440-166337/1-A	Method Blank	Total/NA	Water	608 Pesticides	166337

GC Semi VOA (Continued)

Analysis Batch: 167229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	608 PCB LL	166337
LCS 440-166337/6-A	Lab Control Sample	Total/NA	Water	608 PCB LL	166337
LCSD 440-166337/7-A	Lab Control Sample Dup	Total/NA	Water	608 PCB LL	166337
MB 440-166337/1-A	Method Blank	Total/NA	Water	608 PCB LL	166337

Prep Batch: 216000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	3510C	
LCS 280-216000/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 280-216000/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 280-216000/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 216330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	8141A	216000
LCS 280-216000/2-A	Lab Control Sample	Total/NA	Water	8141A	216000
LCSD 280-216000/3-A	Lab Control Sample Dup	Total/NA	Water	8141A	216000
MB 280-216000/1-A	Method Blank	Total/NA	Water	8141A	216000

HPLC/IC

Analysis Batch: 165606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71405-A-3 MS	Matrix Spike	Total/NA	Water	218.6	
440-71405-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	
440-71418-1	Outfall009_20140228_Grab	Total/NA	Water	218.6	
LCS 440-165606/2	Lab Control Sample	Total/NA	Water	218.6	
MB 440-165606/3	Method Blank	Total/NA	Water	218.6	
MRL 440-165606/4	Lab Control Sample	Total/NA	Water	218.6	

Analysis Batch: 165941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	300.0	
440-71648-1 MS	Outfall 009_20140228_Comp	Total/NA	Water	300.0	
440-71648-1 MSD	Outfall 009_20140228_Comp	Total/NA	Water	300.0	
LCS 440-165941/2	Lab Control Sample	Total/NA	Water	300.0	
MB 440-165941/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 166203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71579-C-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-71579-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	300.0	
LCS 440-166203/2	Lab Control Sample	Total/NA	Water	300.0	
MB 440-166203/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 168453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	314.0	
440-72320-M-3 MS	Matrix Spike	Total/NA	Water	314.0	

HPLC/IC (Continued)

Analysis Batch: 168453 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-72320-M-3 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	
LCS 440-168453/6	Lab Control Sample	Total/NA	Water	314.0	
MB 440-168453/3	Method Blank	Total/NA	Water	314.0	
MRL 440-168453/5	Lab Control Sample	Total/NA	Water	314.0	

Specialty Organics

Analysis Batch: 4065015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total	Water	1613B	
H4C060000015B	Method Blank	Total	Water	1613B	
H4C060000015C	Lab Control Sample	Total	Water	1613B	

Prep Batch: 4065015_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total	Water	1613	
H4C060000015B	Method Blank	Total	Water	1613	
H4C060000015C	Lab Control Sample	Total	Water	1613	

Metals

Filtration Batch: 166031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71553-O-1-D MS	Matrix Spike	Dissolved	Water	FILTRATION	
440-71553-O-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
440-71648-1	Outfall 009_20140228_Comp	Dissolved	Water	FILTRATION	
440-71648-1 MS	Outfall 009_20140228_Comp	Dissolved	Water	FILTRATION	
440-71648-1 MSD	Outfall 009_20140228_Comp	Dissolved	Water	FILTRATION	
440-71673-F-1-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
440-71673-F-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
LCS 440-166031/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-166031/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-166031/2-E	Lab Control Sample	Dissolved	Water	FILTRATION	
MB 440-166031/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-166031/1-C	Method Blank	Dissolved	Water	FILTRATION	
MB 440-166031/1-E	Method Blank	Dissolved	Water	FILTRATION	

Prep Batch: 167768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Dissolved	Water	200.2	166031
440-71673-F-1-C MS	Matrix Spike	Dissolved	Water	200.2	166031
440-71673-F-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	166031
LCS 440-166031/2-B	Lab Control Sample	Dissolved	Water	200.2	166031
MB 440-166031/1-B	Method Blank	Dissolved	Water	200.2	166031

Prep Batch: 167775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71553-O-1-D MS	Matrix Spike	Dissolved	Water	200.2	166031
440-71553-O-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	166031
440-71648-1	Outfall 009_20140228_Comp	Dissolved	Water	200.2	166031

Metals (Continued)

Prep Batch: 167775 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-166031/2-C	Lab Control Sample	Dissolved	Water	200.2	166031
MB 440-166031/1-C	Method Blank	Dissolved	Water	200.2	166031

Analysis Batch: 168091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Dissolved	Water	200.7 Rev 4.4	167768
440-71673-F-1-C MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	167768
440-71673-F-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	167768
LCS 440-166031/2-B	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	167768
MB 440-166031/1-B	Method Blank	Dissolved	Water	200.7 Rev 4.4	167768

Analysis Batch: 168114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71553-O-1-D MS	Matrix Spike	Dissolved	Water	200.8	167775
440-71553-O-1-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	167775
440-71648-1	Outfall 009_20140228_Comp	Dissolved	Water	200.8	167775
LCS 440-166031/2-C	Lab Control Sample	Dissolved	Water	200.8	167775
MB 440-166031/1-C	Method Blank	Dissolved	Water	200.8	167775

Prep Batch: 168494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total Recoverable	Water	200.2	
440-71648-1 MS	Outfall 009_20140228_Comp	Total Recoverable	Water	200.2	
440-71648-1 MSD	Outfall 009_20140228_Comp	Total Recoverable	Water	200.2	
LCS 440-168494/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-168494/1-A	Method Blank	Total Recoverable	Water	200.2	

Prep Batch: 168548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total Recoverable	Water	200.2	
440-71648-1 MS	Outfall 009_20140228_Comp	Total Recoverable	Water	200.2	
440-71648-1 MSD	Outfall 009_20140228_Comp	Total Recoverable	Water	200.2	
LCS 440-168548/2-A	Lab Control Sample	Total Recoverable	Water	200.2	
MB 440-168548/1-A	Method Blank	Total Recoverable	Water	200.2	

Analysis Batch: 168689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total Recoverable	Water	200.7 Rev 4.4	168494
440-71648-1 MS	Outfall 009_20140228_Comp	Total Recoverable	Water	200.7 Rev 4.4	168494
440-71648-1 MSD	Outfall 009_20140228_Comp	Total Recoverable	Water	200.7 Rev 4.4	168494
LCS 440-168494/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	168494
MB 440-168494/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	168494

Prep Batch: 168757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Dissolved	Water	245.1	166031
440-71648-1 MS	Outfall 009_20140228_Comp	Dissolved	Water	245.1	166031
440-71648-1 MSD	Outfall 009_20140228_Comp	Dissolved	Water	245.1	166031
LCS 440-166031/2-E	Lab Control Sample	Dissolved	Water	245.1	166031
MB 440-166031/1-E	Method Blank	Dissolved	Water	245.1	166031

Metals (Continued)

Analysis Batch: 168765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total Recoverable	Water	200.8	168548
440-71648-1 MS	Outfall 009_20140228_Comp	Total Recoverable	Water	200.8	168548
440-71648-1 MSD	Outfall 009_20140228_Comp	Total Recoverable	Water	200.8	168548
LCS 440-168548/2-A	Lab Control Sample	Total Recoverable	Water	200.8	168548
MB 440-168548/1-A	Method Blank	Total Recoverable	Water	200.8	168548

Prep Batch: 168770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	245.1	
440-71648-1 MS	Outfall 009_20140228_Comp	Total/NA	Water	245.1	
440-71648-1 MSD	Outfall 009_20140228_Comp	Total/NA	Water	245.1	
LCS 440-168770/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 440-168770/1-A	Method Blank	Total/NA	Water	245.1	

Analysis Batch: 168941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total Recoverable	Water	200.7 Rev 4.4	168494
440-71648-1 MS	Outfall 009_20140228_Comp	Total Recoverable	Water	200.7 Rev 4.4	168494
440-71648-1 MSD	Outfall 009_20140228_Comp	Total Recoverable	Water	200.7 Rev 4.4	168494
LCS 440-168494/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	168494
MB 440-168494/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	168494

Analysis Batch: 168953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Dissolved	Water	245.1	168757
440-71648-1 MS	Outfall 009_20140228_Comp	Dissolved	Water	245.1	168757
440-71648-1 MSD	Outfall 009_20140228_Comp	Dissolved	Water	245.1	168757
LCS 440-166031/2-E	Lab Control Sample	Dissolved	Water	245.1	168757
MB 440-166031/1-E	Method Blank	Dissolved	Water	245.1	168757

Analysis Batch: 169065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	245.1	168770
440-71648-1 MS	Outfall 009_20140228_Comp	Total/NA	Water	245.1	168770
440-71648-1 MSD	Outfall 009_20140228_Comp	Total/NA	Water	245.1	168770
LCS 440-168770/2-A	Lab Control Sample	Total/NA	Water	245.1	168770
MB 440-168770/1-A	Method Blank	Total/NA	Water	245.1	168770

General Chemistry

Prep Batch: 166911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	Distill/CN	
440-71837-L-5-B MS	Matrix Spike	Dissolved	Water	Distill/CN	
440-71837-L-5-C MSD	Matrix Spike Duplicate	Dissolved	Water	Distill/CN	
LCS 440-166911/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
MB 440-166911/1-A	Method Blank	Total/NA	Water	Distill/CN	

General Chemistry (Continued)

Analysis Batch: 166965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	SM 4500 CN E	166911
440-71837-L-5-B MS	Matrix Spike	Dissolved	Water	SM 4500 CN E	166911
440-71837-L-5-C MSD	Matrix Spike Duplicate	Dissolved	Water	SM 4500 CN E	166911
LCS 440-166911/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	166911
MB 440-166911/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	166911

Analysis Batch: 167190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	SM 2540C	
440-72002-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	
LCS 440-167190/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-167190/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 167473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	SM 2540D	
440-71648-1 DU	Outfall 009_20140228_Comp	Total/NA	Water	SM 2540D	
LCS 440-167473/1	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 440-167473/2	Method Blank	Total/NA	Water	SM 2540D	

Analysis Batch: 167873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71565-D-5 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
440-71565-D-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	SM 4500 F C	
LCS 440-167873/9	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 440-167873/10	Method Blank	Total/NA	Water	SM 4500 F C	

Prep Batch: 168817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71418-1	Outfall009_20140228_Grab	Total/NA	Water	1664A	
LCS 440-168817/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 440-168817/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
MB 440-168817/1-A	Method Blank	Total/NA	Water	1664A	

Analysis Batch: 168833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71418-1	Outfall009_20140228_Grab	Total/NA	Water	1664A	168817
LCS 440-168817/2-A	Lab Control Sample	Total/NA	Water	1664A	168817
LCSD 440-168817/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	168817
MB 440-168817/1-A	Method Blank	Total/NA	Water	1664A	168817

Rad

Prep Batch: 108343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71553-A-3-J DU	Duplicate	Total/NA	Water	PrecSep-21	
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	PrecSep-21	
LCS 160-108343/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
MB 160-108343/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Rad (Continued)

Prep Batch: 108344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71553-A-3-K DU	Duplicate	Total/NA	Water	PrecSep_0	
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	PrecSep_0	
LCS 160-108344/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
MB 160-108344/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 108350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71432-P-1-D DU	Duplicate	Total/NA	Water	Fill_Geo-0	
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	Fill_Geo-0	
LCS 160-108350/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
MB 160-108350/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	

Prep Batch: 108916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71553-A-3-G DU	Duplicate	Total/NA	Water	PrecSep-7	
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	PrecSep-7	
LCS 160-108916/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
MB 160-108916/1-A	Method Blank	Total/NA	Water	PrecSep-7	

Prep Batch: 109757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71432-P-1-G DU	Duplicate	Total/NA	Water	ExtChrom	
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	ExtChrom	
LCS 160-109757/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
MB 160-109757/1-A	Method Blank	Total/NA	Water	ExtChrom	

Prep Batch: 109795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71432-P-1-I DU	Duplicate	Total/NA	Water	Evaporation	
440-71432-P-1-J MS	Matrix Spike	Total/NA	Water	Evaporation	
440-71432-P-1-K MSBT	Matrix Spike	Total/NA	Water	Evaporation	
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	Evaporation	
LCS 160-109795/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-109795/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
MB 160-109795/1-A	Method Blank	Total/NA	Water	Evaporation	

Prep Batch: 111474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71553-Y-1-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
440-71648-1	Outfall 009_20140228_Comp	Total/NA	Water	LSC_Dist_Susp	
440-71648-1 DU	Outfall 009_20140228_Comp	Total/NA	Water	LSC_Dist_Susp	
LCS 160-111474/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
MB 160-111474/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	

Biology

Analysis Batch: 166533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71418-1	Outfall009_20140228_Grab	Total/NA	Water	SM 9221E	

Biology (Continued)

Analysis Batch: 166535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71418-1	Outfall009_20140228_Grab	Total/NA	Water	SM 9221F	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

GC/MS Semi VOA

Qualifier	Qualifier Description
BA	Relative percent difference out of control
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

HPLC/IC

Qualifier	Qualifier Description
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

DIOXIN

Qualifier	Qualifier Description
J	Estimated result. Result is less than the reporting limit.
Q	Estimated maximum possible concentration (EMPC).
B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Metals

Qualifier	Qualifier Description
QP	Holding time Immediate. Analyzed as close to receipt as possible
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
BB	Sample > 4X spike concentration

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-14
Arizona	State Program	9	AZ0671	10-13-14
California	LA Cty Sanitation Districts	9	10256	01-31-15
California	State Program	9	2706	06-30-14
Hawaii	State Program	9	N/A	01-29-15 *
Nevada	State Program	9	CA015312007A	07-31-14
New Mexico	State Program	6	N/A	01-29-15
Northern Mariana Islands	State Program	9	MP0002	01-31-14 *
Oregon	NELAP	10	4005	01-29-15
USDA	Federal		P330-09-00080	06-06-14
USEPA UCMR	Federal	1	CA01531	01-31-15

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-15
A2LA	ISO/IEC 17025		2907.01	10-31-15
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-15
Arizona	State Program	9	AZ0713	12-19-14
Arkansas DEQ	State Program	6	88-0687	06-01-14 *
California	State Program	9	2513	08-31-14
Colorado	State Program	8	N/A	09-30-14
Connecticut	State Program	1	PH-0686	09-30-14
Florida	NELAP	4	E87667	06-30-14 *
Georgia	State Program	4	N/A	06-30-14
Illinois	NELAP	5	200017	04-30-14 *
Iowa	State Program	7	370	12-01-14
Kansas	NELAP	7	E-10166	04-30-14 *
Louisiana	NELAP	6	30785	06-30-14 *
Maine	State Program	1	CO0002	03-03-15
Maryland	State Program	3	268	03-31-14
Minnesota	NELAP	5	8-999-405	12-31-14
Nevada	State Program	9	CO0026	07-31-14
New Hampshire	NELAP	1	205310	04-28-14 *
New Jersey	NELAP	2	CO004	06-30-14 *
New Mexico	State Program	6	CO00026	06-30-14
New York	NELAP	2	11964	03-31-15
North Carolina DENR	State Program	4	358	12-31-14
North Dakota	State Program	8	R-034	06-30-14
Oklahoma	State Program	6	8614	08-31-14
Oregon	NELAP	10	CO200001	01-09-15
Pennsylvania	NELAP	3	68-00664	07-30-14 *
South Carolina	State Program	4	72002001	06-30-14
Texas	NELAP	6	T104704183-13-8	10-01-14
USDA	Federal		P330-13-00202	07-02-16
Utah	NELAP	8	CO00026	07-31-14
Virginia	NELAP	3	460232	06-14-14
Washington	State Program	10	C583	08-03-14

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

Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-1

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-14
Wisconsin	State Program	5	999615430	08-31-14
Wyoming (UST)	A2LA	8	2907.01	10-31-15

Laboratory: TestAmerica Knoxville

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0688	06-17-14
California	State Program	9	2423	06-30-14
Colorado	State Program	8	N/A	02-28-15
Connecticut	State Program	1	PH-0223	09-30-15
Florida	NELAP	4	E87177	06-30-14
Georgia	State Program	4	906	06-13-14
Hawaii	State Program	9	N/A	04-13-14
Iowa	State Program	7	375	08-01-14
Kansas	NELAP	7	E-10349	10-31-14
Kentucky (DW)	State Program	4	90101	12-31-14
L-A-B	DoD ELAP		L2311	02-13-16
Louisiana	NELAP	6	83979	06-30-14
Louisiana	NELAP	6	LA110001	12-31-14
Maryland	State Program	3	277	03-31-14
Michigan	State Program	5	9933	04-13-14
Nevada	State Program	9	TN00009	07-31-14
New Jersey	NELAP	2	TN001	06-30-14
New York	NELAP	2	10781	04-01-14
North Carolina DENR	State Program	4	64	12-31-14
North Carolina DHHS	State Program	4	21705	07-31-14
Ohio VAP	State Program	5	CL0059	03-26-15
Oklahoma	State Program	6	9415	08-31-14
Pennsylvania	NELAP	3	68-00576	12-31-14
South Carolina	State Program	4	84001	06-30-14
Tennessee	State Program	4	2014	04-13-14
Texas	NELAP	6	T104704380-TX	08-31-14
USDA	Federal		P330-13-00260	08-29-16
Utah	NELAP	8	QUAN3	07-31-14
Virginia	NELAP	3	460176	09-14-14
Virginia	State Program	3	165	06-30-14
Washington	State Program	10	C593	01-19-15
West Virginia DEP	State Program	3	345	04-30-14
West Virginia DHHR	State Program	3	9955C	12-31-14
Wisconsin	State Program	5	998044300	08-31-14

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-14
California	NELAP	9	09266CA	03-31-14 *
Connecticut	State Program	1	PH-0241	03-31-15
Florida	NELAP	4	E87689	06-30-14

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

Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-1

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	200023	11-30-14
Iowa	State Program	7	373	12-01-14
Kansas	NELAP	7	E-10236	10-31-14
Kentucky (DW)	State Program	4	90125	12-31-14
L-A-B	DoD ELAP		L2305	01-10-16
Louisiana	NELAP	6	LA140007	12-31-14
Maryland	State Program	3	310	09-30-14
Missouri	State Program	7	780	06-30-14
Nevada	State Program	9	MO000542013-1	07-31-14
New Jersey	NELAP	2	MO002	06-30-14 *
New Mexico	State Program	6		06-30-10 *
New York	NELAP	2	11616	03-31-15
North Dakota	State Program	8	R207	06-30-14
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	2013-049	08-31-14
Pennsylvania	NELAP	3	68-00540	02-28-15
South Carolina	State Program	4	85002001	06-30-14
Texas	NELAP	6	T104704193-13-6	07-31-14
USDA	Federal		P330-07-00122	01-09-17
USEPA Reg V SDWA	Federal	1	WG-15J	08-30-14
Utah	NELAP	8	MO000542013-5	07-31-14
Virginia	NELAP	3	2236	06-14-14 *
Washington	State Program	10	C592	08-30-14
West Virginia DEP	State Program	3	381	08-30-14

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

EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (800) 220-3675/ 786-0262

http://www.emsl.com E-mail: MicrobiologyLab@emsl.com

Client:	TestAmerica - Irvine, CA 17461 Derian Avenue, Suite 100 Irvine, CA 92614	EMSL Order ID:	611400235
		Date Received:	3/5/2014
		Date Analyzed:	3/7/2014
Attn.	Debby Wilson	Date Reported:	3/10/2014
Project:	Boeing SSFL Outfall 009 Annual / Project# 44009879 / Job# 440-71418-1	Date Amended:	

Real-Time PCR Analysis for Human *Bacteroides*

Based on a published method SAM: 348 - 357, 2010), EMSL Test Code: M199, Revision No. 3, 04/18/2011

Lab Sample Number	Client Sample ID	Location	Amount Received	Amount Sampled	CEs /100 mL
0235-1	Outfall 009_2014 (440-71418-1)	N/A	150 mL Water	150 mL Water	None Detected

Note: The PCR primer is HF183 and the qPCR probe and primer was evaluated in 2010 by EPA scientists. The real-time PCR based on HF183 detects human specific bacteroides predominantly with minor cross-detections on chicken and dog fecal materials. CEs: Cell Equivalents, measured by PCR using genomic DNA standards.

Quanyi "Charlie" Li, Ph.D.
Director, DNA Analysis Laboratory

LABORATORY REPORT

Aquatic Testing Laboratories
"dedicated to providing quality aquatic toxicity testing"
4350 Transport Street, Unit 107
Ventura, CA 93003
(805) 650-0546 FAX (805) 650-0756
CA DOHS ELAP Cert. No.: 1775

Date: March 5, 2014

Client: Test America – Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Debby Wilson

Laboratory No.: A-14030103-001
Job No.: 440-71418-1
Sample ID.: 440-71418-1

Sample Control: The sample was received by ATL in a chilled state, within the recommended hold time and with the chain of custody record attached.

Date Sampled:	02/28/14
Date Received:	03/01/14
Temp. Received:	4.2°C
Chlorine (TRC):	0.0 mg/l
Date Tested:	03/01/14 to 03/05/14

Sample Analysis: The following analyses were performed on your sample:

Fathead Minnow 96hr Percent Survival Bioassay (EPA Method 2000.0).

Attached are the test data generated from the analysis of your sample. All testing was conducted under the direct supervision of Joseph A. LeMay. Daily test readings were taken by Joseph A. LeMay (initialed: JAL) and Jacob LeMay (initialed: J).

Result Summary:

Sample ID.	Results
440-71418-1	100% Survival (TUa = 0.0)

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

FATHEAD MINNOW PERCENT SURVIVAL TEST
EPA Method 2000.0

Aquatic Testing Laboratories

Lab No.: A-14030103-001
Client/ID: TestAmerica 440-71418-1 Outfall 009 **Start Date: 03/01/2014**

TEST SUMMARY

Species: *Pimephales promelas*.
Age: 12 (1-14) days.
Regulations: NPDES.
Test solution volume: 250 ml.
Feeding: prior to renewal at 48 hrs.
Number of replicates: 4.
Control water: Moderately hard reconstituted water.
Photoperiod: 16/8 hrs light/dark.

Source: In-laboratory Culture.
Test type: Static-Renewal.
Test Protocol: EPA-821-R-02-012.
Endpoints: Percent Survival at 96 hrs.
Test chamber: 600 ml beakers.
Temperature: 20 +/- 1°C.
Number of fish per chamber: 10.
QA/QC No.: RT-140301.

TEST DATA

		°C	DO	pH	# Dead A	# Dead B	# Dead C	# Dead D	Analyst & Time of Readings
INITIAL	Control	20.1	8.3	7.9	0	0	0	0	JZ 1415 3-1-14
	100%	20.1	8.4	8.0	0	0	0	0	
24 Hr	Control	19.9	8.0	8.0	0	0	0	0	JZ 1400 3-2-14
	100%	20.0	8.1	8.0	0	0	0	0	
48 Hr	Control	20.1	7.8	7.9	0	0	0	0	JZ 1345 3-3-14
	100%	20.0	7.8	7.9	0	0	0	0	
Renewal	Control	20.1	8.1	8.0	0	0	0	0	JZ 1345 3-3-14
	100%	20.1	8.1	8.0	0	0	0	0	
72 Hr	Control	20.2	8.0	7.9	0	0	0	0	JZ 1330 3-4-14
	100%	20.0	7.8	7.8	0	0	0	0	
96 Hr	Control	20.2	7.8	8.0	0	0	0	0	JZ 1330 3-5-14
	100%	20.3	7.6	8.1	0	0	0	0	

Comments:
Sample as received: Chlorine: 0.0 mg/l; pH: 8.1; Conductivity: 78.3 umho; Temp: 4.2°C;
DO: 10.9 mg/l; Alkalinity: 10 mg/l; Hardness: 35 mg/l; NH_3-N: 0.2 mg/l.
Sample aerated moderately (approx. 500 ml/min) to raise or lower DO? (Yes) / No.
Control: Alkalinity: 55 mg/l; Hardness: 91 mg/l; Conductivity: 275 umho.
Test solution aerated (not to exceed 100 bubbles/min) to maintain DO >4.0 mg/l? Yes / (No).
Sample used for renewal is the original sample kept at 0-6°C with minimal headspace.
Dissolved Oxygen (DO) readings in mg/l O_2.

RESULTS

Percent Survival In: Control: 100 % 100% Sample: 100 %

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Wilson, Debby S	Carrier Tracking No(s):	COC No: 440-30074.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: debby.wilson@testamericainc.com		Page: Page 1 of 1
Company: Aquatic Testing Laboratories		**Analysis Requested**		Job #: 440-71418-1
Address: 4350 Transport #107, ,	Due Date Requested: 3/12/2014			**Preservation Codes:**
City: Ventura	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify) **Other:**
State, Zip: CA, 93003				
Phone:	PO #:			
Email:	WO #:			
Project Name: Boeing SSFL Outfall 009 Annual	Project #: 44009879			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	SUB (Acute FH minnow, EPA/821-R02-012)/ Acute FH minnow, EPA/821-R02-012	Total Number of Containers	Special Instructions/Note:
			Preservation Code:					
Outfall 009_2014 (440-71418-1)	2/28/14	09:00 Pacific		Water		X		

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 3/1/14 0900	Company TAI	Received by: TESS DUNN
Relinquished by: TESS DUNN	Date/Time: 3-1-14 12:30	Company DCS	Received by:
Relinquished by:	Date/Time:	Company	Received by:

Date/Time: 3-1-14 9:30	Company DCS		
Date/Time: 3-1-14 12:30	Company ATL		
Date/Time:	Company		

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 4.2

5/8/2014

Aquatic Testing Laboratories

REFERENCE TOXICANT DATA

FATHEAD MINNOW ACUTE
Reference Toxicant - SDS

Aquatic Testing Laboratories

QA/QC Batch No.: RT-140301

TEST SUMMARY

Species: *Pimephales promelas.*
Age: 12 days old.
Regulations: NPDES.
Test chamber volume: 250 ml.
Feeding: Prior to renewal at 48 hrs.
Temperature: 20 +/- 1°C.
Number of replicates: 2.
Dilution water: MHSF.

Source: In-lab culture.
Test type: Static-Renewal.
Test Protocol: EPA-821-R-02-012.
Endpoints: LC50 at 96 hrs.
Test chamber: 600 ml beakers.
Aeration: None.
Number of organisms per chamber: 10.
Photoperiod: 16/8 hrs light/dark.

TEST DATA

	INITIAL			24 Hr					48 Hr				
Date/Time:	3-1-14 1130			3-2-14 1130					3-3-14 1130				
Analyst:													
	°C	DO	pH	°C	DO	pH	# Dead A	# Dead B	°C	DO	pH	# Dead A	# Dead B
Control	19.9	8.1	7.9	19.9	8.0	7.7	0	0	20.1	8.0	7.9	0	0
1.0 mg/l	19.8	8.2	7.9	19.8	8.0	8.0	0	0	20.0	8.0	7.9	0	0
2.0 mg/l	19.9	8.3	7.9	19.7	8.0	8.0	0	0	19.9	8.1	7.9	0	0
4.0 mg/l	19.9	8.1	7.9	19.8	8.1	8.0	0	0	19.9	8.3	7.9	1	1
8.0 mg/l	19.8	8.0	7.9	19.9	8.0	8.0	10	10	-	-	-	-	-
16.0 mg/l	19.8	8.1	7.9	19.8	8.0	7.9	10	10	-	-	-	-	-

	RENEWAL			72 Hr					96 Hr				
Date/Time:	3-3-14 1130			3-4-14 1145					3-5-14 1115				
Analyst:													
	°C	DO	pH	°C	DO	pH	# Dead A	# Dead B	°C	DO	pH	# Dead A	# Dead B
Control	20.1	8.3	8.0	20.2	7.6	7.8	0	0	20.4	7.1	7.8	0	0
1.0 mg/l	20.2	8.4	8.0	20.3	7.8	7.9	0	0	20.3	7.6	7.8	0	0
2.0 mg/l	20.1	8.3	8.0	20.1	8.0	7.9	0	0	20.2	8.0	7.8	0	0
4.0 mg/l	20.1	8.3	8.0	20.1	8.1	7.9	0	0	20.2	8.2	7.8	0	0
8.0 mg/l	-	-	-	-	-	-	-	-	-	-	-	-	-
16.0 mg/l	-	-	-	-	-	-	-	-	-	-	-	-	-

Comments: Control: Alkalinity: 56 mg/l; Hardness: 71 mg/l; Conductivity: 275 umho.
SDS: Alkalinity: 55 mg/l; Hardness: 93 mg/l; Conductivity: 268 umho.

Concentration-response relationship acceptable? (see attached computer analysis):
(Yes) (response curve normal)
No (dose interrupted indicated or non-normal)

Acute Fish Test-96 Hr Survival

Start Date:	3/1/2014 11:30	Test ID:	RT140301f	Sample ID:	REF-Ref Toxicant
End Date:	3/5/2014 11:15	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SDS-Sodium dodecyl sulfate
Sample Date:	3/1/2014	Protocol:	ACUTE-EPA-821-R-02-012	Test Species:	PP-Pimephales promelas
Comments:					

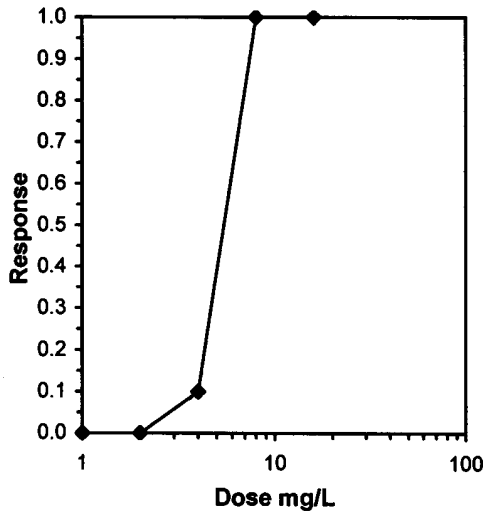
Conc-mg/L	1	2
D-Control	1.0000	1.0000
1	1.0000	1.0000
2	1.0000	1.0000
4	0.9000	0.9000
8	0.0000	0.0000
16	0.0000	0.0000

			Transform: Arcsin Square Root					Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
2	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
4	0.9000	0.9000	1.2490	1.2490	1.2490	0.000	2	2	20
8	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
16	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%	5.2780	4.8093	5.7924
5.0%	5.3968	4.8053	6.0611
10.0%	5.4432	5.1395	5.7648
20.0%	5.4432	5.1395	5.7648
Auto-0.0%	5.2780	4.8093	5.7924



TEST ORGANISM LOG

Aquatic Testing Laboratories

FATHEAD MINNOW - LARVAL
(Pimephales promelas)

QA/QC BATCH NO.: RT-140301

SOURCE: In-Lab Culture

DATE HATCHED: 2-17-14

APPROXIMATE QUANTITY: 400

GENERAL APPEARANCE: good

 # MORTALITIES 48 HOURS PRIOR TO TO USE IN TESTING: 0

DATE USED IN LAB: 3/1/14

AVERAGE FISH WEIGHT: 0.006 gm

LOADING LIMITS: 0.65 gm/liter @ 20°C, 0.40 gm/liter @ 25°C

Approximately 1000 fish per 10 liters limit if held overnight for acclimation without filtration @ 20°C for fish with a mean weight of 0.006 gm.

Approximately 650 fish per 10 liters limit if held overnight for acclimation without filtration @ 25°C for fish with a mean weight of 0.006 gm.

200 ml test solution volume = 0.013 gm mean fish weight limit @ 20°C; 0.008 @ 25°C
250 ml test solution volume = 0.016 gm mean fish weight limit @ 20°C; 0.010 @ 25°C

ACCLIMATION WATER QUALITY:

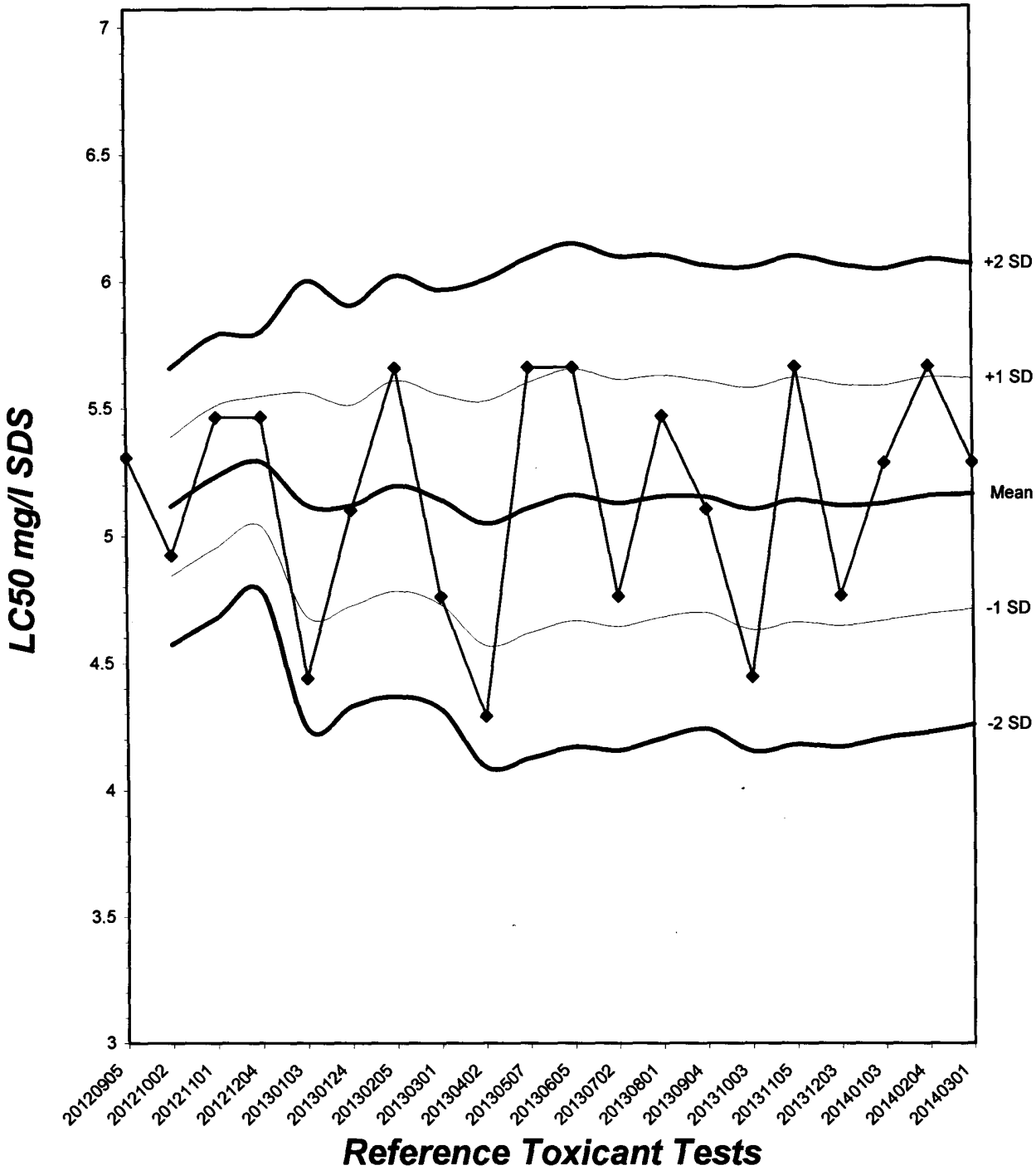
Temp.: 19.5 °C **pH:** 7.9 **Ammonia:** 0 mg/l NH_3-N

DO: 8.1 mg/l **Alkalinity:** 56 mg/l **Hardness:** 91 mg/l

READINGS RECORDED BY: _____ **DATE:** 3-1-14

Fathead Minnow Acute Laboratory Control Chart

CV% = 8.81



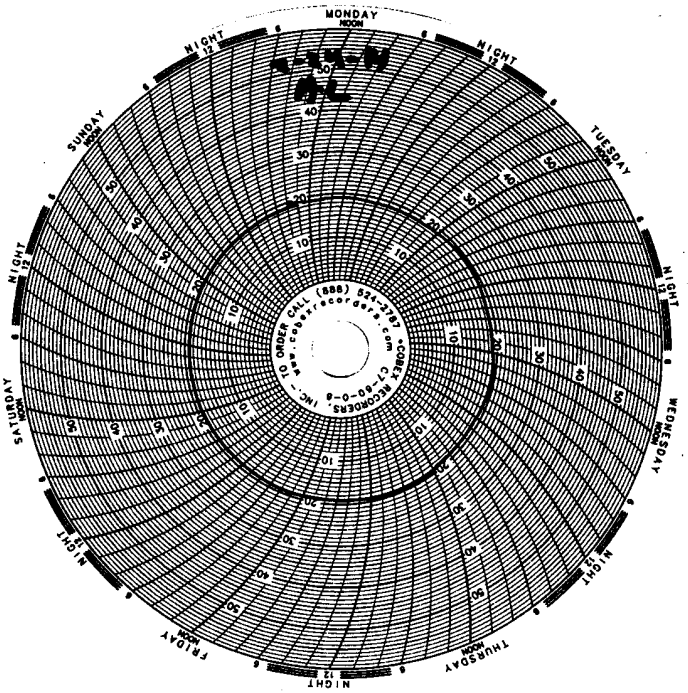
Aquatic Testing Laboratories

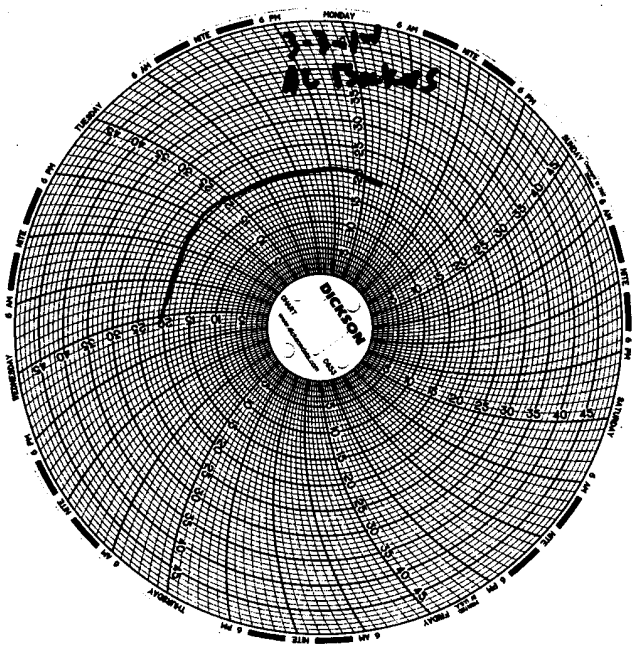
Test Temperature Chart

Test No: RT-140301

Date Tested: 03/01/14 to 03/05/14

Acceptable Range: 20 +/- 1°C





DATE: April 1, 2014

CUSTOMER: Test America-Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614

ATTENTION: Debby Wilson

REPORT NO: 160466

REFERENCE: COC# 440-30113.1, JOB# 440-71418-1, PROJECT# 440098919

SUBJECT: ANALYSIS OF WATER SAMPLES FOR ASBESTOS BY TEM

ACCREDITATION: CDPH - ELAP 1119

The date and times of collection, UV-Ozone Treatment and filtration are as follows:

SAMPLE NO: Outfall 009_2014 (440-71648-1)

DATE COLLECTED: March 1, 2014 at 0213

RECEIVED: March 3, 2014 at 1004 (No I.D.) COC and Sample Identification March 24, 2014 at 1500

UV-Ozone Treatment: March 25, 2014 1330 - 1630

FILTERED: March 25, 2014 at 1656

DATE ANALYZED: March 28, 2014

In the drinking water document, EPA 600 R 94 134, 100.2, samples are analyzed for fibers >10 um in length. The regulation calls for an MCL (maximum contaminant level) of 7 MFL (million of fibers per liter) and an analytical sensitivity of 0.2 MFL.

The analytical sensitivity of 0.2 MFL was not reached due to turbidity.

The results of the analysis and the detection limit(s) are summarized on the following page(s), accompanied by the chain of custody.

Respectfully submitted,
EMS Laboratories, Inc.

B.M. Kolk
Laboratory Director
BMK/am

Note: The report shall not be reproduced, except in full without the written approval of EMS Laboratories, Inc.

Note: The results of the analysis are based upon the sample submitted to the laboratory. No representation is made regarding the sampling area other than that implied by the analytical results for the immediate vicinity of the samples analyzed as calculated from the data presented with those samples. All the analytical quality control data meet the requirement of the procedure unless otherwise indicated. Any deviation or exclusion from the test method is noted in this cover letter. Unless otherwise noted in this cover letter the samples were received properly packaged, clearly identified and intact.

ANALYSIS OF WATER FOR ASBESTOS BY TEM (EPA-600 R 94 134) EPA 100.2

LAB.NO. 160466
CLIENT: Test America, Irvine
DATE: 3/28/2014

Laboratory I.D.	Client I.D.	FILTER MEDIA DATA			No. of G.O.	Analyzed Area, mm^2	Sample Volume (mL)
		Type	Diameter mm	Effective Area mm^2			
160466-1	440-71648-1	MCE	47	1017	10	0.106	5
3-25-14-BL	EMS Blank	MCE	47	1017	10	0.106	500

* FOR FIBERS > 10µm ONLY

INDIVIDUAL ANALYTICAL RESULTS

Laboratory I.D.	Client I.D.	No of Asbestos Fibers	Detection Limit (MF/L)	Concentration MFL Fibers >10 µm
160466-1	440-71648-1	ND	1.9	< 1.9
3-25-14-BL	EMS Blank	ND	0.02	< 0.02

The analysis was carried out to the approved TEM method. This laboratory is in compliance with the quality specified by the method.

Authorized Signature

NA Not Applicable
ND None Detected
MCE Mixed Cellulose Ester
GO Grid Openings
MFL Million Fibers per Liter

TEM ASBESTOS ANALYSIS

Client TA
Sample No. 440-71648-1

EMS Lab No. 160466
Page _____ of _____

RECEIVING

TYPE OF SAMPLE
Air ☐ Water ☒
Soil ☐ Bulk ☐
Other _____

METHOD OF ANALYSIS
EPA 600/4-83-043 ☒ ISO ☐

LEVEL OF ANALYSIS
Chrysotile CD-CDQ
Amphibole AD, ADQ

ASPECT RATIO
3:1 ☒ 5:1 ☐

EPA/600/R-94/134 100.1 ☐ 100.2 ☐

LENGTHS
All Sizes (EPA) ☐
(μm) ≥0.5 ☐
≥1.0 ☐
≥5.0 ☐
≥10.0 ☐
PCM Range* ☐
*(≥0.25 μm width ≥5.0 μm length)

FILTER TYPE / AREA (mm±)
MCE ☐ 385 ☐
PC ☒ 314 ☐
MCN ☐ 107 ☒
Other _____

PORE SIZE
0.45 μm ☐ 0.8 μm ☐
0.1 μm ☒ 0.22 μm ☐
Other _____

G.O. Area (mm²) 0.0 106
No. of G.O. to Analyze 10

PREP

DIRECT PREP ☐
INDIRECT PREP ☐

3 – 25 – 14
03: 1330 – 1630
SON: 1630 – 1645
FILT: _____

Volume _____ liters
Working Volume 5 ml
Weight _____ grams
Ashed Area _____ %

Prepared By JAP
Date 3 – 26 – 14

ANALYSIS

MICROSCOPE
H600A - Serial No. 542-36-01 ☐
H600B - Serial No. 542-05-06 ☒

ENERGY DISPERSIVE X-RAY SYSTEM
Thermo 4405C-3NUT

Grid Address: A, B, C
Screen Magnification: 9000 X
Camera Constant: 22.1
Accelerating Voltage: 100KV
Beam Current: 10 μA
K-Factor: 1.5
Analyst [signature] Date 3-28-13

Grid	Grid Opening	Structure Number	Structure	Dimensions (mm) Width	Dimensions (mm) Length	Fiber Classification NAM	TM	CM	CD	CQ	CMQ	CDQ	UF	AD	AX	ADX	AQ	ADQ	AZQ	AZZ	EDS Analysis Na	Mg	Si	Ca	Fe	Comments
A	F43	NSD																								
	E51	NSD																								
	C44	NSD																								
	E51	NSD																								
B	C43	NSD																								
	B43	NSD																								
	E51	NSD																								
C	F53	NSD																								
	G53	NSD																								
	F64	NSD																								

Page 3 of 4

TEM 2A (1-12)

OBSERVATIONS:

Clean ☐
Debris: ☒
Gypsum ☐
Condition of the Grid: ☐

Very Light ☐
Very Light ☐
Good ☒

Light ☐
Light ☐
Scrappy ☐

Moderate ☒
Moderate ☐
Undissolved Filter ☐

Heavy ☐
Heavy ☐
Folded ☐

Very Heavy ☐
Very Heavy ☐

TEM ASBESTOS ANALYSIS

Client EMS-BLK
Sample No. 100.2

EMS Lab No. 3-25-14
Page 1 of 1

RECEIVING

TYPE OF SAMPLE: Air ☐ Water ☒ Soil ☐ Bulk ☐ Other ____

METHOD OF ANALYSIS: EPA 600/4-83-043 ☒ ISO ☐

LEVEL OF ANALYSIS: Chrysotile CD, CDQ; Amphibole AD, ADQ

ASPECT RATIO: 3:1 ☒ 5:1 ☐

EPA/600/R-94/134 100.1 ☐ 100.2 ☐

LENGTHS: All Sizes (EPA) ☒ (μm) ≥0.5 ☐ ≥1.0 ☐ ≥5.0 ☐ ≥10.0 ☐ PCM Range* ☐ (*≥0.25 μm width, ≥5.0 μm length)

FILTER TYPE / AREA (mm±): MCE ☐ 385 ☐ PC ☒ 314 ☐ MCN ☐ 1017 ☒ Other ____

PORE SIZE: 0.45 μm ☐ 0.8 μm ☐ 0.1 μm ☒ 0.22 μm ☐ Other ____

G.O. Area (mm²) 0.0 106
No. of G.O. to Analyze 10

PREP

DIRECT PREP ☐
INDIRECT PREP ☐

H20

Volume ____ liters
Working Volume 500 ml
Weight ____ grams
Ashed Area ____ %

Prepared By JAP
Date 3-25-14

ANALYSIS

MICROSCOPE
H600A - Serial No. 542-36-01 ☐
H600B - Serial No. 542-05-06 ☒

ENERGY DISPERSIVE X-RAY SYSTEM
Thermo 4405C-3NUT

Grid Address: A B
Screen Magnification: 9000 X
Camera Constant: 471
Accelerating Voltage: 100KV
Beam Current: 10 μA
K-Factor: 1.5
Analyst ____ Date ____

Grid	Grid Opening	Structure Number	Structure	Dimensions (mm) Width	Dimensions (mm) Length	Fiber Classification NAM	TM	CM	CD	CQ	CMQ	CDQ	UF	AD	AX	ADX	AQ	ADQ	AZQ	AZZ	EDS Analysis Na	Mg	Si	Ca	Fe	Comments
A	F46	NSD																								
	F31	NSD																								
	F34	NSD																								
	F36	NSD																								
	G46	NSD																								
B	F11	NSD																								
	F44	NSD																								
	G41	NSD																								
	G46	NSD																								
	F41	NSD																								

TEM 2A (1-12)

OBSERVATIONS:

Clean ☐
Debris: ☐ Very Light ☐ Light ☐ Moderate ☐ Heavy ☐ Very Heavy ☐
Gypsum: ☐ Very Light ☐ Light ☐ Moderate ☐ Heavy ☐ Very Heavy ☐
Condition of the Grid: ☐ Good ☐ Scrappy ☐ Undissolved Filter ☐ Folded ☐

LABORATORY REPORT

Aquatic Testing Laboratories
"dedicated to providing quality aquatic toxicity testing"
4350 Transport Street, Unit 107
Ventura, CA 93003
(805) 650-0546 FAX (805) 650-0756
CA DOHS ELAP Cert. No.: 1775

Date: March 11, 2014

Client: TestAmerica, Irvine
17461 Derian Ave., Suite 100
Irvine, CA 92614
Attn: Debby Wilson

Laboratory No.: A-14030107-001
Job No.: 440-71648-1
Sample I.D.: Outfall 009 (440-71648-1)

Sample Control: The sample was received by ATL chilled, within the recommended hold time and with the chain of custody record attached. Testing conducted on only one sample per client instruction.

Date Sampled:	03/01/14
Date Received:	03/01/14
Temp. Received:	4.4°C
Chlorine (TRC):	0.0 mg/l
Date Tested:	03/01/14 to 03/08/14

Sample Analysis: The following analyses were performed on your sample:

Ceriodaphnia dubia Survival and Reproduction Test (EPA Method 1002).

Attached are the test data generated from the analysis of your sample. All testing was conducted under the direct supervision of Joseph A. LeMay. Daily test readings were taken by Joseph A. LeMay (initialed: JAL) and Jacob LeMay (initialed: J).

Result Summary:

Chronic:	NOEC	TUc
Ceriodaphnia Survival:	100%	1.0
Ceriodaphnia Reproduction:	100%	1.0

Quality Control: Reviewed and approved by:

Joseph A. LeMay
Laboratory Director

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0

Aquatic Testing Laboratories

Lab No.: A-14030107-001
Client/ID: TestAmerica – Outfall 009

Date Tested: 03/01/14 to 03/08/14

TEST SUMMARY

Test type: Daily static-renewal.
Species: *Ceriodaphnia dubia*.
Age: < 24 hrs; all released within 8 hrs.
Test vessel size: 30 ml.
Number of test organisms per vessel: 1.
Temperature: 25 +/- 1°C.
Dilution water: Mod. hard reconstituted (MHRW).
QA/QC Batch No.: RT-140301.

Endpoints: Survival and Reproduction.
Source: In-laboratory culture.
Food: .1 ml YTC, algae per day.
Test solution volume: 15 ml.
Number of replicates: 10.
Photoperiod: 16/8 hrs. light/dark cycle.
Test duration: 7 days.
Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival	Mean Number of Young Per Female
Control	100%	23.8
100% Sample	100%	29.8
Sample not statistically significantly less than Control for either endpoint.		

CHRONIC TOXICITY

Survival NOEC	100%
Survival TUc	1.0
Reproduction NOEC	100%
Reproduction TUc	1.0

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% survival)
≥15 young per surviving control female	Pass (23.8 young)
≥60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD <47% for reproduction; if >47% and no toxicity at IWC, the test must be repeated	Pass (PMSD = 6.8%)
Statistically significantly different concentrations relative difference >13%	Pass (no concentration significantly different)
Concentration response relationship acceptable	Pass (no significant response at concentration tested)

Ceriodaphnia Survival and Reproduction Test-7 Day Survival

Start Date:	3/1/2014 14:45	Test ID:	14030107c	Sample ID:	Outfall 009
End Date:	3/8/2013 14:45	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	SRW2-Industrial stormwater
Sample Date:	3/1/2014 02:13	Protocol:	FWCH 4TH-EPA-821-R-02-0	Test Species:	CD-Ceriodaphnia dubia
Comments:					

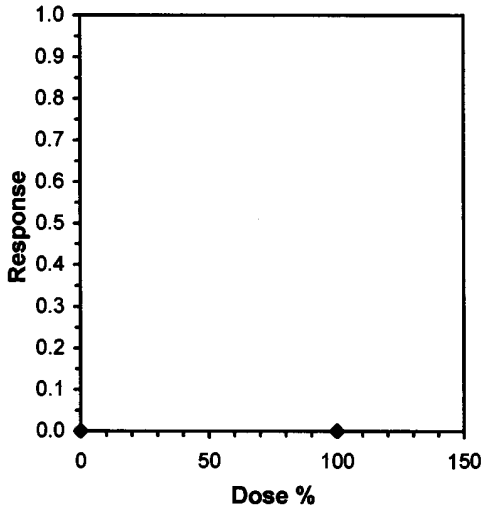
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Isotonic Mean	Isotonic N-Mean
D-Control	1.0000	1.0000	0	10	10	10			1.0000	1.0000
100	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	100	>100		1
Treatments vs D-Control				

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	3/1/2014 14:45	Test ID: 14030107c	Sample ID: Outfall 009
End Date:	3/8/2013 14:45	Lab ID: CAATL-Aquatic Testing Labs	Sample Type: SRW2-Industrial stormwater
Sample Date:	3/1/2014 02:13	Protocol: FWCH 4TH-EPA-821-R-02-0	Test Species: CD-Ceriodaphnia dubia
Comments:			

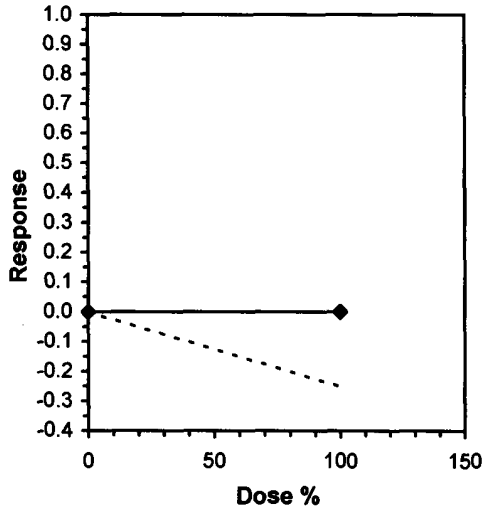
Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	24.000	25.000	27.000	27.000	23.000	21.000	24.000	19.000	23.000	25.000
100	29.000	32.000	31.000	29.000	31.000	28.000	30.000	28.000	28.000	32.000

			Transform: Untransformed					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	23.800	1.0000	23.800	19.000	27.000	10.443	10				26.800	1.0000
100	29.800	1.2521	29.800	28.000	32.000	5.434	10	-6.396	1.734	1.627	26.800	1.0000

Auxiliary Tests	Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.05)	0.96303		0.905		-0.4007	0.16221
F-Test indicates equal variances (p = 0.22)	2.35593		6.54109			
Hypothesis Test (1-tail, 0.05)	**MSDu**	**MSDp**	**MSB**	**MSE**	**F-Prob**	**df**
Homoscedastic t Test indicates no significant differences	1.6267	0.06835	180	4.4	5.1E-06	1, 18
Treatments vs D-Control						

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



CERIODAPHNIA DUBIA CHRONIC BIOASSAY
EPA METHOD 1002.0 Raw Data Sheet

Aquatic Testing Laboratories

Lab No.: A-14030107-001
Client ID: TestAmerica - Outfall 009
Start Date: 03/01/2014

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr	0 hr	24hr
Analyst Initials:															
Time of Readings:		1445	1445	1445	1445	1445	1445	1445	1415	1415	1430	1430	1415	1415	1445
Control	DO	8.4	8.3	8.5	8.1	8.3	8.3	8.2	8.1	8.0	8.0	8.1	8.0	8.1	8.0
	pH	8.0	8.0	8.1	8.0	8.0	8.1	8.0	8.0	8.0	8.0	8.0	8.0	8.1	8.1
	Temp	24.7	24.9	24.7	24.6	24.6	24.9	24.8	24.9	24.9	25.0	25.1	25.0	25.0	25.0
100%	DO	8.5	8.3	8.4	8.1	8.3	8.2	8.2	8.1	8.1	8.0	8.1	7.8	8.1	8.0
	pH	8.0	8.1	8.0	8.1	8.0	8.1	8.1	8.1	8.2	8.1	8.0	8.1	8.0	8.0
	Temp	24.5	24.6	24.7	24.6	24.6	25.0	24.7	24.6	24.7	25.0	25.0	25.0	24.9	24.8

Additional Parameters	Control	100% Sample
Conductivity (umohms)	275	672
Alkalinity (mg/l $CaCO_3$)	55	18
Hardness (mg/l $CaCO_3$)	91	30
Ammonia (mg/l NH_3-N)	<0.1	0.1

Source of Neonates

Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	5B	4C	4D	4F	4G	5G	6G	4E	6E	4J

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	3	4	0	0	0	0	0	0	0	7	10	
	4	3	0	0	3	4	3	2	3	3	2	23	10	
	5	0	6	8	0	0	0	8	0	7	8	37	10	
	6	6	16	15	10	7	8	0	6	0	0	68	10	
	7	15	0	0	14	12	10	14	10	13	15	103	10	
	Total	24	25	27	27	23	21	24	19	23	25	238	10	
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	4	4	3	5	5	4	0	0	0	3	28	10	
	4	7	9	0	0	0	0	5	4	3	0	28	10	
	5	0	0	11	12	11	8	9	10	9	10	80	10	
	6	18	19	17	12	15	16	16	14	16	19	162	10	
	7	(15)	(19)	(16)	(20)	(12)	(17)	0	0	0	(17)	0	10	
	Total	29	32	31	29	31	28	30	28	28	32	298	10	

Circled fourth brood not used in statistical analysis.
7th day only used if <60% of the surviving control females have produced their third brood.

Aquatic Testing Laboratories

CHAIN OF CUSTODY

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Wilson, Debby S	Carrier Tracking No(s):	COC No: 440-30109.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: debby.wilson@testamericainc.com		Page: Page 1 of 1
Company: Aquatic Testing Laboratories		Analysis Requested		Job #: 440-71418-1
Address: 4350 Transport #107,	Due Date Requested: 3/13/2014			Preservation Codes:
City: Ventura	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: CA, 93003				
Phone:	PO #:			Other:
Email:	WO #:			
Project Name: Boeing SSFL Outfall 009 Annual	Project #: 44009879			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	SUB (Chronic Cerio, EPA/821-R02-013)/ Chronic Cerio, EPA/821-R02-013	Total Number of Containers	Special Instructions/Note:
			Preservation Code:					
Outfall 009_2014 (440-71648-1)	3/1/14	02:13 Pacific		Water		X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 3/3/14 3/1/14	Company TAI	Received by: See attached	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

5/8/2014

CHAIN OF CUSTODY FORM

① @ 11:30
To Aquatic Testing

Client Name/Address:	Project:
Haley & Aldrich 9040 Friars Road Suite 220 San Diego, CA 92108-5860 Test America Contact: Debby Wilson	Boeing-SSFL NPDES **Annual and Routine Outfall 009** **COMPOSITE** Stormwater at SW-13
Project Manager: Nancy Gardiner Sampler: J. Goldenson	Phone Number: 619.285.7132, 858.337.4061(cell) Field Manager: Jeff Bannon 818.350.7340, 818.414.5608(cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	R: Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	R: TCDD (and all congeners)	R: Cl, SO_4, NO_3+NO_2-N	R: TDS	R: TSS	R: Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	R: Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	R: Chronic Toxicity	R/A: Cyanide	A: Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Tl, Fe, Al, + PP, Hardness as $CaCO_3$	A: Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, B, V, Tl, Fe, Al, + PP, Hardness as $CaCO_3$	A: F, Perchlorate	A: Pesticides/PCBs , Chlorpyrifos, Diazinon + PP	A: SVOCs (625) + PP	A: Asbestos (100.2)	Comments
Outfall 009	W	1L Poly	1	Outfall 009_2014 Comp	2-27-14 1213	HNO_3	2A	X									X						If R and A metals overlap, analyze once
Outfall 009	W	1L Amber	2	Outfall 009_2014 Comp		None	3A, 3B		X														
Outfall 009	W	500 mL Poly	2	Outfall 009_2014 Comp		None	4A, 4B			X													
Outfall 009	W	500 mL Poly	1	Outfall 009_2014 Comp		None	5				X												
Outfall 009	W	1L Poly	1	Outfall 009_2014 Comp		None	6						X					X					Filter w/in 24hrs of receipt at lab, if R and A metals overlap, analyze once
Outfall 009	W	2.5 Gal Cube	1	Outfall 009_2014 Comp		None	7A							X									Unfiltered and unpreserved analysis
		500 mL Amber	1	Outfall 009_2014 Comp		None	7B																
Outfall 009	W	1 Gal Poly	1	Outfall 009_2014 Comp		None	8								X								**Only test if first or second rain events of the year**
Outfall 009	W	500 mL Poly	1	Outfall 009_2014 Comp		NaOH	9									X							
Outfall 009	W	1L Amber	2	Outfall 009_2014 Comp		None	14A, 14B													X			
Outfall 009	W	1L Amber	2	Outfall 009_2014 Comp		None	16A, 16B														X		
Outfall 009	W	1L Poly	1	Outfall 009_2014 Comp		None	19															X	
Outfall 009	W	1L Poly	1	Outfall 009_2014 Comp		None	5					X											

COC Page 2 of 2 list the Composite Samples for Outfall 009 for this storm event.
These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.
Legend: R = Routine, A = Annual

Relinquished By	Date/Time:	Received By	Date/Time:
	3/1/14 2949 1000		3/1/14 1000
	3/1/14 1130	TESS DUNN DCS	1130
Tess Dunn	3-1-14 12:30		3-1-14 1230

Turn-around time: (Check)
24 Hour: ____ 48 Hour: ____ 72 Hour: ____ 5 Day: ____ 10 Day: ____ Normal: ____

Sample Integrity: (Check)
Intact: ✓ On Ice: ✓ 4.4°

Data Requirements: (Check)
No Level IV: ____ All Level IV: ____ NPDES Level IV: ____

Aquatic Testing Laboratories

REFERENCE TOXICANT DATA

CERIODAPHNIA CHRONIC BIOASSAY
EPA METHOD 1002.0
REFERENCE TOXICANT - NaCl

Aquatic Testing Laboratories

QA/QC Batch No.: RT-140301 Date Tested: 03/01/14 to 03/08/14

TEST SUMMARY

Test type: Daily static-renewal.
Species: *Ceriodaphnia dubia*.
Age: <24 hrs; all released within 8 hrs.
Test vessel size: 30 ml.
Number of test organisms per vessel: 1.
Temperature: 25 +/- 1°C.
Dilution water: Mod. hard reconstituted (MHRW).
Reference Toxicant: Sodium chloride (NaCl).

Endpoints: Survival and Reproduction.
Source: In-laboratory culture.
Food: .1 ml YTC, algae per day.
Test solution volume: 20 ml.
Number of replicates: 10.
Photoperiod: 16/8 hrs. light/dark cycle.
Test duration: 7 days.
Statistics: ToxCalc computer program.

RESULTS SUMMARY

Sample Concentration	Percent Survival		Mean Number of Young Per Female	
Control	100%		24.4	
0.25 g/l	100%		24.9	
0.5 g/l	100%		21.0	
1.0 g/l	90%		12.5	*
2.0 g/l	80%		1.8	*
4.0 g/l	0%	*	0	**

* Statistically significantly less than control at P = 0.05 level
** Reproduction data from concentrations greater than survival NOEC are excluded from statistical analysis.

CHRONIC TOXICITY

Survival LC50	2.2 g/l
Reproduction IC25	0.65 g/l

QA/QC TEST ACCEPTABILITY

Parameter	Result
Control survival ≥80%	Pass (100% Survival)
≥15 young per surviving control female	Pass (24.4 young)
≥60% surviving controls had 3 broods	Pass (100% with 3 broods)
PMSD <47% for reproduction	Pass (PMSD = 17.0%)
Stat. sig. diff. conc. relative difference >13%	Pass (Stat. sig. diff. conc. Relative difference= 48.8%)
Concentration response relationship acceptable	Pass (Response curve normal)

Ceriodaphnia Survival and Reproduction Test-7 Day Survival

Start Date:	3/1/2014 14:30	Test ID:	RT140301c	Sample ID:	REF-Ref Toxicant
End Date:	3/8/2014 14:45	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	3/1/2014	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000
2	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

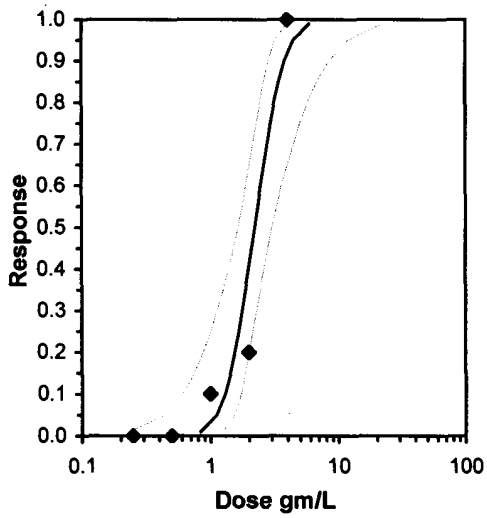
Conc-gm/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Number Resp	Total Number
D-Control	1.0000	1.0000	0	10	10	10			0	10
0.25	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
0.5	1.0000	1.0000	0	10	10	10	1.0000	0.0500	0	10
1	0.9000	0.9000	1	9	10	10	0.5000	0.0500	1	10
2	0.8000	0.8000	2	8	10	10	0.2368	0.0500	2	10
4	0.0000	0.0000	10	0	10	10			10	10

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	2	4	2.82843	
Treatments vs D-Control				

Maximum Likelihood-Probit

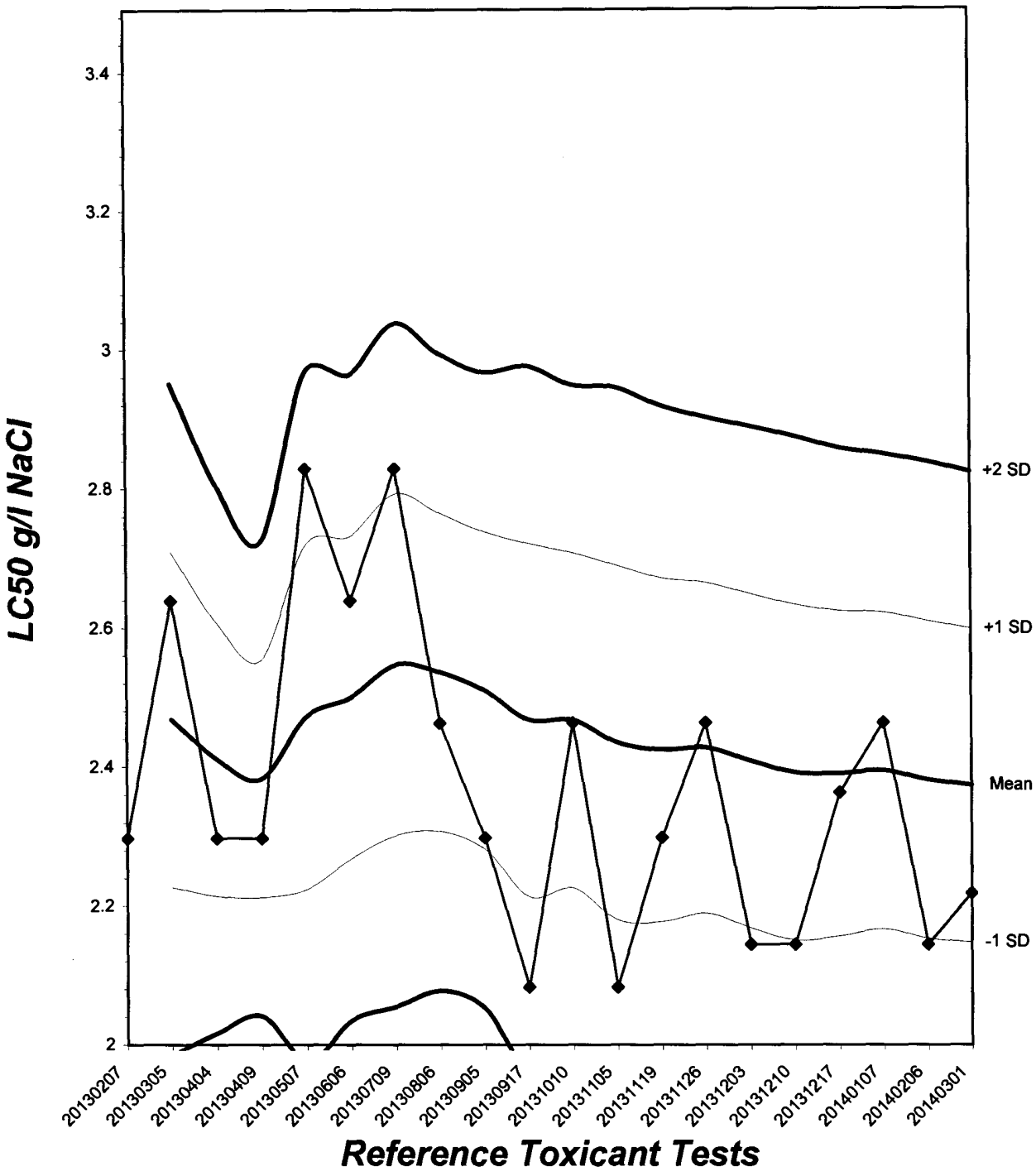
Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	5.45608	1.55772	2.40296	8.5092	0	4.3269	7.81472	0.23	0.3458	0.18328	6
Intercept	3.1133	0.60976	1.91817	4.30843							
TSCR											

Point	Probits	gm/L	95% Fiducial Limits	
EC01	2.674	0.83066	0.22973	1.24325
EC05	3.355	1.10746	0.43213	1.52706
EC10	3.718	1.29096	0.60071	1.71668
EC15	3.964	1.43166	0.74619	1.86774
EC20	4.158	1.55433	0.88237	2.0067
EC25	4.326	1.66792	1.01408	2.14416
EC40	4.747	1.99234	1.39806	2.60948
EC50	5.000	2.21716	1.64834	3.02161
EC60	5.253	2.46736	1.89637	3.58565
EC75	5.674	2.94727	2.29007	4.9819
EC80	5.842	3.16266	2.44219	5.73664
EC85	6.036	3.43366	2.61952	6.79487
EC90	6.282	3.80788	2.84588	8.45277
EC95	6.645	4.43884	3.19497	11.7661
EC99	7.326	5.918	3.9194	22.1604



Ceriodaphnia Chronic Survival Laboratory Control Chart

CV% = 9.51



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	3/1/2014 14:30	Test ID:	RT140301c	Sample ID:	REF-Ref Toxicant
End Date:	3/8/2014 14:45	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	3/1/2014	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	23.000	28.000	23.000	24.000	25.000	27.000	22.000	22.000	25.000	25.000
0.25	24.000	24.000	26.000	27.000	23.000	24.000	29.000	24.000	23.000	25.000
0.5	24.000	20.000	26.000	27.000	21.000	28.000	21.000	10.000	10.000	23.000
1	17.000	8.000	18.000	11.000	17.000	18.000	18.000	10.000	0.000	8.000
2	0.000	2.000	0.000	2.000	3.000	3.000	2.000	2.000	2.000	2.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

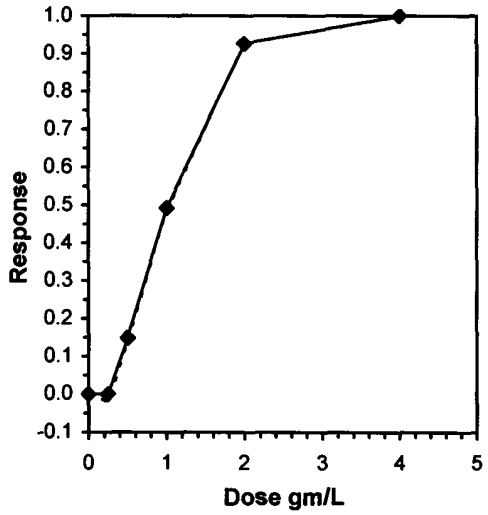
			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
D-Control	24.400	1.0000	24.400	22.000	28.000	8.242	10			24.650	1.0000
0.25	24.900	1.0205	24.900	23.000	29.000	7.679	10	112.00	76.00	24.650	1.0000
0.5	21.000	0.8607	21.000	10.000	28.000	30.367	10	88.50	76.00	21.000	0.8519
*1	12.500	0.5123	12.500	0.000	18.000	48.917	10	55.00	76.00	12.500	0.5071
*2	1.800	0.0738	1.800	0.000	3.000	57.378	10	55.00	76.00	1.800	0.0730
4	0.000	0.0000	0.000	0.000	0.000	0.000	10			0.000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.89154	0.947	-1.1118	2.53918
Bartlett's Test indicates unequal variances (p = 2.78E-07)	36.0813	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	0.5	1	0.70711	
Treatments vs D-Control				

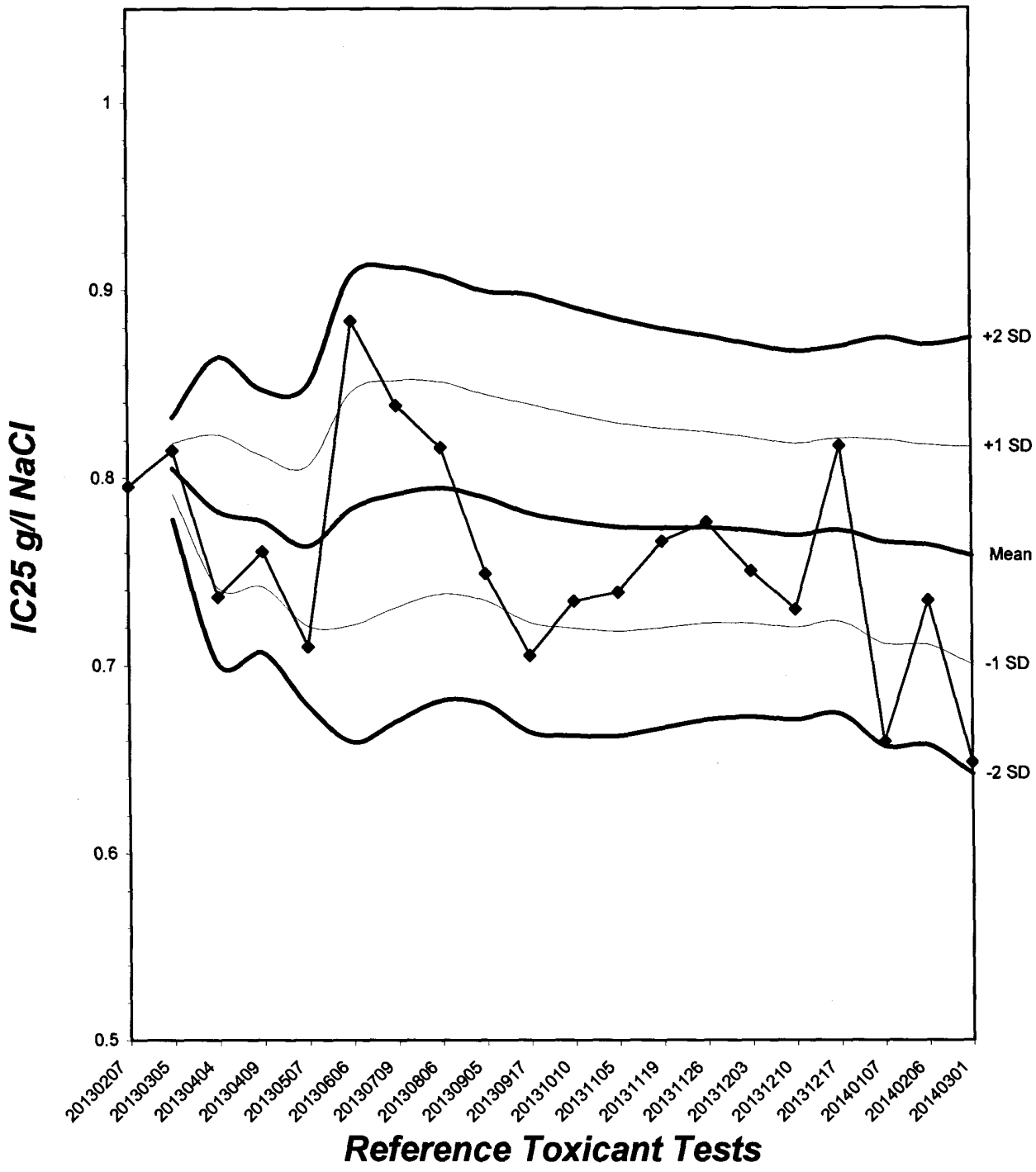
Linear Interpolation (200 Resamples)

Point	gm/L	SD	95% CL		Skew
IC05	0.3344	0.0654	0.2687	0.5260	1.5114
IC10	0.4188	0.0777	0.3248	0.5791	0.5633
IC15	0.5028	0.0825	0.3651	0.6503	0.1708
IC20	0.5753	0.0892	0.4086	0.7125	-0.0646
IC25	0.6478	0.0955	0.4483	0.7916	-0.2974
IC40	0.8653	0.1050	0.7070	1.0953	0.0763
IC50	1.0164	0.1171	0.8473	1.2664	0.1866



Ceriodaphnia Chronic Reproduction Laboratory Control Chart

CV% = 7.67



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	3/1/2014 14:30	Test ID:	RT140301c	Sample ID:	REF-Ref Toxicant
End Date:	3/8/2014 14:45	Lab ID:	CAATL-Aquatic Testing Labs	Sample Type:	NACL-Sodium chloride
Sample Date:	3/1/2014	Protocol:	FWCH-EPA-821-R-02-013	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	23.000	28.000	23.000	24.000	25.000	27.000	22.000	22.000	25.000	25.000
0.25	24.000	24.000	26.000	27.000	23.000	24.000	29.000	24.000	23.000	25.000
0.5	24.000	20.000	26.000	27.000	21.000	28.000	21.000	10.000	10.000	23.000
1	17.000	8.000	18.000	11.000	17.000	18.000	18.000	10.000	0.000	8.000
2	0.000	2.000	0.000	2.000	3.000	3.000	2.000	2.000	2.000	2.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

			Transform: Untransformed					1-Tailed		
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
D-Control	24.400	1.0000	24.400	22.000	28.000	8.242	10			
0.25	24.900	1.0205	24.900	23.000	29.000	7.679	10	-0.268	2.223	4.143
0.5	21.000	0.8607	21.000	10.000	28.000	30.367	10	1.824	2.223	4.143
*1	12.500	0.5123	12.500	0.000	18.000	48.917	10	6.386	2.223	4.143
*2	1.800	0.0738	1.800	0.000	3.000	57.378	10	12.127	2.223	4.143
4	0.000	0.0000	0.000	0.000	0.000	0.000	10			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.05)	0.89154	0.947	-1.1118	2.53918
Bartlett's Test indicates unequal variances (p = 2.78E-07)	36.0813	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	0.5	1	0.70711		4.14333	0.16981	961.07	17.3644	8.3E-17	4, 45

Reviewed by: 5/8/2014

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Reproduction and Survival Raw Data Sheet

Aquatic Testing Laboratories

QA/QC No.: RT-140301

Start Date:03/01/2014

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	3	0	0	0	0	3	6	10	
	4	3	4	3	2	0	5	3	3	4	0	27	10	
	5	0	0	0	10	8	0	9	7	0	6	40	10	
	6	6	8	8	0	14	8	0	0	8	16	68	10	
	7	14	16	12	12	0	14	10	12	13	0	103	10	
	Total	23	28	23	24	25	27	22	22	25	25	244	10	
0.25 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	3	2	0	0	2	0	7	10	
	4	3	3	4	5	0	0	4	4	0	3	26	10	
	5	0	0	0	0	6	7	10	8	7	0	38	10	
	6	7	8	10	8	14	15	0	12	14	7	95	10	
	7	14	13	12	14	0	0	15	0	0	15	83	10	
	Total	24	24	26	27	23	24	29	24	23	25	239	10	
0.5 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	3	0	0	0	0	0	3	10	
	4	3	4	3	3	0	4	3	3	2	3	28	10	
	5	0	0	0	0	6	0	0	0	0	0	6	10	
	6	7	6	9	9	12	9	6	7	8	7	80	10	
	7	14	10	14	15	0	15	12	0	0	13	93	10	
	Total	24	20	26	27	21	28	21	10	10	23	210	10	

Circled fourth brood not used in statistical analysis.
7th day only used if <60% of the surviving control females have produced their third brood.

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Reproduction and Survival Raw Data Sheet

Aquatic Testing Laboratories

QA/QC No.: RT-140301

Start Date:03/01/2014

Sample	Day	Number of Young Produced										Total Live Young	No. Live Adults	Analyst Initials
		A	B	C	D	E	F	G	H	I	J			
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	2	0	0	0	0	0	2	10	
	4	2	2	3	0	0	3	3	0	0	2	15	10	
	5	0	0	7	4	6	0	~~7~~	4	X	0	28	9	
	6	5	6	0	7	0	5	0	6	–	6	35	9	
	7	10	0	8	0	9	10	8	0	–	0	45	9	
	Total	17	8	18	11	17	15	15	10	0	8	125	9	
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	
	3	0	0	0	0	0	0	0	0	0	0	0	10	
	4	X	0	0	0	0	0	0	0	0	0	0	9	
	5	–	2	0	0	3	0	0	2	0	0	7	9	
	6	–	X	0	2	0	0	2	0	2	0	6	8	
	7	–	–	0	0	0	3	0	0	0	2	5	8	
	Total	0	2	0	2	3	3	2	2	2	2	18	8	
4.0 g/l	1	X	X	X	X	X	X	X	X	X	X	0	0	
	2	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–
	4	–	–	–	–	–	–	–	–	–	–	–	–	–
	5	–	–	–	–	–	–	–	–	–	–	–	–	–
	6	–	–	–	–	–	–	–	–	–	–	–	–	–
	7	–	–	–	–	–	–	–	–	–	–	–	–	–
	Total	0	0	0	0	0	0	0	0	0	0	0	0	

Circled fourth brood not used in statistical analysis.
7th day only used if <60% of the surviving control females have produced their third brood.

CERIODAPHNIA DUBIA CHRONIC BIOASSAY
Reference Toxicant - NaCl
Water Chemistries Raw Data Sheet

Aquatic Testing Laboratories

QA/QC No.: RT-140301 Start Date:03/01/2014

		DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
		Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Analyst Initials:		JT	JT	AC	JT	JT	JT	JT	JT	JT	JT	JT	JT	JT	JT
Time of Readings:		1430	1445	1445	1430	1430	1430	1430	1400	1400	1400	1400	1400	1400	1445
Control	DO	8.6	8.3	8.7	8.0	8.2	8.1	8.1	7.9	8.2	8.1	8.7	8.1	8.3	8.0
	pH	8.0	7.9	8.0	8.0	8.0	8.1	8.1	8.0	8.1	8.1	8.1	8.0	7.9	8.0
	Temp	24.7	24.8	24.6	24.8	24.7	25.0	24.7	25.0	25.0	25.1	25.0	25.0	25.0	24.9
0.25 g/l	DO	8.5	8.4	8.3	7.9	8.2	8.1	8.1	7.8	8.0	8.0	8.0	8.2	8.0	7.7
	pH	8.0	7.9	8.0	8.0	7.9	8.0	8.0	8.0	8.0	8.1	7.9	7.9	8.0	8.0
	Temp	24.6	24.8	24.6	24.7	24.7	25.0	24.7	25.0	25.0	25.1	25.1	25.0	25.0	24.9
0.5 g/l	DO	8.5	8.4	8.3	7.8	8.2	8.3	8.2	8.0	8.2	8.1	8.0	8.1	8.0	7.7
	pH	8.0	8.0	8.0	8.0	8.0	8.1	8.0	8.0	8.0	8.0	7.9	8.0	8.0	8.0
	Temp	24.6	24.9	24.7	24.8	24.7	25.1	24.7	25.0	25.0	25.1	25.1	25.0	25.0	24.8
1.0 g/l	DO	8.4	8.3	8.3	7.9	8.1	8.2	8.2	8.1	8.3	8.1	7.8	8.1	8.1	7.6
	pH	8.0	8.0	8.0	8.0	8.0	8.1	8.0	8.0	8.0	8.0	7.9	8.0	8.0	8.0
	Temp	24.6	24.9	24.6	24.7	24.7	25.0	24.9	25.0	25.0	25.1	25.1	25.0	24.9	24.7
2.0 g/l	DO	8.4	8.4	8.1	8.0	8.4	8.1	8.4	8.1	8.4	8.3	8.0	8.0	8.4	7.8
	pH	8.0	8.0	8.0	8.1	8.0	8.1	8.1	8.0	8.0	8.0	8.0	8.0	8.0	8.1
	Temp	24.6	24.8	24.6	24.7	24.7	25.0	25.0	24.9	25.0	25.0	25.1	25.0	25.1	24.8
4.0 g/l	DO	8.5	8.2	—	—	—	—	—	—	—	—	—	—	—	—
	pH	8.0	8.0	—	—	—	—	—	—	—	—	—	—	—	—
	Temp	24.7	25.0	—	—	—	—	—	—	—	—	—	—	—	—

Dissolved Oxygen (DO) readings are in mg/l O_2; Temperature (Temp) readings are in °C.

Additional Parameters	Control			High Concentration		
	Day 1	Day 3	Day 5	Day 1	Day 3	Day 5
Conductivity (µS)	275	283	293	5281	2961	3014
Alkalinity (mg/l $CaCO_3$)	55	56	57	56	55	58
Hardness (mg/l $CaCO_3$)	91	93	91	92	91	90

Source of Neonates

Replicate:	A	B	C	D	E	F	G	H	I	J
Brood ID:	1A	2A	3A	1B	3B	2E	3E	1F	1H	2H

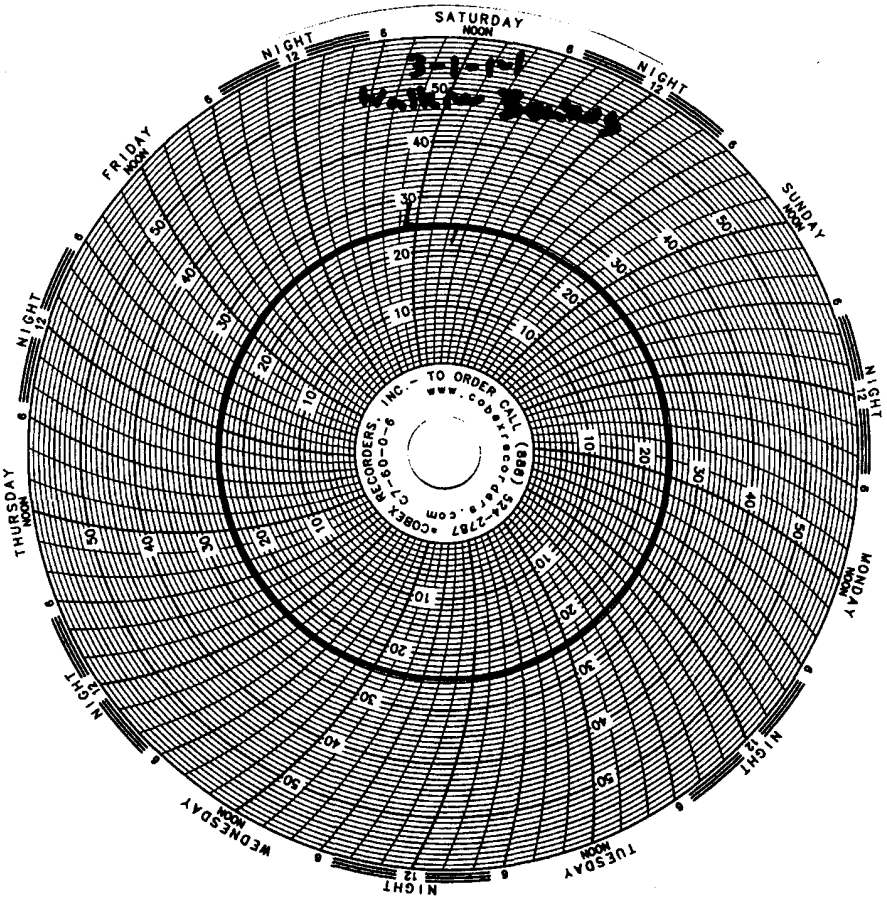
Aquatic Testing Laboratories

Test Temperature Chart

Test No: RT-140301

Date Tested: 03/01/14 to 03/08/14

Acceptable Range: 25 +/- 1°C



TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 440-71648-1

Boeing SSFL Outfalls

Lot #: H4C040431

Debby Wilson

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817

TESTAMERICA LABORATORIES, INC.

Terry Wasmund
Project Manager

March 18, 2014

ANALYTICAL METHODS SUMMARY

H4C040431

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

SAMPLE SUMMARY

H4C040431

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M257N	001	OUTFALL 009_2014	03/01/14	02:13

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H4C040431

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

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The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

Comment:

The total estimated detection limits (EDLs) were manually changed to the lowest EDL reported within that homolog group.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

PROJECT NARRATIVE
H4C040431

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

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X – Other. See explanation in narrative.

Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks

PROJECT NARRATIVE
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Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of ≥2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Indiana	State Program	5	C-TN-02
TestAmerica Knoxville	Iowa	State Program	7	375
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA110001
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Minnesota	NELAC	5	047-999-429
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	2014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-TX
TestAmerica Knoxville	Federal	USDA		P330-11-00035
TestAmerica Knoxville	Utah	NELAC	8	QUAN3
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Irvine

Sample ID: OUTFALL 009_2014

Trace Level Organic Compounds

Lot - Sample #....:	H4C040431 - 001	**Work Order #....:**	M257N1AA	**Matrix....:**	WG
Date Sampled....:	03/01/14	**Date Received....:**	03/04/14	**Dilution Factor:**	1
Prep Date....:	03/06/14	**Analysis Date....:**	03/17/14		
Prep Batch # ....:	4065015				
Initial Wgt/Vol :	1055 mL	**Instrument ID....:**	M2A	**Method:**	EPA-5 1613B
Analyst ID....:	Kathryn B. Lay				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		0.00000947	0.00000375	ug/L
Total TCDD	ND		0.00000947	0.00000375	ug/L
1,2,3,7,8-PeCDD	ND		0.0000474	0.00000253	ug/L
Total PeCDD	ND		0.0000474	0.00000253	ug/L
1,2,3,4,7,8-HxCDD	ND		0.0000474	0.00000263	ug/L
1,2,3,6,7,8-HxCDD	**0.00000982**	**Q J**	**0.0000474**	**0.00000301**	**ug/L**
1,2,3,7,8,9-HxCDD	**0.0000104**	**Q J**	**0.0000474**	**0.00000261**	**ug/L**
Total HxCDD	**0.0000618**	**J Q**	**0.0000474**	**0.00000261**	**ug/L**
1,2,3,4,6,7,8-HpCDD	**0.000259**		**0.0000474**	**0.00000436**	**ug/L**
Total HpCDD	**0.000613**		**0.0000474**	**0.00000436**	**ug/L**
OCDD	**0.00253**	**B**	**0.0000948**	**0.00000393**	**ug/L**
2,3,7,8-TCDF	ND		0.00000947	0.00000297	ug/L
Total TCDF	**0.00000136**	**Q J**	**0.00000947**	**0.00000297**	**ug/L**
1,2,3,7,8-PeCDF	ND		0.0000474	0.00000186	ug/L
2,3,4,7,8-PeCDF	ND		0.0000474	0.00000179	ug/L
Total PeCDF	**0.0000107**	**Q J**	**0.0000474**	**0.00000179**	**ug/L**
1,2,3,4,7,8-HxCDF	**0.00000261**	**Q J**	**0.0000474**	**0.00000171**	**ug/L**
1,2,3,6,7,8-HxCDF	**0.00000193**	**Q J**	**0.0000474**	**0.00000174**	**ug/L**
2,3,4,6,7,8-HxCDF	ND		0.0000474	0.00000146	ug/L
1,2,3,7,8,9-HxCDF	ND		0.0000474	0.00000176	ug/L
Total HxCDF	**0.0000699**	**J Q**	**0.0000474**	**0.00000146**	**ug/L**
1,2,3,4,6,7,8-HpCDF	**0.0000421**	**J**	**0.0000474**	**0.00000230**	**ug/L**
1,2,3,4,7,8,9-HpCDF	**0.00000457**	**Q J**	**0.0000474**	**0.00000292**	**ug/L**
Total HpCDF	**0.000113**	**Q**	**0.0000474**	**0.00000230**	**ug/L**
OCDF	**0.000147**		**0.0000948**	**0.00000228**	**ug/L**

TestAmerica Irvine

Sample ID: OUTFALL 009_2014

Trace Level Organic Compounds

Lot - Sample #....:	H4C040431 - 001	**Work Order #....:**	M257N1AA	**Matrix....:**	WG
Date Sampled....:	03/01/14	**Date Received....:**	03/04/14	**Dilution Factor:**	1
Prep Date....:	03/06/14	**Analysis Date....:**	03/17/14		
Prep Batch # ....:	4065015				
Initial Wgt/Vol :	1055 mL	**Instrument ID....:**	M2A	**Method:**	EPA-5 1613B
Analyst ID....:	Kathryn B. Lay				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	82	25 - 164
13C-1,2,3,7,8-PeCDD	82	25 - 181
13C-1,2,3,4,7,8-HxCDD	90	32 - 141
13C-1,2,3,6,7,8-HxCDD	85	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	90	23 - 140
13C-OCDD	86	17 - 157
13C-2,3,7,8-TCDF	70	24 - 169
13C-1,2,3,7,8-PeCDF	82	24 - 185
13C-2,3,4,7,8-PeCDF	68	21 - 178
13C-1,2,3,4,7,8-HxCDF	81	26 - 152
13C-1,2,3,6,7,8-HxCDF	77	26 - 123
13C-2,3,4,6,7,8-HxCDF	82	28 - 136
13C-1,2,3,7,8,9-HxCDF	95	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	81	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	85	26 - 138
13C-OCDF	80	17 - 157

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	92	35 - 197

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H4C060000 - 015B	**Work Order #....:**	M26QE1AA	**Matrix....:**	WATER
Dilution Factor:	1				
Prep Date....:	03/06/14	**Analysis Date....:**	03/14/14		
Prep Batch # ....:	4065015				
Initial Wgt/Vol :	1000 mL	**Instrument ID....:**	M2A	**Method:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		0.0000100	0.00000470	ug/L
Total TCDD	ND		0.0000100	0.00000470	ug/L
1,2,3,7,8-PeCDD	ND		0.0000500	0.00000226	ug/L
Total PeCDD	ND		0.0000500	0.00000226	ug/L
1,2,3,4,7,8-HxCDD	ND		0.0000500	0.00000167	ug/L
1,2,3,6,7,8-HxCDD	ND		0.0000500	0.00000194	ug/L
1,2,3,7,8,9-HxCDD	ND		0.0000500	0.00000167	ug/L
Total HxCDD	ND		0.0000500	0.00000167	ug/L
1,2,3,4,6,7,8-HpCDD	ND		0.0000500	0.00000300	ug/L
Total HpCDD	ND		0.0000500	0.00000300	ug/L
OCDD	**0.00000722**	**Q J**	**0.000100**	**0.00000221**	**ug/L**
2,3,7,8-TCDF	ND		0.0000100	0.00000345	ug/L
Total TCDF	ND		0.0000100	0.00000345	ug/L
1,2,3,7,8-PeCDF	ND		0.0000500	0.00000211	ug/L
2,3,4,7,8-PeCDF	ND		0.0000500	0.00000189	ug/L
Total PeCDF	ND		0.0000500	0.00000189	ug/L
1,2,3,4,7,8-HxCDF	ND		0.0000500	0.000000940	ug/L
1,2,3,6,7,8-HxCDF	ND		0.0000500	0.000000910	ug/L
2,3,4,6,7,8-HxCDF	ND		0.0000500	0.000000870	ug/L
1,2,3,7,8,9-HxCDF	ND		0.0000500	0.000000980	ug/L
Total HxCDF	ND		0.0000500	0.000000870	ug/L
1,2,3,4,6,7,8-HpCDF	ND		0.0000500	0.00000156	ug/L
1,2,3,4,7,8,9-HpCDF	ND		0.0000500	0.00000224	ug/L
Total HpCDF	ND		0.0000500	0.00000156	ug/L
OCDF	ND		0.000100	0.00000287	ug/L

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H4C060000 - 015B	**Work Order #....:**	M26QE1AA	**Matrix....:**	WATER
Dilution Factor:	1				
Prep Date....:	03/06/14	**Analysis Date....:**	03/14/14		
Prep Batch # ....:	4065015				
Initial Wgt/Vol :	1000 mL	**Instrument ID....:**	M2A	**Method:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	85	25 - 164
13C-1,2,3,7,8-PeCDD	96	25 - 181
13C-1,2,3,4,7,8-HxCDD	93	32 - 141
13C-1,2,3,6,7,8-HxCDD	89	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	87	23 - 140
13C-OCDD	82	17 - 157
13C-2,3,7,8-TCDF	81	24 - 169
13C-1,2,3,7,8-PeCDF	90	24 - 185
13C-2,3,4,7,8-PeCDF	79	21 - 178
13C-1,2,3,4,7,8-HxCDF	81	26 - 152
13C-1,2,3,6,7,8-HxCDF	79	26 - 123
13C-2,3,4,6,7,8-HxCDF	81	28 - 136
13C-1,2,3,7,8,9-HxCDF	90	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	82	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	77	26 - 138
13C-OCDF	77	17 - 157

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	100	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H4C040431	**Work Order # ...:**	M26QE1AC-LCS	**Matrix .....:**	WATER
LCS Lot-Sample# :	H4C060000 - 015				
Prep Date .....:	03/06/14	**Analysis Date ..:**	03/15/14		
Prep Batch # ...:	4065015				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	M2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	1000 mL				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**0.0002**	**0.0001**	**ug/L**	**97**		**(67 - 158)**
1,2,3,7,8-PeCDD	**0.0010**	**0.0009**	**ug/L**	**99**		**(70 - 142)**
1,2,3,4,7,8-HxCDD	**0.0010**	**0.0009**	**ug/L**	**93**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**0.0010**	**0.0009**	**ug/L**	**96**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**0.0010**	**0.0009**	**ug/L**	**94**		**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**0.0010**	**0.0009**	**ug/L**	**91**		**(70 - 140)**
OCDD	**0.0020**	**0.0018**	**ug/L**	**92**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**0.0002**	**0.0002**	**ug/L**	**102**		**(75 - 158)**
1,2,3,7,8-PeCDF	**0.0010**	**0.0009**	**ug/L**	**93**		**(80 - 134)**
2,3,4,7,8-PeCDF	**0.0010**	**0.0009**	**ug/L**	**93**		**(68 - 160)**
1,2,3,4,7,8-HxCDF	**0.0010**	**0.0009**	**ug/L**	**93**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**0.0010**	**0.0009**	**ug/L**	**94**		**(84 - 130)**
2,3,4,6,7,8-HxCDF	**0.0010**	**0.0009**	**ug/L**	**95**		**(70 - 156)**
1,2,3,7,8,9-HxCDF	**0.0010**	**0.0009**	**ug/L**	**95**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**0.0010**	**0.0009**	**ug/L**	**92**		**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**0.0010**	**0.0009**	**ug/L**	**91**		**(78 - 138)**
OCDF	**0.0020**	**0.0018**	**ug/L**	**92**		**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	86	(20 - 175)
13C-1,2,3,7,8-PeCDD	101	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	92	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	84	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	95	(26 - 166)
13C-OCDD	97	(13 - 199)
13C-2,3,7,8-TCDF	84	(22 - 152)
13C-1,2,3,7,8-PeCDF	96	(21 - 192)
13C-2,3,4,7,8-PeCDF	89	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	83	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	82	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	84	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	86	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	86	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	80	(20 - 186)
13C-OCDF	86	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	103	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Sample Receipt Documentation

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

H4C040431

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Wilson, Debby S	Carrier Tracking No(s):	COC No: 440-30150.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: debby.wilson@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		**Analysis Requested**		Job #: 440-71648-1
Address: 5815 Middlebrook Pike,	Due Date Requested: 3/13/2014			**Preservation Codes:** A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: Boeing SSFL outfalls	Project #: 44009879			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 dioxin)/ 1613 dioxin	Preservation Code	Total Number of containers	Special Instructions/Note:
Outfall 009_2014 (440-71648-1)	3/1/14	02:13 Pacific		Water			X	PH=6 RC-ND		See QAS,Boeing_w/u to zero. ug/L

REC. @ 2.8, 1.7, 0.9, 0.7, 1.0, 0.6 °C
CUSTODY STRAPS INTACT
6 COOLERS RH 3-4-14
FED EX# 542643213998

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 3/3/14 1700	Company TA-I	Received by: Ryan Henry	Date/Time: 3/4/14 1030	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: H4C040431

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	/			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC60	/			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			/	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:
4. Were custody seals present/intact on cooler and/or containers?	/			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:
5. Were all of the samples listed on the COC received?	/			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC
6. Were all of the sample containers received intact?	/			☐ **6a** Leaking ☐ **6b** Broken
7. Were VOA samples received without headspace?			/	☐ **7a** Headspace (VOA only)
8. Were samples received in appropriate containers?	/			☐ **8a** Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: 1240 2016106	/			☐ **9a** Could not be determined due to matrix interference
10. Were samples received within holding time?	/			☐ **10a** Holding time expired
11. For rad samples, was sample activity info. provided?			/	☐ Incomplete information
12. For 1613B water samples is pH<9?	/			If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	/			☐ **13a** Leaking ☐ **13b** Other:
14. Was COC relinquished? (Signed/Dated/Timed)	/			☐ **14a** Not relinquished
15. Are tests/parameters listed for each sample?	/			☐ **15a** Incomplete information
16. Is the matrix of the samples noted?	/			☐ **15a** Incomplete information
17. Is the date/time of sample collection noted?	/			☐ **15a** Incomplete information
18. Is the client and project name/# identified?	/			☐ **15a** Incomplete information
19. Was the sampler identified on the COC?		/		☐ **19a** Other

Comments/Actions Taken

pH test strip lot number: HC399482

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 90493 PM Instructions: _____

Sample Receiving Associate: _____ Date: 3/4/14

QA026R27.doc, 123013

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

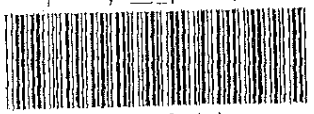
440-71418 rev

Client Name/Address:	Project:
Haley & Aldrich 9040 Friars Road Suite 220 San Diego, CA 92108-5860	Boeing-SSFL NPDES Annual and Routine Outfall 009 GRAB Stormwater at SW-13
Test America Contact: Debby Wilson	
Project Manager: Nancy Gardiner	Phone Number: 619.285.7132, 858.337.4061(cell) Field Manager: Jeff Bannon 818.350.7340, 818.414.5608(cell)
Sampler: R. Parra/JB	

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	Oil & Grease (1664-HEM)	VOCs 624, Xylenes + PP	VOCs 624 +A+A+2CVE	Cr (VI) (218.6)	Fecal coliform (SM9221)	E. coli (SM9221)	Acute Toxicity	MST-Bacteroidales, Human	Comments
								R	A	A	A	A	A	A	A	
Outfall 009	W	1L Amber	2	Outfall 009_2014 Grab	2-22-14 0900	HCl	1A, 1B	X								
Outfall 009	W	VOAs	3	Outfall 009_2014 Grab		HCl	2A, 2B, 2C		X							
Outfall 009	W	VOAs	3	Outfall 009_2014 Grab		None	3A, 3B, 3C			X						
Trip Blanks	W	VOAs	3	TB-2014		HCl	4A, 4B, 4C		X							
Trip Blanks	W	VOAs	3	TB-2014		None	5A, 5B, 5C			X						
Outfall 009	W	500 mL Poly	1	Outfall 009_2014 Grab		None	6				X					
Outfall 009	W	125 mL Poly	1	Outfall 009_2014 Grab		Na2S2O3	7					X				
Outfall 009	W	125 mL Poly	1	Outfall 009_2014 Grab		Na2S2O3	8						X			
Outfall 009	W	1 Gal Cube	1	Outfall 009_2014 Grab		None	9							X		
Outfall 009	W	125mL Poly	1	Outfall 009_2014 Grab		None	13								X	Deliver to lab ASAP

ANALYSIS REQUIRED

Field readings:
(Log in and include in report Temp and pH. Include units)
Time of readings 0855
DO 5.2
pH 5.10 pH unit
Temp 12.78 °C


440-71418 Chain of Custody

These Samples are the Grab Portion of Outfall 009 for this storm event. Composite samples will follow and are to be added to this work order.

Legend: R = Routine, A = Annual

Relinquished By	Date/Time:	Received By	Date/Time:
	2/27/14 1039	Fedex	02/28/14 10:43
Relinquished By	Date/Time:	Received By	Date/Time:
	2/28/14 1334		
Relinquished By	Date/Time:	Received By	Date/Time:
			2-28-14 13:34

Turn-around time. (Check)
24 Hour ___ 72 Hour ___ 10 Day ___
48 Hours ___ 5 Day ___ Normal ___

Sample Integrity. (Check) 30/3.3/
Intact ___ On Ice ___

Data Requirements. (Check)
No Level IV ___ All Level IV ___ NPDES Level IV ___

TR-59

Please revise Sample ID's to: ZF 3/3/2014

Outfall009_20140228_Grab

TB-20140228

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

440-71648

① @ 11:30
To Aquatic Testing

Client Name/Address:	Project:
Haley & Aldrich 9040 Friars Road Suite 220 San Diego, CA 92108-5860	Boeing-SSFL NPDES Annual and Routine Outfall 009 COMPOSITE Stormwater at SW-13
Test America Contact: Debby Wilson	
Project Manager: Nancy Gardiner Sampler: A. Goldenberg	Phone Number: 619.285.7132, 858.337.4061(cell) Field Manager: Jeff Bannon 818.350.7340, 818.414.5608(cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.		Sampling Date/Time	Preservative	Bottle #	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	TCDD (and all congeners)	Cr, SO4, NO3+NO2-N	TDS	TSS	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1), Radium 228 (904.0), Uranium (908.0), K-40, Cs-137 (901.0 or 901.1)	Chronic Toxicity	Cyanide	Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Tl, Fe, Al, + PP, Hardness as $CaCO_3$	Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, B, V, Tl, Fe, Al, + PP, Hardness as $CaCO_3$	F, Perchlorate	Pesticides/PCBs, Chlorpyrifos, Diazinon + PP	SVOCs (625) + PP	Asbestos (100.2)	Comments
									R	R	R	R	R	R	R	R	R/A	A	A	A	A	A	A
Outfall 009	W	1L Poly	1	Outfall 009_2014	Comp	2-27-14 0213	HNO_3	2A	X										X					If R and A metals overlap, analyze once
Outfall 009	W	1L Amber	2	Outfall 009_2014	Comp		None	3A, 3B		X														
Outfall 009	W	500 mL Poly	2	Outfall 009_2014	Comp		None	4A, 4B			X										X			
Outfall 009	W	500 mL Poly	1	Outfall 009_2014	Comp		None	5				X												
Outfall 009	W	1L Poly	1	Outfall 009_2014	Comp		None	6						X							X			Filter w/in 24hrs of receipt at lab. If R and A metals overlap, analyze once
Outfall 009	W	2.5 Gal Cube	1	Outfall 009_2014	Comp		None	7A							X									Unfiltered and unpreserved analysis
		500 mL Amber	1	Outfall 009_2014	Comp		None	7B																
Outfall 009	W	1 Gal Poly	1	Outfall 009_2014	Comp		None	8								X								Only test if first or second rain events of the year
Outfall 009	W	500 mL Poly	1	Outfall 009_2014	Comp		NaOH	9									X							
Outfall 009	W	1L Amber	2	Outfall 009_2014	Comp		None	14A, 14B														X		
Outfall 009	W	1L Amber	2	Outfall 009_2014	Comp		None	15A, 15B															X	
Outfall 009	W	1L Poly	1	Outfall 009_2014	Comp		None	19																
Outfall 009	W	1L Poly	1	Outfall 009_2014	Comp		None	5					X											

COC Page 2 of 2 list the Composite Samples for Outfall 009 for this storm event.
These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.

Legend: R = Routine, A = Annual

440-71648 Chain of Custody

Relinquished By	Date/Time	Received By	Date/Time
	3/1/14 2-24-14 1000		3/1/14 1000
	3/1/14 1130	TESS DUNN DCS	1130
TESS DUNN	3/1/14 4:30PM		3/1/14 16:30

Turn around time: 24 Hour ____ 48 Hour ____ 72 Hour ____ 5 Day ____ 10 Day ____ Normal ____

Sample Integrity: (Check) Intact ✓ On Ice ✓ 4.0/2.8°C #63 2.5/1.3°C

Data Requirements: (Check) No Level IV ____ All Level IV ____ NPDES Level IV ____

Please revise sample IDs to:
Outfall009_20140228_Comp 2E 3-4-14

Test America Version 7/19/2010

CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich 9040 Friars Road Suite 220 San Diego, CA 92108-5860 Test America Contact: Debby Wilson	Project: Boeing-SSFL NPDES **Annual and Routine Outfall 009** **GRAB** Stormwater at SW-13
Project Manager: Nancy Gardiner Sampler: R. Bannon	Phone Number: 619.285.7132, 858.337.4061(cell) Field Manager: Jeff Bannon 818.350.7340, 818.414.5608(cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	R Oil & Grease (1664-HEM)	A VOCs 624, Xylenes + PP	A VOCs 624 +A1+A+2CVE	A Cr (VI) (218.6)	A Fecal coliform (SM9221)	A E. coli (SM9221)	A Acute Toxicity	A MST-Bacteriodales, Human
Outfall 009	W	1L Amber	2	Outfall 009_2014 Grab	2-27-14 0900	HCl	1A, 1B	X							
Outfall 009	W	VOAs	3	Outfall 009_2014 Grab		HCl	2A, 2B, 2C		X						
Outfall 009	W	VOAs	3	Outfall 009_2014 Grab		None	3A, 3B, 3C			X					
Trip Blanks	W	VOAs	3	TB-2014		HCl	4A, 4B, 4C		X						
Trip Blanks	W	VOAs	3	TB-2014		None	5A, 5B, 5C			X					
Outfall 009	W	500 mL Poly	1	Outfall 009_2014 Grab		None	6				X				
Outfall 009	W	125 mL Poly	1	Outfall 009_2014 Grab		Na2S2O3	7					X			
Outfall 009	W	125 mL Poly	1	Outfall 009_2014 Grab		Na2S2O3	8						X		
Outfall 009	W	1 Gal Cube	1	Outfall 009_2014 Grab		None	9							X	
Outfall 009	W	125mL Poly	1	Outfall 009_2014 Grab		None	13								X

ANALYSIS REQUIRED

Field readings:
(Log in and include in report Temp and pH. Include units)
Time of readings 0850
DO 5.20
pH 5.70 pH unit
Temp 12.70 °C

Comments

Deliver to lab ASAP

440-71418 Chain of Custody

These Samples are the Grab Portion of Outfall 009 for this storm event. Composite samples will follow and are to be added to this work order.

Legend: R = Routine, A = Annual

Relinquished By Date/Time: 2/27/14 1039	Received By Date/Time: 02/28/14 10:43	Turn-around time. (Check) 24 Hour ____ 72 Hour ____ 10 Day ____ 48 Hour ____ 5 Day ____ Normal. ____	
Relinquished By Date/Time. 2/28/14 1334	Received By Date/Time:	Sample Integrity. (Check) 3.0/3.3 / Intact. ____ On Ice. ____	
Relinquished By Date/Time.	Received By Date/Time: 2.28.14 13:34	Data Requirements. (Check) No Level IV. ____ All Level IV ____ NPDES Level IV ____	

IC-59

① @ 11:30
To Aquatic Testers

440-71648

Client Name/Address:	Project:	ANALYSIS REQUIRED
Haley & Aldrich 9040 Friars Road Suite 220 San Diego, CA 92108-5860	Boeing-SSFL NPDES **Annual and Routine Outfall 009** **COMPOSITE** Stormwater at SW-13	
Test America Contact: Debby Wilson		
Project Manager: Nancy Gardiner Sampler: A. Goiriena	Phone Number: 619.285.7132, 858.337.4061(cell) Field Manager: Jeff Bannon 818.350.7340, 818.414.5608(cell)	

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.		Sampling Date/Time	Preservative	Bottle #	R Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, Tl	R TCDD (and all congeners)	R Cl, SO_4, NO_3+NO_2-N	R TDS	R TSS	R Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, Tl	R Gross Alpha(900.0), Gross Beta(900.0), Tritium (H-3) (906.0), Sr-90 (905.0), Total Combined Radium 226 (903.0 or 903.1) & Radium 228 (904.0), Uranium (908.0), K-40, CS-137 (901.0 or 901.1)	R Chronic Toxicity	R/A Cyanide	A Total Recoverable Metals: Sb, Cd, Cu, Pb, Hg, B, V, Tl, Fe, Al, + PP, Hardness as $CaCO_3$	A Total Dissolved Metals: Sb, Cd, Cu, Pb, Hg, B, V, Tl, Fe, Al, + PP, Hardness as $CaCO_3$	A F, Perchlorate	A Pesticides/PCBs, Chlorpyrifos, Diazinon + PP	A SVOCs (625) + PP	A Asbestos (100.2)	Comments
Outfall 009	W	1L Poly	1	Outfall 009_2014	Comp	2-27-14 0213	HNO_3	2A	X									X						If R and A metals overlap, analyze once
Outfall 009	W	1L Amber	2	Outfall 009_2014	Comp		None	3A, 3B		X														
Outfall 009	W	500 mL Poly	2	Outfall 009_2014	Comp		None	4A, 4B			X										X			
Outfall 009	W	500 mL Poly	1	Outfall 009_2014	Comp		None	5				X												
Outfall 009	W	1L Poly	1	Outfall 009_2014	Comp		None	6						X						X				Filter w/in 24hrs of receipt at lab, If R and A metals overlap, analyze once
Outfall 009	W	2.5 Gal Cube	1	Outfall 009_2014	Comp		None	7A							X									Unfiltered and unpreserved analysis
		500 mL Amber	1	Outfall 009_2014	Comp		None	7B																
Outfall 009	W	1 Gal Poly	1	Outfall 009_2014	Comp		None	8								X								Only test if first or second rain events of the year
Outfall 009	W	500 mL Poly	1	Outfall 009_2014	Comp		NaOH	9									X							
Outfall 009	W	1L Amber	2	Outfall 009_2014	Comp		None	14A, 14B														X		
Outfall 009	W	1L Amber	2	Outfall 009_2014	Comp		None	16A, 16B															X	
Outfall 009	W	1L Poly	1	Outfall 009_2014	Comp		None	19																
Outfall 009	W	1L Poly	1	Outfall 009_2014	Comp		None	5					X											

COC Page 2 of 2 list the Composite Samples for Outfall 009 for this storm event.
These must be added to the same work order for COC Page 1 of 2 for Outfall 009 for the same event.
Legend: R = Routine, A = Annual

440-71648 Chain of Custody

Relinquished By	Date/Time	Received By	Date/Time
	3/1/14 2-28-14 1000		3/1/14 1000
	3/1/14 1130	TESS	DUNN DCS 11:30
TESS DUNN	3/1/14 4:30PM		3/1/14 16:30

Turn around time: 24 Hour ____ 48 Hour ____ 72 Hour ____ 5 Day ____ 10 Day ____ Normal ____

Sample Integrity: (Check) Intact ✓ On Ice ✓ 4.0/2.8°C #63 2.5/1.3°C

Data Requirements: (Check) No Level IV ____ All Level IV: ____ NPDES Level IV ____

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-71418-1

Login Number: 71418

List Source: TestAmerica Irvine

List Number: 1

Creator: Wilson, Debby S

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

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-71418-1

Login Number: 71648

List Source: TestAmerica Irvine

List Number: 1

Creator: Wilson, Debby S

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

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-71418-1

Login Number: 71648
List Number: 281
Creator: O'Tormey, Stephanie R

List Source: TestAmerica Denver
List Creation: 03/07/14 10:31 AM

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

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-71418-1

Login Number: 71648
List Number: 1
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis
List Creation: 03/04/14 12:06 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	3.1, 3.2
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-1

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
440-71553-A-3-J DU	Duplicate	105
440-71648-1	Outfall 009_20140228_Comp	93.5
LCS 160-108343/2-A	Lab Control Sample	106
MB 160-108343/1-A	Method Blank	107

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
440-71553-A-3-K DU	Duplicate	105	89.2
440-71648-1	Outfall 009_20140228_Comp	93.5	83.5
LCS 160-108344/2-A	Lab Control Sample	106	86.3
MB 160-108344/1-A	Method Blank	107	86.3

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 905 - Strontium-90 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Sr (C)	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
440-71553-A-3-G DU	Duplicate	88.5	93.6
440-71648-1	Outfall 009_20140228_Comp	81.9	96.0
LCS 160-108916/2-A	Lab Control Sample	92.4	86.7
MB 160-108916/1-A	Method Blank	91.1	90.4

Tracer/Carrier Legend

Sr (C) = Sr Carrier

Y = Y Carrier

Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		U-232
Lab Sample ID	Client Sample ID	(30-110)
440-71432-P-1-G DU	Duplicate	87.1
LCS 160-109757/2-A	Lab Control Sample	80.6
MB 160-109757/1-A	Method Blank	74.9

Tracer/Carrier Legend

U-232 = Uranium-232

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-71418-3
Client Project/Site: Boeing SSFL Outfall 009 Annual

For:
Haley & Aldrich, Inc.
9040 Friars Rd.
San Diego, California 92108

Attn: Nancy Gardiner

Debby Wilson

Authorized for release by:
4/28/2014 2:55:01 PM

Debby Wilson, Manager of Project Management
(949)261-1022
debby.wilson@testamericainc.com

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

Debby Wilson
Manager of Project Management
4/28/2014 2:55:01 PM

Table of Contents

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-71418-1	Outfall009_20140228_Grab	Water	02/28/14 09:00	02/28/14 13:34

Case Narrative

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-3

Job ID: 440-71418-3

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-71418-3

Comments
Client requested additional analysis, alkalinity, on sample 440-71418-1.

Receipt
The samples were received on 2/28/2014 1:34 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.3º C.

General Chemistry
Method(s) SM 2320B: The following sample and sample duplicate were analyzed from 40ml unpreserved glass vials outside of analytical holding time. Alkalinity test was requested by client on 4/25/14. (440-71418-1 DU), Outfall009_20140228_Grab (440-71418-1).

No other analytical or quality issues were noted.

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-3

Client Sample ID: Outfall009_20140228_Grab
Date Collected: 02/28/14 09:00
Date Received: 02/28/14 13:34

Lab Sample ID: 440-71418-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**16**	**BU**	4.0	4.0	mg/L			04/28/14 08:40	1
Bicarbonate Alkalinity as CaCO3	**16**	**BU**	4.0	4.0	mg/L			04/28/14 08:40	1
Carbonate Alkalinity as CaCO3	ND	BU	4.0	4.0	mg/L			04/28/14 08:40	1
Hydroxide Alkalinity as CaCO3	ND	BU	4.0	4.0	mg/L			04/28/14 08:40	1

Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-3

Method	Method Description	Protocol	Laboratory
SM 2320B	Alkalinity	SM	TAL IRV

Protocol References:

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

Laboratory References:

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

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-3

Client Sample ID: Outfall009_20140228_Grab
Date Collected: 02/28/14 09:00
Date Received: 02/28/14 13:34

Lab Sample ID: 440-71418-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2320B		1			178624	04/28/14 08:40	YZ	TAL IRV

Laboratory References:

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

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-3

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-178624/3
Matrix: Water
Analysis Batch: 178624

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/28/14 08:12	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/28/14 08:12	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/28/14 08:12	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/28/14 08:12	1

Lab Sample ID: LCS 440-178624/2
Matrix: Water
Analysis Batch: 178624

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity as CaCO3			86.3	86.9		mg/L		101	90 - 110		

Lab Sample ID: 440-71418-1 DU
Matrix: Water
Analysis Batch: 178624

Client Sample ID: Outfall009_20140228_Grab
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	16	BU		16.3		mg/L				5	20
Bicarbonate Alkalinity as CaCO3	16	BU		16.3		mg/L				5	20
Carbonate Alkalinity as CaCO3	ND	BU		ND		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND	BU		ND		mg/L				NC	20

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-3

General Chemistry

Analysis Batch: 178624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-71418-1	Outfall009_20140228_Grab	Total/NA	Water	SM 2320B	
440-71418-1 DU	Outfall009_20140228_Grab	Total/NA	Water	SM 2320B	
LCS 440-178624/2	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 440-178624/3	Method Blank	Total/NA	Water	SM 2320B	

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-3

Qualifiers

General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time

Glossary

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

Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: Boeing SSFL Outfall 009 Annual

TestAmerica Job ID: 440-71418-3

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-14
Arizona	State Program	9	AZ0671	10-13-14
California	LA Cty Sanitation Districts	9	10256	01-31-15
California	State Program	9	2706	06-30-14
Hawaii	State Program	9	N/A	01-29-15 *
Nevada	State Program	9	CA015312007A	07-31-14
New Mexico	State Program	6	N/A	01-29-15
Northern Mariana Islands	State Program	9	MP0002	01-31-14 *
Oregon	NELAP	10	4005	01-29-15
USDA	Federal		P330-09-00080	06-06-14
USEPA UCMR	Federal	1	CA01531	01-31-15

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

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 440-71418-3

Login Number: 71418

List Source: TestAmerica Irvine

List Number: 1

Creator: Wilson, Debby S

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

DATA VALIDATION REPORT

Haley & Aldrich Boeing SSFL Stormwater

SAMPLE DELIVERY GROUP: 440-71553-1

Prepared by

MEC^X
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Haley & Aldrich Boeing SSFL Stormwater
Contract Task Order:	1272.003H.01 001
Sample Delivery Group:	440-71553-1
Project Manager:	K. Miller
Matrix:	Water
QC Level:	IV
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Laboratory:	TestAmerica Irvine

Table 1. Sample Identification

Sample Name	*Lab Sample Name*	*Sub-Lab Sample Name*	*Matrix*	*Collection*	*Method*
Outfall010_20140228_Grab	440-71553-1	N/A	Water	2/28/2014 12:00:00 PM	E1613B, E1664, E200.7, E200.8, E218.6, E245.1, E300, E314.0, E525.2, E608, E624, E625, E900, E901.1, E903.0, E904.0, E905.0, E906.0, HASL-300 U Mod, SM2540C, SM2540D, SM4500-CN-E, SM4500F-C, SM9221E, SM9221F
TB3-20140228	440-71553-2	N/A	Water	2/28/2014 12:00:00 PM	E624

II. Sample Management

No anomalies were observed regarding sample management. The sample in this SDG was received at the laboratory on ice. The sample was transported directly from the field via courier and was received within the temperature limits of 4°C ±2°C. According to the laboratory sample receipt log for this SDG, the sample containers were received intact and properly preserved, as applicable. The COC was appropriately signed and dated by field and laboratory personnel. Custody seal were not utilized to transfer the sample to TestAmerica-St. Louis.

A revised COC was provided in the data package noting the sample IDs listed on pages 1 and 2 should be changed to Outfall010_20140228_Grab.

Data Qualifier Reference Table

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

Qualification Code Reference Table

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

Qualification Code Reference Table Cont.

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

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: L. Calvin
Date Reviewed: April 2, 2014

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613B*, and the *National Functional Guidelines Chlorinated Dioxin/Furan Data Review* (2011).

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted and analyzed within one year of collection.

- Instrument Performance: Instrument performance criteria were met. Following are findings associated with instrument performance.

    - GC Column Performance: A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was analyzed prior to the initial calibration sequence and at the beginning of each analytical sequence. The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%.

    - Mass Spectrometer Performance: The mass spectrometer performance was acceptable with the static resolving power greater than 10,000.

- Calibration: Calibration criteria were met.

    - Initial Calibration: Initial calibration criteria were met. The initial calibration was acceptable with %RSDs ≤20% for the 15 native compounds (calibration by isotope dilution) and ≤35% for the two native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the Method 1613B control limits for all standards.

    - Continuing Calibration: Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of the analytical sequence. The VER was acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613B. The ion abundance ratios and relative retention times were within the method control limits.

- Blanks: The method blank had a detect below the reporting limit for OCDD at 0.0000072 µg/L; however, the concentration of OCDD in the associated sample significantly exceeded the method blank concentration and required no qualification. The method blank had no other detects above the estimated detection limit (EDL).

- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613B.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: This SDG had no identified field duplicate samples.

- Internal Standards Performance: The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613B. As 2,3,7,8-TCDF was not detected in the sample, confirmation analysis was unnecessary.

- Compound Identification: Compound identification was verified. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613B.

- Compound Quantification and Reported Detection Limits: Compound quantitation was verified by recalculating any sample detects and a representative number of blank spike concentrations. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J." Any detects between the EDL and the reporting limit (RL) were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Nondetects are valid to the EDL.

  Totals HxCDD and HxCDF were flagged by the laboratory as containing one or more EMPC peaks. The results for both totals were qualified as estimated, "J."

B. EPA METHODS 200.7, 200.8, and 245.1—Metals and Mercury

Reviewed By: P. Meeks
Date Reviewed: April 1, 2014

The sample listed in Table 1 for these analyses was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 200.7, 200.8, 245.1*, *Standard Methods for the Examination of Water and Wastewater Method* (2012) *2340B*, and the *National Functional Guidelines for Inorganic Data Review* (2010).

- Holding Times: Analytical holding times, six months for ICP and ICP-MS metals and 28 days for mercury, were met.

- Tuning: The mass calibration and resolution checks criteria were met. All tuning solution %RSDs were ≤5%, and all masses of interest were calibrated to ≤ 0.1 amu and ≤0.9 amu at 10% peak height.

- Calibration: Calibration criteria were met. Mercury initial calibration r^2 values were ≥0.995 and all initial and continuing calibration recoveries were within 90-110% for the ICP and ICP-MS metals and 85-115% for mercury. The mercury CRA associated with the dissolved analysis was recovered at 67%; therefore, nondetected dissolved mercury in the sample was qualified as estimated, "UJ." The remaining CRDL/CRI recoveries were within the control limits of 70-130%.

- Blanks: Dissolved zinc was detected in the method blank at 16.4 µg/L; therefore, dissolved zinc in the sample was qualified as nondetected, "U," at the level of contamination. Dissolved hardness was also detected in the method blank, but not at sufficient concentration to qualify the site sample. Method blanks and CCBs had no other detects.

- Interference Check Samples: Recoveries were within 80-120%. There were negative results and detects for some unspiked analytes in the ICSAs; however, as the sample concentrations of the interferents were significantly lower than the interferent ICSA concentrations, the sample was not assessed for matrix interference.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG for all total analytes and the dissolved 200.8 analytes. Results were not assessed when the native concentration was more than 4× the spike amount. Recoveries and RPDs were within laboratory-established QC limits.

- Serial Dilution: No serial dilution analyses were performed on the sample in this SDG.

- Internal Standards Performance: All sample internal standard intensities were within 30-120% of the internal standard intensities measured in the initial calibration.

- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

C. EPA METHOD 625 (Low Level)—Semivolatile Organic Compounds (SVOCs)

Reviewed By: L. Calvin
Date Reviewed: April 2, 2014

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Semivolatile Organics (DVP-3, Rev. 0), EPA Method 8270C*, and the *National Functional Guidelines for Organic Data Review* (2008).

- Holding Times: Extraction and analytical holding times were met. The unpreserved water sample was extracted within seven days of collection and analyzed within 40 days of extraction.

- GC/MS Tuning: The DFTPP met the method ion abundance criteria. The sample was analyzed within 12 hours of the DFTPP injection time.

- Calibration: Initial calibration average RRFs were ≥0.05. The initial calibration %RSDs were ≤35% or r^2 values ≥0.990. ICV and CCV RRFs were ≥0.05, and %Ds were ≤20%.

- Blanks: The method blank had a detect below the reporting limit for benzoic acid at 2.36(J) µg/L. Benzoic acid was detected in the sample at a concentration greater than five times the method blank concentration and required no qualification. The method blank had no other target compound detects above the MDL.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established control limits. The RPD for 3,3'-dichlorobenzidine exceeded the control limit of ≤25%, at 32%; however, as recoveries were acceptable and 3,3'-dichlorobenzidine was not detected in the associated sample, no qualification was necessary. Remaining RPDs were within the laboratory-established control limit.

- Surrogate Recovery: Surrogate recoveries were within laboratory-established control limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample from this SDG. Evaluation of method accuracy and precision was based on LCS/LCSD results.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: This SDG had no identified field duplicate samples.

- Internal Standards Performance: The internal standard area counts and retention times were within the control limits of -50%/+100% for internal standard areas and ±30 seconds for retention times established by the continuing calibration standards.

- Compound Identification: Compound identification was verified. The laboratory analyzed semivolatile target compounds by Method 625. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any result reported between the MDL and the reporting limit was qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the reporting limit. Benzoic acid was reported from a 10× dilution in order to report the result within linear range of the calibration. Remaining results were reported from the undiluted analysis.

- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG.

- System Performance: Review of the raw data indicated no problems with system performance.

D. EPA METHOD 314.0—Perchlorate

Reviewed By: P. Meeks
Date Reviewed: April 4, 2014

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Metals (DVP-20, Rev. 0), EPA Method 314.0*, and the *National Functional Guidelines for Inorganic Data Review* (2010).

- Holding Times: The analytical holding time, 28 days, was met.

- Calibration: Calibration criteria were met. The initial calibration r^2 value was ≥0.995 and the ICV recovery was within 90-110%. The CCV recoveries were within the method control limits of 85-115%. The IPC recovery was within the method control limit of 80-120%. The ICCS recovery was within the method control limit of 75-125%

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: The recovery was within the method control limits of 85-115%.

- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.

- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results.

- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

E. EPA METHOD 608 (Low Level)—Pesticides and PCBs

Reviewed By: P. Meeks
Date Reviewed: April 1, 2014

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Organochlorine Pesticides/PCBs by GC (DVP-4, Rev. 0), EPA Method 608*, and the *National Functional Guidelines for Organic Data Review* (2008).

- Holding Times: Extraction and analytical holding times were met. The sample was extracted within seven days of collection and analyzed within 40 days of extraction.

- Calibration: The initial calibrations had %RSDs of ≤10% or r^2 of ≥0.990 on both analytical columns.

  The closing pesticide CCV had an individual chlordane peak with a %D of 15.6%; however, as this was associated with a high recovery, no qualification was applied. In the same CCV, a chlordane peak was reported as not found. The reviewer checked the chromatogram and noted the peak was present and approximately the same size as the acceptable opening CCV; therefore, no qualification was applied.

  The PCB ICV had an individual Aroclor-1016 peak with a %D of 17.9% and the opening CCV had an individual Aroclor-1016 peak with a %D of 15.1%; however, as these were associated with high recoveries, no qualification was applied.

  The ICVs and remaining CCVs had %Ds within the QC limit of ≤15%. As there were no primary column detects to confirm, secondary column CCVs were not assessed. The breakdown totals for endrin and 4,4'-DDT were ≤15%.

- Blanks: The method blanks had no confirmed target compounds detected.

- Blank Spikes and Laboratory Control Samples: Recoveries and RPDs were within the laboratory-established QC limits. Chlordane and toxaphene were not spiked in the pesticide LCS/LCSD.

- Surrogate Recovery: Recoveries were within the laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample from this SDG. Evaluation of method accuracy and precision was based on the LCS/LCSD results.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

  - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

  - Field Duplicates: This SDG had no identified field duplicate samples.

- Compound Identification: Compound identification was verified. Review of the sample chromatograms and retention times indicated no problems with target compound identification. The laboratory analyzed for select pesticides and PCB Aroclors by Method 608.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any result reported between the MDL and the reporting limit was qualified as estimated, "J," and coded with "DNQ" in order to comply with the NPDES permit. Any reported nondetect is valid to the reporting limit.

F. EPA METHOD 525.2—Diazinon and Chlorpyrifos

Reviewed By: L. Calvin
Date Reviewed: April 2, 2014

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Semivolatile Organics (DVP-3, Rev. 0), EPA Method 525.2*, and the *National Functional Guidelines for Organic Data Review* (2008).

- Holding Times: The sample was extracted 27.5 hours after collection. As the sample was not extracted within 24 hours of collection, the nondetected result for diazinon was qualified as estimated, "UJ." Chlorpyrifos was extracted within 14 days of collection and both samples were analyzed within 30 days of extraction.

- GC/MS Tuning: The DFTPP tunes met the method abundance criteria. The sample was analyzed within 12 hours of the DFTPP injection time.

- Calibration: Calibration criteria were met. The initial calibration average RRFs were ≥0.05 and %RSDs ≤30%. The continuing calibration RRFs were ≥0.05 and recoveries were within the method QC limits of 70-130%.

- Blanks: The method blank had no target compound detects.

- Blank Spikes and Laboratory Control Samples: The recoveries and RPDs were within laboratory-established control limits.

- Surrogate Recovery: The surrogate triphenylphosphate was recovered above the control limits of 70-130% at 212%; however, as the sample had no target compound detects, no qualification was necessary. Remaining recoveries were within the control limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the sample in this SDG. Method accuracy and precision were evaluated based on the LCS/LCSD results.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

- Field Duplicates: This SDG had no identified field duplicate samples.

- Internal Standards Performance: Area counts for phenanthrene-d10 and chrysene-d12 were below the control limits; therefore, the nondetected result for diazinon associated with phenanthrene-d10 was qualified as estimated, "UJ." As chlorpyrifos did not reference either of the IS outliers, no further qualification was necessary. The remaining internal standard area counts were within the method control limits established by the continuing calibration standards of ±30%. The retention times were within ±30 seconds.

- Compound Identification: Compound identification was verified. The laboratory analyzed for chlorpyrifos and diazinon by Method 525.2. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Reported nondetects are valid to the reporting limit.

- Tentatively Identified Compounds: TICs were not reported by the laboratory for this analysis.

- System Performance: Review of the raw data indicated no problems with system performance.

G. VARIOUS EPA METHODS — Radionuclides

Reviewed By: P. Meeks
Date Reviewed: April 8, 2014

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the *EPA Methods 900.0, 901.1, 903.1, 904.0, 905.0, and 906.0, HASL-300 modified,* and the *National Functional Guidelines for Inorganic Data Review* (2010).

- Holding Times: The tritium sample was analyzed within 180 days of collection. All remaining aliquots were preserved within the five-day holding time.

- Calibration: The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

  The radium-226 and gross alpha detector efficiencies were less than 20%; therefore, the results for these analytes were qualified as estimated, "UJ," for nondetected gross alpha and, "J," for radium-226. The remaining detector efficiencies were greater than 20%.

The tritium aliquot was spiked for efficiency determination; therefore, no calibration was necessary. All chemical yields were within the laboratory control limits. The uranium initial and continuing calibration efficiency checks were within the laboratory established control limits. The gamma spectroscopy analytes were determined at the maximum photopeak energy and all daily and annual checks were within the laboratory control limits.

- Blanks: There were no analytes detected in the method blanks or CCBs.

- Blank Spikes and Laboratory Control Samples: The recoveries were within laboratory-established control limits.

- Laboratory Duplicates: A laboratory duplicate analysis was performed on the sample in this SDG for the radium isotopes and strontium-90. The results were within the analyte error margin.

- Matrix Spike/Matrix Spike Duplicate: A matrix spike analysis was performed on the sample in this SDG for tritium. The recovery was within the laboratory control limits.

- Sample Result Verification: An EPA Level IV review was performed for the sample in this data package. The sample results and MDCs reported on the sample result form were verified against the raw data and no calculation or transcription errors were noted. Any detects between the MDC and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDC.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

H. EPA METHOD 624 (Low Level)—Volatile Organic Compounds (VOCs)

Reviewed By: L. Calvin
Date Reviewed: April 2, 2014

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0), EPA Method 624*, and the *National Functional Guidelines for Organic Data Review* (2008).

- Holding Times: Analytical holding times were met. The unpreserved aliquots of the water samples were analyzed within seven days of collection and the preserved aliquots were analyzed within 14 days of collection.

- GC/MS Tuning: The BFB tunes met the method abundance criteria. The samples were analyzed within 12 hours of the BFB injection time.

- Calibration: Calibration criteria were met. The initial calibration average RRFs and the ICV and continuing calibration RRFs were ≥0.05 for all applicable target compounds. The initial calibration %RSDs were ≤35%, or r^2 values ≥0.990. The second source ICV and all applicable CCV recoveries were within the method control limits.

- Blanks: The method blanks had no target compound detects.

- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on the site sample of this SDG. Method accuracy was evaluated based on LCS results.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Trip Blanks: Sample TB3-20140228 was the trip blank associated with the site sample in this SDG. The trip blank had no target compounds detected above the MDL.

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: This SDG had no identified field duplicate samples.

- Internal Standards Performance: The internal standard retention times and area counts were within the control limits established by the continuing calibration standards: ±30 seconds for retention times and -50%/+100% for internal standard areas.

- Compound Identification: Compound identification was verified. Review of the sample chromatograms, retention times, and spectra indicated no problems with target compound identification.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified. The reporting limits were supported by the low point of the initial calibration and

the laboratory MDLs. Any result reported between the MDL and the reporting limit was qualified as estimated, "J," and coded with "DNQ" in order to comply with the NPDES permit. Reported nondetects are valid to the reporting limit.

- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG.

- System Performance: Review of the raw data indicated no problems with system performance.

I. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks
Date Reviewed: April 2, 2014

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Methods 218.6, 300.0, 1664*, *Standard Methods for the Examination of Water and Wastewater* (2006) *Methods 2540C, 2540D, 4500-CN+E, 4500F-C, 9221E, and 9221F*, and the *National Functional Guidelines for Inorganic Data Review* (2010).

- Holding Times: The e. coli and fecal coliform analytical holding times are listed as immediate. As the sample was prepared within eight hours of collection, no qualifications were required. The remaining analytical holding times, as listed below, were met.

  - Oil and Grease – 28 days
  - Hexavalent chromium – 24 hours
  - Unpreserved nitrate/nitrite – 48 hours
  - Anions – 28 days
  - TDS and TSS – seven days
  - Cyanide – 14 days

- Calibration: Calibration criteria were met. Initial calibration r^2 values were $\geq$0.995 and all initial and continuing calibration recoveries were within 90-110%. The biological controls and balance calibration logs were acceptable.

- Blanks: Method blanks and CCBs had no detects.

- Blank Spikes and Laboratory Control Samples: Recoveries and the oil and grease RPD were within laboratory-established QC limits.

- Laboratory Duplicates: No laboratory duplicate analyses were performed on the sample in this SDG.

- Matrix Spike/Matrix Spike Duplicate: No MS/MSD analyses were performed on the sample in this SDG. Method accuracy was evaluated based on LCS results. Oil and grease method accuracy and precision was evaluated based on LCS/LCSD results.

- Sample Result Verification: Calculations were verified and the sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. When the sample results were qualified and the reviewer was able to clearly determine bias, detected results were qualified as either "J+" or "J-"; otherwise, bias was not indicated in the qualification. Any detects between the method detection limit and the reporting limit were qualified as estimated, "J," and coded with "DNQ," in order to comply with the NPDES permit. Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.

    - Field Duplicates: There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 440715531

Analysis Method E1613B

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	N	39001-02-0	0.0000435	0.00009530.0		ug/L	J	J	DNQ
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	N	3268-87-9	0.000764	0.00009530.0		ug/L	B		
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	N	67562-39-4	0.0000147	0.00004770.0		ug/L	J	J	DNQ
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	N	35822-46-9	0.0000719	0.00004770.0		ug/L			
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	N	55673-89-7		0.00004770.0		ug/L	U	U	
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	N	70648-26-9		0.00004770.0		ug/L	U	U	
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	N	39227-28-6		0.00004770.0		ug/L	U	U	
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	57117-44-9		0.00004770.0		ug/L	U	U	
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	N	57653-85-7	0.00000386	0.00004770.0		ug/L	QJ	UJ	*III
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	N	72918-21-9		0.00004770.0		ug/L	U	U	
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	N	19408-74-3		0.00004770.0		ug/L	U	U	
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	N	57117-41-6		0.00004770.0		ug/L	U	U	
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	N	40321-76-4		0.00004770.0		ug/L	U	U	
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	60851-34-5		0.00004770.0		ug/L	U	U	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	N	57117-31-4		0.00004770.0		ug/L	U	U	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	N	51207-31-9		0.00000950.0		ug/L	U	U	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	N	1746-01-6		0.00000950.0		ug/L	U	U	
Total Heptachlorodibenzofuran (HpCDF)	N	38998-75-3	0.0000325	0.00004770.0		ug/L	J	J	DNQ
Total Heptachlorodibenzo-p-dioxin (HpCDD)	N	37871-00-4	0.000168	0.00004770.0		ug/L			

Analysis Method E1613B

Total Hexachlorodibenzofuran (HxCDF)	N	55684-94-1	0.00000993	0.00004	770.0	ug/L	JQ	J	DNQ, *III
Total Hexachlorodibenzo-p-dioxin (HxCDD)	N	34465-46-8	0.0000160	0.00004	770.0	ug/L	JQ	J	DNQ, *III
Total Pentachlorodibenzofuran (PeCDF)	N	30402-15-4		0.00004	770.0	ug/L	U	U	
Total Pentachlorodibenzo-p-dioxin (PeCDD)	N	36088-22-9		0.00004	770.0	ug/L	U	U	
Total Tetrachlorodibenzofuran (TCDF)	N	55722-27-5		0.00000	950.0	ug/L	U	U	
Total Tetrachlorodibenzo-p-dioxin (TCDD)	N	41903-57-5		0.00000	950.0	ug/L	U	U	

Analysis Method E1664

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Oil and Grease	N	OILGREASE		4.7	1.3	mg/L	U	U	

Analysis Method E200.7

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	T	7429-90-5	6100	50	25	ug/L			
Aluminum	D	7429-90-5	150	50	25	ug/L	QP		
Arsenic	D	7440-38-2		10	7.0	ug/L	UQP	U	
Arsenic	T	7440-38-2		10	7.0	ug/L	U	U	
Beryllium	D	7440-41-7		2.0	0.90	ug/L	UQP	U	
Beryllium	T	7440-41-7	1.2	2.0	0.90	ug/L	J,DX	J	DNQ
Boron	D	7440-42-8	0.10	0.050	0.025	mg/L	QP		
Boron	T	7440-42-8	0.097	0.050	0.025	mg/L			
Chromium	T	7440-47-3	9.7	5.0	2.0	ug/L			
Chromium	D	7440-47-3		5.0	2.0	ug/L	UQP	U	
Hardness as CaCO3	D	HARDNESSCACO3	31	0.33	0.17	mg/L	MBQP		
Hardness as CaCO3	T	HARDNESSCACO3	56	0.33	0.17	mg/L			
Iron	T	7439-89-6	7.8	0.040	0.020	mg/L			
Iron	D	7439-89-6	0.11	0.040	0.020	mg/L	QP		
Nickel	T	7440-02-0	7.9	10	2.0	ug/L	J,DX	J	DNQ
Nickel	D	7440-02-0	2.2	10	2.0	ug/L	J,DXQP	J	DNQ

Analysis Method E200.7

Vanadium	T	7440-62-2	17	10	3.0	ug/L			
Vanadium	D	7440-62-2		10	3.0	ug/L	UQP	U	
Zinc	T	7440-66-6	62	20	9.0	ug/L			
Zinc	D	7440-66-6	12	20	9.0	ug/L	J,DXMBQ	U	B

Analysis Method E200.8

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	T	7440-36-0	0.70	2.0	0.50	ug/L	J,DX	J	DNQ
Antimony	D	7440-36-0		2.0	0.50	ug/L	UQP	U	
Cadmium	T	7440-43-9		1.0	0.25	ug/L	U	U	
Cadmium	D	7440-43-9		1.0	0.25	ug/L	UQP	U	
Copper	T	7440-50-8	12	2.0	0.50	ug/L			
Copper	D	7440-50-8	3.6	2.0	0.50	ug/L	QP		
Lead	T	7439-92-1	5.6	1.0	0.50	ug/L			
Lead	D	7439-92-1		1.0	0.50	ug/L	UQP	U	
Selenium	T	7782-49-2		2.0	0.50	ug/L	U	U	
Selenium	D	7782-49-2		2.0	0.50	ug/L	UQP	U	
Silver	D	7440-22-4		1.0	0.50	ug/L	UQP	U	
Silver	T	7440-22-4		1.0	0.50	ug/L	U	U	
Thallium	D	7440-28-0		1.0	0.50	ug/L	UQP	U	
Thallium	T	7440-28-0		1.0	0.50	ug/L	U	U	

Analysis Method E218.6

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chromium VI (Hexavalent)	N	18540-29-9	0.47	1.0	0.25	ug/L	J,DX	J	DNQ

Analysis Method E245.1

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	T	7439-97-6		0.20	0.10	ug/L	U	U	
Mercury	D	7439-97-6		0.20	0.10	ug/L	UQP	UJ	R

Analysis Method E300

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Nitrite/Nitrate	N	NO2NO3	2.0	0.15	0.070	mg/L			

Analysis Method E300-28DAY

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	N	16887-00-6	6.3	0.50	0.25	mg/L			
Sulfate	N	14808-79-8	15	0.50	0.25	mg/L			

Analysis Method E314.0

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Perchlorate	N	14797-73-0		4.0	0.95	ug/L	U	**U**	

Analysis Method E525.2

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chlorpyrifos	N	2921-88-2		0.96	0.077	ug/L	UGR	**U**	
Diazinon	N	333-41-5		0.24	0.096	ug/L	UGR	**U**	**H, I**

Analysis Method E608

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
4,4'-DDD	N	72-54-8		0.0047	0.0038	ug/L	U	**U**	
4,4'-DDE	N	72-55-9		0.0047	0.0028	ug/L	U	**U**	

Analysis Method E608

4,4'-DDT	N	50-29-3	0.0094	0.0038	ug/L	U	U
Aldrin	N	309-00-2	0.0047	0.0014	ug/L	U	U
alpha-BHC	N	319-84-6	0.0047	0.0024	ug/L	U	U
Aroclor-1016 (PCB-1016)	N	12674-11-2	0.47	0.24	ug/L	U	U
Aroclor-1221 (PCB-1221)	N	11104-28-2	0.47	0.24	ug/L	U	U
Aroclor-1232 (PCB-1232)	N	11141-16-5	0.47	0.24	ug/L	U	U
Aroclor-1242 (PCB-1242)	N	53469-21-9	0.47	0.24	ug/L	U	U
Aroclor-1248 (PCB-1248)	N	12672-29-6	0.47	0.24	ug/L	U	U
Aroclor-1254 (PCB-1254)	N	11097-69-1	0.47	0.24	ug/L	U	U
Aroclor-1260 (PCB-1260)	N	11096-82-5	0.47	0.24	ug/L	U	U
beta-BHC	N	319-85-7	0.0094	0.0038	ug/L	U	U
Chlordane	N	57-74-9	0.094	0.075	ug/L	U	U
delta-BHC	N	319-86-8	0.0047	0.0033	ug/L	U	U
Dieldrin	N	60-57-1	0.0047	0.0019	ug/L	U	U
Endosulfan I	N	959-98-8	0.0047	0.0028	ug/L	U	U
Endosulfan II	N	33213-65-9	0.0047	0.0019	ug/L	U	U
Endosulfan sulfate	N	1031-07-8	0.0094	0.0028	ug/L	U	U
Endrin	N	72-20-8	0.0047	0.0019	ug/L	U	U
Endrin aldehyde	N	7421-93-4	0.0094	0.0019	ug/L	U	U
gamma-BHC (Lindane)	N	58-89-9	0.0094	0.0028	ug/L	U	U
Heptachlor	N	76-44-8	0.0094	0.0028	ug/L	U	U
Heptachlor epoxide	N	1024-57-3	0.0047	0.0024	ug/L	U	U
Toxaphene	N	8001-35-2	0.47	0.24	ug/L	U	U

Analysis Method E624

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	N	71-55-6		0.50	0.25	ug/L	U	U	
1,1,2,2-Tetrachloroethane	N	79-34-5		0.50	0.25	ug/L	U	U	
1,1,2-Trichloroethane	N	79-00-5		0.50	0.25	ug/L	U	U	
1,1-Dichloroethane	N	75-34-3		0.50	0.25	ug/L	U	U	
1,1-Dichloroethene	N	75-35-4		0.50	0.25	ug/L	U	U	
1,2-Dichlorobenzene	N	95-50-1		0.50	0.50	ug/L	U	U	
1,2-Dichloroethane	N	107-06-2		0.50	0.25	ug/L	U	U	
1,2-Dichloropropane	N	78-87-5		0.50	0.25	ug/L	U	U	
1,3-Dichlorobenzene	N	541-73-1		0.50	0.25	ug/L	U	U	
1,4-Dichlorobenzene	N	106-46-7		0.50	0.25	ug/L	U	U	
2-Chloroethyl vinyl ether	N	110-75-8		2.0	1.0	ug/L	U	U	
Acrolein	N	107-02-8		5.0	2.5	ug/L	U	U	

Analysis Method E624

Acrylonitrile	N	107-13-1	2.0	1.0	ug/L	U	U
Benzene	N	71-43-2	0.50	0.25	ug/L	U	U
Bromodichloromethane	N	75-27-4	0.50	0.25	ug/L	U	U
Bromoform	N	75-25-2	1.0	0.25	ug/L	U	U
Bromomethane (Methyl Bromide)	N	74-83-9	0.50	0.25	ug/L	U	U
Carbon tetrachloride	N	56-23-5	0.50	0.25	ug/L	U	U
Chlorobenzene	N	108-90-7	0.50	0.25	ug/L	U	U
Chloroethane	N	75-00-3	0.50	0.25	ug/L	U	U
Chloroform (Trichloromethane)	N	67-66-3	0.50	0.25	ug/L	U	U
Chloromethane (Methyl Chloride)	N	74-87-3	0.50	0.25	ug/L	ULQ	U
cis-1,3-Dichloropropene	N	10061-01-5	0.50	0.25	ug/L	U	U
Dibromochloromethane	N	124-48-1	0.50	0.25	ug/L	U	U
Ethylbenzene	N	100-41-4	0.50	0.25	ug/L	U	U
Methylene chloride	N	75-09-2	1.0	0.88	ug/L	U	U
Tetrachloroethene	N	127-18-4	0.50	0.25	ug/L	U	U
Toluene	N	108-88-3	0.50	0.25	ug/L	U	U
trans-1,2-Dichloroethene	N	156-60-5	0.50	0.25	ug/L	U	U
trans-1,3-Dichloropropene	N	10061-02-6	0.50	0.25	ug/L	U	U
Trichloroethene	N	79-01-6	0.50	0.25	ug/L	U	U
Trichlorofluoromethane (CFC-11)	N	75-69-4	0.50	0.25	ug/L	U	U
Vinyl chloride	N	75-01-4	0.50	0.25	ug/L	U	U
Xylene (total)	N	1330-20-7	1.0	0.50	ug/L	U	U

Sample Name TB3-20140228 **Matrix Type:** WQ **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-2

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,1,1-Trichloroethane	N	71-55-6		0.50	0.25	ug/L	U	U	
1,1,2,2-Tetrachloroethane	N	79-34-5		0.50	0.25	ug/L	U	U	
1,1,2-Trichloroethane	N	79-00-5		0.50	0.25	ug/L	U	U	
1,1-Dichloroethane	N	75-34-3		0.50	0.25	ug/L	U	U	
1,1-Dichloroethene	N	75-35-4		0.50	0.25	ug/L	U	U	
1,2-Dichloro-1,1,2-trifluoroethane	N	354-23-4		2.0	1.0	ug/L	U	U	
1,2-Dichlorobenzene	N	95-50-1		0.50	0.50	ug/L	U	U	
1,2-Dichloroethane	N	107-06-2		0.50	0.25	ug/L	U	U	
1,2-Dichloropropane	N	78-87-5		0.50	0.25	ug/L	U	U	
1,3-Dichlorobenzene	N	541-73-1		0.50	0.25	ug/L	U	U	
1,4-Dichlorobenzene	N	106-46-7		0.50	0.25	ug/L	U	U	
2-Chloroethyl vinyl ether	N	110-75-8		2.0	1.0	ug/L	U	U	
Acrolein	N	107-02-8		5.0	2.5	ug/L	U	U	
Acrylonitrile	N	107-13-1		2.0	1.0	ug/L	U	U	
Benzene	N	71-43-2		0.50	0.25	ug/L	U	U	

Analysis Method E624

Bromodichloromethane	N	75-27-4	0.50	0.25	ug/L	U	U
Bromoform	N	75-25-2	1.0	0.25	ug/L	U	U
Bromomethane (Methyl Bromide)	N	74-83-9	0.50	0.25	ug/L	U	U
Carbon tetrachloride	N	56-23-5	0.50	0.25	ug/L	U	U
Chlorobenzene	N	108-90-7	0.50	0.25	ug/L	U	U
Chloroethane	N	75-00-3	0.50	0.25	ug/L	U	U
Chloroform (Trichloromethane)	N	67-66-3	0.50	0.25	ug/L	U	U
Chloromethane (Methyl Chloride)	N	74-87-3	0.50	0.25	ug/L	ULQ	U
cis-1,2-Dichloroethene	N	156-59-2	0.50	0.25	ug/L	U	U
cis-1,3-Dichloropropene	N	10061-01-5	0.50	0.25	ug/L	U	U
Cyclohexane	N	110-82-7	2.0	1.0	ug/L	U	U
Dibromochloromethane	N	124-48-1	0.50	0.25	ug/L	U	U
Ethylbenzene	N	100-41-4	0.50	0.25	ug/L	U	U
Methylene chloride	N	75-09-2	1.0	0.88	ug/L	U	U
Tetrachloroethene	N	127-18-4	0.50	0.25	ug/L	U	U
Toluene	N	108-88-3	0.50	0.25	ug/L	U	U
trans-1,2-Dichloroethene	N	156-60-5	0.50	0.25	ug/L	U	U
trans-1,3-Dichloropropene	N	10061-02-6	0.50	0.25	ug/L	U	U
Trichloroethene	N	79-01-6	0.50	0.25	ug/L	U	U
Trichlorofluoromethane (CFC-11)	N	75-69-4	0.50	0.25	ug/L	U	U
Trifluorotrichloroethane (Freon 113)	N	76-13-1	2.0	0.50	ug/L	U	U
Vinyl chloride	N	75-01-4	0.50	0.25	ug/L	U	U
Xylene (total)	N	1330-20-7	1.0	0.50	ug/L	U	U

Analysis Method E625

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,4-Trichlorobenzene	N	120-82-1		0.948	0.474	ug/L	U	U	
1,2-Dichlorobenzene	N	95-50-1		0.474	0.190	ug/L	U	U	
1,2-Diphenylhydrazine	N	122-66-7		0.948	0.474	ug/L	U	U	
1,3-Dichlorobenzene	N	541-73-1		0.474	0.190	ug/L	U	U	
1,4-Dichlorobenzene	N	106-46-7		0.474	0.190	ug/L	U	U	
2,2'-oxybis(1-Chloropropane)	N	108-60-1		0.474	0.190	ug/L	U	U	
2,4,6-Trichlorophenol	N	88-06-2		0.948	0.474	ug/L	U	U	
2,4-Dichlorophenol	N	120-83-2		1.90	0.948	ug/L	U	U	
2,4-Dimethylphenol	N	105-67-9		1.90	0.948	ug/L	U	U	
2,4-Dinitrophenol	N	51-28-5		4.74	1.90	ug/L	U	U	
2,4-Dinitrotoluene	N	121-14-2		4.74	1.90	ug/L	U	U	
2,6-Dinitrotoluene	N	606-20-2		4.74	1.90	ug/L	U	U	

Analysis Method E625

2-Chloronaphthalene	N	91-58-7		0.474	0.190	ug/L	U	U	
2-Chlorophenol	N	95-57-8		0.948	0.474	ug/L	U	U	
2-Nitrophenol	N	88-75-5		1.90	0.948	ug/L	U	U	
3,3'-Dichlorobenzidine	N	91-94-1		4.74	1.90	ug/L	UBA	U	
4,6-Dinitro-2-methylphenol	N	534-52-1		4.74	1.90	ug/L	U	U	
4-Bromophenyl phenyl ether	N	101-55-3		0.948	0.474	ug/L	U	U	
4-Chloro-3-methylphenol	N	59-50-7		1.90	0.190	ug/L	U	U	
4-Chlorophenyl phenyl ether	N	7005-72-3		0.474	0.190	ug/L	U	U	
4-Nitrophenol	N	100-02-7		4.74	1.90	ug/L	U	U	
Acenaphthene	N	83-32-9		0.474	0.190	ug/L	U	U	
Acenaphthylene	N	208-96-8		0.474	0.190	ug/L	U	U	
Anthracene	N	120-12-7		0.474	0.190	ug/L	U	U	
Benzidine	N	92-87-5		9.48	4.74	ug/L	U	U	
Benzo(a)anthracene	N	56-55-3		4.74	1.90	ug/L	U	U	
Benzo(a)pyrene	N	50-32-8		1.90	0.474	ug/L	U	U	
Benzo(b)fluoranthene	N	205-99-2		1.90	0.948	ug/L	U	U	
Benzo(g,h,i)perylene	N	191-24-2		4.74	1.90	ug/L	U	U	
Benzo(k)fluoranthene	N	207-08-9		0.474	0.237	ug/L	U	U	
bis(2-Chloroethoxy)methane	N	111-91-1		0.474	0.190	ug/L	U	U	
bis(2-Chloroethyl)ether	N	111-44-4		0.474	0.190	ug/L	U	U	
bis(2-Ethylhexyl)phthalate	N	117-81-7	6.71	4.74	1.90	ug/L			
Butyl benzylphthalate	N	85-68-7		4.74	1.90	ug/L	U	U	
Chrysene	N	218-01-9		0.474	0.190	ug/L	U	U	
Dibenz(a,h)anthracene	N	53-70-3		0.474	0.237	ug/L	U	U	
Diethyl phthalate	N	84-66-2	0.887	0.948	0.474	ug/L	J,DX	J	DNQ
Dimethyl phthalate	N	131-11-3	0.501	0.474	0.237	ug/L			
Di-n-butylphthalate	N	84-74-2		1.90	0.948	ug/L	U	U	
Di-n-octyl phthalate	N	117-84-0		4.74	1.90	ug/L	U	U	
Fluoranthene	N	206-44-0		0.474	0.190	ug/L	U	U	
Fluorene	N	86-73-7		0.474	0.190	ug/L	U	U	
Hexachlorobenzene	N	118-74-1		0.948	0.474	ug/L	U	U	
Hexachlorobutadiene	N	87-68-3		1.90	0.474	ug/L	U	U	
Hexachlorocyclopentadiene	N	77-47-4		4.74	1.90	ug/L	U	U	
Hexachloroethane	N	67-72-1		2.84	0.474	ug/L	U	U	
Indeno(1,2,3-cd)pyrene	N	193-39-5		1.90	0.948	ug/L	U	U	
Isophorone	N	78-59-1		0.948	0.474	ug/L	U	U	
Naphthalene	N	91-20-3		0.948	0.474	ug/L	U	U	
Nitrobenzene	N	98-95-3		0.948	0.474	ug/L	U	U	
N-Nitrosodimethylamine	N	62-75-9		1.90	0.948	ug/L	U	U	
N-Nitrosodi-n-propylamine	N	621-64-7		1.90	0.948	ug/L	U	U	
N-Nitrosodiphenylamine	N	86-30-6		0.948	0.474	ug/L	U	U	
Pentachlorophenol	N	87-86-5		1.90	0.948	ug/L	U	U	
Phenanthrene	N	85-01-8		0.474	0.190	ug/L	U	U	

Analysis Method E625

Phenol	N	108-95-2	5.80	0.948	0.474	ug/L		
Pyrene	N	129-00-0		0.474	0.190	ug/L	U	U

Analysis Method E900

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Gross Alpha Analytes	N	GROSSALPHA	1.38	1.79	0	pCi/L	U	UJ	C
Gross Beta Analytes	N	GROSSBETA	5.02	1.02	0	pCi/L			

Analysis Method E901.1

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cesium-137	N	10045-97-3	0.827	12.2	0	pCi/L	U	U	
Potassium-40	N	13966-00-2	-6.27	188	0	pCi/L	U	U	

Analysis Method E903.0

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226	N	13982-63-3	0.0775	0.0611	0	pCi/L		J	C

Analysis Method E904.0

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-228	N	15262-20-1	0.388	0.416	0	pCi/L	U	U	

Analysis Method E905.0

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Strontium-90	N	10098-97-2	0.237	0.349	0	pCi/L	U	U	

Analysis Method E906.0

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Tritium	N	10028-17-8	6.31	273	0	pCi/L	U	U	

Analysis Method HASL-300 U Mod

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Uranium, Total	N	URANIUM	0.372	0.164	0	pCi/L			

Analysis Method RADIUM

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Radium-226 & 228	N	RADIUM226228	0.465	0.0611	0	pCi/L			

Analysis Method SM2540C

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Dissolved Solids (TDS)	N	TDS	120	10	5.0	mg/L			

Analysis Method SM2540D

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Total Suspended Solids (TSS)	N	TSS	160	6.7	3.3	mg/L			

Analysis Method SM4500-CN-E

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Cyanide	N	57-12-5		5.0	3.0	ug/L	U	U	

Analysis Method SM4500F-C

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Fluoride	N	16984-48-8	0.12	0.10	0.020	mg/L			

Analysis Method SM9221E

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Fecal Coliform Bacteria	N	COLIFORMFECAL	350	1.8	0	mpn/100			

Analysis Method SM9221F

Sample Name Outfall010_20140228_Gra **Matrix Type:** WM **Result Type:** TRG

Sample Date: 2/28/2014 12:00:00 PM **Validation Level:** 3

Lab Sample Name: 440-71553-1

Analyte	Fraction	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Escherichia coli	N	ECOLI	350	1.8	0	mpn/100			