
**County of Los Angeles
Department of Public Works**

October 2013 Water Quality Monitoring Report

for the

Big Tujunga Wash Mitigation Area

December 2013



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Prepared For:

**ECORP Consulting, Inc.
1801 Park Court Place, Building B, Suite 103
Santa Ana, CA 92701**

Prepared By:

**MWH
618 Michillinda Avenue, Suite 200
Arcadia, California 91007**

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Mr. Aaron Allen
P.O. Box 532711
Los Angeles, California 90053-2325

Interested Party

Mr. William Eick
2604 Foothill Boulevard, Suite C
La Crescenta, California 91214

Water Quality Monitoring

October 2013

BACKGROUND

The County of Los Angeles Department of Public Works (LACDPW) purchased an approximately 210-acre parcel in Big Tujunga Wash as a mitigation area for Los Angeles County Flood Control District (LACFCD) projects throughout Los Angeles County. In coordination with local agencies, the LACDPW defined a number of measures to improve habitat quality at the site. A Final Master Mitigation Plan (FMMP) was prepared to guide the implementation of these enhancements. The FMMP also includes a monitoring program to gather data on conditions at the site during implementation of the improvements. The FMMP was prepared and is currently being implemented by ECORP Consulting, Inc. (ECORP). MWH, a subconsultant to ECORP, is responsible for the water quality monitoring program described in the FMMP. Water quality monitoring was conducted on a quarterly basis from the fourth quarter of 2000 through the fourth quarter of 2005. In 2006, monitoring was conducted on a semi-annual basis. In 2007 through 2009 monitoring was conducted annually, in December. In 2010, monitoring was conducted in November; pesticide sampling was conducted in early December. In 2012, monitoring was conducted in February and November, and in 2013, monitoring was conducted in October. This report presents the results of the water quality sampling for October 2013.

The project site is located just east of Hansen Dam in the Shadow Hills area of the City of Los Angeles. Both Big Tujunga Wash, an intermittent stream, and Haines Canyon Creek, a perennial stream, traverse the project site in an east-to-west direction. The two Tujunga Ponds are located outside of the site boundary, at the far eastern side of the site.

Project Site Activities

A timeline of project-related activities including water quality sampling events is presented in **Table 1**.

Table 1
Major Activities to Date at the Big Tujunga Wash Mitigation Area

Date	Activity
4/2000	Baseline water quality sampling
11/2000 to 11/2001	Arundo, tamarisk, and pepper tree removal Chemical (Rodeo®) application
12/2000 to 11/2002	Water hyacinth removal
12/2000	Fish Sampling at Haines Canyon Creek
12/2000	Water quality sampling
1/2001 to present	Exotic aquatic wildlife (non-native fish, crayfish, bullfrog, and turtle) removal – conducted quarterly
2/2001	Partial riparian planting
3/2001	Selective clearing at Canyon Trails Golf Club
3/2001	Water quality sampling
6/2001	Water quality sampling
7/2001	Fish Sampling at Haines Canyon Creek
9/2001	Water quality sampling

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Date	Activity
10/2001 to 11/2001	Fish Sampling at Haines Canyon Creek
12/2001	Water quality sampling
1/2002	Final riparian planting
2/2002	Upland replacement planting
3/2002	Water quality sampling
6/2002	Water quality sampling
7/2002	Fish Sampling at Haines Canyon Creek
9/2002	Water quality sampling
10/2002	Grading at Canyon Trails Golf Club begins
11/2002	Fish Sampling at Haines Canyon Creek
12/2002	Water quality sampling
3/2003	Water quality sampling
4/2003	Meeting with Canyon Trails Golf Club to discuss future use of herbicides and fertilizers
6/2003	Water quality sampling
8/2003	Fish Sampling at Haines Canyon Creek
9/2003	Water quality sampling
Fall 2003	Completion of the golf course construction
12/2003	Water quality sampling
1/2004	Fish Sampling at Haines Canyon Creek
4/2004	Water quality sampling
4/2004	Rock Dam Removal Day
6/2004	Angeles National Golf Club (previously named Canyon Trails) opens to the public
7/2004	Water quality sampling
10/2004	Water quality sampling
12/2004	Water quality sampling
4/2005	Water quality sampling
6/2005	Water quality sampling
10/2005	Water quality sampling
12/2005	Water quality sampling
7/2006	Water quality sampling
12/2006	Water quality sampling
12/2007	Water quality sampling
12/2008	Water quality sampling
8/2009 to 10/2009	The Station Fire was the largest fire in the recorded history of Angeles National Forest and the 10th largest fire in California since 1933. The fire burned a total of 160,577 acres. The fire was fully contained on October 16, 2009. (Source: Angeles National Forest Incident Update available - http://www.inciweb.org/incident/1856/)
12/2009	Water quality sampling
11/2010	Water quality sampling
12/2010	Water quality sampling for pesticides
9/2011 to 1/2012	Water lettuce removal
2/2012	Water quality sampling
11/2012	Water quality sampling
10/2013	Water quality sampling

Upstream Land Uses

The monitoring program has been designed to specifically address inputs to the site from upstream land uses such as the Angeles National Golf Club (previously named Canyon Trails Golf Club). The golf course has been operating since June 2004. Potential impacts to aquatic species from run-on to the site that contains excessive nutrients or pesticides are of primary concern. Pesticides potentially used at the Angeles National Golf Course include herbicides, insecticides, fungicides, and grass growth inhibitors (**Table 2**).

Actual use of pesticides is based on golf course maintenance needs. Based on the pesticide use information from the Golf Club, analysis of water samples for glyphosate, chlorpyrifos, and organophosphorous pesticides is included in the sampling program for the Big Tujunga Wash Mitigation Area.

Table 2
Pesticides Potentially Used at the Angeles National Golf Club

Manufacturer and Product Name	Active Ingredient	Use
Syngenta Primo Maxx	trinexapac-ethyl	grass growth inhibitor used for turf management
Syngenta Reward	diquat dibromide	landscape and aquatic herbicide
Syngenta Barricade	prodiamine	pre-emergent herbicide
Bayer Prostar 70 WP	flutolanil	fungicide
Monsanto QuikPRO	ammonium salt of glyphosphate and diquat dibromide	herbicide
Monsanto Rodeo® Verdicon Kleenup® Pro Lesco Prosecutor	glyphosate	emerged aquatic weed and brush herbicide
Valent ProGibb T&O	gibberellic acid	plant growth regulator
BASF Insignia 20 WG	pyraclostrobin	fungicide
BASF Stalker	Isopropylamine salt of Imazapyr	herbicide
Dow Agrosciences Surflan A.S.	oryzalin	herbicide
Dow Agrosciences Dursban Pro	chlorpyrifos	insecticide
Mycogen Scythe	pelargonic acid	herbicide

Source: J. Reidinger, Angeles National Golf Club, pers. comm. to M. Chimienti, LACDPW, March 18, 2004 and Angeles National Golf Club Monthly Summary Pesticide Use Reports (December 2004, February 2005 and April 2007).

MATERIALS AND METHODS

Sampling Stations

Four sampling locations have been identified for the monitoring program for the Big Tujunga Wash Mitigation Area (**Figure 1**). **Table 3** summarizes sampling locations and the conditions observed on October 30, 2013.



Key to Features

 Mitigation Area

Station Number Name

- 1** Inflow to Tujunga Ponds
- 2** Outflow from Tujunga Ponds
- 3** Big Tujunga Wash
- 4** Haines Canyon Creek, just before exit from site



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Date: April 19, 2012

**Big Tujunga Wash Mitigation Area
Water Quality Sampling Stations**



Figure 1

Table 3
Water Quality Sampling Locations and Conditions for October 2013

Date	October 30, 2013		
Air Temperature	Approximately 65-67 degrees Fahrenheit during sample collection period		
Skies	Clear, sunny		
Observations	Water clear at all locations, relatively low turbidity		
Sampling Locations	Latitude	Longitude	Time of sample
Haines Canyon Creek	34 16' 0.092" N	118 21' 25.716' W	1145
Haines Canyon Creek, inflow to Tujunga Ponds	34 16' 6.040" N	118 20' 22.616" W	1030
Haines Canyon Creek, outflow from Tujunga Ponds	34 16' 8.263" N	118 20' 30.824" W	1100
Big Tujunga Wash	34 16' 11.615" N	118 21' 4.519" W	station dry

Sampling Parameters

Water Quality. Table 4 summarizes the sampling parameters included in the water quality monitoring program. The following meters were used in the field:

- Dissolved oxygen – YSI 550A Field DO meter and thermometer
- pH and temperature – Orion 230A pH meter with HACH 51935 electrode

Pesticides were analyzed by Emax Laboratories, Inc., Torrance, California. All other analyses were performed at Eurofin Eaton Laboratories, Monrovia, California. Samples were taken at mid-depth, along a transect perpendicular to the stream channel alignment. Quality assurance/quality control (QA/QC) procedures in each laboratory followed the methods described in their respective Quality Assurance Manuals.

**Table 4
Water Quality Sampling Parameters**

Parameter	Analysis Location	Analytical Method
total Kjeldahl nitrogen (TKN)	laboratory	EPA 351.2
nitrite - nitrogen (NO ₂ -N)	laboratory	EPA 300.0 by IC
nitrate-nitrogen (NO ₃ -N)	laboratory	EPA 300.0 by IC
ammonia (NH ₄)	laboratory	EPA 350.1
orthophosphate - P	laboratory	Standard Methods 4500PE/EPA 365.1
total phosphorus - P	laboratory	Standard Methods 4500PE/EPA 365.1
total coliform	laboratory	Standard Methods 9221B
fecal coliform	laboratory	Standard Methods 9221C
turbidity	laboratory	EPA 180.1
glyphosate (Roundup/Rodeo) ¹	laboratory	EPA 547
chlorpyrifos ²	laboratory	EPA 8141A
Organophosphorous Pesticides ³	laboratory	EPA 8081A
dissolved oxygen	field	Standard Methods 4500-O G
total residual chlorine	laboratory	Standard Methods 4500-Cl
temperature	field	Standard Methods 2550
pH	field	Standard Methods 4500-H+

Sources for analytical methods:

EPA. Method and Guidance for Analysis of Water.

American Public Health Association, American Waterworks Association, and Water Environment Federation. 1998. Standard Methods for the Examination of Water and Wastewater, 20th Edition. Washington D.C.

¹ First analysis completed in the first quarter of 2004

² First analysis completed in the fourth quarter of 2004. This analytical method tests for the following chemicals: azinphos-methyl, bolster, coumaphos, diazinon, chlorpyrifos, demeton, dichlorvos, disulfoton, ethoprop, fensulfothion, fenthion, mevinphos, naled, phorate, runnel, stirophos, parathion-methyl, tokuthion, and trichloronate.

³ First analysis completed in December 2007. EPA method 8081A tests for aldrin, BHC, Chlordane, DDD, DDE, DDT, dieldrin, endrin, endosulfan, heptaclor, methoxychlor, and toxaphene.

Discharge Measurements. In addition to the water quality monitoring, flows in the outlet from the Tujunga Ponds and in Haines Canyon Creek leaving the site were estimated using a simple field procedure. The technique uses a float to measure stream velocity.

Calculating flow then involves solving the following equation:

$$\text{Flow} = \text{ALC} / \text{T}$$

Where:

A = Average cross-sectional area of the stream (stream width multiplied by average water depth)

L = Length of the stream reach measured (usually 20 feet)

C = A coefficient or correction factor (0.8 for rocky-bottom streams or 0.9 for muddy-bottom streams). This allows you to correct for the fact that water at the surface travels faster than near the stream bottom due to resistance from gravel, cobble, etc. Multiplying the surface velocity by a correction coefficient decreases the value and gives a better measure of the stream's overall velocity.

T = Time, in seconds, for the float to travel the length of L

RESULTS

Baseline Water Quality

Sampling and analysis conducted by LACDPW prior to implementation of the FMMP is considered the baseline for water quality conditions at the site. The results of baseline analyses conducted in April 2000 are presented in **Table 5**. Higher bacteria and turbidity observed in the 4/18/2000 samples are attributable to a rain event. Phosphorus levels were also high in the 4/18/2000 samples, due to release from sediments.

October 2013 Results

Water Quality

Results of analyses conducted by Eurofin Eaton and Emax Laboratories are appended to this report (**Appendix A**) and summarized in **Table 6**.

**Table 5
Baseline Water Quality (2000)**

Parameter	Units	Date	Haines Canyon Creek, Inflow to Tujunga Ponds	Haines Canyon Creek, Outflow from Tujunga Ponds	Big Tujunga Wash	Haines Canyon Creek, just before exit from site
Total coliform	MPN/100 ml	4/12/00	3,000	5,000	170	1,700
		4/18/00	2,200	170,000	2,400	70,000
Fecal coliform	MPN/100 ml	4/12/00	500	300	40	80
		4/18/00	500	30,000	2,400	50,000
Ammonia-N	mg/L	4/12/00	0	0	0	0
		4/18/00	0	0	0	0
Nitrate-N	mg/L	4/12/00	8.38	5.19	0	3.73
		4/18/00	8.2	3.91	0.253	0.438
Nitrite-N	mg/L	4/12/00	0.061	0	0	0
		4/18/00	0.055	0	0	0
Kjeldahl-N	mg/L	4/12/00	0	0.1062	0.163	0
		4/18/00	0	0.848	0.42	0.428
Dissolved phosphorus	mg/L	4/12/00	0.078	0.056	0	0.063
		4/18/00	0.089	0.148	0.111	0.163
Total phosphorus	mg/L	4/12/00	0.086	0.062	0	0.066
		4/18/00	0.113	0.153	0.134	0.211
pH	std units	4/12/00	7.78	7.68	7.96	7.91
		4/18/00	7.18	7.47	7.45	7.06
Turbidity	NTU	4/12/00	1.83	0.38	1.75	0.6
		4/18/00	4.24	323	4070	737

**Table 6
Summary of Water Quality Results – October 30, 2013**

Parameter	Units	Haines Canyon Creek, Inflow to Tujunga Ponds	Haines Canyon Creek, Outflow from Tujunga Ponds	Big Tujunga Wash	Haines Canyon Creek, just before exit from site
Temperature	°C	18.3	17.8	NA	15.6
Dissolved Oxygen	mg/L	6.8	8.0	NA	8.9
pH	std units	7.23	7.28	NA	8.21
Total residual chlorine	mg/L	ND	ND	NA	ND
Ammonia-Nitrogen	mg/L	ND	ND	NA	ND
Kjeldahl Nitrogen	mg/L	0.37	0.38	NA	ND
Nitrite-Nitrogen	mg/L	ND	ND	NA	ND
Nitrate-Nitrogen	mg/L	7.6	5.5	NA	5.0
Orthophosphate-P	mg/L	ND	ND	NA	0.015
Total phosphorus-P	mg/L	0.037	ND	NA	ND
Glyphosate	µg/L	ND	ND	NA	ND
Chloropyrifos*	ng/L	ND	ND	NA	ND
Pesticides (EPA 8081A)**	µg/L	ND	ND	NA	ND
Turbidity	NTU	1.5	2.2	NA	0.30
Fecal Coliform Bacteria	(MPN/100 ml)	79	22	NA	79
Total Coliform Bacteria	(MPN/100 ml)	490	790	NA	700

NA – data not available; station dry on the sample date

NTU – nephelometric turbidity units

MPN – most probable number

ND – non-detect

* The analytical method used for chloropyrifos (EPA 8141A) also tests for the following chemicals: azinphos-methyl, bolster, coumaphos, diazinon, demeton, dichlorvos, disulfoton, ethoprop, fensulfothion, fenthion, mevinphos, naled, phorate, runnel, stirophos, parathion-methyl, tokuthion, and trichloronate.

** EPA method 8081A tests for aldrin, BHC, Chlordane, DDD, DDE, DDT, dieldrin, endrin, endosulfan, heptachlor, methoxychlor, and toxaphene.

Discharge Measurements

Using the field technique described above, flows in the outlet from the Tujunga Ponds and in Haines Canyon Creek (leaving the site) were approximated. Estimated flows for October 2013 are summarized in **Table 7**.

Table 7
Estimated Flows for October 2013

Sampling Date	Approximate Flow (cubic feet per second)		
	Haines Canyon Creek, Outflow from Tujunga Ponds	Haines Canyon Creek, just before exit from site	Big Tujunga Wash
10/30/13	2	3	station dry on sample date

Comparison of Results with Aquatic Life Criteria

Tables 8 through **13** present objectives established by the United States Environmental Protection Agency (USEPA) and the Los Angeles Regional Water Quality Control Board (Regional Board) for protection of beneficial uses including freshwater aquatic life.

Table 8
National and Local Recommended Water Quality Criteria - Freshwaters

Parameter	Basin Plan Objectives ^a	EPA Criteria		
		CMC	CCC	Human Health
Temperature (°C)	b	See Table 13	See Table 13	--
Dissolved oxygen (mg/L)	>7.0 mean >5.0 min	5.0 ^c (warmwater, early life stages, 1-day minimum)	6.0 ^c (warmwater, early life stages, 7-day mean)	--
pH	6.5 - 8.5	--	6.5-9.0 ^{d,e}	5.0-9.0 ^{d,e}
Total residual chlorine (mg/L)	0.1	0.019 ^{d,e}	0.011 ^{d,e}	4.0 (maximum residual disinfectant level goal)
Fecal coliform (MPN/100 ml)	126 ^f (geometric mean for <i>E. coli</i>) (water contact recreation)	--	--	Swimming stds: 33 ^g (geometric mean for enterococci) 126 ^g (geometric mean for <i>E. coli</i>)
Ammonia-nitrogen (mg/L)	See Tables 11 and 12	See Table 9	See Table 10	--
Nitrite-nitrogen (mg/L)	1	--	--	1 (primary drinking water std.)
Nitrate-nitrogen (mg/L)	10	--	--	10 (primary drinking water std.)
Total phosphorus (mg/L)	--	<0.05 – 0.1 ^e (recommendation for streams, no criterion)		--
Turbidity (NTU)	h	i	i	5 (secondary drinking water standard) 0.5 – 1.0 (std. for systems that filter)

Notes:

-- No criterion

CMC Criteria Maximum Concentration or acute criterion

CCC Criteria Continuous Concentration or chronic criterion

a Source: California Regional Water Quality Control Board, Los Angeles Region. 1994. Water Quality Control Plan (Basin Plan). As amended.

b Narrative criterion: “The natural receiving water temperature of all regional waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses.”

c Source: USEPA. 1986. Ambient Water Quality Criteria for Dissolved Oxygen. EPA 440-5-86-003. Washington, D.C.

d Source: USEPA. 1999. National Recommended Water Quality Criteria – Correction. EPA 822-Z-99-001. Washington, D.C.

e Source: USEPA. 1986. Quality Criteria for Water. EPA 440/5-86-001. Washington, D.C.

f Single sample limits – *E. coli* density shall not exceed 235/100 ml.

g Source: USEPA. 1986. Ambient Water Quality Criteria for Bacteria – 1986. EPA 440-5-84-002. Washington, D.C.

h Narrative criterion: “Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.”

i Narrative criterion for freshwater fish and other aquatic life: “Settleable and suspended solids should not reduce the depth of the compensation point for photosynthetic activity by more than 10 percent from the seasonally established norm for aquatic life.”

Table 9
Temperature and pH-Dependent Values of the CMC (Acute Criterion)
Mussels Absent

CMC: Mussels Absent, mg N/L										
pH	Temperature, C									
	0	14	16	18	20	22	24	26	28	30
6.5	58.0	58.0	58.0	58.0	43.7	37.0	31.4	26.6	22.5	19.1
6.6	55.7	55.7	55.7	55.7	41.9	35.5	30.1	25.5	21.6	18.3
6.7	53.0	53.0	53.0	53.0	39.9	33.8	28.6	24.3	20.6	17.4
6.8	49.9	49.9	49.9	49.9	37.6	31.9	27.0	22.9	19.4	16.4
6.9	46.5	46.5	46.5	46.5	35.1	29.7	25.2	21.3	18.1	15.3
7.0	42.9	42.9	42.9	42.9	32.3	27.4	23.2	19.7	16.7	14.1
7.1	39.1	39.1	39.1	39.1	29.4	24.9	21.1	17.9	15.2	12.8
7.2	35.1	35.1	35.1	35.1	26.4	22.4	19.0	16.1	13.6	11.5
7.3	31.2	31.2	31.2	31.2	23.5	19.9	16.8	14.3	12.1	10.2
7.4	27.3	27.3	27.3	27.3	20.6	17.4	14.8	12.5	10.6	8.98
7.5	23.6	23.6	23.6	23.6	17.8	15.1	12.8	10.8	9.18	7.77
7.6	20.2	20.2	20.2	20.2	15.3	12.9	10.9	9.27	7.86	6.66
7.7	17.2	17.2	17.2	17.2	12.9	11.0	9.28	7.86	6.66	5.64
7.8	14.4	14.4	14.4	14.4	10.9	9.21	7.80	6.61	5.60	4.74
7.9	12.0	12.0	12.0	12.0	9.07	7.69	6.51	5.52	4.67	3.96
8.0	9.99	9.99	9.99	9.99	7.53	6.38	5.40	4.58	3.88	3.29
8.1	8.26	8.26	8.26	8.26	6.22	5.27	4.47	3.78	3.21	2.72
8.2	6.81	6.81	6.81	6.81	5.13	4.34	3.68	3.12	2.64	2.24
8.3	5.60	5.60	5.60	5.60	4.22	3.58	3.03	2.57	2.18	1.84
8.4	4.61	4.61	4.61	4.61	3.48	2.95	2.50	2.11	1.79	1.52
8.5	3.81	3.81	3.81	3.81	2.87	2.43	2.06	1.74	1.48	1.25
8.6	3.15	3.15	3.15	3.15	2.37	2.01	1.70	1.44	1.22	1.04
8.7	2.62	2.62	2.62	2.62	1.97	1.67	1.42	1.20	1.02	0.862
8.8	2.19	2.19	2.19	2.19	1.65	1.40	1.19	1.00	0.851	0.721
8.9	1.85	1.85	1.85	1.85	1.39	1.18	1.00	0.847	0.718	0.608
9.0	1.57	1.57	1.57	1.57	1.19	1.00	0.851	0.721	0.611	0.517

Note: Native species of freshwater mussels are not known for Big Tujunga Wash or Haines Canyon Creek.
 CMC – Criteria Maximum Concentration (ammonia)
 Source: USEPA. 2009. Draft 2009 Update Aquatic Life Ambient Water Quality Criteria for Ammonia -
 Freshwater. EPA 822-D-09-001. Washington, D.C.

Table 10
Temperature and pH-Dependent Values of the CCC (Chronic Criterion)
Mussels Absent and Early Fish Life Stages Present

CCC: Mussels Absent and Early Fish Life Stages Present, mg N/L										
pH	Temperature (° Celsius)									
	0	14	16	18	20	22	24	26	28	30
6.5	6.36	6.36	6.36	6.36	6.36	6.11	5.37	4.72	4.15	3.65
6.6	6.26	6.26	6.26	6.26	6.26	6.02	5.29	4.65	4.09	3.60
6.7	6.15	6.15	6.15	6.15	6.15	5.91	5.19	4.57	4.01	3.53
6.8	6.00	6.00	6.00	6.00	6.00	5.77	5.08	4.46	3.92	3.45
6.9	5.84	5.84	5.84	5.84	5.84	5.61	4.93	4.34	3.81	3.35
7.0	5.64	5.64	5.64	5.64	5.64	5.42	4.76	4.19	3.68	3.24
7.1	5.41	5.41	5.41	5.41	5.41	5.20	4.57	4.02	3.53	3.10
7.2	5.14	5.14	5.14	5.14	5.14	4.94	4.35	3.82	3.36	2.95
7.3	4.84	4.84	4.84	4.84	4.84	4.66	4.09	3.60	3.16	2.78
7.4	4.52	4.52	4.52	4.52	4.52	4.34	3.82	3.36	2.95	2.59
7.5	4.16	4.16	4.16	4.16	4.16	4.00	3.52	3.09	2.72	2.39
7.6	3.79	3.79	3.79	3.79	3.79	3.65	3.21	2.82	2.48	2.18
7.7	3.41	3.41	3.41	3.41	3.41	3.28	2.89	2.54	2.23	1.96
7.8	3.04	3.04	3.04	3.04	3.04	2.92	2.57	2.26	1.98	1.74
7.9	2.67	2.67	2.67	2.67	2.67	2.57	2.26	1.98	1.74	1.53
8.0	2.32	2.32	2.32	2.32	2.32	2.23	1.96	1.72	1.52	1.33
8.1	2.00	2.00	2.00	2.00	2.00	1.92	1.69	1.49	1.31	1.15
8.2	1.71	1.71	1.71	1.71	1.71	1.64	1.45	1.27	1.12	0.982
8.3	1.45	1.45	1.45	1.45	1.45	1.40	1.23	1.08	0.949	0.835
8.4	1.23	1.23	1.23	1.23	1.23	1.18	1.04	0.914	0.804	0.706
8.5	1.04	1.04	1.04	1.04	1.04	0.999	0.878	0.772	0.679	0.597
8.6	0.878	0.878	0.878	0.878	0.878	0.844	0.742	0.652	0.573	0.504
8.7	0.742	0.742	0.742	0.742	0.742	0.714	0.628	0.552	0.485	0.426
8.8	0.631	0.631	0.631	0.631	0.631	0.606	0.533	0.469	0.412	0.362
8.9	0.539	0.539	0.539	0.539	0.539	0.518	0.455	0.400	0.352	0.309
9.0	0.464	0.464	0.464	0.464	0.464	0.446	0.392	0.345	0.303	0.266

Note: Native species of freshwater mussels are not known for Big Tujunga Wash or Haines Canyon Creek.
 CCC – Criteria Continuous Concentration (ammonia)
 Source: USEPA. 2009. Draft 2009 Update Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater. EPA 822-D-09-001. Washington, D.C.

Table 11
30-Day Average Objective for Ammonia-N for Freshwaters Applicable to Waters
Subject to the “Early Life Stage Present” Condition (mg N/L)

pH	Temperature (° Celsius)								
	14	16	18	20	22	24	26	28	30
6.5	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46
6.6	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37
6.8	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32
6.9	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25
7.0	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09
7.2	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74
7.5	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47
7.7	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32
7.8	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17
7.9	2.80	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03
8.0	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897
8.1	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773
8.2	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661
8.3	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562
8.4	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475
8.5	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401
8.6	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339
8.7	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287
8.8	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244
8.9	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208
9.0	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179

Source: California Regional Water Quality Control Board, Los Angeles Region. 2005. Amendments to the Water Quality Control Plan – Los Angeles Region with Respect to Early Life Stage Implementation Provisions of the Inland Surface Water Ammonia Objectives for Freshwaters. Taken from USEPA. 1999. 1999 Update of Ambient Water Quality Criteria for Ammonia. EPA 822-R-99-014. Washington, D.C.

Table 12
One-Hour Average Objective for Ammonia-N for Freshwaters (mg N/L)

pH	Waters Designated COLD and/or MIGR	Waters Not Designated COLD and/or MIGR
6.5	32.6	48.8
6.6	31.3	46.8
6.7	29.8	44.6
6.8	28.1	42.0
6.9	26.2	39.1
7.0	24.1	36.1
7.1	22.0	32.8
7.2	19.7	29.5
7.3	17.5	26.2
7.4	15.4	23.0
7.5	13.3	19.9
7.6	11.4	17.0
7.7	9.65	14.4
7.8	8.11	12.1
7.9	6.77	10.1
8.0	5.62	8.40
8.1	4.64	6.95
8.2	3.83	5.72
8.3	3.15	4.71
8.4	2.59	3.88
8.5	2.14	3.20
8.6	1.77	2.65
8.7	1.47	2.20
8.8	1.23	1.84
8.9	1.04	1.56
9.0	0.885	1.32

Cold – Beneficial use designation of Cold Freshwater Habitat

MIGR – Beneficial use designation of Migration of Aquatic Organisms

Source: California Regional Water Quality Control Board, Los Angeles Region. 2002. Amendments to the Water Quality Control Plan – Los Angeles Region with Respect to Inland Surface Water Ammonia Objectives. Taken from USEPA. 1999. 1999 Update of Ambient Water Quality Criteria for Ammonia. EPA 822-R-99-014. Washington, D.C.

Table 13
Example Calculated Values for Maximum Weekly Average Temperature for Growth and Short-Term Maxima for Survival of Juvenile and Adult Fishes During the Summer

Species	Growth (°Celsius)	Maxima (°Celsius)
Black crappie	27	--
Bluegill	32	35
Channel catfish	32	35
Emerald shiner	30	--
Largemouth bass	32	34
Brook trout	19	24

Source: USEPA. 1986. Quality Criteria for Water. EPA 440/5-86-001. Washington, D.C.

DISCUSSION

Results from the October 2013 sampling are described by parameter in **Table 14**.

**Table 14
Discussion of October 2013 Water Quality Sampling Results**

Parameter	Discussion
Temperature	<ul style="list-style-type: none"> Observed temperatures were below levels of concern for growth and survival of warmwater fish species at all stations.
Dissolved oxygen	<ul style="list-style-type: none"> Dissolved oxygen levels ranged from 6.8 mg/L in the inflow to the Tujunga Ponds to 8.9 in Haines Canyon Creek leaving the site. DO levels at all stations were above the recommended minimum (5.0 mg/L) for warmwater fish species. DO levels in the Tujunga Ponds were close to the recommended mean (7.0 mg/L) for warmwater fish species.
pH	<ul style="list-style-type: none"> Lowest pH was observed in the inflow to Tujunga Ponds (7.23), with highest pH observed in Haines Canyon Creek leaving the site (8.21). On this date, pH readings in Haines Canyon Creek and the Tujunga Ponds were within the 6.5 to 8.5 range identified in the Basin Plan.
Total residual chlorine	<ul style="list-style-type: none"> No residual chlorine was detected at any station.
Nitrogen	<ul style="list-style-type: none"> Nitrate-nitrogen measurements at all stations were below the drinking water standard of 10 mg/L. Ammonia was below the detection limit at all stations.
Phosphorus	<ul style="list-style-type: none"> Total phosphorus levels at all sites were below EPA's recommended range for streams to prevent excess algae growth (observed range at these three stations was <0.02 to 0.037 mg/L; recommended range is <0.05 – 0.1 mg/L).
Glyphosate	<ul style="list-style-type: none"> Glyphosate was not detected at any station.
Chloropyrifos	<ul style="list-style-type: none"> Chloropyrifos and the other pesticides tested using EPA's analytical method 8141A were not detected at any station.
Pesticides	<ul style="list-style-type: none"> Pesticides analyzed by EPA Method 8081A were not detected at any station.
Turbidity	<ul style="list-style-type: none"> Turbidity levels were very low (2.2 NTU or less) at all stations.
Bacteria	<ul style="list-style-type: none"> The fresh water bacteria standard for water contact recreation is for <i>E. coli</i> (126 MPN/100 ml geometric mean, 235 MPN/100 ml single sample limits). The observed fecal coliform levels were below the standard at the three stations with flow on the sample date. Previously, the water contact standard was 200 MPN/100 ml fecal coliform. Sampling specifically for <i>E. coli</i> was not conducted. Total coliform levels ranged from 490 in Haines Canyon Creek inflow to Tujunga Ponds to 790 MPN/100 ml in the outflow from the ponds. [Note that recreation standards are for <i>E. coli</i>. Total coliform standards apply to waterbodies where shellfish can be harvested for human consumption.]

GLOSSARY

Ammonia-Nitrogen – $\text{NH}_3\text{-N}$ is a gaseous alkaline compound of nitrogen and hydrogen that is highly soluble in water. Un-ionized ammonia (NH_3) is toxic to aquatic organisms. The proportions of NH_3 and ammonium (NH_4^+) and hydroxide (OH^-) ions are dependent on temperature, pH, and salinity.

Chlorine, residual – The chlorination of water supplies and wastewaters serves to destroy or deactivate disease-producing organisms. Residual chlorine in natural waters is an aquatic toxicant.

Chloropyrifos - white crystal-like solid insecticide widely used in homes and on farms. Used to control cockroaches, fleas, termites, ticks crop pests.

Coliform Bacteria – several genera of bacteria belonging to the family Enterobacteriaceae. Based on the method of detection, the coliform group is historically defined as facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas and acid formation within 48 hours at 35°C .

Fecal Coliform Bacteria – part of the intestinal flora of warm-blooded animals. Presence in surface waters is considered an indication of pollution.

Glyphosate - white compound broad-spectrum herbicide used to kill weeds.

Kjeldahl Nitrogen – Named for the laboratory technique used for detection, Kjeldahl nitrogen includes organic nitrogen and ammonia nitrogen.

Nitrate-Nitrogen – $\text{NO}_3^-\text{-N}$ is an essential nutrient for many photosynthetic autotrophs.

Nitrite-Nitrogen – $\text{NO}_2^-\text{-N}$ is an intermediate oxidation state of nitrogen, both in the oxidation of ammonia to nitrate and in the reduction of nitrate.

Orthophosphorus – the reactive form of phosphorus, commonly used as fertilizer.

pH – the hydrogen ion activity of water (pH) is measured on a logarithmic scale, ranging from 0 to 14. The pH of “pure” water at 25°C is 7.0 (neutral). Low pH is acidic; high pH is basic or alkaline.

Total Phosphorus – In natural waters, phosphorus occurs almost solely as orthophosphates, condensed phosphates, and organically bound phosphate. Phosphorus is essential to the growth of organisms.

Turbidity – attributable to the suspended and colloidal matter in water, including clay, silt, finely divided organic and inorganic matter, soluble colored organic compounds, and plankton and other microscopic organisms. The reduction of clearness in turbid waters diminishes the penetration of light and therefore can adversely affect photosynthesis.

APPENDIX A

**BIG TUJUNGA WASH MITIGATION AREA
WATER QUALITY MONITORING PROGRAM**

LABORATORY RESULTS
October 2013

750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: (626) 386-1100
Fax: (626) 386-1101
1 800 566 LABS (1 800 566 5227)

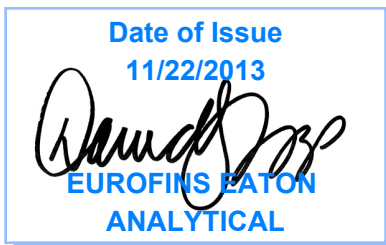


AT-1807

Laboratory Report

for

MWH Americas - Arcadia
618 Michillinda Ave.
Suite 200
Arcadia, CA 91007
Attention: Sarah Garber



DST: David S Tripp
Project Manager

Report: 455275
Project: BIG-TUJUNGA
Group: Water Quality Monitoring
PO#: PO#: 10503619.011601

* Laboratory certifies that the test results meet all **TNI NELAP** requirements unless noted under the individual analysis.
* Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.
* Test results relate only to the sample(s) tested.
* This report shall not be reproduced except in full, without the written approval of the laboratory.

STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Mississippi	Certified
Alaska	CA00006	Montana	Cert 0035
Arizona	AZ0778	Nebraska	Certified
Arkansas	Certified	Nevada	CA00006-2012-1
California – NELAP	01114CA	New Hampshire	2959
California – ELAP	2813	New Jersey	CA 008
Los Angeles County Sanitation Districts	10264	New Mexico	Certified
Colorado	Certified	New York	11320
Connecticut	PH-0107	North Carolina	06701
Delaware	CA 006	North Dakota	R-009
Florida	E871024	Oregon	CA 200003-011
Georgia	947	Pennsylvania	68-565
Guam	12-006r	Rhode Island	LAO00326
Hawaii	Certified	South Carolina	87016001
Idaho	Certified	South Dakota	Certified
Illinois	200033	Tennessee	TN02839
Indiana	C-CA-01	Texas	T104704230-13-5
Kansas	E-10268	Utah	CA000062013
Kentucky	90107	Vermont	VT0114
Louisiana	LA130008	Virginia	00210
Maine	CA0006	Washington	C838
Maryland	224	West Virginia	9943 C
Commonwealth of Northern Marianas Is.	MP0004	Wisconsin	998316660
Massachusetts	M-CA006	Wyoming	8TMS-L
Michigan	9906	EPA Region 5	Certified

NELAP/TNI Recognized Accreditation Bodies - in 'BLUE'

The tests listed below are accredited and meet the requirements of ISO 17025 as verified by the ANSI-ASQ National Accreditation Board/ACLASS.
Refer to Certificate and scope of accreditation (AT 1807) found at: <http://www.eatonanalytical.com>

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Drinking Water	Food & Beverage	Waste Water
1,4-Dioxane	EPA 522	x	x	
2,3,7,8-TCDD	Modified EPA 1613B	x	x	
Acrylamide	In House Method	x	x	
Alkalinity	SM 2320B	x	x	x
Ammonia	EPA 350.1		x	x
Ammonia	SM 4500-NH3 H (18th)		x	x
Anions and DBPs by IC	EPA 300.0	x	x	x
Anions and DBPs by IC	EPA 300.1	x	x	
Asbestos	EPA 100.2	x		
Bicarbonate Alkalinity as HCO3	SM 2330B	x	x	x
BOD / CBOD	SM 5210B		x	x
Bromate	In House Method	x	x	
Carbamates	EPA 531.2	x	x	
Carbonate as CO3	SM 2330B	x	x	x
Carbonyls	EPA 556	x	x	
COD	EPA 410.4 / SM 5220D			x
Chloramines	SM 4500-CL G	x	x	x
Chlorinated Acids	EPA 515.4	x	x	
Chlorinated Acids	EPA 555	x	x	
Chlorine Dioxide	SM 4500-CLO2 D	x	x	
Chlorine -Total/Free/ Combined Residual	SM 4500-CI G	x	x	x
Conductivity	EPA 120.1			x
Conductivity	SM 2510B	x	x	x
Corrosivity (Langelier Index)	SM 2330B	x	x	
Cyanide, Amenable	SM 4500-CN G	x		x
Cyanide, Free	SM 4500CN F	x	x	x
Cyanide, Total	EPA 335.4	x	x	x
Cyanogen Chloride (screen)	In House Method	x	x	
Diquat and Paraquat	EPA 549.2	x	x	
DBP/HAA	SM 6251B	x	x	
Dissolved Oxygen	SM 4500-O G		x	x
E. Coli (MTF/EC+MUG)		x		
E. Coli	CFR 141.21(f)(6)(i)		x	x
E. Coli	SM 9223			x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x	x	
E. Coli (Enumeration)	SM 9223B	x	x	
EDB/DCBP	EPA 504.1	x		
EDB/DCBP and DBP	EPA 551.1	x	x	
EDTA and NTA	In House Method	x	x	
Endothall	EPA 548.1	x	x	
Enterococci	SM 9230B	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x		
Fecal Coliform	SM 9221 C, E (MTF/EC)			x
Fecal Coliform (Enumeration)	SM 9221E (MTF/EC)	x	x	
Fecal Coliform with Chlorine Present	SM 9221E			x
Fecal Streptococci	SM 9230B	x		x
Fluoride	SM 4500-F C	x	x	x
Glyphosate	EPA 547	x	x	
Gross Alpha/Beta	EPA 900.0	x	x	x
HAAs/ Dalapon	EPA 552.3	x	x	
Hardness	SM 2340B	x	x	x
Heterotrophic Bacteria	In House Method	x	x	
Heterotrophic Bacteria	SM 9215 B	x	x	
Hexavalent Chromium	EPA 218.6	x	x	x
Hexavalent Chromium	EPA 218.7	x	x	
Hexavalent Chromium	SM 3500-Cr B or C (20th)			x

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Drinking Water	Food & Beverage	Waste Water
Hormones	EPA 539	x	x	
Hydroxide as OH Calc.	SM 2330B	x	x	
Kjeldahl Nitrogen	EPA 351.2			x
Mercury	EPA 245.1	x	x	x
Metals	EPA 200.7 / 200.8	x	x	x
Microcystin LR	ELISA	x	x	
NDMA	EPA 521	x	x	
Nitrate/Nitrite Nitrogen	EPA 353.2	x	x	x
OCL, Pesticides/PCB	EPA 505	x	x	
Ortho Phosphate	EPA 365.1	x	x	
Ortho Phosphate and Total Phosphorous	EPA 365.1/SM 4500-P E			x
Ortho Phosphorous	SM 4500P E	x	x	
Oxyhalides Disinfection Byproducts	EPA 317.0	x	x	
Perchlorate	EPA 331.0	x	x	
Perchlorate	EPA 314.0	x	x	
Perfluorinated Alkyl Acids	EPA 537	x	x	
pH	EPA 150.1	x		
pH	SM 4500-H+B	x	x	x
Phenylurea Pesticides/ Herbicides	In House Method	x	x	
Pseudomonas	IDEXX Pseudalert	x	x	
Radium-226	RA-226 GA	x	x	
Radium-228	RA-228 GA	x	x	
Radon-222	SM 7500RN	x	x	
Residue, Filterable	SM 2540C	x	x	x
Residue, Non-filterable	SM 2540D			x
Residue, Total	SM 2540B		x	x
Residue, Volatile	EPA 160.4			x
Semi-VOC	EPA 525.2	x	x	
Semi-VOC	EPA 625	x	x	x
Silica	SM 4500-Si D	x	x	x
Silica	SM 4500-SiO2 C	x		x
Sulfide	SM 4500-S ⁻ D			x
Surfactants	SM 5540C	x	x	x
Taste and Odor Analytes	SM 6040E	x	x	
Total Coliform	SM 9221 A, B	x	x	
Total Coliform (Enumeration)	SM 9221 A, B, C	x	x	
Total Coliform / E. coli	Colisure	x	x	
Total Coliform	SM 9221B			x
Total Coliform with Chlorine Present	SM 9221B			x
Total Coliform / E.coli	SM 9223	x	x	
TOC	SM 5310C		x	x
TOC/DOC	SM 5310C	x	x	
TOX	SM 5320B			x
Total Phenols	EPA 420.1			x
Total Phenols	EPA 420.4	x	x	x
Total Phosphorous	SM 4500 P F			x
Turbidity	EPA 180.1	x	x	x
Turbidity	SM 2130B	x		x
Uranium by ICP/MS	EPA 200.8	x	x	
UV 254	SM 5910B	x		
VOC	EPA 524.2/EPA 524.3	x	x	
VOC	EPA 624	x	x	x
VOC	EPA SW 846 8260	x	x	
VOC	In House Method	x	x	
Yeast and Mold	SM 9610	x	x	

Acknowledgement of Samples Received

Addr: **MWH Americas - Arcadia**
 618 Michillinda Ave.
 Suite 200
 Arcadia, CA 91007

Attn: Sarah Garber
 Phone: 626-568-6910

Client ID: MWH-ECORP
 Folder #: 455275
 Project: BIG-TUJUNGA
 Sample Group: Water Quality Monitoring

Project Manager: David S Tripp
 Phone: (626) 386-1158
 PO #: 10503619.011601

The following samples were received from you on **October 30, 2013**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical.

Sample #	Sample ID	Sample Date																		
201310300570	TJPIN103013	10/30/2013 1030																		
	<table border="1"> <tr> <td>@608_PCBS</td> <td>@608_PEST</td> <td>@8141EDD</td> </tr> <tr> <td>Ammonia Nitrogen</td> <td>Fecal Coliform Bacteria</td> <td>Glyphosate</td> </tr> <tr> <td>Nitrate as Nitrogen by IC</td> <td>Nitrate as NO3 (calc)</td> <td>Nitrite Nitrogen by IC</td> </tr> <tr> <td>Orthophosphate as P (OPO4)</td> <td>Orthophosphate as PO4</td> <td>Total Chlorine Residual</td> </tr> <tr> <td>Total Coliform Bacteria</td> <td>Total Kjeldahl Nitrogen</td> <td>Total phosphorus as P</td> </tr> <tr> <td>Total phosphorus as PO4- Calc.</td> <td>Turbidity</td> <td></td> </tr> </table>	@608_PCBS	@608_PEST	@8141EDD	Ammonia Nitrogen	Fecal Coliform Bacteria	Glyphosate	Nitrate as Nitrogen by IC	Nitrate as NO3 (calc)	Nitrite Nitrogen by IC	Orthophosphate as P (OPO4)	Orthophosphate as PO4	Total Chlorine Residual	Total Coliform Bacteria	Total Kjeldahl Nitrogen	Total phosphorus as P	Total phosphorus as PO4- Calc.	Turbidity		
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201310300571	TJPOUT103013	10/30/2013 1100																		
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Ammonia Nitrogen	Fecal Coliform Bacteria	Glyphosate																		
Nitrate as Nitrogen by IC	Nitrate as NO3 (calc)	Nitrite Nitrogen by IC																		
Orthophosphate as P (OPO4)	Orthophosphate as PO4	Total Chlorine Residual																		
Total Coliform Bacteria	Total Kjeldahl Nitrogen	Total phosphorus as P																		
Total phosphorus as PO4- Calc.	Turbidity																			
201310300572	HCC103013	10/30/2013 1145																		
	<table border="1"> <tr> <td>@608_PCBS</td> <td>@608_PEST</td> <td>@8141EDD</td> </tr> <tr> <td>Ammonia Nitrogen</td> <td>Fecal Coliform Bacteria</td> <td>Glyphosate</td> </tr> <tr> <td>Nitrate as Nitrogen by IC</td> <td>Nitrate as NO3 (calc)</td> <td>Nitrite Nitrogen by IC</td> </tr> <tr> <td>Orthophosphate as P (OPO4)</td> <td>Orthophosphate as PO4</td> <td>Total Chlorine Residual</td> </tr> <tr> <td>Total Coliform Bacteria</td> <td>Total Kjeldahl Nitrogen</td> <td>Total phosphorus as P</td> </tr> <tr> <td>Total phosphorus as PO4- Calc.</td> <td>Turbidity</td> <td></td> </tr> </table>	@608_PCBS	@608_PEST	@8141EDD	Ammonia Nitrogen	Fecal Coliform Bacteria	Glyphosate	Nitrate as Nitrogen by IC	Nitrate as NO3 (calc)	Nitrite Nitrogen by IC	Orthophosphate as P (OPO4)	Orthophosphate as PO4	Total Chlorine Residual	Total Coliform Bacteria	Total Kjeldahl Nitrogen	Total phosphorus as P	Total phosphorus as PO4- Calc.	Turbidity		
@608_PCBS	@608_PEST	@8141EDD																		
Ammonia Nitrogen	Fecal Coliform Bacteria	Glyphosate																		
Nitrate as Nitrogen by IC	Nitrate as NO3 (calc)	Nitrite Nitrogen by IC																		
Orthophosphate as P (OPO4)	Orthophosphate as PO4	Total Chlorine Residual																		
Total Coliform Bacteria	Total Kjeldahl Nitrogen	Total phosphorus as P																		
Total phosphorus as PO4- Calc.	Turbidity																			

Test Description

- @608_PCBS -- Organochlorine PCBs
- @608_PEST -- Organochlorine Pesticides
- @8141EDD -- Organophosphorous Pesticides (Sub)



Eaton Analytical

CHAIN OF CUSTODY RECORD

45275

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
 Monrovia, CA 91016-3629
 Phone: 626 386 1100
 Fax: 626 386 1101
 800 566 LABS (800 566 5227)

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: PM

SAMPLES LOGGED IN BY: W

SAMPLES REC'D DAY OF COLLECTION? (check for yes)

SAMPLE TEMP RECEIVED AT:

Colton / No. California / Arizona
 Monrovia

°C (Compliance: 4 ± 2 °C)
13.4 °C (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: Frozen Partially Frozen _____ Thawed _____ Wet Ice _____ No Ice _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

PROJECT CODE: 10503619-011601

BIG-TUJUNGA

SAMPLE GROUP:

STD 1 wk ___ 3 day ___ 2 day ___ 1 day ___

TAT requested: rush by adv notice only

COMPLIANCE SAMPLES

NON-COMPLIANCE SAMPLES

REGULATION INVOLVED: _____

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION (eg. SDWA, Phase V, NPDES, FDA,....)

SEE ATTACHED BOTTLE ORDER FOR ANALYSES list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA		SAMPLER COMMENTS
					FIELD DATA	FIELD DATA	
10/30	1030	TJ PIN 103013	1	RSW	X	X	Tot. Coli.
10/30	1100	TJ POUT 103013	2	RSW	X	X	TC 10/30/13
10/30	1145	HCC 103013	3	RSW	X	X	1350
							4th station dry
							No samples

* MATRIX TYPES: RSW = Raw Surface Water, RGW = Raw Ground Water

CFW = Chlor(am)inated Finished Water, FW = Other Finished Water

SEAW = Sea Water, WW = Waste Water

BW = Bottled Water, SW = Storm Water

SO = Soil, SL = Sludge

SIGNATURE

SAMPLED BY: Paul Mayo
 RELINQUISHED BY: Paul Mayo
 RECEIVED BY: Paul Mayo
 RELINQUISHED BY: _____
 RECEIVED BY: _____

PRINT NAME

SARAH GARBER
 Paul Mayo

COMPANY/TITLE

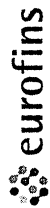
MWH / PRIN ENV SCI
 EEA

DATE

10/30/13
 10/30/13

TIME

1330
 1335



Eaton Analytical
formerly MWH Laboratories

750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
(626) 386-1100 FAX (626) 386-1101

Kit Order for MWH Americas - Arcadia

David S Tripp is your Eurofins Eaton Analytical Project Manager

Note: Sampler Please return this paper with your samples

Kit #: 78270

Created By: DST

Deliver By: 10/25/2013

STC: Bottle Orders

Client ID: MWH-ECORP

Project Code: BIG-TUJUNGA Bottle Orders

Group Name: Water Quality Monitoring

PO#/JOB#: ~~10503619.011601~~

10503619.011601

Ship Sample Kits to
MWH Americas - Arcadia
618 Michillinda Ave.
Suite 200
Arcadia, CA 91007

Attn: Sarah Garber
Phone: 626-568-6910

Send Report to
MWH Americas - Arcadia
618 Michillinda Ave.
Suite 200
Arcadia, CA 91007

Attn: Sarah Garber
Phone: 626-568-6910

Billing Address
MWH Americas Inc
PO Box 6610
Broomfield, CO 80021

Attn: Accounts Payable

# of Samples	Tests	Bottles - Qty for each sample, type & preservative if ai	UN DOT #
4	@8081A	2 1L amber glass no preservative	
4	@8141EDD	2 1L amber glass 8141WRD_NO_PRESERVATIVE	
4	Ammonia Nitrogen, Total Kjeldahl Nitrogen, Total phosphorus as P	1 250ml poly 0.5ml P2SO4 (50%)	UN1830
4	Fecal Coliform Bacteria, Total Coliform Bacteria	1 250ml poly sterilized 0.25ml thio (8%)	
4	Glyphosate	1 125ml amber glass no preservative	
4	Nitrate as Nitrogen by IC, Nitrate as NO3 (calc), Nitrite Nitrogen by IC, Orthophosphate as P, Turbidity	1 125ml poly no preservative	
4	Orthophosphate as PO4	1 125ml poly OPO4_no preservative	
4	Total Chlorine Residual	1 125ml amber glass CHL_no preservative	

Comments

SHIPPING: Please label "BIG T WASH"
Client will pickup the sample kits on Friday 10/25 in the AM.

SAMPLER: Please place ice packs in a freezer over night and return samples on ice packs or wet ice to the lab same day collected.

750 Royal Oaks Drive, Suite 100
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1 800 566 LABS (1 800 566 5227)

MWH Americas - Arcadia
Sarah Garber
618 Michillinda Ave.
Suite 200
Arcadia, CA 91007

Folder Comments

Analytical results for 608 and 8141 are submitted by Emax Laboratories, Inc. Torrance, CA,
CA Certification No. 02116CA

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1 800 566 LABS (1 800 566 5227)

MWH Americas - Arcadia
Sarah Garber
618 Michillinda Ave.
Suite 200
Arcadia, CA 91007

Samples Received on:
10/30/2013

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
201310300570 <u>TJPIN103013</u>						
10/30/2013 14:27	Fecal Coliform Bacteria		79		MPN/100 mL	1.8
11/06/2013 11:58	Kjeldahl Nitrogen		0.37		mg/L	0.2
10/30/2013 21:17	Nitrate as Nitrogen by IC		7.6	10	mg/L	0.2
10/30/2013 21:17	Nitrate as NO3 (calc)		33	45	mg/L	0.88
10/30/2013 14:27	Total Coliform Bacteria		490		MPN/100 mL	1.8
11/06/2013 13:32	Total phosphorus as P		0.037		mg/L	0.02
11/06/2013 14:10	Total phosphorus as PO4- Calc.		0.11		mg/L	0.031
10/30/2013 17:11	Turbidity		1.5	5	NTU	0.05
201310300571 <u>TJPOUT103013</u>						
10/30/2013 14:27	Fecal Coliform Bacteria		22		MPN/100 mL	1.8
11/06/2013 11:59	Kjeldahl Nitrogen		0.38		mg/L	0.2
10/30/2013 21:30	Nitrate as Nitrogen by IC		5.5	10	mg/L	0.2
10/30/2013 21:30	Nitrate as NO3 (calc)		24	45	mg/L	0.88
10/30/2013 14:27	Total Coliform Bacteria		790		MPN/100 mL	1.8
10/30/2013 17:10	Turbidity		2.2	5	NTU	0.05
201310300572 <u>HCC103013</u>						
10/30/2013 14:27	Fecal Coliform Bacteria		79		MPN/100 mL	1.8
10/30/2013 21:43	Nitrate as Nitrogen by IC		5.0	10	mg/L	0.2
10/30/2013 21:43	Nitrate as NO3 (calc)		22	45	mg/L	0.88
10/30/2013 18:01	Orthophosphate as P		0.015		mg/L	0.01
10/30/2013 19:11	Orthophosphate as PO4		0.046		mg/L	0.031
10/30/2013 14:27	Total Coliform Bacteria		700		MPN/100 mL	1.8
10/30/2013 17:06	Turbidity		0.30	5	NTU	0.05

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Laboratory Data
 Report: 455275

MWH Americas - Arcadia

Sarah Garber
 618 Michillinda Ave.
 Suite 200
 Arcadia, CA 91007

Samples Received on:
 10/30/2013

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
TJPIN103013 (201310300570)					Sampled on 10/30/2013 1030			
EPA 8141A - Organophosphorous Pesticides (Sub)								
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Azinphos methyl	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Bolstar	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Chlorpyrifos	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Coumaphos	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Demeton	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Diazinon	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Dichlorvos	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Disulfoton	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Ethoprop	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Fensulfothion	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Fenthion	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Methyl Parathion	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Mevinphos	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Naled	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Phorate	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Ronnel	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Stirophos	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Tokuthion	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Trichloronate	ND	ug/L	0.98	1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Tributylphosphate	82	%		1
11/4/2013	11/05/2013	15:30	(EPA 8141A)	Triphenyl Phosphate	83	%		1
EPA 608 - Organochlorine Pesticides								
11/4/2013	11/06/2013	18:25	(EPA 608)	4,4-DDD	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	4,4-DDE	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	4,4-DDT	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	Aldrin	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	alpha-BHC	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	alpha-Chlordane	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	beta-BHC	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	delta-BHC	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	Dieldrin	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	Endosulfan I (Alpha)	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	Endosulfan II (Beta)	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	Endosulfan Sulfate	ND	ug/L	0.099	1

Rounding on totals after summation.
 (c) - indicates calculated results

750 Royal Oaks Drive, Suite 100
 Monrovia, California 91016-3629
 Tel: (626) 386-1100
 Fax: (626) 386-1101
 1 800 566 LABS (1 800 566 5227)

Laboratory Data
 Report: 455275

MWH Americas - Arcadia
 Sarah Garber
 618 Michillinda Ave.
 Suite 200
 Arcadia, CA 91007

Samples Received on:
 10/30/2013

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
11/4/2013	11/06/2013	18:25	(EPA 608)	Endrin	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	Endrin Aldehyde	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	Endrin Ketone	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	Gamma-BHC	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	gamma-Chlordane	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	Heptachlor	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	Heptachlor Epoxide	ND	ug/L	0.099	1
11/4/2013	11/06/2013	18:25	(EPA 608)	Methoxychlor	ND	ug/L	0.99	1
11/4/2013	11/06/2013	18:25	(EPA 608)	Toxaphene	ND	ug/L	2	1
11/4/2013	11/06/2013	18:25	(EPA 608)	Decachlorobiphenyl	121	%		1
11/4/2013	11/06/2013	18:25	(EPA 608)	Tetrachlorometaxylene	111	%		1
EPA 608 - Organochlorine PCBs								
11/4/2013	11/05/2013	17:28	(EPA 608)	PCB 1016 Aroclor	ND	ug/L	0.99	1
11/4/2013	11/05/2013	17:28	(EPA 608)	PCB 1221 Aroclor	ND	ug/L	0.99	1
11/4/2013	11/05/2013	17:28	(EPA 608)	PCB 1232 Aroclor	ND	ug/L	0.99	1
11/4/2013	11/05/2013	17:28	(EPA 608)	PCB 1242 Aroclor	ND	ug/L	0.99	1
11/4/2013	11/05/2013	17:28	(EPA 608)	PCB 1248 Aroclor	ND	ug/L	0.99	1
11/4/2013	11/05/2013	17:28	(EPA 608)	PCB 1254 Aroclor	ND	ug/L	0.99	1
11/4/2013	11/05/2013	17:28	(EPA 608)	PCB 1260 Aroclor	ND	ug/L	0.99	1
11/4/2013	11/05/2013	17:28	(EPA 608)	Decachlorobiphenyl	102	%		1
11/4/2013	11/05/2013	17:28	(EPA 608)	Tetrachlorometaxylene	84	%		1
SM 9221C - Fecal Coliform Bacteria								
10/30/2013	14:27	734789	(SM 9221C)	Fecal Coliform Bacteria	79	MPN/100 mL	1.8	1
SM 9221B - Total Coliform Bacteria								
10/30/2013	14:27	734932	(SM 9221B)	Total Coliform Bacteria	490	MPN/100 mL	1.8	1
S4500PE/ 365.1 - Total phosphorus as PO4- Calc.								
11/06/2013	14:10		(S4500PE/ 365.1)	Total phosphorus as PO4- Calc.	0.11	mg/L	0.031	1
4500P-E/365.1 - Orthophosphate as PO4 (CAL)								
10/30/2013	19:11		(4500P-E/365.1)	Orthophosphate as PO4	ND	mg/L	0.031	1
SM 4500-CL G - Total Chlorine Residual (H3=past HT not compliant)								
10/31/2013	12:00	734247	(SM 4500-CL G)	Total Chlorine Residual (H3=past HT not compliant)	ND	mg/L	0.1	1
EPA 547 - Glyphosate								
10/31/2013	20:08	734694	(EPA 547)	Glyphosate	ND	ug/L	6	1
EPA 300.0 - Nitrate, Nitrite by EPA 300.0								
10/30/2013	21:17	734685	(EPA 300.0)	Nitrate as Nitrogen by IC	7.6	mg/L	0.2	2
10/30/2013	21:17	734685	(EPA 300.0)	Nitrate as NO3 (calc)	33	mg/L	0.88	2

Rounding on totals after summation.
 (c) - indicates calculated results

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 1 800 566 LABS (1 800 566 5227)

Laboratory Data
 Report: 455275

MWH Americas - Arcadia
 Sarah Garber
 618 Michillinda Ave.
 Suite 200
 Arcadia, CA 91007

Samples Received on:
 10/30/2013

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
	10/30/2013	21:17 734685	(EPA 300.0)	Nitrite Nitrogen by IC	ND	mg/L	0.1	2
				SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)				
	11/06/2013	13:32 735197	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.037	mg/L	0.02	1
				EPA 351.2 - Total Kjeldahl Nitrogen				
	11/06/2013	11:58 735524	(EPA 351.2)	Kjeldahl Nitrogen	0.37	mg/L	0.2	1
				EPA 350.1 - Ammonia Nitrogen				
	11/04/2013	15:35 735119	(EPA 350.1)	Ammonia Nitrogen	ND	mg/L	0.05	1
				EPA 180.1 - Turbidity				
	10/30/2013	17:11 734425	(EPA 180.1)	Turbidity	1.5	NTU	0.05	1
				4500P-E/365.1 - Orthophosphate as P (OPO4)				
	10/30/2013	18:02 734447	(4500P-E/365.1)	Orthophosphate as P	ND	mg/L	0.01	1

TJPOUT103013 (201310300571)

Sampled on 10/30/2013 1100

EPA 8141A - Organophosphorous Pesticides (Sub)

11/4/2013	11/05/2013	16:04	(EPA 8141A)	Azinphos methyl	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Bolstar	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Chlorpyrifos	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Coumaphos	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Demeton	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Diazinon	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Dichlorvos	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Disulfoton	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Ethoprop	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Fensulfothion	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Fenthion	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Methyl Parathion	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Mevinphos	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Naled	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Phorate	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Ronnel	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Stirophos	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Tokuthion	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Trichloronate	ND	ug/L	1	1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Tributylphosphate	90	%		1
11/4/2013	11/05/2013	16:04	(EPA 8141A)	Triphenyl Phosphate	94	%		1

EPA 608 - Organochlorine Pesticides

Rounding on totals after summation.
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Laboratory Data
 Report: 455275

MWH Americas - Arcadia

Sarah Garber
 618 Michillinda Ave.
 Suite 200
 Arcadia, CA 91007

Samples Received on:
 10/30/2013

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
11/4/2013	11/06/2013	18:45	(EPA 608)	4,4-DDD	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	4,4-DDE	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	4,4-DDT	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	Aldrin	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	alpha-BHC	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	alpha-Chlordane	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	beta-BHC	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	delta-BHC	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	Dieldrin	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	Endosulfan I (Alpha)	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	Endosulfan II (Beta)	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	Endosulfan Sulfate	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	Endrin	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	Endrin Aldehyde	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	Endrin Ketone	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	Gamma-BHC	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	gamma-Chlordane	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	Heptachlor	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	Heptachlor Epoxide	ND	ug/L	0.095	1
11/4/2013	11/06/2013	18:45	(EPA 608)	Methoxychlor	ND	ug/L	0.95	1
11/4/2013	11/06/2013	18:45	(EPA 608)	Toxaphene	ND	ug/L	1.9	1
11/4/2013	11/06/2013	18:45	(EPA 608)	Decachlorobiphenyl	119	%		1
11/4/2013	11/06/2013	18:45	(EPA 608)	Tetrachlorometaxylene	113	%		1
EPA 608 - Organochlorine PCBs								
11/4/2013	11/05/2013	17:52	(EPA 608)	PCB 1016 Aroclor	ND	ug/L	0.95	1
11/4/2013	11/05/2013	17:52	(EPA 608)	PCB 1221 Aroclor	ND	ug/L	0.95	1
11/4/2013	11/05/2013	17:52	(EPA 608)	PCB 1232 Aroclor	ND	ug/L	0.95	1
11/4/2013	11/05/2013	17:52	(EPA 608)	PCB 1242 Aroclor	ND	ug/L	0.95	1
11/4/2013	11/05/2013	17:52	(EPA 608)	PCB 1248 Aroclor	ND	ug/L	0.95	1
11/4/2013	11/05/2013	17:52	(EPA 608)	PCB 1254 Aroclor	ND	ug/L	0.95	1
11/4/2013	11/05/2013	17:52	(EPA 608)	PCB 1260 Aroclor	ND	ug/L	0.95	1
11/4/2013	11/05/2013	17:52	(EPA 608)	Decachlorobiphenyl	100	%		1
11/4/2013	11/05/2013	17:52	(EPA 608)	Tetrachlorometaxylene	90	%		1

SM 9221C - Fecal Coliform Bacteria

10/30/2013	14:27	734789	(SM 9221C)	Fecal Coliform Bacteria	22	MPN/100 mL	1.8	1
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SM 9221B - Total Coliform Bacteria

Rounding on totals after summation.
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Laboratory Data
 Report: 455275

MWH Americas - Arcadia
 Sarah Garber
 618 Michillinda Ave.
 Suite 200
 Arcadia, CA 91007

Samples Received on:
 10/30/2013

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
	10/30/2013	14:27 734932	(SM 9221B)	Total Coliform Bacteria	790	MPN/100 mL	1.8	1
				S4500PE/ 365.1 - Total phosphorus as PO4- Calc.				
	11/06/2013	14:10	(S4500PE/ 365.1)	Total phosphorus as PO4- Calc.	ND	mg/L	0.031	1
				4500P-E/365.1 - Orthophosphate as PO4 (CAL)				
	10/30/2013	19:11	(4500P-E/365.1)	Orthophosphate as PO4	ND	mg/L	0.031	1
				SM 4500-CL G - Total Chlorine Residual (H3=past HT not compliant)				
	10/31/2013	12:00 734247	(SM 4500-CL G)	Total Chlorine Residual (H3=past HT not compliant)	ND	mg/L	0.1	1
				EPA 547 - Glyphosate				
	10/31/2013	20:18 734694	(EPA 547)	Glyphosate	ND	ug/L	6	1
				EPA 300.0 - Nitrate, Nitrite by EPA 300.0				
	10/30/2013	21:30 734685	(EPA 300.0)	Nitrate as Nitrogen by IC	5.5	mg/L	0.2	2
	10/30/2013	21:30 734685	(EPA 300.0)	Nitrate as NO3 (calc)	24	mg/L	0.88	2
	10/30/2013	21:30 734685	(EPA 300.0)	Nitrite Nitrogen by IC	ND	mg/L	0.1	2
				SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)				
	11/06/2013	13:34 735197	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.02	1
				EPA 351.2 - Total Kjeldahl Nitrogen				
	11/06/2013	11:59 735524	(EPA 351.2)	Kjeldahl Nitrogen	0.38	mg/L	0.2	1
				EPA 350.1 - Ammonia Nitrogen				
	11/04/2013	15:36 735119	(EPA 350.1)	Ammonia Nitrogen	ND	mg/L	0.05	1
				EPA 180.1 - Turbidity				
	10/30/2013	17:10 734425	(EPA 180.1)	Turbidity	2.2	NTU	0.05	1
				4500P-E/365.1 - Orthophosphate as P (OPO4)				
	10/30/2013	18:00 734447	(4500P-E/365.1)	Orthophosphate as P	ND	mg/L	0.01	1

HCC103013 (201310300572)

Sampled on 10/30/2013 1145

EPA 8141A - Organophosphorous Pesticides (Sub)

11/4/2013	11/05/2013	16:38	(EPA 8141A)	Azinphos methyl	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Bolstar	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Chlorpyrifos	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Coumaphos	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Demeton	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Diazinon	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Dichlorvos	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Disulfoton	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Ethoprop	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Fensulfothion	ND	ug/L	0.99	1

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Laboratory Data
 Report: 455275

MWH Americas - Arcadia

Sarah Garber
 618 Michillinda Ave.
 Suite 200
 Arcadia, CA 91007

Samples Received on:
 10/30/2013

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Fenthion	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Methyl Parathion	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Mevinphos	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Naled	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Phorate	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Ronnel	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Stirophos	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Tokuthion	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Trichloronate	ND	ug/L	0.99	1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Tributylphosphate	86	%		1
11/4/2013	11/05/2013	16:38	(EPA 8141A)	Triphenyl Phosphate	90	%		1
EPA 608 - Organochlorine Pesticides								
11/4/2013	11/06/2013	19:05	(EPA 608)	4,4-DDD	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	4,4-DDE	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	4,4-DDT	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	Aldrin	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	alpha-BHC	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	alpha-Chlordane	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	beta-BHC	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	delta-BHC	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	Dieldrin	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	Endosulfan I (Alpha)	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	Endosulfan II (Beta)	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	Endosulfan Sulfate	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	Endrin	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	Endrin Aldehyde	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	Endrin Ketone	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	Gamma-BHC	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	gamma-Chlordane	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	Heptachlor	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	Heptachlor Epoxide	ND	ug/L	0.093	1
11/4/2013	11/06/2013	19:05	(EPA 608)	Methoxychlor	ND	ug/L	0.93	1
11/4/2013	11/06/2013	19:05	(EPA 608)	Toxaphene	ND	ug/L	1.9	1
11/4/2013	11/06/2013	19:05	(EPA 608)	Decachlorobiphenyl	115	%		1
11/4/2013	11/06/2013	19:05	(EPA 608)	Tetrachlorometaxylene	110	%		1

EPA 608 - Organochlorine PCBs

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Laboratory Data
 Report: 455275

MWH Americas - Arcadia
 Sarah Garber
 618 Michillinda Ave.
 Suite 200
 Arcadia, CA 91007

Samples Received on:
 10/30/2013

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
11/4/2013	11/05/2013	18:16	(EPA 608)	PCB 1016 Aroclor	ND	ug/L	0.93	1
11/4/2013	11/05/2013	18:16	(EPA 608)	PCB 1221 Aroclor	ND	ug/L	0.93	1
11/4/2013	11/05/2013	18:16	(EPA 608)	PCB 1232 Aroclor	ND	ug/L	0.93	1
11/4/2013	11/05/2013	18:16	(EPA 608)	PCB 1242 Aroclor	ND	ug/L	0.93	1
11/4/2013	11/05/2013	18:16	(EPA 608)	PCB 1248 Aroclor	ND	ug/L	0.93	1
11/4/2013	11/05/2013	18:16	(EPA 608)	PCB 1254 Aroclor	ND	ug/L	0.93	1
11/4/2013	11/05/2013	18:16	(EPA 608)	PCB 1260 Aroclor	ND	ug/L	0.93	1
11/4/2013	11/05/2013	18:16	(EPA 608)	Decachlorobiphenyl	98	%		1
11/4/2013	11/05/2013	18:16	(EPA 608)	Tetrachlorometaxylene	84	%		1
SM 9221C - Fecal Coliform Bacteria								
10/30/2013	14:27	734789	(SM 9221C)	Fecal Coliform Bacteria	79	MPN/100 mL	1.8	1
SM 9221B - Total Coliform Bacteria								
10/30/2013	14:27	734932	(SM 9221B)	Total Coliform Bacteria	700	MPN/100 mL	1.8	1
S4500PE/ 365.1 - Total phosphorus as PO4- Calc.								
11/06/2013	14:10		(S4500PE/ 365.1)	Total phosphorus as PO4- Calc.	ND	mg/L	0.031	1
4500P-E/365.1 - Orthophosphate as PO4 (CAL)								
10/30/2013	19:11		(4500P-E/365.1)	Orthophosphate as PO4	0.046	mg/L	0.031	1
SM 4500-CL G - Total Chlorine Residual (H3=past HT not compliant)								
10/31/2013	12:00	734247	(SM 4500-CL G)	Total Chlorine Residual (H3=past HT not compliant)	ND	mg/L	0.1	1
EPA 547 - Glyphosate								
10/31/2013	20:29	734694	(EPA 547)	Glyphosate	ND	ug/L	6	1
EPA 300.0 - Nitrate, Nitrite by EPA 300.0								
10/30/2013	21:43	734685	(EPA 300.0)	Nitrate as Nitrogen by IC	5.0	mg/L	0.2	2
10/30/2013	21:43	734685	(EPA 300.0)	Nitrate as NO3 (calc)	22	mg/L	0.88	2
10/30/2013	21:43	734685	(EPA 300.0)	Nitrite Nitrogen by IC	ND	mg/L	0.1	2
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
11/06/2013	13:35	735197	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.02	1
EPA 351.2 - Total Kjeldahl Nitrogen								
11/06/2013	12:01	735524	(EPA 351.2)	Kjeldahl Nitrogen	ND	mg/L	0.2	1
EPA 350.1 - Ammonia Nitrogen								
11/04/2013	15:38	735119	(EPA 350.1)	Ammonia Nitrogen	ND	mg/L	0.05	1
EPA 180.1 - Turbidity								
10/30/2013	17:06	734425	(EPA 180.1)	Turbidity	0.30	NTU	0.05	1
4500P-E/365.1 - Orthophosphate as P (OPO4)								
10/30/2013	18:01	734447	(4500P-E/365.1)	Orthophosphate as P	0.015	mg/L	0.01	1

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MWH Americas - Arcadia

QC Ref # 734247 - Total Chlorine Residual (H3=past HT not complian

201310300570 TJPIN103013
201310300571 TJPOUT103013
201310300572 HCC103013

Analysis Date: 10/31/2013

Analyzed by: A4H
Analyzed by: A4H
Analyzed by: A4H

QC Ref # 734425 - Turbidity

201310300570 TJPIN103013
201310300571 TJPOUT103013
201310300572 HCC103013

Analysis Date: 10/30/2013

Analyzed by: ADV
Analyzed by: ADV
Analyzed by: ADV

QC Ref # 734447 - Orthophosphate as P (OPO4)

201310300570 TJPIN103013
201310300571 TJPOUT103013
201310300572 HCC103013

Analysis Date: 10/30/2013

Analyzed by: AF1
Analyzed by: AF1
Analyzed by: AF1

QC Ref # 734685 - Nitrate, Nitrite by EPA 300.0

201310300570 TJPIN103013
201310300571 TJPOUT103013
201310300572 HCC103013

Analysis Date: 10/30/2013

Analyzed by: CYP
Analyzed by: CYP
Analyzed by: CYP

QC Ref # 734694 - Glyphosate

201310300570 TJPIN103013
201310300571 TJPOUT103013
201310300572 HCC103013

Analysis Date: 10/31/2013

Analyzed by: SZZ
Analyzed by: SZZ
Analyzed by: SZZ

QC Ref # 734789 - Fecal Coliform Bacteria

201310300570 TJPIN103013
201310300571 TJPOUT103013
201310300572 HCC103013

Analysis Date: 10/30/2013

Analyzed by: GPM
Analyzed by: GPM
Analyzed by: GPM

QC Ref # 734932 - Total Coliform Bacteria

201310300570 TJPIN103013
201310300571 TJPOUT103013
201310300572 HCC103013

Analysis Date: 10/30/2013

Analyzed by: FHC
Analyzed by: FHC
Analyzed by: FHC

QC Ref # 735119 - Ammonia Nitrogen

201310300570 TJPIN103013
201310300571 TJPOUT103013
201310300572 HCC103013

Analysis Date: 11/04/2013

Analyzed by: MYH
Analyzed by: MYH
Analyzed by: MYH

QC Ref # 735197 - Total phosphorus as P (T-P)

201310300570 TJPIN103013
201310300571 TJPOUT103013
201310300572 HCC103013

Analysis Date: 11/06/2013

Analyzed by: MYH
Analyzed by: MYH
Analyzed by: MYH

QC Ref # 735524 - Total Kjeldahl Nitrogen

201310300570 TJPIN103013
201310300571 TJPOUT103013
201310300572 HCC103013

Analysis Date: 11/06/2013

Analyzed by: KXS
Analyzed by: KXS
Analyzed by: KXS

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Monrovia, California 91016-3629
Tel: (626) 386-1100
Fax: (626) 386-1101
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MWH Americas - Arcadia

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 734247 - Total Chlorine Residual (H3=past HT not compliant) by SM					Analysis Date: 10/31/2013				
4500-CL G									
LCS1	Total Chlorine Residual		1.0	1.02	mg/L	102	(85-115)		
LCS2	Total Chlorine Residual			1.03	mg/L				
MBLK	Total Chlorine Residual			<0.1	mg/L				
MRL_CHK	Total Chlorine Residual		0.1	0.120	mg/L	120	(50-150)		
QC Ref# 734425 - Turbidity by EPA 180.1					Analysis Date: 10/30/2013				
DUP1_201310290819	Turbidity	0.10		0.0990	NTU		(0-20)	20	1.0
DUP2_201310300410	Turbidity	0.075		0.0760	NTU		(0-20)	20	1.3
LCS1	Turbidity		20	19.4	NTU	97	(90-110)		
LCS2	Turbidity		20	19.4	NTU	97	(90-110)	20	0.0
MBLK	Turbidity			<0.05	NTU				
MRL_CHK	Turbidity		0.05	0.0650	NTU	130	(50-150)		
QC Ref# 734447 - Orthophosphate as P (OPO4) by 4500P-E/365.1					Analysis Date: 10/30/2013				
LCS1	Orthophosphate as P		0.25	0.261	mg/L	104	(90-110)		
LCS2	Orthophosphate as P		0.25	0.255	mg/L	102	(90-110)	20	2.3
MBLK	Orthophosphate as P			<0.01	mg/L				
MRL_CHK	Orthophosphate as P		0.01	0.00900	mg/L	90	(50-150)		
MS_201310300024	Orthophosphate as P	0.014	0.5	0.522	mg/L	102	(90-110)		
MSD_201310300024	Orthophosphate as P	0.014	0.5	0.514	mg/L	100	(90-110)	20	1.5
QC Ref# 734685 - Nitrate, Nitrite by EPA 300.0 by EPA 300.0					Analysis Date: 10/30/2013				
LCS1	Nitrate as Nitrogen by IC		2.5	2.45	mg/L	98	(90-110)		
LCS2	Nitrate as Nitrogen by IC		2.5	2.52	mg/L	101	(90-110)	20	2.8
MBLK	Nitrate as Nitrogen by IC			<0.10	mg/L				
MRL_CHK	Nitrate as Nitrogen by IC		0.05	0.0523	mg/L	105	(50-150)		
MRLW	Nitrate as Nitrogen by IC		0.013	0.0126	mg/L	101	(50-150)		
MS_201310310023	Nitrate as Nitrogen by IC	7.6	1.3	13.8	mg/L	100	(80-120)		
MS_201310300573	Nitrate as Nitrogen by IC	10	1.3	16.3	mg/L	98	(80-120)		
MSD_201310310023	Nitrate as Nitrogen by IC	7.6	1.3	13.9	mg/L	100	(80-120)	20	0.0
MSD_201310300573	Nitrate as Nitrogen by IC	10	1.3	16.3	mg/L	98	(80-120)	20	0.0
LCS1	Nitrite Nitrogen by IC		1.0	0.953	mg/L	95	(90-110)		
LCS2	Nitrite Nitrogen by IC		1.0	0.954	mg/L	95	(90-110)	20	0.11
MBLK	Nitrite Nitrogen by IC			<0.10	mg/L				
MRL_CHK	Nitrite Nitrogen by IC		0.05	0.0502	mg/L	100	(50-150)		
MRLW	Nitrite Nitrogen by IC		0.013	0.0116	mg/L	93	(50-150)		
MS_201310310023	Nitrite Nitrogen by IC	ND	0.5	2.26	mg/L	91	(80-120)		
MS_201310300573	Nitrite Nitrogen by IC	ND	0.5	2.20	mg/L	88	(80-120)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.

750 Royal Oaks Drive, Suite 100
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MWH Americas - Arcadia

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MSD_201310300573	Nitrite Nitrogen by IC	ND	0.5	2.18	mg/L	87	(80-120)	20	1.4
MSD_201310310023	Nitrite Nitrogen by IC	ND	0.5	2.22	mg/L	89	(80-120)	20	1.8
QC Ref# 734694 - Glyphosate by EPA 547						Analysis Date: 10/31/2013			
CCCH	Glyphosate		25	24.2	ug/L	97	(80-120)		
CCCM	Glyphosate		10	10.7	ug/L	107	(80-120)		
LCS1	Glyphosate		10	11.2	ug/L	113	(70-130)		
MBLK	Glyphosate			<6	ug/L				
MRL_CHK	Glyphosate		6.0	7.03	ug/L	117	(50-150)		
MS_201310300453	Glyphosate	ND	10	10.8	ug/L	108	(70-130)		
MS2_201310300533	Glyphosate	ND	10	10.9	ug/L	109	(70-130)		
MSD_201310300453	Glyphosate	ND	10	11.2	ug/L	112	(70-130)	20	3.6
QC Ref# 735119 - Ammonia Nitrogen by EPA 350.1						Analysis Date: 11/04/2013			
LCS1	Ammonia Nitrogen		1.0	1.06	mg/L	106	(90-110)		
LCS2	Ammonia Nitrogen		1.0	1.06	mg/L	106	(90-110)	20	0.0
MBLK	Ammonia Nitrogen			<0.05	mg/L				
MRL_CHK	Ammonia Nitrogen		0.05	0.0350	mg/L	70	(53-118)		
MS_201310300566	Ammonia Nitrogen	0.27	1.0	0.978	mg/L	<u>28</u>	(90-110)		
MS2_201310300567	Ammonia Nitrogen	ND	1.0	0.678	mg/L	<u>68</u>	(90-110)		
MSD_201310300566	Ammonia Nitrogen	0.27	1.0	0.972	mg/L	<u>28</u>	(90-110)	20	0.62
MSD2_201310300567	Ammonia Nitrogen	ND	1.0	0.705	mg/L	<u>71</u>	(90-110)	20	3.9
QC Ref# 735197 - Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1						Analysis Date: 11/06/2013			
LCS1	Total phosphorus as P		0.4	0.426	mg/L	107	(90-110)		
LCS2	Total phosphorus as P		0.4	0.413	mg/L	103	(90-110)	20	3.1
MBLK	Total phosphorus as P			<0.02	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0203	mg/L	101	(50-150)		
MS_201311050138	Total phosphorus as P	ND	0.4	0.427	mg/L	107	(90-110)		
MS2_201311050220	Total phosphorus as P	0.064	0.4	0.508	mg/L	<u>111</u>	(90-110)		
MSD_201311050138	Total phosphorus as P	ND	0.4	0.412	mg/L	103	(90-110)	20	3.6
MSD2_201311050220	Total phosphorus as P	0.064	0.4	0.510	mg/L	<u>112</u>	(90-110)	20	0.39
QC Ref# 735524 - Total Kjeldahl Nitrogen by EPA 351.2						Analysis Date: 11/06/2013			
LCS1	Kjeldahl Nitrogen		4.0	3.65	mg/L	91	(90-110)		
LCS2	Kjeldahl Nitrogen		4.0	4.06	mg/L	101	(90-110)	20	11
MBLK	Kjeldahl Nitrogen			<0.1	mg/L				
MRL_CHK	Kjeldahl Nitrogen		0.2	0.151	mg/L	76	(50-150)		
MS_201310300294	Kjeldahl Nitrogen	56	4.0	90.8	mg/L	<u>88</u>	(90-110)		
MSD_201310300294	Kjeldahl Nitrogen	56	4.0	92.2	mg/L	91	(90-110)	10	1.5

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.

TABLE OF CONTENTS

CLIENT: EUROFINS EATON ANALYTICAL
PROJECT: 455275
SDG: 13J240

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GC/MS-SVOA	**	3000 –
GC-VOA	**	4000 –
GC-SVOA	METHOD 608 (PESTICIDES)	5000 – 5009
	METHOD 608 (PCBs)	5010 – 5019
	METHOD 3520C/8141A	5020 – 5029
HPLC	**	6000 –
METALS	**	7000 –
WET	**	8000 –
OTHERS	**	9000 –

** - Not Requested



LABORATORIES, INC.

1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 11-13-2013
EMAX Batch No.: 13J240

Attn: Jackie Contreras

Eurofins Eaton Analytical
750 Royal Oaks Dr., Suite 100
Monrovia, CA 91016-3629

Subject: Laboratory Report
Project: 455275

Enclosed is the Laboratory report for samples received on 10/31/13.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
201310300570	J240-01	10/30/13	WATER	PCBS PESTICIDES PESTICIDES ORGANOPHOSPHORUS
201310300571	J240-02	10/30/13	WATER	PCBS PESTICIDES PESTICIDES ORGANOPHOSPHORUS
201310300572	J240-03	10/30/13	WATER	PCBS PESTICIDES PESTICIDES ORGANOPHOSPHORUS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

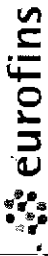
Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all NELAC & DOD requirements unless noted in the Case Narrative.

NELAC Accredited Certificate Number 02116CA
L-A-B Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing



Eaton Analytical

Ship To:
1835 W. 205th St.
EMAX Laboratories, Inc.
Torrance, CA 90501

Phone: 310-618-8889 Fax: 310-618-0818

Folder #: 455275 Report Due: 11/15/2013 Sub PO #: 99-25509

Submittal Form & Purchase Order 99-25509

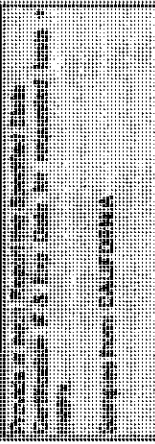
132240

Date: 10/31/2013

*REPORTING REQUIREMENTS: Do Not Combine Reports with any other samples submitted under different Folder Numbers!
Report & Invoice must have the Folder # 455275 Sub PO# 99-25509 and Job # 1000014

Report all quality control data according to Method. Include dates analyzed. Date extracted (if extracted) and Method reference on the report.
Results must have Complete data & QC with Approval Signature.

Reports: Jackie Contreras Sub-Contracting Administrator
EMAIL TO: us20_subcontract@eurofins.com
Eurofins Eaton Analytical 750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016
Phone (626) 386-1165 Fax (626) 386-1122
Invoices to: Eurofins Eaton Analytical
Accounts Payable 2425 New Holland Pike, Lancaster, PA 17605



JLS Client Sample ID for reference only Analysis Requested Sample Date & Time Matrix PWS Systemcode PWSID

JLS	Client Sample ID for reference only	Analysis Requested	Sample Date & Time Matrix	PWS Systemcode	PWSID
①	201310300570 @608_PEST @608_PCBS @8141EDD	Organochlorine Pesticides Organochlorine PCBs Organophosphorous Pesticides (Sub)	10/30/13 1030 DW		
②	201310300571 @608_PEST @608_PCBS @8141EDD	Organochlorine Pesticides Organochlorine PCBs Organophosphorous Pesticides (Sub)	10/30/13 1100 DW		
③	201310300572 @608_PEST @608_PCBS @8141EDD	Organochlorine Pesticides Organochlorine PCBs Organophosphorous Pesticides (Sub)	10/30/13 1145 DW		

Relinquished by: [Signature] Sample Control

Received by: [Signature]

Date 10/31/13 Time 15:40

NOTIFICATION REQUIRED IF RECEIVED OUTSIDE OF 0-6 CELSIUS

An Acknowledgement of Receipt is requested to attn: Jackie Contreras



Eaton Analytical

Ship To:
1835 W. 205th St.
EMAX Laboratories, Inc.
Torrance, CA 90501

Phone: 310-618-8889 Fax: 310-618-0818

Folder #: 455275 Report Due: 11/15/2013 Sub PO #: 99-25509

Date: 11/11/2013

Submission Form & Purchase Order 99-25509

*REPORTING REQUIREMENTS: Do Not Combine Reports with any other samples submitted under different Folder Numbers!
Report & Invoice must have the Folder# 455275 Sub PO# 99-25509 and Job # 1000014

Report all quality control data according to Method. Include dates analyzed, Date extracted (if extracted), and Method reference on the report.
Results must have Complete data & QC with Approval Signature.

Reports: Jackie Contreras Sub-Contracting Administrator

EMAIL TO: us20_subcontract@eurofins.com

Eurofins Eaton Analytical 750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016

Phone (626) 386-1165 Fax (626) 386-1122

Invoices to: Eurofins Eaton Analytical

Accounts Payable 2425 New Holland Pike, Lancaster, PA 17605

Provide in each Report the Specified State Certification # & Exp Date for requested tests + matrix

Samples from: CALIFORNIA

Use Lab Order # for ID

Client Sample ID for reference only

Sample Date & Time Matrix PWS Systemcode PWSID

JLS	Use Lab Order # for ID	Client Sample ID for reference only	Analysis Requested	Sample Date & Time Matrix	PWS Systemcode	PWSID
EPA 608	201310300570	TJPIN103013	Organochlorine Pesticides	10/30/13 1030 DW		
EPA 608	@608_PEST		Organochlorine Pesticides			
EPA 608	@608_PCBS		Organochlorine PCBs			
EPA 8141A	@8141EDD		Organophosphorous Pesticides (Sub)			
EPA 608	201310300571	TJPOUT103013	Organochlorine Pesticides	10/30/13 1100 DW		
EPA 608	@608_PEST		Organochlorine Pesticides			
EPA 608	@608_PCBS		Organochlorine PCBs			
EPA 8141A	@8141EDD		Organophosphorous Pesticides (Sub)			
EPA 608	201310300572	HCC103013	Organochlorine Pesticides	10/30/13 1145 DW		
EPA 608	@608_PEST		Organochlorine Pesticides			
EPA 608	@608_PCBS		Organochlorine PCBs			
EPA 8141A	@8141EDD		Organophosphorous Pesticides (Sub)			

Sample Control

Date _____ Time _____

NOTIFICATION REQUIRED IF RECEIVED OUTSIDE OF 0-6 CELSIUS

Date _____ Time _____

An Acknowledgement of Receipt is requested to attr: Jackie Contreras



SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 133240
<input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others		Recipient Cecelia
<input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery		Date 10/31/13 Time 15:40

COC Inspection

Client Name Client PM/FC Sampler Name Sampling Date/Time/Location Sample ID Matrix
 Address Tel # / Fax # Courier Signature Analysis Required Preservative (if any) TAT
 Safety Issues (if any) High concentrations expected Superfund Site samples Rad screening required

Comments: Not relinquished

Packaging Inspection

Container: Cooler Box Other
 Condition: Custody Seal Intact Damaged
 Packaging: Bubble Pack Styrofoam Popcorn Sufficient Plastic Bag

Temperatures (Cool, ≤6 °C but not frozen):
 Cooler 1 3.1 °C Cooler 2 _____ °C Cooler 3 _____ °C Cooler 4 _____ °C Cooler 5 _____ °C
 Cooler 6 _____ °C Cooler 7 _____ °C Cooler 8 _____ °C Cooler 9 _____ °C Cooler 10 _____ °C

Thermometer: A - S/N 101541371 B - S/N 101541382 C - S/N 122091701 D - S/N 122091758

Comments: Temperature is out of range. PM was informed IMMEDIATELY.
 Note: pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

DISCREPANCIES				
LSID	LSCID	Description Code	Sample Label ID / Information	Corrective Action Code
<u>1, 2, 3</u>	<u>1, 2, 3</u>	<u>H1/G1</u>		<u>R2</u>
<i>(Large diagonal scribble across the table)</i>				

Continue to next page.

REVIEWS Sample Labeling no mg SRF Cecelia PM RB
 Date 10/31/13 Date 11/01/13 Date 11/01/13

LEGEND:

Code	Description-Sample Management	Code	Description-Sample Management	Code	Description-Project Management
A1	Analysis is not indicated in COC.	G1	Sample indicated in COC is not received.	R1	Hold sample(s); wait for further instructions
A2	Analysis is not indicated in label.	G2	MS/MSD is not indicated in COC.	R2	Proceed as indicated in COC and inform client.
A3	Analysis is inconsistent in COC vis-à-vis label.	G3	No identified trip blank, proceed as indicated in COC.	R3	Refer to attached instruction
B1	Sample ID is not indicated in COC.	G4	Trip Blank is designated in SDG _____	R4	Cancel the analysis
B2	Sample ID is not indicated in label.	G5	Trip Blank has no sampling date & time. Log-in with latest sampling date and 1 minute past the time of the last sample collected on the same date.	R5	Inform client.
B3	Sample ID is inconsistent in COC vis-à-vis label.	H1	<u>Only received 8141</u>	R6	Proceed as indicated in COC
C1	Improper container		<u>EPP for each sample</u>		<u>→ Received the missing bottles for test/PCBs</u>
C2	Broken container				<u>11-01-13</u>
C3	Leaking container				
D1	Date and/or time is not indicated in COC.				
D2	Date and/or time is not indicated in label.				
D3	Date and/or time is inconsistent in COC vis-à-vis label.				
F1	Improper preservation				
F2	Insufficient Sample				
F3	Bubble is > 6mm. Use vial with smallest bubble first.				
F4	Bubble is > 6mm in all vials.				
F5	>20 % solid particle				
F6	Out of Holding Time				

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

455275

METHOD 608
PESTICIDES

SDG#: 13J240

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project : 455275

SDG : 13J240

METHOD 608
PESTICIDES

A total of three (3) water samples were received on 10/31/13 for Pesticides analysis, Method 608 in accordance with USEPA Wastewater Test Methods at 40 CFR Part 136.

Holding Time

Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration

Instrument performance was checked prior to calibration. DDT and Endrin breakdown were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Results were compliant to project requirement.

Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for CPK002WL/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated in this SDG.

Surrogate

Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits. Refer to sample result forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter. Positive sample results were confirmed by a second column. Relative percentage difference (RPD) between the two results was evaluated. If RPD is less than 40% and peaks are well defined the higher result is reported. Where RPD is greater than 40% the chromatogram is checked for anomalies and results are selected based on processed knowledge. If there is no evidence of any chromatographic ambiguity, the higher result is reported.

SAMPLE RESULTS

METHOD 608
PESTICIDES

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 10/30/13
Project     : 455275                        Date Received: 10/31/13
Batch No.   : 13J240                        Date Extracted: 11/04/13 12:30
Sample ID   : 20131030057D                 Date Analyzed: 11/06/13 18:25
Lab Samp ID : J240-01                       Dilution Factor: 0.99
Lab File ID : MK06024A                     Matrix          : WATER
Ext Btch ID : CPK002W                       % Moisture     : NA
Calib. Ref. : MK06017A                     Instrument ID   : GCE8
=====

```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ALPHA-BHC	(ND) ND	0.099	0.0099 0.0099
GAMMA-BHC (LINDANE)	(ND) ND	0.099	0.0099 0.0099
BETA-BHC	0.043J (ND)	0.099	0.0099 0.0099
HEPTACHLOR	0.016J (ND)	0.099	0.0099 0.0099
DELTA-BHC	(ND) ND	0.099	0.0099 0.0099
ALDRIN	(ND) ND	0.099	0.0099 0.0099
HEPTACHLOR EPOXIDE	(ND) ND	0.099	0.0099 0.0099
GAMMA-CHLORDANE	(ND) ND	0.099	0.0099 0.0099
ALPHA-CHLORDANE	(ND) ND	0.099	0.0099 0.0099
ENDOSULFAN I	(ND) ND	0.099	0.0099 0.0099
4,4'-DDE	(ND) ND	0.099	0.0099 0.0099
DIELDRIN	(ND) ND	0.099	0.0099 0.0099
ENDRIN	(ND) ND	0.099	0.0099 0.0099
4,4'-DDD	(ND) ND	0.099	0.0099 0.0099
ENDOSULFAN II	(ND) ND	0.099	0.0099 0.0099
4,4'-DDT	(ND) ND	0.099	0.0099 0.0099
ENDRIN ALDEHYDE	(ND) ND	0.099	0.0099 0.0099
ENDOSULFAN SULFATE	(ND) ND	0.099	0.0099 0.0099
ENDRIN KETONE	(ND) ND	0.099	0.0099 0.0099
METHOXYCHLOR	(ND) ND	0.99	0.099 0.099
TOXAPRENE	(ND) ND	2.0	0.50 0.50

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	0.4386 (0.4412)	0.3960	111 (111)	30-140
DECACHLOROBIPHENYL	0.4597 (0.4808)	0.3960	116 (121)	60-130

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
Final result indicated by ()

METHOD 608
PESTICIDES

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 10/30/13
Project     : 455275                        Date Received: 10/31/13
Batch No.   : 13J240                        Date Extracted: 11/04/13 12:30
Sample ID   : 201310300571                 Date Analyzed: 11/06/13 18:45
Lab Samp ID: J240-02                        Dilution Factor: 0.95
Lab File ID: MK06025A                       Matrix          : WATER
Ext Btch ID: CPK002W                         % Moisture      : NA
Calib. Ref.: MK06017A                       Instrument ID   : GCE8
=====

```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ALPHA-BHC	(ND) 0.0099J	0.095	0.0095 0.0095
GAMMA-BHC (LINDANE)	(ND) ND	0.095	0.0095 0.0095
BETA-BHC	(ND) ND	0.095	0.0095 0.0095
HEPTACHLOR	0.011J (ND)	0.095	0.0095 0.0095
DELTA-BHC	(ND) ND	0.095	0.0095 0.0095
ALDRIN	(ND) ND	0.095	0.0095 0.0095
HEPTACHLOR EPOXIDE	(ND) ND	0.095	0.0095 0.0095
GAMMA-CHLORDANE	(ND) ND	0.095	0.0095 0.0095
ALPHA-CHLORDANE	(ND) ND	0.095	0.0095 0.0095
ENDOSULFAN I	(ND) ND	0.095	0.0095 0.0095
4,4'-DDE	(ND) ND	0.095	0.0095 0.0095
DIELDRIN	(ND) ND	0.095	0.0095 0.0095
ENDRIN	(ND) ND	0.095	0.0095 0.0095
4,4'-DDD	(ND) ND	0.095	0.0095 0.0095
ENDOSULFAN II	(ND) ND	0.095	0.0095 0.0095
4,4'-DDT	(ND) ND	0.095	0.0095 0.0095
ENDRIN ALDEHYDE	(ND) ND	0.095	0.0095 0.0095
ENDOSULFAN SULFATE	(ND) ND	0.095	0.0095 0.0095
ENDRIN KETONE	(ND) ND	0.095	0.0095 0.0095
METHOXYCHLOR	(ND) ND	0.95	0.095 0.095
TOXAPHENE	(ND) ND	1.9	0.48 0.48

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	0.4145 (0.4308)	0.3800	109 (113)	30-140
DECACHLOROBIPHENYL	0.4314 (0.4523)	0.3800	114 (119)	60-130

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
Final result indicated by ()

METHOD 608
PESTICIDES

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=====
Client       : EUROFINS EATON ANALYTICAL      Date Collected: 10/30/13
Project      : 455275                        Date Received: 10/31/13
Batch No.    : 13J240                        Date Extracted: 11/04/13 12:30
Sample ID    : 201310300572                 Date Analyzed: 11/06/13 19:05
Lab Samp ID  : J240-03                       Dilution Factor: 0.93
Lab File ID  : MK06026A                      Matrix          : WATER
Ext Btch ID  : CPK002W                       % Moisture      : NA
Calib. Ref.  : MK06017A                      Instrument ID   : GCE8
=====
  
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)	
ALPHA-BHC	(ND) ND	0.093	0.0093 0.0093	
GAMMA-BHC (LINDANE)	(ND) ND	0.093	0.0093 0.0093	
BETA-BHC	(ND) ND	0.093	0.0093 0.0093	
HEPTACHLOR	(ND) ND	0.093	0.0093 0.0093	
DELTA-BHC	(ND) ND	0.093	0.0093 0.0093	
ALDRIN	(ND) ND	0.093	0.0093 0.0093	
HEPTACHLOR EPOXIDE	(ND) ND	0.093	0.0093 0.0093	
GAMMA-CHLORDANE	(ND) ND	0.093	0.0093 0.0093	
ALPHA-CHLORDANE	(ND) ND	0.093	0.0093 0.0093	
ENDOSULFAN I	(ND) ND	0.093	0.0093 0.0093	
4,4'-DDE	(ND) ND	0.093	0.0093 0.0093	
DIELDRIN	(ND) ND	0.093	0.0093 0.0093	
ENDRIN	(ND) ND	0.093	0.0093 0.0093	
4,4'-DDD	(ND) ND	0.093	0.0093 0.0093	
ENDOSULFAN II	(ND) ND	0.093	0.0093 0.0093	
4,4'-DDT	(ND) ND	0.093	0.0093 0.0093	
ENDRIN ALDEHYDE	(ND) ND	0.093	0.0093 0.0093	
ENDOSULFAN SULFATE	(ND) ND	0.093	0.0093 0.0093	
ENDRIN KETONE	(ND) ND	0.093	0.0093 0.0093	
METHOXYCHLOR	(ND) ND	0.93	0.093 0.093	
TOXAPHENE	(ND) ND	1.9	0.47 0.47	
SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	0.3587 (0.4077)	0.3720	96.4 (110)	30-140
DECACHLOROBIPHENYL	0.4130 (0.4291)	0.3720	111 (115)	60-130

RL : Reporting limit
 Left of | is related to first column ; Right of | related to second column
 Final result indicated by ()

QC SUMMARIES

METHOD 608
PESTICIDES

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=====
Client      : EUROFINS EATON ANALYTICAL
Project     : 455275
Batch No.   : 13J240
Sample ID   : MBLK1W
Lab Samp ID : CPK002WB
Lab File ID : MK06020A
Ext Btch ID : CPK002W
Calib. Ref.: MK06017A

Date Collected: NA
Date Received: 11/04/13
Date Extracted: 11/04/13 12:30
Date Analyzed: 11/06/13 17:04
Dilution Factor: 1
Matrix      : WATER
% Moisture  : NA
Instrument ID : GCE8
=====

```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)	
ALPHA-BHC	(ND) ND	0.10	0.010 0.010	
GAMMA-BHC (LINDANE)	(ND) ND	0.10	0.010 0.010	
BETA-BHC	(ND) ND	0.10	0.010 0.010	
HEPTACHLOR	(ND) ND	0.10	0.010 0.010	
DELTA-BHC	(ND) ND	0.10	0.010 0.010	
ALDRIN	(ND) ND	0.10	0.010 0.010	
HEPTACHLOR EPOXIDE	(ND) ND	0.10	0.010 0.010	
GAMMA-CHLORDANE	(ND) ND	0.10	0.010 0.010	
ALPHA-CHLORDANE	(ND) ND	0.10	0.010 0.010	
ENDOSULFAN I	(ND) ND	0.10	0.010 0.010	
4,4'-DDE	(ND) ND	0.10	0.010 0.010	
DIELDRIN	(ND) ND	0.10	0.010 0.010	
ENDRIN	(ND) ND	0.10	0.010 0.010	
4,4'-DDD	(ND) ND	0.10	0.010 0.010	
ENDOSULFAN II	(ND) ND	0.10	0.010 0.010	
4,4'-DDT	(ND) ND	0.10	0.010 0.010	
ENDRIN ALDEHYDE	(ND) ND	0.10	0.010 0.010	
ENDOSULFAN SULFATE	(ND) ND	0.10	0.010 0.010	
ENDRIN KETONE	(ND) ND	0.10	0.010 0.010	
METHOXYCHLOR	(ND) ND	1.0	0.10 0.10	
TOXAPHENE	(ND) ND	2.0	0.50 0.50	
SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	0.3457 (0.3815)	0.4000	86.4 (95.4)	30-130
DECACHLOROBIPHENYL	0.4531 (0.4661)	0.4000	113 (117)	60-130

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
Final result indicated by ()

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL
PROJECT: 455275
BATCH NO.: 13J240
METHOD: METHOD 608

MATRIX: WATER
DILUTION FACTOR: 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: CPK002MB CPK002MC
LAB FILE ID: MK06020A MK06022A
DATE EXTRACTED: 11/04/13 12:30 11/04/13 12:30
DATE ANALYZED: 11/06/13 17:04 11/06/13 17:45
PREP. BATCH: CPK002W CPK002W
CALIB. REF: MK06017A MK06017A

DATE COLLECTED: NA
DATE RECEIVED: 11/04/13

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
gamma-BHC (Lindane)	(ND)	0.200	0.233	(102)	0.200	(0.202)	(101)	(1)	70-130	30
Heptachlor	(ND)	0.200	0.189	(94)	0.200	0.188	94	1	60-130	30
Aldrin	(ND)	0.200	0.198	(99)	0.200	0.195	97	2	70-130	30
Dieldrin	(ND)	0.200	0.189	(94)	0.200	0.190	95	1	70-140	30
Endrin	(ND)	0.200	0.185	(92)	0.200	0.189	94	2	70-140	30
4,4'-DDT	(ND)	0.200	0.214	(108)	0.200	0.216	108	0	70-140	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Tetrachloro-m-xylene	0.4000	0.3467	86.7	0.4000	0.3646	91.1	30-130
Decachlorobiphenyl	0.4000	0.4121	103	0.4000	0.4245	106	60-130

LABORATORY REPORT FOR
EUROFINS EATON ANALYTICAL

455275

METHOD 608
PCBs

SDG#: 13J240

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project : 455275

SDG : 13J240

METHOD 608
PCBS

A total of three (3) water samples were received on 10/31/13 for PCBs analysis, Method 608 in accordance with USEPA Wastewater Test Methods at 40 CFR Part 136.

Holding Time

Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration

Instrument performance was checked prior to calibration. DDT and Endrin breakdown were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Results were compliant to project requirement.

Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for 60K002WL/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated in this SDG.

Surrogate

Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits. Refer to sample result forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.

SAMPLE RESULTS

METHOD 608
PCBs

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 10/30/13
Project     : 455275                        Date Received: 10/31/13
Batch No.   : 13J240                        Date Extracted: 11/04/13 12:30
Sample ID   : 201310300570                 Date Analyzed: 11/05/13 17:28
Lab Samp ID: J240-01                        Dilution Factor: 0.99
Lab File ID: KK05011A                       Matrix          : WATER
Ext Btch ID: CPK002W                         % Moisture      : NA
Calib. Ref.: KK05003A                       Instrument ID   : GCT071
=====

```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PCB-1016	(ND) ND	0.99	0.50 0.50
PCB-1221	(ND) ND	0.99	0.50 0.50
PCB-1232	(ND) ND	0.99	0.50 0.50
PCB-1242	(ND) ND	0.99	0.50 0.50
PCB-1248	(ND) ND	0.99	0.50 0.50
PCB-1254	(ND) ND	0.99	0.50 0.50
PCB-1260	(ND) ND	0.99	0.50 0.50

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(0.3308) 0.3099	0.3960	(83.5) 78.3	40-140
DECACHLOROBIPHENYL	0.4030 (0.4053)	0.3960	102 (102)	60-130

Left of | is related to first column ; Right of | related to second column
Final result indicated by ()
* Out side of QC Limit

METHOD 608
PCBs

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 10/30/13
Project     : 455275                          Date Received: 10/31/13
Batch No.   : 13J240                          Date Extracted: 11/04/13 12:30
Sample ID   : 201310300571                   Date Analyzed: 11/05/13 17:52
Lab Samp ID : J240-02                         Dilution Factor: 0.95
Lab File ID : KK05012A                       Matrix          : WATER
Ext Btch ID : CPK002W                        % Moisture      : NA
Calib. Ref.: KK05003A                       Instrument ID   : GCT071
=====
  
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PCB-1016	(ND) ND	0.95	0.48 0.48
PCB-1221	(ND) ND	0.95	0.48 0.48
PCB-1232	(ND) ND	0.95	0.48 0.48
PCB-1242	(ND) ND	0.95	0.48 0.48
PCB-1248	(ND) ND	0.95	0.48 0.48
PCB-1254	(ND) ND	0.95	0.48 0.48
PCB-1260	(ND) ND	0.95	0.48 0.48

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(0.3431) 0.3226	0.3800	(90.3) 84.9	40-140
DECACHLOROBIPHENYL	0.3777 (0.3817)	0.3800	99.4 (100)	60-130

Left of | is related to first column ; Right of | related to second column
 Final result indicated by ()
 * Out side of QC Limit

METHOD 608
PCBs

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 10/30/13
Project     : 455275                        Date Received: 10/31/13
Batch No.   : 13J240                        Date Extracted: 11/04/13 12:30
Sample ID   : 2013103D0572                 Date Analyzed: 11/05/13 18:16
Lab Samp ID : J240-03                       Dilution Factor: 0.93
Lab File ID : KK05013A                     Matrix          : WATER
Ext Btch ID : CPK002W                       % Moisture     : NA
Calib. Ref. : KK05003A                     Instrument ID   : GCT071
=====
  
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PCB-1016	(ND) ND	0.93	0.47 0.47
PCB-1221	(ND) ND	0.93	0.47 0.47
PCB-1232	(ND) ND	0.93	0.47 0.47
PCB-1242	(ND) ND	0.93	0.47 0.47
PCB-1248	(ND) ND	0.93	0.47 0.47
PCB-1254	(ND) ND	0.93	0.47 0.47
PCB-1260	(ND) ND	0.93	0.47 0.47

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(0.3136) 0.2980	0.3720	(84.3) 80.1	40-140
DECACHLOROBIPHENYL	0.3630 (0.3636)	0.3720	97.6 (97.8)	60-130

Left of | is related to first column ; Right of | related to second column
 Final result indicated by ()
 * Out side of QC Limit

QC SUMMARIES

METHOD 608
PCBs

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: NA
Project     : 455275                          Date Received: 11/04/13
Batch No.   : 13J240                          Date Extracted: 11/04/13 12:30
Sample ID:  MBLK1W                            Date Analyzed: 11/05/13 15:27
Lab Samp ID: CPK002WB                        Dilution Factor: 1
Lab File ID: KK05006A                       Matrix          : WATER
Ext Btch ID: CPK002W                         % Moisture      : NA
Calib. Ref.: KK05003A                       Instrument ID   : GCT071
=====

```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PCB-1016	(ND) ND	1.0	0.50 0.50
PCB-1221	(ND) ND	1.0	0.50 0.50
PCB-1232	(ND) ND	1.0	0.50 0.50
PCB-1242	(ND) ND	1.0	0.50 0.50
PCB-1248	(ND) ND	1.0	0.50 0.50
PCB-1254	(ND) ND	1.0	0.50 0.50
PCB-1260	(ND) ND	1.0	0.50 0.50

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(0.2791) 0.2705	0.4000	(69.8) 67.6	20-140
DECACHLOROBIPHENYL	0.3940 (0.3965)	0.4000	98.5 (99.1)	70-130

Left of | is related to first column ; Right of | related to second column
Final result indicated by ()
* Out side of QC Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL
PROJECT: 455275
BATCH NO.: 13J240
METHOD: METHOD 60B

MATRIX: WATER
DILUTION FACTOR: 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: 60K002WC
LAB FILE ID: KK05007A
DATE EXTRACTED: 11/04/13 12:30 11/04/13 12:30
DATE ANALYZED: 11/05/13 15:27 11/05/13 16:15
PREP. BATCH: CPK002W
CALIB. REF: KK05003A

% MOISTURE: NA
DATE COLLECTED: NA
DATE RECEIVED: 11/04/13

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
PCB-1016	(ND)	5.00	5.03 (5.04)	101 (101)	5.00	5.16 (5.17)	103 (103)	3 (3)	60-140	30
PCB-1260	(ND)	5.00	5.23 (5.54)	105 (111)	5.00	5.31 (5.45)	106 (109)	2 (2)	70-140	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Tetrachloro-m-xylene	0.4000	(0.3149)	77.0 (78.7)	0.4000	(0.3236)	(80.9)	20-140
Decachlorobiphenyl	0.4000	0.3927 (0.3939)	98.2 (98.5)	0.4000	0.3926 (0.3929)	98.2 (98.2)	70-130

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

455275

METHOD 3520C/8141A
ORGANOPHOSPHOROUS COMPOUNDS BY GC

SDG#: 13J240

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project : 455275

SDG : 13J240

METHOD 3520C/8141A
ORGANOPHOSPHOROUS COMPOUNDS BY GC

A total of three (3) water samples were received on 10/31/13 for Pesticides Organophosphorus analysis, Method 3520C/8141A in accordance with USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank

Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Results were compliant to project requirement.

Lab Control Sample

A set of LCS/LCD was analyzed with the samples in this SDG. Percent recoveries for NPK001WL/C were all within QC limits.

Matrix QC Sample

No matrix QC sample was designated in this SDG.

Surrogate

Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits. Refer to sample result forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.

SAMPLE RESULTS

METHOD 3520C/8141A
 ORGANOPHOSPHOROUS COMPOUNDS BY GC

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 10/30/13
Project    : 455275                          Date Received: 10/31/13
Batch No.  : 13J240                          Date Extracted: 11/04/13 10:45
Sample ID  : 201310300570                    Date Analyzed: 11/05/13 15:30
Lab Samp ID: J240-01                         Dilution Factor: 0.98
Lab File ID: ZK05006A                       Matrix          : WATER
Ext Btch ID: NPK001W                        % Moisture     : NA
Calib. Ref.: ZK05002A                       Instrument ID   : GCT012
=====
  
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
DICHLORVOS	(ND) ND	0.98	0.49 0.49
MEVINPHOS	(ND) ND	0.98	0.49 0.49
DEMETON	(ND) ND	0.98	0.49 0.49
ETHOPROP	(ND) ND	0.98	0.49 0.49
PHORATE	(ND) ND	0.98	0.49 0.49
NALED	(ND) ND	0.98	0.49 0.49
DIAZINON	(ND) ND	0.98	0.49 0.49
DISULFOTON	(ND) ND	0.98	0.49 0.49
RONNEL	(ND) ND	0.98	0.49 0.49
CHLORPYRIFOS	(ND) ND	0.98	0.49 0.49
FENTHION	(ND) ND	0.98	0.49 0.49
TRICHLORONATE	(ND) ND	0.98	0.49 0.49
METHYL PARATHION	(ND) ND	0.98	0.49 0.49
TOKUTHION	(ND) ND	0.98	0.49 0.49
STIROPHOS	(ND) ND	0.98	0.49 0.49
BOLSTAR	(ND) ND	0.98	0.49 0.49
FENSULFOTHION	(ND) ND	0.98	0.49 0.49
AZINPHOS-METHYL	(ND) ND	0.98	0.49 0.49
COUMAPHOS	(ND) ND	0.98	0.49 0.49

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TRIBUTYL PHOSPHATE	1.188 (1.204)	1.470	80.8 (81.9)	30-130
TRIPHENYL PHOSPHATE	1.105 (1.226)	1.470	75.2 (83.4)	50-130

METHOD 3520C/8141A
 ORGANOPHOSPHOROUS COMPOUNDS BY GC

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 10/30/13
Project     : 455275                        Date Received: 10/31/13
Batch No.   : 13J240                        Date Extracted: 11/04/13 10:45
Sample ID   : 201310300571                 Date Analyzed: 11/05/13 16:04
Lab Samp ID: J240-02                        Dilution Factor: 1.03
Lab File ID: ZK05007A                       Matrix          : WATER
Ext Btch ID: NPK001W                        % Moisture      : NA
Calib. Ref.: ZK05002A                       Instrument ID   : GCT012
=====
  
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
DICHLORVOS	(ND) ND	1.0	0.52 0.52
MEVINPHOS	(ND) ND	1.0	0.52 0.52
DEMETON	(ND) ND	1.0	0.52 0.52
ETHOPROP	(ND) ND	1.0	0.52 0.52
PHORATE	(ND) ND	1.0	0.52 0.52
NALED	(ND) ND	1.0	0.52 0.52
DIAZINON	(ND) ND	1.0	0.52 0.52
DISULFOTON	(ND) ND	1.0	0.52 0.52
RONNEL	(ND) ND	1.0	0.52 0.52
CHLORPYRIFOS	(ND) ND	1.0	0.52 0.52
FENTHION	(ND) ND	1.0	0.52 0.52
TRICHLORONATE	(ND) ND	1.0	0.52 0.52
METHYL PARATHION	(ND) ND	1.0	0.52 0.52
TOKUTHION	(ND) ND	1.0	0.52 0.52
STIROPHOS	(ND) ND	1.0	0.52 0.52
BOLSTAR	(ND) ND	1.0	0.52 0.52
FENSULFOTHION	(ND) ND	1.0	0.52 0.52
AZINPHOS-METHYL	(ND) ND	1.0	0.52 0.52
COUMAPHOS	(ND) ND	1.0	0.52 0.52

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TRIBUTYL PHOSPHATE	1.354 (1.387)	1.545	87.7 (89.8)	30-130
TRIPHENYL PHOSPHATE	1.271 (1.452)	1.545	82.3 (94.0)	50-130

METHOD 3520C/8141A
 ORGANOPHOSPHOROUS COMPOUNDS BY GC

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 10/30/13
Project     : 455275                        Date Received: 10/31/13
Batch No.   : 13J240                        Date Extracted: 11/04/13 10:45
Sample ID   : 201310300572                 Date Analyzed: 11/05/13 16:38
Lab Samp ID: J240-03                        Dilution Factor: 0.99
Lab File ID: ZK05008A                       Matrix          : WATER
Ext Btch ID: NPK001W                        % Moisture      : NA
Calib. Ref.: ZK05002A                       Instrument ID   : GCT012
=====
  
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
DICHLORVOS	(ND) ND	0.99	0.50 0.50
MEVINPHOS	(ND) ND	0.99	0.50 0.50
DEMETON	(ND) ND	0.99	0.50 0.50
ETHOPROP	(ND) ND	0.99	0.50 0.50
PHORATE	(ND) ND	0.99	0.50 0.50
NALED	(ND) ND	0.99	0.50 0.50
DIAZINON	(ND) ND	0.99	0.50 0.50
DISULFOTON	(ND) ND	0.99	0.50 0.50
RONNEL	(ND) ND	0.99	0.50 0.50
CHLORPYRIFOS	(ND) ND	0.99	0.50 0.50
FENTHION	(ND) ND	0.99	0.50 0.50
TRICHLORONATE	(ND) ND	0.99	0.50 0.50
METHYL PARATHION	(ND) ND	0.99	0.50 0.50
TOKUTHION	(ND) ND	0.99	0.50 0.50
STIROPHOS	(ND) ND	0.99	0.50 0.50
BOLSTAR	(ND) ND	0.99	0.50 0.50
FENSULFOTHION	(ND) ND	0.99	0.50 0.50
AZINPHOS-METHYL	(ND) ND	0.99	0.50 0.50
COUMAPHOS	(ND) ND	0.99	0.50 0.50

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TRIBUTYL PHOSPHATE	1.241 (1.275)	1.485	83.6 (85.9)	30-130
TRIPHENYL PHOSPHATE	1.196 (1.339)	1.485	80.5 (90.2)	50-130

QC SUMMARIES

METHOD 3520C/8141A
 ORGANOPHOSPHOROUS COMPOUNDS BY GC

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: NA
Project     : 455275                        Date Received: 11/04/13
Batch No.   : 13J240                        Date Extracted: 11/04/13 10:45
Sample ID   : MBLK1W                        Date Analyzed: 11/05/13 13:48
Lab Samp ID: NPK001WB                       Dilution Factor: 1
Lab File ID: ZK05003A                       Matrix          : WATER
Ext Btch ID: NPK001W                        % Moisture      : NA
Calib. Ref.: ZK05002A                       Instrument ID   : GCT012
=====
  
```

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
DICHLORVOS	(ND) ND	1.0	0.50 0.50
MEVINPHOS	(ND) ND	1.0	0.50 0.50
DEMETON	(ND) ND	1.0	0.50 0.50
ETHOPROP	(ND) ND	1.0	0.50 0.50
PHORATE	(ND) ND	1.0	0.50 0.50
NALED	(ND) ND	1.0	0.50 0.50
DIAZINON	(ND) ND	1.0	0.50 0.50
DISULFOTON	(ND) ND	1.0	0.50 0.50
RONNEL	(ND) ND	1.0	0.50 0.50
CHLORPYRIFOS	(ND) ND	1.0	0.50 0.50
FENTHION	(ND) ND	1.0	0.50 0.50
TRICHLORONATE	(ND) ND	1.0	0.50 0.50
METHYL PARATHION	(ND) ND	1.0	0.50 0.50
TOKUTHION	(ND) ND	1.0	0.50 0.50
STIROPHOS	(ND) ND	1.0	0.50 0.50
BOLSTAR	(ND) ND	1.0	0.50 0.50
FENSULFOTHION	(ND) ND	1.0	0.50 0.50
AZINPHOS-METHYL	(ND) ND	1.0	0.50 0.50
COUMAPHOS	(ND) ND	1.0	0.50 0.50

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TRIBUTYL PHOSPHATE	(1.340) 1.285	1.500	(89.3) 85.7	30-130
TRIPHENYL PHOSPHATE	1.239 (1.373)	1.500	82.6 (91.5)	50-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL
PROJECT: 455275
BATCH NO.: 13J240
METHOD: 3520C/8141A

MATRIX: WATER
DILUTION FACTOR: 1
SAMPLE ID: MBLK1W
LAB SAMP ID: NPK001WB
LAB FILE ID: ZK05003A
DATE EXTRACTED: 11/04/13 10:45
DATE ANALYZED: 11/05/13 13:48
PREP. BATCH: NPK001W
CALIB. REF: ZK05002A

% MOISTURE: NA
DATE COLLECTED: NA
DATE RECEIVED: 11/04/13

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Phorate	(ND) ND	1.50	0.969J (0.995J)	65 (66)	1.50	0.967J (1.05)	64 (70)	0.967J (1.05)	64 (70)	0 (5)	10-130	30
Ronnel	(ND) ND	1.50	(1.22) 1.12	(81) 75	1.50	1.09 (1.13)	73 (75)	1.09 (1.13)	73 (75)	11 (1)	30-140	30
Chlorpyrifos	(ND) ND	1.50	1.02 (1.14)	68 (76)	1.50	1.11 (1.28)	74 (85)	1.11 (1.28)	74 (85)	8 (12)	40-140	30
Tokuthian	(ND) ND	1.50	0.986J (1.13)	66 (75)	1.50	1.04 (1.16)	69 (77)	1.04 (1.16)	69 (77)	5 (3)	40-130	30
Bolstar	(ND) ND	1.50	(1.12) 1.10	(75) 73	1.50	1.11 (1.17)	74 (78)	1.11 (1.17)	74 (78)	1 (6)	20-130	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	QC LIMIT (%)
Tributyl Phosphate	1.500	(1.332) 1.327	(88.8) 88.5	1.500	(1.775) 1.260	(118) 84.0	30-130
Triphenyl Phosphate	1.500	1.272 (1.379)	84.8 (91.9)	1.500	1.300 (1.323)	86.7 (88.2)	50-130