County of Los Angeles
Department of Public Works

November 2010 Water Quality Monitoring Report

for the

Master Mitigation Plan
for the Big Tujunga Wash Mitigation Bank

MWH

November 2010 Water Quality Monitoring Report

for

Master Mitigation Plan
for the Big Tujunga Wash Mitigation Bank

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

Table of Contents

Section Name **Page Number**

LIST OF FIGURES

Figure Number **Page**

LIST OF TABLES

Table Number **Page**

Distribution

Water quality monitoring reports are distributed to the following agencies:

Los Angeles County Department of Public Works

Mr. Ramil Parial
Water Resources Division, Financial and Special Projects Section
900 South Fremont Avenue
Alhambra, California 91803-1331

Ms. Valerie De La Cruz
Water Resources Division, Financial and Special Projects Section
900 South Fremont Avenue
Alhambra, California 91803-1331

California Department of Fish and Game

Ms. Sarah Rains
P.O. Box 221480
Newhall, CA 91322

Ms. Mary Meyer
402 West Ojai Avenue, Suite 101, PMB 501
Ojai, California 93023

Mr. Scott Harris
1508 N. Harding Ave.
Pasadena, California 91104

Regional Water Quality Control Board, Los Angeles Region (4)

Ms. Valerie Carrillo
320 West 4th Street, Suite 200
Los Angeles, California 90013

U.S. Fish and Wildlife Service

Mr. Jesse Bennett
6010 Hidden Valley Road
Carlsbad, California 92009

U.S. Army Corps of Engineers

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
November 2010

BACKGROUND

The County of Los Angeles Department of Public Works (LADPW) purchased a 207-acre parcel in Big Tujunga Wash as a mitigation bank for County flood control projects throughout Los Angeles County. In coordination with local agencies, the County defined a number of measures to improve habitat quality at the site. A Master Mitigation Plan (MMP) was prepared to guide the implementation of these enhancements. The MMP also includes a monitoring program to gather data on conditions at the site during implementation of the improvements. The MMP was prepared and is currently being implemented by ECORP Consulting, Inc. MWH, a subconsultant to ECORP, is responsible for the water quality monitoring program described in the MMP. 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. This report presents the results of the water quality sampling for 2010.

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 at the far eastern portion of the site.

Project Site Activities

A timeline of project-related activities that could influence water quality is presented in **Table 1**.

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

Month/Year	Activity
4/00	Baseline water quality sampling
11/00 to 11/01	Arundo, tamarisk, and pepper tree removal Chemical (Rodeo®) application
12/00 to 11/02	Water hyacinth removal
12/00	Fish Sampling at Haines Canyon Creek
12/14/00	Water quality sampling
1/01 to present	Exotic aquatic wildlife (non-native fish, crayfish, bullfrog, and turtle) removal – conducted quarterly
2/01	Partial riparian planting
3/01	Selective clearing at Canyon Trails Golf Club
3/12/01	Water quality sampling
6/19/01	Water quality sampling
7/01	Fish Sampling at Haines Canyon Creek
9/11/01	Water quality sampling
10/01 to 11/01	Fish Sampling at Haines Canyon Creek

Table 1 (Continued)
Major Activities to Date at the Big Tujunga Wash Mitigation Bank

Month/Year	Activity
12/12/01	Water quality sampling
1/02	Final riparian planting
2/02	Upland replacement planting
3/26/02	Water quality sampling
6/25/02	Water quality sampling
7/02	Fish Sampling at Haines Canyon Creek
9/12/02	Water quality sampling
10/02	Grading at Canyon Trails Golf Club begins
11/02	Fish Sampling at Haines Canyon Creek
12/19/02	Water quality sampling
3/20/03	Water quality sampling
4/1/03	Meeting with Canyon Trails Golf Club to discuss future use of herbicides and fertilizers
6/23/03	Water quality sampling
8/03	Fish Sampling at Haines Canyon Creek
9/30/03	Water quality sampling
Fall 2003	Completion of the golf course construction
12/17/03	Water quality sampling
1/04	Fish Sampling at Haines Canyon Creek
4/2/04	Water quality sampling
4/3/04	Rock Dam Removal Day
6/04	Angeles National Golf Club (previously named Canyon Trails) opens to the public
7/2/04	Water quality sampling
10/5/04	Water quality sampling
12/9/04	Water quality sampling
4/7/05	Water quality sampling
6/30/05	Water quality sampling
10/25/05	Water quality sampling
12/22/05	Water quality sampling
7/11/06	Water quality sampling
12/29/06	Water quality sampling
12/17/07	Water quality sampling
12/29/08	Water quality sampling
8/26/2009 to 10/16/2009	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/)
12/15/09	Water quality sampling
11/19/10	Water quality sampling (pesticide samples collected 12/1/10)

Angeles National Golf Club Activities

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). Potential impacts to aquatic species from run-on to the site that contains excessive nutrients or pesticides are of primary concern. The golf course has been operating since June 2004.

In March 2004, the golf course maintenance staff indicated that the following chemicals may be used on an as needed basis**:** Primo™ (a grass growth inhibitor used for turf management; active ingredient – trinexapac-ethyl) and Rodeo® (an herbicide used to control aquatic weeds; active ingredient – glyphosate) (J. Reidinger, pers. comm. to M. Chimienti, LADPW, March 18, 2004). Based on this information, glyphosate was added to the list of sampling parameters starting in the first quarter of 2004.

In December 2004 and February 2005, the Golf Club provided MWH with the golf course's monthly pesticide use reports. The reports indicate that 10 types of chemical products (seven herbicides, one insecticide, one fungicide, and one grass growth inhibitor) were applied. Pesticide use reports were again provided by the Golf Club in April 2007 for the period from November 2006 to March 2007. During this period, pesticides were applied only in November 2006 as summarized in **Table 2**.

Table 2
Pesticide Applications at the Angeles National Golf Course
(November 2006)

Active Ingredient	Manufacturer and Product Name	Applications
Flutolanil	Bayer Prostar 70 WP (fungicide)	One application of 37 pounds on 130,000 sq. ft. of turfgrass
Glyphosate	Verdicon Kleenup Pro (herbicide)	One application of 5 gallons (2% volume) as a spot treatment on turfgrass
Gibberellic Acid	Valent ProGibb T&O (plant growth regulator)	One application of 1 quart on 16 acres of turfgrass
Pyraclostrobin	BASF Insignia 20 WG (fungicide)	One application of 7.2 pounds on 130,000 sq. ft. of turfgrass

Source: Angeles National Golf Course Monthly Summary Pesticide Use Reports for November 2006 through March 2007

In December 2004, the Golf Club also provided MWH with the golf course's water quality monitoring reports to date. The results were summarized and presented in the 2004 Annual Report for the Big Tujunga Wash Mitigation Bank Water Quality Monitoring Program (distributed in February 2005).

In August 2006, the Golf Club provided MWH with additional water quality monitoring reports from the first and second quarters of 2006. The Golf Club's monitoring activities for the first and second quarters of 2006 included:

- Groundwater samples were collected on February 24 and May 17 from two groundwater monitoring wells downgradient from the golf course (MW-1 and MW-2R, located near Foothill Boulevard).
- Surface water samples were collected from Big Tujunga Wash approximately 200 feet east of Foothill Boulevard (sampling site SW-2) on February 24 and May 17.
- For the first and second quarters of 2006, surface water samples were not collected from Haines Canyon Creek (sampling site SW-1, approximately 500 feet east of Foothill Boulevard) since water was not flowing at this site on the sampling dates.

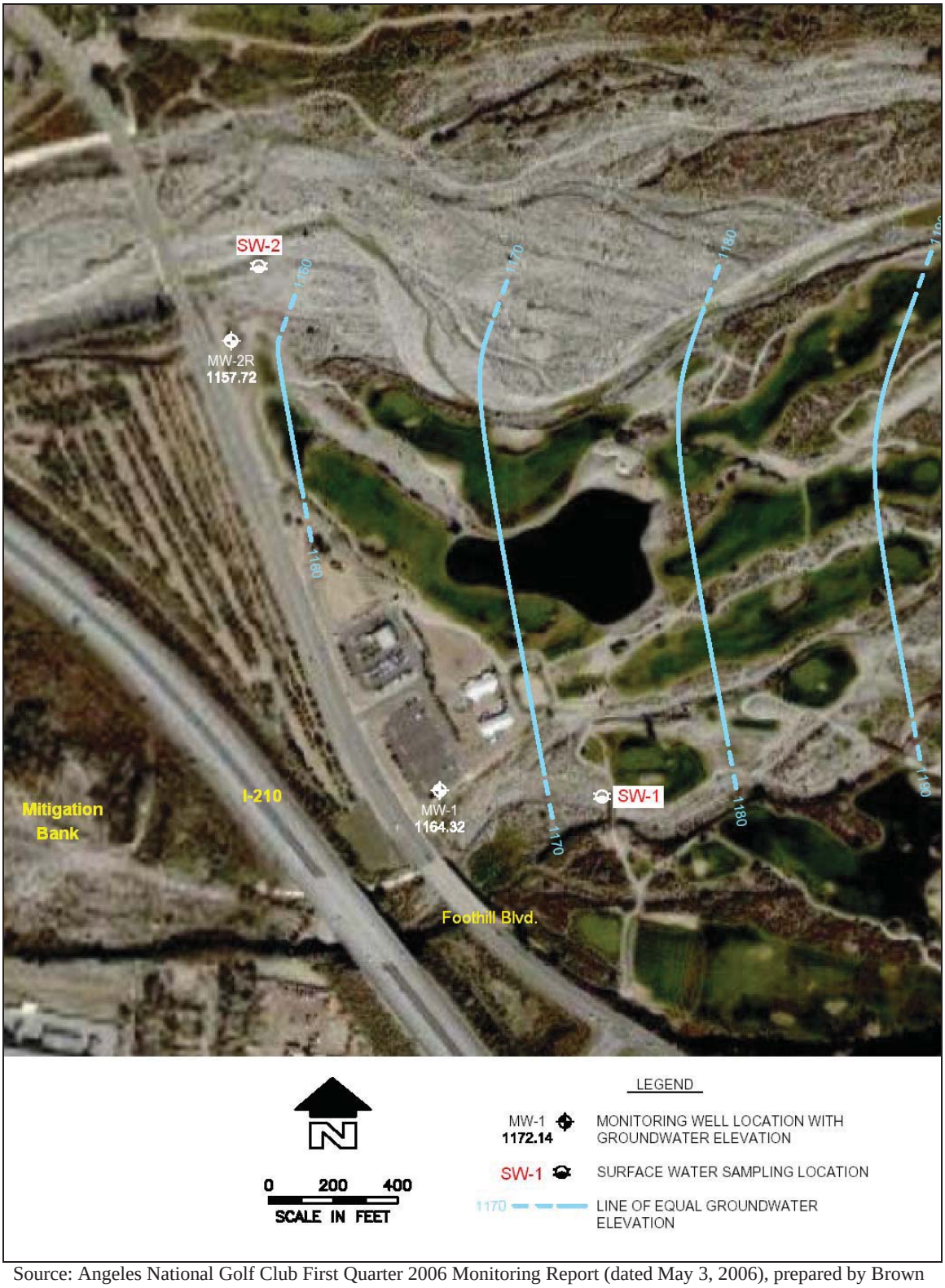
[Source: Angeles National Golf Club First Quarter 2006 Monitoring Report (dated May 3, 2006) and Second Quarter 2006 Monitoring Report (dated July 6, 2006), prepared by Brown and Caldwell for the Los Angeles International Golf Club.]

The following parameters were sampled by the Golf Club in the first and second quarters of 2006:

- General parameters – pH, electrical conductivity, total dissolved solids (TDS), sodium, potassium, calcium, magnesium, carbonate, bicarbonate, sulfate, chloride, nitrate as nitrogen, nitrite as nitrogen, total Kjeldahl nitrogen (TKN), ammonia as nitrogen, oil and grease, and surfactants (MBAS)
- Pesticides – aldrin, chlordane, 4,4-DDD, 4,4-DDE, 4,4-DDT, dieldrin, endosulfan I, endosulfan II, endosulfan sulfate, endrin, endrin aldehyde, heptachlor epoxide, and methoxychlor
- Fungicides – metalaxyl, chlorothalonil, iprodione, propiconazole, vincolozoin, and quintozene
- Herbicides – prodiamine, pronamide, P-butylfluazifop, fenoxaprop, pendimethalin, triclopyr, chlopyralid, 2,4-D amine, dicamba, and MCPP
- Insecticides – chlorpyrifos, trichlorfon, and malathion

In both the groundwater and surface water samples collected for the Golf Club during the first and second quarters of 2006, concentrations of pesticides (including fungicides, herbicides and insecticides) were not detected, and general chemical parameters did not exceed state drinking water standards (Angeles National Golf Club, May 2006 and July 2006).

Figure 1
Angeles National Golf Club Groundwater and Surface Water Sampling Sites
(February and May 2006)



Source: Angeles National Golf Club First Quarter 2006 Monitoring Report (dated May 3, 2006), prepared by Brown and Caldwell for the Los Angeles International Golf Club.

MATERIALS AND METHODS

Sampling Stations

Four sampling locations have been identified for the monitoring program for the Big Tujunga Wash Mitigation Bank (**Figure 2**). **Table 3** summarizes sampling locations and the conditions observed on November 19, 2010. [Note, pesticide samples collected December 1, 2010.] The coordinates of the sampling stations were determined by a hand-held Global Positioning System.

Table 3
Water Quality Sampling Locations and Conditions for November 2010

Date	November 19, 2010		
Air Temperature	Approximately 60 degrees Fahrenheit		
Skies	Overcast, foggy, cool		
Observations	Haines Canyon Creek exiting the mitigation bank site very clear, low turbidity. Surface vegetation (*Lemna*) levels very high in the inlet Tujunga pond.		
Sampling Locations	**Latitude**	**Longitude**	**Time of sample**
Haines Canyon Creek	N 34º 16' 2.9"	W 118º 21' 22.2"	1040
Haines Canyon Creek, inflow to Tujunga Ponds	N 34º 16' 6.9"	W 118º 20' 18.7"	1050
Haines Canyon Creek, outflow from Tujunga Ponds	N 34º 16' 7.1"	W 118º 20' 28.3"	1010
Big Tujunga Wash	N 34º 16' 11.7"	W 118º 21' 4.0"	0915

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 and temperature – YSI 550A Field DO meter and thermometer
- pH – Orion 230A pH meter with HACH 51935 electrode
- HACH DR 700 – total residual chlorine

Pesticides were analyzed by Emax Laboratories, Inc., Torrance, California. All other analyses were performed at MWH 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	field	Standard Methods 4500-Cl
temperature	field	Standard Methods 2550
pH	field	Standard Methods 4500-H+

Sources for analytical methods:

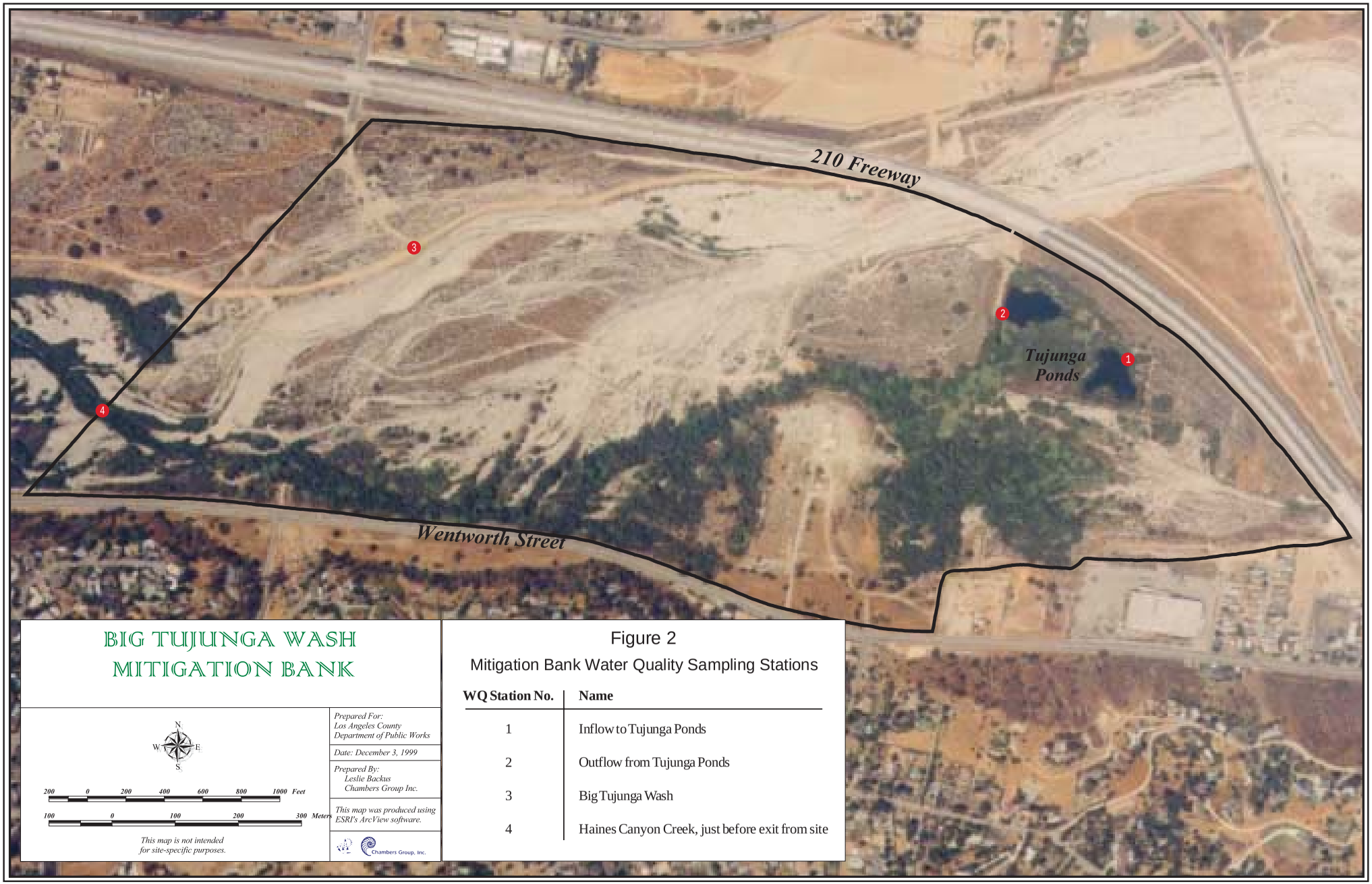
EPA. Method and Guidance for Analysis of Water.

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.



BIG TUJUNGA WASH MITIGATION BANK

N
W E
S

200 0 200 400 600 800 1000 Feet

100 0 100 200 300 Meters

This map is not intended for site-specific purposes.

Prepared For:
Los Angeles County Department of Public Works

Date: December 3, 1999

Prepared By:
Leslie Backus
Chambers Group Inc.

This map was produced using ESRI's ArcView software.

Chambers Group, Inc.

Figure 2

Mitigation Bank Water Quality Sampling Stations

WQ Station No.	Name
1	Inflow to Tujunga Ponds
2	Outflow from Tujunga Ponds
3	Big Tujunga Wash
4	Haines Canyon Creek, just before exit from site

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

Calculating flow then involves solving the following equation:

$$Flow = ALC / T$$

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 LADPW prior to implementation of the MMP 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 4/18/00 samples are attributable to a rain event. Phosphorus levels were also high in the 4/18/00 samples, due to release from sediments.

November 2010 Results

Water Quality

Results of analyses conducted by MWH and Emax Laboratories are appended to this report (**Appendix A**) and summarized in **Table 6**. Note that the yields (percent recoveries) of QC samples were within acceptable limits (percentages) for all samples.

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 – November 19, 2010

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	17.3	16.7	12.5	15.8
Dissolved Oxygen	mg/L	4.06	4.73	9.75	8.56
pH	std units	6.50	6.54	7.85	7.56
Total residual chlorine	mg/L	ND	ND	ND	ND
Ammonia-Nitrogen	mg/L	ND	ND	ND	ND
Kjeldahl Nitrogen	mg/L	ND	ND	ND	ND
Nitrite-Nitrogen	mg/L	ND	ND	ND	ND
Nitrate-Nitrogen	mg/L	9.2	6.4	<0.2	6.0
Orthophosphate-P	mg/L	0.026	ND	0.013	0.013
Total phosphorus-P	mg/L	0.033	<0.02	0.022	<0.02
Glyphosate	µg/L	ND	ND	ND	ND
Chloropyrifos*	ng/L	ND	ND	ND	ND
Pesticides (EPA 8081A)**	µg/L	ND	ND	ND	ND
Turbidity	NTU	0.4	0.2	2.3	0.5
Fecal Coliform Bacteria	(MPN/100 ml)	23	70	30	80
Total Coliform Bacteria	(MPN/100 ml)	1600	170	110	500

NTU – nephelometric turbidity units MPN – most probable number ND – non-detect

[1], [2] Pesticide samples collected 12/1/10

[1] 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.

[2] EPA method 8081A tests for aldrin, BHC, Chlordane, DDD, DDE, DDT, dieldrin, endrin, endosulfan, heptaclor, methoxychlor, and toxaphene.

Discharge Measurements

Using the field technique described above, flows in the outlet from Big Tujunga Ponds, in Haines Canyon Creek leaving the site, and in Big Tujunga Wash were approximated. Estimated flows for November 2010 are summarized in **Table 7**.

Table 7
Estimated Flows for November 2010

Sampling Date	Approximate Flow (cubic feet per second)		
	Outlet of Big Tujunga Ponds	Haines Canyon Creek leaving the site	Big Tujunga Wash
11/19/2010	2.0	4.2	15.2

Comparison of Results with Aquatic Life Criteria

Tables 8 and **12** present objectives established by the Los Angeles Regional Water Quality Control Board (Regional Board) for protection of beneficial uses in Big Tujunga Wash including wildlife habitat. EPA's criteria for freshwater aquatic life are also presented in **Tables 8, 9, 10, 11** and **13**.

Table 8
National and Local Recommended Water Quality Criteria - Freshwaters

Parameter	Basin Plan Objectives[a]	EPA Criteria		
		CMC	CCC	Human Health
Temperature (^{o}C)	b	See Table 11	See Table 11	--
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)	200[f] (water contact recreation)	--	--	Swimming stds: 33[g] (geometric mean for enterococci) 126[g] (geometric mean for *E. coli*)
Ammonia-nitrogen (mg/L)	See Table 12	See Tables 9, 10, and 11	See Tables 9, 10, and 11	--
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).

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 Standard based on a minimum of not less than four samples for any 30-day period, 10% of total samples during any 30-day period shall not exceed 400/100ml.

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
Numeric Values of the Criterion Maximum Concentration (CMC) with Salmonids Present and Absent and the Criterion Continuous Concentration (CCC) for Ammonia Nitrogen (mg/L)

pH	CMC with Salmonids Present	CMC with Salmonids Absent	CCC
6.5	32.6	48.8	3.48
6.6	31.3	46.8	3.42
6.7	29.8	44.6	3.36
6.8	28.1	42.0	3.28
6.9	26.2	39.1	3.19
7.0	24.1	36.1	3.08
7.1	22.0	32.8	2.96
7.2	19.7	29.5	2.81
7.3	17.5	26.2	2.65
7.4	15.4	23.0	2.47
7.5	13.3	19.9	2.28
7.6	11.4	17.0	2.07
7.7	9.65	14.4	1.87
7.8	8.11	12.1	1.66
7.9	6.77	10.1	1.46
8.0	5.62	8.4	1.27
8.1	4.64	6.95	1.09
8.2	3.83	5.72	0.935
8.3	3.15	4.71	0.795
8.4	2.59	3.88	0.673
8.5	2.14	3.2	0.568
8.6	1.77	2.65	0.480
8.7	1.47	2.2	0.406
8.8	1.23	1.84	0.345
8.9	1.04	1.56	0.295
9.0	0.885	1.32	0.254

Source: USEPA. 1999. 1999 Update of Ambient Water Quality Criteria for Ammonia. EPA 822-R-99-014. Washington, D.C.

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

CCC for Fish Early Life Stages Absent, mg N/L										
	Temperature (°Celsius)									
pH	0-7	8	9	10	11	12	13	14	15*	16*
6.5	10.8	10.1	9.51	8.92	8.36	7.84	7.35	6.89	6.46	6.06
6.6	10.7	9.99	9.37	8.79	8.24	7.72	7.24	6.79	6.36	5.97
6.7	10.5	9.81	9.20	8.62	8.08	7.58	7.11	6.66	6.25	5.86
6.8	10.2	9.58	8.98	8.42	7.90	7.40	6.94	6.51	6.10	5.72
6.9	9.93	9.31	8.73	8.19	7.68	7.20	6.75	6.33	5.93	5.56
7.0	9.60	9.00	8.43	7.91	7.41	6.95	6.52	6.11	5.73	5.37
7.1	9.20	8.63	8.09	7.58	7.11	6.67	6.25	5.86	5.49	5.15
7.2	8.75	8.20	7.69	7.21	6.76	6.34	5.94	5.57	5.22	4.90
7.3	8.24	7.73	7.25	6.79	6.37	5.97	5.60	5.25	4.92	4.61
7.4	7.69	7.21	6.76	6.33	5.94	5.57	5.22	4.89	4.59	4.30
7.5	7.09	6.64	6.23	5.84	5.48	5.13	4.81	4.51	4.23	3.97
7.6	6.46	6.05	5.67	5.32	4.99	4.68	4.38	4.11	3.85	3.61
7.7	5.81	5.45	5.11	4.79	4.49	4.21	3.95	3.70	3.47	3.25
7.8	5.17	4.84	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89
7.9	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89	2.71	2.54
8.0	3.95	3.70	3.47	3.26	3.05	2.86	2.68	2.52	2.36	2.21
8.1	3.41	3.19	2.99	2.81	2.63	2.47	2.31	2.17	2.03	1.91
8.2	2.91	2.73	2.56	2.40	2.25	2.11	1.98	1.85	1.74	1.63
8.3	2.47	2.32	2.18	2.04	1.91	1.79	1.68	1.58	1.48	1.39
8.4	2.09	1.96	1.84	1.73	1.62	1.52	1.42	1.33	1.25	1.17
8.5	1.77	1.66	1.55	1.46	1.37	1.28	1.20	1.13	1.06	0.990
8.6	1.49	1.40	1.31	1.23	1.15	1.08	1.01	0.951	0.892	0.836
8.7	1.26	1.18	1.11	1.04	0.976	0.915	0.858	0.805	0.754	0.707
8.8	1.07	1.01	0.944	0.885	0.829	0.778	0.729	0.684	0.641	0.601
8.9	0.917	0.860	0.806	0.756	0.709	0.664	0.623	0.584	0.548	0.513
9.0	0.790	0.740	0.694	0.651	0.610	0.572	0.536	0.503	0.471	0.442

* At 15° C and above, the criterion for fish ELS absent is the same as the criterion for fish ELS present.

Source: USEPA. 1999. 1999 Update of Ambient Water Quality Criteria for Ammonia. EPA 822-R-99-014. Washington, D.C.

Table 11
Temperature and pH-Dependent Values of the Ammonia-Nitrogen CCC (Chronic Criterion) for Fish Early Life Stages Present

CCC for Fish Early Life Stages Present, mg N/L										
pH	Temperature (° Celsius)									
	0	14	16	18	20	22	24	26	28	30
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32
7.8	3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17
7.9	2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179

Source: USEPA. 1999. 1999 Update of Ambient Water Quality Criteria for Ammonia. EPA 822-R-99-014. Washington, D.C.

Table 12
Maximum One-Hour Average Concentration for Total Ammonia (mg/L NH_3)

pH	Temperature (°Celsius)						
	0	5	10	15	20	25	30
6.50	35	33	31	30	29	20	14.3
6.75	32	30	28	27	27	18.6	13.2
7.00	28	26	25	24	23	16.4	11.6
7.25	23	22	20	19.7	19.2	13.4	9.5
7.50	17.4	16.3	15.5	14.9	14.6	10.2	7.3
7.75	12.2	11.4	10.9	10.5	10.3	7.2	5.2
8.00	8.0	7.5	7.1	6.9	6.8	4.8	3.5
8.25	4.5	4.2	4.1	4.0	3.9	2.8	2.1
8.50	2.6	2.4	2.3	2.3	2.3	1.71	1.28
8.75	1.47	1.40	1.37	1.38	1.42	1.07	0.83
9.00	0.86	0.83	0.83	0.86	0.91	0.72	0.58

Source: California Regional Water Quality Control Board, Los Angeles Region. 1994. Water Quality Control Plan (Basin Plan). Taken from USEPA. 1986. Quality Criteria for Water. EPA 440/5-86-001. 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 November 2010 sampling are described by parameter in **Table 14**.

Table 14
Discussion of November 2010 Big Tujunga Wash Sampling Results

Parameter	Discussion
Temperature	• Observed temperatures were below levels of concern for growth and survival of warmwater fish species at all stations.
Dissolved oxygen	• Dissolved oxygen levels ranged from 4.06 mg/L in the inflow pond to 9.75 in Big Tujunga Wash. DO levels in the ponds were below the recommended minimum for warmwater fish species (5.0 mg/L).
pH	• Lowest pH was observed in the inflow to Tujunga Ponds (6.50), with highest pH observed in Big Tujunga Wash (7.85). On this date, pH measurements at all stations were within the 6.5 to 8.5 range identified in the Basin Plan.
Total residual chlorine	• No residual chlorine was detected at any station.
Nitrogen	• 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	• 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 ND to 0.033 mg/L; recommended range is <0.05 – 0.1 mg/L).
Glyphosate	• Glyphosate was not detected at any station.
Chloropyrifos	• Chloropyrifos and the other pesticides tested using EPA's analytical method 8141A were not detected at any station.
Pesticides	• Pesticides analyzed by EPA Method 8081A were not detected at any station.
Turbidity	• Turbidity levels were low (≤2.3 NTU) at all stations.
Bacteria	• Fecal coliform levels at all stations were below the water contact recreation standard of 200 MPN. Total coliform levels ranged from 110 in Big Tujunga Wash to 1,600 in the Tujunga Pond inlet.

GLOSSARY

Ammonia-Nitrogen – NH_3-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 – $NO3^-$-N is an essential nutrient for many photosynthetic autotrophs.

Nitrite-Nitrogen – $NO2^-$-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 BANK
WATER QUALITY MONITORING PROGRAM

LABORATORY RESULTS
November and December 2010

MWH
LABORATORIES
A Division of MWH Americas, Inc.

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

Laboratory Report

for

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

Date of Issue
12/20/2010
MWH LABORATORIES

ACCREDITED IN ACCORDANCE WITH nelac 01114CA

Report#: 349439
Project: BIG-TUJUNGA
Group: Water Quality Monitoring
PO#: 1009944.011601

DST: David S Tripp

Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.

MWH LABORATORIES

Acknowledgement of Samples Received

MWH Americas - Arcadia
618 Michillinda Ave.
Suite 200
Arcadia, CA 91007
Attn: Sarah Garber
Phone: 626-568-6910

Customer Code: MWH-ECORP
Folder #: 349439
Project: BIG-TUJUNGA
Sample Group: Water Quality Monitoring
Project Manager: David S Tripp
Phone: (626) 386-1158
PO #: 1009944.011601

The following samples were received from you on **November 19, 2010**. 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 MWH Laboratories.

Sample #	Sample ID	Sample Date
201011200100	BTW111910	Nov 19, 2010 09:15

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
Turbidity		

201011200101	TJP0111910	Nov 19, 2010 10:10

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
Turbidity		

201011200102	TJPI111910	Nov 19, 2010 10:50

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
Turbidity		

201011200103	HCC111910	Nov 19, 2010 11:40

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
Turbidity		

Test Description

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (626) 386-1101 http://MWHLabs.com

349439

MWH Laboratories
A Division of MWH Americas, Inc.

CHAIN OF CUSTODY RECORD

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)

MWH LABS USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: JR

SAMPLES LOGGED IN BY: JS

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

SAMPLE TEMP RECEIVED AT:
[ ] Colton / Sacramento / Scottsdale _____ °c (Compliance: 4 ± 2 °C)
[X] Monrovia 13 °c (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: FROZEN ✓ PARTIALLY FROZEN ___ THAWED ___ WET ICE _____

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

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: MWH-ECORP

PROJECT CODE: 10099944.011601

MWH LABS CLIENT CODE: MWH-ECORP

COC ID:

SAMPLE GROUP:

SAMPLER PRINTED NAME AND SIGNATURE: SARAH GARBER

TAT requested: rush by adv notice only
STD___ 1 wk ___ 3 day__ 2 day___ 1 day __

COMPLIANCE SAMPLES (check for yes) [ ]
- Requires state forms

NON-COMPLIANCE SAMPLES (check for yes) [X]
REGULATION INVOLVED: _____ (eg. SDWA, Phase V, NPDES, FDA,...)

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION

SEE ATTACHED BOTTLE ORDER FOR ANALYSES [X] (check for yes), OR
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	Field Data	SAMPLER COMMENTS
11/19	0935	BTW111910	1	RSW			
11/19	1010	TJP0111910	2	RSW			
11/19	1050	TJPi111910	3	RSW			
11/19	1140	HCC111910	4	RSW			

DWM 11/19/10 13:13

(2010)

* 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; O = Other - Please Identify

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:		SARAH GARBER	MWH	11/19/10	
RECEIVED BY:					
RELINQUISHED BY:					
RECEIVED BY:		Salvador Mata	MWH	11/19/10	1247

PAGE ____ OF ____

MWH Laboratories, a Division of MWH Americas, Inc.
750 Royal Oaks Drive Suite 100
Monrovia, CA 91016 (626) 386-1100 FAX (626) 386-1124

Bottle Order for MWH Americas - Arcadia

Group#
Date Sampled
Date Received

David S Tripp Your MWHL Project Manager

BO #: 25998

Created By: DST
Order Date: 11/09/2010
Bottle Orders

Sampler: please return this paper with your samples

Client Code MWH-ECORP
Project Code BIG-TUJUNGA Bottle Orders
Group Name Water Quality Monitoring
PO# / Job# 1009944.011601

Ship By:
10/30/2010

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

Attn: Sarah Garber
Phone: 626-568-6910
Fax:

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

Attn: Sarah Garber
Phone: 626-568-6910
Fax:

Billing Address
MWH Americas - Arcadia
618 Michillinda Ave.
Suite 200
Arcadia, CA 91007

Attn: Sarah Garber
Phone: 626-568-6910
Fax:

# of Samples	Tests	Qteline#	Bottles - Qty for each sample, type & preservative if any	UN DOT #
4	@8081A, @DIAZEDD Subbed		4 1L amber glass no preservative	
4	Ammonia Nitrogen, Total Kjeldahl Nitrogen, Total phosphorus as P		1 250ml poly 0.5ml H2SO4 (50%)	
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 prepare 4 separate coolers, each labeled "BIG T WASH"
Client will pickup the sample kits on Tuesday 11/9.

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.

Code	Status	Date Shipped	Via	Tracking #	# of Coolers	Prepared By

MWH
LABORATORIES
A Division of MWH Americas, Inc.

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

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

Group Comments

8141, 8081 - to be recollected (see 350056) due to timing issue with the sublab - 121610dst

Flags Legend:

H1 - Sample analysis performed past holding time. Data not acceptable for regulatory compliance.

The Comments Report may be blank if there are no comments for this report.

MWH
LABORATORIES
A Division of MWH Americas, Inc.

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

Laboratory
Hits Report: 349439

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

Samples Received on:
11/19/2010

Analyzed	Analyte	Result	Federal MCL	Units	MRL
201011200100	**BTW111910**				
11/19/2010 15:55	Fecal Coliform Bacteria	30		MPN/100 ml	2
11/19/2010 17:33	Orthophosphate as P	0.013		mg/L	0.01
11/22/2010 11:41	Orthophosphate as PO4	0.040		mg/L	0.031
11/19/2010 15:55	Total Coliform Bacteria	110		MPN/100 ml	2
11/23/2010 20:22	Total phosphorus as P	0.022		mg/L	0.02
11/19/2010 16:13	Turbidity	2.3	5	NTU	0.05
201011200101	**TJP0111910**				
11/19/2010 15:55	Fecal Coliform Bacteria	70		MPN/100 ml	2
11/19/2010 14:54	Nitrate as Nitrogen by IC	6.4	10	mg/L	0.2
11/19/2010 14:54	Nitrate as NO3 (calc)	28	45	mg/L	0.88
11/19/2010 15:55	Total Coliform Bacteria	170		MPN/100 ml	2
11/19/2010 16:14	Turbidity	0.23	5	NTU	0.05
201011200102	**TJPI111910**				
11/19/2010 15:55	Fecal Coliform Bacteria	23		MPN/100 ml	2
11/19/2010 15:07	Nitrate as Nitrogen by IC	9.2	10	mg/L	0.2
11/19/2010 15:07	Nitrate as NO3 (calc)	40	45	mg/L	0.88
11/19/2010 17:30	Orthophosphate as P	0.026		mg/L	0.01
11/22/2010 11:41	Orthophosphate as PO4	0.080		mg/L	0.031
11/19/2010 15:55	Total Coliform Bacteria	1600		MPN/100 ml	2
11/23/2010 20:31	Total phosphorus as P	0.033		mg/L	0.02
11/19/2010 16:15	Turbidity	0.39	5	NTU	0.05
201011200103	**HCC111910**				
11/19/2010 15:55	Fecal Coliform Bacteria	80		MPN/100 ml	2
11/19/2010 15:20	Nitrate as Nitrogen by IC	6.0	10	mg/L	0.2
11/19/2010 15:20	Nitrate as NO3 (calc)	26	45	mg/L	0.88
11/19/2010 17:32	Orthophosphate as P	0.013		mg/L	0.01
11/22/2010 11:41	Orthophosphate as PO4	0.040		mg/L	0.031
11/19/2010 15:55	Total Coliform Bacteria	500		MPN/100 ml	2
11/19/2010 16:16	Turbidity	0.52	5	NTU	0.05

SUMMARY OF POSITIVE DATA ONLY

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., 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: 349439

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

Samples Received on:
11/19/2010

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
BTW111910 (201011200100)						**Sampled on 11/19/2010 0915**		
			EPA 351.2 - Total Kjeldahl Nitrogen					
11/24/2010	16:56	578050	(EPA 351.2)	Kjeldahl Nitrogen	ND	mg/L	0.2	1
			EPA 350.1 - Ammonia Nitrogen					
11/22/2010	17:29	577492	(EPA 350.1)	Ammonia Nitrogen	ND	mg/L	0.05	1
			SM 9221C - Fecal Coliform Bacteria					
11/19/2010	15:55	577627	(SM 9221C)	Fecal Coliform Bacteria	30	MPN/100 mL	2	1
			SM 9221B - Total Coliform Bacteria					
11/19/2010	15:55	577626	(SM 9221B)	Total Coliform Bacteria	110	MPN/100 mL	2	1
			SM 4500-CL G - Total Chlorine Residual					
12/08/2010	10:00	578981	(SM 4500-CL G)	Total Chlorine Residual	ND (H1)	mg/L	0.1	1
			EPA 547 - Glyphosate					
11/20/2010	0:01	577402	(EPA 547)	Glyphosate	ND	ug/L	6	1
			EPA 300.0 - Nitrate, Nitrite by EPA 300.0					
11/19/2010	15:32	577192	(EPA 300.0)	Nitrate as Nitrogen by IC	ND	mg/L	0.2	2
11/19/2010	15:32	577192	(EPA 300.0)	Nitrate as NO3 (calc)	ND	mg/L	0.88	2
11/19/2010	15:32	577192	(EPA 300.0)	Nitrite Nitrogen by IC	ND	mg/L	0.1	2
			SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)					
11/23/2010	20:22	577851	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.022	mg/L	0.02	1
			4500P-E/365.1 - Orthophosphate as PO4 (CAL)					
11/22/2010	11:41		(4500P-E/365.1)	Orthophosphate as PO4	0.040	mg/L	0.031	1
			EPA 180.1 - Turbidity					
11/19/2010	16:13	577558	(EPA 180.1)	Turbidity	2.3	NTU	0.05	1
			4500P-E/365.1 - Orthophosphate as P (OPO4)					
11/19/2010	17:33	577414	(4500P-E/365.1)	Orthophosphate as P	0.013	mg/L	0.01	1
TJP0111910 (201011200101)						**Sampled on 11/19/2010 1010**		
			EPA 351.2 - Total Kjeldahl Nitrogen					
11/24/2010	16:57	578050	(EPA 351.2)	Kjeldahl Nitrogen	ND	mg/L	0.2	1
			EPA 350.1 - Ammonia Nitrogen					
11/22/2010	17:30	577492	(EPA 350.1)	Ammonia Nitrogen	ND	mg/L	0.05	1
			SM 9221C - Fecal Coliform Bacteria					
11/19/2010	15:55	577627	(SM 9221C)	Fecal Coliform Bacteria	70	MPN/100 mL	2	1
			SM 9221B - Total Coliform Bacteria					

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., 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: 349439

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

Samples Received on:
11/19/2010

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
	11/19/2010 15:55	577626	(SM 9221B)	Total Coliform Bacteria	170	MPN/100 mL	2	1
	SM 4500-CL G - Total Chlorine Residual							
	12/08/2010 10:00	578981	(SM 4500-CL G)	Total Chlorine Residual	ND (H1)	mg/L	0.1	1
	EPA 547 - Glyphosate							
	11/19/2010 23:50	577402	(EPA 547)	Glyphosate	ND	ug/L	6	1
	EPA 300.0 - Nitrate, Nitrite by EPA 300.0							
	11/19/2010 14:54	577192	(EPA 300.0)	Nitrate as Nitrogen by IC	6.4	mg/L	0.2	2
	11/19/2010 14:54	577192	(EPA 300.0)	Nitrate as NO3 (calc)	28	mg/L	0.88	2
	11/19/2010 14:54	577192	(EPA 300.0)	Nitrite Nitrogen by IC	ND	mg/L	0.1	2
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)							
	11/23/2010 20:28	577851	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.02	1
	4500P-E/365.1 - Orthophosphate as PO4 (CAL)							
	11/22/2010 11:41		(4500P-E/365.1)	Orthophosphate as PO4	ND	mg/L	0.031	1
	EPA 180.1 - Turbidity							
	11/19/2010 16:14	577558	(EPA 180.1)	Turbidity	0.23	NTU	0.05	1
	4500P-E/365.1 - Orthophosphate as P (OPO4)							
	11/19/2010 17:31	577414	(4500P-E/365.1)	Orthophosphate as P	ND	mg/L	0.01	1
TJPI111910 (201011200102)						**Sampled on 11/19/2010 1050**		
	EPA 351.2 - Total Kjeldahl Nitrogen							
	11/24/2010 16:59	578050	(EPA 351.2)	Kjeldahl Nitrogen	ND	mg/L	0.2	1
	EPA 350.1 - Ammonia Nitrogen							
	11/22/2010 17:32	577492	(EPA 350.1)	Ammonia Nitrogen	ND	mg/L	0.05	1
	SM 9221C - Fecal Coliform Bacteria							
	11/19/2010 15:55	577627	(SM 9221C)	Fecal Coliform Bacteria	23	MPN/100 mL	2	1
	SM 9221B - Total Coliform Bacteria							
	11/19/2010 15:55	577626	(SM 9221B)	Total Coliform Bacteria	1600	MPN/100 mL	2	1
	SM 4500-CL G - Total Chlorine Residual							
	12/08/2010 10:00	578981	(SM 4500-CL G)	Total Chlorine Residual	ND (H1)	mg/L	0.1	1
	EPA 547 - Glyphosate							
	11/20/2010 0:12	577402	(EPA 547)	Glyphosate	ND	ug/L	6	1
	EPA 300.0 - Nitrate, Nitrite by EPA 300.0							
	11/19/2010 15:07	577192	(EPA 300.0)	Nitrate as Nitrogen by IC	9.2	mg/L	0.2	2
	11/19/2010 15:07	577192	(EPA 300.0)	Nitrate as NO3 (calc)	40	mg/L	0.88	2
	11/19/2010 15:07	577192	(EPA 300.0)	Nitrite Nitrogen by IC	ND	mg/L	0.1	2

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

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., 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: 349439

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

Samples Received on:
11/19/2010

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
			SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)					
	11/23/2010 20:31	577851	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.033	mg/L	0.02	1
			4500P-E/365.1 - Orthophosphate as PO4 (CAL)					
	11/22/2010 11:41		(4500P-E/365.1)	Orthophosphate as PO4	0.080	mg/L	0.031	1
			EPA 180.1 - Turbidity					
	11/19/2010 16:15	577558	(EPA 180.1)	Turbidity	0.39	NTU	0.05	1
			4500P-E/365.1 - Orthophosphate as P (OPO4)					
	11/19/2010 17:30	577414	(4500P-E/365.1)	Orthophosphate as P	0.026	mg/L	0.01	1
HCC111910 (201011200103)						**Sampled on 11/19/2010 1140**		
			EPA 351.2 - Total Kjeldahl Nitrogen					
	11/24/2010 17:00	578050	(EPA 351.2)	Kjeldahl Nitrogen	ND	mg/L	0.2	1
			EPA 350.1 - Ammonia Nitrogen					
	11/22/2010 17:33	577492	(EPA 350.1)	Ammonia Nitrogen	ND	mg/L	0.05	1
			SM 9221C - Fecal Coliform Bacteria					
	11/19/2010 15:55	577627	(SM 9221C)	Fecal Coliform Bacteria	80	MPN/100 mL	2	1
			SM 9221B - Total Coliform Bacteria					
	11/19/2010 15:55	577626	(SM 9221B)	Total Coliform Bacteria	500	MPN/100 mL	2	1
			SM 4500-CL G - Total Chlorine Residual					
	12/08/2010 10:00	578981	(SM 4500-CL G)	Total Chlorine Residual	ND (H1)	mg/L	0.1	1
			EPA 547 - Glyphosate					
	11/20/2010 0:23	577402	(EPA 547)	Glyphosate	ND	ug/L	6	1
			EPA 300.0 - Nitrate, Nitrite by EPA 300.0					
	11/19/2010 15:20	577192	(EPA 300.0)	Nitrate as Nitrogen by IC	6.0	mg/L	0.2	2
	11/19/2010 15:20	577192	(EPA 300.0)	Nitrate as NO3 (calc)	26	mg/L	0.88	2
	11/19/2010 15:20	577192	(EPA 300.0)	Nitrite Nitrogen by IC	ND	mg/L	0.1	2
			SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)					
	11/23/2010 20:32	577851	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.02	1
			4500P-E/365.1 - Orthophosphate as PO4 (CAL)					
	11/22/2010 11:41		(4500P-E/365.1)	Orthophosphate as PO4	0.040	mg/L	0.031	1
			EPA 180.1 - Turbidity					
	11/19/2010 16:16	577558	(EPA 180.1)	Turbidity	0.52	NTU	0.05	1
			4500P-E/365.1 - Orthophosphate as P (OPO4)					
	11/19/2010 17:32	577414	(4500P-E/365.1)	Orthophosphate as P	0.013	mg/L	0.01	1

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

MWH
LABORATORIES
A Division of MWH Americas, Inc.

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

MWH Americas - Arcadia

QC Ref # 577192 - Nitrate, Nitrite by EPA 300.0 — **Analysis Date: 11/19/2010**

201011200100	BTW111910	Analyzed by: SXK
201011200101	TJP0111910	Analyzed by: SXK
201011200102	TJPI111910	Analyzed by: SXK
201011200103	HCC111910	Analyzed by: SXK

QC Ref # 577402 - Glyphosate — **Analysis Date: 11/20/2010**

201011200100	BTW111910	Analyzed by: SZZ
201011200101	TJP0111910	Analyzed by: SZZ
201011200102	TJPI111910	Analyzed by: SZZ
201011200103	HCC111910	Analyzed by: SZZ

QC Ref # 577414 - Orthophosphate as P (OPO4) — **Analysis Date: 11/19/2010**

201011200100	BTW111910	Analyzed by: CYP
201011200101	TJP0111910	Analyzed by: CYP
201011200102	TJPI111910	Analyzed by: CYP
201011200103	HCC111910	Analyzed by: CYP

QC Ref # 577492 - Ammonia Nitrogen — **Analysis Date: 11/22/2010**

201011200100	BTW111910	Analyzed by: NJR
201011200101	TJP0111910	Analyzed by: NJR
201011200102	TJPI111910	Analyzed by: NJR
201011200103	HCC111910	Analyzed by: NJR

QC Ref # 577558 - Turbidity — **Analysis Date: 11/19/2010**

201011200100	BTW111910	Analyzed by: NEM
201011200101	TJP0111910	Analyzed by: NEM
201011200102	TJPI111910	Analyzed by: NEM
201011200103	HCC111910	Analyzed by: NEM

QC Ref # 577626 - Total Coliform Bacteria — **Analysis Date: 11/19/2010**

201011200100	BTW111910	Analyzed by: TXM
201011200101	TJP0111910	Analyzed by: TXM
201011200102	TJPI111910	Analyzed by: TXM
201011200103	HCC111910	Analyzed by: TXM

QC Ref # 577627 - Fecal Coliform Bacteria — **Analysis Date: 11/19/2010**

201011200100	BTW111910	Analyzed by: TXM
201011200101	TJP0111910	Analyzed by: TXM
201011200102	TJPI111910	Analyzed by: TXM
201011200103	HCC111910	Analyzed by: TXM

QC Ref # 577851 - Total phosphorus as P (T-P) — **Analysis Date: 11/23/2010**

201011200100	BTW111910	Analyzed by: NJR
201011200101	TJP0111910	Analyzed by: NJR
201011200102	TJPI111910	Analyzed by: NJR
201011200103	HCC111910	Analyzed by: NJR

QC Ref # 578050 - Total Kjeldahl Nitrogen — **Analysis Date: 11/24/2010**

201011200100	BTW111910	Analyzed by: NJR

MWH
LABORATORIES
A Division of MWH Americas, Inc.

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

MWH Americas - Arcadia

(continued)

201011200101	TJP0111910	Analyzed by: NJR
201011200102	TJPI111910	Analyzed by: NJR
201011200103	HCC111910	Analyzed by: NJR

QC Ref # 578981 - Total Chlorine Residual **Analysis Date: 12/08/2010**

201011200100	BTW111910	Analyzed by: MCP
201011200101	TJP0111910	Analyzed by: MCP
201011200102	TJPI111910	Analyzed by: MCP
201011200103	HCC111910	Analyzed by: MCP

MWH
LABORATORIES
A Division of MWH Americas, Inc.

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

Laboratory
QC Report: 349439

MWH Americas - Arcadia

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 577192 - Nitrate, Nitrite by EPA 300.0 by EPA 300.0						**Analysis Date: 11/19/2010**			
LCS1	Nitrate as Nitrogen by IC		2.5	2.6	mg/L	104	(90-110)		
LCS2	Nitrate as Nitrogen by IC		2.5	2.56	mg/L	103	(90-110)	20	1.6
MBLK	Nitrate as Nitrogen by IC			<0.10	mg/L				
MRL_CHK	Nitrate as Nitrogen by IC		0.05	0.0574	mg/L	115	(50-150)		
MS_201011200083	Nitrate as Nitrogen by IC	5.6	1.3	12.5	mg/L	111	(80-120)		
MS_201011200100	Nitrate as Nitrogen by IC	ND	1.3	2.79	mg/L	111	(80-120)		
MSD_201011200083	Nitrate as Nitrogen by IC	5.6	1.3	12.6	mg/L	111	(80-120)	20	0.0
MSD_201011200100	Nitrate as Nitrogen by IC	ND	1.3	2.78	mg/L	111	(80-120)	20	0.0
LCS1	Nitrite Nitrogen by IC		1.0	0.986	mg/L	99	(90-110)		
LCS2	Nitrite Nitrogen by IC		1.0	0.973	mg/L	97	(90-110)	20	1.3
MBLK	Nitrite Nitrogen by IC			<0.10	mg/L				
MRL_CHK	Nitrite Nitrogen by IC		0.05	0.0528	mg/L	106	(50-150)		
MS_201011200083	Nitrite Nitrogen by IC	ND	0.5	2.48	mg/L	99	(80-120)		
MS_201011200100	Nitrite Nitrogen by IC	ND	0.5	1.04	mg/L	104	(80-120)		
MSD_201011200083	Nitrite Nitrogen by IC	ND	0.5	2.49	mg/L	99	(80-120)	20	0.20
MSD_201011200100	Nitrite Nitrogen by IC	ND	0.5	1.02	mg/L	102	(80-120)	20	1.9
QC Ref# 577402 - Glyphosate by EPA 547						**Analysis Date: 11/19/2010**			
CCCH	Glyphosate		25	22.7	ug/L	91	(80-120)		
CCCM	Glyphosate		10	10.6	ug/L	106	(80-120)		
LCS1	Glyphosate		10	9.04	ug/L	90	(80-120)		
MBLK	Glyphosate			<6	ug/L				
MRL_CHK	Glyphosate		6.0	6.47	ug/L	108	(50-150)		
MS_201011180044	Glyphosate	ND	10	13.9	ug/L	**139**	(83-119)		
MS2_201011180045	Glyphosate	ND	10	20.9	ug/L	**209**	(83-119)		
MSD_201011180044	Glyphosate	ND	10	13.9	ug/L	**139**	(83-119)	20	0.0
QC Ref# 577414 - Orthophosphate as P (OPO4) by 4500P-E/365.1						**Analysis Date: 11/19/2010**			
LCS1	Orthophosphate as P		0.25	0.246	mg/L	98	(90-110)		
LCS2	Orthophosphate as P		0.25	0.246	mg/L	98	(90-110)	20	0.0
MBLK	Orthophosphate as P			<0.01	mg/L				
MRL_CHK	Orthophosphate as P		0.01	0.00800	mg/L	80	(50-150)		
MS_201011190333	Orthophosphate as P	0.11	0.5	0.633	mg/L	105	(90-110)		
MSD_201011190333	Orthophosphate as P	0.11	0.5	0.651	mg/L	108	(90-110)	20	2.8
QC Ref# 577492 - Ammonia Nitrogen by EPA 350.1						**Analysis Date: 11/22/2010**			
LCS1	Ammonia Nitrogen		1.0	1.07	mg/L	107	(90-110)		
LCS2	Ammonia Nitrogen		1.0	1.08	mg/L	108	(90-110)	20	0.93

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.
(S) Indicates surrogate compound.
(I) Indicates internal standard compound.
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)

MWH
LABORATORIES
A Division of MWH Americas, Inc.

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

Laboratory
QC Report: 349439

MWH Americas - Arcadia
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MBLK	Ammonia Nitrogen			<0.05	mg/L				
MRL_CHK	Ammonia Nitrogen		0.05	0.0450	mg/L	90	(50-150)		
MS_201011160378	Ammonia Nitrogen	1.7	1.0	3.7	mg/L	102	(90-110)		
MS2_201011160373	Ammonia Nitrogen	1.2	1.0	6.6	mg/L	109	(90-110)		
MSD_201011160378	Ammonia Nitrogen	1.7	1.0	3.76	mg/L	105	(90-110)	20	2.9
QC Ref# 577558 - Turbidity by EPA 180.1							**Analysis Date: 11/19/2010**		
DUP_201011200103	Turbidity	0.52		0.525	NTU		(0-10)	10	0.38
LCS1	Turbidity		20	20.0	NTU	100	(90-110)		
LCS2	Turbidity		20	20.0	NTU	100	(90-110)	20	0.0
MBLK	Turbidity			<0.05	NTU				
MRL_CHK	Turbidity		0.05	0.0500	NTU	100	(50-150)		
QC Ref# 577851 - Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1							**Analysis Date: 11/23/2010**		
LCS1	Total phosphorus as P		0.4	0.381	mg/L	95	(90-110)		
LCS2	Total phosphorus as P		0.4	0.374	mg/L	94	(90-110)	20	1.9
MBLK	Total phosphorus as P			<0.02	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0212	mg/L	106	(50-150)		
MS_201011180258	Total phosphorus as P	ND	0.4	0.358	mg/L	**87**	(90-110)		
MS2_201011200101	Total phosphorus as P	ND	0.4	0.382	mg/L	92	(90-110)		
MSD_201011180258	Total phosphorus as P	ND	0.4	0.364	mg/L	**89**	(90-110)	20	1.7
QC Ref# 578050 - Total Kjeldahl Nitrogen by EPA 351.2							**Analysis Date: 11/24/2010**		
LCS1	Kjeldahl Nitrogen		4.0	4.27	mg/L	107	(90-110)		
LCS2	Kjeldahl Nitrogen		4.0	4.19	mg/L	105	(90-110)	20	1.9
MBLK	Kjeldahl Nitrogen			<0.1	mg/L				
MRL_CHK	Kjeldahl Nitrogen		0.2	0.231	mg/L	116	(50-150)		
MS_201011200052	Kjeldahl Nitrogen	ND	4.0	3.96	mg/L	95	(90-110)		
MS2_201011200053	Kjeldahl Nitrogen	0.86	4.0	5.1	mg/L	106	(90-110)		
MSD_201011200052	Kjeldahl Nitrogen	ND	4.0	4.23	mg/L	101	(90-110)	20	6.5

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.
(S) Indicates surrogate compound.
(I) Indicates internal standard compound.
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)

MWH
LABORATORIES
A Division of MWH Americas, Inc.

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

Laboratory Report

for

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

Date of Issue
12/27/2010
MWH LABORATORIES

ACCREDITED IN ACCORDANCE WITH nelac 01114CA

Report#: 350056
4roject: BjG-TI U J GA
Group: Water Nuality
MonitorinQ
4O#: 10099gg.011601

DST: David S Tripp
4roject ManaQer

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case J arrative. FollowinQ the cover paQe are Hits Reports, Comments, NC Summary, NC Report and ReQulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.

MWH LABORATORIES

Acknowledgement of Samples Received

MWH Americas - Arcadia
618 Michillinda Ave.
Suite 200
Arcadia, CA 91007
Attn: Sarah Garber
Phone: 626-568-6910

Customer Code: MWH-ECORP
Folder #: 350056
Project: BIG-TUJUNGA
Sample Group: Water Quality Monitoring
Project Manager: David S Tripp
Phone: (626) 386-1158
PO #: 1009944.011601

The following samples were received from you on **December 01, 2010**. 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 MWH Laboratories.

Sample #	Sample ID	Sample Date
201012010376	BTW120110	Dec 01, 2010 10:50
	@8081A @8141EDD	
201012010377	TJPIN120110	Dec 01, 2010 11:10
	@8081A @8141EDD	
201012010378	TJPOUT120110	Dec 01, 2010 11:25
	@8081A @8141EDD	
201012010379	HCC120110	Dec 01, 2010 11:50
	@8081A @8141EDD	

Test Description

@8081A -- Organochlorine Pesticides

@8141EDD -- Organophosphorous Pesticides (Sub)

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (626) 386-1101 http://MWHLabs.com

MWH Laboratories
A Division of MWH Americas, Inc.

CHAIN OF CUSTODY RECORD

350056

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)

MWH LABS USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: JS

SAMPLES LOGGED IN BY: SM

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

SAMPLE TEMP RECEIVED AT:

☐ Colton / Sacramento / Scottsdale _____ °c (Compliance: 4 ± 2 °C)

☑ Monrovia 14 °c (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: FROZEN ☑ PARTIALLY FROZEN ___ THAWED ___ WET ICE _____

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

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: MWH-ECORP

PROJECT CODE: 1009944.011601

COMPLIANCE SAMPLES (check for yes) - Requires state forms ☐

NON-COMPLIANCE SAMPLES (check for yes) ☑

REGULATION INVOLVED: _____ (eg. SDWA, Phase V, NPDES, FDA,...)

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION

MWH LABS CLIENT CODE: MWH-ECORP

COC ID:

SAMPLE GROUP:

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☑ (check for yes), *OR*

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLER PRINTED NAME AND SIGNATURE: SARAH GARBER

TAT requested: rush by adv notice only

STD___ 1 wk ___ 3 day __ 2 day___ 1 day __

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX *	Field Data	Field Data	SAMPLER COMMENTS
12/1	1050	BTW120110		RSW			
12/1	1110	TJPIN120110		RSW			
12/1	1125	TJPOUT120110		RSW			
12/1	1150	HCC120110		RSW			

2010 — 3/4

* 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; O = Other - Please Identify

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:		SARAH GARBER	MWH	12/1/10	12:50
RECEIVED BY:	Joe Sanchez	Joe Sanchez	MWH	12/1/10	1254
RELINQUISHED BY:					
RECEIVED BY:					

PAGE ____ OF ____

MWH Laboratories, a Division of MWH Americas, Inc.
750 Royal Oaks Drive Suite 100
Monrovia, CA 91016 (626) 386-1100 FAX (626) 386-1124

Bottle Order for MWH Americas - Arcadia

Group#
Date Sampled
Date Received

David S Tripp Your MWHL Project Manager

BO #: 26476
Created By: DST
Order Date: 11/29/2010
Bottle Orders

Sampler: please return this paper with your samples

Client Code MWH-ECORP
Project Code BIG-TUJUNGA Bottle Orders
Group Name Water Quality Monitoring
PO# / Job# 1009944.011601

Ship By:
11/19/2010

Ship Sample Kits to

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

Attn: Sarah Garber
Phone: 626-568-6910
Fax:

Send Report to

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

Attn: Sarah Garber
Phone: 626-568-6910
Fax:

Billing Address

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

Attn: Sarah Garber
Phone: 626-568-6910
Fax:

# of Samples	Tests	Qteline#	Bottles - Qty for each sample, type & preservative if any	UN DOT #
4	@8081A, @DIAZEDD Subbed		4 1L amber glass no preservative	

11/11

Comments

SHIPPING: Please label "BIG T WASH"
Client will pickup the sample kits as early as Monday 11/29 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.

Code	Status	Date Shipped	Via	Tracking #	# of Coolers	Prepared By

MWH
LABORATORIES
A Division of MWH Americas, Inc.

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

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

Group Comments

Analytical results for 8081, and 8141 are submitted by Emax Laboratories, Inc. Torrance, CA

The Comments Report may be blank if there are no comments for this report.

MWH
LABORATORIES
A Division of MWH Americas, Inc.

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

Laboratory
Hits Report: 350056

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

Samples Received on:
12/01/2010

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL

SUMMARY OF POSITIVE DATA ONLY

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., 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: 350056

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

Samples Received on:
12/01/2010

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
BTW120110 (201012010376)						**Sampled on 12/01/2010 1050**		
			EPA 8141A - Organophosphorous Pesticides (Sub)					
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Azinphos methyl	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Bolstar	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Chlorpyrifos	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Coumaphos	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Demeton	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Diazinon	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Dichlorvos	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Disulfoton	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Ethoprop	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Fensulfothion	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Fenthion	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Methyl Parathion	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Mevinphos	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Naled	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Phorate	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Ronnel	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Stirophos	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Tokuthion	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Trichloronate	ND	ug/L	1	1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Tributylphosphate	95	%		1
12/6/2010	12/07/2010	15:31	(EPA 8141A)	Triphenyl Phosphate	107	%		1
			EPA 8081A - Organochlorine Pesticides					
12/6/2010	12/08/2010	18:16	(EPA 8081A)	4,4-DDD	ND	ug/L	0.2	1
12/6/2010	12/08/2010	18:16	(EPA 8081A)	4,4-DDE	ND	ug/L	0.2	1
12/6/2010	12/08/2010	18:16	(EPA 8081A)	4,4-DDT	ND	ug/L	0.2	1
12/6/2010	12/08/2010	18:16	(EPA 8081A)	Aldrin	ND	ug/L	0.1	1
12/6/2010	12/08/2010	18:16	(EPA 8081A)	alpha-BHC	ND	ug/L	0.1	1
12/6/2010	12/08/2010	18:16	(EPA 8081A)	alpha-Chlordane	ND	ug/L	0.1	1
12/6/2010	12/08/2010	18:16	(EPA 8081A)	beta-BHC	ND	ug/L	0.1	1
12/6/2010	12/08/2010	18:16	(EPA 8081A)	delta-BHC	ND	ug/L	0.1	1
12/6/2010	12/08/2010	18:16	(EPA 8081A)	Dieldrin	ND	ug/L	0.2	1
12/6/2010	12/08/2010	18:16	(EPA 8081A)	Endosulfan I	ND	ug/L	0.1	1

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

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., 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: 350056

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

Samples Received on:
12/01/2010

Prepared	Analyzed		QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
12/6/2010	12/08/2010	18:16		(EPA 8081A)	Endosulfan II	ND	ug/L	0.2	1
12/6/2010	12/08/2010	18:16		(EPA 8081A)	Endosulfan Sulfate	ND	ug/L	0.2	1
12/6/2010	12/08/2010	18:16		(EPA 8081A)	Endrin	ND	ug/L	0.2	1
12/6/2010	12/08/2010	18:16		(EPA 8081A)	Endrin Aldehyde	ND	ug/L	0.2	1
12/6/2010	12/08/2010	18:16		(EPA 8081A)	Endrin Ketone	ND	ug/L	0.2	1
12/6/2010	12/08/2010	18:16		(EPA 8081A)	gamma-BHC (Lindane)	ND	ug/L	0.1	1
12/6/2010	12/08/2010	18:16		(EPA 8081A)	gamma-Chlordane	ND	ug/L	0.1	1
12/6/2010	12/08/2010	18:16		(EPA 8081A)	Heptachlor	ND	ug/L	0.1	1
12/6/2010	12/08/2010	18:16		(EPA 8081A)	Heptachlor Epoxide	ND	ug/L	0.1	1
12/6/2010	12/08/2010	18:16		(EPA 8081A)	Methoxychlor	ND	ug/L	1	1
12/6/2010	12/08/2010	18:16		(EPA 8081A)	Toxaphene	ND	ug/L	2	1
12/6/2010	12/08/2010	18:16		(EPA 8081A)	Decachlorobiphenyl	85	%		1
12/6/2010	12/08/2010	18:16		(EPA 8081A)	Tetrachloro-m-xylene	81	%		1
TJPIN120110 (201012010377)							**Sampled on 12/01/2010 1110**		
				EPA 8141A - Organophosphorous Pesticides (Sub)					
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Azinphos methyl	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Bolstar	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Chlorpyrifos	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Coumaphos	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Demeton	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Diazinon	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Dichlorvos	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Disulfoton	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Ethoprop	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Fensulfothion	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Fenthion	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Methyl Parathion	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Mevinphos	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Naled	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Phorate	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Ronnel	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Stirophos	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Tokuthion	ND	ug/L	1	1
12/6/2010	12/07/2010	15:55		(EPA 8141A)	Trichloronate	ND	ug/L	1	1

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

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., 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: 350056

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

Samples Received on:
12/01/2010

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
12/6/2010	12/07/2010 15:55		(EPA 8141A)	Tributylphosphate	90	%		1
12/6/2010	12/07/2010 15:55		(EPA 8141A)	Triphenyl Phosphate	99	%		1
	EPA 8081A - Organochlorine Pesticides							
12/6/2010	12/08/2010 18:41		(EPA 8081A)	4,4-DDD	ND	ug/L	0.2	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	4,4-DDE	ND	ug/L	0.2	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	4,4-DDT	ND	ug/L	0.2	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	Aldrin	ND	ug/L	0.1	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	alpha-BHC	ND	ug/L	0.1	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	alpha-Chlordane	ND	ug/L	0.1	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	beta-BHC	ND	ug/L	0.1	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	delta-BHC	ND	ug/L	0.1	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	Dieldrin	ND	ug/L	0.2	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	Endosulfan I	ND	ug/L	0.1	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	Endosulfan II	ND	ug/L	0.2	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	Endosulfan Sulfate	ND	ug/L	0.2	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	Endrin	ND	ug/L	0.2	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	Endrin Aldehyde	ND	ug/L	0.2	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	Endrin Ketone	ND	ug/L	0.2	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	gamma-BHC (Lindane)	ND	ug/L	0.1	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	gamma-Chlordane	ND	ug/L	0.1	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	Heptachlor	ND	ug/L	0.1	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	Heptachlor Epoxide	ND	ug/L	0.1	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	Methoxychlor	ND	ug/L	1	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	Toxaphene	ND	ug/L	2	1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	Decachlorobiphenyl	86	%		1
12/6/2010	12/08/2010 18:41		(EPA 8081A)	Tetrachloro-m-xylene	85	%		1
TJPOUT120110 (201012010378)						**Sampled on 12/01/2010 1125**		
	EPA 8141A - Organophosphorous Pesticides (Sub)							
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Azinphos methyl	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Bolstar	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Chlorpyrifos	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Coumaphos	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Demeton	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Diazinon	ND	ug/L	1	1

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

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., 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: 350056

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

Samples Received on:
12/01/2010

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Dichlorvos	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Disulfoton	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Ethoprop	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Fensulfothion	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Fenthion	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Methyl Parathion	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Mevinphos	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Naled	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Phorate	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Ronnel	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Stirophos	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Tokuthion	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Trichloronate	ND	ug/L	1	1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Tributylphosphate	75	%		1
12/6/2010	12/07/2010 16:18		(EPA 8141A)	Triphenyl Phosphate	88	%		1
	EPA 8081A - Organochlorine Pesticides							
12/6/2010	12/08/2010 19:06		(EPA 8081A)	4,4-DDD	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	4,4-DDE	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	4,4-DDT	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	Aldrin	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	alpha-BHC	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	alpha-Chlordane	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	beta-BHC	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	delta-BHC	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	Dieldrin	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	Endosulfan I	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	Endosulfan II	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	Endosulfan Sulfate	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	Endrin	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	Endrin Aldehyde	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	Endrin Ketone	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	gamma-BHC (Lindane)	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	gamma-Chlordane	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	Heptachlor	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	Heptachlor Epoxide	ND	ug/L	0.1	1

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

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., 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: 350056

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

Samples Received on:
12/01/2010

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
12/6/2010	12/08/2010 19:06		(EPA 8081A)	Methoxychlor	ND	ug/L	1	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	Toxaphene	ND	ug/L	1.9	1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	Decachlorobiphenyl	87	%		1
12/6/2010	12/08/2010 19:06		(EPA 8081A)	Tetrachloro-m-xylene	83	%		1
HCC120110 (201012010379)						**Sampled on 12/01/2010 1150**		
			EPA 8141A - Organophosphorous Pesticides (Sub)					
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Azinphos methyl	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Bolstar	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Chlorpyrifos	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Coumaphos	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Demeton	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Diazinon	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Dichlorvos	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Disulfoton	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Ethoprop	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Fensulfothion	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Fenthion	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Methyl Parathion	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Mevinphos	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Naled	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Phorate	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Ronnel	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Stirophos	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Tokuthion	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Trichloronate	ND	ug/L	1	1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Tributylphosphate	81	%		1
12/6/2010	12/07/2010 16:41		(EPA 8141A)	Triphenyl Phosphate	93	%		1
			EPA 8081A - Organochlorine Pesticides					
12/6/2010	12/08/2010 19:30		(EPA 8081A)	4,4-DDD	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	4,4-DDE	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	4,4-DDT	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	Aldrin	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	alpha-BHC	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	alpha-Chlordane	ND	ug/L	0.1	1

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

MWH
LABORATORIES
A Division of MWH Americas, Inc.

750 Royal Oak Dr., 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: 350056

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

Samples Received on:
12/01/2010

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
12/6/2010	12/08/2010 19:30		(EPA 8081A)	beta-BHC	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	delta-BHC	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	Dieldrin	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	Endosulfan I	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	Endosulfan II	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	Endosulfan Sulfate	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	Endrin	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	Endrin Aldehyde	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	Endrin Ketone	ND	ug/L	0.2	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	gamma-BHC (Lindane)	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	gamma-Chlordane	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	Heptachlor	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	Heptachlor Epoxide	ND	ug/L	0.1	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	Methoxychlor	ND	ug/L	1	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	Toxaphene	ND	ug/L	2	1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	Decachlorobiphenyl	86	%		1
12/6/2010	12/08/2010 19:30		(EPA 8081A)	Tetrachloro-m-xylene	84	%		1

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

MWH
LABORATORIES
A Division of MWH Americas, Inc.

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

Laboratory
QC Summary:

QC Ref # -

Analysis Date:

Analyzed by:

MWH
LABORATORIES
A Division of MWH Americas, Inc.

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

Laboratory
QC Report: 350056

MWH Americas - Arcadia

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%

QC Ref# - by **Analysis Date:**

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.
(S) Indicates surrogate compound.
(I) Indicates internal standard compound.
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)

TABLE OF CONTENTS

CLIENT: **MWH LABORATORIES**

PROJECT: **350056**

SDG: **10L041**

** - Not Requested

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

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

Date: 12-16-2010
EMAX Batch No.: 10L041

Attn: Jackie Contreras

MWH Laboratories
750 Royal Oaks Dr., Suite 100
Monrovia CA 91016-3629

Subject: Laboratory Report
Project: 350056

Enclosed is the Laboratory report for samples received on 12/02/10.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
201012010376	L041-01	12/01/10	WATER	PESTICIDES ORGANOCHLORINE
				PESTICIDES ORGANOPHOSPHORUS
201012010377	L041-02	12/01/10	WATER	PESTICIDES ORGANOCHLORINE
				PESTICIDES ORGANOPHOSPHORUS
201012010378	L041-03	12/01/10	WATER	PESTICIDES ORGANOCHLORINE
				PESTICIDES ORGANOPHOSPHORUS
201012010379	L041-04	12/01/10	WATER	PESTICIDES ORGANOCHLORINE
				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

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

MWH Laboratories
A Division of MWH Americas, Inc.
750 Royal Oaks Drive Suite 100
Monrovia, CA 91016-3629
Ph (626) 386-1100 Fax (626) 386-1095

Ship To
1835 W. 205th St.
EMAX Laboratories, Inc.

Torrance, CA 90501

310-618-8889 Fax 310-618-0818

Date **12/2/2010**

Submittal Form & Purchase Order 99-07397

***REPORTING REQUIRMENTS:** Do Not Combine Report with any other samples submitted under different MWH project numbers!*
Report & Invoice must have the MWH Project Number **350056** Sub PO# **99-07397** 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. See reverse side for List of Terms and Conditions

Reports: Jackie Contreras Sub-Contracting Administrator
EMAIL TO: mwhlabs-subcontractreports@mwhglobal.com
MWH Laboratories 750 Royal Oaks Dr. Ste. 100, Monrovia, CA 91016
Phone (626) 386-1165 Fax (626) 386-1122
Invoices to: MWH LABORATORIES
Accounts Payable PO BOX 6610, Broomfield, CO 80021

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

Samples from the State of **CALIFORNIA**

10L041

MWH Project #	Report Due:	Sub PO#
350056	12/16/2010	99-07397

JLS		Sample Number	Client Sample ID for reference only	Analysis Requested	Sample Date & Time	Matrix	PWS Systemcode	PWSID
EPA 8081A	@8081A	201012010376	BTW120110	Organochlorine Pesticides	12/01/10 1050	Water		
EPA 8141A	@8141EDD	201012010376	BTW120110	Organophosphorous Pesticides (Sub)	12/01/10 1050	Water		
EPA 8081A	@8081A	201012010377	TJPIN120110	Organochlorine Pesticides	12/01/10 1110	Water		
EPA 8141A	@8141EDD	201012010377	TJPIN120110	Organophosphorous Pesticides (Sub)	12/01/10 1110	Water		
EPA 8081A	@8081A	201012010378	TJPOUT120110	Organochlorine Pesticides	12/01/10 1125	Water		
EPA 8141A	@8141EDD	201012010378	TJPOUT120110	Organophosphorous Pesticides (Sub)	12/01/10 1125	Water		
EPA 8081A	@8081A	201012010379	HCC120110	Organochlorine Pesticides	12/01/10 1150	Water		
EPA 8141A	@8141EDD	201012010379	HCC120110	Organophosphorous Pesticides (Sub)	12/01/10 1150	Water		

1 2 3 4

2) 3.0°C

3) 4.0°C

Relinquished by: _____ Sample Control Date 12/4 Time 12/2/10

Received by: _____ Date 12/4 Time 12/2/10

MUST HAVE NOTIFICATION IF TEMP IS GREATER THAN 6 OR LESS THAN CELSIUS

An Acknowledgement of Receipt is requested to attn: **Christine Lewis**

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill	ECN 10641
☐ EMAX Courier	See COC	Recepient J-LUNA
☑ Client Delivery		Date 12-2-10
☐ Third Party		Time 1241

COC Inspection

☑ Client Name	☑ Client PM/FC	☐ Sampler Name NA	☑ Sampling Date/Time/Location	☑ Sample ID	☑ Matrix
☑ Address	☑ Tel # / Fax #	☑ Courier Signature	☐ Analysis Required	☐ Preservative (if any)	☑ TAT
Safety Issues	☑ None	☐ High concentrations expected	☑ Superfund Site samples	☐ Rad screening required	

Comments:

Packaging Inspection

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	A ☑ Cooler 1 3.6 °C	A ☑ Cooler 2 3.0 °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***

Comments: ☐ **PM was informed on non-compliant coolers immediately.**

DISCREPANCIES

LSID	LSCID	Sample Label ID/COC ID	Discrepancy Code	Corrective Action Code

REVIEWS

Sample Labeling _____ Date 12/2/10

SRF _____ Date 12/2/10

PM PB Date 12/3/10

LEGEND:

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Project Management
A1	Analysis is not indicated in COC	D1	Date and/or time is not indicated in COC	R1	Hold sample(s); wait for further instructions
A2	Analysis is not indicated in label	D2	Date and/or time is not indicated in label	R2	Proceed as indicated in COC
A3	Analysis is inconsistent in COC vis-à-vis label	D3	Date and/or time is inconsistent in COC vis-à-vis label	R3	Refer to attached instruction
A4	_____	E1	Insuficient preservative	R4	Cancel the analysis
B1	Sample ID is not indicated in COC	E2	Improper preservation	R5	_____
B2	Sample ID is not indicated in label	F1	Insufficient Sample	R6	_____
B3	Sample ID is inconsistent in COC vis-à-vis label	F2	Bubble is> 6mm		
B4	_____	G1	Temperature is out of range		
C1	Wrong container	G2	Out of Holding Time		
C2	Broken container	G3	>20 % solid particle		
C3	Leaking container	H1	_____		
C4	_____	H2	_____		

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

MWH LABORATORIES

350056

METHOD 3520C/8081A
PESTICIDES

SDG#: 10L041

CASE NARRATIVE

Client : MWH LABORATORIES

Project : 350056

SDG : 10L041

METHOD 3520C/8081A
PESTICIDES

A total of four (4) water samples were received on 12/02/10 for Pesticides Organochlorine analysis, Method 3520C/8081A 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 for 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. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for CPL006WL/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.

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 were 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.

LAB CHRONICLE
PESTICIDES

Client : MWH LABORATORIES
Project : 350056

SDG NO. : 10L041
Instrument ID : GCT008

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	CPL006WB	1	NA	12/08/1016:37	12/06/1011:30	SL08010A	SL08007A	CPL006W	Method Blank
LCS1W	CPL006WL	1	NA	12/08/1017:02	12/06/1011:30	SL08011A	SL08007A	CPL006W	Lab Control Sample (LCS)
LCD1W	CPL006WC	1	NA	12/08/1017:27	12/06/1011:30	SL08012A	SL08007A	CPL006W	LCS Duplicate
201012010376	L041-01	0.94	NA	12/08/1018:16	12/06/1011:30	SL08014A	SL08007A	CPL006W	Field Sample
201012010377	L041-02	0.94	NA	12/08/1018:41	12/06/1011:30	SL08015A	SL08007A	CPL006W	Field Sample
201012010378	L041-03	0.94	NA	12/08/1019:06	12/06/1011:30	SL08016A	SL08007A	CPL006W	Field Sample
201012010379	L041-04	0.94	NA	12/08/1019:30	12/06/1011:30	SL08017A	SL08007A	CPL006W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 3520C/8081A
PESTICIDES

Client : MWH LABORATORIES	Date Collected: 12/01/10
Project : 350056	Date Received: 12/02/10
Batch No. : 10L041	Date Extracted: 12/06/10 11:30
Sample ID: 201012010376	Date Analyzed: 12/08/10 18:16
Lab Samp ID: L041-01	Dilution Factor: 0.94
Lab File ID: SL08014A	Matrix : WATER
Ext Btch ID: CPL006W	% Moisture : NA
Calib. Ref.: SL08007A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ALPHA-BHC	(ND) | ND	0.094	0.019 | 0.019
GAMMA-BHC (LINDANE)	(ND) | ND	0.094	0.019 | 0.019
BETA-BHC	(ND) | ND	0.094	0.019 | 0.019
HEPTACHLOR	(ND) | ND	0.094	0.019 | 0.019
DELTA-BHC	(ND) | ND	0.094	0.019 | 0.019
ALDRIN	(ND) | ND	0.094	0.019 | 0.019
HEPTACHLOR EPOXIDE	(ND) | ND	0.094	0.019 | 0.019
GAMMA-CHLORDANE	(ND) | ND	0.094	0.019 | 0.019
ALPHA-CHLORDANE	(ND) | ND	0.094	0.019 | 0.019
ENDOSULFAN I	(ND) | ND	0.094	0.019 | 0.019
4,4'-DDE	(ND) | ND	0.19	0.019 | 0.019
DIELDRIN	(ND) | ND	0.19	0.019 | 0.019
ENDRIN	(ND) | ND	0.19	0.019 | 0.019
4,4'-DDD	(ND) | ND	0.19	0.019 | 0.019
ENDOSULFAN II	(ND) | ND	0.19	0.019 | 0.019
4,4'-DDT	(ND) | ND	0.19	0.019 | 0.019
ENDRIN ALDEHYDE	(ND) | ND	0.19	0.019 | 0.019
ENDOSULFAN SULFATE	(ND) | ND	0.19	0.019 | 0.019
ENDRIN KETONE	(ND) | ND	0.19	0.019 | 0.019
METHOXYCHLOR	(ND) | ND	0.94	0.19 | 0.19
TOXAPHENE	(ND) | ND	1.9	0.94 | 0.94

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	0.28 | (0.30)	0.376	74 | (81)	30-140
DECACHLOROBIPHENYL	0.30 | (0.32)	0.376	81 | (85)	40-150

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

METHOD 3520C/8081A
PESTICIDES

Client : MWH LABORATORIES	Date Collected: 12/01/10
Project : 350056	Date Received: 12/02/10
Batch No. : 10L041	Date Extracted: 12/06/10 11:30
Sample ID: 201012010377	Date Analyzed: 12/08/10 18:41
Lab Samp ID: L041-02	Dilution Factor: 0.94
Lab File ID: SL08015A	Matrix : WATER
Ext Btch ID: CPL006W	% Moisture : NA
Calib. Ref.: SL08007A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ALPHA-BHC	(ND) | ND	0.094	0.019 | 0.019
GAMMA-BHC (LINDANE)	(ND) | ND	0.094	0.019 | 0.019
BETA-BHC	(ND) | ND	0.094	0.019 | 0.019
HEPTACHLOR	(ND) | ND	0.094	0.019 | 0.019
DELTA-BHC	(ND) | ND	0.094	0.019 | 0.019
ALDRIN	(ND) | ND	0.094	0.019 | 0.019
HEPTACHLOR EPOXIDE	(ND) | ND	0.094	0.019 | 0.019
GAMMA-CHLORDANE	(ND) | ND	0.094	0.019 | 0.019
ALPHA-CHLORDANE	(ND) | ND	0.094	0.019 | 0.019
ENDOSULFAN I	(ND) | ND	0.094	0.019 | 0.019
4,4'-DDE	(ND) | ND	0.19	0.019 | 0.019
DIELDRIN	(ND) | ND	0.19	0.019 | 0.019
ENDRIN	(ND) | ND	0.19	0.019 | 0.019
4,4'-DDD	(ND) | ND	0.19	0.019 | 0.019
ENDOSULFAN II	(ND) | ND	0.19	0.019 | 0.019
4,4'-DDT	(ND) | ND	0.19	0.019 | 0.019
ENDRIN ALDEHYDE	(ND) | ND	0.19	0.019 | 0.019
ENDOSULFAN SULFATE	(ND) | ND	0.19	0.019 | 0.019
ENDRIN KETONE	(ND) | ND	0.19	0.019 | 0.019
METHOXYCHLOR	(ND) | ND	0.94	0.19 | 0.19
TOXAPHENE	(ND) | ND	1.9	0.94 | 0.94

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	0.30 | (0.32)	0.376	81 | (85)	30-140
DECACHLOROBIPHENYL	0.30 | (0.33)	0.376	80 | (86)	40-150

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

METHOD 3520C/8081A
PESTICIDES

Client : MWH LABORATORIES	Date Collected: 12/01/10
Project : 350056	Date Received: 12/02/10
Batch No. : 10L041	Date Extracted: 12/06/10 11:30
Sample ID: 201012010378	Date Analyzed: 12/08/10 19:06
Lab Samp ID: L041-03	Dilution Factor: 0.94
Lab File ID: SL08016A	Matrix : WATER
Ext Btch ID: CPL006W	% Moisture : NA
Calib. Ref.: SL08007A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ALPHA-BHC	(ND) | ND	0.094	0.019 | 0.019
GAMMA-BHC (LINDANE)	(ND) | ND	0.094	0.019 | 0.019
BETA-BHC	(ND) | ND	0.094	0.019 | 0.019
HEPTACHLOR	(ND) | ND	0.094	0.019 | 0.019
DELTA-BHC	(ND) | ND	0.094	0.019 | 0.019
ALDRIN	(ND) | ND	0.094	0.019 | 0.019
HEPTACHLOR EPOXIDE	(ND) | ND	0.094	0.019 | 0.019
GAMMA-CHLORDANE	(ND) | ND	0.094	0.019 | 0.019
ALPHA-CHLORDANE	(ND) | ND	0.094	0.019 | 0.019
ENDOSULFAN I	(ND) | ND	0.094	0.019 | 0.019
4,4'-DDE	(ND) | ND	0.19	0.019 | 0.019
DIELDRIN	(ND) | ND	0.19	0.019 | 0.019
ENDRIN	(ND) | ND	0.19	0.019 | 0.019
4,4'-DDD	(ND) | ND	0.19	0.019 | 0.019
ENDOSULFAN II	(ND) | ND	0.19	0.019 | 0.019
4,4'-DDT	(ND) | ND	0.19	0.019 | 0.019
ENDRIN ALDEHYDE	(ND) | ND	0.19	0.019 | 0.019
ENDOSULFAN SULFATE	(ND) | ND	0.19	0.019 | 0.019
ENDRIN KETONE	(ND) | ND	0.19	0.019 | 0.019
METHOXYCHLOR	(ND) | ND	0.94	0.19 | 0.19
TOXAPHENE	(ND) | ND	1.9	0.94 | 0.94

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	0.30 | (0.31)	0.376	80 | (83)	30-140
DECACHLOROBIPHENYL	0.31 | (0.33)	0.376	83 | (87)	40-150

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

METHOD 3520C/8081A
PESTICIDES

Client : MWH LABORATORIES	Date Collected: 12/01/10
Project : 350056	Date Received: 12/02/10
Batch No. : 10L041	Date Extracted: 12/06/10 11:30
Sample ID: 201012010379	Date Analyzed: 12/08/10 19:30
Lab Samp ID: L041-04	Dilution Factor: 0.94
Lab File ID: SL08017A	Matrix : WATER
Ext Btch ID: CPL006W	% Moisture : NA
Calib. Ref.: SL08007A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ALPHA-BHC	(ND)|ND	0.094	0.019|0.019
GAMMA-BHC (LINDANE)	(ND)|ND	0.094	0.019|0.019
BETA-BHC	(ND)|ND	0.094	0.019|0.019
HEPTACHLOR	(ND)|ND	0.094	0.019|0.019
DELTA-BHC	(ND)|ND	0.094	0.019|0.019
ALDRIN	(ND)|ND	0.094	0.019|0.019
HEPTACHLOR EPOXIDE	(ND)|ND	0.094	0.019|0.019
GAMMA-CHLORDANE	(ND)|ND	0.094	0.019|0.019
ALPHA-CHLORDANE	(ND)|ND	0.094	0.019|0.019
ENDOSULFAN I	(ND)|ND	0.094	0.019|0.019
4,4'-DDE	(ND)|ND	0.19	0.019|0.019
DIELDRIN	(ND)|ND	0.19	0.019|0.019
ENDRIN	(ND)|ND	0.19	0.019|0.019
4,4'-DDD	(ND)|ND	0.19	0.019|0.019
ENDOSULFAN II	(ND)|ND	0.19	0.019|0.019
4,4'-DDT	(ND)|ND	0.19	0.019|0.019
ENDRIN ALDEHYDE	(ND)|ND	0.19	0.019|0.019
ENDOSULFAN SULFATE	(ND)|ND	0.19	0.019|0.019
ENDRIN KETONE	(ND)|ND	0.19	0.019|0.019
METHOXYCHLOR	(ND)|ND	0.94	0.19|0.19
TOXAPHENE	(ND)|ND	1.9	0.94|0.94

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	0.30|(0.32)	0.376	79|(84)	30-140
DECACHLOROBIPHENYL	0.31|(0.32)	0.376	82|(86)	40-150

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

QC SUMMARIES

METHOD 3520C/8081A
PESTICIDES

Client : MWH LABORATORIES	Date Collected: NA
Project : 350056	Date Received: 12/06/10
Batch No. : 10L041	Date Extracted: 12/06/10 11:30
Sample ID: MBLK1W	Date Analyzed: 12/08/10 16:37
Lab Samp ID: CPL006WB	Dilution Factor: 1
Lab File ID: SL08010A	Matrix : WATER
Ext Btch ID: CPL006W	% Moisture : NA
Calib. Ref.: SL08007A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ALPHA-BHC	(ND) | ND	0.10	0.020 | 0.020
GAMMA-BHC (LINDANE)	(ND) | ND	0.10	0.020 | 0.020
BETA-BHC	(ND) | ND	0.10	0.020 | 0.020
HEPTACHLOR	(ND) | ND	0.10	0.020 | 0.020
DELTA-BHC	(ND) | ND	0.10	0.020 | 0.020
ALDRIN	(ND) | ND	0.10	0.020 | 0.020
HEPTACHLOR EPOXIDE	(ND) | ND	0.10	0.020 | 0.020
GAMMA-CHLORDANE	(ND) | ND	0.10	0.020 | 0.020
ALPHA-CHLORDANE	(ND) | ND	0.10	0.020 | 0.020
ENDOSULFAN I	(ND) | ND	0.10	0.020 | 0.020
4,4'-DDE	(ND) | ND	0.20	0.020 | 0.020
DIELDRIN	(ND) | ND	0.20	0.020 | 0.020
ENDRIN	(ND) | ND	0.20	0.020 | 0.020
4,4'-DDD	(ND) | ND	0.20	0.020 | 0.020
ENDOSULFAN II	(ND) | ND	0.20	0.020 | 0.020
4,4'-DDT	(ND) | ND	0.20	0.020 | 0.020
ENDRIN ALDEHYDE	(ND) | ND	0.20	0.020 | 0.020
ENDOSULFAN SULFATE	(ND) | ND	0.20	0.020 | 0.020
ENDRIN KETONE	(ND) | ND	0.20	0.020 | 0.020
METHOXYCHLOR	(ND) | ND	1.0	0.20 | 0.20
TOXAPHENE	(ND) | ND	2.0	1.0 | 1.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	0.32 | (0.33)	0.400	79 | (83)	30-130
DECACHLOROBIPHENYL	0.33 | (0.35)	0.400	83 | (87)	40-150

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: MWH LABORATORIES
PROJECT: 350056
BATCH NO.: 10L041
METHOD: METHOD 3520C/8081A

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	CPL006WB	CPL006WL	CPL006WC		
LAB FILE ID:	SL08010A	SL08011A	SL08012A		
DATE EXTRACTED:	12/06/1011:30	12/06/1011:30	12/06/1011:30	DATE COLLECTED:	NA
DATE ANALYZED:	12/08/1016:37	12/08/1017:02	12/08/1017:27	DATE RECEIVED:	12/06/10
PREP. BATCH:	CPL006W	CPL006W	CPL006W		
CALIB. REF:	SL08007A	SL08007A	SL08007A		

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)|ND	0.400	(0.406)|0.405	(101)|101	0.400	(0.389)|0.389	(97)|97	(4)|4	40-130	30
Heptachlor	(ND)|ND	0.400	(0.380)|0.364	(95)|91	0.400	(0.365)|0.357	(91)|89	(4)|2	30-140	30
Aldrin	(ND)|ND	0.400	0.414|(0.421)	104|(105)	0.400	0.395|(0.404)	99|(101)	5|(4)	40-130	30
Dieldrin	(ND)|ND	0.400	0.424|(0.445)	106|(111)	0.400	0.401|(0.429)	100|(107)	6|(4)	60-140	30
Endrin	(ND)|ND	0.400	(0.390)|0.386	(97)|96	0.400	0.375|(0.377)	94|(94)	4|(2)	50-140	30
4,4'-DDT	(ND)|ND	0.400	(0.444)|0.404	(111)|101	0.400	(0.419)|0.376	(105)|94	(6)|7	60-140	30

3041

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	0.400	0.339|(0.351)	85|(88)	0.400	0.328|(0.342)	82|(85)	30-130
Decachlorobiphenyl	0.400	0.345|(0.364)	86|(91)	0.400	0.323|(0.344)	81|(86)	40-150

LABORATORY REPORT FOR

MWH LABORATORIES

350056

METHOD 3520C/8141A
ORGANOPHOSPHOROUS COMPOUNDS BY GC

SDG#: 10L041

CASE NARRATIVE

Client : MWH LABORATORIES

Project : 350056

SDG : 10L041

METHOD 3520C/8141A
ORGANOPHOSPHOROUS COMPOUNDS BY GC

A total of four (4) water samples were received on 12/02/10 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.

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

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for NPL002WL/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.

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

LAB CHRONICLE
ORGANOPHOSPHOROUS COMPOUNDS BY GC

Client : MWH LABORATORIES
Project : 350056

SDG NO. : 10L041
Instrument ID : GCT012

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	NPL002WB	1	NA	12/07/1014:21	12/06/1013:15	ZL07003A	ZL07002A	NPL002W	Method Blank
LCS1W	NPL002WL	1	NA	12/07/1014:45	12/06/1013:15	ZL07004A	ZL07002A	NPL002W	Lab Control Sample (LCS)
LCD1W	NPL002WC	1	NA	12/07/1015:08	12/06/1013:15	ZL07005A	ZL07002A	NPL002W	LCS Duplicate
201012010376	L041-01	.94	NA	12/07/1015:31	12/06/1013:15	ZL07006A	ZL07002A	NPL002W	Field Sample
201012010377	L041-02	.94	NA	12/07/1015:55	12/06/1013:15	ZL07007A	ZL07002A	NPL002W	Field Sample
201012010378	L041-03	.94	NA	12/07/1016:18	12/06/1013:15	ZL07008A	ZL07002A	NPL002W	Field Sample
201012010379	L041-04	.94	NA	12/07/1016:41	12/06/1013:15	ZL07009A	ZL07002A	NPL002W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 3520C/8141A
ORGANOPHOSPHOROUS COMPOUNDS BY GC

Client : MWH LABORATORIES	Date Collected: 12/01/10
Project : 350056	Date Received: 12/02/10
Batch No. : 10L041	Date Extracted: 12/06/10 13:15
Sample ID: 201012010376	Date Analyzed: 12/07/10 15:31
Lab Samp ID: L041-01	Dilution Factor: .94
Lab File ID: ZL07006A	Matrix : WATER
Ext Btch ID: NPL002W	% Moisture : NA
Calib. Ref.: ZL07002A	Instrument ID : GCT012

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
DICHLORVOS	ND	0.94	0.47
MEVINPHOS	ND	0.94	0.47
DEMETON	ND	0.94	0.47
ETHOPROP	ND	0.94	0.47
PHORATE	ND	0.94	0.47
NALED	ND	0.94	0.47
DIAZINON	ND	0.94	0.47
DISULFOTON	ND	0.94	0.47
RONNEL	ND	0.94	0.47
CHLORPYRIFOS	ND	0.94	0.47
FENTHION	ND	0.94	0.47
TRICHLORONATE	ND	0.94	0.47
METHYL PARATHION	ND	0.94	0.47
TOKUTHION	ND	0.94	0.47
STIROPHOS	ND	0.94	0.47
BOLSTAR	ND	0.94	0.47
FENSULFOTHION	ND	0.94	0.47
AZINPHOS-METHYL	ND	0.94	0.47
COUMAPHOS	ND	0.94	0.47

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TRIBUTYL PHOSPHATE	1.33	1.41	95	30-130
TRIPHENYL PHOSPHATE	1.51	1.41	107	50-130

METHOD 3520C/8141A
ORGANOPHOSPHOROUS COMPOUNDS BY GC

Client : MWH LABORATORIES	Date Collected: 12/01/10
Project : 350056	Date Received: 12/02/10
Batch No. : 10L041	Date Extracted: 12/06/10 13:15
Sample ID: 201012010377	Date Analyzed: 12/07/10 15:55
Lab Samp ID: L041-02	Dilution Factor: .94
Lab File ID: ZL07007A	Matrix : WATER
Ext Btch ID: NPL002W	% Moisture : NA
Calib. Ref.: ZL07002A	Instrument ID : GCT012

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
DICHLORVOS	ND	0.94	0.47
MEVINPHOS	ND	0.94	0.47
DEMETON	ND	0.94	0.47
ETHOPROP	ND	0.94	0.47
PHORATE	ND	0.94	0.47
NALED	ND	0.94	0.47
DIAZINON	ND	0.94	0.47
DISULFOTON	ND	0.94	0.47
RONNEL	ND	0.94	0.47
CHLORPYRIFOS	ND	0.94	0.47
FENTHION	ND	0.94	0.47
TRICHLORONATE	ND	0.94	0.47
METHYL PARATHION	ND	0.94	0.47
TOKUTHION	ND	0.94	0.47
STIROPHOS	ND	0.94	0.47
BOLSTAR	ND	0.94	0.47
FENSULFOTHION	ND	0.94	0.47
AZINPHOS-METHYL	ND	0.94	0.47
COUMAPHOS	ND	0.94	0.47

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TRIBUTYL PHOSPHATE	1.27	1.41	90	30-130
TRIPHENYL PHOSPHATE	1.40	1.41	99	50-130

METHOD 3520C/8141A
ORGANOPHOSPHOROUS COMPOUNDS BY GC

Client : MWH LABORATORIES	Date Collected: 12/01/10
Project : 350056	Date Received: 12/02/10
Batch No. : 10L041	Date Extracted: 12/06/10 13:15
Sample ID: 201012010378	Date Analyzed: 12/07/10 16:18
Lab Samp ID: L041-03	Dilution Factor: .94
Lab File ID: ZL07008A	Matrix : WATER
Ext Btch ID: NPL002W	% Moisture : NA
Calib. Ref.: ZL07002A	Instrument ID : GCT012

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
DICHLORVOS	ND	0.94	0.47
MEVINPHOS	ND	0.94	0.47
DEMETON	ND	0.94	0.47
ETHOPROP	ND	0.94	0.47
PHORATE	ND	0.94	0.47
NALED	ND	0.94	0.47
DIAZINON	ND	0.94	0.47
DISULFOTON	ND	0.94	0.47
RONNEL	ND	0.94	0.47
CHLORPYRIFOS	ND	0.94	0.47
FENTHION	ND	0.94	0.47
TRICHLORONATE	ND	0.94	0.47
METHYL PARATHION	ND	0.94	0.47
TOKUTHION	ND	0.94	0.47
STIROPHOS	ND	0.94	0.47
BOLSTAR	ND	0.94	0.47
FENSULFOTHION	ND	0.94	0.47
AZINPHOS-METHYL	ND	0.94	0.47
COUMAPHOS	ND	0.94	0.47

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TRIBUTYL PHOSPHATE	1.06	1.41	75	30-130
TRIPHENYL PHOSPHATE	1.24	1.41	88	50-130

METHOD 3520C/8141A
ORGANOPHOSPHOROUS COMPOUNDS BY GC

Client : MWH LABORATORIES	Date Collected: 12/01/10
Project : 350056	Date Received: 12/02/10
Batch No. : 10L041	Date Extracted: 12/06/10 13:15
Sample ID: 201012010379	Date Analyzed: 12/07/10 16:41
Lab Samp ID: L041-04	Dilution Factor: .94
Lab File ID: ZL07009A	Matrix : WATER
Ext Btch ID: NPL002W	% Moisture : NA
Calib. Ref.: ZL07002A	Instrument ID : GCT012

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
DICHLORVOS	ND	0.94	0.47
MEVINPHOS	ND	0.94	0.47
DEMETON	ND	0.94	0.47
ETHOPROP	ND	0.94	0.47
PHORATE	ND	0.94	0.47
NALED	ND	0.94	0.47
DIAZINON	ND	0.94	0.47
DISULFOTON	ND	0.94	0.47
RONNEL	ND	0.94	0.47
CHLORPYRIFOS	ND	0.94	0.47
FENTHION	ND	0.94	0.47
TRICHLORONATE	ND	0.94	0.47
METHYL PARATHION	ND	0.94	0.47
TOKUTHION	ND	0.94	0.47
STIROPHOS	ND	0.94	0.47
BOLSTAR	ND	0.94	0.47
FENSULFOTHION	ND	0.94	0.47
AZINPHOS-METHYL	ND	0.94	0.47
COUMAPHOS	ND	0.94	0.47

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TRIBUTYL PHOSPHATE	1.15	1.41	81	30-130
TRIPHENYL PHOSPHATE	1.31	1.41	93	50-130

QC SUMMARIES

METHOD 3520C/8141A
ORGANOPHOSPHOROUS COMPOUNDS BY GC

Client : MWH LABORATORIES	Date Collected: NA
Project : 350056	Date Received: 12/06/10
Batch No. : 10L041	Date Extracted: 12/06/10 13:15
Sample ID: MBLK1W	Date Analyzed: 12/07/10 14:21
Lab Samp ID: NPL002WB	Dilution Factor: 1
Lab File ID: ZL07003A	Matrix : WATER
Ext Btch ID: NPL002W	% Moisture : NA
Calib. Ref.: ZL07002A	Instrument ID : GCT012

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

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TRIBUTYL PHOSPHATE	1.28	1.50	85	30-130
TRIPHENYL PHOSPHATE	1.67	1.50	112	50-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: MWH LABORATORIES
PROJECT: 350056
BATCH NO.: 10L041
METHOD: METHOD 3520C/8141A

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: NPL002WB NPL002WL NPL002WC
LAB FILE ID: ZL07003A ZL07004A ZL07005A
DATE EXTRACTED: 12/06/1013:15 12/06/1013:15 12/06/1013:15 DATE COLLECTED: NA
DATE ANALYZED: 12/07/1014:21 12/07/1014:45 12/07/1015:08 DATE RECEIVED: 12/06/10
PREP. BATCH: NPL002W NPL002W NPL002W
CALIB. REF: ZL07002A ZL07002A ZL07002A

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 (%)
Phorate	ND	1.50	1.17	78	1.50	1.19	79	2	10-130	30
Ronnel	ND	1.50	1.46	98	1.50	1.48	99	1	30-140	30
Chlorpyrifos	ND	1.50	1.57	105	1.50	1.53	102	3	40-140	30
Tokuthion	ND	1.50	1.60	107	1.50	1.48	99	8	40-130	30
Bolstar	ND	1.50	1.65	110	1.50	1.45	97	13	20-130	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 (%)
Tributyl Phosphate	1.50	1.39	93	1.50	1.33	89	30-130
Triphenyl Phosphate	1.50	1.77	118	1.50	1.66	111	50-130