County of Los Angeles Department of Public Works

Water Quality Monitoring 2004 Annual Report

for the

Master Mitigation Plan for the Big Tujunga Wash Mitigation Bank

January 2005



for

Master Mitigation Plan for the Big Tujunga Wash Mitigation Bank

January 2005

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Quarterly and annual water quality monitoring reports are distributed to the following agencies:

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ANNUAL SUMMARY

Water quality sampling was conducted at four sampling stations at the County of Los Angeles Department of Public Works (LADPW) Big Tujunga Wash mitigation bank for four quarters of 2004. Samples were collected at three points along Haines Canyon Creek (the inflow to the Tujunga ponds, the outflow from the ponds, and in Haines Canyon Creek leaving the mitigation bank site) and in Big Tujunga Wash in April, July, October, and December of 2004 (**Figure 1**). Parameters monitored included temperature, dissolved oxygen, pH, nutrients, turbidity, bacteria levels, an insecticide (chloropyrifos), and a herbicide (glyphosate). Both field meters and laboratory analyses were used in the water quality sampling program.

In Big Tujunga Wash, flow was observed only on the December sampling date during 2004. Water was present at all other stations for all four sampling dates. For most parameters, observed water quality met Regional Water Quality Control Board (Regional Board) Basin Plan objectives and EPA's recommended water quality criteria for freshwater. Temperatures were cool enough and dissolved oxygen concentrations generally high enough for growth and survival of warmwater fish species. Observed pH values ranged from 6.7 to 8.8 units; residual chlorine and pesticides were not detected; and turbidity levels were generally low. Excessive nutrient conditions were not noted. A degree of nitrogen reduction was observed between inflow and outflow from the Tujunga ponds. Fecal coliform levels were below the water contact recreation standard at all sites in the second and fourth quarters. In the first quarter, higher fecal coliform levels were observed in Haines Canyon Creek and in one sample from the outflow from the ponds. In the third quarter, higher fecal coliform levels were observed in Haines Canyon Creek and in one sample from the outflow from the ponds. In the third quarter, higher fecal coliform levels were observed in Haines Canyon Creek and in one sample from the outflow from the ponds. In the third quarter, higher fecal coliform levels were observed in Haines Canyon Creek and in one sample from the outflow from the ponds.

Sampling will continue in 2005. Future results will be compared with baseline 2000 data and with the 2001, 2002, 2003 and 2004 results. Construction of the Angeles National Golf Course upstream has mostly been completed, and the golf course opened in April 2004. Additional work on the golf club and the parking lot is ongoing.

BACKGROUND

LADPW purchased a 207-acre parcel in Big Tujunga Wash as a mitigation bank for County flood control projects throughout Los Angeles. 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 5-year monitoring program to gather data on conditions at the site during implementation of the improvements. The MMP was prepared and is being implemented by Chambers Group, Inc. MWH, a subconsultant to Chambers Group, is responsible for the water quality monitoring program described in the MMP. This is the

fourth annual report on water quality. The 5-year program began in the fourth quarter of 2000.

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**. This table will be updated and expanded as the monitoring program progresses.

Month/Year	Activity
4/00	Baseline water quality sampling
11/00 to 11/01	Arundo, tamarisk, and pepper tree removal
11/00 to 11/01	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
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

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

Month/Year	Activity
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

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

Water Quality Monitoring Program

In order to establish water quality upstream and downstream of the site, quarterly sampling and analysis will be performed for 5 years, for a total of 20 individual sampling days. 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 spring 2004. Additional construction at the club house building is in progress and is scheduled for completion in spring of 2006 (J. Reidinger, Angeles National Golf Club, pers. comm. to A. Kawaguchi, MWH, December 2, 2004). During construction, the golf course established and implemented an erosion control plan including catchment basins and silt beds. Runoff is being captured by onsite percolation basins and retention ponds. Weed abatement during construction consisted of hand pulling, and no herbicides were used.

In March 2004, the golf course maintenance staff indicated that the following chemicals may be used on an as needed basis: $Primo^{TM}$ (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, the Golf Club provided MWH with the golf course's monthly pesticide use reports from June to September 2004. The reports indicate that nine types of chemical products (six herbicides, one insecticide, one fungicide, and one grass growth inhibitor) were applied as summarized in **Table 2**.

Active Ingredient	Manufacturer and Product Name	Applications
Chlorpyrifos	Dow AgroSciences Dursban Pro (insecticide)	One application (145,000 sq. ft.) in August
Diquat dibromide	Syngenta Reward (herbicide)	Two applications (43,000 sq. ft. and not recorded) in August and one application (87,000 sq. ft.) in September
Flutolanil	Bayer Prostar 70 WP (fungicide)	One application (120,000 sq. ft.) in July and one application (140,000 sq. ft.) in August
Glyphosate	Lesco Prosecutor (herbicide)	Three applications (one 86,000 sq. ft. and two not recorded) in August
Glyphosate and Diquat dibromide	Monsanto QuickPRO (herbicide)	Three applications (20,000 to 30,000 sq. ft.) in June and one application (20,000 sq. ft.) in July
Oryzalin	Dow AgroSciences Surflan (herbicide)	One application (87,000 sq. ft.) in September
Pelargonic acid	Mycogen Scythe (herbicide)	One application (86,000 sq. ft.) in August
Prodiamine	Syngenta Barricade (herbicide)	Three applications (two 86,000 sq. ft. and one not recorded) in August
Trinexapac-ethyl	Syngenta Primo Maxx (grass growth inhibitor)	One application (120,000 sq. ft.) in June, three applications (76,000 to 120,000 sq. ft.) in July, two applications (140,000 and 156,000 sq. ft.) in August, and two applications (60,000 and 128,000 sq. ft.) in September

Table 2Pesticide Applications at the Angeles National Golf Course(June – September 2004)

Source: Angeles National Golf Course Monthly Summary Pesticide Use Reports for June through September 2004. sq. ft. – square feet

In December 2004, the Golf Club also provided MWH with the golf course's water quality monitoring reports to date, which present the results of the following sampling activities:

- Two downgradient groundwater monitoring wells (located near Foothill Boulevard) have been sampled quarterly since the fourth quarter of 2001.
- Two upgradient groundwater monitoring wells were sampled in October 2001 and November 2003.
- Surface water samples were collected from Tujunga Ponds for the fourth quarter of 2001 and the first and second quarters of 2002.
- Surface water samples were collected from the Big Tujunga Wash when surface water was flowing during the quarterly sampling events (second quarter of 2002, first and second quarters of 2003, and first quarter of 2004). The Haines Canyon Creek has been dry during all the quarterly sampling events to date.
- Surface water samples were collected from the Haines Canyon Creek and the Big Tujunga Wash during storm events in March 2003 and February 2004.

(Source: Angeles National Golf Club Quarterly Groundwater and Surface Water Monitoring Reports from Fourth Quarter 2002 through Third Quarter 2004, Pre-Construction Summary of Groundwater and Surface Water Monitoring (dated April 1, 2004), and Stormwater Monitoring Reports for March 2003 and February 2004. Prepared by MACTEC Engineering and Consulting for the Los Angeles International Golf Club.)

The following are the parameters sampled by the golf course (parameters that are also sampled within the Mitigation Bank are <u>underlined</u>):

- General parameters <u>pH</u>, electrical conductivity, total dissolved solids (TDS), sodium, potassium, calcium, magnesium, carbonate, bicarbonate, sulfate, chloride, <u>nitrate as nitrogen, nitrite as nitrogen, total Kjeldahl nitrogen (TKN), ammonia as</u> <u>nitrogen</u>, 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 azoxystrobin*, metalaxyl, chlorothalonil, iprodione, propiconazole, thiophanate-methyl*, vincolozoin, and quintozene
- Herbicides <u>glyphosate</u>*, prodiamine, pronamide, P-butylfluazifop, fenoxaprop, pendimethalin, triclopyr, chlopyralid, 2,4-D amine, dicamba, and MCPP
- Insecticides carbaryl*, chlorpyrifos, trichlorfon, and malathion
- Volatile organic compounds (VOCs)** chloroform, carbon tetrachloride, tetrachloroethylene, trichloroethylene, 1,4-dichlorobenzene, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethylene, and vinyl chloride
- Total petroleum hydrocarbons (TPH)** for diesel, heavy hydrocarbons and gasoline

* Sampled during the fourth quarter of 2001 only.

** Sampled in groundwater fourth quarter of 2001, third quarter of 2002, and third and fourth quarters of 2003; sampled in the Tujunga Ponds fourth quarter of 2001; sampled in the Big Tujunga Wash second quarter of 2002, March 2003, and February 2004; and sampled in the Haines Canyon Creek March 2003 and February 2004.

Concentrations of pesticides (including fungicides, herbicides and insecticides) were not detected in any groundwater monitoring wells or surface water samples during any of the sampling events. Except for nitrate, general chemical parameters did not exceed state drinking water standards. Nitrate concentrations above drinking water limits have been detected in two of the groundwater monitoring wells (MW-1 [downgradient] and MW-3 [upgradient]) located on the south side of the golf course site during most sampling events since monitoring began in October 2001 (prior to start of golf course construction). In addition, low levels of two VOCs (chloroform and tetrachloroethylene [PCE]) have been detected at MW-1 and MW-3 since monitoring began.

During the two storm water sampling events conducted in March 2003 and February 2004 in the Haines Canyon Creek and Big Tujunga Wash (surface water samples), concentrations of pesticides, VOCs and TPH-gasoline were not detected. However, concentrations of TPH-

diesel (ranging from 0.14 to 0.51 mg/L) and TPH-heavy hydrocarbons (ranging from 0.14 to 0.63 mg/L) were detected during both sampling events at both sites.

At the locations sampled by the Golf Club, the Haines Canyon Creek and Big Tujunga Wash contain no flows during dry weather conditions, and samples are taken only when flows are present due to storm events. Due to the dilution associated with the storm flows, concentrations of nitrate (as nitrogen) observed in samples from the golf course surface water sampling locations were low (not detected to approximately 0.7 mg/L) compared to the concentrations typically observed at the Haines Canyon Creek sampling location within the Mitigation Bank (approximately 4 to 7 mg/L).

MATERIALS AND METHODS

Sampling Stations

Four sampling locations have been identified for the 5-year monitoring program for the Big Tujunga Wash Mitigation Bank (Figure 1 and Table 3). Table 4 summarizes sampling conditions observed on the four sampling dates in 2004. The coordinates of the sampling stations were determined by a hand-held Global Positioning System.

Sampling Parameters

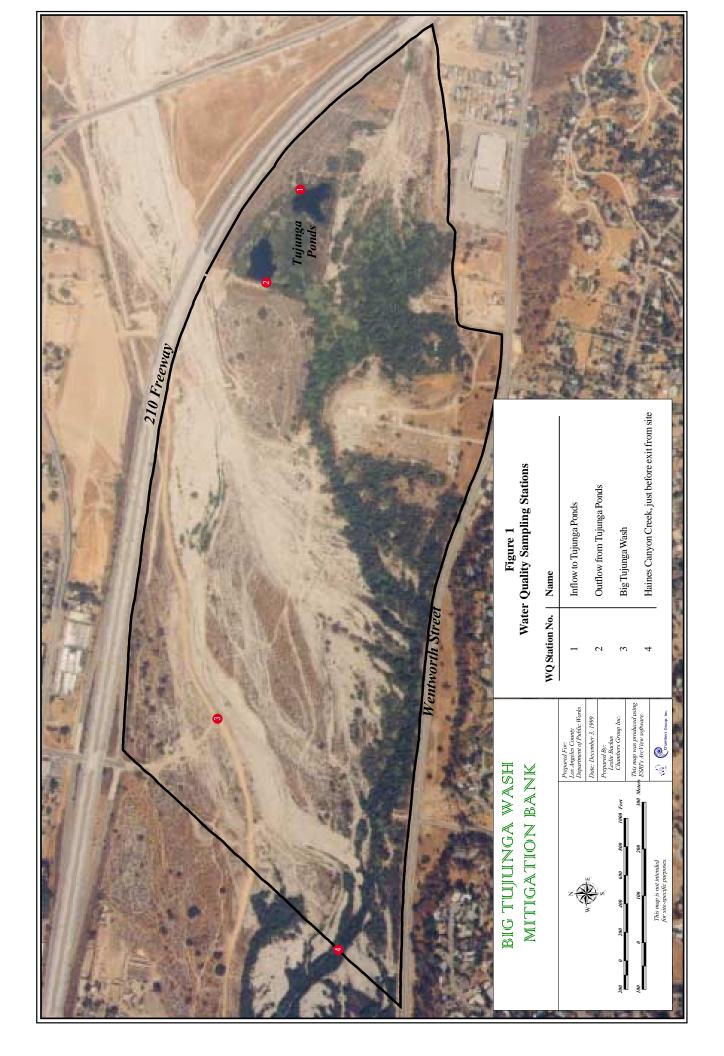
Water Quality. Table 5 summarizes the sampling parameters included in the water quality monitoring program. The following meters were used in the field:

- Dissolved oxygen and temperature YSI Model 57 (first and second quarters 2004) and HACH SensION 6 DO meter (third and fourth quarters 2004)
- Total residual chlorine HACH DR 700
- pH Orion 230A with HACH 51935 electrode

All other analyses were performed in duplicate 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 the laboratory followed the methods described in the MWH Laboratories *Quality Assurance Manual*.

	•	
Sampling Locations	Latitude	Longitude
Haines Canyon Creek, just before exit from site	N 34° 16' 2.9"	W 118° 21' 22.2"
Haines Canyon Creek, inflow to Tujunga Ponds	N 34° 16' 6.9"	W 118° 20' 18.7"
Haines Canyon Creek, outflow from Tujunga Ponds	N 34º 16' 7.1"	W 118° 20' 28.3"
Big Tujunga Wash	N 34º 16' 11.7"	W 118° 21' 4.0"

Table 3Water Quality Sampling Locations



	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Date	4/2/2004	7/2/2004	10/5/2004	12/9/2004
Air Temperature	Approx. 70 °F	Approx. 75 °F	Approx. 75 °F	Approx. 70 °F
Skies	Partly cloudy	Clear skies	Clear skies	Clear skies
Water Volume (see also page 21)	Big Tujunga Wash station dry	Big Tujunga Wash station dry	Big Tujunga Wash station dry	Flows observed at all four stations.
Time of Sample				
Haines Canyon Creek Existing the Site	10:20 a.m.	9:15 a.m.	10:00 a.m.	10:40 a.m.
Inflow to Tujunga Ponds	11:20 a.m.	10:30 a.m.	11:00 a.m.	11:50 a.m.
Outflow from Tujunga Ponds	12:17 p.m.	11:30 a.m.	12:00 p.m.	12:30 p.m.
Big Tujunga Wash	Station dry	Station dry	Station dry	1:15 p.m.

Table 4Water Quality Sampling Conditions – 2004

Table 5
Water Quality Sampling Parameters

Parameter	Analysis Location	Analytical Method
total Kjeldahl nitrogen (TKN)	laboratory	EPA 351.2
nitrite (NO ₂)	laboratory	EPA 300.0 by IC
nitrate (NO ₃)	laboratory	EPA 300.0 by IC
ammonia (NH ₄)	laboratory	EPA 350.1
orthophosphate - P	laboratory	Standard Methods 4500P-E
total coliform	laboratory	Standard Methods 9221B
fecal coliform	laboratory	Standard Methods 9221C
total organic halogens (organochlorides)	not sampled in 2004	
total phosphorus - P	laboratory	Standard Methods 4500PE/EPA 365.1
organophosphate (total P minus ortho-P)	calculation	
turbidity	laboratory	EPA 180.1
glyphosate (Roundup/Rodeo) ¹	laboratory	EPA 547
chlorpyrifos ²	laboratory	EPA 625
1 golf course fungicide	not sampled in 2004	
dissolved oxygen	field	Standard Methods 4500-O G
total residual chlorine	field	Standard Methods 4500-Cl D
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 (diazinon/chlorpyrifos by GCMS, EPA 625) tests for the following chemicals: diazinon, sulprofos, chlorpyrifos, demeton, dichlorvos, disulfoton, dimethoate, ethoprop, fenchlorophos, fensulfothion, fenthion, merphos, mevinphos, malathion, parathion-methyl, phorate, tokuthion, tetrachlorovinphos, and trichloronate.

Discharge Measurements. In addition to the water quality monitoring conducted in December 2004, flows in the outlet of Big Tujunga Ponds and Haines Canyon Creek leaving the site were estimated using a simple field procedure. The technique uses a float (a small plastic ball) 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 ft)
- C = A coefficient or correction factor (0.8 for rocky-bottom streams or 0.9 for muddybottom 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 analyses conducted in April 2000 are presented in **Table 6**. 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, perhaps due to release from sediments.

2004 Results

Water Quality

Results of analyses conducted by MWH Laboratories are appended to this report (**Appendix A**) and summarized in **Table 7** through **Table 10**, and on **Figure 2** through **Figure 7**. Where duplicate analyses were conducted, the average value is graphed. Note that the yields (percent recoveries) of QC samples were at or within acceptable limits (percentages) for all samples. For the second quarter, the holding times for two parameters (orthophosphate - P and turbidity) were exceeded for all samples. Based on regulatory requirements, these holding times are set conservatively short. In the case of orthophosphate, it appears that virtually all of the phosphate is in the ortho form. The analysis for turbidity was performed 2 days past the 48-hour regulatory holding time. However, according to MWH laboratory staff, any degradation that might have taken place in the samples would not be expected to substantially affect the turbidity results.

	<u> </u>		<u> </u>			
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	MPN/	4/12/00	3000	5000	170	1700
coliform	100 ml	4/18/00	2200	170000	2400	70000
Fecal	MPN/	4/12/00	500	300	40	80
coliform	100 ml	4/18/00	500	30000	2400	50000
Ammonia-N	ma/I	4/12/00	0	0	0	0
Ammonia-IN	mg/L	4/18/00	0	0	0	0
Nitroto N		4/12/00	8.38	5.19	0	3.73
Nitrate-N	mg/L	4/18/00	8.2	3.91	0.253	0.438
Nitrite-N	ma/I	4/12/00	0.061	0	0	0
INTU ILE-IN	mg/L	4/18/00	0.055	0	0	0
Violdahl N	ma/I	4/12/00	0	0.1062	0.163	0
Kjeldahl-N	mg/L	4/18/00	0	0.848	0.42	0.428
Dissolved	mg/L	4/12/00	0.078	0.056	0	0.063
phosphorus	mg/L	4/18/00	0.089	0.148	0.111	0.163
Total	ma/I	4/12/00	0.086	0.062	0	0.066
phosphorus	mg/L	4/18/00	0.113	0.153	0.134	0.211
nЦ	std	4/12/00	7.78	7.68	7.96	7.91
pН	units	4/18/00	7.18	7.47	7.45	7.06
Turbidity	NTU	4/12/00	1.83	0.38	1.75	0.6
Turblatty	INTO	4/18/00	4.24	323	4070	737

Table 6Big Tujunga Wash Mitigation Bank Baseline Water Quality (2000)

Table 7 Summary of Water Quality Results 1st Quarter 2004 (4/2/04)

				(Outflow				
Parameter	Units	Inflow to Tujunga Ponds 1	Inflow to Tujunga Ponds 2 (duplicate)	Outflow from Tujunga Ponds 1	from from Tujunga Ponds 2 (duplicate)	Big Tujunga Wash 1	Big Tujunga Wash 2 (duplicate)	Haines Cyn Creek exiting site 1	Haines Cyn Creek exiting site 2 (duplicate)
Temperature	°C	17.5	1	17.5	1	*	1	16.0	:
Dissolved Oxygen	mg/L	9.7	1	9.4	1	*	1	9.8	:
Hd	std units	7.1	I	7.2	1	*	1	8.2	:
Total residual chlorine	mg/L	ND	1	ND	1	*	1	ŊŊ	:
Ammonia-Nitrogen	mg/L	ΟN	ND	ND	ND	*	*	ND	ND
Kjeldahl Nitrogen	mg/L	ΠN	ΠN	ΟN	ND	*	*	0.35	0.31
Nitrite-Nitrogen	mg/L	ΠN	ΠN	ΟN	ΟN	*	*	ΟN	ΟN
Nitrate-Nitrogen	mg/L	8.5	5.8	6.3	6.3	*	*	3.9	6.5
Orthophosphate-P	mg/L	0.015	0.014	ŊŊ	QN	*	*	0.024	0.023
Total phosphorus-P	mg/L	0.03	0.03	ΟN	0.02	*	*	0.04	0.05
Glyphosate	µg/L	ΠN	ΟN	ΟN	ND	*	*	ΟN	ΟN
Turbidity	NTU	0.75	08.0	06.0	0.95	*	*	2.6	2.8
Fecal Coliform Bacteria	MPN/100ml	4	13	70	300	*	*	006	002
Total Coliform Bacteria	MPN/100ml	3,500	3,800	2,200	5,000	*	*	11,000	2,600
NTU nephelometric turbidity units	units								

nephelometric turbidity units most probable number non-detect NTU MPM UN *

no water present

Table 8 Summary of Water Quality Results 2nd Quarter 2004 (7/2/04)

Parameter	Units	Inflow to Tujunga Ponds 1	Inflow to Tujunga Ponds 2 (duplicate)	Outflow from Tujunga Ponds 1	Outflow from Tujunga Ponds 2 (duplicate)	Big Tujunga Wash 1	Big Tujunga Wash 2 (duplicate)	Haines Cyn Creek exiting site 1	Haines Cyn Creek exiting site 2 (duplicate)
Temperature	Э°	20.0	1	21.5	ł	*	1	19.2	ł
Dissolved Oxygen	mg/L	L'L	-	9.5	1	*	-	8.5	1
Hd	std units	7.2	I	7.3	1	*	1	8.2	1
Total residual chlorine	mg/L	ΟN	1	ND	1	*	1	ΟN	1
Ammonia-Nitrogen	mg/L	ΟN	ND	ND	ND	*	*	ΟN	ND
Kjeldahl Nitrogen	mg/L	0.50	0.47	0.67	0.66	*	*	0.26	0.36
Nitrite-Nitrogen	mg/L	0.35	ΠN	ΟN	ΟN	*	*	ΟN	ND
Nitrate-Nitrogen	mg/L	L'L	6 [.] L	5.9	5.8	*	*	5.3	5.3
Orthophosphate-P	mg/L	0.030	0.034	0.033	0.039	*	*	0.023	0.023
Total phosphorus-P	mg/L	0.02 (MRL 0.02)	0.02 (MRL 0.02)	0.02 (MRL 0.02)	0.03 (MRL 0.02)	*	*	0.02 (MRL 0.02)	0.01 (MRL 0.02)
Glyphosate	µg/L	ND	ND	ND	ND	*	*	ND	ND
Turbidity	NTU	0.35	0.78	0.65	0.85	*	*	0.55	0.50
Fecal Coliform Bacteria	MPN/100ml	20	08	50	80	*	*	70	30
Total Coliform Bacteria	MPN/100ml	13,000	1,700	009	2,200	*	*	2,400	1,100
NTU nenhelometric turbidity units	units								

nephelometric turbidity units most probable number method reporting limit non-detect NTU MPN MRL ND

no water present

Table 9 Summary of Water Quality Results 3rd Quarter 2004 (10/5/04)

Parameter	Units	Inflow to Tujunga Ponds 1	Inflow to Tujunga Ponds 2 (duplicate)	Outflow from Tujunga Ponds 1	Outflow from Tujunga Ponds 2 (duplicate)	Big Tujunga Wash 1	Big Tujunga Wash 2 (duplicate)	Haines Cyn Creek exiting site 1	Haines Cyn Creek exiting site 2 (duplicate)
Temperature	Э°	20.0	ł	20.5	ł	*	1	17.5	ł
Dissolved Oxygen	mg/L	6.2	1	10.5	-	*	1	11.0	
Hd	std units	<i>D.T</i>	1	7.2		*	1	8.2	
Total residual chlorine	mg/L	ND	1	ND	1	*	1	ND	:
Ammonia-Nitrogen	mg/L	ΟN	ND	ΟN	ΟN	*	*	ND	ΠN
Kjeldahl Nitrogen	mg/L	0.51	0.40	0.34	0.47	*	*	ND	ΠN
Nitrite-Nitrogen	mg/L	ΟN	ND	ΟN	ΟN	*	*	ND	ΠN
Nitrate-Nitrogen	mg/L	7.1	7.2	6.0	6.0	*	*	5.3	5.4
Orthophosphate-P	mg/L	0.014	0.015	ND	ΟN	*	*	0.019	0.019
Total phosphorus-P	mg/L	0.025	0.051	ND	0.026	*	*	ND	0.020
Glyphosate	μg/L	ΟN	ND	ND	ΟN	*	*	ND	ΠN
Turbidity	NTU	3.2	5.4	1.2	1.6	*	*	0.55	0.50
Fecal Coliform Bacteria	MPN/100ml	21	8	7	8	*	*	220	130
Total Coliform Bacteria	MPN/100ml	300,000	4,600	30,000	90,000	*	*	3,000	700
	- ى ر								

No duplicate samples are taken for field measurements. nephelometric turbidity units most probable number non-detect --NTU MPN ND *

no water present

Summary of Water Quality Results 4th Quarter 2004 (12/9/04) Table 10

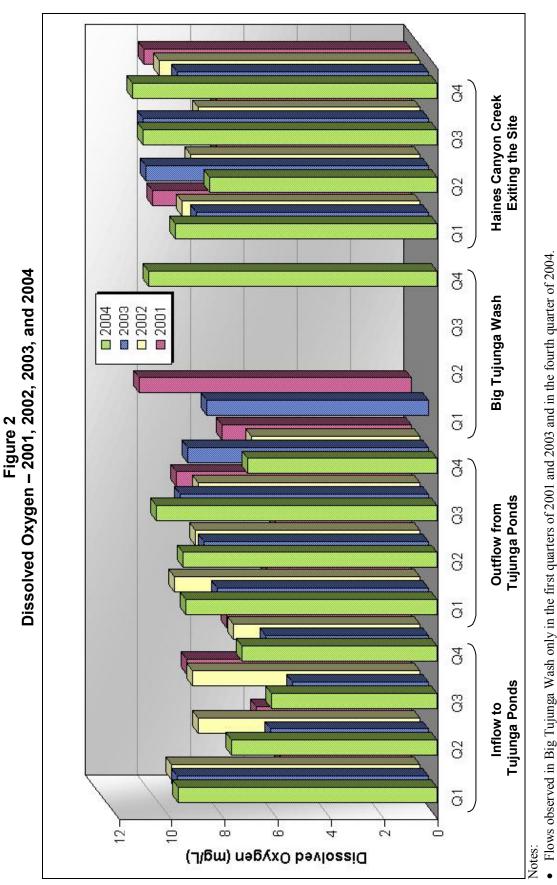
Parameter	Units	Inflow to Tujunga Ponds 1	Inflow to Tujunga Ponds 2 (duplicate)	Outflow from Tujunga Ponds 1	Outflow from Tujunga Ponds 2 (duplicate)	Big Tujunga Wash 1	Big Tujunga Wash 2 (duplicate)	Haines Cyn Creek exiting site 1	Haines Cyn Creek exiting site 2 (duplicate)
Temperature	J°.	17.7		16.3	-	16.3	1	13.0	
Dissolved Oxygen	mg/L	7.3		7.1	-	10.8	1	11.4	
PH	std units	6.8		6.7	-	8.8	1	8.4	
Total residual chlorine	mg/L	ND	:	ND	1	ND	1	ND	:
Ammonia-Nitrogen	mg/L	ND	ΟN	ND	ND	ND	ND	ND	ΠN
Kjeldahl Nitrogen	mg/L	ND	ΟN	ND	ΟN	0.24	ND	ND	ΠN
Nitrite-Nitrogen	mg/L	ND	ΟN	ND	ND	ND	ND	ND	ΠN
Nitrate-Nitrogen	mg/L	9.0	1.9	7.3	7.2	ΟN	ND	3.0	5.9
Orthophosphate-P	mg/L	0.035	0.039	0.029	0.029	ΟN	ND	0.010	0.010
Total phosphorus-P	mg/L	0.064	0.060	0.065	0.028	0.035	0.038	0.025	0.015
Glyphosate	µg/L	ND	ΟN	ND	ND	ND	ND	ND	ΠN
Chloropyrifos*	ng/L	ND	ΟN	ND	ΟN	ΟN	ND	ND	ΠN
Turbidity	NTU	1.3	0.25	0.20	0.20	0.45	0.40	0.35	0.45
Fecal Coliform Bacteria	MPN/100ml	4	8	6	4	ND	ND	110	23
Total Coliform Bacteria	MPN/100ml	1,600	170	1,400	50	50	130	700	006
No dunlicate samules are taken for field measurements	e taken for fiel	d measurements							

MPN – most probable number No duplicate samples are taken for field measurements. No duplicate samples are take NTU – nephelometric turbidity units

*

ND - non-detect

The analytical method used for chloropyrifos (diazinon/chlorpyrifos by GCMS, EPA 625) also tests for the following chemicals: diazinon, sulprofos, demeton, dichlorvos, disulfoton, dimethoate, ethoprop, fenchlorophos, fensulfothion, fenthion, merphos, mevinphos, malathion, parathion-methyl, phorate, tokuthion, tetrachlorovinphos, and trichloronate. Samples for this quarter were all non-detect for these EPA 625 parameters.



The Basin Plan objective and EPA criterion for minimum dissolved oxygen level (warmwater fish species) is 5 mg/L (see Table 12). •

ΗMΜ

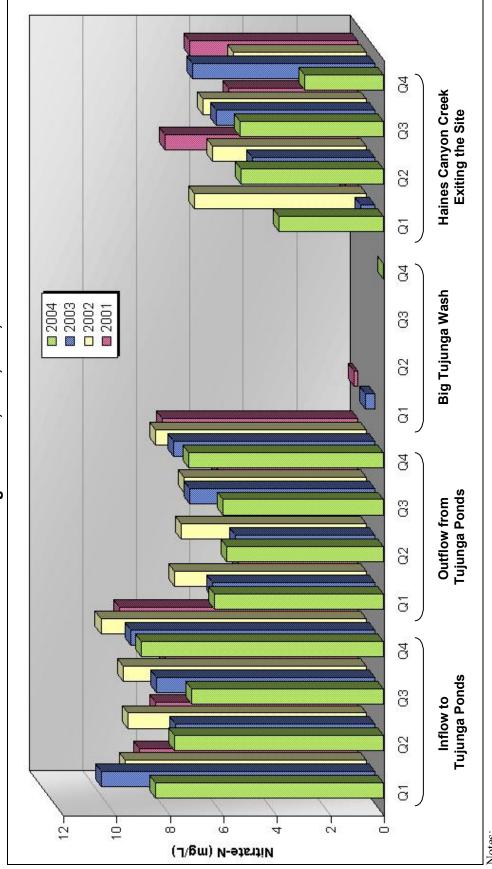


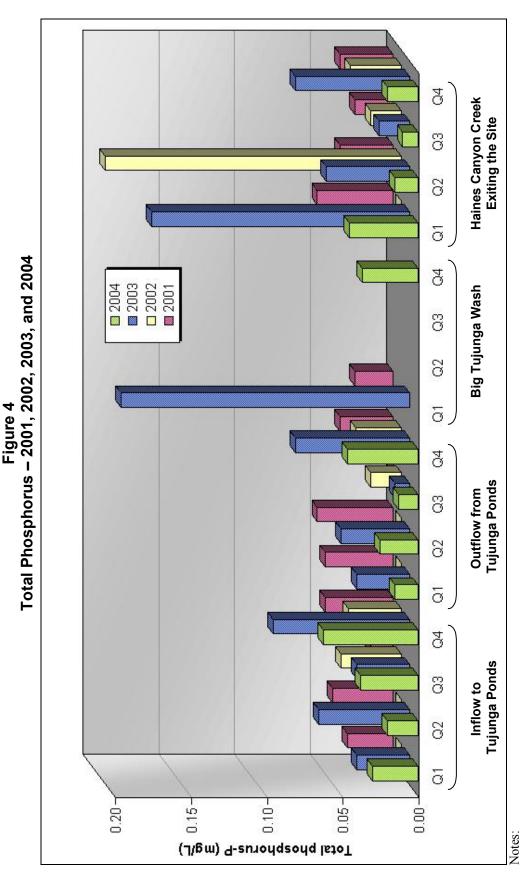
Figure 3 Nitrate as Nitrogen – 2001, 2002, 2003, and 2004

Notes:

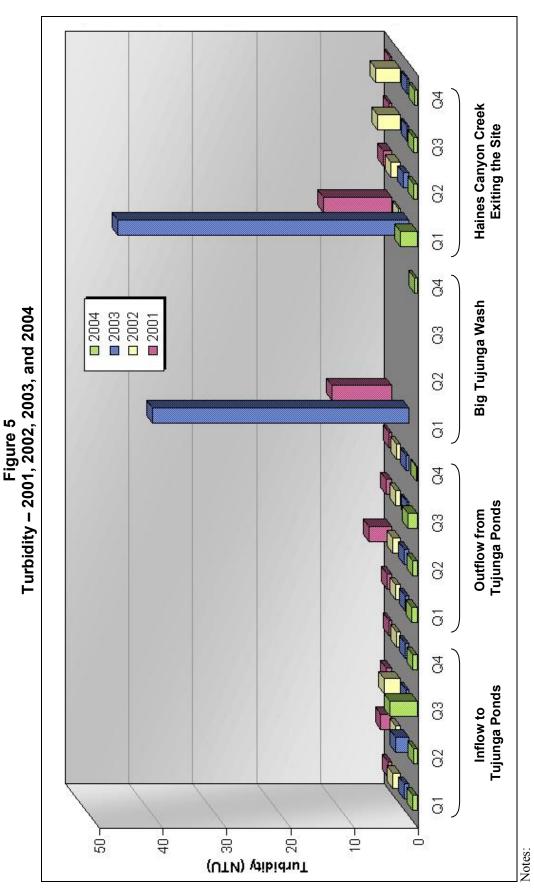
•

• Flows observed in Big Tujunga Wash only in the first quarters of 2001 and 2003 and in the fourth quarter of 2004.

- Each bar represents the average value of the duplicate samples taken on each date. The Basin Plan objective for nitrate-nitrogen is 10 mg/L (see **Table 12**).
- ΗMΜ



- Flows observed in Big Tujunga Wash only in the first quarters of 2001 and 2003 and in the fourth quarter of 2004.
- Each bar represents the average value of the duplicate samples taken on each date.
 EPA's recommended range for streams to prevent excess algae growth is <0.05 0.1 mg/L (see Table 12).

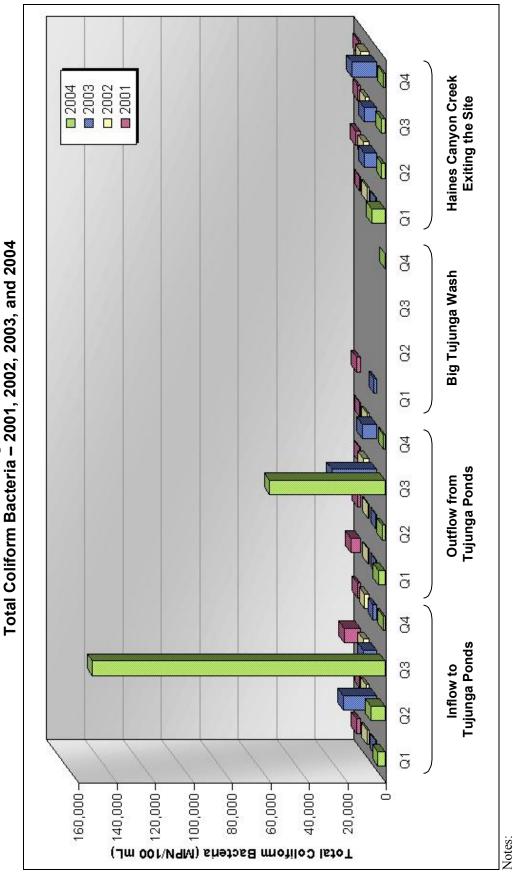


• Flows observed in Big Tujunga Wash only in the first quarters of 2001 and 2003 and in the fourth quarter of 2004.

- Each bar represents the average value of the duplicate samples taken on each date.
 Secondary drinking water standard for turbidity is 5 NTU (see Table 12).

ΗMΜ

Figure 6



- Each bar represents the average value of the duplicate samples taken on each date.
 There are no numeric or narrative standard for total coliform.

[•] Flows observed in Big Tujunga Wash only in the first quarters of 2001 and 2003 and in the fourth quarter of 2004.

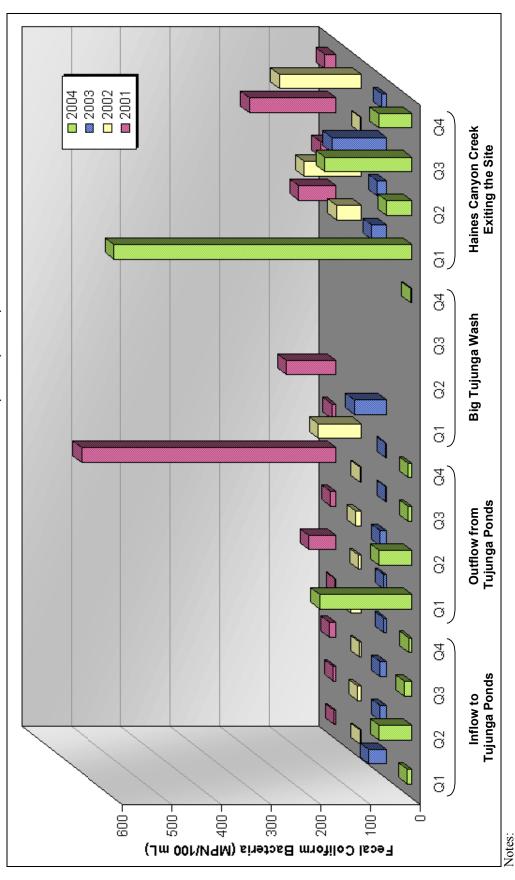


Figure 7 Fecal Coliform Bacteria – 2001, 2002, 2003, and 2004

- Flours

- Flows observed in Big Tujunga Wash only in the first quarters of 2001 and 2003 and in the fourth quarter of 2004.
 - Each bar represents the average value of the duplicate samples taken on each date.
- The Basin Plan water contact recreation standard for fecal coliform is 200 MPN/100 mL (see Table 12)

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 (December sampling date only) were approximated. Estimated flows for the four sampling dates in 2004 are summarized in **Table 11**.

	Flo	w (cubic feet per second)	
Sampling Date	Outlet of Big Tujunga Ponds	Haines Canyon Creek leaving the site	Big Tujunga Wash
4/2/2004	3.8	6.5	*
7/2/2004	2.8	3.2	*
10/5/2004	2.0	1.4	*
12/9/2004	2.8	12.0	2.8

Table 11 Estimated Flows for 2004

* No water present

Comparison of Results with Baseline Data

Water quality in December 2004 was similar to baseline conditions for most parameters. Higher bacteria and turbidity observed in the 4/18/00 samples are attributable to a rain event. Phosphorus levels were also higher in the April 2000 samples than in December 2004, perhaps due to release from sediments. Nitrate and pH conditions in Haines Canyon Creek leaving the site were similar to the 4/12/00 samples and higher than the 4/18/00 samples since stormflows were present in Big Tujunga Wash on 4/18/00.

Comparison of Results with Aquatic Life Criteria

Tables 7 and **11** 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 7**, **8**, **9**, **10** and **12**.

Parameter	Basin Plan		EPA Criteria	
rarameter	Objectives ^a	СМС	CCC	Human Health
Temperature (°C)	b	See Table 15	See Table 15	
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)	
pН	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 <i>E. coli</i>)
Ammonia- nitrogen (mg/L)	See Table 16	See Tables 12, 13, and 14	See Tables 12, 13, and 14	
Nitrite-nitrogen (mg/L)	1			1 (primary drinking water std.)
Nitrate-nitrogen (mg/L)	10			10 (primary drinking water std.)
Total phosphorus (mg/L)			$5 - 0.1^{e}$ r streams, no criterion)	
Turbidity (NTU)	h	i	i	5 (secondary drinking water standard) 0.5 - 1.0 (std. for systems that filter)

 Table 12

 National and Local Recommended Water Quality Criteria - Freshwaters

Table 12 - Footnotes

-- 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."

almonids	(CCC) for Ammor	nia Nitrogen (mg/L)	
рН	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

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

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

0.885

1.32

0.254

9.0

		CCC	C for Fis	h Early	Life Sta	iges Abs	sent, mg	N/L		
				Tei	nperatur	e (°Cels	ius)			
pН	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

Table 14Temperature and pH-Dependent Values of the Ammonia-Nitrogen CCC(Chronic Criterion) for Fish Early Life Stages Absent

* 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.

		CCC	C for Fis	h Early	Life Sta	ges Pre	sent, mg	N/L		
aU				Ter	nperatur	e (° Cels	ius)			
pН	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

Table 15Temperature and pH-Dependent Values of the Ammonia-Nitrogen CCC(Chronic Criterion) for Fish Early Life Stages Present

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

лЦ			Temp	erature (°C	elsius)		
pН	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

Table 16Maximum One-Hour Average Concentration for Total Ammonia
(mg/L NH3)

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 17

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 four quarters of sampling in 2004 are discussed by parameter in **Table 18**.

Parameter	Discussion
Temperature	• As with all preceding years, observed temperatures were below levels of concern for growth and survival of warmwater fish species.
	• Temperatures in Haines Canyon Creek leaving the site were generally cooler (up to 5 °C) than temperatures in the Tujunga Ponds.
	• Seasonal fluctuations of up to 6 °C were observed. December readings were the lowest, and July readings were highest.
Dissolved oxygen	• All DO readings in 2004 were above the recommended minimum for warmwater fish species of 5.0 mg/L. During the past four monitoring years, only one DO reading below 5.0 mg/L has been recorded (in the inflow to the ponds in March 2001).
	• Seasonal fluctuations of up to 3.5 mg/L in DO were observed. Highest overall readings were observed in the coolest sampling period (fourth quarter, December).
рН	• Except at Big Tujunga Wash in December (8.8 units), the pH values of water from all stations in 2004 were within the 6.5 to 8.5 range identified in the Basin Plan.
	• In general, pH values observed in Haines Canyon Creek leaving the site were approximately 1 to 2 units higher than values observed in the ponds. This pattern has been observed in all four monitoring years.
	• For any given sampling date in 2004, the pH of waters flowing into and out of the ponds varied by 0.2 units or less.
	• The maximum seasonal pH fluctuation at any station in 2004 was 0.6 units.
Total residual chlorine	• As in all preceding years, residual chlorine was not detected in any samples.
Nitrogen	• All nitrate-nitrogen readings were below the drinking water standard of 10 mg/L.
	• Ammonia-nitrogen and nitrite-nitrogen were not detected in samples during 2004 except for one sample at the inflow to Tujunga Ponds in July (0.35 mg/L).
	• Kjeldahl nitrogen (organic nitrogen plus ammonia) readings were consistently low (<1 mg/L) at all stations on all dates.
	• Nitrate-nitrogen was consistently higher in waters flowing into the ponds than the outflow (up to 2.2 mg/L difference). Nitrate in Haines Canyon Creek was consistently lower than values observed in the ponds (up to 6 mg/L difference).

Table 18Discussion of 2004 Sampling Results

Parameter	Discussion
Phosphorus	• Total phosphorus values at all stations for all four quarters of 2004 were below EPA's recommendation for streams of $<0.05 - 0.1$ mg/L total phosphates.
	• The proportion of total phosphorus present as reactive orthophosphate ranged from approximately 29 percent to 100 percent.
	• Baseline total phosphorus observed in April 2000 was significantly higher than most 2001, 2002, 2003 and 2004 readings (up to 0.211 mg/L in April 2000). This may be attributable to releases from sediment disturbances caused by a rain event in 2000 and/or input from stormflows. Higher readings (over 0.10 mg/L) were observed in two samples in 2003 and one sample in 2002, which generally corresponded with periods of higher turbidity. Readings over 0.10 mg/L were not observed in 2004.
Glyphosate	• Glyphosate was added to the list of sampling parameters starting in the first quarter of 2004. Glyphosate readings on all sampling dates were below the detection limit.
Chloropyrifos	• Chloropyrifos was added to the list of sampling parameters in the fourth quarter of 2004. Chloropyrifos and the other pesticides tested using EPA's analytical method 625 were not detected at any station in the fourth quarter of 2004. Similarly, sampling conducted at the upstream golf course did not detect chloropyrifos in surface or ground waters.
Turbidity	• Turbidity values in 2004 were similar to those of 2001, 2002 and 2003, and were below the secondary drinking water standard of 5 NTU except for one sample in the Inflow to Tujunga Ponds in October (5.4 NTU; the duplicate for this sample was 3.2 NTU).
Bacteria	 In the inflow to Tujunga Ponds, fecal coliform levels were below the water contact recreation standard of 200 MPN/100 mL for all four quarters. In the outflow from Tujunga Ponds, fecal coliform levels were below the standard for all four quarters except for one duplicate sample in the first quarter (300 MPN/100 mL). In Haines Canyon Creek, fecal coliform levels were below the standard for the second and fourth quarters; both duplicate samples in the first quarter (900 and 700 MPN/100 mL) and one duplicate sample in the third quarter (220 MPN/100 mL) exceeded the standard. [Note, the 200 MPN/mL standard is used for reference only. Sufficient samples were not taken as part of this program since the standard calls for not less than four samples for any 30-day period.]
	• Fecal coliform levels in 2004 ranged from not detected to 900 MPN/100 mL. Total coliforms were much higher – estimated levels in one sample in the third quarter of 2004 was 300,000 MPN/100 mL (although the duplicate for this sample was estimated at 4,600 MPN/100 mL).

Table 18 (Continued) Discussion of 2004 Sampling Results

Ammonia-Nitrogen – NH₃-N is a gaseous alkaline compound of nitrogen and hydrogen that is highly soluble in water. Un-ionized ammonia (NH₃) is toxic to aquatic organisms. The proportions of NH₃ and ammonium (NH₄⁺) 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.

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.

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

BIG TUJUNGA WASH MITIGATION BANK WATER QUALITY MONITORING PROGRAM

APRIL 2004 LABORATORY RESULTS



750 Royal Caks Drive, Suite 100 Monrovia, California 91016-3629 Tel: 626 386 1100 Fax: 626 386 1101 1 300 566 LABS (1 800 566 5227)

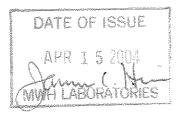
Laboratory Report

for

Applied Research Dept, MWH (Darren Giles) 327 West Maple Avenue

Monrovia , CA 91016

Attention: Darren Giles Fax: (626) 359-3593



JCH Jim Hein Project Manager



Report#: 124548 BIG-TJ

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 Comments,QC Report,QC Summary,Data Report,Hits Report, totaling 12 page[s]. ACKNOWLEDGMENT OF SAMPLES RECEIVED

Applied Research Dept, MWH (Darren 327 West Maple Avenue Cust Monrovia, CA 91016 Attn: Darren Giles Phone: (626) 303-5945	Giles) comer Code: ARD-DG PO#: 1341915.5620.041801 Group#: 124548 Project#: BIG-TJ Proj Mgr: James Hein Phone: (626) 386-1189
The following samples were received scheduled for the tests listed besic is incorrect, please contact your se using MWH Laboratories.	le each sample. If this information
Sample# Sample Id Tests Schedule	Matrix Sample Date
2404020222 SITE 1 INFLOW TO TJ POND 1 FECCOL GLYPH T-P TKN	Water 02-apr-2004 11:20:00 IOS NH3 NO2-N NO3 OPO4 TOTCOL TURB TURB NO3 OPO4
2404020223 SITE 1 INFLOW TO TJ POND 2	Water 02-apr-2004 11:28:00 IOS NH3 NO2-N NO3 OPO4 TOTCOL TURB TURB<
2404020224 SITE 2 OUTFLOW FROM TJ POND FECCOL GLYPP T-P TKN	
2404020225 SITE 2 OUTFLOW FROM TJ POND FECCOL GLYPH T-P TKN	그는 사람이 있는 것 같은 것 같
2404020226 SITE 4 HAINES CANYON CREEK 1 FECCOL GLYPH T-P TKN	. Water 02-apr-2004 10:20:00
2404020227 SITE 4 HAINES CANYON CREEK 2	

Test Acronym Description

Test Acronym	Description
FECCOL	Fecal Coliform Bacteria
GLYPHOS	Glyphosate
NH3	Ammonia Nitrogen
NO2 - N	Nitrite, Nitrogen by IC
NO3	Nitrate as Nitrogen by IC
OPO4	Orthophosphate-P
T-P	Total phosphorus-P
TKN	Kjeldahl Nitrogen and a state stat
TOTCOL	Total Coliform Bacteria
TURB	i Turbidity si desidente esta escreta elleratore destructura de la compaña elleratore de la compaña



Report Comments #124548

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)

(QC Ref#: 227131)
 Test: Nitrite, Nitrogen by IC (ML/EPA 300.0)
 QC Type: LCS1
 Recovery is within the Method QC limit.

		oratories	Hits Report #124548				
	750 Royal Oaks Drive, Suite 10 Monrovia, California 91016-36 Tel: 626 386 1100 Fax: 626 386 1101 1 800 566 LABS (1 600 566 52	29					
	pplied Researd	ch Dept, MWH (Darren	Sat	mples Received			
3	arren Giles 27 West Maple Ionrovia , CA	Avenue 91016	02-aj	pr-2004 17:17:	30		
Analyzed	Sample#	Sample ID	Result	UNITS	MRL		
	2404020222	SITE 1 INFLOW TO TJ	POND 1				
04/02/04 04/02/04 04/02/04 04/02/04 04/02/04 04/02/04	Nitrate Orthopho Total Co	oliform Bacteria as Nitrogen by IC osphate-P oliform Bacteria nosphorus-P	4 8.5 0.015 3500 0.03 0.75	MPN/100 mL mg/l mg/l MPN/100 mL mg/l NTU	2.000 .100 .010 2.000 .010 .050		
	2404020223	SITE 1 INFLOW TO TJ	POND 2				
04/02/04 04/02/04 04/02/04 04/02/04 04/07/04 04/02/04	Nitrate Orthopho Total Co	oliform Bacteria as Nitrogen by IC osphate-P oliform Bacteria osphorus-P Y	13 8.5 0.014 3800 0.03 0.80	MPN/100 mL mg/l mg/l MPN/100 mL mg/l NTU	2.000 .100 .010 2.000 .010 .050		
	2404020224	SITE 2 OUTFLOW FROM	TJ POND 1				
04/02/04 04/02/04 04/02/04 04/02/04	Nitrate	oliform Bacteria as Nitrogen by IC oliform Bacteria Y	70 6.3 2200 0.90	MPN/100 mL mg/1 MPN/100 mL NTU	2.000 .100 2.000 .050		
	2404020225	SITE 2 OUTFLOW FROM	TJ POND 2				
04/02/04 04/02/04 04/02/04 04/07/04 04/02/04	Nitrate Total Co	oliform Bacteria as Nitrogen by IC oliform Bacteria nosphorus-P Y	300 6.3 5000 0.02 0.95	MPN/100 mL mg/1 MPN/100 mL mg/1 NTU	2.000 .100 2.000 .010 .050		

SUMMARY OF POSITIVE DATA ONLY.

Laboratory



750 Royal Oaks Drive, Suite 100 Monrovia, California 91016-3629 Tel: 626 386 1100 Fax: 626 386 1101 1 800 566 LABS (1 800 566 5227) Laboratory Hits Report #124548

Applied Research Dept, MWH Giles)	(Darren	Samples Received
Darren Giles 327 West Maple Avenue Monrovia , CA 91016		02-apr-2004 17:17:30

Analyzed	Sample#	Sample	ID	Result	UNITS	MRL

2404020225 SITE 2 OUTFLOW FROM TJ POND 2

2404020226 SITE 4 HAINES CANYON CREEK 1

04/02/04	Fecal Coliform Bacteria	900	MPN/100 mL	2.000
04/09/04	Kjeldahl Nitrogen	0.35	mg/l	.200
04/02/04	Nitrate as Nitrogen by IC	3.9	mg/l	.100
04/02/04	Orthophosphate-P	0.024	mg/l	.010
04/02/04	Total Coliform Bacteria	11000	MPN/100 mL	2.000
04/07/04	Total phosphorus-P	0.04	mg/l	.010
04/02/04	Turbidity	2.6	NTU	.050

2404020227 SITE 4 HAINES CANYON CREEK 2

04/02/04 04/09/04	Fecal Coliform Bacteria Kjeldahl Nitrogen	700 0.31	MPN/100 mL mg/l	2.000
04/02/04	Nitrate as Nitrogen by IC	3.9	mg/l	.200
04/02/04	Orthophosphate-P	0.023	mg/l	.010
04/02/04	Total Coliform Bacteria	2600	MPN/100 mL	2.000
04/07/04	Total phosphorus-P	0.05	mg/l	.010
04/02/04	Turbidity	2.8	NTU	.050

SUMMARY OF POSITIVE DATA ONLY.

A Division of MWH Americas, Inc. 750 Royal Oaks Drive, Suite 100	Data Report #124548			
Monrovia, California 91016-3629 Tel: 626 386 1100 Fax: 626 386 1101 1 600 566 LABS (1 800 566 5227)				
Applied Research Dept, MWH (Darren Giles)	Sam	ples Rec	eived	
Darren Giles 327 West Maple Avenue Monrovia , CA 91016	04/(02/04		
Prepared Analyzed QC Ref# Method Analyte	Result	Units	MRL	Dilution
SITE 1 INFLOW TO TJ POND 1 (2404020222) Sample	ed on $04/($	02/04 11	:20	
04/02/04 14:12 (ML/SM9221C) Fecal Coliform Bacteria	4	MPNM	2.0	1
04/06/04 00:00 227367 (ML/EPA 547) Glyphosate	ND	ug/l	6.0	1
04/09/04 00:00 227755 (ML/EPA 350.1) Ammonia Nitrogen	ND	mg/l	0.050	1
04/02/04 14:29 227131 (ML/EPA 300.0) Nitrite, Nitrogen by IC	ND	mg/l	0.10	1
04/02/04 14:29 227133 (ML/EPA 300.0) Nitrate as Nitrogen by IC	8.5	mg/l	0.10	1
04/02/04 14:05 227514 (ML/S4500P-E) Orthophosphate-P	0.015	mg/l	0.010	1
04/07/04 19:33 227615 (S4500PE/E365.1) Total phosphorus-P	0.03	mg/l	0.010	1
04/09/04 18:16 227964 (ML/EPA 351.2) Kjeldahl Nitrogen	ND	mg/l	0.20	1
04/02/04 14:12 (ML/SM9221B) Total Coliform Bacteria	3500	MPNM	2.0	1
04/02/04 17:00 227879 (ML/EPA 180.1) Turbidity	0.75	NTU	0.050	1
SITE 1 INFLOW TO TJ POND 2 (2404020223) Sample	ed on 04/(02/04 11	:28	
04/02/04 14:17 (ML/SM9221C) Fecal Coliform Bacteria	13	MPNM	2.0	1
04/06/04 00:00 227367 (ML/EPA 547) Glyphosate	ND	ug/l	6.0	1
04/09/04 00:00 227755 (ML/EPA 350.1) Ammonia Nitrogen	ND	mg/l	0.050	1
04/02/04 14:41 227131 (ML/EPA 300.0) Nitrite, Nitrogen by IC	ND	mg/l	0.10	1
04/02/04 14:41 227133 (ML/EPA 300.0) Nitrate as Nitrogen by IC	8.5	mg/l	0.10	1
04/02/04 14:05 227514 (ML/S4500P-E) Orthophosphate-P	0.014	mg/l	0.010	l
04/07/04 19:33 227615 (\$4500PE/E365.1) Total phosphorus-P	0.03	mg/l	0.010	1
04/09/04 18:16 227964 (ML/EPA 351.2) Kjeldahl Nitrogen	ND	mg/l	0.20	1
04/02/04 14:17 (ML/SM9221B) Total Coliform Bacteria	3800	MPNM	2.0	I
04/02/04 17:00 227879 (ML/EPA 180.1) Turbidity	0.80	NTU	0.050	1
SITE 2 OUTFLOW FROM TJ POND 1 (2404020224) Sam	mpled on (04/02/04	12:17	
04/02/04 14:21 (ML/SM9221C) Fecal Coliform Bacteria	70	MPNM	2.0	1
04/06/04 00:00 227367 (ML/EPA 547) Glyphosate	ND	ug/l	6.0	1
04/09/04 00:00 227755 (ML/EPA 350.1) Ammonia Nitrogen	ND	mg/l	0.050	1
04/02/04 14:54 227131 (ML/EPA 300.0) Nitrite, Nitrogen by IC	ND	mg/l	0.10	1
	6.3	mg/l	0.10	1
04/02/04 14:54 227133 (ML/EPA 300.0) Nitrate as Nitrogen by IC	0.3			
04/02/04 14:54 227133 (ML/EPA 300.0) Nitrate as Nitrogen by IC 04/02/04 14:05 227514 (ML/S4500P-E) Orthophosphate-P	ND	mg/1	0.010	1



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Applied Research Dept, MWH (Darren Giles) (continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
	04/09/04 18:16	227964	(ML/EPA 351.2)	Kjeldahl Nitrogen	ND	mg/l	0.20	1
	04/02/04 14:21		(ML/SM9221B)	Total Coliform Bacteria	2200	MPNM	2.0	1
	04/02/04 17:00	227879	(ML/EPA 180.1)	Turbidity	0.90	NTU	0.050	1
SITE :	2 OUTFLOW	FROM 7	TJ POND 2 (2404020225)	Sampled on	04/02/04	12:23	
	04/02/04 14:30		(ML/SM9221C)	Fecal Coliform Bacteria	300	MPNM	2.0	1
	04/06/04 00:00	227367	(ML/EPA 547)	Glyphosate	ND	ug/l	6.0	1
	04/09/04 00:00	227755	(ML/EPA 350.1)	Ammonia Nitrogen	ND	mg/l	0.050	1
	04/02/04 15:07	227131	(ML/EPA 300.0)	Nitrite, Nitrogen by IC	ND	mg/l	0.10	1
	04/02/04 15:07	227133	(ML/EPA 300.0)	Nitrate as Nitrogen by IC	6.3	mg/l	0.10	1
	04/02/04 14:05	227514	(ML/S4500P-E)	Orthophosphate-P	ND	mg/l	0.010	1
	04/07/04 19:33	227615	(S4500PE/E365.1)	Total phosphorus-P	0.02	mg/l	0.010	1
	04/09/04 18:16	227964	(ML/EPA 351.2)	Kjeldahl Nitrogen	ND	mg/l	0.20	1
	04/02/04 14:30		(ML/SM9221B)	Total Coliform Bacteria	5000	MPNM	2.0	1
	04/02/04 17:00	227879	(ML/EPA 180.1)	Turbidity	0.95	NTU	0.050	1
SITE	4 HAINES C	ANYON	CREEK 1 (2	404020226) Sa	ampled on	04/02/04	10:20	
	04/02/04 14:35		(ML/SM9221C)	Fecal Coliform Bacteria	900	MPNM	2.0	1
	04/06/04 00:00	227367	(ML/EPA 547)	Glyphosate	ND	ug/l	6.0	1
	04/09/04 00:00	227755	(ML/BPA 350.1)	Ammonia Nitrogen	ND	mg/l	0.050	1
	04/02/04 15:19	227131	(ML/EPA 300.0)	Nitrite, Nitrogen by IC	ND	mg/l	0.10	1
	04/02/04 15:19	227133	(ML/EPA 300.0)	Nitrate as Nitrogen by IC	3.9	mg/l	0.10	1
	04/02/04 14:05	227514	(ML/S4500P-E)	Orthophosphate-P	0.024	mg/l	0.010	ľ
	04/07/04 19:33	227615	(S4500PE/E365.1)	Total phosphorus-P	0.04	mg/l	0.010	1
	04/09/04 18:16	227964	(ML/EPA 351.2)	Kjeldahl Nitrogen	0.35	mg/l	0.20	1
	04/02/04 14:35		(ML/SM9221B)	Total Coliform Bacteria	11000	MPNM	2.0	1
	04/02/04 17:00	227876	(ML/EPA 180.1)	Turbidity	2.6	NTU	0.050	1
SITE	4 HAINES C	ANYON	CREEK 2 (2	404020227) Sa	ampled on	04/02/04	10:30	
	04/02/04 14:40		(ML/SM9221C)	Fecal Coliform Bacteria	700	MPNM	2.0	1
	04/06/04 00:00	227367	(ML/EPA 547)	Glyphosate	ND	ug/l	6.0	1
	04/09/04 00:00	227755	(ML/EPA 350.1)	Ammonia Nitrogen	ND	mg/l	0.050	1
	04/02/04 15:32	227131	(ML/EPA 300.0)	Nitrite, Nitrogen by IC	ND	mg/l	0.10	1
	04/02/04 15:32	227133	(ML/EPA 300.0)	Nitrate as Nitrogen by IC	3.9	mg/l	0.10	1
	04/02/04 14:05	227514	(ML/S4500P-E)	Orthophosphate-P	0.023	mg/l	0.010	l



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Applied Research Dept, MWH (Darren Giles) (continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
A	04/07/04 19:33	227615	(S4500PE/E365.1)	Total phosphorus-P	0.05	mg/l	0.010	1
	04/09/04 18:16	227964	(ML/EPA 351.2)	Kjeldahl Nitrogen	0,31	mg/l	0.20	1
	04/02/04 14:40		(ML/SM9221B)	Total Coliform Bacteria	2600	MPNM	2.0	1
	04/02/04 17:00	227876	(ML/EPA 180.1)	Turbidity	2.8	NTU	0.050	1



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Applied Research Dept, MWH (Darren Giles)

QC Ref #227131 - Nitrite, Nitrogen by IC Analysis Date: 04/02/2004

2404020222SITE 1INFLOW TO TJ POND 12404020223SITE 1INFLOW TO TJ POND 22404020224SITE 2OUTFLOW FROM TJ POND 12404020225SITE 2OUTFLOW FROM TJ POND 22404020226SITE 4HAINES CANYON CREEK 12404020227SITE 4HAINES CANYON CREEK 2

QC Ref #227133 - Nitrate as Nitrogen by IC Analysis Date: 04/02/2004

2404020222	SITE 1	INFLOW TO TJ POND 1
2404020223	SITE 1	INFLOW TO TJ POND 2
2404020224	SITE 2	OUTFLOW FROM TJ POND 1
2404020225	SITE 2	OUTFLOW FROM TJ POND 2
2404020226	SITE 4	HAINES CANYON CREEK 1
2404020227	SITE 4	HAINES CANYON CREEK 2

QC Ref #227367 - Glyphosate

Analysis Date: 04/06/2004

2404020222	SITE 1	INFLOW TO TJ POND 1
2404020223	SITE 1	INFLOW TO TJ POND 2
2404020224	SITE 2	OUTFLOW FROM TJ POND 1
2404020225	SITE 2	OUTFLOW FROM TJ POND 2
2404020226	SITE 4	HAINES CANYON CREEK 1
2404020227	SITE 4	HAINES CANYON CREEK 2

QC Ref #227514 - Orthophosphate-P

Analysis Date: 04/02/2004

2404020222	SITE	1	INFLOW TO TJ POND 1	
2404020223	SITE	1	INFLOW TO TJ POND 2	
2404020224	SITE	2	OUTFLOW FROM TJ POND 1	
2404020225	SITE	2	OUTFLOW FROM TJ POND 2	
2404020226	SITE ·	4	HAINES CANYON CREEK 1	
2404020227	SITE	4	HAINES CANYON CREEK 2	



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Applied Research Dept, MWH (Darren Giles) (continued)

QC Ref #227615 - Total phosphorus-P

2404020222 2404020223 2404020224 2404020225 2404020226 2404020227

QC Ref #227755 - Ammonia Nitrogen

2404020222	SITE 1	INFLOW TO TJ POND 1
2404020223	SITE 1	INFLOW TO TJ POND 2
2404020224	SITE 2	OUTFLOW FROM TJ POND 1
2404020225	SITE 2	OUTFLOW FROM TJ POND 2
2404020226	SITE 4	HAINES CANYON CREEK 1
2404020227	SITE 4	HAINES CANYON CREEK 2

SITE 1 INFLOW TO TJ POND 1

SITE 1 INFLOW TO TJ POND 2

SITE 2 OUTFLOW FROM TJ POND 1

SITE 2 OUTFLOW FROM TJ POND 2 SITE 4 HAINES CANYON CREEK 1

SITE 4 HAINES CANYON CREEK 2

QC Ref #227876 - Turbidity

-

2404020226SITE 4 HAINES CANYON CREEK 12404020227SITE 4 HAINES CANYON CREEK 2

QC Ref #227879 - Turbidity

Analysis Date: 04/02/2004

Analysis Date: 04/09/2004

Analysis Date: 04/02/2004

2404020222	SITE 1	INFLOW TO TJ	POND 1
2404020223	SITE 1	INFLOW TO TJ	POND 2
2404020224	SITE 2	OUTFLOW FROM	TJ POND 1
2404020225	SITE 2	OUTFLOW FROM	TJ POND 2

QC Ref #227964 - Kjeldahl Nitrogen

2404020222SITE 1 INFLOW TO TJ POND 12404020223SITE 1 INFLOW TO TJ POND 22404020224SITE 2 OUTFLOW FROM TJ POND 12404020225SITE 2 OUTFLOW FROM TJ POND 22404020226SITE 4 HAINES CANYON CREEK 1

Analysis Date: 04/07/2004

Analysis Date: 04/09/2004



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Applied Research Dept, MWH (Darren Giles) (continued)

2404020227

SITE 4 HAINES CANYON CREEK 2



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Applied Research Dept, MWH (Darren Giles)

QC Ref #227131 Nitrite, Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrite, Nitrogen by IC	1.0	1.1	MGL	110.0	(90-110)	
LCS2	Nitrite, Nitrogen by IC	1.0	1.09	MGL	109.0	(90-110)	0.91
MBLK	Nitrite, Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrite, Nitrogen by IC	1.0	1.08	MGL	108.0	(80-120)	
MSD	Nitrite, Nitrogen by IC	1.0	1.08	MGL	108.0	(80-120)	0.00

QC Ref #227133

Nitrate as Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrate as Nitrogen by IC	2.5	2.51	MGL	100.4	(90-110)	
LCS2	Nitrate as Nitrogen by IC	2.5	2.52	NGL	100.8	(90-110)	0.40
MBLK	Nitrate as Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrate as Nitrogen by IC	2.5	2.45	MGL	98.0	(80-120)	
MSD	Nitrate as Nitrogen by IC	2.5	2.45	MGL	98.0	(80-120)	0.00

QC Ref #227367 Glyphosate

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	04020206	UGL		(0-0)	
LCS1	Glyphosate	10	11.3	UGL	113.0	(70-130)	
MBLK	Glyphosate	ND	<6.0	UGL			
MS	Glyphosate	10	10.0	UGL	100.0	(70-130)	
MSD	Glyphosate	10	8.76	UGL	87.6	(70~130)	13



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Applied Research Dept, MWH (Darren Giles) (continued)

QC Ref #227514 Orthophosphate-P

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	04040222	MGL		(0-0)	
LCS1	Orthophosphate-P	0.5	0.508	MGL	101.6	(90-110)	
LCS2	Orthophosphate-P	0.5	0.504	MGL	100.8	(90-110)	0.79
MBLK	Orthophosphate-P	ND	<0.010	MGL			
MS	Orthophosphate-P	0.5	0.489	MGL	97.8	(80-120)	
MSD	Orthophosphate-P	0.5	0.488	MGL	97.6	(80-120)	0.20

QC Ref #227615

Total phosphorus-P

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	04010095	MGL		(0-0)	
LCS1	Total phosphorus-P	0.4	0.430	MGL	107.5	(90-110)	
LCS2	Total phosphorus-P	0.4	0.400	MGL	100.0	(90~110)	7.2
MBLK	Total phosphorus-P	ND	<0.010	MGL			
MS	Total phosphorus-P	0.4	0.440	MGL	110.0	(90~110)	
MSD	Total phosphorus-P	0.4	0.420	MGL	105.0	(90-110)	4.7
RPD_LCS	Total phosphorus-P	107.500	100.000	MGL	7.2	(0-10)	
RPD_MS	Total phosphorus-P	110.000	105.000	MGL	4.7	(0-10)	

QC Ref #227755

Ammonia Nitrogen

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limíts (%)	RPD (%)
MS	Spiked sample	Lab # 24	04020079	MGL		(0-0)	
LCS1	Ammonia Nitrogen	1.00	1.03	MGL	103.0	(90-110)	
LCS2	Ammonia Nitrogen	1.00	1.03	MGL	103.0	(90-110)	0.00
MBLK	Ammonia Nitrogen	ND	<0.050	MGL			
MS	Ammonia Nitrogen	1.00	0.967	MGL	96.7	(90-110)	
MSD	Ammonia Nitrogen	1.00	0.957	MGL	95.7	(90-110)	1.0



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Kjeldahl Nitrogen

Kjeldahl Nitrogen

RPD_LCS

RPD_MS

Applied Research Dept, MWH (Darren Giles) (continued)

	QC	Ref	#227876	Turbidit	ŶY					
QC DUP			Analyte Turbidity		Spiked 0.25	Recovered	Units NTU	Yield (%)	Limits (%) (0~20)	RPD (%) 0.0
	QC	Ref	#227879	Turbidit	У					
QC DUP			Analyte Turbidity		Spiked 0.30	Recovered 0.30	Units NTU	Yield (%)	Limits (%) (0-20)	RPD (%) 0.0
	QC	Ref	#227964	Kjeldahl	Nitro	gen				
QC	QC	Ref	#227964	Kjeldahl	Spiked	gen Recovered	Units	Yield (%)	Limits (%)	RPD (%)
QC MS	QC	Ref		Kjeldahl		-	Units MGL	Yield (%)	Limits (%) (0-0)	RPD (%)
-	-	Ref	Analyte	Kjeldahl	Spiked	Recovered		Yield (%) 95.0		RPD (%)
MS	L	Ref	Analyte Spiked sample	Kjeldahl	Spiked Lab # 24	Recovered 04010102	MGL		(0-0)	RPD (%) 0.00
MS LCS1		Ref	Analyte Spiked sample Kjeldahl Nitrogen	Kjeldahl	Spiked Lab # 24 4	Recovered 04010102 3.80	MGL MGL	95.0	(0-0) (90-110)	
MS LCS1 LCS2		Ref	Analyte Spiked sample Kjeldahl Nitrogen Kjeldahl Nitrogen	Kjeldahl	Spiked Lab # 24 4 4	Recovered 04010102 3.80 3.80	MGL MGL MGL	95.0	(0-0) (90-110)	

95.000

95.000

106.250 100.000

Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining</u>. 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.

(0-20)

(0-10)

0.0

6.1

MGL

MGL

MON (VTGOMERY WAT	MONTGOMERY WATSON LABORATORIES	S	AIN	Р	บ	IST	DO	IAIN OF CUSTODY RECORD	COF	õ			2	84-1121
555 E. Walnut St	555 E. Walnut St., Pasadena, CA-91101	MWLABS USE ONLY:	NLY: MENTS:	4				ţ	SAMPI	ES CHE	CKED/	SAMPLES CHECKED/LOGGED IN BY:	BY: 11/	5	> - >
(626) 568-6400	(800) 566-5227							I	SAMPL	SAMPLE TEMP, RECEIPT AT LAB	RECEIPT	AT LAB	0100	(Com	(Compliance: 4 +/- 2*C)
									SAMPLI	ES RECE	IVED DA	SAMPLES RECEIVED DAY OF COLLECTION?		(check for yes)	or yes)
		1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,							BLUE	ICE:	FROZEN	BLUE ICE: FROZEN PARTIALLY FROZEN	LY FROZEN	THAWED	D
TO BE COMPLETED BY SAMPLER:	D BY SAMPLER:									Ĵ	(check for yes)	yes)			
						_	COMP	LIANC	COMPLIANCE SAMPLES			REGULATION:	NOI		
TAT requested:	STD XXX	1 week 3 day	1 day	v				- Requ	- Requires state forms	e forms sampi E		(SDWA,	(SDWA, Phase V, NPDES, FDA,)	ES, FDA, .	(
PROJECT CODE		PROJECT JOB # / P.O.#	CLIEN	CLIENT CODE			FER T		LACHED	BOTTLE	ORDEF	REFER TO ATTACHED BOTTLE ORDER FOR ANALYSES	YSES	(check for yes)	or yes)
Big TJ Sampl	Big TJ Sampling [13	1341915.5620.041801	ARD	ARD-DG/JF	Ŀ		ANAL	/SES	REQUIRE	D (mark :	an 'X' in e	ll tests requ	ANALYSES REQUIRED (mark an 'X' in all tests required for each sample line)	ample lin	e)
SAMPLER(S): PRIN Darren Giles	VTED NAME AND SIGNAT	URE						ទយ							SAMPLER
TIME	SITE NAME or LOCATION	IDENTIFIER, STATE ID #	# **	свув	соињ	TKN, T-P, NF	viibidiuT	T & F Colifor		*****		*****			COMMENTS
11:20 21/2	SITE 1	Inflow to TJ Pond #1		×		X	X X								
11:28 4/2	SITE 1	Inflow to TJ Pond #2		x		×	x	X X							
12:17 4/2	SITE 2	Outflow from TJ Pond #1		x		×	XX	X							
12:244/2	SITE 2	Outflow from TJ Pond #2	~	x		×	X	x x							
	SHM-3	Btg TJ Wash #1		x											
	SITE	Big TJ Wash #2		- X -				-			· · · · · · · · · · · · · · · · · · ·				
10.20 4/2	SITE 4	Haines Canyon Creek #1		x		×	X	x							
10:204 (2	SITE 4	Haines Canyon Creek #2		×		×	X	X X							
	Reported by Volume:	v Volume:						_					Reporte	Renorted hv Weight [.]	eioht.
* MATKIX LYPES:	-	ter	FW = Other Finished Water	Finisheo	Water			MM	 Storm Water W = Other Waste 	= Storm Water = Other Waste Water	Vater		SO = Soil		
	KUW ZKaw	KUW ZXaw-Oround water U	$\mathbf{CFW} = \mathbf{Chlor}(am)$ inated Finished Water	am)inat	ed Funs	hed Wa	iter	5	CWW = Chlorinated Waste Water	ormated W	vaste Wat	in in	SL = Sludge	udge	
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SPECIAL INSTRUCTIONS	SNOIL														
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BIG TUJUNGA WASH MITIGATION BANK WATER QUALITY MONITORING PROGRAM

JULY 2004 LABORATORY RESULTS



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Laboratory Report

for

Applied Research Dept, MWH (Darren Giles) 327 West Maple Avenue

Monrovia, CA 91016

Attention: Darren Giles Fax: (626) 359-3593

DATE OF ISSUE JUL 2 2 2004 MWH LABORATORIES

JCH Jim Hein Project Manager



Report#: 129877 BIG-TJ

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 Comments,QC Report,QC Summary,Data Report,Hits Report, totaling 14 page[s].

MWH Laboratories 750 Royal Oaks Drive, Monrovia, CA 91016 PHONE: 626-386-1100/FAX: 626-386-1101

ACKNOWLEDGMENT OF SAMPLES RECEIVED

)
Code: ARD-DG
PO#: 1341915.5620.041801
oup#: 129877
ect#: BIG-TJ
Mgr: James Hein
hone: (626) 386-1189

The following samples were received from you on **07/02/04**. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample#	Sample	Id			Matrix		Sample	Date
	*		Tests	Scheduled				
2407020191	SITE 1	INFLOW	то тј	POND 1	Water	**************************************	02-jul	-2004 10:30:00
	불상 김 분장님은			GLYPHOS	NH3	NO2-N	NO3	OPO4
			T-P	TKN	TOTCOL	TURB		
2407020195	SITE 1	INFLOW	TO TJ	POND 2	Water		02-jul	-2004 10:40:00
e e transcer contra construction a			FECCOL				NO3	OPO4
				TKN		TURB		
2407020196	SITE 2	(1) 1. (1) 1. (1) 1. (1) 1.	the second se	A CARL AND A	Water		02-jul-	-2004 11:30:00
			FECCOL	GLYPHOS	NH3	NO2-N	NO3	OPO4
			T-P	TKN	TOTCOL	TURB		
2407020198	SITE 2	OUTFLO	V FROM	TJ POND 2	Water		02-jul	-2004 11:45:00
			FECCOL			NO2-N	NO3	OPO4
				TKN		TURB		
2407020199	SITE 4	HAINES	CANYON	CREEK 1	Water		02-jul-	-2004 09:15:00
			FECCOL	GLYPHOS	NH3	NO2-N	NO3	OPO4
			T-P	TKN	TOTCOL	TURB		
2407020200	SITE 4	HAINES	CANYON	CREEK 2	Water		02-jul-	2004 09:25:00
			FECCOL	GLYPHOS	NH3	NO2-N	NO3	OPO4
金融的建筑的			T-P	TKN	TOTCOL	TURB		

Test Acronym Description

Test Acronym	Description
FECCOL	Fecal Coliform Bacteria
GLYPHOS NH3	dGlyphosate With Barden Bar Ammonia Nitrogen
	Nitrite, Nitrogen by IC and be added a state a state and a state of the state of th
NO3	Nitrate as Nitrogen by IC Orthophosphate-P
T-P	Total phosphorus-P
	Kjeldahl Nitrogen (Statistic Statistic Statistics) and the statistic statistics of the statistics of
TOTCOL TURB	Total Coliform Bacteria Turbidity



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(QC Ref#: 2407020191)

Test: Orthophosphate-P (ML/S4500P-E)

Test code logged in past hold time. Analyzed past hold time

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

Test: Turbidity (ML/EPA 180.1)

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

(QC Ref#: 2407020195)

Test: Orthophosphate-P (ML/S4500P-E)

Test code logged in past hold time, analyzed past hold time. H1-Sample analysis performed past holding time. Data not acceptable for regulatory compliance

Test: Turbidity (ML/EPA 180.1)

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

(QC Ref#: 2407020196)

Test: Orthophosphate-P (ML/S4500P-E)

Test code logged in past hold time, analyzed past hold time. H1-Sample analysis performed past holding time. Data not acceptable for regulatory compliance

Test: Turbidity (ML/EPA 180.1)

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

(QC Ref#: 2407020198)

Test: Orthophosphate-P (ML/S4500P-E)

Test code logged in past hold time, analyzed past hold time. H1-Sample analysis performed past holding time. Data not acceptable for regulatory compliance

Test: Turbidity (ML/EPA 180.1)

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

(QC Ref#: 2407020199)



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)

Test: Orthophosphate-P (ML/S4500P-E)

Test code logged in past hold time. Analyzed past hold time

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

Test: Turbidity (ML/EPA 180.1)

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

(QC Ref#: 2407020200)

Test: Orthophosphate-P (ML/S4500P-E)

Test code logged in past hold time. Analyzed past hold time

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

Test: Turbidity (ML/EPA 180.1)

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

Applied Research Dept, MWH {Darren Samples Received Giles) Darren Giles 02-jul-2004 16:00:42 327 West Maple Avenue Monrovia , CA 91016 Analyzed Sample# Sample ID Result UNITS M 2407020191 SITE 1 INFLOW TO TJ POND 1 7/02/04 Fecal Coliform Bacteria 50 MPN/100 mL 1 07/02/04 Nitrate as Nitrogen by IC 7.7 mg/l 07/02/04 Nitrite, Nitrogen by IC 0.35 mg/l 07/02/04 Nitrite, Nitrogen by IC 0.35 mg/l 07/02/04 Total Coliform Bacteria 13000 MPN/100 mL 1 07/02/04 Total Coliform Bacteria 13000 MPN/100 mL 1 07/02/04 Total Coliform Bacteria 13000 MPN/100 mL 1 07/07/04 Total phosphorus-P 0.020 mg/l 07/02/04 Fecal Coliform Bacteria 80 MPN/100 mL 1 07/02/04 Fecal Coliform Bacteria 80 MPN/100 mL 1 07/02/04 Fecal Coliform Bacteria 10.02 mg/l 07/02/04 Fecal Coliform Bacteria 10.02 mg/l 07/02/04 Fecal Coliform Bacteria 10.047 mg/l 07/02/04 Kjeldahl Nitrogen 9 IC 7.9 mg/l 07/02/04 Total Coliform Bacteria 10.047 mg/l 07/02/04 Total Coliform Bacteria 10.02 mg/l 07/02/04 Fecal Coliform Bacteria 10.047 mg/l 07/02/04 Fecal Coliform Bacteria 10.00 MPN/100 mL 1 07/02/04 Total Coliform Bacteria 10.00 MPN/100 mL 1 07/02/04 Total Coliform Bacteria 50 MPN/100 mL 1 07/02/04 Total Coliform Bacteria 50 MPN/100 mL 1 07/02/04 Total Coliform Bacteria 50 MPN/100 mL 1 07/02/04 Fecal Coliform Bacteria 50 MPN/100 mL 1 07/02/04 Fotal Coliform Bacteria 50 MPN/100 mL 1 07/02/04 Fecal Coliform Bacteria 600 MPN/100 mL 1 07/02/04 Total PONDPND 1	G	750 Royal Oaks Drive, Suite Monrovia, California 91078-3 Tel: 626 386 1100	100	Laboratory Hits Report #129877			
Giles) Darren Giles 02-jul-2004 16:00:42 327 West Maple Avenue Monrovia , CA 91016 Result UNITS M Analyzed Sample# Sample ID Result UNITS M 2407020191 SITE 1 INFLOW TO TJ POND 1 07/08/04 Kjeldahl Nitrogen 0.50 mg/l 07/02/04 Nitrate as Nitrogen by IC 7.7 mg/l 07/02/04 Nitrite, Nitrogen by IC 0.35 mg/l 07/02/04 Nitrite, Nitrogen by IC 0.35 mg/l 07/02/04 Total Coliform Bacteria 13000 MPN/100 mL 1000000000000000000000000000000000000		Fax: 626 386 1101	227)				
Giles) Darren Giles 02-jul-2004 16:00:42 327 West Maple Avenue Monrovia , CA 91016 Result UNITS M Analyzed Sample# Sample ID Result UNITS M 2407020191 SITE 1 INFLOW TO TJ POND 1 07/02/04 Fecal Coliform Bacteria 50 MPN/100 mL 07/02/04 Nitrate as Nitrogen by IC 7.7 mg/1 07/02/04 Nitrite, Nitrogen by IC 0.35 mg/1 07/02/04 Nitrite, Nitrogen by IC 0.35 mg/1 07/02/04 Total Coliform Bacteria 13000 MPN/100 mL 1000000000000000000000000000000000000	P	Applied Resear	ch Dept, MWH (Darren	Sa	mples Received	ì	
327 West Maple Avenue Monrovia , CA 91016Analyzed Sample#Sample IDResultUNITSM2407020191 SITE 1 INFLOW TO TJ POND 107/02/04Percent Coliform Bacteria50MPN/100 mL07/02/04Percent Coliform Bacteria50MPN/100 mL07/02/04Nitrate as Nitrogen by IC7.7mg/l07/02/04Nitrite, Nitrogen by IC0.350.30mg/l07/02/04Total Coliform Bacteria13000MPN/100 mL2407020195SITE 1 INFLOW TO TJ POND 207/02/04Fecal Coliform Bacteria80MPN/100 mL2407020195SITE 1 INFLOW TO TJ POND 207/02/04Coliform Bacteria80MPN/100 mL2407020195SITE 1 INFLOW TO TJ POND 207/02/04Coliform Bacteria0.034mg/l0.7/02/04Total phosphorus-P0.02mg/l07/02/04Total phosphorus-P0.02mg/l07/02/04Total coliform Bacteria50 <td></td> <td></td> <td></td> <td>02-1</td> <td>-</td> <td>.40</td>				02-1	-	.40	
2407020191 SITE 1 INFLOW TO TJ POND 1 07/02/04 Fecal Coliform Bacteria 50 MPN/100 mL 07/08/04 Kjeldahl Nitrogen 0.50 mg/l 07/02/04 Nitrite, Nitrogen by IC 7.7 mg/l 07/02/04 Nitrite, Nitrogen by IC 0.35 mg/l 07/02/04 Orthophosphate-P 0.030 mg/l 07/02/04 Total Coliform Bacteria 13000 MPN/100 mL 07/02/04 Total Coliform Bacteria 0.02 mg/l 07/02/04 Total Coliform Bacteria 80 MPN/100 mL 07/02/04 Total Coliform Bacteria 80 MPN/100 mL 07/02/04 Fecal Coliform Bacteria 80 MPN/100 mL 07/02/04 Fecal Coliform Bacteria 1700 MPN/100 mL 07/02/04 Fecal Coliform Bacteria 1700 MPN/100 mL 07/02/04 Total Coliform Bacteria 1700 MPN/100 mL 07/02/04 Total Coliform Bacteria 50 MPN/100 mL 07/02/04 Total Coliform Bacteria 50	(7)	327 West Maple		02 J	ui 2004 10.00	• T &	
07/02/04 Fecal Coliform Bacteria 50 MPN/100 mL 07/08/04 Kjeldahl Nitrogen 0.50 mg/l 07/02/04 Nitrate as Nitrogen by IC 7.7 mg/l 07/02/04 Nitrite, Nitrogen by IC 0.35 mg/l 07/02/04 Nitrite, Nitrogen by IC 0.35 mg/l 07/02/04 Othophosphate-P 0.030 mg/l 07/02/04 Total Coliform Bacteria 13000 MPN/100 mL 07/02/04 Total phosphorus-P 0.02 mg/l 07/06/04 Turbidity 0.35 NTU 2407020195 SITE 1 INFLOW TO TJ POND 2 07/02/04 Fecal Coliform Bacteria 80 MPN/100 mL 07/02/04 Fecal Coliform Bacteria 1700 MPN/100 mL 07/02/04 Kjeldahl Nitrogen 0.47 mg/l 07/02/04 Total Coliform Bacteria 1700 MPN/100 mL 07/02/04 Total Coliform Bacteria 1700 MPN/100 mL 07/06/04 Turbidity 0.78 NTU 07/02/04 Fecal Coliform Bacteria 50 MPN/100 mL	Analyzed	Sample#	Sample ID	Result	UNITS	MRL	
07/08/04 Kjeldahl Nitrogen 0.50 mg/l 07/02/04 Nitrate as Nitrogen by IC 7.7 mg/l 07/02/04 Nitrite, Nitrogen by IC 0.35 mg/l 07/15/04 Orthophosphate-P 0.030 mg/l 07/02/04 Total Coliform Bacteria 13000 MPN/100 mL 07/07/04 Total phosphorus-P 0.02 mg/l 07/06/04 Turbidity 0.35 NTU 2407020195 SITE 1 INFLOW TO TJ POND 2 07/08/04 Kjeldahl Nitrogen 0.47 mg/l 07/02/04 Fecal Coliform Bacteria 80 MPN/100 mL 1000000000000000000000000000000000000		2407020191	SITE 1 INFLOW TO TJ H	OND 1			
07/02/04Fecal Coliform Bacteria50MPN/100 mL207/08/04Kjeldahl Nitrogen0.67mg/l07/02/04Nitrate as Nitrogen by IC5.9mg/l07/15/04Orthophosphate-P0.033mg/l07/02/04Total Coliform Bacteria600MPN/100 mL07/07/04Total phosphorus-P0.02mg/l07/06/04Turbidity0.65NTU	07/08/04 07/02/04 07/02/04 07/15/04 07/02/04 07/07/04 07/06/04 07/02/04 07/02/04 07/15/04 07/02/04 07/02/04	Kjeldah Nitrate Nitrite Orthoph Total C Total p Turbidi 2407020195 Fecal C Kjeldah Nitrate Orthoph Total C Total p	l Nitrogen as Nitrogen by IC , Nitrogen by IC osphate-P oliform Bacteria hosphorus-P ty SITE 1 INFLOW TO TJ E oliform Bacteria l Nitrogen as Nitrogen by IC osphate-P oliform Bacteria hosphorus-P	0.50 7.7 0.35 0.030 13000 0.02 0.35 POND 2 80 0.47 7.9 0.034 1700 0.02	mg/l mg/l mg/l MPN/100 mL mg/l NTU MPN/100 mL mg/l mg/l MPN/100 mL mg/l	2.000 .200 .200 .010 2.000 .010 .050 2.000 .200 .200 .200 .010 2.000 .010 2.000	
07/08/04Kjeldahl Nitrogen0.67mg/l07/02/04Nitrate as Nitrogen by IC5.9mg/l07/15/04Orthophosphate-P0.033mg/l07/02/04Total Coliform Bacteria600MPN/100 mL07/07/04Total phosphorus-P0.02mg/l07/06/04Turbidity0.65NTU		2407020196	SITE 2 OUTFLOW FROM I	J POND 1			
	07/08/04 07/02/04 07/15/04 07/02/04 07/07/04	Kjeldah Nitrate Orthopho Total Co Total pl	l Nitrogen as Nitrogen by IC osphate-P oliform Bacteria nosphorus-P	0.67 5.9 0.033 600 0.02	mg/l mg/l mg/l MPN/100 mL mg/l	2.000 .200 .010 2.000 .010 .010 .050	
2401020130 DITE 2 OUTFLOW FROM TO POND 2		2407020198	SITE 2 OUTFLOW FROM T	J POND 2			

SUMMARY OF POSITIVE DATA ONLY.

		boratories		Laboratory Hits Repo: #129877	rt
	750 Royal Oaks Drive, Suite Monrovia, California 91016- Tel: 626 386 1100 Fax: 625 386 1101 1 800 566 LABS (1 800 566	3629			
	pplied Resear	ch Dept, MWH (Darren	Sa	mples Received	f
D 3	iles) arren Giles 27 West Maple onrovia , CA	e Avenue 91016	02-j	ul-2004 16:00	:42
Analyzed	Sample#	Sample ID	Result	UNITS	MRL
	2407020198	SITE 2 OUTFLOW FROM	TJ POND 2		
07/02/04 07/08/04 07/02/04 07/15/04 07/02/04 07/07/04 07/06/04	Kjeldah Nitrate Orthoph Total C	Coliform Bacteria I Nitrogen e as Nitrogen by IC Dosphate-P Coliform Bacteria Dhosphorus-P ty	80 0.66 5.8 0.039 2200 0.03 0.85	MPN/100 mL mg/l mg/l mg/l MPN/100 mL mg/l NTU	2.000 .200 .200 .010 2.000 .010 .050
	2407020199	SITE 4 HAINES CANYON	I CREEK 1		
07/02/04 07/08/04 07/02/04 07/15/04 07/02/04 07/07/04 07/06/04	Kjeldah Nitrate Orthoph Total C	Coliform Bacteria Ll Nitrogen e as Nitrogen by IC Cosphate-P Coliform Bacteria Colophorus-P ty	70 0.26 5.3 0.023 2400 0.02 0.55	MPN/100 mL mg/l mg/l MPN/100 mL mg/l NTU	2.000 .200 .010 2.000 .010 .050
	2407020200	SITE 4 HAINES CANYON	I CREEK 2		
07/02/04 07/08/04 07/02/04 07/15/04 07/02/04 07/07/04 07/06/04	Kjeldah Nitrate Orthoph Total C	Coliform Bacteria 1 Nitrogen as Nitrogen by IC Osphate-P Coliform Bacteria hosphorus-P ty	30 0.36 5.3 0.023 1100 0.01 0.50	MPN/100 mL mg/l mg/l mg/l MPN/100 mL mg/l NTU	2.000 .200 .010 2.000 .010 .050

SUMMARY OF POSITIVE DATA ONLY.

TSO Floyal Oaks Drive, Suite 100 Monrows, California 91018-3629 Tel: 628 386 1100	1	Laboratory Data Report #129877				
Fax: 626 366 1101 1 800 566 LABS (1 800 566 5227)						
Applied Research Dept, MWH (Darren Giles)	Samp.	les Red	ceived			
Darren Giles	07/0:	2/04				
327 West Maple Avenue Monrovia , CA 91016						
Prepared Analyzed QC Ref# Method Analyte	Result	Units	MRL	Dilution		
SITE 1 INFLOW TO TJ POND 1 (2407020191) Samp	led on 07/02	2/04 10	0:30			
	50	MPNM	2.0	1		
07/07/04 00:00 237786 (ML/EPA 547) Glyphosate	ND	ug/l	6.0	1		
07/11/04 17:39 238521 (ML/EPA 350.1) Ammonia Nitrogen	ND	mg/l	0.050	1		
07/02/04 14:11 237407 (ML/EPA 300.0) Nitrite, Nitrogen by IC	0.35	mg/l	0.20	2		
07/02/04 14:11 237410 (ML/EPA 300.0) Nitrate as Nitrogen by IC	7.7	mg/l	0.20	2		
07/15/04 13:30 238825 (ML/S4500P-E) Orthophosphate-P	0.030(H1)	mg/l	0.010	1		
07/07/04 19:05 237851 (\$4500PE/ 365.1) Total phosphorus-P	0.02	mg/l	0.010	1		
07/08/04 18:11 238068 (ML/EPA 351.2) Kjeldahl Nitrogen	0.50	mg/l	0.20	1		
07/02/04 15:31 (ML/SM9221B) Total Coliform Bacteria	13000	MPNM	2.0	1		
07/06/04 15:06 237912 (ML/EPA 180.1) Turbidity	0.35(H1)	NTU	0.050	1		
SITE 1 INFLOW TO TJ POND 2 (2407020195) Samp	led on 07/02	2/04 10):40			
07/02/04 15:38 (ML/SM9221C) Fecal Coliform Bacteria	80	MPNM	2.0	1		
07/07/04 00:00 237786 (ML/EPA 547) Glyphosate	ND	ug/l	6.0	1		
07/11/04 17:39 238521 (ML/EPA 350.1) Ammonía Nitrogen	ND	mg/l	0.050	1		
07/02/04 13:58 237407 (ML/EPA 300.0) Nitrite, Nitrogen by IC	ND	mg/l	0.20	2		
07/02/04 13:58 237410 (ML/EPA 300.0) Nitrate as Nitrogen by IC	7.9	mg/l	0.20	2		
07/15/04 13:30 238825 (ML/S4500P-E) Orthophosphate-P	0.034(H1)	mg/l	0.010	1		
07/07/04 19:05 237851 (S4500PE/ 365.1) Total phosphorus-P	0.02	mg/l	0.010	1		
07/08/04 18:16 238069 (ML/EPA 351.2) Kjeldahl Nitrogen	0.47	mg/l	0.20	1		
07/02/04 15:38 (ML/SM9221B) Total Coliform Bacteria	1700	MPNM	2.0	1		
07/06/04 15:06 237912 (ML/EPA 180.1) Turbidity	0.78(H1)	NTU	0.050	1		
SITE 2 OUTFLOW FROM TJ POND 1 (2407020196) S	ampled on 07	7/02/04	l 11:30			
07/02/04 15:50 (ML/SM9221C) Fecal Coliform Bacteria	50	MPNM	2.0	1		
07/07/04 00:00 237786 (ML/EPA 547) Glyphosate	ND	ug/l	6.0	1		
07/11/04 17:39 238521 (ML/EPA 350.1) Ammonia Nitrogen	ND	mg/l	0.050	1		
07/02/04 15:27 237407 (ML/EPA 300.0) Nitrite, Nitrogen by IC	ND	mg/l	0.20	2		
07/02/04 15:27 237410 (ML/EPA 300.0) Nitrate as Nitrogen by IC	5.9	mg/l	0.20	2		
07/15/04 13:30 238825 (ML/S4500P-E) Orthophosphate-P	0.033(H1)	mg/l	0.010	1		
07/07/04 19:05 237851 (\$4500PE/ 365.1) Total phosphorus-P	0.02	mg/l	0.010	1		



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Applied Research Dept, MWH (Darren Giles) (continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
	07/08/04 18:16	238069	(ML/EPA 351.2)	Kjeldahl Nitrogen	0.67	mg/l	0.20	1
	07/02/04 15:50		(ML/SM9221B)	Total Coliform Bacteria	600	MPNM	2.0	1
	07/06/04 15:06	237912	(ML/EPA 180.1)	Turbidity	0.65(H1)	NTU	0.050	1
SITE	2 OUTFLOW	FROM !	rj pond 2 (2407020198) Sample	d on 07	/02/04	11:45	
	07/02/04 15:59		(ML/SM9221C)	Fecal Coliform Bacteria	80	MPNM	2.0	l
	07/07/04 00:00	237786	(ML/EPA 547)	Glyphosate	ND	ug/l	6.0	1
	07/11/04 17:39	238521	(ML/EPA 350.1)	Ammonia Nitrogen	ND	mg/l	0.050	1
	07/02/04 15:39	237407	(ML/EPA 300.0)	Nitrite, Nitrogen by IC	ND	mg/l	0.20	2
	07/02/04 15:39	237410	(ML/EPA 300.0)	Nitrate as Nitrogen by IC	5.8	mg/l	0.20	2
	07/15/04 13:30	238825	(ML/S4500P-E)	Orthophosphate-P	0.039(H1)	mg/l	0.010	1
	07/07/04 19:05	237851	(S4500PE/ 365.1)	Total phosphorus-P	0.03	mg/l	0.010	1
	07/08/04 18:16	238069	(ML/EPA 351.2)	Kjeldahl Nitrogen	0.66	mg/l	0.20	1
	07/02/04 15:59		(ML/SM9221B)	Total Coliform Bacteria	2200	MPNM	2.0	1
	07/06/04 15:06	237912	(ML/EPA 180.1)	Turbidity	0.85(H1)	NTU	0.050	l
SITE	4 HAINES C	ANYON	CREEK 1 (2	407020199) Sampled	on 07/	02/04	09:15	
	07/02/04 16:15		(ML/SM9221C)	Fecal Coliform Bacteria	70	MPNM	2.0	1
	07/07/04 00:00	237786	(ML/EPA 547)	Glyphosate	ND	ug/l	6.0	1
	07/11/04 17:39	238521	(ML/EPA 350.1)	Ammonia Nitrogen	ND	mg/l	0.050	1
	07/02/04 14:24	237407	(ML/EPA 300.0)	Nitrite, Nitrogen by IC	ND	mg/l	0.20	2
	07/02/04 14:24	237410	(ML/EPA 300.0)	Nitrate as Nitrogen by IC	5.3	mg/l	0.20	2
	07/15/04 13:30	238825	(ML/S4500P-E)	Orthophosphate-P	0.023(H1)	mg/l	0.010	1
	07/07/04 19:05	237851	(S4500PE/ 365.1)	Total phosphorus-P	0.02	mg/l	0.010	1
	07/08/04 18:16	238069	(ML/EPA 351.2)	Kjeldahl Nitrogen	0.26	mg/l	0.20	1
	07/02/04 16:15		(ML/SM9221B)	Total Coliform Bacteria	2400	MPNM	2.0	1
	07/06/04 15:06	237912	(ML/EPA 180.1)	Turbidity	0.55(H1)	ntu	0.050	1
SITE	4 HAINES C	ANYON	CREEK 2 (2	407020200) Sampled	on 07/	02/04	09:25	
	07/02/04 16:20		(ML/SM9221C)	Fecal Coliform Bacteria	30	MPNM	2.0	1
							6.0	1
	07/08/04 00:00	237939	(ML/EPA 547)	Glyphosate	ND	ug/l	6.0	*
				Glyphosate Ammonia Nitrogen	ND ND	ug/l mg/l	0.050	1
	07/08/04 00:00	238521	(ML/EPA 350.1)	••				
	07/08/04 00:00 07/11/04 17:39	238521 237407	(ML/EPA 350.1) (ML/EPA 300.0)	Ammonia Nitrogen	ND	mg/l	0.050	1



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Applied Research Dept, MWH (Darren Giles) (continued)

Prepared	Analyzed	QC Ref♯	Method	Analyte	Result	Units	MRL	Dilution
	07/07/04 19:05	237851	(S4500PE/ 365.1)	Total phosphorus-P	0.01	mg/l	0.010	1
	07/08/04 18:16	238069	(ML/EPA 351.2)	Kjeldahl Nitrogen	0.36	mg/l	0.20	1
	07/02/04 16:20		(ML/SM9221B)	Total Coliform Bacteria	1100	MPNM	2.0	1
	07/06/04 15:06	237912	(ML/EPA 180.1)	Turbidity	0.50(H1)	NTU	0.050	1



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Applied Research Dept, MWH (Darren Giles)

QC Ref #237407 - Nitrite, Nitrogen by IC Analysis Date: 07/02/2004

2407020191SITE 1 INFLOW TO TJ POND 12407020195SITE 1 INFLOW TO TJ POND 22407020196SITE 2 OUTFLOW FROM TJ POND 12407020198SITE 2 OUTFLOW FROM TJ POND 22407020199SITE 4 HAINES CANYON CREEK 12407020200SITE 4 HAINES CANYON CREEK 2

QC Ref #237410 - Nitrate as Nitrogen by IC Analysis Date: 07/02/2004

2407020191SITE 1 INFLOW TO TJ POND 12407020195SITE 1 INFLOW TO TJ POND 22407020196SITE 2 OUTFLOW FROM TJ POND 12407020198SITE 2 OUTFLOW FROM TJ POND 22407020199SITE 4 HAINES CANYON CREEK 12407020200SITE 4 HAINES CANYON CREEK 2

QC Ref #237786 - Glyphosate

Analysis Date: 07/07/2004

2407020191	SITE 1	INFLOW TO TJ POND 1
2407020195	SITE 1	INFLOW TO TJ POND 2
2407020196	SITE 2	OUTFLOW FROM TJ POND 1
2407020198	SITE 2	OUTFLOW FROM TJ POND 2
2407020199	SITE 4	HAINES CANYON CREEK 1

QC Ref #237851 - Total phosphorus-P

Analysis Date: 07/07/2004

SITE 1	INFLOW TO TJ POND 1
SITE 1	INFLOW TO TJ POND 2
SITE 2	OUTFLOW FROM TJ POND 1
SITE 2	OUTFLOW FROM TJ POND 2
SITE 4	HAINES CANYON CREEK 1
SITE 4	HAINES CANYON CREEK 2
	SITE 1 SITE 2 SITE 2 SITE 4



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Applied Research Dept, MWH (Darren Giles) (continued)

QC Ref #237912 - Turbidity

Analysis Date: 07/06/2004

Analysis Date: 07/08/2004

Analysis Date: 07/08/2004

Analysis Date: 07/11/2004

2407020191	SITE 1	INFLOW TO TJ POND 1
2407020195	SITE 1	INFLOW TO TJ POND 2
2407020196	SITE 2	OUTFLOW FROM TJ POND 1
2407020198	SITE 2	OUTFLOW FROM TJ POND 2
2407020199	SITE 4	HAINES CANYON CREEK 1
2407020200	SITE 4	HAINES CANYON CREEK 2

QC Ref #237939 - Glyphosate

2407020200 SITE 4 HAINES CANYON CREEK 2

QC Ref #238068 - Kjeldahl Nitrogen

2407020191 SITE 1 INFLOW TO TJ POND 1

QC Ref #238069 - Kjeldahl Nitrogen Analysis Date: 07/08/2004

2407020195	SITE 1	1 INFLOW TO TJ POND 2
2407020196	SITE 2	2 OUTFLOW FROM TJ POND 1
2407020198	SITE 2	2 OUTFLOW FROM TJ POND 2
2407020199	SITE 4	4 HAINES CANYON CREEK 1
2407020200	SITE 4	4 HAINES CANYON CREEK 2

QC Ref #238521 - Ammonia Nitrogen

2407020191	SITE 1	1	INFLOW TO TJ POND 1
2407020195	SITE :	1	INFLOW TO TJ POND 2
2407020196	SITE 2	2	OUTFLOW FROM TJ POND 1
2407020198	SITE 2	2	OUTFLOW FROM TJ POND 2
2407020199	SITE 4	4	HAINES CANYON CREEK 1
2407020200	SITE 4	4	HAINES CANYON CREEK 2



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Applied Research Dept, MWH (Darren Giles) (continued)

QC Ref #238825 - Orthophosphate-P

Laboratory QC Summary #129877

Analysis Date: 07/15/2004

2407020191	SITE 1	INFLOW TO TJ POND 1
2407020195	SITE 1	INFLOW TO TJ POND 2
2407020196	SITE 2	OUTFLOW FROM TJ POND 1
2407020198	SITE 2	OUTFLOW FROM TJ POND 2
2407020199	SITE 4	HAINES CANYON CREEK 1
2407020200	SITE 4	HAINES CANYON CREEK 2



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Applied Research Dept, MWH (Darren Giles)

QC Ref #237407 Nitrite, Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrite, Nitrogen by IC	1.0	1.08	MGL	108.0	(90-110)	
LCS2	Nitrite, Nitrogen by IC	1.0	1.07	MGL	107.0	(90-110)	0.93
MBLK	Nitrite, Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrite, Nitrogen by IC	1.0	1.05	MGL	105.0	(80-120)	
MSD	Nitrite, Nitrogen by IC	1.0	1.04	MGL	104.0	(80-120)	0.96

QC Ref #237410

Nitrate as Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrate as Nitrogen by IC	2.5	2.52	MGL	100.8	(90-110)	
LCS2	Nítrate as Nítrogen by IC	2.5	2.52	MGL	100.8	(90-110)	0.00
MBLK	Nitrate as Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrate as Nitrogen by IC	2.5	2.46	MGL	98.4	(80-120)	
MSD	Nitrate as Nitrogen by IC	2.5	2.46	MGL	98.4	(80-120)	0.00

QC Ref #237786 Glyphosate

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	07010025	UGL		(0-0)	
LCS1	Glyphosate	10	9.32	UGL	93.2	(70-130)	
MBLK	Glyphosate	ND	<6.0	UGL			
MS	Glyphosate	10	7.40	UGL	74.0	(70-130)	
MSD	Glyphosate	10	9.02	UGL	90.2	(70-130)	20



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Applied Research Dept, MWH (Darren Giles) (continued)

QC Ref #237851 Total phosphorus-P

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	07020002	MGL		(0-0)	
LCS1	Total phosphorus-P	0.4	0.420	MGL	105.0	(90-110)	
LCS2	Total phosphorus-P	0.4	0.390	MGL	97.5	(90-110)	7.4
MBLK	Total phosphorus-P	ND	<0.010	MGL			
MS	Total phosphorus-P	0.4	0.400	MGL	100.0	(90-110)	
MSD	Total phosphorus-P	0.4	0.430	MGL	107.5	(90-110)	7.2
RPD_LCS	Total phosphorus-P	105.000	97.500	MGL	7.4	(0~10)	
RPD_MS	Total phosphorus-P	100.000	107.500	MGL	7.2	(0-10)	

QC Ref #237912

Turbidity

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
DUP	Turbidity	0.15	0.15	NTU		(0-20)	0.0

QC Ref #237939

Glyphosate

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%) RPD (%)
MS	Spiked sample	Lab # 24	07020247	UGL		(0-0)
LCS1	Glyphosate	10	9.0	UGL	90.0	(70-130)
MBLK	Glyphosate	ND	<6.0	UGL		
MS	Glyphosate	10	8.50	UGL	85.0	(70-130)
MSD	Glyphosate	10	7.93	UGL	79.3	(70-130) 6.9



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Applied Research Dept, MWH (Darren Giles) (continued)

QC Ref #238068

Kjeldahl Nitrogen

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	06290115	MGL		(0-0)	
LCS1	Kjeldahl Nitrogen	4	3.80	MGL	95.0	(90-110)	
LCS2	Kjeldahl Nitrogen	4	3.70	MGL	92.5	(90-110)	2.7
MBLK	Kjeldahl Nitrogen	ND	<0.20	MGL			
MS	Kjeldahl Nitrogen	4	3.75	MGL	93.8	(90-110)	
MSD	Kjeldahl Nitrogen	4	3.82	MGL	95.5	(90-110)	1.8
RPD_LCS	Kjeldahl Nitrogen	95.000	92.500	MGL	2.7	(0~20)	
RPD_MS	Kjeldahl Nitrogen	93.750	95.500	MGL	1.8	(0-10)	

QC Ref #238069

Kjeldahl Nitrogen

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	07020300	MGL		(0-0)	
LCS1	Kjeldahl Nitrogen	4	3.90	MGL	97.5	(90-110)	
LCS2	Kjeldahl Nítrogen	4	3.80	MGL	95.0	(90-110)	2.6
MBLK	Kjeldahl Nitrogen	ND	<0.20	MGL			
MS	Kjeldahl Nitrogen	4	3.99	MGL	99.8	(90-110)	
MSD	Kjeldahl Nitrogen	4	3.99	MGL	99.8	(90-110)	0.00
RPD_LCS	Kjeldahl Nitrogen	97.500	95.000	MGL	2.6	(0-20)	
RPD_MS	Kjeldahl Nitrogen	99.750	99.750	MGL	0.0	(0-10)	

QC Ref #238521

Ammonia Nitrogen

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	07020196	MGL		(0-0)	
LCS1	Ammonia Nitrogen	1.00	1.00	MGL	100.0	(90-110)	
LCS2	Ammonia Nitrogen	1.00	1.00	MGL	100.0	(90-110)	0.00
MBLK	Ammonia Nitrogen	ND	<0.050	MGL			



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Applied Research Dept, MWH (Darren Giles) (continued)

MS	Ammonia Nitrogen	1.00	1.02	MGL	102.0	(90~110)	
MSD	Ammonia Nitrogen	1.00	1.02	MGL	102.0	(90-110)	0.00

QC Ref #238825

Orthophosphate-P

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	07150486	MGL		(0-0)	
LCS1	Orthophosphate-P	0.5	0.492	MGL	98.4	(90-110)	
LCS2	Orthophosphate-P	0.5	0.487	MGL	97.4	(90-110)	1.0
MBLK	Orthophosphate-P	ND	<0.010	MGL			
MS	Orthophosphate-P	0.5	0.467	MGL	93.4	(80-120)	
MSD	Orthophosphate-P	0.5	0.481	MGL	96.2	(80-120)	3.0

9	INOM	TGOMERY WAT S	MONTGOMERY WATSON LABORATORIES	CHA	UN U	Щ Н	AIN OF CUSTODY RECORD	00	×E	NEC(ORD				FE861	EES
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	Walnut SL.	225 E. Wainut St., Pasadena, CA 91101		ń	I										$(C_{amuliance}, 4 \pm l_{-}, 3^{*}C)$	()*C-/⊤ V
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TO BE CI	OMPLETED	TO BE COMPLETED BY SAMPLER:	**************************************									(check for yes)				
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TAT re	TAT requested:	STD_XXX_1	1 week 3 day	1 day_				- Rec	luires s	Requires state forms	us Su	(SI	(SDWA, Phase V, NPDES, FDA,)	v, NPDES, F	DA,)	
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Big T.	J Sampli	Big TJ Sampling	1341915.5620.041801	ARD-DG	G	<u> </u>	ANA	TYSES	REQU	IRED (n	hark an '	K' in all test	ANALYSES REQUIRED (mark an 'X' in all tests required for each sample line)	r each samp	le line)	
SAMPLER(S): I Darren Giles	ER(S): PRINI Giles	TED NAME AND SIGNATI				N^SH		stuu							SAMPLER	a a
TIME	DATE	SITE NAME OF LOCATION	IDENTIFIER, STATE ID #	* XINTAN	CEVB	TKU, T-P, N TKU, T-P, N	VO2,VO3,O.	oliloD H & T	SongyD						COMMENTS	S IX
	1030	SI'TE 1	Inflow to TJ Pond #1		×		X X	X	X							
	1040	SITE 1	Inflow to TJ Pond #2		×		X X	×	X						-	Landaha WW Prop
	(1200	SITE 2	Outflow from TJ Pond #1		x		XX	×	X							
	140	SITE 2	Outflow from TJ Pond #2		×		X X	x	X							
		and the second s	Big TJ Wash#1		X											
		SULFE 3	Big T.J Wash #2		Х											Andrea Barre V. A
	915	SITE 4	Haines Canyon Creek #1		x		X X	×	×							And the second se
	6226	SITE 4	Haines Canyon Creek #2		X		XX	x	×							
						=										
* 7.1.4	MATRIX TURES.	Reported by Volume:	y Volume:					S	S= MS	= Storm Water	ater			Reported I	Reported by Weight:	
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BIG TUJUNGA WASH MITIGATION BANK WATER QUALITY MONITORING PROGRAM

OCTOBER 2004 LABORATORY RESULTS



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Laboratory Report

for

Applied Research Dept, MWH (Darren Giles) 327 West Maple Avenue

Monrovia , CA 91016

Attention: Darren Giles Fax: (626) 359-3593



Report#: 135841 BIG-TJ

LXG Linda Geddes 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 QC Report,QC Summary,Data Report,Hits Report, totaling 11 page[s].



750 Royal Oaks Drive Suite 100 Monrovia, California 91016-3629 Tol: 626 568 6400 Fax: 626 568 6324 1 800 566 LABS (1 800 566 5227) Laboratory Hits Report #135841

Giles) Darren Giles 327 West Mapl	rch Dept, MWH	(Darren		mples Receiv ct-2004 17:	
Monrovia , CA					
Analyzed Sample#	Sample ID		Result	UNITS	MRL

2410050252 SITE 1 INFLOW TO TJ POND 1

10/05/04	Fecal Coliform Bacteria	21	MPN/100 mL	2.000
10/14/04	Kjeldahl Nitrogen	0.51	mg/l	.200
10/06/04	Nitrate as NO3 by IC (calc)	31.2	mg/l	.440
10/05/04	Nitrate as Nitrogen by IC	7.1	mg/l	.200
10/05/04	Orthophosphate-P	0.014	mg/l	.010
10/05/04	Total Coliform Bacteria	300000	MPN/100 mL	2.000
10/13/04	Total phosphorus-P	0.025	mg/l	.010
10/05/04	Turbidity	3.2	NTU	.050

2410050253 SITE 1 INFLOW TO TJ POND 2

10/05/04	Fecal Coliform Bacteria	8	MPN/100 mL	2.000
10/14/04	Kjeldahl Nitrogen	0.40	mg/l	.200
10/06/04	Nitrate as NO3 by IC (calc)	31.7	mg/l	.440
10/05/04	Nitrate as Nitrogen by IC	7.2	mg/l	.200
10/05/04	Orthophosphate-P	0.015	mg/l	.010
10/05/04	Total Coliform Bacteria	4600	MPN/100 mL	2.000
10/13/04	Total phosphorus-P	0.051	mg/l	.010
10/05/04	Turbidity	5.4	NTU	.050

2410050254 SITE 2 OUTFLOW FROM TJ POND 1

10/05/04	Fecal Coliform Bacteria	7	MPN/100 mL	2.000
10/14/04	Kjeldahl Nitrogen	0.34	mg/l	.200
10/06/04	Nitrate as NO3 by IC (calc)	26.4	mg/l	.440
10/05/04	Nitrate as Nitrogen by IC	6.0	mg/l	.200
10/05/04	Total Coliform Bacteria	30000	MPN/100 mL	2.000
10/05/04	Turbidity	1.2	NTU	.050

2410050255 SITE 2 OUTFLOW FROM TJ POND 2

	750 Royal Oaks Drive Suite 100 Monrovia, California 91016-3 Tol: 626 568 6400 Fax: 626 568 6324 1 800 556 LABS (1 800 566 5	629		Laboratory Hits Repo #135841	rt
	pplied Resear		Sar	nples Receive	d
D 3	iles) arren Giles 27 West Maple onrovia , CA	Avenue 91016	05-00	ct-2004 17:55	:43
Analyzed	Sample#	Sample ID	Result	UNITS	MRL
	2410050255	SITE 2 OUTFLOW FROM	TJ POND 2		
10/05/04 10/14/04 10/06/04 10/05/04 10/05/04 10/13/04 10/05/04	Kjeldah Nitrate Nitrate Total C	oliform Bacteria l Nitrogen as NO3 by IC (calc) as Nitrogen by IC oliform Bacteria hosphorus-P ty	8 0.47 26.4 6.0 90000 0.026 1.6	MPN/100 mL mg/l mg/l mg/l MPN/100 mL mg/l NTU	.200 .440 .200
	2410050256	SITE 4 HAINES CANYO	N CREEK 1		
10/05/04 10/06/04 10/05/04 10/05/04 10/05/04 10/05/04	Nitrate Nitrate Orthoph	oliform Bacteria as NO3 by IC (calc) as Nitrogen by IC osphate-P oliform Bacteria ty	220 23.3 5.3 0.019 3000 0.55	MPN/100 mL mg/l mg/l mg/l MPN/100 mL NTU	.440 .200 .010
	2410050257	SITE 4 HAINES CANYO	N CREEK 2		
10/05/04 10/06/04 10/05/04 10/05/04 10/05/04 10/13/04 10/05/04	Nitrate Nitrate Orthoph Total C	oliform Bacteria as NO3 by IC (calc) as Nitrogen by IC osphate-P oliform Bacteria hosphorus-P ty	130 23.8 5.4 0.019 700 0.020 0.50	MPN/100 mL mg/1 mg/1 MPN/100 mL mg/1 NTU	.440 .200 .010

SUMMARY OF POSITIVE DATA ONLY.

750 Royal Oaks Drive Suite 100 Monrovia, California 91016-3629 Tel: 626 568 6400 Fax: 626 568 6324 1 800 566 LABS (1 800 566 5227) Applied Research Dept, MWH Samples Received (Darren Giles) Darren Giles 10/05/04 327 West Maple Avenue Monrovia , CA 91016 Prepared Analyzed QC Ref# Method Analyte Result Units MRT. Dilution SITE 1 INFLOW TO TJ POND 1 (2410050252) Sampled on 10/05/04 11:10 10/05/04 15:06 (ML/SM9221C) Fecal Coliform Bacteria 21 MPNM 2.0 1 10/07/04 00:00 247970 (ML/EPA 547) Glyphosate ND ug/l 6.0 1 10/11/04 00:00 248273 (ML/EPA 350.1) Ammonia Nitrogen ND mg/l 0.050 1 10/05/04 18:39 247677 0.20 (ML/EPA 300.0) Nitrite, Nitrogen by IC ND mg/l 2 10/05/04 18:39 247676 (ML/EPA 300.0) Nitrate as Nitrogen by IC 7.1 0.20 mg/l 2 10/06/04 13:23 (ML/EPA 300.0) Nitrate as NO3 by IC (calc) 31.2 mg/l 0.44 1 10/05/04 18:30 248104 0.010 (SM4500P-E) Orthophosphate-P 0.014 mg/l 1 10/13/04 18:28 248782 (S4500PE/ 365.1) Total phosphorus-P 0.025 mg/l 0.010 1 10/14/04 16:29 248769 (ML/EPA 351.2) Kjeldahl Nitrogen 0.51 0.20 1 mg/l 10/05/04 15:06 (ML/SM9221B) Total Coliform Bacteria 300000 2.0 MPNM 1 10/05/04 18:26 247829 (ML/EPA 180.1) Turbidity NTII 0.050 3.2 1 10/05/04 11:20 SITE 1 INFLOW TO TJ POND 2 (2410050253) Sampled on 10/05/04 15:11 (ML/SM9221C) Fecal Coliform Bacteria 8 MPNM 2.0 1 10/07/04 00:00 247970 (ML/EPA 547) Glyphosate ND ug/l 6.0 1 10/11/04 00:00 248273 (ML/EPA 350.1) Ammonia Nitrogen 0.050 ND 1 mg/l 10/05/04 19:06 247677 (ML/EPA 300.0) Nitrite, Nitrogen by IC ND mg/l 0.20 2 10/05/04 19:06 247676 (ML/EPA 300.0) Nitrate as Nitrogen by IC 7.2 mg/l 0.20 2 10/06/04 13:23 (ML/EPA 300.0) Nitrate as NO3 by IC (calc) 31.7 mg/l 0.44 1 10/05/04 18:30 248104 0.010 (SM4500P-E) Orthophosphate-P 0.015 mg/l 1 10/13/04 18:28 248782 (S4500PE/ 365.1) Total phosphorus-P 0.051 0.010 mg/l 1 10/14/04 16:29 248769 0.20 (ML/EPA 351.2) Kjeldahl Nitrogen 0.40 mg/l 1 10/05/04 15:11 (ML/SM9221B) Total Coliform Bacteria 4600 MPNM 2.0 1 10/05/04 18:26 247829 (ML/EPA 180.1) Turbidity 5.4 NTU 0.050 1

MWH Laboratories

Laboratory

#135841

Data Report



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Applied Research Dept, MWH (Darren Giles) (continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
SITE	2 OUTFLOW	FROM	TJ POND 1	(2410050254)	Sampled on	10/05/04	4 12:0	0
	10/05/04 15:19		(ML/SM9221C) Fecal Coliform Bacteria	7	MPNM	2.0	1
	10/07/04 00:00	247970	(ML/EPA 547) Glyphosate	ND	ug/l	6.0	1
	10/11/04 00:00	248273	(ML/EPA 350.1) Ammonia Nitrogen	ND	mg/l	0.050	1
	10/05/04 19:20	247677	(ML/EPA 300.0) Nitrite, Nitrogen by IC	ND	mg/l	0.20	2
	10/05/04 19:20	247676	(ML/EPA 300.0) Nitrate as Nitrogen by IC	6.0	mg/l	0.20	2
	10/06/04 13:23		(ML/EPA 300.0) Nitrate as NO3 by IC (cal	.c) 26.4	mg/l	0.44	1
	10/05/04 18:30	248104	(SM4500P-E) Orthophosphate-P	ND	mg/l	0.010	1
	10/13/04 18:28	248782	(S4500PE/ 365.1) Total phosphorus-P	ND	mg/l	0.010	1
	10/14/04 16:29	248769	(ML/EPA 351.2) Kjeldahl Nitrogen	0.34	mg/l	0.20	1
	10/05/04 15:19		(ML/SM9221B) Total Coliform Bacteria	30000	MPNM	2.0	1
	10/05/04 18:26	247829	(ML/EPA 180.1) Turbidity	1.2	NTU	0.050	1
SITE 2	2 OUTFLOW	FROM	TJ POND 2	(2410050255)	Sampled on	10/05/04	4 12:1	.5
	10/05/04 15:24		(ML/SM9221C) Fecal Coliform Bacteria	8	MPNM	2.0	1
	10/07/04 00:00	247970	(ML/EPA 547) Glyphosate	ND	ug/l	6.0	1
	10/11/04 00:00	248273	(ML/EPA 350.1) Ammonia Nitrogen	ND	mg/l	0.050	1
	10/05/04 19:47	247677	(ML/EPA 300.0) Nitrite, Nitrogen by IC	ND	mg/l	0.20	2
	10/05/04 19:47	247676	(ML/EPA 300.0) Nitrate as Nitrogen by IC	6.0	mg/l	0.20	2
	10/06/04 13:23		(ML/EPA 300.0) Nitrate as NO3 by IC (cal	.c) 26.4	mg/l	0.44	1
	10/05/04 18:30	248104	(SM4500P-E) Orthophosphate-P	ND	mg/l	0.010	1
	10/13/04 18:28	248782	(S4500PE/ 365.1) Total phosphorus-P	0.026	mg/l	0.010	1
	10/14/04 16:29	248769	(ML/EPA 351.2) Kjeldahl Nitrogen	0.47	mg/l	0.20	1
	10/05/04 15:24		(ML/SM9221B) Total Coliform Bacteria	90000	MPNM	2.0	1
	10/05/04 18:26	247829	(ML/EPA 180.1) Turbidity	1.6	NTU	0.050	1
SITE	4 HAINES C	ANYON	N CREEK 1 (2410050256)	Sampled on	10/05/04	10:00)
	10/05/04 15:29		(ML/SM9221C) Fecal Coliform Bacteria	220	MPNM	2.0	1
	10/07/04 00:00	247970	(ML/EPA 547) Glyphosate	ND	ug/l	6.0	1
	10/11/04 00:00	248273	(ML/EPA 350.1) Ammonia Nitrogen	ND	mg/l	0.050	1
	10/05/04 18:53	247677	(ML/EPA 300.0) Nitrite, Nitrogen by IC	ND	mg/l	0.20	2
	10/05/04 18:53	247676	(ML/EPA 300.0) Nitrate as Nitrogen by IC	5.3	mg/l	0.20	2
	10/06/04 13:23		(ML/EPA 300.0) Nitrate as NO3 by IC (cal	.c) 23.3	mg/l	0.44	1



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Applied Research Dept, MWH (Darren Giles) (continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
	10/13/04 18:28	248782	(S4500PE/ 365.1)	Total phosphorus-P	ND	mg/l	0.010	1
	10/14/04 16:29	248769	(ML/EPA 351.2)	Kjeldahl Nitrogen	ND	mg/l	0.20	1
	10/05/04 15:29		(ML/SM9221B)	Total Coliform Bacteria	3000	MPNM	2.0	1
	10/05/04 18:26	247829	(ML/EPA 180.1)	Turbidity	0.55	NTU	0.050	1
SITE	4 HAINES C	ANYON	CREEK 2 (2	2410050257)	Sampled on 1	0/05/04	10:15	
	10/05/04 15:34		(ML/SM9221C)	Fecal Coliform Bacteria	130	MPNM	2.0	1
	10/07/04 00:00	247970	(ML/EPA 547)	Glyphosate	ND	ug/l	6.0	1
	10/11/04 00:00	248273	(ML/EPA 350.1)	Ammonia Nitrogen	ND	mg/l	0.050	1

10/11/04 00:00	248273	(ML/EPA 350.1)	Ammonia Nitrogen	ND	mg/l	0.050	1
10/05/04 19:33	247677	(ML/EPA 300.0)	Nitrite, Nitrogen by IC	ND	mg/l	0.20	2
10/05/04 19:33	247676	(ML/EPA 300.0)	Nitrate as Nitrogen by IC	5.4	mg/l	0.20	2
10/06/04 13:23		(ML/EPA 300.0)	Nitrate as NO3 by IC (calc)	23.8	mg/l	0.44	1
10/05/04 18:30	248104	(SM4500P-E)	Orthophosphate-P	0.019	mg/l	0.010	1
10/13/04 18:28	248782	(S4500PE/ 365.1)	Total phosphorus-P	0.020	mg/l	0.010	1
10/14/04 16:44	248770	(ML/EPA 351.2)	Kjeldahl Nitrogen	ND	mg/l	0.20	1
10/05/04 15:34		(ML/SM9221B)	Total Coliform Bacteria	700	MPNM	2.0	1
10/05/04 18:26	247829	(ML/EPA 180.1)	Turbidity	0.50	NTU	0.050	1



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Applied Research Dept, MWH (Darren Giles)

QC Ref #247676 - Nitrate as Nitrogen by IC Analysis Date: 10/05/2004

2410050252SITE 1 INFLOW TO TJ POND 12410050253SITE 1 INFLOW TO TJ POND 22410050254SITE 2 OUTFLOW FROM TJ POND 12410050255SITE 2 OUTFLOW FROM TJ POND 22410050256SITE 4 HAINES CANYON CREEK 12410050257SITE 4 HAINES CANYON CREEK 2

QC Ref #247677 - Nitrite, Nitrogen by IC

 2410050252
 SITE 1 INFLOW TO TJ POND 1

 2410050253
 SITE 1 INFLOW TO TJ POND 2

 2410050254
 SITE 2 OUTFLOW FROM TJ POND 1

 2410050255
 SITE 2 OUTFLOW FROM TJ POND 2

 2410050256
 SITE 4 HAINES CANYON CREEK 1

 2410050257
 SITE 4 HAINES CANYON CREEK 2

QC Ref #247829 - Turbidity

Analysis Date: 10/05/2004

Analysis Date: 10/05/2004

SITE 1 INFLOW TO TJ POND 1
SITE 1 INFLOW TO TJ POND 2
SITE 2 OUTFLOW FROM TJ POND 1
SITE 2 OUTFLOW FROM TJ POND 2
SITE 4 HAINES CANYON CREEK 1
SITE 4 HAINES CANYON CREEK 2

QC Ref #247970 - Glyphosate

Analysis Date: 10/07/2004

SITE 1	INFLOW TO TJ POND 1
SITE 1	INFLOW TO TJ POND 2
SITE 2	OUTFLOW FROM TJ POND 1
SITE 2	OUTFLOW FROM TJ POND 2
SITE 4	HAINES CANYON CREEK 1
SITE 4	HAINES CANYON CREEK 2
	SITE 1 SITE 2 SITE 2 SITE 4



Fax: 626 568 6324 1 800 566 LABS (1 800 566 5227)

Applied Research Dept, MWH (Darren Giles) (continued)

QC Ref #248104 - Orthophosphate-P

2410050252 2410050253 2410050254 2410050255 2410050256 2410050257

QC Ref #248273 - Ammonia Nitrogen

2410050252 SITE 1 INFLOW TO TJ POND 1 2410050253 SITE 1 INFLOW TO TJ POND 2 2410050254 SITE 2 OUTFLOW FROM TJ POND 1 2410050255 SITE 2 OUTFLOW FROM TJ POND 2 2410050256 SITE 4 HAINES CANYON CREEK 1 2410050257 SITE 4 HAINES CANYON CREEK 2

QC Ref #248769 - Kjeldahl Nitrogen

2410050252	SITE 1 INFLOW TO TJ POND 1
2410050253	SITE 1 INFLOW TO TJ POND 2
2410050254	SITE 2 OUTFLOW FROM TJ POND 1
2410050255	SITE 2 OUTFLOW FROM TJ POND 2
2410050256	SITE 4 HAINES CANYON CREEK 1

QC Ref #248770 - Kjeldahl Nitrogen

SITE 4 HAINES CANYON CREEK 2 2410050257

QC Ref #248782 - Total phosphorus-P

2410050252	SITE 1 INFLOW TO TJ POND 1
2410050253	SITE 1 INFLOW TO TJ POND 2
2410050254	SITE 2 OUTFLOW FROM TJ POND 1
2410050255	SITE 2 OUTFLOW FROM TJ POND 2
2410050256	SITE 4 HAINES CANYON CREEK 1

QC Summary - Page 2 of 3

Analysis Date: 10/05/2004

Analysis Date: 10/11/2004

Analysis Date: 10/14/2004

SITE 1 INFLOW TO TJ POND 1

SITE 1 INFLOW TO TJ POND 2

SITE 2 OUTFLOW FROM TJ POND 1

SITE 2 OUTFLOW FROM TJ POND 2 SITE 4 HAINES CANYON CREEK 1

SITE 4 HAINES CANYON CREEK 2

MWH Laboratories A Division of MWH Americas, Inc.

Analysis Date: 10/13/2004

Analysis Date: 10/14/2004



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Applied Research Dept, MWH (Darren Giles) (continued)

2410050257

SITE 4 HAINES CANYON CREEK 2



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Applied Research Dept, MWH (Darren Giles)

QC Ref #247676 Nitrate as Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	10050063	MGL		(0-0)	
LCS1	Nitrate as Nitrogen by IC	2.5	2.49	MGL	99.6	(90-110)	
LCS2	Nitrate as Nitrogen by IC	2.5	2.49	MGL	99.6	(90-110)	0.00
MBLK	Nitrate as Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrate as Nitrogen by IC	2.5	2.26	MGL	90.4	(80-120)	
MSD	Nitrate as Nitrogen by IC	2.5	2.36	MGL	94.4	(80-120)	4.3

QC Ref #247677

Nitrite, Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	10050063	MGL		(0-0)	
LCS1	Nitrite, Nitrogen by IC	1.0	0.97	MGL	97.0	(90-110)	
LCS2	Nitrite, Nitrogen by IC	1.0	0.97	MGL	97.0	(90-110)	0.00
MBLK	Nitrite, Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrite, Nitrogen by IC	1.0	0.94	MGL	94.0	(80-120)	
MSD	Nitrite, Nitrogen by IC	1.0	0.93	MGL	93.0	(80-120)	1.1

QC Ref #247829 Turbidity

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
DUP	Turbidity	0.50	0.50	NTU		(0-20)	0.0

QC Ref #247970

Glyphosate

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	10050040	UGL		(0-0)	
LCS1	Glyphosate	10	9.67	UGL	96.7	(70-130)	
MBLK	Glyphosate	ND	<6.0	UGL			
MS	Glyphosate	10	9.79	UGL	97.9	(70-130)	



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Applied Research Dept, MWH (Darren Giles) (continued)

MSD	Glyphosate	10	10.3	UGL	103.0	(70-130) 5.1

QC Ref #248104 Orthophosphate-P

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	10050063	MGL		(0-0)	
LCS1	Orthophosphate-P	0.5	0.492	MGL	98.4	(90-110)	
LCS2	Orthophosphate-P	0.5	0.501	MGL	100.2	(90-110)	1.8
MBLK	Orthophosphate-P	ND	<0.010	MGL			
MS	Orthophosphate-P	0.5	0.492	MGL	98.4	(80-120)	
MSD	Orthophosphate-P	0.5	0.500	MGL	100.0	(80-120)	1.6

QC Ref #248273

Ammonia Nitrogen

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	10050145	MGL		(0-0)	
LCS1	Ammonia Nitrogen	1.00	1.03	MGL	103.0	(90-110)	
LCS2	Ammonia Nitrogen	1.00	1.03	MGL	103.0	(90-110)	0.00
MBLK	Ammonia Nitrogen	ND	<0.050	MGL			
MS	Ammonia Nitrogen	1.00	0.981	MGL	98.1	(90-110)	
MSD	Ammonia Nitrogen	1.00	1.01	MGL	101.0	(90-110)	2.9

QC Ref #248769

Kjeldahl Nitrogen

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	00500141	MGL		(0-0)	
LCS1	Kjeldahl Nitrogen	4	3.80	MGL	95.0	(90-110)	
LCS2	Kjeldahl Nitrogen	4	3.80	MGL	95.0	(90-110)	0.00
MBLK	Kjeldahl Nitrogen	ND	<0.20	MGL			
MS	Kjeldahl Nitrogen	4	4.08	MGL	102.0	(90-110)	
MSD	Kjeldahl Nitrogen	4	4.13	MGL	103.2	(90-110)	1.2
RPD_LCS	Kjeldahl Nitrogen	95.000	95.000	MGL	0.0	(0-20)	



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Applied Research Dept, MWH (Darren Giles) (continued)

 RPD_MS
 Kjeldahl Nitrogen
 102.000
 103.250
 MGL
 1.2
 (
 0-10
)

QC Ref #248770

Kjeldahl Nitrogen

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	0050344	MGL		(0-0)	
LCS1	Kjeldahl Nitrogen	4	3.80	MGL	95.0	(90-110)	
LCS2	Kjeldahl Nitrogen	4	3.80	MGL	95.0	(90-110)	0.00
MBLK	Kjeldahl Nitrogen	ND	<0.20	MGL			
MS	Kjeldahl Nitrogen	4	4.15	MGL	103.8	(90-110)	
MSD	Kjeldahl Nitrogen	4	4.37	MGL	109.2	(90-110)	5.2
RPD_LCS	Kjeldahl Nitrogen	95.000	95.000	MGL	0.0	(0-20)	
RPD_MS	Kjeldahl Nitrogen	103.750	109.250	MGL	5.2	(0-10)	

QC Ref #248782

Total phosphorus-P

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	0050082	MGL		(0-0)	
LCS1	Total phosphorus-P	0.4	0.400	MGL	100.0	(90-110)	
LCS2	Total phosphorus-P	0.4	0.410	MGL	102.5	(90-110)	2.5
MBLK	Total phosphorus-P	ND	<0.010	MGL			
MS	Total phosphorus-P	0.4	0.400	MGL	100.0	(90-110)	
MSD	Total phosphorus-P	0.4	0.430	MGL	107.5	(90-110)	7.2
RPD_LCS	Total phosphorus-P	100.000	102.500	MGL	2.5	(0-10)	
RPD_MS	Total phosphorus-P	100.000	107.500	MGL	7.2	(0-10)	

BIG TUJUNGA WASH MITIGATION BANK WATER QUALITY MONITORING PROGRAM

DECEMBER 2004 LABORATORY RESULTS



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Laboratory Report

for

Applied Research Dept, MWH (Darren Giles) 327 West Maple Avenue

Monrovia, CA 91016

Attention: Darren Giles Fax: (626) 359-3593

DATE OF ISSUE MWH LABORATORIES

LXG Linda Geddes Project Manager



Report#: 139542 BIG-TJ

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 Comments,QC Report,QC Summary,Data Report,Hits Report, totaling 21 page[s].

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Applied Research Dept,	MWH	(Darren Giles)	
327 West Maple Avenue		Customer Code:	ARD-DG
Monrovia, CA 91016		PO#:	1341410.5620.011801
Attn: Darren Giles		Group#:	139542
Phone: (626) 303-5945		Project#:	BIG-TJ
		Proj Mgr:	Linda Geddes
		Phone:	(626) 386-1163

The following samples were received from you on 12/09/04. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample#	Sample	Id	m (<i>m</i>		Matrix	······	Sample Date
			Tests S	cheduled			
2412090041	SITE 1	INFLOW	TO TJ F	OND 1	Water		09-dec-2004 11:40:00
- 1941年1月4日 1941年1月4日 1941年1月4日			@DIAZED		GLYPHOS	and the second second second second	NO2-N NO3
242000000	i comminia i a .	Third Color	NO3A	OPO4	T-P	TKN	TOTCOL TURB
2412090045	STIR I	TWETOW			Water	asses in the	09-dec-2004 11:50:00
states Estatus	a des enances	ttel när den som	@DIAZED		GLYPHOS	NH3	NO2-N NO3
2412090046	SITE 2		NO3A	OPO4	TP	TKN	TOTCOL
2412090046	SLIE Z	OUTETO	FROM T		Water		09-dec-2004 12:30:00
alger kalender och strenen.	ABANAN BEDI	en balanna Rainnaí	@DIAZED		GLYPHOS		NO2-N NO3
0.400000000	i vi minimi i i i i i	atimation of	NO3A	OPO4	T - P	TKN	TOTCOL TURB
2412090048	SIIE 2	UUIFUU			Water		09-dec-2004 12:35:00
adalah karakaran k	en en en en en en en en	Ne va sale na rak	@DIAZED		GLYPHOS	NH3	NO2-N NO3
2412000040			NO3A	OPO4	T-P	TKN	TOTCOL TURB
2412090049	SITE 4	HAINES	(a) An and a state of a state of a state	CREEK 1	Water	e relation e fiero	09-dec-2004 10:30:00
- Ang ang na kala dala.	e per se este se	10.414.554	@DIAZED		GLYPHOS		NO2-N NO3
	: visariani ani di	and a state to the state of the	NO3A	OPO4	T-P	TKN	TOTCOL TURB
2412090050	SITE 4	HAINES			Water	egy Brana and	09-dec-2004 10:40:00
zatele e e e e e e e e e e e e e e e e e e	Ereatres de la	Neteration -	@DIAZED		GLYPHOS	NH3	NO2-N NO3
2412000051	OTHER OF		NO3A	OPO4	$\mathbf{T} - \mathbf{P}$	TKN	TOTCOL
2412090051		BIG TJ	WASH 1	ا مند بد منطقه ا	Water	a de la caracter de l	09-dec-2004 13:10:00
	s series a series		@DIAZED		GLYPHOS		NO2-N NO3
	ation		NO3A	OPO4	T-P	TKN	TOTCOL TURB
2412090052	STIRE	BIG TU			Water		09-dec-2004 13:15:00
area a Sector A	el gobiere de	a da da ser e e	@DIAZED		GLYPHOS	NH3	NO2-N NO3
			NO3A	OPO4	$\mathbf{T} - \mathbf{P}$	TKN	TOTCOL

Test Acronym Description

Test Acronym	Description
FECCOL GLYPHOS NH3	Diazinon/Chlorpyrifos by GCMS Fecal Coliform Bacteria Glyphosate Ammonia Nitrogen Nitrite, Nitrogen by IC

Applied Research Dept, M	4WH (Darren Giles)	
327 West Maple Avenue	Customer Code:	ARD-DG
Monrovia, CA 91016	PO#:	1341410.5620.011801
Attn: Darren Giles	Group#:	139542
Phone: (626) 303-5945	Project#:	BIG-TJ
	Proj Mgr:	Linda Geddes
	Phone:	(626) 386-1163

Test	Acronym	Description

Test Acronym	Description
NO3	Nitrate as Nitrogen by IC
NO3A	Nitrate as NO3 by IC (calc)
OPO4	Orthophosphate-P
$\mathbf{T} = \mathbf{P}$	Total phosphorus Person and the second se
TKN	Kjeldahl Nitrogen
TOTCOL	Total Coliform Bacteria
TURB	Turbidity



Report Comments #139542

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)

Group Comments

Analytical results for Diazinon/Chlorpyrifos by GCMS are submitted by CRG Marine Laboratories, Torrance, CA. ELAP 2261

(QC Ref#: 255715)
 Test: Kjeldahl Nitrogen (ML/EPA 351.2)
 QC Type: MSD
 Result at upper limit of range.

G	A Division of MWH Americas, A Division of MWH Americas, 750 Royal Oaks Drive, Suite 1 Monrovia, California 91016-34 Tei: 626 386 1100	00		Laboratory Hits Repo #139542	st
	Fax: 626 386 1101 1 800 586 LABS (1 800 566 5/	227)			
	pplied Researd liles)	ch Dept, MWH (Darren	Sa	mples Received	i
D 3	arren Giles 27 West Maple Ionrovia , CA	Avenue 91016	09-d	ec-2004 16:17:	:10
Analyzed	Sample#	Sample ID	Result	UNITS	MRL
	2412090041	SITE 1 INFLOW TO TJ B	POND 1		
12/09/04 12/09/04 12/09/04 12/10/04 12/09/04 12/15/04 12/09/04	Nitrate Nitrate Orthopho Total Co	oliform Bacteria as NO3 by IC (calc) as Nitrogen by IC osphate-P oliform Bacteria nosphorus-P	4 39 9.0 0.035 1600 0.064 1.3	MPN/100 mL mg/l mg/l Mg/l MPN/100 mL mg/l NTU	2.000 .880 .200 .010 2.000 .010 .050
	2412090045	SITE 1 INFLOW TO TJ F	POND 2		
12/09/04 12/10/04 12/10/04 12/10/04 12/09/04 12/15/04 12/09/04	Nitrate Nitrate Orthopho Total Co	oliform Bacteria as NO3 by IC (calc) as Nitrogen by IC osphate-P oliform Bacteria osphorus-P	8 40 9.1 0.039 170 0.060 0.25	MPN/100 mL mg/1 mg/1 MPN/100 mL mg/1 NTU	2.000 .880 .200 .010 2.000 .010 .050
	2412090046	SITE 2 OUTFLOW FROM I	J POND 1		
12/09/04 12/10/04 12/10/04 12/10/04 12/09/04 12/15/04 12/09/04	Nitrate Nitrate Orthopho Total Co	oliform Bacteria as NO3 by IC (calc) as Nitrogen by IC osphate-P oliform Bacteria osphorus-P	9 32 7.3 0.029 1400 0.065 0.20	MPN/100 mL mg/1 mg/1 mg/1 MPN/100 mL mg/1 NTU	2.000 .880 .200 .010 2.000 .010 .050
	2412090048	SITE 2 OUTFLOW FROM T	J POND 2		

SUMMARY OF POSITIVE DATA ONLY.

	Laboratory Hits Report #139542
750 Royal Oaks Drive, Suite 100 Monrovia, California 91016-3629 Tel: 626 386 1100 Fax: 626 386 1101 1 600 566 LABS (1 600 566 5227)	
Applied Research Dept, MWH (Darren Giles)	Samples Received
Darren Giles 327 West Maple Avenue Monrovia , CA 91016	09-dec-2004 16:17:10
Analyzed Sample# Sample ID	Result UNITS MRL

2412090048 SITE 2 OUTFLOW FROM TJ POND 2

12/09/04	Fecal Coliform Bacteria	4	MPN/100 mL	2.000
12/10/04	Nitrate as NO3 by IC (calc)	32	mg/l	.880
12/10/04	Nitrate as Nitrogen by IC	7.2	mg/l	.200
12/10/04	Orthophosphate-P	0.029	mg/l	.010
12/09/04	Total Coliform Bacteria	50	MPN/100 mL	2.000
12/15/04	Total phosphorus-P	0.028	mg/l	.010
12/09/04	Turbidity	0.20	NTU	.050

2412090049 SITE 4 HAINES CANYON CREEK 1

12/09/04	Fecal Coliform Bacteria	110	MPN/100 mL	2.000
12/10/04	Nitrate as NO3 by IC (calc)	13	mq/l	.880
12/10/04	Nitrate as Nitrogen by IC	3.0	mg/l	.200
12/10/04	Orthophosphate-P	0.010	mg/l	.010
12/09/04	Total Coliform Bacteria	700	MPN/100 mL	2.000
12/15/04	Total phosphorus-P	0.025	mg/l	.010
12/09/04	Turbidity	0.35	NTU	.050

2412090050 SITE 4 HAINES CANYON CREEK 2

	al Coliform Bacteria	23	MPN/100 mL	2.000
	ldahl Nitrogen	0.35	mg/l	.200
	rate as NO3 by IC (calc)	13	mg/l	.880
	rate as Nitrogen by IC	2.9	mg/l	.200
	nophosphate-P	0.010	mg/l	.010
	al Coliform Bacteria	900	MPN/100 mL	2.000
	al phosphorus-P	0.015	mg/l	.010
12/09/04 Turk	pidity	0.45	NTU	.050

2412090051 SITE 3 BIG TJ WASH 1

SUMMARY OF POSITIVE DATA ONLY.

	Hits Report #139542		
750 Boyal Oaks Drive, Suite 100 Monrovia, California 91016-3629 Tel: 626 388 1100 Fax: 626 386 1101 1 800 566 LABS (1 800 566 5227)			
Applied Research Dept, MWH (Darren Giles)	Samples Received		
Darren Giles 327 West Maple Avenue Monrovia , CA 91016	09-dec-2004 16:17:10		

Analyzed	Sample#	Sample ID	Result	UNITS	MRL
	2412090051	SITE 3 BIG TJ WASH 1			
12/17/04 12/09/04 12/15/04 12/09/04	Total Co	l Nitrogen oliform Bacteria nosphorus-P ry	0.24 50 0.035 0.45	mg/l MPN/100 mL mg/l NTU	.200 2.000 .010 .050

2412090052 SITE 3 BIG TJ WASH 2

12/09/04	Total Coliform Bacteria	130	MPN/100 mL	2.000
12/15/04	Total phosphorus-P	0.038	mg/l	.010
12/09/04	Turbidity	0.40	NTU	.050

Laboratory

#139542 750 Royat Oaks Drive, Suite 100 Monrovia, California 91015-3629 Tel: 626 386 1100 Fax: 626 386 1101 1 800 566 LABS (1 800 566 5227) Applied Research Dept, MWH (Darren Samples Received Giles) Darren Giles 12/09/04 327 West Maple Avenue Monrovia , CA 91016 Prepared Analyzed OC Ref# Method Analyte Result Units MRL Dilution SITE 1 INFLOW TO TJ POND 1 (2412090041) Sampled on 12/09/04 11:40 12/09/04 15:08) Fecal Coliform Bacteria (ML/SM9221C 4 MPNM 2.0 1 12/13/04 00:00 255234 (ML/EPA 547) Glyphosate ND ug/l 6.0 1 12/15/04 00:00 255170 (ML/EPA 350.1) Ammonia Nitrogen ND mg/l 0.050 1 12/09/04 22:59 254702 (ML/EPA 300.0) Nitrite, Nitrogen by IC ND mg/l 0.20 2 (ML/EPA 300.0) Nitrate as Nitrogen by IC 12/09/04 22:59 254686 9.0 mg/l 0.20 2 12/09/04 22:59 254695 (ML/EPA 300.0) Nitrate as NO3 by IC (calc) 39 mg/l 0.88 2 12/10/04 17:00 255033 (SM4500P-E) Orthophosphate-P 0,035 mg/l 0.010 1 12/15/04 17:00 255391 (S4500PE/ 365.1) Total phosphorus-P 0.064 0.010 1 mq/l12/17/04 12:26 255715 (ML/EPA 351.2) Kjeldahl Nitrogen ND mg/l 0.20 1) Total Coliform Bacteria 12/09/04 15:08 (ML/SM9221B 1600 MPNM 2.0 1 12/09/04 19:14 254761 (ML/EPA 180.1) Turbidity 1.3 NTU 0.050 1 Diazinon/Chlorpyrifos by GCMS 12/22/04 00:00 (EPA 625 MODSUB) Diazinon ND $n\alpha/1$ 5.0 З 12/22/04 00:00 (EPA 625 MODSUB) Bolstar (Sulprofos) ND ng/l 10 1 12/22/04 00:00 (EPA 625 MODSUB) Chlorpyrifos ND ng/l 5.0 Ъ. 12/22/04 00:00 (EPA 625 MODSUB) Demeton 10 ND ng/l I 12/22/04 00:00 (EPA 625 MODSUB) Dichlorvos ND ng/l 10 1 12/22/04 00:00 (EPA 625 MODSUB) Disulfoton ND ng/l 10 1 12/22/04 00:00 (EPA 625 MODSUB) Dimethoate ND ng/l 5.0 3 12/22/04 00:00 (EPA 625 MODSUB) Ethoprop (Ethoprophos) ND ng/l 10 1 12/22/04 00:00 (EPA 625 MODSUB) Fenchlorophos (Ronnel) NĎ ng/l 10 1 12/22/04 00:00 (EPA 625 MODSUB) Fensulfothion ND ng/l10 1 12/22/04 00:00 (EPA 625 MODSUB) Fenthion ND 10 nq/l1 12/22/04 00:00 (EPA 625 MODSUB) Merphos ND ng/l 10 1 12/22/04 00:00 (EPA 625 MODSUB) Mevinphos (Phosdrin) ND nq/l10 1 12/22/04 00:00 (EPA 625 MODSUB) Malathion ND ng/l 5.0 1 12/22/04 00:00 (EPA 625 MODSUB) Parathion-methyl ND ng/l 1.0 ÷ 12/22/04 00:00 (EPA 625 MODSUB) Phorate ND ng/l 10 3 12/22/04 00:00 (EPA 625 MODSUB) Tokuthion ND ng/l 1.0 1 12/22/04 00:00 (EPA 625 MODSUB) Tetrachlorovinphos (Stirophos) ND ng/l 10 1

MWH Laboratories

Laboratory

Data Report



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Applied Research Dept, MWH (Darren Giles) (continued)

Prepared Analyzed	QC Ref≇	Method	Analyte	Result	Units	MRL	Dilution
12/22/04 00:00		(EPA 625 MODSU	3) Trichloronate	ND	ng/l	10	1
SITE 1 INFLOW 7	ro tj f	POND 2 (24	12090045) Sampled	l on 12/0	9/04 11	.:50	
12/09/04 15:14		(ML/SM9221C) Fecal Coliform Bacteria	8	MPNM	2.0	1
12/13/04 00:00	255234	(ML/EPA 547) Glyphosate	ND	ug/l	6.0	1
12/15/04 00:00	255170	(ML/EPA 350.1) Ammonia Nítrogen	ND	mg/l	0.050	1
12/10/04 00:56	254703	(ML/EPA 300.0) Nitrite, Nitrogen by IC	ND	mg/l	0.20	2
12/10/04 00:56	254687	(ML/EPA 300.0) Nitrate as Nitrogen by IC	9.1	mg/l	0.20	2
12/10/04 00:56	254696	(ML/EPA 300.0) Nitrate as NO3 by IC (calc)	40	mg/l	0.88	2
12/10/04 17:00	255033	(SM4500P-E) Orthophosphate-P	0.039	mg/l	0.010	1
12/15/04 17:00	255391	(S4500PE/ 365.)) Total phosphorus-P	0.060	mg/l	0.010	1
12/17/04 12:26	255715	(ML/EPA 351.2) Kjeldahl Nitrogen	ND	mg/l	0.20	1
12/09/04 15:14		(ML/SM9221B) Total Coliform Bacteria	170	MPNM	2.0	1
12/09/04 19:14	254761	(ML/EPA 180.1) Turbidity	0.25	NTU	0.050	1
		Diazinon/	Chlorpyrifos by GCMS				
12/22/04 00:00		(EPA 625 MODSUE) Diazinon	ND	ng/l	5.0	1
12/22/04 00:00		(EPA 625 MODSUE) Bolstar (Sulprofos)	ND	ng/l	10	1
12/22/04 00:00		(EPA 625 MODSUE) Chlorpyrifos	ND	nq/l	5.0	1
12/22/04 00:00		(EPA 625 MODSUE) Demeton	ND	ng/l	10	1
12/22/04 00:00		(EPA 625 MODSUE) Dichlorvos	ND	ng/l	10	1
12/22/04 00:00		(EPA 625 MODSUE) Disulfoton	ND	ng/l	10	1
12/22/04 00:00		(EPA 625 MODSUE) Dimethoate	ND	ng/l	5.0	1
12/22/04 00:00		(EPA 625 MODSUE) Ethoprop (Ethoprophos)	ND	ng/l	10	1
12/22/04 00:00		(EPA 625 MODSUB) Fenchlorophos (Ronnel)	ND	ng/l	10	1
12/22/04 00:00		(EPA 625 MODSUE) Fensulfothion	ND	ng/l	10	1
12/22/04 00:00		(EPA 625 MODSUB) Fenthion	ND	ng/l	10	1
12/22/04 00:00		(EPA 625 MODSUB) Merphos	ND	ng/l	10	1
12/22/04 00:00		(EPA 625 MODSUB) Mevinphos (Phosdrin)	ND	ng/l	10	1
12/22/04 00:00		(EPA 625 MODSUE) Malathion	ND	ng/l	5.0	1
12/22/04 00:00		(EPA 625 MODSUB) Parathion-methyl	ND	ng/l	10	1
12/22/04 00:00		(EPA 625 MODSUB) Phorate	ND	ng/l	10	1
12/22/04 00:00		(EPA 625 MODSUB) Tokuthion	ND	ng/l	10	1
12/22/04 00:00		(EPA 625 MODSUB) Tetrachlorovinphos (Stirophos)	ND	ng/l	10	1
12/22/04 00:00		(EPA 625 MODSUB	Trichloropata	ND	ng/l	10	1



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Applied Research Dept, MWH (Darren Giles) (continued)

Prepared	Analyzed	QC Ref#	Method	Analyte		sult	Units	MRL	Dilution
SITE	2 OUTFLOW	FROM	IJ POND 1 ((2412090046)	Sampled	on 12/	09/04	12:30	
	12/09/04 15:19		(ML/SM9221C) Fecal Coliform Bacteria	9		MPNM	2.0	l
	12/13/04 00:00	255234	(ML/EPA 547) Glyphosate	N	D	ug/l	6.0	1
	12/15/04 00:00	255170	(ML/EPA 350.1) Ammonia Nitrogen	N	D	mg/l	0.050	1
	12/10/04 03:50	254703	(ML/EPA 300.0) Nitrite, Nitrogen by IC	N	D	mg/l	0.20	2
	12/10/04 03:50	254687	(ML/EPA 300.0) Nitrate as Nitrogen by IC	7	. 3	mg/l	0.20	2
	12/10/04 03:50	254696	(ML/EPA 300.0) Nitrate as NO3 by IC (cal	c) 3:	2	mg/l	0.88	2
	12/10/04 17:00	255033	(SM4500P-E) Orthophosphate-P	0	.029	mg/l	0.010	1
	12/15/04 17:00	255391	(\$4500PE/ 365.1) Total phosphorus-P	0	.065	mg/l	0.010	1
	12/17/04 12:26	255715	(ML/EPA 351.2) Kjeldahl Nitrogen	N	D	mg/l	0.20	1
	12/09/04 15:19		(ML/SM9221B) Total Coliform Bacteria	1.	400	MPNM	2.0	1
	12/09/04 19:14	254761	(ML/EPA 180.1) Turbidity	0	.20	NTU	0.050	1
			Diazinon/C	hlorpyrifos by G	CMS				
	12/22/04 00:00		(EPA 625 MODSUB)) Diazinon	NI	0	ng/l	5.0	1
	12/22/04 00:00		(EPA 625 MODSUB)) Bolstar (Sulprofos)	NI	C	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUB)) Chlorpyrifos	NI	2 C	ng/l	5.0	1
	12/22/04 00:00		(EPA 625 MODSUB)	Demeton	NI	2 C	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUB)	Dichlorvos	NI	2	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUB)	Disulfoton	NI	>	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUB)	Dimethoate	NI	>	ng/l	5.0	1
	12/22/04 00:00		(EPA 625 MODSUB)	Ethoprop (Ethoprophos)	NI	5	ng/l	1.0	1
	12/22/04 00:00		(EPA 625 MODSUB)	Fenchlorophos (Ronnel)	NI	5	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUB)	Fensulfothion	NI	o l	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUB)	Fenthion	NI	>	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUB)	Merphos	NI	2	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUB)	Mevinphos (Phosdrin)	NE	>	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUB)	Malathion	NI)	ng/l	5.0	1
	12/22/04 00:00		(EPA 625 MODSUB)	Parathion-methyl	NI)	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUB)	Phorate	NI)	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUB)	Tokuthion	NI)	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUB)	Tetrachlorovinphos (Stirop	phos) NI	2	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUB)	Trichloronate	NI)	ng/l	10	***



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Applied Research Dept, MWH (Darren Giles) (continued)

Prepared Analyzed	QC Ref# Method	Analyte	Result	Units	MRL	Dilution
SITE 2 OUTFLOW	FROM TJ POND	2 (2412090048)	Sampled on	12/09/04	12:35	
12/09/04 15:24	(ML/SM9221	C) Fecal Coliform Bacteri	a 4	MPNM	2.0	1
12/13/04 00:00	255234 (ML/EPA 54	7) Glyphosate	ND	ug/l	6.0	1
12/15/04 00:00	255170 (ML/BPA 35).1) Ammonia Nitrogen	ND	mg/l	0.050	1
12/10/04 03:27	254703 (ML/EPA 30	0.0) Nitrite, Nitrogen by I	C ND	mg/l	0.20	2
12/10/04 03:27	254687 (ML/EPA 30).0) Nitrate as Nitrogen by	IC 7.2	mg/l	0.20	2
12/10/04 03:27	254696 (ML/EPA 30).0) Nitrate as NO3 by IC (calc) 32	mg/l	0.88	2
12/10/04 17:00	255033 (SM4500P-E) Orthophosphate-P	0.029	mg/l	0.010	1
12/15/04 17:00	255391 (S4500PE/	365.1) Total phosphorus-P	0.028	mg/l	0.010	1
12/17/04 12:26	255715 (ML/EPA 35	i.2) Kjeldahl Nitrogen	ND	mg/l	0.20	l
12/09/04 15:24	(ML/SM9221	3) Total Coliform Bacteri	a 50	MPNM	2.0	1
12/09/04 19:14	254761 (ML/EPA 18).l) Turbidity	0.20	NTU	0.050	I
	Diazinc	n/Chlorpyrifos by	GCMS			
12/22/04 00:00	(EPA 625 MG	DDSUB) Diazinon	ND	ng/l	5.0	1
12/22/04 00:00	(EPA 625 M	DSUB) Bolstar (Sulprofos)	ND	ng/l	10	1
12/22/04 00:00	(EPA 625 MG	DDSUB) Chlorpyrifos	ND	ng/l	5.0	1
12/22/04 00:00	(EPA 625 MG	DSUB) Demeton	ND	ng/l	10	1
12/22/04 00:00	(EPA 625 MG	DSUB) Dichlorvos	ND	ng/l	10	1
12/22/04 00:00	(EPA 625 MC	DSUB) Disulfoton	ND	ng/l	10	1
12/22/04 00:00	(EPA 625 M	DSUB) Dimethoate	ND	ng/l	5.0	1
12/22/04 00:00	(EPA 625 MC	DSUB) Ethoprop (Ethoprophos)	ND	ng/l	10	1
12/22/04 00:00	(EPA 625 MC	DSUB) Fenchlorophos (Ronnel)	ND	ng/l	10	1
12/22/04 00:00	(EPA 625 MC	DSUB) Fensulfothion	ND	ng/l	10	1
12/22/04 00:00	(EPA 625 MC	DSUB) Fenthion	ND	ng/1	10	1
12/22/04 00:00	(EPA 625 MC	DSUB) Merphos	ND	ng/l	10	1
12/22/04 00:00	(EPA 625 M	DSUB) Mevinphos (Phosdrin)	ND	ng/l	10	1
12/22/04 00:00	(EPA 625 MC	DSUB) Malathion	ND	ng/l	5.0	1
12/22/04 00:00	(EPA 625 MC	DSUB) Parathion-methyl	ND	ng/l	10	1
12/22/04 00:00	(EPA 625 MC	DSUB) Phorate	ND	ng/l	10	1
12/22/04 00:00	(EPA 625 MC	DSUB) Tokuthion	ND	ng/l	10	1
12/22/04 00:00	(EPA 625 MC	DSUB) Tetrachlorovinphos (St:	irophos) ND	ng/l	10	1
12/22/04 00:00	(EPA 625 MC	DSUB) Trichloronate	ND	ng/l	10	1



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(continued)

Prepared	Analyzed	QC Ref#	Method		Analyte		Result	Units	MRL	Dilution
SITE 4	4 HAINES	CANYON	CREEK 1	. (24	412090049)	Sampled	on	12/09/04	10:30	
	12/09/04 15:30)	(ML/SM9221	C }	Fecal Coliform Bacteria		110	MPNM	2.0	1
	12/13/04 00:00	255234	(ML/EPA 54	7)	Glyphosate		ND	ug/l	6.0	l
	12/15/04 00:00	255170	(ML/EPA 35	0.1)	Ammonia Nitrogen		ND	mg/l	0.050	1.
	12/10/04 04:25	5 254703	(ML/EPA 30	0.0)	Nitrite, Nitrogen by IC		ND	mg/l	0.20	2
	12/10/04 04:25	5 254687	(ML/EPA 30	0.0)	Nitrate as Nitrogen by 3	IC	3.0	mg/l	0.20	2
	12/10/04 04:25	5 254696	(ML/EPA 30	0.0)	Nitrate as NO3 by IC (ca	alc)	13	mg/l	0.88	2
	12/10/04 17:00	255033	(SM4500P-E)	Orthophosphate-P		0.010	mg/l	0.010	1
	12/15/04 17:00	255391	(S4500PE/	365.1)	Total phosphorus-P		0.025	mg/l	0.010	l
	12/17/04 12:26	5 255715	(ML/EPA 35	1.2 }	Kjeldahl Nitrogen		ND	mg/l	0.20	1
	12/09/04 15:30)	(ML/SM9221)	в)	Total Coliform Bacteria		700	MPNM	2.0	1
	12/09/04 19:37	254764	(ML/EPA 18	0.1)	Turbidity		0.35	NTU	0.050	1
					nlorpyrifos by	GCMS				
	12/22/04 00:00		(EPA 625 M				ND	ng/l	5.0	1
	12/22/04 00:00				Bolstar (Sulprofos)		ND	ng/l	10	1
	12/22/04 00:00				Chlorpyrifos		ND	ng/l	5.0	1
	12/22/04 00:00		(EPA 625 M)DSUB}	Demeton		ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MG				ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MG	DSUB)	Disulfoton		ND	ng/l	10	3
	12/22/04 00:00	1	(EPA 625 M	DSUB)	Dimethoate		ND	ng/l	5.0	1
	12/22/04 00:00)	(EPA 625 MG	DSUB)	Ethoprop (Ethoprophos)		ND	ng/l	10	1
	12/22/04 00:00)	(EPA 625 M	DSUB)	Fenchlorophos (Ronnel)		ND	ng/1	10	1
	12/22/04 00:00		(EPA 625 MG	DSUB)	Fensulfothion		ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MG	DSUB)	Fenthion		ND	ng/l	10	1
	12/22/04 00:00	ł	(EPA 625 MG	DSUB)	Merphos		ND	ng/l	10	1
	12/22/04 00:00	•	(EPA 625 MG	DDSUB)	Mevinphos (Phosdrin)		ND	ng/1	10	1
	12/22/04 00:00	ł	(EPA 625 MC	DSUB)	Malathion		ND	ng/l	5.0	l
	12/22/04 00:00	i	(EPA 625 MC	DSUB)	Parathion-methyl		ND	ng/l	10	1
	12/22/04 00:00	i	(EPA 625 MC	DSUB)	Phorate		ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MC	DSUB)	Tokuthion		ND	ng/l	10	1
	12/22/04 00:00	1	(EPA 625 MC	DSUB)	Tetrachlorovinphos (Stir	rophos)	ND	ng/l	10	1
	12/22/04 00:00	l	(EPA 625 MC	DSUB)	Trichloronate		ND	ng/l	10	<u>***</u>



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Applied Research Dept, MWH (Darren Giles) (continued)

Prepared Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
SITE 4 HAIN	ES CANYON	CREEK 2 (2	2412090050) Sampled	l on	12/09/04	10:40	
12/09/04	15:35	(ML/SM9221C) Fecal Coliform Bacteria	23	MPNM	2.0	1
12/14/04	00:00 255235	(ML/EPA 547) Glyphosate	ND	ug/l	б.О	1
12/15/04	00:00 255170	(ML/EPA 350.1) Ammonia Nitrogen	ND	mg/l	0.050	1
12/10/04	07:19 254704	(ML/EPA 300.0) Nitrite, Nitrogen by IC	ND	mg/l	0.20	2
12/10/04	07:19 254688	(ML/EPA 300.0) Nitrate as Nitrogen by IC	2.9	mg/l	0.20	2
12/10/04	07:19 254698	(ML/EPA 300.0) Nitrate as NO3 by IC (calc)	13	mg/l	0.88	2
12/10/04	17:00 255033	(SM4500P-E) Orthophosphate-P	0.010	mg/l	0.010	1
12/15/04	17:00 255391	(S4500PE/ 365.1) Total phosphorus-P	0.015	mg/l	0.010	1
12/17/04	12:26 255715	(ML/EPA 351.2) Kjeldahl Nitrogen	0.35	mg/l	0.20	l
12/09/04	15:35	(ML/SM9221B) Total Coliform Bacteria	900	MPNM	2.0	1
12/09/04	19:37 254764	(ML/EPA 180.1) Turbidity	0.45	NTU	0.050	1
		Diazinon/(Chlorpyrifos by GCMS				
12/22/04	00:00	(EPA 625 MODSUB) Diazinon	ND	ng/l	5.0	1.
12/22/04	00:00	(EPA 625 MODSUB) Bolstar (Sulprofos)	ND	ng/l	10	1
12/22/04	00:00	(EPA 625 MODSUB) Chlorpyrifos	ND	ng/l	5.0	1
12/22/04	00:00	(EPA 625 MODSUB) Demeton	ND	ng/l	10	1
12/22/04	00:00	(EPA 625 MODSUB) Dichlorvos	ND	ng/l	10	1
12/22/04	00:00	(EPA 625 MODSUB) Disulfoton	ND	ng/l	10	1
12/22/04	00:00	(EPA 625 MODSUB) Dimethoate	ND	ng/l	5.0	1
12/22/04	00:00	(EPA 625 MODSUB) Ethoprop (Ethoprophos)	ND	ng/l	10	1
12/22/04	00:00	(EPA 625 MODSUB) Fenchlorophos (Ronnel)	ND	ng/l	10	2
12/22/04	00:00	(EPA 625 MODSUB	> Fensulfothion	ND	ng/l	10	1
12/22/04	00:00	(EPA 625 MODSUB) Fenthion	ND	ng/l	10	1
12/22/04	00:00	(EPA 625 MODSUB) Merphos	ND	ng/l	10	1
12/22/04	00:00	(EPA 625 MODSUB) Mevinphos (Phosdrin)	ND	ng/l	10	1
12/22/04	00:00	(EPA 625 MODSUB) Malathion	ND	ng/l	5.0	1
12/22/04	00:00	(EPA 625 MODSUB) Parathion-methyl	ND	ng/l	10	1
12/22/04	00:00	(EPA 625 MODSUB) Phorate	ND	ng/l	10	1
12/22/04	00:00	(EPA 625 MODSUB) Tokuthion	ND	ng/l	10	1
12/22/04	00:00	(EPA 625 MODSUB) Tetrachlorovinphos (Stirophos)	ND	ng/l	10	1
12/22/04	00:00	(EPA 625 MODSUB) Trichloronate	ND	ng/l	10	1



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(continued)

Prepared Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
SITE 3 BIG TJ	WASH 1	(241209005	(1) Sampled on	12/09/04 1	3:10		
12/09/04 15:	40	(ML/SM9221C) Fecal Coliform Bacteria	<2	MPNM	2.0	l
12/14/04 00:	00 255235	(ML/EPA 547) Glyphosate	ND	ug/l	6.0	1
12/15/04 00:	00 255170	(ML/EPA 350.1) Ammonia Nitrogen	ND	mg/l	0.050	1
12/09/04 22:	01 254702	(ML/EPA 300.0) Nitrite, Nitrogen by IC	ND	mg/l	0.20	2
12/09/04 22:	01 254686	(ML/EPA 300.0) Nitrate as Nitrogen by IC	ND	mg/l	0.20	2
12/09/04 22:	01 254695	(ML/EPA 300.0) Nitrate as NO3 by IC (calc)	ND	mg/l	0.88	2
12/10/04 17:0	00 255033	(SM4500P-E) Orthophosphate-P	ND	mg/l	0.010	1
12/15/04 17:0	00 255391	(S4500PE/ 365.1)) Total phosphorus-P	0.035	mg/l	0.010	1
12/17/04 12:3	26 255715	(ML/EPA 351.2)	Kjeldahl Nitrogen	0.24	mg/l	0.20	1
12/09/04 15:4	10	(ML/SM9221B)	Total Coliform Bacteria	50	MPNM	2.0	1
12/09/04 19:3	14 254761	(ML/EPA 180.1)	Turbidity	0.45	NTU	0.050	1
		Diazinon/C	hlorpyrifos by GCMS	3			
12/22/04 00:0	00	(EPA 625 MODSUB)	Diazinon	ND	ng/l	5.0	l
12/22/04 00:0	00	(EPA 625 MODSUB)	Bolstar (Sulprofos)	ND	ng/l	1.0	1
12/22/04 00:0	00	(EPA 625 MODSUB)	Chlorpyrifos	ND	ng/l	5.0	1
12/22/04 00:0	0	(EPA 625 MODSUB)	Demeton	ND	ng/l	10	1
12/22/04 00:0	00	(EPA 625 MODSUB)	Dichlorvos	ND	ng/l	10	l
12/22/04 00:0	00	(EPA 625 MODSUB)	Disulfoton	ND	ng/l	10	1
12/22/04 00:0)0	(EPA 625 MODSUB)	Dimethoate	ND	ng/l	5.0	1
12/22/04 00:0	00	(EPA 625 MODSUB)	Ethoprop (Ethoprophos)	ND	ng/l	10	1
12/22/04 00:0	00	(EPA 625 MODSUB)	Fenchlorophos (Ronnel)	ND	ng/l	10	1
12/22/04 00:0	10	(EPA 625 MODSUB)	Fensulfothion	ND	ng/l	10	1
12/22/04 00:0	0	(EPA 625 MODSUB)	Fenthion	ND	ng/l	10	1
12/22/04 00:0	0	(EPA 625 MODSUB)	Merphos	ND	ng/l	10	1
12/22/04 00:0	0	(EPA 625 MODSUB)	Mevinphos (Phosdrin)	ND	ng/l	10	1
12/22/04 00:0	0	(EPA 625 MODSUB)	Malathion	ND	ng/l	5.0	1
12/22/04 00:0	0	(EPA 625 MODSUB)	Parathion-methyl	ND	ng/l	10	1
12/22/04 00:0	0	(EPA 625 MODSUB)	Phorate	ND	ng/l	10	1
12/22/04 00:0	0	(EPA 625 MODSUB)	Tokuthion	ND	ng/l	10	1
12/22/04 00:0	0	(EPA 625 MODSUB)	Tetrachlorovinphos (Stirophos)	ND	ng/l	10	1
12/22/04 00:0	0	(EPA 625 MODSUB)	Trichloronate	ND	ng/l	10	1



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Applied Research Dept, MWH (Darren Giles) (continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL,	Dilution
SITE	3 BIG TJ N	WASH 2	(24120900	52) Sampled or	n 12/09/04 :	13:15		
	12/09/04 15:46		(ML/SM9221C) Fecal Coliform Bacteria	<2	MPNM	2.0	ı
	12/14/04 00:00	255235	(ML/EPA 547) Glyphosate	ND	ug/l	6.0	1
	12/15/04 00:00	255170	(ML/EPA 350.1) Ammonia Nitrogen	ND	mg/l	0.050	1
	12/09/04 22:36	254702	(ML/EPA 300.0) Nitrite, Nitrogen by IC	ND	mg/l	0.20	2
	12/09/04 22:36	254686	(ML/EPA 300.0) Nitrate as Nitrogen by IC	ND	mg/l	0.20	2
	12/09/04 22:36	254695	(ML/EPA 300.0) Nitrate as NO3 by IC (calc) ND	mg/l	0.88	2
	12/10/04 17:00	255033	(SM4500P-E) Orthophosphate-P	ND	mg/l	0.010	1
	12/15/04 17:00	255391	(\$4500PE/ 365.	1) Total phosphorus-P	0.038	mg/l	0.010	1
	12/17/04 12:26	255715	(ML/EPA 351.2) Kjeldahl Nítrogen	ND	mg/l	0.20	1
	12/09/04 15:46		(ML/SM9221B) Total Coliform Bacteria	130	MPNM	2.0	l
	12/09/04 19:37	254764	(ML/EPA 180.1) Turbidity	0.40	NTU	0.050	1
			Diazinon/	Chlorpyrifos by G	CMS			
	12/22/04 00:00		(EPA 625 MODSU		ND	ng/l	5.0	1
	12/22/04 00:00		(EPA 625 MODSU	B) Bolstar (Sulprofos)	ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSU	B) Chlorpyrifos	ND	ng/l	5,0	1
	12/22/04 00:00		(EPA 625 MODSU	B) Demeton	ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSU	B) Dichlorvos	ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSU	B) Disulfoton	ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSU	B) Dimethoate	ND	ng/l	5.0	1.
	12/22/04 00:00		(EPA 625 MODSU	B) Ethoprop (Ethoprophos)	ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSU	B) Fenchlorophos (Ronnel)	ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUI	B) Fensulfothion	ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSU	B) Fenthion	ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSU	B) Merphos	ND	ng/l	2.0	1
	12/22/04 00:00		(EPA 625 MODSU	B) Mevinphos (Phosdrin)	ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUL	3) Malathion	NĎ	ng/l	5.0	1
	12/22/04 00:00		(EPA 625 MODSU	3) Parathion-methyl	ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSU	3) Phorate	ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSU	3) Tokuthion	ND	ng/l	10	l
	12/22/04 00:00		(EPA 625 MODSUE	3) Tetrachlorovinphos (Stiroph	nos) ND	ng/l	10	1
	12/22/04 00:00		(EPA 625 MODSUR	3) Trichloronate	ND	ng/l	10	1



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QC Ref #254686 - Nitrate as Nitrogen by IC Analysis Date: 12/09/2004

2412090041	SITE 1	INFLOW	TO TJ	POND	1
2412090051	SITE 3	BIG TJ	WASH 1		
2412090052	SITE 3	BIG TJ	WASH 2	1	

QC Ref #254687 - Nitrate as Nitrogen by IC Analysis Date: 12/10/2004

2412090045	SITE 1	INFLOW TO TJ POND 2
2412090046	SITE 2	OUTFLOW FROM TJ POND 1
2412090048	SITE 2	OUTFLOW FROM TJ POND 2
2412090049	SITE 4	HAINES CANYON CREEK 1

QC Ref #254688 - Nitrate as Nitrogen by IC Analysis Date: 12/10/2004

2412090050 SITE 4 HAINES CANYON CREEK 2

QC Ref #254695 - Nitrate as NO3 by IC (calc) Analysis Date: 12/09/2004

2412090041	SITE 1	INFLOW	TO TJ PC	ND 1
2412090051	SITE 3	BIG TJ	WASH 1	
2412090052	SITE 3	BIG TJ	WASH 2	

QC Ref #254696 - Nitrate as NO3 by IC (calc) Analysis Date: 12/10/2004

2412090045	SITE 1	INFLOW TO TJ POND 2
2412090046	SITE 2	OUTFLOW FROM TJ POND 1
2412090048	SITE 2	OUTFLOW FROM TJ POND 2
2412090049	SITE 4	HAINES CANYON CREEK 1

QC Ref #254698 - Nitrate as NO3 by IC (calc) Analysis Date: 12/10/2004

2412090050 SITE 4 HAINES CANYON CREEK 2



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Applied Research Dept, MWH (Darren Giles) (continued)

QC Ref #254702 - Nitrite, Nitrogen by IC Analysis Date: 12/09/2004

2412090041	SITE 3	1	INFLOW	TO T	J POND	1
2412090051	SITE 3	3	BIG TJ	WASH	1	
2412090052	SITE 3	3	BIG TJ	WASH	2	

QC Ref #254703 - Nitrite, Nitrogen by IC Analysis Date: 12/10/2004

2412090045	SITE 1	INFLOW	TO TJ	PONI	2	
2412090046	SITE 2	OUTFLO	W FROM	TJ I	POND	1
2412090048	SITE 2	OUTFLO	W FROM	TJ I	POND	2
2412090049	SITE 4	HAINES	CANYON	I CRI	SEK 1	L

QC Ref #254704 - Nitrite, Nitrogen by IC Analysis Date: 12/10/2004

2412090050

SITE 4 HAINES CANYON CREEK 2

QC Ref #254761 - Turbidity

2412090041	SITE	1	INFLOW TO TJ POND 1	
2412090045	SITE	1	INFLOW TO TJ POND 2	
2412090046	SITE	2	OUTFLOW FROM TJ POND 1	L
2412090048	SITE	2	OUTFLOW FROM TJ POND 2	2
2412090051	SITE	3	BIG TJ WASH 1	

QC Ref #254764 - Turbidity

Analysis Date: 12/09/2004

Analysis Date: 12/09/2004

2412090049	SITE	4	HAINES	CANYON	CREEK	1
2412090050	SITE	4	HAINES	CANYON	CREEK	2
2412090052	SITE	3	BIG TJ	WASH 2		



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Applied Research Dept, MWH (Darren Giles) (continued)

QC Ref #255033 - Orthophosphate-P

QC Ref #255170 - Ammonia Nitrogen

2412090041 2412090045 2412090046 2412090048 2412090049 2412090050 2412090051 2412090052

QC Ref #255234 - Glyphosate

Analysis Date: 12/13/2004

2412090041	SITE	1	INFLOW TO TJ POND 1
2412090045	SITE	1	INFLOW TO TJ POND 2
2412090046	SITE	2	OUTFLOW FROM TJ POND 1
2412090048	SITE	2	OUTFLOW FROM TJ POND 2
2412090049	SITE	4	HAINES CANYON CREEK 1

QC Ref #255235 - Glyphosate

Analysis Date: 12/14/2004

2412090050	SITE	4	HAINES	CANYON	CREEK	2
2412090051	SITE	3	BIG TJ	WASH 1		
2412090052	SITE	3	BIG TJ	WASH 2		

Analysis Date: 12/10/2004

SITE 4 HAINES CANYON CREEK 2 SITE 3 BIG TJ WASH 1 SITE 3 BIG TJ WASH 2

SITE 1 INFLOW TO TJ POND 1

SITE 1 INFLOW TO TJ POND 2 SITE 2 OUTFLOW FROM TJ POND 1

SITE 2 OUTFLOW FROM TJ POND 2

SITE 4 HAINES CANYON CREEK 1

SITE 4 HAINES CANYON CREEK 2

SITE 3 BIG TJ WASH 1

SITE 3 BIG TJ WASH 2

SITE 2 OUTFLOW FROM TJ POND 1

SITE 2 OUTFLOW FROM TJ POND 2

SITE 4 HAINES CANYON CREEK 1

SITE 1 INFLOW TO TJ POND 1

SITE 1 INFLOW TO TJ POND 2

Analysis Date: 12/15/2004



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Applied Research Dept, MWH (Darren Giles) (continued)

QC Ref #255391 - Total phosphorus-P

QC Ref #255715 - Kjeldahl Nitrogen

Analysis Date: 12/17/2004

Analysis Date: 12/15/2004

2412090041	SITE 1	INFLOW TO TJ POND 1
2412090045	SITE 1	INFLOW TO TJ POND 2
2412090046	SITE 2	OUTFLOW FROM TJ POND 1
2412090048	SITE 2	OUTFLOW FROM TJ POND 2
2412090049	SITE 4	HAINES CANYON CREEK 1
2412090050		HAINES CANYON CREEK 2
2412090051	SITE 3	BIG TJ WASH 1
2412090052	SITE 3	BIG TJ WASH 2

SITE 1 INFLOW TO TJ POND 1

SITE 1 INFLOW TO TJ POND 2

SITE 2 OUTFLOW FROM TJ POND 1

SITE 2 OUTFLOW FROM TJ POND 2

SITE 4 HAINES CANYON CREEK 1

SITE 4 HAINES CANYON CREEK 2

SITE 3 BIG TJ WASH 1

SITE 3 BIG TJ WASH 2



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Applied Research Dept, MWH (Darren Giles)

QC Ref #254686 Nitrate as Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrate as Nitrogen by IC	2.5	2.44	MGL	97.6	(90-110)	
LCS2	Nitrate as Nitrogen by IC	2.5	2.42	MGL	96.8	(90-110)	0.82
MBLK	Nitrate as Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrate as Nitrogen by IC	2.5	2.35	MGL	94.0	(80~120)	
MSD	Nitrate as Nitrogen by IC	2.5	2.37	MGL	94.8	(80-120)	0.85

QC Ref #254687

Nitrate as Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrate as Nitrogen by IC	2.5	2.49	MGL	99.6	(90-110)	
LCS2	Nitrate as Nitrogen by IC	2.5	2.41	MGL	96.4	(90-110)	3.3
MBLK	Nitrate as Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrate as Nitrogen by IC	2.5	2.32	MGL	92.8	(80-120)	
MSD	Nitrate as Nitrogen by IC	2.5	2.32	MGL	92.8	(80-120)	0.00

QC Ref #254688

Nitrate as Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrate as Nitrogen by IC	2.5	2.44	MGL	97.6	(90-110)	
LCS2	Nitrate as Nitrogen by IC	2.5	2.41	MGL	96.4	(90-110)	1.2
MBLK	Nitrate as Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrate as Nitrogen by IC	2.5	2.4	MGL	96.0	(80-120)	
MSD	Nitrate as Nitrogen by IC	2.5	2.41	MGL	96.4	(80-120)	0.42



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Applied Research Dept, MWH (Darren Giles) (continued)

QC Ref #254702 Nitrite, Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrite, Nitrogen by IC	1.0	0.991	MGL	99.1	(90-110)	
LCS2	Nitrite, Nitrogen by IC	1.0	0.988	MGL	98.8	(90-110)	0.30
MBLK	Nitrite, Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrite, Nitrogen by IC	1.0	0.979	MGL	97.9	(80-120)	
MSD	Nitrite, Nitrogen by IC	1.0	0.997	MGL	99.7	(80-120)	1.8

QC Ref #254703

Nitrite, Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrite, Nitrogen by IC	1.0	1.01	MGL	101.0	(90-110)	
LCS2	Nitrite, Nitrogen by IC	1.0	0.989	MGL	98.9	(90-110)	2.1
MBLK	Nitrite, Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrite, Nitrogen by IC	1.0	0.964	MGL	96.4	(80-120)	
MSD	Nitrite, Nitrogen by IC	1.0	0.956	MGL	95.6	(80-120)	0.83

QC Ref #254704

Nitrite, Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrite, Nitrogen by IC	1.0	0.988	MGL	98.8	(90-110)	
LCS2	Nitrite, Nitrogen by IC	1.0	0.986	MGL	98.6	(90-110)	0.20
MBLK	Nitrite, Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrite, Nitrogen by IC	1.0	0.903	MGL	90.3	(80-120)	
MSD	Nitrite, Nitrogen by IC	1.0	0.907	MGL	90.7	(80-120)	0.44



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Applied Research Dept, MWH (Darren Giles) (continued)

	QC	Ref	#254761	Turbidit	y					
QC DUP			Analyte Turbidity		Spiked ND	Recovered ND	Units NTU	Yield (%)	Limits (%) (0-20)	RPD (%)
	QC	Ref	#254764	Turbidit	У					
QC DUP			Analyte Turbidity		Spiked ND	Recovered ND	Units NTU	Yield (%)	Limits (%) { 0-20)	RPD (%)
	QC	Ref	#255033	Orthopho	sphate	≥-P				
QC			Analyte		Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS			Spiked sample		Lab # 24	12090049	MGL		(0-0)	
LCS1	1.		Orthophosphate-P		0.5	0.508	MGL	101.6	(90-110)	
LCS2	2		Orthophosphate-P		0.5	0.519	MGL	103.8	(90~110)	2.1
MBLE	ĸ		Orthophosphate-P		ND	<0.010	MGL			
MS			Orthophosphate-P		0.5	0.516	MGL	103.2	(80-120)	
MSD			Orthophosphate-P		0.5	0.518	MGL	103.6	(80-120)	0.39

QC Ref #255170

Ammonia Nitrogen

õc	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	12080304	MGL		(0-0)	
LCS1	Ammonia Nitrogen	1.00	1.01	MGL	101.0	(90-110)	
LCS2	Ammonia Nitrogen	1.00	1.01	MGL	101.0	(90-110)	0.00
MBLK	Ammonia Nitrogen	ND	<0.050	MGL			
MS	Ammonia Nitrogen	1.00	1.04	MGL	104.0	(90-110)	
MSD	Ammonia Nitrogen	1.00	1.02	MGL	102.0	(90-110)	1.9



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Applied Research Dept, MWH (Darren Giles) (continued)

QC Ref #255234 Glyphosate

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	12080003	UGL		(0-0)	
LCS1	Glyphosate	10	9.55	UGL	95.5	(70-130)	
MBLK	Glyphosate	ND	<6.0	UGL			
MS	Glyphosate	10	7.60	UGL	76.0	(70-130)	
MSD	Glyphosate	10	9.03	UGL	90.3	(70-130)	17

QC Ref #255235 Glyphosate

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	12090118	UGL		(0-0)	
LCS1	Glyphosate	10	10.2	UGL	102.0	(70-130)	
MBLK	Glyphosate	ND	<6.0	UGL			
MS	Glyphosate	10	10.5	UGL	105.0	(70-130)	
MSD	Glyphosate	10	9.89	UGL	98.9	(70-130)	6.0

QC Ref #255391

Total phosphorus-P

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	12100264	MGL		(0-0)	
LCS1	Total phosphorus-P	0.4	0.420	MGL	105.0	(90-110)	
LCS2	Total phosphorus-P	0.4	0.410	MGL	102.5	(90-110)	2.4
MBLK	Total phosphorus-P	ND	<0.010	MGL			
MS	Total phosphorus-P	0.4	0.370	MGL	92.5	(90-110)	
MSD	Total phosphorus-P	0.4	0.390	MGL	97.5	(90-110)	5.3
RPD_LCS	Total phosphorus-P	105.000	102.500	MGL	2.4	(0-10)	
RPD_MS	Total phosphorus-P	92.500	97.500	MGL	5.3	(0-10)	



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Applied Research Dept, MWH (Darren Giles) (continued)

QC Ref #255715

Kjeldahl Nitrogen

QĊ	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 24	12090041	MGL		(0-0)	
LCS1	Kjeldahl Nitrogen	4	4.10	MGL	102.5	(90-110)	
LCS2	Kjeldahl Nitrogen	4	4.20	MGL	105.0	(90-110)	2.4
MBLK	Kjeldahl Nitrogen	ND	<0.20	MGL			
MS	Kjeldahl Nitrogen	4	4.07	MGL	101.8	(90-110)	
MSD	Kjeldahl Nitrogen	4	4.40	MGL	110.0	(90-110)	7.8
RPD_LCS	Kjeldahl Nitrogen	102.500	105,000	MGL	2.4	(0-20)	
RPD_MS	Kjeldahl Nitrogen	101.750	110.000	MGL	7.8	(0-10)	



December 24, 2004

MWH Laboratories 70 Royal Oaks Dr., Suite 100 Monrovia, CA 91016-3629

CRG Project ID: P2402gh Re: MWH Project: 139542 MWH Sub PO: 99-15489

ATTN: Mr. Michael Lettona

CRG Laboratories is pleased to provide you with the enclosed analytical data report for your 139542 Project. According to the chain-of-custody, 8 wastewater samples were received intact and cool at CRG on December 9, 2004. Per your instructions, the samples were analyzed for:

٠ Organophosphorus Pesticides By GCMS Using EPA Method 625

Please don't hesitate to call if you have any questions and thank you very much for using our laboratory for your analytical needs.

Regards, Misty B. Mercier Project Manager

Digitally signed by Misty Borja Mercier DN: CN = Misty Borja Mercier, C = US, O = CRG Manine Laboratories, Inc. Date: 2004.12.24 14:04:03

-08'00

Reviewed and Approved



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Client:	MWH Laboratories					•	CRG Project ID:		2402gh
CRG ID#: Replicate #: Batch ID: Instrument:	21613 R1 2402-12044 GC/MS #2 Shimadzu QP2010	Sample Description: Matrix: Analyst:	2412090041 Site Project #139542 / PO #99-15489 Wastewater D. Gonsman	Site 1 INI PO #99-15489	Site 1 INFLOW to TJ Pond 1 489		Date Sampled: Date Received: Date Processed: Date Analyzed:	:: 09-Dec-04 1: 09-Dec-04 ed: 14-Dec-04 1: 22-Dec-04	11:40
CONSTITUENT	TT FRACTION	NOL	METHOD	RESULT	STINU	MDL	RL	ILUTION FACTOR	ACCEPTANCE RANGE
(PCB030)	Total		EPA 625	92	% Recovery			٢	46 - 119%
(PCB112)	Total	j	EPA 625	97	% Recovery			~	52 - 123%
(PCB198)	Total		EPA 625	101	% Recovery			-	59 - 123%
(TCMX)	Total	let.	EPA 625	92	% Recovery			4	40 - 110%
Bolstar (Sulprofos)	total Total	-	EPA 625	Ŋ	ng/L	10	20	*	NA
Chlorpyrifos	Total	T.	EPA 625	ND	ng/L	ŝ	10		ΝA
Demeton	Total	-	EPA 625	Ŋ	ng/L	10	20	/	NA
Diazinon	Total		EPA 625	Q	ng/L	ŵ	10	۴	NA
Dichlorvos	Total		EPA 625	QN	ng/L	10	20	*	NA
Dimethoate	Total		EPA 625	QN	ng/L	ى م	10	4	AN
Disulfoton	Total	~~~	EPA 625	ND	ng/L	10	20	۴	NA
Ethoprop (Ethoprofos)	toprofos) Total		EPA 625	QN	ng/L	10	20		AN
Fenchlorophos (Ronnel)	os (Ronnel) Total		EPA 625	ND	J/gn	10	20	4	٨A
Fensulfothion	Total		EPA 625	ND	ng/L	10	20	*	AN
Fenthion	Total		EPA 625	ND	ng/L	10	20	*	NA
Malathion	Total		EPA 625	ND	ng/L	ъ	10	*	NA
Merphos	Total		EPA 625	QN	ng/L	10	20	*	AN
Methyl Parathion	Total		EPA 625	ND	ng/L	10	20	~~	AN
Mevinphos (Phosdrin)	hosdrin) Total		EPA 625	ND	ng/L	10	20	¥	ΝA
Phorate	Total	-	EPA 625	ND	ng/L	10	20	*	NA

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Client: M	Client: MWH Laboratories					S	RG Proje	CRG Project ID: 2402gh	2402gh
CRG ID#: 21613 Replicate #: R1 Batch ID: 2402-12044 Instrument: GC/MS #2 S	CRG ID#: 21613 Replicate #: R1 Batch ID: 2402-12044 Instrument: GC/MS #2 Shimadzu QP2010	Sample Description: Matrix: Analyst:	2412090041 Site Project #139542 / PO #99-15489 Wastewater D. Gonsman	Site 1 INFLO 0 #99-15489	Site 1 INFLOW to TJ Pond 1 489		Date Sampled: Date Received: Date Processed: Date Analyzed:	09-Dec-04 11:40 09-Dec-04 1: 14-Dec-04 22-Dec-04	11:40
CONSTITUENT	FRACTION	NO	METHOD	RESULT	STINU	MDL	RL D	DILUTION FACTOR	ACCEPTANCE RANGE
Tetrachlorvinphos (Stirofos)	os (Stirofos) Total		EPA 625	QN	ng/L	10	20	4	AN
Tokuthion	Total		EPA 625	ND	ng/L	10	20	*	NA
Trichloronate	Total	_	EPA 625	QN	ng/L	10	20	~	NA

California ELAP Certificate # 2261 R1 21613 MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL, ND= Not Detected; NA= Not Applicable.

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Organophosphorus Pesitoloes

21614 Sample *: R1 Description: 2402-12044 Matrix: 2402-12044 Matrix: 26/MS #2 Shimadzu QP2010 Analyst: ENT FRACTION Entitie Fraction Introfocs Total Introfocs Total	045 139542 / PO #99-15 ter nan RESI 99 91	Site 1 INFLOW to TJ Pond 2 489 JLT UNITS 4 % Recovery 5 % Recovery		Date Sampled: Date Received:	09-Dec-04 09-Dec-04	11:50
rRACTION Total Total Total Total Total Total		UNITS % Recovery % Recovery		Date Processed: Date Analyzed:	d: 14-Dec-04	
Total Total Total Total Total Total		% Recovery % Recovery	MDL	RL D	DILUTION FACTOR	ACCEPTANCE RANGE
Total Total Total Total Total		% Recovery			~	46 - 119%
Total Total Total Total Total					****	52 - 123%
Total Total Total Total		% Recovery			* ~~	59 - 123%
Total Total Total		% Recovery			*	40 - 110%
Total Total Total	25 ND	ոց/և	10	20	*	AN
Total Total	25 ND	ng/L	ഹ	10	-	NA
Total	25 ND	ng/L	10	20	*	NA
1-1-T	25 ND	ng/L	ŝ	10	*	NA
	25 ND	J/bu	10	20	*	NA
Dimethoate Total EPA 625	25 ND	ng/L	£	10	÷	NA
Disulfoton Total EPA 625	25 ND	ng/L	10	20	-	NA
Ethoprop (Ethoprofos) Total EPA 625	25 ND	ng/L	10	20	٠	NA
Fenchlorophos (Ronnel) Total EPA 625	25 ND	ng/L	10	20	*~~	NA
Fensulfothion EPA 625	25 ND	J/bu	10	20	*	NA
Fenthion Total EPA 625	25 ND	ng/L	10	20	~	NA
Malathion Total EPA 625	25 ND	ng/L	ŝ	10	~	NA
Merphos Total EPA 625	25 ND	ng/L	10	20	~~	NA
Methyl Parathion Total EPA 625	25 ND	ng/L	10	20	4	NA
Mevinphos (Phosdrin) Total EPA 625	25 ND	ng/L	10	20	7-	NA
Phorate Total EPA 625	25 ND	ng/L	10	20	Ŧ	NA
MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SW	RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the	below the RL, and abo	ve the	Californ	California ELAP Certificate # 2261	cate # 2261

CRG Marine Laboratories, Inc.

2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206 (310) 533-5190 FAX (310) 533-5003 crglabs@sbcglobal.net

Client: MWH Laboratories	oratories						CRG Pro	CRG Project ID: 2402gh	2402gh
CRG ID#: 21614 Sample Replicate #: R1 Descript Batch ID: 2402-12044 Matrix: Instrument: GC/MS #2 Shimadzu QP2010 Analyst:	San Des Matı adzu QP2010 Ana	ample escription: latrix: nalyst:	2412090045 Site Project #139542 / PO #99-15489 Wastewater D. Gonsman	Site 1 INFL PO #99-15489	Site 1 INFLOW to TJ Pond 2 489		Date Sampled: Date Received: Date Processed: Date Analyzed:	d: 09-Dec-04 d: 09-Dec-04 sed: 14-Dec-04 d: 22-Dec-04	09-Dec-04 11:50 09-Dec-04 14-Dec-04 22-Dec-04
CONSTITUENT	FRACTION		METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Tetrachlorvinphos (Stirofos)	Total		EPA 625	ND	ng/L	10	20	*	NA
Tokuthion	Total		EPA 625	ND	ng/L	10	20	*	NA
Trichloronate	Total		EPA 625	ND	na/L	10	20	.	NA

California ELAP Certificate # 2261 ß 21614 MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

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Client:	MWH Laboratories						CRG Project ID:		2402gh
CRG ID#: Replicate #: Batch ID: Instrument:	21615 R1 2402-12044 GC/MS #2 Shimadzu QP2010	Sample Description: Matrix: Analyst:	2412090046 Site Project #139542 / PO #99-15489 Wastewater D. Gonsman	Site 2 OL PO #99-15489	Site 2 OUTFLOW fr. TJ Pond 489		Date Sampled: Date Received: Date Processed: Date Analvzed:	: 09-Dec-04 : 09-Dec-04 od: 14-Dec-04 : 22-Dec-04	12:30
CONSTITUENT	VT FRACTION	ION	METHOD	RESULT	NITS	MDL	RL	ILUTION FACTOR	ACCEPTANCE RANGE
(PCB030)	Total	3	EPA 625	91	% Recovery			1	46 - 119%
(PCB112)	Total		EPA 625	93	% Recovery			÷	52 - 123%
(PCB198)	Total		EPA 625	67	% Recovery			**	59 - 123%
(TCMX)	Total	-	EPA 625	93	% Recovery			د	40 - 110%
Bolstar (Sulprofos)	rofos) Total		EPA 625	ND	ng/L	10	20		NA
Chlorpyrifos	Total		EPA 625	ND	ng/L	3	10	٠	NA
Demeton	Total		EPA 625	QN	ng/L	10	20	6	NA
Diazinon	Total		EPA 625	DN	ng/L	£	10	ł	NA
Dichlorvos	Total	*	EPA 625	ND	ng/L	10	20	****	NA
Dimethoate	Total	-112	EPA 625	DN	ng/L	ß	10	م سر	NA
Disulfoton	Total		EPA 625	ND	ng/L	10	20	~ ~~	AN
Ethoprop (Ethoprofos)	Total Total		EPA 625	QN	ng/L	10	20		AN
Fenchlorophos (Ronnel)	ss (Ronnel) Total		EPA 625	ND	ng/L	10	20	4	٨A
Fensulfothion	Total		EPA 625	Ŋ	ng/L	10	20	****	NA
Fenthion	Total		EPA 625	ND	ng/L	10	20	4	NA
Malathion	Total		EPA 625	QN	J/Bu	ß	10	*	NA
Merphos	Total		EPA 625	ND	ng/L	10	20	4	NA
Methyl Parathion	Total		EPA 625	DN	ng/L	10	20	-	NA
Mevinphos (Phosdrin)	Phosdrin) Total		EPA 625	ND	ng/L	10	20		NA
Phorate	Total		EPA 625	ND	ng/L	10	20	Ŧ	NA

Client:	Client: <i>MWH I aboratories</i>	Š					RG Proje	CRG Project ID: 2402ah	2402ah
CRG ID#: 21615 Replicate #: R1 Batch ID: 2402-1 Instrument: GC/MS	CRG ID#: 21615 Replicate #: R1 Batch ID: 2402-12044 Instrument: GC/MS #2 Shimadzu QP2010	Sample Description: Matrix: Analyst:	2412090046 Site Project #139542 / PO #99-15489 Wastewater D. Gonsman	Site 2 OUTFL 2 #99-15489	Site 2 OUTFLOW fr. TJ Pond 489		Date Sampled: Date Received: Date Processed: Date Analyzed:	09-Dec-04 12:30 09-Dec-04 d: 14-Dec-04 22-Dec-04	12:30
CONSTITUENT	T FRACTION	NOL	METHOD	RESULT	UNITS	MDL	RLD	DILUTION FACTOR	ACCEPTANCE RANGE
Tetrachlorvin	Tetrachlorvinphos (Stirofos) Total	aį	EPA 625	QN	ng/L	10	20	*	NA
Tokuthion	Total	ai	EPA 625	QN	ng/L	10	20	~~	NA
Trichloronate	Total	ai	EPA 625	QN	ng/L	10	20		NA

California ELAP Certificate # 2261 R1 21615 MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

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	INIVIT LADUTATUTES					-	CKG Project ID:		z4uzgn
CRG ID#: Replicate #: Batch ID: Instrument:	21616 R1 2402-12044 GC/MS #2 Shimadzu QP2010	Sample Description: Matrix: Analyst:	2412090048 Site Project #139542 / PO #99-15489 Wastewater D. Gonsman	Site 2 OL PO #99-15489	Site 2 OUTFLOW fr. TJ Pond 489		Date Sampled: Date Received: Date Processed: Date Analyzed:	: 09-Dec-04 1: 09-Dec-04 ed: 14-Dec-04 1: 22-Dec-04	12:35
CONSTITUENT	FRACTION	NOI	METHOD	RESULT	UNITS	MDL	RL	ILUTION ACTOR	ACCEPTANCE RANGE
(PCB030)	Total	-	EPA 625	95	% Recovery			6	46 - 119%
(PCB112)	Total	-	EPA 625	98	% Recovery			*	52 - 123%
(PCB198)	Total		EPA 625	102	% Recovery			* ~~	59 - 123%
(TCMX)	Total	~~~~	EPA 625	96	% Recovery			~~	40 - 110%
Bolstar (Sulprofos)	ofos) Total		EPA 625	QN	ng/L	10	20	,	NA
Chlorpyrifos	Total		EPA 625	DN	ng/L	9	10	-	NA
Demeton	Total	-	EPA 625	QN	-1/gn	10	20	. –	NA
Diazinon	Total	-	EPA 625	QN	ng/L	ŝ	10	~~	NA
Dichlorvos	Total	-	EPA 625	QN	J/Bu	10	20	4 ~~	NA
Dimethoate	Total	1	EPA 625	QN	ng/L	ŝ	10	***	NA
Disulfoton	Total		EPA 625	QN	ng/L	10	20	4	NA
Ethoprop (Ethoprofos)	toprofos) Total		EPA 625	QN	ng/L	10	20	****	NA
Fenchlorophos (Rannel)	s (Ronnel) Total		EPA 625	QN	ng/L	10	20	4 ~~	NA
Fensulfothion	Total		EPA 625	QN	ng/L	10	20		NA
Fenthion	Total		EPA 625	ND	J/gn	10	20	-	NA
Malathion	Total	F	EPA 625	QN	ng/L	ß	10	-	NA
Merphos	Total		EPA 625	DN	ng/L	10	20	.	NA
Methyl Parathion	iion Total	3400	EPA 625	DN	ng/L	10	20	÷	NA
Mevinphos (Phosdrin)	hosdrin) Total	****	EPA 625	QN	ng/L	10	20	~~	NA
Phorate	Total	-	EPA 625	DN	ng/L	10	20	6	NA

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Client:	Client: MWH Laboratories	ŝ				2 2 3	RG Proj	CRG Project ID: 2402gh	2402gh
CRG ID#: 21616 Replicate #: R1 Batch ID: 2402-1 Instrument: GC/MS	CRG ID#: 21616 Replicate #: R1 Batch ID: 2402-12044 Instrument: GC/MS #2 Shimadzu QP2010	Sample Description: Matrix: Analyst:	2412090048 Site Project #139542 / PO #99-15489 Wastewater D. Gonsman	Site 2 OUT 0 #99-15489	Site 2 OUTFLOW fr. TJ Pond 489		Date Sampled: Date Received: Date Processed: Date Analyzed:		09-Dec-04 12:35 09-Dec-04 14-Dec-04 22-Dec-04
CONSTITUENT	VT FRACTION	NOI	METHOD	RESULT	NITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Tetrachlorvin	Tetrachlorvinphos (Stirofos) Total	-	EPA 625	DN	ng/L	10	20	÷	MA
Tokuthion	Total	-	EPA 625	QN	ng/L	10	20	. 	NA
Trichloronate	Total		EPA 625	ND	ng/L	10	20	~	AN

California ELAP Certificate # 2261 21616 R1 MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

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Laboratories,	
CRG Marine	

ACCEPTANCE 46 - 119% 52 - 123% 59 - 123% 40 - 110% RANGE 2402gh ٨ ٨ M AN Ă ×۷ ₹ × ٨Z ₹ ₹ ¥ ¥ ¥ ¥ ₹ California ELAP Certificate # 2261 10:30 09-Dec-04 14-Dec-04 22-Dec-04 09-Dec-04 DILUTION FACTOR **CRG Project ID:** Date Processed: Date Sampled: Date Received: Date Analyzed: RL, 20 ç 20 9 20 10 20 20 20 20 20 10 20 20 20 20 MDL 9 9 10 10 10 10 9 10 0 ð 10 0 10 ю ŝ ŝ ŝ MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable. Site 4 Haines Canyon Creek 1 % Recovery % Recovery % Recovery % Recovery UNITS ng/L J/gn ng/L ng/L ng/L ng/L ng/L ng/L J/Gu ng/L J/bu ng/L ng/L J/Gu ng/L ng/L Project #139542 / PO #99-15489 RESULT 94 8 66 94 Q Q g Q 2 g P Q g Q 22 Q g Q g 2412090049 Wastewater D. Gonsman METHOD EPA 625 Description: Analyst: Sample Matrix: FRACTION Total lotal Total GC/MS #2 Shimadzu QP2010 **MWH Laboratories** 2402-12044 Fenchlorophos (Ronnel) Ethoprop (Ethoprofos) Mevinphos (Phosdrin) 21617 Bolstar (Sulprofos) ě. Methyl Parathion CONSTITUENT Replicate #: Instrument: Fensulfothion Chlorpyrifos Dimethoate Client: CRG ID#: Batch ID: Dichlorvos (PCB198) Disulfoton Malathion (PCB030) (PCB112) Demeton Diazinon Fenthion Merphos (TCMX) Phorate

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Client:	Client: MWH Laboratories		-			ပ	RG Proje	CRG Project ID: 2402gh	2402gh
CRG ID#: 21617 Replicate #: R1	21617 R1	Sample Description:	2412090049 Site Project #139542 / PO #99-15489	Site 4 Haines O #99-15489	Site 4 Haines Canyon Creek 1 489		Date Sampled: Date Received:	09-Dec-04 10:30 09-Dec-04	4 10:30 4
Batch ID: Instrument:	Batch ID: 2402-12044 Instrument: GC/MS #2 Shimadzu QP2010	Matrix: Analyst:	Wastewater D. Gonsman			ää	Date Processed: Date Analyzed:	Date Processed: 14-Dec-04 Date Analyzed: 22-Dec-04	vý et
CONSTITUENT	VT FRACTION	NOI	METHOD	RESULT	UNITS	MDL	RL D	DILUTION FACTOR	ACCEPTANCE RANGE
Tetrachlorvin	Tetrachlorvinphos (Stirofos) Total	al	EPA 625	QN	ng/L	10	20	*	AN
Tokuthion	Total	뫼	EPA 625	DN	ng/L	10	20	4 ~~	AN
Trichloronate	Total	a	EPA 625	QN	ng/L	10	20	۴	NA

California ELAP Certificate # 2261 21617 R1 MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

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Client:	MWH Laboratories					Ŭ	CRG Project ID:		2402gh
CRG ID#: Replicate #: Batch ID: Instrument:	21618 R1 2402-12044 GC/MS #2 Shimadzu QP2010	Sample Description: Matrix: Analyst:	2412090050 Site Project #139542 / PO #99-15489 Wastewater D. Gonsman	Site 4 Ha PO #99-15489	Site 4 Haines Canyon Creek 2 489		Date Sampled: Date Received: Date Processed: Date Analvzed:	09-Dec-04 09-Dec-04 d: 14-Dec-04 id: 22-Dec-04	10:40
CONSTITUENT	FRACTION	NOI	METHOD	RESULT	UNITS	MDL	RL	ILUTION ACTOR	ACCEPTANCE RANGE
(PCB030)	Total	al	EPA 625	92	% Recovery			***	46 - 119%
(PCB112)	Total	10	EPA 625	97	% Recovery			****	52 - 123%
(PCB198)	Total	-	EPA 625	66	% Recovery			****	59 - 123%
(TCMX)	Total		EPA 625	93	% Recovery			÷	40 - 110%
Bolstar (Sulprofos)	rofos) Total		EPA 625	QN	T/6u	10	20	،	NA
Chlorpyrifos	Total	1	EPA 625	QN	ng/L	сı	10	. 	NA
Demeton	Total	17	EPA 625	ND	ng/L	10	20	. 	NA
Diazinon	Total		EPA 625	ND	ng/L	S	10	۰-	NA
Dichlorvos	Total	-	EPA 625	ND	ng/L	10	20	*	NA
Dimethoate	Total		EPA 625	ND	J/bu	5	10	*	NA
Disulfoton	Total		EPA 625	ND	''''''''''''''''''''''''''''''''''''''	10	20	4	NA
Ethoprop (Ethoprofos)	toprofos) Total		EPA 625	QN	ng/L	10	20	4	NA
Fenchlorophos (Ronnel)	s (Ronnel) Total		EPA 625	ND	ng/L	10	20	~~	NA
Fensulfothion	Total	_	EPA 625	ND	J/gr	10	20	÷	NA
Fenthion	Total	-	EPA 625	ND	ng/L	10	20		NA
Malathion	Total		EPA 625	ND	ng/L	ŝ	10	~	NA
Merphos	Total		EPA 625	ND	ng/L	10	20	****	NA
Methyl Parathion	lion Total		EPA 625	ND	J/Bu	10	20	~~	AN
Mevinphos (Phosdrin)	hosdrin) Total		EPA 625	QN	ng/L	0	20	***	NA
Phorate	Total		EPA 625	ND	ng/L	10	20	£	NA

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Client:	Client: MWH Laboratories					•	CRG Project ID: 2402gh	t ID:	2402gh
CRG ID#: 21618 Replicate #: R1 Batch ID: 2402-1 Instrument: GC/MS	CRG ID#:: 21618 Replicate #: R1 Batch ID: 2402-12044 Instrument: GC/MS #2 Shimadzu QP2010	Sample Description: Matrix: Analyst:	2412090050 Site Project #139542 / PO #99-15489 Wastewater D. Gonsman	Site 4 Haines) #99-15489	Site 4 Haines Canyon Creek 2 489		Date Sampled: Date Received: Date Processed: Date Analyzed:	09-Dec-04 10:40 09-Dec-04 14-Dec-04 22-Dec-04	10;40
CONSTITUENT	VT FRACTION	LION	METHOD	RESULT	STINU	MDL	RL DIL FA	DILUTION FACTOR	ACCEPTANCE RANGE
Tetrachlorvin	Tetrachlorvinphos (Stirofos) Total	a	EPA 625	QN	ng/L	10	20	*	NA
Tokuthion	Total	<u>-a</u>	EPA 625	QN	ng/L	10	20	4	NA
Trichloronate	Total	B	EPA 625	ND	ng/L	10	20	4	NA

California ELAP Certificate # 2261 21618 RJ MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

Client: MWH Lab	MWH Laboratories				ľ	CRG Project ID:	ect ID:	2402gh
CRG ID#: 21619 Replicate #: R1 Batch ID: 2402-12044 Instrument: GC/MS #2 Sh	21619 Sample R1 Description: 2402-12044 Matrix: GC/MS #2 Shimadzu QP2010 Analyst:	2412090051 Site Project #139542 / PO #99-15489 Wastewater D. Gonsman	Site 3 Biç PO #99-15489	Site 3 Big TJ Wash 1 489		Date Sampled: Date Received: Date Processed: Date Analyzed:	: 09-Dec-04 : 09-Dec-04 ed: 14-Dec-04 : 22-Dec-04	13:10
CONSTITUENT	FRACTION	METHOD	RESULT	STINU	MDL	RL	DILUTION	ACCEPTANCE RANGE
(PCB030)	Total	EPA 625	93	% Recovery			-	46 - 119%
(PCB112)	Total	EPA 625	94	% Recovery			****	52 - 123%
(PCB198)	Total	EPA 625	98	% Recovery			*	59 - 123%
(TCMX)	Totał	EPA 625	95	% Recovery			*	40 - 110%
Bolstar (Sulprofos)	Total	EPA 625	ND	J/bu	10	20	*	NA
Chlorpyrifos	Total	EPA 625	QN	ng/L	ŝ	10		NA
Demeton	Total	EPA 625	QN	ng/L	10	20	T erre	NA
Diazinon	Total	EPA 625	QN	ng/L	ю	10	4	NA
Dichlarvos	Total	EPA 625	Ŋ	ng/L	10	20	*	NA
Dimethoate	Total	EPA 625	QN	ng/L	ۍ	10	*	NA
Disulfoton	Total	EPA 625	QN	ng/L	10	20	~	NA
Ethoprop (Ethoprofos)	Total	EPA 625	ND	ng/L	10	20	~	NA
Fenchlorophos (Ronnel)	Total	EPA 625	ND	ng/L	10	20		NA
Fensulfothion	Total	EPA 625	ND	ng/L	10	20	€	NA
Fenthion	Total	EPA 625	QN	ng/L	10	20	*	NA
Malathion	Total	EPA 625	QN	ng/L	5	10	h	NA
Merphos	Total	EPA 625	Ŋ	ng/L	10	20	4	NA
Methyl Parathion	Total	EPA 625	ND	ng/L	10	20	~	NA
Mevinphos (Phosdrin)	Total	EPA 625	ND	ng/L	10	20	÷	Ν
Phorate	Total	EPA 625	QN	ng/L	10	20	ſ	ΝA

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Client: MWH Laboratories	iries				U	RG Proj	CRG Project ID: 2402gh	2402gh
CRG ID#: 21619 Replicate #: R1 Batch ID: 2402-12044 Instrument: GC/MS #2 Shimadzu QP2010	Sample Description: Matrix: 2P2010 Analyst:	2412090051 Site Project #139542 / PO #99-15489 Wastewater D. Gonsman	Sile 3 Big TJ Wash 1 PO #99-15489	J Wash 1		Date Sampled: Date Received: Date Processed: Date Analyzed:		09-Dec-04 13:10 09-Dec-04 14-Dec-04 22-Dec-04
CONSTITUENT	FRACTION	METHOD	RESULT	NITS	MDL	RL 1	DILUTION FACTOR	ACCEPTANCE RANGE
Tetrachlorvinphos (Stirofos)	Total	EPA 625	DN	ng/L	10	20	a ture:	NA
Tokuthion	Total	EPA 625	ND	J/Bu	10	20	£	NA
Trichloronate	Total	EPA 625	QN	ng/L	10	20	*	NA

California ELAP Certificate # 2261 21619 R1 MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

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	MWH Laboratories						CRG Project ID:		2402gh
CRG ID#: Replicate #: Batch ID:	I	Sample Description: Matrix:	2412090052 Site Project #139542 / PO #99-15489 Wastewater	Site 3 Bic PO #99-15489	Site 3 Big TJ Wash 2 489		Date Sampled: Date Received: Date Processed:	t: 09-Dec-04 d: 09-Dec-04 ed: 14-Dec-04	13.15
CONSTITUENT	INT FRACTION	TION	METHOD	RESULT	NITS	MDL	RL	ILUTION FACTOR	ACCEPTANCE RANGE
(PCB030)	Total	tal	EPA 625	88	% Recovery			1	46 - 119%
(PCB112)	Total	tal	EPA 625	87	% Recovery			4	52 - 123%
(PCB198)	Total	tat	EPA 625	92	% Recovery			****	59 - 123%
(TCMX)	Total	tai	EPA 625	89	% Recovery			~~-	40 - 110%
Bolstar (Sulprofos)	profos) Total	tal	EPA 625	ND	ng/L	10	20	4	MA
Chlorpyrifos	Total	tal	EPA 625	QN	ng/L	£	10	A unger	NA
Demeton	Total	tal	EPA 625	QN	ng/L	10	20		NA
Diazìnon	Totaí	tai	EPA 625	ND	ng/L	ស	10	4	NA
Dichlorvos	Total	tal	EPA 625	ND	ng/L	10	20	-	AN
Dimethoate	Total	tal	EPA 625	QN	ng/L	ŝ	10	-	NA
Disulfoton	Total	tal	EPA 625	QN	ng/L	10	20	4	NA
Ethoprop (Ethoprofos)	thoprofos) Total	tal	EPA 625	Q	ng/L	10	20	~	NA
Fenchloropt	Fenchlorophos (Ronnel) Total	tal	EPA 625	DN	ng/L	10	20	+	NA
Fensulfothion	Total	tal	EPA 625	QN	ng/L	10	20		NA
Fenthion	To	Total	EPA 625	QN	ng/L	10	20		NA
Malathion	Total	ital	EPA 625	QN	ng/L	ŋ	10	*	AN
Merphos	To	Total	EPA 625	ND	ng/L	10	20	۲-	NA
Methyl Parathion		Total	EPA 625	ND	ng/L	10	20	₹	NA
Mevinphos (Phosdrin)		Total	EPA 625	ND	ng/L	10	20	÷	NA
Phorate	To	Total	EPA 625	QN	ng/L	10	20	~	NA

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Client: MWH Laboratories	ories				С О	RG Proj	CRG Project ID: 2402gh	2402gh
CRG ID#: 21620 Replicate #: R1	Sample Description:	2412090052 Site Project #139542 / PO #99-15489	Site 3 Big TJ Wash 2 PO #99-15489	J Wash 2	lää	Date Sampled: Date Received:		09-Dec-04 13:15 09-Dec-04
Batch ID: 2402-12044 Instrument: GC/MS #2 Shimadzu QP2010	Matrix: QP2010 Analyst:	Wastewater D. Gonsman			ŏŏ	Date Processed: Date Analyzed:		* *
CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL.	DILUTION FACTOR	ACCEPTANCE RANGE
Tetrachlorvinphos (Stirofos)	Total	EPA 625	QN	ng/L	10	20	****	NA
Tokuthion	Total	EPA 625	QN	ng/L	10	20	*	NA
Trichloronate	Total	EPA 625	ND	na/L	10	20	+	NA

California ELAP Certificate # 2261 21620 R1 MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

QUALITY CONTROL REPORT

PROCEDURAL BLANK RESULTS

Client: MWH Laboratories	oratories				ľ	CRG Pro	CRG Project ID:	2402gh
CRG ID#: 21612 Renlicate #: B1	Sample Description:	aaac	Procedu	Procedural Blank		Date Sampled: Date Received:	ed: ed:	
		DI Water D. Gonsman				Date Processed: Date Analyzed:	sed: 14-Dec-04 sed: 22-Dec-04	-04 04
CONSTITUENT	FRACTION	METHOD	RESULT	STINU	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
(PCB030)	Total	EPA 625	83	% Recovery			***	46 - 119%
(PCB112)	Total	EPA 625	100	% Recovery			¥	52 - 123%
(PCB198)	Total	EPA 625	66	% Recovery			←	59 - 123%
(TCMX)	Total	EPA 625	82	% Recovery			~	40 - 110%
Bolstar (Sulprofos)	Total	EPA 625	QN	ng/L	10	20	~	NA
Chlorpyritos	Total	EPA 625	QN	ng/L	5	10	+	NA
Demeton	Total	EPA 625	QN	ng/L	10	20	ł	NA
Diazinon	Total	EPA 625	QN	ng/L	ъ	10	t	NA
Dichlorvos	Total	EPA 625	Ŋ	J/Bu	10	20	*	NA
Dimethoate	Total	EPA 625	DN	J/bu	5	10	،	NA
Disulfoton	Total	EPA 625	QN	ng/L	10	20	~	NA
Ethoprop (Ethoprofos)	Total	EPA 625	DN	ng/L	10	20	-	NA
Fenchlorophos (Ronnel)	Total	EPA 625	QN	ng/L	10	20	£	NA
Fensulfothion	Total	EPA 625	QN	ng/L	10	20	4	ΝA
Fenthion	Total	EPA 625	QN	ng/L	10	20	4	NA
Malathion	Total	EPA 625	QN	ng/L	a	10	4	NA
Merphos	Total	EPA 625	DN	ng/L	10	20	4	NA
Methyl Parathion	Total	EPA 625	QN	ng/L	10	20	←	NA
Mevinphos (Phosdrin)	Total	EPA 625	QN	ng/L	10	20	÷	٩N
Phorate	Total	EPA 625	ND	ng/L	10	20	***	NA

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Client: MWH Laboratories	aboratories					ပ ပ	RG Pro	CRG Project ID: 2402gh	2402gh
CRG ID#: 21612 Replicate #: B1		Sample Description:	QAQC	Procedural Blank	l Blank	D ² O	Date Sampled: Date Received:	;be be	
Batch ID:2402-12044Matrix:Instrument:GC/MS #2 Shimadzu QP2010Analyst:	4 Shimadzu QP2010	Matrix: Analyst:	Di Water D. Gonsman			õõ	Date Processed: Date Analyzed:	Date Processed:14-Dec-04Date Analyzed:22-Dec-04	-04 -04
CONSTITUENT	FRACTION	NO	METHOD	RESULT	NITS	MDL	RL	DILUTION FACTOR	AC
Tetrachlorvinphos (Stirofos)	ss) Total		EPA 625	QN	ng/L	10	20	Ŧ	MA
Tokuthion	Total		EPA 625	ND	ng/L	10	20	*	MA
Trichloronate	Total		EPA 625	QN	ng/L	10	20	*	NA

California ELAP Certificate # 2261 21612 B1 MDL= Method Detection Limit (CFR 40 Part 136); RL= Minimum Level (SWRCB); E= Estimated Value below the RL and above the MDL; ND= Not Detected; NA= Not Applicable.

CHAIN OF CUSTODY

Date 12/09/04 Time 1500 An Acknowledgement of Receipt is requested to attn: Dennis Faigal

Received by: About Bood



COOLER _____ OF ____

CRG Project ID: P34039

CLIENT		• •
NAME:	ΜW	H

DATE RECEIVED: 12/10/04

TEMPE	RAŢURE	COC	SA
<u> 6 </u> °c	BLUE ICE	 NOT INCLUDED ✓ INCLUDED ✓ SIGNED 	

SAMPLE MATRIX
🔲 SOLID

CONDITION OF SAMPLES UPON ARRIVAL				
	YES	NO	<u>NA</u>	
All sample containers intact and good condition	$\overline{\Delta}$			
All samples listed on COC present				
Sample ID on containers consistent with COC				
Correct containers used for analyses requested				
All samples received within analysis holding time				
	\mathcal{V}			

*COMMENTS					
	COMPLETED BY				
	AT INITIALS				

2020 Del Amo Boulevard Suite 200, Torrance, CA 90501 · (310) 533-5190 · FAX (310) 533-5003