



CRG

Marine Laboratories, Inc.

2020 Del Amo Blvd. Suite 200, Torrance, CA 90501 • (310) 533-5190 • FAX (310) 533-5003 • mmercier@crqlabs.com

July 13, 2005

MACTEC Engineering and Consulting
9177 Sky Park Court, Suite A
San Diego, CA 92123

Re: CRG Project ID: P2574b
MACTEC: Rainbow Creek Project

ATTN: Mr. Jay Shrake

CRG Laboratories is pleased to provide you with the enclosed analytical data report for your Rainbow Creek Project. According to the chain-of-custody, 2 samples were received intact and cool at CRG on June 9, 2005. Per your instructions, the samples were analyzed for:

- Dissolved Trace Metals By ICPMS Using EPA 200.8
- Ammonia Using SM 4500-NH3 F
- Nitrate-N Using SM 4500-NO3 E
- Nitrite-N Using SM 4500-NO2 B
- Total Dissolved Solids Using SM 2450-C
- Total Hardness as CaCO₃ Using SM 2340-B
- Total & Dissolved Phosphorus Using SM 4500-P C
- Total Suspended Solids Using SM 2540-D
- Turbidity Using EPA Method 180.1

TKN and BOD analyses were sub-contracted to another laboratory, results are included.

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

Reviewed and Approved _____

DATA REPORT

TRACE METAL RESULTS

CRG Marine Laboratories, Inc.

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

Trace Metals

Client: MACTEC

CRG Project ID: 2574b

CRG ID#: 25381	Sample Rainbow 1 UP	Date Sampled: 08-Jun-05 12:00
Replicate #: R1	Description: Rainbow Creek TMDL	Date Received: 09-Jun-05
Batch ID: 2574-12029	Matrix: Water	Date Processed: 05-Jul-05
Instrument: ICPMS #1 HP 4500	Analyst: P. Hershelman	Date Analyzed: 05-Jul-05

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.5	1	NA
Arsenic (As)	Dissolved	EPA 200.8	2.49	µg/L	0.1	0.5	1	NA
Cadmium (Cd)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.2	1	NA
Chromium (Cr)	Dissolved	EPA 200.8	E0.48	µg/L	0.1	0.5	1	NA
Copper (Cu)	Dissolved	EPA 200.8	7.4	µg/L	0.1	0.5	1	NA
Lead (Pb)	Dissolved	EPA 200.8	ND	µg/L	0.05	0.1	1	NA
Nickel (Ni)	Dissolved	EPA 200.8	2.57	µg/L	0.1	0.5	1	NA
Selenium (Se)	Dissolved	EPA 200.8	1.78	µg/L	0.1	0.5	1	NA
Silver (Ag)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.2	1	NA
Zinc (Zn)	Dissolved	EPA 200.8	12.3	µg/L	0.1	0.5	1	NA

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.

California ELAP Certificate # 2261
25381 R1

CRG Marine Laboratories, Inc.

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Trace Metals

Client: MACTEC

CRG Project ID: 2574b

CRG ID#: 25381	Sample Rainbow 1 UP	Date Sampled: 08-Jun-05 12:00
Replicate #: R2	Description: Rainbow Creek TMDL	Date Received: 09-Jun-05
Batch ID: 2574-12029	Matrix: Water	Date Processed: 05-Jul-05
Instrument: ICPMS #1 HP 4500	Analyst: P. Hershelman	Date Analyzed: 05-Jul-05

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.5	1	NA
Arsenic (As)	Dissolved	EPA 200.8	2.38	µg/L	0.1	0.5	1	NA
Cadmium (Cd)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.2	1	NA
Chromium (Cr)	Dissolved	EPA 200.8	0.53	µg/L	0.1	0.5	1	NA
Copper (Cu)	Dissolved	EPA 200.8	7.35	µg/L	0.1	0.5	1	NA
Lead (Pb)	Dissolved	EPA 200.8	ND	µg/L	0.05	0.1	1	NA
Nickel (Ni)	Dissolved	EPA 200.8	2.61	µg/L	0.1	0.5	1	NA
Selenium (Se)	Dissolved	EPA 200.8	1.42	µg/L	0.1	0.5	1	NA
Silver (Ag)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.2	1	NA
Zinc (Zn)	Dissolved	EPA 200.8	12.5	µg/L	0.1	0.5	1	NA

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.

California ELAP Certificate # 2261
25381 R2

CRG Marine Laboratories, Inc.

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Trace Metals

Client: MACTEC

CRG Project ID: 2574b

CRG ID#: 25399	Sample Rainbow 2 DOWN	Date Sampled: 08-Jun-05 12:00
Replicate #: R1	Description: Rainbow Creek TMDL	Date Received: 09-Jun-05
Batch ID: 2574-12029	Matrix: Water	Date Processed: 05-Jul-05
Instrument: ICPMS #1 HP 4500	Analyst: P. Hershelman	Date Analyzed: 05-Jul-05

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.5	1	NA
Arsenic (As)	Dissolved	EPA 200.8	1.49	µg/L	0.1	0.5	1	NA
Cadmium (Cd)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.2	1	NA
Chromium (Cr)	Dissolved	EPA 200.8	0.82	µg/L	0.1	0.5	1	NA
Copper (Cu)	Dissolved	EPA 200.8	2.96	µg/L	0.1	0.5	1	NA
Lead (Pb)	Dissolved	EPA 200.8	ND	µg/L	0.05	0.1	1	NA
Nickel (Ni)	Dissolved	EPA 200.8	1.03	µg/L	0.1	0.5	1	NA
Selenium (Se)	Dissolved	EPA 200.8	1.89	µg/L	0.1	0.5	1	NA
Silver (Ag)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.2	1	NA
Zinc (Zn)	Dissolved	EPA 200.8	2.88	µg/L	0.1	0.5	1	NA

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.

California ELAP Certificate # 2261

25399

R1

CRG Marine Laboratories, Inc.

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Trace Metals

Client: MACTEC

CRG Project ID: 2574b

CRG ID#: 25399	Sample Rainbow 2 DOWN	Date Sampled: 08-Jun-05 12:00
Replicate #: R2	Description: Rainbow Creek TMDL	Date Received: 09-Jun-05
Batch ID: 2574-12029	Matrix: Water	Date Processed: 05-Jul-05
Instrument: ICPMS #1 HP 4500	Analyst: P. Hershelman	Date Analyzed: 05-Jul-05

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.5	1	NA
Arsenic (As)	Dissolved	EPA 200.8	1.3	µg/L	0.1	0.5	1	NA
Cadmium (Cd)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.2	1	NA
Chromium (Cr)	Dissolved	EPA 200.8	0.79	µg/L	0.1	0.5	1	NA
Copper (Cu)	Dissolved	EPA 200.8	2.93	µg/L	0.1	0.5	1	NA
Lead (Pb)	Dissolved	EPA 200.8	ND	µg/L	0.05	0.1	1	NA
Nickel (Ni)	Dissolved	EPA 200.8	1.02	µg/L	0.1	0.5	1	NA
Selenium (Se)	Dissolved	EPA 200.8	1.82	µg/L	0.1	0.5	1	NA
Silver (Ag)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.2	1	NA
Zinc (Zn)	Dissolved	EPA 200.8	2.95	µg/L	0.1	0.5	1	NA

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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25399

R2

GENERAL CHEMISTRY RESULTS

CRG Marine Laboratories, Inc.

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General Chemistry

Client: MACTEC

CRG Project ID: 2574b

CRG ID#: 25381

Sample Rainbow 1 UP

Date Sampled: 08-Jun-05 12:00

Replicate #: R1

Description: Rainbow Creek TMDL

Date Received: 09-Jun-05

Batch ID: 2574-061005

Matrix: Water

Analyst: K. Burney

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	DATE PROCESSED	DATE ANALYZED
Ammonia-N	Total	SM 4500-NH3 F	ND	mg/L	0.01	0.05	1	10-Jun-05	10-Jun-05
Nitrate-N	Total	EPA 300	7.89	mg/L	0.02	0.05	1	10-Jun-05	10-Jun-05
Nitrite-N	Total	EPA 300	E 0.04	mg/L	0.02	0.05	1	10-Jun-05	10-Jun-05
Total Dissolved Solids	Dissolved	SM 2540 C	1010	mg/L	0.1	0.2	1	13-Jun-05	13-Jun-05
Total Hardness as CaCO3	Total	SM 2340 B	399	mg/L	1	5	1	05-Jul-05	05-Jul-05
Total Phosphorus	Total	SM 4500-P C	0.46	mg/L	0.016	0.05	1	14-Jun-05	14-Jun-05
Total Phosphorus	Dissolved	SM 4500-P C	0.66	mg/L	0.016	0.05	1	10-Jun-05	10-Jun-05
Total Suspended Solids	Total	SM 2540 D	E 0.5	mg/L	0.5	0.5	1	14-Jun-05	14-Jun-05
Turbidity	Total	EPA 180.1	E 1.2	NTU	1	2	1	10-Jun-05	10-Jun-05

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; NPW= No Pore Water

California ELAP Certificate # 2261

25381

R1

CRG Marine Laboratories, Inc.

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General Chemistry

Client: **MACTEC**

CRG Project ID: **2574b**

CRG ID#: **25381**

Sample Rainbow 1 UP

Date Sampled: 08-Jun-05 12:00

Replicate #: R2

Description: Rainbow Creek TMDL

Date Received: 09-Jun-05

Batch ID: 2574-12029

Matrix: Water

Analyst: P. Hershelman

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	DATE PROCESSED	DATE ANALYZED
Total Hardness as CaCO3	Total	SM 2340 B	398	mg/L	1	5	1	05-Jul-05	05-Jul-05

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; NPW= No Pore Water

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25381

R2

CRG Marine Laboratories, Inc.

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General Chemistry

Client: MACTEC

CRG Project ID: 2574b

CRG ID#: 25399

Sample Description: Rainbow 2 DOWN

Date Sampled: 08-Jun-05 12:00

Replicate #: R1

Description: Rainbow Creek TMDL

Date Received: 09-Jun-05

Batch ID: 2574-061005

Matrix: Water

Analyst: K. Burney

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	DATE PROCESSED	DATE ANALYZED
Ammonia-N	Total	SM 4500-NH3 F	ND	mg/L	0.01	0.05	1	10-Jun-05	10-Jun-05
Nitrate-N	Total	EPA 300	6.29	mg/L	0.02	0.05	1	10-Jun-05	10-Jun-05
Nitrite-N	Total	EPA 300	0.25	mg/L	0.02	0.05	1	10-Jun-05	10-Jun-05
Total Dissolved Solids	Dissolved	SM 2540 C	710	mg/L	0.1	0.2	1	13-Jun-05	13-Jun-05
Total Hardness as CaCO3	Total	SM 2340 B	436	mg/L	1	5	1	05-Jul-05	05-Jul-05
Total Phosphorus	Total	SM 4500-P C	0.14	mg/L	0.016	0.05	1	14-Jun-05	14-Jun-05
Total Phosphorus	Dissolved	SM 4500-P C	0.17	mg/L	0.016	0.05	1	10-Jun-05	10-Jun-05
Total Suspended Solids	Total	SM 2540 D	ND	mg/L	0.5	0.5	1	14-Jun-05	14-Jun-05
Turbidity	Total	EPA 180.1	E 1.7	NTU	1	2	1	10-Jun-05	10-Jun-05

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; NPW= No Pore Water

California ELAP Certificate # 2261

25399

R1

CRG Marine Laboratories, Inc.

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General Chemistry

Client: **MACTEC**

CRG Project ID: **2574b**

CRG ID#: **25399**

Sample Rainbow 2 DOWN

Date Sampled: 08-Jun-05 12:00

Replicate #: R2

Description: Rainbow Creek TMDL

Date Received: 09-Jun-05

Batch ID: 2574-12029

Matrix: Water

Analyst: P. Hershelman

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	DATE PROCESSED	DATE ANALYZED
Total Hardness as CaCO3	Total	SM 2340 B	449	mg/L	1	5	1	05-Jul-05	05-Jul-05
Turbidity	Total	EPA 180.1	E 1.5	NTU	1	2	1	10-Jun-05	10-Jun-05

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; NPW= No Pore Water

California ELAP Certificate # 2261

25399

R2

QUALITY CONTROL REPORT

PROCEDURAL BLANK RESULTS

CRG Marine Laboratories, Inc.

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

Trace Metals

Client: MACTEC

CRG Project ID: 2574b

CRG ID#: 25380	Sample QAQC	Procedural Blank	Date Sampled:
Replicate #: B1	Description: Rainbow Creek TMDL		Date Received:
Batch ID: 2574-12029	Matrix: DI Water		Date Processed: 05-Jul-05
Instrument: ICPMS #1 HP 4500	Analyst: P. Hershelman		Date Analyzed: 05-Jul-05

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	ACCEPTANCE RANGE
Antimony (Sb)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.5	1	NA
Arsenic (As)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.5	1	NA
Cadmium (Cd)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.2	1	NA
Chromium (Cr)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.5	1	NA
Copper (Cu)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.5	1	NA
Lead (Pb)	Dissolved	EPA 200.8	ND	µg/L	0.05	0.1	1	NA
Nickel (Ni)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.5	1	NA
Selenium (Se)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.5	1	NA
Silver (Ag)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.2	1	NA
Zinc (Zn)	Dissolved	EPA 200.8	ND	µg/L	0.1	0.5	1	NA

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.

California ELAP Certificate # 2261

25380

B1

CRG Marine Laboratories, Inc.

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

General Chemistry

Client: MACTEC

CRG Project ID: 2574b

CRG ID#: 25380

Replicate #: B1

Batch ID: 2574-061005

Sample Description: QAQC
Rainbow Creek TMDL

Procedural Blank

Date Sampled:

Date Received:

Matrix: DI Water
Analyst: K. Burney

CONSTITUENT	FRACTION	METHOD	RESULT	UNITS	MDL	RL	DILUTION FACTOR	DATE PROCESSED	DATE ANALYZED
Ammonia-N	Total	SM 4500-NH3 F	ND	mg/L	0.01	0.05	1	10-Jun-05	10-Jun-05
Nitrate-N	Total	EPA 300	ND	mg/L	0.02	0.05	1	10-Jun-05	10-Jun-05
Nitrite-N	Total	EPA 300	ND	mg/L	0.02	0.05	1	10-Jun-05	10-Jun-05
Total Dissolved Solids	Dissolved	SM 2540 C	ND	mg/L	0.1	0.2	1	13-Jun-05	13-Jun-05
Total Hardness as CaCO3	Total	SM 2340 B	ND	mg/L	1	5	1	05-Jul-05	05-Jul-05
Total Phosphorus	Total	SM 4500-P C	ND	mg/L	0.016	0.05	1	14-Jun-05	14-Jun-05
Total Phosphorus	Dissolved	SM 4500-P C	ND	mg/L	0.016	0.05	1	10-Jun-05	10-Jun-05
Total Suspended Solids	Total	SM 2540 D	ND	mg/L	0.5	0.5	1	14-Jun-05	14-Jun-05
Turbidity	Total	EPA 180.1	ND	NTU	1	2	1	10-Jun-05	10-Jun-05

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; NPW= No Pore Water

California ELAP Certificate # 2261

25380

B1

ACCURACY DATA

CRG Marine Laboratories, Inc.

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

General Chemistry

Client: **MACTEC**

CRG Project ID: **2574b**

CRG ID#: 25380

Sample QAQC

Procedural Blank

Date Sampled:

Replicate #: BS1

Description: Rainbow Creek TMDL

Date Received:

Batch ID: 2574-061005

Matrix: DI Water

Date Processed: 10-Jun-05

Instrument:

Analyst: K. Burney

Date Analyzed: 10-Jun-05

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Ammonia-N	Total	SM 4500-NH3 F	96	0.25 mg/L	70 - 130%	PASS
Nitrate-N	Total	EPA 300	95	0.5 mg/L	70 - 130%	PASS
Nitrite-N	Total	EPA 300	102	0.5 mg/L	70 - 130%	PASS
Total Dissolved Solids	Dissolved	SM 2540 C	97	250 mg/L	70 - 130%	PASS
Total Phosphorus	Total	SM 4500-P C	90	25 mg/L	70 - 130%	PASS
Total Phosphorus	Dissolved	SM 4500-P C	122	25 mg/L	70 - 130%	PASS

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.

California ELAP Certificate # 2261

25380

BS1

CRG Marine Laboratories, Inc.

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General Chemistry

Client: **MACTEC**

CRG Project ID: **2574b**

CRG ID#: 25380

Sample QAQC

Procedural Blank

Date Sampled:

Replicate #: BS2

Description: Rainbow Creek TMDL

Date Received:

Batch ID: 2574-061005

Matrix: DI Water

Date Processed: 10-Jun-05

Instrument:

Analyst: K. Burney

Date Analyzed: 10-Jun-05

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Ammonia-N	Total	SM 4500-NH3 F	96	0.25 mg/L	70 - 130%	PASS
Nitrate-N	Total	EPA 300	95	0.5 mg/L	70 - 130%	PASS
Nitrite-N	Total	EPA 300	102	0.5 mg/L	70 - 130%	PASS
Total Dissolved Solids	Dissolved	SM 2540 C	97	700 mg/L	70 - 130%	PASS
Total Phosphorus	Dissolved	SM 4500-P C	90	25 mg/L	70 - 130%	PASS
Total Phosphorus	Total	SM 4500-P C	88	25 mg/L	70 - 130%	PASS

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.

California ELAP Certificate # 2261

25380

BS2

CRG Marine Laboratories, Inc.

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General Chemistry

Client: **MACTEC**

CRG Project ID: **2574b**

CRG ID#: 25399

Sample Rainbow 2 DOWN

Date Sampled: 08-Jun-05 12:00

Replicate #: MS1

Description: Rainbow Creek TMDL

Date Received: 09-Jun-05

Batch ID: 2574-061005

Matrix: Water

Date Processed: 10-Jun-05

Instrument:

Analyst: K. Burney

Date Analyzed: 10-Jun-05

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Ammonia-N	Total	SM 4500-NH3 F	84	mg/L	70 - 130%	PASS

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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25399 MS1

CRG Marine Laboratories, Inc.

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General Chemistry

Client: **MACTEC**

CRG Project ID: **2574b**

CRG ID#: 25399

Sample Rainbow 2 DOWN

Date Sampled: 08-Jun-05 12:00

Replicate #: MS2

Description: Rainbow Creek TMDL

Date Received: 09-Jun-05

Batch ID: 2574-061005

Matrix: Water

Date Processed: 10-Jun-05

Instrument:

Analyst: K. Burney

Date Analyzed: 10-Jun-05

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Ammonia-N	Total	SM 4500-NH3 F	88	mg/L	70 - 130%	PASS

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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25399 MS2

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Trace Metals

Client: MACTEC

CRG Project ID: 2574b

CRG ID#: 25380

Sample QAQC

Procedural Blank

Date Sampled:

Replicate #: BS1

Description: Rainbow Creek TMDL

Date Received:

Batch ID: 2574-12029

Matrix: DI Water

Date Processed: 05-Jul-05

Instrument: ICPMS #1 HP 4500

Analyst: P. Hershelman

Date Analyzed: 05-Jul-05

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Antimony (Sb)	Total	EPA 200.8	101	1000 ng	40 - 160%	PASS
Arsenic (As)	Total	EPA 200.8	97	1000 ng	65 - 135%	PASS
Cadmium (Cd)	Total	EPA 200.8	99	1000 ng	60 - 140%	PASS
Chromium (Cr)	Total	EPA 200.8	96	1000 ng	75 - 125%	PASS
Copper (Cu)	Total	EPA 200.8	96	1000 ng	75 - 125%	PASS
Lead (Pb)	Total	EPA 200.8	97	1000 ng	75 - 125%	PASS
Nickel (Ni)	Total	EPA 200.8	95	1000 ng	75 - 125%	PASS
Selenium (Se)	Total	EPA 200.8	97	1000 ng	40 - 160%	PASS
Silver (Ag)	Total	EPA 200.8	95	1000 ng	75 - 125%	PASS
Zinc (Zn)	Total	EPA 200.8	94	1000 ng	75 - 125%	PASS

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.

California ELAP Certificate # 2261

25380

BS1

CRG Marine Laboratories, Inc.

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

Trace Metals

Client: MACTEC

CRG Project ID: 2574b

CRG ID#: 25380

Sample QAQC

Procedural Blank

Date Sampled:

Replicate #: BS2

Description: Rainbow Creek TMDL

Date Received:

Batch ID: 2574-12029

Matrix: DI Water

Date Processed: 05-Jul-05

Instrument: ICPMS #1 HP 4500

Analyst: P. Hershelman

Date Analyzed: 05-Jul-05

CONSTITUENT	FRACTION	METHOD	% RECOVERY	TRUE VALUE	ACCEPTANCE RANGE	COMMENT
Antimony (Sb)	Total	EPA 200.8	112	1000 ng	40 - 160%	PASS
Arsenic (As)	Total	EPA 200.8	98	1000 ng	65 - 135%	PASS
Cadmium (Cd)	Total	EPA 200.8	100	1000 ng	60 - 140%	PASS
Chromium (Cr)	Total	EPA 200.8	96	1000 ng	75 - 125%	PASS
Copper (Cu)	Total	EPA 200.8	97	1000 ng	75 - 125%	PASS
Lead (Pb)	Total	EPA 200.8	97	1000 ng	75 - 125%	PASS
Nickel (Ni)	Total	EPA 200.8	97	1000 ng	75 - 125%	PASS
Selenium (Se)	Total	EPA 200.8	96	1000 ng	40 - 160%	PASS
Silver (Ag)	Total	EPA 200.8	102	1000 ng	75 - 125%	PASS
Zinc (Zn)	Total	EPA 200.8	99	1000 ng	75 - 125%	PASS

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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BS2

PRECISION DATA

CRG Marine Laboratories, Inc.

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

General Chemistry

Client: **MACTEC**

CRG Project ID: **2574b**

CRG ID#: **25381**

Sample Description: Rainbow 1 UP
Rainbow Creek TMDL

Date Sampled: 08-Jun-05 12:00

Date Received: 09-Jun-05

Batch ID: 2574-12029

Matrix: Water
Analyst: P. Hershelman

Date Processed: 05-Jul-05

Date Analyzed: 05-Jul-05

CONSTITUENT	FRACTION	METHOD	R1 mg/L	R2 mg/L	% RPD	ACCEPTANCE RANGE	COMMENT
Total Hardness as CaCO3	Total	SM 2340 B	399	398	0	0 - 30%	PASS

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.

California ELAP Certificate # 2261
25381

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General Chemistry

Client: **MACTEC**

CRG Project ID: **2574b**

CRG ID#: **25399**

Sample Description: Rainbow 2 DOWN
Rainbow Creek TMDL

Date Sampled: 08-Jun-05 12:00

Date Received: 09-Jun-05

Batch ID: 2574-12029

Matrix: Water
Analyst: P. Hershelman

Date Processed: 05-Jul-05

Date Analyzed: 05-Jul-05

CONSTITUENT	FRACTION	METHOD	R1 mg/L	R2 mg/L	% RPD	ACCEPTANCE RANGE	COMMENT
Total Hardness as CaCO3	Total	SM 2340 B	436	449	3	0 - 30%	PASS
Turbidity	Total	EPA 180.1	1.7	1.5	13	0 - 30%	PASS

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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CRG Marine Laboratories, Inc.

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

Trace Metals

Client: **MACTEC**

CRG Project ID: **2574b**

CRG ID#: **25381**

Sample Description: Rainbow 1 UP
Rainbow Creek TMDL

Date Sampled: 08-Jun-05 12:00

Date Received: 09-Jun-05

Batch ID: 2574-12029

Matrix: Water

Date Processed: 05-Jul-05

Instrument: ICPMS #1 HP 4500

Analyst: P. Hershelman

Date Analyzed: 05-Jul-05

CONSTITUENT	FRACTION	METHOD	R1 µg/L	R2 µg/L	% RPD	ACCEPTANCE RANGE	COMMENT
Arsenic (As)	Dissolved	EPA 200.8	2.49	2.38	5	0 - 30%	PASS
Chromium (Cr)	Dissolved	EPA 200.8	0.48	0.53	10	0 - 30%	PASS
Copper (Cu)	Dissolved	EPA 200.8	7.4	7.35	1	0 - 30%	PASS
Nickel (Ni)	Dissolved	EPA 200.8	2.57	2.61	2	0 - 30%	PASS
Selenium (Se)	Dissolved	EPA 200.8	1.78	1.42	23	0 - 30%	PASS
Zinc (Zn)	Dissolved	EPA 200.8	12.3	12.5	2	0 - 30%	PASS

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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Trace Metals

Client: **MACTEC**

CRG Project ID: **2574b**

CRG ID#: **25399**

Sample Description: Rainbow 2 DOWN
Rainbow Creek TMDL

Date Sampled: 08-Jun-05 12:00

Date Received: 09-Jun-05

Batch ID: 2574-12029

Matrix: Water

Date Processed: 05-Jul-05

Instrument: ICPMS #1 HP 4500

Analyst: P. Hershelman

Date Analyzed: 05-Jul-05

CONSTITUENT	FRACTION	METHOD	R1 µg/L	R2 µg/L	% RPD	ACCEPTANCE RANGE	COMMENT
Arsenic (As)	Dissolved	EPA 200.8	1.49	1.3	14	0 - 30%	PASS
Chromium (Cr)	Dissolved	EPA 200.8	0.82	0.79	4	0 - 30%	PASS
Copper (Cu)	Dissolved	EPA 200.8	2.96	2.93	1	0 - 30%	PASS
Nickel (Ni)	Dissolved	EPA 200.8	1.03	1.02	1	0 - 30%	PASS
Selenium (Se)	Dissolved	EPA 200.8	1.89	1.82	4	0 - 30%	PASS
Zinc (Zn)	Dissolved	EPA 200.8	2.88	2.95	2	0 - 30%	PASS

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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Trace Metals

Client: MACTEC

CRG Project ID: 2574b

CRG ID#: 25380

Sample Description: QAQC
Rainbow Creek TMDL

Procedural Blank

Date Sampled:

Date Received:

Batch ID: 2574-12029

Matrix: DI Water

Date Processed: 05-Jul-05

Instrument: ICPMS #1 HP 4500

Analyst: P. Hershelman

Date Analyzed: 05-Jul-05

CONSTITUENT	FRACTION	METHOD	BS1	BS2	% RPD	ACCEPTANCE RANGE	COMMENT
			% Recovery	% Recovery			
Antimony (Sb)	Total	EPA 200.8	101	112	10	0 - 30%	PASS
Arsenic (As)	Total	EPA 200.8	97	98	1	0 - 30%	PASS
Cadmium (Cd)	Total	EPA 200.8	99	100	1	0 - 30%	PASS
Chromium (Cr)	Total	EPA 200.8	96	96	0	0 - 30%	PASS
Copper (Cu)	Total	EPA 200.8	96	97	1	0 - 30%	PASS
Lead (Pb)	Total	EPA 200.8	97	97	0	0 - 30%	PASS
Nickel (Ni)	Total	EPA 200.8	95	97	2	0 - 30%	PASS
Selenium (Se)	Total	EPA 200.8	97	96	1	0 - 30%	PASS
Silver (Ag)	Total	EPA 200.8	95	102	7	0 - 30%	PASS
Zinc (Zn)	Total	EPA 200.8	94	99	5	0 - 30%	PASS

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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CRG Marine Laboratories, Inc.

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

General Chemistry

Client: **MACTEC**

CRG Project ID: **2574b**

CRG ID#: **25380**

Sample Description: QAQC
Rainbow Creek TMDL

Procedural Blank

Date Sampled:

Date Received:

Batch ID: 2574-061005

Matrix: DI Water

Date Processed: 10-Jun-05

Instrument:

Analyst: K. Burney

Date Analyzed: 10-Jun-05

CONSTITUENT	FRACTION	METHOD	BS1	BS2	% RPD	ACCEPTANCE RANGE	COMMENT
			% Recovery	% Recovery			
Ammonia-N	Total	SM 4500-NH3 F	96	96	0	0 - 30%	PASS
Nitrate-N	Total	EPA 300	95	95	0	0 - 30%	PASS
Nitrite-N	Total	EPA 300	102	102	0	0 - 30%	PASS
Total Phosphorus	Total	SM 4500-P C	90	88	2	0 - 30%	PASS

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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CRG Marine Laboratories, Inc.

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General Chemistry

Client: **MACTEC**

CRG Project ID: **2574b**

CRG ID#: **25380**

Sample QAQC
Description: Rainbow Creek TMDL

Procedural Blank

Date Sampled:

Date Received:

Batch ID: 2574-061305

Matrix: DI Water

Date Processed: 13-Jun-05

Instrument:

Analyst: E. Kobayashi

Date Analyzed: 13-Jun-05

CONSTITUENT	FRACTION	METHOD	BS1	BS2	% RPD	ACCEPTANCE RANGE	COMMENT
			% Recovery	% Recovery			
Total Dissolved Solids	Dissolved	SM 2540 C	97	97	0	0 - 30%	PASS
Total Phosphorus	Dissolved	SM 4500-P C	122	90	30	0 - 30%	PASS

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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CRG Marine Laboratories, Inc.

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General Chemistry

Client: **MACTEC**

CRG Project ID: **2574b**

CRG ID#: **25399**

Sample Description: Rainbow 2 DOWN
Rainbow Creek TMDL

Date Sampled: 08-Jun-05 12:00

Date Received: 09-Jun-05

Batch ID: 2574-061005

Matrix: Water

Date Processed: 10-Jun-05

Instrument:

Analyst: K. Burney

Date Analyzed: 10-Jun-05

CONSTITUENT	FRACTION	METHOD	MS1 % Recovery	MS2 % Recovery	% RPD	ACCEPTANCE RANGE	COMMENT
Ammonia-N	Total	SM 4500-NH3 F	84	88	5	0 - 30%	PASS

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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SUB-CONTRACT LAB REPORT

CHAIN-OF-CUSTODY



2020 Del Amo Blvd., Suite 200, Torrance, CA 90501-1206

(310) 320-3211 FAX (310) 320-1276

CHAIN-OF-CUSTODY RECORD

[illegible]