



# MWH Laboratories

A Division of MWH Americas, Inc.

750 Royal Oaks Drive, Suite 100  
Monrovia, California 91016-3829  
Tel: 626 386 1100  
Fax: 626 386 1101  
1 800 566 LABS (1 800 566 5227)

## Laboratory Report

for

Tronox LLC - Henderson  
PO Box 55

Henderson , NV 89009

Attention: Susan Crowley  
Fax: (405) 302-4607

DATE OF ISSUE  
Jun 12 2009  
MWH LABORATORIES

ADE Andy Eaton  
Project Manager



Report#: 270639  
Project: CLO4  
PO#: Susan Crowle

This report shall not be reproduced except in full, without the written approval of the laboratory.  
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 6 page[s].



**BUILDING A BETTER WORLD**

June 16, 2009

Ms. Susan Crowley  
Tronox  
PO Box 55  
Henderson, NV 89009

Subject: Case Narrative report 270639

Sample receipt: The samples arrived at MWH Laboratories, Monrovia, CA on May 12, 2009 with proper chain of custody. All containers were received without any visible signs of tampering or breakage at proper temperature. Samples are identified on the acknowledgement, which is part of the report package, along with the chain of custody.

Case Narrative:

For the MWH Laboratories data the following issues were observed:

Note that for ion chromatography analyses such as perchlorate, the exact analysis time is not typically shown on the report. Either a 00:00 is shown or the time of injection of the first sample in the batch.

Sincerely,

Andrew Eaton, PhD  
Project Manager



MONTGOMERY WATSON LABORATORIES

# CHAIN OF CUSTODY RECORD

270639

M/LABS USE ONLY:

750 Royal Oaks Dr, Suite 100, Monrovia, CA 91016-3629  
(626) 568-6400 (800) 566-5227

LOGIN COMMENTS: \* ON SAMPLE

SAMPLES CHECKED/LOGGED IN BY: ALD  
SAMPLE TEMP, RECEIPT AT LAB: 2c

BLUE ICE: FROZEN  PARTIALLY FROZEN THAWED

TO BE COMPLETED BY SAMPLER:		PROJECT JOB # / P.O.#		REFER TO ATTACHED BOTTLE ORDER FOR ANALYSES		(check for yes)	
COMPANY / PROJECT NAME		PROJECT JOB # / P.O.#		ANALYSES REQUIRED (mark an 'X' in all tests required for each sample line)			
Tronox LLC Sampler Doug Davis		Annual Groundwater Sampling - April / May Tronox LLC PO Box 55 Henderson, NV 89009		pH			
Biran Ho / Susan Crowley (702) 651-2234		IDENTIFIER, STATE ID#		Specific Conductance		Total Chromium	
TIME	DATE	LOCATION	MATRIX *	GRAB	COMP	Hexavalent Chromium	Perchlorate, ClO <sub>4</sub>
0806	5/11/09	PC-108	RGW	X		X	X
0932	5/11/09	Hmw-15	R6w	X		X	X
1015	5/11/09	Hmw-13	R6w	X		X	X
1348	5/11/09	PC-79	R6w	X		X	X
/							

\* MATRIX TYPES: Reported by Volume: CFW = Chlor(am)inated Finished Water, FW = Other Finished Water  
Reported by Weight: SO = Soil, SL = Sludge

RGW = Raw Ground Water, RSW = Raw Surface Water  
CWW = Chlorinated Waste Water, WW = Other Waste Water, SW = Storm Water

RELINQUISHED BY: [Signature] SIGNATURE  
RECEIVED BY: Doug Davis PRINT NAME  
RELINQUISHED BY: M. DE NEESA  
RECEIVED BY: \_\_\_\_\_

COMPANY/TITLE: GES / GEOLOGIST  
DATE: 5-11-09 TIME: 1424  
5-12-9 1030

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

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Tronox LLC - Henderson  
 PO Box 55  
 Henderson, NV 89009  
 Attn: Susan Crowley  
 Phone: 702-651-2234

Customer Code: KERRMCGEE-MP  
 PO#: Susan Crowley PO  
 Group#: 270639  
 Project#: CLO4  
 Proj Mgr: Andrew Eaton  
 Phone: (626) 386-1125

The following samples were received from you on 05/12/09. 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	Tests Scheduled	Matrix	Sample Date
2905120278	PC-108	CLO4 TDS	Water	11-may-2009 08:06:00
2905120280	HMW-15	CLO4 TDS	Water	11-may-2009 09:32:00
2905120281	HMW-13	CLO4 TDS	Water	11-may-2009 10:15:00
2905120283	PC-79	CLO4 CR6010	Water	11-may-2009 13:48:00
			P T	TDS

Test Acronym Description

Test Acronym	Description
CLO4	Perchlorate
CR6010	Chromium, Total, ICAP
P	Metals sample pH
T	Metals Turbidity
TDS	Total Dissolved Solid (TDS)

ACKNOWLEDGMENT OF SAMPLES RECEIVED

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 PO Box 55  
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Test Acronym Description

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P	Metals sample pH
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Report  
Comments  
#270639

**Client Specific Comments**

I hereby certify that all laboratory analytical data was generated by a laboratory certified by the NDEP for each constituent and media presented herein.

Signature: \_\_\_\_\_



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Laboratory  
Hits Report  
#270639

Tronox LLC - Henderson  
Susan Crowley  
PO Box 55  
Henderson , NV 89009

Samples Received  
12-may-2009 10:30:00

Analyzed	Sample#	Sample ID	Result	Federal MCL	UNITS	MRL
	2905120278	PC-108				
05/18/09	Total Dissolved Solid (TDS)		3090	500	mg/l	10
	2905120280	HMW-15				
06/05/09	Perchlorate		5.5		ug/l	4.0
05/18/09	Total Dissolved Solid (TDS)		3450	500	mg/l	10
	2905120281	HMW-13				
05/18/09	Total Dissolved Solid (TDS)		2460	500	mg/l	10
	2905120283	PC-79				
06/08/09	Metals digestion performed.		Y		Yes/No	
06/05/09	Perchlorate		2980		ug/l	400
05/18/09	Total Dissolved Solid (TDS)		3140	500	mg/l	10

SUMMARY OF POSITIVE DATA ONLY.



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Laboratory  
 Data Report  
 #270639

Tronox LLC - Henderson  
 Susan Crowley  
 PO Box 55  
 Henderson , NV 89009

Samples Received  
 05/12/09

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
<b>PC-108 (2905120278)                    Sampled on 05/11/09 08:06</b>								
	06/08/09 19:25	487685	( EPA 314 )	Perchlorate	ND	ug/l	10	5
05/18/09	05/18/09 23:15	485599	( E160.1/SM2540C)	Total Dissolved Solid (TDS)	3090	mg/l	10	1
<b>HMW-15 (2905120280)                    Sampled on 05/11/09 09:32</b>								
	06/05/09 00:00	487099	( EPA 314 )	Perchlorate	5.5	ug/l	4.0	1
05/18/09	05/18/09 23:15	485599	( E160.1/SM2540C)	Total Dissolved Solid (TDS)	3450	mg/l	10	1
<b>HMW-13 (2905120281)                    Sampled on 05/11/09 10:15</b>								
	06/05/09 00:00	487099	( EPA 314 )	Perchlorate	ND	ug/l	4.0	1
05/18/09	05/18/09 23:15	485599	( E160.1/SM2540C)	Total Dissolved Solid (TDS)	2460	mg/l	10	1
<b>PC-79 (2905120283)                    Sampled on 05/11/09 13:48</b>								
	06/05/09 00:00	487099	( EPA 314 )	Perchlorate	2980	ug/l	400	100
06/05/09	06/09/09 00:00	487350	( ML/EPA 6010B )	Chromium, Total, ICAP	ND	mg/l	0.010	1
	06/08/09 13:47		( EPA 200 Prep )	Metals digestion performed.	Y	Yes/No	0	1
05/18/09	05/18/09 23:15	485599	( E160.1/SM2540C)	Total Dissolved Solid (TDS)	3140	mg/l	10	1





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Laboratory  
QC Summary  
#270639

Tronox LLC - Henderson

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QC Ref #485599 - Total Dissolved Solid (TDS) Analysis Date: 05/18/2009

2905120278	PC-108	Analyzed by: wbh
2905120280	HMW-15	Analyzed by: wbh
2905120281	HMW-13	Analyzed by: wbh
2905120283	PC-79	Analyzed by: wbh

QC Ref #487099 - Perchlorate Analysis Date: 06/05/2009

2905120280	HMW-15	Analyzed by: ser
2905120281	HMW-13	Analyzed by: ser
2905120283	PC-79	Analyzed by: ser

QC Ref #487350 - Chromium, Total, ICAP Analysis Date: 06/09/2009

2905120283	PC-79	Analyzed by: csk
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QC Ref #487685 - Perchlorate Analysis Date: 06/08/2009

2905120278	PC-108	Analyzed by: ser
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Tronox LLC - Henderson

QC Ref #485599                      Total Dissolved Solid (TDS)

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
AASPKSMP	Spiked sample	Lab # 29	05130001	MGL		( 0-0 )	
DUP	Total Dissolved Solid (TDS)	112	118	MGL		( 0-10 )	5.2
LCS1	Total Dissolved Solid (TDS)	175	184	MGL	105.1	( 80-114 )	
LCS2	Total Dissolved Solid (TDS)	700	704	MGL	100.6	( 80-114 )	
MBLK	Total Dissolved Solid (TDS)	ND	<10	MGL			
MRL_CHK	Total Dissolved Solid (TDS)	10.0	11	MGL	110.0	( 50-150 )	
RPD_LCS	Total Dissolved Solid (TDS)	105.143	100.571	MGL	4.4	( 0-20 )	

QC Ref #487099                      Perchlorate

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 29	05120283	UGL		( 0-0 )	
LCS1	Perchlorate	25.0	25.0	UGL	100.0	( 85-115 )	
LCS2	Perchlorate	25.0	25.1	UGL	100.4	( 85-115 )	
LCS3	Perchlorate	4	3.46	UGL	86.5	( 75-125 )	
MBLK	Perchlorate	ND	<4.0	UGL			
MS	Perchlorate	25.0	24.6	UGL	98.4	( 80-120 )	
MSD	Perchlorate	25.0	25.2	UGL	100.8	( 80-120 )	
RPD_LCS	Perchlorate	100.000	100.400	UGL	0.4	( 0-15 )	
RPD_MS	Perchlorate	98.400	100.800	UGL	1.0	( 0-15 )	

QC Ref #487350                      Chromium, Total, ICAP

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
AASPKSMP	Spiked sample	Lab # 29	05120264	MGL		( 0-0 )	
LCS1	Chromium, Total, ICAP	1.00	0.928	MGL	92.8	( 85-115 )	
LCS2	Chromium, Total, ICAP	1.00	1.07	MGL	107.0	( 85-115 )	
MBLK	Chromium, Total, ICAP	ND	<0.010	MGL			
MRL_CHK	Chromium, Total, ICAP	0.010	0.0096	MGL	96.0	( 50-150 )	
MS	Chromium, Total, ICAP	1.00	0.000	MGL	<u>0.0</u>	( 70-130 )	
MS2	Chromium, Total, ICAP	1.00	0.928	MGL	92.8	( 70-130 )	

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.  
Criteria for MS and DUP are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

Tronox LLC - Henderson  
(continued)

MSD	Chromium, Total, ICAP	1.00	0.000	MGL	<u>0.0</u>	( 70-130 )
MSD2	Chromium, Total, ICAP	1.00	0.908	MGL	90.8	( 70-130 )

QC Ref #487685                      Perchlorate

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 29	0603044	UGL		( 0-0 )	
LCS1	Perchlorate	25.0	23.5	UGL	94.0	( 85-115 )	
LCS2	Perchlorate	25.0	23.2	UGL	92.8	( 85-115 )	
LCS3	Perchlorate	4	3.02	UGL	75.5	( 75-125 )	
MBLK	Perchlorate	ND	<4.0	UGL			
MS	Perchlorate	25.0	24.4	UGL	97.6	( 80-120 )	
MSD	Perchlorate	25.0	24.0	UGL	96.0	( 80-120 )	
RPD_LCS	Perchlorate	94.000	92.800	UGL	1.3	( 0-15 )	
RPD_MS	Perchlorate	97.600	96.000	UGL	1.0	( 0-15 )	

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