



# MWH Laboratories

A Division of MWH Americas, Inc.

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 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#270708R replaces the original Report.



Report#: 270708R  
Project: CL04  
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 270708R

Sample receipt: The samples arrived at MWH Laboratories, Monrovia, CA on May 13, 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:

Report revised: QC correction for CR6010.

TDS – Analysis performed past hold time.

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

**750 Royal Oaks Dr, Suite 100, Monrovia, CA 91016-3629**  
 (626) 568-6400 (800) 566-6227

**IN/LABS USE ONLY:**

**LOGIN COMMENTS:**

270708

SAMPLES CHECKED/LOGGED IN BY: JS/BI

SAMPLE TEMP, RECEIPT AT LAB: 5°

BLUE ICE:  FROZEN  PARTIALLY FROZEN  THAWED

TO BE COMPLETED BY SAMPLER:

<b>COMPANY / PROJECT NAME</b> Tronox LLC Sampler	<b>PROJECT JOB # / P.O.#</b> Annual Groundwater Sampling - April / May	<input type="checkbox"/> (check for yes)
<b>REFER TO ATTACHED BOTTLE ORDER FOR ANALYSES</b>		

Annual Groundwater Sampling - April / May			Tronox LLC PO Box 55 Henderson, NV 89009		IDENTIFIER, STATE ID#	MATRIX	GRAB	COMP	SAMPLER COMMENTS
TIME	DATE	LOCATION	Brian Ho / Susan Crowley	(702) 651-2234					
1335	5-12-09	HM1216			RGW	X			
1342	5-12-09	PC-24			RGW	X			
1420	5-12-09	PC-50			RGW	X			

**\* MATRIX TYPES:** Reported by Volume: CFW = Chlor(am)inated Finished Water, FW = Other Finished Water, RGW = Raw Ground Water, RSW = Raw Surface Water  
 Reported by Weight: SO = Soil, SL = Sludge  
 CW = Chlorinated Waste Water, WW = Other Waste Water, SW = Storm Water

RELINQUISHED BY:	SIGNATURE:	PRINT NAME: <u>Phil Brinkhoff</u>	COMPANY/TITLE: <u>GES / Geologist</u>
RECEIVED BY:	RECEIVED BY: <u>Joe Sanchez</u>	DATE: <u>5-18-09</u>	DATE: <u>5-13-09</u>
RELINQUISHED BY:	RELINQUISHED BY:	DATE: <u>16:00</u>	DATE: <u>10:30</u>
RECEIVED BY:	RECEIVED BY:		



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

# Bottle Order for Tronox LLC- Henderson Standing

Client Code KERRMCGEE-MP  
Project Code CLO4  
PO# / Job# GWREMEDIATION  
Blanket PO

Period M Monthly

Andrew Eaton..... Your MWL Project Manager  
(626) 386-1125..... Direct Phone/Voice Mail

SO# 47684 12374 RS

## Sampler: Please Return this Paper with your samples

Ship Sample Kits to  
Veolia Water-Tronox LLC  
Gate 1  
8000 West Lake Mead Drive  
Henderson, NV 89015

Send Report to  
Tronox LLC, Henderson Plant  
P.O. Box 55  
Henderson, NV 89009

Billing Address  
Tronox LLC  
Attn: Accounts Payable  
P.O. BOX 268859  
Oklahoma City, OK 73126-8859

Created by GJY  
Order Date 04/15/09

Date Needed by Client

Date Samples to Arrive at MWL

SHIP LOCATION

ATTN: Susan Crowley  
PHONE: 702-651-2234  
FAX: 702-651-2310

Quote# GJY

# of Samples Tests Bottles-Qty for each sample, type & preservative if any

# of Samples	Tests	Bottles-Qty for each sample, type & preservative if any	UN#	Important Comments
41	CLO4, TDS	1 250 ml poly /no preservative		These sites are monthly till further notice.
	SHEET OF LABELS WITH WELL-IDS	see comments section		Shipping - please send bottles in cooler rather than a box
				PC-86, PC-89, PC-91, PC-95, PC-97, PC-10, PC-12, PC-17, PC-18, PC-55, PC-101R L-635, L-637
				MW-K2, MW-K4
				ARP-1, ARP-2, ARP-3, ARP-4
				ARP-5, ARP-6, ARP-7, PC-53
				PC-103, MW-K5, M-83
				M-87, PC-98R, PC-56, PC-58, PC-59, PC-60, PC-62, PC-68, PC-122

**Do NOT**

prelabel bottles with site, but provide pre-printed labels for client to stick on  
EXTRA BOTTLES INCLUDED  
client code changed 7/25/03  
bottle order and IDs updated 9/9/03

Order Code Status Date Shipped Qty of Containers Tracking Number

**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#: 270708  
 Project#: CLO4  
 Proj Mgr: Andrew Eaton  
 Phone: (626) 386-1125

The following samples were received from you on **05/13/09**. 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
2905130203	HMW-16	CLO4 TDS	Water	12-may-2009 12:35:00
2905130204	PC-24	CLO4 CR6010	Water	12-may-2009 13:42:00
2905130205	PC-50	CLO4 CR6010	DIGEST P	T TDS
			Water	12-may-2009 14:20:00
			DIGEST P	T TDS

Test Acronym Description

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



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Report  
Comments  
#270708

## 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: \_\_\_\_\_

## Group Comments

Report revised to correct QC for CR6010.

(QC Ref#: 2905130203)

Test: Total Dissolved Solid (TDS) (E160.1/SM2540C)

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

(QC Ref#: 2905130204)

Test: Total Dissolved Solid (TDS) (E160.1/SM2540C)

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

(QC Ref#: 2905130205)

Test: Total Dissolved Solid (TDS) (E160.1/SM2540C)

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



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Laboratory  
 Hits Report  
 #270708

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

Samples Received  
 13-may-2009 21:25:29

Analyzed	Sample#	Sample ID	Result	Federal MCL	UNITS	MRL
	2905130203	HMW-16				
06/05/09	Perchlorate		17400		ug/l	800
05/20/09	Total Dissolved Solid (TDS)		5990	500	mg/l	10
	2905130204	PC-24				
06/09/09	Chromium, Total, ICAP		0.110		mg/l	0.020
06/08/09	Metals digestion performed.		Y		Yes/No	
06/05/09	Perchlorate		15300		ug/l	800
05/20/09	Total Dissolved Solid (TDS)		9800	500	mg/l	10
	2905130205	PC-50				
06/09/09	Chromium, Total, ICAP		0.094		mg/l	0.050
06/08/09	Metals digestion performed.		Y		Yes/No	
06/05/09	Perchlorate		212000		ug/l	20000
05/20/09	Total Dissolved Solid (TDS)		10500	500	mg/l	10

SUMMARY OF POSITIVE DATA ONLY.



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Laboratory  
Data Report  
#270708

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

Samples Received  
05/13/09

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
<b>HMW-16 (2905130203)</b>				<b>Sampled on 05/12/09 12:35</b>				
	06/05/09 00:00	487099	( EPA 314 )	Perchlorate	17400	ug/l	800	200
05/20/09	05/20/09 19:35	485818	( E160.1/SM2540C)	Total Dissolved Solid (TDS)	5990 (H1)	mg/l	10	1
<b>PC-24 (2905130204)</b>				<b>Sampled on 05/12/09 13:42</b>				
	06/05/09 00:00	487099	( EPA 314 )	Perchlorate	15300	ug/l	800	200
06/09/09	06/09/09 00:00	487356	( ML/EPA 6010B )	Chromium, Total, ICAP	0.110	mg/l	0.020	2
	06/08/09 13:47		( EPA 200 Prep )	Metals digestion performed.	Y	Yes/No	0	1
05/20/09	05/20/09 19:35	485818	( E160.1/SM2540C)	Total Dissolved Solid (TDS)	9800 (H1)	mg/l	10	1
<b>PC-50 (2905130205)</b>				<b>Sampled on 05/12/09 14:20</b>				
	06/05/09 00:00	487099	( EPA 314 )	Perchlorate	212000	ug/l	20000	5000
06/05/09	06/09/09 00:00	487350	( ML/EPA 6010B )	Chromium, Total, ICAP	0.094	mg/l	0.050	5
	06/08/09 13:47		( EPA 200 Prep )	Metals digestion performed.	Y	Yes/No	0	1
05/20/09	05/20/09 19:35	485818	( E160.1/SM2540C)	Total Dissolved Solid (TDS)	10500 (H1)	mg/l	10	1





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Laboratory  
QC Summary  
#270708

Tronox LLC - Henderson

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QC Ref #485818 - Total Dissolved Solid (TDS) Analysis Date: 05/20/2009

2905130203	HMW-16	Analyzed by: lmr
2905130204	PC-24	Analyzed by: lmr
2905130205	PC-50	Analyzed by: lmr

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

2905130203	HMW-16	Analyzed by: ser
2905130204	PC-24	Analyzed by: ser
2905130205	PC-50	Analyzed by: ser

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

2905130205	PC-50	Analyzed by: csk
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QC Ref #487356 - Chromium, Total, ICAP Analysis Date: 06/09/2009

2905130204	PC-24	Analyzed by: csk
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Laboratory  
 QC Report  
 #270708

Tronox LLC - Henderson

## QC Ref #485818 Total Dissolved Solid (TDS)

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
AASPKSMP	Spiked sample	Lab # 29	05140263	MGL		( 0-0 )	
DUP	Total Dissolved Solid (TDS)	3480	3410	MGL		( 0-10 )	2.0
LCS1	Total Dissolved Solid (TDS)	175	180	MGL	102.9	( 80-114 )	
LCS2	Total Dissolved Solid (TDS)	700	680	MGL	97.1	( 80-114 )	
MBLK	Total Dissolved Solid (TDS)	ND	<10	MGL			
MRL_CHK	Total Dissolved Solid (TDS)	10.0	13	MGL	130.0	( 50-150 )	
RPD_LCS	Total Dissolved Solid (TDS)	102.857	97.143	MGL	5.7	( 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.



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Laboratory  
 QC Report  
 #270708

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 #487356                      Chromium, Total, ICAP

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
AASPKSMP	Spiked sample	Lab # 29	05200129	MGL		( 0-0 )	
LCS1	Chromium, Total, ICAP	1.00	1.03	MGL	103.0	( 85-115 )	
LCS2	Chromium, Total, ICAP	1.00	1.09	MGL	109.0	( 85-115 )	
MBLK	Chromium, Total, ICAP	ND	<0.010	MGL			
MRL_CHK	Chromium, Total, ICAP	0.010	0.0102	MGL	102.0	( 50-150 )	
MS	Chromium, Total, ICAP	1.00	1.01	MGL	101.0	( 70-130 )	
MS2	Chromium, Total, ICAP	1.00	0.877	MGL	87.7	( 70-130 )	
MSD	Chromium, Total, ICAP	1.00	1.02	MGL	102.0	( 70-130 )	
MSD2	Chromium, Total, ICAP	1.00	0.925	MGL	92.5	( 70-130 )	

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