



# 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 15 2009  
MWH LABORATORIES

ADE Andy Eaton  
Project Manager



Report#: 270857  
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 7 page[s].



**BUILDING A BETTER WORLD**

June 16, 2009

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

Subject: Case Narrative report 270857

Sample receipt: The samples arrived at MWH Laboratories, Monrovia, CA on May 16, 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:

Sample MC-3 has a high reporting limit due to dilution to remove an interference peak.

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

270857



CHAIN OF CUSTODY RECORD

MWLABS USE ONLY:

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

SAMPLES CHECKED/LOGGED IN BY: SP/CS

SAMPLE TEMP, RECEIPT AT LAB: 48

BLUE ICE: FROZEN ✓ PARTIALLY FROZEN THAWED

TO BE COMPLETED BY SAMPLER:

COMPANY / PROJECT NAME		PROJECT JOB # / P.O.#	REFER TO ATTACHED BOTTLE ORDER FOR ANALYSES		(check for yes)							
Tronex LLC Sampler		Tronex LLC PO Box 55 Henderson, NV 89009	ANALYSES REQUIRED (mark an 'X' in all tests required for each sample line)		<input type="checkbox"/>							
Brian Ho / Susan Crowley		(702) 651-2234										
TIME	DATE	LOCATION	IDENTIFIER, STATE ID#	MATRIX*	COMP	PH	Specific Conductance	Total Chromium	Hexavalent Chromium	Perchlorate, ClO <sub>4</sub>	TDS	SAMPLER COMMENTS
0705	5/15/09	MC3		RGW	X				X	X	X	
0738	5-15-09	MC29							X	X	X	
0816	5-15-09	MCS1							X	X	X	
0841	5-15-09	MC50							X	X	X	
0901	5-15-09	MC45							X	X	X	
0932	5-15-09	M1C97							X	X	X	
1006	5-15-09	MC93							X	X	X	

Reported by Weight:

- SO = Soil
- SL = Sludge

Reported by Volume:

- CFW = Chlor(am)inated Finished Water
- FW = Other Finished Water
- RGW = Raw Ground Water
- RSW = Raw Surface Water
- CWW = Chlorinated Waste Water
- WW = Other Waste Water
- SW = Storm Water

RELINQUISHED BY:	<u>[Signature]</u>	SIGNATURE	RELINQUISHED BY:		
RECEIVED BY:	<u>[Signature]</u>	PRINT NAME	RECEIVED BY:		
RELINQUISHED BY:	<u>[Signature]</u>	COMPANY/TITLE	RELINQUISHED BY:		
RECEIVED BY:	<u>[Signature]</u>	DATE	RECEIVED BY:		
		TIME			
				5-15-09	1040
				5-16-09	10:50



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

**Bottle Order for Tronox LLC- Henderson Standing**

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

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

Period

M Monthly

SO# 47684 12374 RS

**Sampler: Please Return this Paper with your samples**

Created by GJY

0 Ship Sample Kits to

Order Date 04/16/09  
 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

Date Samples to Arrive at MWL

ATTN: Susan Crowley  
 PHONE: 702-651-2234

ATTN: Susan Crowley  
 PHONE: 702-651-2234

Quote#

GJY

SHIP LOCATION

# of Samples Tests

Bottles-Qty for each sample, type & preservative if any

UN#

Important Comments

# 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
				<b>Do NOT</b> 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

ActiveCode Status

Date Shipped

Carrier

Qty of Coolers

Tracking Number

Printed By

From: Origin ID: LASA (702) 651-2234  
Susan Crowley  
Tronox  
8000 West Lake Mead Parkway



Henderson, NV 89015

Ship Date: 15MAY09  
ActWgt: 50.0 LB  
CAD: 7219287/NET9011  
Account#: S \*\*\*\*\*

Delivery Address Bar Code



SHIP TO: (626) 386-1100 BILL SENDER

Sample Receiving  
MWH Labs  
750 ROYAL OAKS DR STE 100

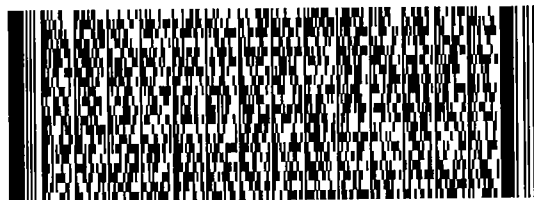
MONROVIA, CA 91016

Ref #  
Invoice #  
PO #  
Dept #

RELEASE#: 3785346

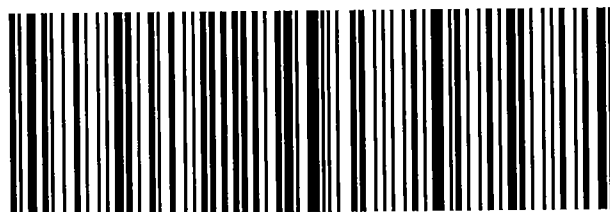
### SATURDAY ### A2  
PRIORITY OVERNIGHT

TRK# 7966 1105 8510  
0201



X0 WHPA

91016  
CA-US  
BUR



**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

**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#: 270857  
 Project#: CLO4  
 Proj Mgr: Andrew Eaton  
 Phone: (626) 386-1125

The following samples were received from you on **05/16/09**. 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
2905160043	MC3	CLO4 TDS	Water	15-may-2009 07:05:00
2905160044	MC29	CLO4 TDS	Water	15-may-2009 07:38:00
2905160045	MC51	CLO4 TDS	Water	15-may-2009 08:16:00
2905160046	MC50	CLO4 TDS	Water	15-may-2009 08:41:00
2905160047	MC45	CLO4 TDS	Water	15-may-2009 09:01:00
2905160048	MC97	CLO4 TDS	Water	15-may-2009 09:32:00
2905160049	MC93	CLO4 TDS	Water	15-may-2009 10:06:00

Test Acronym Description

Test Acronym	Description
CLO4	Perchlorate
TDS	Total Dissolved Solid (TDS)



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Report  
Comments  
#270857

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

(QC Ref#: 2905160043)

Test: Perchlorate (EPA 314)

Due to large interference peak, diluted 1:50, verified interference peak was not Perchlorate with a matrix spike.



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Laboratory  
Hits Report  
#270857

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

Samples Received  
16-may-2009 16:13:12

Analyzed	Sample#	Sample ID	Result	Federal MCL	UNITS	MRL
	2905160043	MC-3				
05/21/09	Total Dissolved Solid (TDS)		25500	500	mg/l	10
	2905160044	MC-29				
06/10/09	Perchlorate		4710		ug/l	400
05/21/09	Total Dissolved Solid (TDS)		12600	500	mg/l	10
	2905160045	MC-51				
06/11/09	Perchlorate		7170		ug/l	400
05/21/09	Total Dissolved Solid (TDS)		9300	500	mg/l	10
	2905160046	MC-50				
06/09/09	Perchlorate		2680		ug/l	200
05/21/09	Total Dissolved Solid (TDS)		10200	500	mg/l	10
	2905160047	MC-45				
06/11/09	Perchlorate		9930		ug/l	800
05/21/09	Total Dissolved Solid (TDS)		9400	500	mg/l	10
	2905160048	MC-97				
06/11/09	Perchlorate		10400		ug/l	800
05/21/09	Total Dissolved Solid (TDS)		8700	500	mg/l	10
	2905160049	MC-93				
06/09/09	Perchlorate		11700		ug/l	800

SUMMARY OF POSITIVE DATA ONLY.





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Laboratory  
Hits Report  
#270857

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Susan Crowley  
PO Box 55  
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Samples Received  
16-may-2009 16:13:12

Analyzed	Sample#	Sample ID	Result	Federal MCL	UNITS	MRL
	2905160049	MC-93				
05/21/09	Total Dissolved Solid (TDS)		11700	500	mg/l	10



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Laboratory  
Data Report  
#270857

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

Samples Received  
05/16/09

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
<b>MC-3 (2905160043)      Sampled on 05/15/09 07:05</b>								
	06/08/09 19:25	487685	( EPA 314 )	Perchlorate	ND	ug/l	200	50
05/21/09	05/21/09 12:50	485811	( E160.1/SM2540C)	Total Dissolved Solid (TDS)	25500	mg/l	10	1
<b>MC-29 (2905160044)      Sampled on 05/15/09 07:38</b>								
	06/10/09 16:07	487704	( EPA 314 )	Perchlorate	4710	ug/l	400	100
05/21/09	05/21/09 12:50	485811	( E160.1/SM2540C)	Total Dissolved Solid (TDS)	12600	mg/l	10	1
<b>MC-51 (2905160045)      Sampled on 05/15/09 08:16</b>								
	06/11/09 00:00	487704	( EPA 314 )	Perchlorate	7170	ug/l	400	100
05/21/09	05/21/09 12:50	485811	( E160.1/SM2540C)	Total Dissolved Solid (TDS)	9300	mg/l	10	1
<b>MC-50 (2905160046)      Sampled on 05/15/09 08:41</b>								
	06/09/09 00:00	487685	( EPA 314 )	Perchlorate	2680	ug/l	200	50
05/21/09	05/21/09 12:50	485811	( E160.1/SM2540C)	Total Dissolved Solid (TDS)	10200	mg/l	10	1
<b>MC-45 (2905160047)      Sampled on 05/15/09 09:01</b>								
	06/11/09 00:00	487704	( EPA 314 )	Perchlorate	9930	ug/l	800	200
05/21/09	05/21/09 12:50	485811	( E160.1/SM2540C)	Total Dissolved Solid (TDS)	9400	mg/l	10	1
<b>MC-97 (2905160048)      Sampled on 05/15/09 09:32</b>								
	06/11/09 00:00	487704	( EPA 314 )	Perchlorate	10400	ug/l	800	200
05/21/09	05/21/09 12:50	485811	( E160.1/SM2540C)	Total Dissolved Solid (TDS)	8700	mg/l	10	1
<b>MC-93 (2905160049)      Sampled on 05/15/09 10:06</b>								
	06/09/09 00:00	487685	( EPA 314 )	Perchlorate	11700	ug/l	800	200
05/21/09	05/21/09 12:50	485811	( E160.1/SM2540C)	Total Dissolved Solid (TDS)	11700	mg/l	10	1



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Laboratory  
QC Summary  
#270857

Tronox LLC - Henderson

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QC Ref #485811 - Total Dissolved Solid (TDS)      Analysis Date: 05/21/2009

2905160043	MC-3	Analyzed by: lmr
2905160044	MC-29	Analyzed by: lmr
2905160045	MC-51	Analyzed by: lmr
2905160046	MC-50	Analyzed by: lmr
2905160047	MC-45	Analyzed by: lmr
2905160048	MC-97	Analyzed by: lmr
2905160049	MC-93	Analyzed by: lmr

QC Ref #487685 - Perchlorate      Analysis Date: 06/08/2009

2905160043	MC-3	Analyzed by: ser
2905160046	MC-50	Analyzed by: ser
2905160049	MC-93	Analyzed by: ser

QC Ref #487704 - Perchlorate      Analysis Date: 06/10/2009

2905160044	MC-29	Analyzed by: ser
2905160045	MC-51	Analyzed by: ser
2905160047	MC-45	Analyzed by: ser
2905160048	MC-97	Analyzed by: ser



Tronox LLC - Henderson

QC Ref #485811      Total Dissolved Solid (TDS)

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
AASPKSMP	Spiked sample	Lab # 29	05160043	MGL		( 0-0 )	
DUP	Total Dissolved Solid (TDS)	26300	25500	MGL		( 0-10 )	3.1
LCS1	Total Dissolved Solid (TDS)	175	154	MGL	88.0	( 80-114 )	
LCS2	Total Dissolved Solid (TDS)	700	656	MGL	93.7	( 80-114 )	
MBLK	Total Dissolved Solid (TDS)	ND	<10	MGL			
MRL_CHK	Total Dissolved Solid (TDS)	10.0	9	MGL	90.0	( 50-150 )	
RPD_LCS	Total Dissolved Solid (TDS)	88.000	93.714	MGL	6.3	( 0-20 )	

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 )	

QC Ref #487704      Perchlorate

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 29	06020001	UGL		( 0-0 )	
LCS1	Perchlorate	25.0	23.9	UGL	95.6	( 85-115 )	
LCS2	Perchlorate	25.0	24.5	UGL	98.0	( 85-115 )	
LCS3	Perchlorate	4	4.98	UGL	124.5	( 75-125 )	
MBLK	Perchlorate	ND	<4.0	UGL			
MS	Perchlorate	35.0	34.4	UGL	98.3	( 80-120 )	
MSD	Perchlorate	35.0	34.2	UGL	97.7	( 80-120 )	

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  
#270857

Tronox LLC - Henderson  
(continued)

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RPD_LCS	Perchlorate	95.600	98.000	UGL	2.5	( 0-15 )
RPD_MS	Perchlorate	98.286	97.714	UGL	1.0	( 0-15 )

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.