

Laboratory Report

for

Tronox LLC PO Box 55 Henderson, NV 89009 Attention: Susan Crowley Fax: 702-651-2310

Date of Issue 10/08/2010 LABORATOR

LXG: Linda Geddes Project Manager



Report#: 344281 Project: CWA-RCRA Group: Weekly Influent-effluent-quick TAT-#KERRUS

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 Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.



750 Royal Oaks Drive Suite 100, Monrovia, Ca 91016 Phone 626-386-1100/Fax: 626-386-1101

# **Acknowledgement of Samples Received**

**Tronox LLC** 

PO Box 55 Henderson, NV 89009 Attn: Susan Crowley Phone: 702-651-2234 Customer Code: TRONOX Group #: 344281

Project #: CWA-RCRA Sample Group: Weekly Influent-effluent-quick

The following samples were received from you on **September 21, 2010**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample Id		Sample Date			
201009220362	Effluent		20-Sep-2010 0830			
	Ammonia Nitrogen	Chlorate by IC	Nitrate as Nitrogen by IC			
	Nitrite Nitrogen by IC	Perchlorate	Total Inorganic Nitrogen-Calc			
·	Influent		20-Sep-2010 0900			
	Ammonia Nitrogen	Chlorate by IC	Nitrate as Nitrogen by IC			
	Nitrite Nitrogen by IC	Perchlorate	Total Inorganic Nitrogen-Calc			
	Total Nitrate Nitrite-N CALC					

1

C-0-C#

MWH Laboratories		Bottle Order for Tronox LLC	Page 1		
A DU KOYAL VAKS URIVE S Monrovia, CA 91016 (6	7:00 R0yal Daks Drive Suite 100 Monrovia, CA 91016 (626) 386-1100 FAX (626) 386-1124		, [		
			Group#	#	
<u>Linda G</u>	<u>Linda Geddes</u> Your MWHL Project Manager	Client Code TRONOX	Date S	Date Sampled	
BO #: 22378	Sampler: please return	Project Code BOTTLES Bottle Orders	Date F	Date Received	
Created By: LXG	this paper with your samples	Group Name Weekly Influent-effluent-quick TAT #KERRUS			
Order Date: 08/30/2010 Bottle Orders		PO#/Job#			
	Ship Sample Kits to	Send Report to			
	Veolia Water-Tronox LLC	Tronox LLC	Billing Address		
Ship By:	Gate 1	PO Box 55	Tronox LLC		
08/20/2010	560 West Lake Mead Pkwy	Henderson, NV 89009	PO Box 55		
	Henderson, NV 89015		Henderson, NV 89009		
	Attn: Wendy Prescott	Attn: Susan Crowley	Atta: Cucca Crossilou		
	Phone:	Phone: 702-651-2234	Allin. Susan Growiey		
	Fax:	Fax: 702-651-2310	FINNE: 702-651-2310		
# of Samples Tests	Qteline#	Bottles - Qty for each sample, type & preservative if any		UN DOT #	
2 Attimonia Nitrogen		1 250ml poly 0.5mi (12SO4 (50%)			-
2 Concrate by IC		1 60mL poly 0.60mL 5% EDA sol'n			T
2 Nitrate as Nitrogen by I Nitrogen-Calc	Nitrate as Nitrogen by IC, Nitrite Nitrogen by IC, Total Inorganic Nitrogen-Calc	1 125ml poly no preservative			1
2 Perchlorate Sterile Filtered	ered	1 125 ml poly + syringe, filter 125ml STERILE bottle			
Comments					
Weekly short quick TAT for Inf and eff.	Weekly short quick TAT for Inf and eff.				
Intilient and etfluent de	STS CID4 CID3 IND2 INU3 IN-ITIUT INTI3				

Date Shipped Status Code

Via

Tracking #

# of Coolers



October 08, 2010

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

Subject: Case Narrative report 344281

Sample receipt: The samples arrived at MWH Laboratories, Monrovia, CA on September 21, 2010 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:

Other Observations:

There were no unusual observations on this sample set.

Sincerely,

ila Seddes

Linda Geddes Project Manager



5/10

TEL 626-3865-1100 FAX 626-386-1101

Monrovia, CA 91016 w



Tronox LLC Susan Crowley PO Box 55 Henderson, NV 89009

**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.

Sinda Seddes

Signature:

Laboratory Comments Report: #344281



### **Tronox LLC**

Susan Crowley PO Box 55 Henderson, NV 89009 Laboratory Hits Report: 344281

Samples Received on: 09/21/2010

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	201009220362	<u>Effluent</u>				
09/27/2010	18:14 Ammonia Niti	rogen	0.44		mg/L	0.05
09/28/2010	13:58 Total Inorgan	ic Nitrogen-Calc	0.44		mg/L	0.2
	201009220364	Influent				
09/27/2010	18:15 Ammonia Niti	rogen	6.5		mg/L	0.25
09/29/2010	07:28 Chlorate by I	C	250000		ug/L	50000
09/21/2010	21:36 Nitrate as Nit	rogen by IC	12	10	mg/L	5
09/21/2010	21:36 Nitrate as NC	3 (calc)	54	45	mg/L	22
10/05/2010	00:36 Perchlorate		160000	6	ug/L	20000
9/28/2010	13:58 Total Inorgan	ic Nitrogen-Calc	19		mg/L	0.2
09/21/2010	21:36 Total Nitrate,	Nitrite-N, CALC	12		mg/L	5



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

Laboratory Data Report: 344281

Samples Received on: 09/21/2010

Prepared	Analyz	ed	QC Ref #	Method	Analyte	Result	Units	MDL	MRL	SQL	Dilution
Effluent	(201009220	<u>362)</u>						Sampled	lon 09/:	20/2010 0	0830
		EPA 3	300.0 - To	otal Inorganic	Nitrogen-Calc						
	09/28/2010	13:58		(EPA 300.0)	Total Inorganic Nitrogen-Calc	0.44	mg/L	0.20	0.2	0.20	1
		EPA 3	350.1 - A	mmonia Nitro	gen						
	09/27/2010	18:14	570733	(EPA 350.1)	Ammonia Nitrogen	0.44	mg/L	0.0030	0.05	0.0030	1
Effluent (201009220362)   Effluent (201009220362)   EPA 300.0 - Total Inorganic Nitrogen-Calc   09/28/2010 13:58 (EPA 300.0) Total Inorganic Nitrogen   09/27/2010 18:14 570733 (EPA 350.1) Ammonia Nitrogen   09/27/2010 18:14 570733 (EPA 300.0) Nitrate as Nitrogen by IC   09/21/2010 21:24 570001 (EPA 300.0) Nitrate as Nitrogen by IC   09/21/2010 21:24 570001 (EPA 300.0) Nitrate as Nitrogen by IC   09/21/2010 21:24 570001 (EPA 300.0) Nitrate as Nitrogen by IC   EPA 300.0 - Disinfection ByProducts by 300.0 09/29/2010 07:03 570910 (EPA 300.0) Chlorate by IC   EPA 314.0 - Perchlorate 10/05/2010 00:14 571546 (EPA 314.0) Perchlorate   Influent (201009220364) 13:58 (EPA 300.0) Total Inorganic Nitrogen Calc   09/28/2010 13:58 (EPA 300.0) Total Inorganic Nitrogen   D9/27/2010 13:58 (EPA 300.0) Total Inorganic Nitrogen   O9/27/2010 </td <td>by EPA 300.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>			by EPA 300.0								
	09/21/2010	21:24	570001	(EPA 300.0)	Nitrate as Nitrogen by IC	ND	mg/L	0.0050	0.65	0.25	50
	09/21/2010	21:24	570001	(EPA 300.0)	Nitrite Nitrogen by IC	ND	mg/L	0.0040	0.65	0.20	50
Effluent (201009220362)   EFfluent (201009220362)   EPA 300.0 - Total Inorganic Nitrogen-Calc   09/28/2010 13:58   (EPA 350.1 - Ammonia Nitrogen   09/27/2010 18:14   570733 (EPA 350.1)   Ammonia Nitrogen 0.4   EPA 300.0 - Nitrate, Nitrite by EPA 300.0 0.4   EPA 300.0 - Nitrate, Nitrite by EPA 300.0 0.4   09/21/2010 21:24 570001 (EPA 300.0) Nitrate as Nitrogen by IC ND   09/21/2010 21:24 570001 (EPA 300.0) Nitrite Nitrogen by IC ND   09/21/2010 21:24 570001 (EPA 300.0) Chlorate by IC ND   09/21/2010 07:03 570910 (EPA 300.0) Chlorate by IC ND   EPA 300.0 - Total Inorganic Nitrogen-Calc ND EPA 350.1 - Ammonia Nitrogen ND   Influent (201009220364) 13:58 (EPA 300.0) Total Inorganic Nitrogen-Calc 19   EPA 300.0 - Total Inorganic Nitrogen 6.5 EPA 300.0 - Nitrate, Nitrite by EPA 300.0 12   09/27/2010 18:15											
	09/29/2010	07:03	570910	(EPA 300.0)	Chlorate by IC	ND	ug/L	1.3	50	6.5	5
		EPA 3	314.0 - P	erchlorate							
	10/05/2010	00:14	571546	(EPA 314.0)	Perchlorate	ND	ug/L	0.25	8	1.00	4
nfluent (	201009220	<u>364)</u>						Sampled	lon 09/2	20/2010 0	900
			300.0 - To								
	09/28/2010			. ,	<b>č</b>	19	mg/L	0.20	0.2	0.20	1
					ogen						
	09/27/2010	18:15	570733	(EPA 350.1)	Ammonia Nitrogen	6.5	mg/L	0.0030	0.25	0.015	5
		EPA 3	300.0 - N	itrate, Nitrite	by EPA 300.0						
	09/21/2010	21:36	570001	(EPA 300.0)	Nitrate as Nitrogen by IC	12	mg/L	0.0050	5	0.25	50
	09/21/2010	21:36	570001	(EPA 300.0)	Nitrate as NO3 (calc)	54	mg/L	0.022	22	1.1	50
	09/21/2010	21:36	570001	(EPA 300.0)	Nitrite Nitrogen by IC	ND	mg/L	0.0040	0.65	0.20	50
	00/21/2010					40	mg/L	0.0050	5	0.25	50
		21:36	570001	(EPA 300.0)	Total Nitrate, Nitrite-N, CALC	12	iiig/L	0.0030	5	0.20	00
				· /		12	mg/L	0.0050	5	0.23	00
	09/21/2010	EPA 3	300.0 - D	isinfection By	Products by 300.0	250000	ug/L	1.3	550000	6500	5000
	09/21/2010	<b>EPA 3</b> 07:28	<b>300.0 - D</b> 570910	isinfection By (EPA 300.0)	Products by 300.0		Ū				

Rounding on totals after summation. (c) - indicates calculated results Sample Quantitation Limit (SQL) = MDL \* Dilution Factor



Tronox LLC

### QC Ref # 570001 - Nitrate, Nitrite by EPA 300.0

Effluent

Influent

Effluent

Influent

201009220362 201009220364

# QC Ref # 570733 - Ammonia Nitrogen

201009220362 Effluent 201009220364 Influent

# QC Ref # 570910 - Disinfection ByProducts by 300.0

201009220362 201009220364

#### QC Ref # 571546 - Perchlorate

201009220362 Effluent 201009220364 Influent

# Analysis Date: 09/21/2010 Analyzed by: SXK Analyzed by: SXK

Analysis Date: 09/27/2010

Analyzed by: NJR Analyzed by: NJR

Analysis Date: 09/29/2010

Analyzed by: LUPE Analyzed by: LUPE

# Analysis Date: 10/05/2010

Analyzed by: LUPE Analyzed by: LUPE



#### Tronox LLC

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 570001 - Nit	rate, Nitrite by EPA 300.0 by EPA 3	00.0			А	nalysis Da	ate: 09/21/2	010	
LCS1	Nitrate as Nitrogen by IC		2.5	2.52	mg/L	101	(90-110)		
LCS2	Nitrate as Nitrogen by IC		2.5	2.53	mg/L	101	(90-110)	20	0.40
MBLK	Nitrate as Nitrogen by IC			<0.10	mg/L				
MRL_CHK	Nitrate as Nitrogen by IC		0.05	0.0532	mg/L	106	(50-150)		
MRLLW	Nitrate as Nitrogen by IC		0.013	0.0130	mg/L	104	(50-150)		
LCS1	Nitrite Nitrogen by IC		1.0	0.961	mg/L	96	(90-110)		
LCS2	Nitrite Nitrogen by IC		1.0	0.961	mg/L	96	(90-110)	20	0.0
MBLK	Nitrite Nitrogen by IC			<0.10	mg/L				
MRL_CHK	Nitrite Nitrogen by IC		0.05	0.0477	mg/L	95	(50-150)		
MRLLW	Nitrite Nitrogen by IC		0.013	0.0115	mg/L	92	(50-150)		
QC Ref# 570733 - Am	monia Nitrogen by EPA 350.1				Α	nalysis Da	ate: 09/27/20	010	
LCS1	Ammonia Nitrogen		1.0	1.09	mg/L	109	(90-110)		
LCS2	Ammonia Nitrogen		1.0	1.1	mg/L	110	(90-110)	20	0.91
MBLK	Ammonia Nitrogen			<0.05	mg/L		. ,		
MRL_CHK	Ammonia Nitrogen		0.05	0.0420	mg/L	84	(50-150)		
MS_201009230421	Ammonia Nitrogen	0.34	1.0	1.41	mg/L	107	(90-110)		
MS2_201009230422	Ammonia Nitrogen	0.35	1.0	1.45	mg/L	110	(90-110)		
MSD_201009230421	Ammonia Nitrogen	0.34	1.0	1.39	mg/L	105	(90-110)	20	1.9
QC Ref# 570910 - Dis	sinfection ByProducts by 300.0 by	EPA 300.0			А	nalysis Da	ate: 09/28/20	010	
LCS1	Chlorate by IC		200	193	ug/L	97	(90-110)		
LCS2	Chlorate by IC		200	196	ug/L	98	(90-110)	20	1.5
MBLK	Chlorate by IC			<10	ug/L		()		
MRL_CHK	Chlorate by IC		10	8.48	ug/L	85	(75-125)		
MS_201009130008	Chlorate by IC	ND	100	96.4	ug/L	96	(80-120)		
MS_201009200188	Chlorate by IC	27	100	124	ug/L	97	(80-120)		
MSD_201009130008	Chlorate by IC	ND	100	95.4	ug/L	95	(80-120)	15	1.0
MSD_201009200188	Chlorate by IC	27	100	123	ug/L	95	(80-120)	15	1.5
QC Ref# 571546 - Pe	rchlorate by EPA 314.0				Α	nalysis Da	ate: 10/04/2	010	
LCS1	Perchlorate		25	23.1	ug/L	93	(85-115)		
LCS2	Perchlorate		25	24.5	ug/L	98	(85-115)	15	5.9
MBLK	Perchlorate			<4	ug/L		()		
MRL_CHK	Perchlorate		4.0	4.36	ug/L	109	(75-125)		
_ MRLLW	Perchlorate		2.0	2.47	ug/L	123	(50-150)		
MS_201009270155	Perchlorate	ND	25	23.6	ug/L	94	(80-120)		
	Perchlorate	ND	25	23.6	ug/L	94	· · · /	15	0.0

Spike recovery is already corrected for native results.

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.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)