



# 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)

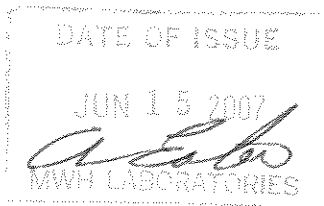
## Laboratory Report

for

Tronox LLC - Henderson  
PO Box 55

Henderson , NV 89009

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



ADE Andy Eaton  
Project Manager



Report#: 205408  
Project: CL04  
PO#: Susan Crowle

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 15 page[s].



MONTGOMERY WATSON LABORATORIES

CHAIN OF CUSTODY RECORD

205 400

MWLABS USE ONLY:

750 Royal Oaks dr. Suite 100 Monrovia, Ca., 91016-3629

SAMPLES CHECKED/LOGGED IN BY: OS

(626) 386-1100 (800) 566-5227

SAMPLE TEMP, RECEIPT AT LAB: 3

BLUE ICE: FROZEN PARTIALLY FROZEN THAWED

TO BE COMPLETED BY SAMPLER:

COMPANY / PROJECT NAME KERRM/GEE-MP		PROJECT JOB # / P.O.# Weekly Permit Compliance Samples - SO #6532 & #6534		REFER TO ATTACHED BOTTLE ORDER FOR ANALYSES <input type="checkbox"/> (check for yes)															
Sampler Signature: Michele Brown <i>Michele Brown</i>		Tronox LLC - Henderson Plant PO Box 55 Henderson, NV 89009		ANALYSES REQUIRED (mark an 'X' in all tests required for each sample line)															
TIME	DATE	LOCATION	IDENTIFIER, STATE ID#	MATRIX *	COMP	CL04	RADCWB (2 Bts)	NH3, NH3-DIST	pH, NO2-N, NO3-N, NOR, TSS	CL03	FE, CR	T-P, TKN	Color	RA228EDD/RA226EDD (2 Bts)	CR	NO2-N, NO3, N-NOR	CVI	SAMPLER COMMENTS	
6:30 AM	5/21/2007		EFFLUENT	RSW	GRAB	X	X	X	X	X	X	X	X	X	X	X	X	X	Revised SO #6534
7:00	5/21/2007		INFLUENT	RSW	GRAB	X	X	X	X	X	X	X	X	X	X	X	X	X	Revised SO #6532

\* 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  
CW = Chlorinated Waste Water  
OW = Other Waste Water  
SW = Storm Water

RELINQUISHED BY: <i>Michele Brown</i>	SIGNATURE	PRINT NAME Michele Brown	COMPANY/TITLE Veolia Water NA for Tronox LLC - Henderson Plant	DATE 5/21/2007	TIME 12:00 PM
RECEIVED BY: <i>Joe Sanchez</i>	SIGNATURE	PRINT NAME JOE SANCHEZ	COMPANY/TITLE MWH	DATE 5-22-07	TIME 9:15
RELINQUISHED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RECEIVED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME



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 Ironox 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#  
Blanket PO

Period

SO# 35916 6534

RS

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

0

Created by

Order Date

04/30/07

Date Needed by Client

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

Send Report to

Ironox LLC, Henderson Plant  
P.O. Box 55  
Henderson, NV 89009

Billing Address

Ironox LLC  
Attn: Accounts Payable  
P.O. Box 268859  
Oklahoma City, OK 73126-8859

ATTN: Susan Crowley  
PHONE: 702-651-2234

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

Quote#

# of Samples

Tests

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

UN#

Important Comments

1	CLO4	1	125ml poly /no preservative	UN 2031	This is the weekly order for the <b>EFFLUENT</b> RA228/228 to be subbed to a NV certified lab <b>PLEASE SHIP EXTRA BLUE ICE DUE TO WARM WEATHER - also use a LARGE COOLER</b> login - use profile <b>#KERREFF +CRVI-LOW</b> for this site CLIENT CODE CHANGED 7/25/03 Testcode for CRVI changed to IC effective 1/6/04 Moved CBOD to separate order as of 10/21/04 updated BO 12-8-05 - deleted some tests and changed Cr from MS to ICP. added clo3 back 2-7-06 removed CRVI-LOW to sep BO 2-10-06 added CRVI-LOW as of 4/11/07
1	@RADCW	2	1 125 ml poly / no pres & 1 x 500 ml poly + 2 ml HNO3 (18%)	UN 2796	
1	NH3, NH3-DIST	1	250 ml poly+ 1 ml H2SO4 (50%)	UN 2031	
1	PH, NO2-N, NO3, N-INOR, TSS	1	500 ml poly/ no preservative <b>SHORT HOLDING TIME!!!!</b>	UN 2796	
1	FE, CR	1	250ml poly acid rinsed + 1ml HNO3 (18%)	UN 2031	
1	T-P, TKN	1	250ml poly + 0.5ml H2SO4 (50%)	UN 2796	
1	COLOR	1	500ml amber glass / no preservative <b>SHORT HOLDING TIME!!!!</b>	UN 2031	
1	RA228EDD/RA226EDD	2	1L poly + 4ml HNO3 (18%). MUST BE 1 FULL LITER FOR COMPLIANCE DL'S	UN 1604	
1	CLO3	1	60ml poly+0.60 mL 5% EDA sol'n	3077	
1	CRVI-LOW	1	1125 ml poly/ 1 ml NH4SO4/NH4OH buffer		
			note: deleted CRVI-LOW from bottle order - being sent separately from now on		

ActiveCode

Status

Date Shipped

Carrier

Qty of Coolers

Tracking Number

Prepared By

SCANNED



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 Ironox 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#  
Blanket PO

SO# 35915 6532 RS

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

Created by 0  
Order Date 04/30/07  
Date Needed by Client  
SHIP LOCATION

Ship Sample Kits to

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

Send Report to

Ironox LLC Henderson Plant  
PO Box 55  
Henderson, NV 89009

Billing Address

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

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

Quote#

# 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
1	CLO4	1 125ml poly /no preservative		
1	NH3, NH3-DIST.	1 125 ml poly+ 0.5ml H2SO4 (50%)	UN 2796	This is a weekly sample of <b>INFLUENT</b> This cooler can be shipped out along with the EFFLUENT cooler as one order.
1	CR	1 125ml poly acid rinsed + 1ml HNO3 (18%)	3077	
1	T-P, TKN	1 250ml poly + 0.5ml H2SO4 (50%)	UN 2031	<b>PLEASE SHIP EXTRA BLUE ICE DUE TO WARM WEATHER- also use a LARGE COOLER</b>
1	COLOR	1 500ml amber glass / no preservative <b>SHORT HOLDING TIME!!!!</b>	UN2796	<b>Login - use Profile #KERRINF+CRVI-LOW for this site</b>
1	NO2-N, NO3, N-INOR	1 500 ml poly / no preservative <b>SHORT HOLDING TIME!!!!</b>		note to Login - notify Lisa when this sample comes in so she can run NO3 on her IC
1	CLO3	1 60ml poly+0.60 mL 5% EDA sol'n	UN 1604	Test code for CRVI changed to IC 1-6-04; Moved CBOD to separate order as of 10/21/04; O updated 12-8-05 to delete some tests and change frequency on others.
1	CRVI-LOW	1x 125 ml poly/ 1 ml NH4SO4/NH4OH buffer note: deleted CRVI-LOW from bottle order - being sent separately from now on	3077	Changed CR-MS to CR and updated profile for login added CLO3 back to weekly 2-7-08 2/10/06 - CRVI-LOW separate order deleted NO3RFA as of 7-5-06; CRVI-LOW added back to bottle order 4/11/07

ActiveCode Status Date Shipped Carrier Qty of Coolers Tracking Number Prepared By

**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#: 205408  
 Project#: CLO4  
 Proj Mgr: Andrew Eaton  
 Phone: (626) 386-1125

The following samples were received from you on **05/22/07**. 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
2705220665	EFFLUENT		Water	21-may-2007 06:30:00
		@R226EDD @R228EDD @RADCWB CLO3 CLO4 COLOR		
		CR CRVI-LOW FE N-INOR NH3 NH3-DIST		
		NO2-N NO3 P PH T T-P		
		TKN TSS		
2705220666	INFLUENT		Water	21-may-2007 07:00:00
		CLO3 CLO4 COLOR CR CRVI-LOW N-INOR		
		NH3 NH3-DIST NO2-N NO3 NO3RFA P		
		T T-P TKN		

Test Acronym Description

Test Acronym	Description
@R226EDD	Radium 226 (Sub)
@R228EDD	Radium 228 (Sub)
@RADCWB	Gross Alpha Radiation
CLO3	Chlorate by IC
CLO4	Perchlorate
COLOR	Apparent Color
CR	Chromium, Total, ICAP
CRVI-LOW	Hexavalent chromium(Dissolved)
FE	Iron, Total, ICAP
N-INOR	Total Inorganic Nitrogen-Calc
NH3	Ammonia Nitrogen
NH3-DIST	NPDES Ammonia Distillation
NO2-N	Nitrite, Nitrogen by IC
NO3	Nitrate as Nitrogen by IC
NO3RFA	Nitrate + Nitrite as N by RFA
P	Metals sample pH
PH	PH (H3=past HT, not compliant)
T	Metals Turbidity
T-P	Total phosphorus as P
TKN	Kjeldahl Nitrogen

---

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#: 205408  
Project#: CLO4  
Proj Mgr: Andrew Eaton  
Phone: (626) 386-1125

---

Test Acronym Description

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Test Acronym	Description
TSS	Total Suspended Solids (TSS)

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Report  
Comments  
#205408

**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.

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

**Group Comments**

(TKN) TKN Influent is less than ammonia due to signal suppression on TKN. This has been documented in previous analyses.

Analytical results for Radium 226 & Radium 228 are submitted by Pace Analytical Services, PA. Nevada Cert PA91-2004-77

**(QC Ref#: 2705220665)**

**Test: Nitrite, Nitrogen by IC (ML/EPA 300.0)**

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

**Test: Nitrate as Nitrogen by IC (ML/EPA 300.0)**

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

**(QC Ref#: 2705220666)**

**Test: Kjeldahl Nitrogen (ML/EPA 351.2)**

SAMPLE ANALYZED AT 5X DILUTION AND SPIKED WITH RECOVERY OF 97%



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Laboratory  
 Hits Report  
 #205408

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

Samples Received  
 22-may-2007 18:45:28

Analyzed	Sample#	Sample ID	Result	Federal MCL	UNITS	MRL
	<b>2705220665</b>	<b>EFFLUENT</b>				
06/07/07		Radium 226	<0.150	3	pCi/l	0.15
06/07/07		Radium 226, Minimal Detectable	0.150		pCi/l	
06/07/07		Radium 226, Two Sigma Error	0.154		pCi/l	
06/05/07		Radium 228	<0.721	5	pCi/l	0.72
06/05/07		Radium 228, Minimum Detectable	0.721		pCi/l	
06/05/07		Radium 228, Two Sigma Error	0.368		pCi/l	
05/29/07		Alpha, Gross	8.8	15	pCi/l	8.6
05/29/07		Alpha, Min Detectable Activity	8.59		pCi/l	
05/29/07		Alpha, Two Sigma Error	8.3		pCi/l	
05/29/07		Gross Alpha + adjusted error	15.8		pCi/l	
05/29/07		Ammonia Nitrogen	1.8		mg/l	0.050
05/22/07		Apparent Color	10	15	ACU	3.0
05/25/07		Chromium, Total, ICAP	0.021		mg/l	0.020
05/25/07		Iron, Total, ICAP	3.6	0.3	mg/l	0.040
05/30/07		Kjeldahl Nitrogen	6.5		mg/l	0.20
05/24/07		Metals digestion performed.	Y		Yes/No	
05/23/07		PH (H3=past HT, not compliant)	6.6	6.5-8.5	Units	0.010
05/31/07		Total Inorganic Nitrogen-Calc	1.8		mg/l	0.20
05/23/07		Total Suspended Solids (TSS)	45		mg/l	10
06/01/07		Total phosphorus as P	1.5		mg/l	0.020
	<b>2705220666</b>	<b>INFLUENT</b>				
05/29/07		Ammonia Nitrogen	6.0		mg/l	1.0
05/22/07		Apparent Color	10	15	ACU	3.0
05/23/07		Chlorate by IC	480000		ug/l	50000
05/23/07		Chromium, Total, ICAP	0.085		mg/l	0.020
05/22/07		Hexavalent chromium(Dissolved)	23		ug/l	0.10
05/30/07		Kjeldahl Nitrogen	2.7		mg/l	0.20
05/29/07		Nitrate + Nitrite as N by RFA	16	10	mg/l	2.5

SUMMARY OF POSITIVE DATA ONLY.





**MWH Laboratories**

A Division of MWH Americas, Inc.

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1 800 566 LAES (1 800 566 5227)

Laboratory  
Hits Report  
#205408

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

Samples Received  
22-may-2007 18:45:28

Analyzed	Sample#	Sample ID	Result	Federal MCL	UNITS	MRL
	2705220666	INFLUENT				
05/22/07		Nitrate as Nitrogen by IC	15	10	mg/l	5.0
05/25/07		Perchlorate	268000		ug/l	20000
05/31/07		Total Inorganic Nitrogen-Calc	21		mg/l	10
06/01/07		Total phosphorus as P	0.02		mg/l	0.020

SUMMARY OF POSITIVE DATA ONLY.



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Laboratory  
Data Report  
#205408

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

Samples Received  
05/22/07

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
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**EFFLUENT (2705220665)                      Sampled on 05/21/07 06:30**

05/23/07 00:00	368687	( ML/EPA 300.0 )	Chlorate by IC	ND	ug/l	50	5
05/25/07 00:00	369199	( EPA 314 )	Perchlorate	ND	ug/l	10	5
05/22/07 00:00	368379	( ML/SM2120B )	Apparent Color	10	ACU	3.0	1
05/25/07 14:29	369024	( ML/EPA 200.7 )	Chromium, Total, ICAP	0.021	mg/l	0.020	2
05/22/07 13:46	368317	( EPA 218.6 )	Hexavalent chromium(Dissolved)	ND	ug/l	0.10	1
05/24/07 16:42		( EPA 200 Prep )	Metals digestion performed.	Y	Yes/No	0	1
05/25/07 14:29	369028	( ML/EPA 200.7 )	Iron, Total, ICAP	3.6	mg/l	0.040	2
05/31/07 09:16	369677	( ML/EPA 300.0 )	Total Inorganic Nitrogen-Calc	1.8	mg/l	0.20	50
05/29/07 00:00	369281	( ML/EPA 350.1 )	Ammonia Nitrogen	1.8	mg/l	0.050	1
05/23/07 09:32	368224	( ML/EPA 300.0 )	Nitrite, Nitrogen by IC	ND(HL)	mg/l	0.62	50
05/23/07 09:32	368227	( ML/EPA 300.0 )	Nitrate as Nitrogen by IC	ND(HL)	mg/l	5.0	50
05/23/07 00:00	368389	( SM4500-HB )	PH (H3=past HT, not compliant)	6.6	Units	0.010	1
06/01/07 00:00	370053	( S4500PE/ 365.1 )	Total phosphorus as P	1.5	mg/l	0.020	1
05/30/07 00:00	369587	( ML/EPA 351.2 )	Kjeldahl Nitrogen	6.5	mg/l	0.20	1
05/23/07 17:30	368496	( SM 2540D )	Total Suspended Solids (TSS)	45	mg/l	10	1

**Gross Alpha Radiation**

05/29/07 00:00	369582	( ML/EPA 900.0 )	Alpha, Gross	8.8	pCi/l	8.6	1
05/29/07 00:00	369582	( ML/EPA 900.0 )	Gross Alpha + adjusted error	15.8	pCi/l	0	1
05/29/07 00:00	369582	( ML/EPA 900.0 )	Alpha, Two Sigma Error	8.3	pCi/l	0	1
05/29/07 00:00	369582	( ML/EPA 900.0 )	Alpha, Min Detectable Activity	8.59	pCi/l	0	1

**Radium 226 (Sub)**

06/07/07 00:00		( EPA 903.1 )	Radium 226	<0.150	pCi/l	0.15	1
06/07/07 00:00		( EPA 903.1 )	Radium 226, Two Sigma Error	0.154	pCi/l	0	1
06/07/07 00:00		( EPA 903.1 )	Radium 226, Minimal Detectable	0.150	pCi/l	0	1

**Radium 228 (Sub)**

06/05/07 00:00		( EPA 904.0 )	Radium 228	<0.721	pCi/l	0.72	1
06/05/07 00:00		( EPA 904.0 )	Radium 228, Two Sigma Error	0.368	pCi/l	0	1
06/05/07 00:00		( EPA 904.0 )	Radium 228, Minimum Detectable	0.721	pCi/l	0	1



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Laboratory  
Data Report  
#205408

Tronox LLC - Henderson  
(continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
<b>INFLUENT (2705220666)</b>				<b>Sampled on 05/21/07 07:00</b>				
	05/23/07 00:00	368687	( ML/EPA 300.0 )	Chlorate by IC	480000	ug/l	50000	5000
	05/25/07 00:00	369199	( EPA 314 )	Perchlorate	268000	ug/l	20000	5000
	05/22/07 00:00	368379	( ML/SM2120B )	Apparent Color	10	ACU	3.0	1
	05/23/07 16:26	368591	( ML/EPA 200.7 )	Chromium, Total, ICAP	0.085	mg/l	0.020	2
	05/22/07 14:10	368317	( EPA 218.6 )	Hexavalent chromium(Dissolved)	23	ug/l	0.10	1
	05/31/07 09:16	369677	( ML/EPA 300.0 )	Total Inorganic Nitrogen-Calc	21	mg/l	10	50
	05/29/07 00:00	369281	( ML/EPA 350.1 )	Ammonia Nitrogen	6.0	mg/l	1.0	20
	05/22/07 16:16	368222	( ML/EPA 300.0 )	Nitrite, Nitrogen by IC	ND	mg/l	0.62	50
	05/22/07 16:16	368225	( ML/EPA 300.0 )	Nitrate as Nitrogen by IC	15	mg/l	5.0	50
	05/29/07 12:03	369460	( ML/EPA 353.2 )	Nitrate + Nitrite as N by RFA	16	mg/l	2.5	25
	06/01/07 00:00	370053	( S4500PE/ 365.1)	Total phosphorus as P	0.02	mg/l	0.020	1
	05/30/07 00:00	369587	( ML/EPA 351.2 )	Kjeldahl Nitrogen	2.7	mg/l	0.20	1



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Tel: 626 668 5400  
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1 800 586 LABS (1 800 586 5227)

Laboratory  
QC Summary  
#205408

Tronox LLC - Henderson

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QC Ref #368222	- Nitrite, Nitrogen by IC	Analysis Date: 05/22/2007
2705220666	INFLUENT	Analyzed by: jkz
QC Ref #368224	- Nitrite, Nitrogen by IC	Analysis Date: 05/23/2007
2705220665	EFFLUENT	Analyzed by: jkz
QC Ref #368225	- Nitrate as Nitrogen by IC	Analysis Date: 05/22/2007
2705220666	INFLUENT	Analyzed by: jkz
QC Ref #368227	- Nitrate as Nitrogen by IC	Analysis Date: 05/23/2007
2705220665	EFFLUENT	Analyzed by: jkz
QC Ref #368317	- Hexavalent chromium(Dissolved)	Analysis Date: 05/22/2007
2705220665	EFFLUENT	Analyzed by: tlh
2705220666	INFLUENT	Analyzed by: tlh
QC Ref #368379	- Apparent Color	Analysis Date: 05/22/2007
2705220665	EFFLUENT	Analyzed by: sar
2705220666	INFLUENT	Analyzed by: sar
QC Ref #368389	- PH (H3=past HT, not compliant)	Analysis Date: 05/23/2007
2705220665	EFFLUENT	Analyzed by: sar
QC Ref #368496	- Total Suspended Solids (TSS)	Analysis Date: 05/23/2007
2705220665	EFFLUENT	Analyzed by: maria



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Laboratory  
QC Summary  
#205408

Tronox LLC - Henderson  
(continued)

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QC Ref #368591 - Chromium, Total, ICAP Analysis Date: 05/23/2007  
2705220666 INFLUENT Analyzed by: wbh

QC Ref #368687 - Chlorate by IC Analysis Date: 05/23/2007  
2705220665 EFFLUENT Analyzed by: raja  
2705220666 INFLUENT Analyzed by: raja

QC Ref #369024 - Chromium, Total, ICAP Analysis Date: 05/25/2007  
2705220665 EFFLUENT Analyzed by: wbh

QC Ref #369028 - Iron, Total, ICAP Analysis Date: 05/25/2007  
2705220665 EFFLUENT Analyzed by: wbh

QC Ref #369199 - Perchlorate Analysis Date: 05/25/2007  
2705220665 EFFLUENT Analyzed by: raja  
2705220666 INFLUENT Analyzed by: raja

QC Ref #369281 - Ammonia Nitrogen Analysis Date: 05/29/2007  
2705220665 EFFLUENT Analyzed by: nina  
2705220666 INFLUENT Analyzed by: nina

QC Ref #369460 - Nitrate + Nitrite as N by RFA Analysis Date: 05/29/2007  
2705220666 INFLUENT Analyzed by: maria



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QC Ref #369582 - Gross Alpha Radiation                      Analysis Date: 05/29/2007  
2705220665                      EFFLUENT                      Analyzed by: ajc

QC Ref #369587 - Kjeldahl Nitrogen                      Analysis Date: 05/30/2007  
2705220665                      EFFLUENT                      Analyzed by: njr  
2705220666                      INFLUENT                      Analyzed by: njr

QC Ref #369677 - Total Inorganic Nitrogen-Calc Analysis Date: 05/31/2007  
2705220665                      EFFLUENT                      Analyzed by: dwr  
2705220666                      INFLUENT                      Analyzed by: dwr

QC Ref #370053 - Total phosphorus as P                      Analysis Date: 06/01/2007  
2705220665                      EFFLUENT                      Analyzed by: njr  
2705220666                      INFLUENT                      Analyzed by: njr



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QC Ref #368222 Nitrite, Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
AASPKSMP	Spiked sample	Lab # 27	05220313	MGL		( 0-0 )	
LCS1	Nitrite, Nitrogen by IC	1.0	1.01	MGL	101.0	( 90-110 )	
LCS2	Nitrite, Nitrogen by IC	1.0	1.04	MGL	104.0	( 90-110 )	
MBLK	Nitrite, Nitrogen by IC	ND	<0.10	MGL			
MRL_CHK	Nitrite, Nitrogen by IC	0.050	0.0666	MGL	133.2	( 50-150 )	
MS	Nitrite, Nitrogen by IC	0.500	0.507	MGL	101.4	( 78-135 )	
MSD	Nitrite, Nitrogen by IC	0.500	0.507	MGL	101.4	( 78-135 )	
RPD_LCS	Nitrite, Nitrogen by IC	101.000	104.000	MGL	2.9	( 0-20 )	
RPD_MS	Nitrite, Nitrogen by IC	101.400	101.400	MGL	0.0	( 0-20 )	

QC Ref #368224 Nitrite, Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
AASPKSMP	Spiked sample	Lab # 27	05220514	MGL		( 0-0 )	
LCS1	Nitrite, Nitrogen by IC	1.0	1.02	MGL	102.0	( 90-110 )	
LCS2	Nitrite, Nitrogen by IC	1.0	1.02	MGL	102.0	( 90-110 )	
MBLK	Nitrite, Nitrogen by IC	ND	<0.10	MGL			
MRL_CHK	Nitrite, Nitrogen by IC	0.050	0.0666	MGL	133.2	( 50-150 )	
MS	Nitrite, Nitrogen by IC	0.500	0.517	MGL	103.4	( 78-135 )	
MSD	Nitrite, Nitrogen by IC	0.500	0.513	MGL	102.6	( 78-135 )	
RPD_LCS	Nitrite, Nitrogen by IC	102.000	102.000	MGL	0.0	( 0-20 )	
RPD_MS	Nitrite, Nitrogen by IC	103.400	102.600	MGL	0.8	( 0-20 )	

QC Ref #368225 Nitrate as Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
AASPKSMP	Spiked sample	Lab # 27	05220313	MGL		( 0-0 )	
LCS1	Nitrate as Nitrogen by IC	2.5	2.44	MGL	97.6	( 90-110 )	
LCS2	Nitrate as Nitrogen by IC	2.5	2.49	MGL	99.6	( 90-110 )	
MBLK	Nitrate as Nitrogen by IC	ND	<0.10	MGL			
MRL_CHK	Nitrate as Nitrogen by IC	0.050	0.0456	MGL	91.2	( 50-150 )	

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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MS	Nitrate as Nitrogen by IC	1.25	1.23	MGL	98.4	( 80-112 )
MSD	Nitrate as Nitrogen by IC	1.25	1.24	MGL	99.2	( 80-112 )
RPD_LCS	Nitrate as Nitrogen by IC	97.600	99.600	MGL	2.0	( 0-20 )
RPD_MS	Nitrate as Nitrogen by IC	98.400	99.200	MGL	0.8	( 0-20 )

**QC Ref #368227 Nitrate as Nitrogen by IC**

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
AASPKSMP	Spiked sample	Lab # 27	05220514	MGL		( 0-0 )	
LCS1	Nitrate as Nitrogen by IC	2.5	2.42	MGL	96.8	( 90-110 )	
LCS2	Nitrate as Nitrogen by IC	2.5	2.42	MGL	96.8	( 90-110 )	
MBLK	Nitrate as Nitrogen by IC	ND	<0.10	MGL			
MRL_CHK	Nitrate as Nitrogen by IC	0.050	0.0456	MGL	91.2	( 50-150 )	
MS	Nitrate as Nitrogen by IC	1.25	1.24	MGL	99.2	( 80-112 )	
MSD	Nitrate as Nitrogen by IC	1.25	1.24	MGL	99.2	( 80-112 )	
RPD_LCS	Nitrate as Nitrogen by IC	96.800	96.800	MGL	0.0	( 0-20 )	
RPD_MS	Nitrate as Nitrogen by IC	99.200	99.200	MGL	0.0	( 0-20 )	

**QC Ref #368317 Hexavalent chromium(Dissolved)**

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
AASPKSMP	Spiked sample	Lab # 27	05220665	UGL		( 0-0 )	
LCS1	Hexavalent chromium(Dissolved)	2.0	2.04	UGL	102.0	( 90-110 )	
LCS2	Hexavalent chromium(Dissolved)	2.0	2.03	UGL	101.5	( 90-110 )	
MBLK	Hexavalent chromium(Dissolved)	ND	<0.10	UGL			
MRL_CHK	Hexavalent chromium(Dissolved)	0.100	0.103	UGL	103.0	( 50-150 )	
MS	Hexavalent chromium(Dissolved)	2.0	2.04	UGL	102.0	( 90-110 )	
MSD	Hexavalent chromium(Dissolved)	2.0	2.05	UGL	102.5	( 90-110 )	
RPD_LCS	Hexavalent chromium(Dissolved)	102.000	101.500	UGL	0.5	( 0-20 )	
RPD_MS	Hexavalent chromium(Dissolved)	102.000	102.500	UGL	0.5	( 0-20 )	

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.  
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**QC Ref #368379      Apparent Color**

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
DUP	Apparent Color	ND	ND	ACU		( 0-20 )	

**QC Ref #368389      PH (H3=past HT, not compliant)**

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
AASPKSMP	Spiked sample	Lab # 27	05220616	UNIT		( 0-0 )	
DUP	PH (H3=past HT, not compliant)	7.9	7.9	UNIT		( 0-20 )	0.0

**QC Ref #368496      Total Suspended Solids (TSS)**

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
AASPKSMP	Spiked sample	Lab # 27	05220870	MGL		( 0-0 )	
LCS1	Total Suspended Solids (TSS)	175	142	MGL	81.1	( 71-107 )	
LCS2	Total Suspended Solids (TSS)	175	152	MGL	86.9	( 71-107 )	
MBLK	Total Suspended Solids (TSS)	ND	<10	MGL			
MRL_CHK	Total Suspended Solids (TSS)	10.0	9	MGL	90.0	( 50-150 )	

**QC Ref #368591      Chromium, Total, ICAP**

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Chromium, Total, ICAP	1.00	1.01	MGL	101.0	( 85-115 )	
LCS2	Chromium, Total, ICAP	1.00	1.00	MGL	100.0	( 85-115 )	
MBLK	Chromium, Total, ICAP	ND	<0.010	MGL			
MRL_CHK	Chromium, Total, ICAP	0.010	0.010	MGL	100.0	( 50-150 )	
MS	Chromium, Total, ICAP	1.00	1.10	MGL	110.0	( 70-130 )	
MS2	Chromium, Total, ICAP	1.00	1.01	MGL	101.0	( 70-130 )	
MSD	Chromium, Total, ICAP	1.00	1.03	MGL	103.0	( 70-130 )	
MSD2	Chromium, Total, ICAP	1.00	1.02	MGL	102.0	( 70-130 )	

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QC Ref #368687 Chlorate by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
AASPKSMP	Spiked sample	Lab # 27	05190025	UGL		( 0-0 )	
LCS1	Chlorate by IC	200	204	UGL	102.0	( 90-110 )	
LCS2	Chlorate by IC	200	209	UGL	104.5	( 90-110 )	
MBLK	Chlorate by IC	ND	<10	UGL			
MRL_CHK	Chlorate by IC	10.0	10.0	UGL	100.0	( 50-150 )	
MS	Chlorate by IC	100	92.9	UGL	92.9	( 75-125 )	
MSD	Chlorate by IC	100	93.4	UGL	93.4	( 75-125 )	
RPD_LCS	Chlorate by IC	102.000	104.500	UGL	2.4	( 0-20 )	
RPD_MS	Chlorate by IC	92.900	93.400	UGL	0.5	( 0-20 )	

QC Ref #369024 Chromium, Total, ICAP

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Chromium, Total, ICAP	1.00	1.04	MGL	104.0	( 85-115 )	
LCS2	Chromium, Total, ICAP	1.00	0.991	MGL	99.1	( 85-115 )	
MBLK	Chromium, Total, ICAP	ND	<0.010	MGL			
MRL_CHK	Chromium, Total, ICAP	0.010	0.01	MGL	100.0	( 50-150 )	
MS	Chromium, Total, ICAP	1.00	1.02	MGL	102.0	( 70-130 )	
MS2	Chromium, Total, ICAP	1.00	1.01	MGL	101.0	( 70-130 )	
MSD	Chromium, Total, ICAP	1.00	1.01	MGL	101.0	( 70-130 )	
MSD2	Chromium, Total, ICAP	1.00	0.994	MGL	99.4	( 70-130 )	

QC Ref #369028 Iron, Total, ICAP

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Iron, Total, ICAP	5.0	5.21	MGL	104.2	( 85-115 )	
LCS2	Iron, Total, ICAP	5.0	5.18	MGL	103.6	( 85-115 )	
MBLK	Iron, Total, ICAP	ND	<0.020	MGL			
MRL_CHK	Iron, Total, ICAP	0.020	0.022	MGL	110.0	( 50-150 )	

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MS	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Iron, Total, ICAP	5.0	5.15	MGL	103.0	( 70-130 )	
MS2	Iron, Total, ICAP	5.0	5.17	MGL	103.4	( 70-130 )	
MSD	Iron, Total, ICAP	5.0	5.23	MGL	104.6	( 70-130 )	
MSD2	Iron, Total, ICAP	5.0	5.04	MGL	100.8	( 70-130 )	
RPD_LCS	Iron, Total, ICAP	104.200	103.600	MGL	0.6	( 0-20 )	
RPD_MS	Iron, Total, ICAP	103.000	104.600	MGL	1.5	( 0-20 )	

QC Ref #369199

Perchlorate

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 27	05230380	UGL		( 0-0 )	
LCS1	Perchlorate	25.0	25.1	UGL	100.4	( 85-115 )	
LCS2	Perchlorate	25.0	24.5	UGL	98.0	( 85-115 )	
LCS3	Perchlorate	4	4.14	UGL	103.5	( 75-125 )	
MBLK	Perchlorate	ND	<4.0	UGL			
MS	Perchlorate	25.0	23.9	UGL	95.6	( 80-120 )	
MSD	Perchlorate	25.0	25.5	UGL	102.0	( 80-120 )	
RPD_LCS	Perchlorate	100.400	98.000	UGL	2.4	( 0-15 )	
RPD_MS	Perchlorate	95.600	102.000	UGL	1.1	( 0-15 )	

QC Ref #369281

Ammonia Nitrogen

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 27	05220543	MGL		( 0-0 )	
LCS1	Ammonia Nitrogen	1.00	1.05	MGL	105.0	( 90-110 )	
LCS2	Ammonia Nitrogen	1.00	1.05	MGL	105.0	( 90-110 )	
MBLK	Ammonia Nitrogen	ND	<0.050	MGL			
MRL_CHK	Ammonia Nitrogen	0.05	0.041	MGL	82.0	( 50-150 )	
MS	Ammonia Nitrogen	1.00	0.981	MGL	98.1	( 90-110 )	
MSD	Ammonia Nitrogen	1.00	0.991	MGL	99.1	( 90-110 )	
MS_2ND	Ammonia Nitrogen	1	0.930	MGL	93.0	( 90-110 )	
RPD_LCS	Ammonia Nitrogen	105.000	105.000	MGL	0.0	( 0-20 )	
RPD_MS	Ammonia Nitrogen	98.100	99.100	MGL	1.0	( 0-20 )	

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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QC Ref #369460 Nitrate + Nitrite as N by RFA

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 27	05180498	MGL		( 0-0 )	
LCS1	Nitrate + Nitrite as N by RFA	1.0	1.00	MGL	100.0	( 90-110 )	
LCS2	Nitrate + Nitrite as N by RFA	1.0	1.01	MGL	101.0	( 90-110 )	
MBLK	Nitrate + Nitrite as N by RFA	ND	<0.10	MGL			
MRL_CHK	Nitrate + Nitrite as N by RFA	0.050	0.072	MGL	144.0	( 50-150 )	
MS	Nitrate + Nitrite as N by RFA	1.0	1.01	MGL	101.0	( 90-110 )	
MSD	Nitrate + Nitrite as N by RFA	1.0	1.01	MGL	101.0	( 90-110 )	

QC Ref #369582 Gross Alpha and Beta Radiation

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
AASPKSMP	Spiked sample	Lab # 27	05220123	PCIL		( 0-0 )	
DUP	Alpha, Gross	ND	ND	PCIL		( 0-20 )	
LCS1	Alpha, Gross	16.6	17.6	PCIL	106.0	( 80-120 )	
LCS2	Alpha, Gross	16.6	17.1	PCIL	103.0	( 80-120 )	
MBLK	Alpha, Gross	ND	<3.0	PCIL			
MS	Alpha, Gross	33.2	33.3	PCIL	100.3	( 70-130 )	
RPD_LCS	Alpha, Gross	106.024	103.012	PCIL	2.9	( 0-20 )	
DUP	Beta, Gross	ND	ND	PCIL		( 0-20 )	
LCS1	Beta, Gross	15.7	15.9	PCIL	101.3	( 80-120 )	
LCS2	Beta, Gross	15.7	15.8	PCIL	100.6	( 80-120 )	
MBLK	Beta, Gross	ND	<3.0	PCIL			
MS	Beta, Gross	31.4	34.1	PCIL	108.6	( 70-130 )	
RPD_LCS	Beta, Gross	101.274	100.637	PCIL	0.6	( 0-20 )	

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.  
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QC Ref #369587      Kjeldahl Nitrogen

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 27	05250027	MGL		( 0-0 )	
LCS1	Kjeldahl Nitrogen	4	3.97	MGL	99.2	( 90-110 )	
LCS2	Kjeldahl Nitrogen	4	3.90	MGL	97.5	( 90-110 )	
MBLK	Kjeldahl Nitrogen	ND	<0.20	MGL			
MRL_CHK	Kjeldahl Nitrogen	0.1	0.116	MGL	116.0	( 50-150 )	
MS	Kjeldahl Nitrogen	4	3.88	MGL	97.0	( 90-110 )	
MSD	Kjeldahl Nitrogen	4	3.77	MGL	94.2	( 90-110 )	
MS_2ND	Kjeldahl Nitrogen	4	3.85	MGL	96.2	( 90-110 )	
RPD_LCS	Kjeldahl Nitrogen	99.250	97.500	MGL	1.8	( 0-20 )	
RPD_MS	Kjeldahl Nitrogen	97.000	94.250	MGL	2.9	( 0-20 )	

QC Ref #370053      Total phosphorus as P

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 27	05220690	MGL		( 0-0 )	
LCS1	Total phosphorus as P	0.4	0.419	MGL	104.7	( 90-110 )	
LCS2	Total phosphorus as P	0.4	0.430	MGL	107.5	( 90-110 )	
MBLK	Total phosphorus as P	ND	<0.020	MGL			
MRL_CHK	Total phosphorus as P	0.02	0.014	MGL	70.0	( 50-150 )	
MS	Total phosphorus as P	0.4	0.444	MGL	<u>111.0</u>	( 90-110 )	
MS2	Total phosphorus as P	0.4	0.422	MGL	105.5	( 90-110 )	
MSD	Total phosphorus as P	0.4	0.438	MGL	109.5	( 90-110 )	
RPD_LCS	Total phosphorus as P	104.750	107.500	MGL	2.6	( 0-10 )	
RPD_MS	Total phosphorus as P	111.000	109.500	MGL	1.4	( 0-20 )	

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June 13, 2007

Ms. Elena Montanez  
MWH Americas, Inc  
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Drinking Water Characterization; Purchase Order No. 99-28151  
205408 NV DW, Ra-226/228; NV Cert PA01458 Expires 06/30/07;  
MWH Laboratories  
Pace Project No. 07-2809

Dear Ms. Montanez:

Enclosed are analytical results for the sample submitted by MWH Americas, Inc.  
The sample was received and logged in for analysis on May 24, 2007.

Methods used are indicated on the attached data table. Appropriate quality assurance/quality control analyses were performed in accordance with Pace, Waltz Mill Site Quality Assurance Plan. The results reported in this project meet the requirements as specified in Chapter 5 of the NELAC Standards. Any deviations or discrepancies from the NELAC standards are documented in the case narrative(s) of this report. If you have any questions, please call me at 724-722-5219.

Sincerely,

Richard W. Kinney  
Radiochemistry Laboratory Supervisor

RMK:ljz

Enclosures

## REPORT OF LABORATORY ANALYSIS

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PACE ANALYTICAL SERVICES, INC.  
CASE NARRATIVE

I. PROJECT LOGIN INFORMATION:

A: PROJECT NUMBERS:

PACE: 07-2809

CLIENT: Purchase Order Number: 99-28151

B: SAMPLE IDENTIFICATIONS:

PACE: 0705-1226

CLIENT: 2705220665

C: SHIPPING/RECEIVING COMMENTS:

Final Report 6/13/07.

II. PREPARATION/ANALYSIS COMMENTS:

A: RADIOLOGICAL:

NONE

III. GENERAL COMMENTS:

Trailing zeroes and decimal places appearing on the data should not be interpreted as precision of the analytical procedure, but rather as a result of reporting format.

Sample(s) analyzed and reported on an as-received basis.

0000002

0000003

Table 1

General Data Table

MWH Americas, Inc.

Pace Project No. 07-2809

Drinking Water Characterization; 205408 NV DW, Ra-226/228

Charge Order No. 99-28151; NV Cert PA01458 Expires 06/30/07

Parameter	Analytical Method	Units	Analyzed	Sample Identification	
				Act ± Unc (MDC)	
Ra-226 (EPA 903.1)	EPA 903.1	pCi/L	06/07/07	0.111 ± 0.154	(0.150)
Ra-228 (EPA 904.0)	EPA 904.0	pCi/L	06/05/07	0.589 ± 0.368	(0.721)

Act=Activity, Unc=2 sigma Uncertainty and (MDC)=the associated Minimum Detectable Concentration.



0000004

Table 1  
(Continued)

Parameter	Analytical Method	Units	Sample Identification	
			Analyzed	Act ± Unc (MDC)
Ra-226 (EPA 903.1)	EPA 903.1	pCi/L	06/07/07	0.252 ± 0.297 (0.469)
Ra-228 (EPA 904.0)	EPA 904.0	pCi/L	06/05/07	0.522 ± 0.276 (0.513)

Act=Activity, Unc=2 sigma Uncertainty and (MDC)=the associated Minimum Detectable Concentration.

06/13/07

# Quality Control Sample Performance Assessment



Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226  
Analyst: CMC  
Date: 5/30/2007  
Worklist: 14663  
Matrix: DW

**Method Blank Assessment**

MB Sample ID: MB14663  
MB concentration: 0.252  
M/B Counting Uncertainty: 0.297  
MB MDC: 0.469  
MB Numerical Performance Indicator: 11.01  
MB Status vs Numerical Indicator: N/A  
MB Status vs. MDC: **Pass**

**Laboratory Control Sample Assessment**

LCSID (Y or N)?	Y
LCS14663	LCS14663
Count Date:	6/7/2007
Spike I.D.:	06-005
Spike Concentration (pCi/mL):	57.278
Volume Used (mL):	0.10
Aliquot Volume (L, g, F):	0.500
Target Conc. (pCi/L, g, F):	11.456
Uncertainty (Calculated):	0.275
Result (pCi/L, g, F):	11.393
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	1.593
Numerical Performance Indicator:	-0.08
Percent Recovery:	99.46%
Status vs Numerical Indicator:	N/A
Status vs Recovery:	<b>Pass</b>

**Duplicate Sample Assessment**

Sample I.D.: LCS14663  
Duplicate Sample I.D.: LCS14663  
Sample Result (pCi/L, g, F): 11.393  
Sample Result Counting Uncertainty (pCi/L, g, F): 1.593  
Sample Duplicate Result (pCi/L, g, F): 12.834  
Sample Duplicate Counting Uncertainty (pCi/L, g, F): 1.620  
Are sample and/or duplicate results below MDC? NO  
Duplicate Numerical Performance Indicator: -1.243  
Duplicate RPD: 11.89%  
Duplicate Status vs Numerical Indicator: N/A  
Duplicate Status vs RPD: **Pass**

# Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

**Sample Matrix Spike Control Assessment**

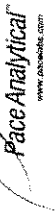
Sample Collection Date: 5/22/2007  
Sample I.D.: 0705-1224  
Sample MS I.D.: 0705-1224MS  
Sample MSD I.D.: 06-005  
Spike I.D.: 57.279  
MS/MSD Decay Corrected Spike Concentration (pCi/mL): 0.20  
Spike Volume Used in MS (mL): 0.500  
MS Aliquot (L, g, F): 22.912  
MSD Aliquot (L, g, F): 0.550  
MSD Target Conc. (pCi/L, g, F): 0.109  
Spike uncertainty (calculated): 0.338  
Sample Result Counting Uncertainty (pCi/L, g, F): 22.789  
Sample Matrix Spike Result: 2.222  
Matrix Spike Result Counting Uncertainty (pCi/L, g, F): -0.196  
Sample Matrix Spike Duplicate Result: 98.99%  
MS Numerical Performance Indicator: N/A  
MSD Numerical Performance Indicator: **Pass**

**Matrix Spike/Matrix Spike Duplicate Sample Assessment**

Sample I.D.:  
Sample MS I.D.:  
Sample MSD I.D.:  
Sample Matrix Spike Result:  
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):  
Sample Matrix Spike Duplicate Result:  
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):  
Duplicate Numerical Performance Indicator:  
MS/MSD Duplicate RPD:  
MS/MSD Duplicate Status vs Numerical Indicator:  
MS/MSD Duplicate Status vs RPD:

0000006

# Quality Control Sample Performance Assessment



**Analyst Must Manually Enter All Fields Highlighted in Yellow.**

Test: Ra-228  
 Analyst: OLB  
 Date: 6/5/2007  
 Worklist: 14662  
 Matrix: DW

**Method Blank Assessment**

MB Sample ID: MB14662  
 MB Concentration: 0.522  
 MB Counting Uncertainty: 0.276  
 MB MDC: 0.513  
 MB Numerical Performance Indicator: 3.71  
 MB Status vs Numerical Indicator: **N/A**  
 MB Status vs MDC: **See Comment\***

**Laboratory Control Sample Assessment**

Count Date:	6/5/2007	Y	LCS14662
Spike I.D.:	06-009		LCSD14662
Spike Concentration (pCi/mL):	67.973		6/5/2007
Volume Used (mL):	0.10		06-009
Aliquot Volume (L, g, F):	0.800		67.973
Target Conc. (pCi/L, g, F):	8.487		0.10
Uncertainty (Calculated):	0.263		0.800
Result (pCi/L, g, F):	6.922		8.487
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.746		0.263
Numerical Performance Indicator:	-3.90		6.922
Percent Recovery:	81.47%		0.746
Status vs Numerical Indicator:	N/A		-3.90
Status vs Recovery:	Pass		81.47%
			N/A
			Pass

**Duplicate Sample Assessment**

Sample I.D.: LCS14662  
 Duplicate Sample I.D.: LCS14662  
 Sample Result (pCi/L, g, F): 6.922  
 Sample Result Counting Uncertainty (pCi/L, g, F): 0.746  
 Sample Duplicate Result (pCi/L, g, F): 5.738  
 Sample Duplicate Result Counting Uncertainty (pCi/L, g, F): 0.663  
 Are sample and/or duplicate results below MDC? NO  
 Duplicate Numerical Performance Indicator: 2.326  
 Duplicate RPD: 18.71%  
 Duplicate Status vs Numerical Indicator: N/A  
 Duplicate Status vs RPD: **Pass**

Enter Duplicate sample IDs if other than LCS/LCSD in the space below.

## Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

\*The method blank result is below the reporting limit for this analysis and is acceptable.

\*\*\*If all other QC criteria pass, this batch is acceptable. The matrix spike result indicates a possible bias for this sample only and may not be applicable to any other samples in this analytical batch.

**Sample Matrix Spike Control Assessment**

Sample Collection Date: 5/21/2007  
 Sample I.D.: 0705-1234  
 Sample MS I.D.: 0705-1234MS  
 Sample MSD I.D.:  
 Spike I.D.: 06-009  
 MS/MSD Decay Corrected Spike Concentration (pCi/mL): 68.324  
 Spike Volume Used in MS (mL): 0.20  
 Spike Volume Used in MSD (mL):  
 MS Aliquot (L, g, F): 0.800  
 MS Target Conc. (pCi/L, g, F): 17.081  
 MSD Aliquot (L, g, F):  
 MSD Target Conc. (pCi/L, g, F):  
 Spike uncertainty (calculated): 0.530  
 Sample Result Counting Uncertainty (pCi/L, g, F): 1.022  
 Sample Matrix Spike Result: 0.343  
 Matrix Spike Result Counting Uncertainty (pCi/L, g, F): 9.931  
 Sample Matrix Spike Duplicate Result: 0.812  
 Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):  
 MS Numerical Performance Indicator: -15.577  
 MSD Numerical Performance Indicator:  
 MS Percent Recovery: 52.16%  
 MSD Percent Recovery:  
 MS Status vs Numerical Indicator: N/A  
 MSD Status vs Numerical Indicator:  
 MS Status vs Recovery: **MS Low\*\*\***  
 MSD Status vs Recovery:

**Matrix Spike/Matrix Spike Duplicate Sample Assessment**

Sample I.D.:  
 Sample MS I.D.:  
 Sample MSD I.D.:  
 Sample Matrix Spike Result:  
 Matrix Spike Result Counting Uncertainty (pCi/L, g, F):  
 Sample Matrix Spike Duplicate Result:  
 Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):  
 Duplicate Numerical Performance Indicator:  
 MS/MSD Duplicate RPD:  
 MS/MSD Duplicate Status vs Numerical Indicator:  
 MS/MSD Duplicate Status vs RPD:



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Ship To: **Mike Schnupp**

**Pace Analytical - Waltz Mill**

**c/o Westinghouse Waltz Mill Site**  
**170 Madison Exit**  
**Madison, PA 15663**

724) 722-5214/5218 Fax (724) 722-5208

MWH Project # **205408** Report Due: **06/14/07** Sub PO# **99-28151**

emmm



Client Sample ID for reference only

Date **05/23/07** Submittal Form & Purchase Order **99-28151**

**\*REPORTING REQUIREMENTS: Do Not Combine Report with any other samples submitted under different MWH project numbers!**  
 Report & Invoice must have the MWH Project Number **205408** and Job # **1000032**

Report all quality control data according to Method. Include dates analyzed, date extracted (if extracted) and Method reference on the report.  
**Results must have Complete data & QC with Approval Signature.** See reverse side for List of Terms and Conditions

**07-2809**

**Reports:** Elena Montanez Sub-contracting Administrator  
**EMAIL TO:** mwhlabs-subcontractreports@mwglobal.com  
 MWH Laboratories 750 Royal Oaks Dr. Ste. 100, Monrovia, CA 91016  
 Phone (626) 386-1118 Fax (626) 386-1122  
**Invoices to:** MWH LABORATORIES  
 Accounts Payable PO BOX 6610, Broomfield, CO 80021

Provide in each Report  
 the Specified State  
 Certification # & Exp Date for  
 requested tests + matrix

**NEVEDA**

Container

	Analysis Requested	Sample Date & Time	Matrix	Container
@R226ED	EFFLUENT <b>0705-122L</b>	Radioactivity, Radium 226 Sub-contracted	05/21/07 06:30 dw	1 1L poly + 4ml HNO3 (18%) MUST BE 1 FULL LITER FOR COMBILANICE P.N.C
@R228ED	<b>M8 - 1327</b>	Radioactivity, Radium 228 Sub-contracted		2 1L poly + 4ml HNO3 (18%) MUST BE 1 FULL LITER FOR COMBILANICE P.N.C

Relinquished by: *[Signature]*

Received by: *[Signature]*

Sample Control **6912 3676 6320** Date **5/24/07** Time **1117**

Date **05/23/07** Time **1329**

MUST HAVE NOTIFICATION IF TEMP IS GREATER THAN 6 OR LESS THAN 2 CELSIUS