Columbia Analytical Services™ 1 Mustard Street, Suite 250, Rochester, NY 14609-6925 | 585.288.5380 | www.caslab.com

December 7, 2009

Mr. Frank Hagar
Northgate Environmental
1100 Quail Street
Suite 102
Newport Beach, CA 92660

Re: Tronox LLC Henderson #2027.001
Service Request #R0906095

Dear Mr. Hagar:

Enclosed is the analytical data report for the above referenced facility. A total of twenty one samples were received by our laboratory on October 24-31, 2009.

Any problems encountered with this project are addressed in a case narrative section which is presented later in this report.

This report consists of two (2) packages: the sample data package and the sample data summary package. All data presented in this package has been reviewed prior to report submission. If you should have any questions or concerns, please contact me at (585) 288-5380.

Thank you for your continued use of our services.

Sincerely,
COLUMBIA ANALYTICAL SERVICES

Janice M. Jaeger
Project Chemist

enc.

cc: Ms. Cindy Arnold
Northgate Environmental
2501 Geigel Avenue
Orlando, FL 32806

This report contains a total of 226 pages.

CASE NARRATIVE

COMPANY: Northgate Environmental
Tronox LLC Henderson Project #2027.001
SERVICE REQUEST #: R0906095

Northgate samples were collected on 10/23-30/09 and received at CAS on 10/24-31/09 in good condition except both vials for TB102609-GW1 had significant headspace, one amber liter for M-148B was received broken. Columbia Analytical Services' (CAS) reporting limit has been expressed as the Method Reporting Limit (MRL) rather than the Practical Quantitation Limit (PQL). At the client's request, all results have been reported to the Method Detection Limit (MDL) where an MDL is performed on that parameter. The MDL reported for the Alkalinity Carbonate, Alkalinity Carbonate and Alkalinity Hydroxide is the Alkalinity MDL. The software used for the 1030E calculations is Rockware AqQA. All data has been checked and verified.

INORGANICS

Twelve water samples were analyzed for a site specific list of inorganics. Please see attached data pages for method numbers.

EB103009-GWA3 was marked on the chain of custody for Hexavalent Chromium by method 7199. The sample was pH adjusted to 9.18 and analyzed by method 7199 on 10/31/09 (Saturday). Typically, the equipment blanks associated with groundwater samples are analyzed by method 218.6 for Hexavalent Chromium and pH adjusted to 9.3 within 24 hours of sampling. The client was notified on 11/02/09 and the Hexavalent Chromium was reported as method 7199 since the sample was not pH adjusted within holding time.

Site specific QC was not requested for these samples. All Blank spike recoveries were within limits except Nitrite on the 10/31/09 LCS was outside limits low. EB103009-GWA4 was reanalyzed outside the recommended holding time of 48 hours under a compliant LCS. Both sets of data have been reported. All outlying QC has been flagged with an "*".

Nitrite for M-141B, M-141009B and PB102309-A3 were analyzed on 10/24/09 and quantitated from the 10/23/09 curve. A new curve was attempted by failed QC criteria. Accuracy of the curve was demonstrated by CCV's and LCS' prepared on 10/24/09 so the data was accepted.

The Laboratory blanks associated with these analyses were free of contamination except the 10/24/09 blank had a low level hit for Chloride, the 10/29/09 blank had a low level hit for Total Dissolved Solids, the 10/06/09 blank had a low level hit for Phosphorus, the 10/10/09 blank had a low level hit for TOC and the 10/24/09, 11/05/09 and 11/03/09 blanks had a low level hit for Sulfate. All affected data has been flagged with a "B".

All samples were analyzed within holding time.

No other analytical or QC problems were encountered.

VOLATILE ORGANICS

Twenty one water samples w ere analyzed for a site specific list of Volatiles by Methods 5030/8260B from SW-846.

All the initial and continuing calibration criteria were met for all analytes.

Name	Unit	M-141B	M-1410098	M-139B	M-145B	M-144B	M-146B	M-138B	M-1380098	M-148B	M-137B
Sample ID	text	M-141B	M-1410098	M-139B	M-145B	M-144B	M-146B	M-138B	M-1380098	M-148B	M-137B
LIMs ID	text	R0906095-001	R0906095-002	R0906095-005	R0906095-006	R0906095-008	R0906095-009	R0906095-011	R0906095-013	R0906065-016	R0906065-017
Calcium	µg/L	560000	566000	202000	167000	258000	263000	116000	118000	465000	96700.0
Magnesium	µg/L	243000	247000	115000	53700.0	114000	158000	104000	107000	124000	61000.0
Potassium	µg/L	21200.0	19700.0	13000.0	5380	14400.0	17100.0	11200.0	11200.0	7250	10600.0
Sodium	µg/L	1.69E6	1.71E6	454000	139000	622000	705000	558000	562000	250000	383000
Chlorate	µg/L	2.33E6	2.27E6	15700.0	715	845000	22100.0	16800.0	16800.0	6130	18600.0
Perchlorate	µg/L	716000	714000	1630	499	2950	3100	1920	1890	1550	1580
Bicarbonate	mg/L	260	260	113	150	87.2	93.6	347	342	120	260
Carbonate	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloride	mg/L	999	994	312	177	366	579	146	148	271	157
Conductivity	µmho/cm	9500	9600	3680	1820	4790	5.43	3500	3490	3630	2560
Fluoride	mg/L										
Hydroxide	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate	mg/L	31.1	30.8	3.66	2.9	4.34	5.3	2.2	2.16	6.37	3.45
Phosphorus	mg/L	0.027	0.026	0.024	0.041	0.023	0.035	0.031	0.03	0.022	0.06
Dissolved Solids	mg/L	9560	9460	2880	1350	3860	4200	2810	2850	3320	1920
Sulfate	mg/L	2210	2690	1150	526	1450	2110	1400	1380	1440	781

M-141B

Water Type	$Na\text{-}SO_4$		
Dissolved Solids	9520.2 mg/kg	9560 mg/L	Measured
Density	1.0042 g/cm³		Calculated
Conductivity	9500 µmho/cm		Measured
Hardness (as $CaCO_3$)			
Total	2389 mg/kg	2399 mg/L	Calculated
Carbonate	424.72	426.49	
Non-Carbonate	1964.3	1972.5	

Primary Tests

Anion-Cation Balance		
Anions	114	
Cations	122	
% Difference	3.358	OK
Measured TDS = Calculated TDS		
Measured	9520.220	
Calculated	9022.627	
Ratio	1.055	OK
Measured EC = Calculated EC		
Measured	9500.000	
Calculated	6725.457	
Ratio	1.413	Not within range 0.9 to 1.1

Secondary Tests

Measured EC and Ion Sums:		
Anions	1.200761	Not within preferred range (0.9-1.1)
Cations	1.284198	Not within preferred range (0.9-1.1)
Calculated TDS to EC ratio	0.950	Not within preferred range (0.55-0.7)
Measured TDS to EC ratio	1.002	Not within preferred range (0.55-0.7)

Organic Mass Balance

DOC ≥ Sum of Organics

DOC unavailable

M-141009B

Water Type	$Na\text{-}SO_4$		
Dissolved Solids	9441.1 mg/kg	9480 mg/L	Measured
Density	1.0041 g/cm^3		Calculated
Conductivity	9600 µmho/cm		Measured
Hardness (as $CaCO_3$)			
Total	2420.5 mg/kg	2430.4 mg/L	Calculated
Carbonate	424.74	426.49	
Non-Carbonate	1995.7	2004	

Primary Tests

Anion-Cation Balance		
Anions	121	
Cations	123	
% Difference	0.879	OK
Measured TDS = Calculated TDS		
Measured	9441.110	
Calculated	9372.917	
Ratio	1.007	OK
Measured EC = Calculated EC		
Measured	9600.000	
Calculated	7035.822	
Ratio	1.364	Not within range 0.9 to 1.1

Secondary Tests

Measured EC and Ion Sums:		
Anions	1.263613	Not within preferred range (0.9-1.1)
Cations	1.286029	Not within preferred range (0.9-1.1)
Calculated TDS to EC ratio	0.976	Not within preferred range (0.55-0.7)
Measured TDS to EC ratio	0.983	Not within preferred range (0.55-0.7)

Organic Mass Balance

DOC ≥ Sum of Organics

DOC unavailable

M-139B

Water Type	$Na\text{-}SO_4$		
Dissolved Solids	2882.3 mg/kg	2880 mg/L	Measured
Density	0.9992 g/cm^3		Calculated
Conductivity	3680 µmho/cm		Measured
Hardness (as $CaCO_3$)			
Total	978.75 mg/kg	977.96 mg/L	Calculated
Carbonate	185.51	185.36	
Non-Carbonate	793.24	792.6	

Primary Tests

Anion-Cation Balance		
Anions	34.9	
Cations	39.6	
% Difference	6.403	Not within ± 5%
Measured TDS = Calculated TDS		
Measured	2882.301	
Calculated	2381.915	
Ratio	1.210	Not within range 1.0 to 1.2
Measured EC = Calculated EC		
Measured	3680.000	
Calculated	3112.939	
Ratio	1.182	Not within range 0.9 to 1.1

Secondary Tests

Measured EC and Ion Sums:		
Anions	0.947237	Within preferred range (0.9-1.1)
Cations	1.076839	Within preferred range (0.9-1.1)
Calculated TDS to EC ratio	0.647	OK
Measured TDS to EC ratio	0.783	Not within preferred range (0.55-0.7)

Organic Mass Balance

DOC ≥ Sum of Organics

DOC unavailable

M-145B

Water Type	$Ca\text{-}SO_4$		
Dissolved Solids	1352.6 mg/kg	1350 mg/L	Measured
Density	0.99805 g/cm³		Calculated
Conductivity	1820 µmho/cm		Measured
Hardness (as $CaCO_3$)			
Total	639.38 mg/kg	638.14 mg/L	Calculated
Carbonate	246.53	246.05	
Non-Carbonate	392.85	392.08	

Primary Tests

Anion-Cation Balance		
Anions	18.5	
Cations	18.9	
% Difference	1.286	OK
Measured TDS = Calculated TDS		
Measured	1352.636	
Calculated	1224.632	
Ratio	1.105	OK
Measured EC = Calculated EC		
Measured	1820.000	
Calculated	1730.457	
Ratio	1.052	OK

Secondary Tests

Measured EC and Ion Sums:		
Anions	1.014411	Within preferred range (0.9-1.1)
Cations	1.040837	Within preferred range (0.9-1.1)
Calculated TDS to EC ratio	0.673	OK
Measured TDS to EC ratio	0.743	Not within preferred range (0.55-0.7)

Organic Mass Balance

DOC ≥ Sum of Organics

DOC unavailable

M-144B

Water Type	$Na\text{-}SO_4$		
Dissolved Solids	3890.2 mg/kg	3890 mg/L	Measured
Density	0.99996 g/cm³		Calculated
Conductivity	4790 µmho/cm		Measured
Hardness (as $CaCO_3$)			
Total	1113.7 mg/kg	1113.7 mg/L	Calculated
Carbonate	143.04	143.04	
Non-Carbonate	970.68	970.64	

Primary Tests

Anion-Cation Balance		
Anions	52.2	
Cations	49.7	
% Difference	2.438	OK
Measured TDS = Calculated TDS		
Measured	3890.161	
Calculated	3764.069	
Ratio	1.033	OK
Measured EC = Calculated EC		
Measured	4790.000	
Calculated	3675.701	
Ratio	1.303	Not within range 0.9 to 1.1

Secondary Tests

Measured EC and Ion Sums:		
Anions	1.089067	Within preferred range (0.9-1.1)
Cations	1.037227	Within preferred range (0.9-1.1)
Calculated TDS to EC ratio	0.786	Not within preferred range (0.55-0.7)
Measured TDS to EC ratio	0.812	Not within preferred range (0.55-0.7)

Organic Mass Balance

DOC ≥ Sum of Organics

DOC unavailable

M-146B

Water Type	$Na\text{-}SO_4$		
Dissolved Solids	4199.2 mg/kg	4200 mg/L	Measured
Density	1.0002 g/cm^3		Calculated
Conductivity	5.43 µmho/cm		Measured
Hardness (as $CaCO_3$)			
Total	1307.1 mg/kg	1307.4 mg/L	Calculated
Carbonate	153.51	153.54	
Non-Carbonate	1153.6	1153.8	

Primary Tests

Anion-Cation Balance		
Anions	62.2	
Cations	57.2	
% Difference	4.138	OK
Measured TDS = Calculated TDS		
Measured	4199.200	
Calculated	3955.485	
Ratio	1.062	OK
Measured EC = Calculated EC		
Measured	5.430	
Calculated	4714.830	
Ratio	0.001	Not within range 0.9 to 1.1

Secondary Tests

Measured EC and Ion Sums:		
Anions	1145.048620	Not within preferred range (0.9-1.1)
Cations	1054.056644	Not within preferred range (0.9-1.1)
Calculated TDS to EC ratio	728.450	Not within preferred range (0.55-0.7)
Measured TDS to EC ratio	773.333	Not within preferred range (0.55-0.7)

Organic Mass Balance

DOC ≥ Sum of Organics

DOC unavailable

M-138B

Water Type	$Na\text{-}SO_4$		
Dissolved Solids	2812.4 mg/kg	2810 mg/L	Measured
Density	0.99915 g/cm^3		Calculated
Conductivity	3500 µmho/cm		Measured
Hardness (as $CaCO_3$)			
Total	718.54 mg/kg	717.92 mg/L	Calculated
Carbonate	569.68	569.2	
Non-Carbonate	148.85	148.72	

Primary Tests

Anion-Cation Balance		
Anions	39.2	
Cations	38.9	
% Difference	0.382	OK
Measured TDS = Calculated TDS		
Measured	2812.393	
Calculated	2705.453	
Ratio	1.040	OK
Measured EC = Calculated EC		
Measured	3500.000	
Calculated	3192.814	
Ratio	1.096	OK

Secondary Tests

Measured EC and Ion Sums:		
Anions	1.120241	Not within preferred range (0.9-1.1)
Cations	1.111706	Not within preferred range (0.9-1.1)
Calculated TDS to EC ratio	0.773	Not within preferred range (0.55-0.7)
Measured TDS to EC ratio	0.804	Not within preferred range (0.55-0.7)

Organic Mass Balance

DOC ≥ Sum of Organics

DOC unavailable

M-138009B

Water Type	$Na\text{-}SO_4$		
Dissolved Solids	2852.3 mg/kg	2850 mg/L	Measured
Density	0.99918 g/cm³		Calculated
Conductivity	3490 µmho/cm		Measured
Hardness (as $CaCO_3$)			
Total	735.88 mg/kg	735.27 mg/L	Calculated
Carbonate	561.46	561	
Non-Carbonate	174.42	174.27	

Primary Tests

Anion-Cation Balance		
Anions	38.8	
Cations	39.4	
% Difference	0.850	OK
Measured TDS = Calculated TDS		
Measured	2852.341	
Calculated	2691.289	
Ratio	1.060	OK
Measured EC = Calculated EC		
Measured	3490.000	
Calculated	3189.589	
Ratio	1.094	OK

Secondary Tests

Measured EC and Ion Sums:		
Anions	1.110761	Not within preferred range (0.9-1.1)
Cations	1.129806	Not within preferred range (0.9-1.1)
Calculated TDS to EC ratio	0.771	Not within preferred range (0.55-0.7)
Measured TDS to EC ratio	0.817	Not within preferred range (0.55-0.7)

Organic Mass Balance

DOC ≥ Sum of Organics

DOC unavailable

M-148B

Water Type	$Ca\text{-}SO_4$		
Dissolved Solids	3321.6 mg/kg	3320 mg/L	Measured
Density	0.99953 g/cm^3		Calculated
Conductivity	3630 µmho/cm		Measured
Hardness (as $CaCO_3$)			
Total	1672.5 mg/kg	1671.7 mg/L	Calculated
Carbonate	196.93	196.84	
Non-Carbonate	1475.6	1474.9	

Primary Tests

Anion-Cation Balance		
Anions	39.8	
Cations	44.5	
% Difference	5.561	Not within ± 5%
Measured TDS = Calculated TDS		
Measured	3321.555	
Calculated	2692.993	
Ratio	1.233	Not within range 1.0 to 1.2
Measured EC = Calculated EC		
Measured	3630.000	
Calculated	3478.146	
Ratio	1.044	OK

Secondary Tests

Measured EC and Ion Sums:		
Anions	1.096049	Within preferred range (0.9-1.1)
Cations	1.225118	Not within preferred range (0.9-1.1)
Calculated TDS to EC ratio	0.742	Not within preferred range (0.55-0.7)
Measured TDS to EC ratio	0.915	Not within preferred range (0.55-0.7)

Organic Mass Balance

DOC ≥ Sum of Organics

DOC unavailable

M-137B

Water Type	$Na\text{-}SO_4$		
Dissolved Solids	1922.9 mg/kg	1920 mg/L	Measured
Density	0.99848 g/cm^3		Calculated
Conductivity	2580 µmho/cm		Measured
Hardness (as $CaCO_3$)			
Total	493.41 mg/kg	492.66 mg/L	Calculated
Carbonate	427.14	426.49	
Non-Carbonate	66.269	66.168	

Primary Tests

Anion-Cation Balance		
Anions	25.2	
Cations	25.9	
% Difference	1.313	OK
Measured TDS = Calculated TDS		
Measured	1922.922	
Calculated	1755.658	
Ratio	1.095	OK
Measured EC = Calculated EC		
Measured	2580.000	
Calculated	2217.932	
Ratio	1.163	Not within range 0.9 to 1.1

Secondary Tests

Measured EC and Ion Sums:		
Anions	0.978448	Within preferred range (0.9-1.1)
Cations	1.004478	Within preferred range (0.9-1.1)
Calculated TDS to EC ratio	0.680	OK
Measured TDS to EC ratio	0.745	Not within preferred range (0.55-0.7)

Organic Mass Balance

DOC ≥ Sum of Organics

DOC unavailable