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)

CHAIN OF CUSTODY RECORD

MWH LABS USE ONLY:

LOGIN COMMENTS: _____ SAMPLES CHECKED AGAINST COC BY: _____

SAMPLES LOGGED IN BY: _____

SAMPLE TEMP WHEN REC'D AT LAB: _____ (Compliance: 4 +/- 2°C) SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

CONDITION OF BLUE ICE: FROZEN ___ PARTIALLY FROZEN ___ THAWED ___

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Northgate / Tronox

PROJECT CODE:

COMPLIANCE SAMPLES (check for yes) ☐ - Requires state forms ☐

NON-COMPLIANCE SAMPLES (check for yes) ☐ REGULATION INVOLVED: (eg. SDWA, Phase V, NPDES, FDA,...)

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION

MWH LABS CLIENT CODE: COC ID: SAMPLE GROUP:

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☐ (check for yes), *OR*

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLER PRINTED NAME AND SIGNATURE: Jason Brown

TAT requested: rush by adv notice only

STD X 1 wk ___ 3 day ___ 2 day ___ 1 day ___

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX *	Field Data	Field Data	Total Chromium	Perchlorate	TDS	Cations 24 Anions 48	ICP	Alkalinity in CaCO3 unit									SAMPLER COMMENTS
6/9	720	M-103	RG	W			X	X	X												
6/9	850	M-117	RG	W			X	X	X												
6/9	945	M-120	RG	W			X	X	X												
6/9	1030	M-118	RG	W			X	X	X												
6/9	1105	M-121	RG	W			X	X	X												
6/9	-	ND-6	RG	W			X	X	X												
6/9	1410	TR-4	RG	W			X	X	X	X	X	X									

* MATRIX TYPES: RSW = Raw Surface Water; RGW = Raw Ground Water; CFW = Chlor(am)inated Finished Water; FW = Other Finished Water; SEAW = Sea Water; WW = Waste Water; BW = Bottled Water; SW = Storm Water; SO = Soil; SL = Sludge; O = Other - Please Identify

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:		Jason Brown	Confluence / Sampler	6/9/10	1500
RECEIVED BY:					
RELINQUISHED BY:					
RECEIVED BY:					

C-O-C# _____

PAGE ____ OF ____

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CHAIN OF CUSTODY RECORD

MWH LABS USE ONLY:

LOGIN COMMENTS: _____ SAMPLES CHECKED AGAINST COC BY: _____

SAMPLES LOGGED IN BY: _____

SAMPLE TEMP WHEN REC'D AT LAB: _____ (Compliance: 4 +/- 2°C) SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

CONDITION OF BLUE ICE: FROZEN ___ PARTIALLY FROZEN ___ THAWED ___

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Northgate / Trorox

PROJECT CODE:

COMPLIANCE SAMPLES - Requires state forms ☐ *(check for yes)* NON-COMPLIANCE SAMPLES ☐ *(check for yes)*

REGULATION INVOLVED: (eg. SDWA, Phase V, NPDES, FDA,...)

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION

MWH LABS CLIENT CODE: COC ID:

SAMPLE GROUP:

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☐ (check for yes), *OR*

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLER PRINTED NAME AND SIGNATURE: Josh Kerns

TAT requested: rush by adv notice only

STD___ 1 wk ___ 3 day __ 2 day___ 1 day __

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX *	Field Data	Field Data	Chromium Total ICAP	Perchlorate	TDS	Alkalinity in CaCO3	ICP	Anions 28 & 48									SAMPLER COMMENTS
6-9	0645	M-151		RGW			X	X	X												
6-9	0710	M-154		RGW			X	X	X												
6-9	0730	M-149		RGW			X	X	X												
6-9	0805	M-152		RGW			X	X	X												
6-9	0820	TR-11		RGW			X	X	X		X	X	X								
6-9	1240	M-155		RGW			X	X	X												
6-9	1250	M-156		RGW			X	X	X												
6-9	1430	M-153		RGW			X	X	X												
6-9	1505	M-150		RGW			X	X	X												

* MATRIX TYPES: RSW = Raw Surface Water; RGW = Raw Ground Water; CFW = Chlor(am)inated Finished Water; FW = Other Finished Water; SEAW = Sea Water; WW = Waste Water; BW = Bottled Water; SW = Storm Water; SO = Soil; SL = Sludge; O = Other - Please Identify

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:		Josh Kerns	Confluence Environmental	6-9-10	1530
RECEIVED BY:					
RELINQUISHED BY:					
RECEIVED BY:					

C-O-C# _____

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MWH LABS USE ONLY:

LOGIN COMMENTS: ______________________

SAMPLES CHECKED AGAINST COC BY: ______

SAMPLES LOGGED IN BY: ______

SAMPLE TEMP WHEN REC'D AT LAB: ______ (Compliance: 4 +/- 2°C)

SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

CONDITION OF BLUE ICE: FROZEN ___ PARTIALLY FROZEN ___ THAWED ___

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Northgate / Tronox

PROJECT CODE:

COMPLIANCE SAMPLES ☐ (check for yes) - Requires state forms ☐

NON-COMPLIANCE SAMPLES ☐ (check for yes)

REGULATION INVOLVED: (eg. SDWA, Phase V, NPDES, FDA,...)

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION

MWH LABS CLIENT CODE:

COC ID:

SAMPLE GROUP:

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☐ (check for yes), OR

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLER PRINTED NAME AND SIGNATURE: Jason Brown

TAT requested: rush by adv notice only

STD___ 1 wk___ 3 day___ 2 day___ 1 day___

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX*	Field Data	Field Data	Total Chromium	Perchlorate	TDS	2 Amber [illegible]	eICP	Alkalinity	SAMPLER COMMENTS
6/10	645	TR-7		RGW			X	X	X	X	X	X	
6/10	710	TR-8		RGW			X	X	X	X	X	X	
6/10	750	TR-5		RGW			X	X	X	X	X	X	
6/10	0800	FR-1-061010		BW			X	X	X				
6/10	0805	EB-1-061010		BW			X	X	X				
6/10	825	TR-6		RGW			X	X	X	X	X	X	
6/10	1040	TR-2		RGW			X	X	X	X	X	X	
6/10	1030	TR-1		RGW			X	X	X	X	X	X	
6/10	1120	TR-10		RGW			X	X	X	X	X	X	
6/10	1215	TR-9		RGW			X	X	X	X	X	X	

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	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	[signature]	Jason Brown	Conformance / Sampler	6/10/10	1700
RECEIVED BY:					
RELINQUISHED BY:					
RECEIVED BY:					

C-O-C# ______

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SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

CONDITION OF BLUE ICE: FROZEN ___ PARTIALLY FROZEN ___ THAWED ___

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Northgate / Tronox

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NON-COMPLIANCE SAMPLES ☐ *(check for yes)*

REGULATION INVOLVED: (eg. SDWA, Phase V, NPDES, FDA,...)

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION

MWH LABS CLIENT CODE:

COC ID:

SAMPLE GROUP:

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☐ (check for yes), OR

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLER PRINTED NAME AND SIGNATURE: Jason Brown [signature]

TAT requested: rush by adv notice only
STD___ 1 wk ___ 3 day ___ 2 day ___ 1 day ___

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX *	Field Data	Field Data	Total Chromium	Perchlorate	TDS	C Anions 43 / C Anions 48	c ICP	Alkalinity (CCA)										SAMPLER COMMENTS
6/11	905	TR-3		RGW			X	X	X	X	X	X										
6/11	715	TR-12		RGW			X	X	X	X	X	X										

*** MATRIX TYPES:** RSW = Raw Surface Water, RGW = Raw Ground Water, CFW = Chlor(am)inated Finished Water, FW = Other Finished Water, SEAW = Sea Water, WW = Waste Water, BW = Bottled Water, SW = Storm Water, SO = Soil, SL = Sludge, O = Other - Please Identify

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	[signature]	Jason Brown	Confluence Sampler	6/11/10	1100
RECEIVED BY:					
RELINQUISHED BY:					
RECEIVED BY:					

C-O-C# ______

PAGE ___ OF ___

Confluence Environmental, Inc

Equipment Calibration Log

Equipment make/model	Equipment ID/ serial number	Date	Time	Calibration Standards	Equipment Reading	Equipment Calibrated	Temp (°C / °F)	Tech init.	Comments
Myron L Ultrameter	6222421	6/8/10	520	pH 4.0/7.0/10.0	4.0/7.0/100	Y	33.4	JP	
"	"	"	529	cond 1413 us	1413	Y	32.9	JP	
Myron L Ultrameter	6222421	6-9-10	0600	pH 4.0/7.0/10.0	4.0/7.0/10.0	✓	30.5	JK	
"	"	"	0600	Cond 1413	1413	Y	30.4	JK	
YSI 556	03H1215	6-9-10	0605	pH 4.0/7.0/10.0	4.0/7.0/10.0	✓	30.0	JK	
				Cond 1413	1413	Y	30.8	JK	
				ORP 224.5	224.5	Y	30.2	JK	
				D.O 100%	94%	Y	31.0	JK	
YSI 556		6-9-10		pH 4.0/7.0/10.0	4.0/7.0/10.0	Y	28.2	JB	
				Cond 1413	1413	Y	28.5	JB	
				ORP 224.5	224.5	~~Y~~ Y	29.1	JB	
				D.O 100%	98.6	Y	29.8	JB	

Notes/comments:

Confluence Environmental, Inc

Equipment Calibration Log

Equipment make/model	Equipment ID/ serial number	Date	Time	Calibration Standards	Equipment Reading	Equipment Calibrated	Temp (°C / °F)	Tech init.	Comments
YSI 556	03H1215	6/10	520	pH 4.0/7.0/10.0	4.0/7.0/10.0	✓	29.0	JP	
	"	6/10		cond 1413	1413	Y	29.0	JP	
	"	6/10		DO 100%	93%	Y	27.5	JP	
	"	6/10		ORP	224.5	✓	27.5	JP	
YSI 556	02J0180			pH 4.0/7.0/10.0	4.0/7.0/10.0	✓	27.5	JP	
				cond 1413	1413	Y	26.9	JP	
				DO 100%	100%	Y	22.8	JP	
				ORP	224.5	✓	26.3	JP	

Notes/comments:

Confluence Environmental, Inc

Equipment Calibration Log

Equipment make/model	Equipment ID/ serial number	Date	Time	Calibration Standards	Equipment Reading	Equipment Calibrated	Temp (°C) °F)	Tech init.	Comments
YSI 556	02J0180	6/11/10	535	pH 4.0/7.0/10.0	4.0/7.0/10.0	Y	24.6	JF	
				cond 1413	1413	Y	25.1	JF	
				DO 100 %	100.5 %	✓	21.9	JF	
				ORP	231.0	~~✓~~ Y	25.4	JF	
YSI 556	03H1215	6/11/10	542	pH 4.0/7.0/10.0	4.0/7.0/10.0	Y	26.5	JF	
				cond 1413	1413	✓	27.0	JF	
				DO 100 %	100%	✓	22.7	JF	
				ORP 231.5	231.0	✓	25	JF	

Notes/comments:

TABLE 1
Well Inventory for Groundwater Sampling
Tronox LLC, Henderson, Nevada
Summary of Field Data for: 2nd Quarter Groundwater Monitoring, May 2010

WELL #	TOTAL DEPTH (from TOC)	TOP OF CASING ELEVATION (MSL)	DEPTH TO WATER (FEET)	NON-AQUEOUS PHASE LIQUID [1]	GROUNDWATER ELEVATION (FT MSL)	pH	SPECIFIC CONDUCTIVITY (mS/cm)	DATE	TIME	MONITORING QUALIFIER [2]	COMMENTS/Analytical Plan
M-103	90.0	1866.91	Obstruction @ 72' unable			7.2 ft collect	2685 with lead	6/2/10	630		pH, TDS, Cr, ClO4
M-111A	42.50 40.0	1768.77	34.31	-	No sample	collected	per client				pH, TDS, Cr, ClO4
M-117	155.0	1880.31	74.02	-		7.8	1222	6/9/10	7410		pH, TDS, Cr, ClO4
M-118	163.0	1876.91	70.70	-		7.8	1229	6/7/10	1030		pH, TDS, Cr, ClO4
M-120	105.0	1878.58	79.60	-		7.3	2331	6/8/10	915		pH, TDS, Cr, ClO4
M-121	102.0	1875.63	77.19			7.3	5315	6/7/10	1105		pH, TDS, Cr, ClO4
M-149	119.30 120.0	1796.82	44.02	-		7.3	2332	6/8/10	1258		pH, TDS, Cr, ClO4
M-150	147.90 145.0	1758.86	25.00	-		6.5	935	6/8/10	1450		pH, TDS, Cr, ClO4
M-151	147.61 145.0	1730.64	17.84	-		7.7	834	6/8/10	602		pH, TDS, Cr, ClO4
M-152	146.75 145.0	1698.56	23.46	-		8.1	1054	6/8/10	950		pH, TDS, Cr, ClO4
M-153	170.12 170.0	1796.82	30.54	-		6.2	992	6/8/10	1202		pH, TDS, Cr, ClO4
M-154	198.30 195.0	1758.78	12.64	-		8.0	898	6/8/10	1400		pH, TDS, Cr, ClO4
M-155	223.45 220.0	1730.69	0.08	-		8.0	894	6/8/10	612		pH, TDS, Cr, ClO4
M-156	197.15 195.0	1698.57	17.64	-		8.1	992	6/8/10	956		pH, TDS, Cr, ClO4
TR-1	312.0	1752.18	artesian	-		7.8	3041	6/10/10	1030		pH, TDS, Cr, ClO4, Cations, Anions
TR-2	175.0	1751.79	24.60	-		8.1	891	6/10/10	1030		pH, TDS, Cr, ClO4, Cations, Anions
TR-3	250.0	1772.84	flush w/casing	-		7.8	1030	6/11/10	900		pH, TDS, Cr, ClO4, Cations, Anions
TR-4	145.0	1772.55	36.17	-		7.8	1450	6/9/10	1405		pH, TDS, Cr, ClO4, Cations, Anions
TR-5	251.5	1800.27	artesian	-		7.6	1099	6/10/10	742		pH, TDS, Cr, ClO4, Cations, Anions
TR-6	80.0	1800.36	37.40	-		7.0	20638	6/10/10	821		pH, TDS, Cr, ClO4, Cations, Anions

TABLE 1
Well Inventory for Groundwater Sampling
Tronox LLC, Henderson, Nevada
Summary of Field Data for: 2nd Quarter Groundwater Monitoring, May 2010

WELL #	TOTAL DEPTH (from TOC)	TOP OF CASING ELEVATION (MSL)	DEPTH TO WATER (FEET)	NON-AQUEOUS PHASE LIQUID [1]	GROUNDWATER ELEVATION (FT MSL)	pH	SPECIFIC CONDUCTIVITY (mS/cm)	DATE	TIME	MONITORING QUALIFIER [2]	COMMENTS/Analytical Plan
TR-7	290.5	1829.03	14.43	-		7.5	1169	6/10/10	642		pH, TDS, Cr, ClO_4, Cations, Anions
TR-8	93.5	1829.08	50.70	-		7.8	1586	6/10/10	705		pH, TDS, Cr, ClO_4, Cations, Anions
TR-9	250.5	1854.29	40.35	-		7.4	1147	6/10/10	1203		pH, TDS, Cr, ClO_4, Cations, Anions
TR-10	100.5	1854.06	61.45	-		7.7	2418	6/10/10	1120		pH, TDS, Cr, ClO_4, Cations, Anions
TR-11	230.5	1717.12	artesian	-		7.8	1213	6/9/10	833		pH, TDS, Cr, ClO_4, Cations, Anions
TR-12	292.5	1695.84	1.23			8.3	782	6/11/10	710		pH, TDS, Cr, ClO_4, Cations, Anions
NGEM DUPLICATES											
ND-6	collected @ M-121		--	--	--	--	--			--	pH, TDS, Cr, ClO_4
OTHER SAMPLES COLLECTED											
Equipment Blank Sample: FB-1	--	--	--	--	--	--	--			--	pH, TDS, Cr, ClO_4
Field Blank Sample: FB-1	--	--	--	--	--	--	--			--	pH, TDS, Cr, ClO_4

NOTES:

1: Non-Aqueous Phase Liquid Qualifiers - 'DNAPL' (Dense non-aqueous phase liquid present); 'LNAPL' (Light non-aqueous phase liquid present); 'NONE' (Non-aqueous phase liquid not present)

2: Monitoring Qualifiers - 'DRY' (well dry); 'OBSTRUCTED' (well obstructed); 'OTHER' (other condition - e.g. pumping - preventing accurate groundwater level measurement)

Nomenclature for Field/Equipment Blank Samples: EB-#-Date(MMDDYY) or FB-#-Date; e.g.: EB-2-051610

Number of Field Blanks (1 per Qtr): 1

Number of Equipment Blanks (2 per Qtr): 1

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: M-103	**Date:** 6/9/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:	**DTW:** Unable to get	**Total Depth:** -

Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System
disp bailer teflon bailer other: ded. tubing **Tubing:** OD: New (Dedicated) NA

Purge method: 3-5 Case Volume (Micro/Low-Flow) Extraction Other:

Pump depth/ intake: **Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163

(TD - DTW X Multiplier = 1 Volume | 80% Recovery (TD - DTW X 0.20 + DTW)

1 Volume = _____ X 3 = _____ (Total Purge) 80%= _____

Time	Temp (°C/°F)	pH	Cond (mS/µS)	Turbidity (NTU)	Purge Rate (gal or mL/min)	Volume Removed (gal/L)	DO (mg/l)	ORP (mv)		Notes
704	24.8	7.19	2685	17.2	300	1.0 L	6.56	171.6	*Unable DTW	to collect extraction @ 72'
706	24.7	7.23	2702	18.8	"	1.9	6.39	172.9		
709	24.5	7.35	2732	16.7	"	2.8	6.00	176.4		
712	24.4	7.38	2733	16.5	"	3.7	5.98	177.6		
715	24.4	7.41	2732	14.8	"	4.6	5.88	178.7		

Did well dewater? YES (NO) Total volume removed: 4.6 (gal (L))

Sample method: Disp Bailer (Ded. Tubing) New Tubing Ext. Port Other:

Sample date: 6/9/10 Sample time: 720 DTW at sample: Unable to collect

Sample ID: M-103 Lab: MWH Number of bottles: 3

Analysis: Tot Chrom, Perch, TDS

Equipment blank ID @ Field blank ID @

Duplicate ID: Pre-purge DO: Post purge DO:

$Fe2^+$: Pre-purge ORP: Post purge ORP:

NAPL depth: Volume of NAPL: Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: M-117	**Date:** 6/9/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 74.02 **Total Depth:** —
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other: ded bladder **Tubing:** OD: New (Dedicated) NA		
Purge method: 3-5 Case Volume Micro/Low-Flow Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X 3 = _____ (Total Purge) 80%=_____

Time	Temp (°C/ °F)	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
742	23.3	7.79	1222	105.1	300	1.0 L	4.57	175.6	75.15	
745	23.3	7.78	1212	213	"	1.9	4.16	176.6	75.70	
*water	level	dropping,	lowered	rate	to	100 ml/	min &	still	slight	drop
will	let run	to	see	DTW	will	stabilize				
756	24.2	7.87	1204	106.7	100	2.2	3.62	176.4	78.49	
759	24.1	7.88	1204	105.2	"	2.5	3.66	176.9	78.61	
802	24.2	7.88	1203	66.7	"	2.8	3.67	177.3	78.84	
805	24.1	7.88	1202	49.5	"	3.1	3.61	177.6	79.02	
*Increased rate to	500ml/min	in attempt to	drop to	stabilization.	Appears stable,	dropped to	100 ml/m			
832	24.1	7.93	1189	18.7	100	13.5 L	3.43	177.0	88.14	
835	24.4	7.94	1191	17.4	100	13.8	3.50	176.4	87.95	Continued on next page

Did well dewater? YES NO See page 2 Total volume removed: (gal / L)

Sample method: Disp Bailer Ded. Tubing New Tubing Ext. Port Other:

Sample date:	Sample time:	DTW at sample:
Sample ID:	Lab: MWH	Number of bottles:
Analysis:		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: M-117	**Date:** 6/9/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 74.02 **Total Depth:** —

Purge equip: ES - diam: Bladder ~~Peri~~ Waterra Positive Air Displacement Ext. System disp bailer teflon bailer other: (ded bladder) **Tubing:** OD: New (Dedicated) NA

Purge method: 3-5 Case Volume (Micro/Low-Flow) Extraction Other:

Pump depth/ intake: **Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163

(TD - DTW X Multiplier = 1 Volume | 80% Recovery (TD - DTW X 0.20 + DTW)

1 Volume = ______ X **3** = ______ (Total Purge) 80%= ______

Time	Temp (°C) °F)	pH	Cond (mS (µS))	Turbidity (NTU)	Purge Rate (gal or (mL/ min))	Volume Removed (gal (L))	DO (mg/l)	ORP (mv)	DTW	Notes
Page	2	of 2								
838	24.6	7.97	1193	15.0	100	14.1 L	3.49	175.5	87.65	
841	24.6	7.95	1193	14.3	"	14.4	3.47	175.5	87.47	
844	24.6	7.95	1194	14.1	"	14.7	3.47	175.3	87.30	

Did well dewater? YES (NO)	Total volume removed: 14.7 (gal (L))	
Sample method: Disp Bailer (Ded. Tubing) New Tubing Ext. Port Other:		
Sample date: 6/9/10	Sample time: 850	DTW at sample: 87.30
Sample ID: M-117	Lab: MWH	Number of bottles: 3
Analysis: Total Chrom Perch. TDS		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: M-118	**Date:** 8/9/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 70.70 **Total Depth:** —
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other: ded. tubing **Tubing:** OD: New (Dedicated) NA		
Purge method: 3-5 Case Volume (Micro/Low-Flow) Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X 3 = _____ (Total Purge) 80%=_____

Time	Temp (°C) °F)	pH	Cond (mS (µS)	Turbidity (NTU)	Purge Rate (gal or mL/min)	Volume Removed (gal/L)	DO (mg/l)	ORP (mv)	DTW	Notes
1002	24.08	7.43	1243	22.5	200	1.2	4.92	165.4	71.30	
1005	23.98	7.50	1239	20.4	"	1.8	4.46	165.6	71.82	
lower	purge	rate	to	100 ml/min						
1008	24.3	7.63	1224	150.4	100	2.1	4.22	165.3	72.00	
1011	25.1	7.70	1226	155.0	"	2.4	4.03	163.9	71.95	
1014	25.6	7.75	1228	147.1	"	2.7	4.10	163.5	71.80	
1017	25.85	7.78	1229	142.4	"	3.0	3.81	162.3	71.77	
1020	25.9	7.79	1229	156.1	"	3.3	3.84	162.0	71.74	
1023	26.0	7.80	1229	147.2	"	3.6	3.86	161.4	71.70	

Did well dewater? YES NO	Total volume removed:	(gal / L)
Sample method: Disp Bailer Ded. Tubing New Tubing Ext. Port Other:		
Sample date: 8/9/10	Sample time: 1030	DTW at sample: 71.70
Sample ID: M-118	Lab: MWH	Number of bottles: 3
Analysis: TPH chlor Perchlorate TDS		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: M-120	**Date:** 6/9/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 79.60 **Total Depth:** —
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other: ded. tubing **Tubing:** OD: New (Dedicated) NA		
Purge method: 3-5 Case Volume (Micro/Low-Flow) Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X 3 = _____ (Total Purge) 80%= _____

Time	Temp (°C) °F)	pH	Cond (mS /(µS))	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal/ L)	DO (mg/l)	ORP (mv)	DTW	Notes
920	23.4	7.33	2331	138.7	200	0.8 L	5.55	182.7	79.69	
923	22.98	7.22	2364	170.9	"	1.L	5.17	182.3	79.78	
926	22.73	7.18	2374	71.4	"	~~2.4~~ 2.2	4.88	181.4	79.70	
929	22.62	7.17	2366	60.3	"	~~3.2~~ 2.8	4.81	180.5	79.78	
932	22.57	7.18	2347	30.1	"	~~4.0~~ 3.4	4.68	179.5	79.79	
935	22.51	7.18	2336	21.7	"	~~4.~~ 4.0	4.75	179.0	79.79	
938	22.54	7.17	2336	19.1	"	4.6	4.75	178.7	79.80	
941	22.50	7.17	2340	20.0	"	5.0	4.69	178.4	79.80	

Did well dewater? YES (NO)	Total volume removed: (gal / L)	
Sample method: Disp Bailer (Ded. Tubing) New Tubing Ext. Port Other:		
Sample date: 6/9/10	Sample time: 945	DTW at sample: 79.80
Sample ID: M-120	Lab: MWH	Number of bottles: 3
Analysis: Tot. Chrom Perch TDS		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: M-121	**Date:** 6/2/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 77.19 **Total Depth:**
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other: ded. bladder **Tubing:** OD: New (Dedicated) NA		
Purge method: 3-5 Case Volume (Micro/Low-Flow) Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X 3 = _____ (Total Purge) 80%= _____

Time	Temp (°C) °F)	pH	Cond (mS / (µS))	Turbidity (NTU)	Purge Rate (gal or (mL/ min))	Volume Removed (gal/ (L))	DO (mg/l)	ORP (mv)	DTW	Notes
1044	26.1	7.74	3158	17.5	200	1.2 L	5.99	175.7	77.30	
1047	25.3	7.43	4500	16.1	"	1.8	5.34	177.9	77.32	
1050	25.1	7.35	5076	136.6	"	2.4	5.08	174.3	77.39	
1053	25.0	7.34	5309	91.5	"	3.0	5.05	171.1	77.31	
1056	24.9	7.32	5347	86.4	"	3.6	5.06	168.1	77.40	
1059	25.0	7.34	5315	80.1	"	4.2	5.03	166.6	77.40	
*duplicate collected here										

Did well dewater? YES (NO)	Total volume removed: 4.2 (gal (L))	
Sample method: Disp Bailer (Ded. Tubing) New Tubing Ext. Port Other:		
Sample date: 6/2/10	Sample time: 1105	DTW at sample: 77.40
Sample ID: M-121	Lab: MWH	Number of bottles: 3
Analysis: Tot Chrom Perchlorate TDS		
Equipment blank ID @	Field blank ID @	
* Duplicate ID: ND-6	Pre-purge DO:	Post purge DO:
Fe^{2+}:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: M-149	**Date:** 6/8/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 44.02 **Total Depth:** 119.30
Purge equip: (ES - diam:2") Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer ~~other:~~	**Tubing:** OD: 1/4" (New) Dedicated NA	
Purge method: (3-5 Case Volume) Micro/Low-Flow Extraction Other:		
Pump depth/ intake: 117	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = 12.1 X 3 = 36.1 (Total Purge) 80%= 59.06

Time	Temp (°C / °F)	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	Notes
1458	28.5	7.3	2332	392		13	DTW: 103.20
dewatered		1301		16 gal	DTW: 115.00		
0728	26.0	7.5	2.582	18.6	—	—	DTW = 45.70
* dwl 1/4" tubing in well upon arrival, pulled, bagged, labeled + left at trailer							

Did well dewater? (YES) NO	Total volume removed: 16 (gal / L)	
Sample method: Disp Bailer Ded. Tubing New Tubing Ext. Port Other:		
Sample date: 6-9-10	Sample time: 0730	DTW at sample: 45.70
Sample ID: M-149	Lab: MWH	Number of bottles: 3
Analysis: Total chromium, perchlorate, TDS		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: M-150	**Date:** 6/8/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 25.00 **Total Depth:** 147.90

Purge equip: (ES - diam 2") Bladder Peri Waterra Positive Air Displacement Ext. System
disp bailer teflon bailer other: **Tubing:** OD: 1/2 New Dedicated NA

Purge method: (3-5 Case Volume) Micro/Low-Flow Extraction Other:

Pump depth/ intake: ~~145~~ **Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163

(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)

1 Volume = 19.7 X 3 = 59.0 (Total Purge) 80%= 49.58

Time	Temp (°C / °F)	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	Notes
1450	29.7	6.5	935	90.0	~1.5 gpm	20	
depth @	1453	, 26	gal	DTW: 142.00			
0702	—	—	—	—	—	—	DTW = 64.22
1300	—	—	—	—	—	—	DTW = 52.70
1500	30.4	7.5	1128	11.3	—	—	DTW = 49.89
* tub. in well (dwl 1/4") upon arrival, pulled, bagged, left in trailer							

Did well dewater? (YES) NO Total volume removed: 26 (gal / L)

Sample method: (Disp Bailer) Ded. Tubing New Tubing Ext. Port Other:

Sample date: 6-9-10	Sample time: 1505	DTW at sample: 49.89
Sample ID: M-150	Lab: MWH	Number of bottles: (3)

Analysis: Total chromium, Perchlorate, TDS

Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: M-151	**Date:** 6/8/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2) 3" 4" 6" Other:		**DTW:** 17.84 **Total Depth:** 147.61
Purge equip: (ES - diam: 2") Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other:	**Tubing:** OD: (New) Dedicated NA	
Purge method: 3-5 Case Volume Micro/Low-Flow Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = 20.8 X 3 = 62.3 (Total Purge) 80%= 43.79

Time	Temp (°C) °F	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (ga) / L)	Notes
started purge @			805 removed 10	gal &	sediment	stopped pump. Pulled	
pump, cleaned & re-started			purge @ 834',	stopped again 837, re-started 846			
set pump intake at 1440' to			avoid sediment, dropped again to 145'				
859	28.6	7.7	834	>1000		21	DTW: 140.90
demob @		900	21 gal	DTW: 141.09			
0640	24.5	7.3	764	3.5	—	—	DTW: 33.69
* dual 1/4" line in well upon arrival, pulled, bagged, labeled & left in trailer.							

Did well dewater? (YES) NO Total volume removed: 21 (ga) / L)

Sample method: Disp Bailer Ded. Tubing New Tubing Ext. Port Other:

Sample date: 6-9-10	Sample time: 0645	DTW at sample: 33.69
Sample ID: MW-151	Lab: MWH	Number of bottles: (3)
Analysis: Total chromium, Perchlorate, TDS		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown (J Kerns)	**Client:** Northgate Environmental
Well ID: M-152	**Date:** 6/8/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 23.46 **Total Depth:** 146.75
Purge equip: (ES - diam: 2") Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other:	**Tubing:** OD: 1/2 (New) Dedicated NA	
Purge method: (3-5 Case Volume) Micro/Low-Flow Extraction Other:		
Pump depth/ intake: 140	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = 19.7 X 3 = 59.2 (Total Purge) 80%= 48.12

Time	Temp (°C / °F)	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	Notes
1011	27.3	8.0	1093	20.3	≈1 gpm	20	DTW: 87.90
1019	27.7	8.1	1054	17.8	≈2 gpm	30	DTW: 122.10
dewater	e	33	g-1	e	10	21	DTW: 137.10
0800	25.6	8.0	996	18.7	—	—	DTW = 23.66

Did well dewater? (YES) NO	Total volume removed: 33 (gal) L)	
Sample method: (Disp Bailer) Ded. Tubing New Tubing Ext. Port Other:		
Sample date:	Sample time: 0805	DTW at sample: 23.66
Sample ID: M-152	Lab: MWH	Number of bottles: (3)
Analysis: Total chromium, Perchlorate, TDS		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: M-153	**Date:** 6/8/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 30.54 **Total Depth:** 170.12
Purge equip: ES - diam 2" Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other:	**Tubing:** OD: 1/2" (New) Dedicated NA	
Purge method: (3-5 Case Volume) Micro/Low-Flow Extraction Other:		
Pump depth/ intake: 166	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = 22.3 X 3 = 67.0 (Total Purge) 80%= 58.46

Time	Temp (°C/ °F)	pH	Cond (mS / (µS))	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal) L)	Notes
1126	28.4	6.2	992	121	≈1.5 gpm	23	DTW: 154.50
Dewatered @		1232,	28	gal.	DTW: 116	2.50	
0770	—	—	—	—	—	—	DTW = 68.00
1425	29.4	7.8	922	14.3	—	—	DTW = 55.43
*dwl	1/4" tubing in	well upon	arrival,	pulled,	bagged,	labeled &	left in trailer

Did well dewater? (YES) NO Total volume removed: 28 (gal) L)

Sample method: Disp Bailer Ded. Tubing New Tubing Ext. Port Other:

Sample date: 6-9-10	Sample time: 1430	DTW at sample: 55.43
Sample ID: M-153	Lab: MWH	Number of bottles: (3)
Analysis: Total chromium, TDS, Perchlorate		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: M-154	**Date:** 6/8/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 82.64 **Total Depth:** 198.30
Purge equip: (ES - diam: 2") Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other:	**Tubing:** OD: 1/4" (New) Dedicated NA	
Purge method: (3-5 Case Volume) Micro/Low-Flow Extraction Other:		
Pump depth/ intake: 175	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = 29.7 X 3 = 89.1 (Total Purge) 80%= 49.77

Time	Temp (°C / °F)	pH	Cond (mS (µS))	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	Notes
1432	29.5	8.0	810	34.7	≈1.5 gpm	30 gal	
Dewatered		1432	30 gal	DTW	190.4		
0705	26.8	7.7	837	27.4	—	—	DTW = 28.24

Did well dewater? (YES) NO	Total volume removed: 30	(gal / L)
Sample method: (Disp Bailer) Ded. Tubing New Tubing Ext. Port Other:		
Sample date: 6-9-10	Sample time: 0710	DTW at sample: 28.24
Sample ID: M-154	Lab: MWH	Number of bottles: (3)
Analysis: Total Chromium, Perchlorate, TDS		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: M-155	**Date:** 6/8/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 0.08 **Total Depth:** 223.45
Purge equip: (ES - diam: 2") Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other:	**Tubing:** OD: 1/2" (New) Dedicated NA	
Purge method: (3-5 Case Volume) Micro/Low-Flow Extraction Other:		
Pump depth/ intake: bottom	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = 35.8 X 3 = 107.3 (Total Purge) 80%= 44.75

Time	Temp (°C) °F)	pH	Cond (mS (µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal)/ L)	Notes
732	27.8	8.0	894	21.7	≈2 gpm	36	DTW: 191.50
dewatered @	39	gal @	736	DTW:	216.10		
0830	—	—	—	—	DTW =	74.60	
1235	29.4	8.2	831	27.6	—	—	DTW= 59.73

Did well dewater? (YES) NO	Total volume removed: 39 (gal)/ L)	
Sample method: Disp Bailer Ded. Tubing ~~New Tubing~~ Ext. Port Other:		
Sample date: 6-9-10	Sample time: 1240	DTW at sample: 59.73
Sample ID: M-155	Lab: MWH	Number of bottles: (3)
Analysis: Total chromium, TDS, Perchlorate		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: M-156	**Date:** 1/8/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 17.64 **Total Depth:** 197.15

Purge equip: (ES - diam: 1") Bladder Peri Waterra Positive Air Displacement Ext. System
disp bailer teflon bailer other: **Tubing:** OD: 1/2" (New) Dedicated NA

Purge method: (3-5 Case Volume) Micro/Low-Flow Extraction Other:

Pump depth/ intake: **Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163

(TD - DTW X Multiplier = 1 Volume | 80% Recovery (TD - DTW X 0.20 + DTW)

1 Volume = 28.7 X 3 = 86.2 (Total Purge) 80%= 53.54

Time	Temp (°C) °F)	pH	Cond (mS (µS))	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal) L)	Notes
1028	Started	purge, very silty, mud			pump 5' & began clearing		
1046	27.4	8.1	992	>1000	≈1.5 gpm	29	DTW: 179.10
dewatered	@	1048	, 32 gal		DTW:	172.10	
0803	—	—	—	—	—	—	DTW = 84.51
1345	30.2	8.4	869	13.9	—	—	DTW = 70.44

Did well dewater? (YES) NO Total volume removed: 32 (gal) L)

Sample method: (Disp Bailer) Ded. Tubing New Tubing Ext. Port Other:

Sample date: 6-9-10	Sample time: 1350	DTW at sample: 1345
Sample ID: M-156	Lab: MWH	Number of bottles: (3)

Analysis: Total Chromium, TDS, Perchlorate

Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: TR-1	**Date:** 6/10/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" 2" 3" (4) 6" Other:		**DTW:** Artesian **Total Depth:**
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other: Artesian **Tubing:** OD: New Dedicated NA		
Purge method: 3-5 Case Volume Micro/Low-Flow Extraction Other: Artesian		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X 3 = _____ (Total Purge) 80%=_____

Time	Temp (C / °F)	pH	Cond (mS / (uS))	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)		Notes
1030	26.5	7.81	3041	9.6	-	-	5.27	114.2		

Did well dewater? YES NO	Total volume removed: (gal / L)	
Sample method: Disp Bailer Ded. Tubing New Tubing Ext. Port Other: Artesian		
Sample date: 6/10/10	Sample time: 1030	DTW at sample: NA
Sample ID: TR-1	Lab: MWH	Number of bottles: 6
Analysis: Full suite		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^{+}$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: TR-2	**Date:** 6/10/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2) 3" 4" 6" Other:		**DTW:** 24.60 **Total Depth:**
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other: del SubM2 **Tubing:** OD: New (Dedicated) NA		
Purge method: 3-5 Case Volume (Micro/Low-Flow) Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X 3 = _____ (Total Purge) 80%=_____

Time	Temp (C) °F	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
843	25.7	7.70	1130	6.3	100	0.5 L	3.86	165.4	25.06	
846	DTW	still	dropping	e 100	ml/m	increased flow rate			to try to stabilize	
lowest	back	to	100 ml/min							
900	25.3	7.97	924	6.2	100	5.0	4.03	168.2	26.52	
903	24.4	7.98	924	7.1	"	5.3	3.99	168.0	26.65	
906	still dropping, increased rate to 500 ml/m					Limit back to		100 ml/m		
920	25.1	8.03	913	8.4	100	12.5	4.62	165.8	27.40	
923	still dropping, increased rate again,									
938	25.9	8.07	907	7.3	100	17	7.73	162.9	31.20	
941	26.0			7.2					31.40	
Increased rate again / Continued on page 2										

Did well dewater? YES NO	Total volume removed:	(gal / L)
Sample method: Disp Bailer Ded. Tubing New Tubing Ext. Port Other:		
Sample date:	Sample time: See page 2	DTW at sample:
Sample ID:	Lab: MWH	Number of bottles:
Analysis:		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: TR-2	**Date:** 6/10/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 24.60 **Total Depth:**
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other: (ded. pump) **Tubing:** OD: New (Dedicated) NA		
Purge method: 3-5 Case Volume (Micro/Low-Flow) Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X 3 = _____ (Total Purge) 80%=_____

Time	Temp (°C/°F)	pH	Cond (mS/(uS))	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
Continued from page 1; reduced to 100 ml/min										
1022	26.1	8.05	891	7.9	100	42.3	12.99	170.1	38.85	
1025	26.4	8.09	891	8.1	"	42.6	14.76	170.9	38.90	
1028	26.2	8.10	890	8.0	"	42.9	14.60	170.3	38.92	
1031	26.2	8.09	891	8.2	"	*43.2	14.71	170.0	38.93	

Did well dewater? YES (NO)	Total volume removed: 43.2 (gal/(L))	
Sample method: Disp Bailer (Ded. Tubing) New Tubing Ext. Port Other:		
Sample date: 6/10/10	Sample time: 1040	DTW at sample: 38.93
Sample ID: TR-2	Lab: MWH	Number of bottles: 6
Analysis: Full suite		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: ~~TR-4~~ TR-3	**Date:** 6/11/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" ~~2"~~ 3" (4") 6" Other:	**DTW:** flush w/ casing	**Total Depth:** —
Purge equip: ES - diam: (Bladder) Peri Waterra Positive Air Displacement Ext. System disp bailer teflon bailer other:	**Tubing:** OD: 1/4" (New) Dedicated NA	
Purge method: 3-5 Case Volume (Micro/Low-Flow) Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X **3** = _____ (Total Purge) 80%= _____

Time	Temp (°C / °F)	pH	Cond (mS / (S))	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
820	24.1	7.79	1032	4.3	100	0.5	3.72	125.2	0.21	
823	24.4	7.78	1029	4.9	"	0.8	3.49	126.1	0.39	
826	24.4	7.78	1029	6.2	"	1.1	3.29	124.7	0.45	
829	24.5	7.78	1030	6.9	"	1.4	3.14	123.7	0.51	
DTW dropping increased rate to achieve stabilization. reduced to 100 - 1 min ago.										
841	24.5	7.79	1030	5.9	100	6.5	3.04	122.1	~~3.25~~	
844	24.5	7.79	1030	6.0	"	6.8	3.01	122.0	3.27	
DTW still dropping increased rate.										
852	24.5	7.79	1030	5.4	100	13.0	2.91	121.0	5.10	
855	24.5	7.79	1030	5.1	"	13.3	2.92	120.8	5.11	
858	24	7.79	1030	5.6	"	13.6	2.96	123.2	5.10	

Did well dewater? YES (NO)	Total volume removed: 13.6 (gal / (L))	
Sample method: Disp Bailer Ded. Tubing (New Tubing) Ext. Port Other:		
Sample date: 6/11/10	Sample time: 905	DTW at sample: 5.10
Sample ID: TR-3	Lab: MWH	Number of bottles: 6
Analysis: Full suite		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: TR-4	**Date:** 6/9/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" 2" 3" (4") 6" Other:		**DTW:** 36.17 **Total Depth:**

Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System
disp bailer teflon bailer (other: [illegible]) **Tubing:** OD: New (Dedicated) NA
Purge method: 3-5 Case Volume (Micro/Low-Flow) Extraction Other:
Pump depth/ intake: **Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163
(TD - DTW X Multiplier = 1 Volume | 80% Recovery (TD - DTW X 0.20 + DTW)

1 Volume = ______ X **3** = ______ (Total Purge) 80%= ______

Time	Temp (°C) °F)	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
1244	26.8	6.93	1467	12.7	150	1.52	2.87	114.7	36.80	
1247	28.9	6.48	1465	12.0	"	1.95	2.80	122.2	37.02	
Increased flow rate to attempt to find stable DTW.										
Continued dropped to 48 before slowing my recharge, set to 100 ml/min										
1353	27.7	7.78	1450	14.5	100	34.2	2.78	126.6	48.10	
1356	28.09	7.80	1451	14.0	"	34.3	2.81	126.0	48.16	
1359	28.10	7.81	1455	~~14~~ 15.2	"	34.6	2.74	126.3	48.21	
1402	28.5	7.79	1454	13.4	"	34.9	2.74	128.8	48.24	
1405	28.4	7.79	1450	10.1	"	35.2	2.74	128.4	48.29	

Did well dewater? YES (NO) | Total volume removed: 35.2 (gal / (L))

Sample method: Disp Bailer (Ded. Tubing) New Tubing Ext. Port Other:

Sample date: 6/9/10 | Sample time: 1410 | DTW at sample:

Sample ID: TR-4 | Lab: MWH | Number of bottles:

Analysis:

Equipment blank ID @ | Field blank ID @

Duplicate ID: | Pre-purge DO: | Post purge DO:

$Fe2^{+}$: | Pre-purge ORP: | Post purge ORP:

NAPL depth: | Volume of NAPL: | Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns		**Client:** Northgate Environmental
Well ID: TR-5	**Date:** 6/10/10	**Site:** Tronox LLC, Henderson, NV	
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** artesian	**Total Depth:**

Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System
disp bailer teflon bailer other: (ded bidder) **Tubing:** OD: New (Dedicated) NA
Purge method: 3-5 Case Volume (Micro/Low-Flow) Extraction Other:
Pump depth/ intake: **Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163

(TD - DTW X Multiplier = 1 Volume | 80% Recovery (TD - DTW X 0.20 + DTW)

1 Volume = _______ X **3** = _______ (Total Purge) 80%=_____

Time	Temp (°C) °F)	pH	Cond (mS / (µS))	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / (L))	DO (mg/l)	ORP (mv)	DTW	Notes
727	24.8	7.36	1100	6.4	150	2 L	3.95	177.1	0.60	
730	24.9	7.35	1102	7.9	"	2.45	3.99	178.6	0.51	
733	24.9	7.41	1102	7.6	"	2.9	3.93	178.1	0.50	
736	25.0	7.51	1100	7.9	"	3.35	4.18	178.1	0.50	
739	25.0	7.54	1099	8.0	"	3.8	4.13	178.2	0.50	
742	25.0	7.59	1099	8.1	"	4.25	4.20	178.3	0.50	

Did well dewater? YES (NO) | Total volume removed: 4.3 (gal / (L))

Sample method: Disp Bailer (Ded. Tubing) New Tubing Ext. Port Other:

Sample date: 6/10/10 | Sample time: 750 | DTW at sample: 0.50

Sample ID: TR-5 | Lab: MWH | Number of bottles: 6

Analysis: full suite

Equipment blank ID @ 0805 | Field blank ID @ 0800

Duplicate ID: | Pre-purge DO: | Post purge DO:

$Fe2^+$: | Pre-purge ORP: | Post purge ORP:

NAPL depth: | Volume of NAPL: | Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: TR-6	**Date:** 6/10/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 37.40 **Total Depth:**
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other: del bailer **Tubing:** OD: New (Dedicated) NA		
Purge method: 3-5 Casg Volume (Micro/Low-Flow) Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X **3** = _____ (Total Purge) 80%= _____

Time	Temp (C) °F	pH	Cond (mS (µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal (L)	DO (mg/l)	ORP (mv)	DTW	Notes
757	24.5	6.00	21995	6.9	300	1	0.56	226.1	37.50	
800	24.6	6.09	22067	7.1	"	1.9	0.54	227.2	37.51	
803	24.6	6.26	22100	8.4	"	2.8	0.48	222.3	37.47	
806	24.6	6.61	21800	9.1	"	3.7	0.38	212.6	37.45	
809	24.7	6.82	21422	9.0	"	4.6	0.34	205.9	37.48	
812	24.6	6.88	21181	8.0	"	5.5	0.33	202.7	37.48	
815	24.7	6.94	20900	8.1	"	6.4	0.36	199.1	37.47	
818	24.7	6.98	20714	8.9	"	7.3	0.39	196.6	37.47	
821	24.7	6.98	20638	8.9	"	8.2	0.40	195.4	37.47	

Did well dewater? YES (NO)	Total volume removed: 8.2 (gal (L)	
Sample method: Disp Bailer (Ded. Tubing) New Tubing Ext. Port Other:		
Sample date: 6/10/10	Sample time: 825	DTW at sample: 37.47
Sample ID: TR-6	Lab: MWH	Number of bottles: 6
Analysis: Full suite		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

pg 1 of 2

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: TR-7	**Date:** 6/10/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 14.43 **Total Depth:**
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other: ~~Sub~~ **Tubing:** OD: New (Dedicated) NA		
Purge method: 3-5 Case Volume ~~Micro/Low Flow~~ Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X 3 = _____ (Total Purge) 80%= _____

Time	Temp (°C / °F)	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal / mL / min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
609	24.1	6.29	1209	10.1	200	1 L	4.94	148.6	14.62	
612	24.0	6.50	1199	13.0	"	1.6	4.81	150.4	14.65	
615	24.0	6.54	1192	9.4	"	2.2	4.73	159.1	14.65	
618	23.9	6.75	1185	9.1	"	2.8	4.85	162.0	14.65	
621	24.0	7.01	1179	7.9	"	3.4	5.06	165.0	14.65	
624	24.0	7.09	1178	7.0	"	~~X~~ 4.0	5.14	166.6	14.65	
627	24.0	7.19	1176	7.1	"	4.6	5.15	168.0	14.65	
630	24.1	7.26	1173	7.9	"	5.2	5.24	169.7	14.65	
633	24.1	7.35	1173	8.1	"	5.8	5.25	171.0	14.66	
636	24.1	7.43	1170	7.9	"	6.4	5.28	172.1	14.65	
639	24.1	7.47	1170	8.4	"	7.0	5.27	172.7	14.66	

* Continued on next page

Did well dewater? YES (NO) Total volume removed: (gal / L)

Sample method: Disp Bailer (Ded. Tubing) New Tubing Ext. Port Other:

Sample date: 6/10/10 Sample time: See Page 1 DTW at sample:

Sample ID: TR-7 Lab: MWH Number of bottles: 6

Analysis: Perch, Total Chrom, TDS, Cations, Anions

Equipment blank ID @ Field blank ID @

Duplicate ID: Pre-purge DO: Post purge DO:

$Fe2^+$: Pre-purge ORP: Post purge ORP:

NAPL depth: Volume of NAPL: Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: TR-7 (cont)	**Date:** 6/10/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" 2" 3" 4" 6" Other:		**DTW:** 14.43 **Total Depth:**
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other: del sidle **Tubing:** OD: New Dedicated NA		
Purge method: 3-5 Case Volume Micro/Low-Flow Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X 3 = _____ (Total Purge) 80%= _____

Time	Temp (°C / °F)	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
Continued from page 1										
642	24.1	7.50	1169	7.1	200	7.6	5.30	173.1	16.65	

Did well dewater? YES NO	Total volume removed:	(gal / L)
Sample method: Disp Bailer Ded. Tubing New Tubing Ext. Port Other:		
Sample date: 6/10/10	Sample time: 645	DTW at sample: 16.15
Sample ID: TR-7	Lab: MWH	Number of bottles: 6
Analysis:		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: TR-8	**Date:** 6/10/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (6") 3" 4" 6" Other:		**DTW:** ~~50.10~~ 50.04 **Total Depth:**
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other: ~~dedicated~~ **Tubing:** OD: New Dedicated NA		
Purge method: 3-5 Case Volume Micro/Low-Flow Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X 3 = _____ (Total Purge) 80%= _____

Time	Temp (°C / °F)	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
656	24.4	7.79	1571	9.4	200	1 L	7.47	177.4	50.72	
659	24.5	7.82	1576	6.9	200	1.6	7.44	178.6	50.73	
702	24.4	7.81	1582	6.6	"	2.2	7.55	178.8	50.73	
705	24.2	7.80	1586	6.9	"	2.8	7.43	172	50.72	

Did well dewater? YES (NO)	Total volume removed: 2.8	(gal (L))
Sample method: Disp Bailer (Ded. Tubing) New Tubing Ext. Port Other:		
Sample date: 6/10/10	Sample time: 710	DTW at sample: 50.72
Sample ID: TR-8	Lab: MWH	Number of bottles: 6
Analysis: full suite		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: TR-9	**Date:** 6/10/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2) 3" 4" 6" Other:		**DTW:** 40.35 **Total Depth:**
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other: Del Bailer	**Tubing:** OD: New (Dedicated) NA	
Purge method: 3-5 Case Volume (Micro/Low-Flow) Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X 3 = _____ (Total Purge) 80%= _____

Time	Temp (C) °F	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
1129	27.7	7.31	1159	9.1	200	1 L	3.75	165.0	40.51	
1132	27.8	7.23	1155	9.0	"	1.6	3.52	163.1	40.45	
1135	27.7	6.43	1157	7.4	"	2.2	3.36	169.5	40.45	
1138	27.7	6.50	1158	5.2	"	2.8	3.31	170.7	40.45	
1141	27.6	6.63	1158	5.5	"	3.4	3.43	170.0	40.45	
1144	27.6	6.70	1155	6.1	"	4.0	3.51	169.1	40.45	
1147	27.6	6.83	1153	6.2	"	4.6	3.60	168.3	40.45	
1150	27.7	~~6~~6.95	1153	6.9	"	5.2	3.70	167.2	40.45	
1153	27.6	7.09	1149	7.1	"	5.8	3.70	166.8	40.45	
1156	27.5	7.18	1147	7.1	"	6.4	3.77	165.3	40.45	
1159	27.5	7.28	1148	7.9	"	7.0	3.86	164.6	40.45	

* continued on page 2

Did well dewater? YES NO	Total volume removed: (gal / L)	
Sample method: Disp Bailer Ded. Tubing New Tubing Ext. Port Other:		
Sample date:	Sample time: Seepage 2	DTW at sample:
Sample ID:	Lab: MWH	Number of bottles:
Analysis: Full suite		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: TR-9	**Date:** 6/10/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2) 3" 4" 6" Other:		**DTW:** **Total Depth:**
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System disp bailer teflon bailer other ded. bladder **Tubing:** OD: New Dedicated NA		
Purge method: 3-5 Case Volume (Micro/Low-Flow) Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X 3 = _____ (Total Purge) 80%= _____

Time	Temp (°C / °F)	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or ml / ml/g)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
Continued from page 1										
1202	27.6	7.37	1147	5.6	200	7.6	3.84	164.3	40.45	
1205	27.5	7.41	1146	7.1	"	8.2	3.82	164.1	40.45	
1208	27.5	7.43	1147	7.5	"	8.8	3.84	164.1	40.45	

Did well dewater? YES (NO)	Total volume removed: 8.8 (gal / (L))	
Sample method: Disp Bailer (Ded. Tubing) New Tubing Ext. Port Other:		
Sample date: 6/10/10	Sample time: 1215	DTW at sample: 40.45
Sample ID: TR-9	Lab: MWH	Number of bottles: 6
Analysis: Full suite		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^+$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: TR-10	**Date:** 6/10/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:		**DTW:** 61.45 **Total Depth:**
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other: ded 61.45 **Tubing:** OD: New (Dedicated) NA		
Purge method: 3-5 Case Volume (Micro/Low-Flow) Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X 3 = _____ (Total Purge) 80%= _____

Time	Temp (°C / °F)	pH	Cond (mS (µS))	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal (L))	DO (mg/l)	ORP (mv)	DTW	Notes
1103	26.9	7.71	2216	9.1	200	1 L	5.62	157.8	61.50	
1106	27.0	7.73	2274	8.4	"	1.6	5.63	159.5	61.50	
1109	26.9	7.71	2301	8.2	"	2.2	5.70	160.1	61.50	
1112	26.8	7.72	2386	9.6	"	2.8	5.71	163.3	61.49	
1115	26.8	7.73	2392	9.0	"	3.4	5.72	163.9	61.50	
1118	26.9	7.73	2418	6.2	"	4.0	5.25	164.8	61.50	

Did well dewater? YES (NO)	Total volume removed: 4.0 (gal (L))	
Sample method: Disp Bailer (Ded. Tubing) New Tubing Ext. Port Other:		
Sample date: 6/10/10	Sample time: 1120	DTW at sample: 61.50
Sample ID: TR-10	Lab: MWH	Number of bottles: 6
Analysis: full suite		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^{+}$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown (J Kerns)	**Client:** Northgate Environmental
Well ID: TR-11	**Date:** 6-9-10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" 2" 3" (4") 6" Other:	**DTW:** —	**Total Depth:** —
Purge equip: ES - diam: Bladder Peri Waterra Positive Air Displacement Ext. System		
disp bailer teflon bailer other: Artesian	**Tubing:** OD: New Dedicated NA	
Purge method: 3-5 Case Volume Micro/Low-Flow Extraction Other:		
Pump depth/ intake:	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = — X 3 = — (Total Purge) 80%=

Time	Temp (°C) °F)	pH	Cond (mS /(µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal) L)	DO (mg/l)	ORP (mv)		Notes
0833	27.7	7.8	1213	13.6	—	5	4.6	120		

Did well dewater? YES (NO) Total volume removed: 5 (gal / L)

Sample method: (Disp Bailer) Ded. Tubing New Tubing (Ext. Port) Other:

Sample date: 6-9-10 Sample time: 0835 DTW at sample:

Sample ID: TR-11 Lab: MWH Number of bottles: (6)

Analysis: TCP, @ Anions 28 and 48, TDS, Total chromium, Perchlorate

Equipment blank ID @ Field blank ID @

Duplicate ID: Pre-purge DO: Post purge DO:

$Fe2^{+}$: Pre-purge ORP: Post purge ORP:

NAPL depth: Volume of NAPL: Volume removed: ml

Purging And Sampling Data Sheet

Job#: B1-100607	**Sampler:** J Brown J Kerns	**Client:** Northgate Environmental
Well ID: TR-12	**Date:** 6/11/10	**Site:** Tronox LLC, Henderson, NV
Well diam: 1/4" 1" (2") 3" 4" 6" Other:	**DTW:** ~~1.90~~ 1.23	**Total Depth:**
Purge equip: ES - diam: Bladder (Per) Waterra Positive Air Displacement Ext. System disp bailer teflon bailer other:	**Tubing:** OD: 1/4" (New) Dedicated NA	
Purge method: 3-5 Case Volume (Micro/Low-Flow) Extraction Other:		
Pump depth/ intake: 180	**Multipliers:** 1"= 0.04 2"= 0.16 3"= 0.37 4"= 0.65 5"=1.02 6"= 1.47 Radius² X 0.163	
(TD - DTW X Multiplier = 1 Volume	80% Recovery (TD - DTW X 0.20 + DTW)	

1 Volume = _____ X 3 = _____ (Total Purge) 80%= _____

Time	Temp (C / °F)	pH	Cond (mS / µS)	Turbidity (NTU)	Purge Rate (gal or mL/ min)	Volume Removed (gal / L)	DO (mg/l)	ORP (mv)	DTW	Notes
623	25.3	8.21	796	6.4	200	1.2 L	5.93	167.0	1.90	
626	25.3	8.22	792	5.1	"	1.8	5.25	164.7	2.0	
DTW	dropping, increase rate	to	get to	stabilization,	add	eye	to	200	ml/min	
701	25.6	8.28	782	7.4	200	13.0 L	2.29	125.7	3.55	
704	25.6	8.28	782	7.9	"	13.6	2.34	123.8	3.55	
707	25.6	8.28	782	7.1	"	14.2	2.35	122.3	3.55	
710	25.6	8.28	782	7.9	"	14.8	2.38	121.2	3.55	

Did well dewater? YES (NO)	Total volume removed: 14.8 (gal / (L))	
Sample method: Disp Bailer Ded. Tubing (New Tubing) Ext. Port Other:		
Sample date: 6/11/10	Sample time: 715	DTW at sample: 3.55
Sample ID: TR-12	Lab: MWH	Number of bottles: 6
Analysis: Full suite		
Equipment blank ID @	Field blank ID @	
Duplicate ID:	Pre-purge DO:	Post purge DO:
$Fe2^{+}$:	Pre-purge ORP:	Post purge ORP:
NAPL depth:	Volume of NAPL:	Volume removed: ml