



FIELD ACTIVITY REPORT

Report Number/Date:

6-1-09

Project Name: TRONOX AERIAL

Project Number: 2009 254461

Report By: Davis

Personnel: Davis, McKeog

Location: Various

Equipment: Dedicated bladder pump

Client: TRONOX

Weather: Sunny, Wind - Thunder showers

0700 - Safety tracing at plan

0845 - collect sample at TR-11; well was turned on Saturday 5-30-09 and running continuously; turn off

0905 collect sample at TR-12. well was turned on Friday 5-29-09 and run continuously. Cap well when finished.

0940 collect sample at TR-1; Cap well. well turned on Friday 5-29-09 and run continuously.

0948 Wells TR-1, TR-11, TR-12 ARE AIRTERIAL AND FLOW APPROXIMATELY 0.5 LITERS / MINUTE. WELLS WERE OPENED AFTER 10 AM AND LET RUN CONTINUOUSLY SO THAT 3 WELL VOLUMES WOULD BE PURGED BY MONDAY 6-1-09 IN EARLY AM. Well TR-1, TR-12 WERE OPENED ON 5-29-09 IN THE MORNING, TR-11 WAS OPENED ON 5-30-09 APPROXIMATELY 1700 HRS.

1048 collect samples at TR-10

~~1202 collect sample at M-103 on 6-1-09~~

1115 unhook wells for phase B crew; give them a new lock with keys so they now have a set.

1202 collect sample M-103, collect a duplicate sample and field blank

1242 collect sample M-117

1253 AT M-11; well does not have dedicated pump; it has the fine narrow tubing. Will need to come back with granular pump

1342 collect sample at M-11B; out of Nitrogen.

Printed Name/Signature: Doug Davis



Groundwater Sampling Data Sheet

Well I.D. TR-12 Date: 6-1-09
 Sampler's Name: Davis
 Purging Equipment: Adhesion
 Client: TRWAY Project No.: 20092544 Y1
 Casing Type: PVC **UNIT CASING VOLUMES**
 Casing Diameter: 4 inch 2" = 0.16 gal/lin ft.
 Total Well Depth: 293 feet 4" = 0.67 gal/lin ft.
 Depth to Water: - 324.2 feet 13.5 psi 6" = 1.47 gal/lin ft.
 Water Column Thickness: = 324.2 feet
 Unit Casing Volume: x 0.67 gallon / foot
 Casing Water Volume: x 217 gallons
 Casing Volume: x 3 each
 Estimated Purge Volume: = 652 gallons

Purged (gallons)	Time	DO	Redox	Fe	Conductance (u mhos / x1000)	Temperature (Celcius)	pH	Observations
	<u>0904</u>					<u>28.2</u>	<u>8.39</u>	<u>Clear</u>
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: ~652 Gallons
 Depth to Water at Sample Collection: _____
 Sample Collection Time: 0905
 Purged Dry (Y/N): N

Comments: Well found on 5-29-09
Flow approximately 0.5 liters/min



Groundwater Sampling Data Sheet

Well I.D. IR-1 Date: 6-1-09
 Sampler's Name: Davis
 Purging Equipment: Artesian
 Client: Fluorop Project No.: 20092544v1

Casing Type: PVC
 Casing Diameter: 4 inch
 Total Well Depth: 255 feet 312
 Depth to Water: 337.4 feet 11 psf
 Water Column Thickness: = 337.4 feet
 Unit Casing Volume: x 0.67 gallon / foot
 Casing Water Volume: x 226 gallons
 Casing Volume: x 3 each
 Estimated Purge Volume: = 678 gallons

UNIT CASING VOLUMES

2" = 0.16 gal/lin ft.
 4" = 0.67 gal/lin ft.
 6" = 1.47 gal/lin ft.

Purged (gallons)	Time	DO	Redox	Fe	Conductance (u mhos / x1000)	Temperature (Celcius)	pH	Observations
	<u>0930</u>					<u>28.2</u>	<u>8.04</u>	<u>clear</u>
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: ~678 Gallons
 Depth to Water at Sample Collection: _____
 Sample Collection Time: 0940
 Purged Dry (Y/N): _____

Comments: Well opened on 5-29-09. Run continuous.
Flow approx 0.5 liters/min



Groundwater Sampling Data Sheet

Well I.D. TR-11 Date: 6-1-09
 Sampler's Name: Davis
 Purging Equipment: Anaerobic
 Client: _____ Project No.: _____

Casing Type: PVC
 Casing Diameter: 4 inch
 Total Well Depth: 255 feet
 Depth to Water: 264.2 feet 4 PSI
 Water Column Thickness: = 264.2 feet
 Unit Casing Volume: x 0.67 gallon / foot
 Casing Water Volume: x 177 gallons
 Casing Volume: x 3 each
 Estimated Purge Volume: = 531 gallons

UNIT CASING VOLUMES
 2" = 0.16 gal/lin ft.
 4" = 0.67 gal/lin ft.
 6" = 1.47 gal/lin ft.

Purged (gallons)	Time	DO	Redox	Fe	Conductance (u mhos / x1000)	Temperature (Celcius)	pH	Observations
	<u>0845</u>					<u>25.7</u>	<u>7.87</u>	<u>Clear</u>
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 2531 Gallons
 Depth to Water at Sample Collection: _____
 Sample Collection Time: 0847
 Purged Dry (Y/N): _____

Comments: Well was turned on Saturday 5-30-09
Flow approximately 0.5 liters/min ; lit slightly faster



Groundwater Sampling Data Sheet

Well I.D. TR-10 Date: 6-1-09
 Sampler's Name: DAVIS
 Purging Equipment: Dedicated bladder
 Client: TRONOX Project No.: 2009254461

Casing Type: PVC
 Casing Diameter: 4 inch
 Total Well Depth: 102 feet
 Depth to Water: - 59.18 feet
 Water Column Thickness: = 42.82 feet
 Unit Casing Volume: x 0.67 gallon / foot
 Casing Water Volume: x 28.7 gallons
 Casing Volume: x 3 each
 Estimated Purge Volume: = 86.1 gallons

UNIT CASING VOLUMES
 2" = 0.16 gal/lin ft.
 4" = 0.67 gal/lin ft.
 6" = 1.47 gal/lin ft.

Purged (gallons)	Time	DO	Redox	Fe	Conductance (u mhos / x1000)	Temperature (Celcius)	pH	Observations
0.5	1030					28.1	7.73	Clear
1.0	1035	X	X	X		27.2	7.83	
1.5	1040	X	X	X		27.3	7.86	
2.0	1045	X	X	X		27.0	7.83	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 2.5 Gallons
 Depth to Water at Sample Collection: _____
 Sample Collection Time: 1048
 Purged Dry (Y/N): N

Comments: Setups 55 psi
12 sec exhaust time
9 sec. charge time.



Groundwater Sampling Data Sheet

Well I.D. M-103 Date: 6-1-09
 Sampler's Name: Davis
 Purging Equipment: Dechlorated Blender
 Client: TOLSON Project No.: 2009 2544V1

Casing Type: PVC **UNIT CASING VOLUMES**
 Casing Diameter: 2 inch 2" = 0.16 gal/lin ft.
 Total Well Depth: 90.0 feet 4" = 0.67 gal/lin ft.
 Depth to Water: - 69.1 feet 6" = 1.47 gal/lin ft.
 Water Column Thickness: = 20.9 feet
 Unit Casing Volume: x 0.16 gallon / foot
 Casing Water Volume: x 3.3 gallons
 Casing Volume: x 3 each
 Estimated Purge Volume: = 9.9 gallons

Purged (gallons)	Time	DO	Redox	Fe	Conductance (u mhos / x1000)	Temperature (Celcius)	pH	Observations
1	1145					26.7	7.69	clear
1.5	1150	X	X	X		26.3	7.78	
2.0	1155	X	X	X		27.6	7.78 7.79	
2.5	1200	X	X	X		26.1	7.79	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 2.5 Gallons
 Depth to Water at Sample Collection: _____
 Sample Collection Time: 1202
 Purged Dry (Y/N): N

Comments: Duplicate Sample.
Settings 60 psi:
7 sec exhaust time
5 sec charge time.



Groundwater Sampling Data Sheet

Well I.D. M-117 Date: 6-1-09
 Sampler's Name: Davis
 Purging Equipment: Dedicated Bladder
 Client: Flomax Project No.: 20092544V1

Casing Type: PVC **UNIT CASING VOLUMES**
 Casing Diameter: 2 inch 2" = 0.16 gal/lin ft.
 Total Well Depth: 155 feet 4" = 0.67 gal/lin ft.
 Depth to Water: 74.75 feet 6" = 1.47 gal/lin ft.
 Water Column Thickness: = 80.25 feet
 Unit Casing Volume: x 0.16 gallon / foot
 Casing Water Volume: x 12.84 gallons
 Casing Volume: x 3 each
 Estimated Purge Volume: = 38.5 gallons

Purged (gallons)	Time	DO	Redox	Fe	Conductance (u mhos / x1000)	Temperature (Celsius)	pH	Observations
0.5	1225 1228					26.3	8.17	Clear ^{Suspension} cloudy
1.0	1230	X	X	X		25.4	8.10	
1.5	1235	X	X	X		26.4	8.11 8.13	
2	1240	X	X	X		26.2	8.16	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 2 Gallons
 Depth to Water at Sample Collection: _____
 Sample Collection Time: 1242
 Purged Dry (Y/N): N

Comments: Settings - 75 psi
12 sec exhaust time
2 sec charge time.



Groundwater Sampling Data Sheet

Well I.D. M-11B Date: 6-1-09
 Sampler's Name: Davis
 Purging Equipment: Dedicated bladder
 Client: Tromax Project No.: 2009 25-48VI
 Casing Type: PVC
 Casing Diameter: 2 inch
 Total Well Depth: 163 feet
 Depth to Water: - 70.10 feet
 Water Column Thickness: = 92.82 feet
 Unit Casing Volume: x 0.16 gallon / foot
 Casing Water Volume: x 14.9 gallons
 Casing Volume: x 3 each
 Estimated Purge Volume: = 45 gallons

UNIT CASING VOLUMES

2" = 0.16 gal/lin ft.
 4" = 0.67 gal/lin ft.
 6" = 1.47 gal/lin ft.

Purged (gallons)	Time	DO	Redox	Fe	Conductance (u mhos / x1000)	Temperature (Celcius)	pH	Observations
<u>0.5</u>	<u>1330</u>					<u>25.4</u>	<u>7.98</u>	<u>cloudy</u>
<u>1</u>	<u>1335</u>	X	X	X		<u>28.3</u>	<u>8.11</u>	
<u>1.5</u>	<u>1340</u>	X	X	X		<u>30.1</u>	<u>8.11</u>	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 1.5 Gallons
 Depth to Water at Sample Collection: _____
 Sample Collection Time: 1342
 Purged Dry (Y/N): N

Comments: Settings: 80 psi
9 sec. exhaust time
6 sec. charge time



750 Royal Oaks Dr, Suite 100, Monrovia, CA 91016-3629
(626) 566-6400 (800) 566-3227

MWLABS USE ONLY:

LOGIN COMMENTS:

SAMPLES CHECKED/LOGGED IN BY:

SAMPLE TEMP, RECEIPT AT LAB:

SAMPLE TEMP, RECEIPT AT LAB:

BLUE ICE: FROZEN PARTIALLY FROZEN THAWED

TO BE COMPLETED BY SAMPLER:

COMPANY / PROJECT NAME		PROJECT JOB # / P.O.#		REFER TO ATTACHED BOTTLE ORDER FOR ANALYSES		(check for yes)	
Tronox LLC Sampler		Annual Groundwater Sampling - April / May		ANALYSES REQUIRED (mark an 'X' in all tests required for each sample line)			
Brian Ho / Susan Crowley (702) 651-2234		Tronox LLC PO Box 55 Henderson, NV 89009		Total Chromium	Hexavalent Chromium	Perchlorate, ClO ₄	TDS
TIME	DATE	LOCATION	IDENTIFIER, STATE ID#	MATRIX *	GRAB	COMP	SAMPLER COMMENTS
0815	6-1-09	TR-11		RGW	X		
0905	6-1-09	TR-12		RGW	X		
0940	6-1-09	TR-1		RGW	X		
1018	6-1-09	TR-10		RGW	X		
1202	6-1-09	W-103		RGW	X		
1117	6-1-09	FB060109		RGW	X		
1202	6-1-09	W-103		RGW	X		
1212	6-1-09	W-117		RGW	X		
1312	6-1-09	W-118		RGW	X		
-	6-1-09	Duplicate		RGW	X		

* 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
 CWW = Chlorinated Waste Water
 WW = Other Waste Water
 SW = Storm Water

SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:				
RECEIVED BY:				
RELINQUISHED BY:				
RECEIVED BY:				



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# GWREMEDICATION
 Blanket PO

SO# 47684 12374 RS

Sampler: Please Return this Paper with your samples

Created by GJY
 Order Date 04/16/09
 Date Needed by Client
 Date Samples to Arrive at MWL
 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
 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: 702-551-2234

ATTN: Susan Crowley
 PHONE: 702-551-2234
 FAX: 702-551-2310

Quote# GJY

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

# of Samples	Tests	Bottles-Qty for each sample, type & preservative if any	UN#	Important Comments
41	CLO4, TDS	1 250 ml poly /no preservative		These sites are monthly till further notice.
	SHEET OF LABELS WITH WELL-IDS	see comments section		Shipping - please send bottles in cooler rather than a box
				PC-86, PC-89, PC-91, PC-95, PC-97, PC-10, PC-12, PC-17, PC-18, PC-55, PC-101R L-635, L-637
				MW-K2, MW-K4
				ARP-1, ARP-2, ARP-3, ARP-4
				ARP-5, ARP-6, ARP-7, PC-53
				PC-103, MW-K5, M-83
				M-87, PC-98R; PC-56, PC-58; PC-59, PC-60, PC-62, PC-68, PC-122
				Do NOT prelabel bottles with site, but provide pre-printed labels for client to stick on
				EXTRA BOTTLES INCLUDED
				client code changed 7/25/03
				bottle order and IDs updated 9/9/03

ActiveCode Status Date Shipped Qty of Coolers Tracking Number