



FIELD ACTIVITY REPORT

Report Number/Date:

S-7-09

Project Name:

Tronox - Annual GW May 2009

Project Number:

20092544V1

Report By:

P. Brinkerhoff

Personnel:

P.B. | W.M.

Location:

Tronox

Equipment:

Geopump

Client:

Tronox LLC

Weather:

Clear & Hot

0815 Tagged Depth of well & water level @ HmW9; well depth = 45.5', Depth to water = 16.9'

830 Began purging well HmW9 (14.6 Gallons)

850 sample HmW9

915 Tagged Depth of well & water level @ PC-91c; Well depth = 39.3', Depth to water = 7.3'

950 sample PC-91c

1015 Arrived at location of PC-82, PC-83, & PC-84 cluster, could only locate 2 of wells and they were not labeled

1020 Tagged Depth of well & water level @ PC-81; Well depth = 14.8' & Depth to water = 10.3'

1030 Tagged Depth of well & water level @ PC-80; Well depth = 25.3', Depth of water = 10.3'

1100 Tagged Depth of well & water level @ PC-112; Well depth = 37.9', & Depth to water is 14.9'

1220 Sample # PC-112

1320 Tagged Depth of well & water level; Depth of well = 38.3', & Depth to water from top of pipe = 16.6'

1400 Sample # PC-110

1505 Tagged Depth of well & Depth to water; Depth of well = 12.5', Depth to water from top of pipe is 6.1'

1520 Sample # PC-107

1530 Bag Ice for sample

1545 Deliver ice chest to tronox for delivery

Printed Name/Signature:

Page 1 of 1



BROADBENT & ASSOCIATES, INC
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL

Groundwater Sampling Data Sheet

Well I.D. PC-112 Date: 5-7-09
 Sampler's Name: PB
 Purging Equipment: _____
 Sampling Equipment: _____
 Casing Type: PVC
 Casing Diameter: 2" inch
 Total Well Depth: 37.9' feet
 Depth to Water: - 14.9' feet
 Water Column Thickness: = 23.0' feet
 Unit Casing Volume: x 0.17 gallon / foot
 Casing Water Volume: x 3.91 gallons
 Casing Volume: x 3 each
 Estimated Purge Volume: = 11.73 gallons
 Free product measurement (if present): N/A

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
	1143					24.4	7.18	
	1153	X	X	X		23.7	7.21	
	1158	X	X	X		21.9	7.26	
	1205	X	X	X		23.0	7.22	
	1213	X	X	X		22.7	7.26	
	1217	X	X	X		22.6	7.26	
		X	X	X				
		X	X	X				

Total Water Volume Purged: 12 Gallons
 Depth to Water at Sample Collection: 27'
 Sample Collection Time: 1220
 Purged Dry (Y/N): N

Comments: costs in well clogged pump / 10 min/gal



BROADBENT & ASSOCIATES, INC.

ENGINEERING, WATER RESOURCES & ENVIRONMENTAL

Groundwater Sampling Data Sheet

Well I.D. PC-110 Date: 5-7-09

Sampler's Name: RB

Purging Equipment: _____

Sampling Equipment: _____

Casing Type: PVC

UNIT CASING VOLUMES

Casing Diameter: _____ inch 2" = 0.16 gal/lin ft.

Total Well Depth: 38.3' feet 4" = 0.67 gal/lin ft.

Depth to Water: - 16.6' feet 6" = 1.47 gal/lin ft.

Water Column Thickness: = 21.7 feet

Unit Casing Volume: x 0.17 gallon / foot

Casing Water Volume: x 3.69 gallons

Casing Volume: x 3 each

Estimated Purge Volume: = 11.07 gallons

Free product measurement (if present): _____

Purged (gallons)	Time	DO	Redox	Fe	Conductance (u mhos / x1000)	Temperature (Celcius)	pH	Observations
	<u>1340</u>					<u>27.2</u>	<u>7.15</u>	
	<u>1345</u>	X	X	X		<u>25.7</u>	<u>7.22</u>	
	<u>1347</u>	X	X	X		<u>24.5</u>	<u>7.25</u>	
	<u>1350</u>	X	X	X		<u>24.7</u>	<u>7.25</u>	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 11.1 Gallons

Depth to Water at Sample Collection: 28'

Sample Collection Time: 1400

Purged Dry (Y/N): N

Comments: 4 min/gallon @ 2500psi

**BROADBENT & ASSOCIATES, INC.**

ENGINEERING, WATER RESOURCES & ENVIRONMENTAL

Groundwater Sampling Data SheetWell I.D. PC-107 Date: 5-7-09Sampler's Name: P.B

Purging Equipment: _____

Sampling Equipment: _____

Casing Type: PVC

UNIT CASING VOLUMESCasing Diameter: 2" inch

2" = 0.16 gal/lin ft.

Total Well Depth: 12.5 feet

4" = 0.67 gal/lin ft.

Depth to Water: - 6.1 feet

6" = 1.47 gal/lin ft.

Water Column Thickness: = 6.4 feetUnit Casing Volume: x 0.17 gallon / footCasing Water Volume: x 1.088 gallonsCasing Volume: x 3 eachEstimated Purge Volume: = 3.26 gallons

Free product measurement (if present): _____

Purged (gallons)	Time	DO	Redox	Fe	Conductance (u mhos / x1000)	Temperature (Celcius)	pH	Observations
	1510					27.7	7.12	
	1512	X	X	X		24.4	7.04	
	1515	X	X	X		24.2	7.10	
	1518	X	X	X		24.2	7.10	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 3.25 GallonsDepth to Water at Sample Collection: 10.5'Sample Collection Time: 1520Purged Dry (Y/N): NComments: 4 min/gallon

Groundwater Sampling Data Sheet

Well I.D. HmW9 Date: 5-7-09
 Sampler's Name: P.B.
 Purging Equipment: _____
 Sampling Equipment: _____

Casing Type: PVC **UNIT CASING VOLUMES**
 Casing Diameter: 2 inch 2" = 0.16 gal/lin ft.
 Total Well Depth: 45.5 feet 4" = 0.67 gal/lin ft.
 Depth to Water: - 16.8 feet 6" = 1.47 gal/lin ft.
 Water Column Thickness: = 28.7 feet
 Unit Casing Volume: x 0.17 gallon / foot
 Casing Water Volume: x 4.9 gallons
 Casing Volume: x 3 each
 Estimated Purge Volume: = 14.6 gallons

Free product measurement (if present): _____

Purged (gallons)	Time	DO	Redox	Fe	Conductance (u mhos / x1000)	Temperature (Celcius)	pH	Observations
	833					23.8	7.22	
	838	X	X	X		23.7	7.12	
	841	X	X	X		23.5	7.12	
	845	X	X	X		23.5	7.12	
		X	X	X				
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 14.6 Gallons
 Depth to Water at Sample Collection: 29'
 Sample Collection Time: 850
 Purged Dry (Y/N): N

Comments: Purge 4 gal/min



BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL

Groundwater Sampling Data Sheet

Well I.D. PC-96 Date: 5-7-09
 Sampler's Name: P.B.

Purging Equipment: _____
 Sampling Equipment: _____

Casing Type: PVC **UNIT CASING VOLUMES**

Casing Diameter: 2" inch 2" = 0.16 gal/lin ft.

Total Well Depth: 39.3 feet 4" = 0.67 gal/lin ft.

Depth to Water: - 7.3 feet 6" = 1.47 gal/lin ft.

Water Column Thickness: = 32 feet

Unit Casing Volume: x 1.7 gallon / foot

Casing Water Volume: x 54.4 gallons

Casing Volume: x 3 each

Estimated Purge Volume: = 16.32 gallons

Free product measurement (if present): N/A

Purged (gallons)	Time	DO	Redox	Fe	Conductance (u mhos / x1000)	Temperature (Celcius)	pH	Observations
	933					22.5	7.19	
	935	X	X	X		21.6	7.20	Clear
	937	X	X	X		21.2	7.22	"
	940	X	X	X		21.0	7.29	"
	943	X	X	X		21.0	7.35	"
		X	X	X				
		X	X	X				
		X	X	X				

Total Water Volume Purged: 16.5 Gallons

Depth to Water at Sample Collection: 29'

Sample Collection Time: 950

Purged Dry (Y/N): N

Comments: 4 min/gal

Groundwater Sampling Data Sheet

Well I.D. PC-80 & 81 Date: 5-7-09
 Sampler's Name: P.B.

Purging Equipment: _____
 Sampling Equipment: _____

Casing Type: PVC PC-80 PC-81 **UNIT CASING VOLUMES**
 Casing Diameter: 2 inch 2 2" = 0.16 gal/lin ft.
 Total Well Depth: 25.3' feet 14.8' 4" = 0.67 gal/lin ft.
 Depth to Water: - 10.3' feet 10.3' 6" = 1.47 gal/lin ft.
 Water Column Thickness: = 15' feet 4.5'
 Unit Casing Volume: x 0.17 gallon / foot 0.17
 Casing Water Volume: x 2.55 gallons .77
 Casing Volume: x 3 each
 Estimated Purge Volume: = 7.65 gallons 2.30

Free product measurement (if present): N/A

Purged (gallons)	Time	DO	Redox	Fe	Conductance (u mhos / x1000)	Temperature (Celcius)	pH	Observations
		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: N/A Gallons
 Depth to Water at Sample Collection: N/A
 Sample Collection Time: N/A
 Purged Dry (Y/N): N/A

Comments: Water Level only



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

Address: Eaton..... Your MWL Project Manager
(626) 386-1125..... Direct Phone/Voice Mail

Client Code KERRMCGEE-MP M Monthly Period
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
SHIP LOCATION

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#

GJY

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
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

From: Origin ID: LASA (702) 651-2234
 Susan Crowley
 Tronox
 8000 West Lake Mead Parkway
 Henderson, NV 89015



J3811030130203

Ship Date: 07MAY09
 ActWgt: 50.0 LB
 CAD: 7219287/NET9011
 Account#: S *****

Delivery Address Bar Code



Ref # Annual Water Samples-10181.23
 Invoice #
 PO #
 Dept #

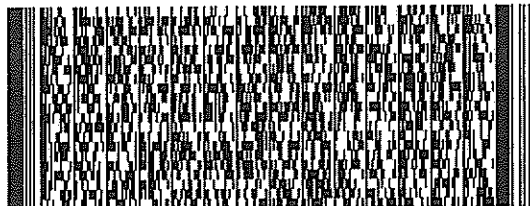
SHIP TO: (626) 386-1100 BILL SENDER
Sample Receiving
MWH Labs
750 ROYAL OAKS DR STE 100

MONROVIA, CA 91016

FRI - 08MAY A2

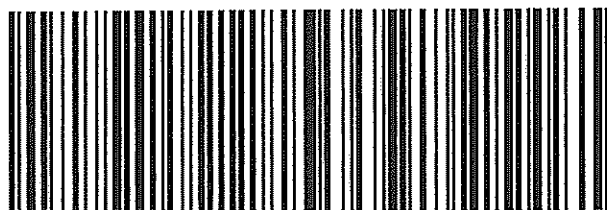
TRK# 7975 7557 4113
 0201

PRIORITY OVERNIGHT



QZ WHPA

91016
 CA-US
 BUR

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.