

Appendix D

Groundwater Sampling Field Data Sheets



Well ID: TR-7

Low Flow Ground Water Sample Collection Record

Client: Tronox LLC Date: 3/21/06 Time: Start 11:15 am/pm
 Project No: 04020-023-150 Finish 12:00 am/pm
 Site Location: Henderson, NV
 Weather Conds: overcast, windy, ~58°F Collector(s): Brian Ho, Eric Nelson

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 290 ft c. Length of Water Column 266.87' (a-b) Casing Diameter/Material 4" PVC
 b. Water Table Depth 23.13' d. Calculated System Volume (see back) 3 liters (Bladder Pump Sys. Vol) =

2. WELL PURGE DATA

a. Purge Method: Bladder pump w/QED controller (MP-10)

b. Acceptance Criteria defined (see workplan)

- Temperature 1° C -D.O. 5%
 - pH ± 0.1 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3' (3.6-inches)

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>Horiba U-22 w/flow thru-cell</u>	<u>U-22</u>	<u>SN000016</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>11:23</u>	<u>0</u>		<u>Begin Pumping</u>					<u>800</u>	<u>3</u>	
<u>11:25</u>								<u>640</u>	<u>3.4"</u>	
<u>11:27</u>								<u>640</u>	<u>3.1"</u>	
<u>11:28</u>	<u>4 L</u>	<u>23.4</u>	<u>7.82</u>	<u>1.30</u>	<u>8.14</u>	<u>105</u>	<u>63.8</u>	<u>600</u>	<u>2.9"</u>	
<u>11:29</u>	<u>4.6 L</u>	<u>23.6</u>	<u>7.69</u>	<u>1.30</u>	<u>7.87</u>	<u>101</u>	<u>67.3</u>	<u>600</u>	<u>2.5"</u>	
<u>11:30</u>	<u>5.4 L</u>	<u>23.6</u>	<u>7.75</u>	<u>1.30</u>	<u>7.83</u>	<u>102</u>	<u>62.1</u>	<u>600</u>	<u>2.5"</u>	
<u>11:31</u>	<u>6 L</u>	<u>23.7</u>	<u>7.73</u>	<u>1.30</u>	<u>7.86</u>	<u>102</u>	<u>61.1</u>	<u>600</u>	<u>2.5"</u>	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: Dedicated Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TR-7</u>	<u>40 ml glass VOA</u>	<u>3</u>	<u>HCl</u>	<u>VOCs</u>	
	<u>40 ml glass VOA</u>	<u>4</u>	<u>None</u>	<u>Fuel Alcohols</u>	
	<u>40 ml glass VOA</u>	<u>3</u>	<u>HCl</u>	<u>TPH - GRO</u>	
	<u>1 liter amber glass</u>	<u>2</u>	<u>None</u>	<u>TPH - DRD, TPH - ORD</u>	
	<u>1 liter Poly</u>	<u>1</u>	<u>HNO₃</u>	<u>Metals</u>	
	<u>250 ml poly</u>	<u>1</u>	<u>None</u>	<u>NO₂-N, NO₃, Cl, SO₄, ClO₄</u>	
	<u>150 ml poly</u>	<u>1</u>	<u>Na SO₄ + NH₄OH</u>	<u>Cr 6</u>	
	<u>150 ml poly</u>	<u>1</u>	<u>None</u>	<u>Alkalinity, pH, EC</u>	
	<u>150 ml poly</u>	<u>1</u>	<u>None</u>	<u>Cyanide</u>	
	<u>1 liter poly</u>	<u>5</u>	<u>HNO₃</u>	<u>Radionuclides</u>	

Signature: Brian Ho Date: 3/21/06

<u>100 ml poly</u>	<u>1</u>	<u>EDA</u>	<u>ClO₃</u>
<u>500 ml poly</u>	<u>1</u>	<u>None</u>	<u>TDS</u>

Well ID: TR-8

Low Flow Ground Water Sample Collection Record

Client: Tronox LLC Date: 3/20/06 Time: Start _____ am/pm
 Project No: 04020-023-150 Finish _____ am/pm
 Site Location: Henderson, NV
 Weather Conds: Overcast, windy, ~60°F Collector(s): Brian Ho, Eric Nelson

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 93 ft c. Length of Water Column 22.02' (a-b) Casing Diameter/Material _____
 b. Water Table Depth 50.98' (Pump Sys. Vol) d. Calculated System Volume (see back) 1.2 liter 4" PVC

2. WELL PURGE DATA

a. Purge Method: Bladder pump w/QED controller (MP-10)

b. Acceptance Criteria defined (see workplan)

- Temperature 1°C -D.O. 5%
 - pH ± 0.1 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3' (3.6-inches)

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>Horiba U-22 w/flow thru-cell</u>	<u>U-22</u>	<u>SN 000016</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
13:56	0	23.7	7.06	1.68	8.65	133	316	650	1.8"	
14:00	2 L	23.7	7.57	1.70	9.64	123	355	600	0.7"	
14:01	2.6 L	23.7	7.62	1.70	9.50	120	353	600	0.7"	Colorless
14:02	3.2 L	23.7	7.66	1.69	9.24	120	399	600	0.9"	No odor
14:03	3.8 L	23.6	7.68	1.69	9.08	119	450	600	1.1"	
14:07	6.2 L	23.7	7.75	1.70	9.17	118	380	600	0.9"	Colorless/No odor

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: Dedicated Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
TR-8	40 ml Glass VOA	3	HCl	VOCs	
	40 ml Glass VOA	4	None	Fuel Alcohols	
	40 ml Glass VOA	3	HCl	TPH -GRD	
	1 L amber glass	2	None	TPH -DRO, TPH -ORO	
	1 L poly	1	HNO ₃	Metals	
	250ml poly	1	None	NO ₂ -N, NO ₃ , Cl, SO ₄ , ClO ₄	
	150ml poly	1	Na ₂ SO ₄ + NH ₄ OH	Cr, Cd	
	150 ml poly	1	None	Alkalinity, pH, EC	
	150 ml poly	1	None	Cyanide	
	1 L poly	5	HNO ₃	Radio nuclides	

Signature: Brian Ho Date: 3/20/06

100 ml poly	1	EDA	ClO ₃
500 ml poly	1	None	TDS



Well ID: TR-9

Low Flow Ground Water Sample Collection Record

Client: Tronox LLC Date: 3/21/06 Time: Start 08:50 am/pm
 Project No: 04020-023-150 Finish 09:50 am/pm
 Site Location: Henderson, NV
 Weather Conds: Overcast w/rain, ~52°F Collector(s): Brian Ho, Eric Nelson

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 250 ft. Length of Water Column 201.20' (a-b) Casing Diameter/Material _____
 b. Water Table Depth 48.80 ft. Calculated System Volume (see back) = 2.7 liters (Bladder Pump Sys Vol) 4" PVC

2. WELL PURGE DATA

a. Purge Method: Bladder pump w/QED controller (MP-10)

b. Acceptance Criteria defined (see workplan)

- Temperature 1° C -D.O. 5%
- pH ± 0.1 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3' (3.6-inches)

c. Field Testing Equipment used: Make Horiba U-22 w/flow thru-cell Model U-22 Serial Number SN000016

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
09:10	2.5 L	24.2	7.86	0.819	5.07	69	95.4	500	2.4"	clear/colorless
09:11	3.0 L	24.5	7.85	0.830	5.13	68	101	500	2.1"	
09:13	4 L	24.7	7.88	0.832	5.35	68	86H	500ml	2.5"	clear

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cycles per min = 4
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Throttle Setting = 65 psi
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Dedicated Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
TR-9	40 ml Glass VOA	3	HCl	VOCs	
	40 ml Glass VOA	4	None	Fuel Alcohols	
	40 ml Glass VOA	3	HCl	TPH-GRO	
	1 L amber Glass	2	None	TPH-DRO & TPH-DRO	
	1 L poly	1	HNO ₃	Metals	
	250 ml poly	1	None	NO ₂ -N, NO ₃ , Cl, SO ₄ , ClO ₄	
	150 ml poly	1	Na ₂ SO ₄ + NH ₄ OH	Cr-6	
	150 ml poly	1	None	Alkalinity, pH, EC	
	150 ml poly	1	None	Cyanide	
	1 L poly	5	HNO ₃	Radionuclides	

Signature: Brian Ho Date: 3/21/06
 100 ml poly 1 EDA ClO₃
 500 ml poly 1 None TDS



Well ID: TR-10

Low Flow Ground Water Sample Collection Record

Client: Tronox LLC Date: 3/21/06 Time: Start 10:00 am/pm
 Project No: 04020-023-150 Finish 10:30 am/pm
 Site Location: Henderson, NV
 Weather Conds: _____ Collector(s): Brian Ho, Eric Nelson

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 100 ft c. Length of Water Column 39.04' (a-b) Casing Diameter/Material 4" PVC
 b. Water Table Depth 60.96 ft (Bladder Pump Sys. Vol) = 1.3 Liters
 Calculated System Volume (see back)

2. WELL PURGE DATA

a. Purge Method: Bladder pump w/QED controller (MP-10)

b. Acceptance Criteria defined (see workplan)

- Temperature 1° C -D.O. 5%
- pH ± 0.1 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3' (3.6-inches)

c. Field Testing Equipment used: Make Horiba U-22 w/flow thru-cell Model U-22 Serial Number SN 000016

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
10:00	0	24.9	7.75	2.25	9.65	77	58.1	600	1.5"	clear
10:02	1.2 L	25.1	7.73	2.25	9.63	75	68.9	600	1.6"	clear
10:03	1.8 L	25.1	7.72	2.25	9.18	75	86.8	600	1.6"	
10:04	2.4 L	25.0	7.73	2.25	9.07	74	92.8	600	1.7"	clear
10:06	3.6 L	25.2	7.72	2.24	9.20	74	156	600	1.7"	

- d. Acceptance criteria pass/fail
- | | | | |
|-------------------------------------|---|-----------------------------|------------------------------|
| Has required volume been removed | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Has required turbidity been reached | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Have parameters stabilized | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- If no or N/A - Explain below.

Controller settings: (continued on back)
 Cycles per min = 4
 Throttle setting = 50 psi

3. SAMPLE COLLECTION: Method: Dedicated Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
TR-10	40ml Glass VOA	3	HCl	VOCs	
	40ml Glass VOA	4	None	Fuel Alcohols	
	40ml Glass VOA	3	HCl	TPH-GRO	
	1 Liter Amber Glass	2	None	TPH-DRO, TPH-ORO	
	1 Liter poly	1	HNO ₃	Metals	
	250 ml poly	1	None	NO ₂ -N, NO ₃ , Cl, SO ₄ , ClO ₄	
	150 ml poly	1	Na SO ₄ / NH ₄ OH	CF ₆	
	150 ml poly	1	None	Alkalinity, pH, EC	
	150 ml poly	1	None	Cyanide	
	1 liter poly	5	HNO ₃	Radionuclides	

Signature: Brian Ho Date: 3/21/06

100 ml poly	1	EDA	ClO ₃
500 ml poly	1	None	TDS

Low Flow Ground Water Sample Collection Record

Client: Tronox LLC Date: 3/21/06 Time: Start 14:00 am/pm
 Project No: 04020-023-150 Finish _____ am/pm
 Site Location: Henderson, NV
 Weather Conds: _____ Collector(s): B. Ho, E. Nelson

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 93.01' c. Length of Water Column 20.53' (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 72.48' d. Calculated System Volume (see back) 1.1 liter = Bladder & Tubing Volume

2. WELL PURGE DATA

a. Purge Method: Bladder pump w/QED controller (MP-10) and QED 3020 (12-volt air compressor)

b. Acceptance Criteria defined (see workplan)

- Temperature 1° C -D.O. 5%
- pH ± 0.1 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3' (3.6-inches)

c. Field Testing Equipment used: _____ Make _____ Model _____ Serial Number SN000046
Horiba U-22 w/flow thru-cell

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
14:30	3	23.0	7.73	2.26	8.84	114	527	300	3"	cloudy - grayish
14:31	3.3	23.3	7.70	2.25	8.96	114	454	300	3"	
14:32	3.6	23.4	7.67	2.27	9.06	115	422	300	3"	Translucent
14:33	3.9	23.5	7.69	2.28	9.10	115	416	300	3"	White-Transl.

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: Dedicated bladder pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
M-103	40 ml vOA	3	HCl	VOCs	14:37
	40 ml vOA	3	HCl	TPH - GRU	
	40 ml vOA	4	None	Fuel Alcohols	
	250 ml poly	1	None	Cl ₂ , SO ₄ , Cl ⁻ , NO ₃ , NO ₂ -N	
	1 L amber	1	None	TPH - DRD	
	1 L amber	1	None	TPH - DRD	
	1 L poly	1	HNO ₃	Metals	
	1 L poly	X5	HNO ₃	Radioisotopes	
	150 ml poly	1	NaOH + NaOH	Cr 6	
	150 ml poly	1	None	Alkalinity, pH, EC	
	150 ml poly	1	None	CN	

Signature: Brian Ho Date: 3/21/06
100 ml poly 1 EDA ClO₃
500 ml D.I.V 1 None TDS



Well ID: M-117

Low Flow Ground Water Sample Collection Record

Client: Tronox LLC Date: 3/23/06 Time: Start 14:00 am/pm
 Project No: 04020-023-150 Finish 14:50 am/pm
 Site Location: Henderson, NV
 Weather Conds: Sunny, ~65°F Collector(s): Brian Ho, Eric Nelson

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 155' c. Length of Water Column NA (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth NA d. Calculated System Volume (see back) 1.8 Liters

2. WELL PURGE DATA

a. Purge Method: Bladder pump w/QED controller (MP-10)

b. Acceptance Criteria defined (see workplan)

- Temperature 1° C -D.O. 5%
- pH ± 0.1 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3' (3.6-inches)

c. Field Testing Equipment used: Make Horiba U-22 w/flow thru-cell Model U-22 Serial Number SN 000016

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Cumulative	
									Drawdown (feet)	Color/Odor
14:45	76L	23.5	7.90	1.25	7.21	-44	220	200	3"	Cloudy, Brownish
14:47		23.5	7.90	1.26	7.20	-43	206	200	3"	cloudy
14:48		23.5	7.88	1.26	6.92	-42	194	200	3"	cloudy

d. Acceptance criteria pass/fail

Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

Controller Settings: (continued on back)
 Cycles per Minute (CPM) = 2
 Flow Rate: 200 ml/min
 Throttle: 65 psi

3. SAMPLE COLLECTION: Method: Dedicated Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
M-117	same bottles as M-121				

Note: This is a slow recharging well. M-117 was developed earlier today. During development, M-117 was pumped dry at pump rates < 1 gpm. Upon arrival at 13:55, water level was 108' bgs when static water level should be ~ 78 ft bgs; therefore well is still recovering. Decide it is ok to collect water sample.

During sampling (w/ bladder pump), water level was fairly stable (~ 103.5' bgs)

Signature Brian Ho Date 3/23/06

Low Flow Ground Water Sample Collection Record

Client: Tronox LLC Date: 3/22/06 Time: Start 11:10 am/pm
 Project No: 04020-023-150 Finish _____ am/pm
 Site Location: Henderson, NV
 Weather Conds: Sunny, ~60°F Collector(s): Brian Ho, Eric Nelson

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 162.85' c. Length of Water Column 86.59' (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 76.26' d. Calculated System Volume (see back) 1.8 liters

2. WELL PURGE DATA

a. Purge Method: Bladder pump w/QED controller (MP-10)
 b. Acceptance Criteria defined (see workplan)
 - Temperature 1°C -D.O. 5% Screen Interval: 137.85' - 157.85'
 - pH ± 0.1 unit - ORP ± 10mV Sediment Trap: 157.85' - 162.85'
 - Sp. Cond. 3% - Drawdown < 0.3' (3.6-inches)

c. Field Testing Equipment used: Make Horiba U-22 w/flow thru-cell Model U-22 Serial Number SN 000016

Cumulative Volume

Time (24hr)	Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
11:32	2.0	21.5	7.98	0.816	4.64	-54	991	100	1"	
11:34	2.2	21.5	8.02	0.813	4.48	-53	972	100	1.2"	
11:37	2.5	21.7	8.05	0.814	4.33	-50	783	100	1.4"	cloudy
11:40	2.8	21.7	8.06	0.813	4.34	-50	683	100	2.2"	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)
 Note: This is a slow recharging well.

3. SAMPLE COLLECTION: Method: Dedicated Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
M-118	1L amber glass	1	None	TPH-DRO	
	1L amber glass	1	None	TPH-GRO	
	40ml VOA	3	HCl	TPH GRO	
	40ml VOA	3	HCl	VOCs	
	40ml VOA	4	None	Fuel Alcohols	
	1L - Poly	5	HNO3	Radionuclides	
	250ml Poly	1	None	NO2-N, NO3, Cl, SO4, ClO4	
	1L - Poly	1	HNO3	Metals	
	150ml Poly	1	NaOH, SO4 + NH4, PH	Cr 6	
	150ml Poly	1	None	Alkalinity, pH, EC	
	150ml Poly	1	None	Cyanide	

Signature: Brian Ho Date: 3/22/06
 500 ml Poly 1 None TDS
 100 ml Poly 1 EDA ClO3



Well ID: M-120

Low Flow Ground Water Sample Collection Record

Client: Tronox LLC Date: 3/22/06 Time: Start 08:10 am/pm
 Project No: 04020-023-150 Finish 10:45 am/pm
 Site Location: Henderson, NV
 Weather Conds: Sunny, 248°F Collector(s): Brian Ho, Eric Nelson

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 108.17' c. Length of Water Column 28.47' (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 79.70' d. Calculated System Volume (see back) 1.3 liters

2. WELL PURGE DATA

a. Purge Method: Bladder pump w/QED controller (MP-10)
 b. Acceptance Criteria defined (see workplan) Screen Interval: 83'-103'
 - Temperature 1°C -D.O. 5%
 - pH ± 0.1 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3' (3.6-inches)
 c. Field Testing Equipment used: Make Horiba U-22 w/flow thru-cell Model U-22 Serial Number SN 000016

Time (24hr)	Cumulative Volume		pH	Spec. Cond. m (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Cumulative	
	Removed (Liters)	Temp. (°C)							Drawdown (feet)	Color/Odor
08:52	1.5L							500	1.5"	
08:54	2.0L	20.5	6.92	2.94	6.53	178	450	500	2"	cloudy, lt Brown
08:55	2.5	20.5	6.97	2.95	6.57	172	314	500	2.5"	cloudy
08:56	2.9	20.4	6.99	2.96	6.53	170	240	400	1.7"	clear
08:57	3.3	20.4	7.01	2.96	6.52	169	194	400	1.7"	clear

d. Acceptance criteria pass/fail

Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

Controller Settings: (continued on back)
 CPM = 4,
 Throttle = 100-105 ft = 45 psi

3. SAMPLE COLLECTION: Method: Dedicated Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
M 120	40 ml VOA	6	HCl	VOCs/TPH-GRO	
	1 L amber glass	1	None	TPH-DRO	
	1 L amber glass	1	None	TPH-DRO	
	40 ml VOA	4	None	Fuel Alcohols	
	150 ml Poly	1	Na ₂ SO ₄ + NH ₄ OH	Cr 6	
	1 L poly	1	HNO ₃	Metals	
	250 ml poly	1	None	NO ₂ -N, NO ₃ , Cl, SO ₄ , ClO ₄	
	150 ml poly	1	None	Alkalinity, pH, EC	
	150 ml Poly	1	None	Cyanide	
	1 L Poly	5	HNO ₃	Radionuclides	
	150 ml Poly	1	None	Cyanide	

Signature: Brian Ho Date: 3/22/06

100 ml Poly	1	EDA	ClO ₂
500ml Poly	1	None	TDS
1-L amber	3	None	OCPS, OPPs, SVOCs

Low Flow Ground Water Sample Collection Record

Client: Tronox LLC Date: 3-23-06 Time: Start 07:45 am/pm
 Project No: 04020-023-150 Finish 08:45 am/pm
 Site Location: Henderson, NV
 Weather Conds: Sunny, ~58°F Collector(s): Brian Ho, Eric Nelson

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 103.35' c. Length of Water Column 25.26' (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 78.09' d. Calculated System Volume (see back) 1.3 liters

2. WELL PURGE DATA

a. Purge Method: Bladder pump w/QED controller (MP-10)

b. Acceptance Criteria defined (see workplan)

- Temperature 1°C -D.O. 5%
- pH ± 0.1 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3' (3.6-inches)

c. Field Testing Equipment used: Make Horiba U-22 w/flow thru-cell Model U-22 Serial Number SN 000016

Time (24hr)	Cumulative Volume		pH	Spec. Cond. m (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Cumulative	
	Removed (Liters)	Temp. (°C)							Drawdown (feet)	Color/Odor
08:08	0.40							200	2"	
08:13	1.4							300	2.5"	
08:15	1.7	22.7	7.28	4.06	4.58	142	7.31	300	3.0"	
08:16	2.0	22.7	7.27	4.08	4.47	140	6.85	300	2.5"	
08:17	2.3	22.7	7.28	4.09	4.44	139	6.21	300	1.4"	

d. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)
 Controller Settings:
 Cycles per minute = 4
 Throttle setting = 47 PSI

3. SAMPLE COLLECTION: Method: Dedicated Bladder Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
M-121	1 l amber glass	1	None	TPH-DRO	
	1 l amber glass	1	None	TPH-ORO	
	40-ml VOA	3	HCl	TPH-GRO	
	40 ml VOA	3	HCl	VOCS	
	40 ml VOA	4	None	Fuel Alcohols	
	1 l - Poly	5	HNO ₃	Radionuclides	
	250ml - Poly	1	None	NO ₂ -N, NO ₃ -N, Cl ⁻ , SO ₄ ²⁻ , ClO ₄ ⁻	
	1 l - poly	1	HNO ₃	Metals	
	150-ml Poly	1	Na ₂ SO ₄ + NH ₄ OH	Cr 6	
	150-ml Poly	1	None	Alkalinity, pH, EC	
	150-ml Poly	1	None	Cyanide	

Signature: Brian Ho Date: 3/23/06

100-ml Poly	1	EDA	ClO ₃
500ml Poly	1	None	TDS



Well ID: H-11

Low Flow Ground Water Sample Collection Record

Client: Tronox LLC Date: 3/23/06 Time: Start _____ am/pm
 Project No: 04020-023-150 Finish _____ am/pm
 Site Location: Henderson, NV
 Weather Conds: Sunny, Warm Collector(s): Ed Krish

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 105 ft c. Length of Water Column 35.67' (a-b) Casing Diameter/Material 4" PVC
 b. Water Table Depth 69.33' d. Calculated System Volume (see back) 23.2 gallons = 1 well volume

2. WELL PURGE DATA

well was purged w/ electric pump; 90 gallons removed at 1/2 gpm
 a. Purge Method: Bladder pump w/QED controller (MP-10)
 b. Acceptance Criteria defined (see workplan) *well was pumped dry.*
 - Temperature 1° C -D.O. 5%
 - pH ± 0.1 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3' (3.6-inches)

c. Field Testing Equipment used: Make _____ Model _____ Serial Number _____
Horiba U-22 w/flow thru-cell

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
	<u>NOT</u>			<u>Measured</u>						

d. Acceptance criteria pass/fail Yes No N/A (continued on back)
 Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PVC Bailers - Grab Sample lowered to well bottom

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>H-11</u>	<u>40 ml glass VOA</u>	<u>3</u>	<u>HCl</u>	<u>VOCs</u>	
	<u>40 ml glass VOA</u>	<u>4</u>	<u>None</u>	<u>Fuel Alcohols</u>	
	<u>40 ml glass VOA</u>	<u>3</u>	<u>HCl</u>	<u>TPH GRD</u>	
	<u>1 liter amber glass</u>	<u>2</u>	<u>None</u>	<u>TPH-DRD, TPH-DRD</u>	
	<u>1 liter Poly</u>	<u>1</u>	<u>HNO3</u>	<u>Metals</u>	
	<u>250 ml poly</u>	<u>1</u>	<u>None</u>	<u>NO₂-N NO₃, Cl, SO₄, ClO₄</u>	
	<u>150 ml poly</u>	<u>1</u>	<u>Na SO₄+NH₄OH</u>	<u>CFG</u>	
	<u>150 ml poly</u>	<u>1</u>	<u>None</u>	<u>Alkalinity, pH, EC</u>	
	<u>150 ml poly</u>	<u>1</u>	<u>None</u>	<u>Cyanide</u>	
	<u>1 liter Poly</u>	<u>5</u>	<u>HNO3</u>	<u>Radionuclides</u>	

Signature _____ Date _____
100 ml poly 1 EDA ClO₃
500 ml poly 1 None TDS