

APPENDIX B
Shumaker Log Books

Task Order No R06002

Shumaker Naval Ammunition

Contract No# EP-W-07-074

By Wally O'Rean

The paper in this book is
made of 50% high grade rag stock with
a WATER RESISTING surface sizing.

CONTENTS

PAGE NO.	REFERENCE	DATE

Camden Arkansas Showaker
5/19/08 ROBO07

Scott Ellinger and Gally,
O'Rear are obtaining water
level measurements readings

Arrived @ SW-04 - 12:59
Key # A41522
Water level is 5.83 ft
Left SW-04 @ 1:02

13:15 Arrived @ SW-10
Key # A41522
Water level is 6.05 ft
Left SW-10

13:27 Arrived @ SW-03
Water level is 10.60 ft
Key # A41522
Left 13:30

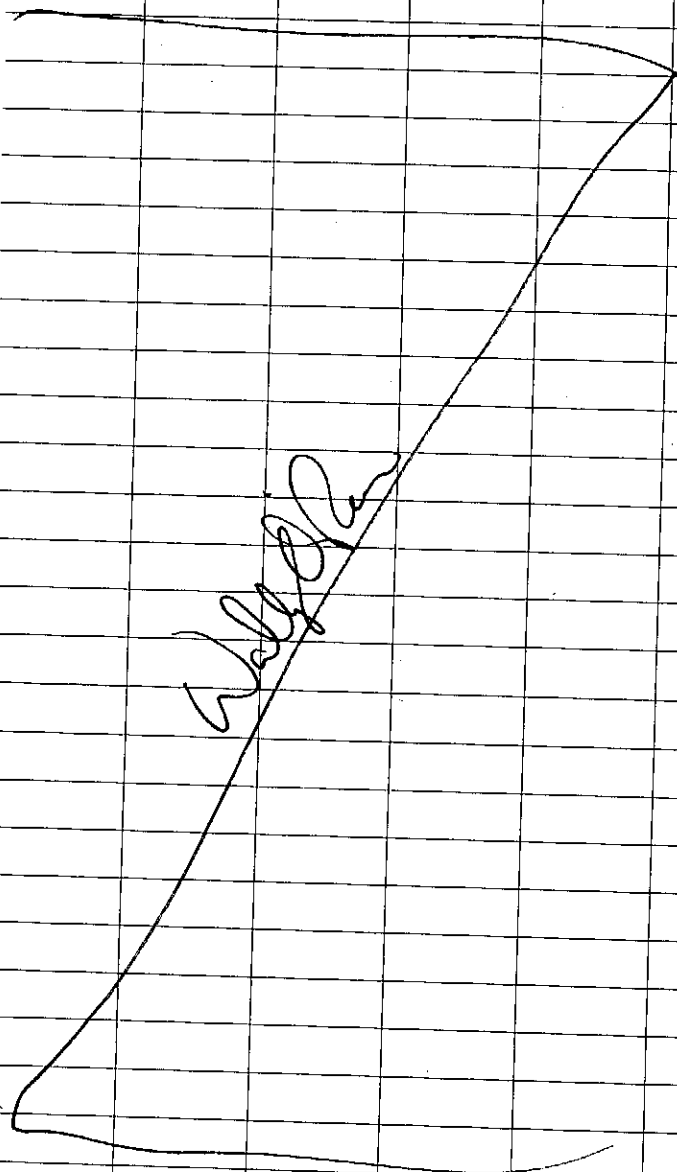
13:34 Arrived @ SW-01
Key # A1446
Water level is 22.55 ft
Left 13:39

Wally O'Rear

R06007

5/19/08

Shumaker



Arrived @ SW-02 @ 13:41

Key ID # A1446

Well Depth 5.12

Left @ 13:44

Arrived @ SW-09 - 13:56

Well Depth 9.3

Key ID # A1258

Left @ 13:58

Arrived @ DW-02L 14:11

Key # A1258

Well Depth 32.17

Left @ 14:13

Arrived @ BW-02 14:13

Key ID # A1258

Well Depth 8.65 ft

Left @ 14:15

Arrived @ SW-06 @ 14:52

Well Depth 5.67

Key ID A1446

14:56

Wally Pen

FD6007

Shimaker

Arrived @ SW-07 1500
 Key ID# 0932
 Well Depth 10.16 ft
 Left 15:02

Arrived @ DW-3L 1505
 Well Depth 31.20 ft
 Key ID# 8568

Arrived @ DW-03
 Well Depth 9.57
 Key ID# 10*3363

Arrived @ SW-08
 Well Depth 5.87
 Key ID# 0932

Wally @ Rm

Arrived @ DW-01 15:16
 Well Depth 27.95
 Key ID# 3035

Arrived @ DW-07 15:34
 Well Depth 17:00 ft
 Key ID# 3239

Wally @ Rm

R0007

Shomakar

5/19/08

15:44 Arrived @ DW-05

Key ID 3239

Well Depth 25.25

15:59 Arrived @ DW-06

Key ID # 3061

Well Depth 36.25

1104 Completed

Well Depth for all
Wells

Wally Dean

Wally Dean
5/19/08

To R06007
5/20/08

Shumaker
Candor, AR

1254 At Aerojet
We left the admin Building

25s @ 44 ppm

1300 arrived @ 25s

Water level is 14ft
Sample ID# is IS-AJ-01
1318 Started Sampling
1420 Ended sampling
Sample time is 1318
We collected 5 gallons
of water from 25s
It is for Isotopic Analysis

We left the Aerojet facility @
1430

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From: 1/7/08

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01
MONDAY, 01/07/08 TORO6002 SHUMAKER

ON SITE: SCOTT ELLINGER, EPA REGION 6 (EPA)

WALLY OREAR, TECHLAW (TL)

NICOLE GUYER, TL

CONDITION: @ 700. PARTLY CLOUDY, 70% HUMIDITY.

60°F 15 MPH WINDS. 30.03 BAROMETRIC PRESSURE.

704 MOBILIZE FOR SITE FOLLOWING EPA.

705 TL RECEIVED CALL FROM JANA DAWSON OF TL.

COLLECTION OF SAMPLES SHOULD BE IN THE FOLLOWING

ORDER: PERCHLORATES, EXPLOSIVES, & METALS.

721 ARRIVE @ FIRST WELL. EPA UNLOCKING (ATTEMPTING TO UNLOCK)

GATES FOR ACCESS.

725 PHOTO 1: VIEW WEST OF DW3L. WELL IN GOOD CONDITION

730 TL UNLOCKS DW3L.

735 TL GOES OVER H+S ISSUES @ SITE. H+S PLAN SIGNED BY

TL STAFF

741 TL REPOSITIONS VEHICLE @ DW3L. BEGINS UNRAILING

NECESSARY EQUIPMENT.

744 PHOTO 2: VIEW WEST OF TL DECONING WATER LEVEL METER.

747 DEPTH TO WATER = 31.81 FT. DEPTH TO WELL BOTTOM = 140.28

759 DEPTH TO WATER = 31.81 FT.

817 TL DECONS BLADDER PUMP.

818 PHOTO 3: VIEW WEST OF TL DECONING BLADDER PUMPS

837 TL + EPA LEAVE SITE TO OBTAIN STRING.

855 EQUIPMENT BEING USED INCLUDES:

02

1/7/08 TOROLO002 SHUMAKER

cont. 855 MICROBURGE BASICS - MP10 CONTROLLER MP10-2320
 AIR COMPRESSOR - PD-1006 MODEL 1HP 3.4 CFM
 150 9001 ^{MAX} 150 PSI / ^{WORK} 135 PSI Q8110153
 BLADDER PUMP - HORIBA U-22XD 7013003
 934 76952 - QUOTE NUMBER FROM JANA DAWSON.
 TL - EPA ARRIVE BACK @ SITE
 1015 SETUP PUMP, BEGIN PUMPING.
 1045 PROBLEMS PUMPING. REMOVED PUMP TO TROUBLESHOOT
 1147 AIR LEAKING FROM TOP OF BLADDER PUMP
 1215 FIX PUMP. WASHER/O-RING NOT IN CORRECT ALIGNMENT.
 CAUSED AIR LEAK
 1248 CONTINUING TO STABILIZE FLOW RATE.
 1249 WATER LEVEL = 32' TOC. PH USING PH PAPER = 11.02
 1334 FLOW RATE @ 550 ML/MIN, WATER LEVEL = 32.1' TOC
 PH 11.75 C 0.14 T 57 DO 3.4 T 19.7°C TDS 0.9 ORP -21
 1339 WATER LEVEL = 32.1' TOC
 PH 11.79 C 0.14 T 55 DO 3.1 T 19.7 TDS 0.9 ORP -21
 1344 WATER LEVEL = 32.11' TOC
 PH 11.79 C 0.14 T 60 DO 2.8 T 19.8 TDS 0.9 ORP -21
 1346 PULLED BLADDER PUMP UP AFTER IT CEASED PUMPING. EVERYTHING
 OKAY.
 1405 WATER LEVEL = 32.1' TOC
 PH 11.90 C 0.17 T 160 DO 8.3 T 19.7 TDS 1.1 ORP -204
 1409 WATER LEVEL = 32.11
 PH 11.81 C 0.15 T 250 DO 7.5 T 19.6 TDS 0.9 ORP -251

1/7/08 TOROLO002 SHUMAKER

03

WL	PH	C	T	DO	T	TDS	ORP
1414	32.1	11.81	0.15	160	6.5	19.6	0.9 -271
1418	32.15	11.83	0.15	130	5.9	19.5	1.0 -277
1423	32.11	11.85	0.16	110	5.4	19.5	1.0 -282
1428	32.15	11.85	0.15	110	0.4	19.6	1.0 -285
1432	32.12	11.84	0.15	110	0.3	19.6	1.0 -287
1436	32.21	11.83	0.15	100	0.3	19.6	0.9 -290
1445							
1455							TL COLLECT 1 LAMBER JAR.
1440							GENERATOR ON VAN DIES. COMPRESSOR DIES
1517							TL OPEN DW-03
1519							PHOTO 4: VIEW WEST OF DW-03. GOOD CONDITION
1525							WATER LEVEL @ 9.4' TOC, WELL DEPTH = 54.8
1536							BEGAN USING WATERRA VALVE TO SAMPLE DW-03
1545 1605	WL	PH	C	T	DO	T	TDS ORP
1545	13.4	6.98	32	17	0.7	20.2	0.21 -127
1550	NC	6.95	34	17	0.4	20.2	0.22 -137
1555	NC	6.94	31	16	0.4	20.2	0.20 -132
1600	NC	6.95	32	20	0.4	20.1	0.21 -136
1605							SAMPLES COLLECTED @ DW-03, 2 LAMBER, 2 VIALS, 1 250ML PLASTIC w/HNO ₃ PRESERVATIVE
	WL	PH	C	T	DO	T	TDS ORP
1636	32.2	11.89	0.15	85	1.6	19.9	1.0 -238
1640	32.18	11.76	0.15	60	0.4	19.7	0.9 -245
1645	32.21	11.78	0.15	57	0.6	19.7	1.0 -241
1649	32.14	11.79	0.15	57	0.5	19.6	0.9 -301
1653	32.11	11.79	0.15	59	0.4	19.6	0.9 -308
1658	32.12					19.6	0.9 -312

1/7/08 TOROLOOOD SHUMAKER

1700 COLLECTED SAMPLES @ DW-03L

1733 WATER DEPTH @ SW-8 = 8.37' fac

WELL DEPTH = 30' fac

1737 BEGAN USING WATERA @ SW-8

	WL	pH	C	T	DO	T	TDS	ORP
1741	8.70	5.43	10	-5	1.8	19.7	0.06	80
1746	8.72	5.39	10	-5	1.6	19.7	0.06	88
1749	8.74	5.37	10	-5	1.4	19.9	0.06	96
1753	8.72	5.37	10	-5	1.3	20.0	0.06	100
1757	8.68	5.40	10	-5	1.1	19.9	0.06	100

1758 TL COLLECTS SAMPLES @ DW-03L INCLUDING: 2 VIALS,
2L AMBERS + 1 250ML PLASTIC W/ PRE-PRESERVE (HNO₃)

1805 TL BEGINS TO DECON + CLEAN-UP SITE FOR EVENING

1820 TL FINISHES DECON + PACKS-UP

1831 TL CLOSES GATE TO APPEAR CLOSED + LEAVES SITE.

* 1550 TL WAS UNABLE TO COLLECT WATER LEVEL MEASUREMENTS

DURING PARAMETER STABILIZATION DUE TO 2ND WATER
LEVEL METER CONTINUING TO BE ATTACHED TO DW-03L.

TL WAS WAITING FOR BATTERY POWER TO POWER COMPRESSOR
@ DW-03L + DID NOT DISMANTLE ASSEMBLY.

* FH1 SAMPLES + WATER FROM SW-08 WAS EXTREMELY TURBID +
WAS A ORANGE/YELLOW COLOR.

* 1015 TL RECEIVED A JUMP FROM EPA + WAS ABLE TO POWER
COMPRESSOR + SAMPLING ASSEMBLY. FLOW RATES + PARAMETERS
WERE RE-RUN.

NEG 1/7/08

NEG 1/7/08

NEG 1/7/08

TUESDAY, 01/08/08 TOROLOOOD SHUMAKER

ONSITE: SCOTT ELLINGER, EPA

WALLY OREAR, TL

NICOLE GUYER, TL

CONDITIONS: BAROMETRIC PRESSURE = 29.91, CLOUDY,
SCATTERED SHOWERS, SLIGHT WINDS, 66°F

732 TL + EPA ARRIVE @ DW-06

732 EPA LEAVES TO OBTAIN GATE ACCESS TO DW-06

735 CALIBRATED HORIBA

744 WATER LEVEL @ DW-07 = 17.6' fac

746 134.7' fac = WELL DEPTH

808 WATER LEVEL @ DW-07 = 17.58' fac

826 BEGAN PUMPING DW-07 W/ BLADDER PUMP + HORIBA U-22

848 COLLECTING SAMPLES @ DW-07

855 BEGAN CLEAN-UP + DECON. COLLECTED LESS THAN 5 GALLONS
OF WATER FROM WELL.

	WL	pH	C	T	DO	T	TDS	ORP
831	18.9	7.73	28	26	0.8	18.8	0.18	-88
836	18.9	7.58	28	15	0.4	18.7	0.18	-110
841	19.02	7.59	28	12	0.4	18.7	0.18	-125
846	17.1	7.61	28	10	0.4	18.7	0.18	-131

943 TL + EPA ARRIVE @ DW-06

953 WATER LEVEL @ DW-06 = 36.6' fac

956 WELL DEPTH @ DW-06 = 173' fac

1000 WATER LEVEL @ DW-06 = 36.66' fac

Final Date 1/7/08

01/8/08 TORO6002 SHUMAKER

1028 BEGAN PUMPING DW-06 WITH BLADDER PUMP, MIO CONTROLLER
AND HORIBA SETUP1057 COLLECTING SAMPLES @ DW-06 ~4 gallons H₂O each

1124 LEAVING DW-06 FOR ICE & FEDEX SHIPMENT OF COOLER

	WL	PH	C	T	DO	T	TDS	ORP
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1036	36.8	6.31	21	36	1.0	18.6	0.13	-37
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1041	36.89	6.23	20	13	1.0	18.6	0.13	-37
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1046	36.9	6.23	19	1	0.7	18.6	0.13	-40
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1050	36.89	6.27	17	0	0.7	18.6	0.12	-41
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1054	36.9	6.29	19	0	0.6	18.6	0.12	-44
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1304 TL SHIPS 1ST COOLER VIA FEDEX CONTAINING BOTTLES
FROM 3 WELL LOCATIONS

1401 TL + EPA ARRIVE @ DW-05

1416 WATER LEVEL @ DW-05 = 25.55' toe

WELL DEPTH @ DW-05 = 83.75' toe

1422 WATER LEVEL @ DW-05 = 25.6' toe

1428 COLLECTED EQUIPMENT BLANK FROM BLADDER PUMP

1526 COLLECTED SAMPLES @ DW-05 ~4 gallons H₂O each1558 TL LEAVES DW-05. SAMPLES WERE COLLECTED WHEN
PARAMETERS STABILIZES DUE TO INCREASED DRAWDOWN.

	WL	PH	C	T	DO	T	TDS	ORP
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1458	27.78	7.00	46	320	5.3	18.0	0.30	-49
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1503	30.2	7.07	45	120	4.8	18.0	0.29	-85
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1507	32.95	7.09	45	100	4.4	18.0	0.29	-98
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1511	36.97	7.10	45	75	4.0	17.9	0.29	-105
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1522	42.00	7.09	45	51	3.4	17.9	0.29	-114
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1/8/08 TORO6002 SHUMAKER

1046 TL ARRIVES @ SW10.

1054 WATER LEVEL @ SW10 = 5.43' toe

WELL DEPTH @ SW10 = 28.85' toe

1705 BEGAN PUMPING W/WATERVA VALVE

	WL	PH	C	T	DO	T	TDS	ORP
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1711	6.6	4.88	13	490	3.2	16.9	0.09	219
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1716	6.7	4.91	15	-5	2.8	17.0	0.09	222
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1721	6.85	4.91	13	-5	2.7	17.0	0.09	232
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1726	6.84	4.92	13	-5	2.6	17.2	0.08	233
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1730 TL COLLECTS SAMPLES @ SW10.

1744 TL + EPA LEAVE SITE.

* 1505 TL ADJUSTED MIO CONTROLLER IN AN ATTEMPT TO
SLOWDOWN THE WATER DRAWDOWN. AFTER ADJUSTMENTS
WATER CONTINUED TO DRAWDOWN. TL COLLECTED SAMPLE
BEFORE TOO MUCH WATER WAS PUMPED. EPA STATED THAT
DW-05 PREVIOUSLY ^{HAD} CAUSED PROBLEMS DURING SAMPLING
EVENTS.

~~Missed Samples 1/8/08~~

WEDNESDAY, 1/9/08 TORO6002 SHUMAKER

ONSITE: SUOTT ELLINGER, EPA

WALLY OBEAR, TL

NICOLE GUMER, TL

CONDITIONS: CLEAR, 50°F, SLIGHT BREEZE

808 TL ARRIVES @ DW-02 & DW-02L.

810 TL BEGINS SETUP @ DW-02

817 WATER LEVEL @ DW-02 = 8.08' toe

824 SWITCH WATER LEVEL METERS

WATER LEVEL @ DW-02 = 8.08' toe

WELL DEPTH @ 53.44' toe

836 BEGAN PUMPING USING WATERRA VALVE.

	WL	PH	C	T	DO	T	TDS	ORP
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843 8.68 6.54 26 130 1.5 17.3 0.17 -44

848 8.70 6.95 26 160 0.4 17.4 0.17 -78

853 8.70 6.95 26 150 0.4 17.5 0.17 -81

858 8.65 6.97 26 110 0.4 17.5 0.17 -83

902 8.6 6.97 26 99 0.4 17.5 0.17 -84

906 8.68 6.97 25 69 0.4 17.4 0.17 -85

910 8.6 6.97 25 56 0.3 17.6 0.17 -86

914 8.7 6.95 25 47 0.4 17.6 0.16 -86

918 8.7 6.98 25 43 0.3 17.6 0.16 -88

922 8.7 6.99 25 39 0.3 17.6 0.16 -89

928 TL COLLECTS SAMPLES @ DW-02

945 WATER LEVEL @ DW-02L = 32.23' toe

WELL DEPTH @ DW-02L = 141.67' toe

1/9/08 TORO6002 SHUMAKER

951 WATER LEVEL @ DW-02L = 32.45' toe

1010 BEGAN PUMPING USING BLADDER PUMP, MID CONTROLLER + HORIBA.

	WL	PH	C	T	DO	T	TDS	ORP
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1014 33.4 7.92 28 460 5.9 16.9 0.18 5

1019 33.4 8.12 28 470 4.8 17.5 0.19 -89

1024 33.4 8.13 28 480 3.8 17.7 0.19 -113

1029 33.25 8.15 29 890 2.9 17.8 0.19 -121

1034 33.4 8.14 29 -5 2.3 18.2 0.19 -121

1038 33.27 8.12 29 -5 1.9 18.1 0.19 -122

1042 33.35 8.13 29 -5 1.6 18.2 0.19 -124

1046 33.4 8.13 29 -5 1.3 18.3 0.19 -126

1050 33.4 8.12 29 -5 1.2 18.3 0.19 -127

1054 33.25 8.13 29 -5 1.0 18.3 0.19 -129

1058 33.3 8.13 29 -5 0.9 18.3 0.19 -131

1102 33.32 8.14 29 -5 0.8 18.4 0.19 -133

1105 TL COLLECTS SAMPLES @ DW-02L

DUPLICATE SAMPLES COLLECTED @ DW-02L

LABELLED AS D22 GW-D21.W/TIME OF 1434

1140 DECON + CLEANUP.

1147 LEAVE DW02 + DW02L

1142 PHOTO 5: VIEW SOUTHEAST OF WALLY DECON'ING EQUIPMENT @ DW-02L.

1150 ARRIVE @ SW09

1155 WATER LEVEL @ SW09 = 8.85' toe

WELL DEPTH @ SW09 = 28.8' toe

1200	WATER LEVEL @ SW09 = 8.85' toc								
1208	BEGAN PUMPING @ SW09 USING WATERBIA PUMP.								
	WL	pH	C	T	DO	T	TDS	ORP	
1209	9.5	6.07	10	300	1.0	17.4	0.07	81	
1214	9.8	5.81	10	-5	0.5	17.5	0.06	72	
1218	9.88	5.81	10	-5	0.4	17.6	0.06	68	
1222	9.9	5.81	10	-5	0.4	17.8	0.06	66	
1225	TL COLLECTS SAMPLES @ SW09								
1248	TL COLLECTS FIELD BLANK (FBO1)								
1312	TL LEAVES SW09								
1323	TL ARRIVES @ DW01 AFTER BATHROOM BREAK								
1406	TL BEGINS PUMPING @ DW01 WITH BLADDER PUMP, MIO, HOKUBA SETUP								
	WL	pH	C	T	DO	T	TDS	ORP	
1411	29.5	7.98	36	-5	4.6	18.6	0.24	-94	
1415	29.52	7.95	36	-5	3.6	18.8	0.23	-115	
1419	29.5	7.91	35	-5	2.7	18.8	0.23	-125	
1423	29.54	7.89	34	-5	2.1	18.9	0.22	-127	
1427	29.56	7.87	33	-5	1.6	18.9	0.22	-129	
1431	29.56	7.87	33	-5	1.3	18.7	0.22	-132	
1435	29.57	7.87	33	790	1.0	18.7	0.21	-135	
1439	29.67	7.86	33	760	0.9	18.8	0.21	-137	
1443	29.57	7.86	32	650	0.8	18.8	0.21	-137	
1447	29.59	7.85	32	480	0.7	18.8	0.21	-137	
1451	29.59	7.84	32	450	0.6	18.7	0.21	-138	
1455	29.6	7.83	32	300	0.5	18.7	0.21	-140	

	WL	pH	C	T	DO	T	TDS	ORP	
1459	29.61	7.82	32	330	0.5	18.7	0.21	-140	
1503	29.62	7.82	32	300	0.5	18.7	0.21	-141	
1505	TL COLLECTS SAMPLES @ DW01 (GW-D01)								
	TL ALSO COLLECTS DUPLICATE @ DW01 (GW-D22)								
	@ 1300. TL ALSO COLLECTS MATRIX SPIKE @ DW01 (GW-D01 MS)								
1548	TL LEAVE DW01 TO GET ICE, THROW AWAY TRASH & MOVE TO NEXT SITE.								
1632	TL ARRIVES @ SW01. EPA DROVE TL TO ALL WELLS.								
1637	WATER LEVEL @ SW01 : 21.3' toc								
	WELL DEPTH @ SW01 : 50.12' toc								
1649	TL BEGAN PUMPING SW01								
	WL	pH	C	T	DO	T	TDS	ORP	
1650	22.6	6.51	12	55	4.3	17.2	0.08	-5	
1655	23.5	6.45	13	270	0.6	17.1	0.09	-33	
1659	24.3	6.47	14	320	0.4	17.4	0.09	-44	
1703	24.5	6.48	14	340	0.4	17.0	0.09	-52	
1707	24.65	6.47	14	300	0.4	17.2	0.09	-49	
1710	TL COLLECTS SAMPLES @ SW01 (GW-S01)								
1735	TL LEAVES SW01								

Handwritten signature
1/9/08

THURSDAY, 1/10/08 TORO 6002 SHUMAKER

ONSITE: WALLY OREAR, TL

NICOLE QUINTER, TL

CONDITIONS: FOGGY, RAIN, 55°F

736 TL + EPA IN ROUTE TO WELLS FOLLOWING SHIPPING
3 COOLERS V.I.A. FEDEX

809 TL + EPA ARRIVE @ DW-04L

815 WATER LEVEL @ DW-04L: 30.2' fwc

WELL DEPTH @ DW-04L: 137.9' fwc

WATER LEVEL @ DW-04L

835 SETUP @ DW-04L / BEGAN PUMPING

	WL	pH	C	T	DO	T	TDS	ORP
840	30.3	8.37	30	-5	1.8	17.7	0.20	87
844	30.6	8.46	30	-5	1.2	17.8	0.20	28
848	30.25	8.46	30	780	1.0	17.8	0.20	-27
853	30.4	8.45	30	590	0.8	17.9	0.19	-67
857	30.27	8.43	30	480	0.8	17.9	0.19	-89
902	30.25	8.42	30	310	0.7	17.9	0.19	-112
907	30.25	8.42	30	270	0.6	17.9	0.19	-131
912	30.25	8.41	30	230	0.5	18.0	0.19	-144
917	30.25	8.40	30	210	0.5	18.0	0.19	-153
922	30.35	8.40	30	170	0.4	18.0	0.19	-160
926	30.37	8.40	30	170	0.4	18.0	0.19	-164
930	30.4	8.40	30	160	0.4	18.0	0.19	-167
935	TL COLLECTS SAMPLES @ DW-04L							
1019	WATER LEVEL @ DW-04 = 9.7' fwc							

This Day 1/10/08

1/10/08 TORO 6002 SHUMAKER

1020 WELL DEPTH @ DW-04 = 63.33' fwc

1025 WATER LEVEL @ DW-04 = 9.7' fwc

1028 BEGAN PUMPING @ DW-04

	WL	pH	C	T	DO	T	TDS	ORP
1029	9.6	7.56	32	40	3.3	18.5	0.21	105
1034	12.2	7.62	32	60	0.4	18.5	0.21	-49
1038	12.27	7.62	32	54	0.4	18.5	0.21	-86
1044	11.9	7.69	32	40	0.4	18.5	0.21	-115
1048	12.2	7.72	33	36	0.4	18.6	0.21	-122
1055	TL COLLECTS SAMPLES @ DW-04.							
1120	FEDEX ARRIVES AT SITE							
1127	WATER LEVEL @ DW SW-05: 3.6' fwc							
	WELL DEPTH @ SW-05: 27.4' fwc							
	WATER LEVEL @ SW-05:							
	BEGAN PUMPING @ SW-05							
	WL	pH	C	T	DO	T	TDS	ORP
1133	3.9	5.41	7	250	2.9	18.0	0.05	259
1137	3.95	4.91	7	300	1.7	18.0	0.05	292
1142	4.03	4.63	7	850	1.6	18.4	0.05	320
1146	4.03	4.65	7	770	1.6	18.5	0.05	319
1150	4.08	4.75	7	740	1.6	18.5	0.05	314
1154	4.08	4.83	7	620	1.6	18.5	0.05	305
1158	4.01	4.87	7	630	1.5	18.6	0.05	301
1202	4.01	4.95	7	530	1.5	18.6	0.05	298
1206	4.1	4.97	7	540	1.5	18.6	0.05	294

This Day 1/10/08

1/10/08 TORO6002 SHUMAKER

	WL	pH	C	T	DO	T	TDS	ORP
1210	4.1	5.00	7	546	1.5	17.7	0.05	289

1212 TL COLLECTS SAMPLES @ SW05, ~7 gallon H₂O

1237 TL + ADEQ LEAVE SW05 DIANNA KILBURN

1331 TL ARRIVES @ SW-7.

1334 WATER LEVEL @ SW-7: 12.07' tcc

Well DEPTH @ SW-7: 29.38' tcc

1340 WATER LEVEL @ SW-7: 12.07' tcc

1345 TL BEGINS PUMPING

	WL	pH	C	T	DO	T	TDS	ORP
1346	12.1	4.87	6	59	4.2	18.1	0.04	316

1351 12.1 4.76 6 130 5.8 17.6 0.04 331

1355 12.1 4.63 5 -5 5.5 18.5 0.04 354

1359 12.09 4.70 5 -5 5.5 18.7 0.04 355

1403 12.1 4.78 5 -5 5.5 18.9 0.04 350

1405 TL COLLECTS SAMPLES @ 507.

1432 TL LEAVE 507

1436 TL ARRIVES @ 504

1446 WATER LEVEL @ SW06: 3.95' tcc

1447 Well DEPTH @ SW06: 29.9' tcc

WATER LEVEL @ SW06: 3.95

1453 BEGAN PUMPING @ SW06

~~Richard Dyer 1/10/08~~

1/10/08 TORO6002 SHUMAKER

	WL	pH	C	T	DO	T	TDS	ORP
1454	4.02	5.06	5	170 1700	1.3	16.9	0.03	228

1459 4.04 4.96 5 290 0.8 17.4 0.03 208

1503 4.02 4.97 6 910 1.0 17.7 0.04 204

1507 4.02 4.91 10 -5 2.1 17.8 0.07 211

1512 4.05 4.88 12 -5 2.9 17.9 0.08 219

1516 4.03 4.88 12 -5 2.9 17.9 0.08 221

1520 4.03 4.87 12 620 3.0 17.7 0.08 223

1524 4.05 4.87 12 500 3.0 17.8 0.08 225

1528 4.03 4.87 12 430 3.0 17.9 0.08 229

1532 4.03 4.87 12 320 3.0 17.8 0.08 231

1536 4.03 4.87 12 300 3.0 17.8 0.08 234

1540 4.03 4.87 12 250 3.0 17.7 0.08 237

1544 4.03 4.87 12 230 3.0 17.9 0.08 233

1550 TL COLLECTS SAMPLES @ 506. ~10 gallons H₂O

1612 TL LEAVES 506 FOR TRASH.

~~Richard Dyer 1/10/08~~

FRIDAY, 1/11/08 TORO6002 SHUMAKER

ONSITE: WALLY OREAR, TL

NICOLE GUYER, TL

CONDITION: PARTLY CLOUDY, SLIGHT BREEZE, 50°F

728 TL ARRIVES @ SW04

736 WATER LEVEL @ SW04: 3.22' toe

737 WELL DEPTH @ SW04: 22.3' toe

739 WATER LEVEL @ SW04: 3.2' toe

749 BEGAN PUMPING @ SW04 USING WATERRA VALVE

	WL	pH	C	T	DO	T	TDS	ORP
--	----	----	---	---	----	---	-----	-----

750 4.23 4.03 6 290 6.4 12.6 0.04 296

754 4.6 4.76 6 500 3.7 14.5 0.04 250

758 4.95 4.76 5 970 3.6 15.3 0.03 266

802 4.95 4.75 5 -5 3.5 15.3 0.03 273

806 4.7 4.39 5 -5 3.3 15.1 0.03 290

810 4.9 4.67 5 950 3.3 15.6 0.03 271

814 4.8 4.71 5 950 3.3 15.9 0.03 271

818 4.8 4.71 5 5 3.2 15.8 0.03 271

822 4.75 4.72 5 -5 3.2 15.9 0.03 267

825 TL COLLECTS SAMPLES @ SW04 ~ 5 gallons H₂O

842 TL LEAVES SW04

847 TL ARRIVES @ SW03

851 WATER LEVEL @ SW03: 8.6' toe

WELL DEPTH @ SW03: 30.4' toe

853 WATER LEVEL @ SW03: 8.6' toe

BEGAN PUMPING @ SW03:

Nicole Guyer 1/11/08

1/11/08

TORO6002

SHUMAKER

	WL	pH	C	T	DO	T	TDS	ORP
--	----	----	---	---	----	---	-----	-----

904 9.0 4.96 15 170 9.1 12.8 0.09 267

908 9.05 5.28 15 99 1.1 16.5 0.10 225

912 9.1 5.08 14 150 1.3 16.8 0.09 235

916 9.02 4.95 12 200 1.6 16.7 0.08 239

920 9.02 5.08 13 200 1.9 17.1 0.08 228

924 9.06 5.01 11 260 2.3 17.2 0.07 226

928 9.05 5.08 12 190 2.3 16.8 0.08 214

932 9.05 5.00 11 180 2.3 16.8 0.07 222

936 9.08 4.97 10 170 2.4 17.1 0.07 226

940 TL COLLECTS SAMPLES @ SW03 ~ 5 gallons H₂O

955 TL LEAVES SW03

958 TL ARRIVES @ SW02

1003 WATER LEVEL @ SW02: 3.55' toe

1005 WELL DEPTH @ SW02: 30.02' toe

1012 TL BEGINS PUMPING

	WL	pH	C	T	DO	T	TDS	ORP
--	----	----	---	---	----	---	-----	-----

1013 4.45 5.18 7 230 5.1 15.8 0.04 230

1017 4.55 5.52 7 -5 0.5 16.7 0.05 128

1021 4.65 5.68 8 -5 0.4 16.9 0.06 73

1025 4.7 5.66 8 -5 0.4 17.1 0.05 73

1029 4.75 5.50 7 -5 0.4 17.2 0.05 80

1030 TL COLLECTS SAMPLES @ SW02 ~ 5 gallons H₂O

1051 TL LEAVE SW02

~~Wally Orear 1/11/08~~

18 Monday 2/11/08
Surface Water Sampling

Shumaker
R06002

2/11/08 1540 Arrived @ first location SW-09
Weather Partly Cloudy, Temp = 68°F
Techlaw Personnel - Wally O'Pear
EPA Personnel - Scott Ellinger, Tim
Townsend, + Linh Nguyen.

Latitude 33.02114 Lon 96.77197
All samples will be analyzed for
perchlorates, Explosives + RCRA Metals/
mercury. EB-01 (equipment blank) taken @ 1530
SW-09 was taken 40 ft south of bridge,
in the middle of the creek, laminar flow
PH = 5.5

PH + samples will be taken by EPA
personnel. Scott Ellinger grabbed the
sample and Linh Nguyen bottled the
sample.

Photo #1 - Sample blank (Time 1530)
Photo #2 - Scott Ellinger + Linh collected sample SW-09

Time 1532
Photo #3 - Sample Collection Time 1540 near bridge
Location Looking South

Time 1541
Photo #4 - Collecting Sample SW-09 from Stream.
Linh Nguyen Time 1543

Left Location SW-09 @ 1622
Arrived @ Location SW-08 @ 1632

Wally O'Pear

2/11/08
SW Sampling
Shumaker
R06002

Lat 33.62968 Long 92.70919
Sample # SW-08 Collected by S. Ellinger +
Bottled by Linh Nguyen. Stream flow
turbulent. Photo PH-5.5 - Sample Time 1633

1630 Photo #5 S. Ellinger taking sample, middle of
creek @ 30ft west of bridge - Looking

~~1635 Photo #6 Linh Nguyen bottling sample looking~~

~~1635 Photo #7 Facing bridge from sample location~~
Sampling time is 1633

1645 Left sample location SW-08 @ 1645

1649 Arrived @ sample location SW-07

Sample time is 1652. Collected by
S. Ellinger and bottled by L. Nguyen.

Sample taken in between railroad bridge
and auto bridge. Lat 33.61979 92.69258

1653 Photo #8 S. Ellinger taking sample
facing auto bridge. Looking

1654 Photo #9 S. Ellinger facing rail bridge

1654 Photo #10 - L.N. bottling Looking

PH = 5.5

1708 Left Sampling location #7 @ 1708

1715 Arrived @ sample location # SW-06

Sample collected @ 1720 (SW-06)

Sample collected 8ft of bank. A duplicate
Wally O'Pear

Wiley OR

Location	Date	Time	Lat	Long	Flow	pH
SW-09	2/11/08	1540	33.02114	92.77197	Laminar Flow	5.5
SW-08	2/11/08	1633	33.62968	92.70919	Turbulent	5.5
EB-01	2/11/08	1530	Same as SW-09	Same as SW-09	NA	NA
SW-07	2/11/08	1652	33.61979	92.69258	Laminar	5.5
SW-06 (Dup of SW-35)	2/11/08	1720	33.64118	92.69903	No Flow Pond	6
SW-35	2/11/08	1740	"	"	"	6
SW-33	2/12/08	0815	33.64164	92.69931	Laminar	6
SW-34	2/12/08	0915	33.68943	92.48140	Laminar	7
SW-30	2/12/08	0945	33.68943 Error	92.48140 Error	No Flow Pond	5.5
SW-32	2/12/08	1012	"	"	Laminar	5.5
SW-31	2/12/08	1035	"	"	Laminar	5.5
SW-29	2/12/08	11:00	33.16734	92.53937	No Flow Pond	6
SW-28	2/12/08	11:20	33.67504	92.53937	No Flow Pond	6

Dupe of SW-06

Location	Date	Time	Lat	Long	Flow	pH	MS Matrix Spike Volume	Dupe of MS SW-27
FB-01	2/12/08	11:45	"	"	"	"	"	"
SW-27	2/12/08	12:17	33.68911	92.58646	Laminar Flow	5.5	Collected	
SW-37	2/12/08	12:30	"	"	Matrix Spike Volume	4.4		
SW-26	2/12/08	13:15	33.68952	92.61390	No Flow Pond	6		
SW-25	2/12/08	14:05	33.66411	92.62286	Flow Turbulent	5.5		
SW-20	2/12/08	14:30	33.62996	92.63850	Flow Turbulent	5.0	Matrix Spike Volume	
SW-23	2/13/08	0800	33.63424	92.60504	Flow Turbulent	5.0		
SW-24	2/13/08	0820	33.65083	92.58560	Laminar	5.5		
EB-02	2/13/08	0830	"	"	"	"		
SW-22	2/13/08	0855	33.61982	92.59061	Turbulent	5.5		
SW-21	2/13/08	0910	33.61580	92.62159	Turbulent	5.5		
SW-18	2/13/08	0930	33.61042	92.67501	Still - Pond	5.5		
SW-19	2/13/08	0955	33.62444	92.66663	Turbulent	5.5		
SW-17	2/13/08	1110	33.58072	92.61765	Turbulent	5.5		Dupe of SW-17
SW-38	2/13/08	1120	"	"	"	"		
SW-14	2/13/08	1150	33.56278	92.66445	Turbulent	5.5		
SW-15	2/13/08	1205	33.58613	92.65810	Turbulent	5.5		
SW-13	2/13/08	1227	33.55780	92.67657	Turbulent	5.5		

Go to page 34 to complete Table

2/11/08

Shumaker

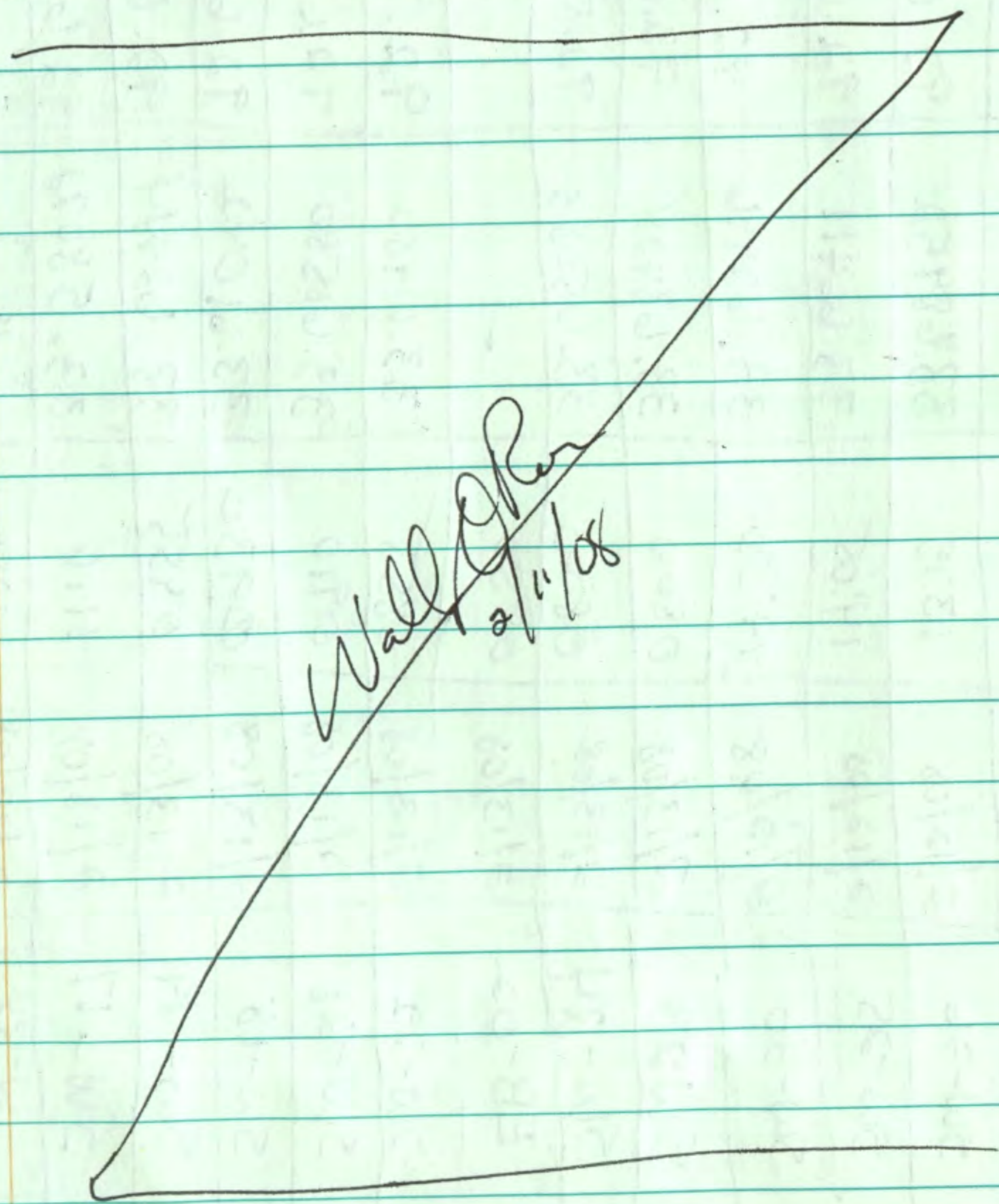
SW sampling

was taken @ SW-06. The duplicate sample is SW-35 and time is 1740. The sample SW-06 was taken by S. Ellinger + bottled by L.N. No Flow - Pond

1721 Photo #11⁹⁺¹¹⁺¹³ - S.E. taking sample Looking North + SW

1721 Photo #12¹⁰⁺¹³ - LN. bottling sample - Looking PH-6 + left SW-06 @ 1735.

Returned to hotel for sample prep.



Wally O'Per
2/11/08

Tuesday

2/12/08

Shumaker

SW sampling

0630 prepared samples for shipment re-iced + taped.

0700 left for sample location Heavy rain, Temp 55°F

Sample team same as yesterday Wally O'Per, TL Scott Ellinger, Tim Townsend + Linh Nguyen, EPA.

0815 Arrived @ ~~SW-06~~ SW-33

GPS 33.64164 92.69931

The sample was collected under power lines by S.E. + bottled by LN. The stream flow was laminar.

0820 SE collecting sample SW-33, Looking ~~#~~ ^{Photo #12} PH=6

0821 LN bottling sample Photo #15¹² Looking ⁶⁴¹⁶⁴ ~~64164~~ ⁶⁸⁹⁴³ ~~68943~~ ⁶⁸⁹⁴³

0825 Left location SW-33 92.48140 ~~69931~~ 48140

0914 Arrived @ SW-34 SW-34 - Sample collected by Scott Ellinger

Sample time is 0915 Streamflow is laminar. It was collected under power lines PH=7

0916 Photo #14 SE taking sample Looking

0917 Photo #15 LN bottling sample

0918 Photo #16 Sampling Location Looking ^{Note Powerline}

0930 left location. All samples were placed on Wally O'Per

24

2/12/08

Shumaker

Surface Water Sampling

ice before leaving location.

0940 Arrived @ SW-30 33.68943 92.48140

Heavy Rain

(Note error in GPS)

0945 Sampling Time for SW-30

No Flow Pond.

0944 Scott Ellinger collecting sample

Photo #20

~~0945 Photo #21 with collecting sample. Note~~~~(w) Old bus in background.~~

PH-5.5 Left Location @ 10:00

1010 Arrived @ SW-32 Location

Weather heavy rain, Temp 55°F

Collected sample @ middle of creek

at the end of the road. ↑

GIS 33.68943 92.48140 (Note: Error in reading GPS)

Sample Time is 1012

Laminar Flow PH-7

1011 Photo of S. Ellinger Collecting sample

Looking South. Photo #19

1020 Left the sampling location @ 1025

1030 Arrived at sampling location SW-31

Temp 50°F, light rain. Collected

sampling in the middle of stream flow

Laminar Flow, Collected by

Walker

25

2/12/08

Shumaker

Surface Water Sampling

Scott Ellinger. The sample was collected

@ 5 feet from the road.

33.68943 92.48140 (error in reading GPS)

Sampling Time is 1035

1036 Photo of S. Ellinger collecting sample

at middle of stream. Photo #20

PH 5.5

1050 Left location SW-31

1056 Arrived @ sampling location SW-29

33.16734 92.53937

light rain. The sample was

collected @ the S.E. corner

of pond and @ 10 ft off of bank.

Sample Time is 11:00

1059 Photo of sample location Looking NW

Photo #21. Note: sign on ^{@ right} left side of road.

1101 Photo of sample being taken by S. Ellinger

Looking NE. Photo #22

PH-5.5 No Flow

1115 Left location #SW-29

Arrived @ sampling location #SW-28

Collected Field Blank FB-01 @ 11:45

Temp 45°F no rain 33.67505 92.54902

Sample time is 11:20 for SW-28

Walker

2/12/08

Shumaker

Surface Water Sampling

R06002

the sample for SW-28 was collected by Tim Townsend in the SE corner of the pond - No flow @ 10 ft off of bank Sample time is 1120

1121 ~~1140~~ Photo #23 Photo of T. Townsend collecting sample - Photo by S. Ellinger. All photos up until now were taken by T. Townsend Looking N.E.

We change the order of samples and collected the Field Bank @ 11:45.

PH=6

1205 Left location SW-28

1212 Arrived @ Sample location SW-27

33.68911 92.58646

Temp 45 No rain overcast

Collected sample on the West side of street. Collected ms at this location

Sampling time is 1217 - Collected Dups SW-37

1218 Photo of S. Ellinger collecting sample from stream. Photo #24

PH 5.5. SW-37 is Dups of SW-27

1305 left the sample location SW-27

1310 Arrived @ Sample location SW-26

33.68952 92.61390 - No Rain

Wally @ R

2/12/08

Shumaker

Surface Water Sampling

R06002

Temp 40°F. Collected sample on east side of Road. 10 feet off the bank at no flow pond

1315 Sample Time is 1315

1316 Photo #25 T. Townsend collecting sample SW-26 Looking NW

PH-6 left Location @ 1330

1400 Arrived @ Sample location SW-25

33.66411 92.61390

Temp 40°F Overcast no rain

Sample collected at 5 feet from road

Stream Flow turbulent

Sampling Time is 14:05

Sample collected by S. Ellinger

1406 Photo #26 Photo of SE collecting

Sample SW-25. Looking NW

PH: 5.5 Personnel from ADEP arrived.

1420 Left location SW-25

1427 Arrived @ Sampling location SW-20

1428 Photo #27 Photo of bridge that

crosses over the stream where sample

SW-20 will be taken. Note: sign

Looking NE. Flow

Flow is turbulent. 33.62996 92.63850

Wally @ R

2/12/08

Shumaker

Surface Water Sampling

R06002

1430 Sample time for SW-20

Matrix Spike volume was also taken

1431 Photo #28 Photo of S. Ellinger

taking sample SW-20 Looking East

1440 - left the location

This was the last sample of the day
the team is returning to the hotel
to prepare samples

Wally O'Rear
2/12/08

2/13/08

Shumaker

Surface Water Samples

R06002

0755 Arrived @ Sample location SW-23

Streamflow Turbulent. Collected on
the east side of road.

33.63424 92.60504

0800 Photo of Scott Ellinger sampling at
SW-23. Looking NW Photo #29

Sample Time is 0800.

Sampling Team consisted of Scott Ellinger,
Tim Townsend + Linh Nguyen with EPA
and Wally O'Rear, TechLead

Temp 40°F + Sunny PH = 5.0

0820 Left SW-23 Location.

0824 Arrived at Sample location SW-24

Stream Flow - laminar. Collected
sample on the north side of road
and 10 ft from road.

Sample time for SW-24 is 0825

0825 Photo #29 Photo of Scott Ellinger
collecting sample. Looking NE

0830 Collected Equipment Blank EB-02

at this location. 33.65083 92.58560

PH = 5.5

0840 Left Location SW-24

0852 Arrived @ Sample Location SW-22
Wally O'Rear

2/13/08

Shumaker

Surface Water Sampling

R06002

Location SW-22 33.61982 92.59061

Stream Flow Turbulent. The sample was collected on the North Side of road @ 30 feet out. PH=5.5

Sample Time is 0855

The sample was collected by S. Ellinger

0855 Photo #30 - S. Ellinger Collecting sample SW-22. Looking East

0907 Left Location @ 0907

0909 Arrived @ Sampling Location SW-21 33.6158 92.62159

Air Temp 40°F Stream Flow turbulent, Sunny Day.

Sampling Time 0910

Sampling location is about 50 feet from bridge. In the middle of the creek. It was collected by S. Ellinger

0911 Photo #31. S. Ellinger Collecting sample SW-21. Looking SW. ~~North Side~~
PH=5.5.

0922 Left Sampling location SW-21 @ 0922

0927 Arrived @ Sampling Location SW-18

Sample time is 0930

33.61042 92.67501

w/ally @ Pen

2/13/08

Shumaker

Surface Water Sampling

R06002

0931 Photo #32 Scott Ellinger taking samples from pond for SW-18, Looking E
PH=5.5 @

0935 Left Location SW-18

0950 Arrived @ Sampling Location SW-19 33.62444 92.66663

Stream Flow Turbulent. Collected by S. Ellinger. In middle of creek
Sample Time 09550956 Photo #33 Photo of Scott collecting samples from stream bank. Looking West
PH=5.5

1005 Left location SW-18

11:00 Arrived @ Location SW-17

Will collect Dupe SW-38 at this location
Sample time for SW-38 will be 1120

Sample time for SW-17 is 1110

33.58072 92.61765

Flow is Turbulent PH=5.5

11:12 Photo #34 Photo of Scott Ellinger collecting sample Looking NW

11:32 Left location SW-17

11:37 Arrived @ SW-14

33.56278 92.66445

w/ally @ Pen

2/13/08

Shumaker

Surface Water Sampling

R06002

Sampling Time for SW-14 is 1150

1151 Photo #35 - Scott Ellinger collecting sample from SW-14. Looking West

PH = 5.5

Left location @ 1203

1204 Arrived @ location SW-15

33.58613 92.65810

Stream Flow Turbulent

Sampling Time is 1205

1206 Photo #36. Scott Ellinger collecting sample SW-15 on the west side of bridge. Looking West.

PH = 5.5

1215 Left location SW-15

1225 Arrived @ SW-13

33.55780 92.67657 60°F Temp

Sampling time is 1227

1229 Photo #37. Photo of Scott Ellinger taking sample from west side of Bridge. Looking NE.

① 33.55780 - 92.67 - PH = 5.5

1240 Left SW-13

1250 Arrived @ SW-10

33.58149 92.71022

William O'Pan

2/13/08

Shumaker

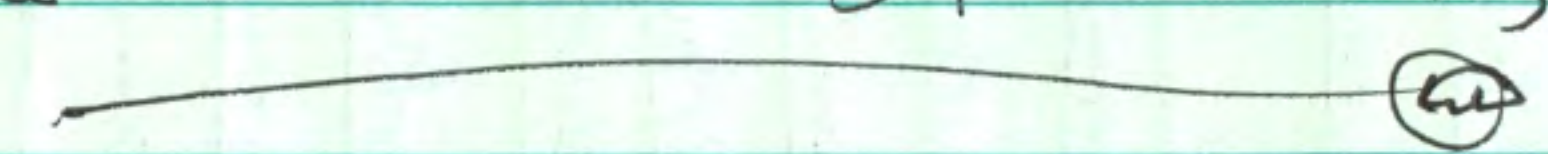
Surface Water Sampling

R06002

Collecting sample on west side of bridge.

Sample time is 1255

1256 Photo #38 - Scott Ellinger collecting

sample SW-10 + SW-39. Looking down. 

PH = 5.5 Stream Flow Turbulent

Left location @ 1215 1315

1350 Arrived @ SW-12

33.56212 92.70365

Stream flow is laminar

Sampling time is 1400

1402 Photo #39 - Is Tim Townsend

collecting sample. Looking SE.

PH = 6

1415 Left SW-12 location

1420 Arrived @ SW-11

33.58487 92.69637

Stream Flow is turbulent

Sampling Time is 1425

1427 Photo #40 - Photo of Scott Ellinger

collecting SW-11. Looking SE

PH = 5.5 Sample is in middle of creek

1440 Left Location - Return to Hotel & Process samples

William O'Pan

Location	Date	Time	Lat	Long	Flow	PH	Depth of SW-10
SW-10	2/13/08	1255	33.58149	92.71022	Turbulent	5.5	
SW-39	2/13/08	1310	"	"	"	"	
SW-12	2/13/08	1400	33.56212	92.70365	Laminar	6	
SW-11	2/13/08	1425	33.58487	92.69367	Turbulent	5.5	
SW-07	2/14/08	0835	33.64420	92.69259	Laminar	5	
SW-05	2/14/08	0850	33.64985	92.78198	Turbulent	5	
SW-03	2/14/08	0915	33.66600	92.66472	Pond	5.5	
SW-16	2/14/08	0915	33.66195	92.65318	Turbulent	5.5	
SW-01	2/14/08	0955	33.66699	92.72914	Laminar	5.5	
SW-02	2/14/08	1015	33.67849	92.69971	Laminar	5.5	

Willy O'Rear

2/14/08

Shumaker

Surface Water Sampling

RO6002

~~0830~~³⁰⁰ Arrived @ SW-4

33.64920 92.69259

Sampling Team is Scott Ellinger, Tim Townsend and Linh Nyugen, EPA and Wally O'Rear, Techlaw

Temp 40°F Sunny

Sampling Time is 0835

0837 Photo #41 - Scott Ellinger collecting sample of SW-4. Looking NW

PH=5 Flow is laminar

Left SW-04

0845 Arrived @ SW-5

33.64485 92.78198

Sample time is 0850

0852 Photo #42 Photo of Scott Ellinger collecting sample SW-5. Collected on the ~~west~~ east side of bridge Looking NW, SE

Water appeared dark brownish yellow in color

PH=5 Flow is turbulent

0900 Left SW-05

0900 Arrived @ SW-16

~~33.66195600 33.66600 92.66472~~

33.66195 92.65318

Wally O'Rear

2/14/08

Shumaker

Surface Water Sampling

RO6002

Sample^{SW-16} collected on the east side of Bridge about 2 foot from bridge.

Water appeared light yellow.

Sample time is 0915

0917 Photo #43 Looking down @ S. Ellinger collecting sample SW-16. Looking down PH = 5.5. Flow is turbulent

0919. Completed sampling and left location SW-16

0930 Arrived @ SW-03

33.66600 92.66472

Pond is west of Road about 100 yards

The sample will be taken approximately 8 ft from bank.

Sample time is 0935

0937 Photo #44 - Photo of Scott Ellinger taking sample from SW-03 location. Looking SW.

Flow-Pond. PH = 5.5

0941 Completed sampling + left SW-03

0950 Arrived @ SW-01

0950 33.66619 92.72914

Flow is laminar

Sample time is 0955

Wally Oren

2/14/08

Shumaker

Surface Water Sampling

RO6002

0957 Photo #45 - Scott Ellinger collecting sample SW-01. Looking East.

PH = 5.5 Flow is Laminar

Sample collected approximately 5 ft from Bridge.

1000 Completed sampling of SW-01 and left location

1010 Arrived @ SW-02

33.67849 92.69971

Sample will be collected on the north side of stream. (South of Road) @ 8 ft. From bank. It is 20 feet West of metal yellow fence.

Water appeared light yellow.

Sample time is 1015

1016 Photo #46 Photo of S. Ellinger taking sample SW-02

PH = 5.5 Flow is Laminar

1030 Completed sampling and return to hotel to process samples.

Wally Oren

TO = R06007
5/19/08

Shumaker Site
Camden, Arkansas

Travels by A. Delgado → Sunny, clear, warm, 72 °F, wind 6-7 mph

5/19/08 Arrival on site W. O'Rear, A. Delgado, S. Ellinger

at wells well SW-5 7:40 am

- unload equipment from van, begin set up of generator
at SW-5, take water level → 4.9 ^{feet} inches at SW-5 7:52 am

- decontaminate pump w/ purified water into 5 gal. bucket

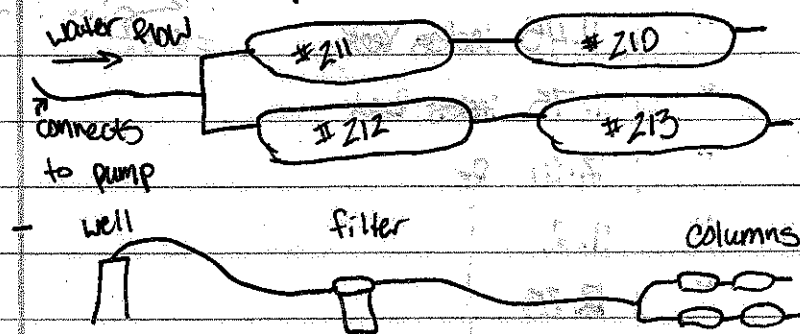
- place pump in well @ depth of about 22-23 ft

- measure other well levels before pumping begins in SW-5

DW-4 8.73 ^{feet} inches

DW-4L 29.95 ^{feet} inches

- Column set up for SW-5



pumping started at 8:40 am

- water doesn't seem to be flowing into the filter, stop pump and check out the filter and connections

- need to turn head of filter to open internal valve

- this was done, hooked tubes back in, start pump again at 8:45 am

- SW-5 water level 7.15 ^{feet} inches at 8:47 am

in 15 secs output is about 1000 ml w/h so
 in 60 secs that would only be 4 L, we need 8 L
 so must increase pump rate

stopped pumping for a bit 8:52 am to try and get
 needed pump, start again at 8:53 am

8:54 am water level at SW-5 is 10.7 ^{feet} inches

8:54 am needed pumping rate is achieved, 8 L per minute

8:55 am water level 10.9 ^{feet} inches

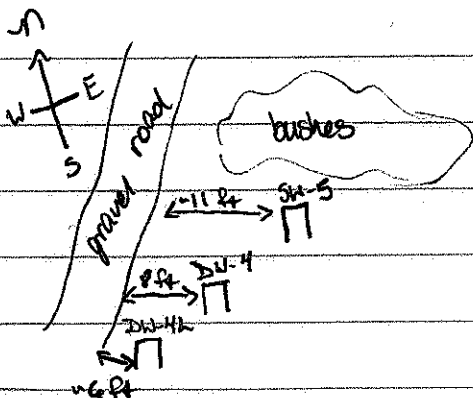
SW-05

time	Water level purpose	10.9 ^{feet} inches result (ft)	control box says 216.00 (power output)
8:55 am	Water level	11.1 inches ^{feet}	Sample numbers is IS-SW-05 Sampling Time is 08:55
8:56 am	Water level	11.2 inches ^{feet}	
8:57 am	" "	11.3 inches ^{feet}	
8:57 am	" "	11.45 inches ^{feet}	
8:59 am	" "	11.75 inches ^{feet}	
9:01 am	" "	12.00 ft	
9:03 am	" "	11.2	
9:05 am	" "	12.35	
9:08 am	" "	12.53	
9:13 am	" "	12.85	
9:18 am	" "	12.9	
9:23 am	" "	13.1	
9:28 am	" "	13.0	
9:33 am	" "	13.2	
9:38 am	" "	13.15	
9:43 am	" "	13.17	

TO - 200007
5/19/08

Shumaker Site
Camden, AR

Small site map



- Check flow rate at 9:44 am, still consistent, 7 sec

out put is 1000 mL (1L)

time	purpose	result (ft)
9:48 am	water level	13.27 ft (SW-5)
9:54 am	" "	13.3 ft

- measure water level DW-4 8.75 ft 9:58 am

time	purpose	result (ft)
9:59 am	water level	13.34 ft (SW-5)

- measure water level DW-4 29.93 ft 10:01 am

time	measurement of	result (ft)	notes
10:14 am	water level	13.4 ft (SW-5)	* S. Ellinger leaves site
10:29 am	" "	13.45 ft	
10:47 am	" "	13.52 ft	* 11:04 S. Ellinger returns to site
11:05 am	" "	13.55 ft	* 11:18 W. O'Rear and
11:20 am	" "	13.5 ft	S. Ellinger leave site
11:35 am	" "	13.55 ft	to measure water level
11:50 am	" "	13.51 ft	at other wells
12:05 pm	" "	13.5 ft	
12:20 pm	" "	13.58 ft	* 12:37 W. O'Rear and
12:35 pm	" "	13.58 ft	S. Ellinger return to site

* 12:58 W. O'Rear and S. Ellinger leave site

TO-R06007
5/19/08

Shumaker Sae
Camden Arkansas

	time	purpose	result (ft)
SW-5	12: 1:05 pm	water level	13.58 ft
	1:35 pm	water level	13.62
	2:05 pm	" "	13.66 * 2:39 W. O'Rear and S. Ellinger on site
	2:35 pm	" "	13.66 * 2:47 W. O'Rear and
	3:05 pm	" "	13.70 S. Ellinger leave site
	3:35 pm	" "	13.87
	4:05 pm	" "	13.90 * 4:33 W. O'Rear and S.
	4:35 pm	" "	13.90 Ellinger back on site
	17:05	" "	13.90
	17:35	" "	13.90

- 2:43 pm test flow rate, 8 sec output is 1000 ml → LL
turn pump up just a little

~~17:00~~
~~15:00~~ Amanda left the site and will return

	time	purpose	Result (ft)
	22:00		
	18:05	" "	13.90
	18:35	" "	13.90 water flowing @ 8L per min
	19:05	" "	13.90 Gas 1/2 full
	19:35	" "	13.90 Pump @ 218.00
	20:05	" "	13.90 Gas 1/2 SE
	20:35	" "	13.93 flow 8L/min observed SE
	21:05	" "	13.94 " " SE
	21:35	" "	13.95 gas 1/2 SE
	10:05 pm	" "	14.0

9:37 Amanda back at the site

TO R06007
 May 20, 2008

Shumaker Site
 Camden, Arkansas

5/20/08

time	purpose	result (ft)
10:35 pm	Water level	14.06
11:05 pm	" "	14.07
11:35 pm	" "	14.1
12:05 am	" "	14.1
12:35 am	" "	14.1
1:05 am	" "	14.1
1:35 am	" "	14.1
2:05 am	" "	14.1
2:35 am	" "	14.1
3:05 am	" "	14.08
3:35 am	" "	14.09
4:05 am	" "	14.09 Wally took over
4:35	" "	14.10
5:05	" "	14.10 I put gas in the generator
5:35	" "	14.09 Sun rising
6:05	" "	14.09
6:35	" "	14.09
7:05	" "	14.09
7:35	" "	14.05 SE
8:05	" "	14.05 SE - generator has periodic strain noise
8:35	" "	14.07 SE
9:05	" "	14.10
9:35	" "	14.09 7-8 Second = 1 Liter Filter looks good
10:05	" "	14.10

To Robo07
5/20/07

Shumaker
Camden, Arkansas

Time	Purpose	Result (ft)	
10:12	Photo	Photo SHI-01	Photo of Isotope columns at SW-05, Looking down
10:13	Photo	Photo SHI-02	Photo of Filter unit Well pump & generator
10:35 am	Water level	14.15 feet	* Amanda Recording again
11:05 am	Water level	14.14 ft	(back on site @ 10:26)
11:35 am	" "	14.15 ft	* O'Beir and Ellinger leave site
12:05 pm	" "	14.16 ft	at 10:46 am
12:35 pm	" "	14.16	
13:05 pm	" "	14.15	
13:35 pm	" "	14.15	
14:05 pm	" "	14.15	
14:35 pm	" "	14.17	
15:05 pm	" "	14.16	
15:35	" "	14.17	
16:05	" "	14.17	
16:35	" "	14.17	
17:05	" "	14.17	Walk back on site @ 16:45
17:35	" "	14.15	17:38 DW-04 water level 8.95
18:05	" "	14.14	DW-04L 29.94
18:35	" "	14.14	A. Delgado leave site 17:10
19:05	" "	14.14	SE
19:35	" "	14.14	SE
20:05	" "	14.14	SE
20:35	" "	14.15	SE Fuel 1/2, Flow same
21:05	" "	14.15	

T0 R06007
May 20, 2008

Shumaker Site
Camden, Arkansas

Time	Purpose	Result (ft)	
21:35	Water Level	14.15	
22:05	" "	14.15	
22:35	" "	14.15	
23:05	" "	14.15	
23:35	" "	14.15	
5/21/08 00:05	" "	14.19	* A. Delgado back on site
00:35	" "	14.21	23:55
1:05	" "	14.24	
1:35	" "	14.25	
2:05	" "	14.25	
2:35	" "	14.25	
3:05	" "	14.26	
3:35	" "	14.26	
4:05	" "	14.25	
4:35	" "	14.25	
5:05	" "	14.25	
5:35	" "	14.25	
6:05	" "	14.26	

6:30 am 5/21/08

stop pumping, take apart
set up, clean all equipment,
final water level 7.19 ft after
pump turn off

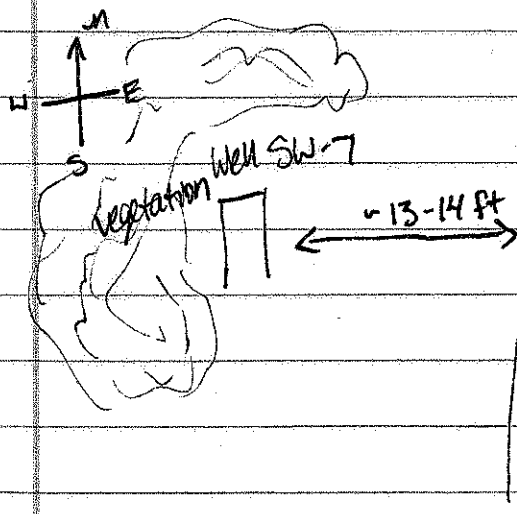
TO R06007
5/21/08

Shumaker Site
Camden, Arkansas

- DW-4 key ID # 3281 new lock installed 7:00 am
- DW-4L key ID # 3281 new lock installed 7:01 am
- SW-5 key ID # 3062 new lock installed 7:02 am
- leave SW-05 site at 7:09 am

5/21/08 - Arrival at SW-7 at 7:48 am S. Ellinger and A. Delgado
Waiting for W.O'Rear to bring cones due to nearness of SW-7
to road side

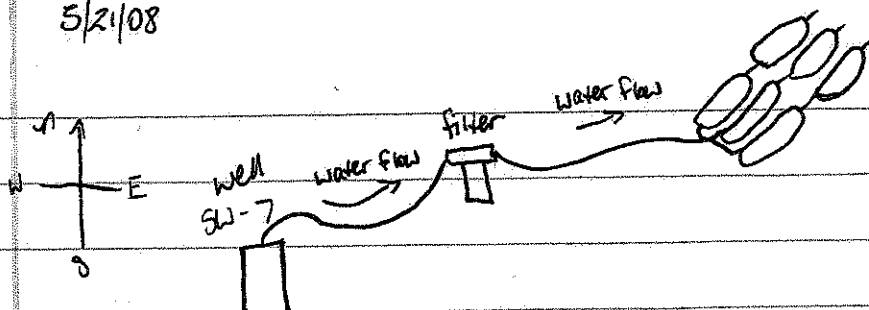
- weather sunny, clear, about 60°F
- unload equipment while waiting for W.O'Rear
- S. Ellinger leave site at 8:02 am
- W.O'Rear arrives w/ cones at 8:22 am
- SW-7 initial water level 10:56 ft at 8:37 am



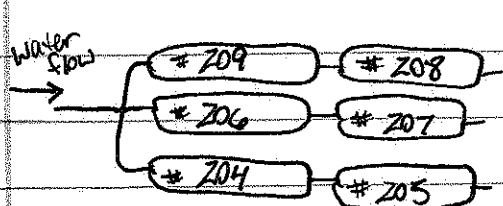
- S. Ellinger and W.O'Rear leave site at 9:01 am

TO ROG 007
5/21/08

Shamaker Site
Camden, Arkansas



Column set up for SW-7



Pump at ~22 ft depth

- S. Ellinger and W. O'Leary return to site 9:45 am
- pump started at 9:48 am, measured rate is 8 L, but needs to be 12 so turn up the pump
- 5 sec to pump 1000 mL (1L) so this corresponds to 12 L in a minute, this rate was started at 9:54 am

time	purpose	result	sample ID #
9:59	Water level	11.5 ft	IS-SW-07
10:03	Water level	11.55 ft	Sample 17 mo's 09:54
10:13	" "	11.59 ft	* 10:17 S. Ellinger left site
10:30	" "	11.6 ft	* 10:20 A. Delgado left site
11:00	" "	11.59 ft	Gas tank filled
11:30	" "	11.59 ft	Filter looks ok
12:00	" "	11.59 ft	^{SE} flow consistent
12:30	" "	11.59 ft	^{SE}
13:00	" "	11.60 ft	^{SE}
13:30	" "	11.60 ft	

TO R06007
May 21, 2007

Shumaker
Camden, AR

Time	Purpose	Results (ft)
1400	Water level	11.6 ft
1430	" "	11.59 ft
1500	" "	11.53 ft
1530	" "	11.51 ft
1600	" "	11.55 ft
1630	" "	11.59 ft
1700	" "	11.59 ft
1730	" "	11.59 ft
1800		11.57 ft
1830	" "	11.57 ft SE
1900	" "	11.57 ft SE
1930	" "	11.57 ft SE
2000	" "	11.57 ft SE S. Ellinger left the site
2030	" "	11.57 ft
2100	" "	11.57 ft
2130	" "	11.57 ft
2200	" "	11:57 ft * A Delgado Amos at 2142 on site
22:30	" "	11.58 ft
23:00	" "	11.6 ft
23:30	" "	11.6 ft
5/22/08 24:00	" "	11.6 ft
00:30	" "	11.6 ft
01:00	" "	11.61 ft
01:30	" "	11.6
02:00	" "	11.6

TO R06007
 May 22, 2007

Shumaker
 Camden, Arkansas

Time	Purpose Result	Result	
02:30	Water level	11.61 ft	
03:00	Water level	11.61 ft	
03:30	" "	11.6 ft	
04:00	" "	11.6 ft	
04:30	" "	11.61 ft	
05:00	" "	11.62 ft	
05:30	" "	11.62 ft	
06:00	" "	11.64 ft	
06:30	" "	11.65 ft	
07:00	" "	11.66 ft	*W. O'Rear Arrives on site
07:30	" "	11.66 ft	at 7:00 am
08:00	" "	11.66 ft	Water Flow check it is 12 liters per minute
08:30	" "	11.68 ft	
09:00	" "	11.69 ft	
09:30	" "	11.69 ft	
10:00	" "	11.70 ft	
10:30	" "	11.70 ft	
11:00	" "	11.71 ft	
11:30	" "	11.71 ft	
12:00	" "	11.72 ft	
12:30	" "	11.72 ft	
13:00	" "	11.72 ft	
13:30	" "	11.72 ft	
14:00	" "	11.72 ft	
14:30	" "	11.70 ft	

18 R06007
 May 22, 2008

Shumaker Site
 Camden, Arkansas

Time	Purpose	Result (ft)	
15:00	Water level	11.69 ft	
15:30	" "	11.71 ft	
16:00	" "	11.69 ft	
16:30	" "	11.68 ft	
17:00	" "	11.69 ft	
17:30	" "	11.68	
18:00	" "	11.70	* 18:20 A. Delgado arrives
18:30	" "	11.72	on site, W.O' Rear leaves
19:00	" "	11.76	site
19:30	" "	11.77	* 18:40 W.O' Rear returns
20:00	" "	11.78	to drop of gas for generator
20:30	" "	11.8	and leaves site
21:00	" "	11.81	
21:30	" "	11.84	
22:00	" "	11.85	
22:30	" "	11.85	
23:00	" "	11.88	
23:30	" "	11.9	
24:00	" "	11.89	
5/23/08 00:30	" "	11.9	
01:00	" "	11.9	
01:30	" "	11.9	
02:00	" "	11.9	
02:30	" "	11.89	

TO R06007
5/23/08

Shumaker Site
Camden, Arkansas

Time	Purpose	Result (ft)
03:00	Water level	11.89 ft
03:30	Water level	11.89 ft
04:00	" "	11.89 ft
04:30	" "	11.9 ft
05:00	" "	11.9 ft
05:30	" "	11.9 ft
06:00	" "	11.91 ft
06:30	" "	11.91 ft * W. O'Leary arrives on site 07:00
07:00	" "	11.95 ft Amanda left site
07:30	" "	11.94
08:00	" "	11.94
08:30	" "	11.96
09:00	" "	11.97
09:30	" "	11.98
10:00	" "	11.98
10:30	" "	11.99
11:00	" "	11.99
11:30	" "	12.00 ft
12:00	" "	12.00 ft
12:30	" "	11.99
13:00	" "	11.99
13:30	" "	11.99
14:00	" "	11.99
14:30	" "	11.99
15:00	" "	12.00

TD R06007
5/23/2008

Shumaker Site
Camden, Arkansas

Time Purpose Result (ft)

15:30 Water Level 12.00

16:00 " " 11.99

16:30 " " 11.99

17:00 " " 12.00

17:30 " " 11.99

18:00 " " 11.99

* A. Delgado on Site at 18:15

18:30 " " 12.00

W. O'Rear leaves Site at 18:30

19:00 " " 12.01

19:30 " " 12.01

20:00 " " 12.02

20:30 " " 12.02

21:00 " " 12.03

21:30 " " 12.03

22:00 " " 12.03

22:30 " " 12.04

23:00 " " 12.05

23:30 " " 12.07

5/24/08 24:00 " " 12.07

00:30 " " 12.07

01:00 " " 12.07

01:30 " " 12.06

02:00 " " 12.06

02:30 " " 12.06

03:00 " " 12.06

TO R06007
5/24/08

Shumaker Site
Camden Arkansas

Time	Purpose	Result (ft)
03:30	Water level	12.08 ft
04:00	" "	12.08 ft Amanda's left site
04:30	" "	12.10 ft
05:00 04:00	" "	12.11
05:30	" "	12.11
06:00	" "	12.12
06:30	" "	12.14
07:00	" "	12.16
07:20	" "	12.16
07:25	Stopped the pump	
07:30	" "	11.31 after pump was stopped