Appendix A

Field Logs

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Well ID MW-4A

Groundwater Sample Collection Record

Client:	USACE	Date: 6-28 9:08	Time:	Start	0908 am/pm
Project No:	G606422			Finish	1109 am/pm
Site Location:	New Bedford Harbor				
Weather Conditions:	overcast	Collectors:	J. Fahey, T. Himmer S. Walton		

1. WATER LEVEL / WELL DATA

Measured Well Depth:	24.6' to top of casing	Height of Water Column:	13.75'	0.16 GAL/FT (2 IN)	
				0.65 GAL/FT (4 IN) =	2.20 Gallons (Volume)
				1.5 GAL/FT (6 IN)	8.33 L
Depth to Water:	10.85 ft from top of metal casing	Purged Volume:	2.55 L		

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

Equipment	Make	Model	Serial Number
Sonde	YSI	600R	05E2392
Turb. Meter	Lamotte	2020	4074-1103
GeoPump II	Geotech	II	466

10.85 Depth to Water

Drawdown

Time (24 hr)	Temp (°C)	Spec Cond. (µS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Removed (Liters)	Flow Rate (mL/min)	~~Drawdown (Feet)~~	Color/Odor
0936 ~~0932~~ ①	~~21.~~ 18.5	-	11.1%	7.31	-260.6	0.65	—	190 ml/min		
0946	16.4	4866	9.0%	7.3	-260.8	1.8	1.2	120 ml/min	-12.95	-2.1
0949	16.39	4824	7.1%	7.34	-266.3	~~1.8~~ 1.6	1.8	~~120 ml/min~~ ②	-13.13	-2.28
1010	19.68	4746	3.7%	7.49	-286.4	3.4	1.95	60 ml/min	-12.60	sulfide - No color
1013	18.67	4792	5.4%	7.52	-283.0	1.5	2.1	50 ml/min	-12.71	-1.85
1016	17.99	4690	5.0%	7.53	-283.3	1.3	2.25	"	-12.81	-1.96
1019	17.6	4620	4.4%	7.54	-284.8	1.9	2.4	"	-12.89	~~-1.2~~ -2.04
1021	17.39	4518	4.1%	7.55	-285.8	1.8	2.55	"	-12.96	-2.11

see notes below #3

-2.1'

② 116 ml/min

③

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time
MW-04A-062807	3 ~~4~~ (2MS/MD)	Amber Bottle	4°C ± 2	PCB	1022
MW-04A-062807	~~2 8 (1MS/MD)~~ 5/51 TH	Teflon Bottles	Nitric Acid	Metals	"

NOTES:

1. 250 ml per min - drawdown to 11.25
#2 190 ml per min 11.21 → 11.41
and depth - 14.9 ft

③ 15 min - break from pumping taken to refill the well
12.42 ft @ pump initiation @ 1007
New flow rate 60 ml/min

Signature: [signature] Date: 7/2/07

① 5/B

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Well ID MW-5

Groundwater Sample Collection Record

Client: USACE
Date: 6/28 11:12 Time: Start 11:12 am/pm
Project No: G606422 Finish 12:40 am/pm
Site Location: NBH CDF
Weather Conditions: overcast, breezy Collectors: JMF, TH, SW

1. WATER LEVEL / WELL DATA

Measured Well Depth: 19.13'
Height of Water Column: 9.42
0.16 GAL/FT (2 IN)
0.65 GAL/FT (4 IN) = 1.51 Gallons (Volume)
1.5 GAL/FT (6 IN) 5.71 L
Depth to Water: 9.71
Purged Volume: 4.9 L

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

• 150 ml/min initial purge rate

	Equipment	Make	Model	Serial Number
Sonde	~~YSI~~ TH	~~LOR~~ YSI	LOR	OSE2392
	Turb. Meter	LAMOTTE	2020	4674-1103
	GEOPump II	GEOTECH Geopump	II	466

Time (24 hr)	Temp (°C)	Spec Cond. (µS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Removed (Liters)	Flow Rate (mL/min)	Drawdown (Feet)	Color/Odor	Depth to water / Drawdown
1125	18.1	3003	16%	8.14	-183.1	2.9	.390	130 ml/min	10.5	H_2S odor	0.79
1128	17.41	2907	13.7%	8.00	-181.1	2.4	.78	130 ml/min	10.85		1.14
1131	17.60	2922	10.2%	7.92	-191.5	2.7	1.17	130 ml/min	11.05		1.34
1134	17.5	2924	7.0%	7.8	-194.4	3.0	1.56	130 ml/min	11.25		1.54'
1137	17.54	2899	6.1%	7.81	-194.6	2.5	1.95	130 ml/min	11.37		1.66'
1140	17.02	2958	5.5%	7.78	-197.2	2.6	2.08	130 ml/min	11.5		1.8'
1143	16.85	2988	4.8%	7.79	-199.6	2.7	2.47	130 ml/min	11.65		1.94
1146	16.87	3030	4.3%	7.8	-204.2	2.4	2.86	130 ml/min	11.75		2.04
1149	16.86	3092	3.8%	7.8	-207.9	1.5	3.25	130 ml/min	11.9		2.19
1154	16.76	3175	3.2	7.85	-213.1	1.6	3.64	130 ml/min	12.0		2.29
1159	16.93	3239	2.7%	7.87	-224.2	2.4	~~4.03~~ 5/6 3.97	109 ml/min	12.2		2.49

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time
MW-005-062807	2	1 L Amber	4°C	PCB	1215
(*) "	2	Teflon	Acid	Metals	
MW-005-062807-REP	1	1L Amber	4°C	PCB	
"	1	Teflon	Acid	METALS	

NOTES:
(*) includes extra volume for metals MS/MSD TH 6/28/07

Signature: see next Date:

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Well ID MW-5

Groundwater Sample Collection Record

Client: USACE Date: _____ Time: Start _____ am/pm
Project No: _____ Finish _____ am/pm
Site Location: NBH
Weather Conditions: overcast, breezy Collectors:

1. WATER LEVEL / WELL DATA

Measured Well Depth: _____ Height of Water Column: _____

0.16 GAL/FT (2 IN)
0.65 GAL/FT (4 IN) = _____ Gallons (Volume)
1.5 GAL/FT (6 IN)

Depth to Water: Purged Volume:

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

Equipment	Make	Model	Serial Number

	Time (24 hr)	Temp (°C)	Spec Cond. (µS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Removed (Liters)	Flow Rate (mL/min)	Drawdown (Feet) (Depth to Water)	Color/Odor	
1204	1204	16.86	3257	2.8%	7.90	-225.2	1.8	4.3	109 ml/min	12.32	H_2S odor	2.61
12:07	1209	16.76	3296	2.5%	7.91	-227.4	1.5	4.6	109 ml/min	12.45		2.74
	12:12	16.59	3370	2.4%	7.93	-229.2	1.2	4.9	109 ml/min	12.52		2.81
	12:17									13.0'	at 12:48 @ end	

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time

NOTES:

Signature: [signature] Date: 7/2/07

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Well ID MW-3

Groundwater Sample Collection Record

Client:	USACE	Date: 6/28/07 12:56	Time:	Start	12:56 am/pm
Project No:	G606422			Finish	1420 am/pm
Site Location:	NBH				
Weather Conditions:	overcast + breezy	Collectors:	JMF + TH + SW		

1. WATER LEVEL / WELL DATA

Measured Well Depth: 23.9 Height of Water Column: 8.8'

0.16 GAL/FT (2 IN)
0.65 GAL/FT (4 IN) = 1.41 Gallons (Volume)
1.5 GAL/FT (6 IN) 5.33 L

Depth to Water: 15.1 from top of casing Purged Volume: 6.4 L

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

Equipment	Make	Model	Serial Number
SONDE	YSI	600R	05 E2392
TURB Meter	LAMOTTE	2020	4074-1103
GEOPUMP	GEOTECH	II	466

Depth to water Drawdown = 1.7'

Time (24 hr)	Temp (°C)	Spec Cond. (µS/cm)	DO ~~(mg/L)~~ %	pH	ORP (mV)	Turbidity (NTU)	Removed (Liters)	Flow Rate (mL/min)	~~Drawdown (Feet)~~	Color/Odor
1311	15.83	4952	7.4%	7.49	-158.6	40	0.5	148 ml/min	16.8	H_2S - slight Rust colored particles
1316	15.82	4776	6.3%	7.42	-159.2 ①	25	~~12~~ 1.2	148 ml/min	16.8	
1321	15.55	4599	4.7%	7.42	-170.1	19	1.9	148 ml/min	16.8	
1326	15.36	4452	3.4%	7.44	-180.8	13	2.6	142 ml/min	16.8	
1331	15.33	4391	2.8%	7.44	-190.1	7.6	3.3	142 ml/min	16.8	
1336	15.50	4361	2.5	7.44	-197.2	5.9	4.1	156 ml/min	16.8	
1341	15.36	4327	2.2	7.44	-198.9	5.9	4.9	156 ml/min	16.8	① S/B 159.2
1344	15.45	4330	2.1	7.42	-200.8	4.7	5.4	156 ml/min	16.8	
1347	15.5	4319	1.9	7.38	-203.9	4.9	5.9	158 ml/min	16.8	
1350	15.58	4322	1.8	7.35	-205.1	7.0 ①	6.4	158 ml/min	16.8	

end depth 17.1

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time
MW-003-062807	1	1L Amber	Cold	~~PCM~~ PCB	1353
MW-003-062807	1	Teflon	Acid	Metal	↓
MW-003-0628-07QA	2	1L Amber	Cold	PCB	↓
MW-003-062807QA	1	Teflon	Acid	Metal	↓

NOTES: • QA Split taken • vish has lots of condensation going to collect samples

Collected Eq. Blank after MW-3 = EB-062807-01 2:25 pm

Signature: [signature] Date: 7/2/07

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Well ID 002 MW-6

Groundwater Sample Collection Record

Client: USACE
Date: 6/28/2007 Time: Start 1445 am/pm
Project No: 360422
Finish 1615 am/pm
Site Location: NBH
Weather Conditions: sunny, breezy
Collectors: TH, JF, SW

1. WATER LEVEL / WELL DATA

Measured Well Depth: 18.9
Height of Water Column: 5.5'
0.16 GAL/FT (2 IN)
0.65 GAL/FT (4 IN) = 0.88 Gallons (Volume)
1.5 GAL/FT (6 IN) 3.33L
Depth to Water: 13.4
Purged Volume: 8.5L

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

Equipment	Make	Model	Serial Number
SONDE	YSI	6000XL	05E2392
TURB. METER	LAMOTTE	2020	4074-1103
GEOPUMP	Geotech	II	466

Time (24 hr)	Temp (°C)	Spec Cond. (µS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Removed (Liters)	Flow Rate (mL/min)	Drawdown (Feet)	Color/Odor	Depth to water	Drawdown
initial							—	140ml/min	14.8	NONE		1.4'
1454	17.84	~~497~~ 501	19.0	7.27	53.4	19	0.7	140ml/min	14.8	↓		1.4'
1459	17.64	509	12.8	7.03	52.3	11	1.4	140ml/min	15.05			1.65
1504	16.71	512	9.5	7.06	23.2	9.2	2.1	146ml/min	15.0			1.60
1509	16.37	512	8.2	7.16	-9.8	6.1	2.8	146ml/min	15.0			1.60
1514	16.19	513	7.1	7.28	-30.5	5.7	3.6	146ml/min	15.0			1.60
1519	16.03	513	6.8	7.37	-41.9	6.5	4.3	146ml/min	15.0			1.60
1524	15.68	518	6.1	7.44	-54.4	3.8	5.1	166ml/min	15.1			1.70
1529	15.67	516	7.4	7.46	-63.8	7.4	6.0	166ml/min	15.17			1.77
1534	15.60	517	6.6	7.48	-74.0	7.3	6.8	166ml/min	15.17			1.77
1537 1540	15.47	517	5.7	7.50	-81.0	6.1	7.3	166ml/min	15.17			1.77

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time
MW-002-062807	1	Amber Jars	4° ± 2°C	RB	1530
↓	1	Teflon Jar	Nitric Acid	Metals	↓

NOTES:
- outside of fence
- need to add gate

end depth 14.9

Signature: MH
Date: 7/2/07

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Well ID MW-6

Groundwater Sample Collection Record

Client: _____ Date: _____ Time: Start _____ am/pm
Project No: _____ Finish _____ am/pm
Site Location: _____
Weather Conditions: Collectors:

1. WATER LEVEL / WELL DATA

Measured Well Depth: _____ Height of Water Column: _____

0.16 GAL/FT (2 IN)
0.65 GAL/FT (4 IN) = _____ Gallons (Volume)
1.5 GAL/FT (6 IN)

Depth to Water: Purged Volume:

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

Equipment	Make	Model	Serial Number

Time (24 hr)	Temp (°C)	Spec Cond. (µS/cm)	DO (~~mg/L~~ %)	pH	ORP (mV)	Turbidity (NTU)	Removed (Liters)	Flow Rate (mL/min)	Depth to water ~~Drawdown (Feet)~~	Color/Odor	Drawdown
1540	15.63	516	5.4	7.51	-87.9	~~5.1~~ 2.1	~~6.5~~ 7.7	148 ml/min	15.10	+	1.70
1543	15.9	517	5.1	7.53	-93.5	1.9	~~6.9~~ 8.1	148 ml/min	15.0		1.60
1546	15.8	517	5.3	7.54	-96.3	2.4	~~7.3~~ 8.5	148 ml/min	14.95		1.55

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time

NOTES:

Signature: MYh Date: 7/2/07

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Well ID: MW-1

Groundwater Sample Collection Record

Client: USACE
Date: 6/28/07 Time: Start 1640 am/pm
Project No: 6606422
Finish 1805 am/pm
Site Location: NBH CDF
Weather Conditions: sunny - occasional breeze
Collectors: JMF, TH, ~~AW~~ SLBSW TH 6/28/07

1. WATER LEVEL / WELL DATA

Measured Well Depth: 23.9
Height of Water Column: 7.4'
0.16 GAL/FT (2 IN)
0.65 GAL/FT (4 IN) = 1.18 Gallons (Volume)
1.5 GAL/FT (6 IN) 4.48L
Depth to Water: 16.50 from top of PVC casing
Purged Volume: ~ 3L

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

Equipment	Make	Model	Serial Number
SONDE	YSI	600R	05E2392
TURB METER	LAMOTTE	2020	4074-1103
GEOPUMP	GEOTECH	I	466

Time (24 hr)	Temp (°C)	Spec Cond. (µS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Removed (Liters)	Flow Rate (mL/min)	Drawdown (Feet)	Color/Odor
16:54	19.53	756	13.7	7.27	59.1	45	0.7	130	17.85/1.35	RUSTY / NA
16:59	18.86	755	9.4	7.13	58.5	26	1.4	130	18.25/1.15	RUSTY
17:04	18.51	753	8.0	7.18	58.1	16	2.1	130	18.6/2.1	~~clr~~ Some rust.
17:09	18.72	758	9.5%	7.21	-18.2	11	2.6	97	18.8/2.3	↓
17:14	19.15	679	11.2%	7.23	-51.5	12	3.1	97	18.8/23	↓
17:19	19.13	773	12.2%	7.25	-62.5	12	3.7 ~~12.97~~		18.7/2.2	TH
17:24	19.09	781	17.6	7.26	-73.6	10	4.3	112	18.7/2.2	
17:29	18.90	920	22.7	7.26	-83.9	10				
~~17:34~~										

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time
See next					

NOTES:
④ Stopped & rinsed YSI b/c of variable DO values - once rinsed YSI read atmosphere @ ~96% O

Signature: See next
Date:

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Well ID MW-1

Groundwater Sample Collection Record

Client: _____ Date: _____ Time: Start _____ am/pm
Project No: _____ Finish _____ am/pm
Site Location: _____
Weather Conditions: _____ Collectors: _____

1. WATER LEVEL / WELL DATA

Measured Well Depth: _____ Height of Water Column: _____ 0.16 GAL/FT (2 IN) 0.65 GAL/FT (4 IN) = _____ Gallons (Volume) 1.5 GAL/FT (6 IN)

Depth to Water: Purged Volume:

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

Equipment	Make	Model	Serial Number

Time (24 hr)	Temp (°C)	Spec Cond. (µS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Removed (Liters)	Flow Rate (mL/min)	Drawdown (Feet)	Color/Odor
17:35	20.44	842	31.5%	7.26	-93.0	90	4.4	96	18.05/1.55	Rusty
17:40	19.18	840	30.2%	7.26	-87.7	~~74~~ 5/6	34TH 4.8	96	17.95/1.45	clear
17:43	18.74	835	28.5%	7.25	-86.4	13	5.1	96	17.85/1.35	clear
17:46	18.55	838	27.8%	7.23	-87.4	9.2	5.4	96	17.8/1.3	clear
17:49	18.50	842	25.9%	7.22	-89.9	~~6.5~~	5/6 7.3 5.7	96	17.75/1.25	clear
17:52	18.42	844	23.6	7.21	-92.8	5.8	TH 6.0	96	17.72/1.23	clear
17:55	18.17	848	22.5	7.19	-93.4	5.6	6.3	96	17.7/~~1.19~~ 1.2	clear
~~17:5~~										

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time
MW-001-062807	1	1L Amber	4°C	PCB	17:56
"	1	Tetlon	Acid	metals	

NOTES: Due to inclement weather the sample was collected before turbidity completely stabilized, since other parameters were acceptable

Signature: [signature] Date: 7/2/07

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Well ID MW-07A

Groundwater Sample Collection Record

Client: USACE
Date: 6/29/07 Time: Start 9:33 am/pm
Project No: G6006422
Finish _____ am/pm
Site Location: New Bedford Harbor CDF
Weather Conditions: cool, breeze
Collectors: TH/JF

1. WATER LEVEL / WELL DATA

Measured Well Depth: 14.82
Height of Water Column: 3.47'
0.16 GAL/FT (2 IN)
0.65 GAL/FT (4 IN) = 0.56 Gallons (Volume)
1.5 GAL/FT (6 IN) 2.10L
Depth to Water: 11.35
Purged Volume: 5.3L

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

Equipment	Make	Model	Serial Number
SONDE	YSI	600R	05E2392
TURB METER	LAMOTTE	2020	4074-1103
GEOPUMP	GEOTECH	II	464

Time (24 hr)	Temp (°C)	Spec Cond. (µS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Removed (Liters)	Flow Rate (mL/min)	Drawdown (Feet)	Color/Odor
9:37	18.03	934	40.6%/3.67	6.25	114	1.9	0.4	~~130~~ 133	11.45/0.1	clear/~~none~~ none TH
9:42	14.56	837	21.2%/2.2	6.56	140.1	1.0	0.9	109	11.50/0.15	"
9:47 TH ~~9:48~~	14.44	777	20.4/2.08	6.62	138.2	0.8	1.5	110	11.50/0.15	"
9:52	14.40	755	18.9/1.92	6.63	174.6	0.25	2.1	113	11.50/0.15	"
9:57	14.24	741	17.0/1.73	6.65	192.9	0.30	2.7	113	11.55/0.20	"
10:02	14.18	745	16.0/1.63	6.66	194.2	0.40	3.3	113	11.55/0.20	"
10:07	14.14	754	15.1/1.55	6.67	185.4	0.15	3.9	113	11.55/0.20	"
10:12	14.11	765	14.5/1.48	6.67	179.2	0.35	4.4	112	11.55/0.20	"
10:15 ~~10:17~~	14.11	770	14.4/1.47	6.67	179.3	0.35	4.8	112	11.55/0.20	"
10:18	14.12	777	14.2/1.46	6.67	183.1	0.35	5.3	113	11.55/0.20	"
~~10:21~~	N/A -TH									

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time
MW-07A-062907	1	1L Amber	4°C	PCB	10:21
"	1	Teflon	Acidified	Metals	

NOTES: init. pump @ 9:33 ~~to~~ to the well.

Signature: [signature] Date: 7/2/07

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Well ID MW-4A

Groundwater Sample Collection Record

Client: USACE
Date: 10/15/07 Time: 1130 Start 1130 am/pm
Project No: New Bedford Harbor
Finish 1320 am/pm
Site Location: Sawyer Street
Weather Conditions:
Collectors: JMF/TMH

1. WATER LEVEL / WELL DATA

Measured Well Depth: 24.4 Height of Water Column: 12.4
0.16 GAL/FT (2 IN)
0.65 GAL/FT (4 IN) = _____ Gallons (Volume)
1.5 GAL/FT (6 IN)

Depth to Water: 12.5 from well casing Purged Volume: ~ 3612 ml

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

Equipment	Make	Model	Serial Number
TURB METER	LAMOTTE	2020	—
PUMP	QED	1.75" SAMPLE PRO	
CONTROLLER	QED	MP10	
COMPRESSOR	WELL WIZARD 3020		
YSI		600 XLM	

Time (24 hr)	Temp (°C)	Spec Cond. (µS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Volume Removed (Liters)	Flow Rate (mL/min)	Depth to Water (Feet)	Drawdown (Feet)	Color/Odor
11:54	16.36	7015	6.05	6.79	-357.6	—		130	13.7	1.7	Sulfur
12:02	17.03	6848	3.69	6.75	-378.3	10.0		~~44~~ ①	14.1	2.1	
12:07	17.90	6747	3.59	6.75	-399.1	62.0			14.1	2.1	
12:12	17.78	6705	0.43	6.68	-397.2	9.2		62	14.2	2.2	
12:16	17.21	6495	0.30	6.66	-408.0	6.8		↓	14.3	2.3	
12:21	17.03	6360	0.27	6.70	-407.8	4.6		↓	14.4	2.4	
12:26	17:00	6264	0.24	6.67	-400.8	5.2		↓	14.45	2.45	
12:31	17.17	6222	0.20	6.66	-398.9	11.6		↓	14.5	2.5	
12:34	17.04	6195	0.19	6.65	-400.0	8.4		↓	14.6	2.6	
12:37	16.85	6116	0.18	6.67	-402.4	5.3			14.65	2.65	
12:41	16.66	6044	0.18	6.70	-407.3	4.2			14.7	2.7	
12:43	16:57	5985	0.18	6.73	-409.8	3.9			14.7	2.7	* Sample collected
									15.1	@ end of collection	
										↑ 3.1	

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time
MW-04A-101507	2	Glass/Teflon	cold/Acid	Metals/PCB	12:45
Field Duplicate MW-04A 101507-REP	2	Glass/Teflon	Cold/Acid	PCB/Metals	1:00

NOTES: ① Dropped flow rate to 42 mL/min ~.

Signature: [signature] Date: 10/15/07

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Well ID MW-5

Groundwater Sample Collection Record

Client: USACE
Date: 10/15/07 Time: Start 1405 am/pm
Project No: New Bedford Harbor
Finish 1533 am/pm
Site Location: Sawyer Street
Weather Conditions: Partly Cloudy breezy ~60° Collectors: JMF / TMH

@ 62 ml/min

1. WATER LEVEL / WELL DATA

Measured Well Depth: 19 Height of Water Column: 8.1
0.16 GAL/FT (2 IN)
0.65 GAL/FT (4 IN) = _____ Gallons (Volume)
1.5 GAL/FT (6 IN)

Depth to Water: 19 10.9 Purged Volume: ~4076 ml

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

Equipment	Make	Model	Serial Number
TURB METER	LAMOTTE	2020	–
PUMP	QED	1.75" SAMPLE PRO	–
CONTROLLER	QED	M210	
COMPRESSOR	WELL WIZARD	3020	
YSI		1000XLM	

Time (24 hr)	3% Temp (°C)	3% Spec Cond. (µS/cm)	10% DO (mg/L)	±0.1 pH	±10 mV ORP (mV)	10% Turbidity (NTU)	Volume Removed (Liters)	Flow Rate (mL/min)	Depth to Water (Feet)	Drawdown (Feet)	Color/Odor
1411	18.55	4430	2.79	7.29	-284.2	47.4		62	11.1	0.2	sulfur
1416	17.45	4356	1.22	7.27	-259.4	44.8		80	11.4	0.5	@ lowest setting
1421	17.09	4333	0.58	7.26	-224.3	40.3		– "	11.6	0.7	
1426	17.12	4320	0.35	7.26	-259.5	41.1		– "	11.8	0.9	
1431	16.86	4323	0.23	7.25	-328.5	34.8		68	11.9	1 ft	
1436	16.52	4320	① 2.06	7.25	-362.2	29.0		"	12.1	1.2	
1441	16.60	4297	0.15	7.25	-383.4	25.0		62	12.2	1.3	
1446	16.64	4292	0.14	7.23	-393.6	19.2		76	12.4	1.5	
1449	16.62	4288	0.13	7.23	-403.9	17.1			12.5	1.6	
1451	16.58	4285	0.13	7.22	-408.6	15.9			12.6	1.7	
1454	16.54	4281	0.13	7.22	-412.4	14.4			12.7	1.8	
1457	16.49	4270	0.13	7.21	-418.6	12.7			12.7	1.8	
1500	16.41	4267	0.14	7.20	-422.1	10.5		76	12.7	1.8	
1503	16.36	4259	0.14	7.21	-422.8	9.43			12.8	1.9	
✓ 1506	16.30	4254	0.15	7.20	-423.0	8.4			12.8	1.9	
1509	16.17	4239	0.15	7.20	-426.1	7.17			12.9	2 ft	*
1512	16.08	4236	0.16	7.20	-418.9	6.6			12.9		

① S/B 0.19 JMF

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time
MW-005-101507	2	Glass/Teflon	4°C/Acid	PCB/Teflon	1513

NOTES:
- Replaced Bladder
- 13.3 final depth

* Sample taken turbidity just outside of acceptance but drawdown is very high. All other parameters are stable. JMF

Signature: Jon M Fox Date: 10/15/07

s/B JMF 10/16/07

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Well ID MW-~~TA~~ 1

Groundwater Sample Collection Record

Client:	USACE	Date: 10/16/07	Time:	Start	0835 am/pm
Project No:	New Bedford Harbor			Finish	1030 am/pm
Site Location:	Sawyer Street				
Weather Conditions:	Sunny, clear, breezy	Collectors:	JMF/TMH		

1. WATER LEVEL / WELL DATA

From top of casing

Measured Well Depth:	24.2	Height of Water Column:	7.0	0.16 GAL/FT (2 IN) 0.65 GAL/FT (4 IN) = 1.5 GAL/FT (6 IN)	_____ Gallons (Volume)
Depth to Water:	17.2 pre pump 16.4 post pump	Purged Volume:	~4567 ml		

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

Equipment	Make	Model	Serial Number
TURB METER	LAMOTTE	2020	—
PUMP	QED	1.75" SAMPLE PRO	—
CONTROLLER	QED	MP10	—
COMPRESSOR	WELL WIZARD	3020	
YSI		600 XLM	

±.5 ✓ ±2% ✓ ✓ ✓

Time (24 hr)	Temp (°C) 3%	Spec Cond. (µS/cm) 3%	DO (mg/L) 10%	pH	ORP (mV) ±10	Turbidity (NTU) 10%	Volume Removed (Liters)	Flow Rate (mL/min)	Depth to Water (Feet)	Drawdown (Feet)	Color/Odor	
0857	16.42	800	5.89	6.82	44.1	20.4		100	17.5	1.1		1.0 - flow rate
0902	16.39	814	3.69	6.77	28.0	14.4		100	17.9	1.5		reduced pump pressure
0907	16.53	851	3.82	6.76	-102.0	11.9		56	18.0	1.6	Slight sulfur	
0912	16.39	870	2.96	6.71	-113.6	15.9			18.2	1.8		
0917	16.22	885	1.77	6.67	-127.8	14.8		78	18.3	1.9		
0922	16.39	925	1.29	6.63	-145.5	9.57		72	18.35	1.95		
0927	16.28	954	1.22	6.63	-157.1	6.04		~~20~~	18.2	1.8		
0932	15.88	978	1.42	6.67	164.7	5.18		30	18.1	1.7		
0937	16.26	982	1.51	6.69	-170.2	2.98		36	18.0	1.6		
0942	16.62	990	1.61	6.68	-174.8	3.0		46	17.9	1.5		
0947	16.81	1000	1.59	6.6	-178.0	3.95			17.9	1.5		Switching battery
0952	16.51	1018	1.41	6.64	-183.3	3.3			17.6	1.2		
0957	16.49	1015	1.25	6.65	-186.9	2.4		59	17.7	1.3		
1002	16.62	1021	1.02	6.65	-189.9	1.9			17.7	1.3		- charged flow rate discharge to high
1005	16.40	1028	0.81	6.64	-192.9	1.18			18.7	2.3		
1008	16.50	1023	0.65	6.63	-193.1	.89		76	18.65	2.25		
1011	16.66	1023	0.67	6.63	-192.5	1.22			18.7	2.3		

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time
~~MW-TA-101607~~	2	Glass/Teflon	4°C / Acid	PCB / Metals	1012
MW-001-101607					

NOTES: 18.6 - H_2O depth @ end of sampling

Signature: [signature] Date: 10/16/07

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Well ID: MW-6

Groundwater Sample Collection Record

Client: USACE
Date: 10/16/07
Time: Start 1045 am/pm
Finish 1215 am/pm
Project No: NBH
Site Location: Saunger St
Weather Conditions: Sunny, clear
Collectors: JMF / JMH

1. WATER LEVEL / WELL DATA

Measured Well Depth: 19.2
Height of Water Column: 5.8
0.16 GAL/FT (2 IN)
0.65 GAL/FT (4 IN) =
1.5 GAL/FT (6 IN)
Gallons (Volume)
Depth to Water: Pre pump 13.4 / Post pump 12.8
Purged Volume: ~3678 ml

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

Equipment	Make	Model	Serial Number
PUMP	QED	1.75" SAMPLE PRO	—
CONTROLLER	↓	MP10	
COMPRESSOR		WELL WIZARD 3020	
YSI		600XLM	
TURB METER		LAMOTTE 2020	

Time (24 hr)	3% Temp (°C)	3% Spec Cond. (µS/cm)	10% DO (mg/L)	±.1 pH	±10 ORP (mV)	10% Turbidity (NTU)	Volume Removed (Liters)	Flow Rate (mL/min)	Depth to Water (Feet)	Drawdown (Feet)	Color/Odor
1055	15.76	484	3.58	7.19	-231.1	20.4		90	13.7	0.9	
1100	15.84	477	2.03	7.18	-248.7	14.0		90	13.8	1 ft	Reddish particles
1105	15.77	477	1.53	7.17	-260.2	11.6			13.7	0.9	
1110	16.03	477	1.17	7.17	-265.2	10.8			13.7	0.9	
1115	16.13	478	0.96	7.16	-267.8	9.75			—		
1118	16.19	478	0.87	7.16	-268.2	6.77			13.7	0.9	
1121	16.20	478	0.79	7.17	-269.9	3.39			13.7	0.9	
1124	16.22	478	0.73	7.18	-269.8	2.42		89	13.7	0.9	
1127	16.19	478	0.69	7.17	-270.9	3.22			13.7	0.9	
1130	16.22	478	0.66	7.18	-269.4	5.32			13.7	0.9	
1133	16.21	478	0.63	7.18	-270.7	5.32			13.7	0.9	
1136	16.16	478	0.61	7.18	-270.5	~~4.55~~ 5.14			13.7	0.9	

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time
MW-006-101607-	2	Glass/Teflon ~~PCB~~/Metals	4°C / Acid	PCB/Metals	1137
MW-006-101607-MS/MSD	3	~~PCB~~ Glass/Metals	4°C / Acid	PCB/Metals	2-MS/MSD for PCBS 1 MS/MSD for Metals

NOTES: Depth @ end of sampling 13.7

Signature: [signature]
Date: 10/16/07

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Well ID MW-3
shorter well

Groundwater Sample Collection Record

Client: ~~AP~~ USACE
Date: 10/16/07
Time: Start 1240 am/pm
Finish 1351 am/pm
Project No: NBH
Site Location: Sawyer Street
Weather Conditions: Sunny, clear
Collectors: JMF / TMH

1. WATER LEVEL / WELL DATA

to PVC pipe

Measured Well Depth: 23.95
Height of Water Column: 9.25
0.16 GAL/FT (2 IN)
0.65 GAL/FT (4 IN) =
1.5 GAL/FT (6 IN)
Gallons (Volume)
Depth to Water: 15 / ~~13.7~~ 14.7
Purged Volume: ~4086 ml

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

Equipment	Make	Model	Serial Number
TURB METER	LAMOTTE	2020	—
PUMP	QED	1.75" SAMPLE PRO	—
CONTROLLER	↓	MP10	—
COMPRESSOR	WELLWIZARD	3020	—
YSI		1000 XLM	—

Time (24 hr)	3% Temp (°C)	3% Spec Cond. (µS/cm)	10% DO (mg/L)	±0.1 pH	±10 ORP (mV)	10% Turbidity (NTU)	Volume Removed (Liters)	Flow Rate (mL/min)	Depth to Water (Feet)	Drawdown (Feet)	Color/Odor
1245	17.97	4633	2.95	6.94	-254.9	58.5		92	15.3	0.6	Rusty/Brown color
1250	17.67	4720	1.56	6.89	-263.3	50.5			15.6	0.9	
1255	17.31	5324	1.03	6.85	-283.3	43.7		82	15.7	1.0	slight odor?
13:00	16.91	5461	0.73	6.84	-303.9	35.7			15.7	↓	
13:05	16.81	6193	0.56	6.85	-314.4	26.9		92	15.7		
13:10	16.67	6464	0.47	6.84	-314.0	17.4			15.6	0.9	
13:15	16.62	7869	0.43	6.84	-315.3	14.9		90	15.7	1.0	
1320	16.63	7963	0.39	6.85	-314.5	13.1			15.6	0.9	
1325	16.49	8016	0.37	6.84	-317.2	9.97			15.6	0.9	
1330	16.50	8011	0.35	6.85	-314.9	9.58		~~76~~	15.6	0.9	
1333	16.46	8016	0.35	6.86	-313.3	9.87		76	15.6	0.9	

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time
MW-003-101607	2	Glass/Teflon	4°C/Acid	PCB/Metals	1334

NOTES:

Final Well Depth after sampling 15.6

Signature: [signature]
Date: 10/16/07

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Well ID MW-7A

Groundwater Sample Collection Record

Client: USACE
Date: 10/16/07
Time: Start 1415 am/pm
Project No: NBH
Finish 1516 am/pm
Site Location: Sawyer Street
Weather Conditions: sunny clear, light breeze
Collectors: JMF / TMH

1. WATER LEVEL / WELL DATA

Measured Well Depth: 14.8 (top of casing)
Height of Water Column: 3.5
0.16 GAL/FT (2 IN)
0.65 GAL/FT (4 IN) = _____ Gallons (Volume)
1.5 GAL/FT (6 IN)
Depth to Water: 11.3
Purged Volume: ~2442 ml

2. SAMPLE COLLECTION

Method:

Field Equipment Used:

Equipment	Make	Model	Serial Number
TURB METER	LAMOTTE	2020	NA
PUMP	QED	1.75" SAMPLE PRO	
CONTROLLER	"	MP10	
COMPRESSOR	WELL WIZARD	3020	
YSI		1600 XLM	

Time (24 hr)	3% Temp (°C)	3% Spec Cond. (µS/cm)	10% DO (mg/L)	±0.1 pH	±10 ORP (mV)	10% Turbidity (NTU)	Volume Removed (Liters)	Flow Rate (mL/min)	Depth to Water (Feet)	Drawdown (Feet)	Color/Odor
1428	17.26	932	1.05	6.51	-128.5	3.14		74	~~11.4~~ 11.5	~~11.4~~	
1432	17.31	893	0.79	6.47	-110.8	3.69			11.5	0.2	
1437	17.23	871	0.66	6.45	-86.0	1.12		74	11.5	0.2	
1442	17.01	861	0.59	6.44	-60.8	0		74	11.5	0.2	
1447	16.94	854	0.54	6.46	-50.0	0			11.5	0.2	
1452	16.92	853	0.49	6.45	-34.8	0			11.5	0.2	
1455	16.72	852	0.47	6.46	-29.2	0			11.5	0.2	
1458	16.65	850	0.45	6.48	-27.2	0			11.5	0.2	
1501	16.60	850	0.44	6.48	26.0	0			11.5	0.2	
										~~0.2~~	
										~~0.2~~	
										~~0.2~~	
										~~0.2~~	
										~~0.2~~	
										~~0.2~~	
										~~0.2~~	

Sample ID	No. Containers	Container Type	Preservation	Analysis Req.	Time
MW-007A-101607	2	Glass/Teflon	4°C/Acid	TCB/Metals	1502

NOTES:
Well depth @ end of sampling - 11.6 ft

Signature: [signature]
Date: 10/16/07

YSI Calibration Form
Daily 2007 GW Monitoring for New Bedford Harbor – G606422

Instrument Model #_____ S/N#_____

Date: 10/15/2007	Initials: JMF / JMH
DO membrane changed? Y (N)	Turbidity Wiper Changed? Y (N)
Battery Voltage:	Turbidly wiper parks 180° from optics? ~~Y N~~

Parameter	Initial Reading	Calibrated Reading	Calibration Data (acceptable range)
Conductivity (mS/cm)	1009	1000	Cell constant (4.55 – 5.45)
Depth (ft)			Pressure offset, vented (0 ± 6)
Turbidity (NTU) 0	0	0	Turbidity Offset:
Turbidity (NTU) ~~123~~ 10	10	10	
D.O. (% Sat)	102.8%	100.9%	D.O. Gain (0.7 - 1.4)
pH 4	4.04	4.00	
pH 7	7.21	7.00	
ORP	186.6	109.1	
Comments:			

Lamotte 2020

Date: 10/16/2007	Initials: JMF
DO membrane changed? Y (N)	Turbidity Wiper Changed? ~~Y N~~
Battery Voltage:	Turbidly wiper parks 180° from optics? ~~Y N~~

Parameter	Initial Reading	Calibrated Reading	Calibration Data (acceptable range)
Conductivity (mS/cm)	979	1000	Cell constant (4.55 – 5.45)
Depth (ft)			Pressure offset, vented (0 ± 6)
Turbidity (NTU) 0	0	0	Turbidity Offset:
Turbidity (NTU) 123	10.28	10.00	
D.O. (% Sat)	103.0%	101%	D.O. Gain (0.7 - 1.4)
pH 4	3.99	4.00	
pH 7	7.04	7.00	
ORP	108.8	109.1	
Comments:			

Lamotte 2020

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Project Name: New Bedford Harbor

Date: 6/27/07

Project Number: G606422

Water Quality Instrument Calibration Log

Parameter	Instrument			Calibration Solution			Standard Value @ 25C	Ambient Temp	Initial Measured Value	Adjusted Measured Value	Initials	Date/Time	Post-Calibration			
	Manufacturer	Model	S/N	Manufacturer	Lot No.	Exp. Date							Ambient Temp	Measured Value	Initials	Date/Time
Dissolved Oxygen	YSI	600R	05E2392	NA	→	→	100%	25°C	100.47	NA	TH	6/27 11:20	NA	→		→
pH 4	↓	↓		VWR	7075	1/09	4.00	↓	4.14	4.00			25°C	4.0	TH	6/27
pH 7	↓	↓		VWR	7020	1/09	7.00	↓	6.82	7.00			↓	7.0	↓	↓
Conductivity	↓	↓		② YSI	06E2239	12/07	~~10.00~~	↓	~~5.5~~	~~10.00~~			↓	50,118	TH	6/27
ORP	↓	↓		VWR	6275	9/08	500	25°	497	NA	TH	6/27/12:20 ③				
Turbidity	LAMOTTE	2020	4074-1103	①	→	→	0/10 NTU	~25°C	0/9.7	0/10	TH	6/28/07 11:15	25°C	0/10	TH	6/28/07 11:15

NOTES:

① 0 and 10 NTU turbidity standards supplied by U.S. Environmental Rental - 6/27/07 TH

② Cond = 50,000 uS/cm @ 25°C initial measured was 47,990, final 50,122 TH 6/27/07

③ YSI calibrated by US Environmental initially, the ORP measurement checked and was ok, not re-calibrated for ORP 6/27/07 TH

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Project Name: NBH Groundwater

Date: 6/29/07

Project Number: G606422

Water Quality Instrument Calibration Log

Parameter	Instrument			Calibration Solution			Standard Value @ 25C	Ambient Temp	Initial Measured Value	Adjusted Measured Value	Initials	Date/Time	Post-Calibration			
	Manufacturer	Model	S/N	Manufacturer	Lot No.	Exp. Date							Ambient Temp	Measured Value	Initials	Date/Time
Dissolved Oxygen	YSI	600R	05E2392	NA	→	→	100%	~25°C	99.7%	NA	TH	6/29 7:18	NA	→	→	→
pH 4							4.0	↓	4.0	NA	↓	↓	NA	→	→	→
pH 7							7.0	↓	7.2	7.0	TH	↓	25°	7.01	TH	6/29 7:26
*Conductivity*①							500	~25°C	422	500	TH	6/29 7:40	25°	500.5	TH	6/29 7:42
ORP							↓ w/L	TH ↓	↓	↓	↓	↓				
Turbidity							0/10	25	0/10	NA	TH	6/29 8:13	25°	10	TH	~~8:1~~ 6/29 8:14

NOTES:

① Conductivity Std = ~~50~~ 50 mS/cm, initial value 49.9 no recal performed TH 6/29/07 7:51