



December 23, 2011

Mr. Scott Miller  
U.S. Environmental Protection Agency, Region IV  
4WD-SRTMB  
61 Forsyth Street, S.W.  
Atlanta, Georgia 30303-3104

**VIA EMAIL**

Subject: November 2011 Monthly Progress Report

Dear Mr. Miller:

On behalf of Beazer East, Inc. (Beazer), attached is the November 2011 Monthly Progress Report for the Cabot Carbon/Koppers Superfund Site in Gainesville, Florida, as required by 1991 Unilateral Administrative Order (UAO) and the 1994 UAO Amendment. If you have any questions or comments, please contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Greg W. Council'.

Gregory W. Council, P.E.  
Principal Engineer

cc: Kelsey Helton, FDEP  
John Mousa, ACEPD  
Rick Hutton, GRU  
John Herbert, GeoHydro Consultants  
Linda Paul, Koppers, Inc.  
Mitchell Brouman, TRMI  
Mike Slenska, TRMI  
Donna Kopach, TRMI  
Jim Erickson, Tetra Tech GEO  
Guy Roemer, Tetra Tech GEO

**November 2011**  
**MONTHLY PROGRESS REPORT**  
**Cabot Carbon/Koppers Superfund Site**  
**Gainesville, Florida**

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**1. Description of actions taken to comply with the Unilateral Administrative Order (March 1991) and estimate of the percentage of the RD/RA completed:**

- Beazer's Operation and Maintenance (O&M) Contractor performed routine treatment plant operation and maintenance services for the ground water remedial system.
- A new Record of Decision (ROD) was issued in February 2011. RD/RA activities are presently being planned and scheduled.

**2. Summary of results of sampling and tests and all other data during the month:**

- Instantaneous flow rates and totalizer volumes were measured in each extraction well.
- Passive NAPL recovery continues: 3.9 gallons of NAPL were bailed from Upper Hawthorn wells during the past month (2 recovery events). A total of 467.41 gallons have been bailed since the start of the NAPL recovery program on June 19, 2004. The two-week recovery schedule was started October 25, 2005. The attached table provides details of the NAPL recovery volumes by well and date.
- A total of 2,718,893 gallons of ground water were recovered by the Surficial Aquifer drains and extraction well system during the past month (system run time of 719.6 hours). The water was treated and discharged to Gainesville Regional Utilities (GRU). The average recovery rate for the month was approximately 63.0 gallons per minute (gpm). The recovery rate for each component is listed below.
  - Perimeter Extraction Wells: 444,157 gallons
  - FW-6: 31,310 gallons
  - FW-21B: 124,656 gallons
  - FW-31BE: 772,080 gallons
  - Former North Lagoon Drain: 900 gallons
  - Former Drip Track Drain: 422,220 gallons
  - Former Process Area Drain: 490,740 gallons
  - Former South Lagoon Drain: 432,830 gallons

Approximately 268,100,000 gallons have been recovered from the Surficial Aquifer extraction wells and four drains since the start of the Surficial Aquifer containment system in January 1995.

**3. Summary of all plans, reports, deliverables and procedures completed:**

- Completed monthly maintenance check.

- Inspected piezometers, extraction wells, piping, valves, treatment plant vessels and controls, buildings and grounds.
- Drained and cleaned clarifier and treated backwater water at Former South Lagoon and Process Area Drains.
- Started 4<sup>th</sup> quarter groundwater sampling of Floridan and Hawthorn wells the week of November 21st.
- Pulled and replaced pump at EW-8.
- Replaced regulator and drain tanks and cleaned auto drain on WWTP compressor.

**4. Projected work for the next month (December 2011) with schedule considerations:**

- Measure instantaneous flow rates and totalizer volumes for each extraction well.
- Continue NAPL removal from Hawthorn Group wells on a two-week schedule.
- Continue IRM groundwater sampling at FW-31BE.
- Complete 4<sup>th</sup> quarter groundwater sampling event
- A statement of work for remedial design and remedial action is presently in preparation; a full Site project schedule is being developed as part of this effort.

**5. Summary of problems or potential problems and actual or anticipated delays encountered during the month:**

- The North Lagoon Drain only recovered 900 gallons for the month because the water level elevation in the Surficial aquifer has dropped below the level of the pump intake. Water levels are low site wide as a result of low rainfall.

**6. Actions being taken to rectify problems or delays:**

- None this reporting period.

**7. Supplemental information:**

- None this reporting period. Once the project schedule has been updated to reflect RD activities, it will be included in future progress reports.

**8. Changes in personnel during this month:**

- None this reporting period.

Hawthorn Group Passive NAPL Recovery (Page 1 of 5)

Well Date	HG-9S		HG-10S		HG-10D		HG-11S		HG-12S		HG-12D		HG-15S		HG-16S		HG-16D		FW-6		Total Vol. removed (gal)
	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	
6/19/2004	0.25		2.42		0.17		2.74		1.04		1.13		NM		1.08		NM		NM		-
7/7/2004	0.4		3.25		Stain		2.44		Stain		Stain		ND		0.75		ND		ND		-
7/20/2004	NM	0.1	3.24	0.8	ND	0	3.08	0.8	1.74	0.2	NM	Trace	NM	NM	1.74	0.1	NM	NM	NM	NM	2
8/3/2004	ND	0	3.29	0.3	ND	0	2.78	0.3	2.39	Trace	ND	0	ND	0	1.38	0.65	ND	0	ND	0	1.25
8/10/2004	ND	Trace	1.2	0.3	ND	0	2.69	0.4	2.25	0.5	NM	0	ND	0	0.5	0.2	ND	0	ND	0	1.4
8/17/2004	NM	0	3.03	0.7	NM	0	3.16	0.8	2.37	0.6	NM	0	ND	0	1.4	0.6	ND	0	ND	0	2.7
8/24/2004	NM	0	3.01	0.6	NM	Trace	1.27	0.4	0.39	0.3	NM	Trace	ND	0	1.24	0.3	ND	0	ND	0	1.6
8/31/2004	ND	0	2.87	0.2	ND	0	1.36	0.1	1.32	0.1	ND	0	ND	0	NM	0.1	ND	0	ND	0	0.5
9/8/2004	NM	0	2.09	0.6	NM	0	2.03	0.5	1.38	0.5	NM	0	ND	0	NM	0	ND	0	ND	0	1.6
9/14/2004	ND	0	3.21	0.5	NM	0	0.61	0.1	2.49	0.4	MN	0	1.94	0.3	1.9	0.3	ND	0	ND	0	1.6
9/21/2004	NM	0	2.76	0.6	NM	0	0.5	0.1	0.68	0.1	ND	0	NM	0	2.24	0.1	ND	0	ND	0	0.9
9/28/2004	ND	0	2.64	0.5	ND	0	1.88	0.2	1.15	0.2	NM	0	0.82	0.1	NM	0	ND	0	ND	0	1
10/5/2004	ND	0	4.85	0.8	Stain	0	1.3	0.25	1.6	0.3	ND	0	0.37	0.06	2.09	0.3	ND	0	ND	0	1.71
10/12/2004	ND	0	3.46	0.4	ND	0	3.12	0.4	1.88	0.3	ND	0	1.97	0.1	Stain	0.1	ND	0	ND	0	1.3
10/20/2004	ND	0	2.33	0.4	ND	0	2.58	0.4	1.27	0.2	ND	0	1.4	0.2	Stain	0.1	ND	0	ND	0	1.3
10/26/2004	ND	0	3.65	0.6	ND	0	3.94	0.6	1.89	0.3	ND	0	2.37	0.4	3.48	0.6	ND	0	ND	0	2.5
11/2/2004	ND	0	2.8	0.5	ND	0	3	0.5	2.4	0.4	ND	0	1.07	0.2	2.15	0.3	ND	0	ND	0	1.9
11/9/2004	ND	0	2.74	0.5	ND	0	2.16	0.4	2.51	0.4	ND	0	1.69	0.3	1.26	0.2	ND	0	ND	0	1.8
11/16/2004	ND	0	2.57	0.4	ND	0	2.38	0.4	1.37	0.2	ND	0	0.5	0.1	1.11	0.2	ND	0	ND	0	1.3
11/23/2004	Stain	0	3.16	0.5	Slit. Stain	0	3.23	0.5	1.86	0.3	ND	0	1.4	0.2	1.85	0.3	ND	0	ND	0	1.8
11/30/2004	ND	0	2.21	0.4	ND	0	3.77	0.6	2.2	0.4	ND	0	1.74	0.3	2.35	0.4	ND	0	ND	0	2.1
12/8/2004	ND	0	3.08	0.5	ND	0	3.24	0.5	1.8	0.3	ND	0	1.23	0.2	1.84	0.3	ND	0	ND	0	1.8
12/14/2004	ND	0	3.34	0.5	ND	0	3.92	0.6	2.16	0.3	ND	0	1.48	0.2	2.33	0.4	ND	0	ND	0	2
1/5/2005	ND	0	3.57	0.6	ND	0	5.51	0.9	2.8	0.4	ND	0	2.37	0.4	3.59	0.6	ND	0	ND	0	2.9
1/11/2005	ND	0	2.68	0.4	ND	0	3.41	0.6	1.82	0.3	ND	0	1.77	0.3	1.89	0.3	ND	0	ND	0	1.9
1/20/2005	ND	0	2.82	0.5	ND	0	3.03	0.5	1.63	0.3	ND	0	1.46	0.2	1.62	0.2	ND	0	ND	0	1.7
1/27/2005	ND	0	3.14	0.5	ND	0	3.73	0.6	2.04	0.3	ND	0	1.9	0.3	2.12	0.4	ND	0	ND	0	2.1
2/8/2005	ND	0	3.44	0.5	ND	0	4.77	0.8	2.57	0.4	ND	0	2.35	0.4	3.42	0.6	ND	0	ND	0	2.7
2/15/2005	ND	0	3.5	0.6	ND	0	5.38	0.9	2.85	0.5	ND	0	2.56	0.4	3.21	0.5	ND	0	ND	0	2.9
2/22/2005	ND	0	2.67	0.4	ND	0	3.69	0.6	2.05	0.3	ND	0	1.8	0.3	1.49	0.2	ND	0	ND	0	1.8
3/1/2005	ND	0	3.12	0.5	ND	0	4.43	0.7	2.45	0.4	ND	0	2.16	0.3	2.69	0.4	ND	0	ND	0	2.3
3/11/2005	ND	0	2.67	0.4	ND	0	3.48	0.6	1.9	0.3	ND	0	1.5	0.2	1.95	0.3	ND	0	ND	0	1.8
3/15/2005	ND	0	2.6	0.4	ND	0	3.57	0.6	1.87	0.3	ND	0	1.39	0.2	1.82	0.3	ND	0	ND	0	1.8
3/22/2005	ND	0	2.26	0.4	ND	0	3.5	0.6	2.06	0.3	ND	0	2.05	0.3	1.29	0.2	ND	0	ND	0	1.8
3/29/2005	ND	0	2	0.3	ND	0	2.38	0.4	2.1	0.3	ND	0	2.33	0.4	2.91	0.5	ND	0	ND	0	1.9
4/6/2005	ND	0	2.61	0.4	ND	0	2.74	0.4	1.4	0.2	ND	0	1.92	0.3	1.38	0.2	ND	0	ND	0	1.5
4/14/2005	ND	0	3.24	0.5	ND	0	3.29	0.5	1.37	0.2	ND	0	1.92	0.3	1.33	0.2	ND	0	ND	0	1.7
4/19/2005	ND	0	2.64	0.4	ND	0	3.34	0.5	1.75	0.3	ND	0	1.66	0.3	1.84	0.3	ND	0	ND	0	1.8
4/27/2005	ND	0	1.76	0.3	ND	0	1.98	0.3	1.59	0.3	ND	0	2.13	0.4	1.42	0.2	ND	0	ND	0	1.5
5/3/2005	ND	0	2.3	0.4	ND	0	2.77	0.4	1.32	0.2	ND	0	1.69	0.3	1.04	0.2	ND	0	ND	0	1.5
5/12/2005	ND	0	2.61	0.4	ND	0	3.22	0.5	1.86	0.3	ND	0	1.71	0.3	1.85	0.3	ND	0	ND	0	1.8
5/17/2005	ND	0	2.3	0.4	ND	0	2.75	0.4	1.61	0.3	ND	0	0.83	0.1	1.63	0.3	ND	0	ND	0	1.5
5/24/2005	ND	0	2.15	0.4	ND	0	1.58	0.3	2.33	0.4	ND	0	1.34	0.2	1.89	0.3	ND	0	ND	0	1.6
6/1/2005	ND	0	2.62	0.4	ND	0	2.36	0.4	1.04	0.2	ND	0	1.91	0.3	1.02	0.2	ND	0	ND	0	1.5
6/9/2005	ND	0	1.6	0.3	ND	0	1.97	0.3	1.11	0.2	ND	0	1.31	0.2	1.43	0.2	ND	0	ND	0	1.2
6/15/2005	ND	0	1.3	0.2	ND	0	1.57	0.3	1.17	0.2	ND	0	1.54	0.2	1.42	0.2	ND	0	ND	0	1.1
6/22/2005	ND	0	1.81	0.3	ND	0	1.62	0.3	1.65	0.3	ND	0	1.64	0.3	1.6	0.3	ND	0	ND	0	1.5
6/28/2005	ND	0	3.01	0.5	ND	0	3.21	0.5	1.12	0.2	ND	0	1.93	0.3	1.33	0.2	ND	0	ND	0	1.7
7/7/2005	ND	0	3.06	0.5	ND	0	0.87	0.1	2	0.3	ND	0	1.73	0.3	1.63	0.3	ND	0	ND	0	1.5
7/13/2005	ND	0	2.37	0.4	ND	0	1.98	0.3	1.2	0.2	ND	0	0.79	0.1	1.3	0.2	ND	0	ND	0	1.2
7/19/2005	ND	0	2.12	0.3	ND	0	1.71	0.3	1.02	0.2	ND	0	0.64	0.1	1.02	0.2	ND	0	ND	0	1.1
7/26/2005	ND	0	1.43	0.2	ND	0	0.87	0.1	0.76	0.1	ND	0	1.84	0.3	1.23	0.2	ND	0	ND	0	0.9
8/2/2005	ND	0	1.37	0.2	ND	0	0.76	0.1	0.62	0.1	ND	0	1.85	0.3	1.2	0.2	ND	0	ND	0	0.9

Hawthorn Group Passive NAPL Recovery (Page 2 of 5)

Well	HG-9S		HG-10S		HG-10D		HG-11S		HG-12S		HG-12D		HG-15S		HG-16S		HG-16D		FW-6		Total Vol. removed (gal)
	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	
8/9/2005	ND	0	1.52	0.2	ND	0	0.65	0.1	0.98	0.2	ND	0	1.9	0.3	1.59	0.3	ND	0	ND	0	1.1
8/16/2005	ND	0	1.55	0.2	ND	0	0.62	0.1	0.86	0.1	ND	0	2.04	0.3	1.46	0.2	ND	0	ND	0	0.9
8/23/2005	ND	0	1.57	0.3	ND	0	0.83	0.1	1.06	0.2	ND	0	2.14	0.4	1.68	0.3	ND	0	ND	0	1.3
8/30/2005	ND	0	1.71	0.3	ND	0	1.17	0.2	1.11	0.2	ND	0	1.83	0.3	1.93	0.3	ND	0	ND	0	1.3
9/7/2005	ND	0	1.57	0.3	ND	0	1.1	0.2	1.03	0.2	ND	0	1.85	0.3	1.94	0.3	ND	0	ND	0	1.3
9/13/2005	ND	0	1.2	0.2	ND	0	1.02	0.2	0.76	0.1	ND	0	1.64	0.3	1.67	0.3	ND	0	ND	0	1.1
9/20/2005	ND	0	1.05	0.2	ND	0	0.96	0.2	0.61	0.1	ND	0	1.49	0.2	1.63	0.3	ND	0	ND	0	1
9/27/2005	ND	0	0.92	0.1	ND	0	1.17	0.2	1.22	0.2	ND	0	1.34	0.2	1.23	0.2	ND	0	ND	0	0.9
10/4/2005	ND	0	0.97	0.2	ND	0	1.06	0.2	1.16	0.2	ND	0	1.24	0.2	1.14	0.2	ND	0	ND	0	1
10/11/2005	ND	0	1.17	0.2	ND	0	0.99	0.2	1.06	0.2	ND	0	1.14	0.2	1.22	0.2	ND	0	ND	0	1
10/25/2005	ND	0	1.21	0.2	ND	0	1.17	0.2	1.1	0.2	ND	0	1.32	0.2	1.34	0.2	ND	0	ND	0	1
11/8/2005	ND	0	1.4	0.2	ND	0	1.24	0.2	1.22	0.2	ND	0	1.34	0.2	1.37	0.2	ND	0	ND	0	1
11/30/2005	ND	0	1.42	0.2	ND	0	1.28	0.2	1.17	0.2	ND	0	1.4	0.2	1.45	0.2	ND	0	ND	0	1
12/14/2005	ND	0	1.43	0.2	ND	0	1.33	0.2	2.95	0.5	ND	0	1.53	0.2	1.39	0.2	ND	0	ND	0	1.3
1/3/2006	ND	0	1.59	0.3	ND	0	1.57	0.3	3.15	0.5	ND	0	1.7	0.3	1.5	0.2	ND	0	ND	0	1.6
1/19/2006	ND	0	3.76	0.6	stain	0	3.25	0.5	3.98	0.6	ND	0	3.01	0.5	2.85	0.5	ND	0	ND	0	2.7
2/10/2006	ND	0	3.01	0.5	ND	0	2.68	0.4	3.65	0.6	ND	0	2.8	0.5	2.59	0.4	ND	0	ND	0	2.4
2/23/2006	ND	0	3.08	0.5	ND	0	2.73	0.4	3.2	0.5	ND	0	2.84	0.5	2.68	0.4	ND	0	ND	0	2.3
3/7/2006	ND	0	2.61	0.4	ND	0	2.68	0.4	3.46	0.6	ND	0	2.02	0.3	2.49	0.4	ND	0	ND	0	2.1
3/21/2006	ND	0	2.46	0.4	ND	0	2.55	0.4	3.35	0.5	ND	0	1.74	0.3	2.22	0.4	ND	0	ND	0	2
4/4/2006	ND	0	2.26	0.4	ND	0	1.67	0.3	1.87	0.3	ND	0	2.3	0.4	2.23	0.4	ND	0	ND	0	1.8
4/18/2006	ND	0	2.15	0.4	ND	0	2.38	0.4	2.74	0.4	ND	0	2.34	0.4	2.48	0.4	ND	0	ND	0	2
5/3/2006	ND	0	2.01	0.3	ND	0	2.46	0.4	2.5	0.4	ND	0	2.34	0.4	2.99	0.5	ND	0	ND	0	2
5/17/2006	ND	0	5.64	0.9	ND	0	5.64	0.9	6	1	ND	0	6.74	1.1	5.82	0.9	ND	0	ND	0	4.8
5/30/2006	ND	0	3.12	0.5	ND	0	2.75	0.4	3.06	0.5	ND	0	2.43	0.4	2.45	0.4	ND	0	ND	0	2.2
6/15/2006	ND	0	3.27	0.5	ND	0	2.87	0.5	3.12	0.5	ND	0	2.58	0.4	2.59	0.4	ND	0	ND	0	2.3
6/27/2006	ND	0	2.8	0.5	ND	0	1.87	0.3	2.55	0.4	ND	0	2.34	0.4	1.99	0.3	ND	0	ND	0	1.9
7/13/2006	ND	0	2.96	0.5	ND	0	2.08	0.3	2.67	0.4	ND	0	2.5	0.4	2.23	0.4	ND	0	ND	0	2
7/25/2006	ND	0	3.07	0.5	ND	0	1.98	0.3	2.73	0.4	ND	0	2.6	0.4	2	0.3	ND	0	ND	0	1.9
8/8/2006	ND	0	2.26	0.4	ND	0	1.98	0.3	2.31	0.4	ND	0	2.01	0.3	2.05	0.3	ND	0	ND	0	1.7
8/22/2006	ND	0	2.11	0.3	ND	0	2.18	0.4	2.36	0.4	ND	0	2.28	0.4	2.31	0.4	ND	0	ND	0	1.9
9/5/2006	ND	0	2.26	0.4	ND	0	2.14	0.3	2.56	0.4	ND	0	2.46	0.4	2.43	0.4	ND	0	ND	0	1.9
9/19/2006	ND	0	2.47	0.4	ND	0	2.28	0.4	2.62	0.4	ND	0	2.66	0.4	2.49	0.4	ND	0	ND	0	2
10/3/2006	ND	0	2.51	0.4	ND	0	2.31	0.4	2.59	0.4	ND	0	2.7	0.4	2.62	0.4	ND	0	ND	0	2
10/17/2006	ND	0	2.56	0.4	ND	0	2.33	0.4	2.62	0.4	ND	0	2.71	0.4	2.54	0.4	ND	0	ND	0	2
10/31/2006	ND	0	2.41	0.4	ND	0	2.24	0.4	2.56	0.4	ND	0	2.64	0.4	2.49	0.4	ND	0	ND	0	2
11/14/2006	ND	0	2.57	0.4	ND	0	2.29	0.4	2.67	0.4	ND	0	2.7	0.4	2.54	0.4	ND	0	ND	0	2
11/28/2006	ND	0	1.92	0.3	ND	0	2.19	0.4	2.12	0.4	ND	0	2.52	0.4	2.23	0.4	ND	0	ND	0	1.9
12/12/2006	ND	0	1.97	0.3	ND	0	2.24	0.4	2.16	0.4	ND	0	2.54	0.4	2.26	0.4	ND	0	ND	0	1.9
12/27/2006	ND	0	2.1	0.3	ND	0	2.38	0.4	2.22	0.4	ND	0	2.6	0.4	2.24	0.4	ND	0	ND	0	1.9
1/10/2007	ND	0	2.31	0.4	ND	0	2.64	0.4	2.36	0.4	ND	0	2.75	0.4	2.34	0.4	ND	0	ND	0	2
1/23/2007	ND	0	2.37	0.4	ND	0	2.79	0.4	2.42	0.4	ND	0	2.71	0.4	2.4	0.4	ND	0	ND	0	2
2/6/2007	ND	0	2.42	0.4	ND	0	2.74	0.4	2.46	0.4	ND	0	2.65	0.4	2.46	0.4	ND	0	ND	0	2
2/20/2007	ND	0	2.48	0.4	ND	0	2.67	0.4	2.47	0.4	ND	0	2.56	0.4	2.49	0.4	ND	0	ND	0	2
3/6/2007	ND	0	2.52	0.4	ND	0	2.61	0.4	2.45	0.4	ND	0	2.65	0.4	2.54	0.4	ND	0	ND	0	2
3/20/2007	ND	0	2.31	0.4	ND	0	2.6	0.4	2.45	0.4	ND	0	2.53	0.4	2.47	0.4	ND	0	ND	0	2
4/3/2007	ND	0	2.42	0.4	ND	0	2.55	0.4	2.5	0.4	ND	0	2.5	0.4	2.49	0.4	ND	0	ND	0	2
4/17/2007	ND	0	2.52	0.4	ND	0	2.61	0.4	2.45	0.4	ND	0	2.56	0.4	2.43	0.4	ND	0	ND	0	2
5/9/2007	ND	0	3.51	0.6	ND	0	4.14	0.7	3.65	0.6	ND	0	3.64	0.6	3.92	0.6	ND	0	ND	0	3.1
5/31/2007	ND	0	2.11	0.3	ND	0	3.63	0.6	3.2	0.5	ND	0	2.83	0.5	2.47	0.4	ND	0	ND	0	2.3
6/12/2007	ND	0	1.97	0.3	ND	0	2.77	0.4	2.62	0.4	ND	0	2.3	0.4	2.03	0.3	ND	0	ND	0	1.8
6/26/2007	stain	0	2.07	0.3	stain	0	3.63	0.6	4.05	0.7	ND	0	2.8	0.4	2.49	0.4	ND	0	ND	0	2.4
7/10/2007	Trace	0	1.81	0.5	ND	0	11.64	1	7.04	1.25	ND	0	8.87	1.25	4.73	0.5	ND	0	ND	0	4.5

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Well	HG-9S		HG-10S		HG-10D		HG-11S		HG-12S		HG-12D		HG-15S		HG-16S		HG-16D		FW-6		Total Vol. removed (gal)
	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	
7/26/2007	stain	0	1.95	0.25	stain	0	12.45	2.75	7.45	1	ND	0	7.58	0.6	3.98	0.25	ND	0	ND	0	4.85
8/8/2007	stain	0	1.13	0.25	stain	0	12.38	2.5	7.05	1	ND	0	10.14	0.75	3.68	0.25	ND	0	ND	0	4.75
8/21/2007	stain	0	2.23	0.25	stain	0	10.34	2.25	5.98	1.25	ND	0	11.51	0.75	2.27	0.25	ND	0	ND	0	4.75
9/5/2007	stain	0	2	1.25	stain	0	7.7	1.5	5.31	1	ND	0	12.54	1	4.64	0.5	ND	0	ND	0	5.25
9/19/2007	stain	0	0.42	0.2	stain	0	2.98	0.4	2.97	0.3	ND	0	2.5	0.4	0.54	0.1	ND	0	ND	0	1.4
10/3/2007	stain	0	1.02	0.1	stain	0	7.6	1.5	4.53	0.75	ND	0	15.75	0.75	6.07	1.5	ND	0	ND	0	4.6
10/16/2007	stain	0	1.45	0.25	stain	0	6.46	0.5	4.61	0.25	ND	0	14.36	2	3.39	1	ND	0	ND	0	4
10/30/2007	stain	0	1.05	0.25	stain	0	5.18	0.6	3.12	0.5	ND	0	9.26	1.75	1.65	0.6	ND	0	ND	0	3.7
11/13/2007	stain	0	1.61	0.3	stain	0	5.04	0.8	3.01	0.4	ND	0	8.84	1.5	1.74	0.65	ND	0	ND	0	3.65
11/28/2007	stain	0	1.16	0.2	stain	0	5.24	0.85	2.95	0.4	ND	0	8.59	1.5	1.44	0.4	ND	0	ND	0	3.35
12/11/2007	stain	0	1.82	0.25	stain	0	4.88	0.65	2.98	0.4	ND	0	8.75	1.7	1.22	0.3	ND	0	ND	0	3.3
12/28/2007	stain	0	2.14	0.3	stain	0	5.4	0.8	3.39	0.5	ND	0	8.8	1.6	2.44	0.3	ND	0	ND	0	3.5
1/9/2008	stain	0	2.07	0.3	stain	0	4.81	0.8	3.76	0.5	ND	0	8.75	1.4	1.33	0.3	ND	0	ND	0	3.3
1/21/2008	stain	0	1.91	0.2	stain	0	4.64	0.6	2.86	0.4	ND	0	8.77	1.4	2.36	0.4	ND	0	ND	0	3
2/5/2008	stain	0	2.06	0.25	stain	0	5	1	3.18	0.5	ND	0	8.7	1.3	2.34	0.3	ND	0	ND	0	3.35
2/19/2008	ND	0	2.26	0.2	stain	0	4.45	0.9	3.26	0.5	ND	0	8.76	1.3	2.62	0.4	ND	0	ND	0	3.3
3/4/2008	stain	0	NM	0	NM	0	4.27	0.7	3.24	0.5	ND	0	8.24	1.25	2.53	0.3	ND	0	ND	0	2.75
3/20/2008	stain	0	NM	0	NM	0	4.5	0.9	3.16	0.4	ND	0	8.51	1.25	2.35	0.4	ND	0	ND	0	2.95
4/1/2008	stain	0	NM	0	NM	0	4.04	0.6	2.93	0.5	ND	0	7.95	1.2	2.42	0.4	ND	0	ND	0	2.7
4/16/2008	stain	0	NM	0	NM	0	4.43	0.7	2.72	0.4	ND	0	8.04	1.2	1.95	0.4	ND	0	ND	0	2.7
4/29/2008	stain	0	NM	0	NM	0	4.27	0.75	2.57	0.4	ND	0	8.29	1.1	1.56	0.4	ND	0	ND	0	2.65
5/13/2008	stain	0	NM	0	NM	0	4	0.75	2.79	0.5	ND	0	8.1	1.2	1.79	0.3	ND	0	ND	0	2.75
5/27/2008	stain	0	NM	0	NM	0	3.98	0.9	2.58	0.4	ND	0	7.9	1.2	1.57	0.3	ND	0	ND	0	2.8
6/10/2008	stain	0	NM	0	NM	0	3.84	0.7	2.72	0.4	ND	0	7.94	1.2	1.43	0.4	ND	0	ND	0	2.7
6/24/2008	stain	0	NM	0	NM	0	3.91	0.6	2.52	0.4	ND	0	7.76	1.1	1.42	0.3	ND	0	ND	0	2.4
7/10/2008	stain	0	NM	0	NM	0	3.99	0.7	3.15	0.4	ND	0	7.73	1	1.89	0.4	ND	0	ND	0	2.5
7/24/2008	stain	0	NM	0	NM	0	5.39	0.9	3.26	0.5	ND	0	8.38	1.1	1.83	0.3	ND	0	ND	0	2.8
8/7/2008	stain	0	NM	0	NM	0	4.38	0.75	2.85	0.3	ND	0	8.38	1.1	1.44	0.4	ND	0	ND	0	2.55
8/19/2008	stain	0	NM	0	NM	0	3.76	0.7	2.83	0.4	ND	0	8.27	1.1	1.16	0.3	ND	0	ND	0	2.5
9/3/2008	stain	0	stain	0	stain	0	4.34	0.7	2.83	0.4	ND	0	8.35	1.1	1.26	0.25	ND	0	ND	0	2.45
9/16/2008	stain	0	stain	0	stain	0	3.98	0.75	2.79	0.4	ND	0	8.6	1	1.32	0.25	ND	0	ND	0	2.4
9/30/2008	stain	0	0.59	0.1	stain	0	3.9	0.7	3.03	0.3	ND	0	7.97	1.1	1.39	0.3	ND	0	ND	0	2.5
10/14/2008	stain	0	1.17	0.1	stain	0	4.04	0.75	2.68	0.4	ND	0	7.96	1.1	1.52	0.3	ND	0	ND	0	2.65
10/28/2008	stain	0	1.37	0.2	stain	0	3.92	0.7	2.73	0.35	ND	0	7.88	1	1.4	0.3	ND	0	ND	0	2.55
11/11/2008	stain	0	1.48	0.2	stain	0	3.9	0.7	2.78	0.35	ND	0	8.15	1	1.33	0.25	ND	0	ND	0	2.5
11/25/2008	stain	0	1.35	0.2	stain	0	3.79	0.75	2.37	0.4	ND	0	7.84	1.1	1.04	0.25	ND	0	ND	0	2.7
12/13/2008	stain	0	1.43	0.2	stain	0	3.99	0.7	2.66	0.4	ND	0	7.97	1.2	1.13	0.2	ND	0	ND	0	2.7
12/23/2008	stain	0	1.38	0.2	stain	0	3.68	0.7	2.17	0.4	ND	0	8.34	0.8	1.12	0.2	ND	0	ND	0	2.3
1/6/2009	stain	0	1.18	0.2	stain	0	3.94	0.7	2.56	0.4	ND	0	8.11	1	1.29	0.2	ND	0	ND	0	2.5
1/20/2009	stain	0	1.44	0.25	stain	0	4.2	0.75	2.72	0.4	ND	0	8.07	0.9	0.94	0.2	ND	0	ND	0	2.5
2/3/2009	stain	0	3.77	0.2	stain	0	5.33	0.7	3.89	0.4	ND	0	9.33	0.9	3.29	0.25	ND	0	ND	0	2.45
2/18/2009	stain	0	1.49	0.25	stain	0	3.63	0.75	2.46	0.45	ND	0	7.96	0.9	1.32	0.2	ND	0	ND	0	2.55
3/4/2009	stain	0	1.99	0.25	stain	0	3.59	0.6	2.6	0.4	ND	0	7.74	1	1.03	0.2	ND	0	ND	0	2.45
3/17/2009	NM	0	NM	0	NM	0	NM	0	NM	0	NM	0	7.55	1	NM	0	NM	0	NM	0	1
3/18/2009	stain	0	1.89	0.25	stain	0	3.77	0.7	2.47	0.4	ND	0	6.18	0.65	0.97	0.15	ND	0	ND	0	2.15
3/31/2009	stain	0	1.81	0.2	stain	0	3.89	0.7	2.38	0.4	ND	0	6.94	0.9	0.94	0.1	ND	0	ND	0	2.3
4/14/2009	stain	0	1.5	0.3	stain	0	3.74	0.8	2.22	0.3	ND	0	6.6	0.9	1.09	0.1	ND	0	ND	0	2.4
5/1/2009	stain	0	1.54	0.3	stain	0	4.03	0.6	2.1	0.3	ND	0	6.74	0.75	1.27	0.2	ND	0	ND	0	2.15
5/15/2009	stain	0	1.6	0.25	stain	0	3.77	0.7	2.16	0.4	ND	0	7.2	0.75	1.02	0.2	ND	0	ND	0	2.3
5/27/2009	stain	0	1.41	0.3	stain	0	3.54	0.65	2.02	0.4	ND	0	6.75	0.95	0.82	0.3	ND	0	ND	0	2.6
6/9/2009	stain	0	1.5	0.3	stain	0	4	0.7	2.12	0.4	ND	0	6.99	1	0.86	0.3	ND	0	ND	0	2.7
6/25/2009	stain	0	1.54	0.3	stain	0	3.96	0.75	1.96	0.5	ND	0	7.43	0.8	0.63	0.25	ND	0	ND	0	2.6
7/9/2009	stain	0	1.71	0.3	stain	0	3.82	0.7	2.39	0.4	ND	0	7.13	0.9	0.91	0.1	ND	0	ND	0	2.4

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Well Date	HG-9S		HG-10S		HG-10D		HG-11S		HG-12S		HG-12D		HG-15S		HG-16S		HG-16D		FW-6		Total Vol. removed (gal)
	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	
7/24/2009	stain	0	1.95	0.25	stain	0	3.98	0.7	3.25	0.3	ND	0	6.78	1	0.97	0.1	ND	0	ND	0	2.35
8/6/2009	stain	0	1.83	0.25	stain	0	3.42	0.8	2.95	0.5	ND	0	7.36	1.1	1.03	0.2	ND	0	ND	0	2.85
8/20/2009	stain	0	1.87	0.3	stain	0	3.43	0.8	2.42	0.5	ND	0	7.93	1.1	1.07	0.2	stain	0	ND	0	2.9
9/3/2009	stain	0	1.81	0.3	stain	0	2.84	0.8	2.06	0.3	ND	0	7.04	1	0.92	0.1	stain	0	ND	0	2.5
9/16/2009	stain	0	1.53	0.3	stain	0	2.7	0.7	2.23	0.35	ND	0	6.73	0.8	1.05	0.15	stain	0	ND	0	2.3
9/30/2009	stain	0	2.1	0.3	stain	0	2.66	0.6	2.51	0.4	ND	0	6.69	0.9	1.13	0.2	stain	0	ND	0	2.4
10/21/2009	stain	0	2.83	0.3	stain	0	2.69	0.65	2.96	0.5	ND	0	6.94	1.05	1.21	0.2	stain	0	NM	0	2.7
11/5/2009	stain	0	3.01	0.3	stain	0	2.91	0.6	2.86	0.6	ND	0	6.75	2.1	1.33	0.2	stain	0	NM	0	3.8
11/18/2009	stain	0	1.88	0.3	stain	0	2.78	0.6	2.78	0.4	ND	0	5.15	1.6	1.57	0.2	stain	0	NM	0	3.1
12/1/2009	stain	0	1.7	0.2	stain	0	2.54	0.6	2.92	0.45	ND	0	4	1	1.03	0.1	stain	0	NM	0	2.35
12/17/2009	stain	0	1.59	0.2	stain	0	2.69	0.5	2.79	0.5	ND	0	3.9	1	1.55	0.2	stain	0	NM	0	2.4
12/31/2009	stain	0	2.08	0.3	stain	0	2.54	0.6	2.74	0.4	ND	0	3.6	0.9	0.93	0.1	stain	0	NM	0	2.3
1/14/2010	stain	0	1.98	0.25	stain	0	2.38	0.6	3.03	0.4	ND	0	3.57	0.9	1.2	0.2	stain	0	NM	0	2.35
1/26/2010	stain	0	1.55	0.2	stain	0	2.39	0.5	2.06	0.3	ND	0	NA	0.65	1.06	0.1	stain	0	NM	0	1.75
2/10/2010	stain	0	1.51	0.1	stain	0	2.45	0.4	2.93	0.3	ND	0	3.33	0.65	1.15	0.1	stain	0	NM	0	1.55
2/25/2010	stain	0	1.8	0.25	stain	0	2.54	0.4	2.73	0.3	ND	0	3.13	0.4	0.95	0.1	stain	0	NM	0	1.45
3/10/2010	stain	0	1.97	0.25	stain	0	2.32	0.4	2.43	0.4	ND	0	4.14	0.5	1.26	0.2	stain	0	NM	0	1.75
3/29/2010	stain	0	2.35	0.3	stain	0	2.74	0.6	2.93	0.4	ND	0	5.17	0.75	0.93	0.1	stain	0	NM	0	2.15
4/14/2010	stain	0	1.6	0.2	stain	0	2.69	0.6	2.15	0.45	ND	0	5.29	0.9	0.97	0.1	stain	0	NM	0	2.25
4/29/2010	stain	0	2.06	0.3	stain	0	2.61	0.45	2.98	0.5	ND	0	5.65	1	1.53	0.2	stain	0	NM	0	2.45
5/14/2010	stain	0	1.36	0.2	stain	0	2.54	0.4	3.03	0.4	ND	0	5.43	0.8	1.05	0.1	stain	0	NM	0	1.9
5/26/2010	stain	0	1.82	0.15	stain	0	2.38	0.5	3.15	0.5	ND	0	5.2	0.75	1.87	0.2	stain	0	NM	0	2.1
6/10/2010	stain	0	2.01	0.25	stain	0	2.33	0.45	3.05	0.45	ND	0	5.1	0.8	1.47	0.15	stain	0	NM	0	2.1
6/24/2010	stain	0	1.18	0.15	stain	0	2.27	0.45	2.83	0.4	ND	0	5.14	0.8	1.5	0.2	stain	0	NM	0	2
7/8/2010	stain	0	1.32	0.25	stain	0	2.28	0.4	2.9	0.4	ND	0	4.9	0.75	1.88	0.1	stain	0	NM	0	1.9
7/21/2010	stain	0	1.5	0.2	stain	0	2.14	0.4	3.06	0.5	ND	0	4.8	0.8	1.05	0.15	stain	0	NM	0	2.05
8/5/2010	stain	0	1.56	0.2	stain	0	2.31	0.4	3.06	0.5	ND	0	4.7	0.8	1.47	0.15	stain	0	NM	0	2.05
8/19/2010	stain	0	1.96	0.1	stain	0	2.28	0.4	2.9	0.55	ND	0	4.99	0.8	1.06	0.2	stain	0	NM	0	2.05
9/2/2010	stain	0	2.01	0.25	stain	0	2.21	0.4	3.03	0.5	ND	0	4.95	0.65	1.37	0.2	stain	0	NM	0	2
9/15/2010	stain	0	2.08	0.25	stain	0	2.14	0.35	2.98	0.45	ND	0	5.04	0.75	1.07	0.1	stain	0	NM	0	1.9
9/29/2010	stain	0	2.07	0.3	stain	0	2.14	0.4	2.9	0.4	ND	0	4.95	0.65	1.77	0.15	stain	0	NM	0	1.9
10/13/2010	stain	0	2.53	0.4	stain	0	2.19	0.4	2.86	0.45	ND	0	5.2	0.7	1.27	0.15	stain	0	NM	0	2.1
10/28/2010	stain	0	2.51	0.25	stain	0	2.24	0.4	2.95	0.4	ND	0	5.34	0.8	1.05	0.1	stain	0	NM	0	1.95
11/10/2010	stain	0	1.97	0.3	stain	0	2.21	0.4	3.06	0.4	ND	0	5.15	0.75	1.09	0.15	stain	0	NM	0	2
11/24/2010	stain	0	1.9	0.3	stain	0	NM	0.4	2.92	0.4	ND	0	NM	0.75	1.48	0.15	stain	0	NM	0	2
12/9/2010	stain	0	NM	0.4	stain	0	NM	0.4	NM	0.45	ND	0	NM	0.65	NM	0.1	stain	0	NM	0	2
12/21/2010	stain	0	3.05	0.3	stain	0	1.93	0.5	3.02	0.5	ND	0	5.1	0.8	1.1	0.2	stain	0	NM	0	2.3
1/6/2011	stain	0	2.7	0.35	stain	0	2.37	0.4	2.88	0.45	ND	0	4.5	0.6	1.37	0.2	stain	0	NM	0	2
1/19/2011	stain	0	2.9	0.3	stain	0	2.11	0.4	3.11	0.4	ND	0	5.35	0.8	1.91	0.25	stain	0	NM	0	2.15
2/2/2011	stain	0	2.49	0.25	stain	0	2.19	0.4	3.03	0.4	ND	0	5.34	0.65	1.47	0.15	stain	0	NM	0	1.85
2/17/2011	stain	0	2.43	0.2	stain	0	2.18	0.4	3.05	0.4	ND	0	5.54	0.65	1.48	0.15	stain	0	NM	0	1.8
3/3/2011	stain	0	2.56	0.35	stain	0	2.14	0.4	3.12	0.45	ND	0	5.53	0.8	0.63	0.1	stain	0	NM	0	2.1
3/16/2011	stain	0	2.05	0.3	stain	0	1.94	0.4	2.96	0.4	ND	0	5.4	0.7	1.4	0.15	stain	0	NM	0	1.95
3/30/2011	stain	0	1.88	0.25	stain	0	2.08	0.4	3.03	0.4	ND	0	5.53	0.75	1.03	0.1	stain	0	NM	0	1.9
4/13/2011	stain	0	2.23	0.35	stain	0	1.67	0.35	2.94	0.4	ND	0	5.53	0.75	1.03	0.15	stain	0	NM	0	2
4/28/2011	stain	0	2.89	0.3	stain	0	2.09	0.4	3.02	0.4	ND	0	5.64	0.75	0.7	0.1	stain	0	NM	0	1.95
5/11/2011	stain	0	2.55	0.35	stain	0	1.98	0.4	2.92	0.4	ND	0	5.46	0.65	0.85	0.15	stain	0	NM	0	1.95
5/26/2011	stain	0	1.9	0.3	stain	0	1.98	0.4	3.05	0.4	ND	0	5.13	0.65	1.53	0.25	stain	0	NM	0	2
6/8/2011	stain	0	2.56	0.3	stain	0	2.03	0.4	2.89	0.4	ND	0	4.96	0.75	0.7	0.15	stain	0	NM	0	2
6/23/2011	stain	0	2.1	0.4	stain	0	2.19	0.4	3.05	0.45	ND	0	4.70	0.5	1.55	0.2	stain	0	NM	0	1.95
7/7/2011	stain	0	1.71	0.25	stain	0	2.14	0.4	3.05	0.4	ND	0	5.5	0.7	1.37	0.15	stain	0	NM	0	1.9
7/20/2011	stain	0	2.08	0.25	stain	0	1.94	0.4	2.86	0.35	ND	0	5.13	0.75	0.77	0.1	stain	0	NM	0	1.85
8/4/2011	stain	0	2.55	0.4	stain	0	2.19	0.45	2.66	0.4	ND	0	5.45	0.7	0.54	0.1	stain	0	NM	0	2.05

Hawthorn Group Passive NAPL Recovery (Page 5 of 5)

Well	HG-9S		HG-10S		HG-10D		HG-11S		HG-12S		HG-12D		HG-15S		HG-16S		HG-16D		FW-6		Total Vol. removed (gal)
	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	Thickness (ft)	Vol. Removed (gal)	
8/17/2011	stain	0	1.81	0.25	stain	0	2.11	0.4	2.91	0.4	ND	0	5.40	0.75	1.25	0.15	stain	0	NM	0	1.95
9/1/2011	stain	0	2.06	0.35	stain	0	2.18	0.4	2.92	0.35	ND	0	5.13	0.7	1.03	0.15	stain	0	NM	0	1.95
9/15/2011	stain	0	2.35	0.35	stain	0	2.04	0.4	2.46	0.4	ND	0	5.37	0.55	1.33	0.25	stain	0	NM	0	1.95
9/29/2011	stain	0	2.28	0.4	stain	0	1.98	0.4	2.86	0.4	ND	0	5.50	0.6	1.21	0.25	stain	0	NM	0	2.05
10/13/2011	stain	0	2.51	0.35	stain	0	1.97	0.4	2.84	0.35	ND	0	5.37	0.75	0.52	0.15	stain	0	NM	0	2
10/26/2011	stain	0	2.08	0.35	stain	0	1.68	0.35	3.04	0.4	ND	0	5.10	0.7	1.14	0.2	stain	0	NM	0	2
11/9/2011	stain	0	2.02	0.3	stain	0	1.61	0.3	2.95	0.4	ND	0	5.13	0.75	1.74	0.15	stain	0	NM	0	1.9
11/27/2011	stain	0	1.91	0.35	stain	0	2.24	0.4	2.92	0.45	ND	0	5.51	0.7	1.05	0.1	stain	0	NM	0	2
<b>Total Removed</b>		0.1		68.65		0.0		114.75		85.70		0.0		137.96		60.25		0.0		0.0	467.41

Notes:

- 6/19/04 measured with bailer
- 7/07/04 measured with weighted cotton string
- Other dates used Bailer & Interface Probe
- ND indicates NAPL not detected
- NM indicates measurement not taken
- Stain indicates that NAPL stained measurement probe, but thickness was unmeasurable
- Blank indicated no measured DNAPL removal
- 10/25/05 began two-week schedule
- 5/17/06 used low-flow pump (as opposed to the bailer)
- 7/10/07 RH performed bailing
- 11/13/07 New Heron Oil/Water Interface Probe (H01L/SM01L) now in use
- 3/4/08 through 8/25/08 Key Environmental pumping well running 8 ft away from HG-10S and HG-10D
- 12/23/08 Michael Toundas performed DNAPL recovery
- 2/3/2009 difficulties with obtaining DNAPL/water interface with new tape
- 3/18/09 - only performed DNAPL recovery at HG-15S
- starting on 8/20/09 - used peristaltic pump at HG-11S & HG-15S; stain observed at HG-16D and M-22B
- 10/21/2009 - FW-6 no longer measured due to Upper Floridan IRM