

June 18, 2010

GRU Comments to

Hawthorn Group Sampling Results Report and Revised Work Plan,

Cabot Carbon / Koppers Superfund Site, Gainesville, Florida,

dated May 2010

Comment 1: Gradient still considers that the contamination found in HG-29S and HG-29D may be due to drag-down of contamination from the Shallow Aquifer. There are no remaining shallow aquifer wells in the area but Gradient intends to place one, SA-29, adjacent to HG-29S/D. However, even the data from HG-29S/D available to this point indicate that organic compounds in Hawthorn groundwater are unlikely to be the result of drag-down from the Shallow Aquifer to the HG wells, or from HG-29S down to HG-29D. The following selected data ($\mu\text{g/L}$) from these wells from GeoTrans and Gradient support this opinion.

Parameter	HG-29S May 2009	HG-29S Aug 2009	HG-29S Nov 2009	HG-29D May 2009	HG-29D Aug 2009	HG-29D Nov 2009
Benzene	400	420	340	120	150	130
Toluene	1,700	1,900	1,300	180	260	220
Ethylbenzene	120	100	81	35	58	48
Xylenes	269	208	182	65	108	94
Tol/Bz	4.3	4.5	3.8	1.5	1.7	1.7
Naphthalene	ND	ND	<9.2	68	180	240
Phenol	3,000	28,000	27,000	1,700	2,800	6,800
2-Methyl Phenol	1,300	12,000	12,000	1,300	1,800	2,900
3+4-Methyl Phenol	4,200	34,000	30,000	7,800	13,000	20,000
24-Dimethyl Phenol	570	8,000	7,300	1,600	2,200	2,500
3+4MPH/Ph	1.4	1.2	1.1	4.6	4.6	2.9
Borneol	6,000	3,700	NA	ND	NA	NA

Camphor	3,400	1,900	NA	ND	NA	NA
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The groundwater in HG-29S is dissimilar to that in HG-29D. Naphthalene is present in the deep, but absent in the shallow. Borneol and camphor are present in the shallow, but absent in the deep. The ratios of Toluene/Benzene and 3+4 Methyl Phenol / Phenol are distinctly different between the shallow and deep. The groundwater in HG-29S and HG-29D could not have been derived from the same source, either as drag-down from the Shallow Aquifer, or drag-down from the shallow HG to the deep HG.

Comment 2: Gradient is proposing two fewer additional wells in the Hawthorn Group downgradient of the former lagoons than recommended by GeoTrans and EPA. Cabot also proposes to install well cluster HG-28S/D approximately 1,000 ft downgradient of the former Cabot Lagoons. We believe that groundwater samples collected at the proposed HG-28S/D locations may yield little useful data.

Recommendation: Well cluster HG-28S/D should be located closer to the former lagoons. Beazer suggested a location approximately 200 ft downgradient of the lagoons and we believe that separation (lagoon to wells) is appropriate.

Comment 3: Cabot proposes to install well screen in HG-28S “in the middle of the unit” - some distance above the Middle Clay.

Recommendation: The Workplan should explain the rationale for installing the HG-28 cluster to the middle of the UGH and the LHG units, while installing the HG-30 cluster to the base of the UGH and the LHG units.

Comment 4: Detection limits for analyses are not specified in the Work Plan. Elevated detection limits are reported as ND in Cabot’s quarterly groundwater reports – without qualification.

Recommendation: Nondetects should be reported on summary tables as values, not simply “ND”. Detection limits for aqueous samples should be the lower of:

- Reporting limits typically achieved during other similar assessment activities (historical Beazer investigations at the Koppers Site for example).
- MCLs
- GCTLs

Comment 5: Summary tables show only the ROD cleanup goals.

Recommendation: Groundwater analytical data summary tables should show MCLs and GCTLs in addition to ROD cleanup goals.

Comment 6: Table 2 of the Workplan indicates that VOCs (Method 8260B) and SVOCs (Method 8270C) will be reported. That table further specifies that Phenol, 2,4-Dimethylphenol, 2-Methylphenol, and 3&4-Methylphenol (Method 8270C) and Terpenes and Terpenoids (Method 8270C) will be reported. We wondered why Phenol and specific Methylated Phenols are listed specifically on Table 2 when they are included on the Method 8270C list of analytes. We corresponded with Mr. Manu Sharma (Gradient) regarding the issue and he confirmed that Cabot intends to analyze groundwater samples for the full SVOC list, including phenolic compounds. Mr. Sharma stated that phenolic compounds are listed in Table 2 separately just to be clear that the typical 8270 phenolic compounds will be analyzed and reported. He also clarified that the terpene/terpenoid list used in the prior analyses will continue to be used. Analysis of terpenes/terpenoids relies on the 8270 method, but the lab runs standards for those compounds to enable them to accurately quantify concentrations.

Recommendation: The workplan should specify that all groundwater samples will be analyzed for the complete list of compounds detectable by EPA Method 8270 and that Total Phenols will also be reported. Similarly, all compounds detectable by EPA Method

8260 should be reported. The specific phenols could be identified in a note at the bottom of the table. Including them in the body of the table suggests a separate analysis.

Comment 7: The Cabot HG Workplan states that well development and sample collection will be conducted in accordance with FDEP SOPs. The Workplan also states (page 13, second paragraph) that groundwater samples will be collected within 24 hours of well purging; however, FDEP SOPs require that samples be collected within 6 hours of completing well purging – and that stability must be re-established if the time between purging and sampling exceeds 1 hour (see FS 2212 – Well Purging Techniques)..

Recommendation: Cabot changed the sampling protocol for the June, 2010 sampling event (being conducted now) so monitor wells are sampled immediately after purging. Cabot should revise the plan to reflect that practice and assure that all FDEP SOPs are followed.

Comment 8: Cabot cites a DNAPL viscosity of 3,000 cp in the Work Plan. That value is misleading in that the pine tar exited the retort at 800 degrees F according to the Cabot presentation to EPA in January 2005 and thus would have had a much lower viscosity upon discharge. Pine tar mobility would not have been as limited as Cabot suggests.

Comment 9: GRU previously commented to a Cabot Workplan that “ If contamination is confirmed in the Lower Hawthorn Group, then Floridan monitoring wells, preferably multiport wells, must be installed and sampled to evaluate vertical and lateral plume dimensions in the Floridan” (Comment #18 of GRU’s January 31, 2008 Comments to the Supplemental Groundwater Quality Characterization Work Plan dated November 28, 2007). ACEPD made a similar recommendation in their February 12, 2010 comments to a Cabot Workplan.

Recommendation: Include the requirement for multiport Floridan wells if Lower Hawthorn impacts to groundwater are observed.