



Saga
Environmental &
Engineering, Inc.

920.605

6073

February 1, 2012

Mr. Jim Delwiche
Wisconsin Department of Natural Resources
141 NW Barstow Street, Room 180
Waukesha, Wisconsin 53188

RE: Vapor Probe Installation and Groundwater Sampling Change Order Request
Klinke Cleaners - Fox Run
Waukesha, Wisconsin
BRRTS# 02-68-535535

Dear Mr. Delwiche:

As discussed in our meeting on November 17, 2011, and documented in the November 14, 2011 *Interim Remedial Action Documentation and Site Status Report*, the soil interim action consisting of three additional chemical oxidant injections was completed in June 2010. Although the chemical oxidant injection program was not intended to address groundwater contamination at the site, it appears that groundwater contaminant concentrations are decreasing in the treatment area and downgradient wells. Saga recommends additional groundwater sampling events be conducted this winter and spring to evaluate groundwater contaminant concentration trends with respect to time and depth. The attached cost estimate (Table 1) includes costs for collecting two rounds of groundwater samples from all site wells, as well as associated laboratory VOC analysis and reporting.

During the November 17th meeting, we also discussed the need for subslab vapor sampling at the facility. Based on the relatively high PCE concentrations detected in soil and groundwater beneath and near the facility building, Saga recommends that a soil vapor screening be conducted to evaluate the potential for organic vapors to pose a vapor intrusion risk. Vapor screening locations will be selected based on previous analytical results of soil and groundwater samples collected at the site, as well as access considerations. For the purpose of cost estimating, Saga estimates that for the initial screening of soil vapor 6 subslab soil vapor samples will be collected.

Subslab soil vapor probes will be installed through the concrete building slab, and constructed in accordance with available state regulatory and other technical guidance. Prior to sample collection, the competency of each sealed probe will be tested utilizing a helium leak test. The sampling tubing will be connected to the sampling port of the probe and a shroud will be placed over the tubing and probe. Helium will be introduced into the shroud, and the air being pumped out of the probe will simultaneously be tested for helium content using a hand-held measuring device. Should helium be detected at a volume of greater than 10%, probe fittings will be checked and the ground surface seal augmented until a reading of less than 10% helium is achieved. The soil vapor sample will then be collected into a laboratory-supplied Summa canister and submitted to Pace Analytical Services, Inc.

Oregon Office:
31960 SW Charbonneau Drive #101
Wilsonville, OR 97070
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Wisconsin Office:
146 East Milwaukee Street #120
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for analysis of PCE and its daughter products by US EPA TO-15. Costs for the recommended soil vapor screening are included in Table 1.

* * *

Should you have any questions regarding the proposed additional investigation or the cost estimate included herein, please contact the undersigned at 920-674-3411.

Sincerely,

Saga Environmental and Engineering, Inc.



Paula A. Richardson, P.G.
Vice President/ Senior Hydrogeologist

Enclosures:

Table 1 – Cost Estimate

cc: Mr. Richard Klinke



TABLE 1
KLINKE CLEANERS - FOX RUN SHOPPING CENTER
ADDITIONAL GROUNDWATER MONITORING AND VAPOR SCREENING
ESTIMATED COSTS

TASK	UNITS	QTY.	RATE	COST
<i>Additional Groundwater Sampling (2 Quarters)</i>				
Labor	Hours	20	\$110	\$2,200
Groundwater analysis: VOCs	Each	20	\$60	\$1,200
Waste disposal*	Estimate	1	\$350	\$350
Expenses & Equipment	Estimate	1	\$200	\$200
Subtotal:				\$3,950
<i>Subslab Soil Vapor Screening</i>				
Labor	Hours	30	\$110	\$3,300
Soil vapor analysis - TO-15	Each	6	\$215	\$1,290
Driller	Estimate	1	\$3,036	\$3,036
Expenses & Equipment	Estimate	1	\$400	\$400
Subtotal:				\$8,026
<i>Project Management, Permitting, Access Agreement Support & Reporting</i>				
Labor - Principal	Hours	4	\$150	\$600
Labor - Hydrogeologist	Hours	40	\$125	\$5,000
Labor - CADD	Hours	4	\$85	\$340
Subtotal:				\$5,940
ESTIMATED TOTAL COSTS:				\$17,916

*: Based on 1 drum of non-hazardous groundwater.