

FY03 DNAPL Characterization of the A-14 Outfall

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Introduction

Residual dense non-aqueous phase liquid (DNAPL) contamination continues to be one of the most challenging remediation and characterization problems at SRS and sites around the world. Chlorinated solvents were usually released as DNAPLs to the subsurface where they move in an unstable fashion driven by gravitational and capillary forces. They are often retained in small discrete blobs ($\ll 1 \text{ m}^3$) in fine grain materials in the vadose zone and contaminate ground water by slow continuous release through dissolution and diffusion. Locating these small sources is a difficult but crucial part of remediating a contaminated site. Several methods have been developed to locate subsurface DNAPL but nearly all are intrusive and can only identify DNAPL in close proximity to the access hole. Minimally invasive geophysical methods to locate residual DNAPL have been proposed and developed but few methods are capable of the spatial resolution required. Complex resistivity measurements sensitive to DNAPL (perchloroethylene) interactions with clay (smectite) have recently been shown to have promise in laboratory experiments. Based on these laboratory results, field tests of the complex resistivity technique were performed at the A-014 outfall.

To support the field testing of complex resistivity techniques, an area (approximately 10m x 15m) was selected with residual DNAPL confirmed by both the NAPL FLUTE (Ribbon NAPL Sampler) and cone penetrometer soil sampling and analysis. After complex resistivity measurements were made, 378 depth-discrete 1 foot long sediment cores at 5 selected locations within the test area were collected and analyzed to compare with the geophysical results. Despite inherent differences in spatial resolution and coverage and the limited number of baseline samples, this comparison can be used to provide some measure of performance of the geophysical technique.

Three separate groups of researchers (Blackhawk GeoServices/Colorado School of Mines; Lawrence Livermore National Laboratory; Massachusetts Institute of Technology) made complex resistivity measurements using electrodes installed in the test area. The DOE Office of Science and Technology (OST) funded the groups. SRTC was supported by both SGCP and OST to perform confirmation sampling to determine the performance of the geophysical technique.

Sediment samples were collected using a direct penetration rig (Gregg In Situ Rhino Rig) using one of two methods. Samples were collected at depth using either the Gregg In Situ Macro Core Sampler or the Vertek wireline sediment sampler provided to Gregg by SRTC. A pneumatic hammer system on the Rhino Rig was used to advance the penetration rods when resistance prevented penetration by static pushing. A total of 378 sediment cores from different depths in the vadose zone were collected and more than 700 sediment samples were analyzed (including duplicates) for VOCs. More than 15% of the 378 cores were determined to contain residual NAPL.

Methods

Sediment Sampling

The Gregg In Situ Rhino Rig was used with either the CPT wireline sampling system or the Gregg In Situ Macro Core system. Applied Research Associates (ARA) developed the CPT wireline system with funding from the Department of Energy's National Energy Technology Laboratory (NETL). The wireline sampling tool uses 2.25-inch diameter rods with a removable dummy push tip and a one foot long core barrel with a locking mechanism that fits inside the push rods. The dummy tip is removed and core barrel deployed via the wire line at the desired sample collection depth. The rod string is advanced one foot forcing sediments into the core barrel. The core barrel is then brought to the surface and dummy tip reinserted via the wire line. With the dummy tip in place, the rod string is advanced to the next sample collection depth. The wireline tool allows the recovery of multiple soil samples without removing and reinserting the push rod string, significantly reducing the amount of time required to collect sediment samples.

The Macro Core system uses a 4-foot long core barrel at the distal end of the penetration rod string with a displaceable tip and plastic core collection tube inserted into the core barrel. The core barrel is pushed to the sample collection depth and the tip unlocking mechanism is actuated. The rods and core barrel are then advanced up to 4 feet, forcing the tip and sediments into the core collection tube. The rod string is then removed from the borehole and the core is collected at the surface. The core barrel and tip are replaced and the string is advanced to the next depth.

After the core was brought to the surface, a 2 cubic centimeter (cc) sediment plug sample was collected using a modified plastic syringe. The plug was immediately transferred to a 22-ml glass headspace vial with 5 ml of nano-pure water. The vial was then sealed with a crimped Teflon-lined septum top for headspace analysis. Duplicate samples were collected at each depth.

Sediment Headspace Analysis for VOCs

The technique used to prepare and analyze sediment samples for VOC analysis is a modified version of EPA Method 5021 which has been used successfully at the SRS since 1991. A more detailed description of this method is provided in Appendix A. Each sample is weighed and then analyzed on the HP 5890 Series II or HP 6890 gas chromatograph (GC) using an automated head space sampler at 70°C for equivalent water concentrations. The GC is equipped with an electron capture and flame ionization detector connected in parallel. The column is a Supelco - VOCOL™ megabore borosilicate glass (60 m x 0.76 mm ID x 1.5 µm film thickness) specifically developed for volatile priority pollutants (EPA Methods 502, 602, and 8240). Mass soil concentrations (ppmm, mg/kg) are calculated based on an equal head space volume from 7.5 ml of water standards and nominal 7 ml of water/soil matrix, and are corrected for the mass difference between the soil and water. The gas chromatograph is calibrated using purchased certified mixtures in methanol that are

diluted in deionized water to specific concentrations. Two reagent blanks of pure deionized water are included after the high concentration standards to ensure the transfer lines and column are being adequately flushed of residual solvents. The standard concentrations used for each head space sample run are: 3, 5, 10, 50, 100, 1,000, and 10,000 ppb ($\mu\text{g/l}$). A selected suite of compounds was chosen based on the primary contaminants expected at the A-014 outfall. The samples were analyzed for 1,1-dichloroethylene (1,1-DCE), carbon tetrachloride (CCl_4), cis-1,2-dichloroethylene (cis-DCE), trichlorofluoromethane (Freon 11), chloroform, Freon 113, perchloroethylene (PCE), 1,1,1-trichloroethane (TCA), trichloroethylene (TCE), trans-1,2-dichloroethylene (trans-DCE), and toluene. The minimum detection limit (MDL) and minimum quantitation limit (MQL) for soil analysis is provided in Table 1.

The data reported from these analyses are considered screening level data. Although standard laboratory methods are followed, the laboratory is not certified by any federal or state agency for analyses required for specific permit analysis requirements. All reported data should be accompanied with this flag.

Table 1 – Sediment Analysis Detection Limits

Compound	MDL (mg/kg)	MQL (mg/kg)	MQL ($\mu\text{g/kg}$)
1,1 DCE	0.002	0.003	3
CCl_4	0.0001	0.003	3
cis-DCE	0.04	0.12	124
Freon-11	0.0001	0.003	3
Chloroform	0.0007	0.003	3
Freon-113	0.0003	0.003	3
PCE	0.0001	0.003	3
TCA	0.0003	0.003	3
TCE	0.0004	0.003	3
Trans-DCE	0.02	0.05	49
Toluene	0.004	0.013	13

Soil Moisture Determination

Sediment samples were collected in pre-weighed vials for soil moisture measurements. The samples were weighed and dried at 105 C until the dry weight was stable. This measurement provides soil moisture by weight and follows ASTM method D2216.

Results and Contaminant Distribution

A total of 378 one foot long cores at five locations were collected from which two sediment samples were analyzed (sample and duplicate). Concentrations indicating the presence of PCE NAPL occurred in 59 and TCE NAPL in 1 of the 378 samples collected. Figure 1 provides a three dimensional image created by interpolating the results of the sediment analyses. The image was created using Rockware software and was not well bound on the north and east sides, nevertheless it indicates the large area of shallow DNAPL contamination and lobes of DNAPL deeper in the vadose zone. DNAPL is present when PCE concentrations are above approximately 60 mg/kg and is shown on the image by the yellow contour. This volume of sediments is approximately 7000 ft³ but only accounts for the imaged portion of the plume. This volume will be larger once the north and east sides of the plume are characterized. The coordinates for the sediment borings are provided in Table 2 and the results from the soil moisture tests are provided in Table 3 and Table 4. Plots of the distribution of PCE with respect to elevation at the five sediment sampling locations are shown in Figures 2-6. The sediment analysis results are provided in Appendix B.

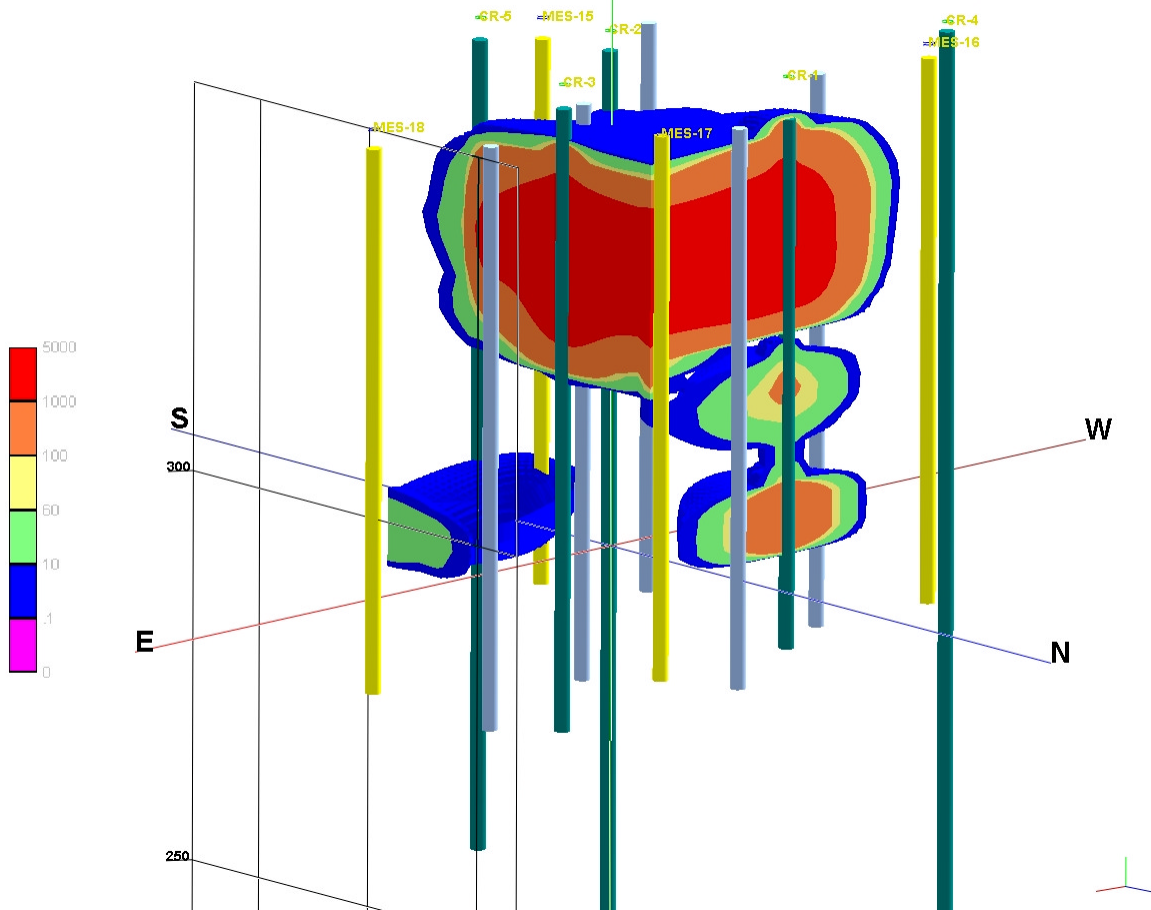


Figure 1 – PCE Sediment Concentration Plume above 10 mg/kg at the A-14 Outfall. The green cylinders are the sediment boring locations, the yellow and blue cylinders are the complex resistivity electrode string locations.

Table 2 – SRS Coordinates for the Sediment Borings

Boring	Easting	Northing	Elevation
CR1	49950.46	102047.9	344.53
CR2	49950.71	102031.8	347.41
CR3	49962.19	102040	346.86
CR4	49933.54	102044.2	348.73
CR5	49954.43	102023.9	347.13

Table 3 – Soil Moisture Results for Boring CR1

Boring	Depth (ft)	Sample Date	Moisture (% by wt)
CR1	3	5/14/03	17.3
CR1	5	5/14/03	16.5
CR1	10	5/14/03	16.8
CR1	15	5/14/03	18.7
CR1	20	5/14/03	11.4
CR1	30	5/14/03	9.7
CR1	35	5/14/03	18.5
CR1	40	5/14/03	9.0
CR1	45	5/14/03	12.6
CR1	50	5/14/03	13.1
CR1	55	5/14/03	8.5
CR1	60	5/14/03	6.2
CR1	65	5/14/03	6.8

Table 4 – Soil Moisture Results for Boring CR2

Boring	Depth (ft)	Sample Date	Moisture (% by wt)
CR2	1	5/19/03	14.1
CR2	2	5/19/03	12.5
CR2	3	5/19/03	6.9
CR2	4	5/19/03	17.3
CR2	5	5/19/03	20.5
CR2	6	5/19/03	22.6
CR2	7	5/19/03	20.9
CR2	8	5/19/03	18.5
CR2	9	5/19/03	18.0
CR2	10	5/19/03	17.3
CR2	11	5/19/03	17.6
CR2	12	5/19/03	16.0
CR2	13	5/19/03	16.6
CR2	14	5/19/03	16.4
CR2	15	5/19/03	17.2
CR2	16	5/19/03	14.4
CR2	17	5/19/03	13.1
CR2	18	5/19/03	14.0
CR2	19	5/19/03	15.1
CR2	20	5/19/03	12.6
CR2	21	5/19/03	11.4
CR2	22	5/19/03	11.0
CR2	23	5/19/03	10.2
CR2	24	5/19/03	12.9
CR2	25	5/19/03	11.1

Discussion of NAPL Presence Evaluation

The chemical analyses of sediment samples measure the total mass of contaminant present per unit dry weight of soil sample. These analyses do not distinguish between contaminant mass sorbed to the soil, dissolved in the soil water, volatilized in soil gas, or present as a separate phase (NAPL). The soil concentration where separate phase tetrachloroethylene (PCE), and trichloroethylene (TCE), must be present in the samples collected at the A-014 outfall was determined using the method of Feenstra et al (1991) based on equilibrium partitioning theory as described in Cohen and Mercer (Cohen and Mercer 1993). NAPL can be inferred to be present when the soil concentrations exceed the theoretical maximum chemical mass that can be adsorbed to soil, dissolved in soil water, and volatilized in soil gas. For saturated soils, an apparent soil water concentration (C_{asw}) is calculated from the total soil concentrations by assuming equilibrium partitioning (Feenstra et al. 1991).

For saturated zone samples,

$$C_{asw} = (X_T \rho_b) / (K_d \rho_b + \phi),$$

where X_T is the total soil mass fraction, K_d is a linear sorption coefficient, ρ_b is soil dry bulk density, and ϕ is the porosity.

For unsaturated samples,

$$C_w = (X_T \rho_b) / (K_d \rho_b + \phi S_w + \phi S_g H),$$

where C_w is the apparent soil water concentration for unsaturated conditions, S_w and S_g are the water and gas phase pore saturation values, and H is the Henry's Law partitioning coefficient for the compound at the appropriate temperature. Using this equilibrium relation, a threshold for the presence of NAPL in a soil sample can be determined by the measurement of mass fraction using the following equation:

$$C_w^{sat} \leq (X_T \rho_b) / (K_d \rho_b + \phi S_w + \phi S_g H),$$

where C_w^{sat} is the aqueous solubility concentration of a compound.

These relationships were determined for the SRS sediments over the measured range of average fraction of organic carbon values ($f_{oc} = 0.0001$ to 0.001) and a representative average porosity values ($\phi = 0.4$). Table 5 provides the minimum concentration for NAPL to be present in the vadose sediments at the A-014 outfall. These values provide the worse case scenario of the lowest fraction of organic carbon, water saturation, and porosity.

Table 5 – Theoretical Concentrations for the Presence of NAPL in the SRS Vadose Zone Sediments

Compound	Minimum Concentration for presence of NAPL
PCE	61 mg/kg
TCE	320 mg/kg

Recommendations

Additional borings are recommended to delineate the edges of the DNAPL source area. These locations are to the north and east of the current borings. The northern boring will likely require angled drilling under D Road at the mouth of the outfall. An additional boring through the middle of the DNAPL plume and into the water table is recommended to evaluate the presence of DNAPL in the groundwater.

A-14 CR01

E. 49950.46, N. 102047.88, surface el. 344.53

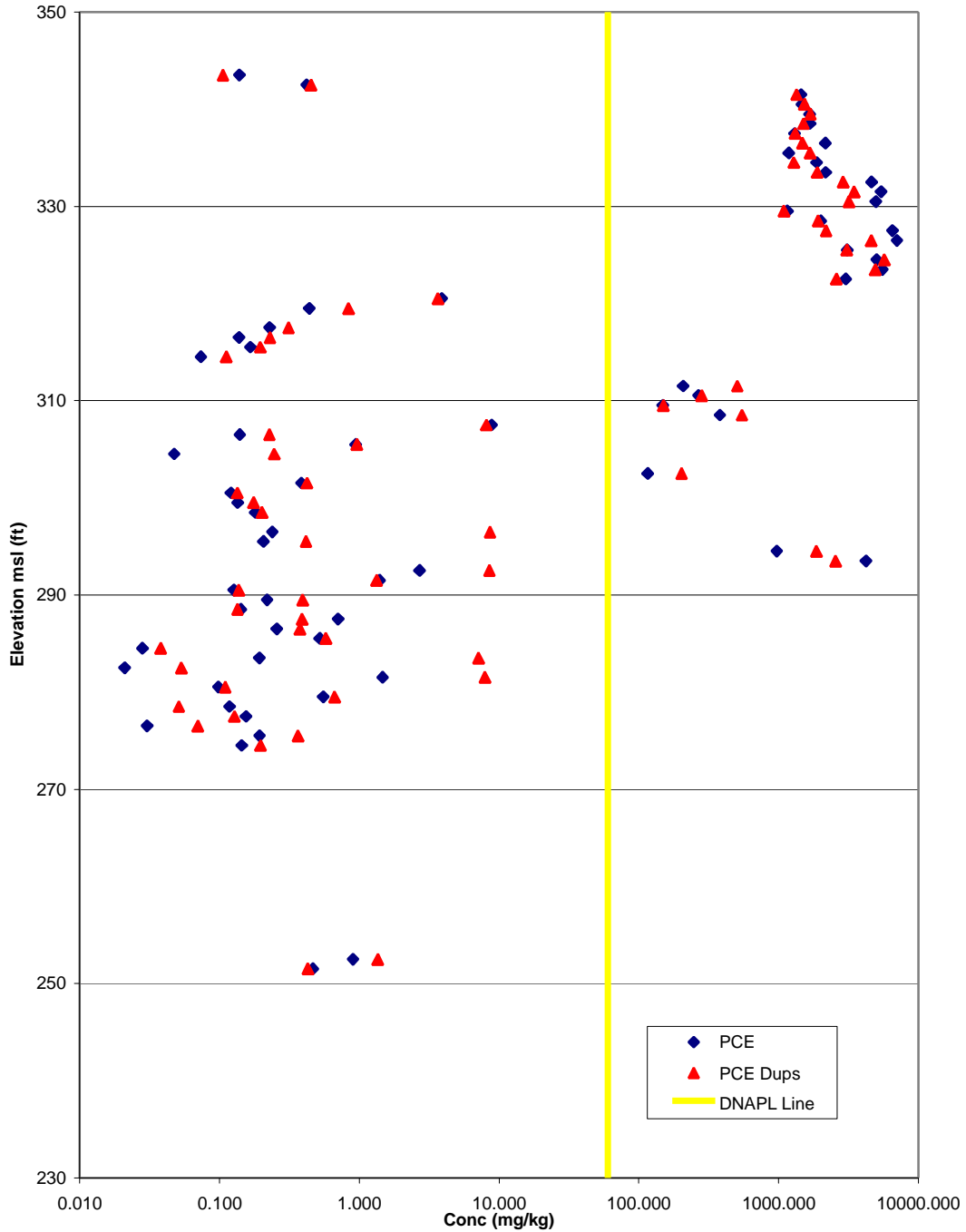


Figure 2 – CR01 PCE Results

A-14 CR02

E. 49950.71, N. 102031.83, surface el. 347.41

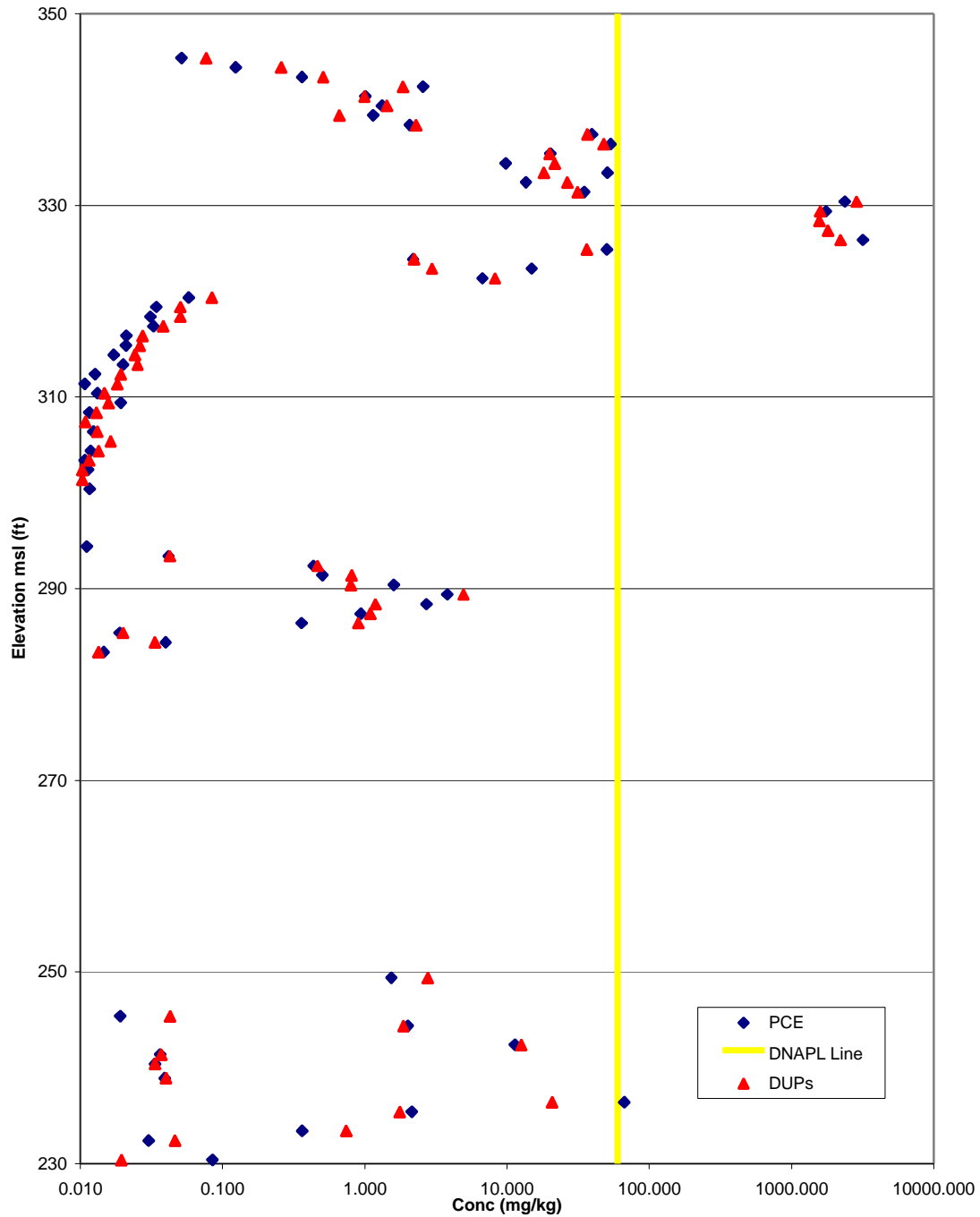


Figure 3 – CR02 PCE Results

A-14 CR05

E. 49954.43, N. 102023.92, surface el. 347.13

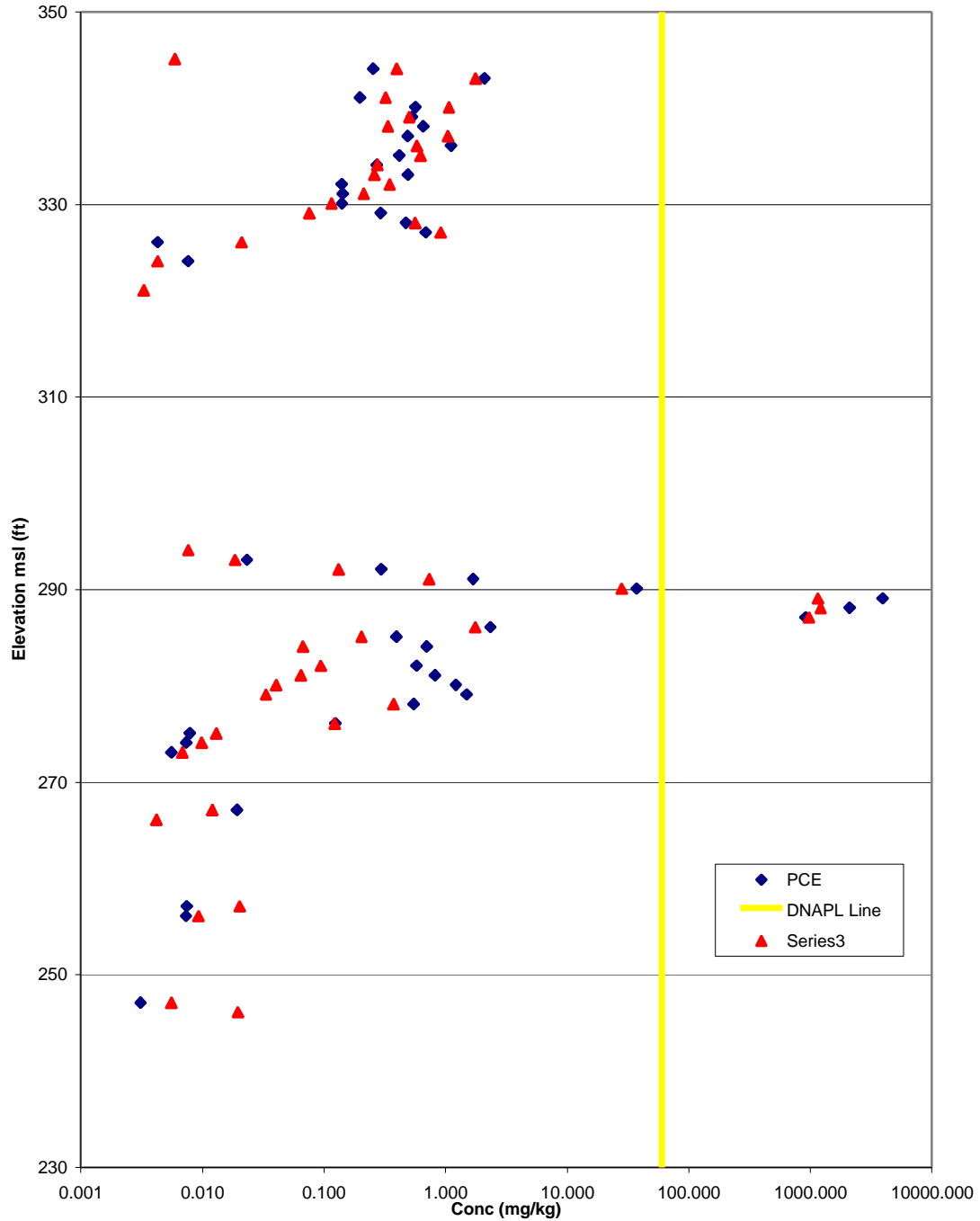


Figure 6 – CR05 PCE Results

References

Cohen, R. M., and J. W. Mercer, 1993, *DNAPL Site Evaluation*: C. K. Smoley-CRC Press, Boca Raton, Florida

Feenstra, S. D.M. Mackay, and J.A. Cherry, 1991. A method for assessing residual NAPL based on organic chemical concentrations in soil samples: *Groundwater Monitoring Review*, 11(2):128-136.

Appendix A – Heated Headspace Gas Chromatography Phase Conversion

Using the heated headspace method, the concentration measured by the gas chromatograph is assumed to include the total mass of volatile chemical analyte in the sample. The 22 ml glass headspace vials, containing approximately 2 cc of sediment sample and 5 ml of added deionized water and sealed by teflon septum and crimp cap, are heated to a temperature of 70°C and maintained at that temperature for at least 20 minutes. At this temperature, the entire mass of chemical is assumed to have been transported into the gas phase in the headspace of the vial from all other phases (aqueous, sorbed, liquid). The value measured in the gas phase is output as an aqueous concentration (because it is correlated to the prepared aqueous standards using a volume of 7.5 ml of water in a head space vial). It is then converted to a mass fraction of chemical in the saturated soil sample based on the measured mass of sediment. The measured sample mass is determined by weighing the entire headspace vial and subtracting out the average mass of the vial plus 5 ml of water (added at the time of soil sampling). The equation describing this conversion is as follows:

$$X_T (mg/kg) = \frac{C_{cstd} (mg/l) * V_{std} (ml)}{M_s (g)} * \frac{\left(\frac{1(l)}{1000(ml)} \right)}{\left(\frac{1(kg)}{1000(g)} \right)}, \quad (A2.1)$$

where X_T is mass fraction of chemical in the sediment sample, C_{cstd} is the measured concentration of the sample based on a correlation to prepared aqueous standards, V_{std} is the volume of water in the aqueous standards (7.5ml) and M_s is the mass of the sediment sample. The mass of the sediment sample is calculated by the following equation:

$$M_s = M_T - M_{vavg} - M_{aw}, \quad (A2.2)$$

where M_T is the total mass of the sealed sample in the headspace vial, M_{vavg} is the average mass of 22 ml headspace vials and septum crimp caps, and M_{aw} is the mass of added water (usually 5 ml). The value of X_T is a comprehensive representation of the mass of chemical in the sediment sample as it is collected.

Appendix B – CR Boring Series Analytical Results Tables

Table 6 – Sediment Analysis Results for Boring CR01

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR01-01	CR01	1	sample	5/14/2003	5/15/2003	0.139	0.002	0.000	0.000	0.000
A14-CR01-01	CR01	1	duplicate	5/14/2003	5/16/2003	0.106	0.003	0.000	0.000	nm
A14-CR01-02	CR01	2	sample	5/14/2003	5/15/2003	0.420	0.005	0.000	0.000	0.000
A14-CR01-02	CR01	2	duplicate	5/14/2003	5/16/2003	0.452	0.013	0.031	0.000	nm
A14-CR01-03	CR01	3	sample	5/14/2003	5/15/2003	1445.796	22.869	0.187	0.076	0.007
A14-CR01-03	CR01	3	duplicate	5/14/2003	5/16/2003	1344.232	34.701	0.573	0.213	nm
A14-CR01-04	CR01	4	sample	5/14/2003	5/15/2003	1475.379	24.871	0.205	0.064	0.005
A14-CR01-04	CR01	4	duplicate	5/14/2003	5/16/2003	1535.840	28.709	0.192	0.125	nm
A14-CR01-05	CR01	5	sample	5/14/2003	5/15/2003	1675.446	22.935	0.108	0.040	0.008
A14-CR01-05	CR01	5	duplicate	5/14/2003	5/16/2003	1693.686	39.921	0.379	0.147	nm
A14-CR01-06	CR01	6	sample	5/14/2003	5/15/2003	1678.540	35.407	0.187	0.032	0.004
A14-CR01-06	CR01	6	duplicate	5/14/2003	5/16/2003	1512.563	38.396	0.303	0.057	nm
A14-CR01-07	CR01	7	sample	5/14/2003	5/15/2003	1308.503	24.776	0.218	0.020	0.000
A14-CR01-07	CR01	7	duplicate	5/14/2003	5/16/2003	1319.233	37.342	0.179	0.054	nm
A14-CR01-08	CR01	8	sample	5/14/2003	5/15/2003	2163.288	61.172	0.239	0.059	0.007
A14-CR01-08	CR01	8	duplicate	5/14/2003	5/16/2003	1487.120	53.429	0.406	0.084	nm
A14-CR01-09	CR01	9	sample	5/14/2003	5/15/2003	1183.482	28.633	0.341	0.018	0.018
A14-CR01-09	CR01	9	duplicate	5/14/2003	5/16/2003	1683.251	80.431	1.215	0.112	nm
A14-CR01-10	CR01	10	sample	5/14/2003	5/15/2003	1882.934	71.281	0.470	0.040	0.010
A14-CR01-10	CR01	10	duplicate	5/14/2003	5/16/2003	1288.453	46.688	0.601	0.044	nm
A14-CR01-11	CR01	11	sample	5/14/2003	5/15/2003	2178.189	78.240	0.468	0.042	0.009
A14-CR01-11	CR01	11	duplicate	5/14/2003	5/16/2003	1897.134	81.248	0.644	0.065	nm
A14-CR01-12	CR01	12	sample	5/14/2003	5/15/2003	4633.237	124.116	0.519	0.055	0.020
A14-CR01-12	CR01	12	duplicate	5/14/2003	5/16/2003	2905.308	111.268	1.026	0.090	nm
A14-CR01-13	CR01	13	sample	5/14/2003	5/15/2003	5431.841	154.531	0.642	0.068	0.020
A14-CR01-13	CR01	13	duplicate	5/14/2003	5/16/2003	3475.708	124.702	1.150	0.095	nm

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR01-14	CR01	14	sample	5/15/2003	5/15/2003	4976.042	133.930	0.644	0.052	0.021
A14-CR01-14	CR01	14	duplicate	5/15/2003	5/16/2003	3190.689	123.844	1.528	0.086	nm
A14-CR01-15	CR01	15	sample	5/15/2003	5/15/2003	1160.780	40.670	0.280	0.017	0.013
A14-CR01-15	CR01	15	duplicate	5/15/2003	5/16/2003	1094.781	47.803	0.583	0.032	nm
A14-CR01-16	CR01	16	sample	5/15/2003	5/15/2003	2012.699	72.775	0.520	0.028	0.000
A14-CR01-16	CR01	16	duplicate	5/15/2003	5/16/2003	1925.203	66.518	0.444	0.041	nm
A14-CR01-17	CR01	17	sample	5/15/2003	5/15/2003	6537.106	138.909	0.405	0.044	0.000
A14-CR01-17	CR01	17	duplicate	5/15/2003	5/16/2003	2187.361	81.974	0.636	0.050	nm
A14-CR01-18	CR01	18	sample	5/15/2003	5/15/2003	7051.819	174.519	0.404	0.058	0.000
A14-CR01-18	CR01	18	duplicate	5/15/2003	5/16/2003	4602.929	141.695	0.839	0.083	nm
A14-CR01-19	CR01	19	sample	5/15/2003	5/15/2003	3093.694	93.008	0.154	0.028	0.000
A14-CR01-19	CR01	19	duplicate	5/15/2003	5/16/2003	3086.120	91.082	0.315	0.042	nm
A14-CR01-20	CR01	20	sample	5/15/2003	5/15/2003	5053.880	114.516	0.000	0.021	0.000
A14-CR01-20	CR01	20	duplicate	5/15/2003	5/16/2003	5726.317	148.089	0.241	0.048	nm
A14-CR01-21	CR01	21	sample	5/15/2003	5/15/2003	5536.200	60.567	0.128	0.006	0.000
A14-CR01-21	CR01	21	duplicate	5/15/2003	5/16/2003	4948.678	44.517	0.645	0.007	nm
A14-CR01-22	CR01	22	sample	5/15/2003	5/15/2003	3037.277	7.117	0.000	0.000	0.000
A14-CR01-22	CR01	22	duplicate	5/15/2003	5/16/2003	2595.208	8.861	0.506	0.000	nm
A14-CR01-24	CR01	24	sample	5/15/2003	5/15/2003	3.898	0.022	0.000	0.000	0.000
A14-CR01-24	CR01	24	duplicate	5/15/2003	5/16/2003	3.651	0.080	0.000	0.000	nm
A14-CR01-25	CR01	25	sample	5/15/2003	5/15/2003	0.441	0.007	0.000	0.000	0.000
A14-CR01-25	CR01	25	duplicate	5/15/2003	5/16/2003	0.837	0.029	0.000	0.000	nm
A14-CR01-27	CR01	27	sample	5/15/2003	5/15/2003	0.229	0.000	0.000	0.000	0.000
A14-CR01-27	CR01	27	duplicate	5/15/2003	5/16/2003	0.313	0.011	0.000	0.000	nm
A14-CR01-28	CR01	28	sample	5/15/2003	5/15/2003	0.138	0.000	0.000	0.000	0.000
A14-CR01-28	CR01	28	duplicate	5/15/2003	5/16/2003	0.229	0.008	0.000	0.000	nm
A14-CR01-29	CR01	29	sample	5/15/2003	5/16/2003	0.167	0.004	0.000	0.000	0.000
A14-CR01-29	CR01	29	duplicate	5/15/2003	5/19/2003	0.196	0.006	0.000	0.000	nm
A14-CR01-30	CR01	30	sample	5/15/2003	5/16/2003	0.074	0.000	0.000	0.000	0.000
A14-CR01-30	CR01	30	duplicate	5/15/2003	5/19/2003	0.112	0.003	0.000	0.000	nm
A14-CR01-33	CR01	33	sample	5/15/2003	5/16/2003	207.455	2.100	0.000	0.000	0.018

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR01-33	CR01	33	duplicate	5/15/2003	5/19/2003	507.265	6.912	0.117	0.009	nm
A14-CR01-34	CR01	34	sample	5/15/2003	5/16/2003	268.925	4.170	0.072	0.004	0.006
A14-CR01-34	CR01	34	duplicate	5/15/2003	5/19/2003	283.049	4.157	0.150	0.005	nm
A14-CR01-35	CR01	35	sample	5/15/2003	5/16/2003	148.581	1.817	0.000	0.000	0.006
A14-CR01-35	CR01	35	duplicate	5/15/2003	5/19/2003	150.276	1.926	0.084	0.002	nm
A14-CR01-36	CR01	36	sample	5/15/2003	5/16/2003	380.719	5.332	0.000	0.003	0.036
A14-CR01-36	CR01	36	duplicate	5/15/2003	5/19/2003	549.551	10.699	0.119	0.009	nm
A14-CR01-37	CR01	37	sample	5/15/2003	5/16/2003	8.854	0.125	0.000	0.000	0.000
A14-CR01-37	CR01	37	duplicate	5/15/2003	5/19/2003	8.138	0.125	0.000	0.000	nm
A14-CR01-38	CR01	38	sample	5/15/2003	5/16/2003	0.140	0.000	0.000	0.000	0.000
A14-CR01-38	CR01	38	duplicate	5/15/2003	5/19/2003	0.228	0.005	0.000	0.000	nm
A14-CR01-39	CR01	39	sample	5/15/2003	5/16/2003	0.948	0.019	0.000	0.000	0.000
A14-CR01-39	CR01	39	duplicate	5/15/2003	5/19/2003	0.962	0.036	0.000	0.000	nm
A14-CR01-40	CR01	40	sample	5/15/2003	5/16/2003	0.047	0.000	0.000	0.000	0.000
A14-CR01-40	CR01	40	duplicate	5/15/2003	5/19/2003	0.247	0.006	0.000	0.000	nm
A14-CR01-42	CR01	42	sample	5/15/2003	5/16/2003	115.929	1.703	0.057	0.000	0.000
A14-CR01-42	CR01	42	duplicate	5/15/2003	5/19/2003	202.852	2.439	0.068	0.003	nm
A14-CR01-43	CR01	43	sample	5/15/2003	5/16/2003	0.385	0.005	0.000	0.000	0.000
A14-CR01-43	CR01	43	duplicate	5/15/2003	5/19/2003	0.424	0.010	0.000	0.000	nm
A14-CR01-44	CR01	44	sample	5/15/2003	5/16/2003	0.121	0.004	0.000	0.000	0.000
A14-CR01-44	CR01	44	duplicate	5/15/2003	5/19/2003	0.134	0.004	0.000	0.000	nm
A14-CR01-45	CR01	45	sample	5/15/2003	5/16/2003	0.135	0.000	0.000	0.000	0.000
A14-CR01-45	CR01	45	duplicate	5/15/2003	5/19/2003	0.175	0.000	0.000	0.000	nm
A14-CR01-46	CR01	46	sample	5/15/2003	5/16/2003	0.181	0.000	0.000	0.000	0.000
A14-CR01-46	CR01	46	duplicate	5/15/2003	5/19/2003	0.202	0.003	0.000	0.000	nm
A14-CR01-48	CR01	48	sample	5/15/2003	5/16/2003	0.239	0.005	0.000	0.000	0.000
A14-CR01-48	CR01	48	duplicate	5/15/2003	5/19/2003	8.624	0.098	0.000	0.000	nm
A14-CR01-49	CR01	49	sample	5/16/2003	5/16/2003	0.207	0.004	0.000	0.000	0.000
A14-CR01-49	CR01	49	duplicate	5/16/2003	5/19/2003	0.415	0.012	0.000	0.000	nm
A14-CR01-50	CR01	50	sample	5/16/2003	5/16/2003	973.558	0.548	0.000	0.000	0.000
A14-CR01-50	CR01	50	duplicate	5/16/2003	5/19/2003	1867.552	1.386	0.000	0.000	nm

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR01-51	CR01	51	sample	5/16/2003	5/16/2003	4234.570	1.092	0.000	0.000	0.000
A14-CR01-51	CR01	51	duplicate	5/16/2003	5/19/2003	2565.825	0.712	0.000	0.000	nm
A14-CR01-52	CR01	52	sample	5/16/2003	5/16/2003	2.703	0.154	0.000	0.000	0.000
A14-CR01-52	CR01	52	duplicate	5/16/2003	5/19/2003	8.553	0.129	0.000	0.000	nm
A14-CR01-53	CR01	53	sample	5/16/2003	5/16/2003	1.402	0.009	0.000	0.000	0.000
A14-CR01-53	CR01	53	duplicate	5/16/2003	5/19/2003	1.330	0.027	0.000	0.000	nm
A14-CR01-54	CR01	54	sample	5/16/2003	5/16/2003	0.127	0.000	0.000	0.000	0.000
A14-CR01-54	CR01	54	duplicate	5/16/2003	5/19/2003	0.138	0.000	0.000	0.000	nm
A14-CR01-55	CR01	55	sample	5/16/2003	5/16/2003	0.219	0.003	0.000	0.000	0.000
A14-CR01-55	CR01	55	duplicate	5/16/2003	5/19/2003	0.393	0.007	0.000	0.000	nm
A14-CR01-56	CR01	56	sample	5/16/2003	5/16/2003	0.142	0.000	0.000	0.000	0.000
A14-CR01-56	CR01	56	duplicate	5/16/2003	5/19/2003	0.134	0.000	0.000	0.000	nm
A14-CR01-57	CR01	57	sample	5/16/2003	5/16/2003	0.708	0.007	0.000	0.000	0.000
A14-CR01-57	CR01	57	duplicate	5/16/2003	5/19/2003	0.390	0.007	0.000	0.000	nm
A14-CR01-58	CR01	58	sample	5/16/2003	5/16/2003	0.256	0.005	0.000	0.000	0.000
A14-CR01-58	CR01	58	duplicate	5/16/2003	5/19/2003	0.378	0.009	0.000	0.000	nm
A14-CR01-59	CR01	59	sample	5/16/2003	5/16/2003	0.522	0.007	0.000	0.000	0.000
A14-CR01-59	CR01	59	duplicate	5/16/2003	5/19/2003	0.579	0.010	0.000	0.000	nm
A14-CR01-60	CR01	60	sample	5/16/2003	5/16/2003	0.028	0.000	0.000	0.000	0.000
A14-CR01-60	CR01	60	duplicate	5/16/2003	5/19/2003	0.038	0.000	0.000	0.000	nm
A14-CR01-61	CR01	61	sample	5/16/2003	5/16/2003	0.193	0.002	0.000	0.000	0.000
A14-CR01-61	CR01	61	duplicate	5/16/2003	5/19/2003	7.163	0.064	0.000	0.000	nm
A14-CR01-62	CR01	62	sample	5/16/2003	5/16/2003	0.021	0.000	0.000	0.000	0.000
A14-CR01-62	CR01	62	duplicate	5/16/2003	5/19/2003	0.053	0.000	0.000	0.000	nm
A14-CR01-63	CR01	63	sample	5/16/2003	5/16/2003	1.472	0.016	0.000	0.000	0.000
A14-CR01-63	CR01	63	duplicate	5/16/2003	5/19/2003	7.961	0.110	0.000	0.000	nm
A14-CR01-64	CR01	64	sample	5/16/2003	5/16/2003	0.098	0.000	0.000	0.000	0.000
A14-CR01-64	CR01	64	duplicate	5/16/2003	5/19/2003	0.110	0.000	0.000	0.000	nm
A14-CR01-65	CR01	65	sample	5/16/2003	5/16/2003	0.551	0.004	0.000	0.000	0.000
A14-CR01-65	CR01	65	duplicate	5/16/2003	5/19/2003	0.666	0.009	0.000	0.000	nm
A14-CR01-66	CR01	66	sample	5/16/2003	5/16/2003	0.118	0.000	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR01-66	CR01	66	duplicate	5/16/2003	5/19/2003	0.051	0.000	0.000	0.000	nm
A14-CR01-67	CR01	67	sample	5/16/2003	5/16/2003	0.155	0.000	0.000	0.000	0.000
A14-CR01-67	CR01	67	duplicate	5/16/2003	5/19/2003	0.128	0.000	0.000	0.000	nm
A14-CR01-68	CR01	68	sample	5/16/2003	5/16/2003	0.030	0.000	0.000	0.000	0.000
A14-CR01-68	CR01	68	duplicate	5/16/2003	5/19/2003	0.070	0.000	0.000	0.000	nm
A14-CR01-69	CR01	69	sample	5/16/2003	5/16/2003	0.194	0.000	0.000	0.000	0.000
A14-CR01-69	CR01	69	duplicate	5/16/2003	5/19/2003	0.364	0.004	0.000	0.000	nm
A14-CR01-70	CR01	70	sample	5/16/2003	5/16/2003	0.144	0.000	0.000	0.000	0.000
A14-CR01-70	CR01	70	duplicate	5/16/2003	5/19/2003	0.197	0.000	0.000	0.000	nm
A14-CR01-92	CR01	92	sample	5/16/2003	5/16/2003	0.903	0.005	0.000	0.000	0.000
A14-CR01-92	CR01	92	duplicate	5/16/2003	5/19/2003	1.362	0.012	0.000	0.000	nm
A14-CR01-93	CR01	93	sample	5/16/2003	5/16/2003	0.466	0.000	0.000	0.000	0.000
A14-CR01-93	CR01	93	duplicate	5/16/2003	5/19/2003	0.430	0.000	0.000	0.000	nm
A14-CR01-BLANK	CR01		blank	5/15/2003	5/15/2003	0.000	0.000	0.000	0.000	0.000
A14-CR01-BLANK	CR01		blank	5/15/2003	5/19/2003	0.000	0.000	0.000	0.000	nm

Table 7 – Sediment Analysis Results for Boring CR02

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR02-01	CR02	1	sample	5/19/2003	5/22/2003	0.008	0.000	0.000	0.000	0.000
A14-CR02-01	CR02	1	duplicate	5/19/2003	6/4/2003	0.006	0.000	0.000	0.000	0.000
A14-CR02-02	CR02	2	sample	5/19/2003	5/22/2003	0.051	0.000	0.000	0.000	0.000
A14-CR02-02	CR02	2	duplicate	5/19/2003	6/4/2003	0.077	0.002	0.000	0.000	0.000
A14-CR02-03	CR02	3	sample	5/19/2003	5/22/2003	0.124	0.004	0.000	0.000	0.000
A14-CR02-03	CR02	3	duplicate	5/19/2003	6/4/2003	0.258	0.009	0.000	0.000	0.000
A14-CR02-04	CR02	4	sample	5/19/2003	5/22/2003	0.361	0.011	0.067	0.000	0.000
A14-CR02-04	CR02	4	duplicate	5/19/2003	6/4/2003	0.509	0.025	0.107	0.000	0.000
A14-CR02-05	CR02	5	sample	5/19/2003	5/22/2003	2.565	0.156	0.540	0.000	0.000
A14-CR02-05	CR02	5	duplicate	5/19/2003	6/4/2003	1.855	0.102	0.724	0.000	0.000
A14-CR02-06	CR02	6	sample	5/19/2003	5/22/2003	1.011	0.073	0.496	0.000	0.000
A14-CR02-06	CR02	6	duplicate	5/19/2003	6/4/2003	0.994	0.100	1.083	0.000	0.000
A14-CR02-07	CR02	7	sample	5/19/2003	5/22/2003	1.321	0.143	0.631	0.000	0.000
A14-CR02-07	CR02	7	duplicate	5/19/2003	6/4/2003	1.430	0.147	1.401	0.000	0.000
A14-CR02-08	CR02	8	sample	5/19/2003	5/22/2003	1.142	0.153	0.488	0.000	0.000
A14-CR02-08	CR02	8	duplicate	5/19/2003	6/4/2003	0.662	0.103	0.493	0.000	0.000
A14-CR02-09	CR02	9	sample	5/19/2003	5/22/2003	2.072	0.064	0.381	0.000	0.000
A14-CR02-09	CR02	9	duplicate	5/19/2003	6/4/2003	2.290	0.113	0.869	0.000	0.000
A14-CR02-10	CR02	10	sample	5/19/2003	5/22/2003	39.680	0.059	0.310	0.000	0.000
A14-CR02-10	CR02	10	duplicate	5/19/2003	6/4/2003	36.755	0.073	0.429	0.000	0.000
A14-CR02-11	CR02	11	sample	5/19/2003	5/22/2003	53.553	0.017	0.267	0.000	0.000
A14-CR02-11	CR02	11	duplicate	5/19/2003	6/4/2003	47.820	0.024	0.267	0.000	0.000
A14-CR02-12	CR02	12	sample	5/19/2003	5/22/2003	20.116	0.022	0.105	0.000	0.000
A14-CR02-12	CR02	12	duplicate	5/19/2003	6/4/2003	19.874	0.027	0.000	0.000	0.000
A14-CR02-13	CR02	13	sample	5/19/2003	5/22/2003	9.794	0.017	0.000	0.000	0.000
A14-CR02-13	CR02	13	duplicate	5/19/2003	6/4/2003	21.666	0.042	0.000	0.000	0.000
A14-CR02-14	CR02	14	sample	5/19/2003	5/22/2003	50.769	0.030	0.082	0.000	0.000
A14-CR02-14	CR02	14	duplicate	5/19/2003	6/4/2003	18.164	0.026	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR02-15	CR02	15	sample	5/19/2003	5/22/2003	13.572	0.018	0.640	0.000	0.000
A14-CR02-15	CR02	15	duplicate	5/19/2003	6/4/2003	26.605	0.039	0.198	0.000	0.000
A14-CR02-16	CR02	16	sample	5/19/2003	5/22/2003	34.887	0.040	0.173	0.000	0.000
A14-CR02-16	CR02	16	duplicate	5/19/2003	6/4/2003	31.370	0.058	0.293	0.000	0.000
A14-CR02-17	CR02	17	sample	5/19/2003	5/22/2003	2374.321	0.728	1.169	0.007	0.000
A14-CR02-17	CR02	17	duplicate	5/19/2003	6/4/2003	2867.347	0.745	1.335	0.009	0.000
A14-CR02-18	CR02	18	sample	5/19/2003	5/22/2003	1742.729	0.320	0.315	0.078	0.000
A14-CR02-18	CR02	18	duplicate	5/19/2003	6/4/2003	1593.242	0.197	1.796	0.092	0.000
A14-CR02-19	CR02	19	sample	5/19/2003	5/22/2003	na	na	na	na	0.000
A14-CR02-19	CR02	19	duplicate	5/19/2003	6/4/2003	1571.750	0.865	0.209	0.425	0.000
A14-CR02-20	CR02	20	sample	5/19/2003	5/22/2003	na	na	na	na	0.000
A14-CR02-20	CR02	20	duplicate	5/19/2003	6/4/2003	1801.207	1.813	0.402	0.359	0.000
A14-CR02-21	CR02	21	sample	5/19/2003	5/22/2003	3181.346	1.465	0.071	0.041	0.000
A14-CR02-21	CR02	21	duplicate	5/19/2003	6/4/2003	2216.910	1.145	0.140	0.062	0.000
A14-CR02-22	CR02	22	sample	5/19/2003	5/22/2003	50.365	0.019	0.000	0.000	0.000
A14-CR02-22	CR02	22	duplicate	5/19/2003	6/4/2003	36.496	0.009	0.000	0.000	0.000
A14-CR02-23	CR02	23	sample	5/19/2003	5/22/2003	2.188	0.000	0.000	0.000	0.000
A14-CR02-23	CR02	23	duplicate	5/19/2003	6/4/2003	2.224	0.000	0.000	0.000	0.000
A14-CR02-24	CR02	24	sample	5/19/2003	5/22/2003	14.866	0.007	0.000	0.000	0.000
A14-CR02-24	CR02	24	duplicate	5/19/2003	6/4/2003	2.969	0.003	0.000	0.000	0.000
A14-CR02-25	CR02	25	sample	5/19/2003	5/22/2003	6.708	0.000	0.000	0.000	0.000
A14-CR02-25	CR02	25	duplicate	5/19/2003	6/4/2003	8.231	0.003	0.000	0.000	0.000
A14-CR02-27	CR02	27	sample	5/19/2003	5/22/2003	0.058	0.005	0.000	0.000	0.000
A14-CR02-27	CR02	27	duplicate	5/19/2003	6/4/2003	0.084	0.000	0.000	0.000	0.000
A14-CR02-28	CR02	28	sample	5/19/2003	5/22/2003	0.034	0.000	0.000	0.000	0.000
A14-CR02-28	CR02	28	duplicate	5/19/2003	6/4/2003	0.050	0.000	0.000	0.000	0.000
A14-CR02-29	CR02	29	sample	5/19/2003	5/22/2003	0.031	0.000	0.000	0.000	0.000
A14-CR02-29	CR02	29	duplicate	5/19/2003	6/4/2003	0.050	0.000	0.000	0.000	0.000
A14-CR02-30	CR02	30	sample	5/19/2003	5/22/2003	0.033	0.000	0.000	0.000	0.000
A14-CR02-30	CR02	30	duplicate	5/19/2003	6/4/2003	0.038	0.000	0.000	0.000	0.000
A14-CR02-31	CR02	31	sample	5/19/2003	5/22/2003	0.021	0.000	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR02-31	CR02	31	duplicate	5/19/2003	6/4/2003	0.027	0.000	0.000	0.000	0.000
A14-CR02-32	CR02	32	sample	5/19/2003	5/22/2003	0.021	0.000	0.000	0.000	0.000
A14-CR02-32	CR02	32	duplicate	5/19/2003	6/4/2003	0.026	0.000	0.000	0.000	0.000
A14-CR02-33	CR02	33	sample	5/19/2003	5/22/2003	0.017	0.000	0.000	0.000	0.000
A14-CR02-33	CR02	33	duplicate	5/19/2003	6/4/2003	0.024	0.000	0.000	0.000	0.000
A14-CR02-34	CR02	34	sample	5/19/2003	5/22/2003	0.020	0.000	0.000	0.000	0.000
A14-CR02-34	CR02	34	duplicate	5/19/2003	6/4/2003	0.025	0.000	0.000	0.000	0.000
A14-CR02-35	CR02	35	sample	5/19/2003	5/22/2003	0.013	0.000	0.000	0.000	0.000
A14-CR02-35	CR02	35	duplicate	5/19/2003	6/4/2003	0.019	0.000	0.000	0.000	0.000
A14-CR02-36	CR02	36	sample	5/19/2003	5/22/2003	0.011	0.000	0.000	0.000	0.000
A14-CR02-36	CR02	36	duplicate	5/19/2003	6/4/2003	0.018	0.000	0.000	0.000	0.000
A14-CR02-37	CR02	37	sample	5/19/2003	5/22/2003	0.013	0.000	0.000	0.000	0.000
A14-CR02-37	CR02	37	duplicate	5/19/2003	6/4/2003	0.015	0.000	0.000	0.000	0.000
A14-CR02-38	CR02	38	sample	5/19/2003	5/22/2003	0.019	0.000	0.000	0.000	0.000
A14-CR02-38	CR02	38	duplicate	5/19/2003	6/4/2003	0.016	0.000	0.000	0.000	0.000
A14-CR02-39	CR02	39	sample	5/19/2003	5/22/2003	0.012	0.000	0.000	0.000	0.000
A14-CR02-39	CR02	39	duplicate	5/19/2003	6/4/2003	0.013	0.000	0.000	0.000	0.000
A14-CR02-40	CR02	40	sample	5/19/2003	5/22/2003	0.009	0.000	0.000	0.000	0.000
A14-CR02-40	CR02	40	duplicate	5/19/2003	6/4/2003	0.011	0.000	0.000	0.000	0.000
A14-CR02-41	CR02	41	sample	5/19/2003	5/22/2003	0.012	0.000	0.000	0.000	0.000
A14-CR02-41	CR02	41	duplicate	5/19/2003	6/4/2003	0.013	0.000	0.000	0.000	0.000
A14-CR02-42	CR02	42	sample	5/19/2003	5/22/2003	0.010	0.000	0.000	0.000	0.000
A14-CR02-42	CR02	42	duplicate	5/19/2003	6/4/2003	0.016	0.000	0.000	0.000	0.000
A14-CR02-43	CR02	43	sample	5/19/2003	5/22/2003	0.012	0.000	0.000	0.000	0.000
A14-CR02-43	CR02	43	duplicate	5/19/2003	6/4/2003	0.013	0.000	0.000	0.000	0.000
A14-CR02-44	CR02	44	sample	5/19/2003	5/22/2003	0.011	0.000	0.000	0.000	0.000
A14-CR02-44	CR02	44	duplicate	5/19/2003	6/4/2003	0.012	0.000	0.000	0.000	0.000
A14-CR02-45	CR02	45	sample	5/19/2003	5/22/2003	0.011	0.000	0.000	0.000	0.000
A14-CR02-45	CR02	45	duplicate	5/19/2003	6/4/2003	0.010	0.000	0.000	0.000	0.000
A14-CR02-46	CR02	46	sample	5/19/2003	5/22/2003	0.004	0.000	0.000	0.000	0.000
A14-CR02-46	CR02	46	duplicate	5/19/2003	6/4/2003	0.010	0.000	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR02-47	CR02	47	sample	5/19/2003	5/22/2003	0.012	0.000	0.000	0.000	0.000
A14-CR02-47	CR02	47	duplicate	5/19/2003	6/4/2003	0.009	0.000	0.000	0.000	0.000
A14-CR02-48	CR02	48	sample	5/19/2003	5/22/2003	0.010	0.000	0.000	0.000	0.000
A14-CR02-48	CR02	48	duplicate	5/19/2003	6/4/2003	0.009	0.000	0.000	0.000	0.000
A14-CR02-49	CR02	49	sample	5/19/2003	5/22/2003	0.009	0.000	0.000	0.000	0.000
A14-CR02-49	CR02	49	duplicate	5/19/2003	6/4/2003	0.009	0.000	0.000	0.000	0.000
A14-CR02-50	CR02	50	sample	5/19/2003	5/22/2003	0.007	0.000	0.000	0.000	0.000
A14-CR02-50	CR02	50	duplicate	5/19/2003	6/4/2003	0.008	0.000	0.000	0.000	0.000
A14-CR02-51	CR02	51	sample	5/19/2003	5/22/2003	0.010	0.000	0.000	0.000	0.000
A14-CR02-51	CR02	51	duplicate	5/19/2003	6/4/2003	0.007	0.000	0.000	0.000	0.000
A14-CR02-52	CR02	52	sample	5/19/2003	5/22/2003	0.010	0.000	0.000	0.000	0.000
A14-CR02-52	CR02	52	duplicate	5/19/2003	6/4/2003	0.009	0.000	0.000	0.000	0.000
A14-CR02-53	CR02	53	sample	5/19/2003	5/22/2003	0.011	0.000	0.000	0.000	0.000
A14-CR02-53	CR02	53	duplicate	5/19/2003	6/4/2003	0.009	0.000	0.000	0.000	0.000
A14-CR02-54	CR02	54	sample	5/19/2003	5/22/2003	0.042	0.000	0.000	0.000	0.000
A14-CR02-54	CR02	54	duplicate	5/19/2003	6/4/2003	0.043	0.000	0.000	0.000	0.000
A14-CR02-55	CR02	55	sample	5/19/2003	5/22/2003	0.434	0.000	0.000	0.000	0.000
A14-CR02-55	CR02	55	duplicate	5/19/2003	6/4/2003	0.465	0.000	0.000	0.000	0.000
A14-CR02-56	CR02	56	sample	5/19/2003	5/22/2003	0.504	0.000	0.000	0.000	0.000
A14-CR02-56	CR02	56	duplicate	5/19/2003	6/4/2003	0.809	0.000	0.000	0.000	0.000
A14-CR02-57	CR02	57	sample	5/19/2003	5/22/2003	1.602	0.000	0.000	0.000	0.000
A14-CR02-57	CR02	57	duplicate	5/19/2003	6/4/2003	0.797	0.000	0.000	0.000	0.000
A14-CR02-58	CR02	58	sample	5/19/2003	5/22/2003	3.800	0.000	0.000	0.000	0.000
A14-CR02-58	CR02	58	duplicate	5/19/2003	6/4/2003	4.935	0.000	0.000	0.000	0.000
A14-CR02-59	CR02	59	sample	5/19/2003	5/22/2003	2.712	0.000	0.000	0.000	0.000
A14-CR02-59	CR02	59	duplicate	5/19/2003	6/4/2003	1.188	0.000	0.000	0.000	0.000
A14-CR02-60	CR02	60	sample	5/19/2003	5/22/2003	0.938	0.000	0.000	0.000	0.000
A14-CR02-60	CR02	60	duplicate	5/19/2003	6/4/2003	1.091	0.000	0.000	0.000	0.000
A14-CR02-61	CR02	61	sample	5/19/2003	5/22/2003	0.360	0.000	0.000	0.000	0.000
A14-CR02-61	CR02	61	duplicate	5/19/2003	6/4/2003	0.901	0.000	0.000	0.000	0.000
A14-CR02-062	CR02	62	sample	5/19/2003	5/22/2003	0.019	0.000	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR02-062	CR02	62	duplicate	5/19/2003	6/2/2003	0.020	0.000	0.000	0.000	0.000
A14-CR02-063	CR02	63	sample	5/19/2003	5/22/2003	0.040	0.000	0.000	0.000	0.000
A14-CR02-063	CR02	63	duplicate	5/19/2003	6/2/2003	0.033	0.000	0.000	0.000	0.000
A14-CR02-064	CR02	64	sample	5/19/2003	5/22/2003	0.015	0.000	0.000	0.000	0.000
A14-CR02-064	CR02	64	duplicate	5/19/2003	6/2/2003	0.013	0.000	0.000	0.000	0.000
A14-CR02-065	CR02	65	sample	5/19/2003	5/22/2003	0.007	0.000	0.000	0.000	0.000
A14-CR02-065	CR02	65	duplicate	5/19/2003	6/2/2003	0.007	0.000	0.000	0.000	0.000
A14-CR02-066	CR02	66	sample	5/19/2003	5/22/2003	0.005	0.000	0.000	0.000	0.000
A14-CR02-066	CR02	66	duplicate	5/19/2003	6/2/2003	0.004	0.000	0.000	0.000	0.000
A14-CR02-067	CR02	67	sample	5/19/2003	5/22/2003	0.008	0.000	0.000	0.000	0.000
A14-CR02-067	CR02	67	duplicate	5/19/2003	6/2/2003	0.006	0.000	0.000	0.000	0.000
A14-CR02-068	CR02	68	sample	5/19/2003	5/22/2003	0.009	0.000	0.000	0.000	0.000
A14-CR02-068	CR02	68	duplicate	5/19/2003	6/2/2003	0.005	0.000	0.000	0.000	0.000
A14-CR02-069	CR02	69	sample	5/19/2003	5/22/2003	0.000	0.000	0.000	0.000	0.000
A14-CR02-069	CR02	69	duplicate	5/19/2003	6/2/2003	0.005	0.000	0.000	0.000	0.000
A14-CR02-070	CR02	70	sample	5/19/2003	5/22/2003	0.000	0.000	0.000	0.000	0.000
A14-CR02-070	CR02	70	duplicate	5/19/2003	6/2/2003	0.005	0.000	0.000	0.000	0.000
A14-CR02-071	CR02	71	sample	5/19/2003	5/22/2003	0.009	0.000	0.000	0.000	0.000
A14-CR02-071	CR02	71	duplicate	5/19/2003	6/2/2003	0.005	0.000	0.000	0.000	0.000
A14-CR02-072	CR02	72	sample	5/19/2003	5/22/2003	0.007	0.000	0.000	0.000	0.000
A14-CR02-072	CR02	72	duplicate	5/19/2003	6/2/2003	0.005	0.000	0.000	0.000	0.000
A14-CR02-073	CR02	73	sample	5/19/2003	5/22/2003	0.006	0.000	0.000	0.000	0.000
A14-CR02-073	CR02	73	duplicate	5/19/2003	6/2/2003	0.005	0.000	0.000	0.000	0.000
A14-CR02-074	CR02	74	sample	5/19/2003	5/22/2003	0.005	0.000	0.000	0.000	0.000
A14-CR02-074	CR02	74	duplicate	5/19/2003	6/2/2003	0.003	0.000	0.000	0.000	0.000
A14-CR02-075	CR02	75	sample	5/19/2003	5/22/2003	0.009	0.000	0.000	0.000	0.000
A14-CR02-075	CR02	75	duplicate	5/19/2003	6/2/2003	0.000	0.000	0.000	0.000	0.000
A14-CR02-076	CR02	76	sample	5/19/2003	5/22/2003	0.006	0.000	0.000	0.000	0.000
A14-CR02-076	CR02	76	duplicate	5/19/2003	6/2/2003	0.000	0.000	0.000	0.000	0.000
A14-CR02-077	CR02	77	sample	5/19/2003	5/22/2003	0.007	0.000	0.000	0.000	0.000
A14-CR02-077	CR02	77	duplicate	5/19/2003	6/2/2003	0.000	0.000	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR02-078	CR02	78	sample	5/19/2003	5/22/2003	0.007	0.000	0.000	0.000	0.000
A14-CR02-078	CR02	78	duplicate	5/19/2003	6/2/2003	0.004	0.000	0.000	0.000	0.000
A14-CR02-079	CR02	79	sample	5/19/2003	5/22/2003	0.004	0.000	0.000	0.000	0.000
A14-CR02-079	CR02	79	duplicate	5/19/2003	6/2/2003	0.003	0.000	0.000	0.000	0.000
A14-CR02-080	CR02	80	sample	5/19/2003	5/22/2003	0.003	0.000	0.000	0.000	0.000
A14-CR02-080	CR02	80	duplicate	5/19/2003	6/2/2003	0.000	0.000	0.000	0.000	0.000
A14-CR02-095	CR02	95	sample	5/19/2003	5/22/2003	0.008	0.000	0.000	0.000	0.000
A14-CR02-095	CR02	95	duplicate	5/19/2003	6/2/2003	0.005	0.000	0.000	0.000	0.000
A14-CR02-096	CR02	96	sample	5/19/2003	5/22/2003	0.000	0.000	0.000	0.000	0.000
A14-CR02-096	CR02	96	duplicate	5/19/2003	6/2/2003	0.000	0.000	0.000	0.000	0.000
A14-CR02-098	CR02	98	sample	5/19/2003	5/22/2003	1.535	0.009	0.000	0.000	0.000
A14-CR02-098	CR02	98	duplicate	5/19/2003	6/2/2003	2.773	0.014	0.000	0.000	0.000
A14-CR02-099	CR02	99	sample	5/19/2003	5/22/2003	0.008	0.000	0.000	0.000	0.000
A14-CR02-099	CR02	99	duplicate	5/19/2003	6/2/2003	0.007	0.000	0.000	0.000	0.000
A14-CR02-100	CR02	100	sample	5/19/2003	5/22/2003	0.003	0.000	0.000	0.000	0.000
A14-CR02-100	CR02	100	duplicate	5/19/2003	6/2/2003	0.008	0.000	0.000	0.000	0.000
A14-CR02-102	CR02	102	sample	5/19/2003	5/22/2003	0.019	0.000	0.000	0.000	0.000
A14-CR02-102	CR02	102	duplicate	5/19/2003	6/2/2003	0.043	0.000	0.000	0.000	0.000
A14-CR02-103	CR02	103	sample	5/19/2003	5/22/2003	2.005	0.007	0.000	0.000	0.000
A14-CR02-103	CR02	103	duplicate	5/19/2003	6/2/2003	1.867	0.009	0.000	0.000	0.000
A14-CR02-105	CR02	105	sample	5/19/2003	5/22/2003	11.376	0.181	0.000	0.000	0.000
A14-CR02-105	CR02	105	duplicate	5/19/2003	6/2/2003	12.622	0.196	0.000	0.000	0.000
A14-CR02-106	CR02	106	sample	5/19/2003	5/22/2003	0.036	0.000	0.000	0.000	0.000
A14-CR02-106	CR02	106	duplicate	5/19/2003	6/2/2003	0.037	0.000	0.000	0.000	0.000
A14-CR02-107	CR02	107	sample	5/19/2003	5/22/2003	0.033	0.004	0.000	0.000	0.000
A14-CR02-107	CR02	107	duplicate	5/19/2003	6/2/2003	0.033	0.003	0.000	0.000	0.000
A14-CR02-108	CR02	108	sample	5/19/2003	5/22/2003	0.008	0.000	0.000	0.000	0.000
A14-CR02-108	CR02	108	duplicate	5/19/2003	6/2/2003	0.008	0.000	0.000	0.000	0.000
A14-CR02-108.5	CR02	108.5	sample	5/19/2003	5/22/2003	0.039	0.006	0.000	0.000	0.000
A14-CR02-108.5	CR02	108.5	duplicate	5/19/2003	6/2/2003	0.040	0.005	0.000	0.000	0.000
A14-CR02-109	CR02	109	sample	5/19/2003	5/22/2003	0.003	0.000	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR02-109	CR02	109	duplicate	5/19/2003	6/2/2003	0.000	0.000	0.000	0.000	0.000
A14-CR02-111	CR02	111	sample	5/19/2003	5/22/2003	66.898	1.069	0.000	0.003	0.000
A14-CR02-111	CR02	111	duplicate	5/19/2003	6/2/2003	20.768	0.615	0.000	0.002	0.000
A14-CR02-112	CR02	112	sample	5/19/2003	5/22/2003	2.141	0.121	0.000	0.000	0.000
A14-CR02-112	CR02	112	duplicate	5/19/2003	6/2/2003	1.760	0.103	0.000	0.000	0.000
A14-CR02-114	CR02	114	sample	5/19/2003	5/22/2003	0.363	0.028	0.000	0.000	0.000
A14-CR02-114	CR02	114	duplicate	5/19/2003	6/2/2003	0.738	0.043	0.000	0.000	0.000
A14-CR02-115	CR02	115	sample	5/19/2003	5/22/2003	0.030	0.005	0.000	0.000	0.000
A14-CR02-115	CR02	115	duplicate	5/19/2003	6/2/2003	0.046	0.011	0.000	0.000	0.000
A14-CR02-117	CR02	117	sample	5/19/2003	5/22/2003	0.085	0.009	0.000	0.000	0.000
A14-CR02-117	CR02	117	duplicate	5/19/2003	6/2/2003	0.019	0.000	0.000	0.000	0.000
A14-CR02-118	CR02	118	sample	5/19/2003	5/22/2003	2.824	0.101	0.000	0.000	0.000
A14-CR02-118	CR02	118	duplicate	5/19/2003	6/2/2003	6.339	0.220	0.000	0.000	0.000

Table 8 – Sediment Analysis Results for Boring CR03

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR03-001	CR03	1	sample	5/20/2003	5/26/2003	0.035	0.000	0.000	0.000	0.000
A14-CR03-001	CR03	1	duplicate	5/20/2003	7/14/2003	0.032	0.000	0.000	0.000	0.000
A14-CR03-002	CR03	2	sample	5/20/2003	5/26/2003	0.094	0.002	0.000	0.000	0.000
A14-CR03-002	CR03	2	duplicate	5/20/2003	7/14/2003	0.165	0.003	0.000	0.000	0.000
A14-CR03-003	CR03	3	sample	5/20/2003	5/26/2003	0.109	0.005	0.000	0.000	0.000
A14-CR03-003	CR03	3	duplicate	5/20/2003	7/14/2003	0.133	0.006	0.000	0.000	0.000
A14-CR03-004	CR03	4	sample	5/20/2003	5/26/2003	0.369	0.016	0.000	0.000	0.000
A14-CR03-004	CR03	4	duplicate	5/20/2003	7/14/2003	0.489	0.033	0.000	0.000	0.000
A14-CR03-005	CR03	5	sample	5/20/2003	5/26/2003	0.630	0.024	0.000	0.000	0.000
A14-CR03-005	CR03	5	duplicate	5/20/2003	7/14/2003	0.764	0.038	0.000	0.000	0.000
A14-CR03-006	CR03	6	sample	5/20/2003	5/26/2003	2.848	0.048	0.000	0.000	0.000
A14-CR03-006	CR03	6	duplicate	5/20/2003	7/14/2003	1.447	0.041	0.000	0.003	0.000
A14-CR03-007	CR03	7	sample	5/20/2003	5/26/2003	31.969	0.116	0.000	0.008	0.000
A14-CR03-007	CR03	7	duplicate	5/20/2003	7/14/2003	9.744	0.051	0.000	0.010	0.000
A14-CR03-008	CR03	8	sample	5/20/2003	5/26/2003	1258.498	6.897	0.119	0.931	0.000
A14-CR03-008	CR03	8	duplicate	5/20/2003	7/14/2003	777.509	4.331	0.133	1.346	0.000
A14-CR03-009	CR03	9	sample	5/20/2003	5/26/2003	1474.970	15.336	0.139	1.868	0.000
A14-CR03-009	CR03	9	duplicate	5/20/2003	7/14/2003	1039.801	13.364	0.239	2.626	0.000
A14-CR03-010	CR03	10	sample	5/20/2003	5/26/2003	1628.262	24.412	0.181	2.286	0.000
A14-CR03-010	CR03	10	duplicate	5/20/2003	7/14/2003	1236.636	19.848	0.262	3.070	0.000
A14-CR03-011	CR03	11	sample	5/20/2003	5/26/2003	2981.095	63.077	0.227	4.684	0.000
A14-CR03-011	CR03	11	duplicate	5/20/2003	7/14/2003	4008.918	100.527	0.703	8.895	0.000
A14-CR03-012	CR03	12	sample	5/20/2003	5/26/2003	2519.351	103.680	0.395	7.744	0.000
A14-CR03-012	CR03	12	duplicate	5/20/2003	7/14/2003	1544.491	101.746	2.215	11.423	0.000
A14-CR03-013	CR03	13	sample	5/20/2003	5/26/2003	2488.545	163.737	0.319	8.737	0.000
A14-CR03-013	CR03	13	duplicate	5/20/2003	7/14/2003	875.915	100.376	0.615	8.965	0.000
A14-CR03-014	CR03	14	sample	5/20/2003	5/26/2003	2061.590	195.548	0.284	6.500	0.000
A14-CR03-014	CR03	14	duplicate	5/20/2003	7/14/2003	1295.827	178.683	0.671	8.346	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR03-015	CR03	15	sample	5/20/2003	5/26/2003	2865.756	280.619	0.361	7.615	0.000
A14-CR03-015	CR03	15	duplicate	5/20/2003	7/14/2003	1435.427	254.922	0.772	9.901	0.000
A14-CR03-016	CR03	16	sample	5/20/2003	5/26/2003	2539.419	243.470	0.193	5.255	0.000
A14-CR03-016	CR03	16	duplicate	5/20/2003	7/14/2003	1504.223	213.335	0.664	6.641	0.000
A14-CR03-017	CR03	17	sample	5/20/2003	5/26/2003	1694.941	204.563	0.321	6.315	0.000
A14-CR03-017	CR03	17	duplicate	5/20/2003	7/14/2003	1279.017	155.654	0.780	7.209	0.000
A14-CR03-018	CR03	18	sample	5/20/2003	5/26/2003	4769.711	342.668	0.399	7.875	0.000
A14-CR03-018	CR03	18	duplicate	5/20/2003	7/14/2003	1038.897	175.284	0.849	5.755	0.000
A14-CR03-019	CR03	19	sample	5/20/2003	5/26/2003	3415.767	210.831	0.338	1.293	0.000
A14-CR03-019	CR03	19	duplicate	5/20/2003	7/14/2003	1556.304	166.244	0.749	1.619	0.000
A14-CR03-020	CR03	20	sample	5/20/2003	5/26/2003	2307.342	107.890	0.140	0.163	0.000
A14-CR03-020	CR03	20	duplicate	5/20/2003	7/14/2003	1095.009	82.246	0.290	0.242	0.000
A14-CR03-021	CR03	21	sample	5/20/2003	5/26/2003	3003.373	121.225	0.090	0.185	0.000
A14-CR03-021	CR03	21	duplicate	5/20/2003	7/14/2003	875.758	55.873	0.000	0.156	0.000
A14-CR03-022	CR03	22	sample	5/20/2003	5/26/2003	1996.035	46.999	0.000	0.031	0.000
A14-CR03-022	CR03	22	duplicate	5/20/2003	7/14/2003	1503.645	53.842	0.000	0.083	0.000
A14-CR03-023	CR03	23	sample	5/20/2003	5/26/2003	1618.536	44.885	0.000	0.030	0.000
A14-CR03-023	CR03	23	duplicate	5/20/2003	7/14/2003	954.105	39.741	0.000	0.057	0.000
A14-CR03-024	CR03	24	sample	5/20/2003	5/26/2003	1314.959	26.209	0.000	0.016	0.000
A14-CR03-024	CR03	24	duplicate	5/20/2003	7/14/2003	826.368	13.998	0.000	0.018	0.000
A14-CR03-025	CR03	25	sample	5/20/2003	5/26/2003	2965.145	31.641	0.000	0.042	0.000
A14-CR03-025	CR03	25	duplicate	5/20/2003	7/14/2003	1137.433	23.614	0.000	0.056	0.000
A14-CR03-026	CR03	26	sample	5/20/2003	5/26/2003	1779.698	15.908	0.000	0.010	0.000
A14-CR03-026	CR03	26	duplicate	5/20/2003	7/14/2003	1264.150	15.040	0.000	0.021	0.000
A14-CR03-027	CR03	27	sample	5/21/2003	5/26/2003	2967.026	8.685	0.000	0.008	0.000
A14-CR03-027	CR03	27	duplicate	5/21/2003	7/14/2003	1488.524	4.203	0.000	0.010	0.000
A14-CR03-029	CR03	29	sample	5/21/2003	5/26/2003	751.048	25.591	0.199	0.235	0.000
A14-CR03-029	CR03	29	duplicate	5/21/2003	7/14/2003	831.024	26.303	0.452	0.376	0.000
A14-CR03-030	CR03	30	sample	5/21/2003	5/26/2003	1073.209	26.319	0.078	0.388	0.000
A14-CR03-030	CR03	30	duplicate	5/21/2003	7/14/2003	892.260	20.044	0.207	0.423	0.000
A14-CR03-035	CR03	35	sample	5/21/2003	5/26/2003	1.729	0.012	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR03-035	CR03	35	duplicate	5/21/2003	7/14/2003	8.769	0.117	0.000	0.005	0.000
A14-CR03-036	CR03	36	sample	5/21/2003	5/26/2003	1.294	0.006	0.000	0.000	0.000
A14-CR03-036	CR03	36	duplicate	5/21/2003	7/14/2003	1.315	0.018	0.000	0.000	0.000
A14-CR03-037	CR03	37	sample	5/21/2003	5/26/2003	1.363	0.014	0.000	0.000	0.000
A14-CR03-037	CR03	37	duplicate	5/21/2003	7/14/2003	0.816	0.028	0.000	0.000	0.000
A14-CR03-038	CR03	38	sample	5/21/2003	5/26/2003	10.832	0.008	0.000	0.000	0.000
A14-CR03-038	CR03	38	duplicate	5/21/2003	7/14/2003	3.607	0.015	0.000	0.000	0.000
A14-CR03-039	CR03	39	sample	5/21/2003	5/26/2003	4.394	0.006	0.000	0.000	0.000
A14-CR03-039	CR03	39	duplicate	5/21/2003	7/14/2003	4.394	0.026	0.000	0.000	0.000
A14-CR03-040	CR03	40	sample	5/21/2003	5/26/2003	3.634	0.011	0.000	0.000	0.000
A14-CR03-040	CR03	40	duplicate	5/21/2003	7/14/2003	2.646	0.006	0.000	0.000	0.000
A14-CR03-041	CR03	41	sample	5/21/2003	5/26/2003	3.061	0.012	0.000	0.000	0.000
A14-CR03-041	CR03	41	duplicate	5/21/2003	7/14/2003	2.278	0.012	0.000	0.000	0.000
A14-CR03-042	CR03	42	sample	5/21/2003	5/26/2003	0.121	0.004	0.000	0.000	0.000
A14-CR03-042	CR03	42	duplicate	5/21/2003	7/14/2003	0.360	0.012	0.000	0.000	0.000
A14-CR03-043	CR03	43	sample	5/21/2003	5/26/2003	0.098	0.003	0.000	0.000	0.000
A14-CR03-043	CR03	43	duplicate	5/21/2003	7/14/2003	0.242	0.005	0.000	0.000	0.000
A14-CR03-044	CR03	44	sample	5/21/2003	5/26/2003	0.059	0.003	0.000	0.000	0.000
A14-CR03-044	CR03	44	duplicate	5/21/2003	7/14/2003	0.155	0.003	0.000	0.000	0.000
A14-CR03-045	CR03	45	sample	5/21/2003	5/26/2003	0.050	0.003	0.000	0.000	0.000
A14-CR03-045	CR03	45	duplicate	5/21/2003	7/14/2003	0.258	0.009	0.000	0.000	0.000
A14-CR03-046	CR03	46	sample	5/21/2003	5/26/2003	2.072	0.042	0.000	0.000	0.000
A14-CR03-046	CR03	46	duplicate	5/21/2003	7/14/2003	1.846	0.028	0.000	0.000	0.000
A14-CR03-047	CR03	47	sample	5/21/2003	5/26/2003	2.478	0.028	0.000	0.000	0.000
A14-CR03-047	CR03	47	duplicate	5/21/2003	7/14/2003	1.672	0.031	0.000	0.000	0.000
A14-CR03-048	CR03	48	sample	5/21/2003	5/26/2003	1.727	0.020	0.000	0.000	0.000
A14-CR03-048	CR03	48	duplicate	5/21/2003	7/14/2003	2.397	0.048	0.000	0.000	0.000
A14-CR03-050	CR03	50	sample	5/21/2003	5/26/2003	1.026	0.010	0.000	0.000	0.000
A14-CR03-050	CR03	50	duplicate	5/21/2003	7/14/2003	0.349	0.008	0.000	0.000	0.000
A14-CR03-051	CR03	51	sample	5/21/2003	5/26/2003	0.825	0.009	0.000	0.000	0.000
A14-CR03-051	CR03	51	duplicate	5/21/2003	7/14/2003	0.578	0.016	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR03-059	CR03	59	sample	5/21/2003	5/27/2003	0.000	11.375	0.096	0.441	0.000
A14-CR03-059	CR03	59	duplicate	5/21/2003	6/4/2003	1234.711	38.866	0.138	1.209	0.000
A14-CR03-060	CR03	60	sample	5/21/2003	5/27/2003	15.596	0.060	0.000	0.000	0.000
A14-CR03-060	CR03	60	duplicate	5/21/2003	6/4/2003	14.676	0.067	0.000	0.000	0.000
A14-CR03-062	CR03	62	sample	5/21/2003	5/27/2003	7.363	0.262	0.000	0.009	0.000
A14-CR03-062	CR03	62	duplicate	5/21/2003	6/4/2003	9.095	0.311	0.000	0.007	0.000
A14-CR03-063	CR03	63	sample	5/21/2003	5/27/2003	0.216	0.010	0.000	0.000	0.000
A14-CR03-063	CR03	63	duplicate	5/21/2003	6/4/2003	0.434	0.013	0.000	0.000	0.000
A14-CR03-065	CR03	65	sample	5/21/2003	5/27/2003	0.466	0.023	0.000	0.000	0.000
A14-CR03-065	CR03	65	duplicate	5/21/2003	6/4/2003	0.245	0.008	0.000	0.000	0.000
A14-CR03-066	CR03	66	sample	5/21/2003	5/27/2003	0.091	0.000	0.000	0.000	0.000
A14-CR03-066	CR03	66	duplicate	5/21/2003	6/4/2003	0.196	0.007	0.000	0.000	0.000
A14-CR03-068	CR03	68	sample	5/21/2003	5/27/2003	0.406	0.015	0.000	0.000	0.000
A14-CR03-068	CR03	68	duplicate	5/21/2003	6/4/2003	0.132	0.004	0.000	0.000	0.000
A14-CR03-071	CR03	71	sample	5/21/2003	5/27/2003	18.412	0.250	0.000	0.007	0.000
A14-CR03-071	CR03	71	duplicate	5/21/2003	6/4/2003	77.801	0.900	0.000	0.014	0.000
A14-CR03-072	CR03	72	sample	5/21/2003	5/27/2003	0.059	0.000	0.000	0.000	0.000
A14-CR03-072	CR03	72	duplicate	5/21/2003	6/4/2003	0.128	0.000	0.000	0.000	0.000
A14-CR03-075	CR03	75	sample	5/21/2003	5/27/2003	0.035	0.000	0.000	0.000	0.000
A14-CR03-075	CR03	75	duplicate	5/21/2003	6/4/2003	0.038	0.000	0.000	0.000	0.000
A14-CR03-078	CR03	78	sample	5/21/2003	5/27/2003	0.154	0.005	0.000	0.000	0.000
A14-CR03-078	CR03	78	duplicate	5/21/2003	6/4/2003	0.148	0.003	0.000	0.000	0.000

Table 9 – Sediment Analysis Results for Boring CR04

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR04-001	CR04	1	sample	5/22/2003	5/27/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-001	CR04	1	duplicate	5/22/2003	6/4/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-002	CR04	2	sample	5/22/2003	5/27/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-002	CR04	2	duplicate	5/22/2003	6/4/2003	0.005	0.000	0.000	0.000	0.000
A14-CR04-003	CR04	3	sample	5/22/2003	5/27/2003	0.003	0.000	0.000	0.000	0.000
A14-CR04-003	CR04	3	duplicate	5/22/2003	6/4/2003	0.009	0.000	0.000	0.000	0.000
A14-CR04-004	CR04	4	sample	5/22/2003	5/27/2003	0.012	0.000	0.000	0.000	0.000
A14-CR04-004	CR04	4	duplicate	5/22/2003	6/4/2003	0.024	0.000	0.000	0.000	0.000
A14-CR04-005	CR04	5	sample	5/22/2003	5/27/2003	0.031	0.000	0.000	0.000	0.000
A14-CR04-005	CR04	5	duplicate	5/22/2003	6/4/2003	0.042	0.000	0.000	0.000	0.000
A14-CR04-006	CR04	6	sample	5/22/2003	5/27/2003	0.011	0.000	0.000	0.000	0.000
A14-CR04-006	CR04	6	duplicate	5/22/2003	6/4/2003	0.020	0.000	0.000	0.000	0.000
A14-CR04-007	CR04	7	sample	5/22/2003	5/27/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-007	CR04	7	duplicate	5/22/2003	6/4/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-008	CR04	8	sample	5/22/2003	5/27/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-008	CR04	8	duplicate	5/22/2003	6/4/2003	0.008	0.000	0.000	0.000	0.000
A14-CR04-009	CR04	9	sample	5/22/2003	5/27/2003	0.011	0.000	0.000	0.000	0.000
A14-CR04-009	CR04	9	duplicate	5/22/2003	6/4/2003	0.014	0.000	0.000	0.000	0.000
A14-CR04-010	CR04	10	sample	5/22/2003	5/27/2003	0.063	0.000	0.000	0.000	0.000
A14-CR04-010	CR04	10	duplicate	5/22/2003	6/4/2003	0.039	0.000	0.000	0.000	0.000
A14-CR04-011	CR04	11	sample	5/22/2003	5/27/2003	0.067	0.000	0.000	0.000	0.000
A14-CR04-011	CR04	11	duplicate	5/22/2003	6/4/2003	0.047	0.000	0.000	0.000	0.000
A14-CR04-012	CR04	12	sample	5/22/2003	5/27/2003	0.097	0.000	0.000	0.000	0.000
A14-CR04-012	CR04	12	duplicate	5/22/2003	6/4/2003	0.050	0.000	0.000	0.000	0.000
A14-CR04-013	CR04	13	sample	5/22/2003	5/27/2003	0.056	0.000	0.000	0.000	0.000
A14-CR04-013	CR04	13	duplicate	5/22/2003	6/4/2003	0.025	0.000	0.000	0.000	0.000
A14-CR04-014	CR04	14	sample	5/22/2003	5/27/2003	0.554	0.000	0.201	0.000	0.000
A14-CR04-014	CR04	14	duplicate	5/22/2003	6/4/2003	0.478	0.014	0.100	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR04-015	CR04	15	sample	5/22/2003	5/27/2003	0.080	0.000	0.000	0.000	0.000
A14-CR04-015	CR04	15	duplicate	5/22/2003	6/4/2003	0.072	0.004	0.000	0.000	0.000
A14-CR04-016	CR04	16	sample	5/22/2003	5/27/2003	0.101	0.000	0.000	0.000	0.000
A14-CR04-016	CR04	16	duplicate	5/22/2003	6/4/2003	0.029	0.000	0.000	0.000	0.000
A14-CR04-018	CR04	18	sample	5/22/2003	5/27/2003	0.041	0.000	0.000	0.000	0.000
A14-CR04-018	CR04	18	duplicate	5/22/2003	6/4/2003	0.071	0.003	0.000	0.000	0.000
A14-CR04-019	CR04	19	sample	5/22/2003	5/27/2003	0.026	0.000	0.000	0.000	0.000
A14-CR04-019	CR04	19	duplicate	5/22/2003	6/4/2003	0.057	0.003	0.000	0.000	0.000
A14-CR04-020	CR04	20	sample	5/22/2003	5/27/2003	0.015	0.000	0.000	0.000	0.000
A14-CR04-020	CR04	20	duplicate	5/22/2003	6/4/2003	0.011	0.000	0.000	0.000	0.000
A14-CR04-021	CR04	21	sample	5/22/2003	5/27/2003	0.010	0.000	0.000	0.000	0.000
A14-CR04-021	CR04	21	duplicate	5/22/2003	6/4/2003	0.017	0.000	0.000	0.000	0.000
A14-CR04-022	CR04	22	sample	5/22/2003	5/27/2003	0.042	0.000	0.000	0.000	0.000
A14-CR04-022	CR04	22	duplicate	5/22/2003	6/4/2003	0.048	0.003	0.000	0.000	0.000
A14-CR04-024	CR04	24	sample	5/22/2003	5/27/2003	0.006	0.000	0.000	0.000	0.000
A14-CR04-024	CR04	24	duplicate	5/22/2003	6/4/2003	0.006	0.000	0.000	0.000	0.000
A14-CR04-025	CR04	25	sample	5/22/2003	5/27/2003	0.012	0.000	0.000	0.000	0.000
A14-CR04-025	CR04	25	duplicate	5/22/2003	6/4/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-027	CR04	27	sample	5/22/2003	5/27/2003	0.008	0.000	0.000	0.000	0.000
A14-CR04-027	CR04	27	duplicate	5/22/2003	6/4/2003	0.008	0.000	0.000	0.000	0.000
A14-CR04-028	CR04	28	sample	5/22/2003	5/27/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-028	CR04	28	duplicate	5/22/2003	6/4/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-029	CR04	29	sample	5/22/2003	5/27/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-029	CR04	29	duplicate	5/22/2003	6/4/2003	0.003	0.000	0.000	0.000	0.000
A14-CR04-030	CR04	30	sample	5/22/2003	5/27/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-030	CR04	30	duplicate	5/22/2003	6/4/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-031	CR04	31	sample	5/22/2003	5/27/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-031	CR04	31	duplicate	5/22/2003	6/4/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-033	CR04	33	sample	5/22/2003	5/27/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-033	CR04	33	duplicate	5/22/2003	6/4/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-035	CR04	35	sample	5/22/2003	5/27/2003	0.000	0.000	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR04-035	CR04	35	duplicate	5/22/2003	6/4/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-037	CR04	37	sample	5/22/2003	5/27/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-037	CR04	37	duplicate	5/22/2003	6/4/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-038	CR04	38	sample	5/22/2003	5/27/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-038	CR04	38	duplicate	5/22/2003	6/4/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-039	CR04	39	sample	5/22/2003	5/27/2003	0.003	0.000	0.000	0.000	0.000
A14-CR04-039	CR04	39	duplicate	5/22/2003	6/4/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-041	CR04	41	sample	5/23/2003	5/30/2003	0.005	0.000	0.000	0.000	0.000
A14-CR04-041	CR04	41	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-042	CR04	42	sample	5/23/2003	5/30/2003	0.006	0.000	0.000	0.000	0.000
A14-CR04-042	CR04	42	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-043	CR04	43	sample	5/23/2003	5/30/2003	0.003	0.000	0.000	0.000	0.000
A14-CR04-043	CR04	43	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-044	CR04	44	sample	5/23/2003	5/30/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-044	CR04	44	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-045	CR04	45	sample	5/23/2003	5/30/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-045	CR04	45	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-046	CR04	46	sample	5/23/2003	5/30/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-046	CR04	46	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-047	CR04	47	sample	5/23/2003	5/30/2003	0.003	0.000	0.000	0.000	0.000
A14-CR04-047	CR04	47	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-049	CR04	49	sample	5/23/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-049	CR04	49	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-050	CR04	50	sample	5/23/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-050	CR04	50	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-052	CR04	52	sample	5/23/2003	5/30/2003	0.003	0.000	0.000	0.000	0.000
A14-CR04-052	CR04	52	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-053	CR04	53	sample	5/23/2003	5/30/2003	0.006	0.000	0.000	0.000	0.000
A14-CR04-053	CR04	53	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-054	CR04	54	sample	5/23/2003	5/30/2003	0.010	0.000	0.000	0.000	0.000
A14-CR04-054	CR04	54	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR04-055	CR04	55	sample	5/23/2003	5/30/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-055	CR04	55	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-056	CR04	56	sample	5/23/2003	5/30/2003	0.007	0.000	0.000	0.000	0.000
A14-CR04-056	CR04	56	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-057	CR04	57	sample	5/23/2003	5/30/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-057	CR04	57	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-058	CR04	58	sample	5/23/2003	5/30/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-058	CR04	58	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-059	CR04	59	sample	5/23/2003	5/30/2003	0.003	0.000	0.000	0.000	0.000
A14-CR04-059	CR04	59	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-060	CR04	60	sample	5/23/2003	5/30/2003	0.005	0.000	0.000	0.000	0.000
A14-CR04-060	CR04	60	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-061	CR04	61	sample	5/23/2003	5/30/2003	0.005	0.000	0.000	0.000	0.000
A14-CR04-061	CR04	61	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-062	CR04	62	sample	5/23/2003	5/30/2003	0.005	0.000	0.000	0.000	0.000
A14-CR04-062	CR04	62	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-063	CR04	63	sample	5/23/2003	5/30/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-063	CR04	63	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-064	CR04	64	sample	5/23/2003	5/30/2003	0.003	0.000	0.000	0.000	0.000
A14-CR04-064	CR04	64	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-065	CR04	65	sample	5/23/2003	5/30/2003	0.007	0.000	0.000	0.000	0.000
A14-CR04-065	CR04	65	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-067	CR04	67	sample	5/23/2003	5/30/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-067	CR04	67	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-069	CR04	69	sample	5/23/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-069	CR04	69	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-071	CR04	71	sample	5/23/2003	5/30/2003	0.003	0.000	0.000	0.000	0.000
A14-CR04-071	CR04	71	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-073	CR04	73	sample	5/23/2003	5/30/2003	0.006	0.000	0.000	0.000	0.000
A14-CR04-073	CR04	73	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-075	CR04	75	sample	5/23/2003	5/30/2003	0.005	0.000	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR04-075	CR04	75	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-077	CR04	77	sample	5/23/2003	5/30/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-077	CR04	77	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-079	CR04	79	sample	5/23/2003	5/30/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-079	CR04	79	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-081	CR04	81	sample	5/23/2003	5/30/2003	0.003	0.000	0.000	0.000	0.000
A14-CR04-081	CR04	81	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-082	CR04	82	sample	5/23/2003	5/30/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-082	CR04	82	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-083	CR04	83	sample	5/23/2003	5/30/2003	0.003	0.000	0.000	0.000	0.000
A14-CR04-083	CR04	83	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-085	CR04	85	sample	5/23/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-085	CR04	85	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-086	CR04	86	sample	5/23/2003	5/30/2003	0.003	0.000	0.000	0.000	0.000
A14-CR04-086	CR04	86	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-087	CR04	87	sample	5/23/2003	5/30/2003	0.005	0.000	0.000	0.000	0.000
A14-CR04-087	CR04	87	duplicate	5/23/2003	6/5/2003	0.002	0.000	0.000	0.000	0.000
A14-CR04-088	CR04	88	sample	5/23/2003	5/30/2003	0.005	0.000	0.000	0.000	0.000
A14-CR04-088	CR04	88	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-089	CR04	89	sample	5/23/2003	5/30/2003	0.004	0.000	0.000	0.000	0.000
A14-CR04-089	CR04	89	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-100	CR04	100	sample	5/23/2003	5/30/2003	0.003	0.000	0.000	0.000	0.000
A14-CR04-100	CR04	100	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-101	CR04	101	sample	5/23/2003	5/30/2003	0.003	0.000	0.000	0.000	0.000
A14-CR04-101	CR04	101	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-105	CR04	105	sample	5/23/2003	5/30/2003	0.006	0.000	0.000	0.000	0.000
A14-CR04-105	CR04	105	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-106	CR04	106	sample	5/23/2003	5/30/2003	0.005	0.000	0.000	0.000	0.000
A14-CR04-106	CR04	106	duplicate	5/23/2003	6/5/2003	0.000	0.000	0.000	0.000	0.000
A14-CR04-110	CR04	110	sample	5/23/2003	5/30/2003	0.010	0.000	0.000	0.000	0.000
A14-CR04-110	CR04	110	duplicate	5/23/2003	6/5/2003	0.007	0.000	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR04-111	CR04	111	sample	5/23/2003	5/30/2003	0.021	0.000	0.000	0.000	0.000
A14-CR04-111	CR04	111	duplicate	5/23/2003	6/5/2003	0.019	0.000	0.000	0.000	0.000
A14-CR04-112	CR04	112	sample	5/23/2003	5/30/2003	0.146	0.022	0.000	0.000	0.000
A14-CR04-112	CR04	112	duplicate	5/23/2003	6/5/2003	0.142	0.024	0.000	0.000	0.000
A14-CR04-117	CR04	117	sample	5/23/2003	5/30/2003	0.014	0.006	0.000	0.000	0.000
A14-CR04-117	CR04	117	duplicate	5/23/2003	6/5/2003	0.017	0.009	0.000	0.000	0.000
A14-CR04-118	CR04	118	sample	5/23/2003	5/30/2003	0.056	0.027	0.000	0.000	0.000
A14-CR04-118	CR04	118	duplicate	5/23/2003	6/5/2003	0.054	0.026	0.000	0.000	0.000

Table 10 – Sediment Analysis Results for Boring CR05

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR05-01	CR05	1	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-01	CR05	1	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-02	CR05	2	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-02	CR05	2	duplicate	5/27/2003	6/5/03	0.006	0.000	0.000	0.000	0.000
A14-CR05-03	CR05	3	sample	5/27/2003	5/29/2003	0.255	0.014	0.000	0.000	0.000
A14-CR05-03	CR05	3	duplicate	5/27/2003	6/5/03	0.395	0.013	0.000	0.000	0.000
A14-CR05-04	CR05	4	sample	5/27/2003	5/29/2003	2.088	0.100	0.198	0.000	0.000
A14-CR05-04	CR05	4	duplicate	5/27/2003	6/5/03	1.771	0.051	0.111	0.000	0.000
A14-CR05-06	CR05	6	sample	5/27/2003	5/29/2003	0.198	0.013	0.000	0.000	0.000
A14-CR05-06	CR05	6	duplicate	5/27/2003	6/5/03	0.321	0.011	0.000	0.000	0.000
A14-CR05-07	CR05	7	sample	5/27/2003	5/29/2003	0.566	0.051	0.183	0.000	0.000
A14-CR05-07	CR05	7	duplicate	5/27/2003	6/5/03	1.067	0.061	0.181	0.000	0.000
A14-CR05-08	CR05	8	sample	5/27/2003	5/29/2003	0.527	0.051	0.187	0.000	0.000
A14-CR05-08	CR05	8	duplicate	5/27/2003	6/5/03	0.503	0.027	0.123	0.000	0.000
A14-CR05-09	CR05	9	sample	5/27/2003	5/29/2003	0.654	0.059	0.213	0.000	0.000
A14-CR05-09	CR05	9	duplicate	5/27/2003	6/5/03	0.336	0.018	0.089	0.000	0.000
A14-CR05-10	CR05	10	sample	5/27/2003	5/29/2003	0.487	0.050	0.196	0.000	0.000
A14-CR05-10	CR05	10	duplicate	5/27/2003	6/5/03	1.042	0.053	0.179	0.000	0.000
A14-CR05-11	CR05	11	sample	5/27/2003	5/29/2003	1.108	0.083	0.301	0.000	0.000
A14-CR05-11	CR05	11	duplicate	5/27/2003	6/5/03	0.583	0.026	0.161	0.000	0.000
A14-CR05-12	CR05	12	sample	5/27/2003	5/29/2003	0.417	0.036	0.141	0.000	0.000
A14-CR05-12	CR05	12	duplicate	5/27/2003	6/5/03	0.624	0.031	0.131	0.000	0.000
A14-CR05-13	CR05	13	sample	5/27/2003	5/29/2003	0.273	0.025	0.113	0.000	0.000
A14-CR05-13	CR05	13	duplicate	5/27/2003	6/5/03	0.275	0.014	0.081	0.000	0.000
A14-CR05-14	CR05	14	sample	5/27/2003	5/29/2003	0.491	0.051	0.154	0.000	0.000
A14-CR05-14	CR05	14	duplicate	5/27/2003	6/5/03	0.259	0.015	0.000	0.000	0.000
A14-CR05-15	CR05	15	sample	5/27/2003	5/29/2003	0.139	0.010	0.000	0.000	0.000
A14-CR05-15	CR05	15	duplicate	5/27/2003	6/5/03	0.348	0.020	0.080	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR05-16	CR05	16	sample	5/27/2003	5/29/2003	0.143	0.015	0.049	0.000	0.000
A14-CR05-16	CR05	16	duplicate	5/27/2003	6/5/03	0.212	0.012	0.057	0.000	0.000
A14-CR05-17	CR05	17	sample	5/27/2003	5/29/2003	0.140	0.013	0.053	0.000	0.000
A14-CR05-17	CR05	17	duplicate	5/27/2003	6/5/03	0.115	0.010	0.041	0.000	0.000
A14-CR05-18	CR05	18	sample	5/27/2003	5/29/2003	0.292	0.028	0.144	0.000	0.000
A14-CR05-18	CR05	18	duplicate	5/27/2003	6/5/03	0.076	0.006	0.000	0.000	0.000
A14-CR05-19	CR05	19	sample	5/27/2003	5/29/2003	0.472	0.007	0.000	0.000	0.000
A14-CR05-19	CR05	19	duplicate	5/27/2003	6/5/03	0.564	0.005	0.000	0.000	0.000
A14-CR05-20	CR05	20	sample	5/27/2003	5/29/2003	0.686	0.006	0.000	0.000	0.000
A14-CR05-20	CR05	20	duplicate	5/27/2003	6/5/03	0.911	0.004	0.000	0.000	0.000
A14-CR05-21	CR05	21	sample	5/27/2003	5/29/2003	0.004	0.000	0.000	0.000	0.000
A14-CR05-21	CR05	21	duplicate	5/27/2003	6/5/03	0.021	0.005	0.000	0.000	0.000
A14-CR05-22	CR05	22	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-22	CR05	22	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-23	CR05	23	sample	5/27/2003	5/29/2003	0.008	0.000	0.000	0.000	0.000
A14-CR05-23	CR05	23	duplicate	5/27/2003	6/5/03	0.004	0.000	0.000	0.000	0.000
A14-CR05-24	CR05	24	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-24	CR05	24	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-25	CR05	25	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-25	CR05	25	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-26	CR05	26	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-26	CR05	26	duplicate	5/27/2003	6/5/03	0.003	0.000	0.000	0.000	0.000
A14-CR05-27	CR05	27	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-27	CR05	27	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-28	CR05	28	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-28	CR05	28	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-29	CR05	29	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-29	CR05	29	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-30	CR05	30	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-30	CR05	30	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-31	CR05	31	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR05-31	CR05	31	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-32	CR05	32	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-32	CR05	32	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-33	CR05	33	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-33	CR05	33	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-34	CR05	34	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-34	CR05	34	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-35	CR05	35	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-35	CR05	35	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-36	CR05	36	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-36	CR05	36	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-37	CR05	37	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-37	CR05	37	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-38	CR05	38	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-38	CR05	38	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-39	CR05	39	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-39	CR05	39	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-40	CR05	40	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-40	CR05	40	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-41	CR05	41	sample	5/27/2003	5/29/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-41	CR05	41	duplicate	5/27/2003	6/5/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-042	CR05	42	sample	5/27/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-042	CR05	42	duplicate	5/27/2003	7/14/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-043	CR05	43	sample	5/27/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-043	CR05	43	duplicate	5/27/2003	7/14/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-044	CR05	44	sample	5/27/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-044	CR05	44	duplicate	5/27/2003	7/14/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-045	CR05	45	sample	5/27/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-045	CR05	45	duplicate	5/27/2003	7/14/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-046	CR05	46	sample	5/27/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-046	CR05	46	duplicate	5/27/2003	7/14/03	0.000	0.000	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR05-047	CR05	47	sample	5/27/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-047	CR05	47	duplicate	5/27/2003	7/14/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-048	CR05	48	sample	5/27/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-048	CR05	48	duplicate	5/27/2003	7/14/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-049	CR05	49	sample	5/27/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-049	CR05	49	duplicate	5/27/2003	7/14/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-050	CR05	50	sample	5/27/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-050	CR05	50	duplicate	5/27/2003	7/14/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-051	CR05	51	sample	5/27/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-051	CR05	51	duplicate	5/27/2003	7/14/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-052	CR05	52	sample	5/27/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-052	CR05	52	duplicate	5/27/2003	7/14/03	0.000	0.000	0.000	0.000	0.000
A14-CR05-053	CR05	53	sample	5/27/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-053	CR05	53	duplicate	5/27/2003	7/14/03	0.008	0.000	0.000	0.000	0.000
A14-CR05-054	CR05	54	sample	5/27/2003	5/30/2003	0.023	0.000	0.000	0.000	0.000
A14-CR05-054	CR05	54	duplicate	5/27/2003	7/14/03	0.019	0.000	0.000	0.000	0.000
A14-CR05-055	CR05	55	sample	5/27/2003	5/30/2003	0.295	0.000	0.000	0.000	0.000
A14-CR05-055	CR05	55	duplicate	5/27/2003	7/14/03	0.132	0.000	0.000	0.000	0.000
A14-CR05-056	CR05	56	sample	5/27/2003	5/30/2003	1.686	0.003	0.000	0.000	0.000
A14-CR05-056	CR05	56	duplicate	5/27/2003	7/14/03	0.731	0.000	0.000	0.000	0.000
A14-CR05-057	CR05	57	sample	5/27/2003	5/30/2003	37.334	0.013	0.000	0.000	0.000
A14-CR05-057	CR05	57	duplicate	5/27/2003	7/14/03	28.073	0.007	0.000	0.000	0.000
A14-CR05-058	CR05	58	sample	5/27/2003	5/30/2003	3925.067	0.986	2.132	0.000	0.000
A14-CR05-058	CR05	58	duplicate	5/27/2003	7/14/03	1158.219	0.471	0.000	0.000	0.000
A14-CR05-059	CR05	59	sample	5/28/2003	5/30/2003	2107.337	0.479	0.000	0.000	0.000
A14-CR05-059	CR05	59	duplicate	5/28/2003	7/14/03	1215.932	0.314	0.000	0.000	0.000
A14-CR05-060	CR05	60	sample	5/28/2003	5/30/2003	911.015	0.073	1.805	0.000	0.000
A14-CR05-060	CR05	60	duplicate	5/28/2003	7/14/03	972.395	0.170	0.000	0.000	0.000
A14-CR05-061	CR05	61	sample	5/28/2003	5/30/2003	2.332	0.000	2.479	0.000	0.000
A14-CR05-061	CR05	61	duplicate	5/28/2003	7/14/03	1.752	0.002	0.000	0.000	0.000
A14-CR05-062	CR05	62	sample	5/28/2003	5/30/2003	0.395	0.144	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR05-062	CR05	62	duplicate	5/28/2003	7/14/03	0.203	0.000	0.000	0.000	0.000
A14-CR05-063	CR05	63	sample	5/28/2003	5/30/2003	0.700	0.099	0.000	0.000	0.000
A14-CR05-063	CR05	63	duplicate	5/28/2003	7/14/03	0.067	0.000	0.000	0.000	0.000
A14-CR05-065	CR05	65	sample	5/28/2003	5/30/2003	0.575	0.098	0.000	0.000	0.000
A14-CR05-065	CR05	65	duplicate	5/28/2003	7/14/03	0.094	0.000	0.000	0.000	0.000
A14-CR05-066	CR05	66	sample	5/28/2003	5/30/2003	0.817	0.139	0.000	0.000	0.000
A14-CR05-066	CR05	66	duplicate	5/28/2003	7/14/03	0.065	0.000	0.000	0.000	0.000
A14-CR05-067	CR05	67	sample	5/28/2003	5/30/2003	1.216	0.509	0.000	0.000	0.000
A14-CR05-067	CR05	67	duplicate	5/28/2003	7/14/03	0.040	0.000	0.000	0.000	0.000
A14-CR05-068	CR05	68	sample	5/28/2003	5/30/2003	1.488	0.111	0.000	0.000	0.000
A14-CR05-068	CR05	68	duplicate	5/28/2003	7/14/03	0.033	0.000	0.000	0.000	0.000
A14-CR05-069	CR05	69	sample	5/28/2003	5/30/2003	0.547	0.000	0.000	0.000	0.000
A14-CR05-069	CR05	69	duplicate	5/28/2003	7/14/03	0.373	0.000	0.000	0.000	0.000
A14-CR05-071	CR05	71	sample	5/28/2003	5/30/2003	0.124	0.000	0.000	0.000	0.000
A14-CR05-071	CR05	71	duplicate	5/28/2003	7/14/03	0.122	0.000	0.000	0.000	0.000
A14-CR05-072	CR05	72	sample	5/28/2003	5/30/2003	0.008	0.000	0.000	0.000	0.000
A14-CR05-072	CR05	72	duplicate	5/28/2003	7/14/03	0.013	0.000	0.000	0.000	0.000
A14-CR05-073	CR05	73	sample	5/28/2003	5/30/2003	0.007	0.000	0.000	0.000	0.000
A14-CR05-073	CR05	73	duplicate	5/28/2003	7/14/03	0.010	0.000	0.000	0.000	0.000
A14-CR05-074	CR05	74	sample	5/28/2003	5/30/2003	0.006	0.000	0.000	0.000	0.000
A14-CR05-074	CR05	74	duplicate	5/28/2003	7/14/03	0.007	0.000	0.000	0.000	0.000
A14-CR05-080	CR05	80	sample	5/28/2003	5/30/2003	0.019	0.000	0.000	0.000	0.000
A14-CR05-080	CR05	80	duplicate	5/28/2003	7/14/03	0.012	0.000	0.000	0.000	0.000
A14-CR05-081	CR05	81	sample	5/28/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-081	CR05	81	duplicate	5/28/2003	7/14/03	0.004	0.000	0.000	0.000	0.000
A14-CR05-090	CR05	90	sample	5/28/2003	5/30/2003	0.007	0.000	0.000	0.000	0.000
A14-CR05-090	CR05	90	duplicate	5/28/2003	7/14/03	0.020	0.000	0.000	0.000	0.000
A14-CR05-091	CR05	91	sample	5/28/2003	5/30/2003	0.007	0.000	0.000	0.000	0.000
A14-CR05-091	CR05	91	duplicate	5/28/2003	7/14/03	0.009	0.000	0.000	0.000	0.000
A14-CR05-100	CR05	100	sample	5/28/2003	5/30/2003	0.003	0.000	0.000	0.000	0.000
A14-CR05-100	CR05	100	duplicate	5/28/2003	7/14/03	0.006	0.000	0.000	0.000	0.000

Sample ID	Boring	Depth (ft)	Type	Date Collected	Date Analyzed	PCE (mg/kg)	TCE (mg/kg)	C-DCE (mg/kg)	TCA (mg/kg)	11DCE (mg/kg)
A14-CR05-101	CR05	101	sample	5/28/2003	5/30/2003	0.000	0.000	0.000	0.000	0.000
A14-CR05-101	CR05	101	duplicate	5/28/2003	7/14/03	0.020	0.000	0.000	0.000	0.000