



BLACK & VEATCH

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Sparton Technology, Inc
Coors Road Facility

B&V Project 026602.0100
May 1, 1996

Mr. Dennis McQuillan, Remediation Manager
Ground Water Quality Bureau
New Mexico Environment Department
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502

Subject: Deep Soil Gas Results

Dear Mr. McQuillan:

In response to your questions during our meeting of April 25, 1996, we have reviewed the equilibrium concentration calculations based on the deep soil-gas analytical results obtained earlier in the month. You were correct that the concentration on a volume basis was inconsistent with the reported results and the subsequent equilibrium comparisons were in error. In the original preparation of the attached summary, volume concentrations did not pick up the appropriate conversion factor. In the transmitted summary, we calculated the volume concentrations for average Albuquerque conditions. These volume concentrations are then compared to equilibrium concentrations predicted from Henry's Law. Conversion factors are noted in the summary.

Although the equilibrium percent numbers have changed, I believe we both would still concur that elevated readings are isolated to the source area.

Thanks for the help, I'm glad you caught this so early. I look forward to hearing from you on your parallel calculations and your review of the attached summary.

Sincerely,

BLACK & VEATCH

Pierce L. Chandler, Jr., P.E.
Senior Project Manager

attachment

cc: Mr. R. Jan Appel
Mr. Jim Harris

GWB-00595-SPARTON

OGC-000559

Sparton Technologies, Inc. Soil Gas to Groundwater Comparison

Monitor Well (#)	Location	TCE					TCA				
		Jan. 1996 GW Conc. (ug/l)	Predicted Soil Gas Conc. (ppmv)	Actual Soil Gas Conc. (ug/l)	Actual Soil Gas Conc. (ppmv)	Actual to Predicted	Jan. 1996 GW Conc. (ug/l)	Predicted Soil Gas Conc. (ppmv)	Actual Soil Gas Conc. (ug/l)	Actual Soil Gas Conc. (ppmv)	Actual to Predicted
		7	OnSite	340.00	24.48	0.25	0.056	0.23%	92.00	2.76	ND <0.1
13	OnSite	380.00	27.36	14.00	3.136	11.46%	54.00	1.62	5.90	1.304	80.49%
14	OnSite	290.00	20.88	15.00	3.360	16.09%	5.80	0.17	0.29	0.064	36.83%
15	OnSite	See Note 6	NA	1.40	0.314	NA	See Note 6	NA	0.43	0.095	NA
17	Source	3,800.00	273.60	820.00	183.680	67.13%	1,100.00	33.00	550.00	121.550	368.33%
18	OnSite	See Note 6	NA	170.00	38.080	NA	See Note 6	NA	33.00	7.293	NA
21	Source	220.00	15.84	6.20	1.389	8.77%	95.00	2.85	3.60	0.796	27.92%
27	OnSite	See Note 6	NA	5.60	1.254	NA	See Note 6	NA	3.40	0.751	NA
33	OnSite	2,000.00	144.00	1.30	0.291	0.20%	160.00	4.80	0.13	0.029	0.60%
37	OffSite	720.00	51.84	4.60	1.030	1.99%	ND <10	NA	ND <0.1	NA	NA
48	OffSite	350.00	25.20	ND <0.03	NA	NA	ND <1	NA	ND <0.1	NA	NA
57	OffSite	ND <0.3	NA	ND <0.03	NA	NA	ND <1	NA	ND <0.1	NA	NA
61	OffSite	1,900.00	136.80	0.59	0.132	0.10%	13.00	0.39	ND <0.1	NA	NA

NOTES:

- 1). Predicted soil gas concentrations obtained using gas constants from Henry's Law (HL).
 $\text{gas concentration (ppmv)} = \text{HL} * \text{water concentration (ug/l)}$
 HL gas constant for TCE 0.072
 HL gas constant for TCA 0.030

- 2). Soil gas concentrations (ppmv) were calculated from laboratory data using the following conversion (Albuquerque conditions, P = 621 mm Hg; T = 20 deg. Centigrade)
 $C \text{ (ppmv)} = 0.224 * C \text{ (ug/l)} \text{ (TCE)}$
 $C \text{ (ppmv)} = 0.221 * C \text{ (ug/l)} \text{ (TCA)}$

- 3). Onsite location indicates Monitor Well is on Sparton Property.
- 4). Offsite location indicates Monitor Well is not on Sparton Property.
- 5). Source location indicates Monitor Well is on Sparton Property in the vicinity of the original source.
- 6). Groundwater data not available.

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