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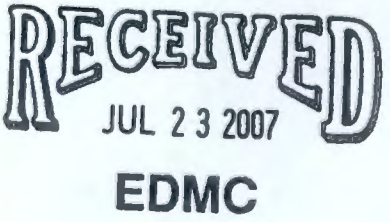
BEACON 0005
Dayes
6/28/07

BEACON Report No. 1923B

PASSIVE SOIL-GAS SURVEY
BURROW INVESTIGATION
HANFORD SITE, WA

Prepared for

Environmental Assessment Services
350 Hills Street
Suite 151
Richland, WA 99354



by

Beacon Environmental Services, Inc.
323 Williams Street
Suite D
Bel Air, MD 21014

October 24, 2006

Applying Results from Soil-Gas Surveys

The utility of soil-gas surveys is directly proportional to their accuracy in reflecting and representing changes in the subsurface concentrations of source compounds. Passive soil-gas survey results are the mass collected from the vapor-phase emanating from the source. The vapor-phase is merely a fractional trace of the source, so, as a matter of convenience, the units used in reporting detection values from passive soil-gas surveys are smaller than those employed for source-compound concentrations.

The critical fact is that, whatever the relative concentrations of source and associated soil gas, best results are realized when the ratio of soil-gas measurements to actual subsurface concentrations remains as close to constant as the real world permits. It is the reliability and consistency of this ratio, not the particular units of mass (*e.g.*, nanograms) that determine usefulness. Thus, BEACON emphasizes the necessity of conducting — at minimum — follow-on intrusive sampling at one or two points that show relatively high soil-gas measurements to obtain corresponding concentrations of soil and groundwater contaminants. These correspondent values furnish the basis for approximating the required ratio. Once that ratio is established, it can be used in conjunction with the soil-gas measurements (regardless of the units adopted) to estimate subsurface contaminant concentrations across the survey field. It is important to keep in mind, however, that specific conditions at individual sample points, including soil porosity and permeability, depth to contamination, and perched ground water, can have significant impact on soil-gas measurements at those locations.

When passive soil-gas surveys are handled in this way, the data provide information that can yield substantial savings in drilling costs and in time. They furnish, among other things, a checklist of compounds expected at each survey location and help to determine how and where drilling budgets can most effectively be spent.

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	Meth_Blk	B1KX72	B1KWX6	B1KWX7	B1KWX8	B1KWX9
Project Number:	1923B	1923B	1923B	1923B	1923B	1923B
Lab File ID:	06101903	06101904	06101905	06101906	06101907	06101908
Received Date:		10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006
Analysis Date:	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006
Analysis Time:	12:30	13:00	13:31	14:01	14:32	15:03
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichlorotrifluoroethane	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl Ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	<25	<25	**65**	**55**	**67**	**27**
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	<25	<25	<25	<25	<25
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	B1KWY0	B1KWY1	B1KWY2	B1KWY3	B1KWY4	B1KWY5
Project Number:	1923B	1923B	1923B	1923B	1923B	1923B
Lab File ID:	06101909	06101910	06101911	06101912	06101913	06101914
Received Date:	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006
Analysis Date:	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006
Analysis Time:	15:33	16:04	16:34	17:04	17:35	18:05
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichlorotrifluoroethane	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl Ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	**13 J**	<25	<25	**11 J**
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	**26**	**33**	**263**	**14 J**	**265**	**188**
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	<25	<25	<25	<25	<25
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	B1KWY6	B1KWY7	B1KWY8	B1KWY9	B1KX00	B1KX01
Project Number:	1923B	1923B	1923B	1923B	1923B	1923B
Lab File ID:	06101915	06101916	06101919	06101920	06101921	06101922
Received Date:	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006
Analysis Date:	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006
Analysis Time:	18:36	19:06	19:37	20:07	20:37	21:08
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichlorotrifluoroethane	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl Ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	**9 J**	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	**277**	<25	**55**	**93**	**403**	**165**
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	<25	<25	<25	<25	<25
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	B1KX02	B1KX03	B1KX04	B1KX05	B1KX06	B1KX07
Project Number:	1923B	1923B	1923B	1923B	1923B	1923B
Lab File ID:	06101923	06101924	06101925	06101926	06101927	06101928
Received Date:	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006
Analysis Date:	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/20/2006
Analysis Time:	21:38	22:09	22:39	23:10	23:40	12:11
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichlorotrifluoroethane	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl Ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	**23 J**	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	**245**	**106**	**10 J**	**49**	**34**	**33**
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	<25	<25	<25	<25	<25
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	B1KX08	B1KX09	B1KX10	B1KX11	B1KX12	B1KX13
Project Number:	1923B	1923B	1923B	1923B	1923B	1923B
Lab File ID:	06101929	06101930	06101931	06101932	06101933	06101934
Received Date:	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006
Analysis Date:	10/20/2006	10/20/2006	10/20/2006	10/20/2006	10/20/2006	10/20/2006
Analysis Time:	12:41	1:12	1:42	2:13	2:43	3:14
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichlorotrifluoroethane	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl Ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	**57**	**126**	**58**	**48**	**68**	**128**
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	<25	<25	<25	<25	<25
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	B1KX14	B1KX15	B1KX16	B1KX17	B1KX18	B1KX19
Project Number:	1923B	1923B	1923B	1923B	1923B	1923B
Lab File ID:	06101935	06101936	06101937	06101938	06101939	06101940
Received Date:	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006
Analysis Date:	10/20/2006	10/20/2006	10/20/2006	10/20/2006	10/20/2006	10/20/2006
Analysis Time:	3:44	4:15	4:46	5:16	5:46	6:17
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichlorotrifluoroethane	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl Ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	**14 J**	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	**95**	**94**	**73**	<25	<25	**20 J**
Benzene	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	<25	<25	<25	<25	<25
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	B1KX20	B1KX21	B1KX22	B1KX23	B1KX24	B1KX25
Project Number:	1923B	1923B	1923B	1923B	1923B	1923B
Lab File ID:	06101941	06101942	06101943	06101944	06101945	06101946
Received Date:	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006	10/19/2006
Analysis Date:	10/20/2006	10/20/2006	10/20/2006	10/20/2006	10/20/2006	10/20/2006
Analysis Time:	6:47	7:18	7:48	8:19	8:50	9:20
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichlorotrifluoroethane	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl Ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	**33**	<25	<25	**18 J**	**41**	**75**
Benzene	<25	<25	<25	<25	<25	**48**
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	<25	<25	<25	<25	<25
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	B1KX66	B1KX67	B1KX68	Meth_Blk	B1KX69	B1KX70
Project Number:	1923B	1923B	1923B	1923B	1923B	1923B
Lab File ID:	06101947	06101948	06101949	06101952	06101953	06101954
Received Date:	10/19/2006	10/19/2006	10/19/2006		10/19/2006	10/19/2006
Analysis Date:	10/20/2006	10/20/2006	10/20/2006	10/20/2006	10/20/2006	10/20/2006
Analysis Time:	9:51	10:21	10:52	12:24	12:54	13:25
Units:	ng	ng	ng	ng	ng	ng
COMPOUNDS						
Vinyl Chloride	<25	<25	<25	<25	<25	<25
1,1-Dichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichlorotrifluoroethane	<25	<25	<25	<25	<25	<25
trans-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Methyl-t-butyl Ether	<25	<25	<25	<25	<25	<25
1,1-Dichloroethane	<25	<25	<25	<25	<25	<25
cis-1,2-Dichloroethene	<25	<25	<25	<25	<25	<25
Chloroform	<25	<25	<25	<25	<25	<25
2,2-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dichloroethane	<25	<25	<25	<25	<25	<25
1,1,1-Trichloroethane	<25	<25	<25	<25	<25	<25
1,1-Dichloropropene	<25	<25	<25	<25	<25	<25
Carbon Tetrachloride	**60**	**12 J**	**62**	<25	<25	**33**
Benzene	**28**	<25	<25	<25	<25	<25
1,2-Dichloropropane	<25	<25	<25	<25	<25	<25
Trichloroethene	<25	<25	<25	<25	<25	<25
1,1,2-Trichloroethane	<25	<25	<25	<25	<25	<25
Toluene	<25	<25	<25	<25	<25	<25
1,3-Dichloropropane	<25	<25	<25	<25	<25	<25
1,2-Dibromoethane (EDB)	<25	<25	<25	<25	<25	<25
Tetrachloroethene	<25	<25	<25	<25	<25	<25
1,1,1,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
Chlorobenzene	<25	<25	<25	<25	<25	<25
Ethylbenzene	<25	<25	<25	<25	<25	<25
p & m-Xylene	<25	<25	<25	<25	<25	<25
Bromoform	<25	<25	<25	<25	<25	<25
1,1,2,2-Tetrachloroethane	<25	<25	<25	<25	<25	<25
o-Xylene	<25	<25	<25	<25	<25	<25
1,2,3-Trichloropropane	<25	<25	<25	<25	<25	<25
Isopropylbenzene	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	<25	<25	<25	<25	<25	<25
1,3-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,4-Dichlorobenzene	<25	<25	<25	<25	<25	<25
1,2-Dichlorobenzene	<25	<25	<25	<25	<25	<25
n-Butylbenzene	<25	<25	<25	<25	<25	<25
1,2,4-Trichlorobenzene	<25	<25	<25	<25	<25	<25
Naphthalene	<25	<25	<25	<25	<25	<25
1,2,3-Trichlorobenzene	<25	<25	<25	<25	<25	<25

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
323 Williams Street, Ste. D
Bel Air, MD 21014

Analysis by EPA Method 8260B (Modified)

Client Sample ID:	B1KX71
Project Number:	1923B
Lab File ID:	06101955
Received Date:	10/19/2006
Analysis Date:	10/20/2006
Analysis Time:	13:55
Units:	ng

COMPOUNDS	
Vinyl Chloride	<25
1,1-Dichloroethene	<25
1,1,2-Trichlorotrifluoroethane	<25
trans-1,2-Dichloroethene	<25
Methyl-t-butyl Ether	<25
1,1-Dichloroethane	<25
cis-1,2-Dichloroethene	<25
Chloroform	<25
2,2-Dichloropropane	<25
1,2-Dichloroethane	<25
1,1,1-Trichloroethane	<25
1,1-Dichloropropene	<25
Carbon Tetrachloride	**214**
Benzene	<25
1,2-Dichloropropane	<25
Trichloroethene	<25
1,1,2-Trichloroethane	<25
Toluene	<25
1,3-Dichloropropane	<25
1,2-Dibromoethane (EDB)	<25
Tetrachloroethene	<25
1,1,1,2-Tetrachloroethane	<25
Chlorobenzene	<25
Ethylbenzene	<25
p & m-Xylene	<25
Bromoform	<25
1,1,2,2-Tetrachloroethane	<25
o-Xylene	<25
1,2,3-Trichloropropane	<25
Isopropylbenzene	<25
1,3,5-Trimethylbenzene	<25
1,2,4-Trimethylbenzene	<25
1,3-Dichlorobenzene	<25
1,4-Dichlorobenzene	<25
1,2-Dichlorobenzene	<25
n-Butylbenzene	<25
1,2,4-Trichlorobenzene	<25
Naphthalene	<25
1,2,3-Trichlorobenzene	<25

Results in nanograms (ng). J = Estimated value below reported quantitation level. B = Detected in method blank.

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	1923B
Site Name:	Rodent Burrow Study
Site Location:	Hanford Site, WA

BEACON ENVIRONMENTAL SERVICES, INC.
323 Williams Street, Suite D, Bel Air, MD 21014, 800-878-5518

Client Information	
Company Name:	Environmental Assessment Srvcs.
Office Location:	Richland, WA
Samples Collected By:	B.Tiller/J.EBernhard

	FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	FIELD NOTES (e.g., asphalt/concrete covering, description of sample location, sampling hole depth, cartridge/vial condition)
1	BIKWX6	10-12-06 / 1117	10-18-06 / 1130	Next to Fence
2	BIKWX7	1120	1132	
3	BIKWX8	1124	1134	along underground trench
4	BIKWX9	1127	1136	
5	BIKWY0	1129	1138	Next to Fence
6	BIKWY1	1133	1140	
7	BIKWY2	1135	1142	
8	BIKWY3	1138	1144	
9	BIKWY4	1142	1146	Next to Fence
10	BIKWY5	1145	1148	
11	BIKWY6	1149	1150	
12	BIKWY7	1152	1152	
13	BIKWY8	1157	1154	Next to Fence
14	BIKWY9	1203	1157	
15	BIKX00	1208	1158	

000012

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

	FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	FIELD NOTES (e.g., asphalt/concrete covering, description of sample location, cartridge/vial condition)
		10-12-06		
16	BIKX01	1210	1250	
17	BIKX02	1214	1252	Next to Fence
18	BIKX03	1220	1254	Next to Fence
19	BIKX04	1305	1215	
20	BIKX05	1310	1217	
21	BIKX06	1313	1219	
22	BIKX07	1318	1221	
23	BIKX08	1321	1223	
24	BIKX09	1324	1225	
25	BIKX10	1328	1227	
26	BIKX11	1334	1229	
27	BIKX12	1340	1231	
28	BIKX13	1345	1233	
29	BIKX14	1348	1235	
30	BIKX15	1351	1237	
31	BIKX16	1353	1239	
32	BIKX17	1405	1250	
33	BIKX18	1408	1252	

PASSIVE SOIL-GAS SURVEY
FIELD DEPLOYMENT REPORT

Project Information	
Beacon Project No.:	1923B
Site Name:	Rodent Burrow Study
Site Location:	Hanford Site, WA

BEACON ENVIRONMENTAL SERVICES, INC.
323 Williams Street, Suite D, Bel Air, MD 21014, 800-878-5510

Client Information	
Company Name:	Environmental Assessment Srvcs.
Office Location:	Richland, WA
Samples Collected By:	B. Tiller

	FIELD SAMPLE ID	Date Emplaced / Time Emplaced	Date Retrieved / Time Retrieved	FIELD NOTES (e.g., asphalt/concrete covering, description of sample location, sampling hole depth, cartridge/vial condition)
		10-12-06		
34	B1KX19	1411	1254	
35	B1KX20	1414	1256	
36	B1KX21	1417	1258	
37	B1KX22	1420	1300	
38	B1KX23	1424	1302	
39	B1KX24	1429	1304	
40	B1KX25	1434	1306	
41	B1KX66	1438	1308	
42	B1KX67	1442	1310	
43	B1KX68	1445	1312	
44	B1KX69	1450	1314	
45	B1KX70	1453	1316	
46	B1KX71	1455	1318	

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	1923B
Site Name:	Rodent Burrow Study
Site Location:	Hanford Site, WA
Analytical Method:	EPA Method 8260B
Target Compounds:	Beacon Project Number 1923 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
323 Williams Street, Suite D, Bel Air, MD 21014, 800-878-5510

Client Information	
Company Name:	Environmental Assessment Svcs.
Office Location:	Richland, WA
Samples Submitted By:	B. Tiller
Contact Phone No.:	509 948 5764

	Field Sample ID	Lab Sample ID (for lab use only)		Comments (only necessary if problem or discrepancy) Condition of sample or vial	Date	Time	Initial
47	Trip-2 B1KX72	1923B	Trip-2				
1	B1KWX6	1923B	B1KWX6				
2	B1KWX7	1923B	B1KWX7				
3	B1KWX8	1923B	B1KWX8				
4	B1KWX9	1923B	B1KWX9				
5	B1KWY0	1923B	B1KW40				
6	B1KWY1	1923B	B1KW41				
7	B1KWY2	1923B	B1KW42				
8	B1KWY3	1923B	B1KW43				
9	B1KWY4	1923B	B1KW44				
10	B1KWY5	1923B	B1KW45				
11	B1KWY6	1923B	B1KW46				
12	B1KWY7	1923B	B1KW47				
13	B1KWY8	1923B	B1KW48				
14	B1KWY9	1923B	B1KW49				
15	B1KX00	1923B	B1KX00				
16	B1KX01	1923B	B1KX01				
17	B1KX02	1923B	B1KX02				
18	B1KX03	1923B	B1KX03				
19	B1KX04	1923B	B1KX04				

Shipment of Field Kit to Site — Custody Seal # 0220867 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Ryan Scheil	10-35-2006 / 1700 Hours	FedEx	B Tiller	10-06-06 / 1300

Shipment of Field Kit to Laboratory — Custody Seal # 0220869 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
B. Tiller	10-18-06 / 1600	UPS	Ryan Scheil	10-19-2006 / 1015

3 STANDARD

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	1923B
Site Name:	Rodent Burrow Study
Site Location:	Hanford Site, WA
Analytical Method:	EPA Method 8260B
Target Compounds:	Beacon Project Number 1923 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
323 Williams Street, Suite D, Bel Air, MD 21014, 800-878-5510

Client Information	
Company Name:	Environmental Assessment Svcs.
Office Location:	Richland, WA
Samples Submitted By:	B. Tiller
Contact Phone No.:	509 948 5764

Field Sample ID	Lab Sample ID (for lab use only)	Comments (only necessary if problem or discrepancy)			
		Condition of sample or vial	Date	Time	Initial
20 BIKX05	1923 B BIKX05				
21 BIKX06	1923 B BIKX06				
22 BIKX07	1923 B BIKX07				
23 BIKX08	1923 B BIKX08				
24 BIKX09	1923 B BIKX09				
25 BIKX10	1923 B BIKX10				
26 BIKX11	1923 B BIKX11				
27 BIKX12	1923 B BIKX12				
28 BIKX13	1923 B BIKX13				
29 BIKX14	1923 B BIKX14				
30 BIKX15	1923 B BIKX15				
31 BIKX16	1923 B BIKX16				
32 BIKX17	1923 B BIKX17				
33 BIKX18	1923 B BIKX18				
34 BIKX19	1923 B BIKX19				
35 BIKX20	1923 B BIKX20				
36 BIKX21	1923 B BIKX21				
37 BIKX22	1923 B BIKX22				
38 BIKX23	1923 B BIKX23				
39 BIKX24	1923 B BIKX24				

Shipment of Field Kit to Site — Custody Seal # 0220867 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Ryan Scheil	10-35-2006 / 1700 Hours	FedEx	B Tiller	10-20-06 / 1300

Shipment of Field Kit to Laboratory — Custody Seal # 0220869 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
B. Tiller	10-18-06 / 1600	UPS	Ryan Scheil	10-19-2006 / 1015

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	1923B
Site Name:	Rodent Burrow Study
Site Location:	Hanford Site, WA
Analytical Method:	EPA Method 8260B
Target Compounds:	Beacon Project Number 1923 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
323 Williams Street, Suite D, Bel Air, MD 21014, 800-978-5510

Client Information	
Company Name:	Environmental Assessment Svcs.
Office Location:	Richland, WA
Samples Submitted By:	B. Tiller
Contact Phone No.:	9485764 (509)

Field Sample ID		Lab Sample ID (for lab use only)		Comments (only necessary if problem or discrepancy) Condition of sample or vial	Date	Time	Initial
40	B1KX25	1923 B	B1KX25				
41	B1KX66	1923 B	B1KX66				
42	B1KX67	1923 B	B1KX67				
43	B1KX68	1923 B	B1KX68				
44	B1KX69	1923 B	B1KX69				
45	B1KX70	1923 B	B1KX70				
46	B1KX71	1923 B	B1KX71				

Shipment of Field Kit to Site — Custody Seal # 0220867 Intact? (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Ryan Sheil	10-35-2006 / 1700 Hours	FedEx	B. Tiller/[illegible]	10-06-06/1300

Shipment of Field Kit to Laboratory — Custody Seal # 0220869 Intact? (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
B. Tiller/[illegible]	10-18-06/1600	UPS	Ryan Sheil	10-19-2006 / 1015

000015