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Environmental Restoration Contractor **ERC Team**

059118

Job No. 22192
Written Response Required? NO
Closes CCN: N/A
OU: NA
TSD: N/A
ERA: N/A
Subject Code: 8630

Interoffice Memorandum

TO: V. J. Rohay, H9-02

DATE: June 4, 1998

COPIES: See Distribution

FROM: Duane Jacques
Analytical Field Services
L6-06/373-1674

SUBJECT: **SOLID WASTE LANDFILL QUARTERLY METHANE MONITORING RESULTS, JUNE 1998, REV 0**

REFERENCES:

1. Letter, M. L. Crossett to G. B. Mitchem, *"Letter of Instruction for Soil Gas and Methane Monitoring at the Solid Waste Landfill,"* December 19, 1997.

2. BHI, 1996, *ERC Quality Assurance Program Plans*, BHI-QA-03, Bechtel Hanford, Inc., Richland, Washington.

3. BHI, 1996b, *Photovac 10S Plus Instrument Logbook*, EL-1332, Bechtel Hanford, Inc., Richland, Washington.

4. BHI, 1995b, *Field Screening Procedures*, BHI-EE-05, Bechtel Hanford, Inc., Richland, Washington.

5. WHC, 1993, *SWL Soil Gas/Methane Monitoring Logbook*, EFL-1105, Westinghouse Hanford Company, Richland, Washington.

This data package contains field screening results for soil gas samples analyzed to support the SWL Methane and VOC monitoring program requested by reference 1. The samples were managed under SAF B98-048.

Attachment 1 contains the methane, carbon dioxide, oxygen, and volatile organic compound (VOC) results for samples collected and analyzed on June 3, 1998. The methane, carbon dioxide, and oxygen results were generated using a LandTec GA-90 Landfill Gas Analyzer. Information concerning operation of the landfill gas analyzer is contained in the field logbook EFL-1105. The VOC results were generated using a Photovac 10S Plus gas chromatograph operated in accordance with Field Screening Procedure (FSP) 1.6, *Analysis of Volatile Organic Compounds in Soil Gas* (BHI 1995b). Information concerning operation of the gas chromatograph is contained in the instrument logbook EL-1332. The Quality Assurance level for the landfill gas analyses corresponds to QA-1 as specified in Plan Number 5.2, *Onsite Measurements Quality Assurance Program Plan* (BHI 1996). The Quality Assurance level for the VOC analyses corresponds to QA-2 (BHI 1996).

Detection Limits (MDL) and Practical Quantitation Limits (PQL) were established for the VOC analyses in September 1997. Based on that work, the reporting limit used for these analyses was set at 0.10 ppm-v for each analyte.

Please contact me if you have any questions on this information.

Duane Jacques

Duane Jacques, Scientist

IDJ:idj

Attachments:

Attachment 1. Solid Waste Landfill Quarterly Methane Monitoring, Landfill Gas and VOC Results, June 3, 1998.

Attachment 2. Sample Chain of Custody Sheets.

Distribution:

D. E. Ayres, L0-20, **w/attachments 1 and 2**
M. A. Baechler, L0-19, w/attachment 1 only
M. J. Galgoul, L0-20, w/attachment 1 only
I. D. Jacques, L6-06, **w/attachments 1 and 2**
D. A. St John, L0-19, w/attachments 1 only
BHI Document Control, H4-79, **w/original attachments**

Attachment 1

Solid Waste Landfill Quarterly Methane Monitoring
Landfill Gas and VOC Results, June 3, 1998
SAF B98-048

Sample Identifier	HEIS Number	CH4 (%)	CO2 (%)	O2 (%)	DCM (ppm-v/v)	1,1-DCA (ppm-v/v)	TCM (ppm-v/v)	1,1,1-TCA (ppm-v/v)	CCl4 (ppm-v/v)	TCE (ppm-v/v)	1,1,2-TCA (ppm-v/v)	PCE (ppm-v/v)
Cal Standard	B0P088	3.9	4.9	9.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Zero Air	B0P089	0.0	0.0	20.2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1-A	B0P067	0.0	0.0	20.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1-B	B0P068	0.0	0.1	19.7	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
2-A	B0P069	0.0	0.0	20.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
2-B	B0P070	0.0	0.8	18.7	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
3-A	B0P071	0.0	0.2	19.7	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
3-B	B0P072	0.0	0.1	19.8	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4-A	B0P076	0.0	2.3	18.3	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4-B	B0P077	0.1	2.7	17.9	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
5-A	B0P078	0.1	0.0	19.8	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
5-B	B0P079	0.1	0.0	19.4	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
6-A	B0P080	0.1	0.3	19.7	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
6-B	B0P081	0.0	0.9	19.2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
7-A	B0P082	0.0	0.0	20.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
7-B	B0P083	0.1	0.1	19.8	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
7-B dup	B0P084	0.1	0.1	19.8	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
8-A	B0P085	0.0	0.2	19.4	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
8-B	B0P086	0.1	1.2	17.9	<0.10	<0.10	<0.10	0.19	<0.10	<0.10	<0.10	<0.10
8-B dup	B0P087	0.1	1.2	17.9	<0.10	<0.10	<0.10	0.19	<0.10	<0.10	<0.10	<0.10
4-X	B0P075	0.1	1.3	18.9	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
DE-1	B0P073	0.2	3.0	17.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
DW-2	B0P074	0.1	0.1	19.8	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cal Check	B0P090	4.0	4.3	9.7	---	0.96	0.91	0.96	0.94	0.98	---	1.01

* - Sample probe contained moisture and was difficult to sample

J - Value less than reporting limit

e - Value exceeds calibration range

Analyst: I. D. Jacques 6-4-98
I. D. Jacques

Analyst: I. D. Jacques 6-4-98
I. D. Jacques

Instrument: Landtec GA-90 Gas Analyzer, Serial # 520
Method: In Situ Infrared Detector, 500 mL/min sample flow
Logbook: SWL Soil Gas/Methane Monitoring Log, ELF-1105, pgs 58 to 60

Instrument: Photovac 10S Plus GC, Serial # TA920107
Method: 5 mL/min HP Air, 11.7 eV lamp, 500 uL loop
Logbook: Photovac Instrument Log, EL-1332, pg 30

059118

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B98-048-09

Collector Jacques/Baechler	Company Contact Rohay,VJ	Telephone No.	Project Coordinator KOERNER, CC
Project Designation Solid Waste Landfill Soil Gas and Methane Monitoring - Roun	Sampling Location 600		SAF No. B98-048
Ice Chest No. ERC 96-028	Field Logbook No. EFL-1105		Method of Shipment Government vehical
Shipped To Field Analysis	Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A
Waste Designation			COA

Data Turnaround: **Field**

POSSIBLE SAMPLE HAZARDS/REMARKS
none

Special Handling and/or Storage
none

Preservation	None										
Type of Container	Tedlar Bag										
No. of Container(s)	1										
Volume	1L										
SAMPLE ANALYSIS	See item (1) in Special Instructions.										

Sample No.	Matrix *	Sample Date	Sample Time										
B0P067	Vapor	6-3-98	0936	X									
B0P068	Vapor	6-3-98	0939	X									
B0P069	Vapor	6-3-98	0950	✓									
B0P070	Vapor	6-3-98	0953	✓									
B0P071	Vapor	6-3-98	1003	—									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
none

(1) VOLATILE ORGANICS BY FIELD GC {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, Carbon tetrachloride, Chloroform, Methylenechloride, Tetrachloroethene, Trichloroethene}

Matrix *
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method: Vented samples to lab hood	Disposed By: Duane Jacques	Date/Time: 6-3-98 / 1630

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B98-048-09

Collector Jacques/Baechler	Company Contact Rohay,VJ	Telephone No.	Project Coordinator KOERNER, CC
Data Turnaround **Field**			
Project Designation Solid Waste Landfill Soil Gas and Methane Monitoring - Roun	Sampling Location 600		SAF No. B98-048
Ice Chest No. ERC 96-028	Field Logbook No. EFL-1105		Method of Shipment Government vehical
Shipped To Field Analysis	Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A
Waste Designation			COA

POSSIBLE SAMPLE HAZARDS/REMARKS
none

Special Handling and/or Storage
none

Preservation	None										
Type of Container	Tedlar Bag										
No. of Container(s)	1										
Volume	1L										
SAMPLE ANALYSIS	See Item (1) in Special Instructions.										

Sample No.	Matrix *	Sample Date	Sample Time										
B0P072	Vapor	6·3·98	1006	✓									
B0P073	Vapor	6·3·98	1016	—									
B0P074	Vapor	6·3·98	1023	✓									
B0P075	Vapor	6·3·98	1036	✓									
B0P076	Vapor	6·3·98	1027	✓									

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
none

(1) VOLATILE ORGANICS BY FIELD GC {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, Carbon tetrachloride, Chloroform, Methylenechloride, Tetrachloroethene, Trichloroethene}

Matrix *
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method: Vented samples to lab hood	Disposed By: Duane Jacques	Date/Time: 6-3-98/1630

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B98-048-09

Collector Jacques/Baechler	Company Contact Rohay,VJ	Telephone No.	Project Coordinator KOERNER, CC
Project Designation Solid Waste Landfill Soil Gas and Methane Monitoring - Roun	Sampling Location 600		SAF No. B98-048
Ice Chest No.	Field Logbook No. EFL-1105		Method of Shipment Government vehical
Shipped To Field Analysis	Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A
Waste Designation			COA

Data Turnaround: **Field**

POSSIBLE SAMPLE HAZARDS/REMARKS
none

Special Handling and/or Storage
none

Preservation	None										
Type of Container	Tedlar Bag										
No. of Container(s)	1										
Volume	1L										
SAMPLE ANALYSIS	See item (1) in Special Instructions.										

Sample No.	Matrix *	Sample Date	Sample Time										
B0P077	Vapor	6-3-98	1033	✓									
B0P078	Vapor	6-3-98	1049	✓									
B0P079	Vapor	6-3-98	1052	✓									
B0P080	Vapor	6-3-98	1100	✓									
B0P081	Vapor	6-3-98	1104	✓									

SPECIAL INSTRUCTIONS
none

(1) VOLATILE ORGANICS BY FIELD GC (1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, Carbon tetrachloride, Chloroform, Methylenechloride, Tetrachloroethene, Trichloroethene)

Matrix *
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method: Vented samples to lab hood	Disposed By: Duane Jacques	Date/Time: 6-3-98/1630

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B98-048-09 | Page 4 of 45

Collector Jacques/Baechler	**Company Contact** Rohay, VJ	**Telephone No.**	**Project Coordinator** KOERNER, CC
Project Designation Solid Waste Landfill Soil Gas and Methane Monitoring - Roun	**Sampling Location** 600		**SAF No.** B98-048
Ice Chest No. ERC96-028	**Field Logbook No.** EFL-1105		**Method of Shipment** Government vehical
Shipped To Field Analysis	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** N/A
Waste Designation			**COA**

Data Turnaround: Field

POSSIBLE SAMPLE HAZARDS/REMARKS
none

Special Handling and/or Storage
none

Preservation	None										
Type of Container	Tedlar Bag										
No. of Container(s)	1										
Volume	1L										
SAMPLE ANALYSIS	See item (1) in Special Instructions.										

Sample No.	Matrix *	Sample Date	Sample Time										
B0P082	Vapor	6-3-98	1111	✓									
B0P083	Vapor	6-3-98	1115	✓									
B0P084	Vapor	6-3-98	1116	✓									
B0P085	Vapor	6-3-98	1125	✓									
B0P086	Vapor	6-3-98	1128	✓									

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
none

(1) VOLATILE ORGANICS BY FIELD GC {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, Carbon tetrachloride, Chloroform, Methylenechloride, Tetrachloroethene, Trichloroethene}

Matrix *
S = Soil
SE = Sediment
SO = Solid
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A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method: Vented samples to lab hood	Disposed By: Duane Jacques	Date/Time: 1630/6-3-98

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B98-048-09

Collector Jacques/Baechler	**Company Contact** Rohay, VJ	**Telephone No.**	**Project Coordinator** KOERNER, CC
Data Turnaround Field			
Project Designation Solid Waste Landfill Soil Gas and Methane Monitoring - Roun	**Sampling Location** 600		**SAF No.** B98-048
Ice Chest No. ERC 96-028	**Field Logbook No.** EFL-1105		**Method of Shipment** Government vehical
Shipped To Field Analysis	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** N/A
Waste Designation			**COA**

POSSIBLE SAMPLE HAZARDS/REMARKS
none

Special Handling and/or Storage
none

Preservation	None											
Type of Container	Tedlar Bag											
No. of Container(s)	1											
Volume	1L											
SAMPLE ANALYSIS	See item (1) in Special Instructions.											

Sample No.	Matrix *	Sample Date	Sample Time									
B0P067	Vapor	6-3-98	1129	✓								
B0P068	Vapor	6-3-98	1249	✓	Cal Stnd							
B0P069	Vapor	6-3-98	1345	✓	Zero Air							
B0P090	Vapor	6-3-98	1249	✓	Cal Check							
~~B0P091~~	Vapor											

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS
none

(1) VOLATILE ORGANICS BY FIELD GC (1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, Carbon tetrachloride, Chloroform, Methylenechloride, Tetrachloroethene, Trichloroethene)

Matrix *
- S = Soil
- SE = Sediment
- SO = Solid
- SL = Sludge
- W = Water
- O = Oil
- A = Air
- DS = Drum Solids
- DL = Drum Liquids
- T = Tissue
- WI = Wipe
- L = Liquid
- V = Vegetation
- X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method: Vented samples to lab hood	Disposed By: Duane Jacques	Date/Time: 6-30-98/1630