FIELD SCREENING
FINAL DATA DELIVERABLE COVER SHEET

Date: Tuesday, June 17, 2003

Sample Authorization Form (SAF) Number: F02-012

SDG Number (assigned by Sample Management): FP0103 Daynes 6/17/03

Attachments (check all that apply or N/A):

X	Test Results
N/A	Narrative Summary
N/A	Chain of Custody(s)
X	Logbook Pages
N/A	Anomaly Report

Total number of pages (including cover sheet): 7

Comments:
SWL Methane and VOC Sampling and Analysis

RECEIVED
AUG 1 1 2003
EDMC

Jun JUL 2003 RECEIVED

M. G. Baechler
Analyst Signature

6/17/03
Date

RD Walker
Reviewer's Signature

6/23/03
Date

Distribution: CPP Sample Management A0-21
Project (Specify)

Requires distribution to listed project personnel by Sample Management (check if applicable)

Attachment 1

Solid Waste Landfill Quarterly Methane Monitoring

Landfill Gas and VOC Results, June 12, 2003

SAF F02-012

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	B172M5	2.4	4.9	9.8	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Cal Check	B172M6	2.3	4.2	10.5	---	1.00	1.05	1.00	0.99	1.06	---	1.20
Zero Air	B172M4	0.0	0.0	19.1	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-01A	B172K3	0.0	0.0	18.8	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-01B	B172K4	0.0	0.2	18.5	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-02A	B172K5	0.0	0.0	18.8	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-02B	B172K6	0.0	0.4	18.3	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-03A	B172K7	0.0	0.0	18.8	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-03B	B172K8	0.0	0.1	18.6	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-04A	B172K9	0.0	1.8	17.8	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	0.051j
SWL-04B	B172L0	0.0	2.0	17.5	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-04X	B172L1	0.0	0.7	18.6	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-DE-1	B172L2	0.0	1.7	17.9	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
Cal Check	B172M6	---	---	---	---	1.01	1.07	1.03	1.04	1.02	---	1.10
SWL-DW-2	B172L3	0.0	0.1	19.1	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-05A	B172L4	0.0	0.0	19.2	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-05B	B172L5	0.0	0.0	19.1	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-06A	B172L6	0.0	0.0	19.0	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-06B	B172L7	0.0	0.3	18.7	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-07A	B172L8	0.0	0.0	19.3	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-07B	B172L9*	NA	NA	NA	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-07B Dup	B172M0*	NA	NA	NA	---	---	---	---	---	---	---	---
SWL-08A	B172M1	0.0	0.3	19.9	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-08B	B172M2	0.0	NA	20.0	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
SWL-08B Dup	B172M3	0.0	NA	20.0	<0.10	<0.25	<0.20	<0.15	<0.20	<0.10	<0.10	<0.25
LCS	B172M7	---	---	---	---	2.44	1.88	2.41	1.18	1.61	---	1.34
Cal Check	B172M6	---	---	---	---	1.09	1.02	1.02	1.06	1.08	---	0.97

* - Sample probe contained moisture. Used purge for sample analysis. No duplicate.

j - Value less than reporting limit

e - Value exceeds calibration range

NA - Not Analyzed (sampling condition/instrument malfunction)

Analyst: TMJohansen 6-12-03
T. M. Johansen

Instrument: Landtec GA-90 Gas Analyzer, Serial # 529
Method: In Situ Infrared Detector, 500 mL/min sample flow
Logbook: SWL Soil Gas/Methane Monitoring Log, HNF-N-300 1, pg 14

Analyst: TMJohansen 6-12-03
T. M. Johansen

Instrument: Photovac 10S Plus GC, Serial # TA920107
Method: 5 mL/min HP Air, 11.7 eV lamp, 500 uL loop
Logbook: Photovac Instrument Log, HNF-N-299 1, pg 9

Surf Methane & VOC Monitoring — M.A. Bauchler/GS/M.A. Bauchler
HNF-N-299-1 — 6/12/03

0730 Arrived at mobile lab, #0-68K-1,985 located at 200-ZP-1 P&T/200W to set up GC for surf gas analysis.
0733 Installed 11.7 eV lamp #1729. Set carrier gas to 40 psi. Started detector lamp. Brought in cal. file from Instrum to set GC parameters.
0736 Filled zero air sample bag.
0736 Balanced backflush out and detector out flow rates at 5.0 mL/min
0745 Filled calibration gas sample bags.
0800 Left for SWL to collect samples
1100 Returned from SWL to analyze samples
1120 Balanced Collector out and backflush out flow rates at 50 ml/min
1123 Started Calibration with 1ppm 6-VOC mix.
1136 1,1-DCA = 1.00 ppm, TCM = 1.05 ppm, 1,1,1-TCA = 1.001 ppm, CCl4 = 0.99 ppm, TCE = 1.06 ppm, PCE = 1.20 ppm
~~Added in ppm 1.0 DCM and 1,1,2 TCA to calibration~~
This is the calibration check.
1146 Added in 1ppm DCM and 1,1,2 TCA to Calibration
1155 Analyzed Zero Air
1203 Started analyzing samples.
1302 Analyzed 1ppm 6VOC calibration check: (ppm)
1,1-DCA = 1.01, TCM = 1.07, 1,1,1-TCA = 1.03, CCl4 = 1.04
TCE = 1.02 PCE = 1.10.
1414 Completed Sample Analysis. Analyzed 1ppm 6VOC (ppm)
LCS 1,1-DCA = 2.44, TCM = 1.88, 1,1,1-TCA 2.41, CCl4 = 1.18
TCE = 1.61 PCE = 1.34
1425 Removed 11.7 eV lamp. Installed 10.6eV lamp# BVDK268.
Set carrier gas to low flow.
1440 Left site.
1419 Analyzed 1ppm 6VOC (ppm) standard due to elevated readings in the LCS standard. 1,1-DCA = 1.09, TCM = 1.02, CCl4 = 1.06
1,1,1-TCA = 1.02, TCE = 1.08, PCE = 0.97

MAB 6/16/03

Reviewed

M.A. Bauchler/M.A. Bauchler 6/12/03

Reviewed By L.D. Walker/L.D. Walker 6-16-03

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Soil Methane & VOC Monitoring HNF-N-299 1 M.A. Baechler/GS/M.A. Baechler 6/16/03

Solid Waste Landfill

Soil Gas Samples

Gas Chromatography Worksheet

	HEIS Number	Time Sampled	Time Analyzed	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)
RT	-	-	-	52.9	63.8	78.8	95.8	108.9	134.5	203.4	311.4
Cal. Standard	B172M5	0730	1123	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Cal. Check	B172M6	0730	1136	-	1.00	1.05	1.00	0.99	1.016	-	1.20
Cal Check ~~LGS~~	B172M6 ~~B172M7~~	0730	1419	-	1.09	1.02	1.02	1.06	1.08	-	0.97
~~TMJ 6-12-03~~ % Recovery	~~TMJ 6-12-03~~ -	-	-	-	109	102	102	106	108	-	97
SWL-01A	B172K3	0834	1202	-	-	-	-	-	-	-	-
SWL-01B	B172K4	0838	1209	-	-	-	-	-	-	-	-
SWL-02A	B172K5	0844	1214	-	-	-	-	-	-	-	-
SWL-02B	B172K6	0846	1220	-	-	-	-	-	-	-	-
SWL-03A	B172K7	0852	1225	-	-	-	-	-	-	-	-
SWL-03B	B172K8	0855	1232	-	-	-	-	-	-	-	-
SWL-04A	B172K9	0923	1238	-	-	-	-	-	-	-	0.051j
SWL-04B	B172L0	0926	1245	-	-	-	-	-	-	-	-
SWL-04X	B172L1	0930	1251	-	-	-	-	-	-	-	-
SWL-DE-1	B172L2	0911	1257	-	-	-	-	-	-	-	-
Cal. Check	B172M6	0730	1302	-	1.01	1.07	1.03	1.04	1.02	-	1.10
SWL-DW-2	B172L3	0943	1310	-	-	-	-	-	-	-	-
SWL-05A	B172L4	1006	1315	-	-	-	-	-	-	-	-
SWL-05B	B172L5	1009	1322	-	-	-	-	-	-	-	-
SWL-06A	B172L6	0954	1328	-	-	-	-	-	-	-	-
SWL-06B	B172L7	0958	1333	-	-	-	-	-	-	-	-
SWL-07A	B172L8	1016	1339	-	-	-	-	-	-	-	-
SWL-07B	B172L9	① ~~②~~ 1049	1345	-	-	-	-	-	-	-	-
SWL-07B Dup	B172M0	① ~~1026~~ ②	1351	-	-	-	-	-	-	-	-
SWL-08A	B172M1	1026	1357	-	-	-	-	-	-	-	-
SWL-08A Dup	-	-	-	-	-	-	-	-	-	-	-
SWL-08B	B172M2	1032	1402	-	-	-	-	-	-	-	-
SWL-08B Dup	B172M3	1032	1408	-	-	-	-	-	-	-	-

Values Reported in ppm v/v ① TMJ 6-12-03 ② Pulled water up in sample tube. Used purge as sample. TMJ 6-12-03

Date Sampled: 6/12/03 Date Analyzed: 6/12/03

Instrument: Photovac 10S Plus GC, Serial # TA820107
Method: 5 mL/min HP Air, 11.7 eV lamp, 500 uL loop
Logbook: Photovac Instrument Log, HNF-N-299 1, pg 9

Analyst: TMJohansen/TMJohansen 6/12/03

M.A. Baechler 6/16/03

M.A. Baechler/M.A. Baechler 6/16/03

Reviewed By L.D. Walker/LDWalker 6-16-03

SWL Methane & VOC Monitoring M.A. Bachler / GS / M.G. Bachler
HNF-N-300 1 6/12/03

0730 M.A. Bachler arrived at HO-LON-1985 / 200W to set up GC
0820 M.A. Bachler & T.M. Johansen arrived at SWL to collect landfill gas samples.
0827 Set landfill GA-90 calibration to cal. gas
Methane = 2.5%
Carbon Dioxide = 5.0%
Oxygen = 10.0%
0834 Started collecting and analyzing soil gas samples at SWL-01A
1032 Completed sample collection at SWL-01B.
1037 Performed calibration check for GA-90
Methane = 2.3%
Carbon Dioxide = 4.2%
Oxygen = 10.5%
1045 Left SWL for 200W to analyze samples
1100 Arrived at HO-LON-1985 to analyze samples.
1203 Started analyzing samples.
1414 Completed sample analysis
Shutdown equipment and left site

TMJ 6/12/03

Reviewed
By L.D. Walker / 6-16-03

TMJohansen / TMJohansen 6/12/03

SWL Methane & VOC Monitoring
HNF-N-300 1

M.A. Baechler/GS/M.G. Baechler 6/16/03

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Solid Waste Landfill

Soil Gas Samples

Gas Chromatography Worksheet

	HEIS Number	Time Sampled	Time Analyzed	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)
RT	-	-	-	52.9	63.8	78.8	95.8	108.9	134.5	203.4	311.4
Cal. Standard	B172M5	0730	1123	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Cal. Check	B172M6	0730	1136	-	1.00	1.05	1.00	0.99	1.016	-	1.20
Cal Check ~~LGS~~ ~~TMJ 6-12-03~~	B172M7 ~~B172M7~~ ~~TMJ 6-12-03~~	0730	1419	-	1.09	1.02	1.02	1.06	1.08	-	0.97
% Recovery	-	-	-	-	109	102	102	106	108	-	97
SWL-01A	B172K3	0834	1202	-	-	-	-	-	-	-	-
SWL-01B	B172K4	0838	1209	-	-	-	-	-	-	-	-
SWL-02A	B172K5	0844	1214	-	-	-	-	-	-	-	-
SWL-02B	B172K6	0846	1220	-	-	-	-	-	-	-	-
SWL-03A	B172K7	0852	1225	-	-	-	-	-	-	-	-
SWL-03B	B172K8	0855	1232	-	-	-	-	-	-	-	-
SWL-04A	B172K9	0923	1238	-	-	-	-	-	-	-	0.051j
SWL-04B	B172L0	0926	1245	-	-	-	-	-	-	-	-
SWL-04X	B172L1	0930	1251	-	-	-	-	-	-	-	-
SWL-DE-1	B172L2	0911	1257	-	-	-	-	-	-	-	-
Cal. Check	B172M6	0730	1302	-	1.01	1.07	1.03	1.04	1.02	-	1.10
SWL-DW-2	B172L3	0943	1310	-	-	-	-	-	-	-	-
SWL-05A	B172L4	1006	1315	-	-	-	-	-	-	-	-
SWL-05B	B172L5	1009	1322	-	-	-	-	-	-	-	-
SWL-06A	B172L6	0954	1328	-	-	-	-	-	-	-	-
SWL-06B	B172L7	0958	1333	-	-	-	-	-	-	-	-
SWL-07A	B172L8	1016	1339	-	-	-	-	-	-	-	-
SWL-07B	B172L9	① ~~②~~ 1019	1345	-	-	-	-	-	-	-	-
SWL-07B Dup	B172M0	① ~~1026~~ ②	1351	-	-	-	-	-	-	-	-
SWL-08A	B172M1	1026	1357	-	-	-	-	-	-	-	-
SWL-08A Dup	—	-	-	-	-	-	-	-	-	-	-
SWL-08B	B172M2	1032	1402	-	-	-	-	-	-	-	-
SWL-08B Dup	B172M3	1032	1408	-	-	-	-	-	-	-	-

Values Reported in ppm v/v ① TMJ 6-12-03 ② Polled water up in sample tube. Used purge as sample. TMJ 6-12-03

Date Sampled: 6/12/03 Date Analyzed: 6/12/03

Instrument: Photovac 10S Plus GC, Serial # TA920107
Method: 5 mL/min HP Air, 11.7 eV lamp, 500 uL loop
Logbook: Photovac Instrument Log, HNF-N-299 1, pg 9

Analyst: TMJohnsen/TMJohnsen 6/12/03

M.A. Baechler 6/16/03

M.A. Baechler/M.G. Baechler 6/16/03

Reviewed By L.D. Walker/LDWalker 6-16-03

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14 SWL Methane & VOC Monitoring M.A. Baechler/OS/M.G. Baechler 6/16/03
HNF-SW-3001
MAB 6/16/03

SOLID WASTE LANDFILL
Methane Monitoring Program

Instrument Calibration — **Instrument Serial Number -** GA-90 #529

xxxxxxx	Time	CH_4	CO_2	O_2	Comments
Cal. Gas Data	xxxxxxx	2.5%	5.0%	10.0%	Cal. bottle ID. FF-8759
Before monitoring	0827	2.4%	4.9%	9.8%	CH_4 = 0.0%, CO_2 = 0.0%, O_2 = 19.1%
After monitoring	1037	2.3%	4.8%	10.5%	CH_4 = 0.0%, CO_2 = 0.0%, O_2 = 20.6%

*Monitoring locations have 2 probes. "A" = Green band (9 ft BGS), "B" = Red band (15 ft BGS)

Location	Time	CH_4	CO_2	O_2	Comments
SWL-01-A	0834	0.0%	0.0%	18.8%	B172K3
SWL-01-B	0838	0.0%	0.2%	18.5%	B172K4
SWL-02-A	0844	0.0%	0.0%	18.8%	B172K5
SWL-02-B	0846	0.0%	0.4%	18.3%	B172K6
SWL-03-A	0852	0.0%	0.0%	18.8%	B172K7
SWL-03-B	0855	0.0%	0.1%	18.6%	B172K8
SWL-04-X	0930	0.0%	0.7%	18.6%	B172L1
SWL-04-A	0923	0.0%	1.8%	17.8%	B172K9
SWL-04-B	0926	0.0%	2.0%	17.5%	B172L0
SWL-DE-1	0911	0.0%	1.7%	17.9%	B172L2
SWL-DW-2	0943	0.0%	0.1%	19.1%	B172L3
SWL-05-A	~~0940~~ ①	0.0%	0.0%	19.2%	B172L4 ① MAB 6/12/03 sample time 1006
SWL-05-B	1009	0.0%	0.0%	19.1%	B172L5
SWL-06-A	0954	0.0%	0.0%	19.0%	B172L6
SWL-06-B	0958	0.0%	0.3%	18.7%	B172L7
SWL-07-A	1016	0.0%	0.0%	19.3%	B172L8
SWL-07-B	1019	— ②	— ②	— ②	B172L9 / B172M0
SWL-08-A	1026	0.0%	③	19.9%	B172M1
SWL-08-B	1032	0.0%	③	20.0%	B172M2 / B172M3

② MAB 6/12/03 water in tube. Purge used for analysis.

Weather Conditions -- (PNL Weather Station – 373-2716) Sky: (Clear) Partly Cloudy Overcast Wind: from NW speed 2 mph

Temperature 62° F Humidity 45 % Pressure 29.05 in. Hg. trending up slowly

Sampler M Johansen (print name) M Johansen (signature) Date 6/12/03

③ Unable to obtain CO_2 reading MAB 6/12/03

M.A. Baechler 6/16/03
MAB 6/16/03

M.A. Baechler/M.G. Baechler 6/16/03

Reviewed By L.D. Walker / L.D. Walker 6-17-03

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