0057990 FS0473

FIELD SCREENING
FINAL RESULT DATA DELIVERABLE COVER SHEET

Date: Monday, March 4, 2002

Sample Authorization Form Number: B99-032

SDG Number (assigned by Sample Management): FS0473

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

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

Total number of pages (including cover sheet): 20

RECEIVED
AUG 19 2002
EDMC

Comments:

RECEIVED
JUN 2002

M. G. Bachler 3/14/02
Analyst Signature Date

Reviewed Rachel L. Mer 6-16-02

Distribution: Sample Management – H9-03
Project (specify)

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

0000001

PRELIMINARY RESULT DATA DELIVERABLE COVER SHEET

Date: Friday, January 11, 2002

Sample Authorization Form Number: B99-032

Attachments (check all that apply or N/A): ___X___ **Test Results**
___X__ **Chains of Custody**
___X___ **Logbook Pages**
__N/A__ **Anomaly Report**

Total number of pages (including cover sheet): _19_____

Comments: **Solid Waste Landfill Methane and VOC Monitoring – 12/31/01 & 1/8/02**

M. G. Baechler
Analyst signature

1/11/02
Date

JAN 2002
RECEIVED

Distribution: **Sample Management – H9-03**
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, December 31, 2001 / January 8, 2002

SAF B99-032

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	B13TN6	2.4	5.0	9.8	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Cal Check	B13TN7	2.5	5.0	10.1	---	0.98	0.97	0.99	1.00	0.96	---	0.95
Zero Air	B13TN5	0.0	0.0	19.0	<0.10	<0.15	<0.20	<0.10	<0.20	<0.15	<0.10	<0.15
SWL-01A	B13TL4	0.0	0.0	18.9	<0.10	<0.15	<0.20	<0.10	<0.20	<0.15	<0.10	<0.15
SWL-01B	B13TL5	0.0	0.3	18.6	<0.10	<0.15	<0.20	<0.10	<0.20	<0.15	<0.10	<0.15
SWL-02A	B13TL6	0.0	0.0	18.8	<0.10	<0.15	<0.20	<0.10	<0.20	<0.15	<0.10	<0.15
SWL-02B	B13TL7	0.0	0.7	18.2	<0.10	<0.15	<0.20	<0.10	<0.20	<0.15	<0.10	<0.15
SWL-03A	B13TL8	0.1	0.0	19.0	<0.10	<0.15	<0.20	<0.10	<0.20	<0.15	<0.10	<0.15
SWL-03B	B13TL9	0.0	0.2	18.8	<0.10	<0.15	<0.20	<0.10	<0.20	<0.15	<0.10	<0.15
SWL-04A	B13TM0	0.0	2.3	17.3	<0.10	<0.15	<0.20	<0.10	<0.20	<0.15	<0.10	<0.15
SWL-04B	B13TM1	0.0	2.9	16.9	<0.10	<0.15	<0.20	<0.10	<0.20	<0.15	<0.10	<0.15
SWL-04X	B13TM2	0.0	0.8	18.4	<0.10	<0.15	<0.20	<0.10	<0.20	<0.15	<0.10	<0.15
SWL-DE-1	B13TM4	0.0	2.1	17.6	<0.10	<0.15	<0.20	0.032j	<0.20	<0.15	<0.10	<0.15
Cal Check	B13TN7	---	---	---	---	0.94	0.92	0.94	0.92	0.96	---	1.02
SWL-DW-2	B13TM3	0.0	0.2	18.8	<0.10	<0.15	<0.20	0.019j	<0.20	<0.15	<0.10	0.021j
SWL-05A	B13TM5	0.0	0.0	19.0	<0.10	<0.15	<0.20	<0.10	<0.20	<0.15	<0.10	<0.15
SWL-05B	B13TM6	0.0	0.4	18.6	<0.10	<0.15	<0.20	0.021j	<0.20	<0.15	<0.10	<0.15
SWL-06A	B13TM7	0.0	0.2	18.9	<0.10	<0.15	<0.20	<0.10	<0.20	<0.15	<0.10	<0.15
SWL-06B	B13TM8	0.0	0.5	18.7	<0.10	<0.15	<0.20	<0.10	<0.20	<0.15	<0.10	<0.15
SWL-07A	B13TM9	0.1	0.1	18.8	<0.10	<0.15	<0.20	<0.10	<0.20	<0.15	<0.10	<0.15
SWL-07B*	B13TN0	0.0	0.2	18.7	<0.10	<0.15	<0.20	0.017j	<0.20	<0.15	<0.10	<0.15
SWL-08A	B13TN2	0.0	0.3	18.5	<0.10	<0.15	<0.20	0.015j	<0.20	<0.15	<0.10	<0.15
SWL-08B	B13TN3	0.0	1.2	17.9	<0.10	<0.15	<0.20	0.032j	<0.20	<0.15	<0.10	<0.15
SWL-08B Dup	B13TN4	0.0	1.2	17.9	<0.10	<0.15	<0.20	0.043j	<0.20	<0.15	<0.10	<0.15
LCS	B13TN8	---	---	---	---	0.90	0.85	0.88	0.84	0.84	---	0.84

* - Sample probe contained moisture and was difficult to sample

j - Value less than reporting limit

e - Value exceeds calibration range

Analyst: 1/8/02
T. M. Johansen

Analyst: 1/8/02
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, EFL-1105-1, pg 9

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 58

Project SWL Methane & VOC Monitoring Notebook No. EFL-1105-1

Continued from Page N/A

M.A. Boechler, CHI-AFS, M.G. Boechler

1040 Arrived at 3728 building w/ T.M. Johansen to collect GC & methane monitor calibration gases.

N/A Arrived at mobile laboratory located at 200-ZP-2 to set up GC for sample analysis.

N/A Left 200-ZP-2 for SWL to collect samples.

1115 Arrived at SWL-01-A (1st sample point).

1117 Conducted plan of the day with T.M. Johansen

1120 Set Landtec GA-90 calibration to calibration gases (Methane = 2.5%, Carbon Dioxide = 5.0%, Oxygen = 10.0%)

1134 Started sampling at SWL-01A

1255 Completed sampling.

1256 Checked GA-90 response with calibration gas.
Methane = 2.5%
Carbon Dioxide = 5.0%
Oxygen = 10.1%

1310 Left site

Note: At the request of the project (V. Rohay) only landfill gases were collected (methane, carbon dioxide, oxygen). Gases for VOC analysis will be collected when GC has been repaired

MAB 12/31/01

Continued on Page 9

M.A. Boechler
M.G. Boechler 12/31/01

Signed Date Read and Understood By Signed

Project SWL Methane & VOC Monitoring Notebook No. EFL-1105-1

Continued from Page 8

M.A. Baechler, CH-AFS, M.G. Baechler

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	1120	2.4%	5.0%	9.8%	CH_4=0.0%, CO_2=0.0%, O_2=19.0%
After monitoring	1256	2.5%	5.0%	10.1%	CH_4=0.0%, CO_2=0.0%, O_2=18.8%

*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	1134	0.0%	0.0%	18.9%	B13TL4
SWL-01-B	1136	0.0%	0.3%	18.6%	B13TL5
SWL-02-A	1209	0.0%	0.0%	18.8%	B13TL6
SWL-02-B	1211	0.0%	0.7%	18.2%	B13TL7
SWL-03-A	1216	0.1%	0.0%	19.0%	B13TL8
SWL-03-B	1218	0.0%	0.2%	18.8%	B13TL9
SWL-04-X	1228	0.0%	0.8%	18.4%	B13TM2
SWL-04-A	1224	0.0%	2.3%	17.3%	B13TM0
SWL-04-B	1226	0.0%	2.9%	16.9%	B13TM1
SWL-DE-1	1143	0.0%	2.1%	17.6%	B13TM4
SWL-DW-2	1147	0.0%	0.2%	18.8%	B13TM3
SWL-05-A	1234	0.0%	0.0%	19.0%	B13TM5
SWL-05-B	1236	0.0%	0.4%	18.6%	B13TM6
SWL-06-A	1241	0.0%	0.2%	18.9%	B13TM7
SWL-06-B	1243	0.0%	0.5%	18.7%	B13TM8
SWL-07-A	1248	0.1%	0.1%	18.8%	B13TM9
SWL-07-B	1250	0.0%	0.2%	18.7%	~~B13TM9~~ MAB 12/31/01 B13TN0/B13TN1
SWL-08-A	1253	0.0%	0.3%	18.5%	B13TN2
SWL-08-B	1255	0.0%	1.2%	17.9%	B13TN3/B13TN4

Weather Conditions -- Sky: Clear Partly Cloudy (Overcast) Wind: from W speed 5 mph
(PNL Weather Station – 373-2716)
Temperature 39° F Humidity 78 % Pressure 29.97 in. Hg. trending +

Sampler M.A. Baechler (print name) M.A. Baechler (signature) Date 12/31/01

M.A. Baechler 12/31/01

MAB 12/31/01

Continued on Page N/A MAB 12/31/01

Read and Understood By

M.A. Baechler
M.G. Baechler 12/31/01
Signed Date Signed Date

Project SWL Methane & VOC Monitoring Notebook No. EFL-1105-1

Continued from Page ~~9~~ 11A MAS 12/31/01

M.A. Buechler, CHI-AFS, M.G. Buechler

1/8/02

0625 Arrived at 3728 building with T.M. Johansen to collect GC calibration gases.
0710 Arrived at mobile laboratory H0-68N-6292 located at Area 1-A crib area, 200W to warm up GC.
0 Left 200W for SWL
0833 Arrived at SWL Sample point SWL-01-A.
0835 Started sampling. Collecting VOC samples only. Landfill gases (CH_4, CO_2, O_2) collected 12/31/01.
0951 Completed sampling.
0954 Left site for 200W.
1010 Arrived at mobile lab.
1040 Balanced detector at backflush @ 50 ml/min
1041 Turned off auto loop/auto run.
1043 Started calibration with LVOC mix (1ppm)
1100 Added DCM + 1,1,2 TCA to cal.
1110 Analyzed LVOC cal check
1117 Analyzed zero air
1123 Started analyzing samples
1337 Completed sample analysis
1400 Signed out and left site

TMJ 1/8/02

Continued on Page ~~10~~ 11 MAS 1/9/02

Read and Understood By

Signed: M.A. Buechler/M.G. Buechler Date: 1/8/02

Signed: _____ Date: _____

Project SWL Methane & VOC Monitoring Notebook No. EFL-1105-1

Continued from Page 10

M.A. Baechler, CHI-AFS, M.A. Baechler

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	-	-	-	55.4	168.2	84.0	102.5	116.9	144.8	219.2	336.6
Cal. Standard	B13TN6	0630	1044	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Cal. Check	B13TN7	0630	1110	-	0.98	0.97	0.99	0.100	0.96	-	0.95
Cal. Check	B13TN7	0630	1225	-	0.94	0.92	0.94	0.92	0.96	-	1.02
LCS	B13TN8	0630	1337	-	0.90	0.85	0.88	0.84	0.84	-	0.84
% Recovery	-	-	-	-	90%	85%	88%	84%	84%	-	84%
SWL-01A	B13TL4	0838	1123	—	—	—	—	—	—	—	—
SWL-01B	B13TL5	0840	1130	—	—	—	—	—	—	—	—
SWL-02A	B13TL6	0903	1136	—	—	—	—	—	—	—	—
SWL-02B	B13TL7	0905	1141	—	—	—	—	—	—	—	—
SWL-03A	B13TL8	0908	1146	—	—	—	—	—	—	—	—
SWL-03B	B13TL9	0910	1153	-	-	-	-	-	-	-	-
SWL-04A	B13TM0	0917	1200	-	-	-	-	-	-	-	—
SWL-04B	B13TM1	0919	1206	—	—	—	—	—	—	—	—
SWL-04X	B13TM2	0920	1212	-	-	-	-	-	-	-	-
SWL-DE-1	B13TM4	0848	1218	—	—	—	0.032j	—	—	—	—
SWL-DW-2	B13TM3	0855	1223	—	—	—	0.019j	—	—	—	0.021j
SWL-05A	B13TM5	0927	1241	—	—	—	—	—	—	—	—
SWL-05B	B13TM6	0929	1248	-	-	-	0.021j	-	-	-	-
SWL-06A	B13TM7	0932	1254	—	—	—	—	—	—	—	—
SWL-06B	B13TM8	0934	1300	—	—	—	—	—	—	—	—
SWL-07A	B13TM9	0937	1306	—	—	—	—	—	—	—	—
SWL-07B	B13TN0	0939	1312	—	—	—	0.017j	—	—	—	—
SWL-07B Dup	B13TN1	—	—	—	—	—	—	—	—	—	—
SWL-08A	B13TN2	0949	1319	—	—	—	0.015j	—	—	—	—
SWL-08B	B13TN3	0951	1325	—	—	—	0.032j	—	—	—	—
SWL-08A Dup	—	—	—	—	—	—	—	—	—	—	—
SWL-08B Dup	B13TN4	0951	1331	—	—	—	0.043j	—	—	—	—

Values Reported in ppm v/v

J = value less than reporting limit.

Date Sampled: 1/8/02 Date Analyzed: 1/8/02

Analyst: [illegible]

Instrument: Photovac 10S Plus GC, Serial # TA020107
Method: 8 mL/min HP Air, 11.7 eV lamp, 500 uL loop
Logbook: Photovac Instrument Log, BL-1392, pg

M.A. Baechler 1/11/02

Read and Understood By

M.A. Baechler 1/11/02

Signed Date Signed Date

Continued on Page N/A

M.A. Buechler, CH1-AFS, M.G. Buechler

SAF B94-032
EL-1332

12/14/01

1030 Arrived at mobile laboratory HO 68N-6292 relocated to 200-PW-1, 200 West area to burn in and test new PID lamp.
1035 Installed 11.7eV lamp # FA-10900
1038 Set carrier gas to 40 psi
1040 Turned on computer, Turned on detector
1043 Brought in file from last run (8/29/01) to set GC parameters.
1048 Detector failed. Restarted detector.
1052 Detector failed. Unable to reach target intensity. Restarted detector.
1055 Detector failed. Restarted detector.
1058 GC software started detector and reset target intensity from 1419 nV to 945 nV.
1100 Allowing lamp to remain on to "burn in."
1320 Burn in complete. Removed 11.7eV lamp and installed 10.6eV lamp # BADK260.
1325 Turned off computer, set carrier gas to low flow, left site.

MAB 12/14/01

M.A. Buechler / M.G. Buechler 12/14/01

TMJohnson, CHI-AFS, TMJohnson SAF B99-032
GC-1332

12/18/01

0900 TMJohnson and MABaechler arrive at mobile lab HO-6810-6892 at 200 PW-1 200 West.
0905 Installed 11-7 eV lamp # FA-1090 W.
0908 Set carrier gas to 40 psi.
0910 Turned on computer. Turned on detector.
0915 Created New File Directory FYOXAL
~~0940 Detector Failed. Restarted Detector.~~ TMT 12/18/01
0920 Balanced detector out and Backflush out to 5.0 ml/min.
0925 Set GC to autoloop/autoran to warm GC.
0940 Detector Failed, Restarted Detector.
1000 Balanced detector out and Backflush out to 5.0 ml/min. Ran zero Air
1111 Started Calibration with CVOC mix, 100ppm
1120 Retention times shifted earlier in the run. Reset Retention times in GC software. Re-Analyzing 100ppm CVOC Cal Standard. 1,1-DCA = 54.0, TCM = 62.6, 1,1,1 TCA = 80.0, CCl4 = 90.6, TCE = 111.6, PCE = 256.5
1139 Analyzed 10ppm CVOC. Added to Calibration.
1145 Analyzed 23ppm. Added to Calibration.
1224 Analyzed DCM-TCA (1,1,2). Added to Calibration.
1231 Started MDL Study.
1336 Completed MDL Study.
1348 Turned off computer and detector. Set carrier gas to low flow. Removed 11.7 eV lamp. Installed 10.6 eV lamp BVDK268.
1355 left site

TMJ 12/18/01

TMJohnson | TMJohnson 12/18/01

TMJohnson, CHT-AES, [illegible] SPF B99-032
GC-1332

12/27/01

0650 TMJohnson + TMBaeche arrive on site at mobile lab
110-1680-6092 at 2000-PW-1 200 West.
0700 Installed 11.7 eV lamp ~~#FA-1080W~~ #1431
0702 Set carrier gas flow to 40 psi. TMJ 12/27/01
0705 Turned on computer. Turned on detector.
Brought in file from last run to set parameters
0715 Made multiple attempts to start the detector. Detector
would not start
0915 Left site to attempt to find vendor support information.
1030 Contacted Vendor Support (Perkin-Elmer Instruments).
Left message with technical support. Continue to
troubleshoot problem back at the mobile lab.
1050 Return to mobile lab. Attempt to light detector, and
continue to wait for help from technical support.
1215 Installed 11.7 eV lamp #3971 to determine if GC problem
or lamp. The old lamp would light but the response
has degraded beyond use in order to report valid data.
1230 ~~Turned off~~ Installed 10.6 eV lamp BVDK265.
Turned off GC and computer.
1235 Set zero air to low flow.
1237 Vented calibration sample to the hood.
1240 Signed out and left site.

TMJ 12/27/01

TMJohnson/TMBaeche 12/27/01

M.A. Baechler, CH-AFS, M.G. Baechler

SAF B99-032
EL-1332

12/30/01

0730 Arrived at mobile laboratory HO-68N-6292 located at the Z-1A crib area, 200W. Set carrier gas pressure to 40 psi.

0815 Attempted several times to start detector. Lamp will not rise above 3-8 mV. Target intensity = 945 mV.

0830 Left site for 3728 bldg & Sigma I to pickup backup instrument & search internet for trouble shooting information.

1000 Returned from downtown. Replaced wire from detector to control board. Detector still will not start.

1010 Replaced lamp antenna & re adjusted lamp o-ring. Detector will not start.

1020 Installed old (bad) lamp to test system. Detector started. Reinstalled new lamp.

1110 All attempts to start detector failed. Will call technical support on 12/31/01.

1135 Set carrier to low flow. Installed 10.6eV lamp BVDK268. Left Site

MAB 12/30/01

M.A. Baechler / M.G. Baechler 12/30/01

M.A. Baechler, CHI-AFS, M.U. Baechler

SAF B99-032
EL-1332

1/3/02

1138 Arrived at mobile lab HO-68N-6292 located at the 21-A crib area, 200W.
1140 Installed new 11.7eV lamp #9633.
1148 Lamp started O.K. Set carrier gas regulator to 40 psi. Balanced detector out and backflush flow rates @ 5.0 mL/min.
1158 Lamp unable to reach target intensity of 945 mV. Lamp intensity coming up very slowly as software gradually increases tuning voltage.
1302 Lamp intensity rose to ~795 mV before falling to 520 mV with a constant curve of 1439 mV tuning. Shut detector off.
1305 Removed lamp, inspected, reinstalled, and re-started.
1309 Lamp appears to have started O.K.
1400 Turned detector off. Replaced 10.6eV lamp BVDK268. Set carrier gas to low flow. Left site.

MAB 1/3/02

M.A. Baechler / M.U. Baechler 1/3/02

M.A. Baechler, CH1-AFS, M.G. Baechler

SAF B99-03
EC-1332

1/7/02

0810 Arrived at mobile lab HQ-68N-6292 located at the Z1-A crib area, 223W to perform GC detector lamp conditioning, annual calibration, and MDL Study.

0815 Installed 11.7eV lamp #9833. Set carrier gas regulator to 40 psi.

0821 Started detector. Detector started O.K. Brought in file from 12/27 to set GC parameters.

0822 Balanced detector out and backflush flow rates at 5.0 mL/min.

0825 Detector lamp failed. Software adjusting tuning voltage to bring lamp back to target intensity.

0837 Target intensity achieved. Lamp intensity appears somewhat unstable. Software continuing to increase tuning voltage to keep lamp intensity @ target intensity. Allowing lamp to condition for 2 hours prior to calibration.

1035 Balanced detector out & backflush out flow rates at 5.0 mL/min.

1036 Started cal. with 6 VOC, mix 1 ppm.
Retention times shifted later in run. New times as follows:
1,1-DCA = 61.4, TCM = 75.3, 1,1,1-TCA = 92.0, CCl_4 = 104.5, TCE = 129.0, PCE = 298.1. Reset retention times in library.

1045 Recalibrating with 1 ppm 6 VOC.

1052 Calibrating with 10 ppm 6 VOC.

1100 Calibrating with 23 ppm 6 VOC.

1110 Started MDL study using approximate 0.5 ppm 6 VOC mix.

1220 Completed MDL study.

1225 Removed lamp (11.7eV). Installed 10.6eV lamp, 13VDK268.

1230 Set carrier gas to low flow. Vented cal. gases to lab hood. Left site.

MAB 1/7/02

M.A. Baechler / M.G. Baechler 1/7/02

Thomsen, CHI-AES, Thomsen

SPF B19-032
EC-1332

1/8/02

0710 Arrived at mobile lab HS-6810-6292 located at the 29-A Crib Area, 200W. Set carrier gas to 40 psi.
0712 Installed 11.7 eV lamp # 9833.
0717 Lamp started OK. Prior to starting lamp detector brought in file from last run to set parameters.
0722 Balanced detector out and backflush flow rates @ 50 ml/min.
0745 Set GC to autoloop/autorun to warm up.
0748 Left site to collect the samples slot.
0749 Before leaving noticed that the detector turned the lamp off. Restarted.
0812 Left site to collect samples.
1010 Return to mobile lab with samples. Accidently turned detector off. Turned on.
1040 Balanced detector out backflush @ 5.0 ml/min
1041 Turned off auto loop/autorun.
1043 Started calibration with 6VOC mix (1ppm).
1100 Added DCM + 1,1,2-TCA to calibration.
1110 Analyzed 6VOC cal check. 1,1-DCA = 0.98, TCM = 0.97
1,1-TCA = 0.99, CCl_4 = 0.100, TCE = 0.96, PCE = 0.95
1117 Analyzed zero air.
1123 Started analyzing samples.
1225 Analyzed 6VOC cal check 1,1-DCA = 0.94, TCM = 0.92
1,1,1-TCA = 0.94, CCl_4 = 0.92, TCE = 0.96, PCE = 1.02
1337 Completed sample analysis. Analyzed: 6VOC 1ppm cal check
1,1-DCA = 0.90, TCM = 0.85, 1,1,1 TCA = 0.88, CCl_4 = 0.92,
TCE = 0.96, PCE = 1.02
1346 Turned GC and computer off. Set zero air to cal fig.
Removed 11.7 eV lamp and installed 10.6 eV lamp BULK gas.
1355 Vented remaining samples to the road.
1400 Signed out and left site.

TMJ 1/8/02

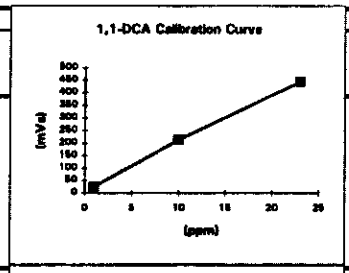
Thomsen/Thomsen

M.A. Baechler, CHI-AFS, M.G. Baechler

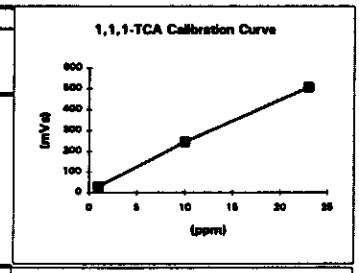
SAF B99-032
EL-1332

SWL Soil Gas Survey, 1/02
Calibration Curves and MDLs

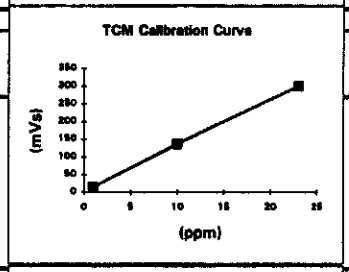
1,1-DCA (ppm)	Response (mVs)
1.0	25.2
10	212.8
23	443.2



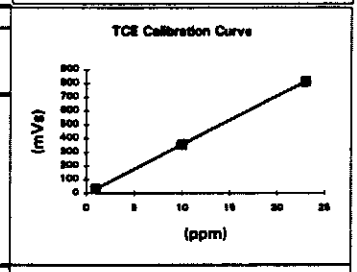
1,1,1-TCA (ppm)	Response (mVs)
1.0	29.2
10	246.2
23	506.5



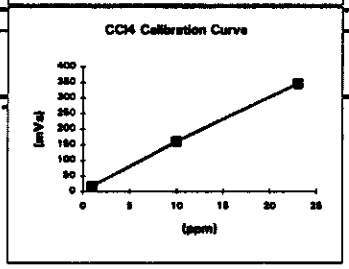
TCM (ppm)	Response (mVs)
1.0	15.2
10	137.4
23	299.7



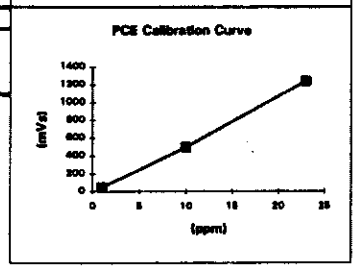
TCE (ppm)	Response (mVs)
1.0	33.4
10	357.6
23	814.1



CCl4 (ppm)	Response (mVs)
1.0	17.9
10	160.4
23	346.3



PCE (ppm)	Response (mVs)
1.0	48.2
10	497.6
23	1243



Run #	1,1-DCA	TCM	1,1,1-TCA	CCl4	TCE	PCE
1	0.602	0.542	0.622	0.606	0.661	0.684
2	0.588	0.558	0.607	0.604	0.642	0.652
3	0.591	0.550	0.610	0.592	0.635	0.659
4	0.601	0.549	0.618	0.594	0.636	0.654
5	0.605	0.563	0.633	0.613	0.658	0.658
6	0.612	0.582	0.640	0.639	0.669	0.674
7	0.627	0.607	0.632	0.644	0.667	0.685
Average	0.604	0.564	0.623	0.613	0.653	0.667
MDL	0.041	0.066	0.036	0.060	0.042	0.041
PQL	0.124	0.199	0.108	0.181	0.127	0.123

M.A. Baechler 1/11/02

MAB 1/11/02

M.A. Baechler / M.G. Baechler 1/11/02

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-032-13	Page 1 of 5

Collector M. Baechler/T. Johansen	Company Contact Virginia Rohay	Telephone No. 372-9351	Project Coordinator TRENT, SJ	Price Code Air Quality ☐	Data Turnaround Field
Project Designation Solid Waste Landfill Soil Gas and Methane Monitoring - Ro	Sampling Location 600 Area		SAF No. B99-032		
Ice Chest No.	Field Logbook No. EFL-1105-1	COA XE2012PHMC	Method of Shipment Hand deliver - Govt vehicle		
Shipped To Field Analysis Activities	Offsite Property No.		Bill of Lading/Air Bill No.		

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

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										
B13TL4	GASEOUS	1/8/02	0838	X								SWL-	01A
B13TL5	GASEOUS	1/8/02	0840	X								SWL-	01B
B13TL6	GASEOUS	1/8/02	0903	X								SWL-	02A
B13TL7	GASEOUS	1/8/02	0905	X								SWL-	02B
B13TL8	GASEOUS	1/8/02	0908	X								SWL-	03A

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(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
SI=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 to lab hood.	Disposed By: T. M. Johansen		Date/Time: 1/8/02 1355

BHI-EE-011 (10/99)

000016

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B99-032-13	Page 2 of 5
Collector M. Baechler/T. Johansen	Company Contact Virginia Rohay	Telephone No. 372-9351	Project Coordinator TRENT, SJ	Price Code Air Quality ☐
Project Designation Solid Waste Landfill Soil Gas and Methane Monitoring - Ro	Sampling Location 600 Area		SAF No. B99-032	Data Turnaround Field
Ice Chest No.	Field Logbook No. EFL-1105-1	COA XE2012PHMC	Method of Shipment Hand deliver - Govt vehicle	
Shipped To Field Analysis Activities	Offsite Property No.		Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

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										
B13TL9	GASEOUS	1/8/02	2412	X								SWL-	03B
B13TM0	GASEOUS	1/8/02	2417	X								SWL-	04H
B13TM1	GASEOUS	1/8/02	2419	X								SWL-	04B
B13TM2	GASEOUS	1/8/02	2422	X								SWL-	04X
B13TM3	GASEOUS	1/8/02	2355	X								SWL-	DW2

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(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 to lab hood	Disposed By: T.M. Johansen	Date/Time: 1/8/02 1355

BHI-EE-011 (10/99)

0000017

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B99-032-13	Page 3 of 5
Collector M. Baechler/T. Johansen	Company Contact Virginia Rohay	Telephone No. 372-9351	Project Coordinator TRENT, SJ	Price Code Air Quality ☐
Project Designation Solid Waste Landfill Soil Gas and Methane Monitoring - Ro	Sampling Location 600 Area		SAF No. B99-032	Data Turnaround Field
Ice Chest No.	Field Logbook No. EFL-1105-1	COA XE2012PHMC	Method of Shipment Hand deliver - Govt vehicle	
Shipped To Field Analysis Activities	Offsite Property No.		Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

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										
B13TM4	GASEOUS	1/8/02	0848	X								SWL-	DE1
B13TM5	GASEOUS	1/8/02	0827	X								SWL-	05H
B13TM6	GASEOUS	1/8/02	0829	X								SWL-	05B
B13TM7	GASEOUS	1/8/02	0832	X								SWL-	06H
B13TM8	GASEOUS	1/8/02	0834	X								SWL-	06B

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(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 to lab hood	Disposed By: T. M. Johansen	Date/Time: 1/8/02 1355

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0000018

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B99-032-13	Page 4 of 5
Collector M. Baechler/T. Johansen	Company Contact Virginia Rohay	Telephone No. 372-9351	Project Coordinator TRENT, SJ	Price Code Air Quality ☐
Project Designation Solid Waste Landfill Soil Gas and Methane Monitoring - Ro	Sampling Location 600 Area		SAF No. B99-032	Data Turnaround Field
Ice Chest No.	Field Logbook No. EFL-1105-1	COA XE2012PHMC	Method of Shipment Hand deliver - Govt vehicle	
Shipped To Field Analysis Activities	Offsite Property No.		Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

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										
B13TM9	GASEOUS	1/8/02	0937	X								SWL-	07H
B13TN0	GASEOUS	1/8/02	0939	X								SWL-	07J
B13TN1	GASEOUS	~~1/8/02~~ MAB 1/8/02		~~X~~ MAB 1/8/02							MAB 1/8/02	~~SWL-~~	~~07J~~ DUP
B13TN2	GASEOUS	1/8/02	0949	X								SWL-	08H
B13TN3	GASEOUS	1/8/02	0951	X								SWL-	08J

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(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 to lab hood	Disposed By: T.M. Johansen	Date/Time: 1/8/02 1355

BHI-EE-011 (10/99)

0000019

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-032-13	Page 2 of 2

Collector M. Baechler/T. Johansen	**Company Contact** Virginia Rohay **Telephone No.** 372-9351	**Project Coordinator** TRENT, SJ	**Price Code** **Data Turnaround** **Field**
Project Designation Solid Waste Landfill Soil Gas and Methane Monitoring - Ro	**Sampling Location** 600 Area	**SAF No.** B99-032	**Air Quality** ☐
Ice Chest No.	**Field Logbook No.** EFL-1105-1 **COA** XE2012PHMC	**Method of Shipment** Hand deliver - Govt vehicle	
Shipped To Field Analysis Activities	**Offsite Property No.**	**Bill of Lading/Air Bill No.**	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

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										
B13TN4	GASEOUS	1/8/02	0957	X								SYC-	08B1
B13TN5	GASEOUS	1/8/02	0715	X								ZYO	Air
B13TN6	GASEOUS	1/8/02	0630	X								CO	
B13TN7	GASEOUS	1/8/02	0630	X								Pd	Chl
B13TN8	GASEOUS	1/8/02	0635	X								LCS	

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(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
SI=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 to lab hood	Disposed By T. M. Johansen	Date/Time 1/8/02 1355

BHI-EE-011 (10/99)

0000002