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EG&G Idaho, Inc.

FORM EGG-2631#

(Rev. 01-92)

Project File Number	OU 4-12
EDF Serial Number	ER-WAG 4-60
Functional File Number	N/A

ENGINEERING DESIGN FILE

Project/Task: OU 4-12 RI/FS

Subtask: OU 4-12 RI/FS Scoping

EDF Page 1 of 393

TITLE: Background Information and Data Used During Scoping of RI/FS

SUMMARY

The summary briefly defines the problem or activity to be addressed in the EDF, gives a summary of the activities performed in addressing the problem and states the conclusions, recommendations, or results arrived at from this task.

The attached information was used by the Waste Area Group 4 Project Managers during scoping of the RI/FS for OU 4-12, CFA Landfills II & III.

Distribution (complete package):

Distribution (summary page only):

Author	Dept.	Reviewed	Date	Approved	Date
Steven H. McCormick	ER-WAG4				
		EG&G Review	Date	EG&G Approval	Date
		U.W. Walton	10/18/94	T.P. Rigatti	11/23/94

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INTEROFFICE CORRESPONDENCE

Date: July 17, 1992

To: W. R. Pigott, MS 1542

From: G. J. Stormberg, MS 2107 GJS

Subject: TRANSMITTAL OF EXISTING INFORMATION ON CFA LANDFILLS II AND III - GJS-18-92

As discussed in our meeting last week, existing data for CFA Landfills II and III has been compiled for transmittal by DOE-ID to IDHW and EPA. Please note that the attached data package only includes some of the more readily available information. Data will continue to be compiled and submitted over the next couple of weeks in an effort to provide both the State and EPA with as much information as possible prior to any scoping discussions.

The Geosciences group has also started a project file for CFA OU 4-12 which will include technical data and reports generated over the last 4 to 5 years. Once the file is established (approx. 3-4 weeks), I will submit a list of the file contents to you and Steve as some of the information may need to be placed in the Administrative Record.

alk

Attachment:
As Stated

cc: S. L. Ansley, MS 2107 (w/attach)
W. E. Harrison, MS 2110 WEH
S. H. McCormick, MS 1542 (w/attach)
T. R. Wood, MS 2107
Central Files, MS 1651
CFA Project Files (w/attach)
GJS Letter Files, MS 2107

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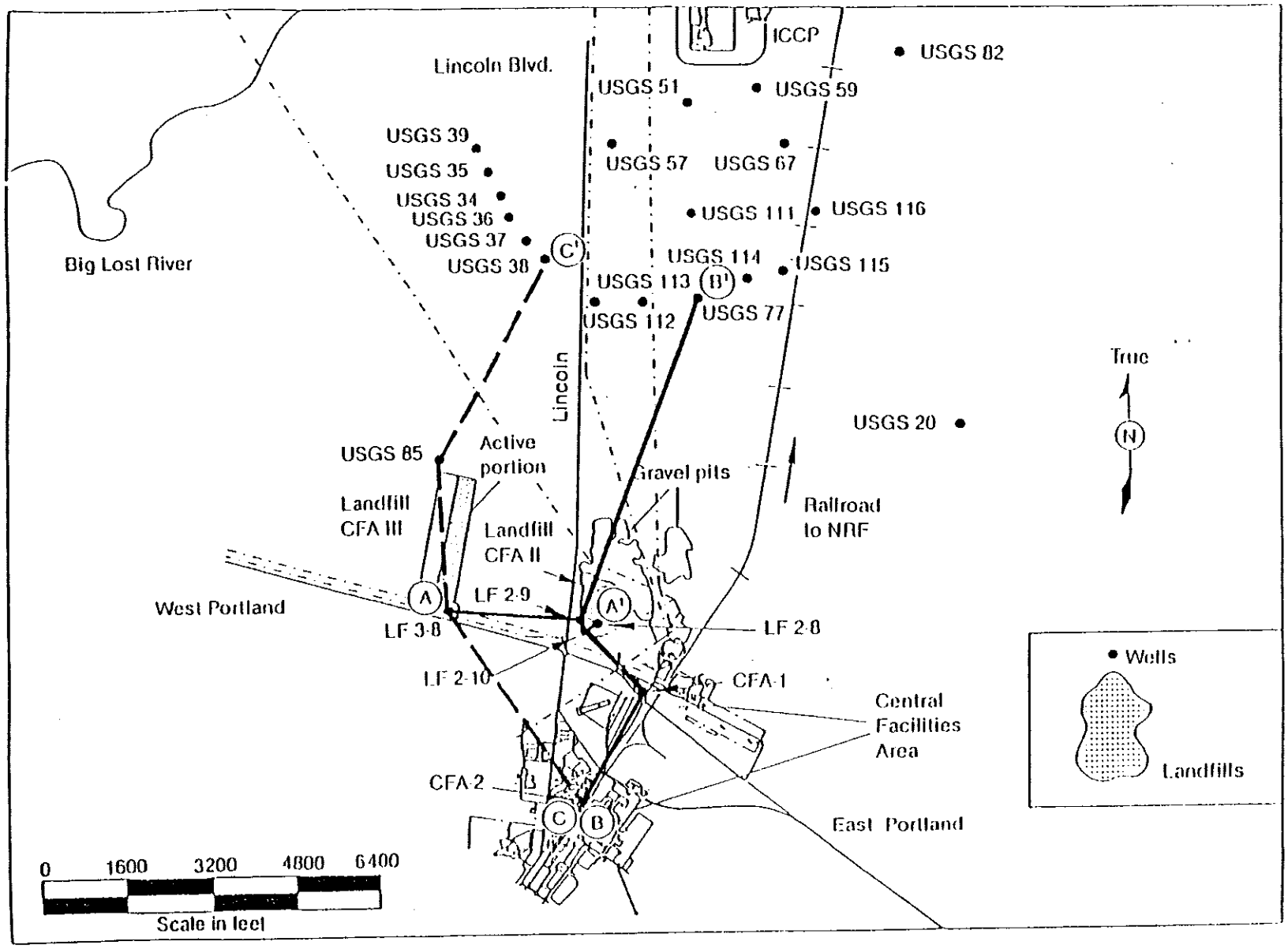


Figure A-1. Location of cross sections through CFA Landfill II & III (Wood et al., May 1989

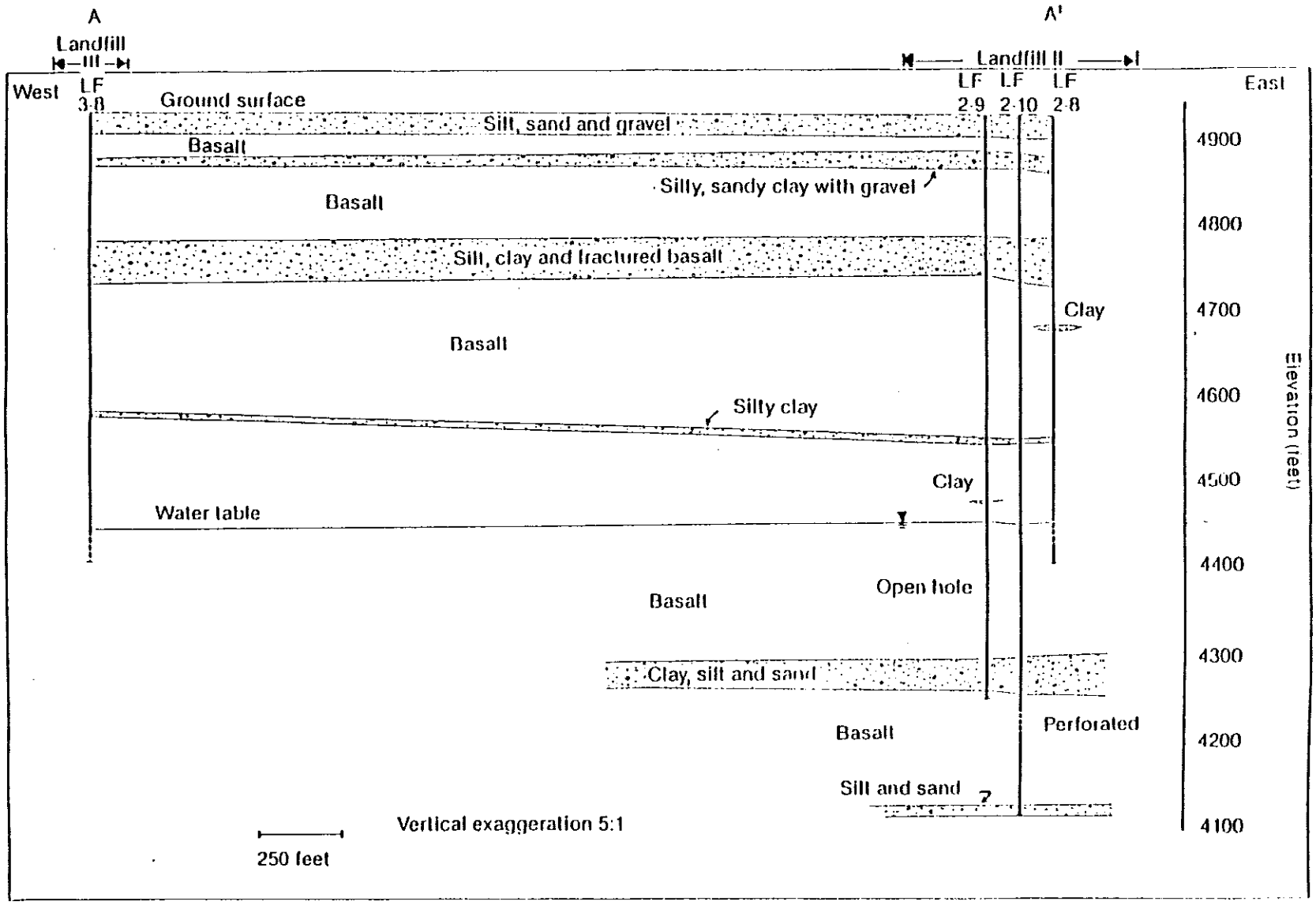


Figure A-2. East-west cross section A-A′ (Wood et al., May 1989).

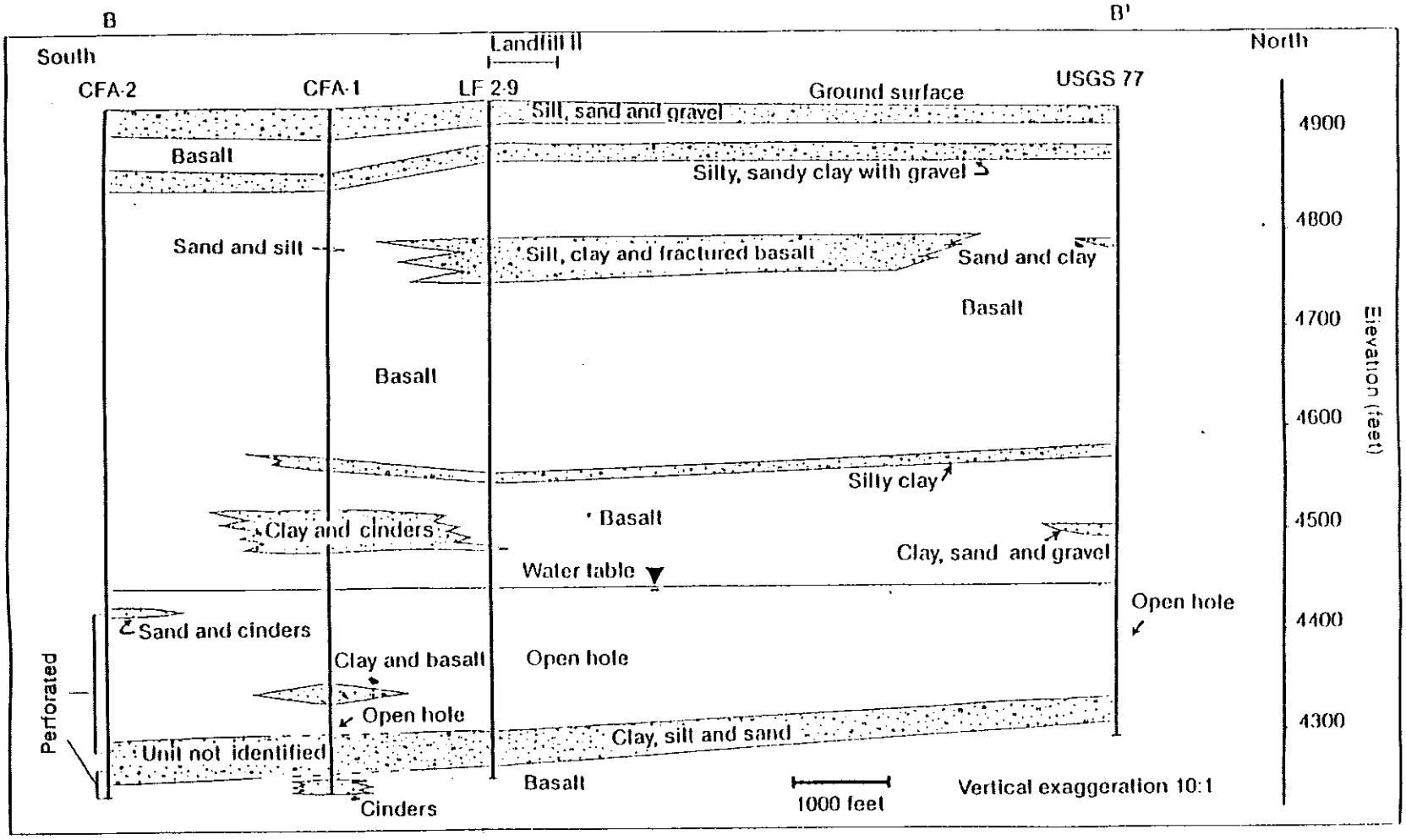


Figure A-3. North-south cross section B-B′ (Wood et al., May 1989)

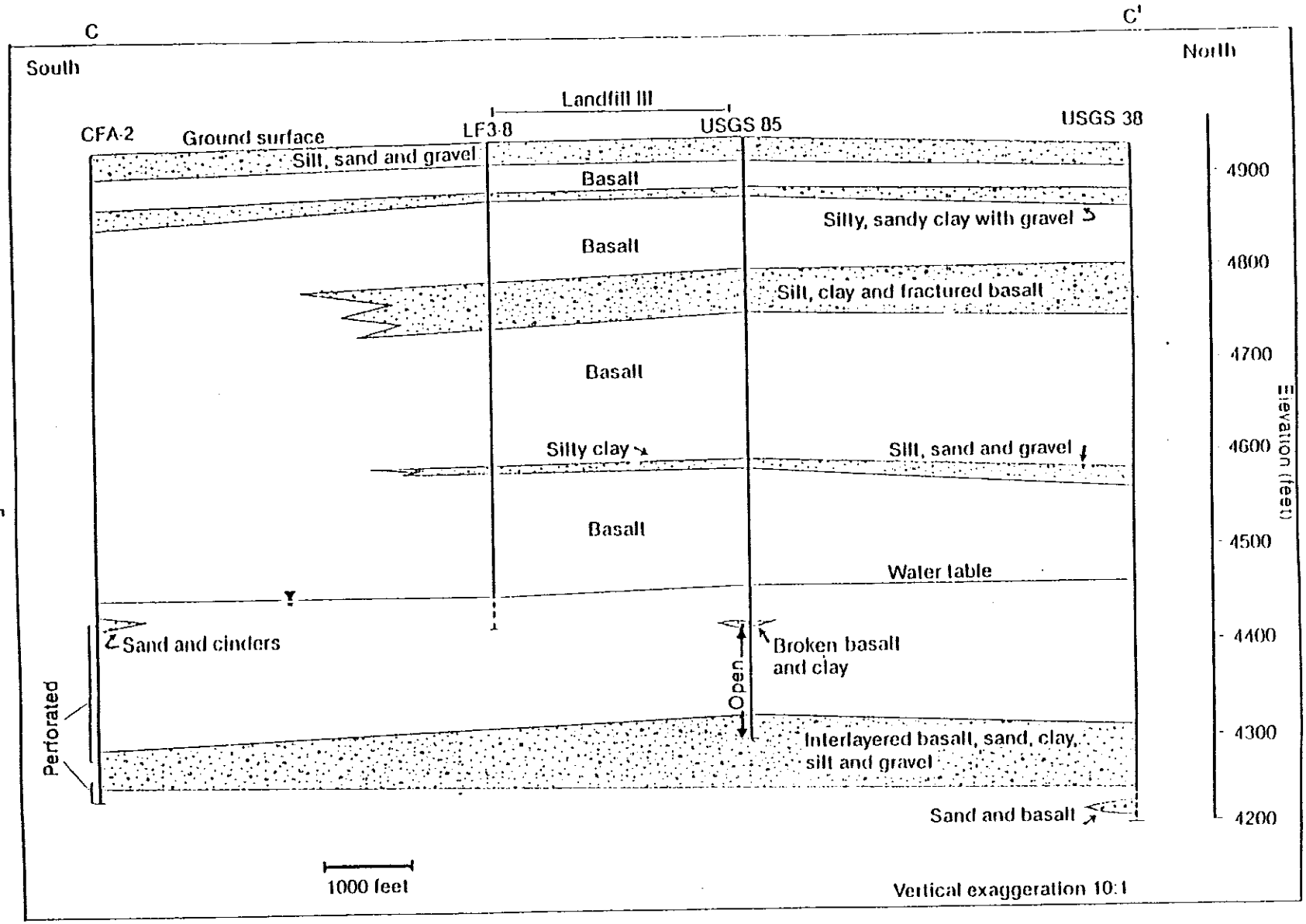


Figure A-4. North-south cross section C-C' (Wood et al., May 1989).

ATTACHMENT B

Waste Characteristics for CFA Landfills II and III

Table B-1. Summary of known chemicals disposed at CFA Landfill II (Stanisich, 1989).

Paints, Thinners, Solvents	
Paint	1992 L
Thinner	401 L
Solvents	210 L
Chemicals	
Boron solution	7949 L
Chromate solution	625 L
Chromates	24060 L
Ethylene glycol	625 L
Morpholine	360 L
Sulfuric acid	227 L
Boric acid	218 g
Calcium chloride	12 m^3
Al crystals	3 m^3
Chromate	205 m^3
Calcium hypochlorite	73 g
Chemicals+misc. chemicals	2190 g
Chromium	268 g
Mercury	<1 g
Methylenedithiocyanate	23 g
Resin	17580 g
Soda ash	4128 g
Resin	6 m^3
Air Contaminants	
Beryllium	<.5 m^3
Asbestos	512 m^3
Asbestos materials	8 m^3

Table B-2. Summary of materials disposed at CFA Landfill II based on IWMIS (Wood et al., 1989).

Description (see IWMIS list)	L = Liquid S = Solid	Volume	
1. Cafeteria garbage	S	3.1×10^4 m^3	4.1×10^4 yd^3
2. Chemicals	S	2.5×10^4 g	0.3×10^{-1} yd^3
Chemicals	L	3.4×10^4 L	4.4×10^1 yd^3
3. Masonry, concrete	S	1.3×10^4 m^3	1.7×10^4 yd^3
4. Oil	L	2.9×10^4 L	3.8×10^1 yd^3
5. Other	L	2.9×10^3 L	4.0×10^0 yd^3
Other	S	1.5×10^4 m^3	2.0×10^4 yd^3
6. Scrap metal	S	2.2×10^3 m^3	2.9×10^3 yd^3
7. Solvents	L	7.1×10^2 L	0.9×10^0 yd^3
8. Trash	S	2.2×10^5 m^3	2.8×10^5 yd^3
9. Wood and scrap lumber	S	1.5×10^4 m^3	1.9×10^4 yd^3
		Total:	3.8×10^5 yd^3

Total volume of landfill based on 12.5 acres and 25 ft depth = 5.2×10^5 yd^3 (does not account for compaction factors).

Percentage of noncompactable waste containing possible hazardous constituents = 5%, based on the broad classifications of wastes described in the IWMIS report, listed below:

Chemicals	44 yd^3
Oil	38 yd^3
Other	19,897 yd^3
Solvents	0.9 yd^3
	19,980 yd^3 (preliminary established)

Table B-3. Summary of known chemicals disposed at CFA Landfills III (Stanisich, 1989).

Chemicals	
Outdated medications	2.7 g
Sodium nitrate	181 g
Outdated drugs	<1 m^3
Calcium nitrate	12.234 m^3
Outdated drugs	<1 m^3
Outdated drugs	1.5 m^3
Pharmaceuticals	<1 m^3
Beryllium oxide	<1 m^3
Outdated drugs	34 g
Antifreeze	631 m^3
Ethylene glycol	7.5 L
Cooling media	<1 m^3
Solidified bio-cool	<1 m^3
Used resins	1.5 m^3
Boxed hazardous material[a]	29.06 m^3
Paint	201 L
Asbestos in waste boxes	882 m^3
Asbestos covered tank	76 m^3
Asbestos covered pipe	1.5 m^3
Asbestos-contaminated soil in waste boxes[b]	137 m^3

a. The specific constituents described as boxed hazardous material are unknown. It is known that it was in solid form and likely contained asbestos-containing materials. It is unlikely that it was either listed or characteristic hazardous waste.

b. Waste boxes are 4 x 4 x 8 ft polylined plywood boxes that are routinely used for radioactive materials, but have been adopted for asbestos waste containment.

ATTACHMENT C

Groundwater Gradient Map Beneath CFA Landfills II and III

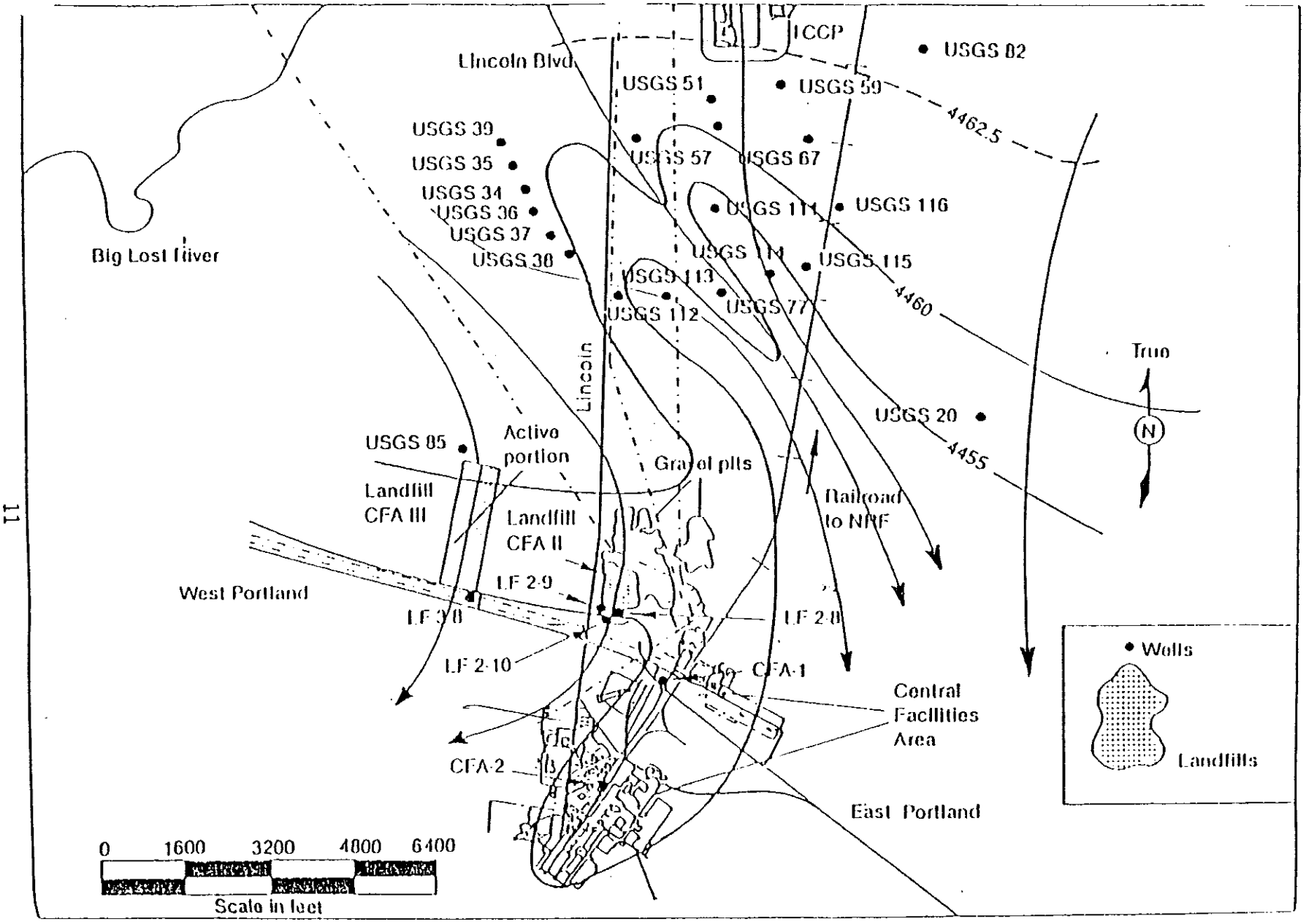
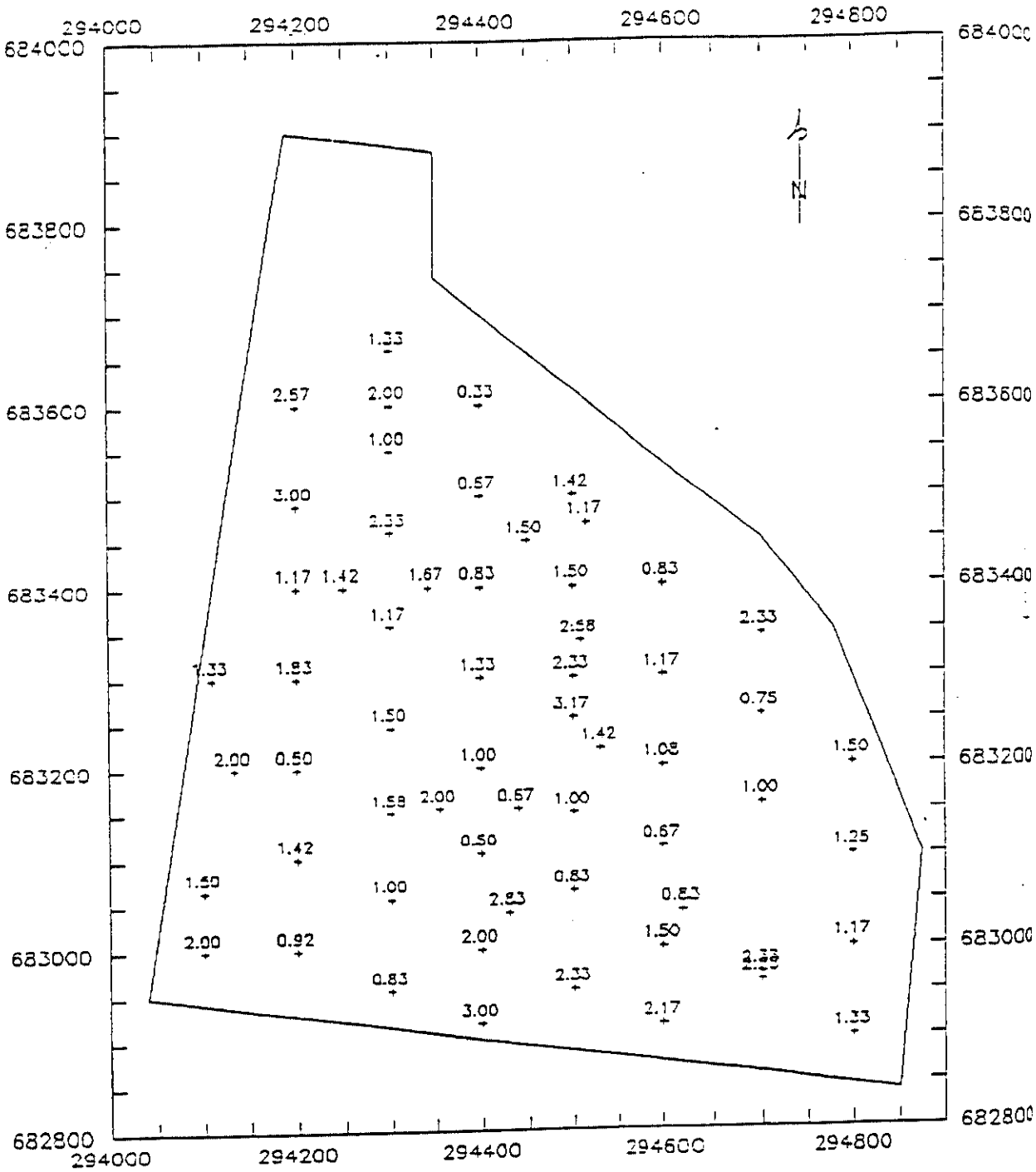


Figure C-1. Groundwater gradient map beneath CFA Landfills II and III (Wood et al., April 1989).

ATTACHMENT D

CFA Landfill II Cover Thickness



Measured thickness (ft) of soil cover at CFA Landfill II.

Figure D-1. Isopach map for CFA Landfill II cover thickness (Miller et al., 1990).

ATTACHMENT E

Monitoring Well Locations at CFA Landfills II and III

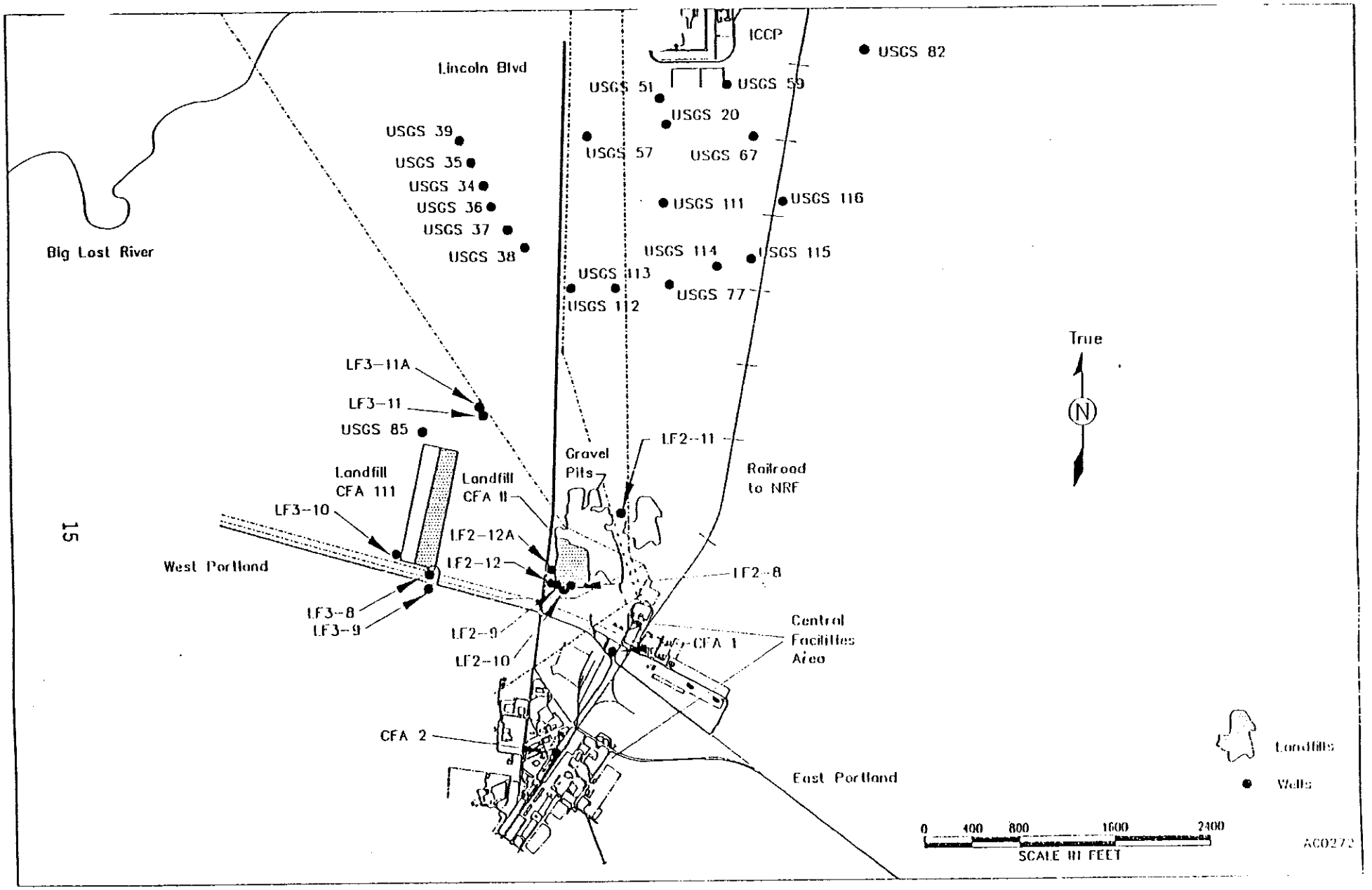


Figure E-1. Monitoring well locations at CFA Landfills II and III.

ATTACHMENT F

End-of-well Reports for the Monitoring Wells at CFA Landfills II and III

The end-of-well reports are currently being finalized.

ATTACHMENT G

Groundwater Evaluation for Samples Collected from CFA Landfills II and III

EG&G Idaho

"Providing research and development services to the government"

INTEROFFICE CORRESPONDENCE

Date: May 12, 1992

To: W. R. Pigott, MS 1545

From: G. J. Stormberg, MS 2107

Subject: EVALUATION OF CFA GROUNDWATER DATA GJS-10-92

Purpose and Scope:

Groundwater quality data for CFA Landfills II and III were evaluated for use in determining whether or not a groundwater contaminant source and pathway exists from the landfills to the Snake River Plain aquifer. Part of this evaluation was to identify potential contaminants which may have been released from the landfills and which create a potential impact to the water quality of the aquifer.

Data Evaluated:

Data provided for this evaluation consisted of validated groundwater quality data from CFA monitoring wells LF2-8, LF3-8, LF2-9, and LF2-11 covering three quarterly sampling events in 1990. Monitoring well LF2-11 is noted as an upgradient well while the other three are noted as being downgradient with respect to the landfills (see Figure 1). The validated data included results from volatile organic, semivolatile organic, inorganic (metal), organochlorine herbicide, and organochlorine pesticide analyses.

Approach:

Each compound class was evaluated to identify constituents which were detected above applicable Maximum Contaminant Levels (MCLs). In general, analytical results for initial and duplicate sample analyses were very similar; therefore, only the initial results are discussed in this evaluation. A discussion of the findings is presented in the following section for each compound class. Constituents identified as being above applicable MCLs are shown graphically in attached figures.

Results:

Organochlorine Herbicides and Pesticides: Organochlorine pesticides and herbicides were not detected in the CFA Landfill monitoring wells.

Semivolatile Organics: Semivolatile organic compounds were not detected in the CFA monitoring wells.

Volatile Organics: Chloroform, 1,1,1-trichloroethane, benzene, trichloroethene, toluene, and methylene chloride were detected in groundwater samples collected at the CFA Landfills. However, detected concentrations for all constituents were far below any applicable MCL. For example, 1,1,1-trichloroethane was detected at concentrations ranging from 0.3 ug/L to 5 ug/L, but has a MCL of 200 ug/L. Similarly, trichloroethene was detected at a maximum concentration of 0.2 ug/L and has a MCL of 5 ug/L. Method blanks and other QC samples were not evaluated to determine if there was an outside source (i.e., analytical or sampling methodology) of these constituents. However, at the low detected concentrations, the CFA Landfills II and III are not considered a source of organic contaminants. This is supported by the fact that volatile organic constituents were detected in both upgradient and downgradient wells.

Inorganics (Metals): Several metal analytes (i.e., iron, chromium, and manganese) were detected at concentrations exceeding either primary or secondary MCLs. The majority of the iron and chromium is in the suspended or particulate phase, as evidenced by the fact that analyte concentrations in filtered samples (i.e., dissolved phase) were significantly less than for unfiltered samples (see attached figures). In fact, dissolved concentrations of iron and chromium in the groundwater fall below applicable MCLs for all samples. Based on discussions with both project and U. S. Geological Survey personnel, as well as from an evaluation of well construction information, it is felt that the particulate/suspended iron and chromium may be attributable to well casing material and dedicated sampling pumps. Wells LF3-8, LF2-8, LF2-9, and LF2-11 were constructed from a combination of carbon steel (unsaturated zone) and stainless steel (saturated zone). Spalling from the casing has been noted for several wells and this could account for the relatively high suspended iron concentrations in the groundwater. According to the manufacturer, the design and mechanical operation of the sampling pumps (Hydrostar model) results in the generation of filings/shavings of metal (high chromium stainless steel) from the drive/sucker rod. These filings are apparently pulled up through the discharge line during sampling.

Manganese was also detected at concentrations exceeding its 50 ug/L secondary MCL. There does not appear to be a relationship between unfiltered and filtered manganese concentrations with the exception that detected concentrations (in both sample sets) show an overall decrease from the second to the third quarter. Third quarter concentrations are close to or below the MCL for unfiltered samples and all third quarter results are below the 50 ug/L MCL for the filtered sample.

It should be noted that there is a general decreasing trend for metal analyte concentrations between the second and third quarter sampling events. Whether this trend continues with subsequent data is unknown. Based on the observed decreasing concentration trend of the above identified analytes, the fact that iron is generally not a contaminant problem (i.e., it is an essential element), and that manganese is also not generally identified as a major contaminant of concern (i.e., secondary MCL), the metal constituents in the CFA monitoring well groundwater pose a minor problem at worst.

Recommendations:

Based on the above evaluation, I would recommend that the following tasks be carried out:

1. All additional existing groundwater data should be validated and results tables generated. This information could then be used to determine whether the decreasing concentration trend of the metal analytes as noted in the previous section is a true trend or just short term fluctuation. Additionally, although radionuclides are not a general landfill constituent, radiological data should also be evaluated and compared to data from the Test Reactor Area (TRA) and the Idaho Chemical Processing Plant (ICPP).

2. An additional round (or two) of groundwater samples should be collected from available wells. In order to determine the contribution of the pumps to the groundwater chromium concentrations, I would recommend pulling the Hydrostar pumps, thoroughly purging the wells, and collecting groundwater samples with a portable stainless steel submersible pump. Filtered and unfiltered samples should be collected (as during previous events) and both total chromium and chrome III analyses should be carried out.

alk

Attachment:
As Stated

cc: W. E. Harrison, MS 2110 WEH/TRW
T. J. Meyer, MS 1545
S. M. Waters, MS 1406
Central Files, MS 1651
GJS Letter Files, MS 2107

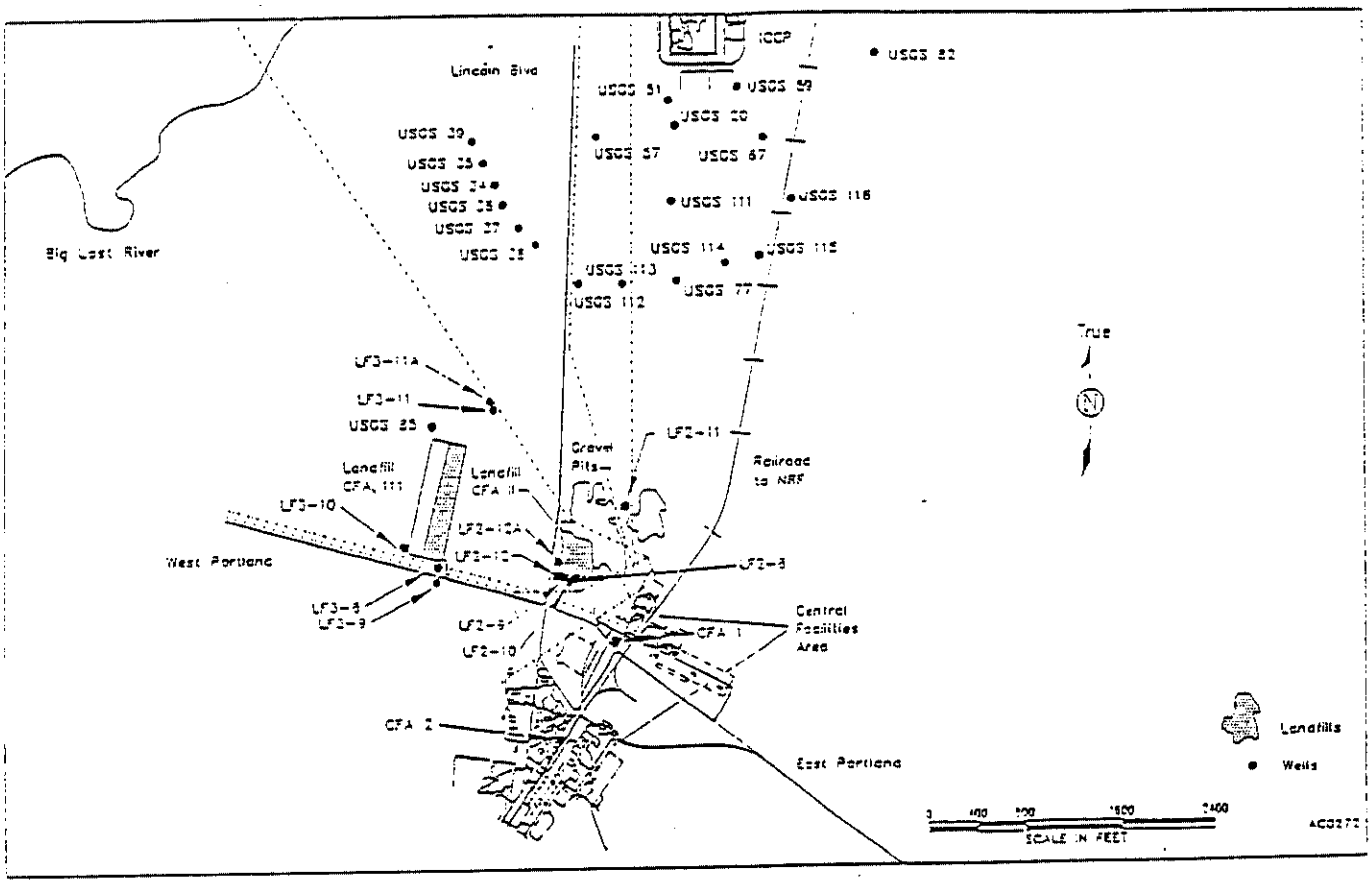


Figure 1: Location of CFA Landfill Monitoring Wells.

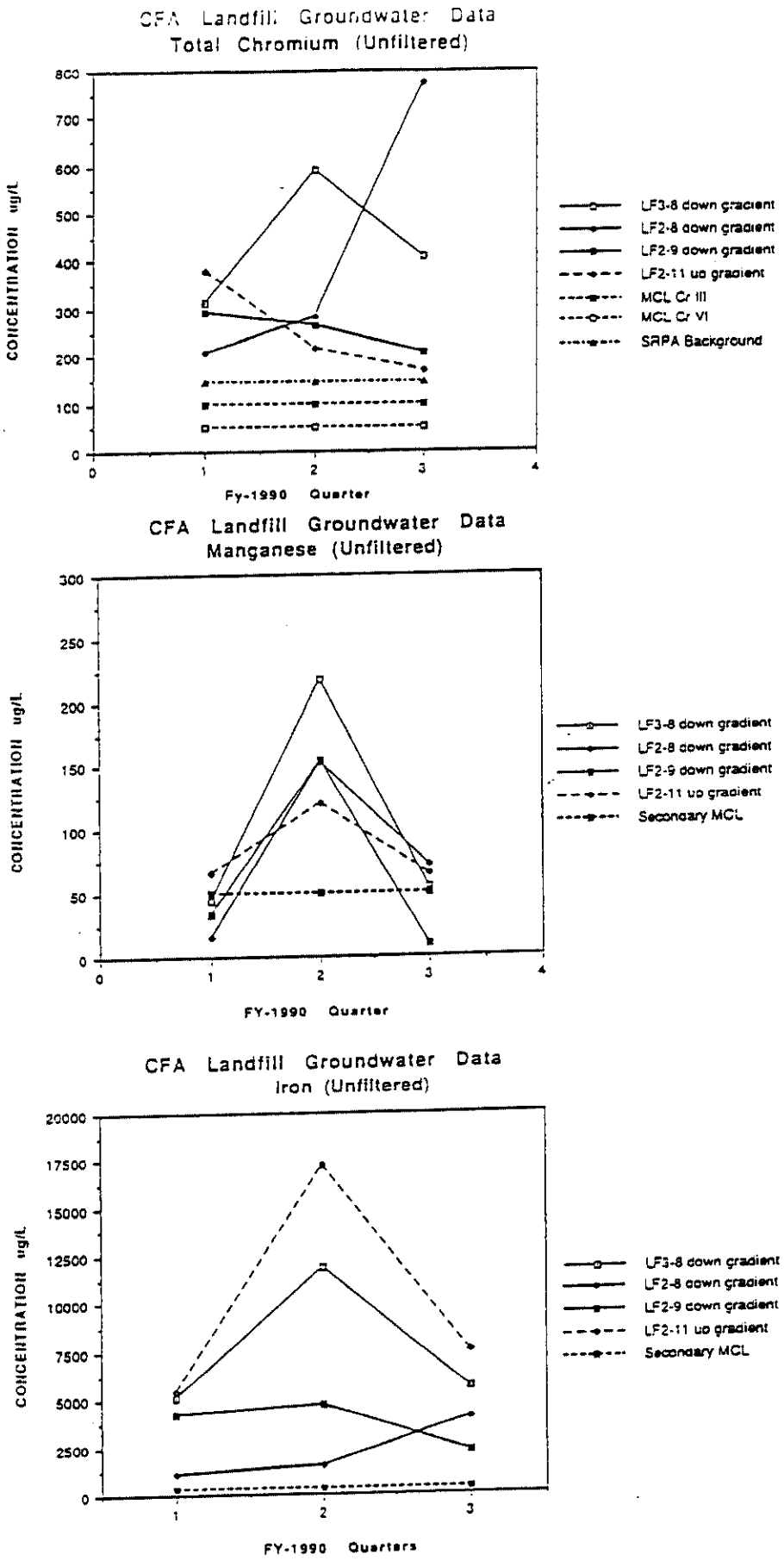
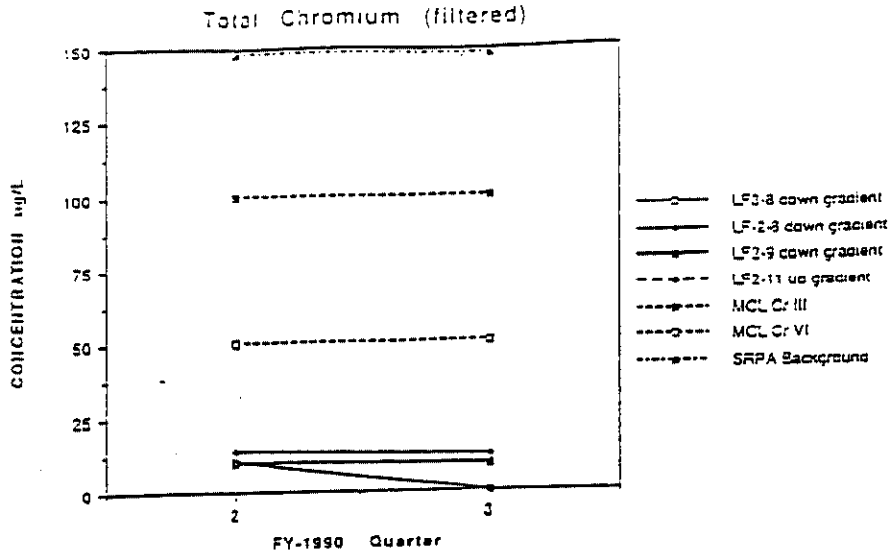
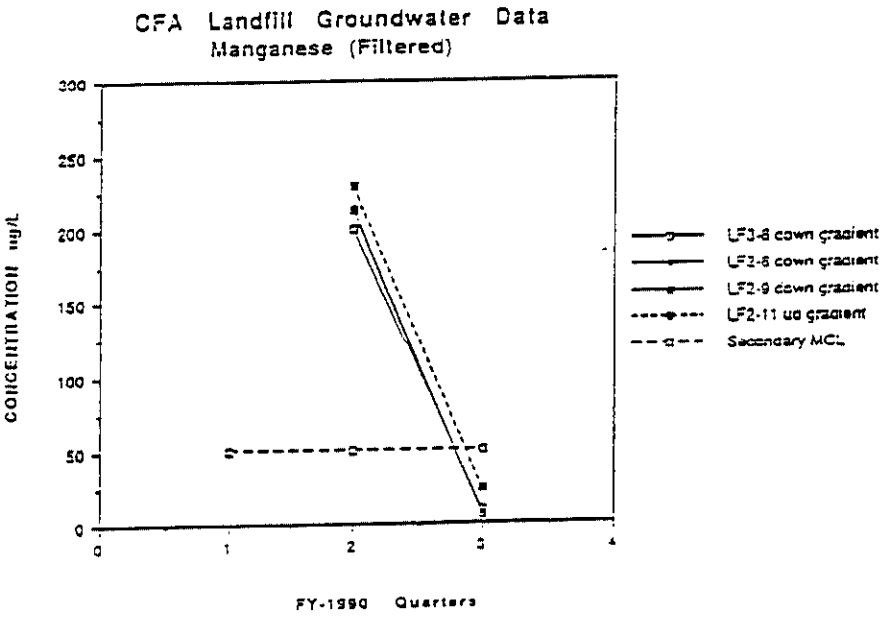


Figure 2. Concentration verses sampling event for unfiltered samples.





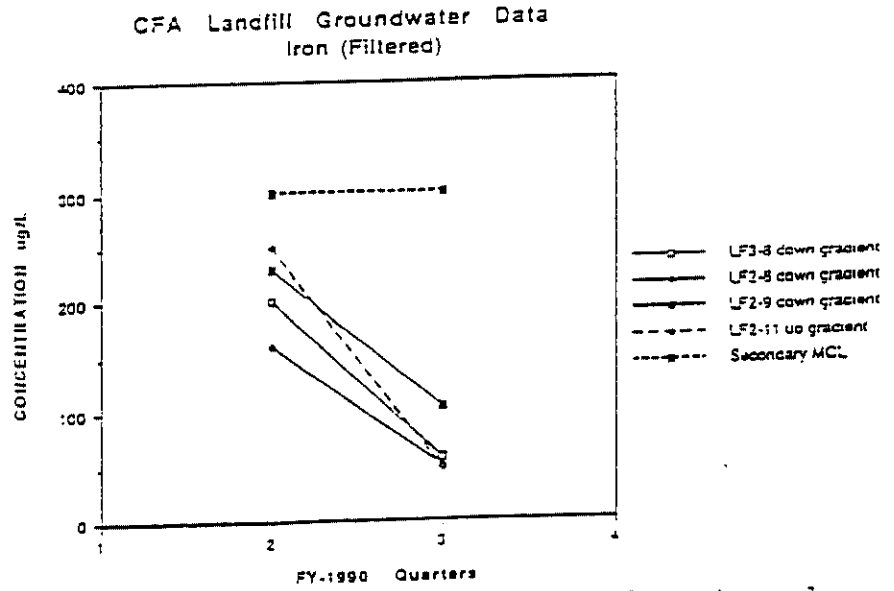


Figure 3. Concentration verses sampling event for filtered samples.

ATTACHMENT H

Shallow Borehole Locations at CFA Landfills II and III

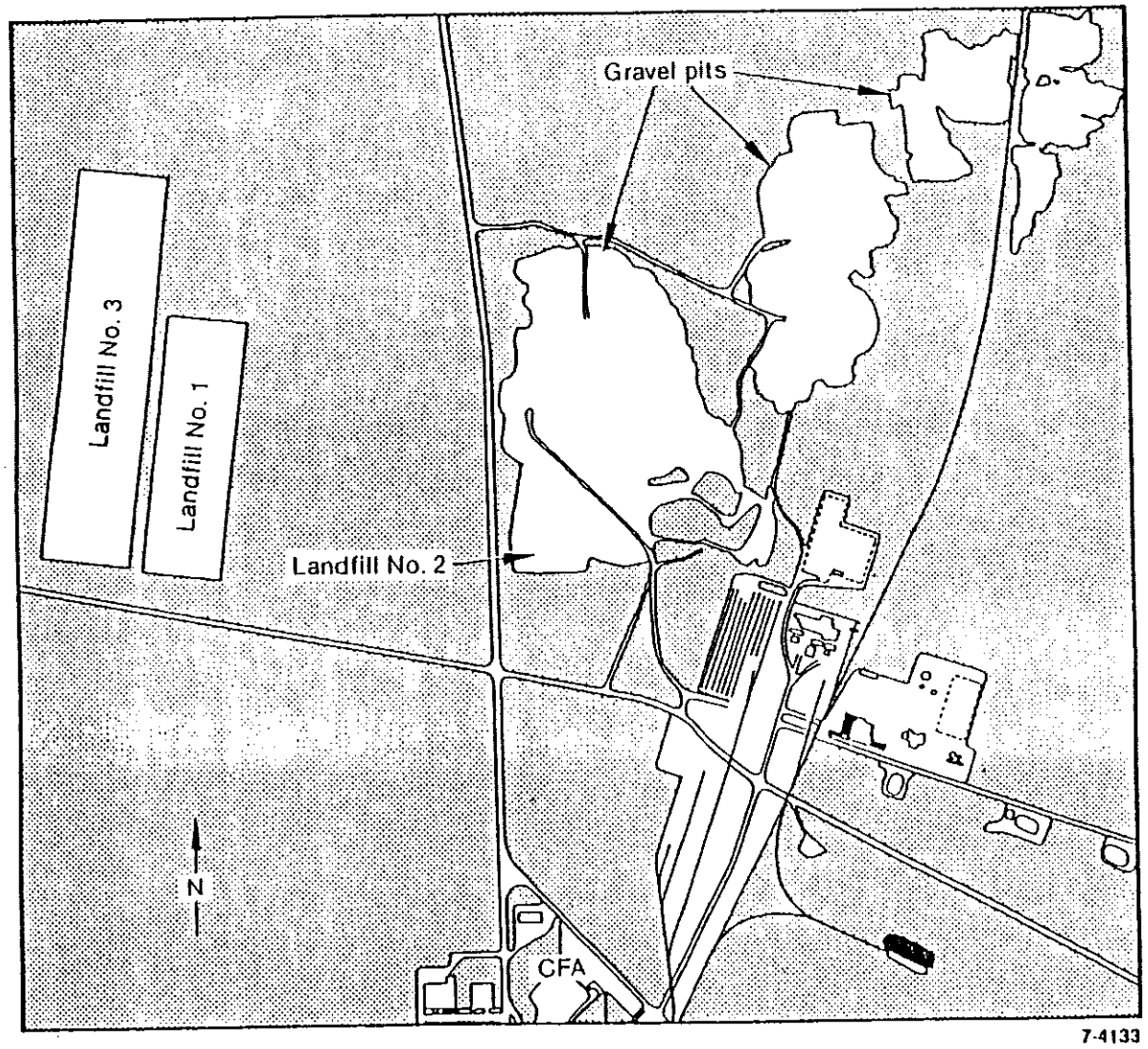


Figure H-1. CFA Landfills II and III.

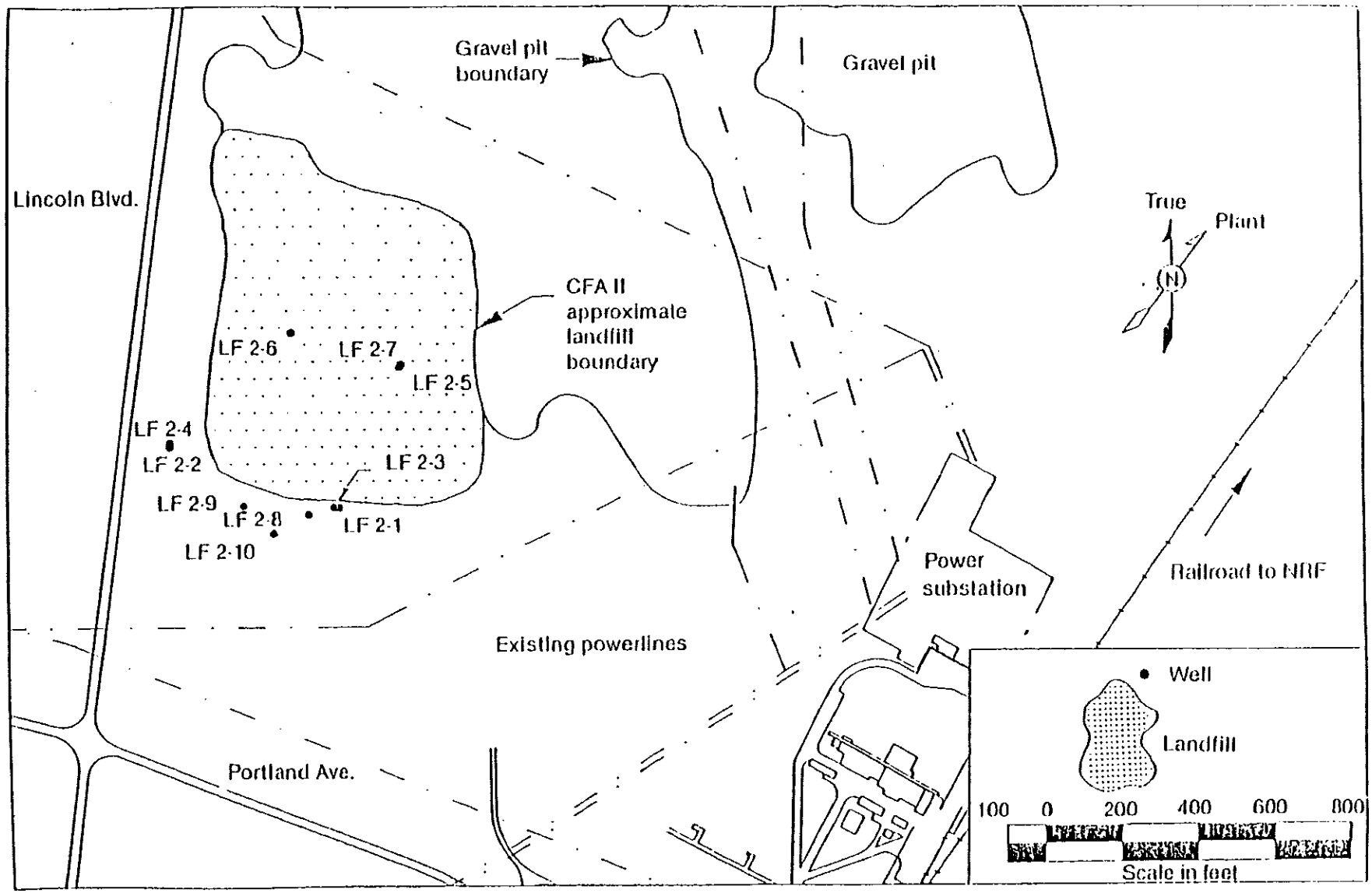


Figure H-2. Map showing locations of shallow boreholes at CFA Landfill II.

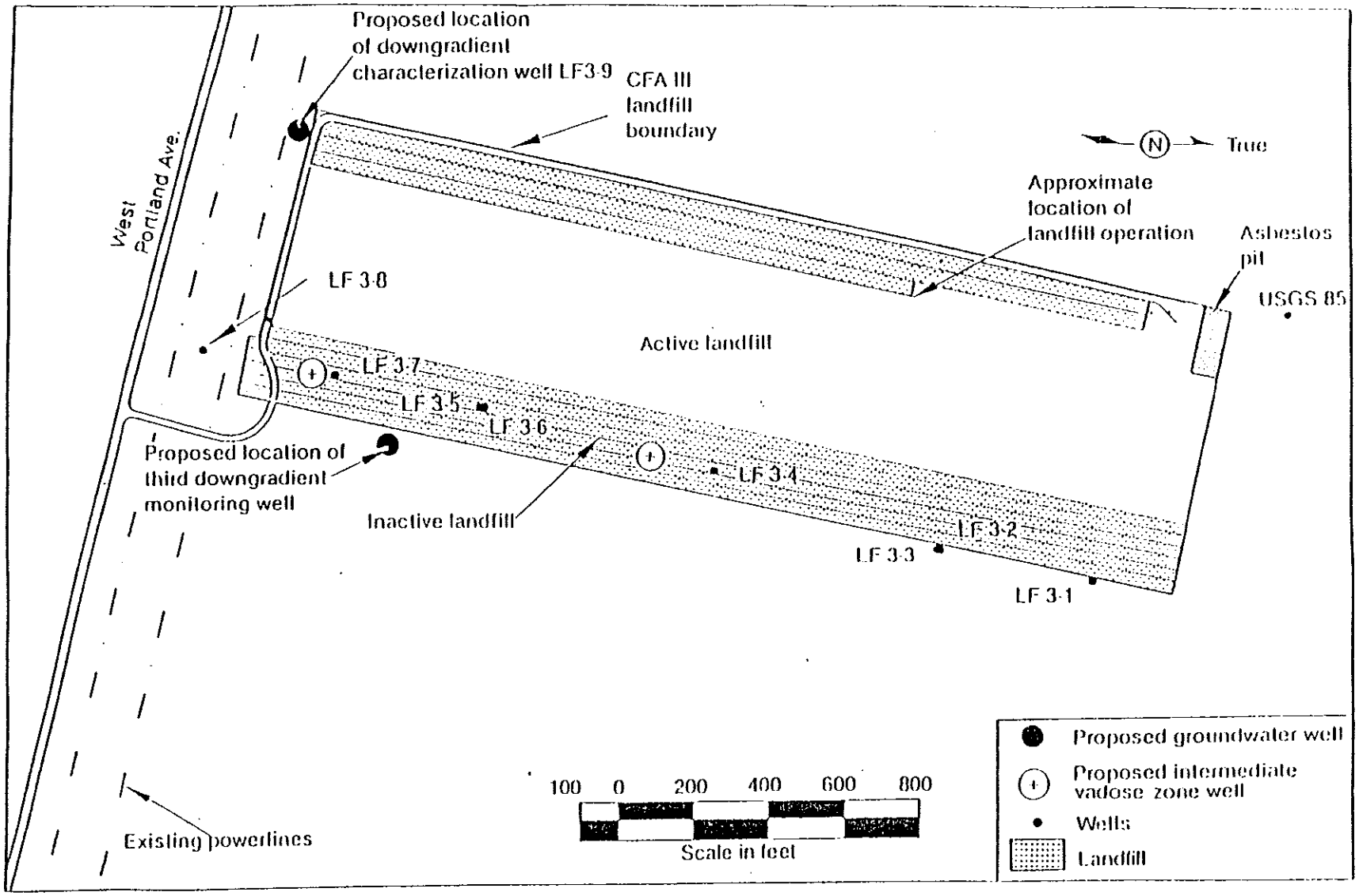


Figure H-3. Map showing locations of shallow boreholes at CFA Landfill III.

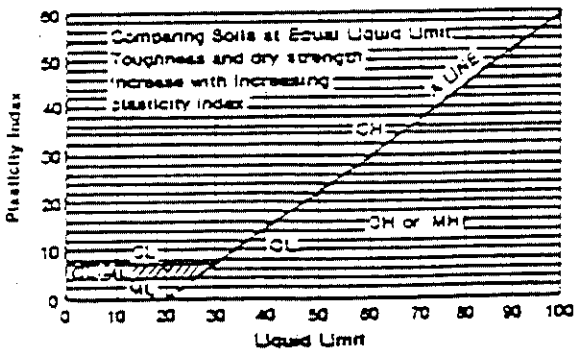
ATTACHMENT I

Shallow Borehole Logs and Instrument Completion Diagrams for CFA Landfills II and III

UNIFIED SOIL CLASSIFICATION

			Field Identification Procedures (excluding particles larger than 3 inches and basing fractions on estimated weights)	Group Symbols	Typical Names
Coarse Grained Soils: More than half of material is larger than No. 200 sieve size (the No. 200 sieve size is about the smallest particle visible to the naked eye)	Gravels: More than half of coarse fraction is larger than No. 4 sieve size	Clean Gravels (little or no fines)	Wide range in grain size and substantial amounts of all intermediate particle sizes	GW	Well graded gravels, gravel-sand mixtures, little or no fines.
			Predominantly one size or a range of sizes with some intermediate sizes missing	GP	Poorly graded gravels, gravel-sand mixtures, little or no fines.
		Gravels with Fines (appreciable amount of fines)	Non-plastic fines (for identification procedures see ML below)	GM	Silty gravels, poorly graded gravel-sand-silt mixtures.
			Plastic fines (for identification procedures see CL below)	GC	Clayey gravels, poorly graded gravel-sand-clay mixtures.
	Sands: More than half of coarse fraction is smaller than No. 4 sieve size	Clean Sands (little or no fines)	Wide range in grain size and substantial amounts of all intermediate particle sizes	SW	Well graded sands, gravelly sands, little or no fines.
			Predominantly one size or a range of sizes with some intermediate sizes missing	SP	Poorly graded sands, gravelly sands, little or no fines.
		Sands with Fines (appreciable amount of fines)	Non-plastic fines (for identification procedures see ML below)	SM	Silty sands, poorly graded sand-silt mixtures.
			Plastic fines (for identification procedures see CL below)	SC	Clayey sands, poorly graded sand-clay mixtures.

Fine Grained Soils: More than half of material is smaller than No. 200 sieve size (the No. 200 sieve size is about the smallest particle visible to the naked eye)	Identification Procedures on Fraction Smaller No. 40 Sieve Size	Dry Strength (crushing characteristics)	Dilatancy (reaction to shaking)	Toughness (consistency near plastic limit)	Group Symbols	Typical Names
	Silts and Clays: Liquid limit less than 50	None to Slight	Quick to Slow	None	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands with slight plasticity.
		Medium to High	None to Very Slow	Medium	CL	Inorganic clays of low to medium plasicity, gravelly clays, sandy clays, silty clays, lean clays.
		Slight to Medium	Slow	Slight	OL	Organic silts and organic silt-clays of low plasticity.
	Silts and Clays: Liquid limit greater than 50	Slight to Medium	Slow to None	Slight to Medium	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
		High to Very High	None	High	CH	Inorganic clays of high plasticity, fat clays.
		Medium to High	None to Very Slow	Slight to Medium	OH	Organic clays of medium to high plasticity.
Highly Organic Soils		Readily identified by color, odor, spongy feel and frequently by fibrous texture.			Pt	Peat and other highly organic soils.



PLASTICITY CHART

For laboratory classification of fine grained soils.

Rock Types

Sandstone

Siltstone

Shale

Granite

Limestone

Breccia

Plate No. _____

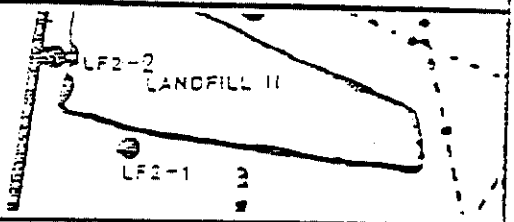
SAIC	FIELD BOREHOLE LOG	BOREHOLE NUMBER: LF2-1

PROJECT NUMBER [illegible]
PROJECT NAME [illegible] INEL Landfills - CFA
LOCATION CFA Landfill II
DRILLING COMPANY Denning Well Drilling, Inc.
RIG TYPE & NUMBER
DRILLING METHOD 10" Hollow Stem Auger
WEATHER Cold, snowing
FIELD PARTY Jody and Dan Denning
GEOLOGIST John Jaacks, III and Brett Freier
DATE BEGUN 12/16/87 DATE COMPLETED 12/16/87

FIELD BOOK NO.
TOTAL DEPTH 27.13 ft.
SHEET 1 OF 2

GROUNDWATER TABLE			
WD=While Drilling	AB=After Boring		
Depth(ft)			
Time			
Date			

Location Diagram:



Sampling Method	Sampling: Sample No.	Blow Count	Loc. Sampled	Recovery	Depth in Feet	Soil Graph	Moisture	Consistency	Organic Vapor	Description:	Time:
U	1	Pushed			0		D	L	0	Fine sand w/silt, 7.5 YR 7/6 (reddish yellow), non-plastic, poorly sorted	0932
					1					SM	
					2						
					3						
					4						
U	2	Dennison Hammer			5		D	L	0	Fine - medium sand, 7.5 YR (gray), 6/1, non-plastic, poorly sorted	0940
					6					SW	
					7						
					8						
U	3				9						
					10		D	L	0	Medium - coarse sand w/gravels	0958
					1					7.5 YR 6/1 (gray), non-plastic, poorly sorted	
					2					SW-GW	
					3						
U	4				4						
					15		D	L	0	Same as 10 ft.	1015
					6						
					7						
					8						
					9					Fine sandy clay, w/trace of silt	
					20		M	M	0	7.5 YR 5/4 (brown), very plastic, well sorted SC	1030

	FIELD BOREHOLE LOG	BOREHOLE NUMBER: 1F2-1

PROJECT NUMBER [illegible]
PROJECT NAME [illegible] Landfill - OFA
LOCATION OFA Landfill [illegible]
DRILLING COMPANY Denning Well Drilling, Inc.
RIG TYPE & NUMBER
DRILLING METHOD 10" Hollow Stem Auger
WEATHER Cold, snowing
FIELD PARTY Jody and Dan Denning
GEOLOGIST John Jacks, III and Brett Freier
DATE BEGUN 12/16/87 DATE COMPLETED 12/16/87

FIELD BOOK NO.
TOTAL DEPTH 27.[illegible] ft.
SHEET 2 OF 2

GROUNDWATER TABLE			
WD=While Drilling		AB=After Boring	
Depth(ft)			
Time			
Date			

Location Diagram:

Sampling Method	Sample No.	Blow Count	Loc. Sampled	Recovery	Depth In Feet	Soil Graph	Moisture	Consistency	Organic Vapor	Description	Time
					20						
					1						
					2						
U	6				23		M	H	O	Chem Sample = 20 dense clay only, very plastic CH (same as 20 ft)	1045
					4						
U	7				25		M	H	O	Same as 20 ft; clay only	1100
					6					Basalt, 10 YR 2/1 (black), vesicular	1120
					27					Basalt @ 27' 2"	
					8						
					9						
					30						
					1						
					2						
					3						
					4						
					5						
					6						
					7						
					8						
					9						
					0						

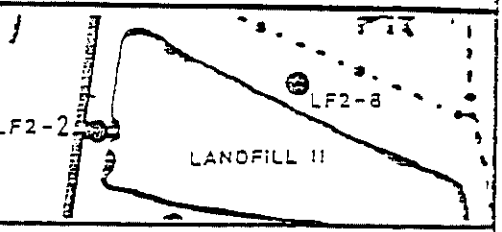
	FIELD BOREHOLE LOG	BOREHOLE NUMBER
		LF2-3 (2-2 according to EG&G)

PROJECT NUMBER 2-817-07-667-00
PROJECT NAME EG&G/INEL CFA Landfills
LOCATION CFA Landfill II
DRILLING COMPANY Denning Well Drilling, Inc.
RIG TYPE & NUMBER
DRILLING METHOD 10" Hollow Stem Auger
WEATHER Snowing, very cold, very poor visibility
FIELD PARTY Jody and Dan Denning
GEOLOGIST John Jaacks, III and Brett Freier
DATE BEGUN 12/17/87 DATE COMPLETED 12/17/87

FIELD BOOK NO.
TOTAL DEPTH 31 ft.
SHEET 1 OF 2

GROUNDWATER TABLE			
WD=While Drilling		AB=After Boring	
Depth(ft)			
Time			
Date			

Location Diagram:



Sampling Method	Sample No.	Blow Count	Loc. Sampled	Recovery	Depth In Feet	Soil Graph	Moisture	Consistency	Organic Vapor	Description:	Time:
U	1	Pushed			0		D	S	O	Fine to med sand w/gravels, 10 YR 5/6 (yellowish brown), nonplastic, poorly sorted	1200
					1						
					2						
					3						
					4						
		Downhole Hammer			5		D	S	O	Same as above	1115
					6						
					7						
					8						
					9						
U	3				10		M	S	O	Fine - med sand w/gravels, 10 YR 4/3 (dark brown), nonplastic, poorly sorted	1220
					1						
					2						
					3						
					4						
U	4				15		M	S	O	Med - coarse sand w/gravels, 10 YR 4/3 (dark brown), nonplastic poorly sorted	1230
					6						
					7						
					8						
U	5				9		M	L	O	Fine - med sand, 10 YR 5/6 (yellowish brown), nonplastic, well sorted,	1245
					20						

FIELD BOREHOLE LOG

BOREHOLE NUMBER: [illegible]

PROJECT NUMBER: [illegible]
PROJECT NAME: [illegible] DOA Landfill
LOCATION: DOA Landfill II
DRILLING COMPANY: Denning Well Drilling, Inc.
RIG TYPE & NUMBER:
DRILLING METHOD: 10" Hollow Stem Auger
WEATHER: Snowing, very cold, very poor visibility
FIELD PARTY: Jody and Dan Denning
GEOLOGIST: John Jaacks, III and Brett Freier
DATE BEGUN: 12/17/87 DATE COMPLETED: 12/17/87

FIELD BOOK NO.:
TOTAL DEPTH: [illegible] ft.
SHEET 1 OF 2

GROUNDWATER TABLE		
WD=While Drilling	AB=After Boring	
Depth(ft)		
Time		
Date		

Location Diagram:

Sampling Method	Sample No.	Blow Count	Loc. Sampled	Recovery	Depth in Feet	Soil Graph	Moisture	Consistency	Organic Vapor	Description:	Time
					0						
					1						
					2						
U	61				23		M	L	0	Same as 20 ft.	1255
					4						
U	[illegible]				25		M	S	0	Clay, 10 YR 6/6 (brownish yellow), very plastic. CH	1326
					6					Very dense	
					7						
					8						
					9						
U	3				30				0	Same as 25 ft	1340
U	9				31				0	Basalt, 10 YR 2/1 (black), vesicular	1355
					2						
					3						
					4						
					5						
					6						
					7						
					8						
					9						
					0						

FIELD BOREHOLE LOG

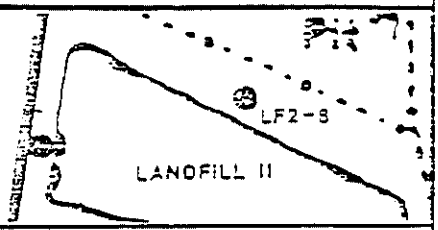
BOREHOLE NUMBER: LF2-8

PROJECT NUMBER [illegible]
PROJECT NAME EG&G, INEL, DOE Landfills
LOCATION DOE Landfill II
DRILLING COMPANY Denning Well Drilling, Inc.
RIG TYPE & NUMBER Auger
DRILLING METHOD Hollow Stem Auger
WEATHER 25°F, windy, overcast
FIELD PARTY Jody and Dan Denning
GEOLOGIST John Jaacks, III and Brent Freier
DATE BEGUN 12/18/87 DATE COMPLETED 12/18/87

FIELD BOOK NO. 2
TOTAL DEPTH 11 ft.
SHEET 1 OF 1

GROUNDWATER TABLE		
WD=While Drilling	AB=After Boring	
Depth(ft) N/A		
Time		
Date		

Location Diagram:



Sampling Method	Sample No.	Blow Count	Loc. Sampled	Recovery	Depth in Feet	Soil Graph	Moisture	Consistency	Organic Vapor	Description:	Time:
					0		D	S	O	Fine sand w/trace silt, well sorted, nonplastic 10 YR 7/2	
U	1				1					(pinkish gray)	
										SM	
					2						
					3						
					4						
					5		W	S	O	Same as above 10 YR 5/4 (yellowish brown), frozen	
					6						
					7						
					8						
					9						
					10		M	H	O	Clay, very plastic, 10 YR 7/4 (very pale brown), CH	
U	3										
					1					Basalt, 10 YR 2/1 (black), vesicular	
					2						
					3						
					4						
					5						
					6						
					7						
					8						
					9						
					0						

FIELD BOREHOLE LOG

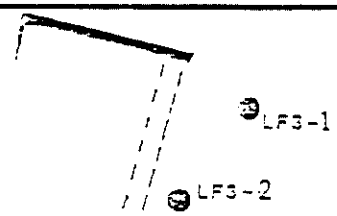
BOREHOLE NUMBER: LF3-1

PROJECT NUMBER: 2-817-07-667-00
PROJECT NAME: EG&G INEL OPA Landfills
LOCATION: OPA Landfill III
DRILLING COMPANY: Dennings Well Drilling Inc.
RIG TYPE & NUMBER:
DRILLING METHOD: 10" Hollow Stem Auger
WEATHER: Cold, clear, windy
FIELD PARTY: Jody and Dan Dennings
GEOLOGIST: John Jaacks, III and Brett Freier
DATE BEGUN: 12/10/87 DATE COMPLETED: 12/10/87

FIELD BOOK NO.:
TOTAL DEPTH: 18 ft.
SHEET 1 OF 1

GROUNDWATER TABLE			
WD=While Drilling	AB=After Boring		
Depth(ft)			
Time			
Date			

Location Diagram:



Sampling Method	Sample No.	Blow Count	Loc. Sampled	Recovery	Depth in Feet	Soil Graph	Moisture	Consistency	Organic Vapor	Description	Time
U	1				0		W		0	Silty fine sand w/gravel and pebbles, 10 YR 5/3 (brown), frozen soil	1410
					1					SM-GW	
										Subangular - subround	
					2						
					3						
					4						
U	2				5		D	L	0	Same as 0 ft sample, except not frozen	1431
					6						
					7						
					8						
					9						
U	3				10		D	L	0	Coarse sand w/gravels and pebbles, 10 YR 6/3 (pale brown), non-plastic, poorly sorted.	1450
					1					SP-GW	
										Subangular - subround	
					2						
					3						
					4						
U	4				15		D	L	0	Gravels and pebbles w/coarse sand, 10 YR 6/3 (pale brown), non-plastic, well sorted	1530
					6					GW-SP	
					7					Subangular - subround	
					18					BASALT, 10 YR 2/1 (black), vesicular	
					9					BASALT	
										BASALT	
										BASALT	
					20					BASALT	

FIELD BOREHOLE LOG

BOREHOLE NUMBER: LF3-2

PROJECT NUMBER 12-817-07-667-00
PROJECT NAME EG&G/INEL CFA Landfills
LOCATION CFA Landfill III
DRILLING COMPANY Denning Well Drilling Inc.
RIG TYPE & NUMBER
DRILLING METHOD 10" Hollow Stem Auger
WEATHER Cold, clear, windy
FIELD PARTY Jody and Dan Denning
GEOLOGIST John Jaacks, III and Brett Freier
DATE BEGUN 12/11/87 DATE COMPLETED 12/11/87

FIELD BOOK NO.
TOTAL DEPTH 26.5 ft.
SHEET 1 OF

GROUNDWATER TABLE			
WD=While Drilling		AB=After Boring	
Depth(ft)			
Time			
Date			

Location Diagram: LF3-1, LF3-2

Sampling Method	Sample No.	Blow Count	Loc. Sampled	Recovery	Depth In Feet	Soil Graph	Moisture	Consistency	Organic Vapor	Description	Time
					0		M	S	O	Silty, fine sand w/ gravels, 10 YR 8/4 (very pale brown), non-plastic, poorly sorted, subangular - subrounded	1220
U	1				1					SW	
					2						
					3						
					4						
					5		D	S	O	Silty fine - medium sand w/gravels, 10 YR 5/3 (brown), non-plastic, poorly sorted	1245
U	2				6					SM-GW	
					7					Subangular - subrounded	
					8						
					9						
					10		D	S	O	Silty fine - medium sand and gravels, 10 YR 5/9 (brown), non-plastic, poorly sorted.	1300
U	3				1					SM-GW	
					2					Subangular - subrounded	
					3						
					4						
					15		D	S	O	Same as above	1320
U	4				6						
					7					CHEM SAMPLE: Silty fine sand w/ clay and gravels 10 YR 5/3 (brown), non-plastic, poorly sorted.	1349
U	5				8					SP-SC-GW	
					9					Subangular - subrounded	
					20		W	M	O	Clay, very plastic 10 YR 4/6 (very yellowish brown) CH	1400

FIELD BOREHOLE LOG

BOREHOLE NUMBER: LF3-2

PROJECT NUMBER: [illegible]
PROJECT NAME: EG&G/INEL Landfill - OFA
LOCATION: [illegible]
DRILLING COMPANY: Denning Well Drilling, Inc.
RIG TYPE & NUMBER:
DRILLING METHOD: 10" Hollow Stem Auger
WEATHER: Cold, windy, clear
FIELD PARTY: Jody and Dan Denning
GEOLOGIST: John Jaacks, III and Brett Freier
DATE BEGUN: 12/10/87 DATE COMPLETED: 12/10/87

FIELD BOOK NO.:
TOTAL DEPTH: 26.5 ft.
SHEET 2 OF 2

GROUNDWATER TABLE		
WD=While Drilling	AB=After Boring	
Depth(ft)		
Time		
Date		

Location Diagram:

Sampling Method	Sample No.	Blow Count	Loc. Sampled	Recovery	Depth in Feet	Soil Graph	Moisture	Consistency	Organic Vapor	Description:	Time
					20		M	S	O	Clay w/basalt in bottom	1410
U	6									CH very plastic 7.5 YR 5/4 (brown)	
					1						
					2						
					3						
					4						
					5						
					26					Basalt	1438
					7						
					8						
					9						
					30						
					1						
					2						
					3						
					4						
					5						
					6						
					7						
					8						
					9						
					0						

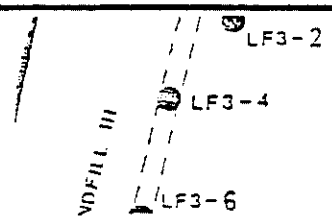
	FIELD BOREHOLE LOG	BOREHOLE NUMBER: LF3-4

PROJECT NUMBER [illegible]
PROJECT NAME 8010 INEL Landfills-OFA
LOCATION OFA Landfill III
DRILLING COMPANY Denning Well Drilling Inc.
RIG TYPE & NUMBER
DRILLING METHOD 10" Hollow Stem Auger
WEATHER Very cold, clear, windy
FIELD PARTY Jody and Dan Denning
GEOLOGIST John Jeacks and Brett Freier
DATE BEGUN 12/12/87 DATE COMPLETED 12/12/87

FIELD BOOK NO.
TOTAL DEPTH 11.5 ft.
SHEET 1 OF 1

GROUNDWATER TABLE		
WD=While Drilling		AB=After Boring
Depth(ft)		
Time		
Date		

Location Diagram:



Sampling Method	Sample No.	Blow Count	Inc. Sampled	Recovery	Depth in Feet	Soil Graph	Moisture	Consistency	Organic Vapor	Description	Time
					0		W	S	O	Silty clay w/gravels and pebbles	1300
U	1									10 YR 7/4 (very pale brown), slightly plastic, well sorted	
					1					angular to subrounded/subcrismoical to subdiscoidal	
										ML-CL-GW	
					2						
										ang - subrounded	
					3						
					4						
U	2						D	L	O	Silty fine - med - coarse sand w/gravels 10 YR 7/4 (very pale	1340
					5					brown), 10" sample sleeve, nonplastic, well sorted	
										SM-SW angular to subrounded	
					6						
					7						
					8						
					9					CHEMICAL SAMPLE	
U	3						D	L	O	fine - coarse sand w/gravels 10 YR 5/2 (grayish brown), non-	1350
					10					plastic, poorly sorted, angular to subrounded	
					11					BASALT, 10 YR 2/1 (black), vesicular	1410
					11.5						
					2						
					3						
					4						
					5						
					6						
					7						
					8						
					9						
					0						

FIELD BOREHOLE LOG

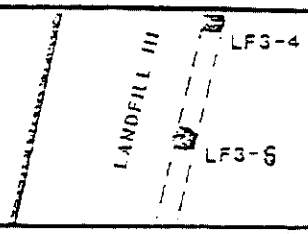
BOREHOLE NUMBER: LF3-6

PROJECT NUMBER [illegible]
PROJECT NAME [illegible]
LOCATION CFA Landfill III
DRILLING COMPANY Denning Well Drilling, Inc.
RIG TYPE & NUMBER
DRILLING METHOD 10" Hollow Stem Auger
WEATHER Very cold, clear, very windy
FIELD PARTY Jody and Dan Denning
GEOLOGIST John Jacobs and Brent Freiler
DATE BEGUN 10/14/97 DATE COMPLETED 10/14/97

FIELD BOOK NO.
TOTAL DEPTH 17 ft.
SHEET 1 OF 1

GROUNDWATER TABLE N/A		
WD=While Drilling		AB=After Boring
Depth (ft)		
Time		
Date		

Location Diagram:



Sampling Method	Sample No.	Blow Count	Loc. Sampled	Recovery	Depth in Feet	Soil Graph	Moisture	Consistency	Organic Vapor	Description	Time
U	1	Pushed			0		D	L	O	Silty fine sand w/gravel & pebbles; 7.5 YR (light brown) 6/4	1[illegible]
					1					nonplastic, poorly sorted, subangular to subrounded. SM-GW	
					2						
					3						
					4						
U	2	Drive Hammer			5		D	L	O	Medium-coarse sand w/gravel and pebbles, 7.5 YR (brown) 5/2, non-	1800
										plastic, poorly sorted, subangular to subrounded	
					6						
					7						
					8						
					9						
U	3				10		D	L	O	Same as 5 ft	1515
					11						
U	4				12		D	L	O	CHEMICAL SAMPLE Medium - coarse sand with gravels and pebbles,	
										10 YR 4/1 (dark gray), nonplastic, poorly sorted angular to sub-	
					13					rounded	
										SM-GW	
					14						
U	5				15		D	L	O	Medium - coarse sand AND gravels and pebbles	1545
										10 YR 4/1 (dark gray), nonplastic moderately sorted angular to sub-	
					16					rounded SM-GW	
					17					BASALT 10 YR 2/1 (black), vesicular	1551
					18						
					19						
					20						

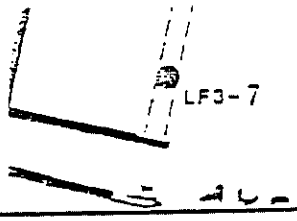
SAIC	FIELD BOREHOLE LOG	BOREHOLE NUMBER: LF3-7

PROJECT NUMBER 2-817-07-667-00
PROJECT NAME EG&G/INEL CFA Landfills Hydrogeo Characztn.
LOCATION CFA Landfill III, 2200' Line
DRILLING COMPANY Denning Well Drilling, Inc.
RIG TYPE & NUMBER
DRILLING METHOD 10" Hollow Stem Auger w/2.5" D&M Type U Split Spoon
WEATHER 20°F, windy, snow
FIELD PARTY Jody Denning, Dan Denning
GEOLOGIST John Jaacks, III & Brett Freier
DATE BEGUN 12/10/87 DATE COMPLETED 12/10/87

FIELD BOOK NO. 1
TOTAL DEPTH 12.2 ft.
SHEET 1 OF 1

GROUNDWATER TABLE			
WD=While Drilling		AB=After Boring	
Depth(ft)	N/A		
Time			
Date			

Location Diagram:



Sampling Method	Sample No.	Blow Count	Loc. Sampled	Recovery	Depth in Feet	Soil Graph	Moisture	Consistency	Organic Vapor	Description:	Time:
U	1	Pushed			0		D	D	0	Sample 1: (at Location A) brown sandy gravel w/tr silt, GP, dry, dense, nonplastic, no discernible odor, 5 YR 4/4, reddish brown - encountered landfill debris at 3-5 feet in attempts to drill at Locations A through D; moved to Location E at direction of Dr. Larry Hull; encountered landfill debris at 5 feet; moved east 5" to final location.	
		Downhole Hammer			1						
					2						
					3						
					4						
U	2	Downhole Hammer			5					Sample 2: Same as above.	
					6						
					7						
					8						
					9						
U	3	Downhole Hammer			10					Sample 3: Black vesicular basalt, no sample retained; drilled to total depth w/air rotary using 6" tricone bit.	
					1						
					2					Total Depth = 12.2'	
					3						
					4						
					5						
					6						
					7						
					8						
					9						
					0						

Native fill

Silica flour

Bentonite

H343 Heat dissipation block

S11632 Salinity probe

Gas sampling port

8-1524

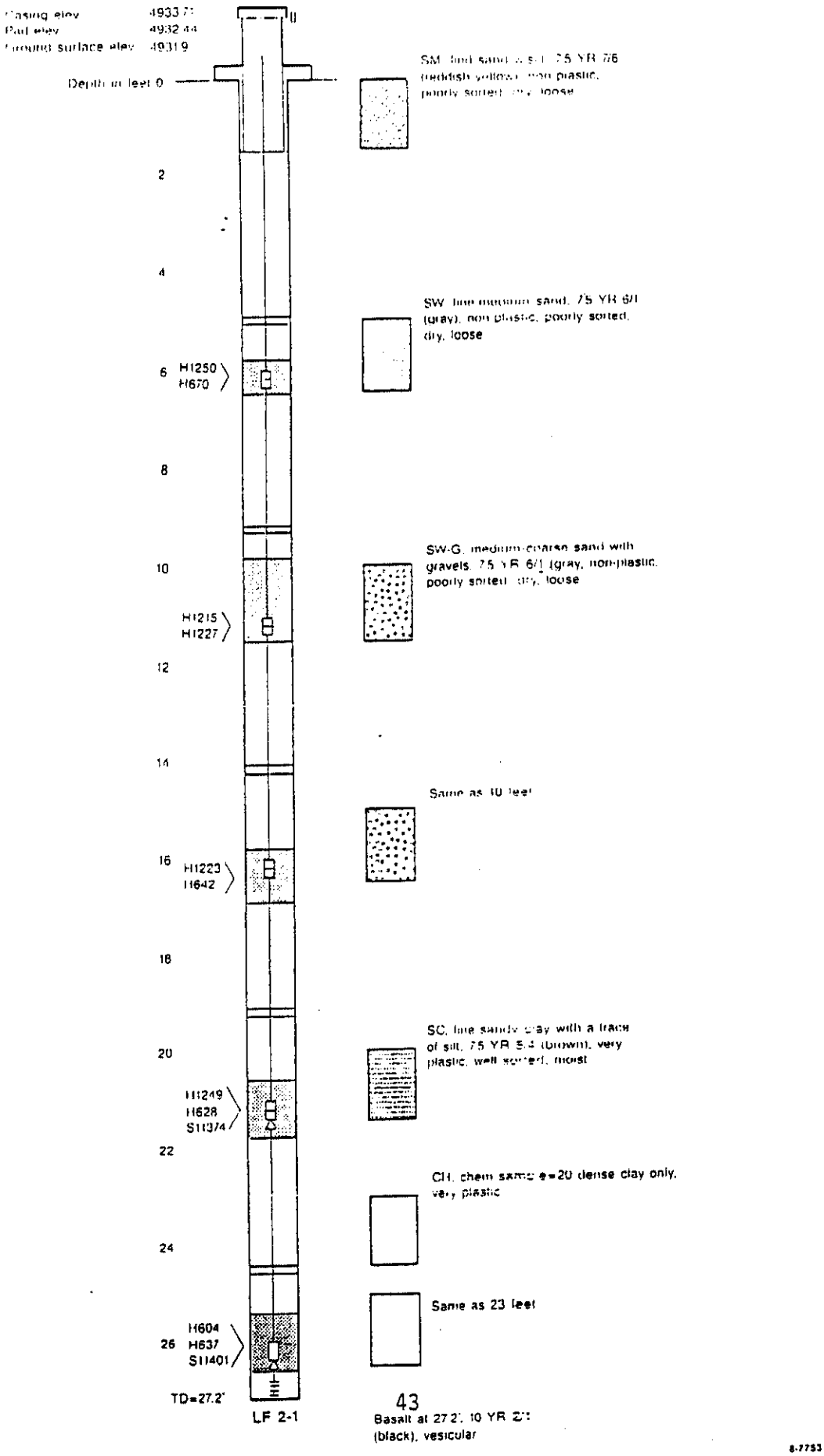


Figure 1. Instrumentation for borehole LF2-1.

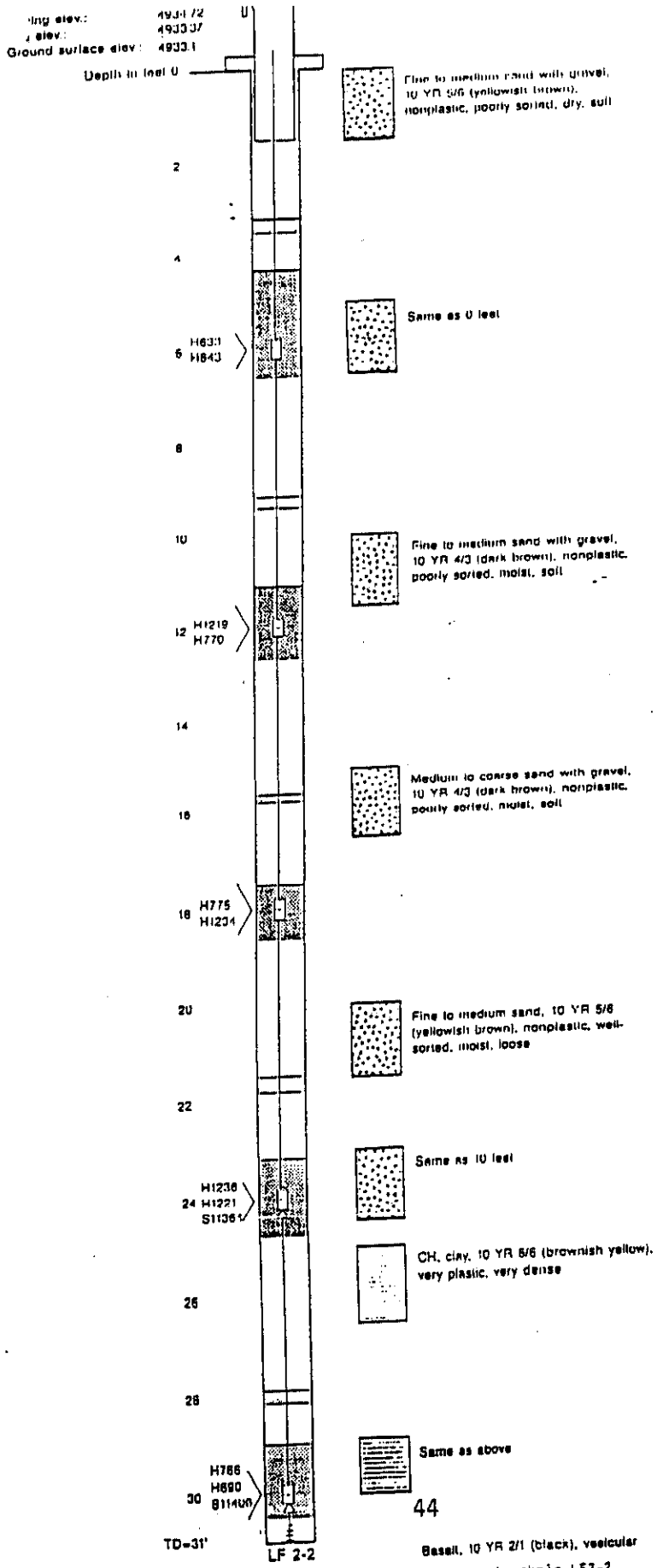


Figure 7. Instrumentation for borehole LF2-2.

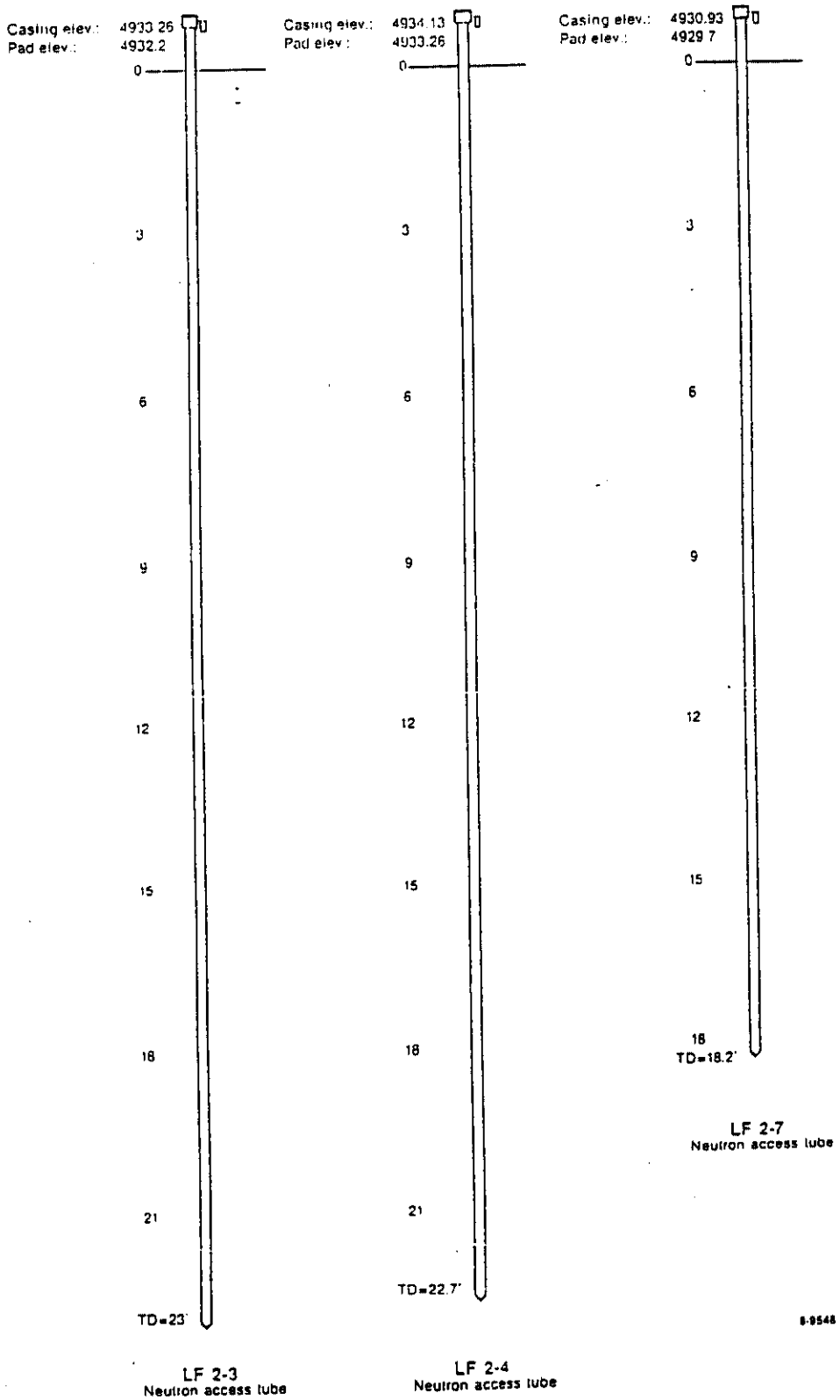


Figure 3. Neutron access tubes LF2-3, LF2-4, and LF2-7.

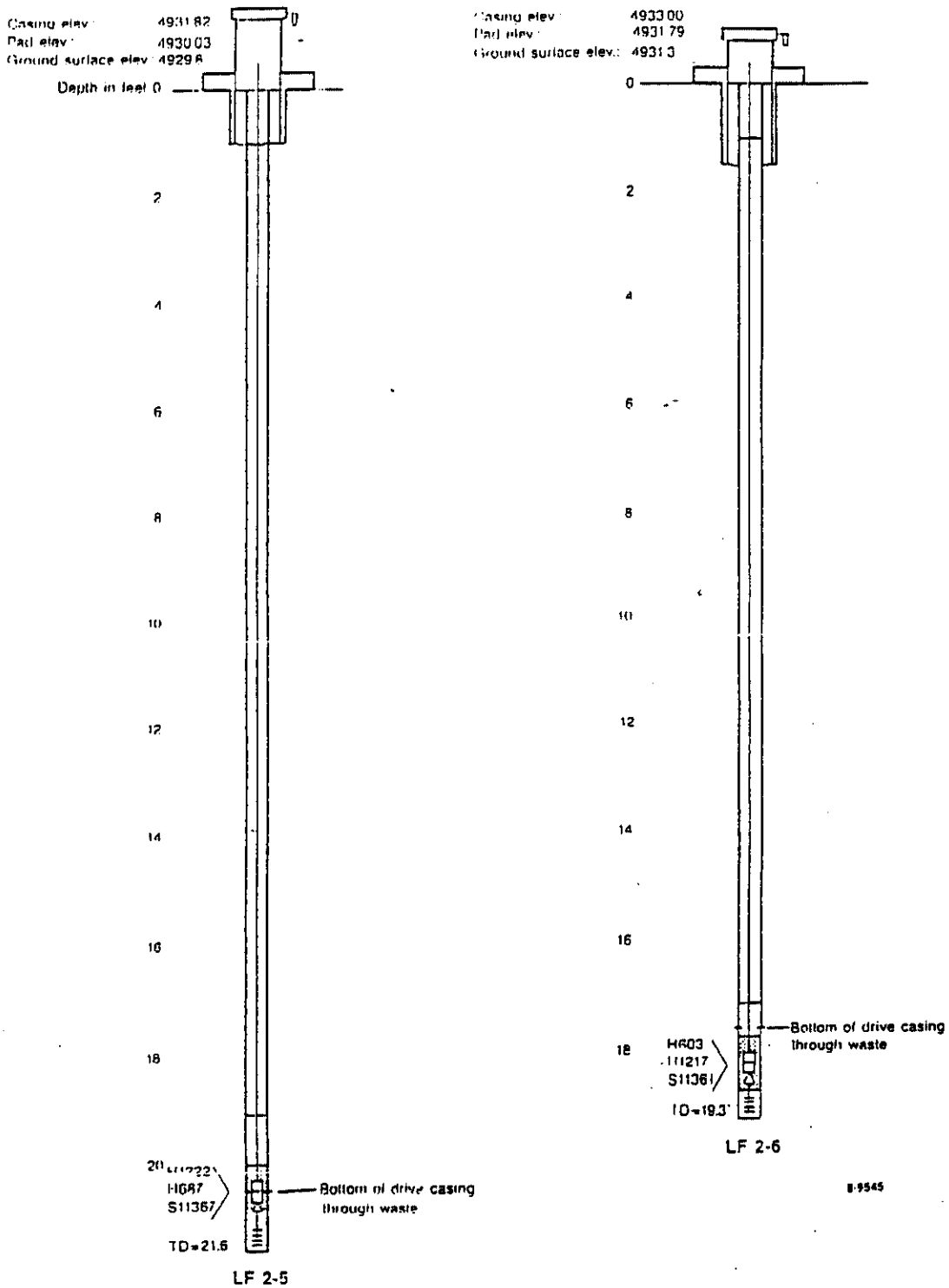


Figure 4. Bottoms of drive casings through waste for boreholes LF2-5 and LF2-6.

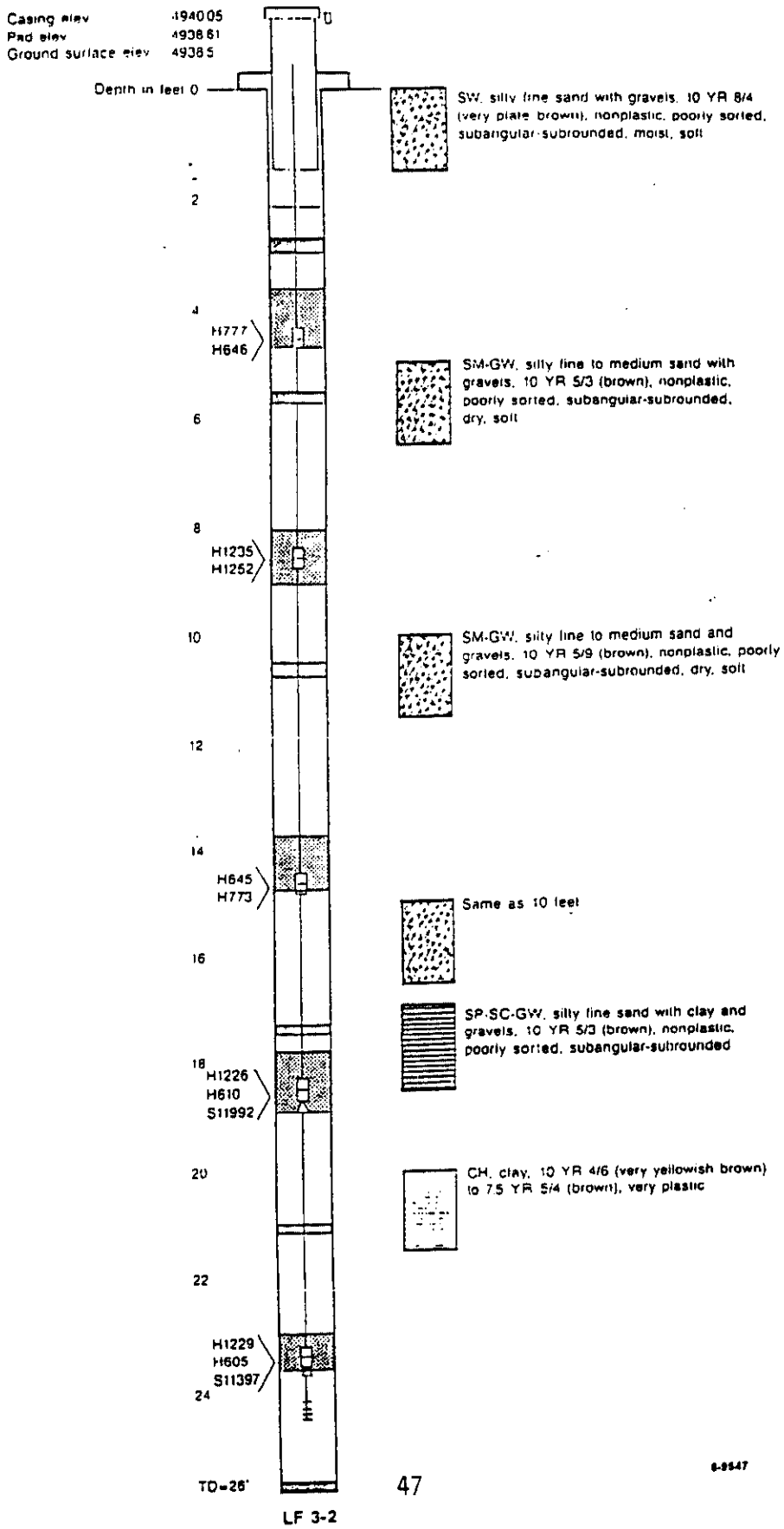


Figure 5. Instrumentation for borehole LF3-2.

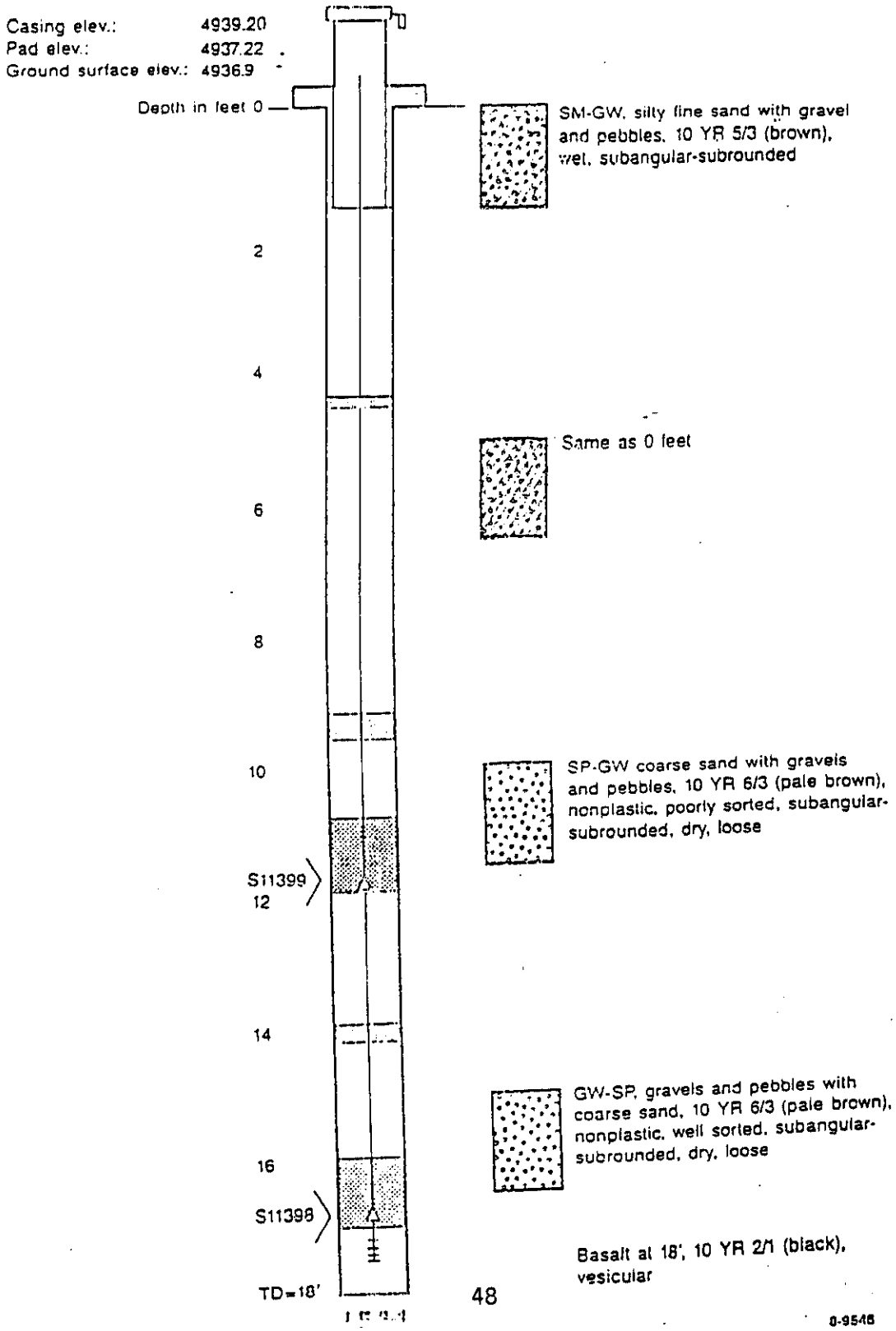


Figure 6. Instrumentation for borehole LF3-1.

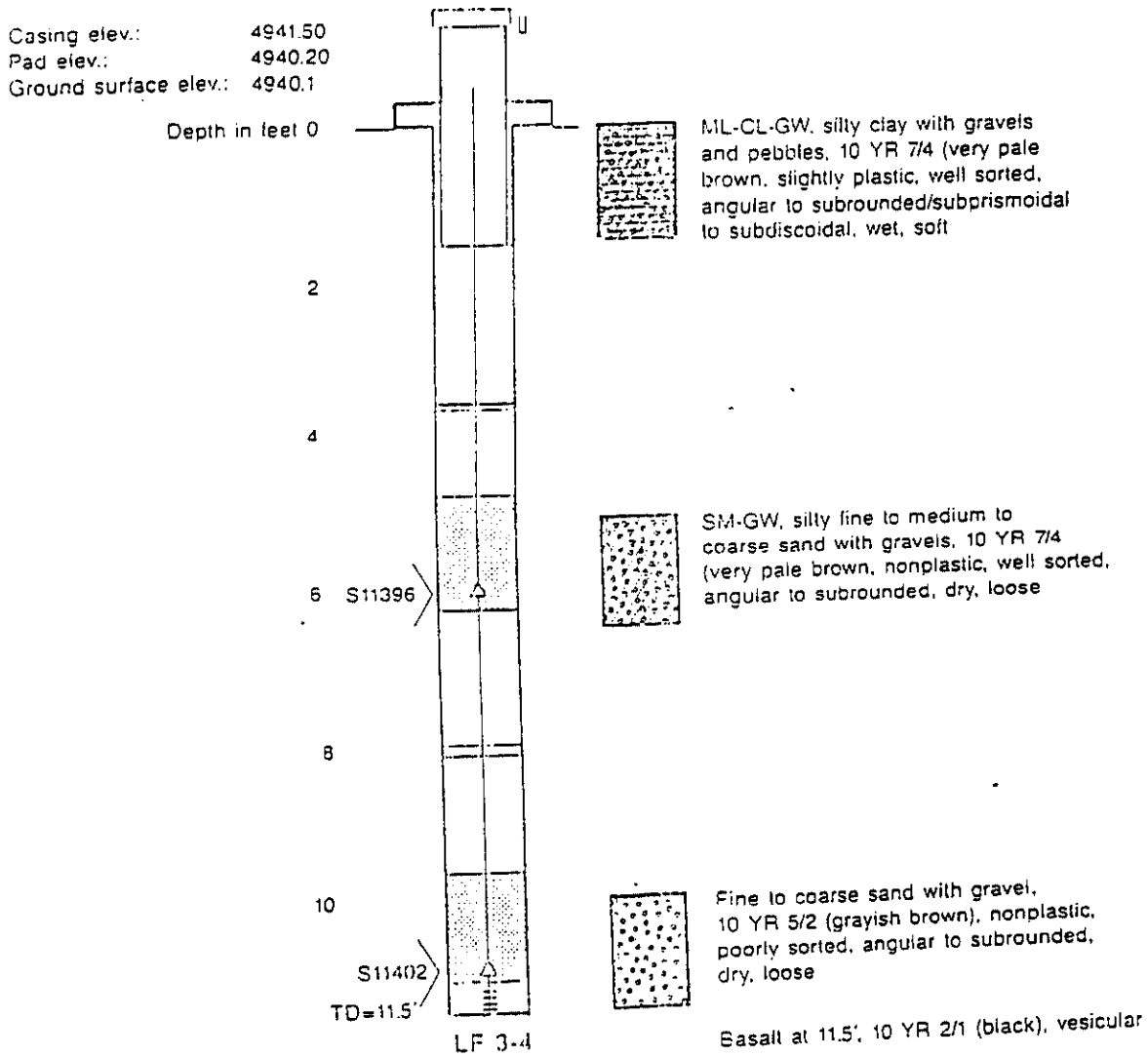


Figure 7. Instrumentation for borehole LF3-4.

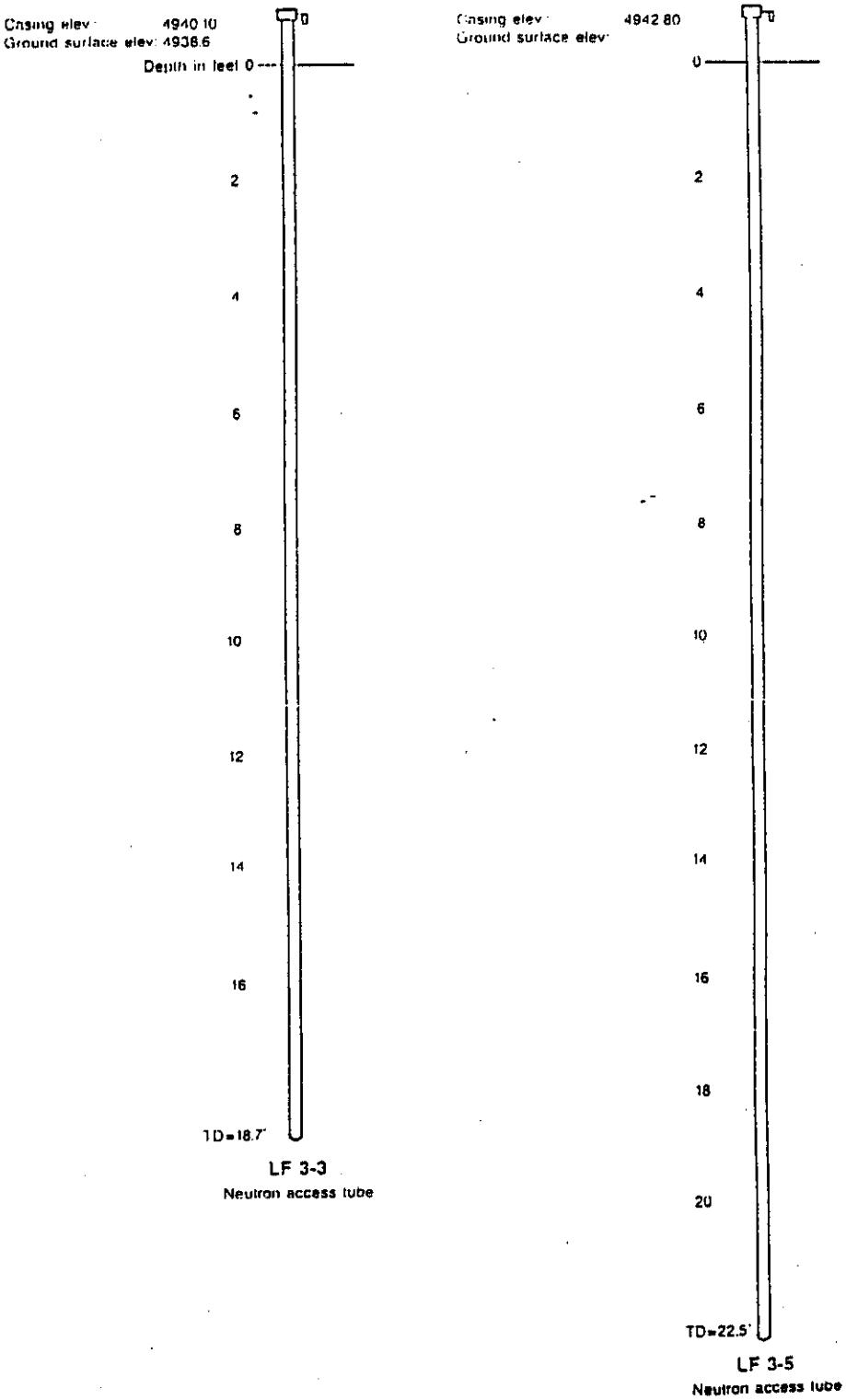


Figure -8. Neutron access tubes LF3-3 and LF3-5.

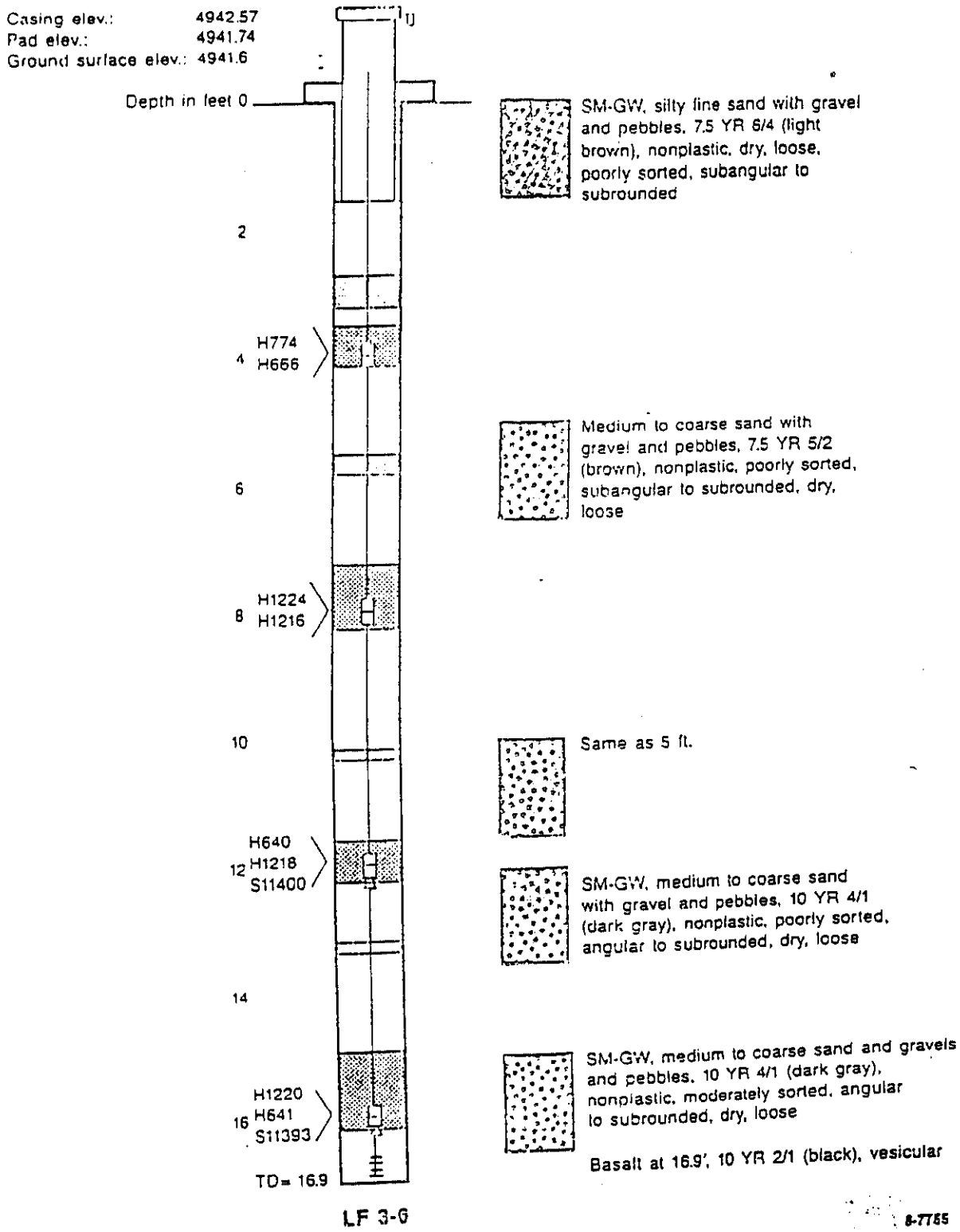


Figure -9. Instrumentation for borehole LF3-4.

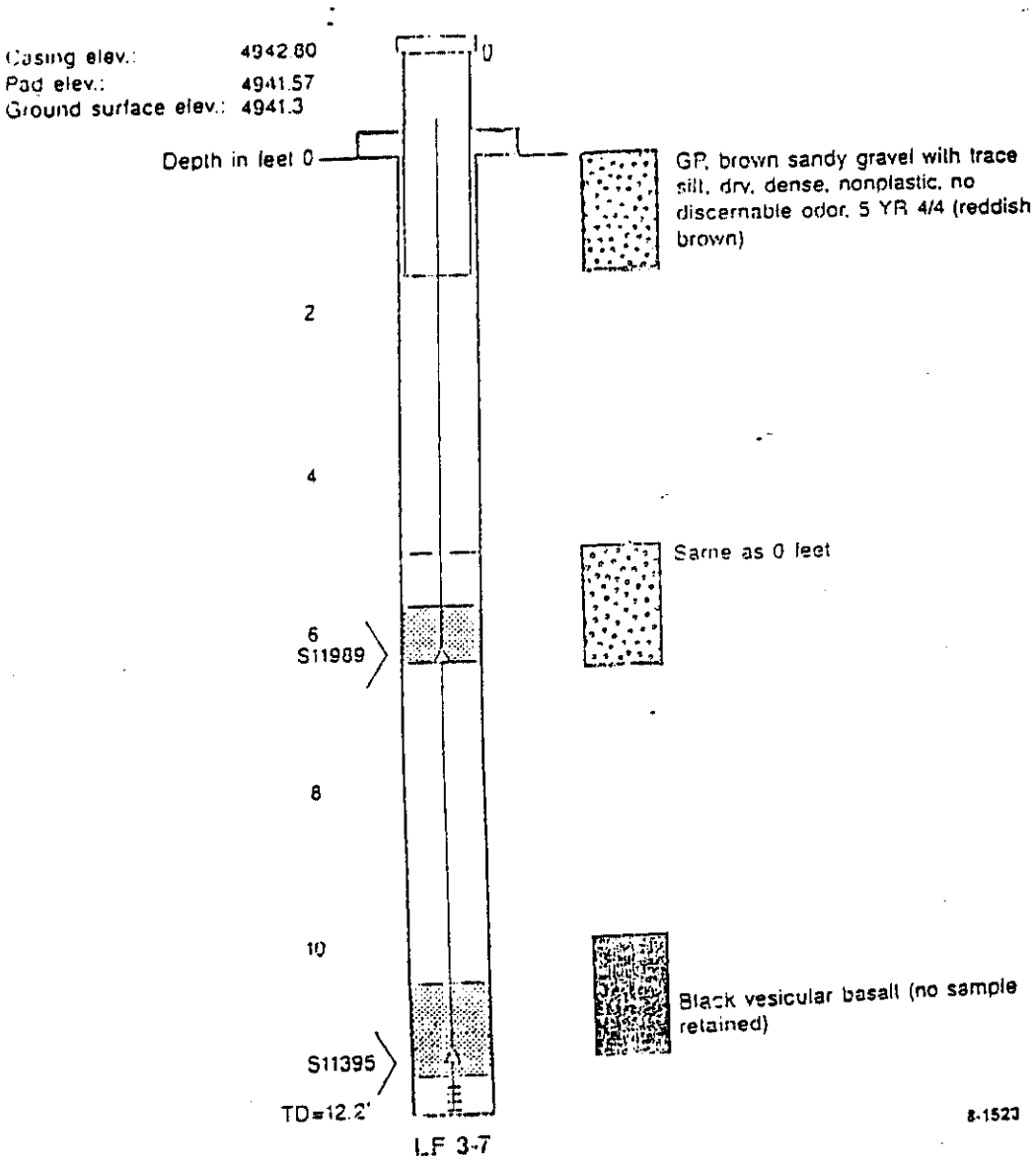


Figure 10. Instrumentation for borehole LF3-7.

ATTACHMENT J

Soil Gas Data for CFA Landfills II and III

Sample	Depth	Sample Type	Date	CH2Cl2 (ug/l)	TCA (ug/l)	CCl4 (ug/l)	TCE (ug/l)	PCE (ug/l)	CH4 (ug/l)	Benzene (ug/l)	Total Hydroc. (ug/l)	3 (ug/l)
LF-02-01	27′	SP	05-13	<0.07	0.4	0.07	0.2	0.5	81	<0.03	0.8	0.05
LF-02-02	31′	SP	05-13	<0.07	1	<0.0002	0.6	2	10	<0.03	1	0.02
LF-02-05	22′	SP	05-13	<0.07	0.5	<0.0002	12	4	40,000	66	180	<0.002
LF-02-06	19′	SP	05-13	<0.07	0.9	<0.0002	6	2	14,000	130	200	0.2
LF-02-07 #2			05-16	<2	0.02	0.4	0.08	0.06	N/A	<1	38	0.8
LF-02-08	450′	MW	05-13	<0.02	0.08	0.04	0.02	0.008	4	<0.03	0.06	0.1
LF-02-08 #1		Soil	05-16	<0.2	0.08	<0.0002	0.06	0.08	N/A	<1	60	<0.004
LF-02-08 #2		Soil	05-16	<0.2	0.08	<0.0002	0.06	0.08	N/A	<1	58	<0.004
LF-02-09	450′	MW	05-13	<0.04	0.08	0.03	0.01	0.01	4	<0.03	0.06	0.06
LF-02-09 #3		Soil	05-16	<0.2	0.04	<0.0002	0.04	0.06	N/A	<1	34	0.1
LF-02-09 #4		Soil	05-16	<0.2	0.04	<0.0002	0.04	0.04	N/A	<1	16	0.02
LF-03-01	12′		05-17	300	12	<0.01	2	1	8	2	6	<0.03
LF-03-02	17′		05-17	280	10	<0.002	2	0.7	36	2	6	0.007
LF-03-04	11.5′	SP	05-13	<7	16	<0.002	2	2	10	<0.07	6	N/A
LF-03-06	26′	SP	05-13	<14	28	<0.04	0.2	0.7	105	<0.3	24	N/A
LF-03-07	20′	SP	05-13	<14	20	<0.009	0.8	0.2	58	<0.07	11	N/A
SG-01	5′		05-17	0.2	0.001	0.0003	0.0009	<0.00002	0.8	<0.03	<0.03	0.0002
SG-02	5′		05-17	1	0.0009	0.002	0.0006	<0.00002	2	<0.03	0.04	0.0004
SG-03	4.5′		05-17	0.9	0.02	0.0003	0.0002	0.00006	5	<0.03	0.03	<0.0001
SG-04	5′		05-17	<0.004	0.001	0.0002	0.0002	0.0002	4	<0.03	<0.03	0.0002
WS-LF-02-08	485′	W	05-16	5	0.3	<0.0001	0.03	0.008	N/A	<0.6	1	0.3
WS-LF-02-09 #1	?	W	05-16	5	0.4	<0.0001	0.05	0.01	N/A	2	12	0.2
WS-LF-02-09 #2	?	W	05-16	5	0.2	<0.0001	0.2	0.004	N/A	2	18	0.1
Ambient Air			05-13	<0.004	0.0004	0.0004	0.0003	<0.00002	1	<0.03	0.3	N/A

MW = Monitoring well
SP = Sampling ports
W = Water
N/A = Not analyzed

Figure J-1. Soil gas data from CFA Landfills boreholes (Tracer Research Inc., 1988).

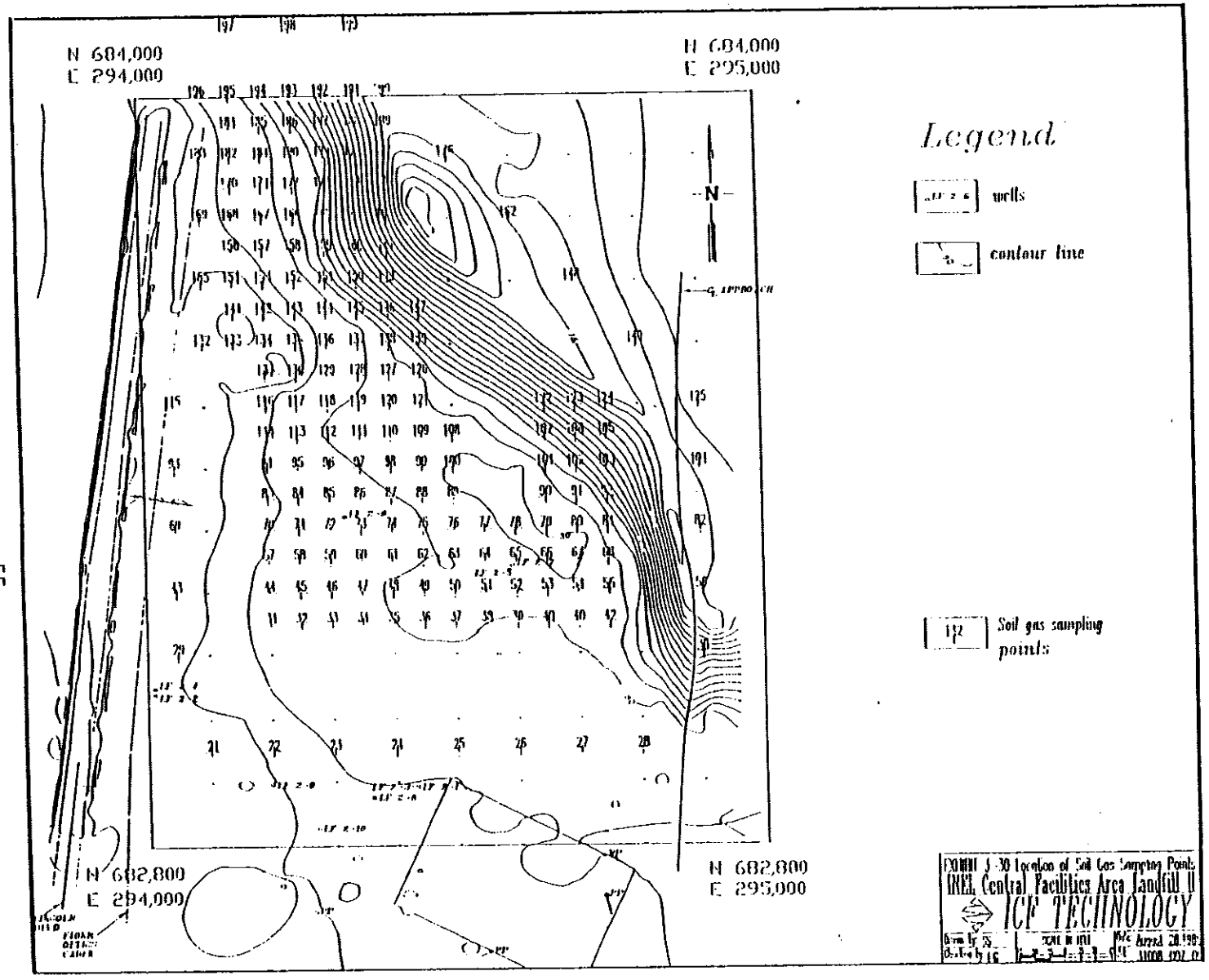


Figure J-2. Soil gas sampling points and topography on the cover of CFA Landfill II (ICF Technology Inc., 1989).

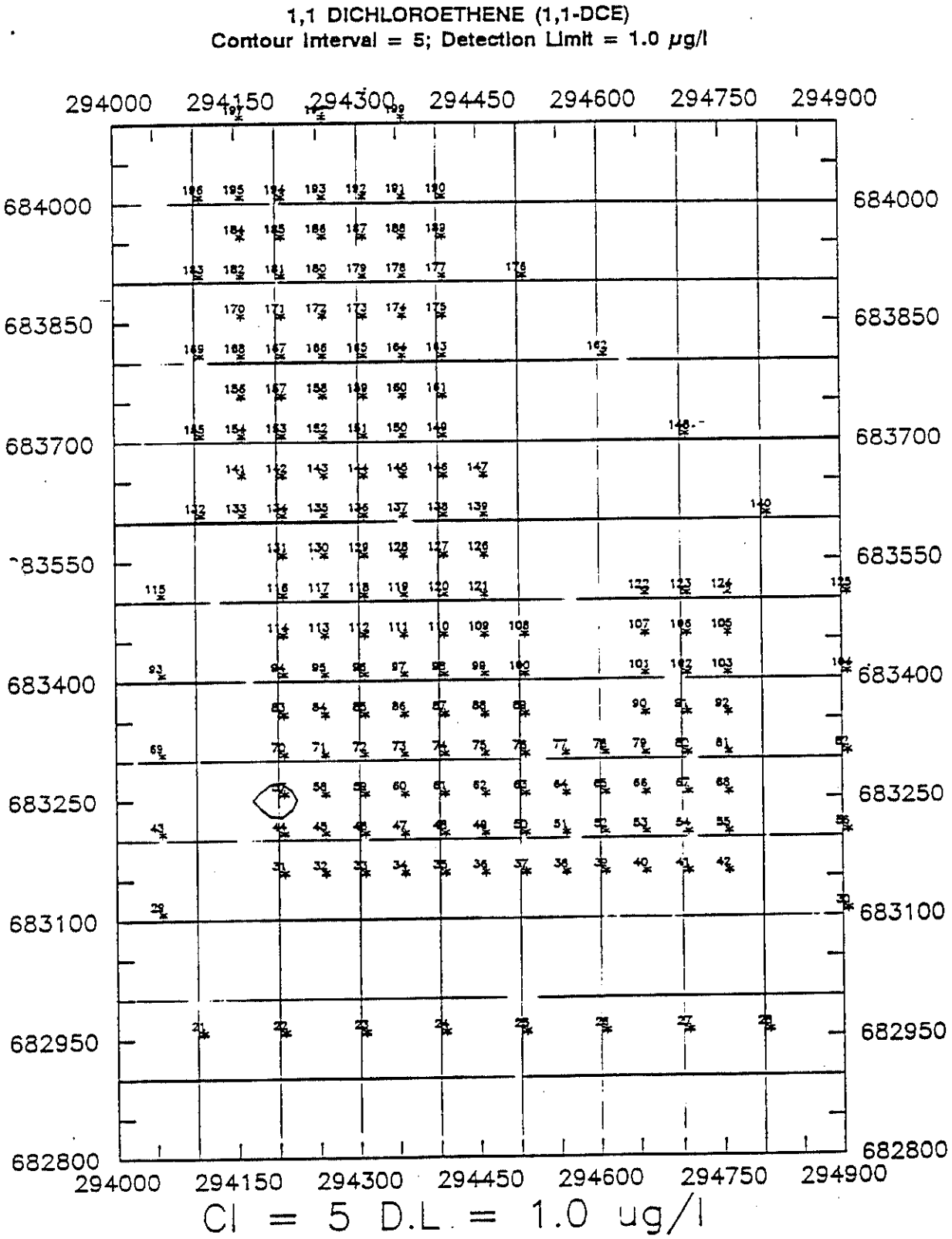


Figure J-3. Soil gas contaminant contours on the CFA Landfill II cover (ICF Technology Inc., 1989).

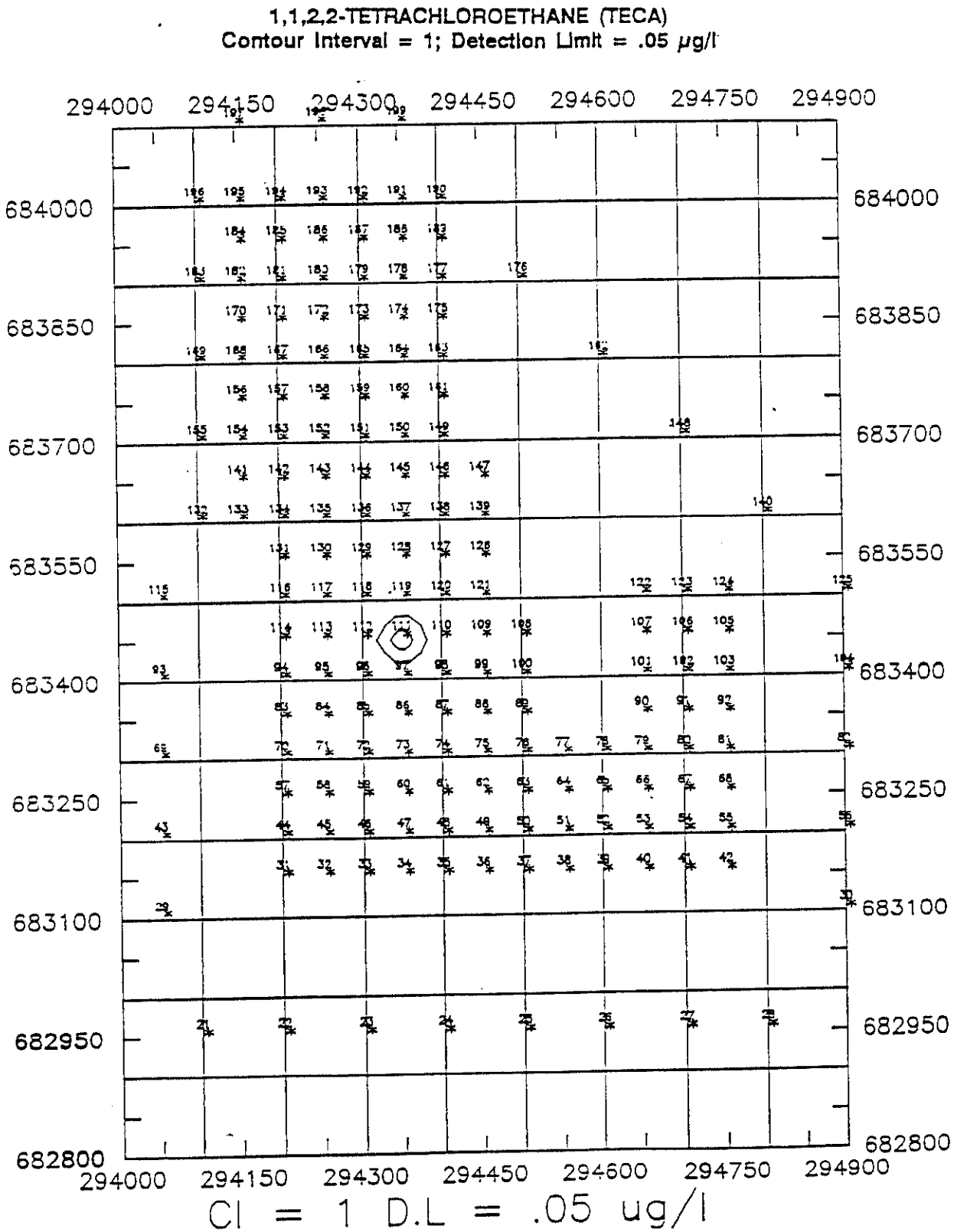


Figure J-4. Soil gas contaminant contours on the CFA Landfill II cover (ICF Technology Inc., 1989).

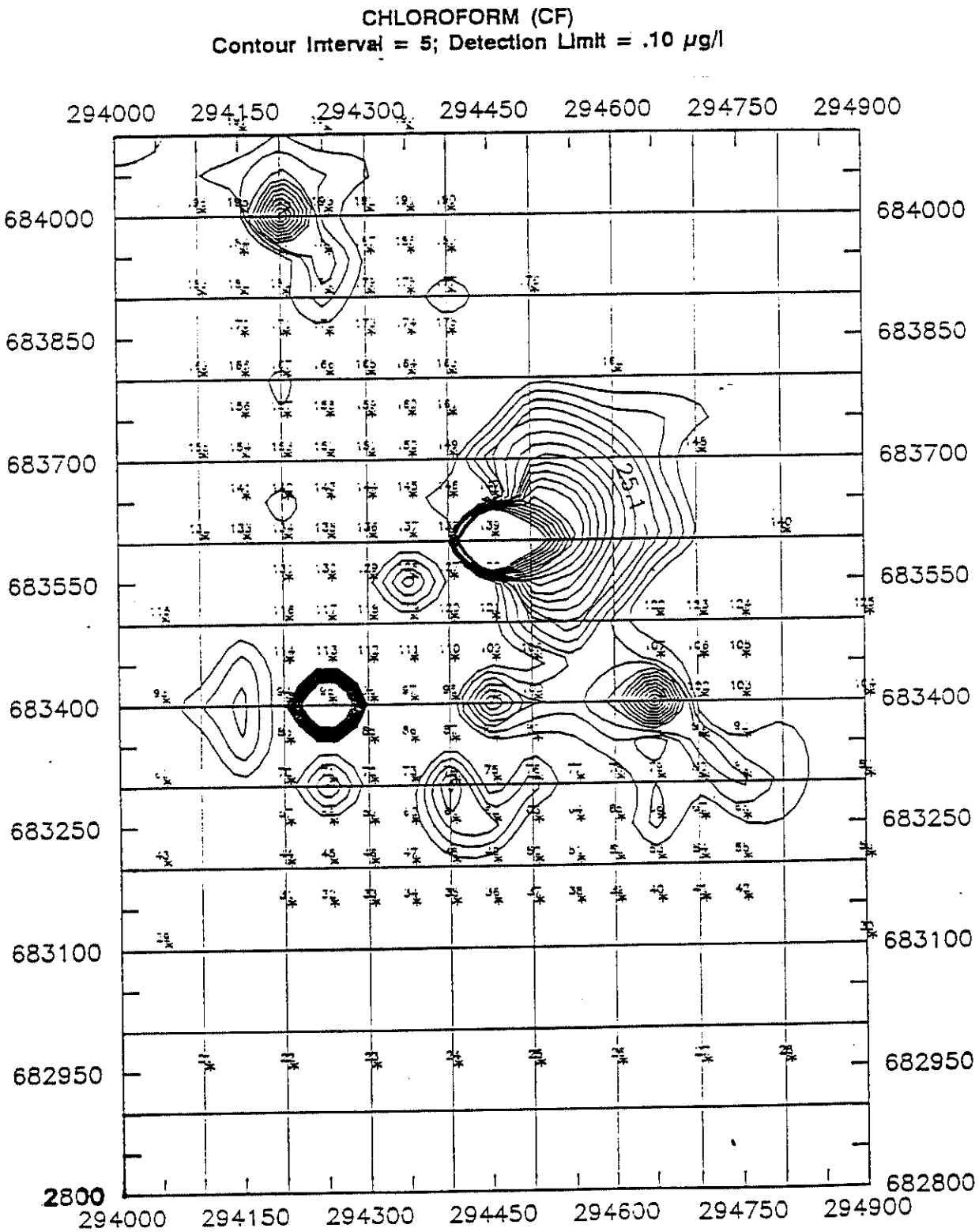


Figure J-5. Soil gas contaminant contours on the CFA Landfill II cover (ICF Technology Inc., 1989).

1,1,1-TRICHLOROETHANE (1,1,1 TCA)
Contour Interval = 10; Detection Limit = 1.0 μg/l

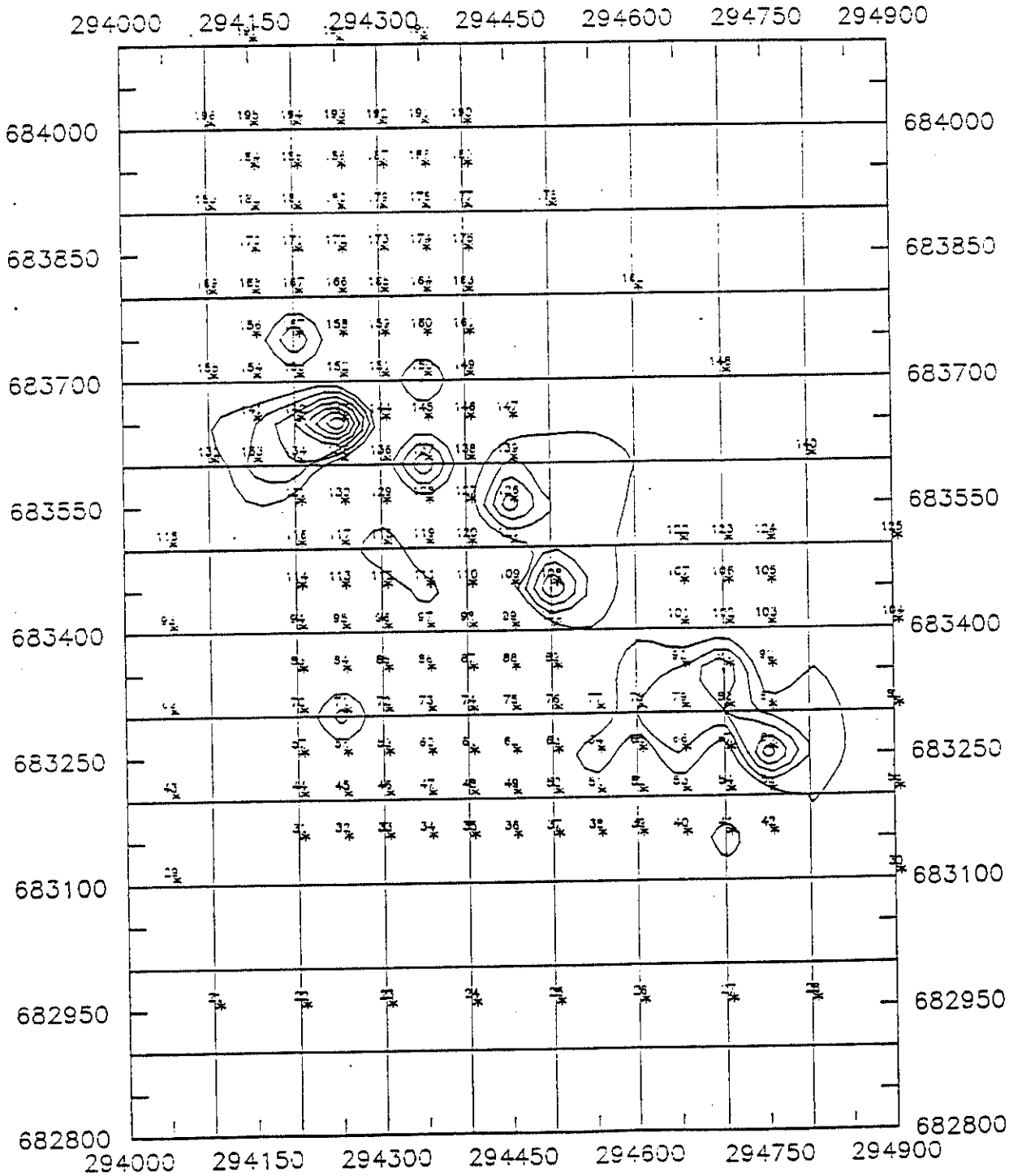


Figure J-6. Soil gas contaminant contours on the CFA Landfill II cover (ICF Technology Inc., 1989).

METHYLENE CHLORIDE (MC)
Contour Interval = 5; Detection Limit = 1.0 μg/l

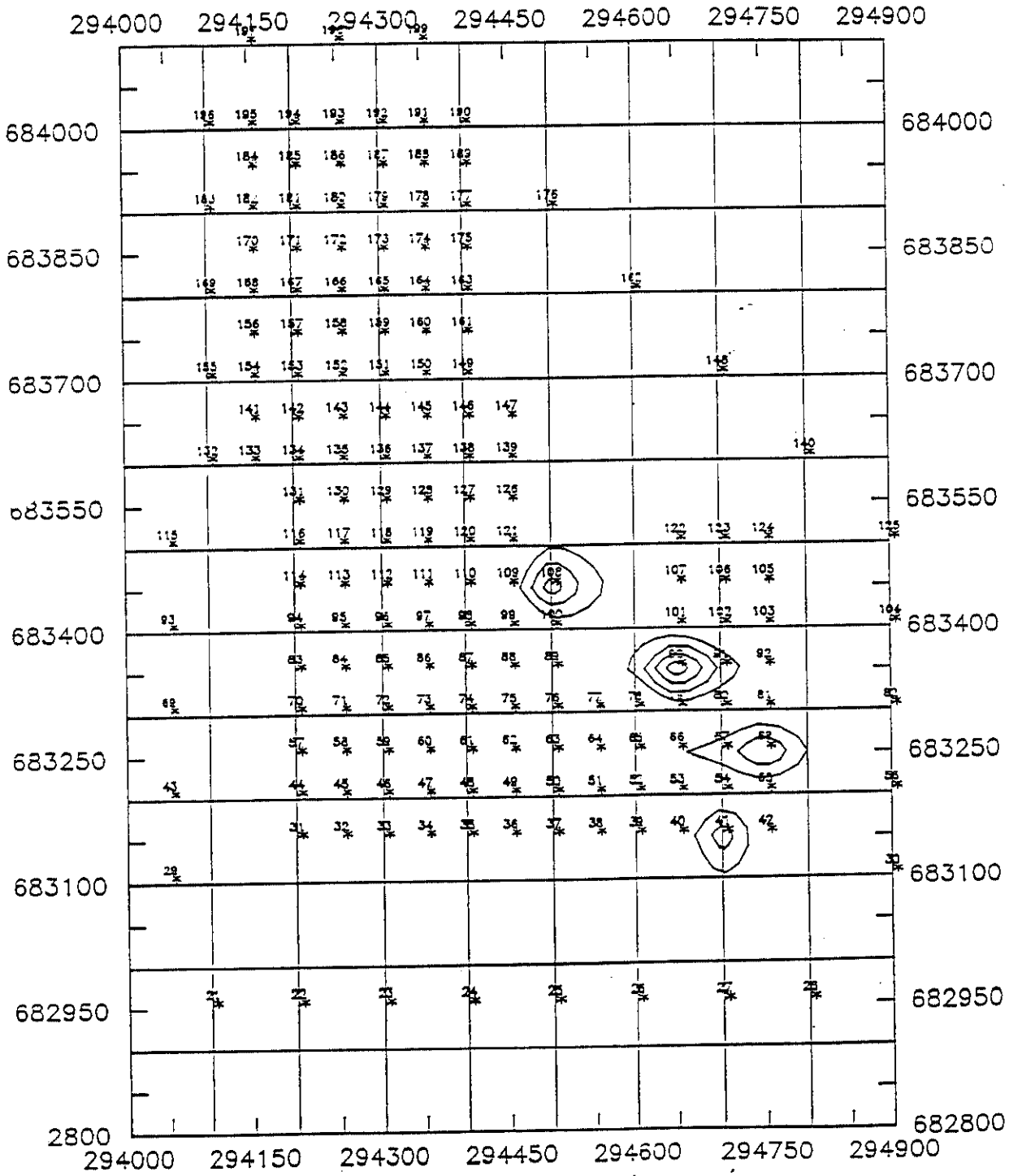


Figure J-7. Soil gas contaminant contours on the CFA Landfill II cover (ICF Technology Inc., 1989).

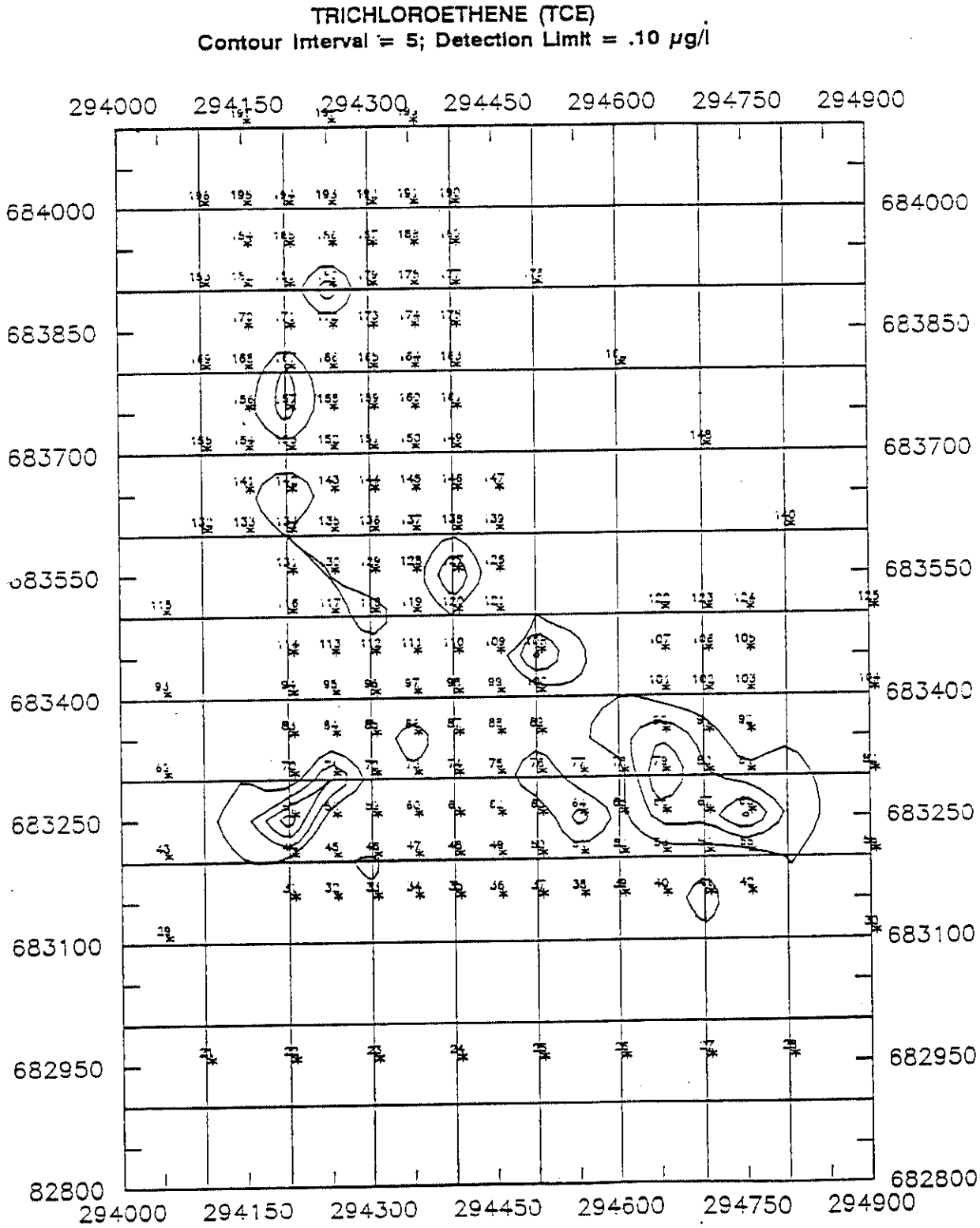


Figure J-8. Soil gas contaminant contours on the CFA Landfill II cover (ICF Technology Inc., 1989).

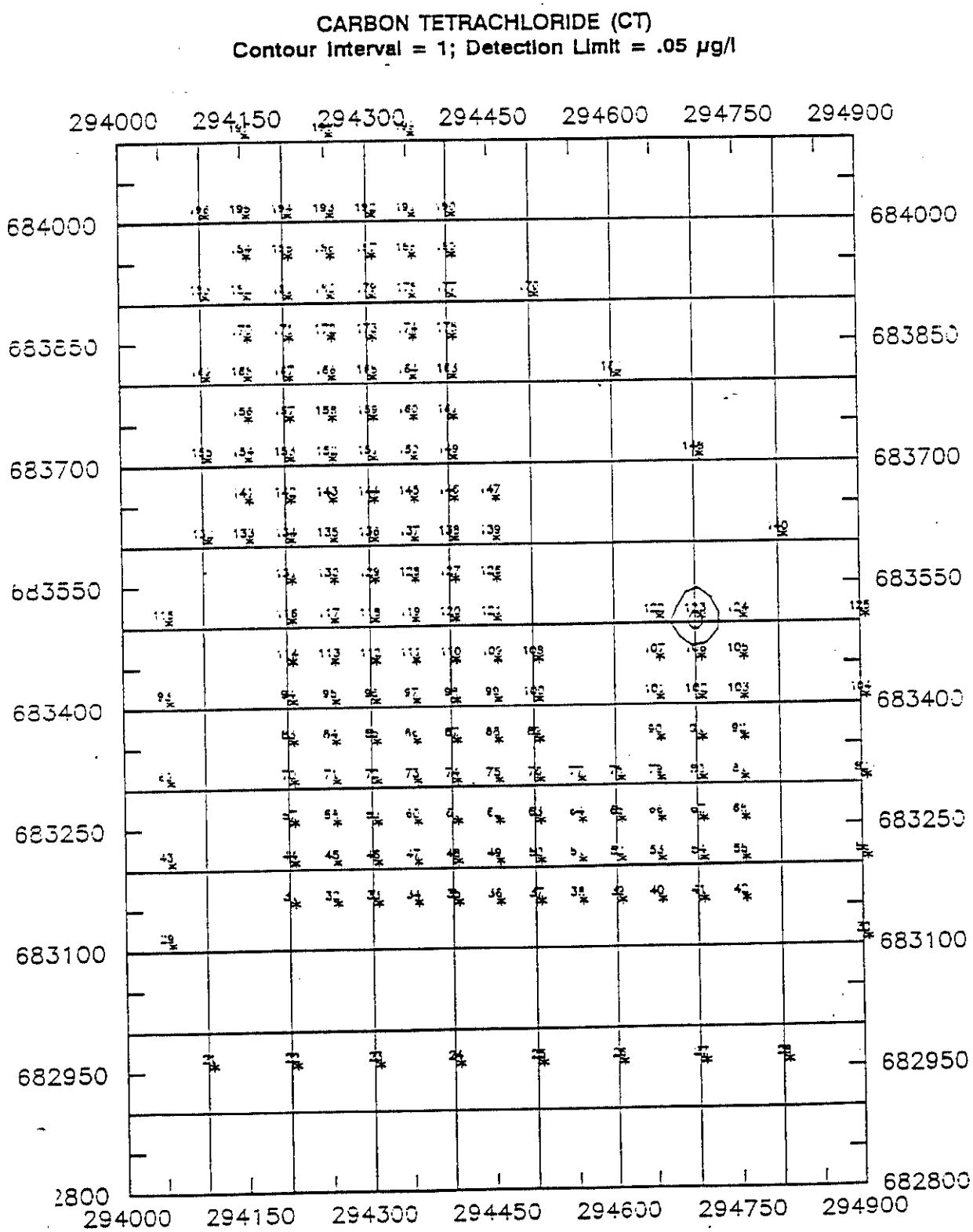


Figure J-9. Soil gas contaminant contours on the CFA Landfill II cover (ICF Technology Inc., 1989).

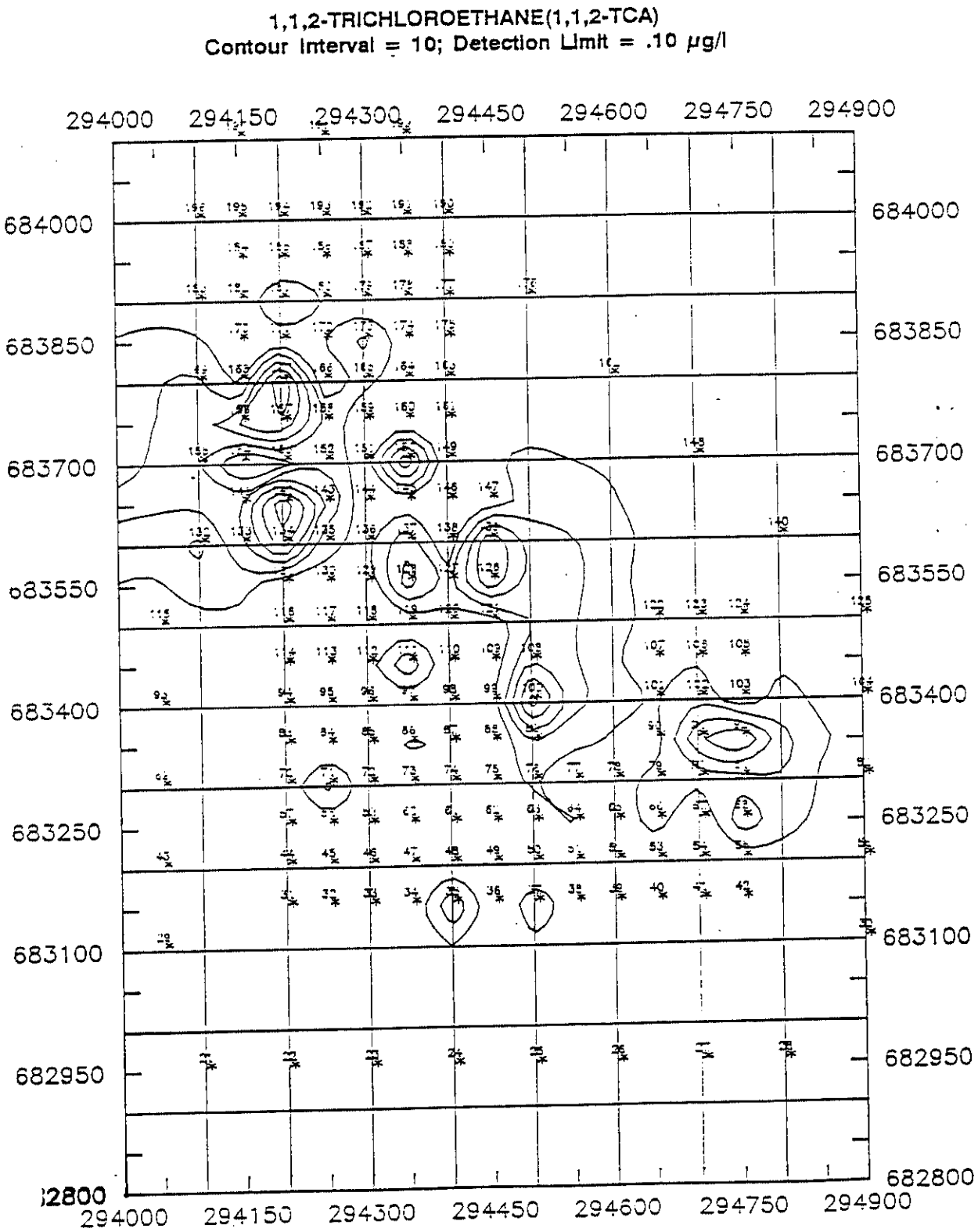


Figure J-10. Soil gas contaminant contours on the CFA Landfill II cover (ICF Technology Inc., 1989).

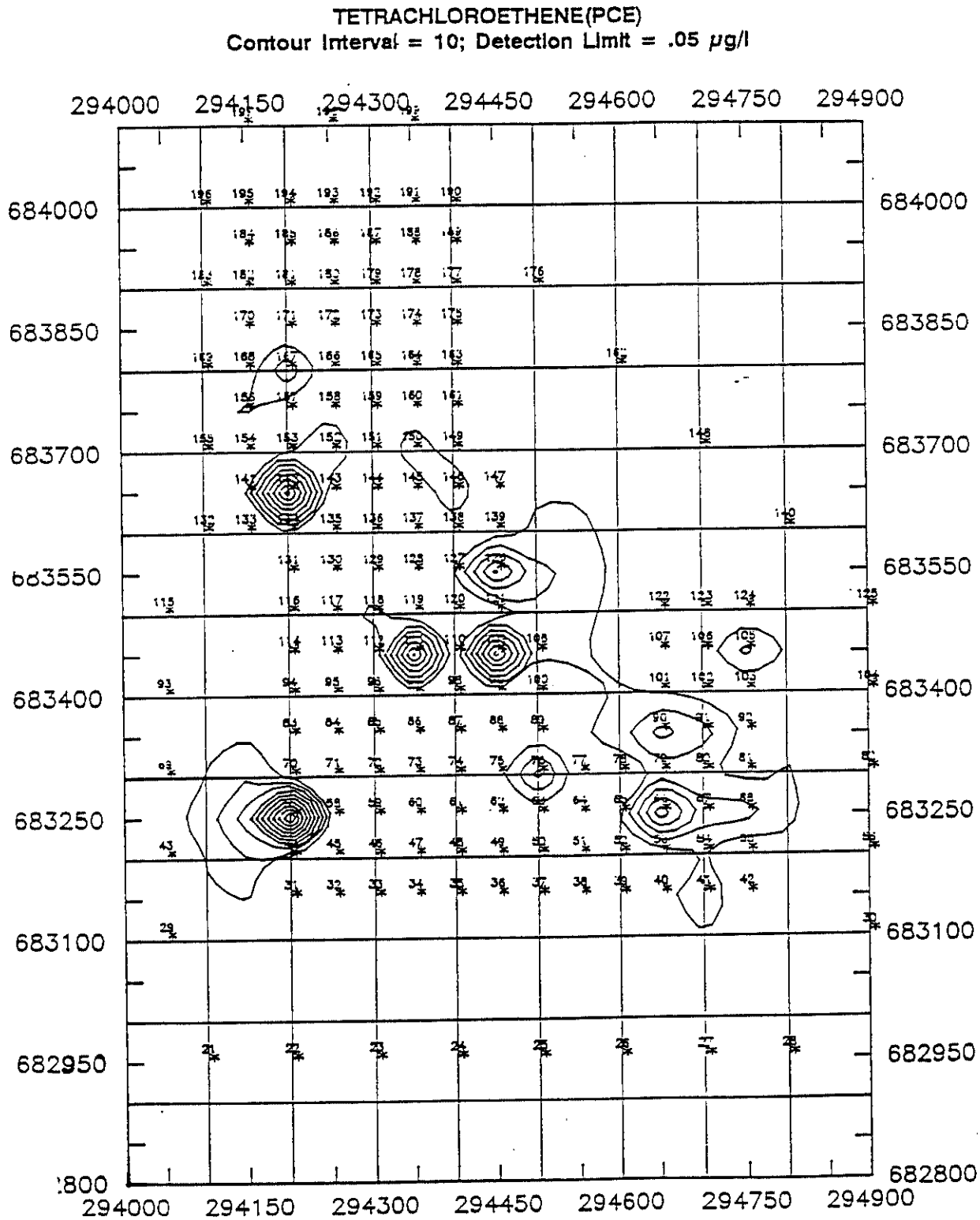


Figure J-11. Soil gas contaminant contours on the CFA Landfill II cover (ICF Technology Inc., 1989).

ATTACHMENT K

Soil Sampling Data for CFA Landfills II and III

Text in this attachment is exerpted from Ansley et al., 1988.

Chemical Analyses of the Soil Samples

Soil samples were analyzed by SAIC's San Diego Environmental Chemistry Laboratory in late 1987 and early 1988. All samples were packaged and shipped in conformance with prescribed chain-of-custody procedures and properly stored pending extraction. Eight soil samples (including 2 QA/AC splits), 2 equipment blanks, and 7 QA/QC samples (trip blanks, field blanks) were analyzed for semivolatile base/neutral acidic extractable compounds (EPA Method SW 8270), volatile organic compounds (Method SW 8240), and metals (Method SW 6010). All laboratory analyses were to have been conducted under protocols imposed by USEPA for the Contract Laboratory Program. A summary and statistical validation of the data from SAIC's laboratory was done by EG&G.

CFA Landfill II results showed levels of methylene chloride (8-60 ppb), acetone (800 ppb), and 2-butanone (73 ppb) above detection limits. All but 2-butanone were also found in the associated blank (acetone 10 ppb, methylene chloride 6 ppb) which may indicate presence of these constituents in the sample bottle or cross-contamination by leakage during packaging and shipment or through laboratory contamination. The 2-butanone (methyl ethyl ketone) could be associated with the oils and oil sludges or the solvents buried at the landfill. However, solvents are a more likely source for this contaminant. Acetone concentrations differ greatly between the soil sample and the blank indicating possible contamination from buried solvents. The highest acetone concentration was found in the soil sample from LF2-5, which is the borehole through the waste in the Landfill II. The sample was collected directly below the waste.

Aluminum, calcium, iron, magnesium, potassium, and sodium are present in levels high above detection limits. These elements are natural products of decomposition, and are also constituents of the mineralogy of Big Lost River alluvial sediments. Inorganics found above background levels - antimony, arsenic, lead, selenium, cadmium, aluminum, copper, iron, and vanadium - are probably naturally occurring. Their concentrations are within the ranges characteristic of a typical soil (Table 1). No semivolatile or pesticide organics were detected.

At CFA Landfill III, methylene chloride (4-73 ppb) and xylene (4 ppb) were above detection limits. Methylene chloride was found in the associated trip and field blanks (2-6 ppb). Xylene was tentatively identified below the method quantitation limit in one sample. Aluminum, calcium, iron, and magnesium were also above detection limits. Antimony and arsenic were above background levels, which could either be a spatial variation or a decomposition product of the alluvium mineralogies. No semivolatile or pesticide organics were detected.

TABLE 1. SELECTED AVERAGES OF VARIOUS ELEMENTS IN SOILS COMPARED TO CONCENTRATIONS AT CFA LANDFILLS II AND III.

Element	Concentrations in CFA Landfills (ppm)	Common Range* for Soils (ppm)
Antimony	12.0	-
Arsenic	8.0 - 25.0	1 - 50
Lead	19.0	2 - 200
Selenium	3.0	0.1 - 2.0
Cadmium	2.0	0.01 - 0.70
Aluminum	23,000 - 31,000	10,000 - 300,000
Copper	46 - 56	2 - 100
Iron	46,000 - 47,000	7,000 - 550,000
Vanadium	81.0	20 - 500

* Selected averages after Lindsay, 1979.

Results of the soil analyses provide no conclusive evidence of the release of contaminants to the aquifer or to the vadose zone. More information is needed on the spatial distribution of contaminants and on background levels at the Landfills.

ATTACHMENT L

Reference List

Reference List

Ansley, S.L., L.C. Hull and S.M. Burns, Shallow Drilling Report For CFA Landfills II and III - FY-1988, Characterization of Surficial Sediments, EGG-ER-8291, October 1988.

ICF Technology Incorporated, Innovative Technology Demonstration, Idaho National Engineering Laboratory (INEL), CFA Landfill II, Idaho Falls, Idaho, November 16, 1989.

Miller, S.M., J.E. Hammel and L.F. Hall, Characterization of Soil Cover and Estimation of Water Infiltration at Central Facilities Area Landfill II, Idaho National Engineering Laboratory (INEL), EGG-ER-2912, June 28, 1990.

Stanisich, S.N., Closure Plan for the CFA Landfill III, COCA Unit Number CFA-03, EGG-ER-8534, June 1989.

Stanisich, S.N., Closure Plan for the CFA Landfill II, COCA Unit Number CFA-02, EGG-ER-8405, Rev. 2, June 1989.

Tracer Research Corporation, Shallow Soil Gas Investigation at the Idaho National Engineering Laboratory (INEL), Idaho Falls, Idaho, April 1988.

Wood, T.R., L.C. Hull and M.H. Doornbos, Groundwater Monitoring Plan and Interim Status Report for Central Facilities Landfill II, EGG-ER-8496, April 1989.

Wood, T.R., L.C. Hull and M.H. Doornbos, Groundwater Monitoring Plan and Interim Status Report for Central Facilities Landfill III, EGG-ER-8521, May 1989.

Soil Sample Data

APPENDIX F:

Results of Chemical Analyses of Sediments (SAIC)

SAIC

Science Applications International Corporation

August 19, 1988

Mr. Marty Dornbos
EG&G Idaho, Inc.
Mail Stop 8101
P.O. Box 1625 (PBF-632)
Idaho Falls, Idaho 83415

Reference: Task Order No. 7, Subcontract No. C86-131160
Hydrogeologic Characterization of CFA Landfills II and III
SAIC Project No. 1-246-07-667-00

Dear Mr. Dornbos:

The following presents the results of a recent audit of SAIC's San Diego Environmental Chemistry Laboratory relative to the analyses of eight soil samples and associated field blanks (totaling 18 discrete samples) processed for EG&G Idaho, Inc. in late 1987 and early 1988:

1. All samples arrived at the laboratory intact and in conformance with prescribed chain-of-custody procedures. Samples were properly and carefully stored pending extraction.

2. Analyses of all samples extracted and analyzed for volatile organic compounds, pesticides, and heavy metals were performed in accordance with standard analytical procedures and there are no reported exceptions from sample holding times on analytical protocols.

3. All samples scheduled for semi-volatile (extractable) organics analyses were extracted within 14 days of collection as recommended in EPA SW-846 protocols. The extracts were properly and carefully stored during the period between sample extraction and extract analysis by GC/MS.

4. Three of the four batches of samples extracted for semi-volatile organics analysis were analyzed by GC/MS after the SW-846 recommended holding time of 40 days for preserved sample extracts. Of the four batches of samples received, one batch (totaling 5 samples) was analyzed by GC/MS on the 57th day following extraction, one batch (totaling 4 samples) was analyzed on the 48th day following extraction, and one batch (totaling 5 samples) was analyzed on the 49th day following extraction. The attached table summarizes the status of each sample processed. The last batch (totaling 4 samples) was analyzed within the recommended holding period.

1710 Goodridge Drive, P.O. Box 1303, McLean, Virginia 22102, (703) 821-4300

Other SAIC Offices: Albuquerque, Atlanta, Boston, Chicago, Colorado Springs, Dayton, Denver, Huntsville, La Jolla, Los Angeles, Oak Ridge, Orlando, Palo Alto, San Diego, Seattle, Tucson, and Washington, D.C.

According to our laboratory personnel, the validity of the results reported is a function of (1) the time period between sample collection and extraction, (2) the conditions under which the samples and extracts are held, and (3) the holding period of the extracts prior to analysis. Of these three factors, the first two (extraction time and holding conditions) are the most critical. As noted above, all extractions were performed within the recommended time period and samples and extracts were properly maintained in storage pending analysis.

We will be glad to arrange a discussion between EG&G chemists and our laboratory to address any technical concerns in this matter. If you have any questions, please do not hesitate to contact myself [(703)821-4328] or J. Michael Stanley [(206)747-7899].

Sincerely,

Virginia E. Hodge

Virginia E. Hodge
Program Manager

cc: J. M. Stanley
SAIC/Seattle

T. Rodehau
SAIC/McLean

SUMMARY OF EG&G SAMPLES ANALYZED

Sample No. ID	Date Collected	Date Extracted	Date Analyzed	Days Past Recommended 40 day Extract Holding Time
FB-1	12-08-87	12-16-87	2-11-88	(17)
LF3-6-FB	12-11-87	12-16-87	2-11-88	(17)
Equip Blank 1	12-10-87	12-16-87	2-11-88	(17)
LF3-7	12-10-87	12-16-87	2-11-88	(17)
LF3-6	12-11-87	12-16-87	2-11-88	(17)
LF3-4-FB	12-12-87	12-22-87	2-08-88	(8)
LF3-4	12-12-87	12-22-87	2-08-88	(8)
LF3-2-FB	12-14-87	12-22-87	2-08-88	(8)
LF3-2S	12-14-87	12-22-87	2-08-88	(8)
Equip Blank 2	12-15-87	12-23-87	2-10-88	(9)
LF2-1-FB	12-15-87	12-23-87	2-10-88	(9)
LF2-1	12-16-87	12-23-87	2-10-88	(9)
LF2-3-FB	12-17-88	12-23-87	2-10-88	(9)
LF2-3S	12-17-88	12-23-87	2-10-88	(9)
LF2-5-FB	12-21-87	1-03-88	2-12-88	(0)
LF2-5	12-21-87	1-03-88	2-12-88	(0)
LF2-6	12-21-87	1-03-88	2-12-88	(0)
Equip Blank 3	12-21-87	1-03-88	2-12-88	(0)

EG&G's numbering system differs from SAIC. The differences are noted below and should be referred to when examining the soil chemical analysis data.

EG&G	SAIC
2-1	2-1
2-2 - - - - - - ->	2-3
2-3	2-3
2-4	2-4
2-5	2-5
2-6	2-6
2-7	2-7
2-8	2-8
3-1 - - - - - - ->	3-7
3-2 - - - - - - ->	3-6
3-3	3-3
3-4	3-4
3-5	3-5
3-6 - - - - - - ->	3-2
3-7 - - - - - - ->	3-1

Concentration reported in parts per billion (ppb) are acutally μ/g for inorganics (trace metals).

INEL LANDFILL CFA II & III FACILITIES
LABORATORY/FIELD SAMPLING

Lab Sample Nos.	Field Samples	Sample Depth	Sampling Date	Sample Media
87346010	FBI		12/08/87	Water
87346011	LF 3-6-FB		12/11/87	Water
87346012	Equip. Blank 1		12/10/87	Water
87346013	LF 3-7	15 ft	12/10/87	Soil
87346014	LF 3-6	17 ft	12/11/87	Soil
87350026	LF 3-4-FB		12/12/87	Water
87350027	LF 3-4	10 ft	12/12/87	Soil
87350028	LF 3-2-FB		12/14/87	Water
87350029	LF 3-2S	12 ft	12/14/87	Soil
87352018	LF 2-1	17 ft	12/16/87	Soil
87352019	LF 2-IFB		12/15/87	Water
87352020	LF 2-3S	23 ft	12/17/87	Soil
87352021	LF 2-3FB		12/17/87	Water
87352022	Equip. Blank 2		12/15/87	Water
87362001	LF 2-5-FB		12/21/87	Water
87362002	LF 2-5	1 ft	12/21/87	Soil
87362003	LF 2-6	1 ft	12/21/87	Soil
87362004	Equip. Blank 3		12/21/87	Water

ANALYTICAL REPORT

EG&G IDAHO

SAIC PROJECT NO. 2-8XX-07-667

Release of the data contained in this hardcopy has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Thomas F. Cullen, Jr.
Division Manager 2/27/88

CROSS - REFERENCE OF SAMPLE IDENTIFICATION NUMBERS

FIELD IDENTIFICATION	SAIC LABORATORY IDENTIFICATION
FB1	87346010
LF3-6-FB	87346011
EQUIP BLANK 1	87346012
LF3-7	87346013
LF3-6	87346014
LF3-4-FB	87350026
LF3-4	87350027
LF3-2-FB	87350028
LF3-2S	87350029
LF2-1	87352018
LF2-1FB	87352019
LF2-3S	87352020
LF2-3FB	87352021
EQUIP BLANK 2	87352022
LF2-5-FB	87362001
LF2-5	87362002
LF2-6	87362003
EQUIP BLANK 3	87362004

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

DATE OF REPORT 02/27/88

ENVIRONMENTAL CHEMISTRY DIVISION

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	87346010		87346011		87346012		87346013		87346014		87350026	
FIELD IDENTIFICATION	FB1		LF3-6-FB		EQUIP BLK		LF3-7		LF3-6		LF3-4-FB	
MATRIX	AQUEOUS (ug/L)		AQUEOUS (ug/L)		AQUEOUS (ug/L)		SOIL (ug/kg)		SOIL (ug/kg)		AQUEOUS (ug/L)	
VOLATILE ORGANIC COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Chloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Vinyl chloride	10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U	10	U	10	U	10	U
Methylene chloride	5	U	5	U	5	U	6	B	73	B	5	U
Acetone	10	U	10	U	10	B	10	U	10	U	10	U
Carbon Disulfide	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethene (Total)	5	U	5	U	5	U	5	U	5	U	5	U
Chloroform	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
2-Butanone	10	U	10	U	10	U	10	U	10	U	110	U
1,1,1-Trichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl Acetate	10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	5	U	5	U	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U
Trichloroethene	5	U	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trchloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Benzene	5	U	5	U	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U
Bromoform	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone	10	U	10	U	10	U	10	U	10	U	10	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Toluene	5	U	5	U	5	U	5	U	5	U	5	U
Chlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
Ethyl benzene	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	5	U	5	U	5	U	5	U	5	U	5	U
Xylenes, Total	5	U	5	U	5	U	5	U	5	U	5	U
SEMI-VOLATILE COMPOUNDS BY GC/MS ANALYSIS												
Phenol	10	U	10	U	10	U	340	U	340	U	10	U
bis(2-Chloroethyl) ether	10	U	10	U	10	U	340	U	340	U	10	U
2-Chlorophenol	10	U	10	U	10	U	340	U	340	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U	340	U	340	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U	340	U	340	U	10	U
Benzyl alcohol	10	U	10	U	10	U	340	U	340	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U	340	U	340	U	10	U

ENVIRONMENTAL CHEMISTRY DIVISION

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	87346010		87346011		87346012		87346013		87346014		87350026	
FIELD IDENTIFICATION	FB1		LF3-6-FB		EQUIP BLK		LF3-7		LF3-6		LF3-4-FB	
MATRIX	AQUEOUS	(ug/L)	AQUEOUS	(ug/L)	AQUEOUS	(ug/L)	SOIL	(ug/kg)	SOIL	(ug/kg)	AQUEOUS	(ug/L)
SEMI-VOLATILE COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
2-Methylphenol	10	U	10	U	10	U	340	U	340	U	10	U
bis(2-Chloroisopropyl) ether	10	U	10	U	10	U	340	U	340	U	10	U
4-Methylphenol	10	U	10	U	10	U	340	U	340	U	10	U
N-Nitroso-di-n-dipropylamine	10	U	10	U	10	U	340	U	340	U	10	U
Hexachloroethane	10	U	10	U	10	U	340	U	340	U	10	U
Nitrobenzene	10	U	10	U	10	U	340	U	340	U	10	U
Isophorone	10	U	10	U	10	U	340	U	340	U	10	U
2-Nitrophenol	10	U	10	U	10	U	340	U	340	U	10	U
2,4-Dimethylphenol	10	U	10	U	10	U	340	U	340	U	10	U
Benzoic acid	50	U	50	U	50	U	1,700	U	1,700	U	50	U
bis(2-Chloroethoxy) methane	10	U	10	U	10	U	340	U	340	U	10	U
2,4-Dichlorophenol	10	U	10	U	10	U	340	U	340	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U	10	U	340	U	340	U	10	U
Naphthalene	10	U	10	U	10	U	340	U	340	U	10	U
4-Chloroaniline	10	U	10	U	10	U	340	U	340	U	10	U
Hexachlorobutadiene	10	U	10	U	10	U	340	U	340	U	10	U
4-Chloro-3-methylphenol	10	U	10	U	10	U	340	U	340	U	10	U
2-Methylnaphthalene	10	U	10	U	10	U	340	U	340	U	10	U
Hexachlorocyclopentadiene	10	U	10	U	10	U	340	U	340	U	10	U
2,4,6-Trichlorophenol	10	U	10	U	10	U	340	U	340	U	10	U
2,4,5-Trichlorophenol	50	U	50	U	50	U	1,700	U	1,700	U	50	U
2-Chloronaphthalene	10	U	10	U	10	U	340	U	340	U	10	U
2-Nitroaniline	50	U	50	U	50	U	1,700	U	1,700	U	50	U
Dimethylphthalate	10	U	10	U	10	U	340	U	340	U	10	U
Acenaphthylene	10	U	10	U	10	U	340	U	340	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	340	U	340	U	10	U
3-Nitroaniline	50	U	50	U	50	U	1,700	U	1,700	U	50	U
Acenaphthene	10	U	10	U	10	U	340	U	340	U	10	U
2,4-Dinitrophenol	50	U	50	U	50	U	1,700	U	1,700	U	50	U
4-Nitrophenol	50	U	50	U	50	U	1,700	U	1,700	U	50	U
Dibenzofuran	10	U	10	U	10	U	340	U	340	U	10	U
2,4-Dinitrotoluene	10	U	10	U	10	U	340	U	340	U	10	U
Diethylphthalate	10	U	10	U	10	U	340	U	340	U	10	U
4-Chlorophenyl-phenyl ether	10	U	10	U	10	U	340	U	340	U	10	U
Fluorene	10	U	10	U	10	U	340	U	340	U	10	U
4-Nitroaniline	50	U	50	U	50	U	1,700	U	1,700	U	50	U
4,6-Dinitro-2-methylphenol	50	U	50	U	50	U	1,700	U	1,700	U	50	U
N-Nitrosodiphenylamine	10	U	10	U	10	U	340	U	340	U	10	U
4-Bromophenyl-phenyl ether	10	U	10	U	10	U	340	U	340	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	340	U	340	U	10	U
Pentachlorophenol	50	U	50	U	50	U	1,700	U	1,700	U	50	U
Phenanthrene	10	U	10	U	10	U	340	U	340	U	10	U
Anthracene	10	U	10	U	10	U	340	U	340	U	10	U
Di-n-butylphthalate	10	U	10	U	10	U	340	U	340	U	10	U
Fluo[illegible]hene	10	U	10	U	10	U	340	U	340	U	[illegible]	U

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

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ENVIRONMENTAL CHEMISTRY DIVISION

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	87346010		87346011		87346012		87346013		87346014		87350026	
FIELD IDENTIFICATION	FB1		LF1-6-FB		EQUIP BLK		LF1-7		LF1-6		LF1-4-FB	
MATRIX	AQUEOUS	(ug/L)	AQUEOUS	(ug/L)	AQUEOUS	(ug/L)	SOIL	(ug/kg)	SOIL	(ug/kg)	AQUEOUS	(ug/L)
SEMI-VOLATILE COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Pyrene	10	U	10	U	10	U	340	U	340	U	10	U
Butylbenzylphthalate	10	U	10	U	10	U	340	U	340	U	10	U
3,3'-Dichlorobenzidine	20	U	20	U	20	U	680	U	680	U	20	U
Benzo(a)anthracene	10	U	10	U	10	U	340	U	340	U	10	U
Chrysene	10	U	10	U	10	U	340	U	340	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	20		10	U	340	U	340	U	25	
Di-n-octylphthalate	10	U	10	U	10	U	340	U	340	U	10	U
Benzo(b)fluoranthene	10	U	10	U	10	U	340	U	340	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U	340	U	340	U	10	U
Benzo(a)pyrene	10	U	10	U	10	U	340	U	340	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	340	U	340	U	10	U
Dibenzo(a,h)anthracene	10	U	10	U	10	U	340	U	340	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U	340	U	340	U	10	U
PESTICIDES AND PCBS BY GC/EC ANALYSIS												
alpha-BHC	0.05	U	0.05	U	0.50	U	8.3	U	8.3	U	0.05	U
beta-BHC	0.05	U	0.05	U	0.50	U	8.3	U	8.3	U	0.05	U
delta-BHC	0.05	U	0.05	U	0.50	U	8.3	U	8.3	U	0.05	U
gamma-BHC (Lindane)	0.05	U	0.05	U	0.50	U	8.3	U	8.3	U	0.05	U
Heptachlor	0.05	U	0.05	U	0.50	U	8.3	U	8.3	U	0.05	U
Aldrin	0.05	U	0.05	U	0.50	U	8.3	U	8.3	U	0.05	U
Heptachlor	0.05	U	0.05	U	0.50	U	8.3	U	8.3	U	0.05	U
Endosulfan I	0.05	U	0.05	U	0.50	U	8.3	U	8.3	U	0.05	U
Dieldrin	0.10	U	0.10	U	1.00	U	17	U	17	U	0.10	U
4,4'-DDE	0.10	U	0.10	U	1.00	U	17	U	17	U	0.10	U
Endrin	0.10	U	0.10	U	1.00	U	17	U	17	U	0.10	U
Endosulfan II	0.10	U	0.10	U	1.00	U	17	U	17	U	0.10	U
4,4'-DDD	0.10	U	0.10	U	1.00	U	17	U	17	U	0.10	U
Endosulfan sulfate	0.10	U	0.10	U	1.00	U	17	U	17	U	0.10	U
4,4'-DDT	0.10	U	0.10	U	1.00	U	17	U	17	U	0.10	U
Methoxychlor	0.5	U	0.5	U	5.0	U	83	U	83	U	0.5	U
Endrin ketone	0.10	U	0.10	U	1.0	U	17	U	17	U	0.10	U
alpha-Chlordane	0.5	U	0.5	U	5.0	U	83	U	83	U	0.5	U
gamma-Chlordane	0.5	U	0.5	U	5.0	U	83	U	83	U	0.5	U
Toxaphene	1	U	1	U	10.0	U	165	U	165	U	1	U
Aroclor-1016	0.5	U	0.5	U	5.0	U	83	U	83	U	0.5	U
Aroclor-1221	0.5	U	0.5	U	5.0	U	83	U	83	U	0.5	U
Aroclor-1232	0.5	U	0.5	U	5.0	U	83	U	83	U	0.5	U
Aroclor-1242	0.5	U	0.5	U	5.0	U	83	U	83	U	0.5	U
Aroclor-1248	0.5	U	0.5	U	5.0	U	83	U	83	U	0.5	U
Aroclor-1254	1	U	1	U	10.0	U	165	U	165	U	1	U
Aroclor-1260	1	U	1	U	10.0	U	165	U	165	U	1	U

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ENVIRONMENTAL CHEMISTRY DIVISION

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	87346010		87346011		87346012		87346013		87346014		87350026	
FIELD IDENTIFICATION	FB1		LF3-6-FB		EQUIP BLK		LF3-7		LF3-6		LF3-4-FB	
MATRIX	AQUEOUS (ug/L)		AQUEOUS (ug/L)		AQUEOUS (ug/L)		SOIL (ug/g)		SOIL (ug/g)		AQUEOUS (ug/L)	
TRACE METALS BY ICAP/GFAAS/CVAAS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Aluminum	200	U	200	U	200	U	4,000		4,700		200	U
Antimony	60	U	60	U	60	U	12	U	12	U	60	U
Arsenic	10	U	10	U	10	U	8		12		10	U
Barium	200	U	200	U	200	U	40	U	53		200	U
Beryllium	5	U	5	U	5	U	1	U	1	U	5	U
Cadmium	5	U	5	U	5	U	1	U	1	U	5	U
Calcium	5,000	U	5,000	U	5,000	U	19,000		9,500		5,000	U
Chromium	10	U	10	U	10	U	11		10		10	U
Cobalt	50	U	50	U	50	U	10	U	10	U	50	U
Copper	25	U	25	U	25	U	20		24		25	U
Iron	100	U	100	U	100	U	7,500		13,000		100	U
Lead	5	U	5	U	5	U	7		6		5	U
Magnesium	5,000	U	5,000	U	5,000	U	3,900		3,300		5,000	U
Manganese	15	U	15	U	15	U	150		140		15	U
Mercury	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U
Nickel	40	U	40	U	40	U	13		12		40	U
Potassium	5,000	U	5,000	U	5,000	U	1,000	U	1,000	U	5,000	U
Selenium	5	U	5	U	5	U	1	U	1	U	5	U
Silver	10	U	10	U	10	U	2	U	2	U	10	U
Sodium	5,000	U	5,000	U	5,000	U	1,000	U	1,000	U	5,000	U
Thallium	45	U	45	U	45	U	8	U	8	U	45	U
Vanadium	50	U	50	U	50	U	18		22		50	U
Zinc	20	U	20	U	20	U	26		28		20	U

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ENVIRONMENTAL CHEMISTRY DIVISION

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	87350027		87350028		87350029		87352018		87352019		87352020	
FIELD IDENTIFICATION	LF3-4		LF3-2-FB		LF3-2S		LF-2-1		LF2-1-FB		LF2-3S	
MATRIX	SOIL	(ug/kg)	AQUEOUS	(ug/L)	SOIL	(ug/kg)	SOIL	(ug/kg)	AQUEOUS	(ug/L)	SOIL	(ug/kg)
VOLATILE ORGANIC COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Chloromethane	10	U	10	U	10	U	12	U	10	U	12	U
Bromomethane	10	U	10	U	10	U	12	U	10	U	12	U
Vinyl chloride	10	U	10	U	10	U	12	U	10	U	12	U
Chloroethane	10	U	10	U	10	U	12	U	10	U	12	U
Methylene chloride	10	U	2	U	4	U	9	U	3	U	12	U
Acetone	10	U	10	U	10	U	12	U	10	U	12	U
Carbon Disulfide	5	U	5	U	5	U	6	U	5	U	6	U
1,1-Dichloroethene	5	U	5	U	5	U	6	U	5	U	6	U
1,1-Dichloroethane	5	U	5	U	5	U	6	U	5	U	6	U
1,2-Dichloroethene (Total)	5	U	5	U	5	U	6	U	5	U	6	U
Chloroform	5	U	5	U	5	U	6	U	5	U	6	U
1,2-Dichloroethane	5	U	5	U	5	U	6	U	5	U	6	U
2-Butanone	10	U	10	U	10	U	12	U	10	U	12	U
1,1,1-Trichloroethane	5	U	5	U	5	U	6	U	5	U	6	U
Carbon Tetrachloride	5	U	5	U	5	U	6	U	5	U	6	U
Vinyl Acetate	10	U	10	U	10	U	12	U	10	U	12	U
Bromodichloromethane	5	U	5	U	5	U	6	U	5	U	6	U
1,2-Dichloropropane	5	U	5	U	5	U	6	U	5	U	6	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	6	U	5	U	6	U
Trichloroethene	5	U	5	U	5	U	6	U	5	U	6	U
Dibromochloromethane	5	U	5	U	5	U	6	U	5	U	6	U
1,1,2-Trchloroethane	5	U	5	U	5	U	6	U	5	U	6	U
Benzene	5	U	5	U	5	U	6	U	5	U	6	U
trans-1,3-Dichloropropene	5	U	5	U	5	U	6	U	5	U	6	U
Bromoform	5	U	5	U	5	U	6	U	5	U	6	U
4-Methyl-2-Pentanone	10	U	10	U	10	U	12	U	10	U	12	U
2-Hexanone	10	U	10	U	10	U	12	U	10	U	12	U
Tetrachloroethene	5	U	5	U	5	U	6	U	5	U	6	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	6	U	5	U	6	U
Toluene	5	U	5	U	5	U	6	U	5	U	6	U
Chlorobenzene	5	U	5	U	5	U	6	U	5	U	6	U
Ethyl benzene	5	U	5	U	5	U	6	U	5	U	6	U
Styrene	5	U	5	U	5	U	6	U	5	U	6	U
Xylenes, Total	4	J	5	U	5	U	6	U	5	U	6	U
SEMI-VOLATILE COMPOUNDS BY GC/MS ANALYSIS												
Phenol	340	U	10	U	340	U	400	U	10	U	410	U
bis(2-Chloroethyl) ether	340	U	10	U	340	U	400	U	10	U	410	U
2-Chlorophenol	340	U	10	U	340	U	400	U	10	U	410	U
1,3-Dichlorobenzene	340	U	10	U	340	U	400	U	10	U	410	U
1,4-Dichlorobenzene	340	U	10	U	340	U	400	U	10	U	410	U
Benzyl alcohol	340	U	10	U	340	U	400	U	10	U	410	U
1,2-Dichlorobenzene	340	U	10	U	340	U	400	U	10	U	410	U

ENVIRONMENTAL CHEMISTRY DIVISION

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	87350027		87350028		87350029		87352018		87352019		87352020	
FIELD IDENTIFICATION	LF3-4		LF3-2-FB		LF3-2S		LF-2-1		LF2-1-FB		LF2-3S	
MATRIX	SOIL	(ug/kg)	AQUEOUS	(ug/L)	SOIL	(ug/kg)	SOIL	(ug/kg)	AQUEOUS	(ug/L)	SOIL	(ug/kg)
SEMI-VOLATILE COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
2-Methylphenol	340	U	10	U	340	U	400	U	10	U	410	U
bis(2-Chloroisopropyl) ether	340	U	10	U	340	U	400	U	10	U	410	U
4-Methylphenol	340	U	10	U	340	U	400	U	10	U	410	U
N-Nitroso-di-n-dipropylamine	340	U	10	U	340	U	400	U	10	U	410	U
Hexachloroethane	340	U	10	U	340	U	400	U	10	U	410	U
Nitrobenzene	340	U	10	U	340	U	400	U	10	U	410	U
Isophorone	340	U	10	U	340	U	400	U	10	U	410	U
2-Nitrophenol	340	U	10	U	340	U	400	U	10	U	410	U
2,4-Dimethylphenol	340	U	10	U	340	U	400	U	10	U	410	U
Benzoic acid	1,700	U	50	U	1,700	U	1,900	U	50	U	2,000	U
bis(2-Chloroethoxy) methane	340	U	10	U	340	U	400	U	10	U	410	U
2,4-Dichlorophenol	340	U	10	U	340	U	400	U	10	U	410	U
1,2,4-Trichlorobenzene	340	U	10	U	340	U	400	U	10	U	410	U
Naphthalene	340	U	10	U	340	U	400	U	10	U	410	U
4-Chloroaniline	340	U	10	U	340	U	400	U	10	U	410	U
Hexachlorobutadiene	340	U	10	U	340	U	400	U	10	U	410	U
4-Chloro-3-methylphenol	340	U	10	U	340	U	400	U	10	U	410	U
2-Methylnaphthalene	340	U	10	U	340	U	400	U	10	U	410	U
Hexachlorocyclopentadiene	340	U	10	U	340	U	400	U	10	U	410	U
2,4,6-Trichlorophenol	340	U	10	U	340	U	400	U	10	U	410	U
2,4,5-Trichlorophenol	1,700	U	50	U	1,700	U	1,900	U	50	U	2,000	U
2-Chloronaphthalene	340	U	10	U	340	U	400	U	10	U	410	U
2-Nitroaniline	1,700	U	50	U	1,700	U	1,900	U	50	U	2,000	U
Dimethylphthalate	340	U	10	U	340	U	400	U	10	U	410	U
Acenaphthylene	340	U	10	U	340	U	400	U	10	U	410	U
2,6-Dinitrotoluene	340	U	10	U	340	U	400	U	10	U	410	U
3-Nitroaniline	1,700	U	50	U	1,700	U	1,900	U	50	U	2,000	U
Acenaphthene	340	U	10	U	340	U	400	U	10	U	410	U
2,4-Dinitrophenol	1,700	U	50	U	1,700	U	1,900	U	50	U	2,000	U
4-Nitrophenol	1,700	U	50	U	1,700	U	1,900	U	50	U	2,000	U
Dibenzofuran	340	U	10	U	340	U	400	U	10	U	410	U
2,4-Dinitrotoluene	340	U	10	U	340	U	400	U	10	U	410	U
Diethylphthalate	340	U	10	U	340	U	400	U	10	U	410	U
4-Chlorophenyl-phenyl ether	340	U	10	U	340	U	400	U	10	U	410	U
Fluorene	340	U	10	U	340	U	400	U	10	U	410	U
4-Nitroaniline	1,700	U	50	U	1,700	U	1,900	U	50	U	2,000	U
4,6-Dinitro-2-methylphenol	1,700	U	50	U	1,700	U	1,900	U	50	U	2,000	U
N-Nitrosodiphenylamine	340	U	10	U	340	U	400	U	10	U	410	U
4-Bromophenyl-phenyl ether	340	U	10	U	340	U	400	U	10	U	410	U
Hexachlorobenzene	340	U	10	U	340	U	400	U	10	U	410	U
Pentachlorophenol	1,700	U	50	U	1,700	U	1,900	U	50	U	2,000	U
Phenanthrene	340	U	10	U	340	U	400	U	10	U	410	U
Anthracene	340	U	10	U	340	U	400	U	10	U	410	U
Di-n-butylphthalate	340	U	10	U	340	U	400	U	10	U	410	U
Fluoranthene	340	U	10	U	340	U	400	U	10	U	410	U

ENVIRONMENTAL CHEMISTRY DIVISION

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	87350027		87350028		87350029		87352018		87352019		87352020	
FIELD IDENTIFICATION	LF3-4		LF3-2-FB		LF3-2S		LF-2-1		LF2-1-FB		LF2-1S	
MATRIX	SOIL	(ug/kg)	AQUEOUS	(ug/L)	SOIL	(ug/kg)	SOIL	(ug/kg)	AQUEOUS	(ug/L)	SOIL	(ug/kg)
SEMI-VOLATILE COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Pyrene	340	U	10	U	340	U	400	U	10	U	410	U
Butylbenzylphthalate	340	U	10	U	340	U	400	U	10	U	410	U
3,3'-Dichlorobenzidine	680	U	20	U	680	U	800	U	20	U	820	U
Benzo(a)anthracene	340	U	10	U	340	U	400	U	10	U	410	U
Chrysene	340	U	10	U	340	U	400	U	10	U	410	U
Bis(2-ethylhexyl)phthalate	340	U	15	[illegible]	340	U	400	U	10	U	410	U
Di-n-octylphthalate	340	U	120	[illegible]	340	U	400	U	10	U	410	U
Benzo(b)fluoranthene	340	U	10	U	340	U	400	U	10	U	410	U
Benzo(k)fluoranthene	340	U	10	U	340	U	400	U	10	U	410	U
Benzo(a)pyrene	340	U	10	U	340	U	400	U	10	U	410	U
Indeno(1,2,3-cd)pyrene	340	U	10	U	340	U	400	U	10	U	410	U
Dibenzo(a,h)anthracene	340	U	10	U	340	U	400	U	10	U	410	U
Benzo(g,h,i)perylene	340	U	10	U	340	U	400	U	10	U	410	U
PESTICIDES AND PCBS BY GC/EC ANALYSIS												
alpha-BHC	8.3	U	0.07	U	8.3	U	9.6	U	0.05	U	9.9	U
beta-BHC	8.3	U	0.07	U	8.3	U	9.6	U	0.05	U	9.9	U
delta-BHC	8.3	U	0.07	U	8.3	U	9.6	U	0.05	U	9.9	U
gamma-BHC (Lindane)	8.3	U	0.07	U	8.3	U	9.6	U	0.05	U	9.9	U
Heptachlor	8.3	U	0.07	U	8.3	U	9.6	U	0.05	U	9.9	U
Aldrin	8.3	U	0.07	U	8.3	U	9.6	U	0.05	U	9.9	U
Heptachlor	8.3	U	0.07	U	8.3	U	9.6	U	0.05	U	9.9	U
Endosulfan I	8.3	U	0.07	U	8.3	U	9.6	U	0.05	U	9.9	U
Dieldrin	17.0	U	0.14	U	17.0	U	19	U	0.10	U	20	U
4,4'-DDE	17.0	U	0.14	U	17.0	U	19	U	0.10	U	20	U
Endrin	17.0	U	0.14	U	17.0	U	19	U	0.10	U	20	U
Endosulfan II	17.0	U	0.14	U	17.0	U	19	U	0.10	U	20	U
4,4'-DDD	17.0	U	0.14	U	17.0	U	19	U	0.10	U	20	U
Endosulfan sulfate	17.0	U	0.14	U	17.0	U	19	U	0.10	U	20	U
4,4'-DDT	17.0	U	0.14	U	17.0	U	19	U	0.10	U	20	U
Methoxychlor	83.0	U	0.70	U	83.0	U	96	U	0.5	U	99	U
Endrin ketone	17.0	U	0.14	U	17.0	U	19	U	0.10	U	20	U
alpha-Chlordane	83.0	U	0.70	U	83.0	U	96	U	0.5	U	99	U
gamma-Chlordane	83.0	U	0.70	U	83.0	U	96	U	0.5	U	99	U
Toxaphene	170.0	U	1.40	U	170.0	U	190	U	1	U	200	U
Arochlor-1016	83.0	U	0.70	U	83.0	U	96	U	0.5	U	99	U
Arochlor-1221	83.0	U	0.70	U	83.0	U	96	U	0.5	U	99	U
Arochlor-1232	83.0	U	0.70	U	83.0	U	96	U	0.5	U	99	U
Arochlor-1242	83.0	U	0.70	U	83.0	U	96	U	0.5	U	99	U
Arochlor-1248	83.0	U	0.70	U	83.0	U	96	U	0.5	U	99	U
Arochlor-1254	170.0	U	1.40	U	170.0	U	190	U	1	U	200	U
Arochlor-1260	170.0	U	1.40	U	170.0	U	190	U	1	U	200	U

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

DATE OF REPORT 02/27/88

ENVIRONMENTAL CHEMISTRY DIVISION

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	87350027		87350028		87350029		87352018		87352019		87352020	
FIELD IDENTIFICATION	LF3-4		LF3-2-FB		LF3-2S		LF-2-1		LF2-1-FB		LF2-3S	
MATRIX	SOIL	(ug/g)	AQUEOUS	(ug/L)	SOIL	(ug/g)	SOIL	(ug/g)	AQUEOUS	(ug/L)	SOIL	(ug/g)
TRACE METALS BY ICAP/GFAAS/CVAAS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Aluminum	1,700		200	U	3,800		18,000		200	U	25,000	
Antimony	12	U	60	U	12	U	12	U	60	U	12	U
Arsenic	16		10	U	11		6		10	U	16	
Barium	40	U	200	U	49		200		200	U	220	
Beryllium	1	U	5	U	1	U	1		5	U	1	
Cadmium	1	U	5	U	1	U	2		5	U	1	U
Calcium	65,000		5,000	U	37,000		55,000		5,000	U	19,000	
Chromium	7		10	U	12		25		10	U	25	
Cobalt	10	U	50	U	10	U	7		50	U	10	U
Copper	12		25	U	20		24		25	U	24	
Iron	5,100		100	U	9,400		17,000		100	U	26,000	
Lead	1		5	U	8		14		5	U	19	
Magnesium	1,800		5,000	U	3,300		8,500		5,000	U	8,900	
Manganese	57		15	U	140		190		15	U	750	
Mercury	0.04	U	0.04	U	0.04	U	[illegible]		0.04	U	0.04	U
Nickel	8	U	40	U	11		23	U	40	U	26	
Potassium	1,000	U	5,000	U	1,000	U	7,700		5,000	U	5,600	
Selenium	1	U	5	U	1	U	3	U	5	U	2	U
Silver	2	U	10	U	2	U	0.1	J	10	U	2	U
Sodium	1,000	U	5,000	U	1,000	U	1,000	U	5,000	U	1,000	U
Thallium	8	U	45	U	8	U	8	U	45	U	8	U
Vanadium	23		50	U	19		45		50	U	30	
Zinc	22		20	U	32		100		20	U	40	

ENVIRONMENTAL CHEMISTRY DIVISION

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	87352021		87352022		87362001		87362002		87362003		87362004	
FIELD IDENTIFICATION	LF2-1-FB		EQUIP BLK #2		LF2-5-FB		LF2-5		LF2-6		EQUIP BLK #3	
MATRIX	AQUEOUS (ug/L)		AQUEOUS (ug/L)		AQUEOUS (ug/L)		SOIL (ug/kg)		SOIL (ug/kg)		AQUEOUS (ug/L)	
VOLATILE ORGANIC COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Chloromethane	10	U	10	U	10	U	12	U	12	U	10	U
Bromomethane	10	U	10	U	10	U	12	U	12	U	10	U
Vinyl chloride	10	U	10	U	10	U	12	U	12	U	10	U
Chloroethane	10	U	10	U	10	U	12	U	12	U	10	U
Methylene chloride	4	B	5	B	7	B	10	B	11	B	5	B
Acetone	10	U	10	U	10	U	2300	BJ	12	U	10	U
Carbon Disulfide	5	U	5	U	5	U	6	U	6	U	5	U
1,1-Dichloroethene	5	U	5	U	5	U	6	U	6	U	5	U
1,1-Dichloroethane	5	U	5	U	5	U	6	U	6	U	5	U
1,2-Dichloroethene (Total)	5	U	5	U	5	U	6	U	6	U	5	U
Chloroform	3	J	5	U	3	J	6	U	6	U	3	J
1,2-Dichloroethane	5	U	5	U	5	U	6	U	6	U	5	U
2-Butanone	10	U	10	U	10	U	73		12	U	10	U
1,1,1-Trichloroethane	5	U	5	U	5	U	6	U	6	U	5	U
Carbon Tetrachloride	5	U	5	U	5	U	6	U	6	U	5	U
Vinyl Acetate	10	U	10	U	10	U	12	U	12	U	10	U
Bromodichloromethane	5	U	5	U	5	U	6	U	6	U	5	U
1,2-Dichloropropane	5	U	5	U	5	U	6	U	6	U	5	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	6	U	6	U	5	U
Trichloroethene	5	U	5	U	5	U	6	U	6	U	5	U
Dibromochloromethane	5	U	5	U	5	U	6	U	6	U	5	U
1,1,2-Trchloroethene	5	U	5	U	5	U	6	U	6	U	5	U
Benzene	5	U	5	U	5	U	6	U	6	U	5	U
trans-1,3-Dichloropropene	5	U	5	U	5	U	6	U	6	U	5	U
Bromoform	5	U	5	U	5	U	6	U	6	U	5	U
4-Methyl-2-Pentanone	10	U	10	U	10	U	12	U	12	U	10	U
2-Hexanone	10	U	10	U	10	U	12	U	12	U	10	U
Tetrachloroethene	5	U	5	U	5	U	6	U	6	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	6	U	6	U	5	U
Toluene	5	U	5	U	5	U	6	U	6	U	5	U
Chlorobenzene	5	U	5	U	5	U	6	U	6	U	5	U
Ethyl benzene	5	U	5	U	5	U	6	U	6	U	5	U
Styrene	5	U	5	U	5	U	6	U	6	U	5	U
Xylenes, Total	5	U	5	U	5	U	6	U	6	U	5	U
SEMI-VOLATILE COMPOUNDS BY GC/MS ANALYSIS												
Phenol	10	U	10	U	10	U	390	U	390	U	10	U
bis(2-Chloroethyl) ether	10	U	10	U	10	U	390	U	390	U	10	U
2-Chlorophenol	10	U	10	U	10	U	390	U	390	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U	390	U	390	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U	390	U	390	U	10	U
Benzyl alcohol	10	U	10	U	10	U	390	U	390	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U	390	U	390	U	10	U

ENVIRONMENTAL CHEMISTRY DIVISION

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	87352021		87352022		87362001		87362002		87362003		87362004	
FIELD IDENTIFICATION	LF2-3-FB		EQUIP BLK #2		LF2-5-FB		LF2-5		LF2-6		EQUIP BLK #1	
MATRIX	AQUEOUS (ug/L)		AQUEOUS (ug/L)		AQUEOUS (ug/L)		SOIL (ug/kg)		SOIL (ug/kg)		AQUEOUS (ug/L)	
SEMI-VOLATILE COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
2-Methylphenol	10	U	10	U	10	U	390	U	390	U	10	U
bis(2-Chloroisopropyl) ether	10	U	10	U	10	U	390	U	390	U	10	U
4-Methylphenol	10	U	10	U	10	U	110	J	390	U	10	U
N-Nitroso-di-n-dipropylamine	10	U	10	U	10	U	390	U	390	U	10	U
Hexachloroethane	10	U	10	U	10	U	390	U	390	U	10	U
Nitrobenzene	10	U	10	U	10	U	390	U	390	U	10	U
Isophorone	10	U	10	U	10	U	390	U	390	U	10	U
2-Nitrophenol	10	U	10	U	10	U	390	U	390	U	10	U
2,4-Dimethylphenol	10	U	10	U	10	U	390	U	390	U	10	U
Benzoic acid	50	U	50	U	50	U	390	U	1,900	U	50	U
bis(2-Chloroethoxy) methane	10	U	10	U	10	U	390	U	390	U	10	U
2,4-Dichlorophenol	10	U	10	U	10	U	390	U	390	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U	10	U	390	U	390	U	10	U
Naphthalene	10	U	10	U	10	U	390	U	390	U	10	U
4-Chloroaniline	10	U	10	U	10	U	390	U	390	U	10	U
Hexachlorobutadiene	10	U	10	U	10	U	390	U	390	U	10	U
4-Chloro-3-methylphenol	10	U	10	U	10	U	390	U	390	U	10	U
2-Methylnaphthalene	10	U	10	U	10	U	390	U	390	U	10	U
Hexachlorocyclopentadiene	10	U	10	U	10	U	390	U	390	U	10	U
2,4,6-Trichlorophenol	10	U	10	U	10	U	390	U	390	U	10	U
2,4,5-Trichlorophenol	50	U	50	U	50	U	1,900	U	1,900	U	50	U
2-Chloronaphthalene	10	U	10	U	10	U	390	U	390	U	10	U
2-Nitroaniline	50	U	50	U	50	U	1,900	U	1,900	U	50	U
Dimethylphthalate	10	U	10	U	10	U	390	U	390	U	10	U
Acenaphthylene	10	U	10	U	10	U	390	U	390	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	390	U	390	U	10	U
3-Nitroaniline	50	U	50	U	50	U	1,900	U	1,900	U	50	U
Acenaphthene	10	U	10	U	10	U	390	U	390	U	10	U
2,4-Dinitrophenol	50	U	50	U	50	U	1,900	U	1,900	U	50	U
4-Nitrophenol	50	U	50	U	50	U	1,900	U	1,900	U	50	U
Dibenzofuran	10	U	10	U	10	U	390	U	390	U	10	U
2,4-Dinitrotoluene	10	U	10	U	10	U	390	U	390	U	10	U
Diethylphthalate	10	U	10	U	10	U	390	U	390	U	10	U
4-Chlorophenyl-phenyl ether	10	U	10	U	10	U	390	U	390	U	10	U
Fluorene	10	U	10	U	10	U	390	U	390	U	10	U
4-Nitroaniline	50	U	50	U	50	U	1,900	U	1,900	U	50	U
4,6-Dinitro-2-methylphenol	50	U	50	U	50	U	1,900	U	1,900	U	50	U
N-Nitrosodiphenylamine	10	U	10	U	10	U	390	U	390	U	10	U
4-Bromophenyl-phenyl ether	10	U	10	U	10	U	390	U	390	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	390	U	390	U	10	U
Pentachlorophenol	50	U	50	U	50	U	1,900	U	1,900	U	50	U
Phenanthrene	10	U	10	U	10	U	390	U	390	U	10	U
Anthracene	10	U	10	U	10	U	390	U	390	U	10	U
Di-n-butylphthalate	10	U	10	U	10	U	390	U	390	U	10	U
Fluoranthene	10	U	10	U	10	U	390	U	390	U	10	U

ENVIRONMENTAL CHEMISTRY DIVISION

PROJECT NO. : 2-885-07-667
PROJECT NAME: ECAG IDAHO

SAIC SAMPLE IDENTIFICATION	87352021		87352022		87362001		87362002		87362003		87362004	
FIELD IDENTIFICATION	LF2-3-FB		EQUIP BLK #2		LF2-5-FB		LF2-5		LF2-6		EQUIP BLK #3	
MATRIX	AQUEOUS	(ug/L)	AQUEOUS	(ug/L)	AQUEOUS	(ug/L)	SOIL	(ug/kg)	SOIL	(ug/kg)	AQUEOUS	(ug/L)
SEMI-VOLATILE COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Pyrene	10	U	10	U	10	U	390	U	390	U	10	U
Butylbenzylphthalate	10	U	10	U	10	U	390	U	390	U	10	U
3,3'-Dichlorobenzidine	20	U	20	U	20	U	780	U	780	U	20	U
Benzo(a)anthracene	10	U	10	U	10	U	390	U	390	U	10	U
Chrysene	10	U	10	U	10	U	390	U	390	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U	390	U	390	U	40	B
Di-n-octylphthalate	10	U	10	U	10	U	390	U	390	U	10	U
Benzo(b)fluoranthene	10	U	10	U	10	U	390	U	390	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U	390	U	390	U	10	U
Benzo(a)pyrene	10	U	10	U	10	U	390	U	390	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	390	U	390	U	10	U
Dibenzo(a,h)anthracene	10	U	10	U	10	U	390	U	390	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U	390	U	390	U	10	U
PESTICIDES AND PCBS BY GC/EC ANALYSIS												
alpha-BHC	0.05	U	0.05	U	0.05	U	9.5	U	9.4	U	0.05	U
beta-BHC	0.05	U	0.05	U	0.05	U	9.5	U	9.4	U	0.05	U
delta-BHC	0.05	U	0.05	U	0.05	U	9.5	U	9.4	U	0.05	U
gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	9.5	U	9.4	U	0.05	U
Heptachlor	0.05	U	0.05	U	0.05	U	9.5	U	9.4	U	0.05	U
Aldrin	0.05	U	0.05	U	0.05	U	9.5	U	9.4	U	0.05	U
Heptachlor	0.05	U	0.05	U	0.05	U	9.5	U	9.4	U	0.05	U
Endosulfan I	0.05	U	0.05	U	0.05	U	9.5	U	9.4	U	0.05	U
Dieldrin	0.10	U	0.10	U	0.10	U	19	U	19	U	0.10	U
4,4'-DDE	0.10	U	0.10	U	0.10	U	19	U	19	U	0.10	U
Endrin	0.10	U	0.10	U	0.10	U	19	U	19	U	0.10	U
Endosulfan II	0.10	U	0.10	U	0.10	U	19	U	19	U	0.10	U
4,4'-DDD	0.10	U	0.10	U	0.10	U	19	U	19	U	0.10	U
Endosulfan sulfate	0.10	U	0.10	U	0.10	U	19	U	19	U	0.10	U
4,4'-DDT	0.10	U	0.10	U	0.10	U	19	U	19	U	0.10	U
Methoxychlor	0.5	U	0.5	U	0.5	U	95	U	94	U	0.5	U
Endrin ketone	0.10	U	0.10	U	0.10	U	19	U	19	U	0.10	U
alpha-Chlordane	0.5	U	0.5	U	0.5	U	95	U	94	U	0.5	U
gamma-Chlordane	0.5	U	0.5	U	0.5	U	95	U	94	U	0.5	U
Toxaphene	1	U	1	U	1	U	190	U	190	U	1	U
Arochlor-1016	0.5	U	0.5	U	0.5	U	95	U	94	U	0.5	U
Arochlor-1221	0.5	U	0.5	U	0.5	U	95	U	94	U	0.5	U
Arochlor-1232	0.5	U	0.5	U	0.5	U	95	U	94	U	0.5	U
Arochlor-1242	0.5	U	0.5	U	0.5	U	95	U	94	U	0.5	U
Arochlor-1248	0.5	U	0.5	U	0.5	U	95	U	94	U	0.5	U
Arochlor-1254	1	U	1	U	1	U	190	U	190	U	1	U
Arochlor-1260	1	U	1	U	1	U	190	U	190	U	1	U

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

DATE OF REPORT 02/27/88

ENVIRONMENTAL CHEMISTRY DIVISION

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	87352021		87352022		87362001		87362002		87362003		87362004	
FIELD IDENTIFICATION	LF2-3-FB		EQUIP BLK #2		LF2-5-FB		LF2-5		LF2-6		EQUIP BLK #3	
MATRIX	AQUEOUS (ug/L)		AQUEOUS (ug/L)		AQUEOUS (ug/L)		SOIL (ug/g)		SOIL (ug/g)		AQUEOUS (ug/L)	
TRACE METALS BY ICAP/GFAAS/CVAAS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Aluminum	200	U	200	U	200	U	31,000		21,000		200	U
Antimony	60	U	60	U	40	U	12	U	12	U	60	U
Arsenic	10	U	10	U	10	U	24		25		10	U
Barium	200	U	200	U	200	U	340		130		200	U
Beryllium	5	U	5	U	5	U	1		1		5	U
Cadmium	5	U	5	U	5	U	1	U	1	U	5	U
Calcium	9,500		5,000	U	5,000	U	11,000		23,000		5,000	U
Chromium	10	U	10	U	10	U	33		28		10	U
Cobalt	50	U	50	U	50	U	22		28		50	U
Copper	25	U	25	U	25	U	46		56		25	U
Iron	100	U	100	U	100	U	47,000		46,000		100	U
Lead	5	U	5	U	5	U	16		12		5	U
Magnesium	5,000	U	5,000	U	5,000	U	12,000		15,000		5,000	U
Manganese	15	U	15	U	15	U	840		830		15	U
Mercury	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U	0.04	U
Nickel	40	U	40	U	40	U	28		26		40	U
Potassium	5,000	U	5,000	U	5,000	U	5,100		3,900		5,000	U
Selenium	5	U	5	U	5	U	1	U	1	U	5	U
Silver	10	U	10	U	10	U	2	U	2	U	10	U
Sodium	5,000	U	5,000	U	5,000	U	1,000	U	1,000	U	5,000	U
Thallium	45	U	45	U	45	U	8	U	8	U	45	U
Vanadium	50	U	50	U	50	U	47		81		50	U
Zinc	20	U	20	U	20	U	32		31		20	U

ENVIRONMENTAL CHEMISTRY DIVISION

PROJECT NO. : 2-885-07-667
PROJECT NAME : EG&G IDAHO

DATA QUALIFIERS:

All data values are reported on a dry-weight basis.

U - Indicates the analyte was analyzed for but not detected. The sample quantitation limit is corrected for any dilution that was required.

J - Indicates an estimated value. This flag is used when estimating a concentration when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

B - This flag is used when the analyte is found in the associated laboratory blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

S - Used for metals only when the sample was quantitated by the Method of Standard Additions (MSA).

W - Used for metals analysis only when the post-digestion spike is out of control limits (85 - 115%), while sample absorbance is less than 50% of spike absorbance.

E - Used for metals analysis only when the reported value is estimated because of interference.

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

DATE OF REPORT 02/27/88

ENVIRONMENTAL CHEMISTRY DIVISION

QUALITY CONTROL REPORT

PROJECT NO. : 2-827-06-454-97

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

PROJECT NAME: CHARLESTON AFB

SAIC SAMPLE IDENTIFICATION 87349013
FIELD IDENTIFICATION LF3-7
MATRIX SOIL

VOLATILE ORGANIC COMPOUNDS BY GC/MS ANALYSIS	CONC. SPIKE ADDED	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	CONTROL LIMITS RPD	CONTROL LIMITS RECOVERY
1,1-Dichloroethene	50	0	33	66%	33	66%	0%	22%	59-172%
Trichloroethene	50	0	39	78%	38	76%	3%	24%	62-137%
Benzene	50	0	80	160%	78	156%	3%	21%	66-142%
Toluene	50	0	54	108%	52	104%	4%	21%	59-139%
Chlorobenzene	50	0	62	124%	61	122%	2%	21%	60-133%

SAIC SAMPLE IDENTIFICATION 87349013
FIELD IDENTIFICATION LF3-7
MATRIX SOIL

SEMI-VOLATILE COMPOUNDS BY GC/MS ANALYSIS	CONC. SPIKE ADDED	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	CONTROL LIMITS RPD	CONTROL LIMITS RECOVERY
Phenol	6,640	0	2,720	41%	3,090	47%	13%	35%	26-90%
2-Chlorophenol	6,640	0	4,520	68%	5,410	81%	18%	50%	25-102%
1,4-Dichlorobenzene	3,320	0	1,950	59%	2,520	76%	26%	27%	28-104%
N-Nitroso-Di-n-Propylamine	3,320	0	1,930	58%	2,390	72%	21%	38%	41-126%
1,2,4-Trichlorobenzene	3,320	0	2,300	69%	2,690	81%	16%	23%	38-107%
4-Chloro-3-Methylphenol	6,640	0	3,890	59%	4,620	70%	17%	33%	26-103%
Acenaphthene	3,320	0	2,490	75%	2,760	83%	10%	19%	31-137%
4-Nitrophenol	6,640	0	4,920	74%	6,780	102%	32%	36%	11-114%
2,4-Dinitrotoluene	3,320	0	2,200	66%	2,790	84%	24%	47%	28-89%
Pentachlorophenol	6,640	0	3,260	49%	4,420	67%	30%	47%	17-109%
Pyrene	3,320	0	2,490	75%	3,060	92%	21%	36%	35-142%

PESTICIDES AND PCB BY GC/EC ANALYSIS	CONC. SPIKE ADDED	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	CONTROL LIMITS RPD	CONTROL LIMITS RECOVERY
Lindane	27	0	29	107%	27	100%	7%	50%	46-127%
Heptachlor	27	0	19	70%	18	67%	5%	31%	35-130%
Aldrin	27	0	29	107%	30	111%	3%	43%	34-132%
Dieldrin	68	0	87	128%	79	116%	10%	38%	31-134%
Endrin	68	0	79	116%	78	115%	1%	45%	42-139%
4,4;-DDT	68	0	72	106%	65	96%	10%	50%	23-134%

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

DATE OF REPORT 02/27/88

ENVIRONMENTAL CHEMISTRY DIVISION

QUALITY CONTROL REPORT

PROJECT NO. : 2-827-06-454-97
PROJECT NAME: CHARLESTON AFB

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

SAIC SAMPLE IDENTIFICATION 87352018
FIELD IDENTIFICATION LF2-1
MATRIX SOIL

TRACE METALS BY ICAP/GFAAS/CVAAS ANALYSIS	CONC. SPIKE ADDED	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	CONTROL LIMITS RPD	CONTROL LIMITS RECOVERY
Antimony	20	0	A	0%	A	0%	0%	60%	75-125%
Arsenic	79	5.8	75	88%	70	81%	7%	10%	75-125%
Barium	65	200	280	123%	250	77%	46%	200%	75-125%
Beryllium	2	1.2	3.3	105%	3.3	105%	0%	5%	75-125%
Cadmium	2	1.6	3.9	115%	3.1	75%	42%	5%	75-125%
Chromium	7.9	25	34	114%	34	114%	0%	10%	75-125%
Cobalt	20	6.9	26	96%	28	106%	10%	50%	75-125%
Copper	9.9	24	35	111%	32	81%	32%	25%	75-125%
Lead	79	14	93	100%	97	105%	5%	5%	75-125%
Manganese	20	190	340	C	310	C		20%	75-125%
Mercury	0.14	0.024	0.17	91%	0.19	104%	13%	20%	75-125%
Nickel	20	23	43	100%	44	105%	5%	40%	75-125%
Selenium	5%	0	42	81%	43	83%	2%	5%	75-125%
Silver	2	0.14	2.3	108%	2.3	108%	0%	10%	75-125%
Thallium	79	0	69	87%	85	108%	21%	10%	75-125%
Vanadium	20	45	63	90%	68	115%	24%	50%	75-125%
Zinc	20	100	120	100%	120	100%	0%	20%	75-125%

ENVIRONMENTAL CHEMISTRY DIVISION

PROJECT NO. : 2-885-07-667
PROJECT NAME : EG&G IDAHO

NOTES AND COMMENTS:

A - Spike loss due to volatility of antimony as a chloride complex during sample oxidation stage is suspected to be the cause of the lack of recovery for this element.

C - The poor manganese spike recovery is most likely due to the natural heterogeneity of the sample. Aluminum, iron, and manganese are crustal (relating to earth's crust) elements and generally exhibit very strong positive correlations (i.e., 0.9 or greater) when their concentrations are compared with each other in soils and sediments. Therefore, when manganese concentrations change, generally one would expect aluminum and iron concentrations to change proportionally. Sample LF2-1 was analyzed non-spiked, as a matrix spike (MS) and as a matrix spike duplicate (MSD) for manganese. The these three aliquots (LF2-1, LF2-1MS, and LF2-1MSD) were also analyzed for their aluminun and iron content, although the MS and MSD were not spiked with either aluminun or iron. Therefore, these three aliquots also represent a triplicate set of "sample contribution" concentration data for aluminun and iron. The values for aluminun and iron found are:

	LF2-1	LF2-1MS	LF2-1MSD
Aluminun (ug/g)	18000	40000	40000
Iron (ug/g)	17000	40000	40000

As one will observe, the "natural concentration for aluminun and iron were increased by approximately a twofold factor in LF2-1MS AND LF2-1MSD above those found in LF2-1. The manganese levels found in LF2-1MS AND LF2-1MSD (340 and 310 ug/g respectively) also represent approximately a twofold factor increase over LF2-1 (190 ug/g). The spike level for MS and MSD (20 ug/g) is insignificant compared to the amount of manganese in the spiked samples.

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

DATE OF REPORT 02/27/88

ENVIRONMENTAL CHEMISTRY DIVISION

QUALITY CONTROL REPORT
METHOD BLANK ANALYSIS

PROJECT NO. : 2-881-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	INSTRUMENT BLK		MB-1		VOA HOLDING BLK		MB-2		MB-3		MB-4	
FIELD IDENTIFICATION	NA		NA		NA		NA		NA		NA	
MATRIX	NA	(ug/L)	AQUEOUS	(ug/L)	AQUEOUS	(ug/L)	SOIL	(ug/kg)	AQUEOUS	(ug/L)	AQUEOUS	(ug/L)
VOLATILE ORGANIC COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Chloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Vinyl chloride	10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U	10	U	10	U	10	U
Methylene chloride	6		2	J	1	J	10		3	J	3	J
Acetone	17		13		12		14		10	U	10	U
Carbon Disulfide	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethene (Total)	5	U	5	U	5	U	5	U	5	U	5	U
Chloroform	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
2-Butanone	10	U	10	U	10	U	10	U	10	U	10	U
1,1,1-Trichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl Acetate	10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	5	U	5	U	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U
Trichloroethene	5	U	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trchloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Benzene	5	U	5	U	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U
Bromoform	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone	10	U	10	U	10	U	10	U	10	U	10	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Toluene	5	U	5	U	5	U	5	U	5	U	5	U
Chlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
Ethyl benzene	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	5	U	5	U	5	U	5	U	5	U	5	U
Xylenes, Total	5	U	5	U	5	U	5	U	5	U	5	U
ASSOCIATED SAMPLES:	87346015		87346017 LF3-6-FB FB-1 LF3-7 LF3-6 LF3-7MS LF3-7MSD EQUIP BLK		LF3-6-FB FB-1 LF3-7 LF3-6 LF3-7MS LF3-7MSD EQUIP BLK		87350030 87350031 87350032 LF3-2B LF3-4 LF3-2-FB		87350030		87350031	

ENVIRONMENTAL CHEMISTRY DIVISION

QUALITY CONTROL REPORT
METHOD BLANK ANALYSIS

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	MB-5		VOA HOLDING BLK		MB-6		VOA HOLDING BLK		MB-7		MB-8	
FIELD IDENTIFICATION	NA		NA		NA		NA		NA		NA	
MATRIX	AQUEOUS (ug/L)		AQUEOUS (ug/L)		AQUEOUS (ug/L)		AQUEOUS (ug/L)		AQUEOUS (ug/L)		AQUEOUS (ug/L)	
VOLATILE ORGANIC COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Chloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Vinyl chloride	10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U	10	U	10	U	10	U
Methylene chloride	3	J	2	J	4		4		2	J	2	J
Acetone	10	U	10	U	10	U	10	U	11		14	
Carbon Disulfide	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethene (Total)	5	U	5	U	5	U	5	U	5	U	5	U
Chloroform	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
2-Butanone	10	U	10	U	10	U	10	U	10	U	10	U
1,1,1-Trichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl Acetate	10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	5	U	5	U	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U
Trichloroethene	5	U	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trchloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Benzene	5	U	5	U	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U
Bromoform	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone	10	U	10	U	10	U	10	U	10	U	10	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Toluene	5	U	5	U	5	U	5	U	5	U	5	U
Chlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
Ethyl benzene	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	5	U	5	U	5	U	5	U	5	U	5	U
Xylenes, Total	5	U	5	U	5	U	5	U	5	U	5	U
ASSOCIATED SAMPLES:	87350032 LF3-2S LF3-4 LF3-2-FB		LF3-2S LF3-4 LF3-2-FB LF3-4-FB		87352024 EQUIP BLK2 LF2-1-FB LF2-3-FB		EQUIP BLK2 LF2-1-FB LF2-3-FB LF2-3S LF2-1		LF2-3S LF2-1		87362005	

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

DATE OF REPORT 02/27/88

ENVIRONMENTAL CHEMISTRY DIVISION

QUALITY CONTROL REPORT
METHOD BLANK ANALYSIS

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	MB-9		VOA HOLDING BLK	
FIELD IDENTIFICATION	NA		NA	
MATRIX	AQUEOUS (ug/L)		AQUEOUS (ug/L)	
VOLATILE ORGANIC COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Chloromethane	10	U	10	U
Bromomethane	10	U	10	U
Vinyl chloride	10	U	10	U
Chloroethane	10	U	10	U
Methylene chloride	2	J	4	J
Acetone	10	U	4	J
Carbon Disulfide	5	U	5	U
1,1-Dichloroethene	5	U	5	U
1,1-Dichloroethane	5	U	5	U
1,2-Dichloroethene (Total)	5	U	5	U
Chloroform	5	U	5	U
1,2-Dichloroethane	5	U	5	U
2-Butanone	10	U	10	U
1,1,1-Trichloroethane	5	U	5	U
Carbon Tetrachloride	5	U	5	U
Vinyl Acetate	10	U	10	U
Bromodichloromethane	5	U	5	U
1,2-Dichloropropane	5	U	5	U
cis-1,3-Dichloropropene	5	U	5	U
Trichloroethene	5	U	5	U
Dibromochloromethane	5	U	5	U
1,1,2-Trchloroethane	5	U	5	U
Benzene	5	U	5	U
trans-1,3-Dichloropropene	5	U	5	U
Bromoform	5	U	5	U
4-Methyl-2-Pentanone	10	U	10	U
2-Hexanone	10	U	10	U
Tetrachloroethene	5	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U
Toluene	5	U	5	U
Chlorobenzene	5	U	5	U
Ethyl benzene	5	U	5	U
Styrene	5	U	5	U
Xylenes, Total	5	U	5	U
ASSOCIATED SAMPLES:	87362006 EQUIP BLK3 LF2-5-FB LF2-6 LF2-5		EQUIP BLK3 LF2-5-FB LF2-6 LF2-5	

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

DATE OF REPORT 02/27/88

ENVIRONMENTAL CHEMISTRY DIVISION

QUALITY CONTROL REPORT
METHOD BLANK ANALYSIS

PROJECT NO. : 2-885-07-567
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	MB-1 AQ		MB-1 SOIL		MB-2 AQ		MB-2 SOIL		MB-3 AQ		MB-3 SOIL	
FIELD IDENTIFICATION	NA		NA		NA		NA		NA		NA	
MATRIX	AQUEOUS (ug/L)		SOIL (ug/kg)		AQUEOUS (ug/L)		SOIL (ug/kg)		AQUEOUS (ug/L)		SOIL (ug/kg)	
SEMI-VOLATILE COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Phenol	10	U	330	U	10	U	330	U	10	U	330	U
bis(2-Chloroethyl) ether	10	U	330	U	10	U	330	U	10	U	330	U
2-Chlorophenol	10	U	330	U	10	U	330	U	10	U	330	U
1,3-Dichlorobenzene	10	U	330	U	10	U	330	U	10	U	330	U
1,4-Dichlorobenzene	10	U	330	U	10	U	330	U	10	U	330	U
Benzyl alcohol	10	U	330	U	10	U	330	U	10	U	330	U
1,2-Dichlorobenzene	10	U	330	U	10	U	330	U	10	U	330	U
2-Methylphenol	10	U	330	U	10	U	330	U	10	U	330	U
bis(2-Chloroisopropyl) ether	10	U	330	U	10	U	330	U	10	U	330	U
4-Methylphenol	10	U	330	U	10	U	330	U	10	U	330	U
N-Nitroso-di-n-dipropylamine	10	U	330	U	10	U	330	U	10	U	330	U
Hexachloroethane	10	U	330	U	10	U	330	U	10	U	330	U
Nitrobenzene	10	U	330	U	10	U	330	U	10	U	330	U
Isophorone	10	U	330	U	10	U	330	U	10	U	330	U
2-Nitrophenol	10	U	330	U	10	U	330	U	10	U	330	U
2,4-Dimethylphenol	10	U	330	U	10	U	330	U	10	U	330	U
Benzoic acid	50	U	1,600	U	50	U	1,600	U	50	U	1,600	U
bis(2-Chloroethoxy) methane	10	U	330	U	10	U	330	U	10	U	330	U
2,4-Dichlorophenol	10	U	330	U	10	U	330	U	10	U	330	U
1,2,4-Trichlorobenzene	10	U	330	U	10	U	330	U	10	U	330	U
Naphthalene	10	U	330	U	10	U	330	U	10	U	330	U
4-Chloroaniline	10	U	330	U	10	U	330	U	10	U	330	U
Hexachlorobutadiene	10	U	330	U	10	U	330	U	10	U	330	U
4-Chloro-3-methylphenol	10	U	330	U	10	U	330	U	10	U	330	U
2-Methylnaphthalene	10	U	330	U	10	U	330	U	10	U	330	U
Hexachlorocyclopentadiene	10	U	330	U	10	U	330	U	10	U	330	U
2,4,6-Trichlorophenol	10	U	330	U	10	U	330	U	10	U	330	U
2,4,5-Trichlorophenol	50	U	1,600	U	50	U	1,600	U	50	U	1,600	U
2-Chloronaphthalene	10	U	330	U	10	U	330	U	10	U	330	U
2-Nitroaniline	50	U	1,600	U	50	U	1,600	U	50	U	1,600	U
Dimethylphthalate	10	U	330	U	10	U	330	U	10	U	330	U
Acenaphthylene	10	U	330	U	10	U	330	U	10	U	330	U
2,6-Dinitrotoluene	10	U	330	U	10	U	330	U	10	U	330	U
3-Nitroaniline	50	U	1,600	U	50	U	1,600	U	50	U	1,600	U
Acenaphthene	10	U	330	U	10	U	330	U	10	U	330	U
2,4-Dinitrophenol	50	U	1,600	U	50	U	1,600	U	50	U	1,600	U
4-Nitrophenol	50	U	1,600	U	50	U	1,600	U	50	U	1,600	U
Dibenzofuran	10	U	330	U	10	U	330	U	10	U	330	U
2,4-Dinitrotoluene	10	U	330	U	10	U	330	U	10	U	330	U
Diethylphthalate	10	U	330	U	10	U	330	U	10	U	330	U
4-Chlorophenyl-phenyl ether	10	U	330	U	10	U	330	U	10	U	330	U
Fluorene	10	U	330	U	10	U	330	U	10	U	330	U
4-Nitroaniline	50	U	1,600	U	50	U	1,600	U	50	U	1,600	U
4,6-Dinitro-2-methylphenol	50	U	1,600	U	50	U	1,600	U	50	U	1,600	U
N-Ni[illegible]iphenylamine	10	U	330	U	[illegible]0	U	330	U	10	U	33[illegible]	U

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

DATE OF REPORT 02/27/88

ENVIRONMENTAL CHEMISTRY DIVISION

QUALITY CONTROL REPORT
METHOD BLANK ANALYSIS

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	MB-1 AQ		MB-1 SOIL		MB-2 AQ		MB-2 SOIL		MB-3 AQ		MB-3 SOIL	
FIELD IDENTIFICATION	NA		NA		NA		NA		NA		NA	
MATRIX	AQUEOUS	(ug/L)	SOIL	(ug/kg)	AQUEOUS	(ug/L)	SOIL	(ug/kg)	AQUEOUS	(ug/L)	SOIL	(ug/kg)
SEMI-VOLATILE COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
4-Bromophenyl-phenyl ether	10	U	330	U	10	U	330	U	10	U	330	U
Hexachlorobenzene	10	U	330	U	10	U	330	U	10	U	330	U
Pentachlorophenol	50	U	1,600	U	50	U	1,600	U	50	U	1,600	U
Phenanthrene	10	U	330	U	10	U	330	U	10	U	330	U
Anthracene	10	U	330	U	10	U	330	U	10	U	330	U
Di-n-butylphthalate	10	U	330	U	10	U	330	U	10	U	330	U
Fluoranthene	10	U	330	U	10	U	330	U	10	U	330	U
Pyrene	10	U	330	U	10	U	330	U	10	U	330	U
Butylbenzylphthalate	10	U	330	U	10	U	330	U	10	U	330	U
3,3'-Dichlorobenzidine	20	U	660	U	20	U	660	U	20	U	660	U
Benzo(a)anthracene	10	U	330	U	10	U	330	U	10	U	330	U
Chrysene	10	U	330	U	10	U	330	U	10	U	330	U
bis(2-Ethylhexyl)phthalate	10	U	330	U	10	U	330	U	10	U	330	U
Di-n-octylphthalate	10	U	330	U	10	U	330	U	10	U	330	U
Benzo(b)fluoranthene	10	U	330	U	10	U	330	U	10	U	330	U
Benzo(k)fluoranthene	10	U	330	U	10	U	330	U	10	U	330	U
Benzo(a)pyrene	10	U	330	U	10	U	330	U	10	U	330	U
Indeno(1,2,3-cd)pyrene	10	U	330	U	10	U	330	U	10	U	330	U
Dibenzo(a,h)anthracene	10	U	330	U	10	U	330	U	10	U	330	U
Benzo(g,h,i)perylene	10	U	330	U	10	U	330	U	10	U	330	U
ASSOCIATED SAMPLES:	LF3-6-FB FB-1 EQUIP BLK1		LF3-6 LF3-7 LF3-7MS LF3-7MSD		LF3-4-FB LF3-2-FB		LF3-4 LF3-2S		LF2-1-FB LF2-3-FB EQUIP BLK2		LF2-1 LF2-3S	

ENVIRONMENTAL CHEMISTRY DIVISION

QUALITY CONTROL REPORT
METHOD BLANK ANALYSIS

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	MB-4 AQ		MB-4 SOIL	
FIELD IDENTIFICATION	NA		NA	
MATRIX	AQUEOUS (ug/L)		SOIL (ug/kg)	
SEMI-VOLATILE COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Phenol	10	U	330	U
bis(2-Chloroethyl) ether	10	U	330	U
2-Chlorophenol	10	U	330	U
1,3-Dichlorobenzene	10	U	330	U
1,4-Dichlorobenzene	10	U	330	U
Benzyl alcohol	10	U	330	U
1,2-Dichlorobenzene	10	U	330	U
2-Methylphenol	10	U	330	U
bis(2-Chloroisopropyl) ether	10	U	330	U
4-Methylphenol	10	U	330	U
N-Nitroso-di-n-dipropylamine	10	U	330	U
Hexachloroethane	10	U	330	U
Nitrobenzene	10	U	330	U
Isophorone	10	U	330	U
2-Nitrophenol	10	U	330	U
2,4-Dimethylphenol	10	U	330	U
Benzoic acid	50	U	1,600	U
bis(2-Chloroethoxy) methane	10	U	330	U
2,4-Dichlorophenol	10	U	330	U
1,2,4-Trichlorobenzene	10	U	330	U
Naphthalene	10	U	330	U
4-Chloroaniline	10	U	330	U
Hexachlorobutadiene	10	U	330	U
4-Chloro-3-methylphenol	10	U	330	U
2-Methylnaphthalene	10	U	330	U
Hexachlorocyclopentadiene	10	U	330	U
2,4,6-Trichlorophenol	10	U	330	U
2,4,5-Trichlorophenol	50	U	1,600	U
2-Chloronaphthalene	10	U	330	U
2-Nitroaniline	50	U	1,600	U
Dimethylphthalate	10	U	330	U
Acenaphthylene	10	U	330	U
2,6-Dinitrotoluene	10	U	330	U
3-Nitroaniline	50	U	1,600	U
Acenaphthene	10	U	330	U
2,4-Dinitrophenol	50	U	1,600	U
4-Nitrophenol	50	U	1,600	U
Dibenzofuran	10	U	330	U
2,4-Dinitrotoluene	10	U	330	U
Diethylphthalate	10	U	330	U
4-Chlorophenyl-phenyl ether	10	U	330	U
Fluorene	10	U	330	U
4-Nitroaniline	50	U	1,600	U
4,6-Dinitro-2-methylphenol	50	U	1,600	U
N-Nl diphenylamine	10	U	330	U

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ENVIRONMENTAL CHEMISTRY DIVISION

QUALITY CONTROL REPORT
METHOD BLANK ANALYSIS

PROJECT NO. : 2-885-07-667
PROJECT NAME: ECAG IDAHO

SAIC SAMPLE IDENTIFICATION	MB-4 AQ		MB-4 SOIL	
FIELD IDENTIFICATION	NA		NA	
MATRIX	AQUEOUS (ug/L)		SOIL (ug/kg)	
SEMI-VOLATILE COMPOUNDS BY GC/MS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG
4-Bromophenyl-phenyl ether	10	U	330	U
Hexachlorobenzene	10	U	330	U
Pentachlorophenol	50	U	1,600	U
Phenanthrene	10	U	330	U
Anthracene	10	U	330	U
Di-n-butylphthalate	10	U	330	U
Fluoranthene	10	U	330	U
Pyrene	10	U	330	U
Butylbenzylphthalate	10	U	330	U
3,3'-Dichlorobenzidine	20	U	660	U
Benzo(a)anthracene	10	U	330	U
Chrysene	10	U	330	U
bis(2-Ethylhexyl)phthalate	9	J	330	U
Di-n-octylphthalate	10	U	330	U
Benzo(b)fluoranthene	10	U	330	U
Benzo(k)fluoranthene	10	U	330	U
Benzo(a)pyrene	10	U	330	U
Indeno(1,2,3-cd)pyrene	10	U	330	U
Dibenzo(a,h)anthracene	10	U	330	U
Benzo(g,h,i)perylene	10	U	330	U
ASSOCIATED SAMPLES:	LF2-5-FB EQUIP BLK3		LF2-6 LF2-5	

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ENVIRONMENTAL CHEMISTRY DIVISION

QUALITY CONTROL REPORT
METHOD BLANK ANALYSIS

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	MB-1 AQ		MB-1 SOIL		MB-2 AQ		MB-2 SOIL		MB-3 AQ		MB-3 SOIL	
FIELD IDENTIFICATION	NA		NA		NA		NA		NA		NA	
MATRIX	AQUEOUS	(ug/L)	SOIL	(ug/kg)	AQUEOUS	(ug/L)	SOIL	(ug/kg)	AQUEOUS	(ug/L)	SOIL	(ug/kg)
PESTICIDES AND PCBS BY GC/EC ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
alpha-BHC	0.05	U	8.0	U	0.05	U	8.0	U	0.05	U	8.0	U
beta-BHC	0.05	U	8.0	U	0.05	U	8.0	U	0.05	U	8.0	U
delta-BHC	0.05	U	8.0	U	0.05	U	8.0	U	0.05	U	8.0	U
gamma-BHC (Lindane)	0.05	U	8.0	U	0.05	U	8.0	U	0.05	U	8.0	U
Heptachlor	0.05	U	8.0	U	0.05	U	8.0	U	0.05	U	8.0	U
Aldrin	0.05	U	8.0	U	0.05	U	8.0	U	0.05	U	8.0	U
Heptachlor	0.05	U	8.0	U	0.05	U	8.0	U	0.05	U	8.0	U
Endosulfan I	0.05	U	8.0	U	0.05	U	8.0	U	0.05	U	8.0	U
Dieldrin	0.10	U	16	U	0.10	U	16	U	0.10	U	16	U
4,4'-DDE	0.10	U	16	U	0.10	U	16	U	0.10	U	16	U
Endrin	0.10	U	16	U	0.10	U	16	U	0.10	U	16	U
Endosulfan II	0.10	U	16	U	0.10	U	16	U	0.10	U	16	U
4,4'-DDD	0.10	U	16	U	0.10	U	16	U	0.10	U	16	U
Endosulfan sulfate	0.10	U	16	U	0.10	U	16	U	0.10	U	16	U
4,4'-DDT	0.10	U	16	U	0.10	U	16	U	0.10	U	16	U
Methoxychlor	0.5	U	80	U	0.5	U	80	U	0.5	U	80	U
Endrin ketone	0.10	U	16	U	0.10	U	16	U	0.10	U	16	U
alpha-Chlordane	0.5	U	80	U	0.5	U	80	U	0.5	U	80	U
gamma-Chlordane	0.5	U	80	U	0.5	U	80	U	0.5	U	80	U
Toxaphene	1	U	160	U	1	U	160	U	1	U	160	U
Arochlor-1016	0.5	U	80	U	0.5	U	80	U	0.5	U	80	U
Arochlor-1221	0.5	U	80	U	0.5	U	80	U	0.5	U	80	U
Arochlor-1232	0.5	U	80	U	0.5	U	80	U	0.5	U	80	U
Arochlor-1242	0.5	U	80	U	0.5	U	80	U	0.5	U	80	U
Arochlor-1248	0.5	U	80	U	0.5	U	80	U	0.5	U	80	U
Arochlor-1254	1	U	160	U	1	U	160	U	1	U	160	U
Arochlor-1260	1	U	160	U	1	U	160	U	1	U	160	U
ASSOCIATED SAMPLES:	LF3-6-FB FB-1 EQUIP BLK1		LF3-6 LF3-7 LF3-7MS LF3-7MSD		LF3-4-FB LF3-2-FB		LF3-4 LF3-2S		LF2-1-FB LF2-3-FB EQUIP BLK2		LF2-1 LF2-3S	

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ENVIRONMENTAL CHEMISTRY DIVISION

QUALITY CONTROL REPORT
METHOD BLANK ANALYSIS

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	MB-4 AQ		MB-4 SOIL	
FIELD IDENTIFICATION	NA		NA	
MATRIX	AQUEOUS (ug/L)		SOIL (ug/kg)	
PESTICIDES AND PCBS BY GC/EC ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG
alpha-BHC	0.05	U	8.0	U
beta-BHC	0.05	U	8.0	U
delta-BHC	0.05	U	8.0	U
gamma-BHC (Lindane)	0.05	U	8.0	U
Heptachlor	0.05	U	8.0	U
Aldrin	0.05	U	8.0	U
Heptachlor	0.05	U	8.0	U
Endosulfan I	0.05	U	8.0	U
Dieldrin	0.10	U	16	U
4,4'-DDE	0.10	U	16	U
Endrin	0.10	U	16	U
Endosulfan II	0.10	U	16	U
4,4'-DDD	0.10	U	16	U
Endosulfan sulfate	0.10	U	16	U
4,4'-DDT	0.10	U	16	U
Methoxychlor	0.5	U	80	U
Endrin ketone	0.10	U	16	U
alpha-Chlordane	0.5	U	80	U
gamma-Chlordane	0.5	U	80	U
Toxaphene	1	U	160	U
Arochlor-1016	0.5	U	80	U
Arochlor-1221	0.5	U	80	U
Arochlor-1232	0.5	U	80	U
Arochlor-1242	0.5	U	80	U
Arochlor-1248	0.5	U	80	U
Arochlor-1254	1	U	160	U
Arochlor-1260	1	U	160	U
ASSOCIATED SAMPLES:	LF2-5-FS EQUIP BLK3		LF2-6 LF2-5	

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ENVIRONMENTAL CHEMISTRY DIVISION

QUALITY CONTROL REPORT
METHOD BLANK ANALYSIS

PROJECT NO. : 2-885-07-667
PROJECT NAME: EG&G IDAHO

SAIC SAMPLE IDENTIFICATION	MB-1 AQ		MB-1 SOIL		MB-2 AQ		MB-2 SOIL	
FIELD IDENTIFICATION	NA		NA		NA		NA	
MATRIX	AQUEOUS (ug/L)		SOIL (ug/g)		AQUEOUS (ug/L)		SOIL (ug/g)	
TRACE METALS BY ICAP/GFAAS/CVAAS ANALYSIS	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG	TEST RESULTS	FLAG
Aluminum	200	U	40	U	200	U	40	U
Antimony	60	U	12	U	60	U	12	U
Arsenic	10	U	2	U	10	U	2	U
Barium	200	U	40	U	200	U	40	U
Beryllium	5	U	1	U	5	U	1	U
Cadmium	5	U	1	U	5	U	1	U
Calcium	5,000	U	1,000	U	5,000	U	1,000	U
Chromium	10	U	2	U	10	U	2	U
Cobalt	50	U	10	U	50	U	10	U
Copper	25	U	5	U	25	U	5	U
Iron	100	U	20	U	100	U	20	U
Lead	5	U	1	U	5	U	1	U
Magnesium	5,000	U	1,000	U	5,000	U	1,000	U
Manganese	15	U	3	U	15	U	3	U
Mercury	0.04	U	0.04	U	0.04	U	0.04	U
Nickel	40	U	8	U	40	U	8	U
Potassium	5,000	U	1,000	U	5,000	U	1,000	U
Selenium	5	U	1	U	5	U	1	U
Silver	10	U	2	U	10	U	2	U
Sodium	5,000	U	1,000	U	5,000	U	1,000	U
Thallium	45	U	6	U	45	U	6	U
Vanadium	50	U	10	U	50	U	10	U
Zinc	20	U	4	U	20	U	4	U
ASSOCIATED SAMPLES:	LF3-6-FB FB-1 EQUIP BLK1 LF3-4-FB LF3-2-FB		LF3-6 LF3-7 LF3-4 LF3-2B		LF2-1-FB LF3-2-FB LF2-3-FB EQUIP BLK2 LF2-5-FB EQUIP BLK1		LF2-1 LF2-3B LF2-6 LF2-5 LF2-1MS LF2-1MSD	

SUMMARY OF FIELD QC -- VOLATILE ORGANICS

TRIP BLANKS

Trip blanks are flagged "Possible Contamination" if concentration is above the Instrument Detection Limit (IDL) and is not qualified with a 'J' (see explanation of qualifiers). Otherwise, the samples are flagged "No Contamination".

EQUIPMENT BLANKS

Equipment blanks are flagged "Possible Contamination" if concentration is above the IDL and is not qualified with a 'J' (see explanation of qualifiers). Otherwise, the samples are flagged "No Contamination".

SPLITS

Splits are flagged as out of control if the relative percent difference (RPD) or absolute difference, as appropriate, does not lie within EPA empirically derived limits. If the splits are within these limits, they are flagged as in control. If no limits are available, the splits are flagged as such. If the splits are below detection, then the RPD is not calculated.

The EPA limits for organics used are those presented on the Contract Laboratory Program (CLP) forms and in the CLP Statement of Work (SOW) for matrix spike duplicates. In the case where one of the splits is greater than the IDL and the other less than the IDL, the RPD reported is a minimum value.

For inorganics, the comparison of split data to EPA limits is:

1) RPD compared to 20% when both splits are greater than five times the Contract Required Detection Limit (CRDL) or

2) absolute difference compared to CRDL for case where

a). both splits are between the CRDL and five times the CRDL

or

b). one split is between the CRDL and five times the CRDL and the other is greater than five times the CRDL.

In cases where one or both of the splits is less than either the CRDL or the IDL, the sample is flagged "Concentration < CRDL". When the CRDL is not available, the sample is flagged as such. Calculation of these limits is described in the SOW (Exhibit E).

In addition to the above flags, cases where the IDL is greater than the CRDL is also flagged. Under typical conditions, this is a noncompliant item and is included in the validation effort. It was included here for the sake of completeness.

SPIKES

Percent recovery of analytes added to spiked samples is calculated. Because of the use of standards in spike preparation, comparison to EPA limits is not appropriate and manual examination of the recoveries is made.

Spikes are flagged "Possible Contamination" if concentration of analytes not added to the sample is above the IDL and is not qualified with a 'J' (see explanation of qualifiers). Otherwise, these sample/analyte combinations are flagged "No Contamination".

NOTES FOR ORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

J -- indicates an estimated value. This flag is used when estimating the concentration of tentatively identified compounds or when compound is identified but the concentration is less than the sample quantitation limit.

B -- analyte found in the associated blank as well as in the sample.

D -- identifies all compounds identified in an analysis at a secondary dilution factor.

NOTES FOR INORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

B -- indicates the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

E -- indicates a value estimated or not reported due to the presence of interference.

S -- indicates value determined by Method of Standard Addition.

M -- indicates duplicate injection precision not met.

N -- indicates matrix spike sample recovery is not within control limits.

W -- indicates post-digestion spike for furnace AA anlysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

* -- indicates duplicate analysis is not within control limits.

+ -- indicates that the correlation coefficient for Method of Standard Addition is less than 0.995.

EQUIPMENT BLANK EVALUATION
VOLATILES
LANDFILL #2&3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
1,1,1-TRICHLOROETHANE	EQUIPBLK1	5	U	No Contamination
1,1,2,2-TETRACHLOROETHANE	EQUIPBLK1	5	U	No Contamination
1,1,2-TRICHLOROETHANE	EQUIPBLK1	5	U	No Contamination
1,1-DICHLOROETHANE	EQUIPBLK1	5	U	No Contamination
1,1-DICHLOROETHENE	EQUIPBLK1	5	U	No Contamination
1,1-DICHLOROETHENE (TOTAL)	EQUIPBLK1	5	U	No Contamination
1,2-DICHLOROETHANE	EQUIPBLK1	5	U	No Contamination
1,2-DICHLOROPROPANE	EQUIPBLK1	5	U	No Contamination
2-BUTANONE	EQUIPBLK1	10	U	No Contamination
2-HEXANONE	EQUIPBLK1	10	U	No Contamination
4-METHYL-2-PENTANONE	EQUIPBLK1	10	U	No Contamination
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BENZENE	EQUIPBLK1	5	U	No Contamination
BROMODICHLOROMETHANE	EQUIPBLK1	5	U	No Contamination
BROMOFORM	EQUIPBLK1	5	U	No Contamination
BROMOMETHANE	EQUIPBLK1	10	U	No Contamination
CARBON DISULFIDE	EQUIPBLK1	5	U	No Contamination
CARBON TETRACHLORIDE	EQUIPBLK1	5	U	No Contamination
CHLOROBENZENE	EQUIPBLK1	5	U	No Contamination
CHLOROETHANE	EQUIPBLK1	10	U	No Contamination
CHLOROFORM	EQUIPBLK1	5	U	No Contamination
CHLOROMETHANE	EQUIPBLK1	10	U	No Contamination
CIS-1,3-DICHLOROPROPENE	EQUIPBLK1	5	U	No Contamination
DIBROMOCHLOROMETHANE	EQUIPBLK1	5	U	No Contamination
ETHYLBENZENE	EQUIPBLK1	5	U	No Contamination
METHYLENE CHLORIDE	EQUIPBLK1	5	U	No Contamination
STYRENE	EQUIPBLK1	5	U	No Contamination
TETRACHLOROETHENE	EQUIPBLK1	5	U	No Contamination
TOLUENE	EQUIPBLK1	5	U	No Contamination
TRANS-1,3-DICHLOROPROPENE	EQUIPBLK1	5	U	No Contamination
TRICHLOROETHENE	EQUIPBLK1	5	U	No Contamination
VINYL ACETATE	EQUIPBLK1	10	U	No Contamination
VINYL CHLORIDE	EQUIPBLK1	10	U	No Contamination
XYLENE (TOTAL)	EQUIPBLK1	5	U	No Contamination
1,1,1-TRICHLOROETHANE	EQUIPBLK2	5	U	No Contamination
1,1,2,2-TETRACHLOROETHANE	EQUIPBLK2	5	U	No Contamination
1,1,2-TRICHLOROETHANE	EQUIPBLK2	5	U	No Contamination
1,1-DICHLOROETHANE	EQUIPBLK2	5	U	No Contamination
1,1-DICHLOROETHENE	EQUIPBLK2	5	U	No Contamination
1,1-DICHLOROETHENE (TOTAL)	EQUIPBLK2	5	U	No Contamination
1,2-DICHLOROETHANE	EQUIPBLK2	5	U	No Contamination
1,2-DICHLOROPROPANE	EQUIPBLK2	5	U	No Contamination
2-BUTANONE	EQUIPBLK2	10	U	No Contamination
2-HEXANONE	EQUIPBLK2	10	U	No Contamination
4-METHYL-2-PENTANONE	EQUIPBLK2	10	U	No Contamination
ACETONE	EQUIPBLK2	10	U	No Contamination
BENZENE	EQUIPBLK2	5	U	No Contamination

EQUIPMENT BLANK EVALUATION
VOLATILES
LANDFILL #283

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
BROMODICHLOROMETHANE	EQUIPBLK2	5	U	No Contamination
BROMOFORM	EQUIPBLK2	5	U	No Contamination
BROMOMETHANE	EQUIPBLK2	10	U	No Contamination
CARBON DISULFIDE	EQUIPBLK2	5	U	No Contamination
CARBON TETRACHLORIDE	EQUIPBLK2	5	U	No Contamination
CHLOROBENZENE	EQUIPBLK2	5	U	No Contamination
CHLOROETHANE	EQUIPBLK2	10	U	No Contamination
CHLOROFORM	EQUIPBLK2	5	U	No Contamination
CHLOROMETHANE	EQUIPBLK2	10	U	No Contamination
CIS-1,3-DICHLOROPROPENE	EQUIPBLK2	5	U	No Contamination
DIBROMOCHLOROMETHANE	EQUIPBLK2	5	U	No Contamination
ETHYLBENZENE	EQUIPBLK2	5	U	No Contamination
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
STYRENE	EQUIPBLK2	5	U	No Contamination
TETRACHLOROETHENE	EQUIPBLK2	5	U	No Contamination
TOLUENE	EQUIPBLK2	5	U	No Contamination
TRANS-1,3-DICHLOROPROPENE	EQUIPBLK2	5	U	No Contamination
TRICHLOROETHENE	EQUIPBLK2	5	U	No Contamination
VINYL ACETATE	EQUIPBLK2	10	U	No Contamination
VINYL CHLORIDE	EQUIPBLK2	10	U	No Contamination
XYLENE (TOTAL)	EQUIPBLK2	5	U	No Contamination
1,1,1-TRICHLOROETHANE	EQUIPBLK3	5	U	No Contamination
1,1,2,2-TETRACHLOROETHANE	EQUIPBLK3	5	U	No Contamination
1,1,2-TRICHLOROETHANE	EQUIPBLK3	5	U	No Contamination
1,1-DICHLOROETHANE	EQUIPBLK3	5	U	No Contamination
1,1-DICHLOROETHENE	EQUIPBLK3	5	U	No Contamination
1,1-DICHLOROETHENE (TOTAL)	EQUIPBLK3	5	U	No Contamination
1,2-DICHLOROETHANE	EQUIPBLK3	5	U	No Contamination
1,2-DICHLOROPROPANE	EQUIPBLK3	5	U	No Contamination
2-BUTANONE	EQUIPBLK3	10	U	No Contamination
2-HEXANONE	EQUIPBLK3	10	U	No Contamination
4-METHYL-2-PENTANONE	EQUIPBLK3	10	U	No Contamination
ACETONE	EQUIPBLK3	10	U	No Contamination
BENZENE	EQUIPBLK3	5	U	No Contamination
BROMODICHLOROMETHANE	EQUIPBLK3	5	U	No Contamination
BROMOFORM	EQUIPBLK3	5	U	No Contamination
BROMOMETHANE	EQUIPBLK3	10	U	No Contamination
CARBON DISULFIDE	EQUIPBLK3	5	U	No Contamination
CARBON TETRACHLORIDE	EQUIPBLK3	5	U	No Contamination
CHLOROBENZENE	EQUIPBLK3	5	U	No Contamination
CHLOROETHANE	EQUIPBLK3	10	U	No Contamination
CHLOROFORM	EQUIPBLK3	3	J	No Contamination
CHLOROMETHANE	EQUIPBLK3	10	U	No Contamination
CIS-1,3-DICHLOROPROPENE	EQUIPBLK3	5	U	No Contamination
DIBROMOCHLOROMETHANE	EQUIPBLK3	5	U	No Contamination
ETHYLBENZENE	EQUIPBLK3	5	U	No Contamination
METHYLENE CHLORIDE	EQUIPBLK3	5	U	No Contamination

EQUIPMENT BLANK EVALUATION
VOLATILES
LANDFILL #283

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
STYRENE	EQUIPBLK3	5	U	No Contamination
TETRACHLOROETHENE	EQUIPBLK3	5	U	No Contamination
TOLUENE	EQUIPBLK3	5	U	No Contamination
TRANS-1,3-DICHLOROPROPENE	EQUIPBLK3	5	U	No Contamination
TRICHLOROETHENE	EQUIPBLK3	5	U	No Contamination
VINYL ACETATE	EQUIPBLK3	10	U	No Contamination
VINYL CHLORIDE	EQUIPBLK3	10	U	No Contamination
XYLENE (TOTAL)	EQUIPBLK3	5	U	No Contamination

TRIP BLANK EVALUATION
VOLATILES
LANDFILL #2&3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
1,1,1-TRICHLOROETHANE	FB-1	5	U	No Contamination
1,1,2,2-TETRACHLOROETHANE	FB-1	5	U	No Contamination
1,1,2-TRICHLOROETHANE	FB-1	5	U	No Contamination
1,1-DICHLOROETHANE	FB-1	5	U	No Contamination
1,1-DICHLOROETHENE	FB-1	5	U	No Contamination
1,1-DICHLOROETHENE (TOTAL)	FB-1	5	U	No Contamination
1,2-DICHLOROETHANE	FB-1	5	U	No Contamination
1,2-DICHLOROPROPANE	FB-1	5	U	No Contamination
2-BUTANONE	FB-1	10	U	No Contamination
2-HEXANONE	FB-1	10	U	No Contamination
4-METHYL-2-PENTANONE	FB-1	10	U	No Contamination
ACETONE	FB-1	10	U	No Contamination
BENZENE	FB-1	5	U	No Contamination
BROMODICHLOROMETHANE	FB-1	5	U	No Contamination
BROMOFORM	FB-1	5	U	No Contamination
BROMOMETHANE	FB-1	10	U	No Contamination
CARBON DISULFIDE	FB-1	5	U	No Contamination
CARBON TETRACHLORIDE	FB-1	5	U	No Contamination
CHLOROBENZENE	FB-1	5	U	No Contamination
CHLOROETHANE	FB-1	10	U	No Contamination
CHLOROFORM	FB-1	5	U	No Contamination
CHLOROMETHANE	FB-1	10	U	No Contamination
CIS-1,3-DICHLOROPROPENE	FB-1	5	U	No Contamination
DIBROMOCHLOROMETHANE	FB-1	5	U	No Contamination
ETHYLBENZENE	FB-1	5	U	No Contamination
METHYLENE CHLORIDE	FB-1	5	U	No Contamination
STYRENE	FB-1	5	U	No Contamination
TETRACHLOROETHENE	FB-1	5	U	No Contamination
TOLUENE	FB-1	5	U	No Contamination
TRANS-1,3-DICHLOROPROPENE	FB-1	5	U	No Contamination
TRICHLOROETHENE	FB-1	5	U	No Contamination
VINYL ACETATE	FB-1	10	U	No Contamination
VINYL CHLORIDE	FB-1	10	U	No Contamination
XYLENE (TOTAL)	FB-1	5	U	No Contamination

TRIP BLANK EVALUATION
VOLATILES
LANDFILL #2

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
1,1,1-TRICHLOROETHANE	LF2-1-FB	5	U	No Contamination
1,1,2,2-TETRACHLOROETHANE	LF2-1-FB	5	U	No Contamination
1,1,2-TRICHLOROETHANE	LF2-1-FB	5	U	No Contamination
1,1-DICHLOROETHANE	LF2-1-FB	5	U	No Contamination
1,1-DICHLOROETHENE	LF2-1-FB	5	U	No Contamination
1,1-DICHLOROETHENE (TOTAL)	LF2-1-FB	5	U	No Contamination
1,2-DICHLOROETHANE	LF2-1-FB	5	U	No Contamination
1,2-DICHLOROPROPANE	LF2-1-FB	5	U	No Contamination
2-BUTANONE	LF2-1-FB	10	U	No Contamination
2-HEXANONE	LF2-1-FB	10	U	No Contamination
4-METHYL-2-PENTANONE	LF2-1-FB	10	U	No Contamination
ACETONE	LF2-1-FB	10	U	No Contamination
BENZENE	LF2-1-FB	5	U	No Contamination
BROMODICHLOROMETHANE	LF2-1-FB	5	U	No Contamination
BROMOFORM	LF2-1-FB	5	U	No Contamination
BROMOMETHANE	LF2-1-FB	10	U	No Contamination
CARBON DISULFIDE	LF2-1-FB	5	U	No Contamination
CARBON TETRACHLORIDE	LF2-1-FB	5	U	No Contamination
CHLOROBENZENE	LF2-1-FB	5	U	No Contamination
CHLOROETHANE	LF2-1-FB	10	U	No Contamination
CHLOROFORM	LF2-1-FB	5	U	No Contamination
CHLOROMETHANE	LF2-1-FB	10	U	No Contamination
CIS-1,3-DICHLOROPROPENE	LF2-1-FB	5	U	No Contamination
DIBROMOCHLOROMETHANE	LF2-1-FB	5	U	No Contamination
ETHYLBENZENE	LF2-1-FB	5	U	No Contamination
METHYLENE CHLORIDE	LF2-1-FB	3	B	Possible Contamination
STYRENE	LF2-1-FB	5	U	No Contamination
TETRACHLOROETHENE	LF2-1-FB	5	U	No Contamination
TOLUENE	LF2-1-FB	5	U	No Contamination
TRANS-1,3-DICHLOROPROPENE	LF2-1-FB	5	U	No Contamination
TRICHLOROETHENE	LF2-1-FB	5	U	No Contamination
VINYL ACETATE	LF2-1-FB	10	U	No Contamination
VINYL CHLORIDE	LF2-1-FB	10	U	No Contamination
XYLENE (TOTAL)	LF2-1-FB	5	U	No Contamination
1,1,1-TRICHLOROETHANE	LF2-3-FB	5	U	No Contamination
1,1,2,2-TETRACHLOROETHANE	LF2-3-FB	5	U	No Contamination
1,1,2-TRICHLOROETHANE	LF2-3-FB	5	U	No Contamination
1,1-DICHLOROETHANE	LF2-3-FB	5	U	No Contamination
1,1-DICHLOROETHENE	LF2-3-FB	5	U	No Contamination
1,1-DICHLOROETHENE (TOTAL)	LF2-3-FB	5	U	No Contamination
1,2-DICHLOROETHANE	LF2-3-FB	5	U	No Contamination
1,2-DICHLOROPROPANE	LF2-3-FB	5	U	No Contamination
2-BUTANONE	LF2-3-FB	10	U	No Contamination
2-HEXANONE	LF2-3-FB	10	U	No Contamination
4-METHYL-2-PENTANONE	LF2-3-FB	10	U	No Contamination
ACETONE	LF2-3-FB	10	U	No Contamination
BENZENE	LF2-3-FB	5	U	No Contamination

TRIP BLANK EVALUATION
VOLATILES
LANDFILL #2

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
BROMODICHLOROMETHANE	LF2-3-FB	5	U	No Contamination
BROMOFORM	LF2-3-FB	5	U	No Contamination
BROMOMETHANE	LF2-3-FB	10	U	No Contamination
CARBON DISULFIDE	LF2-3-FB	5	U	No Contamination
CARBON TETRACHLORIDE	LF2-3-FB	5	U	No Contamination
CHLOROBENZENE	LF2-3-FB	5	U	No Contamination
CHLOROETHANE	LF2-3-FB	10	U	No Contamination
CHLOROFORM	LF2-3-FB	3	J	No Contamination
CHLOROMETHANE	LF2-3-FB	10	U	No Contamination
CIS-1,3-DICHLOROPROPENE	LF2-3-FB	5	U	No Contamination
DIBROMOCHLOROMETHANE	LF2-3-FB	5	U	No Contamination
ETHYLBENZENE	LF2-3-FB	5	U	No Contamination
[redacted]				
STYRENE	LF2-3-FB	5	U	No Contamination
TETRACHLOROETHENE	LF2-3-FB	5	U	No Contamination
TOLUENE	LF2-3-FB	5	U	No Contamination
TRANS-1,3-DICHLOROPROPENE	LF2-3-FB	5	U	No Contamination
TRICHLOROETHENE	LF2-3-FB	5	U	No Contamination
VINYL ACETATE	LF2-3-FB	10	U	No Contamination
VINYL CHLORIDE	LF2-3-FB	10	U	No Contamination
XYLENE (TOTAL)	LF2-3-FB	5	U	No Contamination
1,1,1-TRICHLOROETHANE	LF2-5-FB	5	U	No Contamination
1,1,2,2-TETRACHLOROETHANE	LF2-5-FB	5	U	No Contamination
1,1,2-TRICHLOROETHANE	LF2-5-FB	5	U	No Contamination
1,1-DICHLOROETHANE	LF2-5-FB	5	U	No Contamination
1,1-DICHLOROETHENE	LF2-5-FB	5	U	No Contamination
1,1-DICHLOROETHENE (TOTAL)	LF2-5-FB	5	U	No Contamination
1,2-DICHLOROETHANE	LF2-5-FB	5	U	No Contamination
1,2-DICHLOROPROPANE	LF2-5-FB	5	U	No Contamination
2-BUTANONE	LF2-5-FB	10	U	No Contamination
2-HEXANONE	LF2-5-FB	10	U	No Contamination
4-METHYL-2-PENTANONE	LF2-5-FB	10	U	No Contamination
ACETONE	LF2-5-FB	10	U	No Contamination
BENZENE	LF2-5-FB	5	U	No Contamination
BROMODICHLOROMETHANE	LF2-5-FB	5	U	No Contamination
BROMOFORM	LF2-5-FB	5	U	No Contamination
BROMOMETHANE	LF2-5-FB	10	U	No Contamination
CARBON DISULFIDE	LF2-5-FB	5	U	No Contamination
CARBON TETRACHLORIDE	LF2-5-FB	5	U	No Contamination
CHLOROBENZENE	LF2-5-FB	5	U	No Contamination
CHLOROETHANE	LF2-5-FB	10	U	No Contamination
CHLOROFORM	LF2-5-FB	3	J	No Contamination
CHLOROMETHANE	LF2-5-FB	10	U	No Contamination
CIS-1,3-DICHLOROPROPENE	LF2-5-FB	5	U	No Contamination
DIBROMOCHLOROMETHANE	LF2-5-FB	5	U	No Contamination
ETHYLBENZENE	LF2-5-FB	5	U	No Contamination
[redacted]				

TRIP BLANK EVALUATION
VOLATILES
LANDFILL #2

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
STYRENE	LF2-5-FB	5	U	No Contamination
TETRACHLOROETHENE	LF2-5-FB	5	U	No Contamination
TOLUENE	LF2-5-FB	5	U	No Contamination
TRANS-1,3-DICHLOROPROPENE	LF2-5-FB	5	U	No Contamination
TRICHLOROETHENE	LF2-5-FB	5	U	No Contamination
VINYL ACETATE	LF2-5-FB	10	U	No Contamination
VINYL CHLORIDE	LF2-5-FB	10	U	No Contamination
XYLENE (TOTAL)	LF2-5-FB	5	U	No Contamination

TRIP BLANK EVALUATION
VOLATILES
LANDFILL #3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
1,1,1-TRICHLOROETHANE	LF3-2-FB	5	U	No Contamination
1,1,2,2-TETRACHLOROETHANE	LF3-2-FB	5	U	No Contamination
1,1,2-TRICHLOROETHANE	LF3-2-FB	5	U	No Contamination
1,1-DICHLOROETHANE	LF3-2-FB	5	U	No Contamination
1,1-DICHLOROETHENE	LF3-2-FB	5	U	No Contamination
1,1-DICHLOROETHENE (TOTAL)	LF3-2-FB	5	U	No Contamination
1,2-DICHLOROETHANE	LF3-2-FB	5	U	No Contamination
1,2-DICHLOROPROPANE	LF3-2-FB	5	U	No Contamination
2-BUTANONE	LF3-2-FB	10	U	No Contamination
2-HEXANONE	LF3-2-FB	10	U	No Contamination
4-METHYL-2-PENTANONE	LF3-2-FB	10	U	No Contamination
ACETONE	LF3-2-FB	10	U	No Contamination
BENZENE	LF3-2-FB	5	U	No Contamination
BROMODICHLOROMETHANE	LF3-2-FB	5	U	No Contamination
BROMOFORM	LF3-2-FB	5	U	No Contamination
BROMOMETHANE	LF3-2-FB	10	U	No Contamination
CARBON DISULFIDE	LF3-2-FB	5	U	No Contamination
CARBON TETRACHLORIDE	LF3-2-FB	5	U	No Contamination
CHLOROBENZENE	LF3-2-FB	5	U	No Contamination
CHLOROETHANE	LF3-2-FB	10	U	No Contamination
CHLOROFORM	LF3-2-FB	5	U	No Contamination
CHLOROMETHANE	LF3-2-FB	10	U	No Contamination
CIS-1,3-DICHLOROPROPENE	LF3-2-FB	5	U	No Contamination
DIBROMOCHLOROMETHANE	LF3-2-FB	5	U	No Contamination
ETHYLBENZENE	LF3-2-FB	5	U	No Contamination
METHYLENE CHLORIDE	LF3-2-FB	[illegible]	[illegible]	Possible Contamination
STYRENE	LF3-2-FB	5	U	No Contamination
TETRACHLOROETHENE	LF3-2-FB	5	U	No Contamination
TOLUENE	LF3-2-FB	5	U	No Contamination
TRANS-1,3-DICHLOROPROPENE	LF3-2-FB	5	U	No Contamination
TRICHLOROETHENE	LF3-2-FB	5	U	No Contamination
VINYL ACETATE	LF3-2-FB	10	U	No Contamination
VINYL CHLORIDE	LF3-2-FB	10	U	No Contamination
XYLENE (TOTAL)	LF3-2-FB	5	U	No Contamination
1,1,1-TRICHLOROETHANE	LF3-4-FB	5	U	No Contamination
1,1,2,2-TETRACHLOROETHANE	LF3-4-FB	5	U	No Contamination
1,1,2-TRICHLOROETHANE	LF3-4-FB	5	U	No Contamination
1,1-DICHLOROETHANE	LF3-4-FB	5	U	No Contamination
1,1-DICHLOROETHENE	LF3-4-FB	5	U	No Contamination
1,1-DICHLOROETHENE (TOTAL)	LF3-4-FB	5	U	No Contamination
1,2-DICHLOROETHANE	LF3-4-FB	5	U	No Contamination
1,2-DICHLOROPROPANE	LF3-4-FB	5	U	No Contamination
2-BUTANONE	LF3-4-FB	10	U	No Contamination
2-HEXANONE	LF3-4-FB	10	U	No Contamination
4-METHYL-2-PENTANONE	LF3-4-FB	10	U	No Contamination
ACETONE	LF3-4-FB	10	U	No Contamination
BENZENE	LF3-4-FB	5	U	No Contamination

TRIP BLANK EVALUATION
VOLATILES
LANDFILL #3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
BROMODICHLOROMETHANE	LF3-4-FB	5	U	No Contamination
BROMOFORM	LF3-4-FB	5	U	No Contamination
BROMOMETHANE	LF3-4-FB	10	U	No Contamination
CARBON DISULFIDE	LF3-4-FB	5	U	No Contamination
CARBON TETRACHLORIDE	LF3-4-FB	5	U	No Contamination
CHLOROBENZENE	LF3-4-FB	5	U	No Contamination
CHLOROETHANE	LF3-4-FB	10	U	No Contamination
CHLOROFORM	LF3-4-FB	5	U	No Contamination
CHLOROMETHANE	LF3-4-FB	10	U	No Contamination
CIS-1,3-DICHLOROPROPENE	LF3-4-FB	5	U	No Contamination
DIBROMOCHLOROMETHANE	LF3-4-FB	5	U	No Contamination
ETHYLBENZENE	LF3-4-FB	5	U	No Contamination
METHYLENE CHLORIDE	LF3-4-FB	5	U	No Contamination
STYRENE	LF3-4-FB	5	U	No Contamination
TETRACHLOROETHENE	LF3-4-FB	5	U	No Contamination
TOLUENE	LF3-4-FB	5	U	No Contamination
TRANS-1,3-DICHLOROPROPENE	LF3-4-FB	5	U	No Contamination
TRICHLOROETHENE	LF3-4-FB	5	U	No Contamination
VINYL ACETATE	LF3-4-FB	10	U	No Contamination
VINYL CHLORIDE	LF3-4-FB	10	U	No Contamination
XYLENE (TOTAL)	LF3-4-FB	5	U	No Contamination
1,1,1-TRICHLOROETHANE	LF3-6-FB	5	U	No Contamination
1,1,2,2-TETRACHLOROETHANE	LF3-6-FB	5	U	No Contamination
1,1,2-TRICHLOROETHANE	LF3-6-FB	5	U	No Contamination
1,1-DICHLOROETHANE	LF3-6-FB	5	U	No Contamination
1,1-DICHLOROETHENE	LF3-6-FB	5	U	No Contamination
1,1-DICHLOROETHENE (TOTAL)	LF3-6-FB	5	U	No Contamination
1,2-DICHLOROETHANE	LF3-6-FB	5	U	No Contamination
1,2-DICHLOROPROPANE	LF3-6-FB	5	U	No Contamination
2-BUTANONE	LF3-6-FB	10	U	No Contamination
2-HEXANONE	LF3-6-FB	10	U	No Contamination
4-METHYL-2-PENTANONE	LF3-6-FB	10	U	No Contamination
ACETONE	LF3-6-FB	10	U	No Contamination
BENZENE	LF3-6-FB	5	U	No Contamination
BROMODICHLOROMETHANE	LF3-6-FB	5	U	No Contamination
BROMOFORM	LF3-6-FB	5	U	No Contamination
BROMOMETHANE	LF3-6-FB	10	U	No Contamination
CARBON DISULFIDE	LF3-6-FB	5	U	No Contamination
CARBON TETRACHLORIDE	LF3-6-FB	5	U	No Contamination
CHLOROBENZENE	LF3-6-FB	5	U	No Contamination
CHLOROETHANE	LF3-6-FB	10	U	No Contamination
CHLOROFORM	LF3-6-FB	5	U	No Contamination
CHLOROMETHANE	LF3-6-FB	10	U	No Contamination
CIS-1,3-DICHLOROPROPENE	LF3-6-FB	5	U	No Contamination
DIBROMOCHLOROMETHANE	LF3-6-FB	5	U	No Contamination
ETHYLBENZENE	LF3-6-FB	5	U	No Contamination
METHYLENE CHLORIDE	LF3-6-FB	5	U	No Contamination

TRIP BLANK EVALUATION
VOLATILES
LANDFILL #3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
STYRENE	LF3-6-FB	5	U	No Contamination
TETRACHLOROETHENE	LF3-6-FB	5	U	No Contamination
TOLUENE	LF3-6-FB	5	U	No Contamination
TRANS-1,3-DICHLOROPROPENE	LF3-6-FB	5	U	No Contamination
TRICHLOROETHENE	LF3-6-FB	5	U	No Contamination
VINYL ACETATE	LF3-6-FB	10	U	No Contamination
VINYL CHLORIDE	LF3-6-FB	10	U	No Contamination
XYLENE (TOTAL)	LF3-6-FB	5	U	No Contamination

SUMMARY OF VOLATILE ORGANICS -- LANDFILL #2

NOTES FOR ORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

J -- indicates an estimated value. This flag is used when estimating the concentration of tentatively identified compounds or when compound is identified but the concentration is less than the sample quantitation limit.

B -- analyte found in the associated blank as well as in the sample.

D -- identifies all compounds identified in an analysis at a secondary dilution factor.

NOTES FOR INORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

B -- indicates the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

E -- indicates a value estimated or not reported due to the presence of interference.

S -- indicates value determined by Method of Standard Addition.

M -- indicates duplicate injection precision not met.

N -- indicates matrix spike sample recovery is not within control limits.

W -- indicates post-digestion spike for furnace AA anlysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

* -- indicates duplicate analysis is not within control limits.

+ -- indicates that the correlation coefficient for Method of Standard Addition is less than 0.995.

NOTES FOR BACKGROUND LIMIT RESULTS

m -- indicates background limit was calculated using the median detection limit.

blank -- indicates a 90% upper prediction limit was calculated for the background limit.

SUMMARY OF VOLATILES
LANDFILL #2

Analyte	Qual-ifier	Mean Conc. (ppb)	Range	Minimum	Maximum	Count
1,1,1-TRICHLOROETHANE	U	6.00	0	6	6	4
1,1,2,2-TETRACHLOROETHANE	U	6.00	0	6	6	4
1,1,2-TRICHLOROETHANE	U	6.00	0	6	6	4
1,1-DICHLOROETHANE	U	6.00	0	6	6	4
1,1-DICHLOROETHENE	U	6.00	0	6	6	4
1,1-DICHLOROETHENE (TOTAL)	U	6.00	0	6	6	4
1,2-DICHLOROETHANE	U	6.00	0	6	6	4
1,2-DICHLOROPROPANE	U	6.00	0	6	6	4
2-BUTANONE		73.00	0	73	73	1
2-BUTANONE	U	12.00	0	12	12	3
2-HEXANONE	U	12.00	0	12	12	4
4-METHYL-2-PENTANONE	U	12.00	0	12	12	4
ACETONE	B	800.00	0	800	800	1
ACETONE	U	12.00	0	12	12	3
BENZENE	U	6.00	0	6	6	4
BROMODICHLOROMETHANE	U	6.00	0	6	6	4
BROMOFORM	U	6.00	0	6	6	4
BROMOMETHANE	U	12.00	0	12	12	4
CARBON DISULFIDE	U	6.00	0	6	6	4
CARBON TETRACHLORIDE	U	6.00	0	6	6	4
CHLOROBENZENE	U	6.00	0	6	6	4
CHLOROETHANE	U	12.00	0	12	12	4
CHLOROFORM	U	6.00	0	6	6	4
CHLOROMETHANE	U	12.00	0	12	12	4
CIS-1,3-DICHLOROPROPENE	U	6.00	0	6	6	4
DIBROMOCHLOROMETHANE	U	6.00	0	6	6	4
ETHYLBENZENE	U	6.00	0	6	6	4
METHYLENE CHLORIDE	B	24.25	52	8	60	4
STYRENE	U	6.00	0	6	6	4
TETRACHLOROETHENE	U	6.00	0	6	6	4
TOLUENE	U	6.00	0	6	6	4
TRANS-1,3-DICHLOROPROPENE	U	6.00	0	6	6	4
TRICHLOROETHENE	U	6.00	0	6	6	4
VINYL ACETATE	U	12.00	0	12	12	4
VINYL CHLORIDE	U	12.00	0	12	12	4
XYLENE (TOTAL)	U	6.00	0	6	6	4

PRELIMINARY UNVALIDATED RESULTS
VOLATILES ABOVE DETECTION LIMITS
LANDFILL #2

Analyte	Sample ID	Concentration (ppb)	Qualifier
2-BUTANONE	LF2-5	73	
ACETONE	LF2-5	800	B
METHYLENE CHLORIDE	LF2-1	8	B
METHYLENE CHLORIDE	LF2-3S	12	B
METHYLENE CHLORIDE	LF2-5	60	B
METHYLENE CHLORIDE	LF2-6	17	B

VOLATILES
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-1	1,1,1-TRICHLOROETHANE	6	U
LF2-3S	1,1,1-TRICHLOROETHANE	6	U
LF2-5	1,1,1-TRICHLOROETHANE	6	U
LF2-6	1,1,1-TRICHLOROETHANE	6	U
LF2-1	1,1,2,2-TETRACHLOROETHANE	6	U
LF2-3S	1,1,2,2-TETRACHLOROETHANE	6	U
LF2-5	1,1,2,2-TETRACHLOROETHANE	6	U
LF2-6	1,1,2,2-TETRACHLOROETHANE	6	U
LF2-1	1,1,2-TRICHLOROETHANE	6	U
LF2-3S	1,1,2-TRICHLOROETHANE	6	U
LF2-5	1,1,2-TRICHLOROETHANE	6	U
LF2-6	1,1,2-TRICHLOROETHANE	6	U
LF2-1	1,1-DICHLOROETHANE	6	U
LF2-3S	1,1-DICHLOROETHANE	6	U
LF2-5	1,1-DICHLOROETHANE	6	U
LF2-6	1,1-DICHLOROETHANE	6	U
LF2-1	1,1-DICHLOROETHENE	6	U
LF2-3S	1,1-DICHLOROETHENE	6	U
LF2-5	1,1-DICHLOROETHENE	6	U
LF2-6	1,1-DICHLOROETHENE	6	U
LF2-1	1,1-DICHLOROETHENE (TOTAL)	6	U
LF2-3S	1,1-DICHLOROETHENE (TOTAL)	6	U
LF2-5	1,1-DICHLOROETHENE (TOTAL)	6	U
LF2-6	1,1-DICHLOROETHENE (TOTAL)	6	U
LF2-1	1,2-DICHLOROETHANE	6	U
LF2-3S	1,2-DICHLOROETHANE	6	U
LF2-5	1,2-DICHLOROETHANE	6	U
LF2-6	1,2-DICHLOROETHANE	6	U
LF2-1	1,2-DICHLOROPROPANE	6	U
LF2-3S	1,2-DICHLOROPROPANE	6	U
LF2-5	1,2-DICHLOROPROPANE	6	U
LF2-6	1,2-DICHLOROPROPANE	6	U
LF2-1	2-BUTANONE	12	U
LF2-3S	2-BUTANONE	12	U
LF2-5	2-BUTANONE	73	
LF2-6	2-BUTANONE	12	U
LF2-1	2-HEXANONE	12	U
LF2-3S	2-HEXANONE	12	U
LF2-5	2-HEXANONE	12	U
LF2-6	2-HEXANONE	12	U
LF2-1	4-METHYL-2-PENTANONE	12	U
LF2-3S	4-METHYL-2-PENTANONE	12	U
LF2-5	4-METHYL-2-PENTANONE	12	U
LF2-6	4-METHYL-2-PENTANONE	12	U
LF2-1	ACETONE	12	U
LF2-3S	ACETONE	12	U
LF2-5	ACETONE	800	B

VOLATILES
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-6	ACETONE	12	U
LF2-1	BENZENE	6	U
LF2-3S	BENZENE	6	U
LF2-5	BENZENE	6	U
LF2-6	BENZENE	6	U
LF2-1	BROMODICHLOROMETHANE	6	U
LF2-3S	BROMODICHLOROMETHANE	6	U
LF2-5	BROMODICHLOROMETHANE	6	U
LF2-6	BROMODICHLOROMETHANE	6	U
LF2-1	BROMOFORM	6	U
LF2-3S	BROMOFORM	6	U
LF2-5	BROMOFORM	6	U
LF2-6	BROMOFORM	6	U
LF2-1	BROMOMETHANE	12	U
LF2-3S	BROMOMETHANE	12	U
LF2-5	BROMOMETHANE	12	U
LF2-6	BROMOMETHANE	12	U
LF2-1	CARBON DISULFIDE	6	U
LF2-3S	CARBON DISULFIDE	6	U
LF2-5	CARBON DISULFIDE	6	U
LF2-6	CARBON DISULFIDE	6	U
LF2-1	CARBON TETRACHLORIDE	6	U
LF2-3S	CARBON TETRACHLORIDE	6	U
LF2-5	CARBON TETRACHLORIDE	6	U
LF2-6	CARBON TETRACHLORIDE	6	U
LF2-1	CHLOROBENZENE	6	U
LF2-3S	CHLOROBENZENE	6	U
LF2-5	CHLOROBENZENE	6	U
LF2-6	CHLOROBENZENE	6	U
LF2-1	CHLOROETHANE	12	U
LF2-3S	CHLOROETHANE	12	U
LF2-5	CHLOROETHANE	12	U
LF2-6	CHLOROETHANE	12	U
LF2-1	CHLOROFORM	6	U
LF2-3S	CHLOROFORM	6	U
LF2-5	CHLOROFORM	6	U
LF2-6	CHLOROFORM	6	U
LF2-1	CHLOROMETHANE	12	U
LF2-3S	CHLOROMETHANE	12	U
LF2-5	CHLOROMETHANE	12	U
LF2-6	CHLOROMETHANE	12	U
LF2-1	CIS-1,3-DICHLOROPROPENE	6	U
LF2-3S	CIS-1,3-DICHLOROPROPENE	6	U
LF2-5	CIS-1,3-DICHLOROPROPENE	6	U
LF2-6	CIS-1,3-DICHLOROPROPENE	6	U
LF2-1	DIBROMOCHLOROMETHANE	6	U
LF2-3S	DIBROMOCHLOROMETHANE	6	U

VOLATILES
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-5	DIBROMOCHLOROMETHANE	6	U
LF2-6	DIBROMOCHLOROMETHANE	6	U
LF2-1	ETHYLBENZENE	6	U
LF2-3S	ETHYLBENZENE	6	U
LF2-5	ETHYLBENZENE	6	U
LF2-6	ETHYLBENZENE	6	U
LF2-1	METHYLENE CHLORIDE	8	B
LF2-3S	METHYLENE CHLORIDE	12	B
LF2-5	METHYLENE CHLORIDE	60	B
LF2-6	METHYLENE CHLORIDE	17	B
LF2-1	STYRENE	6	U
LF2-3S	STYRENE	6	U
LF2-5	STYRENE	6	U
LF2-6	STYRENE	6	U
LF2-1	TETRACHLOROETHENE	6	U
LF2-3S	TETRACHLOROETHENE	6	U
LF2-5	TETRACHLOROETHENE	6	U
LF2-6	TETRACHLOROETHENE	6	U
LF2-1	TOLUENE	6	U
LF2-3S	TOLUENE	6	U
LF2-5	TOLUENE	6	U
LF2-6	TOLUENE	6	U
LF2-1	TRANS-1,3-DICHLOROPROPENE	6	U
LF2-3S	TRANS-1,3-DICHLOROPROPENE	6	U
LF2-5	TRANS-1,3-DICHLOROPROPENE	6	U
LF2-6	TRANS-1,3-DICHLOROPROPENE	6	U
LF2-1	TRICHLOROETHENE	6	U
LF2-3S	TRICHLOROETHENE	6	U
LF2-5	TRICHLOROETHENE	6	U
LF2-6	TRICHLOROETHENE	6	U
LF2-1	VINYL ACETATE	12	U
LF2-3S	VINYL ACETATE	12	U
LF2-5	VINYL ACETATE	12	U
LF2-6	VINYL ACETATE	12	U
LF2-1	VINYL CHLORIDE	12	U
LF2-3S	VINYL CHLORIDE	12	U
LF2-5	VINYL CHLORIDE	12	U
LF2-6	VINYL CHLORIDE	12	U
LF2-1	XYLENE (TOTAL)	6	U
LF2-3S	XYLENE (TOTAL)	6	U
LF2-5	XYLENE (TOTAL)	6	U
LF2-6	XYLENE (TOTAL)	6	U

SUMMARY OF VOLATILE ORGANICS -- LANDFILL #3

NOTES FOR ORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

J -- indicates an estimated value. This flag is used when estimating the concentration of tentatively identified compounds or when compound is identified but the concentration is less than the sample quantitation limit.

B -- analyte found in the associated blank as well as in the sample.

D -- identifies all compounds identified in an analysis at a secondary dilution factor.

NOTES FOR INORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

B -- indicates the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

E -- indicates a value estimated or not reported due to the presence of interference.

S -- indicates value determined by Method of Standard Addition.

M -- indicates duplicate injection precision not met.

N -- indicates matrix spike sample recovery is not within control limits.

W -- indicates post-digestion spike for furnace AA anlysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

* -- indicates duplicate analysis is not within control limits.

+ -- indicates that the correlation coefficient for Method of Standard Addition is less than 0.995.

NOTES FOR BACKGROUND LIMIT RESULTS

m -- indicates background limit was calculated using the median detection limit.

blank -- indicates a 90% upper prediction limit was calculated for the background limit.

SUMMARY OF VOLATILES
LANDFILL #3

Analyte	Conc. Qual-ifier	Mean Conc. (ppb)	Range	Minimum	Maximum	Count
1,1,1-TRICHLOROETHANE	U	5.00	0	5	5	4
1,1,2,2-TETRACHLOROETHANE	U	5.00	0	5	5	4
1,1,2-TRICHLOROETHANE	U	5.00	0	5	5	4
1,1-DICHLOROETHANE	U	5.00	0	5	5	4
1,1-DICHLOROETHENE	U	5.00	0	5	5	4
1,1-DICHLOROETHENE (TOTAL)	U	5.00	0	5	5	4
1,2-DICHLOROETHANE	U	5.00	0	5	5	4
1,2-DICHLOROPROPANE	U	5.00	0	5	5	4
2-BUTANONE	U	10.00	0	10	10	4
2-HEXANONE	U	10.00	0	10	10	4
4-METHYL-2-PENTANONE	U	10.00	0	10	10	4
ACETONE	U	10.00	0	10	10	4
BENZENE	U	5.00	0	5	5	4
BROMODICHLOROMETHANE	U	5.00	0	5	5	4
BROMOFORM	U	5.00	0	5	5	4
BROMOMETHANE	U	10.00	0	10	10	4
CARBON DISULFIDE	U	5.00	0	5	5	4
CARBON TETRACHLORIDE	U	5.00	0	5	5	4
CHLOROBENZENE	U	5.00	0	5	5	4
CHLOROETHANE	U	10.00	0	10	10	4
CHLOROFORM	U	5.00	0	5	5	4
CHLOROMETHANE	U	10.00	0	10	10	4
CIS-1,3-DICHLOROPROPENE	U	5.00	0	5	5	4
DIBROMOCHLOROMETHANE	U	5.00	0	5	5	4
ETHYLBENZENE	U	5.00	0	5	5	4
METHYLENE CHLORIDE	B	23.25	69	4	73	4
STYRENE	U	5.00	0	5	5	4
TETRACHLOROETHENE	U	5.00	0	5	5	4
TOLUENE	U	5.00	0	5	5	4
TRANS-1,3-DICHLOROPROPENE	U	5.00	0	5	5	4
TRICHLOROETHENE	U	5.00	0	5	5	4
VINYL ACETATE	U	10.00	0	10	10	4
VINYL CHLORIDE	U	10.00	0	10	10	4
XYLENE (TOTAL)	J	4.00	0	4	4	1
XYLENE (TOTAL)	U	5.00	0	5	5	3

PRELIMINARY UNVALIDATED RESULTS
VOLATILES ABOVE DETECTION LIMITS
LANDFILL #3

Analyte	Sample ID	Concentration (ppb)	Qualifier
METHYLENE CHLORIDE	LF3-2S	4	B
METHYLENE CHLORIDE	LF3-4	10	B
METHYLENE CHLORIDE	LF3-6	73	B
METHYLENE CHLORIDE	LF3-7	6	B
XYLENE (TOTAL)	LF3-4	4	J

VOLATILES
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-2S	1,1,1-TRICHLOROETHANE	5	U
LF3-4	1,1,1-TRICHLOROETHANE	5	U
LF3-6	1,1,1-TRICHLOROETHANE	5	U
LF3-7	1,1,1-TRICHLOROETHANE	5	U
LF3-2S	1,1,2,2-TETRACHLOROETHANE	5	U
LF3-4	1,1,2,2-TETRACHLOROETHANE	5	U
LF3-6	1,1,2,2-TETRACHLOROETHANE	5	U
LF3-7	1,1,2,2-TETRACHLOROETHANE	5	U
LF3-2S	1,1,2-TRICHLOROETHANE	5	U
LF3-4	1,1,2-TRICHLOROETHANE	5	U
LF3-6	1,1,2-TRICHLOROETHANE	5	U
LF3-7	1,1,2-TRICHLOROETHANE	5	U
LF3-2S	1,1-DICHLOROETHANE	5	U
LF3-4	1,1-DICHLOROETHANE	5	U
LF3-6	1,1-DICHLOROETHANE	5	U
LF3-7	1,1-DICHLOROETHANE	5	U
LF3-2S	1,1-DICHLOROETHENE	5	U
LF3-4	1,1-DICHLOROETHENE	5	U
LF3-6	1,1-DICHLOROETHENE	5	U
LF3-7	1,1-DICHLOROETHENE	5	U
LF3-2S	1,1-DICHLOROETHENE (TOTAL)	5	U
LF3-4	1,1-DICHLOROETHENE (TOTAL)	5	U
LF3-6	1,1-DICHLOROETHENE (TOTAL)	5	U
LF3-7	1,1-DICHLOROETHENE (TOTAL)	5	U
LF3-2S	1,2-DICHLOROETHANE	5	U
LF3-4	1,2-DICHLOROETHANE	5	U
LF3-6	1,2-DICHLOROETHANE	5	U
LF3-7	1,2-DICHLOROETHANE	5	U
LF3-2S	1,2-DICHLOROPROPANE	5	U
LF3-4	1,2-DICHLOROPROPANE	5	U
LF3-6	1,2-DICHLOROPROPANE	5	U
LF3-7	1,2-DICHLOROPROPANE	5	U
LF3-2S	2-BUTANONE	10	U
LF3-4	2-BUTANONE	10	U
LF3-6	2-BUTANONE	10	U
LF3-7	2-BUTANONE	10	U
LF3-2S	2-HEXANONE	10	U
LF3-4	2-HEXANONE	10	U
LF3-6	2-HEXANONE	10	U
LF3-7	2-HEXANONE	10	U
LF3-2S	4-METHYL-2-PENTANONE	10	U
LF3-4	4-METHYL-2-PENTANONE	10	U
LF3-6	4-METHYL-2-PENTANONE	10	U
LF3-7	4-METHYL-2-PENTANONE	10	U
LF3-2S	ACETONE	10	U
LF3-4	ACETONE	10	U
LF3-6	ACETONE	10	U

VOLATILES
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-7	ACETONE	10	U
LF3-2S	BENZENE	5	U
LF3-4	BENZENE	5	U
LF3-6	BENZENE	5	U
LF3-7	BENZENE	5	U
LF3-2S	BROMODICHLOROMETHANE	5	U
LF3-4	BROMODICHLOROMETHANE	5	U
LF3-6	BROMODICHLOROMETHANE	5	U
LF3-7	BROMODICHLOROMETHANE	5	U
LF3-2S	BROMOFORM	5	U
LF3-4	BROMOFORM	5	U
LF3-6	BROMOFORM	5	U
LF3-7	BROMOFORM	5	U
LF3-2S	BROMOMETHANE	10	U
LF3-4	BROMOMETHANE	10	U
LF3-6	BROMOMETHANE	10	U
LF3-7	BROMOMETHANE	10	U
LF3-2S	CARBON DISULFIDE	5	U
LF3-4	CARBON DISULFIDE	5	U
LF3-6	CARBON DISULFIDE	5	U
LF3-7	CARBON DISULFIDE	5	U
LF3-2S	CARBON TETRACHLORIDE	5	U
LF3-4	CARBON TETRACHLORIDE	5	U
LF3-6	CARBON TETRACHLORIDE	5	U
LF3-7	CARBON TETRACHLORIDE	5	U
LF3-2S	CHLOROBENZENE	5	U
LF3-4	CHLOROBENZENE	5	U
LF3-6	CHLOROBENZENE	5	U
LF3-7	CHLOROBENZENE	5	U
LF3-2S	CHLOROETHANE	10	U
LF3-4	CHLOROETHANE	10	U
LF3-6	CHLOROETHANE	10	U
LF3-7	CHLOROETHANE	10	U
LF3-2S	CHLOROFORM	5	U
LF3-4	CHLOROFORM	5	U
LF3-6	CHLOROFORM	5	U
LF3-7	CHLOROFORM	5	U
LF3-2S	CHLOROMETHANE	10	U
LF3-4	CHLOROMETHANE	10	U
LF3-6	CHLOROMETHANE	10	U
LF3-7	CHLOROMETHANE	10	U
LF3-2S	CIS-1,3-DICHLOROPROPENE	5	U
LF3-4	CIS-1,3-DICHLOROPROPENE	5	U
LF3-6	CIS-1,3-DICHLOROPROPENE	5	U
LF3-7	CIS-1,3-DICHLOROPROPENE	5	U
LF3-2S	DIBROMOCHLOROMETHANE	5	U
LF3-4	DIBROMOCHLOROMETHANE	5	U

VOLATILES
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-6	DIBROMOCHLOROMETHANE	5	U
LF3-7	DIBROMOCHLOROMETHANE	5	U
LF3-2S	ETHYLBENZENE	5	U
LF3-4	ETHYLBENZENE	5	U
LF3-6	ETHYLBENZENE	5	U
LF3-7	ETHYLBENZENE	5	U
[redacted]			
LF3-2S	STYRENE	5	U
LF3-4	STYRENE	5	U
LF3-6	STYRENE	5	U
LF3-7	STYRENE	5	U
LF3-2S	TETRACHLOROETHENE	5	U
LF3-4	TETRACHLOROETHENE	5	U
LF3-6	TETRACHLOROETHENE	5	U
LF3-7	TETRACHLOROETHENE	5	U
LF3-2S	TOLUENE	5	U
LF3-4	TOLUENE	5	U
LF3-6	TOLUENE	5	U
LF3-7	TOLUENE	5	U
LF3-2S	TRANS-1,3-DICHLOROPROPENE	5	U
LF3-4	TRANS-1,3-DICHLOROPROPENE	5	U
LF3-6	TRANS-1,3-DICHLOROPROPENE	5	U
LF3-7	TRANS-1,3-DICHLOROPROPENE	5	U
LF3-2S	TRICHLOROETHENE	5	U
LF3-4	TRICHLOROETHENE	5	U
LF3-6	TRICHLOROETHENE	5	U
LF3-7	TRICHLOROETHENE	5	U
LF3-2S	VINYL ACETATE	10	U
LF3-4	VINYL ACETATE	10	U
LF3-6	VINYL ACETATE	10	U
LF3-7	VINYL ACETATE	10	U
LF3-2S	VINYL CHLORIDE	10	U
LF3-4	VINYL CHLORIDE	10	U
LF3-6	VINYL CHLORIDE	10	U
LF3-7	VINYL CHLORIDE	10	U
LF3-2S	XYLENE (TOTAL)	5	U
LF3-4	XYLENE (TOTAL)	4	J
LF3-6	XYLENE (TOTAL)	5	U
LF3-7	XYLENE (TOTAL)	5	U

SUMMARY OF FIELD QC -- SEMIVOLATILE ORGANICS

TRIP BLANKS

Trip blanks are flagged "Possible Contamination" if concentration is above the Instrument Detection Limit (IDL) and is not qualified with a 'J' (see explanation of qualifiers). Otherwise, the samples are flagged "No Contamination".

EQUIPMENT BLANKS

Equipment blanks are flagged "Possible Contamination" if concentration is above the IDL and is not qualified with a 'J' (see explanation of qualifiers). Otherwise, the samples are flagged "No Contamination".

SPLITS

Splits are flagged as out of control if the relative percent difference (RPD) or absolute difference, as appropriate, does not lie within EPA empirically derived limits. If the splits are within these limits, they are flagged as in control. If no limits are available, the splits are flagged as such. If the splits are below detection, then the RPD is not calculated.

The EPA limits for organics used are those presented on the Contract Laboratory Program (CLP) forms and in the CLP Statement of Work (SOW) for matrix spike duplicates. In the case where one of the splits is greater than the IDL and the other less than the IDL, the RPD reported is a minimum value.

For inorganics, the comparison of split data to EPA limits is:

1) RPD compared to 20% when both splits are greater than five times the Contract Required Detection Limit (CRDL) or

2) absolute difference compared to CRDL for case where

a). both splits are between the CRDL and five times the CRDL or

b). one split is between the CRDL and five times the CRDL and the other is greater than five times the CRDL.

In cases where one or both of the splits is less than either the CRDL or the IDL, the sample is flagged "Concentration < CRDL". When the CRDL is not available, the sample is flagged as such. Calculation of these limits is described in the SOW (Exhibit E).

In addition to the above flags, cases where the IDL is greater than the CRDL is also flagged. Under typical conditions, this is a noncompliant item and is included in the validation effort. It was included here for the sake of completeness.

SPIKES

Percent recovery of analytes added to spiked samples is calculated. Because of the use of standards in spike preparation, comparison to EPA limits is not appropriate and manual examination of the recoveries is made.

Spikes are flagged "Possible Contamination" if concentration of analytes not added to the sample is above the IDL and is not qualified with a 'J' (see explanation of qualifiers). Otherwise, these sample/analyte combinations are flagged "No Contamination".

NOTES FOR ORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

J -- indicates an estimated value. This flag is used when estimating the concentration of tentatively identified compounds or when compound is identified but the concentration is less than the sample quantitation limit.

B -- analyte found in the associated blank as well as in the sample.

D -- identifies all compounds identified in an analysis at a secondary dilution factor.

NOTES FOR INORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

B -- indicates the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

E -- indicates a value estimated or not reported due to the presence of interference.

S -- indicates value determined by Method of Standard Addition.

M -- indicates duplicate injection precision not met.

N -- indicates matrix spike sample recovery is not within control limits.

W -- indicates post-digestion spike for furnace AA anlysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

* -- indicates duplicate analysis is not within control limits.

+ -- indicates that the correlation coefficient for Method of Standard Addition is less than 0.995.

EQUIPMENT BLANK EVALUATION
SEMIVOLATILES
LANDFILL #283

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
1,2,4-TRICHLOROBENZENE	EQUIPBLK1	10	U	No Contamination
1,2-DICHLOROBENZENE	EQUIPBLK1	10	U	No Contamination
1,3-DICHLOROBENZENE	EQUIPBLK1	10	U	No Contamination
1,4-DICHLOROBENZENE	EQUIPBLK1	10	U	No Contamination
2,4,5-TRICHLOROPHENOL	EQUIPBLK1	50	U	No Contamination
2,4,6-TRICHLOROPHENOL	EQUIPBLK1	10	U	No Contamination
2,4-DICHLOROPHENOL	EQUIPBLK1	10	U	No Contamination
2,4-DIMETHYLPHENOL	EQUIPBLK1	10	U	No Contamination
2,4-DINITROPHENOL	EQUIPBLK1	50	U	No Contamination
2,4-DINITROTOLUENE	EQUIPBLK1	10	U	No Contamination
2,6-DINITROTOLUENE	EQUIPBLK1	10	U	No Contamination
2-CHLORONAPHTHALENE	EQUIPBLK1	10	U	No Contamination
2-CHLOROPHENOL	EQUIPBLK1	10	U	No Contamination
2-METHYLNAPHTHALENE	EQUIPBLK1	10	U	No Contamination
2-METHYLPHENOL	EQUIPBLK1	10	U	No Contamination
2-NITROANILINE	EQUIPBLK1	50	U	No Contamination
2-NITROPHENOL	EQUIPBLK1	10	U	No Contamination
3,3-DICHLOROBENZIDINE	EQUIPBLK1	20	U	No Contamination
3-NITROANILINE	EQUIPBLK1	50	U	No Contamination
4,6-DINITRO-2-METHYLPHENOL	EQUIPBLK1	50	U	No Contamination
4-BROMOPHENYL-PHENYLETHER	EQUIPBLK1	10	U	No Contamination
4-CHLORO-3-METHYLPHENOL	EQUIPBLK1	10	U	No Contamination
4-CHLOROANILINE	EQUIPBLK1	10	U	No Contamination
4-CHLOROPHENYL-PHENYLETHER	EQUIPBLK1	10	U	No Contamination
4-METHYLPHENOL	EQUIPBLK1	10	U	No Contamination
4-NITROANILINE	EQUIPBLK1	50	U	No Contamination
4-NITROPHENOL	EQUIPBLK1	50	U	No Contamination
ACENAPHTHENE	EQUIPBLK1	10	U	No Contamination
ACENAPHTHYLENE	EQUIPBLK1	10	U	No Contamination
ANTHRACENE	EQUIPBLK1	10	U	No Contamination
BENZO(A)ANTHRACENE	EQUIPBLK1	10	U	No Contamination
BENZO(A)PYRENE	EQUIPBLK1	10	U	No Contamination
BENZO(B)FLUORANTHENE	EQUIPBLK1	10	U	No Contamination
BENZO(G,H,I)PERYLENE	EQUIPBLK1	10	U	No Contamination
BENZO(K)FLUORANTHENE	EQUIPBLK1	10	U	No Contamination
BENZOIC ACID	EQUIPBLK1	50	U	No Contamination
BENZYL ALCOHOL	EQUIPBLK1	10	U	No Contamination
BIS(2-CHLOROETHOXY)METHANE	EQUIPBLK1	10	U	No Contamination
BIS(2-CHLOROETHYL)ETHER	EQUIPBLK1	10	U	No Contamination
BIS(2-CHLOROISOPROPLY)ETHER	EQUIPBLK1	10	U	No Contamination
BIS(2-ETHYLHEXYL)PHTHALATE	EQUIPBLK1	10	U	No Contamination
BUTYLBENZYLPHTHALATE	EQUIPBLK1	10	U	No Contamination
CHRYSENE	EQUIPBLK1	10	U	No Contamination
DI-N-BUTYLPHTALATE	EQUIPBLK1	10	U	No Contamination
DI-N-OCTYLPHTHALATE	EQUIPBLK1	10	U	No Contamination
DIBENZ(A,H)ANTHRACENE	EQUIPBLK1	10	U	No Contamination
DIBENZOFURAN	EQUIPBLK1	10	U	No Contamination

EQUIPMENT BLANK EVALUATION
SEMIVOLATILES
LANDFILL #283

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
DIETHYLPHTHALATE	EQUIPBLK1	10	U	No Contamination
DIMETHYLPHTHALATE	EQUIPBLK1	10	U	No Contamination
FLUORANTHENE	EQUIPBLK1	10	U	No Contamination
FLUORENE	EQUIPBLK1	10	U	No Contamination
HEXACHLOROBENZENE	EQUIPBLK1	10	U	No Contamination
HEXACHLOROBUTADIENE	EQUIPBLK1	10	U	No Contamination
HEXACHLOROCYCLOPENTADIENE	EQUIPBLK1	10	U	No Contamination
HEXACHLOROETHANE	EQUIPBLK1	10	U	No Contamination
INDENO(1,2,3-CD)PYRENE	EQUIPBLK1	10	U	No Contamination
ISOPHORONE	EQUIPBLK1	10	U	No Contamination
N-NITROSO-DI-N-PROPYLAMINE	EQUIPBLK1	10	U	No Contamination
N-NITROSODIPHENYLAMINE (1)	EQUIPBLK1	10	U	No Contamination
NAPHTHALENE	EQUIPBLK1	10	U	No Contamination
NITROBENZENE	EQUIPBLK1	10	U	No Contamination
PENTACHLOROPHENOL	EQUIPBLK1	50	U	No Contamination
PHENANTHRENE	EQUIPBLK1	10	U	No Contamination
PHENOL	EQUIPBLK1	10	U	No Contamination
PYRENE	EQUIPBLK1	10	U	No Contamination
1,2,4-TRICHLOROBENZENE	EQUIPBLK2	10	U	No Contamination
1,2-DICHLOROBENZENE	EQUIPBLK2	10	U	No Contamination
1,3-DICHLOROBENZENE	EQUIPBLK2	10	U	No Contamination
1,4-DICHLOROBENZENE	EQUIPBLK2	10	U	No Contamination
2,4,5-TRICHLOROPHENOL	EQUIPBLK2	50	U	No Contamination
2,4,6-TRICHLOROPHENOL	EQUIPBLK2	10	U	No Contamination
2,4-DICHLOROPHENOL	EQUIPBLK2	10	U	No Contamination
2,4-DIMETHYLPHENOL	EQUIPBLK2	10	U	No Contamination
2,4-DINITROPHENOL	EQUIPBLK2	50	U	No Contamination
2,4-DINITROTOLUENE	EQUIPBLK2	10	U	No Contamination
2,6-DINITROTOLUENE	EQUIPBLK2	10	U	No Contamination
2-CHLORONAPHTHALENE	EQUIPBLK2	10	U	No Contamination
2-CHLOROPHENOL	EQUIPBLK2	10	U	No Contamination
2-METHYLNAPHTHALENE	EQUIPBLK2	10	U	No Contamination
2-METHYLPHENOL	EQUIPBLK2	10	U	No Contamination
2-NITROANILINE	EQUIPBLK2	50	U	No Contamination
2-NITROPHENOL	EQUIPBLK2	10	U	No Contamination
3,3-DICHLOROBENZIDINE	EQUIPBLK2	20	U	No Contamination
3-NITROANILINE	EQUIPBLK2	50	U	No Contamination
4,6-DINITRO-2-METHYLPHENOL	EQUIPBLK2	50	U	No Contamination
4-BROMOPHENYL-PHENYLETHER	EQUIPBLK2	10	U	No Contamination
4-CHLORO-3-METHYLPHENOL	EQUIPBLK2	10	U	No Contamination
4-CHLOROANILINE	EQUIPBLK2	10	U	No Contamination
4-CHLOROPHENYL-PHENYLETHER	EQUIPBLK2	10	U	No Contamination
4-METHYLPHENOL	EQUIPBLK2	10	U	No Contamination
4-NITROANILINE	EQUIPBLK2	50	U	No Contamination
4-NITROPHENOL	EQUIPBLK2	50	U	No Contamination
ACENAPHTHENE	EQUIPBLK2	10	U	No Contamination
ACENAPHTHYLENE	EQUIPBLK2	10	U	No Contamination

EQUIPMENT BLANK EVALUATION
SEMIVOLATILES
LANDFILL #2E3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
ANTHRACENE	EQUIPBLK2	10	U	No Contamination
BENZO(A)ANTHRACENE	EQUIPBLK2	10	U	No Contamination
BENZO(A)PYRENE	EQUIPBLK2	10	U	No Contamination
BENZO(B)FLUORANTHENE	EQUIPBLK2	10	U	No Contamination
BENZO(G,H,I)PERYLENE	EQUIPBLK2	10	U	No Contamination
BENZO(K)FLUORANTHENE	EQUIPBLK2	10	U	No Contamination
BENZOIC ACID	EQUIPBLK2	50	U	No Contamination
BENZYL ALCOHOL	EQUIPBLK2	10	U	No Contamination
BIS(2-CHLOROETHOXY)METHANE	EQUIPBLK2	10	U	No Contamination
BIS(2-CHLOROETHYL)ETHER	EQUIPBLK2	10	U	No Contamination
BIS(2-CHLOROISOPROPLY)ETHER	EQUIPBLK2	10	U	No Contamination
BIS(2-ETHYLHEXYL)PHTHALATE	EQUIPBLK2	10	U	No Contamination
BUTYLBENZYLPHTHALATE	EQUIPBLK2	10	U	No Contamination
CHRYSENE	EQUIPBLK2	10	U	No Contamination
DI-N-BUTYLPHTALATE	EQUIPBLK2	10	U	No Contamination
DI-N-OCTYLPHTHALATE	EQUIPBLK2	10	U	No Contamination
DIBENZ(A,H)ANTHRACENE	EQUIPBLK2	10	U	No Contamination
DIBENZOFURAN	EQUIPBLK2	10	U	No Contamination
DIETHYLPHTHALATE	EQUIPBLK2	10	U	No Contamination
DIMETHYLPHTHALATE	EQUIPBLK2	10	U	No Contamination
FLUORANTHENE	EQUIPBLK2	10	U	No Contamination
FLUORENE	EQUIPBLK2	10	U	No Contamination
HEXACHLOROBENZENE	EQUIPBLK2	10	U	No Contamination
HEXACHLOROBUTADIENE	EQUIPBLK2	10	U	No Contamination
HEXACHLOROCYCLOPENTADIENE	EQUIPBLK2	10	U	No Contamination
HEXACHLOROETHANE	EQUIPBLK2	10	U	No Contamination
INDENO(1,2,3-CD)PYRENE	EQUIPBLK2	10	U	No Contamination
ISOPHORONE	EQUIPBLK2	10	U	No Contamination
N-NITROSO-DI-N-PROPYLAMINE	EQUIPBLK2	10	U	No Contamination
N-NITROSODIPHENYLAMINE (1)	EQUIPBLK2	10	U	No Contamination
NAPHTHALENE	EQUIPBLK2	10	U	No Contamination
NITROBENZENE	EQUIPBLK2	10	U	No Contamination
PENTACHLOROPHENOL	EQUIPBLK2	50	U	No Contamination
PHENANTHRENE	EQUIPBLK2	10	U	No Contamination
PHENOL	EQUIPBLK2	10	U	No Contamination
PYRENE	EQUIPBLK2	10	U	No Contamination
1,2,4-TRICHLOROBENZENE	EQUIPBLK3	10	U	No Contamination
1,2-DICHLOROBENZENE	EQUIPBLK3	10	U	No Contamination
1,3-DICHLOROBENZENE	EQUIPBLK3	10	U	No Contamination
1,4-DICHLOROBENZENE	EQUIPBLK3	10	U	No Contamination
2,4,5-TRICHLOROPHENOL	EQUIPBLK3	50	U	No Contamination
2,4,6-TRICHLOROPHENOL	EQUIPBLK3	10	U	No Contamination
2,4-DICHLOROPHENOL	EQUIPBLK3	10	U	No Contamination
2,4-DIMETHYLPHENOL	EQUIPBLK3	10	U	No Contamination
2,4-DINITROPHENOL	EQUIPBLK3	50	U	No Contamination
2,4-DINITROTOLUENE	EQUIPBLK3	10	U	No Contamination
2,6-DINITROTOLUENE	EQUIPBLK3	10	U	No Contamination

EQUIPMENT BLANK EVALUATION
SEMIVOLATILES
LANDFILL #283

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
2-CHLORONAPHTHALENE	EQUIPBLK3	10	U	No Contamination
2-CHLOROPHENOL	EQUIPBLK3	10	U	No Contamination
2-METHYLNAPHTHALENE	EQUIPBLK3	10	U	No Contamination
2-METHYLPHENOL	EQUIPBLK3	10	U	No Contamination
2-NITROANILINE	EQUIPBLK3	50	U	No Contamination
2-NITROPHENOL	EQUIPBLK3	10	U	No Contamination
3,3-DICHLOROBENZIDINE	EQUIPBLK3	20	U	No Contamination
3-NITROANILINE	EQUIPBLK3	50	U	No Contamination
4,6-DINITRO-2-METHYLPHENOL	EQUIPBLK3	50	U	No Contamination
4-BROMOPHENYL-PHENYLETHER	EQUIPBLK3	10	U	No Contamination
4-CHLORO-3-METHYLPHENOL	EQUIPBLK3	10	U	No Contamination
4-CHLOROANILINE	EQUIPBLK3	10	U	No Contamination
4-CHLOROPHENYL-PHENYLETHER	EQUIPBLK3	10	U	No Contamination
4-METHYLPHENOL	EQUIPBLK3	10	U	No Contamination
4-NITROANILINE	EQUIPBLK3	50	U	No Contamination
4-NITROPHENOL	EQUIPBLK3	50	U	No Contamination
ACENAPHTHENE	EQUIPBLK3	10	U	No Contamination
ACENAPHTHYLENE	EQUIPBLK3	10	U	No Contamination
ANTHRACENE	EQUIPBLK3	10	U	No Contamination
BENZO(A)ANTHRACENE	EQUIPBLK3	10	U	No Contamination
BENZO(A)PYRENE	EQUIPBLK3	10	U	No Contamination
BENZO(B)FLUORANTHENE	EQUIPBLK3	10	U	No Contamination
BENZO(G,H,I)PERYLENE	EQUIPBLK3	10	U	No Contamination
BENZO(K)FLUORANTHENE	EQUIPBLK3	10	U	No Contamination
BENZOIC ACID	EQUIPBLK3	50	U	No Contamination
BENZYL ALCOHOL	EQUIPBLK3	10	U	No Contamination
BIS(2-CHLOROETHOXY)METHANE	EQUIPBLK3	10	U	No Contamination
BIS(2-CHLOROETHYL)ETHER	EQUIPBLK3	10	U	No Contamination
BIS(2-CHLOROISOPROPLY)ETHER	EQUIPBLK3	10	U	No Contamination
BIS(2-ETHYLHEXYL)PHTHALATE	EQUIPBLK3	[illegible]	[illegible]	Possible Contamination
BUTYLBENZYLPHTHALATE	EQUIPBLK3	10	U	No Contamination
CHRYSENE	EQUIPBLK3	10	U	No Contamination
DI-N-BUTYLPHTALATE	EQUIPBLK3	10	U	No Contamination
DI-N-OCTYLPHTHALATE	EQUIPBLK3	10	U	No Contamination
DIBENZ(A,H)ANTHRACENE	EQUIPBLK3	10	U	No Contamination
DIBENZOFURAN	EQUIPBLK3	10	U	No Contamination
DIETHYLPHTHALATE	EQUIPBLK3	10	U	No Contamination
DIMETHYLPHTHALATE	EQUIPBLK3	10	U	No Contamination
FLUORANTHENE	EQUIPBLK3	10	U	No Contamination
FLUORENE	EQUIPBLK3	10	U	No Contamination
HEXACHLOROBENZENE	EQUIPBLK3	10	U	No Contamination
HEXACHLOROBUTADIENE	EQUIPBLK3	10	U	No Contamination
HEXACHLOROCYCLOPENTADIENE	EQUIPBLK3	10	U	No Contamination
HEXACHLOROETHANE	EQUIPBLK3	10	U	No Contamination
INDENO(1,2,3-CD)PYRENE	EQUIPBLK3	10	U	No Contamination
ISOPHORONE	EQUIPBLK3	10	U	No Contamination
N-NITROSO-DI-N-PROPYLAMINE	EQUIPBLK3	10	U	No Contamination

EQUIPMENT BLANK EVALUATION
SEMIVOLATILES
LANDFILL #213

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
N-NITROSODIPHENYLAMINE (1)	EQUIPBLK3	10	U	No Contamination
NAPHTHALENE	EQUIPBLK3	10	U	No Contamination
NITROBENZENE	EQUIPBLK3	10	U	No Contamination
PENTACHLOROPHENOL	EQUIPBLK3	50	U	No Contamination
PHENANTHRENE	EQUIPBLK3	10	U	No Contamination
PHENOL	EQUIPBLK3	10	U	No Contamination
PYRENE	EQUIPBLK3	10	U	No Contamination

TRIP BLANK EVALUATION
SEMIVOLATILES
LANDFILL #2&3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
1,2,4-TRICHLOROBENZENE	FB-1	10	U	No Contamination
1,2-DICHLOROBENZENE	FB-1	10	U	No Contamination
1,3-DICHLOROBENZENE	FB-1	10	U	No Contamination
1,4-DICHLOROBENZENE	FB-1	10	U	No Contamination
2,4,5-TRICHLOROPHENOL	FB-1	50	U	No Contamination
2,4,6-TRICHLOROPHENOL	FB-1	10	U	No Contamination
2,4-DICHLOROPHENOL	FB-1	10	U	No Contamination
2,4-DIMETHYLPHENOL	FB-1	10	U	No Contamination
2,4-DINITROPHENOL	FB-1	50	U	No Contamination
2,4-DINITROTOLUENE	FB-1	10	U	No Contamination
2,6-DINITROTOLUENE	FB-1	10	U	No Contamination
2-CHLORONAPHTHALENE	FB-1	10	U	No Contamination
2-CHLOROPHENOL	FB-1	10	U	No Contamination
2-METHYLNAPHTHALENE	FB-1	10	U	No Contamination
2-METHYLPHENOL	FB-1	10	U	No Contamination
2-NITROANILINE	FB-1	50	U	No Contamination
2-NITROPHENOL	FB-1	10	U	No Contamination
3,3-DICHLOROBENZIDINE	FB-1	20	U	No Contamination
3-NITROANILINE	FB-1	50	U	No Contamination
4,6-DINITRO-2-METHYLPHENOL	FB-1	50	U	No Contamination
4-BROMOPHENYL-PHENYLETHER	FB-1	10	U	No Contamination
4-CHLORO-3-METHYLPHENOL	FB-1	10	U	No Contamination
4-CHLOROANILINE	FB-1	10	U	No Contamination
4-CHLOROPHENYL-PHENYLETHER	FB-1	10	U	No Contamination
4-METHYLPHENOL	FB-1	10	U	No Contamination
4-NITROANILINE	FB-1	50	U	No Contamination
4-NITROPHENOL	FB-1	50	U	No Contamination
ACENAPHTHENE	FB-1	10	U	No Contamination
ACENAPHTHYLENE	FB-1	10	U	No Contamination
ANTHRACENE	FB-1	10	U	No Contamination
BENZO(A)ANTHRACENE	FB-1	10	U	No Contamination
BENZO(A)PYRENE	FB-1	10	U	No Contamination
BENZO(B)FLUORANTHENE	FB-1	10	U	No Contamination
BENZO(G,H,I)PERYLENE	FB-1	10	U	No Contamination
BENZO(K)FLUORANTHENE	FB-1	10	U	No Contamination
BENZOIC ACID	FB-1	50	U	No Contamination
BENZYL ALCOHOL	FB-1	10	U	No Contamination
BIS(2-CHLOROETHOXY)METHANE	FB-1	10	U	No Contamination
BIS(2-CHLOROETHYL)ETHER	FB-1	10	U	No Contamination
BIS(2-CHLOROISOPROPLY)ETHER	FB-1	10	U	No Contamination
BIS(2-ETHYLHEXYL)PHTHALATE	FB-1	10	U	No Contamination
BUTYLBENZYLPHTHALATE	FB-1	10	U	No Contamination
CHRYSENE	FB-1	10	U	No Contamination
DI-N-BUTYLPHTALATE	FB-1	10	U	No Contamination
DI-N-OCTYLPHTHALATE	FB-1	10	U	No Contamination
DIBENZ(A,H)ANTHRACENE	FB-1	10	U	No Contamination
DIBENZOFURAN	FB-1	10	U	No Contamination

TRIP BLANK EVALUATION
SEMIVOLATILES
LANDFILL #2&3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
DIETHYLPHTHALATE	FB-1	10	U	No Contamination
DIMETHYLPHTHALATE	FB-1	10	U	No Contamination
FLUORANTHENE	FB-1	10	U	No Contamination
FLUORENE	FB-1	10	U	No Contamination
HEXACHLOROBENZENE	FB-1	10	U	No Contamination
HEXACHLOROBUTADIENE	FB-1	10	U	No Contamination
HEXACHLOROCYCLOPENTADIENE	FB-1	10	U	No Contamination
HEXACHLOROETHANE	FB-1	10	U	No Contamination
INDENO(1,2,3-CD)PYRENE	FB-1	10	U	No Contamination
ISOPHORONE	FB-1	10	U	No Contamination
N-NITROSO-DI-N-PROPYLAMINE	FB-1	10	U	No Contamination
N-NITROSODIPHENYLAMINE (1)	FB-1	10	U	No Contamination
NAPHTHALENE	FB-1	10	U	No Contamination
NITROBENZENE	FB-1	10	U	No Contamination
PENTACHLOROPHENOL	FB-1	50	U	No Contamination
PHENANTHRENE	FB-1	10	U	No Contamination
PHENOL	FB-1	10	U	No Contamination
PYRENE	FB-1	10	U	No Contamination

TRIP BLANK EVALUATION
SEMIVOLATILES
LANDFILL #2

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
1,2,4-TRICHLOROBENZENE	LF2-1-FB	10	U	No Contamination
1,2-DICHLOROBENZENE	LF2-1-FB	10	U	No Contamination
1,3-DICHLOROBENZENE	LF2-1-FB	10	U	No Contamination
1,4-DICHLOROBENZENE	LF2-1-FB	10	U	No Contamination
2,4,5-TRICHLOROPHENOL	LF2-1-FB	50	U	No Contamination
2,4,6-TRICHLOROPHENOL	LF2-1-FB	10	U	No Contamination
2,4-DICHLOROPHENOL	LF2-1-FB	10	U	No Contamination
2,4-DIMETHYLPHENOL	LF2-1-FB	10	U	No Contamination
2,4-DINITROPHENOL	LF2-1-FB	50	U	No Contamination
2,4-DINITROTOLUENE	LF2-1-FB	10	U	No Contamination
2,6-DINITROTOLUENE	LF2-1-FB	10	U	No Contamination
2-CHLORONAPHTHALENE	LF2-1-FB	10	U	No Contamination
2-CHLOROPHENOL	LF2-1-FB	10	U	No Contamination
2-METHYLNAPHTHALENE	LF2-1-FB	10	U	No Contamination
2-METHYLPHENOL	LF2-1-FB	10	U	No Contamination
2-NITROANILINE	LF2-1-FB	50	U	No Contamination
2-NITROPHENOL	LF2-1-FB	10	U	No Contamination
3,3-DICHLOROBENZIDINE	LF2-1-FB	20	U	No Contamination
3-NITROANILINE	LF2-1-FB	50	U	No Contamination
4,6-DINITRO-2-METHYLPHENOL	LF2-1-FB	50	U	No Contamination
4-BROMOPHENYL-PHENYLETHER	LF2-1-FB	10	U	No Contamination
4-CHLORO-3-METHYLPHENOL	LF2-1-FB	10	U	No Contamination
4-CHLOROANILINE	LF2-1-FB	10	U	No Contamination
4-CHLOROPHENYL-PHENYLETHER	LF2-1-FB	10	U	No Contamination
4-METHYLPHENOL	LF2-1-FB	10	U	No Contamination
4-NITROANILINE	LF2-1-FB	50	U	No Contamination
4-NITROPHENOL	LF2-1-FB	50	U	No Contamination
ACENAPHTHENE	LF2-1-FB	10	U	No Contamination
ACENAPHTHYLENE	LF2-1-FB	10	U	No Contamination
ANTHRACENE	LF2-1-FB	10	U	No Contamination
BENZO(A)ANTHRACENE	LF2-1-FB	10	U	No Contamination
BENZO(A)PYRENE	LF2-1-FB	10	U	No Contamination
BENZO(B)FLUORANTHENE	LF2-1-FB	10	U	No Contamination
BENZO(G,H,I)PERYLENE	LF2-1-FB	10	U	No Contamination
BENZO(K)FLUORANTHENE	LF2-1-FB	10	U	No Contamination
BENZOIC ACID	LF2-1-FB	50	U	No Contamination
BENZYL ALCOHOL	LF2-1-FB	10	U	No Contamination
BIS(2-CHLOROETHOXY)METHANE	LF2-1-FB	10	U	No Contamination
BIS(2-CHLOROETHYL)ETHER	LF2-1-FB	10	U	No Contamination
BIS(2-CHLOROISOPROPLY)ETHER	LF2-1-FB	10	U	No Contamination
BIS(2-ETHYLHEXYL)PHTHALATE	LF2-1-FB	10	U	No Contamination
BUTYLBENZYLPHTHALATE	LF2-1-FB	10	U	No Contamination
CHRYSENE	LF2-1-FB	10	U	No Contamination
DI-N-BUTYLPHTALATE	LF2-1-FB	10	U	No Contamination
DI-N-OCTYLPHTHALATE	LF2-1-FB	10	U	No Contamination
DIBENZ(A,H)ANTHRACENE	LF2-1-FB	10	U	No Contamination
DIBENZOFURAN	LF2-1-FB	10	U	No Contamination

TRIP BLANK EVALUATION
SEMIVOLATILES
LANDFILL #2

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
DIETHYLPHTHALATE	LF2-1-FB	10	U	No Contamination
DIMETHYLPHTHALATE	LF2-1-FB	10	U	No Contamination
FLUORANTHENE	LF2-1-FB	10	U	No Contamination
FLUORENE	LF2-1-FB	10	U	No Contamination
HEXACHLOROBENZENE	LF2-1-FB	10	U	No Contamination
HEXACHLOROBUTADIENE	LF2-1-FB	10	U	No Contamination
HEXACHLOROCYCLOPENTADIENE	LF2-1-FB	10	U	No Contamination
HEXACHLOROETHANE	LF2-1-FB	10	U	No Contamination
INDENO(1,2,3-CD)PYRENE	LF2-1-FB	10	U	No Contamination
ISOPHORONE	LF2-1-FB	10	U	No Contamination
N-NITROSO-DI-N-PROPYLAMINE	LF2-1-FB	10	U	No Contamination
N-NITROSODIPHENYLAMINE (1)	LF2-1-FB	10	U	No Contamination
NAPHTHALENE	LF2-1-FB	10	U	No Contamination
NITROBENZENE	LF2-1-FB	10	U	No Contamination
PENTACHLOROPHENOL	LF2-1-FB	50	U	No Contamination
PHENANTHRENE	LF2-1-FB	10	U	No Contamination
PHENOL	LF2-1-FB	10	U	No Contamination
PYRENE	LF2-1-FB	10	U	No Contamination
1,2,4-TRICHLOROBENZENE	LF2-3-FB	10	U	No Contamination
1,2-DICHLOROBENZENE	LF2-3-FB	10	U	No Contamination
1,3-DICHLOROBENZENE	LF2-3-FB	10	U	No Contamination
1,4-DICHLOROBENZENE	LF2-3-FB	10	U	No Contamination
2,4,5-TRICHLOROPHENOL	LF2-3-FB	50	U	No Contamination
2,4,6-TRICHLOROPHENOL	LF2-3-FB	10	U	No Contamination
2,4-DICHLOROPHENOL	LF2-3-FB	10	U	No Contamination
2,4-DIMETHYLPHENOL	LF2-3-FB	10	U	No Contamination
2,4-DINITROPHENOL	LF2-3-FB	50	U	No Contamination
2,4-DINITROTOLUENE	LF2-3-FB	10	U	No Contamination
2,6-DINITROTOLUENE	LF2-3-FB	10	U	No Contamination
2-CHLORONAPHTHALENE	LF2-3-FB	10	U	No Contamination
2-CHLOROPHENOL	LF2-3-FB	10	U	No Contamination
2-METHYLNAPHTHALENE	LF2-3-FB	10	U	No Contamination
2-METHYLPHENOL	LF2-3-FB	10	U	No Contamination
2-NITROANILINE	LF2-3-FB	50	U	No Contamination
2-NITROPHENOL	LF2-3-FB	10	U	No Contamination
3,3-DICHLOROBENZIDINE	LF2-3-FB	20	U	No Contamination
3-NITROANILINE	LF2-3-FB	50	U	No Contamination
4,6-DINITRO-2-METHYLPHENOL	LF2-3-FB	50	U	No Contamination
4-BROMOPHENYL-PHENYLETHER	LF2-3-FB	10	U	No Contamination
4-CHLORO-3-METHYLPHENOL	LF2-3-FB	10	U	No Contamination
4-CHLOROANILINE	LF2-3-FB	10	U	No Contamination
4-CHLOROPHENYL-PHENYLETHER	LF2-3-FB	10	U	No Contamination
4-METHYLPHENOL	LF2-3-FB	10	U	No Contamination
4-NITROANILINE	LF2-3-FB	50	U	No Contamination
4-NITROPHENOL	LF2-3-FB	50	U	No Contamination
ACENAPHTHENE	LF2-3-FB	10	U	No Contamination
ACENAPHTHYLENE	LF2-3-FB	10	U	No Contamination

TRIP BLANK EVALUATION
SEMIVOLATILES
LANDFILL #2

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
ANTHRACENE	LF2-3-FB	10	U	No Contamination
BENZO(A)ANTHRACENE	LF2-3-FB	10	U	No Contamination
BENZO(A)PYRENE	LF2-3-FB	10	U	No Contamination
BENZO(B)FLUORANTHENE	LF2-3-FB	10	U	No Contamination
BENZO(G,H,I)PERYLENE	LF2-3-FB	10	U	No Contamination
BENZO(K)FLUORANTHENE	LF2-3-FB	10	U	No Contamination
BENZOIC ACID	LF2-3-FB	50	U	No Contamination
BENZYL ALCOHOL	LF2-3-FB	10	U	No Contamination
BIS(2-CHLOROETHOXY)METHANE	LF2-3-FB	10	U	No Contamination
BIS(2-CHLOROETHYL)ETHER	LF2-3-FB	10	U	No Contamination
BIS(2-CHLOROISOPROPLY)ETHER	LF2-3-FB	10	U	No Contamination
BIS(2-ETHYLHEXYL)PHTHALATE	LF2-3-FB	10	U	No Contamination
BUTYLBENZYLPHTHALATE	LF2-3-FB	10	U	No Contamination
CHRYSENE	LF2-3-FB	10	U	No Contamination
DI-N-BUTYLPHTALATE	LF2-3-FB	10	U	No Contamination
DI-N-OCTYLPHTHALATE	LF2-3-FB	10	U	No Contamination
DIBENZ(A,H)ANTHRACENE	LF2-3-FB	10	U	No Contamination
DIBENZOFURAN	LF2-3-FB	10	U	No Contamination
DIETHYLPHTHALATE	LF2-3-FB	10	U	No Contamination
DIMETHYLPHTHALATE	LF2-3-FB	10	U	No Contamination
FLUORANTHENE	LF2-3-FB	10	U	No Contamination
FLUORENE	LF2-3-FB	10	U	No Contamination
HEXACHLOROBENZENE	LF2-3-FB	10	U	No Contamination
HEXACHLOROBUTADIENE	LF2-3-FB	10	U	No Contamination
HEXACHLOROCYCLOPENTADIENE	LF2-3-FB	10	U	No Contamination
HEXACHLOROETHANE	LF2-3-FB	10	U	No Contamination
INDENO(1,2,3-CD)PYRENE	LF2-3-FB	10	U	No Contamination
ISOPHORONE	LF2-3-FB	10	U	No Contamination
N-NITROSO-DI-N-PROPYLAMINE	LF2-3-FB	10	U	No Contamination
N-NITROSODIPHENYLAMINE (1)	LF2-3-FB	10	U	No Contamination
NAPHTHALENE	LF2-3-FB	10	U	No Contamination
NITROBENZENE	LF2-3-FB	10	U	No Contamination
PENTACHLOROPHENOL	LF2-3-FB	50	U	No Contamination
PHENANTHRENE	LF2-3-FB	10	U	No Contamination
PHENOL	LF2-3-FB	10	U	No Contamination
PYRENE	LF2-3-FB	10	U	No Contamination
1,2,4-TRICHLOROBENZENE	LF2-5-FB	10	U	No Contamination
1,2-DICHLOROBENZENE	LF2-5-FB	10	U	No Contamination
1,3-DICHLOROBENZENE	LF2-5-FB	10	U	No Contamination
1,4-DICHLOROBENZENE	LF2-5-FB	10	U	No Contamination
2,4,5-TRICHLOROPHENOL	LF2-5-FB	50	U	No Contamination
2,4,6-TRICHLOROPHENOL	LF2-5-FB	10	U	No Contamination
2,4-DICHLOROPHENOL	LF2-5-FB	10	U	No Contamination
2,4-DIMETHYLPHENOL	LF2-5-FB	10	U	No Contamination
2,4-DINITROPHENOL	LF2-5-FB	50	U	No Contamination
2,4-DINITROTOLUENE	LF2-5-FB	10	U	No Contamination
2,6-DINITROTOLUENE	LF2-5-FB	10	U	No Contamination

TRIP BLANK EVALUATION
SEMIVOLATILES
LANDFILL #2

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
2-CHLORONAPHTHALENE	LF2-5-FB	10	U	No Contamination
2-CHLOROPHENOL	LF2-5-FB	10	U	No Contamination
2-METHYLNAPHTHALENE	LF2-5-FB	10	U	No Contamination
2-METHYLPHENOL	LF2-5-FB	10	U	No Contamination
2-NITROANILINE	LF2-5-FB	50	U	No Contamination
2-NITROPHENOL	LF2-5-FB	10	U	No Contamination
3,3-DICHLOROBENZIDINE	LF2-5-FB	20	U	No Contamination
3-NITROANILINE	LF2-5-FB	50	U	No Contamination
4,6-DINITRO-2-METHYLPHENOL	LF2-5-FB	50	U	No Contamination
4-BROMOPHENYL-PHENYLETHER	LF2-5-FB	10	U	No Contamination
4-CHLORO-3-METHYLPHENOL	LF2-5-FB	10	U	No Contamination
4-CHLOROANILINE	LF2-5-FB	10	U	No Contamination
4-CHLOROPHENYL-PHENYLETHER	LF2-5-FB	10	U	No Contamination
4-METHYLPHENOL	LF2-5-FB	10	U	No Contamination
4-NITROANILINE	LF2-5-FB	50	U	No Contamination
4-NITROPHENOL	LF2-5-FB	50	U	No Contamination
ACENAPHTHENE	LF2-5-FB	10	U	No Contamination
ACENAPHTHYLENE	LF2-5-FB	10	U	No Contamination
ANTHRACENE	LF2-5-FB	10	U	No Contamination
BENZO(A)ANTHRACENE	LF2-5-FB	10	U	No Contamination
BENZO(A)PYRENE	LF2-5-FB	10	U	No Contamination
BENZO(B)FLUORANTHENE	LF2-5-FB	10	U	No Contamination
BENZO(G,H,I)PERYLENE	LF2-5-FB	10	U	No Contamination
BENZO(K)FLUORANTHENE	LF2-5-FB	10	U	No Contamination
BENZOIC ACID	LF2-5-FB	50	U	No Contamination
BENZYL ALCOHOL	LF2-5-FB	10	U	No Contamination
BIS(2-CHLOROETHOXY)METHANE	LF2-5-FB	10	U	No Contamination
BIS(2-CHLOROETHYL)ETHER	LF2-5-FB	10	U	No Contamination
BIS(2-CHLOROISOPROPLY)ETHER	LF2-5-FB	10	U	No Contamination
BIS(2-ETHYLHEXYL)PHTHALATE	LF2-5-FB	10	U	No Contamination
BUTYLBENZYLPHTHALATE	LF2-5-FB	10	U	No Contamination
CHRYSENE	LF2-5-FB	10	U	No Contamination
DI-N-BUTYLPHTALATE	LF2-5-FB	10	U	No Contamination
DI-N-OCTYLPHTHALATE	LF2-5-FB	10	U	No Contamination
DIBENZ(A,H)ANTHRACENE	LF2-5-FB	10	U	No Contamination
DIBENZOFURAN	LF2-5-FB	10	U	No Contamination
DIETHYLPHTHALATE	LF2-5-FB	10	U	No Contamination
DIMETHYLPHTHALATE	LF2-5-FB	10	U	No Contamination
FLUORANTHENE	LF2-5-FB	10	U	No Contamination
FLUORENE	LF2-5-FB	10	U	No Contamination
HEXACHLOROBENZENE	LF2-5-FB	10	U	No Contamination
HEXACHLOROBUTADIENE	LF2-5-FB	10	U	No Contamination
HEXACHLOROCYCLOPENTADIENE	LF2-5-FB	10	U	No Contamination
HEXACHLOROETHANE	LF2-5-FB	10	U	No Contamination
INDENO(1,2,3-CD)PYRENE	LF2-5-FB	10	U	No Contamination
ISOPHORONE	LF2-5-FB	10	U	No Contamination
N-NITROSO-DI-N-PROPYLAMINE	LF2-5-FB	10	U	No Contamination

TRIP BLANK EVALUATION
SEMIVOLATILES
LANDFILL #2

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
N-NITROSODIPHENYLAMINE (1)	LF2-5-FB	10	U	No Contamination
NAPHTHALENE	LF2-5-FB	10	U	No Contamination
NITROBENZENE	LF2-5-FB	10	U	No Contamination
PENTACHLOROPHENOL	LF2-5-FB	50	U	No Contamination
PHENANTHRENE	LF2-5-FB	10	U	No Contamination
PHENOL	LF2-5-FB	10	U	No Contamination
PYRENE	LF2-5-FB	10	U	No Contamination

TRIP BLANK EVALUATION
SEMIVOLATILES
LANDFILL #3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
1,2,4-TRICHLOROBENZENE	LF3-2-FB	10	U	No Contamination
1,2-DICHLOROBENZENE	LF3-2-FB	10	U	No Contamination
1,3-DICHLOROBENZENE	LF3-2-FB	10	U	No Contamination
1,4-DICHLOROBENZENE	LF3-2-FB	10	U	No Contamination
2,4,5-TRICHLOROPHENOL	LF3-2-FB	50	U	No Contamination
2,4,6-TRICHLOROPHENOL	LF3-2-FB	10	U	No Contamination
2,4-DICHLOROPHENOL	LF3-2-FB	10	U	No Contamination
2,4-DIMETHYLPHENOL	LF3-2-FB	10	U	No Contamination
2,4-DINITROPHENOL	LF3-2-FB	50	U	No Contamination
2,4-DINITROTOLUENE	LF3-2-FB	10	U	No Contamination
2,6-DINITROTOLUENE	LF3-2-FB	10	U	No Contamination
2-CHLORONAPHTHALENE	LF3-2-FB	10	U	No Contamination
2-CHLOROPHENOL	LF3-2-FB	10	U	No Contamination
2-METHYLNAPHTHALENE	LF3-2-FB	10	U	No Contamination
2-METHYLPHENOL	LF3-2-FB	10	U	No Contamination
2-NITROANILINE	LF3-2-FB	50	U	No Contamination
2-NITROPHENOL	LF3-2-FB	10	U	No Contamination
3,3-DICHLOROBENZIDINE	LF3-2-FB	20	U	No Contamination
3-NITROANILINE	LF3-2-FB	50	U	No Contamination
4,6-DINITRO-2-METHYLPHENOL	LF3-2-FB	50	U	No Contamination
4-BROMOPHENYL-PHENYLETHER	LF3-2-FB	10	U	No Contamination
4-CHLORO-3-METHYLPHENOL	LF3-2-FB	10	U	No Contamination
4-CHLOROANILINE	LF3-2-FB	10	U	No Contamination
4-CHLOROPHENYL-PHENYLETHER	LF3-2-FB	10	U	No Contamination
4-METHYLPHENOL	LF3-2-FB	10	U	No Contamination
4-NITROANILINE	LF3-2-FB	50	U	No Contamination
4-NITROPHENOL	LF3-2-FB	50	U	No Contamination
ACENAPHTHENE	LF3-2-FB	10	U	No Contamination
ACENAPHTHYLENE	LF3-2-FB	10	U	No Contamination
ANTHRACENE	LF3-2-FB	10	U	No Contamination
BENZO(A)ANTHRACENE	LF3-2-FB	10	U	No Contamination
BENZO(A)PYRENE	LF3-2-FB	10	U	No Contamination
BENZO(B)FLUORANTHENE	LF3-2-FB	10	U	No Contamination
BENZO(G,H,I)PERYLENE	LF3-2-FB	10	U	No Contamination
BENZO(K)FLUORANTHENE	LF3-2-FB	10	U	No Contamination
BENZOIC ACID	LF3-2-FB	50	U	No Contamination
BENZYL ALCOHOL	LF3-2-FB	10	U	No Contamination
BIS(2-CHLOROETHOXY)METHANE	LF3-2-FB	10	U	No Contamination
BIS(2-CHLOROETHYL)ETHER	LF3-2-FB	10	U	No Contamination
BIS(2-CHLOROISOPROPLY)ETHER	LF3-2-FB	10	U	No Contamination
BIS(2-ETHYLHEXYL)PHTHALATE	LF3-2-FB	15		Possible Contamination
BUTYLBENZYLPHTHALATE	LF3-2-FB	10	U	No Contamination
CHRYSENE	LF3-2-FB	10	U	No Contamination
DI-N-BUTYLPHTALATE	LF3-2-FB	10	U	No Contamination
DI-N-OCTYLPHTHALATE	LF3-2-FB	120		Possible Contamination ?
DIBENZ(A,H)ANTHRACENE	LF3-2-FB	10	U	No Contamination
DIBENZOFURAN	LF3-2-FB	10	U	No Contamination

TRIP BLANK EVALUATION
SEMIVOLATILES
LANDFILL #3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
DIETHYLPHTHALATE	LF3-2-FB	10	U	No Contamination
DIMETHYLPHTHALATE	LF3-2-FB	10	U	No Contamination
FLUORANTHENE	LF3-2-FB	10	U	No Contamination
FLUORENE	LF3-2-FB	10	U	No Contamination
HEXACHLOROBENZENE	LF3-2-FB	10	U	No Contamination
HEXACHLOROBUTADIENE	LF3-2-FB	10	U	No Contamination
HEXACHLOROCYCLOPENTADIENE	LF3-2-FB	10	U	No Contamination
HEXACHLOROETHANE	LF3-2-FB	10	U	No Contamination
INDENO(1,2,3-CD)PYRENE	LF3-2-FB	10	U	No Contamination
ISOPHORONE	LF3-2-FB	10	U	No Contamination
N-NITROSO-DI-N-PROPYLAMINE	LF3-2-FB	10	U	No Contamination
N-NITROSODIPHENYLAMINE (1)	LF3-2-FB	10	U	No Contamination
NAPHTHALENE	LF3-2-FB	10	U	No Contamination
NITROBENZENE	LF3-2-FB	10	U	No Contamination
PENTACHLOROPHENOL	LF3-2-FB	50	U	No Contamination
PHENANTHRENE	LF3-2-FB	10	U	No Contamination
PHENOL	LF3-2-FB	10	U	No Contamination
PYRENE	LF3-2-FB	10	U	No Contamination
1,2,4-TRICHLOROBENZENE	LF3-4-FB	10	U	No Contamination
1,2-DICHLOROBENZENE	LF3-4-FB	10	U	No Contamination
1,3-DICHLOROBENZENE	LF3-4-FB	10	U	No Contamination
1,4-DICHLOROBENZENE	LF3-4-FB	10	U	No Contamination
2,4,5-TRICHLOROPHENOL	LF3-4-FB	50	U	No Contamination
2,4,6-TRICHLOROPHENOL	LF3-4-FB	10	U	No Contamination
2,4-DICHLOROPHENOL	LF3-4-FB	10	U	No Contamination
2,4-DIMETHYLPHENOL	LF3-4-FB	10	U	No Contamination
2,4-DINITROPHENOL	LF3-4-FB	50	U	No Contamination
2,4-DINITROTOLUENE	LF3-4-FB	10	U	No Contamination
2,6-DINITROTOLUENE	LF3-4-FB	10	U	No Contamination
2-CHLORONAPHTHALENE	LF3-4-FB	10	U	No Contamination
2-CHLOROPHENOL	LF3-4-FB	10	U	No Contamination
2-METHYLNAPHTHALENE	LF3-4-FB	10	U	No Contamination
2-METHYLPHENOL	LF3-4-FB	10	U	No Contamination
2-NITROANILINE	LF3-4-FB	50	U	No Contamination
2-NITROPHENOL	LF3-4-FB	10	U	No Contamination
3,3-DICHLOROBENZIDINE	LF3-4-FB	20	U	No Contamination
3-NITROANILINE	LF3-4-FB	50	U	No Contamination
4,6-DINITRO-2-METHYLPHENOL	LF3-4-FB	50	U	No Contamination
4-BROMOPHENYL-PHENYLETHER	LF3-4-FB	10	U	No Contamination
4-CHLORO-3-METHYLPHENOL	LF3-4-FB	10	U	No Contamination
4-CHLOROANILINE	LF3-4-FB	10	U	No Contamination
4-CHLOROPHENYL-PHENYLETHER	LF3-4-FB	10	U	No Contamination
4-METHYLPHENOL	LF3-4-FB	10	U	No Contamination
4-NITROANILINE	LF3-4-FB	50	U	No Contamination
4-NITROPHENOL	LF3-4-FB	50	U	No Contamination
ACENAPHTHENE	LF3-4-FB	10	U	No Contamination
ACENAPHTHYLENE	LF3-4-FB	10	U	No Contamination

TRIP BLANK EVALUATION
SEMIVOLATILES
LANDFILL #3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
ANTHRACENE	LF3-4-FB	10	U	No Contamination
BENZO(A)ANTHRACENE	LF3-4-FB	10	U	No Contamination
BENZO(A)PYRENE	LF3-4-FB	10	U	No Contamination
BENZO(B)FLUORANTHENE	LF3-4-FB	10	U	No Contamination
BENZO(G,H,I)PERYLENE	LF3-4-FB	10	U	No Contamination
BENZO(K)FLUORANTHENE	LF3-4-FB	10	U	No Contamination
BENZOIC ACID	LF3-4-FB	50	U	No Contamination
BENZYL ALCOHOL	LF3-4-FB	10	U	No Contamination
BIS(2-CHLOROETHOXY)METHANE	LF3-4-FB	10	U	No Contamination
BIS(2-CHLOROETHYL)ETHER	LF3-4-FB	10	U	No Contamination
BIS(2-CHLOROISOPROPLY)ETHER	LF3-4-FB	10	U	No Contamination
BIS(2-ETHYLHEXYL)PHTHALATE	LF3-4-FB	[illegible]	[illegible]	Possible Contamination
BUTYLBENZYLPHTHALATE	LF3-4-FB	10	U	No Contamination
CHRYSENE	LF3-4-FB	10	U	No Contamination
DI-N-BUTYLPHTALATE	LF3-4-FB	10	U	No Contamination
DI-N-OCTYLPHTHALATE	LF3-4-FB	10	U	No Contamination
DIBENZ(A,H)ANTHRACENE	LF3-4-FB	10	U	No Contamination
DIBENZOFURAN	LF3-4-FB	10	U	No Contamination
DIETHYLPHTHALATE	LF3-4-FB	10	U	No Contamination
DIMETHYLPHTHALATE	LF3-4-FB	10	U	No Contamination
FLUORANTHENE	LF3-4-FB	10	U	No Contamination
FLUORENE	LF3-4-FB	10	U	No Contamination
HEXACHLOROBENZENE	LF3-4-FB	10	U	No Contamination
HEXACHLOROBUTADIENE	LF3-4-FB	10	U	No Contamination
HEXACHLOROCYCLOPENTADIENE	LF3-4-FB	10	U	No Contamination
HEXACHLOROETHANE	LF3-4-FB	10	U	No Contamination
INDENO(1,2,3-CD)PYRENE	LF3-4-FB	10	U	No Contamination
ISOPHORONE	LF3-4-FB	10	U	No Contamination
N-NITROSO-DI-N-PROPYLAMINE	LF3-4-FB	10	U	No Contamination
N-NITROSODIPHENYLAMINE (1)	LF3-4-FB	10	U	No Contamination
NAPHTHALENE	LF3-4-FB	10	U	No Contamination
NITROBENZENE	LF3-4-FB	10	U	No Contamination
PENTACHLOROPHENOL	LF3-4-FB	50	U	No Contamination
PHENANTHRENE	LF3-4-FB	10	U	No Contamination
PHENOL	LF3-4-FB	10	U	No Contamination
PYRENE	LF3-4-FB	10	U	No Contamination
1,2,4-TRICHLOROBENZENE	LF3-6-FB	10	U	No Contamination
1,2-DICHLOROBENZENE	LF3-6-FB	10	U	No Contamination
1,3-DICHLOROBENZENE	LF3-6-FB	10	U	No Contamination
1,4-DICHLOROBENZENE	LF3-6-FB	10	U	No Contamination
2,4,5-TRICHLOROPHENOL	LF3-6-FB	50	U	No Contamination
2,4,6-TRICHLOROPHENOL	LF3-6-FB	10	U	No Contamination
2,4-DICHLOROPHENOL	LF3-6-FB	10	U	No Contamination
2,4-DIMETHYLPHENOL	LF3-6-FB	10	U	No Contamination
2,4-DINITROPHENOL	LF3-6-FB	50	U	No Contamination
2,4-DINITROTOLUENE	LF3-6-FB	10	U	No Contamination
2,6-DINITROTOLUENE	LF3-6-FB	10	U	No Contamination

TRIP BLANK EVALUATION
SEMIVOLATILES
LANDFILL #3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
2-CHLORONAPHTHALENE	LF3-6-FB	10	U	No Contamination
2-CHLOROPHENOL	LF3-6-FB	10	U	No Contamination
2-METHYLNAPHTHALENE	LF3-6-FB	10	U	No Contamination
2-METHYLPHENOL	LF3-6-FB	10	U	No Contamination
2-NITROANILINE	LF3-6-FB	50	U	No Contamination
2-NITROPHENOL	LF3-6-FB	10	U	No Contamination
3,3-DICHLOROBENZIDINE	LF3-6-FB	20	U	No Contamination
3-NITROANILINE	LF3-6-FB	50	U	No Contamination
4,6-DINITRO-2-METHYLPHENOL	LF3-6-FB	50	U	No Contamination
4-BROMOPHENYL-PHENYLETHER	LF3-6-FB	10	U	No Contamination
4-CHLORO-3-METHYLPHENOL	LF3-6-FB	10	U	No Contamination
4-CHLOROANILINE	LF3-6-FB	10	U	No Contamination
4-CHLOROPHENYL-PHENYLETHER	LF3-6-FB	10	U	No Contamination
4-METHYLPHENOL	LF3-6-FB	10	U	No Contamination
4-NITROANILINE	LF3-6-FB	50	U	No Contamination
4-NITROPHENOL	LF3-6-FB	50	U	No Contamination
ACENAPHTHENE	LF3-6-FB	10	U	No Contamination
ACENAPHTHYLENE	LF3-6-FB	10	U	No Contamination
ANTHRACENE	LF3-6-FB	10	U	No Contamination
BENZO(A)ANTHRACENE	LF3-6-FB	10	U	No Contamination
BENZO(A)PYRENE	LF3-6-FB	10	U	No Contamination
BENZO(B)FLUORANTHENE	LF3-6-FB	10	U	No Contamination
BENZO(G,H,I)PERYLENE	LF3-6-FB	10	U	No Contamination
BENZO(K)FLUORANTHENE	LF3-6-FB	10	U	No Contamination
BENZOIC ACID	LF3-6-FB	50	U	No Contamination
BENZYL ALCOHOL	LF3-6-FB	10	U	No Contamination
BIS(2-CHLOROETHOXY)METHANE	LF3-6-FB	10	U	No Contamination
BIS(2-CHLOROETHYL)ETHER	LF3-6-FB	10	U	No Contamination
BIS(2-CHLOROISOPROPLY)ETHER	LF3-6-FB	10	U	No Contamination
BIS(2-ETHYLHEXYL)PHTHALATE	LF3-6-FB	20		Possible Contamination
BUTYLBENZYLPHTHALATE	LF3-6-FB	10	U	No Contamination
CHRYSENE	LF3-6-FB	10	U	No Contamination
DI-N-BUTYLPHTALATE	LF3-6-FB	10	U	No Contamination
DI-N-OCTYLPHTHALATE	LF3-6-FB	10	U	No Contamination
DIBENZ(A,H)ANTHRACENE	LF3-6-FB	10	U	No Contamination
DIBENZOFURAN	LF3-6-FB	10	U	No Contamination
DIETHYLPHTHALATE	LF3-6-FB	10	U	No Contamination
DIMETHYLPHTHALATE	LF3-6-FB	10	U	No Contamination
FLUORANTHENE	LF3-6-FB	10	U	No Contamination
FLUORENE	LF3-6-FB	10	U	No Contamination
HEXACHLOROBENZENE	LF3-6-FB	10	U	No Contamination
HEXACHLOROBUTADIENE	LF3-6-FB	10	U	No Contamination
HEXACHLOROCYCLOPENTADIENE	LF3-6-FB	10	U	No Contamination
HEXACHLOROETHANE	LF3-6-FB	10	U	No Contamination
INDENO(1,2,3-CD)PYRENE	LF3-6-FB	10	U	No Contamination
ISOPHORONE	LF3-6-FB	10	U	No Contamination
N-NITROSO-DI-N-PROPYLAMINE	LF3-6-FB	10	U	No Contamination

TRIP BLANK EVALUATION
SEMIVOLATILES
LANDFILL #3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
N-NITROSODIPHENYLAMINE (1)	LF3-6-FB	10	U	No Contamination
NAPHTHALENE	LF3-6-FB	10	U	No Contamination
NITROBENZENE	LF3-6-FB	10	U	No Contamination
PENTACHLOROPHENOL	LF3-6-FB	50	U	No Contamination
PHENANTHRENE	LF3-6-FB	10	U	No Contamination
PHENOL	LF3-6-FB	10	U	No Contamination
PYRENE	LF3-6-FB	10	U	No Contamination

SUMMARY OF SEMIVOLATILE ORGANICS -- LANDFILL #2

NOTES FOR ORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

J -- indicates an estimated value. This flag is used when estimating the concentration of tentatively identified compounds or when compound is identified but the concentration is less than the sample quantitation limit.

B -- analyte found in the associated blank as well as in the sample.

D -- identifies all compounds identified in an analysis at a secondary dilution factor.

NOTES FOR INORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

B -- indicates the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

E -- indicates a value estimated or not reported due to the presence of interference.

S -- indicates value determined by Method of Standard Addition.

M -- indicates duplicate injection precision not met.

N -- indicates matrix spike sample recovery is not within control limits.

W -- indicates post-digestion spike for furnace AA anlysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

* -- indicates duplicate analysis is not within control limits.

+ -- indicates that the correlation coefficient for Method of Standard Addition is less than 0.995.

NOTES FOR BACKGROUND LIMIT RESULTS

m -- indicates background limit was calculated using the median detection limit.

blank -- indicates a 90% upper prediction limit was calculated for the background limit.

SUMMARY OF SEMIVOLATILES
LANDFILL #2

Analyte	Qual-ifier	Mean Conc. (ppb)	Range	Minimum	Maximum	Count
1,2,4-TRICHLOROBENZENE	U	397.50	20	390	410	4
1,2-DICHLOROBENZENE	U	397.50	20	390	410	4
1,3-DICHLOROBENZENE	U	397.50	20	390	410	4
1,4-DICHLOROBENZENE	U	397.50	20	390	410	4
2,4,5-TRICHLOROPHENOL	U	1925.00	100	1900	2000	4
2,4,6-TRICHLOROPHENOL	U	397.50	20	390	410	4
2,4-DICHLOROPHENOL	U	397.50	20	390	410	4
2,4-DIMETHYLPHENOL	U	397.50	20	390	410	4
2,4-DINITROPHENOL	U	1925.00	100	1900	2000	4
2,4-DINITROTOLUENE	U	397.50	20	390	410	4
2,6-DINITROTOLUENE	U	397.50	20	390	410	4
2-CHLORONAPHTHALENE	U	397.50	20	390	410	4
2-CHLOROPHENOL	U	397.50	20	390	410	4
2-METHYLNAPHTHALENE	U	397.50	20	390	410	4
2-METHYLPHENOL	U	397.50	20	390	410	4
2-NITROANILINE	U	1925.00	100	1900	2000	4
2-NITROPHENOL	U	397.50	20	390	410	4
3,3-DICHLOROBENZIDINE	U	795.00	40	780	820	4
3-NITROANILINE	U	1925.00	100	1900	2000	4
4,6-DINITRO-2-METHYLPHENOL	U	1925.00	100	1900	2000	4
4-BROMOPHENYL-PHENYLETHER	U	397.50	20	390	410	4
4-CHLORO-3-METHYLPHENOL	U	397.50	20	390	410	4
4-CHLOROANILINE	U	397.50	20	390	410	4
4-CHLOROPHENYL-PHENYLETHER	U	397.50	20	390	410	4
4-METHYLPHENOL	J	110.00	0	110	110	1
4-METHYLPHENOL	U	400.00	20	390	410	3
4-NITROANILINE	U	1925.00	100	1900	2000	4
4-NITROPHENOL	U	1925.00	100	1900	2000	4
ACENAPHTHENE	U	397.50	20	390	410	4
ACENAPHTHYLENE	U	397.50	20	390	410	4
ANTHRACENE	U	397.50	20	390	410	4
BENZO(A)ANTHRACENE	U	397.50	20	390	410	4
BENZO(A)PYRENE	U	397.50	20	390	410	4
BENZO(B)FLUORANTHENE	U	397.50	20	390	410	4
BENZO(G,H,I)PERYLENE	U	397.50	20	390	410	4
BENZO(K)FLUORANTHENE	U	397.50	20	390	410	4
BENZOIC ACID	J	90.00	0	90	90	1
BENZOIC ACID	U	1933.33	100	1900	2000	3
BENZYL ALCOHOL	U	397.50	20	390	410	4
BIS(2-CHLOROETHOXY)METHANE	U	397.50	20	390	410	4
BIS(2-CHLOROETHYL)ETHER	U	397.50	20	390	410	4
BIS(2-CHLOROISOPROPLY)ETHER	U	397.50	20	390	410	4
BIS(2-ETHYLHEXYL)PHTHALATE	U	397.50	20	390	410	4
BUTYLBENZYLPHTHALATE	U	397.50	20	390	410	4
CHRYSENE	U	397.50	20	390	410	4
DI-N-BUTYLPHTALATE	U	397.50	20	390	410	4
DI-N-OCTYLPHTHALATE	U	397.50	20	390	410	4

SUMMARY OF SEMIVOLATILES
LANDFILL #2

Analyte	Qual-ifier	Mean Conc. (ppb)	Range	Minimum	Maximum	Count
DIBENZ(A,H)ANTHRACENE	U	397.5	20	390	410	4
DIBENZOFURAN	U	397.5	20	390	410	4
DIETHYLPHTHALATE	U	397.5	20	390	410	4
DIMETHYLPHTHALATE	U	397.5	20	390	410	4
FLUORANTHENE	U	397.5	20	390	410	4
FLUORENE	U	397.5	20	390	410	4
HEXACHLOROBENZENE	U	397.5	20	390	410	4
HEXACHLOROBUTADIENE	U	397.5	20	390	410	4
HEXACHLOROCYCLOPENTADIENE	U	397.5	20	390	410	4
HEXACHLOROETHANE	U	397.5	20	390	410	4
INDENO(1,2,3-CD)PYRENE	U	397.5	20	390	410	4
ISOPHORONE	U	397.5	20	390	410	4
N-NITROSO-DI-N-PROPYLAMINE	U	397.5	20	390	410	4
N-NITROSODIPHENYLAMINE (1)	U	397.5	20	390	410	4
NAPHTHALENE	U	397.5	20	390	410	4
NITROBENZENE	U	1925.0	100	1900	2000	4
PENTACHLOROPHENOL	U	397.5	20	390	410	4
PHENANTHRENE	U	397.5	20	390	410	4
PHENOL	U	397.5	20	390	410	4
PYRENE	U	397.5	20	390	410	4

PRELIMINARY UNVALIDATED RESULTS
SEMIVOLATILES ABOVE DETECTION LIMITS
LANDFILL #2

Analyte	Sample ID	Concentration (ppb)	Qualifier
[redacted]			

SEMIVOLATILES
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-1	1,2,4-TRICHLOROBENZENE	400	U
LF2-3S	1,2,4-TRICHLOROBENZENE	410	U
LF2-5	1,2,4-TRICHLOROBENZENE	390	U
LF2-6	1,2,4-TRICHLOROBENZENE	390	U
LF2-1	1,2-DICHLOROBENZENE	400	U
LF2-3S	1,2-DICHLOROBENZENE	410	U
LF2-5	1,2-DICHLOROBENZENE	390	U
LF2-6	1,2-DICHLOROBENZENE	390	U
LF2-1	1,3-DICHLOROBENZENE	400	U
LF2-3S	1,3-DICHLOROBENZENE	410	U
LF2-5	1,3-DICHLOROBENZENE	390	U
LF2-6	1,3-DICHLOROBENZENE	390	U
LF2-1	1,4-DICHLOROBENZENE	400	U
LF2-3S	1,4-DICHLOROBENZENE	410	U
LF2-5	1,4-DICHLOROBENZENE	390	U
LF2-6	1,4-DICHLOROBENZENE	390	U
LF2-1	2,4,5-TRICHLOROPHENOL	1900	U
LF2-3S	2,4,5-TRICHLOROPHENOL	2000	U
LF2-5	2,4,5-TRICHLOROPHENOL	1900	U
LF2-6	2,4,5-TRICHLOROPHENOL	1900	U
LF2-1	2,4,6-TRICHLOROPHENOL	400	U
LF2-3S	2,4,6-TRICHLOROPHENOL	410	U
LF2-5	2,4,6-TRICHLOROPHENOL	390	U
LF2-6	2,4,6-TRICHLOROPHENOL	390	U
LF2-1	2,4-DICHLOROPHENOL	400	U
LF2-3S	2,4-DICHLOROPHENOL	410	U
LF2-5	2,4-DICHLOROPHENOL	390	U
LF2-6	2,4-DICHLOROPHENOL	390	U
LF2-1	2,4-DIMETHYLPHENOL	400	U
LF2-3S	2,4-DIMETHYLPHENOL	410	U
LF2-5	2,4-DIMETHYLPHENOL	390	U
LF2-6	2,4-DIMETHYLPHENOL	390	U
LF2-1	2,4-DINITROPHENOL	1900	U
LF2-3S	2,4-DINITROPHENOL	2000	U
LF2-5	2,4-DINITROPHENOL	1900	U
LF2-6	2,4-DINITROPHENOL	1900	U
LF2-1	2,4-DINITROTOLUENE	400	U
LF2-3S	2,4-DINITROTOLUENE	410	U
LF2-5	2,4-DINITROTOLUENE	390	U
LF2-6	2,4-DINITROTOLUENE	390	U
LF2-1	2,6-DINITROTOLUENE	400	U
LF2-3S	2,6-DINITROTOLUENE	410	U
LF2-5	2,6-DINITROTOLUENE	390	U
LF2-6	2,6-DINITROTOLUENE	390	U
LF2-1	2-CHLORONAPHTHALENE	400	U
LF2-3S	2-CHLORONAPHTHALENE	410	U
LF2-5	2-CHLORONAPHTHALENE	390	U

SEMIVOLATILES
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-6	2-CHLORONAPHTHALENE	390	U
LF2-1	2-CHLOROPHENOL	400	U
LF2-3S	2-CHLOROPHENOL	410	U
LF2-5	2-CHLOROPHENOL	390	U
LF2-6	2-CHLOROPHENOL	390	U
LF2-1	2-METHYLNAPHTHALENE	400	U
LF2-3S	2-METHYLNAPHTHALENE	410	U
LF2-5	2-METHYLNAPHTHALENE	390	U
LF2-6	2-METHYLNAPHTHALENE	390	U
LF2-1	2-METHYLPHENOL	400	U
LF2-3S	2-METHYLPHENOL	410	U
LF2-5	2-METHYLPHENOL	390	U
LF2-6	2-METHYLPHENOL	390	U
LF2-1	2-NITROANILINE	1900	U
LF2-3S	2-NITROANILINE	2000	U
LF2-5	2-NITROANILINE	1900	U
LF2-6	2-NITROANILINE	1900	U
LF2-1	2-NITROPHENOL	400	U
LF2-3S	2-NITROPHENOL	410	U
LF2-5	2-NITROPHENOL	390	U
LF2-6	2-NITROPHENOL	390	U
LF2-1	3,3-DICHLOROBENZIDINE	800	U
LF2-3S	3,3-DICHLOROBENZIDINE	820	U
LF2-5	3,3-DICHLOROBENZIDINE	780	U
LF2-6	3,3-DICHLOROBENZIDINE	780	U
LF2-1	3-NITROANILINE	1900	U
LF2-3S	3-NITROANILINE	2000	U
LF2-5	3-NITROANILINE	1900	U
LF2-6	3-NITROANILINE	1900	U
LF2-1	4,6-DINITRO-2-METHYLPHENOL	1900	U
LF2-3S	4,6-DINITRO-2-METHYLPHENOL	2000	U
LF2-5	4,6-DINITRO-2-METHYLPHENOL	1900	U
LF2-6	4,6-DINITRO-2-METHYLPHENOL	1900	U
LF2-1	4-BROMOPHENYL-PHENYLETHER	400	U
LF2-3S	4-BROMOPHENYL-PHENYLETHER	410	U
LF2-5	4-BROMOPHENYL-PHENYLETHER	390	U
LF2-6	4-BROMOPHENYL-PHENYLETHER	390	U
LF2-1	4-CHLORO-3-METHYLPHENOL	400	U
LF2-3S	4-CHLORO-3-METHYLPHENOL	410	U
LF2-5	4-CHLORO-3-METHYLPHENOL	390	U
LF2-6	4-CHLORO-3-METHYLPHENOL	390	U
LF2-1	4-CHLOROANILINE	400	U
LF2-3S	4-CHLOROANILINE	410	U
LF2-5	4-CHLOROANILINE	390	U
LF2-6	4-CHLOROANILINE	390	U
LF2-1	4-CHLOROPHENYL-PHENYLETHER	400	U
LF2-3S	4-CHLOROPHENYL-PHENYLETHER	410	U

SEMIVOLATILES
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-5	4-CHLOROPHENYL-PHENYLETHER	390	U
LF2-6	4-CHLOROPHENYL-PHENYLETHER	390	U
LF2-1	4-METHYLPHENOL	400	U
LF2-3S	4-METHYLPHENOL	410	U
LF2-5	4-METHYLPHENOL	110	J
LF2-6	4-METHYLPHENOL	390	U
LF2-1	4-NITROANILINE	1900	U
LF2-3S	4-NITROANILINE	2000	U
LF2-5	4-NITROANILINE	1900	U
LF2-6	4-NITROANILINE	1900	U
LF2-1	4-NITROPHENOL	1900	U
LF2-3S	4-NITROPHENOL	2000	U
LF2-5	4-NITROPHENOL	1900	U
LF2-6	4-NITROPHENOL	1900	U
LF2-1	ACENAPHTHENE	400	U
LF2-3S	ACENAPHTHENE	410	U
LF2-5	ACENAPHTHENE	390	U
LF2-6	ACENAPHTHENE	390	U
LF2-1	ACENAPHTHYLENE	400	U
LF2-3S	ACENAPHTHYLENE	410	U
LF2-5	ACENAPHTHYLENE	390	U
LF2-6	ACENAPHTHYLENE	390	U
LF2-1	ANTHRACENE	400	U
LF2-3S	ANTHRACENE	410	U
LF2-5	ANTHRACENE	390	U
LF2-6	ANTHRACENE	390	U
LF2-1	BENZO(A)ANTHRACENE	400	U
LF2-3S	BENZO(A)ANTHRACENE	410	U
LF2-5	BENZO(A)ANTHRACENE	390	U
LF2-6	BENZO(A)ANTHRACENE	390	U
LF2-1	BENZO(A)PYRENE	400	U
LF2-3S	BENZO(A)PYRENE	410	U
LF2-5	BENZO(A)PYRENE	390	U
LF2-6	BENZO(A)PYRENE	390	U
LF2-1	BENZO(B)FLUORANTHENE	400	U
LF2-3S	BENZO(B)FLUORANTHENE	410	U
LF2-5	BENZO(B)FLUORANTHENE	390	U
LF2-6	BENZO(B)FLUORANTHENE	390	U
LF2-1	BENZO(G,H,I)PERYLENE	400	U
LF2-3S	BENZO(G,H,I)PERYLENE	410	U
LF2-5	BENZO(G,H,I)PERYLENE	390	U
LF2-6	BENZO(G,H,I)PERYLENE	390	U
LF2-1	BENZO(K)FLUORANTHENE	400	U
LF2-3S	BENZO(K)FLUORANTHENE	410	U
LF2-5	BENZO(K)FLUORANTHENE	390	U
LF2-6	BENZO(K)FLUORANTHENE	390	U
LF2-1	BENZOIC ACID	1900	U

SEMIVOLATILES
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-3S	BENZOIC ACID	2000	U
LF2-5	BENZOIC ACID	90	J
LF2-6	BENZOIC ACID	1900	U
LF2-1	BENZYL ALCOHOL	400	U
LF2-3S	BENZYL ALCOHOL	410	U
LF2-5	BENZYL ALCOHOL	390	U
LF2-6	BENZYL ALCOHOL	390	U
LF2-1	BIS(2-CHLOROETHOXY)METHANE	400	U
LF2-3S	BIS(2-CHLOROETHOXY)METHANE	410	U
LF2-5	BIS(2-CHLOROETHOXY)METHANE	390	U
LF2-6	BIS(2-CHLOROETHOXY)METHANE	390	U
LF2-1	BIS(2-CHLOROETHYL)ETHER	400	U
LF2-3S	BIS(2-CHLOROETHYL)ETHER	410	U
LF2-5	BIS(2-CHLOROETHYL)ETHER	390	U
LF2-6	BIS(2-CHLOROETHYL)ETHER	390	U
LF2-1	BIS(2-CHLOROISOPROPLY)ETHER	400	U
LF2-3S	BIS(2-CHLOROISOPROPLY)ETHER	410	U
LF2-5	BIS(2-CHLOROISOPROPLY)ETHER	390	U
LF2-6	BIS(2-CHLOROISOPROPLY)ETHER	390	U
LF2-1	BIS(2-ETHYLHEXYL)PHTHALATE	400	U
LF2-3S	BIS(2-ETHYLHEXYL)PHTHALATE	410	U
LF2-5	BIS(2-ETHYLHEXYL)PHTHALATE	390	U
LF2-6	BIS(2-ETHYLHEXYL)PHTHALATE	390	U
LF2-1	BUTYLBENZYLPHTHALATE	400	U
LF2-3S	BUTYLBENZYLPHTHALATE	410	U
LF2-5	BUTYLBENZYLPHTHALATE	390	U
LF2-6	BUTYLBENZYLPHTHALATE	390	U
LF2-1	CHRYSENE	400	U
LF2-3S	CHRYSENE	410	U
LF2-5	CHRYSENE	390	U
LF2-6	CHRYSENE	390	U
LF2-1	DI-N-BUTYLPHTALATE	400	U
LF2-3S	DI-N-BUTYLPHTALATE	410	U
LF2-5	DI-N-BUTYLPHTALATE	390	U
LF2-6	DI-N-BUTYLPHTALATE	390	U
LF2-1	DI-N-OCTYLPHTHALATE	400	U
LF2-3S	DI-N-OCTYLPHTHALATE	410	U
LF2-5	DI-N-OCTYLPHTHALATE	390	U
LF2-6	DI-N-OCTYLPHTHALATE	390	U
LF2-1	DIBENZ(A,H)ANTHRACENE	400	U
LF2-3S	DIBENZ(A,H)ANTHRACENE	410	U
LF2-5	DIBENZ(A,H)ANTHRACENE	390	U
LF2-6	DIBENZ(A,H)ANTHRACENE	390	U
LF2-1	DIBENZOFURAN	400	U
LF2-3S	DIBENZOFURAN	410	U
LF2-5	DIBENZOFURAN	390	U
LF2-6	DIBENZOFURAN	390	U

SEMIVOLATILES
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-1	DIETHYLPHTHALATE	400	U
LF2-3S	DIETHYLPHTHALATE	410	U
LF2-5	DIETHYLPHTHALATE	390	U
LF2-6	DIETHYLPHTHALATE	390	U
LF2-1	DIMETHYLPHTHALATE	400	U
LF2-3S	DIMETHYLPHTHALATE	410	U
LF2-5	DIMETHYLPHTHALATE	390	U
LF2-6	DIMETHYLPHTHALATE	390	U
LF2-1	FLUORANTHENE	400	U
LF2-3S	FLUORANTHENE	410	U
LF2-5	FLUORANTHENE	390	U
LF2-6	FLUORANTHENE	390	U
LF2-1	FLUORENE	400	U
LF2-3S	FLUORENE	410	U
LF2-5	FLUORENE	390	U
LF2-6	FLUORENE	390	U
LF2-1	HEXACHLOROBENZENE	400	U
LF2-3S	HEXACHLOROBENZENE	410	U
LF2-5	HEXACHLOROBENZENE	390	U
LF2-6	HEXACHLOROBENZENE	390	U
LF2-1	HEXACHLOROBUTADIENE	400	U
LF2-3S	HEXACHLOROBUTADIENE	410	U
LF2-5	HEXACHLOROBUTADIENE	390	U
LF2-6	HEXACHLOROBUTADIENE	390	U
LF2-1	HEXACHLOROCYCLOPENTADIENE	400	U
LF2-3S	HEXACHLOROCYCLOPENTADIENE	410	U
LF2-5	HEXACHLOROCYCLOPENTADIENE	390	U
LF2-6	HEXACHLOROCYCLOPENTADIENE	390	U
LF2-1	HEXACHLOROETHANE	400	U
LF2-3S	HEXACHLOROETHANE	410	U
LF2-5	HEXACHLOROETHANE	390	U
LF2-6	HEXACHLOROETHANE	390	U
LF2-1	INDENO(1,2,3-CD)PYRENE	400	U
LF2-3S	INDENO(1,2,3-CD)PYRENE	410	U
LF2-5	INDENO(1,2,3-CD)PYRENE	390	U
LF2-6	INDENO(1,2,3-CD)PYRENE	390	U
LF2-1	ISOPHORONE	400	U
LF2-3S	ISOPHORONE	410	U
LF2-5	ISOPHORONE	390	U
LF2-6	ISOPHORONE	390	U
LF2-1	N-NITROSO-DI-N-PROPYLAMINE	400	U
LF2-3S	N-NITROSO-DI-N-PROPYLAMINE	410	U
LF2-5	N-NITROSO-DI-N-PROPYLAMINE	390	U
LF2-6	N-NITROSO-DI-N-PROPYLAMINE	390	U
LF2-1	N-NITROSODIPHENYLAMINE (1)	400	U
LF2-3S	N-NITROSODIPHENYLAMINE (1)	410	U
LF2-5	N-NITROSODIPHENYLAMINE (1)	390	U

SEMIVOLATILES
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-6	N-NITROSODIPHENYLAMINE (1)	390	U
LF2-1	NAPHTHALENE	400	U
LF2-3S	NAPHTHALENE	410	U
LF2-5	NAPHTHALENE	390	U
LF2-6	NAPHTHALENE	390	U
LF2-1	NITROBENZENE	400	U
LF2-3S	NITROBENZENE	410	U
LF2-5	NITROBENZENE	390	U
LF2-6	NITROBENZENE	390	U
LF2-1	PENTACHLOROPHENOL	1900	U
LF2-3S	PENTACHLOROPHENOL	2000	U
LF2-5	PENTACHLOROPHENOL	1900	U
LF2-6	PENTACHLOROPHENOL	1900	U
LF2-1	PHENANTHRENE	400	U
LF2-3S	PHENANTHRENE	410	U
LF2-5	PHENANTHRENE	390	U
LF2-6	PHENANTHRENE	390	U
LF2-1	PHENOL	400	U
LF2-3S	PHENOL	410	U
LF2-5	PHENOL	390	U
LF2-6	PHENOL	390	U
LF2-1	PYRENE	400	U
LF2-3S	PYRENE	410	U
LF2-5	PYRENE	390	U
LF2-6	PYRENE	390	U

SUMMARY OF SEMIVOLATILE ORGANICS -- LANDFILL #3

NOTES FOR ORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

J -- indicates an estimated value. This flag is used when estimating the concentration of tentatively identified compounds or when compound is identified but the concentration is less than the sample quantitation limit.

B -- analyte found in the associated blank as well as in the sample.

D -- identifies all compounds identified in an analysis at a secondary dilution factor.

NOTES FOR INORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

B -- indicates the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

E -- indicates a value estimated or not reported due to the presence of interference.

S -- indicates value determined by Method of Standard Addition.

M -- indicates duplicate injection precision not met.

N -- indicates matrix spike sample recovery is not within control limits.

W -- indicates post-digestion spike for furnace AA anlysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

* -- indicates duplicate analysis is not within control limits.

+ -- indicates that the correlation coefficient for Method of Standard Addition is less than 0.995.

NOTES FOR BACKGROUND LIMIT RESULTS

m -- indicates background limit was calculated using the median detection limit.

blank -- indicates a 90% upper prediction limit was calculated for the background limit.

SUMMARY OF SEMIVOLATILES
LANDFILL #3

Analyte	Conc. Qual-ifier	Mean Conc. (ppb)	Range	Minimum	Maximum	Count
1,2,4-TRICHLOROBENZENE	U	340	0	340	340	4
1,2-DICHLOROBENZENE	U	340	0	340	340	4
1,3-DICHLOROBENZENE	U	340	0	340	340	4
1,4-DICHLOROBENZENE	U	340	0	340	340	4
2,4,5-TRICHLOROPHENOL	U	1700	0	1700	1700	4
2,4,6-TRICHLOROPHENOL	U	340	0	340	340	4
2,4-DICHLOROPHENOL	U	340	0	340	340	4
2,4-DIMETHYLPHENOL	U	340	0	340	340	4
2,4-DINITROPHENOL	U	1700	0	1700	1700	4
2,4-DINITROTOLUENE	U	340	0	340	340	4
2,6-DINITROTOLUENE	U	340	0	340	340	4
2-CHLORONAPHTHALENE	U	340	0	340	340	4
2-CHLOROPHENOL	U	340	0	340	340	4
2-METHYLNAPHTHALENE	U	340	0	340	340	4
2-METHYLPHENOL	U	340	0	340	340	4
2-NITROANILINE	U	1700	0	1700	1700	4
2-NITROPHENOL	U	340	0	340	340	4
3,3-DICHLOROBENZIDINE	U	680	0	680	680	4
3-NITROANILINE	U	1700	0	1700	1700	4
4,6-DINITRO-2-METHYLPHENOL	U	1700	0	1700	1700	4
4-BROMOPHENYL-PHENYLETHER	U	340	0	340	340	4
4-CHLORO-3-METHYLPHENOL	U	340	0	340	340	4
4-CHLOROANILINE	U	340	0	340	340	4
4-CHLOROPHENYL-PHENYLETHER	U	340	0	340	340	4
4-METHYLPHENOL	U	340	0	340	340	4
4-NITROANILINE	U	1700	0	1700	1700	4
4-NITROPHENOL	U	1700	0	1700	1700	4
ACENAPHTHENE	U	340	0	340	340	4
ACENAPHTHYLENE	U	340	0	340	340	4
ANTHRACENE	U	340	0	340	340	4
BENZO(A)ANTHRACENE	U	340	0	340	340	4
BENZO(A)PYRENE	U	340	0	340	340	4
BENZO(B)FLUORANTHENE	U	340	0	340	340	4
BENZO(G,H,I)PERYLENE	U	340	0	340	340	4
BENZO(K)FLUORANTHENE	U	340	0	340	340	4
BENZOIC ACID	U	1700	0	1700	1700	4
BENZYL ALCOHOL	U	340	0	340	340	4
BIS(2-CHLOROETHOXY)METHANE	U	340	0	340	340	4
BIS(2-CHLOROETHYL)ETHER	U	340	0	340	340	4
BIS(2-CHLOROISOPROPLY)ETHER	U	340	0	340	340	4
BIS(2-ETHYLHEXYL)PHTHALATE	U	340	0	340	340	4
BUTYLBENZYLPHTHALATE	U	340	0	340	340	4
CHRYSENE	U	340	0	340	340	4
DI-N-BUTYLPHTALATE	U	340	0	340	340	4
DI-N-OCTYLPHTHALATE	U	340	0	340	340	4
DIBENZ(A,H)ANTHRACENE	U	340	0	340	340	4
DIBENZOFURAN	U	340	0	340	340	4

SUMMARY OF SEMIVOLATILES
LANDFILL #3

Analyte	Conc. Qual-ifier	Mean Conc. (ppb)	Range	Minimum	Maximum	Count
DIETHYLPHTHALATE	U	340	0	340	340	4
DIMETHYLPHTHALATE	U	340	0	340	340	4
FLUORANTHENE	U	340	0	340	340	4
FLUORENE	U	340	0	340	340	4
HEXACHLOROBENZENE	U	340	0	340	340	4
HEXACHLOROBUTADIENE	U	340	0	340	340	4
HEXACHLOROCYCLOPENTADIENE	U	340	0	340	340	4
HEXACHLOROETHANE	U	340	0	340	340	4
INDENO(1,2,3-CD)PYRENE	U	340	0	340	340	4
ISOPHORONE	U	340	0	340	340	4
N-NITROSO-DI-N-PROPYLAMINE	U	340	0	340	340	4
N-NITROSODIPHENYLAMINE (1)	U	340	0	340	340	4
NAPHTHALENE	U	340	0	340	340	4
NITROBENZENE	U	340	0	340	340	4
PENTACHLOROPHENOL	U	1700	0	1700	1700	4
PHENANTHRENE	U	340	0	340	340	4
PHENOL	U	340	0	340	340	4
PYRENE	U	340	0	340	340	4

SEMIVOLATILES
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-2S	1,2,4-TRICHLOROBENZENE	340	U
LF3-4	1,2,4-TRICHLOROBENZENE	340	U
LF3-6	1,2,4-TRICHLOROBENZENE	340	U
LF3-7	1,2,4-TRICHLOROBENZENE	340	U
LF3-2S	1,2-DICHLOROBENZENE	340	U
LF3-4	1,2-DICHLOROBENZENE	340	U
LF3-6	1,2-DICHLOROBENZENE	340	U
LF3-7	1,2-DICHLOROBENZENE	340	U
LF3-2S	1,3-DICHLOROBENZENE	340	U
LF3-4	1,3-DICHLOROBENZENE	340	U
LF3-6	1,3-DICHLOROBENZENE	340	U
LF3-7	1,3-DICHLOROBENZENE	340	U
LF3-2S	1,4-DICHLOROBENZENE	340	U
LF3-4	1,4-DICHLOROBENZENE	340	U
LF3-6	1,4-DICHLOROBENZENE	340	U
LF3-7	1,4-DICHLOROBENZENE	340	U
LF3-2S	2,4,5-TRICHLOROPHENOL	1700	U
LF3-4	2,4,5-TRICHLOROPHENOL	1700	U
LF3-6	2,4,5-TRICHLOROPHENOL	1700	U
LF3-7	2,4,5-TRICHLOROPHENOL	1700	U
LF3-2S	2,4,6-TRICHLOROPHENOL	340	U
LF3-4	2,4,6-TRICHLOROPHENOL	340	U
LF3-6	2,4,6-TRICHLOROPHENOL	340	U
LF3-7	2,4,6-TRICHLOROPHENOL	340	U
LF3-2S	2,4-DICHLOROPHENOL	340	U
LF3-4	2,4-DICHLOROPHENOL	340	U
LF3-6	2,4-DICHLOROPHENOL	340	U
LF3-7	2,4-DICHLOROPHENOL	340	U
LF3-2S	2,4-DIMETHYLPHENOL	340	U
LF3-4	2,4-DIMETHYLPHENOL	340	U
LF3-6	2,4-DIMETHYLPHENOL	340	U
LF3-7	2,4-DIMETHYLPHENOL	340	U
LF3-2S	2,4-DINITROPHENOL	1700	U
LF3-4	2,4-DINITROPHENOL	1700	U
LF3-6	2,4-DINITROPHENOL	1700	U
LF3-7	2,4-DINITROPHENOL	1700	U
LF3-2S	2,4-DINITROTOLUENE	340	U
LF3-4	2,4-DINITROTOLUENE	340	U
LF3-6	2,4-DINITROTOLUENE	340	U
LF3-7	2,4-DINITROTOLUENE	340	U
LF3-2S	2,6-DINITROTOLUENE	340	U
LF3-4	2,6-DINITROTOLUENE	340	U
LF3-6	2,6-DINITROTOLUENE	340	U
LF3-7	2,6-DINITROTOLUENE	340	U
LF3-2S	2-CHLORONAPHTHALENE	340	U
LF3-4	2-CHLORONAPHTHALENE	340	U
LF3-6	2-CHLORONAPHTHALENE	340	U

SEMIVOLATILES
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-7	2-CHLORONAPHTHALENE	340	U
LF3-2S	2-CHLOROPHENOL	340	U
LF3-4	2-CHLOROPHENOL	340	U
LF3-6	2-CHLOROPHENOL	340	U
LF3-7	2-CHLOROPHENOL	340	U
LF3-2S	2-METHYLNAPHTHALENE	340	U
LF3-4	2-METHYLNAPHTHALENE	340	U
LF3-6	2-METHYLNAPHTHALENE	340	U
LF3-7	2-METHYLNAPHTHALENE	340	U
LF3-2S	2-METHYLPHENOL	340	U
LF3-4	2-METHYLPHENOL	340	U
LF3-6	2-METHYLPHENOL	340	U
LF3-7	2-METHYLPHENOL	340	U
LF3-2S	2-NITROANILINE	1700	U
LF3-4	2-NITROANILINE	1700	U
LF3-6	2-NITROANILINE	1700	U
LF3-7	2-NITROANILINE	1700	U
LF3-2S	2-NITROPHENOL	340	U
LF3-4	2-NITROPHENOL	340	U
LF3-6	2-NITROPHENOL	340	U
LF3-7	2-NITROPHENOL	340	U
LF3-2S	3,3-DICHLOROBENZIDINE	680	U
LF3-4	3,3-DICHLOROBENZIDINE	680	U
LF3-6	3,3-DICHLOROBENZIDINE	680	U
LF3-7	3,3-DICHLOROBENZIDINE	680	U
LF3-2S	3-NITROANILINE	1700	U
LF3-4	3-NITROANILINE	1700	U
LF3-6	3-NITROANILINE	1700	U
LF3-7	3-NITROANILINE	1700	U
LF3-2S	4,6-DINITRO-2-METHYLPHENOL	1700	U
LF3-4	4,6-DINITRO-2-METHYLPHENOL	1700	U
LF3-6	4,6-DINITRO-2-METHYLPHENOL	1700	U
LF3-7	4,6-DINITRO-2-METHYLPHENOL	1700	U
LF3-2S	4-BROMOPHENYL-PHENYLETHER	340	U
LF3-4	4-BROMOPHENYL-PHENYLETHER	340	U
LF3-6	4-BROMOPHENYL-PHENYLETHER	340	U
LF3-7	4-BROMOPHENYL-PHENYLETHER	340	U
LF3-2S	4-CHLORO-3-METHYLPHENOL	340	U
LF3-4	4-CHLORO-3-METHYLPHENOL	340	U
LF3-6	4-CHLORO-3-METHYLPHENOL	340	U
LF3-7	4-CHLORO-3-METHYLPHENOL	340	U
LF3-2S	4-CHLOROANILINE	340	U
LF3-4	4-CHLOROANILINE	340	U
LF3-6	4-CHLOROANILINE	340	U
LF3-7	4-CHLOROANILINE	340	U
LF3-2S	4-CHLOROPHENYL-PHENYLETHER	340	U
LF3-4	4-CHLOROPHENYL-PHENYLETHER	340	U

SEMIVOLATILES
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-6	4-CHLOROPHENYL-PHENYLETHER	340	U
LF3-7	4-CHLOROPHENYL-PHENYLETHER	340	U
LF3-2S	4-METHYLPHENOL	340	U
LF3-4	4-METHYLPHENOL	340	U
LF3-6	4-METHYLPHENOL	340	U
LF3-7	4-METHYLPHENOL	340	U
LF3-2S	4-NITROANILINE	1700	U
LF3-4	4-NITROANILINE	1700	U
LF3-6	4-NITROANILINE	1700	U
LF3-7	4-NITROANILINE	1700	U
LF3-2S	4-NITROPHENOL	1700	U
LF3-4	4-NITROPHENOL	1700	U
LF3-6	4-NITROPHENOL	1700	U
LF3-7	4-NITROPHENOL	1700	U
LF3-2S	ACENAPHTHENE	340	U
LF3-4	ACENAPHTHENE	340	U
LF3-6	ACENAPHTHENE	340	U
LF3-7	ACENAPHTHENE	340	U
LF3-2S	ACENAPHTHYLENE	340	U
LF3-4	ACENAPHTHYLENE	340	U
LF3-6	ACENAPHTHYLENE	340	U
LF3-7	ACENAPHTHYLENE	340	U
LF3-2S	ANTHRACENE	340	U
LF3-4	ANTHRACENE	340	U
LF3-6	ANTHRACENE	340	U
LF3-7	ANTHRACENE	340	U
LF3-2S	BENZO(A)ANTHRACENE	340	U
LF3-4	BENZO(A)ANTHRACENE	340	U
LF3-6	BENZO(A)ANTHRACENE	340	U
LF3-7	BENZO(A)ANTHRACENE	340	U
LF3-2S	BENZO(A)PYRENE	340	U
LF3-4	BENZO(A)PYRENE	340	U
LF3-6	BENZO(A)PYRENE	340	U
LF3-7	BENZO(A)PYRENE	340	U
LF3-2S	BENZO(B)FLUORANTHENE	340	U
LF3-4	BENZO(B)FLUORANTHENE	340	U
LF3-6	BENZO(B)FLUORANTHENE	340	U
LF3-7	BENZO(B)FLUORANTHENE	340	U
LF3-2S	BENZO(G,H,I)PERYLENE	340	U
LF3-4	BENZO(G,H,I)PERYLENE	340	U
LF3-6	BENZO(G,H,I)PERYLENE	340	U
LF3-7	BENZO(G,H,I)PERYLENE	340	U
LF3-2S	BENZO(K)FLUORANTHENE	340	U
LF3-4	BENZO(K)FLUORANTHENE	340	U
LF3-6	BENZO(K)FLUORANTHENE	340	U
LF3-7	BENZO(K)FLUORANTHENE	340	U
LF3-2S	BENZOIC ACID	1700	U

SEMIVOLATILES
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-4	BENZOIC ACID	1700	U
LF3-6	BENZOIC ACID	1700	U
LF3-7	BENZOIC ACID	1700	U
LF3-2S	BENZYL ALCOHOL	340	U
LF3-4	BENZYL ALCOHOL	340	U
LF3-6	BENZYL ALCOHOL	340	U
LF3-7	BENZYL ALCOHOL	340	U
LF3-2S	BIS(2-CHLOROETHOXY)METHANE	340	U
LF3-4	BIS(2-CHLOROETHOXY)METHANE	340	U
LF3-6	BIS(2-CHLOROETHOXY)METHANE	340	U
LF3-7	BIS(2-CHLOROETHOXY)METHANE	340	U
LF3-2S	BIS(2-CHLOROETHYL)ETHER	340	U
LF3-4	BIS(2-CHLOROETHYL)ETHER	340	U
LF3-6	BIS(2-CHLOROETHYL)ETHER	340	U
LF3-7	BIS(2-CHLOROETHYL)ETHER	340	U
LF3-2S	BIS(2-CHLOROISOPROPLY)ETHER	340	U
LF3-4	BIS(2-CHLOROISOPROPLY)ETHER	340	U
LF3-6	BIS(2-CHLOROISOPROPLY)ETHER	340	U
LF3-7	BIS(2-CHLOROISOPROPLY)ETHER	340	U
LF3-2S	BIS(2-ETHYLHEXYL)PHTHALATE	340	U
LF3-4	BIS(2-ETHYLHEXYL)PHTHALATE	340	U
LF3-6	BIS(2-ETHYLHEXYL)PHTHALATE	340	U
LF3-7	BIS(2-ETHYLHEXYL)PHTHALATE	340	U
LF3-2S	BUTYLBENZYLPHTHALATE	340	U
LF3-4	BUTYLBENZYLPHTHALATE	340	U
LF3-6	BUTYLBENZYLPHTHALATE	340	U
LF3-7	BUTYLBENZYLPHTHALATE	340	U
LF3-2S	CHRYSENE	340	U
LF3-4	CHRYSENE	340	U
LF3-6	CHRYSENE	340	U
LF3-7	CHRYSENE	340	U
LF3-2S	DI-N-BUTYLPHTALATE	340	U
LF3-4	DI-N-BUTYLPHTALATE	340	U
LF3-6	DI-N-BUTYLPHTALATE	340	U
LF3-7	DI-N-BUTYLPHTALATE	340	U
LF3-2S	DI-N-OCTYLPHTHALATE	340	U
LF3-4	DI-N-OCTYLPHTHALATE	340	U
LF3-6	DI-N-OCTYLPHTHALATE	340	U
LF3-7	DI-N-OCTYLPHTHALATE	340	U
LF3-2S	DIBENZ(A,H)ANTHRACENE	340	U
LF3-4	DIBENZ(A,H)ANTHRACENE	340	U
LF3-6	DIBENZ(A,H)ANTHRACENE	340	U
LF3-7	DIBENZ(A,H)ANTHRACENE	340	U
LF3-2S	DIBENZOFURAN	340	U
LF3-4	DIBENZOFURAN	340	U
LF3-6	DIBENZOFURAN	340	U
LF3-7	DIBENZOFURAN	340	U

SEMIVOLATILES
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-2S	DIETHYLPHTHALATE	340	U
LF3-4	DIETHYLPHTHALATE	340	U
LF3-6	DIETHYLPHTHALATE	340	U
LF3-7	DIETHYLPHTHALATE	340	U
LF3-2S	DIMETHYLPHTHALATE	340	U
LF3-4	DIMETHYLPHTHALATE	340	U
LF3-6	DIMETHYLPHTHALATE	340	U
LF3-7	DIMETHYLPHTHALATE	340	U
LF3-2S	FLUORANTHENE	340	U
LF3-4	FLUORANTHENE	340	U
LF3-6	FLUORANTHENE	340	U
LF3-7	FLUORANTHENE	340	U
LF3-2S	FLUORENE	340	U
LF3-4	FLUORENE	340	U
LF3-6	FLUORENE	340	U
LF3-7	FLUORENE	340	U
LF3-2S	HEXACHLOROBENZENE	340	U
LF3-4	HEXACHLOROBENZENE	340	U
LF3-6	HEXACHLOROBENZENE	340	U
LF3-7	HEXACHLOROBENZENE	340	U
LF3-2S	HEXACHLOROBUTADIENE	340	U
LF3-4	HEXACHLOROBUTADIENE	340	U
LF3-6	HEXACHLOROBUTADIENE	340	U
LF3-7	HEXACHLOROBUTADIENE	340	U
LF3-2S	HEXACHLOROCYCLOPENTADIENE	340	U
LF3-4	HEXACHLOROCYCLOPENTADIENE	340	U
LF3-6	HEXACHLOROCYCLOPENTADIENE	340	U
LF3-7	HEXACHLOROCYCLOPENTADIENE	340	U
LF3-2S	HEXACHLOROETHANE	340	U
LF3-4	HEXACHLOROETHANE	340	U
LF3-6	HEXACHLOROETHANE	340	U
LF3-7	HEXACHLOROETHANE	340	U
LF3-2S	INDENO(1,2,3-CD)PYRENE	340	U
LF3-4	INDENO(1,2,3-CD)PYRENE	340	U
LF3-6	INDENO(1,2,3-CD)PYRENE	340	U
LF3-7	INDENO(1,2,3-CD)PYRENE	340	U
LF3-2S	ISOPHORONE	340	U
LF3-4	ISOPHORONE	340	U
LF3-6	ISOPHORONE	340	U
LF3-7	ISOPHORONE	340	U
LF3-2S	N-NITROSO-DI-N-PROPYLAMINE	340	U
LF3-4	N-NITROSO-DI-N-PROPYLAMINE	340	U
LF3-6	N-NITROSO-DI-N-PROPYLAMINE	340	U
LF3-7	N-NITROSO-DI-N-PROPYLAMINE	340	U
LF3-2S	N-NITROSODIPHENYLAMINE (1)	340	U
LF3-4	N-NITROSODIPHENYLAMINE (1)	340	U
LF3-6	N-NITROSODIPHENYLAMINE (1)	340	U

SEMIVOLATILES
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-7	N-NITROSODIPHENYLAMINE (1)	340	U
LF3-2S	NAPHTHALENE	340	U
LF3-4	NAPHTHALENE	340	U
LF3-6	NAPHTHALENE	340	U
LF3-7	NAPHTHALENE	340	U
LF3-2S	NITROBENZENE	340	U
LF3-4	NITROBENZENE	340	U
LF3-6	NITROBENZENE	340	U
LF3-7	NITROBENZENE	340	U
LF3-2S	PENTACHLOROPHENOL	1700	U
LF3-4	PENTACHLOROPHENOL	1700	U
LF3-6	PENTACHLOROPHENOL	1700	U
LF3-7	PENTACHLOROPHENOL	1700	U
LF3-2S	PHENANTHRENE	340	U
LF3-4	PHENANTHRENE	340	U
LF3-6	PHENANTHRENE	340	U
LF3-7	PHENANTHRENE	340	U
LF3-2S	PHENOL	340	U
LF3-4	PHENOL	340	U
LF3-6	PHENOL	340	U
LF3-7	PHENOL	340	U
LF3-2S	PYRENE	340	U
LF3-4	PYRENE	340	U
LF3-6	PYRENE	340	U
LF3-7	PYRENE	340	U

SUMMARY OF FIELD QC -- INORGANICS

TRIP BLANKS

Trip blanks are flagged "Possible Contamination" if concentration is above the Instrument Detection Limit (IDL) and is not qualified with a 'J' (see explanation of qualifiers). Otherwise, the samples are flagged "No Contamination".

EQUIPMENT BLANKS

Equipment blanks are flagged "Possible Contamination" if concentration is above the IDL and is not qualified with a 'J' (see explanation of qualifiers). Otherwise, the samples are flagged "No Contamination".

SPLITS

Splits are flagged as out of control if the relative percent difference (RPD) or absolute difference, as appropriate, does not lie within EPA empirically derived limits. If the splits are within these limits, they are flagged as in control. If no limits are available, the splits are flagged as such. If the splits are below detection, then the RPD is not calculated.

The EPA limits for organics used are those presented on the Contract Laboratory Program (CLP) forms and in the CLP Statement of Work (SOW) for matrix spike duplicates. In the case where one of the splits is greater than the IDL and the other less than the IDL, the RPD reported is a minimum value.

For inorganics, the comparison of split data to EPA limits is:

1) RPD compared to 20% when both splits are greater than five times the Contract Required Detection Limit (CRDL) or

2) absolute difference compared to CRDL for case where

a). both splits are between the CRDL and five times the CRDL

or

b). one split is between the CRDL and five times the CRDL and the other is greater than five times the CRDL.

In cases where one or both of the splits is less than either the CRDL or the IDL, the sample is flagged "Concentration < CRDL". When the CRDL is not available, the sample is flagged as such. Calculation of these limits is described in the SOW (Exhibit E).

In addition to the above flags, cases where the IDL is greater than the CRDL is also flagged. Under typical conditions, this is a noncompliant item and is included in the validation effort. It was included here for the sake of completeness.

SPIKES

Percent recovery of analytes added to spiked samples is calculated. Because of the use of standards in spike preparation, comparison to EPA limits is not appropriate and manual examination of the recoveries is made.

Spikes are flagged "Possible Contamination" if concentration of analytes not added to the sample is above the IDL and is not qualified with a 'J' (see explanation of qualifiers). Otherwise, these sample/analyte combinations are flagged "No Contamination".

NOTES FOR ORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

J -- indicates an estimated value. This flag is used when estimating the concentration of tentatively identified compounds or when compound is identified but the concentration is less than the sample quantitation limit.

B -- analyte found in the associated blank as well as in the sample.

D -- identifies all compounds identified in an analysis at a secondary dilution factor.

NOTES FOR INORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

B -- indicates the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

E -- indicates a value estimated or not reported due to the presence of interference.

S -- indicates value determined by Method of Standard Addition.

M -- indicates duplicate injection precision not met.

N -- indicates matrix spike sample recovery is not within control limits.

W -- indicates post-digestion spike for furnace AA anlysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

* -- indicates duplicate analysis is not within control limits.

+ -- indicates that the correlation coefficient for Method of Standard Addition is less than 0.995.

EQUIPMENT BLANK EVALUATION
INORGANICS
LANDFILL WELLS

Analyte	Sample ID	Conc. (ppb)	Qual-ifier	Comment
Aluminum	EQUIPBLK1	200.00	U	No Contamination
Antimony	EQUIPBLK1	60.00	U	No Contamination
Arsenic	EQUIPBLK1	10.00	U	No Contamination
Barium	EQUIPBLK1	200.00	U	No Contamination
Beryllium	EQUIPBLK1	5.00	U	No Contamination
Cadmium	EQUIPBLK1	5.00	U	No Contamination
Calcium	EQUIPBLK1	5000.00	U	No Contamination
Chromium	EQUIPBLK1	10.00	U	No Contamination
Cobalt	EQUIPBLK1	50.00	U	No Contamination
Copper	EQUIPBLK1	25.00	U	No Contamination
Iron	EQUIPBLK1	100.00	U	No Contamination
Lead	EQUIPBLK1	5.00	U	No Contamination
Magnesium	EQUIPBLK1	5000.00	U	No Contamination
Manganese	EQUIPBLK1	15.00	U	No Contamination
Mercury	EQUIPBLK1	0.04	U	No Contamination
Nickel	EQUIPBLK1	40.00	U	No Contamination
Potassium	EQUIPBLK1	5000.00	U	No Contamination
Selenium	EQUIPBLK1	5.00	U	Possible Contamination
Silver	EQUIPBLK1	10.00	U	No Contamination
Sodium	EQUIPBLK1	5000.00	U	No Contamination
Thallium	EQUIPBLK1	45.00	U	No Contamination
Vanadium	EQUIPBLK1	50.00	U	No Contamination
Zinc	EQUIPBLK1	20.00	U	No Contamination
Aluminum	EQUIPBLK2	200.00	U	No Contamination
Antimony	EQUIPBLK2	60.00	U	No Contamination
Arsenic	EQUIPBLK2	10.00	U	No Contamination
Barium	EQUIPBLK2	200.00	U	No Contamination
Beryllium	EQUIPBLK2	5.00	U	No Contamination
Cadmium	EQUIPBLK2	5.00	U	No Contamination
Calcium	EQUIPBLK2	5000.00	U	No Contamination
Chromium	EQUIPBLK2	10.00	U	No Contamination
Cobalt	EQUIPBLK2	50.00	U	No Contamination
Copper	EQUIPBLK2	25.00	U	No Contamination
Iron	EQUIPBLK2	100.00	U	No Contamination
Lead	EQUIPBLK2	5.00	U	No Contamination
Magnesium	EQUIPBLK2	5000.00	U	No Contamination
Manganese	EQUIPBLK2	15.00	U	No Contamination
Mercury	EQUIPBLK2	0.04	U	No Contamination
Nickel	EQUIPBLK2	40.00	U	No Contamination
Potassium	EQUIPBLK2	5000.00	U	No Contamination
Selenium	EQUIPBLK2	5.00	U	Possible Contamination
Silver	EQUIPBLK2	10.00	U	No Contamination

EQUIPMENT BLANK EVALUATION
INORGANICS
LANDFILL WELLS

Analyte	Sample ID	Conc. (ppb)	Qual-ifier	Comment
Sodium	EQUIPBLK2	5000.00	U	No Contamination
Thallium	EQUIPBLK2	45.00	U	No Contamination
Vanadium	EQUIPBLK2	50.00	U	No Contamination
Zinc	EQUIPBLK2	20.00	U	No Contamination
Aluminum	EQUIPBLK3	200.00	U	No Contamination
Antimony	EQUIPBLK3	60.00	U	No Contamination
Arsenic	EQUIPBLK3	10.00	U	No Contamination
Barium	EQUIPBLK3	200.00	U	No Contamination
Beryllium	EQUIPBLK3	5.00	U	No Contamination
Cadmium	EQUIPBLK3	5.00	U	No Contamination
Calcium	EQUIPBLK3	5000.00	U	No Contamination
Chromium	EQUIPBLK3	10.00	U	No Contamination
Cobalt	EQUIPBLK3	50.00	U	No Contamination
Copper	EQUIPBLK3	25.00	U	No Contamination
Iron	EQUIPBLK3	100.00	U	No Contamination
Lead	EQUIPBLK3	5.00	U	No Contamination
Magnesium	EQUIPBLK3	5000.00	U	No Contamination
Manganese	EQUIPBLK3	15.00	U	No Contamination
Mercury	EQUIPBLK3	0.04	U	No Contamination
Nickel	EQUIPBLK3	40.00	U	No Contamination
Potassium	EQUIPBLK3	5000.00	U	No Contamination
Selenium	EQUIPBLK3	5.00	U	Possible Contamination
Silver	EQUIPBLK3	10.00	U	No Contamination
Sodium	EQUIPBLK3	5000.00	U	No Contamination
Thallium	EQUIPBLK3	45.00	U	No Contamination
Vanadium	EQUIPBLK3	50.00	U	No Contamination
Zinc	EQUIPBLK3	20.00	U	No Contamination

TRIP BLANK EVALUATION
INORGANICS
LANDFILL WELLS

Analyte	Sample ID	Conc. (ppb)	Qualifier	Comment
Aluminum	FB-1	200.00	U	No Contamination
Antimony	FB-1	60.00	U	No Contamination
Arsenic	FB-1	10.00	U	No Contamination
Barium	FB-1	200.00	U	No Contamination
Beryllium	FB-1	5.00	U	No Contamination
Cadmium	FB-1	5.00	U	No Contamination
Calcium	FB-1	5000.00	U	No Contamination
Chromium	FB-1	10.00	U	No Contamination
Cobalt	FB-1	50.00	U	No Contamination
Copper	FB-1	25.00	U	No Contamination
Iron	FB-1	100.00	U	No Contamination
Lead	FB-1	5.00	U	No Contamination
Magnesium	FB-1	5000.00	U	No Contamination
Manganese	FB-1	15.00	U	No Contamination
Mercury	FB-1	0.06	U	No Contamination
Nickel	FB-1	40.00	U	No Contamination
Potassium	FB-1	5000.00	U	No Contamination
Selenium	FB-1	5.00		Possible Contamination
Silver	FB-1	10.00	U	No Contamination
Sodium	FB-1	5000.00	U	No Contamination
Thallium	FB-1	45.00	U	No Contamination
Vanadium	FB-1	50.00	U	No Contamination
Zinc	FB-1	20.00	U	No Contamination

TRIP BLANK EVALUATION
INORGANICS
LANDFILL #2

Analyte	Sample ID	Conc. (ppb)	Qualifier	Comment
Aluminum	LF2-1-FB	200.00	U	No Contamination
Antimony	LF2-1-FB	60.00	U	No Contamination
Arsenic	LF2-1-FB	10.00	U	No Contamination
Barium	LF2-1-FB	200.00	U	No Contamination
Beryllium	LF2-1-FB	5.00	U	No Contamination
Cadmium	LF2-1-FB	5.00	U	No Contamination
Calcium	LF2-1-FB	5000.00	U	No Contamination
Chromium	LF2-1-FB	10.00	U	No Contamination
Cobalt	LF2-1-FB	50.00	U	No Contamination
Copper	LF2-1-FB	25.00	U	No Contamination
Iron	LF2-1-FB	100.00	U	No Contamination
Lead	LF2-1-FB	5.00	U	No Contamination
Magnesium	LF2-1-FB	5000.00	U	No Contamination
Manganese	LF2-1-FB	15.00	U	No Contamination
Mercury	LF2-1-FB	0.04	U	No Contamination
Nickel	LF2-1-FB	40.00	U	No Contamination
Potassium	LF2-1-FB	5000.00	U	No Contamination
Selenium	LF2-1-FB	5.00	U	Possible Contamination
Silver	LF2-1-FB	10.00	U	No Contamination
Sodium	LF2-1-FB	5000.00	U	No Contamination
Thallium	LF2-1-FB	45.00	U	No Contamination
Vanadium	LF2-1-FB	50.00	U	No Contamination
Zinc	LF2-1-FB	20.00	U	No Contamination
Aluminum	LF2-3-FB	200.00	U	No Contamination
Antimony	LF2-3-FB	60.00	U	No Contamination
Arsenic	LF2-3-FB	10.00	U	No Contamination
Barium	LF2-3-FB	200.00	U	No Contamination
Beryllium	LF2-3-FB	5.00	U	No Contamination
Cadmium	LF2-3-FB	5.00	U	No Contamination
Calcium	LF2-3-FB	9500.00		Possible Contamination
Chromium	LF2-3-FB	10.00	U	No Contamination
Cobalt	LF2-3-FB	50.00	U	No Contamination
Copper	LF2-3-FB	25.00	U	No Contamination
Iron	LF2-3-FB	100.00	U	No Contamination
Lead	LF2-3-FB	5.00	U	No Contamination
Magnesium	LF2-3-FB	5000.00	U	No Contamination
Manganese	LF2-3-FB	15.00	U	No Contamination
Mercury	LF2-3-FB	0.04	U	No Contamination
Nickel	LF2-3-FB	40.00	U	No Contamination
Potassium	LF2-3-FB	5000.00	U	No Contamination
Selenium	LF2-3-FB	5.00	U	Possible Contamination
Silver	LF2-3-FB	10.00	U	No Contamination

TRIP BLANK EVALUATION
INORGANICS
LANDFILL #2

Analyte	Sample ID	Conc. (ppb)	Qual-ifier	Comment
Sodium	LF2-3-FB	5000.00	U	No Contamination
Thallium	LF2-3-FB	45.00	U	No Contamination
Vanadium	LF2-3-FB	50.00	U	No Contamination
Zinc	LF2-3-FB	20.00	U	No Contamination
Aluminum	LF2-5-FB	200.00	U	No Contamination
Antimony	LF2-5-FB	60.00	U	No Contamination
Arsenic	LF2-5-FB	10.00	U	No Contamination
Barium	LF2-5-FB	200.00	U	No Contamination
Beryllium	LF2-5-FB	5.00	U	No Contamination
Cadmium	LF2-5-FB	5.00	U	No Contamination
Calcium	LF2-5-FB	5000.00	U	No Contamination
Chromium	LF2-5-FB	10.00	U	No Contamination
Cobalt	LF2-5-FB	50.00	U	No Contamination
Copper	LF2-5-FB	25.00	U	No Contamination
Iron	LF2-5-FB	100.00	U	No Contamination
Lead	LF2-5-FB	5.00	U	No Contamination
Magnesium	LF2-5-FB	5000.00	U	No Contamination
Manganese	LF2-5-FB	15.00	U	No Contamination
Mercury	LF2-5-FB	0.04	U	No Contamination
Nickel	LF2-5-FB	40.00	U	No Contamination
Potassium	LF2-5-FB	5000.00	U	No Contamination
Selenium	LF2-5-FB	5.00	W	Possible Contamination
Silver	LF2-5-FB	10.00	U	No Contamination
Sodium	LF2-5-FB	5000.00	U	No Contamination
Thallium	LF2-5-FB	45.00	U	No Contamination
Vanadium	LF2-5-FB	50.00	U	No Contamination
Zinc	LF2-5-FB	20.00	U	No Contamination

TRIP BLANK EVALUATION
INORGANICS
LANDFILL #3

Analyte	Sample ID	Conc. (ppb)	Qual-ifier	Comment
Aluminum	LF3-2-FB	200.00	U	No Contamination
Antimony	LF3-2-FB	60.00	U	No Contamination
Arsenic	LF3-2-FB	10.00	U	No Contamination
Barium	LF3-2-FB	200.00	U	No Contamination
Beryllium	LF3-2-FB	5.00	U	No Contamination
Cadmium	LF3-2-FB	5.00	U	No Contamination
Calcium	LF3-2-FB	5000.00	U	No Contamination
Chromium	LF3-2-FB	10.00	U	No Contamination
Cobalt	LF3-2-FB	50.00	U	No Contamination
Copper	LF3-2-FB	25.00	U	No Contamination
Iron	LF3-2-FB	100.00	U	No Contamination
Lead	LF3-2-FB	5.00	U	No Contamination
Magnesium	LF3-2-FB	5000.00	U	No Contamination
Manganese	LF3-2-FB	15.00	U	No Contamination
Mercury	LF3-2-FB	0.04	U	No Contamination
Nickel	LF3-2-FB	40.00	U	No Contamination
Potassium	LF3-2-FB	5000.00	U	No Contamination
Selenium	LF3-2-FB	5.00	W	Possible Contamination
Silver	LF3-2-FB	10.00	U	No Contamination
Sodium	LF3-2-FB	5000.00	U	No Contamination
Thallium	LF3-2-FB	45.00	U	No Contamination
Vanadium	LF3-2-FB	50.00	U	No Contamination
Zinc	LF3-2-FB	20.00	U	No Contamination
Aluminum	LF3-4-FB	200.00	U	No Contamination
Antimony	LF3-4-FB	60.00	U	No Contamination
Arsenic	LF3-4-FB	10.00	U	No Contamination
Barium	LF3-4-FB	200.00	U	No Contamination
Beryllium	LF3-4-FB	5.00	U	No Contamination
Cadmium	LF3-4-FB	5.00	U	No Contamination
Calcium	LF3-4-FB	5000.00	U	No Contamination
Chromium	LF3-4-FB	10.00	U	No Contamination
Cobalt	LF3-4-FB	50.00	U	No Contamination
Copper	LF3-4-FB	25.00	U	No Contamination
Iron	LF3-4-FB	100.00	U	No Contamination
Lead	LF3-4-FB	5.00	U	No Contamination
Magnesium	LF3-4-FB	5000.00	U	No Contamination
Manganese	LF3-4-FB	15.00	U	No Contamination
Mercury	LF3-4-FB	0.04	U	No Contamination
Nickel	LF3-4-FB	40.00	U	No Contamination
Potassium	LF3-4-FB	5000.00	U	No Contamination
Selenium	LF3-4-FB	5.00	W	Possible Contamination
Silver	LF3-4-FB	10.00	U	No Contamination

TRIP BLANK EVALUATION
INORGANICS
LANDFILL #3

Analyte	Sample ID	Conc. (ppb)	Qual-ifier	Comment
Sodium	LF3-4-FB	5000.00	U	No Contamination
Thallium	LF3-4-FB	45.00	U	No Contamination
Vanadium	LF3-4-FB	50.00	U	No Contamination
Zinc	LF3-4-FB	20.00	U	No Contamination
Aluminum	LF3-6-FB	200.00	U	No Contamination
Antimony	LF3-6-FB	60.00	U	No Contamination
Arsenic	LF3-6-FB	10.00	U	No Contamination
Barium	LF3-6-FB	200.00	U	No Contamination
Beryllium	LF3-6-FB	5.00	U	No Contamination
Cadmium	LF3-6-FB	5.00	U	No Contamination
Calcium	LF3-6-FB	5000.00	U	No Contamination
Chromium	LF3-6-FB	10.00	U	No Contamination
Cobalt	LF3-6-FB	50.00	U	No Contamination
Copper	LF3-6-FB	25.00	U	No Contamination
Iron	LF3-6-FB	100.00	U	No Contamination
Lead	LF3-6-FB	5.00	U	No Contamination
Magnesium	LF3-6-FB	5000.00	U	No Contamination
Manganese	LF3-6-FB	15.00	U	No Contamination
Mercury	LF3-6-FB	0.04	U	No Contamination
Nickel	LF3-6-FB	40.00	U	No Contamination
Potassium	LF3-6-FB	5000.00	U	No Contamination
Selenium	LF3-6-FB	5.00	U	Possible Contamination
Silver	LF3-6-FB	10.00	U	No Contamination
Sodium	LF3-6-FB	5000.00	U	No Contamination
Thallium	LF3-6-FB	45.00	U	No Contamination
Vanadium	LF3-6-FB	50.00	U	No Contamination
Zinc	LF3-6-FB	20.00	U	No Contamination

SUMMARY OF INORGANICS -- LANDFILL #2

NOTES FOR ORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

J -- indicates an estimated value. This flag is used when estimating the concentration of tentatively identified compounds or when compound is identified but the concentration is less than the sample quantitation limit.

B -- analyte found in the associated blank as well as in the sample.

D -- identifies all compounds identified in an analysis at a secondary dilution factor.

NOTES FOR INORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

B -- indicates the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

E -- indicates a value estimated or not reported due to the presence of interference.

S -- indicates value determined by Method of Standard Addition.

M -- indicates duplicate injection precision not met.

N -- indicates matrix spike sample recovery is not within control limits.

W -- indicates post-digestion spike for furnace AA anlysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

* -- indicates duplicate analysis is not within control limits.

+ -- indicates that the correlation coefficient for Method of Standard Addition is less than 0.995.

NOTES FOR BACKGROUND LIMIT RESULTS

m -- indicates background limit was calculated using the median detection limit.

blank -- indicates a 90% upper prediction limit was calculated for the background limit.

SUMMARY OF INORGANICS
LANDFILL #2

Analyte	Conc. Qual-ifier	Mean Conc. (ppb)	Range	Minimum	Maximum	Count
Aluminum		24250.00	13000	18000.00	31000.00	4
Antimony		12.00	0	12.00	12.00	4
Arsenic		17.75	19	6.00	25.00	4
Barium		222.50	210	130.00	340.00	4
Beryllium		1.00	0	1.00	1.00	4
Cadmium		2.00	0	2.00	2.00	1
Cadmium	U	1.00	0	1.00	1.00	3
Calcium		27000.00	44000	11000.00	55000.00	4
Chromium		27.75	8	25.00	33.00	4
Cobalt		19.00	21	7.00	28.00	3
Cobalt	U	10.00	0	10.00	10.00	1
Copper		37.50	32	24.00	56.00	4
Iron		34000.00	30000	17000.00	47000.00	4
Lead		15.25	7	12.00	19.00	4
Magnesium		11100.00	6500	8500.00	15000.00	4
Manganese		652.50	650	190.00	840.00	4
Mercury		0.02	0	0.02	0.02	1
Mercury	U	0.04	0	0.04	0.04	3
Nickel		26.67	2	26.00	28.00	3
Nickel	U	23.00	0	23.00	23.00	1
Potassium		5575.00	3800	3900.00	7700.00	4
Selenium		2.00	2	1.00	3.00	4
Silver		0.10	0	0.10	0.10	1
Silver	U	2.00	0	2.00	2.00	3
Sodium	U	1000.00	0	1000.00	1000.00	4
Thallium	U	8.00	0	8.00	8.00	4
Vanadium		55.75	51	30.00	81.00	4
Zinc		50.75	69	31.00	100.00	4

PRELIMINARY UNVALIDATED RESULTS
INORGANICS
LANDFILL #2
ANALYTES GREATER THAN BACKGROUND

Sample ID	Analyte	Concentration (ppb)	Qualifier	Background Limit (ppb)	FLAG
LF2-1	Antimony	12.0	W	5.8	m
LF2-1	Cadmium	2.0		1.1	m
LF2-1	Selenium	3.0	S	2.1	m
LF2-3S	Aluminum	25000.0		21090.4	
LF2-3S	Antimony	12.0	W	5.8	m
LF2-3S	Arsenic	16.0		7.0	
LF2-3S	Lead	19.0		17.6	
LF2-3S	Selenium	3.0	S	2.1	m
LF2-5	Aluminum	31000.0		21090.4	
LF2-5	Antimony	12.0	W	5.8	m
LF2-5	Arsenic	24.0		7.0	
LF2-5	Copper	46.0		31.3	
LF2-5	Iron	47000.0		45253.8	
LF2-6	Aluminum	23000.0		21090.4	
LF2-6	Antimony	12.0	W	5.8	m
LF2-6	Arsenic	25.0		7.0	
LF2-6	Copper	56.0		31.3	
LF2-6	Iron	46000.0		45253.8	
LF2-6	Vanadium	81.0		77.6	

PRELIMINARY UNVALIDATED RESULTS
INORGANICS
LANDFILL #2
ANALYTES GREATER THAN BACKGROUND

Analyte	Sample ID	Concentration (ppb)	Qualifier	Background Limit (ppb)	FLAG
Aluminum	LF2-3S	25000.0		21090.4	
Aluminum	LF2-5	31000.0		21090.4	
Aluminum	LF2-6	23000.0		21090.4	
Antimony	LF2-1	12.0	W	5.8	*
Antimony	LF2-3S	12.0	W	5.8	*
Antimony	LF2-5	12.0	W	5.8	*
Antimony	LF2-6	12.0	W	5.8	*
Arsenic	LF2-3S	16.0		7.0	
Arsenic	LF2-5	24.0		7.0	
Arsenic	LF2-6	25.0		7.0	
Cadmium	LF2-1	2.0		1.1	*
Copper	LF2-5	46.0		31.3	
Copper	LF2-6	56.0		31.3	
Iron	LF2-5	47000.0		45253.8	
Iron	LF2-6	46000.0		45253.8	
Lead	LF2-3S	19.0		17.6	
Selenium	LF2-1	3.0	S	2.1	*
Selenium	LF2-3S	3.0	S	2.1	*
Vanadium	LF2-6	81.0		77.6	

PRELIMINARY UNVALIDATED RESULTS

INORGANICS ABOVE DETECTION LIMITS
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-1	Aluminum	18000	
LF2-3S	Aluminum	25000	
LF2-5	Aluminum	31000	
LF2-6	Aluminum	23000	
LF2-1	Antimony	12	W
LF2-3S	Antimony	12	W
LF2-5	Antimony	12	W
LF2-6	Antimony	12	W
LF2-1	Arsenic	6	
LF2-3S	Arsenic	16	
LF2-5	Arsenic	24	
LF2-6	Arsenic	25	
LF2-1	Barium	200	
LF2-3S	Barium	220	
LF2-5	Barium	340	
LF2-6	Barium	130	
LF2-1	Beryllium	1	
LF2-3S	Beryllium	1	
LF2-5	Beryllium	1	
LF2-6	Beryllium	1	
LF2-1	Cadmium	2	
LF2-1	Calcium	55000	
LF2-3S	Calcium	19000	
LF2-5	Calcium	11000	
LF2-6	Calcium	23000	
LF2-1	Chromium	25	
LF2-3S	Chromium	25	
LF2-5	Chromium	33	
LF2-6	Chromium	28	
LF2-1	Cobalt	7	J
LF2-5	Cobalt	22	
LF2-6	Cobalt	28	
LF2-1	Copper	24	
LF2-3S	Copper	24	
LF2-5	Copper	46	
LF2-6	Copper	56	
LF2-1	Iron	17000	
LF2-3S	Iron	26000	
LF2-5	Iron	47000	
LF2-6	Iron	46000	
LF2-1	Lead	14	
LF2-3S	Lead	19	
LF2-5	Lead	16	
LF2-6	Lead	12	
LF2-1	Magnesium	8500	

PRELIMINARY UNVALIDATED RESULTS

INORGANICS ABOVE DETECTION LIMITS
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-3S	Magnesium	8900.00	
LF2-5	Magnesium	12000.00	
LF2-6	Magnesium	15000.00	
LF2-1	Manganese	190.00	
LF2-3S	Manganese	750.00	
LF2-5	Manganese	840.00	
LF2-6	Manganese	830.00	
LF2-1	Mercury	0.02	J
LF2-3S	Nickel	26.00	
LF2-5	Nickel	28.00	
LF2-6	Nickel	26.00	
LF2-1	Potassium	7700.00	
LF2-3S	Potassium	5600.00	
LF2-5	Potassium	5100.00	
LF2-6	Potassium	3900.00	
LF2-1	Selenium	3.00	S
LF2-3S	Selenium	3.00	S
LF2-5	Selenium	1.00	W
LF2-6	Selenium	1.00	W
LF2-1	Silver	0.10	J
LF2-1	Vanadium	45.00	
LF2-3S	Vanadium	30.00	
LF2-5	Vanadium	67.00	
LF2-6	Vanadium	81.00	
LF2-1	Zinc	100.00	
LF2-3S	Zinc	40.00	
LF2-5	Zinc	32.00	
LF2-6	Zinc	31.00	

INORGANICS
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-1	Aluminum	18000	
LF2-3S	Aluminum	25000	
LF2-5	Aluminum	31000	
LF2-6	Aluminum	23000	
LF2-1	Antimony	12	W
LF2-3S	Antimony	12	W
LF2-5	Antimony	12	W
LF2-6	Antimony	12	W
LF2-1	Arsenic	6	
LF2-3S	Arsenic	16	
LF2-5	Arsenic	24	
LF2-6	Arsenic	25	
LF2-1	Barium	200	
LF2-3S	Barium	220	
LF2-5	Barium	340	
LF2-6	Barium	130	
LF2-1	Beryllium	1	
LF2-3S	Beryllium	1	
LF2-5	Beryllium	1	
LF2-6	Beryllium	1	
LF2-1	Cadmium	2	
LF2-3S	Cadmium	1	U
LF2-5	Cadmium	1	U
LF2-6	Cadmium	1	U
LF2-1	Calcium	55000	
LF2-3S	Calcium	19000	
LF2-5	Calcium	11000	
LF2-6	Calcium	23000	
LF2-1	Chromium	25	
LF2-3S	Chromium	25	
LF2-5	Chromium	33	
LF2-6	Chromium	28	
LF2-1	Cobalt	7	J
LF2-3S	Cobalt	10	U
LF2-5	Cobalt	22	
LF2-6	Cobalt	28	
LF2-1	Copper	24	
LF2-3S	Copper	24	
LF2-5	Copper	46	
LF2-6	Copper	56	
LF2-1	Iron	17000	
LF2-3S	Iron	26000	
LF2-5	Iron	47000	
LF2-6	Iron	46000	
LF2-1	Lead	14	

INORGANICS
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-3S	Lead	19.00	
LF2-5	Lead	16.00	
LF2-6	Lead	12.00	
LF2-1	Magnesium	8500.00	
LF2-3S	Magnesium	8900.00	
LF2-5	Magnesium	12000.00	
LF2-6	Magnesium	15000.00	
LF2-1	Manganese	190.00	
LF2-3S	Manganese	750.00	
LF2-5	Manganese	840.00	
LF2-6	Manganese	830.00	
LF2-1	Mercury	0.02	J
LF2-3S	Mercury	0.04	U
LF2-5	Mercury	0.04	U
LF2-6	Mercury	0.04	U
LF2-1	Nickel	23.00	U
LF2-3S	Nickel	26.00	
LF2-5	Nickel	28.00	
LF2-6	Nickel	26.00	
LF2-1	Potassium	7700.00	
LF2-3S	Potassium	5600.00	
LF2-5	Potassium	5100.00	
LF2-6	Potassium	3900.00	
LF2-1	Selenium	3.00	S
LF2-3S	Selenium	3.00	S
LF2-5	Selenium	1.00	U
LF2-6	Selenium	1.00	U
LF2-1	Silver	0.10	J
LF2-3S	Silver	2.00	U
LF2-5	Silver	2.00	U
LF2-6	Silver	2.00	U
LF2-1	Sodium	1000.00	U
LF2-3S	Sodium	1000.00	U
LF2-5	Sodium	1000.00	U
LF2-6	Sodium	1000.00	U
LF2-1	Thallium	8.00	U
LF2-3S	Thallium	8.00	U
LF2-5	Thallium	8.00	U
LF2-6	Thallium	8.00	U
LF2-1	Vanadium	45.00	
LF2-3S	Vanadium	30.00	
LF2-5	Vanadium	67.00	
LF2-6	Vanadium	81.00	
LF2-1	Zinc	100.00	
LF2-3S	Zinc	40.00	

INORGANICS
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-5	Zinc	32.00	
LF2-6	Zinc	31.00	

SUMMARY OF INORGANICS -- LANDFILL #3

NOTES FOR ORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

J -- indicates an estimated value. This flag is used when estimating the concentration of tentatively identified compounds or when compound is identified but the concentration is less than the sample quantitation limit.

B -- analyte found in the associated blank as well as in the sample.

D -- identifies all compounds identified in an analysis at a secondary dilution factor.

NOTES FOR INORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

B -- indicates the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

E -- indicates a value estimated or not reported due to the presence of interference.

S -- indicates value determined by Method of Standard Addition.

M -- indicates duplicate injection precision not met.

N -- indicates matrix spike sample recovery is not within control limits.

W -- indicates post-digestion spike for furnace AA anlysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

* -- indicates duplicate analysis is not within control limits.

+ -- indicates that the correlation coefficient for Method of Standard Addition is less than 0.995.

NOTES FOR BACKGROUND LIMIT RESULTS

m -- indicates background limit was calculated using the median detection limit.

blank -- indicates a 90% upper prediction limit was calculated for the background limit.

SUMMARY OF INORGANICS
LANDFILL #3

Analyte	Conc. Qual-ifier	Mean Conc. (ppb)	Range	Minimum	Maximum	Count
Aluminum		3550.00	3000	1700.00	4700.00	4
Antimony		12.00	0	12.00	12.00	4
Arsenic		11.75	8	8.00	16.00	4
Barium		51.00	4	49.00	53.00	2
Barium	U	40.00	0	40.00	40.00	2
Beryllium	U	1.00	0	1.00	1.00	4
Cadmium	U	1.00	0	1.00	1.00	4
Calcium		32625.00	55500	9500.00	65000.00	4
Chromium		10.00	5	7.00	12.00	4
Cobalt	U	10.00	0	10.00	10.00	4
Copper		19.00	12	12.00	24.00	4
Iron		8750.00	7900	5100.00	13000.00	4
Lead		6.00	5	3.00	8.00	4
Magnesium		3075.00	2100	1800.00	3900.00	4
Manganese		121.75	93	57.00	150.00	4
Mercury	U	0.04	0	0.04	0.04	4
Nickel		12.00	2	11.00	13.00	3
Nickel	U	8.00	0	8.00	8.00	1
Potassium	U	1000.00	0	1000.00	1000.00	4
Selenium		1.00	0	1.00	1.00	4
Silver	U	2.00	0	2.00	2.00	4
Sodium	U	1000.00	0	1000.00	1000.00	4
Thallium	U	8.00	0	8.00	8.00	4
Vanadium		20.50	5	18.00	23.00	4
Zinc		27.00	10	22.00	32.00	4

PRELIMINARY UNVALIDATED RESULTS
INORGANICS
LANDFILL #3
ANALYTES GREATER THAN BACKGROUND

Analyte	Sample ID	Concentration (ppb)	Qualifier	Background Limit (ppb)	FLAG
Antimony	LF3-2S	12.0	W	5.8	m
Antimony	LF3-4	12.0	W	5.8	m
Antimony	LF3-6	12.0	W	5.8	m
Antimony	LF3-7	12.0	W	5.8	m
Arsenic	LF3-2S	11.0		7.0	
Arsenic	LF3-4	16.0		7.0	
Arsenic	LF3-6	12.0		7.0	
Arsenic	LF3-7	8.0		7.0	

PRELIMINARY UNVALIDATED RESULTS
INORGANICS
LANDFILL #3
ANALYTES GREATER THAN BACKGROUND

Sample ID	Analyte	Concentration (ppb)	Qualifier	Background Limit (ppb)	FLAG
LF3-2S	Antimony	12.0	W	5.8	*
LF3-2S	Arsenic	11.0		7.0	
LF3-4	Antimony	12.0	W	5.8	*
LF3-4	Arsenic	16.0		7.0	
LF3-6	Antimony	12.0	W	5.8	*
LF3-6	Arsenic	12.0		7.0	
LF3-7	Antimony	12.0	W	5.8	*
LF3-7	Arsenic	8.0		7.0	

PRELIMINARY UNVALIDATED RESULTS

INORGANICS ABOVE DETECTION LIMITS
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-2S	Aluminum	3800	
LF3-4	Aluminum	1700	
LF3-6	Aluminum	4700	
LF3-7	Aluminum	4000	
LF3-2S	Antimony	12	W
LF3-4	Antimony	12	W
LF3-6	Antimony	12	W
LF3-7	Antimony	12	W
LF3-2S	Arsenic	11	
LF3-4	Arsenic	16	
LF3-6	Arsenic	12	
LF3-7	Arsenic	8	
LF3-2S	Barium	49	
LF3-6	Barium	53	
LF3-2S	Calcium	37000	
LF3-4	Calcium	65000	
LF3-6	Calcium	9500	
LF3-7	Calcium	19000	
LF3-2S	Chromium	12	
LF3-4	Chromium	7	
LF3-6	Chromium	10	
LF3-7	Chromium	11	
LF3-2S	Copper	20	
LF3-4	Copper	12	
LF3-6	Copper	24	
LF3-7	Copper	20	
LF3-2S	Iron	9400	
LF3-4	Iron	5100	
LF3-6	Iron	13000	
LF3-7	Iron	7500	
LF3-2S	Lead	8	
LF3-4	Lead	3	
LF3-6	Lead	6	
LF3-7	Lead	7	
LF3-2S	Magnesium	3300	
LF3-4	Magnesium	1800	
LF3-6	Magnesium	3300	
LF3-7	Magnesium	3900	
LF3-2S	Manganese	140	
LF3-4	Manganese	57	
LF3-6	Manganese	140	
LF3-7	Manganese	150	
LF3-2S	Nickel	11	
LF3-6	Nickel	12	
LF3-7	Nickel	13	

PRELIMINARY UNVALIDATED RESULTS

INORGANICS ABOVE DETECTION LIMITS
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-2S	Selenium	1	W
LF3-4	Selenium	1	W
LF3-6	Selenium	1	W
LF3-7	Selenium	1	W
LF3-2S	Vanadium	19	
LF3-4	Vanadium	23	
LF3-6	Vanadium	22	
LF3-7	Vanadium	18	
LF3-2S	Zinc	32	
LF3-4	Zinc	22	
LF3-6	Zinc	28	
LF3-7	Zinc	26	

INORGANICS
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-2S	Aluminum	3800	
LF3-4	Aluminum	1700	
LF3-6	Aluminum	4700	
LF3-7	Aluminum	4000	
LF3-2S	Antimony	12	W
LF3-4	Antimony	12	W
LF3-6	Antimony	12	W
LF3-7	Antimony	12	W
LF3-2S	Arsenic	11	
LF3-4	Arsenic	16	
LF3-6	Arsenic	12	
LF3-7	Arsenic	8	
LF3-2S	Barium	49	
LF3-4	Barium	40	U
LF3-6	Barium	53	
LF3-7	Barium	40	U
LF3-2S	Beryllium	1	U
LF3-4	Beryllium	1	U
LF3-6	Beryllium	1	U
LF3-7	Beryllium	1	U
LF3-2S	Cadmium	1	U
LF3-4	Cadmium	1	U
LF3-6	Cadmium	1	U
LF3-7	Cadmium	1	U
LF3-2S	Calcium	37000	
LF3-4	Calcium	65000	
LF3-6	Calcium	9500	
LF3-7	Calcium	19000	
LF3-2S	Chromium	12	
LF3-4	Chromium	7	
LF3-6	Chromium	10	
LF3-7	Chromium	11	
LF3-2S	Cobalt	10	U
LF3-4	Cobalt	10	U
LF3-6	Cobalt	10	U
LF3-7	Cobalt	10	U
LF3-2S	Copper	20	
LF3-4	Copper	12	
LF3-6	Copper	24	
LF3-7	Copper	20	
LF3-2S	Iron	9400	
LF3-4	Iron	5100	
LF3-6	Iron	13000	
LF3-7	Iron	7500	
LF3-2S	Lead	8	

INORGANICS
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-4	Lead	3.00	
LF3-6	Lead	6.00	
LF3-7	Lead	7.00	
LF3-2S	Magnesium	3300.00	
LF3-4	Magnesium	1800.00	
LF3-6	Magnesium	3300.00	
LF3-7	Magnesium	3900.00	
LF3-2S	Manganese	140.00	
LF3-4	Manganese	57.00	
LF3-6	Manganese	140.00	
LF3-7	Manganese	150.00	
LF3-2S	Mercury	0.04	U
LF3-4	Mercury	0.04	U
LF3-6	Mercury	0.04	U
LF3-7	Mercury	0.04	U
LF3-2S	Nickel	11.00	
LF3-4	Nickel	8.00	U
LF3-6	Nickel	12.00	
LF3-7	Nickel	13.00	
LF3-2S	Potassium	1000.00	U
LF3-4	Potassium	1000.00	U
LF3-6	Potassium	1000.00	U
LF3-7	Potassium	1000.00	U
LF3-2S	Selenium	1.00	W
LF3-4	Selenium	1.00	W
LF3-6	Selenium	1.00	W
LF3-7	Selenium	1.00	W
LF3-2S	Silver	2.00	U
LF3-4	Silver	2.00	U
LF3-6	Silver	2.00	U
LF3-7	Silver	2.00	U
LF3-2S	Sodium	1000.00	U
LF3-4	Sodium	1000.00	U
LF3-6	Sodium	1000.00	U
LF3-7	Sodium	1000.00	U
LF3-2S	Thallium	8.00	U
LF3-4	Thallium	8.00	U
LF3-6	Thallium	8.00	U
LF3-7	Thallium	8.00	U
LF3-2S	Vanadium	19.00	
LF3-4	Vanadium	23.00	
LF3-6	Vanadium	22.00	
LF3-7	Vanadium	18.00	
LF3-2S	Zinc	32.00	
LF3-4	Zinc	22.00	

INORGANICS
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-6	Zinc	28.00	
LF3-7	Zinc	26.00	

SUMMARY OF FIELD QC -- PESTICIDE ORGANICS

TRIP BLANKS

Trip blanks are flagged "Possible Contamination" if concentration is above the Instrument Detection Limit (IDL) and is not qualified with a 'J' (see explanation of qualifiers). Otherwise, the samples are flagged "No Contamination".

EQUIPMENT BLANKS

Equipment blanks are flagged "Possible Contamination" if concentration is above the IDL and is not qualified with a 'J' (see explanation of qualifiers). Otherwise, the samples are flagged "No Contamination".

SPLITS

Splits are flagged as out of control if the relative percent difference (RPD) or absolute difference, as appropriate, does not lie within EPA empirically derived limits. If the splits are within these limits, they are flagged as in control. If no limits are available, the splits are flagged as such. If the splits are below detection, then the RPD is not calculated.

The EPA limits for organics used are those presented on the Contract Laboratory Program (CLP) forms and in the CLP Statement of Work (SOW) for matrix spike duplicates. In the case where one of the splits is greater than the IDL and the other less than the IDL, the RPD reported is a minimum value.

For inorganics, the comparison of split data to EPA limits is:

1) RPD compared to 20% when both splits are greater than five times the Contract Required Detection Limit (CRDL) or

2) absolute difference compared to CRDL for case where

a). both splits are between the CRDL and five times the CRDL

or

b). one split is between the CRDL and five times the CRDL and the other is greater than five times the CRDL.

In cases where one or both of the splits is less than either the CRDL or the IDL, the sample is flagged "Concentration < CRDL". When the CRDL is not available, the sample is flagged as such. Calculation of these limits is described in the SOW (Exhibit E).

In addition to the above flags, cases where the IDL is greater than the CRDL is also flagged. Under typical conditions, this is a noncompliant item and is included in the validation effort. It was included here for the sake of completeness.

SPIKES

Percent recovery of analytes added to spiked samples is calculated. Because of the use of standards in spike preparation, comparison to EPA limits is not appropriate and manual examination of the recoveries is made.

Spikes are flagged "Possible Contamination" if concentration of analytes not added to the sample is above the IDL and is not qualified with a 'J' (see explanation of qualifiers). Otherwise, these sample/analyte combinations are flagged "No Contamination".

NOTES FOR ORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

J -- indicates an estimated value. This flag is used when estimating the concentration of tentatively identified compounds or when compound is identified but the concentration is less than the sample quantitation limit.

B -- analyte found in the associated blank as well as in the sample.

D -- identifies all compounds identified in an analysis at a secondary dilution factor.

NOTES FOR INORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

B -- indicates the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

E -- indicates a value estimated or not reported due to the presence of interference.

S -- indicates value determined by Method of Standard Addition.

M -- indicates duplicate injection precision not met.

N -- indicates matrix spike sample recovery is not within control limits.

W -- indicates post-digestion spike for furnace AA anlysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

* -- indicates duplicate analysis is not within control limits.

+ -- indicates that the correlation coefficient for Method of Standard Addition is less than 0.995.

EQUIPMENT BLANK EVALUATION
PESTICIDES
LANDFILL #2&3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
4,4-DDD	EQUIPBLK1	1.00	U	No Contamination
4,4-DDE	EQUIPBLK1	1.00	U	No Contamination
4,4-DDT	EQUIPBLK1	1.00	U	No Contamination
ALDRIN	EQUIPBLK1	0.50	U	No Contamination
ALPHA CHLORDANE	EQUIPBLK1	5.00	U	No Contamination
ALPHA-BHC	EQUIPBLK1	0.50	U	No Contamination
AROCLOR 1016	EQUIPBLK1	5.00	U	No Contamination
AROCLOR 1221	EQUIPBLK1	5.00	U	No Contamination
AROCLOR 1232	EQUIPBLK1	5.00	U	No Contamination
AROCLOR 1242	EQUIPBLK1	5.00	U	No Contamination
AROCLOR 1248	EQUIPBLK1	5.00	U	No Contamination
AROCLOR 1254	EQUIPBLK1	10.00	U	No Contamination
AROCLOR 1260	EQUIPBLK1	10.00	U	No Contamination
BETHA-BHC	EQUIPBLK1	0.50	U	No Contamination
DELTA-BHC	EQUIPBLK1	0.50	U	No Contamination
DIELDRIN	EQUIPBLK1	1.00	U	No Contamination
ENDOSULFAN I	EQUIPBLK1	0.50	U	No Contamination
ENDOSULFAN II	EQUIPBLK1	1.00	U	No Contamination
ENDOSULFAN SULFATE	EQUIPBLK1	1.00	U	No Contamination
ENDRIN	EQUIPBLK1	1.00	U	No Contamination
ENDRIN KETONE	EQUIPBLK1	1.00	U	No Contamination
GAMMA CHLORDANE	EQUIPBLK1	5.00	U	No Contamination
GAMMA-BHC	EQUIPBLK1	0.50	U	No Contamination
HEPTACHLOR	EQUIPBLK1	0.50	U	No Contamination
HEPTRACHLOR EPOXIDE	EQUIPBLK1	0.50	U	No Contamination
METHOXYCHLOR	EQUIPBLK1	5.00	U	No Contamination
TOXAPHENE	EQUIPBLK1	10.00	U	No Contamination
4,4-DDD	EQUIPBLK2	0.10	U	No Contamination
4,4-DDE	EQUIPBLK2	0.10	U	No Contamination
4,4-DDT	EQUIPBLK2	0.10	U	No Contamination
ALDRIN	EQUIPBLK2	0.05	U	No Contamination
ALPHA CHLORDANE	EQUIPBLK2	0.50	U	No Contamination
ALPHA-BHC	EQUIPBLK2	0.05	U	No Contamination
AROCLOR 1016	EQUIPBLK2	0.50	U	No Contamination
AROCLOR 1221	EQUIPBLK2	0.50	U	No Contamination
AROCLOR 1232	EQUIPBLK2	0.50	U	No Contamination
AROCLOR 1242	EQUIPBLK2	0.50	U	No Contamination
AROCLOR 1248	EQUIPBLK2	0.50	U	No Contamination
AROCLOR 1254	EQUIPBLK2	1.00	U	No Contamination
AROCLOR 1260	EQUIPBLK2	1.00	U	No Contamination
BETHA-BHC	EQUIPBLK2	0.05	U	No Contamination
DELTA-BHC	EQUIPBLK2	0.05	U	No Contamination
DIELDRIN	EQUIPBLK2	0.10	U	No Contamination
ENDOSULFAN I	EQUIPBLK2	0.05	U	No Contamination
ENDOSULFAN II	EQUIPBLK2	0.10	U	No Contamination
ENDOSULFAN SULFATE	EQUIPBLK2	0.10	U	No Contamination
ENDRIN	EQUIPBLK2	0.10	U	No Contamination

EQUIPMENT BLANK EVALUATION
PESTICIDES
LANDFILL #2&3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
ENDRIN KETONE	EQUIPBLK2	0.10	U	No Contamination
GAMMA CHLORDANE	EQUIPBLK2	0.50	U	No Contamination
GAMMA-BHC	EQUIPBLK2	0.05	U	No Contamination
HEPTACHLOR	EQUIPBLK2	0.05	U	No Contamination
HEPTRACHLOR EPOXIDE	EQUIPBLK2	0.05	U	No Contamination
METHOXYCHLOR	EQUIPBLK2	0.50	U	No Contamination
TOXAPHENE	EQUIPBLK2	1.00	U	No Contamination
4,4-DDD	EQUIPBLK3	0.10	U	No Contamination
4,4-DDE	EQUIPBLK3	0.10	U	No Contamination
4,4-DDT	EQUIPBLK3	0.10	U	No Contamination
ALDRIN	EQUIPBLK3	0.05	U	No Contamination
ALPHA CHLORDANE	EQUIPBLK3	0.50	U	No Contamination
ALPHA-BHC	EQUIPBLK3	0.05	U	No Contamination
AROCLOR 1016	EQUIPBLK3	0.50	U	No Contamination
AROCLOR 1221	EQUIPBLK3	0.50	U	No Contamination
AROCLOR 1232	EQUIPBLK3	0.50	U	No Contamination
AROCLOR 1242	EQUIPBLK3	0.50	U	No Contamination
AROCLOR 1248	EQUIPBLK3	0.50	U	No Contamination
AROCLOR 1254	EQUIPBLK3	1.00	U	No Contamination
AROCLOR 1260	EQUIPBLK3	1.00	U	No Contamination
BETHA-BHC	EQUIPBLK3	0.05	U	No Contamination
DELTA-BHC	EQUIPBLK3	0.05	U	No Contamination
DIELDRIN	EQUIPBLK3	0.10	U	No Contamination
ENDOSULFAN I	EQUIPBLK3	0.05	U	No Contamination
ENDOSULFAN II	EQUIPBLK3	0.10	U	No Contamination
ENDOSULFAN SULFATE	EQUIPBLK3	0.10	U	No Contamination
ENDRIN	EQUIPBLK3	0.10	U	No Contamination
ENDRIN KETONE	EQUIPBLK3	0.10	U	No Contamination
GAMMA CHLORDANE	EQUIPBLK3	0.50	U	No Contamination
GAMMA-BHC	EQUIPBLK3	0.05	U	No Contamination
HEPTACHLOR	EQUIPBLK3	0.05	U	No Contamination
HEPTRACHLOR EPOXIDE	EQUIPBLK3	0.05	U	No Contamination
METHOXYCHLOR	EQUIPBLK3	0.50	U	No Contamination
TOXAPHENE	EQUIPBLK3	1.00	U	No Contamination

TRIP BLANK EVALUATION
PESTICIDES
LANDFILL #283

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
4,4-DDD	FB-1	0.10	U	No Contamination
4,4-DDE	FB-1	0.10	U	No Contamination
4,4-DDT	FB-1	0.10	U	No Contamination
ALDRIN	FB-1	0.05	U	No Contamination
ALPHA CHLORDANE	FB-1	0.50	U	No Contamination
ALPHA-BHC	FB-1	0.05	U	No Contamination
AROCLOR 1016	FB-1	0.50	U	No Contamination
AROCLOR 1221	FB-1	0.50	U	No Contamination
AROCLOR 1232	FB-1	0.50	U	No Contamination
AROCLOR 1242	FB-1	0.50	U	No Contamination
AROCLOR 1248	FB-1	0.50	U	No Contamination
AROCLOR 1254	FB-1	1.00	U	No Contamination
AROCLOR 1260	FB-1	1.00	U	No Contamination
BETHA-BHC	FB-1	0.05	U	No Contamination
DELTA-BHC	FB-1	0.05	U	No Contamination
DIELDRIN	FB-1	0.10	U	No Contamination
ENDOSULFAN I	FB-1	0.05	U	No Contamination
ENDOSULFAN II	FB-1	0.10	U	No Contamination
ENDOSULFAN SULFATE	FB-1	0.10	U	No Contamination
ENDRIN	FB-1	0.10	U	No Contamination
ENDRIN KETONE	FB-1	0.10	U	No Contamination
GAMMA CHLORDANE	FB-1	0.50	U	No Contamination
GAMMA-BHC	FB-1	0.05	U	No Contamination
HEPTACHLOR	FB-1	0.05	U	No Contamination
HEPTRACHLOR EPOXIDE	FB-1	0.05	U	No Contamination
METHOXYCHLOR	FB-1	0.50	U	No Contamination
TOXAPHENE	FB-1	1.00	U	No Contamination

TRIP BLANK EVALUATION
PESTICIDES
LANDFILL #2

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
4,4-DDD	LF2-1-FB	0.10	U	No Contamination
4,4-DDE	LF2-1-FB	0.10	U	No Contamination
4,4-DDT	LF2-1-FB	0.10	U	No Contamination
ALDRIN	LF2-1-FB	0.05	U	No Contamination
ALPHA CHLORDANE	LF2-1-FB	0.50	U	No Contamination
ALPHA-BHC	LF2-1-FB	0.05	U	No Contamination
AROCLOR 1016	LF2-1-FB	0.50	U	No Contamination
AROCLOR 1221	LF2-1-FB	0.50	U	No Contamination
AROCLOR 1232	LF2-1-FB	0.50	U	No Contamination
AROCLOR 1242	LF2-1-FB	0.50	U	No Contamination
AROCLOR 1248	LF2-1-FB	0.50	U	No Contamination
AROCLOR 1254	LF2-1-FB	1.00	U	No Contamination
AROCLOR 1260	LF2-1-FB	1.00	U	No Contamination
BETHA-BHC	LF2-1-FB	0.05	U	No Contamination
DELTA-BHC	LF2-1-FB	0.05	U	No Contamination
DIELDRIN	LF2-1-FB	0.10	U	No Contamination
ENDOSULFAN I	LF2-1-FB	0.05	U	No Contamination
ENDOSULFAN II	LF2-1-FB	0.10	U	No Contamination
ENDOSULFAN SULFATE	LF2-1-FB	0.10	U	No Contamination
ENDRIN	LF2-1-FB	0.10	U	No Contamination
ENDRIN KETONE	LF2-1-FB	0.10	U	No Contamination
GAMMA CHLORDANE	LF2-1-FB	0.50	U	No Contamination
GAMMA-BHC	LF2-1-FB	0.05	U	No Contamination
HEPTACHLOR	LF2-1-FB	0.05	U	No Contamination
HEPTRACHLOR EPOXIDE	LF2-1-FB	0.05	U	No Contamination
METHOXYCHLOR	LF2-1-FB	0.50	U	No Contamination
TOXAPHENE	LF2-1-FB	1.00	U	No Contamination
4,4-DDD	LF2-3-FB	0.10	U	No Contamination
4,4-DDE	LF2-3-FB	0.10	U	No Contamination
4,4-DDT	LF2-3-FB	0.10	U	No Contamination
ALDRIN	LF2-3-FB	0.05	U	No Contamination
ALPHA CHLORDANE	LF2-3-FB	0.50	U	No Contamination
ALPHA-BHC	LF2-3-FB	0.05	U	No Contamination
AROCLOR 1016	LF2-3-FB	0.50	U	No Contamination
AROCLOR 1221	LF2-3-FB	0.50	U	No Contamination
AROCLOR 1232	LF2-3-FB	0.50	U	No Contamination
AROCLOR 1242	LF2-3-FB	0.50	U	No Contamination
AROCLOR 1248	LF2-3-FB	0.50	U	No Contamination
AROCLOR 1254	LF2-3-FB	1.00	U	No Contamination
AROCLOR 1260	LF2-3-FB	1.00	U	No Contamination
BETHA-BHC	LF2-3-FB	0.05	U	No Contamination
DELTA-BHC	LF2-3-FB	0.05	U	No Contamination
DIELDRIN	LF2-3-FB	0.10	U	No Contamination
ENDOSULFAN I	LF2-3-FB	0.05	U	No Contamination
ENDOSULFAN II	LF2-3-FB	0.10	U	No Contamination
ENDOSULFAN SULFATE	LF2-3-FB	0.10	U	No Contamination
ENDRIN	LF2-3-FB	0.10	U	No Contamination

TRIP BLANK EVALUATION
PESTICIDES
LANDFILL #2

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
ENDRIN KETONE	LF2-3-FB	0.10	U	No Contamination
GAMMA CHLORDANE	LF2-3-FB	0.50	U	No Contamination
GAMMA-BHC	LF2-3-FB	0.05	U	No Contamination
HEPTACHLOR	LF2-3-FB	0.05	U	No Contamination
HEPTRACHLOR EPOXIDE	LF2-3-FB	0.05	U	No Contamination
METHOXYCHLOR	LF2-3-FB	0.50	U	No Contamination
TOXAPHENE	LF2-3-FB	1.00	U	No Contamination
4,4-DDD	LF2-5-FB	0.10	U	No Contamination
4,4-DDE	LF2-5-FB	0.10	U	No Contamination
4,4-DDT	LF2-5-FB	0.10	U	No Contamination
ALDRIN	LF2-5-FB	0.05	U	No Contamination
ALPHA CHLORDANE	LF2-5-FB	0.50	U	No Contamination
ALPHA-BHC	LF2-5-FB	0.05	U	No Contamination
AROCLOR 1016	LF2-5-FB	0.50	U	No Contamination
AROCLOR 1221	LF2-5-FB	0.50	U	No Contamination
AROCLOR 1232	LF2-5-FB	0.50	U	No Contamination
AROCLOR 1242	LF2-5-FB	0.50	U	No Contamination
AROCLOR 1248	LF2-5-FB	0.50	U	No Contamination
AROCLOR 1254	LF2-5-FB	1.00	U	No Contamination
AROCLOR 1260	LF2-5-FB	1.00	U	No Contamination
BETHA-BHC	LF2-5-FB	0.05	U	No Contamination
DELTA-BHC	LF2-5-FB	0.05	U	No Contamination
DIELDRIN	LF2-5-FB	0.10	U	No Contamination
ENDOSULFAN I	LF2-5-FB	0.05	U	No Contamination
ENDOSULFAN II	LF2-5-FB	0.10	U	No Contamination
ENDOSULFAN SULFATE	LF2-5-FB	0.10	U	No Contamination
ENDRIN	LF2-5-FB	0.10	U	No Contamination
ENDRIN KETONE	LF2-5-FB	0.10	U	No Contamination
GAMMA CHLORDANE	LF2-5-FB	0.50	U	No Contamination
GAMMA-BHC	LF2-5-FB	0.05	U	No Contamination
HEPTACHLOR	LF2-5-FB	0.05	U	No Contamination
HEPTRACHLOR EPOXIDE	LF2-5-FB	0.05	U	No Contamination
METHOXYCHLOR	LF2-5-FB	0.50	U	No Contamination
TOXAPHENE	LF2-5-FB	1.00	U	No Contamination

TRIP BLANK EVALUATION
PESTICIDES
LANDFILL #3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
4,4-DDD	LF3-2-FB	0.14	U	No Contamination
4,4-DDE	LF3-2-FB	0.14	U	No Contamination
4,4-DDT	LF3-2-FB	0.14	U	No Contamination
ALDRIN	LF3-2-FB	0.07	U	No Contamination
ALPHA CHLORDANE	LF3-2-FB	0.70	U	No Contamination
ALPHA-BHC	LF3-2-FB	0.07	U	No Contamination
AROCLOR 1016	LF3-2-FB	0.70	U	No Contamination
AROCLOR 1221	LF3-2-FB	0.70	U	No Contamination
AROCLOR 1232	LF3-2-FB	0.70	U	No Contamination
AROCLOR 1242	LF3-2-FB	0.70	U	No Contamination
AROCLOR 1248	LF3-2-FB	0.70	U	No Contamination
AROCLOR 1254	LF3-2-FB	1.40	U	No Contamination
AROCLOR 1260	LF3-2-FB	1.40	U	No Contamination
BETNA-BHC	LF3-2-FB	0.07	U	No Contamination
DELTA-BHC	LF3-2-FB	0.07	U	No Contamination
DIELDRIN	LF3-2-FB	0.14	U	No Contamination
ENDOSULFAN I	LF3-2-FB	0.07	U	No Contamination
ENDOSULFAN II	LF3-2-FB	0.14	U	No Contamination
ENDOSULFAN SULFATE	LF3-2-FB	0.14	U	No Contamination
ENDRIN	LF3-2-FB	0.14	U	No Contamination
ENDRIN KETONE	LF3-2-FB	0.14	U	No Contamination
GAMMA CHLORDANE	LF3-2-FB	0.70	U	No Contamination
GAMMA-BHC	LF3-2-FB	0.07	U	No Contamination
HEPTACHLOR	LF3-2-FB	0.07	U	No Contamination
HEPTRACHLOR EPOXIDE	LF3-2-FB	0.07	U	No Contamination
METHOXYCHLOR	LF3-2-FB	0.70	U	No Contamination
TOXAPHENE	LF3-2-FB	1.40	U	No Contamination
4,4-DDD	LF3-4-FB	0.10	U	No Contamination
4,4-DDE	LF3-4-FB	0.10	U	No Contamination
4,4-DDT	LF3-4-FB	0.10	U	No Contamination
ALDRIN	LF3-4-FB	0.05	U	No Contamination
ALPHA CHLORDANE	LF3-4-FB	0.50	U	No Contamination
ALPHA-BHC	LF3-4-FB	0.05	U	No Contamination
AROCLOR 1016	LF3-4-FB	0.50	U	No Contamination
AROCLOR 1221	LF3-4-FB	0.50	U	No Contamination
AROCLOR 1232	LF3-4-FB	0.50	U	No Contamination
AROCLOR 1242	LF3-4-FB	0.50	U	No Contamination
AROCLOR 1248	LF3-4-FB	0.50	U	No Contamination
AROCLOR 1254	LF3-4-FB	1.00	U	No Contamination
AROCLOR 1260	LF3-4-FB	1.00	U	No Contamination
BETNA-BHC	LF3-4-FB	0.05	U	No Contamination
DELTA-BHC	LF3-4-FB	0.05	U	No Contamination
DIELDRIN	LF3-4-FB	0.10	U	No Contamination
ENDOSULFAN I	LF3-4-FB	0.05	U	No Contamination
ENDOSULFAN II	LF3-4-FB	0.10	U	No Contamination
ENDOSULFAN SULFATE	LF3-4-FB	0.10	U	No Contamination
ENDRIN	LF3-4-FB	0.10	U	No Contamination

TRIP BLANK EVALUATION
PESTICIDES
LANDFILL #3

Analyte	Sample ID	Concentration (ppb)	Qualifier	Comment
ENDRIN KETONE	LF3-4-FB	0.10	U	No Contamination
GAMMA CHLORDANE	LF3-4-FB	0.50	U	No Contamination
GAMMA-BHC	LF3-4-FB	0.05	U	No Contamination
HEPTACHLOR	LF3-4-FB	0.05	U	No Contamination
HEPTRACHLOR EPOXIDE	LF3-4-FB	0.05	U	No Contamination
METHOXYCHLOR	LF3-4-FB	0.50	U	No Contamination
TOXAPHENE	LF3-4-FB	1.00	U	No Contamination
4,4-DDD	LF3-6-FB	0.10	U	No Contamination
4,4-DDE	LF3-6-FB	0.10	U	No Contamination
4,4-DDT	LF3-6-FB	0.10	U	No Contamination
ALDRIN	LF3-6-FB	0.05	U	No Contamination
ALPHA CHLORDANE	LF3-6-FB	0.50	U	No Contamination
ALPHA-BHC	LF3-6-FB	0.05	U	No Contamination
AROCLOR 1016	LF3-6-FB	0.50	U	No Contamination
AROCLOR 1221	LF3-6-FB	0.50	U	No Contamination
AROCLOR 1232	LF3-6-FB	0.50	U	No Contamination
AROCLOR 1242	LF3-6-FB	0.50	U	No Contamination
AROCLOR 1248	LF3-6-FB	0.50	U	No Contamination
AROCLOR 1254	LF3-6-FB	1.00	U	No Contamination
AROCLOR 1260	LF3-6-FB	1.00	U	No Contamination
BETNA-BHC	LF3-6-FB	0.05	U	No Contamination
DELTA-BHC	LF3-6-FB	0.05	U	No Contamination
DIELDRIN	LF3-6-FB	0.10	U	No Contamination
ENDOSULFAN I	LF3-6-FB	0.05	U	No Contamination
ENDOSULFAN II	LF3-6-FB	0.10	U	No Contamination
ENDOSULFAN SULFATE	LF3-6-FB	0.10	U	No Contamination
ENDRIN	LF3-6-FB	0.10	U	No Contamination
ENDRIN KETONE	LF3-6-FB	0.10	U	No Contamination
GAMMA CHLORDANE	LF3-6-FB	0.50	U	No Contamination
GAMMA-BHC	LF3-6-FB	0.05	U	No Contamination
HEPTACHLOR	LF3-6-FB	0.05	U	No Contamination
HEPTRACHLOR EPOXIDE	LF3-6-FB	0.05	U	No Contamination
METHOXYCHLOR	LF3-6-FB	0.50	U	No Contamination
TOXAPHENE	LF3-6-FB	1.00	U	No Contamination

SUMMARY OF PESTICIDE ORGANICS -- LANDFILL #2

NOTES FOR ORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

J -- indicates an estimated value. This flag is used when estimating the concentration of tentatively identified compounds or when compound is identified but the concentration is less than the sample quantitation limit.

B -- analyte found in the associated blank as well as in the sample.

D -- identifies all compounds identified in an analysis at a secondary dilution factor.

NOTES FOR INORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

B -- indicates the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

E -- indicates a value estimated or not reported due to the presence of interference.

S -- indicates value determined by Method of Standard Addition.

M -- indicates duplicate injection precision not met.

N -- indicates matrix spike sample recovery is not within control limits.

W -- indicates post-digestion spike for furnace AA anlysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

* -- indicates duplicate analysis is not within control limits.

+ -- indicates that the correlation coefficient for Method of Standard Addition is less than 0.995.

NOTES FOR BACKGROUND LIMIT RESULTS

m -- indicates background limit was calculated using the median detection limit.

blank -- indicates a 90% upper prediction limit was calculated for the background limit.

SUMMARY OF PESTICIDES
LANDFILL #2

Analyte	Qual-ifier	Mean Conc. (ppb)	Range	Minimum	Maximum	Count
4,4-DDD	U	19.25	1.0	19.0	20.0	4
4,4-DDE	U	19.25	1.0	19.0	20.0	4
4,4-DDT	U	19.25	1.0	19.0	20.0	4
ALDRIN	U	9.60	0.5	9.4	9.9	4
ALPHA CHLORDANE	U	96.00	5.0	94.0	99.0	4
ALPHA-BHC	U	9.60	0.5	9.4	9.9	4
AROCLOR 1016	U	96.00	5.0	94.0	99.0	4
AROCLOR 1221	U	96.00	5.0	94.0	99.0	4
AROCLOR 1232	U	96.00	5.0	94.0	99.0	4
AROCLOR 1242	U	96.00	5.0	94.0	99.0	4
AROCLOR 1248	U	96.00	5.0	94.0	99.0	4
AROCLOR 1254	U	192.50	10.0	190.0	200.0	4
AROCLOR 1260	U	192.50	10.0	190.0	200.0	4
BETHA-BHC	U	9.60	0.5	9.4	9.9	4
DELTA-BHC	U	9.60	0.5	9.4	9.9	4
DIELDRIN	U	19.25	1.0	19.0	20.0	4
ENDOSULFAN I	U	9.60	0.5	9.4	9.9	4
ENDOSULFAN II	U	19.25	1.0	19.0	20.0	4
ENDOSULFAN SULFATE	U	19.25	1.0	19.0	20.0	4
ENDRIN	U	19.25	1.0	19.0	20.0	4
ENDRIN KETONE	U	19.25	1.0	19.0	20.0	4
GAMMA CHLORDANE	U	96.00	5.0	94.0	99.0	4
GAMMA-BHC	U	9.60	0.5	9.4	9.9	4
HEPTACHLOR	U	9.60	0.5	9.4	9.9	4
HEPTRACHLOR EPOXIDE	U	9.60	0.5	9.4	9.9	4
METHOXYCHLOR	U	96.00	5.0	94.0	99.0	4
TOXAPHENE	U	192.50	10.0	190.0	200.0	4

PESTICIDES
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-1	4,4-DDD	19.0	U
LF2-3S	4,4-DDD	20.0	U
LF2-5	4,4-DDD	19.0	U
LF2-6	4,4-DDD	19.0	U
LF2-1	4,4-DDE	19.0	U
LF2-3S	4,4-DDE	20.0	U
LF2-5	4,4-DDE	19.0	U
LF2-6	4,4-DDE	19.0	U
LF2-1	4,4-DDT	19.0	U
LF2-3S	4,4-DDT	20.0	U
LF2-5	4,4-DDT	19.0	U
LF2-6	4,4-DDT	19.0	U
LF2-1	ALDRIN	9.6	U
LF2-3S	ALDRIN	9.9	U
LF2-5	ALDRIN	9.5	U
LF2-6	ALDRIN	9.4	U
LF2-1	ALPHA CHLORDANE	96.0	U
LF2-3S	ALPHA CHLORDANE	99.0	U
LF2-5	ALPHA CHLORDANE	95.0	U
LF2-6	ALPHA CHLORDANE	94.0	U
LF2-1	ALPHA-BHC	9.6	U
LF2-3S	ALPHA-BHC	9.9	U
LF2-5	ALPHA-BHC	9.5	U
LF2-6	ALPHA-BHC	9.4	U
LF2-1	AROCLOR 1016	96.0	U
LF2-3S	AROCLOR 1016	99.0	U
LF2-5	AROCLOR 1016	95.0	U
LF2-6	AROCLOR 1016	94.0	U
LF2-1	AROCLOR 1221	96.0	U
LF2-3S	AROCLOR 1221	99.0	U
LF2-5	AROCLOR 1221	95.0	U
LF2-6	AROCLOR 1221	94.0	U
LF2-1	AROCLOR 1232	96.0	U
LF2-3S	AROCLOR 1232	99.0	U
LF2-5	AROCLOR 1232	95.0	U
LF2-6	AROCLOR 1232	94.0	U
LF2-1	AROCLOR 1242	96.0	U
LF2-3S	AROCLOR 1242	99.0	U
LF2-5	AROCLOR 1242	95.0	U
LF2-6	AROCLOR 1242	94.0	U
LF2-1	AROCLOR 1248	96.0	U
LF2-3S	AROCLOR 1248	99.0	U
LF2-5	AROCLOR 1248	95.0	U
LF2-6	AROCLOR 1248	94.0	U
LF2-1	AROCLOR 1254	190.0	U
LF2-3S	AROCLOR 1254	200.0	U
LF2-5	AROCLOR 1254	190.0	U

PESTICIDES
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-6	AROCLOR 1254	190.0	U
LF2-1	AROCLOR 1260	190.0	U
LF2-3S	AROCLOR 1260	200.0	U
LF2-5	AROCLOR 1260	190.0	U
LF2-6	AROCLOR 1260	190.0	U
LF2-1	BETHA-BHC	9.6	U
LF2-3S	BETHA-BHC	9.9	U
LF2-5	BETHA-BHC	9.5	U
LF2-6	BETHA-BHC	9.4	U
LF2-1	DELTA-BHC	9.6	U
LF2-3S	DELTA-BHC	9.9	U
LF2-5	DELTA-BHC	9.5	U
LF2-6	DELTA-BHC	9.4	U
LF2-1	DIELDRIN	19.0	U
LF2-3S	DIELDRIN	20.0	U
LF2-5	DIELDRIN	19.0	U
LF2-6	DIELDRIN	19.0	U
LF2-1	ENDOSULFAN I	9.6	U
LF2-3S	ENDOSULFAN I	9.9	U
LF2-5	ENDOSULFAN I	9.5	U
LF2-6	ENDOSULFAN I	9.4	U
LF2-1	ENDOSULFAN II	19.0	U
LF2-3S	ENDOSULFAN II	20.0	U
LF2-5	ENDOSULFAN II	19.0	U
LF2-6	ENDOSULFAN II	19.0	U
LF2-1	ENDOSULFAN SULFATE	19.0	U
LF2-3S	ENDOSULFAN SULFATE	20.0	U
LF2-5	ENDOSULFAN SULFATE	19.0	U
LF2-6	ENDOSULFAN SULFATE	19.0	U
LF2-1	ENDRIN	19.0	U
LF2-3S	ENDRIN	20.0	U
LF2-5	ENDRIN	19.0	U
LF2-6	ENDRIN	19.0	U
LF2-1	ENDRIN KETONE	19.0	U
LF2-3S	ENDRIN KETONE	20.0	U
LF2-5	ENDRIN KETONE	19.0	U
LF2-6	ENDRIN KETONE	19.0	U
LF2-1	GAMMA CHLORDANE	96.0	U
LF2-3S	GAMMA CHLORDANE	99.0	U
LF2-5	GAMMA CHLORDANE	95.0	U
LF2-6	GAMMA CHLORDANE	94.0	U
LF2-1	GAMMA-BHC	9.6	U
LF2-3S	GAMMA-BHC	9.9	U
LF2-5	GAMMA-BHC	9.5	U
LF2-6	GAMMA-BHC	9.4	U
LF2-1	HEPTACHLOR	9.6	U
LF2-3S	HEPTACHLOR	9.9	U

PESTICIDES
LANDFILL #2

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF2-5	HEPTACHLOR	9.5	U
LF2-6	HEPTACHLOR	9.4	U
LF2-1	HEPTRACHLOR EPOXIDE	9.6	U
LF2-3S	HEPTRACHLOR EPOXIDE	9.9	U
LF2-5	HEPTRACHLOR EPOXIDE	9.5	U
LF2-6	HEPTRACHLOR EPOXIDE	9.4	U
LF2-1	METHOXYCHLOR	96.0	U
LF2-3S	METHOXYCHLOR	99.0	U
LF2-5	METHOXYCHLOR	95.0	U
LF2-6	METHOXYCHLOR	96.0	U
LF2-1	TOXAPHENE	190.0	U
LF2-3S	TOXAPHENE	200.0	U
LF2-5	TOXAPHENE	190.0	U
LF2-6	TOXAPHENE	190.0	U

SUMMARY OF PESTICIDE ORGANICS -- LANDFILL #3

NOTES FOR ORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

J -- indicates an estimated value. This flag is used when estimating the concentration of tentatively identified compounds or when compound is identified but the concentration is less than the sample quantitation limit.

B -- analyte found in the associated blank as well as in the sample.

D -- identifies all compounds identified in an analysis at a secondary dilution factor.

NOTES FOR INORGANICS RESULTS

U -- indicates compound was analyzed for but not detected.

B -- indicates the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

E -- indicates a value estimated or not reported due to the presence of interference.

S -- indicates value determined by Method of Standard Addition.

M -- indicates duplicate injection precision not met.

N -- indicates matrix spike sample recovery is not within control limits.

W -- indicates post-digestion spike for furnace AA anlysis is out of control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

* -- indicates duplicate analysis is not within control limits.

+ -- indicates that the correlation coefficient for Method of Standard Addition is less than 0.995.

NOTES FOR BACKGROUND LIMIT RESULTS

m -- indicates background limit was calculated using the median detection limit.

blank -- indicates a 90% upper prediction limit was calculated for the background limit.

SUMMARY OF PESTICIDES
LANDFILL #3

Analyte	Conc. Qual-ifier	Mean Conc. (ppb)	Range	Minimum	Maximum	Count
4,4-DDD	U	17.0	0	17.0	17.0	4
4,4-DDE	U	17.0	0	17.0	17.0	4
4,4-DDT	U	17.0	0	17.0	17.0	4
ALDRIN	U	8.3	0	8.3	8.3	4
ALPHA CHLORDANE	U	83.0	0	83.0	83.0	4
ALPHA-BHC	U	8.3	0	8.3	8.3	4
AROCLOR 1016	U	83.0	0	83.0	83.0	4
AROCLOR 1221	U	83.0	0	83.0	83.0	4
AROCLOR 1232	U	83.0	0	83.0	83.0	4
AROCLOR 1242	U	83.0	0	83.0	83.0	4
AROCLOR 1248	U	83.0	0	83.0	83.0	4
AROCLOR 1254	U	167.5	5	165.0	170.0	4
AROCLOR 1260	U	167.5	5	165.0	170.0	4
BETHA-BHC	U	8.3	0	8.3	8.3	4
DELTA-BHC	U	8.3	0	8.3	8.3	4
DIELDRIN	U	17.0	0	17.0	17.0	4
ENDOSULFAN I	U	8.3	0	8.3	8.3	4
ENDOSULFAN II	U	17.0	0	17.0	17.0	4
ENDOSULFAN SULFATE	U	17.0	0	17.0	17.0	4
ENDRIN	U	17.0	0	17.0	17.0	4
ENDRIN KETONE	U	17.0	0	17.0	17.0	4
GAMMA CHLORDANE	U	83.0	0	83.0	83.0	4
GAMMA-BHC	U	8.3	0	8.3	8.3	4
HEPTACHLOR	U	8.3	0	8.3	8.3	4
HEPTRACHLOR EPOXIDE	U	8.3	0	8.3	8.3	4
METHOXYCHLOR	U	83.0	0	83.0	83.0	4
TOXAPHENE	U	167.5	5	165.0	170.0	4

PESTICIDES
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-2S	4,4-DDD	17.0	U
LF3-4	4,4-DDD	17.0	U
LF3-6	4,4-DDD	17.0	U
LF3-7	4,4-DDD	17.0	U
LF3-2S	4,4-DDE	17.0	U
LF3-4	4,4-DDE	17.0	U
LF3-6	4,4-DDE	17.0	U
LF3-7	4,4-DDE	17.0	U
LF3-2S	4,4-DDT	17.0	U
LF3-4	4,4-DDT	17.0	U
LF3-6	4,4-DDT	17.0	U
LF3-7	4,4-DDT	17.0	U
LF3-2S	ALDRIN	8.3	U
LF3-4	ALDRIN	8.3	U
LF3-6	ALDRIN	8.3	U
LF3-7	ALDRIN	8.3	U
LF3-2S	ALPHA CHLORDANE	83.0	U
LF3-4	ALPHA CHLORDANE	83.0	U
LF3-6	ALPHA CHLORDANE	83.0	U
LF3-7	ALPHA CHLORDANE	83.0	U
LF3-2S	ALPHA-BHC	8.3	U
LF3-4	ALPHA-BHC	8.3	U
LF3-6	ALPHA-BHC	8.3	U
LF3-7	ALPHA-BHC	8.3	U
LF3-2S	AROCLOR 1016	83.0	U
LF3-4	AROCLOR 1016	83.0	U
LF3-6	AROCLOR 1016	83.0	U
LF3-7	AROCLOR 1016	83.0	U
LF3-2S	AROCLOR 1221	83.0	U
LF3-4	AROCLOR 1221	83.0	U
LF3-6	AROCLOR 1221	83.0	U
LF3-7	AROCLOR 1221	83.0	U
LF3-2S	AROCLOR 1232	83.0	U
LF3-4	AROCLOR 1232	83.0	U
LF3-6	AROCLOR 1232	83.0	U
LF3-7	AROCLOR 1232	83.0	U
LF3-2S	AROCLOR 1242	83.0	U
LF3-4	AROCLOR 1242	83.0	U
LF3-6	AROCLOR 1242	83.0	U
LF3-7	AROCLOR 1242	83.0	U
LF3-2S	AROCLOR 1248	83.0	U
LF3-4	AROCLOR 1248	83.0	U
LF3-6	AROCLOR 1248	83.0	U
LF3-7	AROCLOR 1248	83.0	U
LF3-2S	AROCLOR 1254	170.0	U
LF3-4	AROCLOR 1254	170.0	U
LF3-6	AROCLOR 1254	165.0	U

PESTICIDES
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-7	AROCLOR 1254	165.0	U
LF3-2S	AROCLOR 1260	170.0	U
LF3-4	AROCLOR 1260	170.0	U
LF3-6	AROCLOR 1260	165.0	U
LF3-7	AROCLOR 1260	165.0	U
LF3-2S	BETHA-BHC	8.3	U
LF3-4	BETHA-BHC	8.3	U
LF3-6	BETHA-BHC	8.3	U
LF3-7	BETHA-BHC	8.3	U
LF3-2S	DELTA-BHC	8.3	U
LF3-4	DELTA-BHC	8.3	U
LF3-6	DELTA-BHC	8.3	U
LF3-7	DELTA-BHC	8.3	U
LF3-2S	DIELDRIN	17.0	U
LF3-4	DIELDRIN	17.0	U
LF3-6	DIELDRIN	17.0	U
LF3-7	DIELDRIN	17.0	U
LF3-2S	ENDOSULFAN I	8.3	U
LF3-4	ENDOSULFAN I	8.3	U
LF3-6	ENDOSULFAN I	8.3	U
LF3-7	ENDOSULFAN I	8.3	U
LF3-2S	ENDOSULFAN II	17.0	U
LF3-4	ENDOSULFAN II	17.0	U
LF3-6	ENDOSULFAN II	17.0	U
LF3-7	ENDOSULFAN II	17.0	U
LF3-2S	ENDOSULFAN SULFATE	17.0	U
LF3-4	ENDOSULFAN SULFATE	17.0	U
LF3-6	ENDOSULFAN SULFATE	17.0	U
LF3-7	ENDOSULFAN SULFATE	17.0	U
LF3-2S	ENDRIN	17.0	U
LF3-4	ENDRIN	17.0	U
LF3-6	ENDRIN	17.0	U
LF3-7	ENDRIN	17.0	U
LF3-2S	ENDRIN KETONE	17.0	U
LF3-4	ENDRIN KETONE	17.0	U
LF3-6	ENDRIN KETONE	17.0	U
LF3-7	ENDRIN KETONE	17.0	U
LF3-2S	GAMMA CHLORDANE	83.0	U
LF3-4	GAMMA CHLORDANE	83.0	U
LF3-6	GAMMA CHLORDANE	83.0	U
LF3-7	GAMMA CHLORDANE	83.0	U
LF3-2S	GAMMA-BHC	8.3	U
LF3-4	GAMMA-BHC	8.3	U
LF3-6	GAMMA-BHC	8.3	U
LF3-7	GAMMA-BHC	8.3	U
LF3-2S	HEPTACHLOR	3.3	U
LF3-4	HEPTACHLOR	8.3	U

PESTICIDES
LANDFILL #3

Sample ID	Analyte	Concentration (ppb)	Qualifier
LF3-6	HEPTACHLOR	8.3	U
LF3-7	HEPTACHLOR	8.3	U
LF3-2S	HEPTRACHLOR EPOXIDE	8.3	U
LF3-4	HEPTRACHLOR EPOXIDE	8.3	U
LF3-6	HEPTRACHLOR EPOXIDE	8.3	U
LF3-7	HEPTRACHLOR EPOXIDE	8.3	U
LF3-2S	METHOXYCHLOR	83.0	U
LF3-4	METHOXYCHLOR	83.0	U
LF3-6	METHOXYCHLOR	83.0	U
LF3-7	METHOXYCHLOR	83.0	U
LF3-2S	TOXAPHENE	170.0	U
LF3-4	TOXAPHENE	170.0	U
LF3-6	TOXAPHENE	165.0	U
LF3-7	TOXAPHENE	165.0	U

Potentiometric Map

POTENTIOMETRIC MAPS

Attached are two regional water table maps of the CFA area dated August 1992 and a table of water level meausrements. One of the maps shows the well locations and names and the other shows actual water table measurements collected on August 7, 1992 using a Solinst brand electronic water level measuring tape.

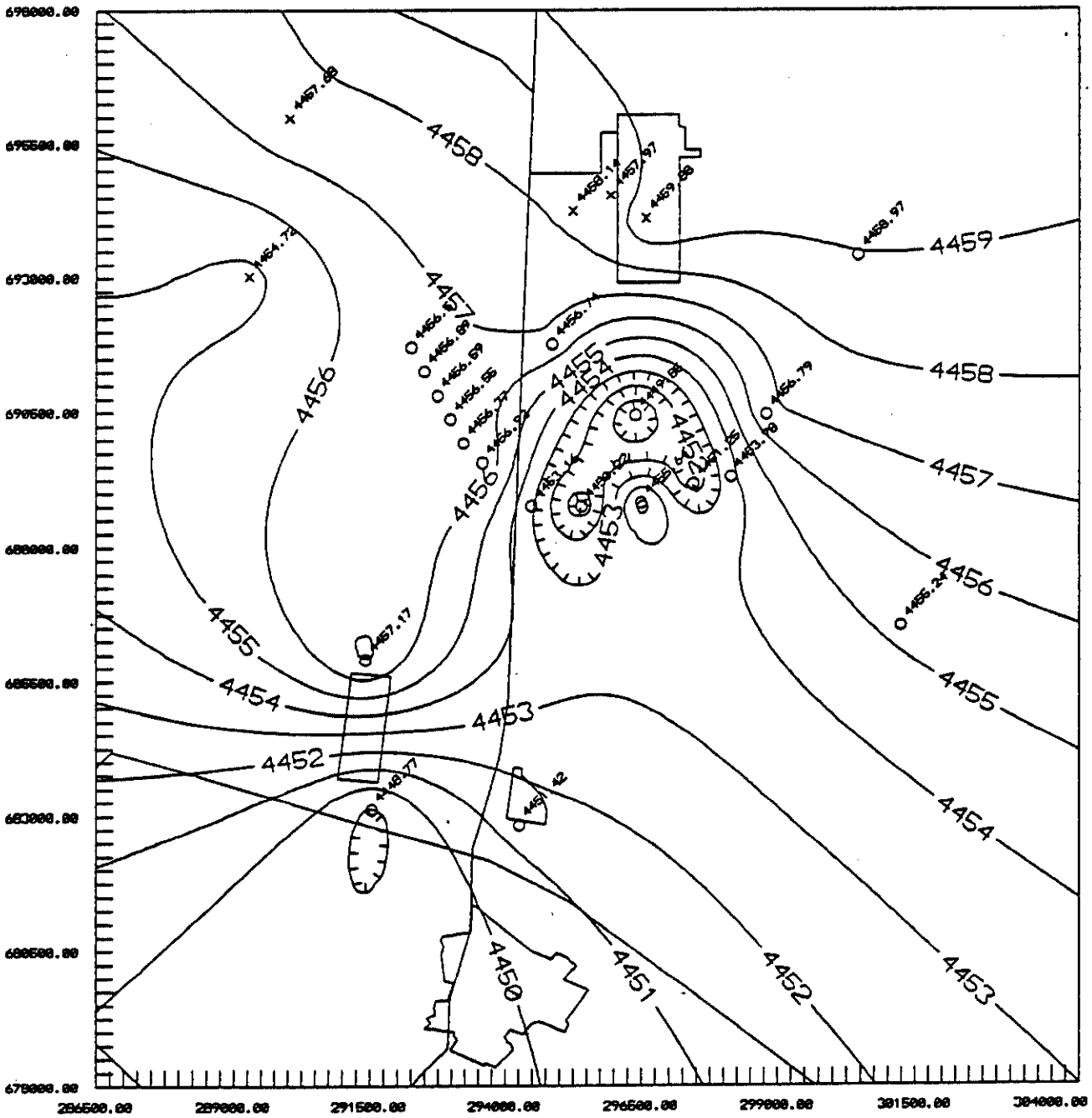
The map with water level measurements shows an area of low hydraulic head south of ICPP which suggests a groundwater sink. These wells were not pumped immediately prior to obtaining water level measurements. Possible explanations for the elevations differences include:

- differences in the vertical positioning of the open or screened intervals,
- measuring point elevation errors, and
- well plumbness and trueness deviations.

All of the USGS wells are open to the aquifer over similar horizons so positioning of the open interval does not appear to be a problem. Conversations with Rodger Jensen (USGS) indicate that the surveyed elevations is a doubtful source of error because the USGS resurveyed the wells upon discovery of the apparent depression. This leaves well plumbness and trueness deviations as the most likely cause for the observed apparent sink.

Well plumbness is a measure of how close to vertical a well is, and well trueness is a measure of how closely the well approximates a straight line. Deviations in either the plumbness or trueness increase the measurement to water because the well does not follow a straight vertical line from land surface to the water table (i.e., a deviation of only 5 degrees in well plumbness will add nearly 2 feet to the length of a well drilled 480 feet below land surface). Well plumbness and trueness may be the primary causes of the apparent sink shown on the attached maps.

CFA/ICPP water table, August 1992



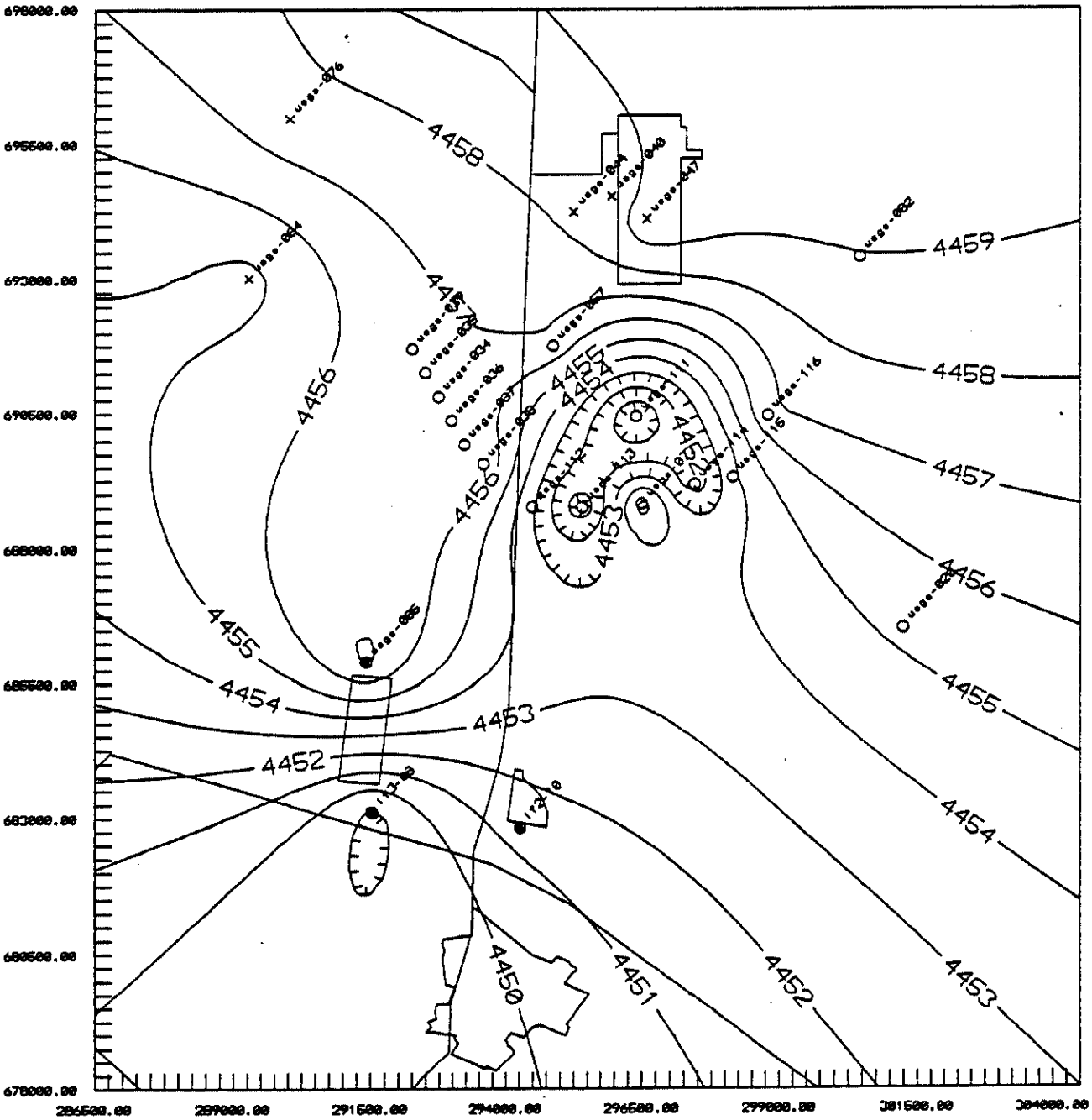
SCALE 1 inch = 3000 Feet

NTHWEST LABORATORY
OKLAHOMA, INC.

X - WELLS MEASURED BY USGS ON OR ABOUT AUG 1991

O - WELLS MEASURED BY EG&G ON AUG 7, 1992

CFA/ICPP water table, August 1992



SCALE 1 inch = 3000 Feet

GW Screen Runs

PRELIMINARY GW SCREEN

Preliminary calculations to assess the potential of contaminant leaching from CFA Landfills II & III to the Snake River Plain Aquifer were performed using GWSCREEN. The contaminants considered were the same as those used for the Track 1 investigation of CFA Landfill I. The contaminant inventory of Landfill I is uncertain but for purposes of this preliminary assessment is considered to be similar to that of Landfills II & III.

Input parameters for the GWSCREEN runs were consistent with default values and guidelines published in the Track 2 guidance document for the INEL. Site specific parameters used for this assessment include the infiltration rate at 10 cm/yr for current conditions (not flood conditions). The depth to the Snake River Plain Aquifer was taken as the sum total of interbed thicknesses at 25 meters. Finally, the landfill geometries were approximated using the following dimensions listed below. The length dimension is assumed to be parallel to the groundwater flow direction.

Landfill I: Length = 240 m, Width = 210 m, Thickness = 9 m

Landfill II: Length = 730 m, Width = 100 m, Thickness = 4 m

The GWSCREEN runs were performed in a "backward" manner. Limiting or allowable soil concentrations were calculated such that predetermined contaminant levels in the ground water are not exceeded. The levels in the ground water were taken from the Landfill Track 1 investigation. The calculated allowable soil concentrations were compared with known or estimated soil concentrations for the two landfills. Results indicate that for all contaminants except chromium (Landfills II & III) and methylene chloride (Landfill III), allowable soil concentrations were much greater than measured or estimated concentrations. Both chromium 3 and chromium 6 were used in the GWSCREEN run. Measured chromium concentrations are for total chromium only with no differentiaiton between chromium 3 and 6. The known chromium concentrations exceeded the allowable chromium 6 concentrations but were much less than the allowable chromium 3 concentrations.

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: acetone.par
OUTPUT FILE NAME: acetone.out
*****************************************************
*                                                   *
*     This output was produced by the model:        *
*                                                   *
*                    GWSCREEN                       *
*        Version Control Copy,  Version 1.3         *
*    A semi-analytical model for the assessment     *
*    of the groundwater pathway from the leaching   *
*    of surficial and buried contamination.         *
*                                                   *
*                  Arthur S. Rood                   *
*        Idaho National Engineering Laboratory      *
*                  EG&G Idaho Inc.                  *
*     Subsurface and Environmental Modeling Unit    *
*                   PO Box 1625                     *
*             Idaho Falls, Idaho 83415              *
*****************************************************
>>> TITLE OF PROJECT:
'CFA-landfill II,Acetone,Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      2.10E+02
THICKNESS OF SOURCE (m)                           9.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             6.60E-03
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         6.60E-03
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            6.60E-03

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      3.70E+00
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________________ DATE  /  /

INPUT DATA CHECKED BY:     _____________________ DATE  /  /

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LIMITING SOIL CONCENTRATION CALCULATION
INITIAL SOURCE        TO 1.0 mg
>>> VALUES CAL        IN SOURCE SUBROUTINE
*************      ********************************
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```
LEACH RATE CONSTANT (1/y)                         3.5854E-02
UNSATURATED PORE VELOCITY (m/y)                   1.4296E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    1.1254E+00
RETARDATION FACTOR (UNSATURATED)                  1.1791E+00
SOLUBILITY LIMITED MASS (mg)                      1.2047E+64
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                2.0635E+01
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                        7.000E+01
AVERAGING TIME (days)                   7.000E+01
WATER INTAKE RATE (L/d)                 2.000E+00
EXPOSURE FREQUENCY (days/year)          3.500E+02
EXPOSURE DURATION (years)               1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)         4.000E-03
CARCINOGENIC RISK CRITERIA              1.000E-06
HAZARD QUOTIENT                         1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 2.146812E+01
PEAK CONC (mg/m**3) = 1.9384E-07
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 1.9384E-07
LIMITING SOIL CONCENTRATION (mg/m**3) = 4.21E+04
LIMITING SOIL CONCENTRATION (mg/kg) = 2.81E+01
LIMITING SOIL AMOUNT (mg) = 1.91E+10
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: barium.par
OUTPUT FILE NAME: barium.out
*********************************************
*                                           *
*     This output was produced by the model:*
*                                           *
*                  GWSCREEN                 *
*        Version Control Copy,  Version 1.3 *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination. *
*                                           *
*                Arthur S. Rood             *
*        Idaho National Engineering Laboratory *
*                EG&G Idaho Inc.            *
*     Subsurface and Environmental Modeling Unit *
*                PO Box 1625                *
*            Idaho Falls, Idaho 83415       *
*********************************************
>>> TITLE OF PROJECT:
'CFA-landfill II,Barium,Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      2.10E+02
THICKNESS OF SOURCE (m)                           9.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             5.00E+01
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         5.00E+01
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            5.00E+01

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS        (m)      1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS        (m)      0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      2.59E+00
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY: _____ DATE  /  /

INPUT DATA CHECKED BY:      _____ DATE  /  /

-------------------------------------------------------

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL S      RESET TO 1.0 mg
>>> VALU        IN SOURCE SUBROUTINE
*********      ******************************
```

```
LEACH RATE CONSTANT (1/y)                         1.4756E-04
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    9.5100E+02
RETARDATION FACTOR (UNSATURATED)                  1.3581E+03
SOLUBILITY LIMITED MASS (mg)                      2.9272E+66
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                2.3767E+04
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                        7.000E+01
AVERAGING TIME (days)                   7.000E+01
WATER INTAKE RATE (L/d)                 2.000E+00
EXPOSURE FREQUENCY (days/year)          3.500E+02
EXPOSURE DURATION (years)               1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)         4.000E-03
CARCINOGENIC RISK CRITERIA              1.000E-06
HAZARD QUOTIENT                         1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 2.438190E+04
PEAK CONC (mg/m**3) = 7.6296E-10
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 7.6296E-10
LIMITING SOIL CONCENTRATION (mg/m**3) = 7.48E+06
LIMITING SOIL CONCENTRATION (mg/kg) = 4.99E+03
LIMITING SOIL AMOUNT (mg) = 3.39E+12
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: benacid.par
OUTPUT FILE NAME: benacid.out
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*        Version Control Copy,  Version 1.3     *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                  Arthur S. Rood               *
*        Idaho National Engineering Laboratory  *
*                  EG&G Idaho Inc.              *
*     Subsurface and Environmental Modeling Unit *
*                   PO Box 1625                 *
*             Idaho Falls, Idaho 83415          *
*************************************************
>>> TITLE OF PROJECT:
'CFA-landfill II,Benzoic Acid,Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      2.10E+02
THICKNESS OF SOURCE (m)                           9.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             1.50E-01
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         1.50E-01
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            1.50E-01

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      1.48E+02
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________________ DATE  /  /

INPUT DATA CHECKED BY:     _____________________ DATE  /  /

-------------------------------------------------------

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL SOURCE RESET TO 1.0 mg
>>> VALUES CALC        IN SOURCE SUBROUTINE
*************************************************
```

```
LEACH RATE CONSTANT (1/y)                         2.1164E-02
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    3.8500E+00
RETARDATION FACTOR (UNSATURATED)                  5.0714E+00
SOLUBILITY LIMITED MASS (mg)                      2.0409E+64
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                8.8750E+01
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                          7.000E+01
AVERAGING TIME (days)                     7.000E+01
WATER INTAKE RATE (L/d)                   2.000E+00
EXPOSURE FREQUENCY (days/year)            3.500E+02
EXPOSURE DURATION (years)                 1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)           4.000E-03
CARCINOGENIC RISK CRITERIA                1.000E-06
HAZARD QUOTIENT                           1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 9.139037E+01
PEAK CONC (mg/m**3) = 1.1221E-07
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 1.1221E-07
LIMITING SOIL CONCENTRATION (mg/m**3) = 2.91E+06
LIMITING SOIL CONCENTRATION (mg/kg) = 1.94E+03
LIMITING SOIL AMOUNT (mg) = 1.32E+12
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: chrom3.par
OUTPUT FILE NAME: chrom3.out
 ***************************************************
 *                                                 *
 *     This output was produced by the model:      *
 *                                                 *
 *                    GWSCREEN                     *
 *        Version Control Copy,  Version 1.3       *
 *    A semi-analytical model for the assessment   *
 *    of the groundwater pathway from the leaching *
 *    of surficial and buried contamination.       *
 *                                                 *
 *                 Arthur S. Rood                  *
 *        Idaho National Engineering Laboratory    *
 *                 EG&G Idaho Inc.                 *
 *     Subsurface and Environmental Modeling Unit  *
 *                  PO Box 1625                    *
 *             Idaho Falls, Idaho 83415            *
 ***************************************************
 >>> TITLE OF PROJECT:
 'CFA-landfill II,Chromium 3,Jeff Sondrup,8/19/92' TITLE
 ---------------------------------------------------------
 >>> INPUT DATA
 ***********************************************************
 INTEGRATION TIME (years)                          1
 LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          2.40E+02
 WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      2.10E+02
 THICKNESS OF SOURCE (m)                           9.00E+00
 PERCOLATION RATE (darcy vel m/y)                  1.00E-01
 VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
 VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
 BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
 SORPTION COEFFICIENT AT SOURCE (ml/g)             1.20E+00
 BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
 SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         1.20E+00
 HALF LIFE OF CONTAMINANT (y)                      1.00E+30
 INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
 MOLECULAR WEIGHT (g/mole)                         7.46E+01
 SOLUBILITY LIMIT (mg/L)                           8.57E+55
 BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
 POROSITY OF AQUIFER                               1.00E-01
 SORPTION COEFFICIENT IN AQUIFER (ml/g)            1.20E+00

 DISPERSIVITY X DIRECTION (m)                      9.00E+00
 DISPERSIVITY Y DIRECTION (m)                      4.00E+00
 PORE VELOCITY  (m/y)                              5.70E+02
 WELL SCREEN THICKNESS (m)                         1.50E+01
 DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
 DISTANCE TO RECEPTOR ALONG X AXIS       (m)       1.20E+02
 DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
 LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      3.70E+01
 UNITS OF CONTAMINANT                              mg

 INPUT DATA FILE CREATED BY:_____________________ DATE  /  /

 INPUT DATA CHECKED BY:     _____________________ DATE  /  /

 ---------------------------------------------------------

 LIMITING S[illegible] CONCENTRATION CALCULATION
 INITIAL [illegible]          TO 1.0 mg
 >>> VALU[illegible]          IN SOURCE SUBROUTINE
 ********[illegible]          ********************************
```

```
 LEACH RATE CONSTANT (1/y)                         5.2910E-03
 UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
 DECAY CONSTANT (1/y)                              6.9315E-31
 RETARDATION FACTOR (SATURATED)                    2.3800E+01
 RETARDATION FACTOR (UNSATURATED)                  3.3571E+01
 SOLUBILITY LIMITED MASS (mg)                      8.1634E+64
 SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
 TRANSIT TIME IN UNSAT ZONE (years)                5.8750E+02
 FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
 ---------------------------------------------------------
 >>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
 ***********************************************************
 BODY WEIGHT (kg)                          7.000E+01
 AVERAGING TIME (days)                     7.000E+01
 WATER INTAKE RATE (L/d)                   2.000E+00
 EXPOSURE FREQUENCY (days/year)            3.500E+02
 EXPOSURE DURATION (years)                 1.000E+00
 RADIOLOGICAL DOSE LIMIT (rem/y)           4.000E-03
 CARCINOGENIC RISK CRITERIA                1.000E-06
 HAZARD QUOTIENT                           1.000E+00
 ---------------------------------------------------------
 >>> RESULTS OF CALCULATIONS
 ***********************************************************
 PEAK TIME (y) = 6.031104E+02
 PEAK CONC (mg/m**3) = 2.7519E-08
 AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 2.7519E-08
 LIMITING SOIL CONCENTRATION (mg/m**3) = 2.96E+06
 LIMITING SOIL CONCENTRATION (mg/kg) = 1.98E+03
 LIMITING SOIL AMOUNT (mg) = 1.34E+12
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: chrom6.par
OUTPUT FILE NAME: chrom6.out
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*        Version Control Copy,  Version 1.3     *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                 Arthur S. Rood                *
*        Idaho National Engineering Laboratory  *
*                 EG&G Idaho Inc.               *
*     Subsurface and Environmental Modeling Unit *
*                  PO Box 1625                  *
*            Idaho Falls, Idaho 83415           *
*************************************************
>>> TITLE OF PROJECT:
CFA-landfill II,Chromium 6,Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      2.10E+02
THICKNESS OF SOURCE (m)                           9.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             1.20E+00
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         1.20E+00
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            1.20E+00

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      1.85E-01
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________________ DATE  /  /

INPUT DATA CHECKED BY:     _____________________ DATE  /  /

-------------------------------------------------------

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL SOURCE R[illegible]T TO 1.0 mg
>>> VALUES CAL[illegible] IN SOURCE SUBROUTINE
*************[illegible]*******************************
```

```
LEACH RATE CONSTANT (1/y)                         5.2910E-03
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    2.3800E+01
RETARDATION FACTOR (UNSATURATED)                  3.3571E+01
SOLUBILITY LIMITED MASS (mg)                      8.1634E+64
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                5.8750E+02
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                          7.000E+01
AVERAGING TIME (days)                     7.000E+01
WATER INTAKE RATE (L/d)                   2.000E+00
EXPOSURE FREQUENCY (days/year)            3.500E+02
EXPOSURE DURATION (years)                 1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)           4.000E-03
CARCINOGENIC RISK CRITERIA                1.000E-06
HAZARD QUOTIENT                           1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 6.031104E+02
PEAK CONC (mg/m**3) = 2.7519E-08
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 2.7519E-08
LIMITING SOIL CONCENTRATION (mg/m**3) = 1.48E+04
LIMITING SOIL CONCENTRATION (mg/kg) = 9.88E+00
LIMITING SOIL AMOUNT (mg) = 6.72E+09
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: cresol.par
OUTPUT FILE NAME: cresol.out
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*        Version Control Copy,  Version 1.3     *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                 Arthur S. Rood                *
*        Idaho National Engineering Laboratory  *
*                 EG&G Idaho Inc.               *
*     Subsurface and Environmental Modeling Unit *
*                  PO Box 1625                  *
*             Idaho Falls, Idaho 83415          *
*************************************************
>>> TITLE OF PROJECT:
CFA-landfill II,Cresol(all) Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      2.10E+02
THICKNESS OF SOURCE (m)                           9.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             2.60E-01
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         2.60E-01
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            2.60E-01

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      1.85E+00
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY: _____________________ DATE  /  /

INPUT DATA CHECKED BY:      _____________________ DATE  /  /

-------------------------------------------------------

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL S[illegible] P[illegible] TO 1.0 mg
>>> VALU[illegible] IN SOURCE SUBROUTINE
********[illegible]*******************************
```

```
LEACH RATE CONSTANT (1/y)                         1.6103E-02
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    5.9400E+00
RETARDATION FACTOR (UNSATURATED)                  8.0571E+00
SOLUBILITY LIMITED MASS (mg)                      2.6823E+64
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                1.4100E+02
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                        7.000E+01
AVERAGING TIME (days)                   7.000E+01
WATER INTAKE RATE (L/d)                 2.000E+00
EXPOSURE FREQUENCY (days/year)          3.500E+02
EXPOSURE DURATION (years)               1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)         4.000E-03
CARCINOGENIC RISK CRITERIA              1.000E-06
HAZARD QUOTIENT                         1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 1.450029E+02
PEAK CONC (mg/m**3) = 8.4844E-08
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 8.4844E-08
LIMITING SOIL CONCENTRATION (mg/m**3) = 4.81E+04
LIMITING SOIL CONCENTRATION (mg/kg) = 3.20E+01
LIMITING SOIL AMOUNT (mg) = 2.18E+10
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: manganese.par
OUTPUT FILE NAME: manganese.out
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*        Version Control Copy,  Version 1.3     *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                  Arthur S. Rood               *
*        Idaho National Engineering Laboratory  *
*                  EG&G Idaho Inc.              *
*     Subsurface and Environmental Modeling Unit *
*                   PO Box 1625                 *
*             Idaho Falls, Idaho 83415          *
*************************************************
>>> TITLE OF PROJECT:
'CFA-landfill II,Manganese,Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      2.10E+02
THICKNESS OF SOURCE (m)                           9.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             5.00E+01
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         5.00E+01
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            5.00E+01

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      3.70E+00
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________________ DATE  /  /

INPUT DATA CHECKED BY:     _____________________ DATE  /  /

-------------------------------------------------------

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL SOURCE [illegible] TO 1.0 mg
>>> VALUES CAL[illegible] IN SOURCE SUBROUTINE
*************[illegible]*******************************
```

1.0

```
LEACH RATE CONSTANT (1/y)                         1.4756E-04
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    9.5100E+02
RETARDATION FACTOR (UNSATURATED)                  1.3581E+03
SOLUBILITY LIMITED MASS (mg)                      2.9272E+66
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                2.3767E+04
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                          7.000E+01
AVERAGING TIME (days)                     7.000E+01
WATER INTAKE RATE (L/d)                   2.000E+00
EXPOSURE FREQUENCY (days/year)            3.500E+02
EXPOSURE DURATION (years)                 1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)           4.000E-03
CARCINOGENIC RISK CRITERIA                1.000E-06
HAZARD QUOTIENT                           1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 2.438190E+04
PEAK CONC (mg/m**3) = 7.6296E-10
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 7.6296E-10
LIMITING SOIL CONCENTRATION (mg/m**3) = 1.07E+07
LIMITING SOIL CONCENTRATION (mg/kg) = 7.13E+03
LIMITING SOIL AMOUNT (mg) = 4.85E+12
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: methchl.par
OUTPUT FILE NAME: methchl.out
 ***********************************************
 *                                             *
 *     This output was produced by the model:  *
 *                                             *
 *                   GWSCREEN                  *
 *        Version Control Copy,  Version 1.3   *
 *    A semi-analytical model for the assessment *
 *    of the groundwater pathway from the leaching *
 *    of surficial and buried contamination.   *
 *                                             *
 *                Arthur S. Rood               *
 *        Idaho National Engineering Laboratory *
 *                EG&G Idaho Inc.              *
 *     Subsurface and Environmental Modeling Unit *
 *                PO Box 1625                  *
 *            Idaho Falls, Idaho 83415         *
 ***********************************************
>>> TITLE OF PROJECT:
CFA-landfill II,Methylene Chloride,Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      2.10E+02
THICKNESS OF SOURCE (m)                           9.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             3.00E-02
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         3.00E-02
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            3.00E-02

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      1.13E-02
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY: _____ DATE  /  /

INPUT DATA CHECKED BY:      _____ DATE  /  /

-------------------------------------------------------

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL S[illegible] RESET TO 1.0 mg
>>> VALU[illegible] IN SOURCE SUBROUTINE
********[illegible] ******************************
```

```
LEACH RATE CONSTANT (1/y)                         3.2206E-02
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    1.5700E+00
RETARDATION FACTOR (UNSATURATED)                  1.8143E+00
SOLUBILITY LIMITED MASS (mg)                      1.3411E+64
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                3.1750E+01
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                          7.000E+01
AVERAGING TIME (days)                     7.000E+01
WATER INTAKE RATE (L/d)                   2.000E+00
EXPOSURE FREQUENCY (days/year)            3.500E+02
EXPOSURE DURATION (years)                 1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)           4.000E-03
CARCINOGENIC RISK CRITERIA                1.000E-06
HAZARD QUOTIENT                           1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 3.289479E+01
PEAK CONC (mg/m**3) = 1.7324E-07
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 1.7324E-07
LIMITING SOIL CONCENTRATION (mg/m**3) = 1.44E+02
LIMITING SOIL CONCENTRATION (mg/kg) = 9.59E-02
LIMITING SOIL AMOUNT (mg) = 6.52E+07
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: methkey.par
OUTPUT FILE NAME: methkey.out
 ***********************************************
 *                                             *
 *     This output was produced by the model:  *
 *                                             *
 *                  GWSCREEN                   *
 *        Version Control Copy,  Version 1.3   *
 *    A semi-analytical model for the assessment *
 *    of the groundwater pathway from the leaching *
 *    of surficial and buried contamination.   *
 *                                             *
 *                Arthur S. Rood               *
 *        Idaho National Engineering Laboratory *
 *                  EG&G Idaho Inc.            *
 *    Subsurface and Environmental Modeling Unit *
 *                  PO Box 1625                *
 *            Idaho Falls, Idaho 83415         *
 ***********************************************
>>> TITLE OF PROJECT:
'CFA-landfill II,Methyl ethyl keytone,Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      2.10E+02
THICKNESS OF SOURCE (m)                           9.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             1.16E-02
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         1.16E-02
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            1.16E-02

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      1.85E+00
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________ DATE  /  /

INPUT DATA CHECKED BY:     _____________ DATE  /  /

-------------------------------------------------------

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL SOURCE r      TO 1.0 mg
>>> VALUES CALC       IN SOURCE SUBROUTINE
*****************************************
```

```
LEACH RATE CONSTANT (1/y)                         3.5007E-02
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    1.2204E+00
RETARDATION FACTOR (UNSATURATED)                  1.3149E+00
SOLUBILITY LIMITED MASS (mg)                      1.2338E+64
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                2.3010E+01
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                          7.000E+01
AVERAGING TIME (days)                     7.000E+01
WATER INTAKE RATE (L/d)                   2.000E+00
EXPOSURE FREQUENCY (days/year)            3.500E+02
EXPOSURE DURATION (years)                 1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)           4.000E-03
CARCINOGENIC RISK CRITERIA                1.000E-06
HAZARD QUOTIENT                           1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 2.390602E+01
PEAK CONC (mg/m**3) = 1.8903E-07
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 1.8903E-07
LIMITING SOIL CONCENTRATION (mg/m**3) = 2.16E+04
LIMITING SOIL CONCENTRATION (mg/kg) = 1.44E+01
LIMITING SOIL AMOUNT (mg) = 9.79E+09
```

TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: silver.par
OUTPUT FILE NAME: silver.out

```
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*          Version Control Copy,  Version 1.3   *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                  Arthur S. Rood               *
*         Idaho National Engineering Laboratory *
*                  EG&G Idaho Inc.              *
*     Subsurface and Environmental Modeling Unit *
*                   PO Box 1625                 *
*              Idaho Falls, Idaho 83415         *
*************************************************
```

>>> TITLE OF PROJECT:
CPK-IsHotTIT II,silver,Jeff Sondrup,8/19/92 TITLE

>>> INPUT DATA

INTEGRATION TIME (years)	1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.10E+02
THICKNESS OF SOURCE (m)	9.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	7.00E-02
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	9.00E+01
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	9.00E+01
HALF LIFE OF CONTAMINANT (y)	1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)	1.00E+00
MOLECULAR WEIGHT (g/mole)	7.46E+01
SOLUBILITY LIMIT (mg/L)	8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)	9.00E+01
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)	2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)	1.85E-01
UNITS OF CONTAMINANT	mg

INPUT DATA FILE CREATED BY: _____ DATE / /

INPUT DATA CHECKED BY: _____ DATE / /

LIMITING SO[illegible] CONCENTRATION CALCULATION
INITIAL [illegible] TO 1.0 mg
>>> VALU[illegible] IN SOURCE SUBROUTINE

LEACH RATE CONSTANT (1/y)	8.2122E-05
UNSATURATED PORE VELOCITY (m/y)	1.4286E+00
DECAY CONSTANT (1/y)	6.9315E-31
RETARDATION FACTOR (SATURATED)	1.7110E+03
RETARDATION FACTOR (UNSATURATED)	2.4433E+03
SOLUBILITY LIMITED MASS (mg)	5.2596E+66
SOLUBILITY LIMITED ACTIVITY (Ci)	0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)	4.2767E+04
FRACTION DECAYED DURING UNSAT TRANSPORT	0.0000E+00

>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION

BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	7.000E+01
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

>>> RESULTS OF CALCULATIONS

PEAK TIME (y) = 4.387291E+04
PEAK CONC (mg/m**3) = 4.2459E-10
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 4.2459E-10
LIMITING SOIL CONCENTRATION (mg/m**3) = 9.61E+05
LIMITING SOIL CONCENTRATION (mg/kg) = 6.40E+02
LIMITING SOIL AMOUNT (mg) = 4.36E+11

TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: vanadium.par
OUTPUT FILE NAME: vanadium.out

```
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*        Version Control Copy,  Version 1.3     *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                 Arthur S. Rood                *
*        Idaho National Engineering Laboratory  *
*                  EG&G Idaho Inc.              *
*     Subsurface and Environmental Modeling Unit *
*                  PO Box 1625                  *
*            Idaho Falls, Idaho 83415           *
*************************************************
```

>>> TITLE OF PROJECT:
CFA-landfill II,Vanadium,Jeff Sondrup,8/19/92' TITLE

>>> INPUT DATA

INTEGRATION TIME (years)	1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.10E+02
THICKNESS OF SOURCE (m)	9.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	7.00E-02
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	1.00E+03
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	1.00E+03
HALF LIFE OF CONTAMINANT (y)	1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)	1.00E+00
MOLECULAR WEIGHT (g/mole)	7.46E+01
SOLUBILITY LIMIT (mg/L)	8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)	1.00E+03
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)	2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)	1.59E-01
UNITS OF CONTAMINANT	mg

INPUT DATA FILE CREATED BY: _____ DATE / /

INPUT DATA CHECKED BY: _____ DATE / /

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL SOURCE ' ' TO 1.0 mg
>>> VALUES CAL IN SOURCE SUBROUTINE

LEACH RATE CONSTANT (1/y)	7.4059E-06
UNSATURATED PORE VELOCITY (m/y)	1.4286E+00
DECAY CONSTANT (1/y)	6.9315E-31
RETARDATION FACTOR (SATURATED)	1.9001E+04
RETARDATION FACTOR (UNSATURATED)	2.7144E+04
SOLUBILITY LIMITED MASS (mg)	5.8322E+67
SOLUBILITY LIMITED ACTIVITY (Ci)	0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)	4.7502E+05
FRACTION DECAYED DURING UNSAT TRANSPORT	0.0000E+00

>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION

BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	7.000E+01
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

>>> RESULTS OF CALCULATIONS

PEAK TIME (y) = 4.872567E+05
PEAK CONC (mg/m**3) = 3.8287E-11
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 3.8287E-11
LIMITING SOIL CONCENTRATION (mg/m**3) = 1.49E+07
LIMITING SOIL CONCENTRATION (mg/kg) = 9.94E+03
LIMITING SOIL AMOUNT (mg) = 6.76E+12

TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: xylene.par
OUTPUT FILE NAME: xylene.out

```
*********************************************
*                                           *
*     This output was produced by the model:*
*                                           *
*                  GWSCREEN                 *
*       Version Control Copy,  Version 1.3  *
*   A semi-analytical model for the assessment *
*   of the groundwater pathway from the leaching *
*   of surficial and buried contamination.  *
*                                           *
*                Arthur S. Rood             *
*       Idaho National Engineering Laboratory *
*                EG&G Idaho Inc.            *
*    Subsurface and Environmental Modeling Unit *
*                PO Box 1625                *
*            Idaho Falls, Idaho 83415       *
*********************************************
```

>>> TITLE OF PROJECT:
'CFA-landfill II,Xylene,Jeff Sondrup,8/19/92' TITLE

>>> INPUT DATA

INTEGRATION TIME (years)	1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.10E+02
THICKNESS OF SOURCE (m)	9.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	7.00E-02
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	2.50E+00
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	2.50E+00
HALF LIFE OF CONTAMINANT (y)	1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)	1.00E+00
MOLECULAR WEIGHT (g/mole)	7.46E+01
SOLUBILITY LIMIT (mg/L)	8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)	2.50E+00
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)	2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)	8.40E+01
UNITS OF CONTAMINANT	mg

INPUT DATA FILE CREATED BY: _____ DATE / /

INPUT DATA CHECKED BY: _____ DATE / /

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL S[illegible] RESET TO 1.0 mg
>>> VALU[illegible] IN SOURCE SUBROUTINE
********** **********

LEACH RATE CONSTANT (1/y)	2.7435E-03
UNSATURATED PORE VELOCITY (m/y)	1.4286E+00
DECAY CONSTANT (1/y)	6.9315E-31
RETARDATION FACTOR (SATURATED)	4.8500E+01
RETARDATION FACTOR (UNSATURATED)	6.8857E+01
SOLUBILITY LIMITED MASS (mg)	1.5744E+65
SOLUBILITY LIMITED ACTIVITY (Ci)	0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)	1.2050E+03
FRACTION DECAYED DURING UNSAT TRANSPORT	0.0000E+00

>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION

BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	7.000E+01
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

>>> RESULTS OF CALCULATIONS

PEAK TIME (y) = 1.236547E+03
PEAK CONC (mg/m**3) = 1.4227E-08
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 1.4227E-08
LIMITING SOIL CONCENTRATION (mg/m**3) = 1.15E+07
LIMITING SOIL CONCENTRATION (mg/kg) = 7.64E+03
LIMITING SOIL AMOUNT (mg) = 5.20E+12

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: acetone.par
OUTPUT FILE NAME: acetone.out
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*        Version Control Copy,  Version 1.3     *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                 Arthur S. Rood                *
*        Idaho National Engineering Laboratory  *
*                 EG&G Idaho Inc.               *
*     Subsurface and Environmental Modeling Unit *
*                  PO Box 1625                  *
*             Idaho Falls, Idaho 83415          *
*************************************************
>>> TITLE OF PROJECT:
CFA-landfill III,Acetone Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          7.30E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      1.00E+02
THICKNESS OF SOURCE (m)                           4.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             6.60E-03
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         6.60E-03
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            6.60E-03

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       3.65E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      3.70E+00
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________________ DATE  /  /

INPUT DATA CHECKED BY:     _____________________ DATE  /  /

-------------------------------------------------------

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL SOURCE [illegible] TO 1.0 mg
>>> VALUES CAL[illegible] IN SOURCE SUBROUTINE
*****************************************************
```

```
LEACH RATE CONSTANT (1/y)                         8.0671E-02
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    1.1254E+00
RETARDATION FACTOR (UNSATURATED)                  1.1791E+00
SOLUBILITY LIMITED MASS (mg)                      7.7551E+63
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                2.0635E+01
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                          7.000E+01
AVERAGING TIME (days)                     7.000E+01
WATER INTAKE RATE (L/d)                   2.000E+00
EXPOSURE FREQUENCY (days/year)            3.500E+02
EXPOSURE DURATION (years)                 1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)           4.000E-03
CARCINOGENIC RISK CRITERIA                1.000E-06
HAZARD QUOTIENT                           1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 2.232298E+01
PEAK CONC (mg/m**3) = 5.8388E-07
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 5.8388E-07
LIMITING SOIL CONCENTRATION (mg/m**3) = 2.17E+04
LIMITING SOIL CONCENTRATION (mg/kg) = 1.45E+01
LIMITING SOIL AMOUNT (mg) = 6.34E+09
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: barium.par
OUTPUT FILE NAME: barium.out
*********************************************
*                                           *
*     This output was produced by the model:*
*                                           *
*                  GWSCREEN                 *
*        Version Control Copy,  Version 1.3 *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination. *
*                                           *
*                Arthur S. Rood             *
*        Idaho National Engineering Laboratory *
*                EG&G Idaho Inc.            *
*     Subsurface and Environmental Modeling Unit *
*                PO Box 1625                *
*            Idaho Falls, Idaho 83415       *
*********************************************
>>> TITLE OF PROJECT:
CFA-Landfill III,Barium,Jeff Sondrup,8/19/92 TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          7.30E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      1.00E+02
THICKNESS OF SOURCE (m)                           4.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             5.00E+01
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         5.00E+01
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            5.00E+01

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       3.65E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      2.59E+00
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________ DATE  /  /

INPUT DATA CHECKED BY:  _____________ DATE  /  /

-------------------------------------------------------

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL SOI          TO 1.0 mg
>>> VALUES          IN SOURCE SUBROUTINE
***********          ******************************
```

```
LEACH RATE CONSTANT (1/y)                         3.3201E-04
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    9.5100E+02
RETARDATION FACTOR (UNSATURATED)                  1.3581E+03
SOLUBILITY LIMITED MASS (mg)                      1.8843E+66
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                2.3767E+04
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                        7.000E+01
AVERAGING TIME (days)                   7.000E+01
WATER INTAKE RATE (L/d)                 2.000E+00
EXPOSURE FREQUENCY (days/year)          3.500E+02
EXPOSURE DURATION (years)               1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)         4.000E-03
CARCINOGENIC RISK CRITERIA              1.000E-06
HAZARD QUOTIENT                         1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 2.501529E+04
PEAK CONC (mg/m**3) = 2.0045E-09
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 2.0045E-09
LIMITING SOIL CONCENTRATION (mg/m**3) = 4.43E+06
LIMITING SOIL CONCENTRATION (mg/kg) = 2.95E+03
LIMITING SOIL AMOUNT (mg) = 1.29E+12
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: benacid.par
OUTPUT FILE NAME: benacid.out
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*        Version Control Copy,  Version 1.3     *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                  Arthur S. Rood               *
*        Idaho National Engineering Laboratory  *
*                  EG&G Idaho Inc.              *
*     Subsurface and Environmental Modeling Unit *
*                   PO Box 1625                 *
*             Idaho Falls, Idaho 83415          *
*************************************************
>>> TITLE OF PROJECT:
CFA-landfill III,Benzoic Acid,Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          7.30E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      1.00E+02
THICKNESS OF SOURCE (m)                           4.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             1.50E-01
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         1.50E-01
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            1.50E-01

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       3.65E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      1.48E+02
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________________ DATE  /  /

INPUT DATA CHECKED BY:     _____________________ DATE  /  /

-------------------------------------------------------

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL SOURCE P[illegible] TO 1.0 mg
>>> VALUES CALC[illegible] IN SOURCE SUBROUTINE
*****************[illegible]*******************************
```

```
LEACH RATE CONSTANT (1/y)                         4.7619E-02
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    3.8500E+00
RETARDATION FACTOR (UNSATURATED)                  5.0714E+00
SOLUBILITY LIMITED MASS (mg)                      1.3138E+64
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                8.8750E+01
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                        7.000E+01
AVERAGING TIME (days)                   7.000E+01
WATER INTAKE RATE (L/d)                 2.000E+00
EXPOSURE FREQUENCY (days/year)          3.500E+02
EXPOSURE DURATION (years)               1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)         4.000E-03
CARCINOGENIC RISK CRITERIA              1.000E-06
HAZARD QUOTIENT                         1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 9.413961E+01
PEAK CONC (mg/m**3) = 3.1828E-07
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 3.1828E-07
LIMITING SOIL CONCENTRATION (mg/m**3) = 1.59E+06
LIMITING SOIL CONCENTRATION (mg/kg) = 1.06E+03
LIMITING SOIL AMOUNT (mg) = 4.65E+11
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: chrom3.par
OUTPUT FILE NAME: chrom3.out
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*        Version Control Copy,  Version 1.3     *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                  Arthur S. Rood               *
*        Idaho National Engineering Laboratory  *
*                 EG&G Idaho Inc.               *
*     Subsurface and Environmental Modeling Unit *
*                  PO Box 1625                  *
*              Idaho Falls, Idaho 83415         *
*************************************************
>>> TITLE OF PROJECT:
CFA-landfill III,Chromium 3,Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)        7.30E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)    1.00E+02
THICKNESS OF SOURCE (m)                         4.00E+00
PERCOLATION RATE (darcy vel m/y)                1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE              3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE    7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)               1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)           1.20E+00
BULK DENSITY IN UNSAT ZONE (g/cm**3)            1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)       1.20E+00
HALF LIFE OF CONTAMINANT (y)                    1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)             1.00E+00
MOLECULAR WEIGHT (g/mole)                       7.46E+01
SOLUBILITY LIMIT (mg/L)                         8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)               1.90E+00
POROSITY OF AQUIFER                             1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)          1.20E+00

DISPERSIVITY X DIRECTION (m)                    9.00E+00
DISPERSIVITY Y DIRECTION (m)                    4.00E+00
PORE VELOCITY  (m/y)                            5.70E+02
WELL SCREEN THICKNESS (m)                       1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)     2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)     3.65E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)     0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)    3.70E+01
UNITS OF CONTAMINANT                            mg

INPUT DATA FILE CREATED BY:_____ DATE  /  /

INPUT DATA CHECKED BY:     _____ DATE  /  /

-------------------------------------------------------

LIMITING S[illegible] CONCENTRATION CALCULATION
INITIAL S[illegible] F[illegible] TO 1.0 mg
>>> VALUE[illegible] IN SOURCE SUBROUTINE
*********[illegible]*****************************
```

```
LEACH RATE CONSTANT (1/y)                       1.1905E-02
UNSATURATED PORE VELOCITY (m/y)                 1.4286E+00
DECAY CONSTANT (1/y)                            6.9315E-31
RETARDATION FACTOR (SATURATED)                  2.3800E+01
RETARDATION FACTOR (UNSATURATED)                3.3571E+01
SOLUBILITY LIMITED MASS (mg)                    5.2551E+64
SOLUBILITY LIMITED ACTIVITY (Ci)                0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)              5.8750E+02
FRACTION DECAYED DURING UNSAT TRANSPORT         0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                        7.000E+01
AVERAGING TIME (days)                   7.000E+01
WATER INTAKE RATE (L/d)                 2.000E+00
EXPOSURE FREQUENCY (days/year)          3.500E+02
EXPOSURE DURATION (years)               1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)         4.000E-03
CARCINOGENIC RISK CRITERIA              1.000E-06
HAZARD QUOTIENT                         1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 6.192251E+02
PEAK CONC (mg/m**3) = 7.3610E-08
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 7.3610E-08
LIMITING SOIL CONCENTRATION (mg/m**3) = 1.72E+06
LIMITING SOIL CONCENTRATION (mg/kg) = 1.15E+03
LIMITING SOIL AMOUNT (mg) = 5.03E+11
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: chrom6.par
OUTPUT FILE NAME: chrom6.out
*****************************************************
*                                                   *
*     This output was produced by the model:        *
*                                                   *
*                    GWSCREEN                       *
*        Version Control Copy,  Version 1.3         *
*    A semi-analytical model for the assessment     *
*    of the groundwater pathway from the leaching   *
*    of surficial and buried contamination.         *
*                                                   *
*                  Arthur S. Rood                   *
*        Idaho National Engineering Laboratory      *
*                  EG&G Idaho Inc.                  *
*     Subsurface and Environmental Modeling Unit    *
*                   PO Box 1625                     *
*             Idaho Falls, Idaho 83415              *
*****************************************************
>>> TITLE OF PROJECT:
CFA-landfill III,Chromium 6,Jeff Sondrup,8/19/92' TITLE
-----------------------------------------------------------
>>> INPUT DATA
*****************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          7.30E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      1.00E+02
THICKNESS OF SOURCE (m)                           4.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             1.20E+00
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         1.20E+00
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            1.20E+00

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       3.65E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      1.85E-01
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________________ DATE  /  /

INPUT DATA CHECKED BY:     _____________________ DATE  /  /

-----------------------------------------------------------

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL SOURCE P[illegible] TO 1.0 mg
>>> VALUES CALC[illegible] IN SOURCE SUBROUTINE
*****************************************************
```

```
LEACH RATE CONSTANT (1/y)                         1.1905E-02
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    2.3800E+01
RETARDATION FACTOR (UNSATURATED)                  3.3571E+01
SOLUBILITY LIMITED MASS (mg)                      5.2551E+64
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                5.8750E+02
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-----------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*****************************************************
BODY WEIGHT (kg)                          7.000E+01
AVERAGING TIME (days)                     7.000E+01
WATER INTAKE RATE (L/d)                   2.000E+00
EXPOSURE FREQUENCY (days/year)            3.500E+02
EXPOSURE DURATION (years)                 1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)           4.000E-03
CARCINOGENIC RISK CRITERIA                1.000E-06
HAZARD QUOTIENT                           1.000E+00
-----------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*****************************************************
PEAK TIME (y) = 6.192251E+02
PEAK CONC (mg/m**3) = 7.3610E-08
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 7.3610E-08
LIMITING SOIL CONCENTRATION (mg/m**3) = 8.61E+03
LIMITING SOIL CONCENTRATION (mg/kg) = 5.74E+00
LIMITING SOIL AMOUNT (mg) = 2.51E+09
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: cresol.par
OUTPUT FILE NAME: cresol.out
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*        Version Control Copy,  Version 1.3     *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                 Arthur S. Rood                *
*        Idaho National Engineering Laboratory  *
*                 EG&G Idaho Inc.               *
*     Subsurface and Environmental Modeling Unit *
*                  PO Box 1625                  *
*             Idaho Falls, Idaho 83415          *
*************************************************
>>> TITLE OF PROJECT:
CFA-landfill III,Cresol(all),Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          7.30E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      1.00E+02
THICKNESS OF SOURCE (m)                           4.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             2.60E-01
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         2.60E-01
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            2.60E-01

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       3.65E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      1.85E+00
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________________ DATE  /  /

INPUT DATA CHECKED BY:     _____________________ DATE  /  /

-------------------------------------------------------

LIMITING SO   CONCENTRATION CALCULATION
INITIAL SO            TO 1.0 mg
>>> VALUES             IN SOURCE SUBROUTINE
***********  *      ******************************
```

```
LEACH RATE CONSTANT (1/y)                         3.6232E-02
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    5.9400E+00
RETARDATION FACTOR (UNSATURATED)                  8.0571E+00
SOLUBILITY LIMITED MASS (mg)                      1.7267E+64
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                1.4100E+02
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                          7.000E+01
AVERAGING TIME (days)                     7.000E+01
WATER INTAKE RATE (L/d)                   2.000E+00
EXPOSURE FREQUENCY (days/year)            3.500E+02
EXPOSURE DURATION (years)                 1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)           4.000E-03
CARCINOGENIC RISK CRITERIA                1.000E-06
HAZARD QUOTIENT                           1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 1.491724E+02
PEAK CONC (mg/m**3) = 2.3605E-07
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 2.3605E-07
LIMITING SOIL CONCENTRATION (mg/m**3) = 2.68E+04
LIMITING SOIL CONCENTRATION (mg/kg) = 1.79E+01
LIMITING SOIL AMOUNT (mg) = 7.84E+09
```

TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: manganese.par
OUTPUT FILE NAME: manganese.out

```
*********************************************
*                                           *
*     This output was produced by the model:*
*                                           *
*                  GWSCREEN                 *
*        Version Control Copy,  Version 1.3 *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination. *
*                                           *
*                Arthur S. Rood             *
*        Idaho National Engineering Laboratory *
*                EG&G Idaho Inc.            *
*     Subsurface and Environmental Modeling Unit *
*                PO Box 1625                *
*            Idaho Falls, Idaho 83415       *
*********************************************
```

>>> TITLE OF PROJECT:
'CFA-landfill III,Manganese,Jeff Sondrup,8/19/92' TITLE

>>> INPUT DATA

INTEGRATION TIME (years)	1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	7.30E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	1.00E+02
THICKNESS OF SOURCE (m)	4.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	7.00E-02
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	5.00E+01
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	5.00E+01
HALF LIFE OF CONTAMINANT (y)	1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)	1.00E+00
MOLECULAR WEIGHT (g/mole)	7.46E+01
SOLUBILITY LIMIT (mg/L)	8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)	5.00E+01
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)	2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	3.65E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)	3.70E+00
UNITS OF CONTAMINANT	mg

INPUT DATA FILE CREATED BY: _____ DATE / /

INPUT DATA CHECKED BY: _____ DATE / /

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL SOURCE R[illegible] TO 1.0 mg
>>> VALUES CALC[illegible] IN SOURCE SUBROUTINE

LEACH RATE CONSTANT (1/y)	3.3201E-04
UNSATURATED PORE VELOCITY (m/y)	1.4286E+00
DECAY CONSTANT (1/y)	6.9315E-31
RETARDATION FACTOR (SATURATED)	9.5100E+02
RETARDATION FACTOR (UNSATURATED)	1.3581E+03
SOLUBILITY LIMITED MASS (mg)	1.8843E+66
SOLUBILITY LIMITED ACTIVITY (Ci)	0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)	2.3767E+04
FRACTION DECAYED DURING UNSAT TRANSPORT	0.0000E+00

>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION

BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	7.000E+01
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

>>> RESULTS OF CALCULATIONS

PEAK TIME (y) = 2.501529E+04
PEAK CONC (mg/m**3) = 2.0045E-09
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 2.0045E-09
LIMITING SOIL CONCENTRATION (mg/m**3) = 6.32E+06
LIMITING SOIL CONCENTRATION (mg/kg) = 4.21E+03
LIMITING SOIL AMOUNT (mg) = 1.85E+12

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: methchl.par
OUTPUT FILE NAME: methchl.out
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*        Version Control Copy,  Version 1.3     *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                  Arthur S. Rood               *
*        Idaho National Engineering Laboratory  *
*                  EG&G Idaho Inc.              *
*     Subsurface and Environmental Modeling Unit *
*                   PO Box 1625                 *
*             Idaho Falls, Idaho 83415          *
*************************************************
>>> TITLE OF PROJECT:
CFA-landfill III,Methylene Chloride,Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          7.30E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      1.00E+02
THICKNESS OF SOURCE (m)                           4.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             3.00E-02
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         3.00E-02
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            3.00E-02

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       3.65E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      1.13E-02
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________________ DATE  /  /

INPUT DATA CHECKED BY:                           DATE  /  /

-------------------------------------------------------

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL [illegible] TO 1.0 mg
>>> VALU [illegible] IN SOURCE SUBROUTINE
********* [illegible] ********************************
```

```
LEACH RATE CONSTANT (1/y)                         7.2464E-02
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    1.5700E+00
RETARDATION FACTOR (UNSATURATED)                  1.8143E+00
SOLUBILITY LIMITED MASS (mg)                      8.6334E+63
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                3.1750E+01
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                          7.000E+01
AVERAGING TIME (days)                     7.000E+01
WATER INTAKE RATE (L/d)                   2.000E+00
EXPOSURE FREQUENCY (days/year)            3.500E+02
EXPOSURE DURATION (years)                 1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)           4.000E-03
CARCINOGENIC RISK CRITERIA                1.000E-06
HAZARD QUOTIENT                           1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 3.405523E+01
PEAK CONC (mg/m**3) = 5.1374E-07
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 5.1374E-07
LIMITING SOIL CONCENTRATION (mg/m**3) = 7.53E+01
LIMITING SOIL CONCENTRATION (mg/kg) = 5.02E-02
LIMITING SOIL AMOUNT (mg) = 2.20E+07
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: methkey.par
OUTPUT FILE NAME: methkey.out
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*        Version Control Copy,  Version 1.3     *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                  Arthur S. Rood               *
*        Idaho National Engineering Laboratory  *
*                  EG&G Idaho Inc.              *
*     Subsurface and Environmental Modeling Unit *
*                   PO Box 1625                 *
*             Idaho Falls, Idaho 83415          *
*************************************************
>>> TITLE OF PROJECT:
*CFA-landfill III,Methyl ethyl keytone,Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          7.30E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      1.00E+02
THICKNESS OF SOURCE (m)                           4.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             1.16E-02
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         1.16E-02
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            1.16E-02

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       3.65E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      1.85E+00
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________________ DATE  /  /

INPUT DATA CHECKED BY:     _____________________ DATE  /  /

-------------------------------------------------------

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL SOURCE [illegible] TO 1.0 mg
>>> VALUES CAL[illegible] IN SOURCE SUBROUTINE
*************[illegible]*********************************
```

```
LEACH RATE CONSTANT (1/y)                         7.8765E-02
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    1.2204E+00
RETARDATION FACTOR (UNSATURATED)                  1.3149E+00
SOLUBILITY LIMITED MASS (mg)                      7.9427E+63
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                2.3010E+01
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                          7.000E+01
AVERAGING TIME (days)                     7.000E+01
WATER INTAKE RATE (L/d)                   2.000E+00
EXPOSURE FREQUENCY (days/year)            3.500E+02
EXPOSURE DURATION (years)                 1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)           4.000E-03
CARCINOGENIC RISK CRITERIA                1.000E-06
HAZARD QUOTIENT                           1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 2.483128E+01
PEAK CONC (mg/m**3) = 5.6731E-07
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 5.6731E-07
LIMITING SOIL CONCENTRATION (mg/m**3) = 1.12E+04
LIMITING SOIL CONCENTRATION (mg/kg) = 7.45E+00
LIMITING SOIL AMOUNT (mg) = 3.26E+09
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: silver.par
OUTPUT FILE NAME: silver.out
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*        Version Control Copy,  Version 1.3     *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                  Arthur S. Rood               *
*        Idaho National Engineering Laboratory  *
*                  EG&G Idaho Inc.              *
*     Subsurface and Environmental Modeling Unit *
*                   PO Box 1625                 *
*             Idaho Falls, Idaho 83415          *
*************************************************
>>> TITLE OF PROJECT:
'CFA-landfill III,Silver,Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          7.30E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      1.00E+02
THICKNESS OF SOURCE (m)                           4.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             9.00E+01
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         9.00E+01
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            9.00E+01

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       3.65E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      1.85E-01
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________________ DATE  /  /

INPUT DATA CHECKED BY:     _____________________ DATE  /  /

-------------------------------------------------------

LIMITING [illegible] CONCENTRATION CALCULATION
INITIAL S[illegible] TO 1.0 mg
>>> VALUE [illegible] IN SOURCE SUBROUTINE
*************[illegible] ******************************
```

```
LEACH RATE CONSTANT (1/y)                         1.8477E-04
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    1.7110E+03
RETARDATION FACTOR (UNSATURATED)                  2.4439E+03
SOLUBILITY LIMITED MASS (mg)                      3.3858E+66
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                4.2767E+04
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                          7.000E+01
AVERAGING TIME (days)                     7.000E+01
WATER INTAKE RATE (L/d)                   2.000E+00
EXPOSURE FREQUENCY (days/year)            3.500E+02
EXPOSURE DURATION (years)                 1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)           4.000E-03
CARCINOGENIC RISK CRITERIA                1.000E-06
HAZARD QUOTIENT                           1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 4.501247E+04
PEAK CONC (mg/m**3) = 1.1152E-09
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 1.1152E-09
LIMITING SOIL CONCENTRATION (mg/m**3) = 5.68E+05
LIMITING SOIL CONCENTRATION (mg/kg) = 3.79E+02
LIMITING SOIL AMOUNT (mg) = 1.66E+11
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: vanadium.par
OUTPUT FILE NAME: vanadium.out
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*        Version Control Copy,  Version 1.3     *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                  Arthur S. Rood               *
*        Idaho National Engineering Laboratory  *
*                  EG&G Idaho Inc.              *
*     Subsurface and Environmental Modeling Unit *
*                   PO Box 1625                 *
*             Idaho Falls, Idaho 83415          *
*************************************************
>>> TITLE OF PROJECT:
'CFA-landfill III,Vanadium,Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          7.30E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      1.00E+02
THICKNESS OF SOURCE (m)                           4.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             1.00E+03
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         1.00E+03
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            1.00E+03

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       3.65E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      2.59E-01
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________________ DATE  /  /

INPUT DATA CHECKED BY:     _____________________ DATE  /  /

-------------------------------------------------------

LIMITING SOIL CONCENTRATION CALCULATION
INITIAL SOURCE [illegible] TO 1.0 mg
>>> VALUES CAL[illegible] IN SOURCE SUBROUTINE
*************[illegible] ******************************
```

```
LEACH RATE CONSTANT (1/y)                         1.6663E-05
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    1.9001E+04
RETARDATION FACTOR (UNSATURATED)                  2.7144E+04
SOLUBILITY LIMITED MASS (mg)                      3.7544E+67
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                4.7502E+05
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                          7.000E+01
AVERAGING TIME (days)                     7.000E+01
WATER INTAKE RATE (L/d)                   2.000E+00
EXPOSURE FREQUENCY (days/year)            3.500E+02
EXPOSURE DURATION (years)                 1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)           4.000E-03
CARCINOGENIC RISK CRITERIA                1.000E-06
HAZARD QUOTIENT                           1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 4.999483E+05
PEAK CONC (mg/m**3) = 1.0054E-10
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 1.0054E-10
LIMITING SOIL CONCENTRATION (mg/m**3) = 8.82E+06
LIMITING SOIL CONCENTRATION (mg/kg) = 5.88E+03
LIMITING SOIL AMOUNT (mg) = 2.58E+12
```

```
TIME OF RUN \000\000\000\000\000\000\000\000\000\000\000
DATE OF RUN 08/19/92
INPUT FILE NAME: xylene.par
OUTPUT FILE NAME: xylene.out
*************************************************
*                                               *
*     This output was produced by the model:    *
*                                               *
*                    GWSCREEN                   *
*        Version Control Copy,  Version 1.3     *
*    A semi-analytical model for the assessment *
*    of the groundwater pathway from the leaching *
*    of surficial and buried contamination.     *
*                                               *
*                 Arthur S. Rood                *
*        Idaho National Engineering Laboratory  *
*                 EG&G Idaho Inc.               *
*     Subsurface and Environmental Modeling Unit *
*                  PO Box 1625                  *
*             Idaho Falls, Idaho 83415          *
*************************************************
>>> TITLE OF PROJECT:
'CFA-landfill III,Xylene|Jeff Sondrup,8/19/92' TITLE
-------------------------------------------------------
>>> INPUT DATA
*******************************************************
INTEGRATION TIME (years)                          1
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)          7.30E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)      1.00E+02
THICKNESS OF SOURCE (m)                           4.00E+00
PERCOLATION RATE (darcy vel m/y)                  1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE                3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE      7.00E-02
BULK DENSITY AT SOURCE  (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)             2.50E+00
BULK DENSITY IN UNSAT ZONE (g/cm**3)              1.90E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)         2.50E+00
HALF LIFE OF CONTAMINANT (y)                      1.00E+30
INITIAL MASS OR ACTIVITY (mg or Ci)               1.00E+00
MOLECULAR WEIGHT (g/mole)                         7.46E+01
SOLUBILITY LIMIT (mg/L)                           8.57E+55
BULK DENSITY OF AQUIFER (g/cm**3)                 1.90E+00
POROSITY OF AQUIFER                               1.00E-01
SORPTION COEFFICIENT IN AQUIFER (ml/g)            2.50E+00

DISPERSIVITY X DIRECTION (m)                      9.00E+00
DISPERSIVITY Y DIRECTION (m)                      4.00E+00
PORE VELOCITY  (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                         1.50E+01
DISTANCE TO AQUIFER BELOW CONTAMINATION (m)       2.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS       (m)       3.65E+02
DISTANCE TO RECEPTOR ALONG Y AXIS       (m)       0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)      7.40E+01
UNITS OF CONTAMINANT                              mg

INPUT DATA FILE CREATED BY:_____________________ DATE  /  /

INPUT DATA CHECKED BY:     _____________________ DATE  /  /

-------------------------------------------------------

LIMITING S    CONCENTRATION CALCULATION
INITIAL S              TO 1.0 mg
>>> VALUE.              IN SOURCE SUBROUTINE
***********  **  ******************************
```

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LEACH RATE CONSTANT (1/y)                         6.1728E-03
UNSATURATED PORE VELOCITY (m/y)                   1.4286E+00
DECAY CONSTANT (1/y)                              6.9315E-31
RETARDATION FACTOR (SATURATED)                    4.8500E+01
RETARDATION FACTOR (UNSATURATED)                  6.8857E+01
SOLUBILITY LIMITED MASS (mg)                      1.0135E+65
SOLUBILITY LIMITED ACTIVITY (Ci)                  0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)                1.2050E+03
FRACTION DECAYED DURING UNSAT TRANSPORT           0.0000E+00
-------------------------------------------------------
>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*******************************************************
BODY WEIGHT (kg)                          7.000E+01
AVERAGING TIME (days)                     7.000E+01
WATER INTAKE RATE (L/d)                   2.000E+00
EXPOSURE FREQUENCY (days/year)            3.500E+02
EXPOSURE DURATION (years)                 1.000E+00
RADIOLOGICAL DOSE LIMIT (rem/y)           4.000E-03
CARCINOGENIC RISK CRITERIA                1.000E-06
HAZARD QUOTIENT                           1.000E+00
-------------------------------------------------------
>>> RESULTS OF CALCULATIONS
*******************************************************
PEAK TIME (y) = 1.269190E+03
PEAK CONC (mg/m**3) = 3.7717E-08
AVERAGE INTEGRATED CONCENTRATION (mg/m**3) = 3.7717E-08
LIMITING SOIL CONCENTRATION (mg/m**3) = 6.72E+06
LIMITING SOIL CONCENTRATION (mg/kg) = 4.48E+03
LIMITING SOIL AMOUNT (mg) = 1.96E+12
```

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'CFA-landfill II,Acetone,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
240.  210.  9.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 6.6e-3                              RHOS zKDS
1.9 6.6e-3                              RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 6.6e-3                         RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
3.70e0                                  DCF-RADMAX-NRADMAX-SFACTOR-RFD
120.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN FILE EX   E.DTA

C BW - BODY WEIGH
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill II,Barium,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
240.  210.  9.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 50                                  RHOS zKDS
1.9 50                                  RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 50                             RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
2.59e0                                  DCF-RADMAX-NRADMAX-SFACTOR-RFD
120.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN F            E.DTA

C BW - BODY W[illegible]
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'KFA-landfill II,Benzoic Acid,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
240.  210.  9.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 1.5e-1                              RHOS zKDS
1.9 1.5e-1                              RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 1.5e-1                         RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
1.48e2                                  DCF-RADMAX-NRADMAX-SFACTOR-RFD
120.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX.- MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE)  (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE)  (y)
C TP - PRINT TIME STEP (y)

C  DATA IN FILE EXT  RE.DTA

C BW - BODY WEIGH
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
```

```
'CFA-landfill II,Chromium 3,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
240.  210.  9.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 1.20                                RHOS zKDS
1.9 1.20                                RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 1.20                           RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
3.70e1                                  DCF-RADMAX-NRADMAX-SFACTOR-RFD
120.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN I            E.DTA

C BW - BODY WEIGH
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill II,Chromium 6,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
240.  210.  9.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 1.2                                 RHOS zKDS
1.9 1.2                                 RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 1.2                            RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
1.85e-1                                 DCF-RADMAX-NRADMAX-SFACTOR-RFD
120.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA-IN FILE EXPOSURE.DTA

C BW - BODY WEIGH
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill II,Cresol(all),Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
240.  210.  9.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 2.6e-1                              RHOS zKDS
1.9 2.6e-1                              RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 2.6e-1                         RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0  25.0                              THICK DEPTH
3                                       IMODE
1.85e0                                  DCF-RADMAX-NRADMAX-SFACTOR-RFD
120.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN FI          E.DTA

C BW - BODY WEIGH
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill II,Manganese,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
240.  210.  9.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 50                                  RHOS zKDS
1.9 50                                  RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 50                             RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
3.70e0                                  DCF-RADMAX-NRADMAX-SFACTOR-RFD
120.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE)  (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE)  (y)
C TP - PRINT TIME STEP  (y)

C  DATA IN FILE EX'  'RE.DTA

C BW - BODY WEIGI
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill II,Methylene Chloride,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
240.  210.  9.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 3.0e-2                              RHOS zKDS
1.9 3.0e-2                              RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 3.0e-2                         RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
1.13e-2                                 DCF-RADMAX-NRADMAX-SFACTOR-RFD
120.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN '      'XPOSURE.DTA

C BW - BODY
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill II,Methyl ethyl keytone,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
240.  210.  9.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 1.16e-2                             RHOS zKDS
1.9 1.16e-2                             RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 1.16e-2                        RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
1.85e0                                  DCF-RADMAX-NRADMAX-SFACTOR-RFD
120.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN FILE F[illegible]E.DTA

C BW - BODY WEIGH[illegible]
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill II,Silver,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
240.  210.  9.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 90.                                 RHOS zKDS
1.9 90.                                 RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 90.                            RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
1.85e-1                                 DCF-RADMAX-NRADMAX-SFACTOR-RFD
120.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE)  (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE)  (y)
C TP - PRINT TIME STEP (y)

C  DATA IN F            'E.DTA

C BW - BODY WEIGH
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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CFA-landfill II,Vanadium,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
240.  210.  9.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 1.0e3                               RHOS zKDS
1.9 1.0e3                               RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 1.0e3                          RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
2.59e-1                                 DCF-RADMAX-NRADMAX-SFACTOR-RFD
120.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN FILE EX[illegible]RE.DTA

C BW - BODY WEIG[illegible]
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill II,Xylene,Jeff Sondrup,8/19/92' TITLE
1                                          KFLAG
1                                          INTIME
240.  210.  9.                             AL WA THICKS
0.1  0.3  0.07                             PERC THETAS THETAU
1.5 2.5                                    RHOS zKDS
1.9 2.5                                    RHOU zKDU
1.00e30  1.00    74.55  8.57e55            THALF QI ZMW SL
1.9 0.10 2.5                               RHOA PHI zKDA
9.0  4.0  570.                             AX AY VX
15.0   25.0                                THICK DEPTH
3                                          IMODE
7.40e1                                     DCF-RADMAX-NRADMAX-SFACTOR-RFD
120.0, 0.0                                 XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0      BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN F          RE.DTA

C BW - BODY WE
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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CFA-landfill III,Acetone,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
730.  100.  4.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 6.6e-3                              RHOS zKDS
1.9 6.6e-3                              RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 6.6e-3                         RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
3.70e0                                  DCF-RADMAX-NRADMAX-SFACTOR-RFD
365.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/CI)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (CI/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN FILE E      RE.DTA

C BW - BODY WEIGH
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill III,Barium,Jeff Sondrup,8/19/92' TITLE
1                                          KFLAG
1                                          INTIME
730.  100.  4.                             AL WA THICKS
0.1  0.3  0.07                             PERC THETAS THETAU
1.5 50                                     RHOS zKDS
1.9 50                                     RHOU zKDU
1.00e30  1.00    74.55  8.57e55            THALF QI ZMW SL
1.9 0.10 50                                RHOA PHI zKDA
9.0  4.0  570.                             AX AY VX
15.0   25.0                                THICK DEPTH
3                                          IMODE
2.59e0                                     DCF-RADMAX-NRADMAX-SFACTOR-RFD
365.0, 0.0                                 XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0      BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN        'Y    'RE.DTA

C BW - BODY WEIGH
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill III,Benzoic Acid,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
730.  100.  4.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 1.5e-1                              RHOS zKDS
1.9 1.5e-1                              RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 1.5e-1                         RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
1.48e2                                  DCF-RADMAX-NRADMAX-SFACTOR-RFD
365.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN FILE EX[illegible].DTA

C BW - BODY WEIGHT
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill III,Chromium 3,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
730.  100.  4.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 1.20                                RHOS zKDS
1.9 1.20                                RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 1.20                           RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
3.70e1                                  DCF-RADMAX-NRADMAX-SFACTOR-RFD
365.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA_IN      EXPOSURE.DTA

C BW - BODY
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill III,Chromium 6,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
730.  100.  4.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 1.2                                 RHOS zKDS
1.9 1.2                                 RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 1.2                            RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
1.85e-1                                 DCF-RADMAX-NRADMAX-SFACTOR-RFD
365.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE)  (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE)  (y)
C TP - PRINT TIME STEP (y)

C  DATA IN FILE E'    'RE.DTA

C BW - BODY WEIGH
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill III,Cresol(all)/Jeff Sondrup,8/19/92' TITLE
1                                          KFLAG
1                                          INTIME
730.  100.  4.                             AL WA THICKS
0.1  0.3  0.07                             PERC THETAS THETAU
1.5 2.6e-1                                 RHOS zKDS
1.9 2.6e-1                                 RHOU zKDU
1.00e30  1.00    74.55  8.57e55            THALF QI ZMW SL
1.9 0.10 2.6e-1                            RHOA PHI zKDA
9.0  4.0  570.                             AX AY VX
15.0   25.0                                THICK DEPTH
3                                          IMODE
1.85e0                                     DCF-RADMAX-NRADMAX-SFACTOR-RFD
365.0, 0.0                                 XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0      BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE = TITLE OF PROJECT
C KFLAG (0) = CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) = LIMITING SOIL CONCENTRATION
C INTIME = INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL = LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA = WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS = THICKNESS OF CONTAMINATED ZONE
C PERC = PERCOLATION RATE (m/y)
C THETAS = VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU = VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS = DENSITY OF SURFACE SOIL (g/cm3)
C zKDS = SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF = HALF LIFE (y)
C QI = INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW = MOLECULAR WEIGHT (G/MOLE)
C SL = SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA = DENSITY OF AQUIFER (G/CM3)
C PHI = POROSITY OF AQUIFER
C zKDA = SORPTION COEFFICIENT IN AQUIFER
C AX = DISPERSIVITY IN THE X DIRECTION (m)
C AY = DISPERSIVITY IN THE Y DIRECTION (m)
C VX = PORE VELOCITY IN AQUIFER,  (m/y)
C THICK = THICKNESS OF WELL SCREEN (m)
C DEPTH = DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE = (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF = DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX = GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX = GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR = SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD = REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS = Desired accuracy IN SIMPSON ROUTINE
C JMAX = MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB = ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART = INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD = RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD = RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART = START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND = END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP = PRINT TIME STEP (y)

C  DATA IN F        URE.DTA

C BW = BODY WEI
C AT = AVERAGING TIME (days)
C WI = WATER INTAKE RATE (L/d)
C EF = EXPOSURE FREQUENCY (years)
C ED = EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM = RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK = CARCINOGENIC RISK CRITERIA
C HQ = HAZARD QUOTIENT
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'CFA-landfill III,Manganese,Jeff Sondrup,8/19/92' TITLE
1                                          KFLAG
1                                          INTIME
730.  100.  4.                             AL WA THICKS
0.1  0.3  0.07                             PERC THETAS THETAU
1.5 50                                     RHOS zKDS
1.9 50                                     RHOU zKDU
1.00e30  1.00    74.55  8.57e55            THALF QI ZMW SL
1.9 0.10 50                                RHOA PHI zKDA
9.0  4.0  570.                             AX AY VX
15.0   25.0                                THICK DEPTH
3                                          IMODE
3.70e0                                     DCF-RADMAX-NRADMAX-SFACTOR-RFD
365.0, 0.0                                 XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0      BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN FILE EY'  'RE.DTA

C BW - BODY WEIGH
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill III,Methylene Chloride,Jeff Sondrup,8/19/92' TITLE
1                                          KFLAG
1                                          INTIME
730.  100.  4.                             AL WA THICKS
0.1  0.3  0.07                             PERC THETAS THETAU
1.5 3.0e-2                                 RHOS zKDS
1.9 3.0e-2                                 RHOU zKDU
1.00e30  1.00    74.55  8.57e55            THALF QI ZMW SL
1.9 0.10 3.0e-2                            RHOA PHI zKDA
9.0  4.0  570.                             AX AY VX
15.0   25.0                                THICK DEPTH
3                                          IMODE
1.13e-2                                    DCF-RADMAX-NRADMAX-SFACTOR-RFD
365.0, 0.0                                 XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0      BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE = TITLE OF PROJECT
C KFLAG (0) = CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) = LIMITING SOIL CONCENTRATION
C INTIME = INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL = LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA = WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS = THICKNESS OF CONTAMINATED ZONE
C PERC = PERCOLATION RATE (m/y)
C THETAS = VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU = VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS = DENSITY OF SURFACE SOIL (g/cm3)
C zKDS = SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF = HALF LIFE (y)
C QI = INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW = MOLECULAR WEIGHT (G/MOLE)
C SL = SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA = DENSITY OF AQUIFER (G/CM3)
C PHI = POROSITY OF AQUIFER
C zKDA = SORPTION COEFFICIENT IN AQUIFER
C AX = DISPERSIVITY IN THE X DIRECTION (m)
C AY = DISPERSIVITY IN THE Y DIRECTION (m)
C VX = PORE VELOCITY IN AQUIFER,  (m/y)
C THICK = THICKNESS OF WELL SCREEN (m)
C DEPTH = DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE = (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF = DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX = GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX = GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR = SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD = REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS = Desired accuracy IN SIMPSON ROUTINE
C JMAX = MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB = ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART = INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD = RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD = RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART = START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND = END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP = PRINT TIME STEP (y)

C  DATA IN              RE.DTA

C BW = BODY WEIGH[illegible])
C AT = AVERAGING TIME (days)
C WI = WATER INTAKE RATE (L/d)
C EF = EXPOSURE FREQUENCY (years)
C ED = EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM = RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK = CARCINOGENIC RISK CRITERIA
C HQ = HAZARD QUOTIENT
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'CFA-landfill III,Methyl ethyl keytone,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
730.  100.  4.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 1.16e-2                             RHOS zKDS
1.9 1.16e-2                             RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 1.16e-2                        RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
1.85e0                                  DCF-RADMAX-NRADMAX-SFACTOR-RFD
365.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/CI)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (CI/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN FILE E[illegible]URE.DTA

C BW - BODY WEIG[illegible]
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
```

```
'CFA-landfill III,Silver,Jeff Sondrup,8/19/92' TITLE
1                                          KFLAG
1                                          INTIME
730.  100.  4.                             AL WA THICKS
0.1  0.3  0.07                             PERC THETAS THETAU
1.5 90.                                    RHOS zKDS
1.9 90.                                    RHOU zKDU
1.00e30  1.00    74.55  8.57e55            THALF QI ZMW SL
1.9 0.10 90.                               RHOA PHI zKDA
9.0  4.0  570.                             AX AY VX
15.0   25.0                                THICK DEPTH
3                                          IMODE
1.85e-1                                    DCF-RADMAX-NRADMAX-SFACTOR-RFD
365.0, 0.0                                 XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0      BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN        X[illegible]URE.DTA

C BW - BODY [illegible]

C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill III,Vanadium,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
730.  100.  4.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 1.0e3                               RHOS zKDS
1.9 1.0e3                               RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 1.0e3                          RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
2.59e-1                                 DCF-RADMAX-NRADMAX-SFACTOR-RFD
365.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
C AY - DISPERSIVITY IN THE Y DIRECTION (m)
C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
C EPS - Desired accuracy IN SIMPSON ROUTINE
C JMAX - MAX NUMBER OF TIME STEPS IN SIMPSON ROUTINE
C ARB - ARBITRARY NUMBER TO DETERMINE INTEGRATION LIMITS IN SIMPSON ROUTINE
C JSTART - INITIAL NUMBER OF TIME STEPS TO USE ON THE CONVOLUTION INTEGRAL
C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
C YD - RECEPTOR DISTANCE PERPENDICULAR TO GW FLOW (m)
C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE)  (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE)  (y)
C TP - PRINT TIME STEP (y)

C  DATA IN FILE F'  'RE.DTA

C BW - BODY WEIG
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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'CFA-landfill III,Xylene,Jeff Sondrup,8/19/92' TITLE
1                                       KFLAG
1                                       INTIME
730.  100.  4.                          AL WA THICKS
0.1  0.3  0.07                          PERC THETAS THETAU
1.5 2.5                                 RHOS zKDS
1.9 2.5                                 RHOU zKDU
1.00e30  1.00    74.55  8.57e55         THALF QI ZMW SL
1.9 0.10 2.5                            RHOA PHI zKDA
9.0  4.0  570.                          AX AY VX
15.0   25.0                             THICK DEPTH
3                                       IMODE
7.40e1                                  DCF-RADMAX-NRADMAX-SFACTOR-RFD
365.0, 0.0                              XD YD
70.0 70.0 2.0 350  1 0.004 1.0E-6 1.0   BW,AT,WI,EF,ED,DLIM,CRISK,HQ
C  INPUT VARIABLES:

C TITLE - TITLE OF PROJECT
C KFLAG (0) - CONCENTRATION VS TIME AND PEAK CONCENTRATION
C       (1) - LIMITING SOIL CONCENTRATION
C INTIME - INTEGRATING TIME.  INTIME MUST EQUAL THE EXPOSURE DURATION
C          FOR CARCINOGEN CALCULATIONS
C AL - LENGTH OF SOURCE PARALLEL TO FLOW (m)
C WA - WIDTH OF SOURCE PERPENDICULAR TO FLOW  (m)
C THICKS - THICKNESS OF CONTAMINATED ZONE
C PERC - PERCOLATION RATE (m/y)
C THETAS - VOLUMETRIC MOISTURE CONTENT IN CONTAMINATED ZONE
C THETAU - VOLUMETRIC MOISTURE CONTENT IN UNSATURATED ZONE
C RHOS - DENSITY OF SURFACE SOIL (g/cm3)
C zKDS - SORPTION COEFFICIENT IN SOURCE (cm3/g)
C THALF - HALF LIFE (y)
C QI - INITIAL MASS IN SOURCE COMPARTMENT (CI OR MG)
C ZMW - MOLECULAR WEIGHT (G/MOLE)
C SL - SOLUBILITY LIMIT OF CONTAMINANT (MG/L)
C RHOA - DENSITY OF AQUIFER (G/CM3)
C PHI - POROSITY OF AQUIFER
C zKDA - SORPTION COEFFICIENT IN AQUIFER
C AX - DISPERSIVITY IN THE X DIRECTION (m)
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C VX - PORE VELOCITY IN AQUIFER,  (m/y)
C THICK - THICKNESS OF WELL SCREEN (m)
C DEPTH - DEPTH OF AQUIFER FROM BASE OF CONTAMINATED ZONE (m)
C IMODE - (1) LIMIT BASED ON 4 MREM/Y
C         (2) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR RADIONUCLIDES
C         (3) LIMIT BASED ON MAXIMUM CONTAMINANT LIMIT FOR CHEMICALS
C         (4) LIMIT BASED ON CARCINOGENIC RISK (1.0E-6)
C         (5) LIMIT BASED ON REFERENCE DOSE
C DCF - DOSE CONVERSION FACTOR (rem/Ci)
C RADMAX - GROUNDWATER CRITERIA LIMIT FOR RADIONUCLIDES (Ci/L)
C ZRADMAX - GROUNDWATER CRITERIA LIMIT FOR NON-RAD (mg/L)
C SFACTOR - SLOPE FACTOR FOR CARCINOGENIC RISK CALCULATION (MG/KG/D)**-1
C RFD - REFERENCE DOSE FOR NON-CARCINOGENIC EFFECTS (MG/KG/D)
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C XD - RECEPTOR DISTANCE DOWNGRADIENT (m)
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C TSTART - START TIME FOR CALCULATIONS (DIAGNOSTIC MODE) (y)
C TEND - END TIME FOR CALCUALTIONS (DIAGNOSTIC MODE) (y)
C TP - PRINT TIME STEP (y)

C  DATA IN        RE.DTA

C BW - BODY
```

```
C AT - AVERAGING TIME (days)
C WI - WATER INTAKE RATE (L/d)
C EF - EXPOSURE FREQUENCY (years)
C ED - EXPOSURE DURATION THIS VALUE SHOULD BE THE SAME AS INTIME FOR
C      CARCINOGEN CALCULATIONS(years)
C DLIM - RADIOLOGICAL DOSE LIMIT (rem/y)
C CRISK - CARCINOGENIC RISK CRITERIA
C HQ - HAZARD QUOTIENT
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Soil Moisture

Vadose Zone Below Landfills II and III

The vadose zone is that portion of the subsurface that extends from the land surface down through the subsurface to the water table. The vadose zone at Landfills II and III is approximately 480 ft. thick and is composed of surface sediments, horizontal basalt flows, and occasional interbedded sediments (see Figures 1 through 4). The surface sediments are composed primarily of sands and gravels that are poorly sorted and contain very few fine-grained materials. Thick sequences of interfingering basalt flows comprise the bulk of the vadose zone. Considerable variation occurs in the characteristics of the basalts. The basalts may be fine or coarse-grained, vesicular or non-vesicular, fractured, or jointed. Some fractures and vesicles may be filled with sedimentary material or secondary calcite. Sedimentary interbeds found among the basalt flows appear to be continuous over the area covered by the landfills. These interbeds consist of sands, silts, and clays. They may be compacted due to original deposition and subsequent overburden pressures. Because of their relatively high clay contents, interbeds may provide some measure of defense against possible migrating leachate from the landfills. Additionally, there are local pockets or lenses of sand, silt, and clay within the lava flows which were deposited in topographic lows during periods of minimal volcanic activity.

During December 1987, a shallow drilling program was implemented at Landfill II and Landfill III. The objectives of the program included monitoring hydraulic behavior of the surficial sediments to quantify the amounts and rates of water movement into and through the sediments. Initial results of the project have been documented (Ansley et al., 1988).

Shallow drilling Report.

A neutron moisture probe, heat dissipation sensors, and salinity sensors were used in shallow boreholes at Landfills II and III to quantify the amounts and rates of water movement into and through the sediments. Data from these instruments was collected on roughly a monthly basis from January 1988 to January 1991. Data from January 1988 to September 1988 has been analyzed (Ansley et al., 1988). The remaining data is stored in a database, but has not been analyzed.

The neutron moisture probe measures moisture content of soils indirectly by emitting fast neutrons into the soil and counting the neutrons thermalized by collisions with hydrogen. The counts are correlated to water content because the majority of hydrogen in most soils exists as part of the water molecule. Analyses of the first nine months of neutron probe data (Ansley et al., 1988) led to the conclusion that large changes in moisture content occurred near the surface but little or no changes occurred at depth (depths ranged from approximately 18 to 23 ft). Depths below which moisture contents remained fairly constant ranged from 30 in. for tube LF2-03 to about 84 in. for tube LF2-04. There was no clear evidence of a massive, deeply penetrating downward moving pulse of water. However, the report concluded that evidence of downward migration of water was found in data from a few of the neutron moisture probe holes. Net recharge entering the waste was estimated to be 0.22 in. or approximately 6% of the 3.77 in. of precipitation falling between November 1987 and September 1988.

Heat dissipation blocks were used to measure matric potential. Heat dissipation blocks are operated by running a fixed electric current through a wire. The more moisture present, the greater the heat capacity of the block and the lower the temperature change. The heat dissipation blocks were calibrated in terms of matric potential because of the different water holding characteristics of different sediments at a given matric potential. Large variability in measured matric potentials made interpretations of the first nine months of this data difficult (Ansley et al., 1988) and no conclusions were reached regarding water movement based on this data. The heat dissipation block meter subsequently underwent testing to determine what the problem was. Later data has not been analyzed.

Salinity probes were used to measure the electrical conductance of soil water. Conductance is proportional to the dissolved solids or salts in the water. Leachate from landfills is expected to be much higher in dissolved solids than natural soils. Therefore, the salinity probes were used to monitor for migration of leachate from the landfill. Analyses of the salinity probe data indicated that the probes underwent a period of equilibration with the soil lasting until late summer of 1988 (Ansley et al., 1988). Subsequent readings were within the range of values typical for saline desert soils. It

was concluded that none of the probes indicated significant migration of leachates with high dissolved solids.

Neutron probe, heat dissipation sensor, and salinity probe data from slightly more than two additional years remains unanalyzed. These data should be analyzed to verify the conclusions of the 1988 report.

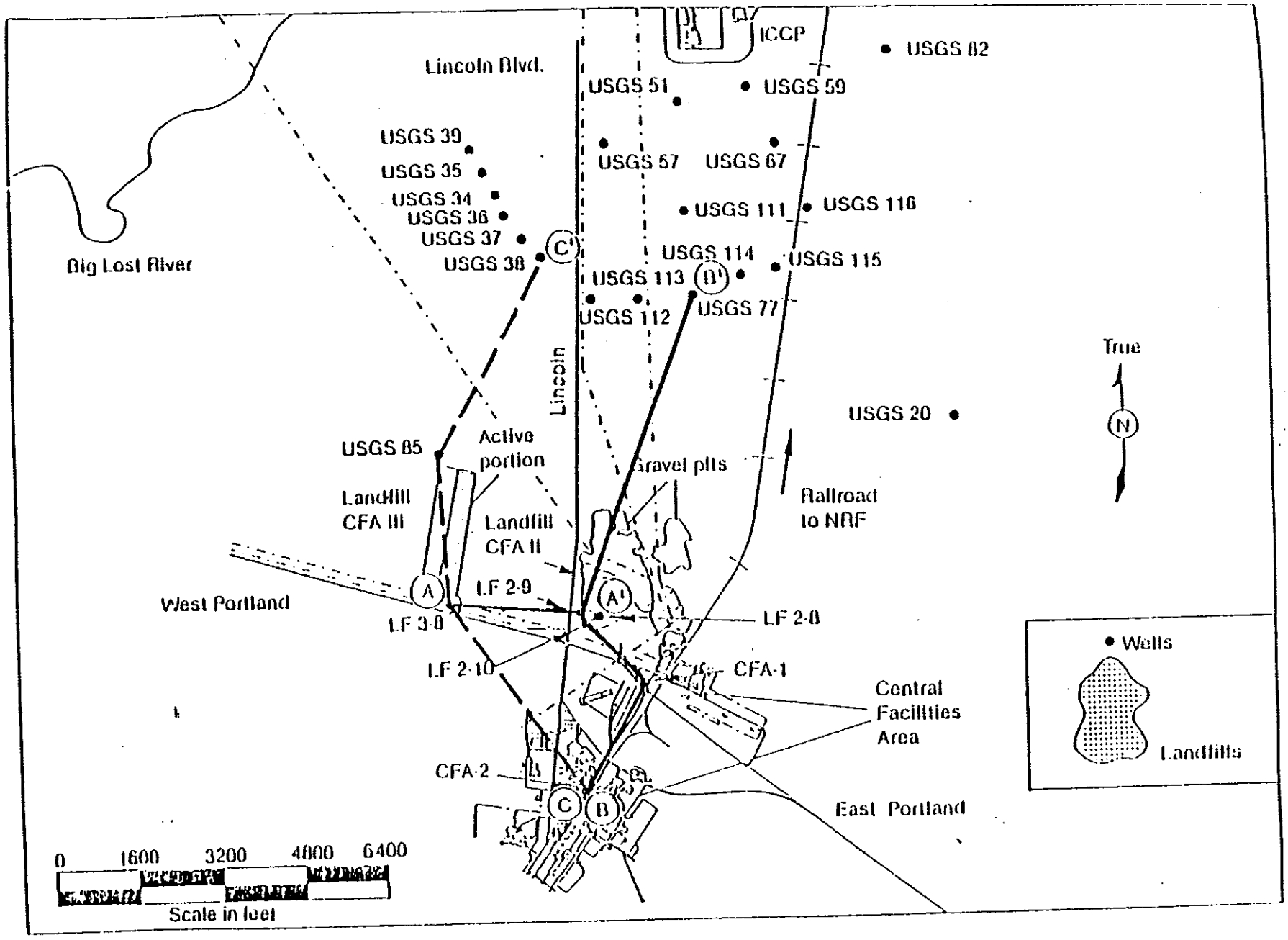

Figure 1. Locations of geologic cross sections A to A', B to B' and C to C'.

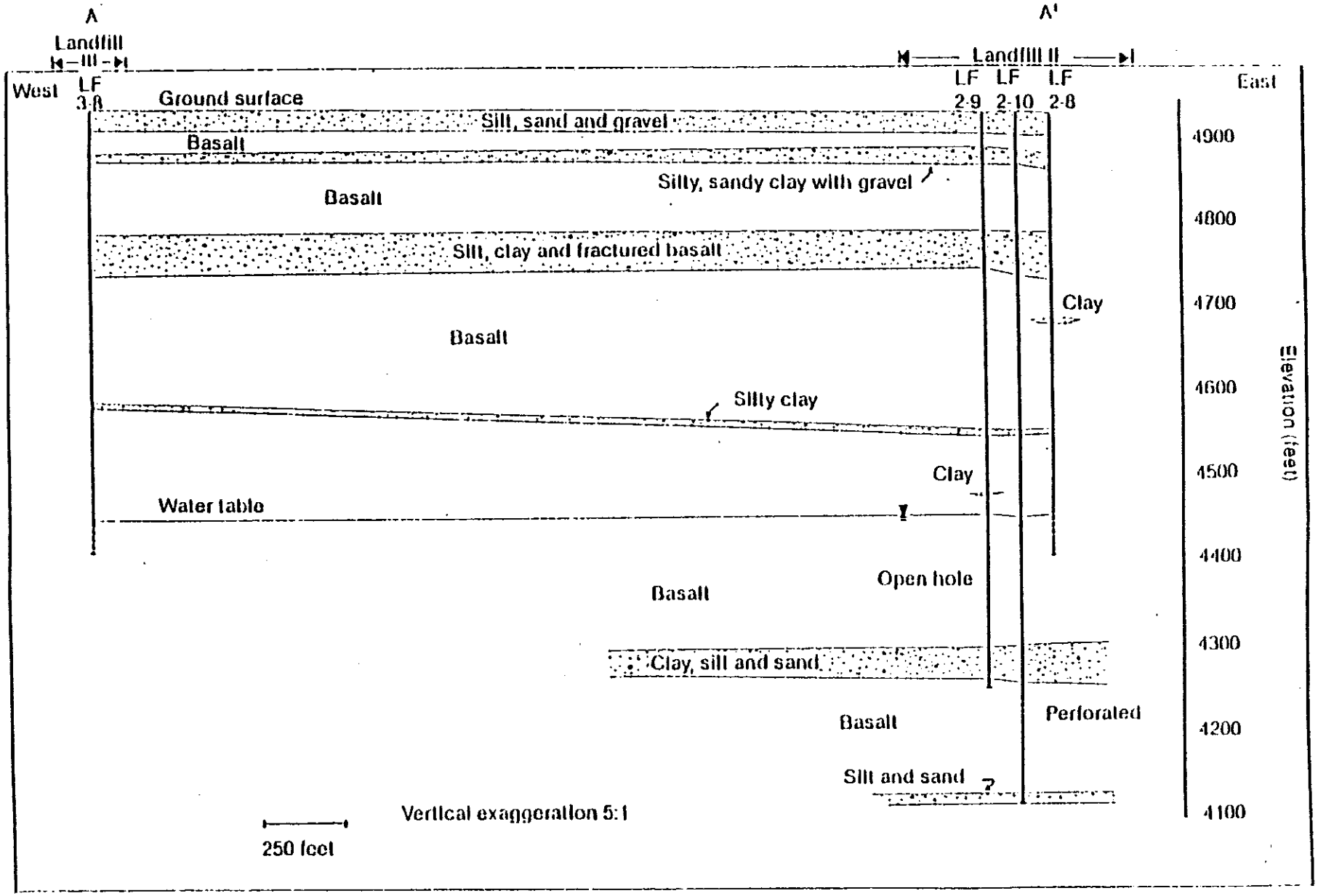

Figure 2. East-west cross section through CFA Landfill III study area.

Figure 6. East-west cr[illegible]ion through CFA Landfill III study area

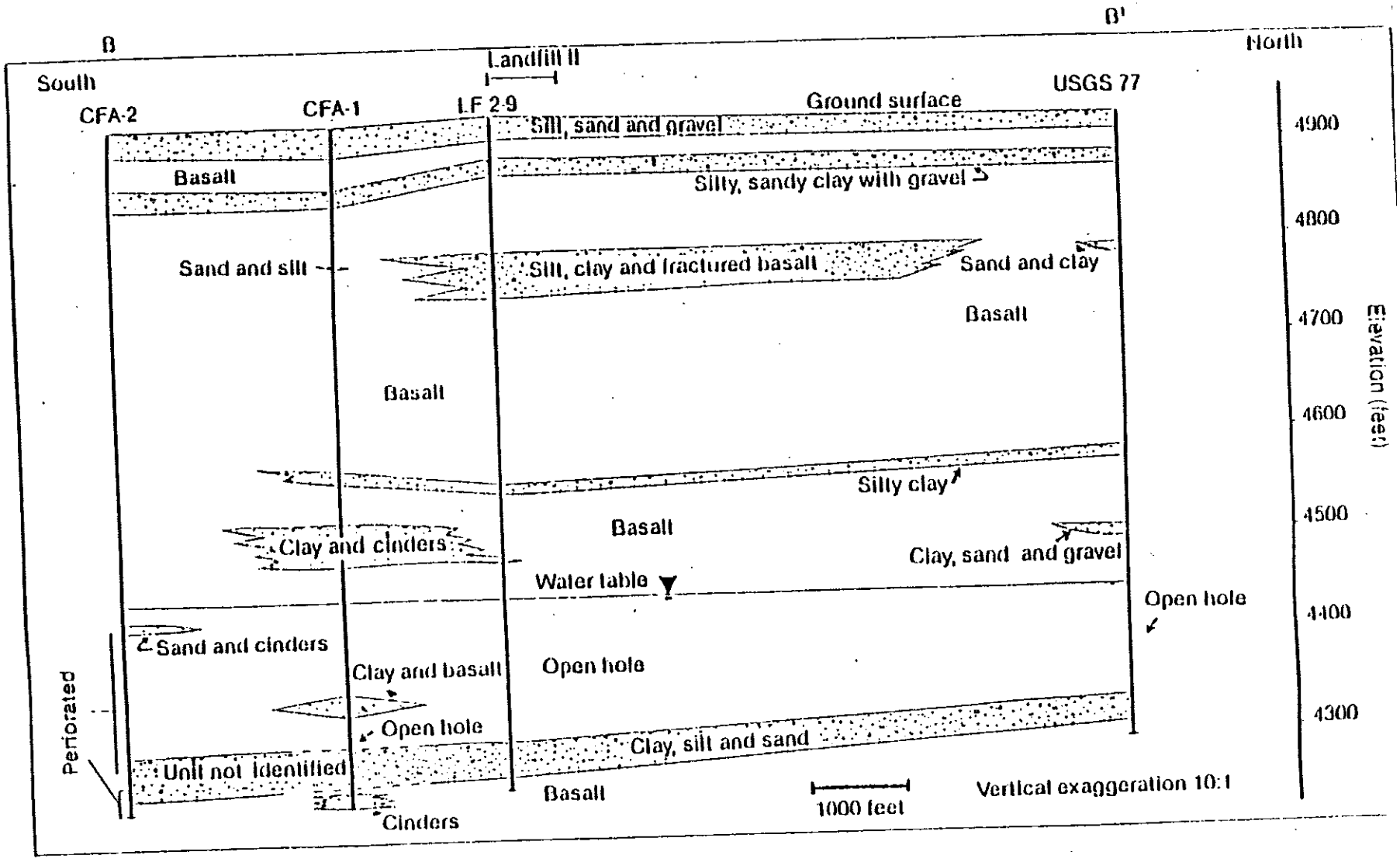

Figure 3. North-south cross section through Landfill II study area.

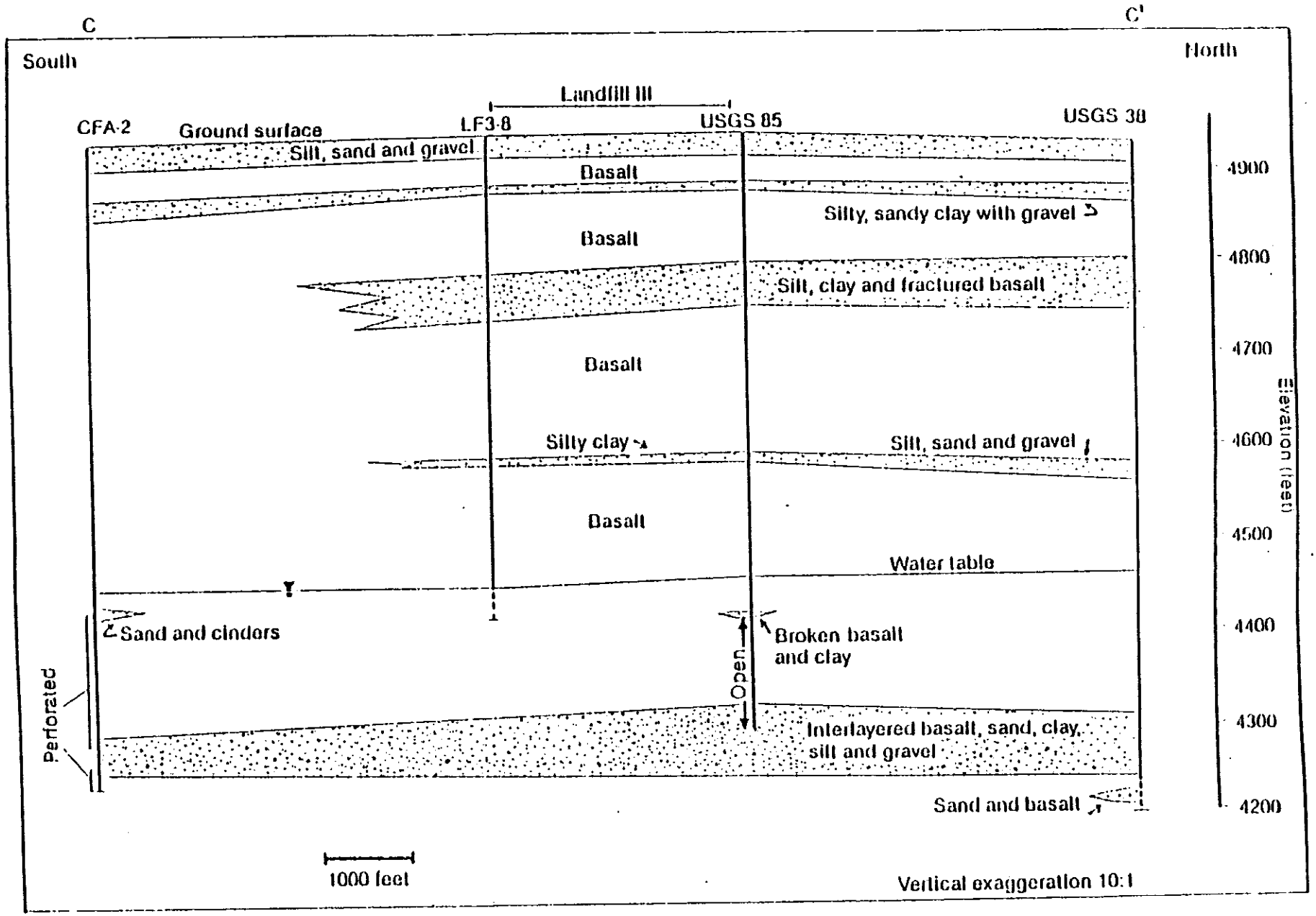

Figure 4. North-south cross section through Landfill III study

REFERENCES FOR VADOSE ZONE SECTION

Ansley, S.L., L.C. Hull, and S.M. Burns. 1988. Shallow Drilling Report for CFA Landfills II and III -- FY-1998, Characterization of Surficial Sediments. EGG-ER-8291, Rev 1.

WELL	INST	DATE	TIME	MEAS	MATPO
LF2-01	H0604	26-Jan-88	12:15	2.23	-0.38
LF2-01	H0628	26-Jan-88	12:15	2.54	-0.50
LF2-01	H0637	26-Jan-88	12:15	2.06	0.01
LF2-01	H0642	26-Jan-88	12:15	2.57	-0.79
LF2-01	H1215	26-Jan-88	12:15	2.64	-1.37
LF2-01	H1223	26-Jan-88	12:15	1.22	2.26
LF2-01	H1227	26-Jan-88	12:15	2.06	0.00
LF2-01	H1249	26-Jan-88	12:15	2.51	-0.68
LF2-01	H1250	26-Jan-88	12:15	2.73	0.00
LF3-02	H0640	26-Jan-88	12:15	1.85	0.00
LF3-02	H0641	26-Jan-88	12:15	3.84	0.00
LF3-02	H0666	26-Jan-88	12:15	2.92	0.00
LF3-02	H0774	26-Jan-88	12:15	3.46	0.00
LF3-02	H1216	26-Jan-88	12:15	3.24	-6.98
LF3-02	H1218	26-Jan-88	12:15	2.33	0.00
LF3-02	H1220	26-Jan-88	12:15	2.33	0.00
LF3-02	H1224	26-Jan-88	12:15	2.90	0.00
LF2-02	H0633	26-Jan-88	13:23	3.67	-1.28
LF2-02	H0643	26-Jan-88	13:23	3.39	-2.98
LF2-02	H0690	26-Jan-88	13:23	2.27	0.00
LF2-02	H0766	26-Jan-88	13:23	3.24	-0.31
LF2-02	H0770	26-Jan-88	13:23	2.40	-1.03
LF2-02	H0775	26-Jan-88	13:23	2.47	0.00
LF2-02	H1221	26-Jan-88	13:23	0.02	5.40
LF2-02	H1234	26-Jan-88	13:23	2.84	-0.63
LF2-02	H1236	26-Jan-88	13:23	0.02	6.19
LF2-06	H0603	26-Jan-88	13:23	2.61	0.00
LF2-06	H1217	26-Jan-88	13:23	2.24	0.00
LF2-05	H0687	26-Jan-88	13:55	2.05	0.00
LF2-05	H1222	26-Jan-88	13:55	1.80	0.00
LF2-01	H0604	10-Feb-88	12:00	2.28	-0.55
LF2-01	H0628	10-Feb-88	12:00	2.58	-0.59
LF2-01	H0637	10-Feb-88	12:00	2.10	-0.07
LF2-01	H0642	10-Feb-88	12:00	2.57	-0.79
LF2-01	H1215	10-Feb-88	12:00	2.63	-1.34
LF2-01	H1223	10-Feb-88	12:00	2.35	-0.99
LF2-01	H1227	10-Feb-88	12:00	2.06	0.00
LF2-01	H1249	10-Feb-88	12:00	2.56	-0.80
LF2-01	H1250	10-Feb-88	12:00	2.75	0.00
LF2-02	H0633	10-Feb-88	12:00	2.99	0.03
LF2-02	H0643	10-Feb-88	12:00	2.52	-0.49
LF2-02	H0690	10-Feb-88	12:00	2.31	0.00
LF2-02	H0766	10-Feb-88	12:00	3.28	-0.38
LF2-02	H0770	10-Feb-88	12:00	2.36	-0.95
LF2-02	H0775	10-Feb-88	12:00	2.42	0.00
LF2-02	H1219	10-Feb-88	12:00	2.25	-0.68
LF2-02	H1221	10-Feb-88	12:00	2.27	-0.64
LF2-02	H1234	10-Feb-88	12:00	2.82	-0.59
LF2-02	H1236	10-Feb-88	12:00	2.98	-0.48
LF2-05	H0687	10-Feb-88	12:00	2.08	0.00
LF2-05	H1222	10-Feb-88	12:00	1.85	0.00
LF2-06	H0603	10-Feb-88	12:00	2.64	0.00
LF2-06	H1217	10-Feb-88	12:00	2.27	0.00
LF3-02	H0640	10-Feb-88	12:00	1.85	0.00
LF3-02	H0641	10-Feb-88	12:00	3.79	0.00
LF3-02	H0666	10-Feb-88	12:00	2.13	0.00
LF3-02	H0774	10-Feb-88	12:00	2.88	0.00
LF3-02	H1216	10-Feb-88	12:00	3.27	-7.22
LF3-02	H1218	10-Feb-88	12:00	2.34	0.00
LF3-02	H1220	10-Feb-88	12:00	2.31	0.00
LF3-02	H1224	10-Feb-88	12:00	2.86	0.00
LF3-06	H0605	10-Feb-88	12:00	2.69	-0.67
LF3-06	H0610	10-Feb-88	12:00	2.50	-0.32
LF3-06	H0645	10-Feb-88	12:00	2.22	-0.07
LF3-06	H0646	10-Feb-88	12:00	2.58	-0.19
LF3-06	H0773	10-Feb-88	12:00	2.49	0.00
LF3-06	H0777	10-Feb-88	12:00	1.98	0.47

WELL	INST	DATE	TIME	MEAS	MATPO
LF3-06	H1226	10-Feb-88	12:00	2.41	-0.32
LF3-06	H1229	10-Feb-88	12:00	2.54	-0.24
LF3-06	H1235	10-Feb-88	12:00	3.51	-2.25
LF3-06	H1252	10-Feb-88	12:00	2.79	-2.88
LF2-01	H0604	01-Mar-88	09:50	2.28	-0.55
LF2-01	H0628	01-Mar-88	09:50	2.54	-0.50
LF2-01	H0637	01-Mar-88	09:50	2.09	-0.05
LF2-01	H0642	01-Mar-88	09:50	2.51	-0.65
LF2-01	H1215	01-Mar-88	09:50	2.56	-1.14
LF2-01	H1223	01-Mar-88	09:50	2.27	-0.76
LF2-01	H1227	01-Mar-88	09:50	1.99	0.00
LF2-01	H1249	01-Mar-88	09:50	2.55	-0.78
LF2-01	H1250	01-Mar-88	09:50	2.72	0.00
LF2-02	H0633	01-Mar-88	10:15	2.89	0.22
LF2-02	H0643	01-Mar-88	10:15	2.42	-0.20
LF2-02	H0690	01-Mar-88	10:15	2.30	0.00
LF2-02	H0766	01-Mar-88	10:15	3.26	-0.34
LF2-02	H0770	01-Mar-88	10:15	2.30	-0.83
LF2-02	H0775	01-Mar-88	10:15	2.34	0.00
LF2-02	H1219	01-Mar-88	10:15	2.19	-0.54
LF2-02	H1221	01-Mar-88	10:15	2.24	-0.56
LF2-02	H1234	01-Mar-88	10:15	2.76	-0.46
LF2-02	H1236	01-Mar-88	10:15	2.93	-0.37
LF2-05	H0687	01-Mar-88	10:37	2.05	0.00
LF2-05	H1222	01-Mar-88	10:37	1.86	0.00
LF2-06	H0603	01-Mar-88	10:37	2.62	0.00
LF2-06	H1217	01-Mar-88	10:37	2.26	0.00
LF3-02	H0640	01-Mar-88	10:45	1.81	0.00
LF3-02	H0641	01-Mar-88	10:45	3.72	0.00
LF3-02	H0666	01-Mar-88	10:45	2.94	0.00
LF3-02	H0774	01-Mar-88	10:45	3.53	0.00
LF3-02	H1216	01-Mar-88	10:45	3.15	-6.27
LF3-02	H1218	01-Mar-88	10:45	2.31	0.00
LF3-02	H1220	01-Mar-88	10:45	2.26	0.00
LF3-02	H1224	01-Mar-88	10:45	2.67	0.00
LF3-06	H0605	01-Mar-88	11:05	2.68	-0.63
LF3-06	H0610	01-Mar-88	11:05	2.50	-0.32
LF3-06	H0645	01-Mar-88	11:05	2.21	-0.05
LF3-06	H0646	01-Mar-88	11:05	2.56	-0.15
LF3-06	H0773	01-Mar-88	11:05	2.48	0.00
LF3-06	H0777	01-Mar-88	11:05	1.99	0.42
LF3-06	H1226	01-Mar-88	11:05	2.42	-0.34
LF3-06	H1229	01-Mar-88	11:05	2.52	-0.20
LF3-06	H1235	01-Mar-88	11:05	3.43	-2.08
LF3-06	H1252	01-Mar-88	11:05	2.68	-2.41
LF2-01	H0604	10-Mar-88	09:10	2.27	-0.52
LF2-01	H0628	10-Mar-88	09:10	2.55	-0.52
LF2-01	H0637	10-Mar-88	09:10	2.06	0.01
LF2-01	H0642	10-Mar-88	09:10	2.48	-0.58
LF2-01	H1215	10-Mar-88	09:10	2.52	-1.03
LF2-01	H1223	10-Mar-88	09:10	2.24	-0.67
LF2-01	H1227	10-Mar-88	09:10	1.95	0.00
LF2-01	H1249	10-Mar-88	09:10	2.54	-0.75
LF2-01	H1250	10-Mar-88	09:10	2.69	0.00
LF2-02	H0633	10-Mar-88	10:00	2.87	0.26
LF2-02	H0643	10-Mar-88	10:00	2.40	-0.15
LF2-02	H0690	10-Mar-88	10:00	10.09	0.00
LF2-02	H0766	10-Mar-88	10:00	3.24	-0.31
LF2-02	H0770	10-Mar-88	10:00	2.27	-0.77
LF2-02	H0775	10-Mar-88	10:00	2.30	0.00
LF2-02	H1219	10-Mar-88	10:00	2.16	-0.47
LF2-02	H1221	10-Mar-88	10:00	2.22	-0.50
LF2-02	H1234	10-Mar-88	10:00	2.73	-0.40
LF2-02	H1236	10-Mar-88	10:00	2.93	-0.37
LF2-05	H0687	10-Mar-88	10:30	2.04	0.00
LF2-05	H1222	10-Mar-88	10:30	1.86	0.00
LF2-06	H0603	10-Mar-88	10:30	2.62	0.00

WELL	INST	DATE	TIME	MEAS	MATPO
LF2-06	H1217	10-Mar-88	10:30	2.24	0.00
LF3-02	H0640	10-Mar-88	11:05	1.80	0.00
LF3-02	H0641	10-Mar-88	11:05	3.70	0.00
LF3-02	H0666	10-Mar-88	11:05	2.92	0.00
LF3-02	H0774	10-Mar-88	11:05	3.53	0.00
LF3-02	H1216	10-Mar-88	11:05	3.08	-5.71
LF3-02	H1218	10-Mar-88	11:05	2.30	0.00
LF3-02	H1220	10-Mar-88	11:05	2.24	0.00
LF3-02	H1224	10-Mar-88	11:05	2.63	0.00
LF3-06	H0605	10-Mar-88	11:35	2.67	-0.59
LF3-06	H0610	10-Mar-88	11:35	2.49	-0.30
LF3-06	H0645	10-Mar-88	11:35	2.20	-0.03
LF3-06	H0646	10-Mar-88	11:35	2.54	-0.11
LF3-06	H0773	10-Mar-88	11:35	2.48	0.00
LF3-06	H0777	10-Mar-88	11:35	1.98	0.47
LF3-06	H1226	10-Mar-88	11:35	2.41	-0.32
LF3-06	H1229	10-Mar-88	11:35	2.52	-0.20
LF3-06	H1235	10-Mar-88	11:35	3.35	-1.91
LF3-06	H1252	10-Mar-88	11:35	2.64	-2.23
LF3-06	H0605	23-Mar-88	10:40	2.69	-0.67
LF3-06	H0610	23-Mar-88	10:40	2.49	-0.30
LF3-06	H0645	23-Mar-88	10:40	2.21	-0.05
LF3-06	H0646	23-Mar-88	10:40	2.56	-0.15
LF3-06	H0773	23-Mar-88	10:40	2.48	0.00
LF3-06	H0777	23-Mar-88	10:40	1.98	0.47
LF3-06	H1226	23-Mar-88	10:40	2.42	-0.34
LF3-06	H1229	23-Mar-88	10:40	2.52	-0.20
LF3-06	H1235	23-Mar-88	10:40	3.26	-1.72
LF3-06	H1252	23-Mar-88	10:40	2.59	-2.01
LF3-02	H0640	23-Mar-88	11:15	1.80	0.00
LF3-02	H0641	23-Mar-88	11:15	3.73	0.00
LF3-02	H0666	23-Mar-88	11:15	2.90	0.00
LF3-02	H0774	23-Mar-88	11:15	3.51	0.00
LF3-02	H1216	23-Mar-88	11:15	2.99	-5.00
LF3-02	H1218	23-Mar-88	11:15	2.30	0.00
LF3-02	H1220	23-Mar-88	11:15	2.23	0.00
LF3-02	H1224	23-Mar-88	11:15	2.60	0.00
LF2-01	H0604	23-Mar-88	12:35	2.28	-0.55
LF2-01	H0628	23-Mar-88	12:35	2.56	-0.55
LF2-01	H0637	23-Mar-88	12:35	2.09	-0.05
LF2-01	H0642	23-Mar-88	12:35	2.48	-0.58
LF2-01	H1215	23-Mar-88	12:35	2.52	-1.03
LF2-01	H1223	23-Mar-88	12:35	2.24	-0.67
LF2-01	H1227	23-Mar-88	12:35	1.95	0.00
LF2-01	H1249	23-Mar-88	12:35	2.57	-0.83
LF2-01	H1250	23-Mar-88	12:35	2.69	0.00
LF2-02	H0633	23-Mar-88	12:50	2.88	0.24
LF2-02	H0690	23-Mar-88	12:50	2.29	0.00
LF2-02	H0766	23-Mar-88	12:50	3.25	-0.33
LF2-02	H0770	23-Mar-88	12:50	2.25	-0.73
LF2-02	H0775	23-Mar-88	12:50	2.28	0.00
LF2-02	H1219	23-Mar-88	12:50	2.16	-0.47
LF2-02	H1221	23-Mar-88	12:50	2.22	-0.50
LF2-02	H1234	23-Mar-88	12:50	2.71	-0.36
LF2-02	H1236	23-Mar-88	12:50	2.94	-0.39
LF2-05	H0687	23-Mar-88	13:10	2.05	0.00
LF2-05	H1222	23-Mar-88	13:10	1.91	0.00
LF2-06	H0603	23-Mar-88	13:10	2.61	0.00
LF2-06	H1217	23-Mar-88	13:10	2.26	0.00
LF3-02	H0640	11-Apr-88	10:00	1.84	0.00
LF3-02	H0641	11-Apr-88	10:00	3.70	0.00
LF3-02	H0666	11-Apr-88	10:00	3.04	0.00
LF3-02	H0774	11-Apr-88	10:00	3.53	0.00
LF3-02	H1216	11-Apr-88	10:00	2.95	-4.69
LF3-02	H1218	11-Apr-88	10:00	2.34	0.00
LF3-02	H1220	11-Apr-88	10:00	2.24	0.00
LF3-02	H1224	11-Apr-88	10:00	2.58	0.00

WELL	INST	DATE	TIME	MEAS	MATPO
LF3-06	H0605	11-Apr-88	10:50	2.73	-0.84
LF3-06	H0610	11-Apr-88	10:50	2.55	-0.45
LF3-06	H0645	11-Apr-88	10:50	2.25	-0.13
LF3-06	H0646	11-Apr-88	10:50	2.60	-0.23
LF3-06	H0773	11-Apr-88	10:50	2.52	0.00
LF3-06	H0777	11-Apr-88	10:50	2.04	0.17
LF3-06	H1226	11-Apr-88	10:50	2.46	-0.42
LF3-06	H1229	11-Apr-88	10:50	2.56	-0.28
LF3-06	H1235	11-Apr-88	10:50	3.16	-1.51
LF3-06	H1252	11-Apr-88	10:50	2.59	-2.01
LF2-05	H0687	11-Apr-88	12:20	2.12	0.00
LF2-05	H1222	11-Apr-88	12:20	1.97	0.00
LF2-06	H0603	11-Apr-88	12:20	2.68	0.00
LF2-06	H1217	11-Apr-88	12:20	2.30	0.00
LF2-02	H0633	11-Apr-88	12:50	2.93	0.14
LF2-02	H0643	11-Apr-88	12:50	2.45	-0.29
LF2-02	H0690	11-Apr-88	12:50	2.34	0.00
LF2-02	H0766	11-Apr-88	12:50	3.27	-0.36
LF2-02	H0770	11-Apr-88	12:50	2.28	-0.79
LF2-02	H0775	11-Apr-88	12:50	2.31	0.00
LF2-02	H1219	11-Apr-88	12:50	2.19	-0.54
LF2-02	H1221	11-Apr-88	12:50	2.27	-0.64
LF2-02	H1234	11-Apr-88	12:50	2.72	-0.38
LF2-02	H1236	11-Apr-88	12:50	2.97	-0.46
LF2-01	H0604	11-Apr-88	13:45	2.32	-0.69
LF2-01	H0628	11-Apr-88	13:45	2.60	-0.64
LF2-01	H0637	11-Apr-88	13:45	2.14	-0.16
LF2-01	H0642	11-Apr-88	13:45	2.51	-0.65
LF2-01	H0670	11-Apr-88	13:45	0.00	4.07
LF2-01	H1215	11-Apr-88	13:45	2.55	-1.11
LF2-01	H1223	11-Apr-88	13:45	2.25	-0.70
LF2-01	H1227	11-Apr-88	13:45	1.97	0.00
LF2-01	H1249	11-Apr-88	13:45	2.62	-0.95
LF2-01	H1250	11-Apr-88	13:45	2.69	0.00
LF2-02	H0633	29-Apr-88	10:10	2.89	0.22
LF2-02	H0643	29-Apr-88	10:10	2.42	-0.20
LF2-02	H0690	29-Apr-88	10:10	2.31	0.00
LF2-02	H0766	29-Apr-88	10:10	3.30	-0.41
LF2-02	H0770	29-Apr-88	10:10	2.24	-0.71
LF2-02	H0775	29-Apr-88	10:10	2.26	0.00
LF2-02	H1219	29-Apr-88	10:10	2.15	-0.45
LF2-02	H1221	29-Apr-88	10:10	2.25	-0.58
LF2-02	H1234	29-Apr-88	10:10	2.65	-0.23
LF2-02	H1236	29-Apr-88	10:10	2.95	-0.42
LF2-05	H0687	29-Apr-88	10:50	2.08	0.00
LF2-05	H1222	29-Apr-88	10:50	1.98	0.00
LF2-06	H0603	29-Apr-88	10:50	2.65	0.00
LF2-06	H1217	29-Apr-88	10:50	2.28	0.00
LF2-01	H0604	03-May-88	08:45	2.29	-0.58
LF2-01	H0628	03-May-88	08:45	2.60	-0.64
LF2-01	H0637	03-May-88	08:45	2.11	-0.10
LF2-01	H0642	03-May-88	08:45	2.45	-0.51
LF2-01	H1215	03-May-88	08:45	2.51	-1.00
LF2-01	H1223	03-May-88	08:45	2.22	-0.61
LF2-01	H1227	03-May-88	08:45	1.91	0.00
LF2-01	H1249	03-May-88	08:45	2.60	-0.90
LF2-01	H1250	03-May-88	08:45	2.67	0.00
LF3-02	H0640	03-May-88	11:04	1.83	0.00
LF3-02	H0641	03-May-88	11:04	3.69	0.00
LF3-02	H0666	03-May-88	11:04	3.08	0.00
LF3-02	H0774	03-May-88	11:04	3.47	0.00
LF3-02	H1216	03-May-88	11:04	2.90	-4.29
LF3-02	H1218	03-May-88	11:04	2.34	0.00
LF3-02	H1220	03-May-88	11:04	2.23	0.00
LF3-02	H1224	03-May-88	11:04	2.54	0.00
LF3-06	H0605	03-May-88	11:30	2.72	-0.79
LF3-06	H0610	03-May-88	11:30	2.53	-0.40

WELL	INST	DATE	TIME	MEAS	MATPO
LF3-06	H0645	03-May-88	11:30	2.25	-0.13
LF3-06	H0646	03-May-88	11:30	2.59	-0.21
LF3-06	H0773	03-May-88	11:30	2.51	0.00
LF3-06	H0777	03-May-88	11:30	2.08	-0.03
LF3-06	H1226	03-May-88	11:30	2.46	-0.42
LF3-06	H1229	03-May-88	11:30	2.55	-0.26
LF3-06	H1235	03-May-88	11:30	2.99	-1.15
LF3-06	H1252	03-May-88	11:30	2.52	-1.71
LF3-02	H0640	13-May-88	10:15	1.85	0.00
LF3-02	H0641	13-May-88	10:15	3.68	0.00
LF3-02	H0666	13-May-88	10:15	1.99	0.00
LF3-02	H0774	13-May-88	10:15	3.43	0.00
LF3-02	H1216	13-May-88	10:15	2.97	-4.84
LF3-02	H1218	13-May-88	10:15	2.34	0.00
LF3-02	H1220	13-May-88	10:15	2.88	0.00
LF3-02	H1224	13-May-88	10:15	2.21	0.00
LF3-06	H0605	13-May-88	10:25	2.72	-0.79
LF3-06	H0610	13-May-88	10:25	2.53	-0.40
LF3-06	H0645	13-May-88	10:25	2.26	-0.15
LF3-06	H0646	13-May-88	10:25	2.57	-0.17
LF3-06	H0773	13-May-88	10:25	2.51	0.00
LF3-06	H0777	13-May-88	10:25	2.10	-0.13
LF3-06	H1226	13-May-88	10:25	2.46	-0.42
LF3-06	H1229	13-May-88	10:25	2.55	-0.26
LF3-06	H1235	13-May-88	10:25	2.92	-1.01
LF3-06	H1252	13-May-88	10:25	2.49	-1.58
LF2-01	H0604	13-May-88	11:50	2.04	0.27
LF2-01	H0628	13-May-88	11:50	2.60	-0.64
LF2-01	H0637	13-May-88	11:50	0.00	4.38
LF2-01	H0642	13-May-88	11:50	2.45	-0.51
LF2-01	H1215	13-May-88	11:50	2.51	-1.00
LF2-01	H1223	13-May-88	11:50	0.00	5.77
LF2-01	H1227	13-May-88	11:50	1.90	0.00
LF2-01	H1249	13-May-88	11:50	2.61	-0.93
LF2-01	H1250	13-May-88	11:50	2.66	0.00
LF2-05	H0687	13-May-88	13:15	2.09	0.00
LF2-05	H1222	13-May-88	13:15	2.01	0.00
LF2-06	H0603	13-May-88	13:15	2.67	0.00
LF2-06	H1217	13-May-88	13:15	2.29	0.00
LF2-02	H0633	13-May-88	13:35	2.91	0.18
LF2-02	H0643	13-May-88	13:35	2.43	-0.23
LF2-02	H0690	13-May-88	13:35	2.33	0.00
LF2-02	H0766	13-May-88	13:35	3.41	-0.60
LF2-02	H0770	13-May-88	13:35	2.25	-0.73
LF2-02	H0775	13-May-88	13:35	2.26	0.00
LF2-02	H1219	13-May-88	13:35	2.14	-0.43
LF2-02	H1221	13-May-88	13:35	2.26	-0.61
LF2-02	H1234	13-May-88	13:35	2.63	-0.19
LF2-02	H1236	13-May-88	13:35	2.96	-0.44
LF2-01	H0604	09-Jun-88	10:40	1.48	2.19
LF2-01	H0628	09-Jun-88	10:40	1.66	1.48
LF2-01	H0642	09-Jun-88	10:40	2.29	-0.14
LF2-01	H1215	09-Jun-88	10:40	2.46	-0.86
LF2-01	H1227	09-Jun-88	10:40	1.13	0.00
LF2-01	H1249	09-Jun-88	10:40	1.67	1.42
LF2-01	H1250	09-Jun-88	10:40	2.54	0.00
LF2-02	H0690	09-Jun-88	10:40	2.38	0.00
LF2-02	H0633	09-Jun-88	11:10	2.79	0.41
LF2-02	H0643	09-Jun-88	11:10	2.29	0.17
LF2-02	H0766	09-Jun-88	11:10	3.44	-0.66
LF2-02	H0770	09-Jun-88	11:10	2.17	-0.57
LF2-02	H0775	09-Jun-88	11:10	2.11	0.00
LF2-02	H1219	09-Jun-88	11:10	2.04	-0.20
LF2-02	H1221	09-Jun-88	11:10	2.29	-0.69
LF2-02	H1234	09-Jun-88	11:10	1.57	2.06
LF2-02	H1236	09-Jun-88	11:10	2.92	-0.35
LF2-05	H0687	09-Jun-88	11:53	2.08	0.00

WELL	INST	DATE	TIME	MEAS	MATPO
LF2-05	H1222	09-Jun-88	11:53	1.37	0.00
LF2-06	H0603	09-Jun-88	11:53	2.55	0.00
LF2-06	H1217	09-Jun-88	11:53	2.19	0.00
LF3-06	H0605	09-Jun-88	13:20	2.78	-1.04
LF3-06	H0610	09-Jun-88	13:20	2.52	-0.37
LF3-06	H0645	09-Jun-88	13:20	2.27	-0.17
LF3-06	H0646	09-Jun-88	13:20	2.49	0.00
LF3-06	H0773	09-Jun-88	13:20	2.47	0.00
LF3-06	H0777	09-Jun-88	13:20	2.10	-0.13
LF3-06	H1226	09-Jun-88	13:20	2.58	-0.66
LF3-06	H1229	09-Jun-88	13:20	1.55	1.68
LF3-06	H1235	09-Jun-88	13:20	1.89	1.16
LF3-06	H1252	09-Jun-88	13:20	2.35	-0.97
LF3-02	H0640	09-Jun-88	13:50	1.79	0.00
LF3-02	H0641	09-Jun-88	13:50	3.58	0.00
LF3-02	H0666	09-Jun-88	13:50	2.62	0.00
LF3-02	H0774	09-Jun-88	13:50	3.19	0.00
LF3-02	H1216	09-Jun-88	13:50	2.69	-2.63
LF3-02	H1218	09-Jun-88	13:50	2.24	0.00
LF3-02	H1220	09-Jun-88	13:50	2.11	0.00
LF3-02	H1224	09-Jun-88	13:50	2.36	0.00
LF3-06	H0605	08-Jul-88	10:20	1.70	3.40
LF3-06	H0610	08-Jul-88	10:20	2.38	-0.02
LF3-06	H0645	08-Jul-88	10:20	2.30	-0.24
LF3-06	H0646	08-Jul-88	10:20	1.50	2.10
LF3-06	H0773	08-Jul-88	10:20	2.49	0.00
LF3-06	H0777	08-Jul-88	10:20	2.09	-0.08
LF3-06	H1226	08-Jul-88	10:20	2.57	-0.64
LF3-06	H1229	08-Jul-88	10:20	2.53	-0.41
LF3-06	H1235	08-Jul-88	10:20	2.88	-0.92
LF3-06	H1252	08-Jul-88	10:20	2.30	-0.76
LF3-02	H0640	08-Jul-88	10:47	1.80	0.00
LF3-02	H0641	08-Jul-88	10:47	3.62	0.00
LF3-02	H0666	08-Jul-88	10:47	1.37	0.00
LF3-02	H0774	08-Jul-88	10:47	3.05	0.00
LF3-02	H1216	08-Jul-88	10:47	2.64	-2.24
LF3-02	H1218	08-Jul-88	10:47	2.24	0.00
LF3-02	H1220	08-Jul-88	10:47	2.10	0.00
LF3-02	H1224	08-Jul-88	10:47	2.29	0.00
LF2-01	H0604	08-Jul-88	11:19	2.48	-1.23
LF2-01	H0628	08-Jul-88	11:19	2.71	-0.89
LF2-01	H0637	08-Jul-88	11:19	0.03	4.32
LF2-01	H0642	08-Jul-88	11:19	2.55	-0.74
LF2-01	H0670	08-Jul-88	11:19	0.00	4.07
LF2-01	H1215	08-Jul-88	11:19	2.44	-0.80
LF2-01	H1223	08-Jul-88	11:19	0.06	5.60
LF2-01	H1227	08-Jul-88	11:19	1.87	0.00
LF2-01	H1249	08-Jul-88	11:19	2.71	-1.17
LF2-01	H1250	08-Jul-88	11:19	2.61	0.00
LF2-05	H0687	08-Jul-88	11:40	2.13	0.00
LF2-05	H1222	08-Jul-88	11:40	2.09	0.00
LF2-06	H0603	08-Jul-88	11:40	2.57	0.00
LF2-06	H1217	08-Jul-88	11:40	2.18	0.00
LF2-02	H0633	08-Jul-88	12:50	2.79	0.41
LF2-02	H0643	08-Jul-88	12:50	2.32	0.08
LF2-02	H0690	08-Jul-88	12:50	2.43	0.00
LF2-02	H0766	08-Jul-88	12:50	3.50	-0.76
LF2-02	H0770	08-Jul-88	12:50	2.14	-0.51
LF2-02	H0775	08-Jul-88	12:50	2.23	0.00
LF2-02	H1219	08-Jul-88	12:50	2.04	-0.20
LF2-02	H1221	08-Jul-88	12:50	2.13	-0.26
LF2-02	H1234	08-Jul-88	12:50	2.64	-0.21
LF2-02	H1236	08-Jul-88	12:50	2.96	-0.44
LF3-06	H0605	15-Aug-88	13:00	2.84	-1.29
LF3-06	H0610	15-Aug-88	13:00	2.57	-0.50
LF3-06	H0645	15-Aug-88	13:00	1.54	1.37
LF3-06	H0646	15-Aug-88	13:00	2.70	-0.45

WELL	INST	DATE	TIME	MEAS	MATPO
LF3-06	H0773	15-Aug-88	13:00	2.51	0.00
LF3-06	H0777	15-Aug-88	13:00	2.10	-0.13
LF3-06	H1226	15-Aug-88	13:00	1.58	1.38
LF3-06	H1229	15-Aug-88	13:00	1.58	1.62
LF3-06	H1235	15-Aug-88	13:00	1.18	2.65
LF3-06	H1252	15-Aug-88	13:00	2.26	-0.58
LF3-02	H0640	15-Aug-88	13:25	1.80	0.00
LF3-02	H0641	15-Aug-88	13:25	2.53	0.00
LF3-02	H0666	15-Aug-88	13:25	2.16	0.00
LF3-02	H0774	15-Aug-88	13:25	2.99	0.00
LF3-02	H1216	15-Aug-88	13:25	2.58	-1.76
LF3-02	H1218	15-Aug-88	13:25	2.23	0.00
LF3-02	H1220	15-Aug-88	13:25	2.08	0.00
LF3-02	H1224	15-Aug-88	13:25	2.23	0.00
LF2-01	H0604	15-Aug-88	13:45	2.48	-1.23
LF2-01	H0628	15-Aug-88	13:45	2.72	-0.91
LF2-01	H0637	15-Aug-88	13:45	2.99	-1.96
LF2-01	H0642	15-Aug-88	13:45	2.61	-0.88
LF2-01	H0670	15-Aug-88	13:45	2.61	-1.14
LF2-01	H1215	15-Aug-88	13:45	2.40	-0.68
LF2-01	H1223	15-Aug-88	13:45	0.03	5.69
LF2-01	H1227	15-Aug-88	13:45	7.14	0.00
LF2-01	H1249	15-Aug-88	13:45	2.71	-1.17
LF2-01	H1250	15-Aug-88	13:45	2.71	0.00
LF2-05	H0687	15-Aug-88	14:13	2.12	0.00
LF2-05	H1222	15-Aug-88	14:13	2.08	0.00
LF2-06	H0603	15-Aug-88	14:13	2.51	0.00
LF2-06	H1217	15-Aug-88	14:13	1.84	0.00
LF2-02	H0633	15-Aug-88	14:30	2.79	0.41
LF2-02	H0643	15-Aug-88	14:30	2.31	0.11
LF2-02	H0690	15-Aug-88	14:30	2.19	0.00
LF2-02	H0766	15-Aug-88	14:30	3.56	-0.87
LF2-02	H0770	15-Aug-88	14:30	2.10	-0.43
LF2-02	H0775	15-Aug-88	14:30	2.25	0.00
LF2-02	H1219	15-Aug-88	14:30	2.02	-0.16
LF2-02	H1221	15-Aug-88	14:30	2.35	-0.85
LF2-02	H1234	15-Aug-88	14:30	2.65	-0.23
LF2-02	H1236	15-Aug-88	14:30	2.98	-0.48
LF2-01	H0604	09-Sep-88	10:25	2.46	-1.17
LF2-01	H0628	09-Sep-88	10:25	1.72	1.35
LF2-01	H0637	09-Sep-88	10:25	0.00	4.38
LF2-01	H0642	09-Sep-88	10:25	1.85	0.89
LF2-01	H0670	09-Sep-88	10:25	0.00	4.07
LF2-01	H1215	09-Sep-88	10:25	3.23	-3.06
LF2-01	H1223	09-Sep-88	10:25	2.04	-0.09
LF2-01	H1227	09-Sep-88	10:25	1.81	0.00
LF2-01	H1249	09-Sep-88	10:25	1.68	1.39
LF2-01	H1250	09-Sep-88	10:25	2.59	0.00
LF2-05	H0687	09-Sep-88	10:55	1.95	0.00
LF2-05	H1222	09-Sep-88	10:55	2.08	0.00
LF2-06	H0603	09-Sep-88	10:55	2.56	0.00
LF2-06	H1217	09-Sep-88	10:55	1.77	0.00
LF2-02	H0633	09-Sep-88	11:20	2.78	0.43
LF2-02	H0643	09-Sep-88	11:20	2.31	0.11
LF2-02	H0690	09-Sep-88	11:20	4.08	0.00
LF2-02	H0766	09-Sep-88	11:20	3.56	-0.87
LF2-02	H0770	09-Sep-88	11:20	2.06	-0.35
LF2-02	H0775	09-Sep-88	11:20	2.23	0.00
LF2-02	H1219	09-Sep-88	11:20	1.92	0.07
LF2-02	H1221	09-Sep-88	11:20	4.82	-7.48
LF2-02	H1234	09-Sep-88	11:20	2.64	-0.21
LF2-02	H1236	09-Sep-88	11:20	1.84	2.09
LF3-02	H0640	09-Sep-88	13:05	1.73	0.00
LF3-02	H0641	09-Sep-88	13:05	3.58	0.00
LF3-02	H0666	09-Sep-88	13:05	2.49	0.00
LF3-02	H0774	09-Sep-88	13:05	3.01	0.00
LF3-02	H1216	09-Sep-88	13:05	2.51	-1.21

WELL	INST	DATE	TIME	MEAS	MATPO
LF3-02	H1218	09-Sep-88	13:05	2.21	0.00
LF3-02	H1220	09-Sep-88	13:05	2.05	0.00
LF3-02	H1224	09-Sep-88	13:05	2.19	0.00
LF3-06	H0605	09-Sep-88	13:28	1.70	3.40
LF3-06	H0610	09-Sep-88	13:28	2.57	-0.50
LF3-06	H0645	09-Sep-88	13:28	1.57	1.31
LF3-06	H0646	09-Sep-88	13:28	2.92	-0.91
LF3-06	H0773	09-Sep-88	13:28	1.48	0.00
LF3-06	H0777	09-Sep-88	13:28	2.09	-0.08
LF3-06	H1226	09-Sep-88	13:28	1.58	1.38
LF3-06	H1229	09-Sep-88	13:28	2.63	-0.41
LF3-06	H1235	09-Sep-88	13:28	1.69	1.58
LF3-06	H1252	09-Sep-88	13:28	2.22	-0.41
LF2-01	H0604	24-Oct-88	10:20	1.48	2.19
LF2-01	H0628	24-Oct-88	10:20	1.69	1.42
LF2-01	H0637	24-Oct-88	10:20	0.00	4.38
LF2-01	H0642	24-Oct-88	10:20	2.63	-0.93
LF2-01	H0670	24-Oct-88	10:20	0.00	4.07
LF2-01	H1215	24-Oct-88	10:20	2.34	-0.51
LF2-01	H1223	24-Oct-88	10:20	0.02	5.72
LF2-01	H1227	24-Oct-88	10:20	1.19	0.00
LF2-01	H1249	24-Oct-88	10:20	1.67	1.42
LF2-01	H1250	24-Oct-88	10:20	2.66	0.00
LF2-05	H0687	24-Oct-88	10:40	2.08	0.00
LF2-05	H1222	24-Oct-88	10:40	2.05	0.00
LF2-06	H0603	24-Oct-88	10:40	2.55	0.00
LF2-06	H1217	24-Oct-88	10:40	1.88	0.00
LF2-02	H0633	24-Oct-88	10:55	2.72	0.55
LF2-02	H0643	24-Oct-88	10:55	2.30	0.14
LF2-02	H0690	24-Oct-88	10:55	0.01	0.00
LF2-02	H0766	24-Oct-88	10:55	2.31	1.31
LF2-02	H0770	24-Oct-88	10:55	2.03	-0.29
LF2-02	H0775	24-Oct-88	10:55	2.22	0.00
LF2-02	H1219	24-Oct-88	10:55	1.96	-0.02
LF2-02	H1221	24-Oct-88	10:55	2.34	-0.83
LF2-02	H1234	24-Oct-88	10:55	1.59	2.02
LF2-02	H1236	24-Oct-88	10:55	2.98	-0.48
LF3-06	H0605	24-Oct-88	12:34	2.82	-1.21
LF3-06	H0610	24-Oct-88	12:34	2.56	-0.47
LF3-06	H0645	24-Oct-88	12:34	1.50	1.45
LF3-06	H0646	24-Oct-88	12:34	3.77	-2.72
LF3-06	H0773	24-Oct-88	12:34	2.50	0.00
LF3-06	H0777	24-Oct-88	12:34	2.08	-0.03
LF3-06	H1226	24-Oct-88	12:34	2.32	-0.13
LF3-06	H1229	24-Oct-88	12:34	2.61	-0.38
LF3-06	H1235	24-Oct-88	12:34	2.69	-0.52
LF3-06	H1252	24-Oct-88	12:34	2.18	-0.24
LF3-02	H0640	24-Oct-88	13:05	1.79	0.00
LF3-02	H0641	24-Oct-88	13:05	3.39	0.00
LF3-02	H0666	24-Oct-88	13:05	1.47	0.00
LF3-02	H0774	24-Oct-88	13:05	3.02	0.00
LF3-02	H1216	24-Oct-88	13:05	2.46	-0.81
LF3-02	H1218	24-Oct-88	13:05	2.20	0.00
LF3-02	H1220	24-Oct-88	13:05	2.01	0.00
LF3-02	H1224	24-Oct-88	13:05	2.15	0.00
LF2-01	H0604	30-Nov-88	11:00	0.00	7.26
LF2-01	H0628	30-Nov-88	11:00	0.00	5.23
LF2-01	H0637	30-Nov-88	11:00	0.00	4.38
LF2-01	H0642	30-Nov-88	11:00	0.00	5.21
LF2-01	H0670	30-Nov-88	11:00	0.00	4.07
LF2-01	H1215	30-Nov-88	11:00	0.00	6.19
LF2-01	H1223	30-Nov-88	11:00	0.00	5.77
LF2-01	H1227	30-Nov-88	11:00	0.00	0.00
LF2-01	H1249	30-Nov-88	11:00	0.00	5.59
LF2-01	H1250	30-Nov-88	11:00	0.00	0.00
LF2-02	H0690	30-Nov-88	11:00	0.00	0.00
LF2-02	H0633	30-Nov-88	11:30	2.68	0.62

WELL	INST	DATE	TIME	MEAS	MATPO
LF2-02	H0643	30-Nov-88	11:30	2.28	0.20
LF2-02	H0690	30-Nov-88	11:30	0.96	0.00
LF2-02	H0766	30-Nov-88	11:30	3.48	-0.73
LF2-02	H0770	30-Nov-88	11:30	1.98	-0.19
LF2-02	H0775	30-Nov-88	11:30	2.19	0.00
LF2-02	H1219	30-Nov-88	11:30	1.87	0.18
LF2-02	H1221	30-Nov-88	11:30	2.32	-0.77
LF2-02	H1234	30-Nov-88	11:30	2.42	0.26
LF2-02	H1236	30-Nov-88	11:30	2.89	-0.28
LF2-05	H0687	30-Nov-88	13:40	2.03	0.00
LF2-05	H1222	30-Nov-88	13:40	2.00	0.00
LF2-06	H0603	30-Nov-88	13:40	2.48	0.00
LF2-06	H1217	30-Nov-88	13:40	1.98	0.00
LF3-02	H0640	30-Nov-88	13:55	1.75	0.00
LF3-02	H0641	30-Nov-88	13:55	3.55	0.00
LF3-02	H0666	30-Nov-88	13:55	1.51	0.00
LF3-02	H0774	30-Nov-88	13:55	3.02	0.00
LF3-02	H1216	30-Nov-88	13:55	2.44	-0.65
LF3-02	H1218	30-Nov-88	13:55	2.15	0.00
LF3-02	H1220	30-Nov-88	13:55	1.95	0.00
LF3-02	H1224	30-Nov-88	13:55	2.06	0.00
LF3-06	H0605	30-Nov-88	14:05	2.78	-1.04
LF3-06	H0610	30-Nov-88	14:05	2.51	-0.35
LF3-06	H0645	30-Nov-88	14:05	2.24	-0.11
LF3-06	H0646	30-Nov-88	14:05	2.64	-0.32
LF3-06	H0773	30-Nov-88	14:05	2.46	0.00
LF3-06	H0777	30-Nov-88	14:05	1.97	0.52
LF3-06	H1226	30-Nov-88	14:05	2.53	-0.56
LF3-06	H1229	30-Nov-88	14:05	2.58	-0.32
LF3-06	H1235	30-Nov-88	14:05	2.37	0.15
LF3-06	H1252	30-Nov-88	14:05	2.21	-0.37
LF2-05	H0687	15-Dec-88	10:04	1.94	0.00
LF2-05	H1222	15-Dec-88	10:04	1.89	0.00
LF2-06	H0603	15-Dec-88	10:04	2.43	0.00
LF2-06	H1217	15-Dec-88	10:04	2.00	0.00
LF2-02	H0633	15-Dec-88	10:50	2.64	0.70
LF2-02	H0643	15-Dec-88	10:50	2.19	0.45
LF2-02	H0690	15-Dec-88	10:50	2.27	0.00
LF2-02	H0766	15-Dec-88	10:50	2.24	1.43
LF2-02	H0770	15-Dec-88	10:50	1.91	-0.05
LF2-02	H0775	15-Dec-88	10:50	2.08	0.00
LF2-02	H1219	15-Dec-88	10:50	1.83	0.27
LF2-02	H1221	15-Dec-88	10:50	1.30	1.97
LF2-02	H1234	15-Dec-88	10:50	2.48	0.13
LF2-02	H1236	15-Dec-88	10:50	1.72	2.36
LF2-01	H0604	15-Dec-88	11:25	0.00	7.26
LF2-01	H0628	15-Dec-88	11:25	0.00	5.23
LF2-01	H0637	15-Dec-88	11:25	0.00	4.38
LF2-01	H0642	15-Dec-88	11:25	0.00	5.21
LF2-01	H0670	15-Dec-88	11:25	0.00	4.07
LF2-01	H1215	15-Dec-88	11:25	0.00	6.19
LF2-01	H1223	15-Dec-88	11:25	0.06	5.60
LF2-01	H1227	15-Dec-88	11:25	0.00	0.00
LF2-01	H1249	15-Dec-88	11:25	0.00	5.59
LF2-01	H1250	15-Dec-88	11:25	0.00	0.00
LF3-02	H0640	15-Dec-88	12:49	1.67	0.00
LF3-02	H0641	15-Dec-88	12:49	3.41	0.00
LF3-02	H0666	15-Dec-88	12:49	1.99	0.00
LF3-02	H0774	15-Dec-88	12:49	2.92	0.00
LF3-02	H1216	15-Dec-88	12:49	2.33	0.21
LF3-02	H1218	15-Dec-88	12:49	2.03	0.00
LF3-02	H1220	15-Dec-88	12:49	1.86	0.00
LF3-02	H1224	15-Dec-88	12:49	2.04	0.00
LF3-06	H0605	15-Dec-88	13:31	1.56	3.98
LF3-06	H0610	15-Dec-88	13:31	2.41	-0.10
LF3-06	H0645	15-Dec-88	13:31	1.43	1.60
LF3-06	H0646	15-Dec-88	13:31	2.44	0.10

WELL	INST	DATE	TIME	MEAS	MATPO
LF3-06	H0773	15-Dec-88	13:31	2.35	0.00
LF3-06	H0777	15-Dec-88	13:31	1.95	0.62
LF3-06	H1226	15-Dec-88	13:31	2.43	-0.36
LF3-06	H1229	15-Dec-88	13:31	2.48	-0.12
LF3-06	H1235	15-Dec-88	13:31	2.26	0.38
LF3-06	H1252	15-Dec-88	13:31	2.01	0.50
LF2-01	H0604	18-Jan-89	10:20	0.00	7.26
LF2-01	H0628	18-Jan-89	10:20	0.00	5.23
LF2-01	H0637	18-Jan-89	10:20	0.00	4.38
LF2-01	H0642	18-Jan-89	10:20	0.00	5.21
LF2-01	H0670	18-Jan-89	10:20	0.00	4.07
LF2-01	H1215	18-Jan-89	10:20	0.00	6.19
LF2-01	H1223	18-Jan-89	10:20	0.00	5.77
LF2-01	H1227	18-Jan-89	10:20	0.00	0.00
LF2-01	H1249	18-Jan-89	10:20	0.00	5.59
LF2-01	H1250	18-Jan-89	10:20	0.00	0.00
LF2-02	H0633	18-Jan-89	10:25	2.67	0.64
LF2-02	H0643	18-Jan-89	10:25	2.21	0.40
LF2-02	H0690	18-Jan-89	10:25	2.28	0.00
LF2-02	H0766	18-Jan-89	10:25	3.15	-0.15
LF2-02	H0770	18-Jan-89	10:25	1.91	-0.05
LF2-02	H0775	18-Jan-89	10:25	1.97	0.00
LF2-02	H1219	18-Jan-89	10:25	1.84	0.25
LF2-02	H1221	18-Jan-89	10:25	1.30	1.97
LF2-02	H1234	18-Jan-89	10:25	2.48	0.13
LF2-02	H1236	18-Jan-89	10:25	1.72	2.36
LF2-05	H0687	18-Jan-89	10:43	2.02	0.00
LF2-05	H1222	18-Jan-89	10:43	2.43	0.00
LF2-06	H0603	18-Jan-89	10:43	1.82	0.00
LF2-06	H1217	18-Jan-89	10:43	1.94	0.00
LF3-06	H0605	18-Jan-89	14:25	2.43	0.40
LF3-06	H0610	18-Jan-89	14:25	2.26	0.28
LF3-06	H0645	18-Jan-89	14:25	2.43	-0.51
LF3-06	H0646	18-Jan-89	14:25	2.46	0.06
LF3-06	H0773	18-Jan-89	14:25	2.35	0.00
LF3-06	H0777	18-Jan-89	14:25	1.96	0.57
LF3-06	H1226	18-Jan-89	14:25	2.43	-0.36
LF3-06	H1229	18-Jan-89	14:25	2.47	-0.10
LF3-06	H1235	18-Jan-89	14:25	2.49	-0.10
LF3-06	H1252	18-Jan-89	14:25	2.00	0.54
LF3-02	H0640	19-Jan-89	11:40	1.69	0.00
LF3-02	H0641	19-Jan-89	11:40	2.42	0.00
LF3-02	H0666	19-Jan-89	11:40	2.36	0.00
LF3-02	H0774	19-Jan-89	11:40	2.94	0.00
LF3-02	H1216	19-Jan-89	11:40	2.28	0.61
LF3-02	H1218	19-Jan-89	11:40	2.07	0.00
LF3-02	H1220	19-Jan-89	11:40	1.93	0.00
LF3-02	H1224	19-Jan-89	11:40	2.07	0.00
LF2-05	H0687	28-Feb-89	10:15	1.80	0.00
LF2-05	H1222	28-Feb-89	10:15	1.82	0.00
LF2-06	H0603	28-Feb-89	10:15	2.35	0.00
LF2-06	H1217	28-Feb-89	10:15	2.05	0.00
LF2-02	H0633	28-Feb-89	11:05	2.65	0.68
LF2-02	H0643	28-Feb-89	11:05	2.23	0.34
LF2-02	H0690	28-Feb-89	11:05	2.31	0.00
LF2-02	H0766	28-Feb-89	11:05	3.41	-0.60
LF2-02	H0770	28-Feb-89	11:05	1.93	-0.09
LF2-02	H0775	28-Feb-89	11:05	2.09	0.00
LF2-02	H1219	28-Feb-89	11:05	1.85	0.23
LF2-02	H1221	28-Feb-89	11:05	2.48	-1.20
LF2-02	H1234	28-Feb-89	11:05	2.48	0.13
LF2-02	H1236	28-Feb-89	11:05	2.82	-0.12
LF3-02	H0640	28-Feb-89	13:40	1.68	0.00
LF3-02	H0641	28-Feb-89	13:40	3.49	0.00
LF3-02	H0666	28-Feb-89	13:40	3.75	0.00
LF3-02	H0774	28-Feb-89	13:40	2.25	0.00
LF3-02	H1216	28-Feb-89	13:40	2.35	0.06

WELL	INST	DATE	TIME	MEAS	MATPO
LF3-02	H1218	28-Feb-89	13:40	2.04	0.00
LF3-02	H1220	28-Feb-89	13:40	1.80	0.00
LF3-02	H1224	28-Feb-89	13:40	2.05	0.00
LF3-06	H0605	28-Feb-89	14:25	1.62	3.73
LF3-06	H0610	28-Feb-89	14:25	2.36	0.03
LF3-06	H0645	28-Feb-89	14:25	2.11	0.16
LF3-06	H0646	28-Feb-89	14:25	2.42	0.15
LF3-06	H0773	28-Feb-89	14:25	2.23	0.00
LF3-06	H0777	28-Feb-89	14:25	1.94	0.67
LF3-06	H1226	28-Feb-89	14:25	2.19	0.13
LF3-06	H1229	28-Feb-89	14:25	2.43	-0.03
LF3-06	H1235	28-Feb-89	14:25	2.47	-0.06
LF3-06	H1252	28-Feb-89	14:25	1.97	0.67
LF2-02	H0633	29-Mar-89	10:55	2.63	0.72
LF2-02	H0643	29-Mar-89	10:55	2.20	0.43
LF2-02	H0690	29-Mar-89	10:55	2.25	0.00
LF2-02	H0766	29-Mar-89	10:55	2.20	1.50
LF2-02	H0770	29-Mar-89	10:55	1.92	-0.07
LF2-02	H0775	29-Mar-89	10:55	2.10	0.00
LF2-02	H1219	29-Mar-89	10:55	1.85	0.23
LF2-02	H1221	29-Mar-89	10:55	1.31	1.94
LF2-02	H1234	29-Mar-89	10:55	2.49	0.11
LF2-02	H1236	29-Mar-89	10:55	2.82	-0.12
LF2-05	H0687	29-Mar-89	11:22	1.15	0.00
LF2-05	H1222	29-Mar-89	11:22	1.83	0.00
LF2-06	H0603	29-Mar-89	11:22	2.37	0.00
LF2-06	H1217	29-Mar-89	11:22	2.01	0.00
LF3-02	H0666	30-Mar-89	12:00	1.12	0.00
LF3-02	H0774	30-Mar-89	12:00	2.39	0.00
LF3-02	H1216	30-Mar-89	12:00	2.16	1.56
LF3-02	H1220	30-Mar-89	12:00	1.89	0.00
LF3-02	H1224	30-Mar-89	12:00	1.85	0.00
LF3-06	H0605	30-Mar-89	12:00	1.59	3.86
LF3-06	H0610	30-Mar-89	12:00	2.41	-0.10
LF3-06	H0645	30-Mar-89	12:00	2.18	0.02
LF3-06	H0646	30-Mar-89	12:00	2.48	0.02
LF3-06	H0773	30-Mar-89	12:00	2.37	0.00
LF3-06	H0777	30-Mar-89	12:00	1.97	0.52
LF3-06	H1226	30-Mar-89	12:00	2.22	0.07
LF3-06	H1229	30-Mar-89	12:00	2.48	-0.12
LF3-06	H1235	30-Mar-89	12:00	2.50	-0.12
LF3-06	H1252	30-Mar-89	12:00	2.01	0.50
LF3-02	H1218	30-Mar-89	13:40	2.04	0.00
LF3-02	H0640	30-Mar-89	15:10	1.66	0.00
LF2-01	H0604	27-Apr-89	10:40	2.03	0.31
LF2-01	H0628	27-Apr-89	10:40	2.57	-0.57
LF2-01	H0637	27-Apr-89	10:40	0.00	4.38
LF2-01	H0642	27-Apr-89	10:40	0.11	4.95
LF2-01	H0670	27-Apr-89	10:40	0.00	4.07
LF2-01	H1215	27-Apr-89	10:40	2.08	0.23
LF2-01	H1223	27-Apr-89	10:40	0.00	5.77
LF2-01	H1227	27-Apr-89	10:40	0.41	0.00
LF2-01	H1249	27-Apr-89	10:40	2.30	-0.15
LF2-01	H1250	27-Apr-89	10:40	2.52	0.00
LF2-02	H0633	27-Apr-89	10:40	2.61	0.76
LF2-02	H0643	27-Apr-89	10:40	0.82	4.37
LF2-02	H0690	27-Apr-89	10:40	1.23	0.00
LF2-02	H0766	27-Apr-89	10:40	0.00	5.34
LF2-02	H0770	27-Apr-89	10:40	1.86	0.05
LF2-02	H0775	27-Apr-89	10:40	2.04	0.00
LF2-02	H1219	27-Apr-89	10:40	1.82	0.29
LF2-02	H1221	27-Apr-89	10:40	2.15	-0.32
LF2-02	H1234	27-Apr-89	10:40	2.46	0.17
LF2-02	H1236	27-Apr-89	10:40	2.75	0.03
LF2-05	H0687	27-Apr-89	10:50	1.20	0.00
LF2-05	H1222	27-Apr-89	10:50	1.83	0.00
LF2-06	H0603	27-Apr-89	10:50	2.30	0.00

WELL	INST	DATE	TIME	MEAS	MATPO
LF2-06	H1217	27-Apr-89	10:50	1.95	0.00
LF3-06	H0605	27-Apr-89	12:40	1.62	3.73
LF3-06	H0610	27-Apr-89	12:40	2.40	-0.07
LF3-06	H0645	27-Apr-89	12:40	2.11	0.16
LF3-06	H0646	27-Apr-89	12:40	2.31	0.38
LF3-06	H0773	27-Apr-89	12:40	2.30	0.00
LF3-06	H0777	27-Apr-89	12:40	1.94	0.67
LF3-06	H1226	27-Apr-89	12:40	2.20	0.11
LF3-06	H1229	27-Apr-89	12:40	2.40	0.03
LF3-06	H1235	27-Apr-89	12:40	2.46	-0.04
LF3-06	H1252	27-Apr-89	12:40	1.99	0.59
LF3-02	H0640	27-Apr-89	13:12	0.58	0.00
LF3-02	H0641	27-Apr-89	13:12	3.48	0.00
LF3-02	H0666	27-Apr-89	13:12	0.87	0.00
LF3-02	H0774	27-Apr-89	13:12	2.36	0.00
LF3-02	H1216	27-Apr-89	13:12	2.22	1.08
LF3-02	H1218	27-Apr-89	13:12	1.96	0.00
LF3-02	H1220	27-Apr-89	13:12	1.85	0.00
LF3-02	H1224	27-Apr-89	13:12	1.83	0.00
LF2-01	H0604	01-Jun-89	10:00	1.34	2.67
LF2-01	H0628	01-Jun-89	10:00	2.41	-0.21
LF2-01	H0642	01-Jun-89	10:00	0.08	5.02
LF2-01	H1215	01-Jun-89	10:00	2.10	0.18
LF2-01	H1223	01-Jun-89	10:00	0.03	5.69
LF2-01	H1227	01-Jun-89	10:00	1.73	0.00
LF2-01	H1249	01-Jun-89	10:00	2.57	-0.83
LF2-01	H1250	01-Jun-89	10:00	2.42	0.00
LF2-05	H0687	01-Jun-89	10:30	1.21	0.00
LF2-05	H1222	01-Jun-89	10:30	1.87	0.00
LF2-06	H0603	01-Jun-89	10:30	2.32	0.00
LF2-06	H1217	01-Jun-89	10:30	1.98	0.00
LF2-02	H0633	01-Jun-89	11:00	2.64	0.70
LF2-02	H0643	01-Jun-89	11:00	2.21	0.40
LF2-02	H0690	01-Jun-89	11:00	0.92	0.00
LF2-02	H0766	01-Jun-89	11:00	3.19	-0.22
LF2-02	H0770	01-Jun-89	11:00	1.95	-0.13
LF2-02	H0775	01-Jun-89	11:00	2.13	0.00
LF2-02	H1219	01-Jun-89	11:00	1.85	0.23
LF2-02	H1221	01-Jun-89	11:00	2.22	-0.50
LF2-02	H1234	01-Jun-89	11:00	2.33	0.45
LF2-02	H1236	01-Jun-89	11:00	1.74	2.31
LF3-06	H0605	01-Jun-89	11:55	1.65	3.61
LF3-06	H0610	01-Jun-89	11:55	2.45	-0.20
LF3-06	H0645	01-Jun-89	11:55	1.50	1.45
LF3-06	H0646	01-Jun-89	11:55	3.12	-1.34
LF3-06	H0773	01-Jun-89	11:55	2.40	0.00
LF3-06	H0777	01-Jun-89	11:55	1.98	0.47
LF3-06	H1226	01-Jun-89	11:55	1.50	1.54
LF3-06	H1229	01-Jun-89	11:55	7.00	-8.88
LF3-06	H1235	01-Jun-89	11:55	1.65	1.66
LF3-06	H1252	01-Jun-89	11:55	2.05	0.33
LF3-02	H0640	01-Jun-89	12:05	1.67	0.00
LF3-02	H0641	01-Jun-89	12:05	3.59	0.00
LF3-02	H0666	01-Jun-89	12:05	2.42	0.00
LF3-02	H0774	01-Jun-89	12:05	2.40	0.00
LF3-02	H1216	01-Jun-89	12:05	2.14	1.72
LF3-02	H1218	01-Jun-89	12:05	2.04	0.00
LF3-02	H1220	01-Jun-89	12:05	1.92	0.00
LF3-02	H1224	01-Jun-89	12:05	1.85	0.00
LF2-01	H0604	28-Jun-89	11:55	2.37	-0.86
LF2-01	H0628	28-Jun-89	11:55	2.63	-0.71
LF2-01	H0642	28-Jun-89	11:55	0.06	5.07
LF2-01	H1223	28-Jun-89	11:55	0.01	5.74
LF2-01	H1227	28-Jun-89	11:55	1.69	0.00
LF2-01	H1249	28-Jun-89	11:55	2.58	-0.85
LF2-01	H1250	28-Jun-89	11:55	2.51	0.00
LF2-02	H0633	28-Jun-89	11:55	2.64	0.70

WELL	INST	DATE	TIME	MEAS	MATPO
LF2-02	H0690	28-Jun-89	11:55	2.24	0.00
LF2-02	H0766	28-Jun-89	11:55	3.47	-0.71
LF2-02	H0770	28-Jun-89	11:55	1.95	-0.13
LF2-02	H0775	28-Jun-89	11:55	2.13	0.00
LF2-02	H1219	28-Jun-89	11:55	1.85	0.23
LF2-02	H1221	28-Jun-89	11:55	2.24	-0.56
LF2-02	H1234	28-Jun-89	11:55	2.49	0.11
LF2-02	H1236	28-Jun-89	11:55	1.74	2.31
LF2-05	H0687	28-Jun-89	12:30	1.90	0.00
LF2-05	H1222	28-Jun-89	12:30	1.89	0.00
LF2-06	H0603	28-Jun-89	12:30	2.32	0.00
LF2-06	H1217	28-Jun-89	12:30	1.98	0.00
LF3-06	H0605	28-Jun-89	12:50	1.65	3.61
LF3-06	H0610	28-Jun-89	12:50	2.47	-0.25
LF3-06	H0645	28-Jun-89	12:50	1.52	1.41
LF3-06	H0646	28-Jun-89	12:50	3.00	-1.08
LF3-06	H0773	28-Jun-89	12:50	2.40	0.00
LF3-06	H0777	28-Jun-89	12:50	1.98	0.47
LF3-06	H1226	28-Jun-89	12:50	2.50	-0.50
LF3-06	H1229	28-Jun-89	12:50	2.51	-0.18
LF3-06	H1235	28-Jun-89	12:50	1.53	1.91
LF3-06	H1252	28-Jun-89	12:50	2.05	0.33
LF3-02	H0640	28-Jun-89	13:20	1.69	0.00
LF3-02	H0641	28-Jun-89	13:20	3.55	0.00
LF3-02	H0666	28-Jun-89	13:20	1.40	0.00
LF3-02	H0774	28-Jun-89	13:20	2.41	0.00
LF3-02	H1216	28-Jun-89	13:20	2.17	1.48
LF3-02	H1218	28-Jun-89	13:20	2.01	0.00
LF3-02	H1220	28-Jun-89	13:20	1.88	0.00
LF3-02	H1224	28-Jun-89	13:20	1.84	0.00
LF2-01	H0604	09-Aug-89	10:25	2.04	0.27
LF2-01	H0628	09-Aug-89	10:25	2.45	-0.30
LF2-01	H0670	09-Aug-89	10:25	0.00	4.07
LF2-01	H1215	09-Aug-89	10:25	2.14	0.06
LF2-01	H1223	09-Aug-89	10:25	0.05	5.63
LF2-01	H1227	09-Aug-89	10:25	1.60	0.00
LF2-01	H1249	09-Aug-89	10:25	2.37	-0.33
LF2-01	H1250	09-Aug-89	10:25	2.44	0.00
LF2-02	H0633	09-Aug-89	11:05	2.63	0.72
LF2-02	H0690	09-Aug-89	11:05	1.79	0.00
LF2-02	H0766	09-Aug-89	11:05	3.26	-0.34
LF2-02	H0770	09-Aug-89	11:05	1.87	0.03
LF2-02	H0775	09-Aug-89	11:05	2.02	0.00
LF2-02	H1219	09-Aug-89	11:05	1.72	0.52
LF2-02	H1221	09-Aug-89	11:05	2.05	-0.05
LF2-02	H1234	09-Aug-89	11:05	2.37	0.36
LF2-02	H1234	09-Aug-89	11:05	2.05	1.04
LF2-02	H1236	09-Aug-89	11:05	2.69	0.17
LF3-06	H0605	09-Aug-89	11:10	1.74	3.24
LF3-06	H0646	09-Aug-89	11:40	4.99	-5.30
LF3-06	H0773	09-Aug-89	11:40	2.39	0.00
LF2-05	H0687	09-Aug-89	11:47	1.69	0.00
LF2-05	H1222	09-Aug-89	11:47	1.76	0.00
LF2-06	H0603	09-Aug-89	11:47	2.26	0.00
LF2-06	H1217	09-Aug-89	11:47	1.96	0.00
LF3-02	H0640	09-Aug-89	13:25	1.64	0.00
LF3-02	H0641	09-Aug-89	13:25	3.52	0.00
LF3-02	H0666	09-Aug-89	13:25	1.80	0.00
LF3-02	H0774	09-Aug-89	13:25	2.43	0.00
LF3-02	H1216	09-Aug-89	13:25	1.99	2.90
LF3-02	H1218	09-Aug-89	13:25	2.04	0.00
LF3-02	H1220	09-Aug-89	13:25	1.86	0.00
LF3-02	H1224	09-Aug-89	13:25	1.79	0.00
LF3-06	H0605	09-Aug-89	13:50	2.49	0.15
LF3-06	H0610	09-Aug-89	13:50	2.33	0.10
LF3-06	H0645	09-Aug-89	13:50	2.07	0.25
LF3-06	H0646	09-Aug-89	13:50	3.02	-1.13

WELL	INST	DATE	TIME	MEAS	MATPO
LF3-06	H0777	09-Aug-89	13:50	1.94	0.67
LF3-06	H1226	09-Aug-89	13:50	2.30	-0.09
LF3-06	H1229	09-Aug-89	13:50	2.33	0.17
LF3-06	H1235	09-Aug-89	13:50	2.29	0.32
LF3-06	H1252	09-Aug-89	13:50	2.00	0.54
LF2-02	H0770	05-Sep-89	14:10	1.95	-0.13
LF2-02	H1219	05-Sep-89	14:10	1.84	0.25
LF2-05	H0687	05-Sep-89	15:00	1.91	0.00
LF2-05	H1222	05-Sep-89	15:00	1.73	0.00
LF2-06	H0603	05-Sep-89	15:00	2.34	0.00
LF2-01	H1227	06-Sep-89	11:10	1.77	0.00
LF3-06	H0605	06-Sep-89	11:10	1.74	3.24
LF3-06	H0610	06-Sep-89	11:10	2.40	-0.07
LF3-06	H0645	06-Sep-89	11:10	2.18	0.02
LF3-06	H0646	06-Sep-89	11:10	4.99	-5.30
LF3-06	H0777	06-Sep-89	11:10	1.94	0.67
LF3-06	H1226	06-Sep-89	11:10	2.25	0.01
LF3-06	H1229	06-Sep-89	11:10	2.51	-0.18
LF3-06	H1235	06-Sep-89	11:10	2.46	-0.04
LF3-06	H1252	06-Sep-89	11:10	1.95	0.76
LF3-02	H0640	06-Sep-89	11:40	1.60	0.00
LF3-02	H0641	06-Sep-89	11:40	3.46	0.00
LF3-02	H0666	06-Sep-89	11:40	3.48	0.00
LF3-02	H0774	06-Sep-89	11:40	2.46	0.00
LF3-02	H1216	06-Sep-89	11:40	2.00	2.82
LF3-02	H1218	06-Sep-89	11:40	1.98	0.00
LF3-02	H1220	06-Sep-89	11:40	1.87	0.00
LF3-02	H1224	06-Sep-89	11:40	1.80	0.00
LF2-01	H0604	06-Sep-89	13:30	1.35	2.63
LF2-01	H0628	06-Sep-89	13:30	1.65	1.51
LF2-01	H0642	06-Sep-89	13:30	0.06	5.07
LF2-01	H1215	06-Sep-89	13:30	1.36	2.29
LF2-01	H1223	06-Sep-89	13:30	0.05	5.63
LF2-01	H1227	06-Sep-89	13:30	1.76	0.00
LF2-01	H1249	06-Sep-89	13:30	1.58	1.64
LF2-01	H1250	06-Sep-89	13:30	2.51	0.00
LF2-02	H0690	06-Sep-89	13:30	1.27	0.00
LF2-02	H1234	06-Sep-89	13:30	2.51	0.07
LF2-02	H0633	06-Sep-89	14:10	2.75	0.49
LF2-02	H0690	06-Sep-89	14:10	1.27	0.00
LF2-02	H0766	06-Sep-89	14:10	3.48	-0.73
LF2-02	H0775	06-Sep-89	14:10	2.13	0.00
LF2-02	H1221	06-Sep-89	14:10	1.33	1.89
LF2-02	H1234	06-Sep-89	14:10	2.51	0.07
LF2-02	H1236	06-Sep-89	14:10	1.73	2.34
LF2-06	H1217	06-Sep-89	15:00	2.00	0.00
LF2-01	H0604	12-Oct-89	09:20	2.04	0.27
LF2-01	H0628	12-Oct-89	09:20	1.57	1.69
LF2-01	H0642	12-Oct-89	09:20	0.09	5.00
LF2-01	H1215	12-Oct-89	09:20	2.24	-0.23
LF2-01	H1223	12-Oct-89	09:20	0.03	5.69
LF2-01	H1227	12-Oct-89	09:20	1.76	0.00
LF2-01	H1249	12-Oct-89	09:20	2.53	-0.73
LF2-01	H1250	12-Oct-89	09:20	2.49	0.00
LF2-02	H0633	12-Oct-89	10:04	2.76	0.47
LF2-02	H0690	12-Oct-89	10:04	0.90	0.00
LF2-02	H0766	12-Oct-89	10:04	2.27	1.38
LF2-02	H0770	12-Oct-89	10:04	1.86	0.05
LF2-02	H0775	12-Oct-89	10:04	1.17	0.00
LF2-02	H1219	12-Oct-89	10:04	1.77	0.41
LF2-02	H1221	12-Oct-89	10:04	2.24	-0.56
LF2-02	H1234	12-Oct-89	10:04	1.47	2.27
LF2-02	H1236	12-Oct-89	10:04	2.77	-0.01
LF2-05	H1222	12-Oct-89	10:04	2.34	0.00
LF2-05	H0687	12-Oct-89	10:40	1.99	0.00
LF2-06	H0603	12-Oct-89	10:40	1.88	0.00
LF2-06	H1217	12-Oct-89	10:40	1.21	0.00

WELL	INST	DATE	TIME	MEAS	MATPO
LF3-02	H0640	12-Oct-89	12:50	1.63	0.00
LF3-02	H0641	12-Oct-89	12:50	3.60	0.00
LF3-02	H0666	12-Oct-89	12:50	4.28	0.00
LF3-02	H0774	12-Oct-89	12:50	2.92	0.00
LF3-02	H1216	12-Oct-89	12:50	1.99	2.90
LF3-02	H1218	12-Oct-89	12:50	1.99	0.00
LF3-02	H1220	12-Oct-89	12:50	1.80	0.00
LF3-02	H1224	12-Oct-89	12:50	1.82	0.00
LF3-06	H0605	12-Oct-89	14:00	1.70	3.40
LF3-06	H0610	12-Oct-89	14:00	2.45	-0.20
LF3-06	H0645	12-Oct-89	14:00	1.36	1.75
LF3-06	H0646	12-Oct-89	14:00	4.68	-4.65
LF3-06	H0777	12-Oct-89	14:00	1.96	0.57
LF3-06	H1226	12-Oct-89	14:00	2.52	-0.54
LF3-06	H1229	12-Oct-89	14:00	1.47	1.83
LF3-06	H1235	12-Oct-89	14:00	2.23	0.44
LF3-06	H1252	12-Oct-89	14:00	2.03	0.41
LF2-01	H0604	14-Nov-89	10:14	2.32	-0.69
LF2-01	H0628	14-Nov-89	10:14	2.56	-0.55
LF2-01	H0642	14-Nov-89	10:14	0.10	4.98
LF2-01	H1215	14-Nov-89	10:14	2.12	0.12
LF2-01	H1223	14-Nov-89	10:14	0.05	5.63
LF2-01	H1227	14-Nov-89	10:14	1.73	0.00
LF2-01	H1249	14-Nov-89	10:14	2.29	-0.13
LF3-02	H0774	14-Nov-89	10:15	3.03	0.00
LF3-02	H1224	14-Nov-89	10:15	1.72	0.00
LF2-02	H0633	14-Nov-89	10:36	2.71	0.57
LF2-02	H0690	14-Nov-89	10:36	1.58	0.00
LF2-02	H0766	14-Nov-89	10:36	3.37	-0.54
LF2-02	H0770	14-Nov-89	10:36	1.85	0.07
LF2-02	H0775	14-Nov-89	10:36	2.05	0.00
LF2-02	H1219	14-Nov-89	10:36	1.68	0.61
LF2-02	H1221	14-Nov-89	10:36	1.27	2.05
LF2-02	H1234	14-Nov-89	10:36	2.44	0.21
LF2-02	H1236	14-Nov-89	10:36	2.75	0.03
LF2-05	H1222	14-Nov-89	10:36	1.87	0.00
LF2-05	H0687	14-Nov-89	11:00	1.86	0.00
LF2-05	H1222	14-Nov-89	11:00	1.87	0.00
LF2-06	H0603	14-Nov-89	11:00	2.34	0.00
LF2-06	H1217	14-Nov-89	11:00	1.97	0.00
LF2-01	H0604	14-Nov-89	13:15	2.32	-0.69
LF2-01	H0628	14-Nov-89	13:15	2.56	-0.55
LF2-01	H1227	14-Nov-89	13:15	1.73	0.00
LF2-01	H1249	14-Nov-89	13:15	2.29	-0.13
LF2-01	H1250	14-Nov-89	13:15	2.48	0.00
LF3-06	H0605	14-Nov-89	13:15	1.76	3.16
LF3-06	H0610	14-Nov-89	13:15	2.39	-0.05
LF3-06	H0645	14-Nov-89	13:15	2.10	0.19
LF3-06	H0646	14-Nov-89	13:15	4.53	-4.33
LF3-06	H0777	14-Nov-89	13:15	1.96	0.57
LF3-06	H1226	14-Nov-89	13:15	2.25	0.01
LF3-06	H1229	14-Nov-89	13:15	2.26	0.30
LF3-06	H1235	14-Nov-89	13:15	0.07	4.98
LF3-06	H1252	14-Nov-89	13:15	1.95	0.76
LF3-02	H0640	14-Nov-89	13:48	1.61	0.00
LF3-02	H0641	14-Nov-89	13:48	3.46	0.00
LF3-02	H1216	14-Nov-89	13:48	1.90	3.61
LF3-02	H1218	14-Nov-89	13:48	1.93	0.00
LF3-02	H1220	14-Nov-89	13:48	1.78	0.00
LF2-01	H0604	14-Dec-89	09:20	1.70	1.44
LF2-01	H0628	14-Dec-89	09:20	2.55	-0.52
LF2-01	H0642	14-Dec-89	09:20	0.11	4.95
LF2-01	H1215	14-Dec-89	09:20	2.19	-0.08
LF2-01	H1223	14-Dec-89	09:20	0.07	5.57
LF2-01	H1227	14-Dec-89	09:20	1.66	0.00
LF2-01	H1249	14-Dec-89	09:20	1.53	1.77
LF2-01	H1250	14-Dec-89	09:20	2.47	0.00

WELL	INST	DATE	TIME	MEAS	MATPO
LF2-02	H0633	14-Dec-89	09:35	2.65	0.68
LF2-02	H0690	14-Dec-89	09:35	1.18	0.00
LF2-02	H0766	14-Dec-89	09:35	3.33	-0.47
LF2-02	H0770	14-Dec-89	09:35	1.83	0.11
LF2-02	H0775	14-Dec-89	09:35	2.07	0.00
LF2-02	H1219	14-Dec-89	09:35	1.68	0.61
LF2-02	H1221	14-Dec-89	09:35	1.24	2.13
LF2-02	H1234	14-Dec-89	09:35	2.27	0.58
LF2-02	H1236	14-Dec-89	09:35	2.78	-0.03
LF2-05	H0687	14-Dec-89	09:55	1.83	0.00
LF2-05	H1222	14-Dec-89	09:55	1.85	0.00
LF2-06	H0603	14-Dec-89	09:55	2.32	0.00
LF2-06	H1217	14-Dec-89	09:55	1.95	0.00
LF3-02	H1216	14-Dec-89	10:15	1.90	3.61
LF3-06	H0605	14-Dec-89	11:15	1.72	3.32
LF3-06	H0605	14-Dec-89	11:15	2.18	1.43
LF3-06	H0610	14-Dec-89	11:15	2.41	-0.10
LF3-06	H0645	14-Dec-89	11:15	2.18	0.02
LF3-06	H0646	14-Dec-89	11:15	3.72	-2.61
LF3-06	H0777	14-Dec-89	11:15	1.95	0.62
LF3-06	H1226	14-Dec-89	11:15	2.47	-0.44
LF3-06	H1229	14-Dec-89	11:15	2.41	0.01
LF3-06	H1235	14-Dec-89	11:15	0.09	4.94
LF3-06	H1252	14-Dec-89	11:15	1.93	0.85
LF2-01	H0604	31-Jan-90	11:07	1.30	2.81
LF2-01	H0628	31-Jan-90	11:07	2.55	-0.52
LF2-01	H0642	31-Jan-90	11:07	0.10	4.98
LF2-01	H1215	31-Jan-90	11:07	2.10	0.18
LF2-01	H1223	31-Jan-90	11:07	0.09	5.51
LF2-01	H1227	31-Jan-90	11:07	1.72	0.00
LF2-01	H1249	31-Jan-90	11:07	1.52	1.79
LF2-01	H1250	31-Jan-90	11:07	2.47	0.00
LF3-02	H0640	31-Jan-90	13:27	1.67	0.00
LF3-02	H0641	31-Jan-90	13:27	3.51	0.00
LF3-02	H0666	31-Jan-90	13:27	4.79	0.00
LF3-02	H0774	31-Jan-90	13:27	3.05	0.00
LF3-02	H1216	31-Jan-90	13:27	2.06	2.35
LF3-02	H1218	31-Jan-90	13:27	1.99	0.00
LF3-02	H1220	31-Jan-90	13:27	1.82	0.00
LF3-02	H1224	31-Jan-90	13:27	1.82	0.00
LF3-06	H0605	31-Jan-90	13:56	2.40	0.52
LF3-06	H0610	31-Jan-90	13:56	2.26	0.28
LF3-06	H0645	31-Jan-90	13:56	2.01	0.38
LF3-06	H0646	31-Jan-90	13:56	4.52	-4.31
LF3-06	H0777	31-Jan-90	13:56	1.97	0.52
LF3-06	H1226	31-Jan-90	13:56	2.25	0.01
LF3-06	H1229	31-Jan-90	13:56	1.45	1.87
LF3-06	H1235	31-Jan-90	13:56	0.04	5.05
LF3-06	H1252	31-Jan-90	13:56	2.01	0.50
LF2-05	H0687	31-Jan-90	14:51	1.63	0.00
LF2-05	H1222	31-Jan-90	14:51	1.83	0.00
LF2-06	H1217	31-Jan-90	14:51	1.95	0.00
LF2-02	H0690	31-Jan-90	15:01	1.55	0.00
LF2-02	H0766	31-Jan-90	15:01	4.98	-3.34
LF2-02	H0770	31-Jan-90	15:01	3.21	-2.64
LF2-02	H0775	31-Jan-90	15:01	2.66	0.00
LF2-02	H1219	31-Jan-90	15:01	2.73	-1.76
LF2-02	H1221	31-Jan-90	15:01	2.31	-0.75
LF2-02	H1234	31-Jan-90	15:01	2.49	0.11
LF2-02	H1236	31-Jan-90	15:01	4.09	-2.99
LF2-05	H0687	31-Jan-90	15:01	1.63	0.00
LF2-06	H0603	31-Jan-90	15:01	2.16	0.00
LF2-05	H0687	27-Feb-90	09:22	1.28	0.00
LF2-05	H1222	27-Feb-90	09:22	1.89	0.00
LF2-06	H0603	27-Feb-90	09:22	1.59	0.00
LF2-06	H1217	27-Feb-90	09:22	1.97	0.00
LF3-02	H1218	27-Feb-90	09:22	0.28	0.00

WELL	INST	DATE	TIME	MEAS	MATPO
LF2-01	H0604	27-Feb-90	10:09	1.34	2.67
LF2-01	H0628	27-Feb-90	10:09	1.61	1.60
LF2-01	H0642	27-Feb-90	10:09	0.07	5.05
LF2-01	H1215	27-Feb-90	10:09	2.25	-0.25
LF2-01	H1223	27-Feb-90	10:09	0.04	5.66
LF2-01	H1227	27-Feb-90	10:09	1.76	0.00
LF2-01	H1249	27-Feb-90	10:09	2.55	-0.78
LF2-01	H1250	27-Feb-90	10:09	2.43	0.00
LF2-02	H0633	27-Feb-90	10:53	2.72	0.55
LF2-02	H0690	27-Feb-90	10:53	0.86	0.00
LF2-02	H0766	27-Feb-90	10:53	3.35	-0.50
LF2-02	H0770	27-Feb-90	10:53	1.88	0.01
LF2-02	H0775	27-Feb-90	10:53	2.06	0.00
LF2-02	H1219	27-Feb-90	10:53	1.81	0.32
LF2-02	H1221	27-Feb-90	10:53	2.15	-0.32
LF2-02	H1234	27-Feb-90	10:53	2.45	0.19
LF2-02	H1236	27-Feb-90	10:53	2.75	0.03
LF3-02	H0641	27-Feb-90	12:45	0.20	0.00
LF3-02	H1216	27-Feb-90	12:45	0.27	16.50
LF3-02	H1220	27-Feb-90	12:45	0.25	0.00
LF3-02	H1224	27-Feb-90	12:45	0.22	0.00
LF3-02	H0640	27-Feb-90	13:30	1.61	0.00
LF3-02	H0641	27-Feb-90	13:30	3.54	0.00
LF3-02	H0666	27-Feb-90	13:30	3.94	0.00
LF3-02	H0774	27-Feb-90	13:30	2.47	0.00
LF3-02	H1216	27-Feb-90	13:30	2.12	1.87
LF3-02	H1218	27-Feb-90	13:30	1.98	0.00
LF3-02	H1220	27-Feb-90	13:30	1.83	0.00
LF3-02	H1224	27-Feb-90	13:30	1.81	0.00
LF3-06	H0605	27-Feb-90	14:03	1.61	3.77
LF3-06	H0610	27-Feb-90	14:03	2.41	-0.10
LF3-06	H0645	27-Feb-90	14:03	2.26	-0.15
LF3-06	H0646	27-Feb-90	14:03	1.39	2.33
LF3-06	H0777	27-Feb-90	14:03	1.95	0.62
LF3-06	H1226	27-Feb-90	14:03	2.42	-0.34
LF3-06	H1229	27-Feb-90	14:03	2.38	0.07
LF3-06	H1235	27-Feb-90	14:03	0.09	4.94
LF3-06	H1252	27-Feb-90	14:03	2.01	0.50
LF2-01	H0604	28-Mar-90	10:32	3.78	-5.69
LF2-01	H0628	28-Mar-90	10:32	6.22	-8.81
LF2-01	H0642	28-Mar-90	10:32	0.47	4.11
LF2-01	H1215	28-Mar-90	10:32	3.46	-3.72
LF2-01	H1223	28-Mar-90	10:32	0.26	5.03
LF2-01	H1227	28-Mar-90	10:32	1.63	0.00
LF2-02	H0633	28-Mar-90	10:50	4.91	-3.67
LF2-02	H0690	28-Mar-90	10:50	3.20	0.00
LF2-02	H0766	28-Mar-90	10:50	1.08	3.46
LF2-02	H0770	28-Mar-90	10:50	5.05	-6.32
LF2-02	H0775	28-Mar-90	10:50	3.83	0.00
LF2-02	H1219	28-Mar-90	10:50	4.02	-4.66
LF2-02	H1221	28-Mar-90	10:50	2.74	-1.90
LF2-02	H1234	28-Mar-90	10:50	4.20	-3.52
LF2-02	H1236	28-Mar-90	10:50	5.75	-6.74
LF2-05	H0687	28-Mar-90	11:20	0.12	0.00
LF2-06	H0603	28-Mar-90	11:20	0.12	0.00
LF2-06	H1217	28-Mar-90	11:20	0.18	0.00
LF3-02	H1216	28-Mar-90	12:45	0.27	16.50
LF3-06	H0605	28-Mar-90	13:25	0.16	9.74
LF3-06	H0610	28-Mar-90	13:25	0.14	5.59
LF3-06	H0645	28-Mar-90	13:25	0.18	4.24
LF3-06	H0646	28-Mar-90	13:25	0.41	4.41
LF3-06	H0777	28-Mar-90	13:25	0.08	9.89
LF3-06	H1229	28-Mar-90	13:25	0.11	4.47
LF3-06	H1235	28-Mar-90	13:25	0.17	4.77
LF3-06	H1252	28-Mar-90	13:25	0.07	8.92
LF3-06	H0605	27-Jun-90	15:15	1.64	3.65
LF3-06	H0610	27-Jun-90	15:15	2.47	-0.25

WELL	INST	DATE	TIME	MEAS	MATPO
LF3-06	H0645	27-Jun-90	15:15	1.55	1.35
LF3-06	H0646	27-Jun-90	15:15	2.04	0.95
LF3-06	H0777	27-Jun-90	15:15	1.98	0.47
LF3-06	H1226	27-Jun-90	15:15	2.29	-0.07
LF3-06	H1229	27-Jun-90	15:15	2.28	0.26
LF3-06	H1235	27-Jun-90	15:15	1.60	1.77
LF3-06	H1252	27-Jun-90	15:15	2.04	0.37
LF2-01	H0604	28-Jun-90	08:30	2.36	-0.82
LF2-01	H0628	28-Jun-90	08:30	2.62	-0.68
LF2-01	H0642	28-Jun-90	08:30	1.53	1.64
LF2-01	H1215	28-Jun-90	08:30	2.26	-0.28
LF2-01	H1223	28-Jun-90	08:30	0.02	5.72
LF2-01	H1227	28-Jun-90	08:30	1.76	0.00
LF2-01	H1249	28-Jun-90	08:30	2.56	-0.80
LF2-01	H1250	28-Jun-90	08:30	2.50	0.00
LF2-02	H0633	28-Jun-90	09:00	2.73	0.53
LF2-02	H0690	28-Jun-90	09:00	0.75	0.00
LF2-02	H0766	28-Jun-90	09:00	3.25	-0.33
LF2-02	H0770	28-Jun-90	09:00	1.95	-0.13
LF2-02	H0775	28-Jun-90	09:00	2.14	0.00
LF2-02	H1219	28-Jun-90	09:00	1.83	0.27
LF2-02	H1221	28-Jun-90	09:00	1.31	1.94
LF2-02	H1234	28-Jun-90	09:00	2.48	0.13
LF2-02	H1236	28-Jun-90	09:00	1.76	2.27
LF3-02	H0640	28-Jun-90	09:39	1.68	0.00
LF3-02	H0641	28-Jun-90	09:39	3.65	0.00
LF3-02	H0666	28-Jun-90	09:39	2.91	0.00
LF3-02	H0774	28-Jun-90	09:39	2.49	0.00
LF3-02	H1216	28-Jun-90	09:39	2.10	2.03
LF3-02	H1218	28-Jun-90	09:39	2.00	0.00
LF3-02	H1220	28-Jun-90	09:39	1.88	0.00
LF3-02	H1224	28-Jun-90	09:39	1.81	0.00
LF2-05	H0687	29-Jun-90	08:40	1.96	0.00
LF2-05	H1222	29-Jun-90	08:40	1.51	0.00
LF2-06	H0603	29-Jun-90	08:49	1.73	0.00
LF2-06	H1217	29-Jun-90	08:49	1.15	0.00
LF3-02	H0640	30-Jul-90	09:58	1.62	0.00
LF3-02	H0641	30-Jul-90	09:58	2.52	0.00
LF3-02	H0666	30-Jul-90	09:58	0.05	0.00
LF3-02	H0774	30-Jul-90	09:58	2.48	0.00
LF3-02	H1216	30-Jul-90	09:58	1.03	10.49
LF3-02	H1218	30-Jul-90	09:58	2.00	0.00
LF3-02	H1220	30-Jul-90	09:58	1.88	0.00
LF3-02	H1224	30-Jul-90	09:58	1.80	0.00
LF3-06	H0605	31-Jul-90	09:15	1.66	3.57
LF3-06	H0610	31-Jul-90	09:15	2.48	-0.27
LF3-06	H0645	31-Jul-90	09:15	2.34	-0.32
LF3-06	H0646	31-Jul-90	09:15	4.95	-5.22
LF3-06	H0777	31-Jul-90	09:15	2.54	-2.31
LF3-06	H1226	31-Jul-90	09:15	1.38	1.79
LF3-06	H1229	31-Jul-90	09:15	1.45	1.87
LF3-06	H1235	31-Jul-90	09:15	1.49	2.00
LF3-06	H1252	31-Jul-90	09:15	2.06	0.28
LF2-01	H0604	31-Jul-90	10:55	2.08	0.13
LF2-01	H0628	31-Jul-90	10:55	2.62	-0.68
LF2-01	H0642	31-Jul-90	10:55	1.70	1.24
LF2-01	H1215	31-Jul-90	10:55	2.30	-0.40
LF2-01	H1223	31-Jul-90	10:55	0.04	5.66
LF2-01	H1227	31-Jul-90	10:55	2.08	0.00
LF2-01	H1227	31-Jul-90	10:55	1.08	0.00
LF2-01	H1249	31-Jul-90	10:55	2.57	-0.83
LF2-01	H1250	31-Jul-90	10:55	2.52	0.00
LF2-02	H0633	31-Jul-90	11:15	2.66	0.66
LF2-02	H0690	31-Jul-90	11:15	1.39	0.00
LF2-02	H0766	31-Jul-90	11:15	3.22	-0.27
LF2-02	H0770	31-Jul-90	11:15	1.85	0.07
LF2-02	H0775	31-Jul-90	11:15	2.16	0.00

WELL	INST	DATE	TIME	MEAS	MATPO
LF2-02	H1219	31-Jul-90	11:15	1.17	1.76
LF2-02	H1221	31-Jul-90	11:15	2.28	-0.66
LF2-02	H1234	31-Jul-90	11:15	2.50	0.09
LF2-02	H1236	31-Jul-90	11:15	2.62	0.33
LF2-05	H0687	31-Jul-90	13:00	1.29	0.00
LF2-05	H1222	31-Jul-90	13:00	1.79	0.00
LF2-06	H0603	31-Jul-90	13:00	2.04	0.00
LF2-06	H1217	31-Jul-90	13:00	1.21	0.00
LF3-06	H0605	30-Aug-90	11:57	2.83	-1.25
LF3-06	H0610	30-Aug-90	11:57	2.40	-0.07
LF3-06	H0645	30-Aug-90	11:57	2.24	-0.11
LF3-06	H0646	30-Aug-90	11:57	2.41	0.17
LF3-06	H1226	30-Aug-90	11:57	2.47	-0.44
LF3-06	H1229	30-Aug-90	11:57	1.57	1.64
LF3-06	H1235	30-Aug-90	11:57	2.34	0.21
LF3-06	H1252	30-Aug-90	11:57	2.02	0.46
LF3-02	H0640	30-Aug-90	12:20	0.96	0.00
LF3-02	H0641	30-Aug-90	12:20	3.57	0.00
LF3-02	H0666	30-Aug-90	12:20	2.63	0.00
LF3-02	H0774	30-Aug-90	12:20	2.66	0.00
LF3-02	H1216	30-Aug-90	12:20	1.33	8.12
LF3-02	H1218	30-Aug-90	12:20	1.99	0.00
LF3-02	H1220	30-Aug-90	12:20	1.83	0.00
LF3-02	H1224	30-Aug-90	12:20	1.79	0.00
LF2-01	H0604	30-Aug-90	12:58	1.34	2.67
LF2-01	H0628	30-Aug-90	12:58	2.53	-0.48
LF2-01	H0642	30-Aug-90	12:58	2.26	-0.07
LF2-01	H1215	30-Aug-90	12:58	2.34	-0.51
LF2-01	H1223	30-Aug-90	12:58	0.05	5.63
LF2-01	H1227	30-Aug-90	12:58	1.80	0.00
LF2-01	H1250	30-Aug-90	12:58	2.51	0.00
LF2-02	H0633	30-Aug-90	13:17	2.68	0.62
LF2-02	H0690	30-Aug-90	13:17	1.60	0.00
LF2-02	H0766	30-Aug-90	13:17	1.98	1.89
LF2-02	H0770	30-Aug-90	13:17	1.87	0.03
LF2-02	H0775	30-Aug-90	13:17	2.09	0.00
LF2-02	H1219	30-Aug-90	13:17	1.82	0.29
LF2-02	H1221	30-Aug-90	13:17	2.19	-0.42
LF2-02	HI234	30-Aug-90	13:17	2.46	0.17
LF2-02	H1236	30-Aug-90	13:17	2.78	-0.03
LF2-05	H0687	30-Aug-90	13:40	1.63	0.00
LF2-05	H1222	30-Aug-90	13:40	1.75	0.00
LF2-06	H0603	30-Aug-90	13:40	2.30	0.00
LF2-06	H1217	30-Aug-90	13:40	1.95	0.00
LF3-06	H0605	05-Oct-90	14:16	1.66	3.57
LF3-06	H0610	05-Oct-90	14:16	2.48	-0.27
LF3-06	H0645	05-Oct-90	14:16	2.33	-0.30
LF3-06	H0646	05-Oct-90	14:16	2.58	-0.19
LF3-06	H1226	05-Oct-90	14:16	2.52	-0.54
LF3-06	H1229	05-Oct-90	14:16	0.86	3.01
LF3-06	H1235	05-Oct-90	14:16	1.56	1.85
LF3-06	H1252	05-Oct-90	14:16	2.06	0.28
LF3-02	H0640	05-Oct-90	14:38	1.01	0.00
LF3-02	H0641	05-Oct-90	14:38	3.62	0.00
LF3-02	H0666	05-Oct-90	14:38	1.45	0.00
LF3-02	H0774	05-Oct-90	14:38	3.13	0.00
LF3-02	H1216	05-Oct-90	14:38	1.08	10.10
LF3-02	H1218	05-Oct-90	14:38	1.98	0.00
LF3-02	H1220	05-Oct-90	14:38	1.85	0.00
LF3-02	H1224	05-Oct-90	14:38	1.79	0.00
LF2-01	H0604	05-Oct-90	15:00	1.40	2.46
LF2-01	H0628	05-Oct-90	15:00	1.78	1.21
LF2-01	H0642	05-Oct-90	15:00	1.52	1.66
LF2-01	H1215	05-Oct-90	15:00	2.30	-0.40
LF2-01	H1223	05-Oct-90	15:00	0.07	5.57
LF2-01	H1227	05-Oct-90	15:00	1.84	0.00
LF2-01	H1249	05-Oct-90	15:00	2.57	-0.83

WELL	INST	DATE	TIME	MEAS	MATPO
LF2-01	H1250	05-Oct-90	15:00	2.54	0.00
LF2-02	H0633	05-Oct-90	15:15	2.71	0.57
LF2-02	H0690	05-Oct-90	15:15	1.57	0.00
LF2-02	H0766	05-Oct-90	15:15	2.27	1.38
LF2-02	H0770	05-Oct-90	15:15	1.92	-0.07
LF2-02	H0775	05-Oct-90	15:15	1.18	0.00
LF2-02	H1219	05-Oct-90	15:15	1.17	1.76
LF2-02	H1221	05-Oct-90	15:15	2.26	-0.61
LF2-02	H1234	05-Oct-90	15:15	2.48	0.13
LF2-02	H1236	05-Oct-90	15:15	2.90	-0.30
LF2-05	H0687	05-Oct-90	15:32	1.26	0.00
LF2-05	H1222	05-Oct-90	15:32	1.10	0.00
LF2-06	H0603	05-Oct-90	15:32	1.50	0.00
LF2-06	H1217	05-Oct-90	15:32	1.91	0.00
LF3-06	H0605	01-Nov-90	11:45	1.71	3.36
LF3-06	H0610	01-Nov-90	11:45	2.42	-0.12
LF3-06	H0645	01-Nov-90	11:45	2.27	-0.17
LF3-06	H0646	01-Nov-90	11:45	2.74	-0.53
LF3-06	H1226	01-Nov-90	11:45	0.08	4.45
LF3-06	H1229	01-Nov-90	11:45	1.92	0.96
LF3-06	H1235	01-Nov-90	11:45	1.62	1.73
LF3-06	H1252	01-Nov-90	11:45	2.02	0.46
LF3-02	H0640	01-Nov-90	12:40	0.99	0.00
LF3-02	H0641	01-Nov-90	12:40	3.51	0.00
LF3-02	H0666	01-Nov-90	12:40	2.53	0.00
LF3-02	H0774	01-Nov-90	12:40	3.17	0.00
LF3-02	H1216	01-Nov-90	12:40	2.12	1.87
LF3-02	H1218	01-Nov-90	12:40	1.95	0.00
LF3-02	H1220	01-Nov-90	12:40	1.78	0.00
LF3-02	H1224	01-Nov-90	12:40	1.77	0.00
LF2-05	H0687	01-Nov-90	12:56	1.25	0.00
LF2-05	H1222	01-Nov-90	12:56	1.86	0.00
LF2-06	H0603	01-Nov-90	12:56	1.87	0.00
LF2-06	H1217	01-Nov-90	12:56	1.88	0.00
LF2-02	H0633	01-Nov-90	13:30	2.64	0.70
LF2-02	H0690	01-Nov-90	13:30	0.79	0.00
LF2-02	H0766	01-Nov-90	13:30	2.19	1.52
LF2-02	H0770	01-Nov-90	13:30	1.82	0.13
LF2-02	H0775	01-Nov-90	13:30	2.03	0.00
LF2-02	H1219	01-Nov-90	13:30	1.82	0.29
LF2-02	H1221	01-Nov-90	13:30	1.25	2.10
LF2-02	H1234	01-Nov-90	13:30	2.40	0.30
LF2-02	H1236	01-Nov-90	13:30	2.72	0.10
LF2-01	H0604	01-Nov-90	14:09	2.03	0.31
LF2-01	H0628	01-Nov-90	14:09	2.60	-0.64
LF2-01	H0642	01-Nov-90	14:09	1.51	1.69
LF2-01	H1215	01-Nov-90	14:09	2.34	-0.51
LF2-01	H1223	01-Nov-90	14:09	0.07	5.57
LF2-01	H1227	01-Nov-90	14:09	1.86	0.00
LF2-01	H1249	01-Nov-90	14:09	1.55	1.72
LF2-01	H1250	01-Nov-90	14:09	2.41	0.00
LF3-06	H0605	04-Dec-90	11:09	1.53	4.10
LF3-06	H0610	04-Dec-90	11:09	2.00	0.93
LF3-06	H0610	04-Dec-90	11:09	2.34	0.08
LF3-06	H0645	04-Dec-90	11:09	2.14	0.10
LF3-06	H0646	04-Dec-90	11:09	2.33	0.34
LF3-06	H1226	04-Dec-90	11:09	0.09	4.43
LF3-06	H1229	04-Dec-90	11:09	1.98	0.84
LF3-06	H1235	04-Dec-90	11:09	2.29	0.32
LF3-06	H1252	04-Dec-90	11:09	1.96	0.72
LF3-02	H0640	04-Dec-90	11:35	1.58	0.00
LF3-02	H0641	04-Dec-90	11:35	3.50	0.00
LF3-02	H0666	04-Dec-90	11:35	2.47	0.00
LF3-02	H0774	04-Dec-90	11:35	3.24	0.00
LF3-02	H1216	04-Dec-90	11:35	2.10	2.03
LF3-02	H1218	04-Dec-90	11:35	1.96	0.00
LF3-02	H1220	04-Dec-90	11:35	1.18	0.00

WELL	INST	DATE	TIME	MEAS	MATPO
LF3-02	H1224	04-Dec-90	11:35	1.78	0.00
LF2-01	H0604	04-Dec-90	12:58	1.41	2.43
LF2-01	H0628	04-Dec-90	12:58	2.60	-0.64
LF2-01	H0642	04-Dec-90	12:58	1.44	1.85
LF2-01	H1215	04-Dec-90	12:58	2.36	-0.57
LF2-01	H1223	04-Dec-90	12:58	0.09	5.51
LF2-01	H1227	04-Dec-90	12:58	1.85	0.00
LF2-01	H1249	04-Dec-90	12:58	2.53	-0.73
LF2-01	H1250	04-Dec-90	12:58	2.51	0.00
LF2-02	H0633	04-Dec-90	13:23	2.74	0.51
LF2-02	H0690	04-Dec-90	13:23	0.12	0.00
LF2-02	H0766	04-Dec-90	13:23	3.25	-0.33
LF2-02	H0770	04-Dec-90	13:23	1.83	0.11
LF2-02	H0775	04-Dec-90	13:23	2.04	0.00
LF2-02	H1219	04-Dec-90	13:23	1.22	1.64
LF2-02	H1221	04-Dec-90	13:23	2.14	-0.29
LF2-02	H1234	04-Dec-90	13:23	2.44	0.21
LF2-02	H1236	04-Dec-90	13:23	2.72	0.10
LF2-05	H0687	04-Dec-90	13:41	1.71	0.00
LF2-05	H1222	04-Dec-90	13:41	1.89	0.00
LF2-06	H0603	04-Dec-90	13:41	2.19	0.00
LF2-06	H1217	04-Dec-90	13:41	1.83	0.00
LF3-06	H0605	22-Jan-91	10:30	2.57	-0.18
LF3-06	H0610	22-Jan-91	10:30	2.33	0.10
LF3-06	H0645	22-Jan-91	10:30	2.16	0.06
LF3-06	H0646	22-Jan-91	10:30	2.08	0.87
LF3-06	H1226	22-Jan-91	10:30	0.11	4.39
LF3-06	H1229	22-Jan-91	10:30	1.33	2.10
LF3-06	H1235	22-Jan-91	10:30	2.26	0.38
LF3-06	H1252	22-Jan-91	10:30	1.96	0.72
LF3-02	H0640	22-Jan-91	11:01	1.53	0.00
LF3-02	H0641	22-Jan-91	11:01	3.50	0.00
LF3-02	H0666	22-Jan-91	11:01	2.91	0.00
LF3-02	H0774	22-Jan-91	11:01	3.31	0.00
LF3-02	H1216	22-Jan-91	11:01	2.11	1.95
LF3-02	H1218	22-Jan-91	11:01	1.97	0.00
LF3-02	H1220	22-Jan-91	11:01	1.79	0.00
LF3-02	H1224	22-Jan-91	11:01	1.79	0.00
LF2-01	H0604	22-Jan-91	11:36	1.30	2.81
LF2-01	H0628	22-Jan-91	11:36	1.54	1.75
LF2-01	H0642	22-Jan-91	11:36	2.15	0.19
LF2-01	H1215	22-Jan-91	11:36	2.26	-0.28
LF2-01	H1223	22-Jan-91	11:36	0.07	5.57
LF2-01	H1227	22-Jan-91	11:36	1.78	0.00
LF2-01	H1249	22-Jan-91	11:36	2.45	-0.53
LF2-01	H1250	22-Jan-91	11:36	2.42	0.00
LF2-02	H0775	22-Jan-91	11:36	1.97	0.00
LF2-02	H1219	22-Jan-91	11:36	1.74	0.47
LF2-02	H1234	22-Jan-91	11:36	2.32	0.47
LF2-02	H0633	22-Jan-91	12:40	2.66	0.66
LF2-02	H0690	22-Jan-91	12:40	2.00	0.00
LF2-02	H0766	22-Jan-91	12:40	3.33	-0.47
LF2-02	H0770	22-Jan-91	12:40	1.86	0.05
LF2-02	H0775	22-Jan-91	12:40	1.97	0.00
LF2-02	H1219	22-Jan-91	12:40	1.74	0.47
LF2-02	H1221	22-Jan-91	12:40	1.99	0.11
LF2-02	H1234	22-Jan-91	12:40	2.32	0.47
LF2-02	H1236	22-Jan-91	12:40	2.63	0.30
LF2-05	H0687	22-Jan-91	13:06	2.19	0.00
LF2-05	H1222	22-Jan-91	13:06	1.07	0.00
LF2-06	H0603	22-Jan-91	13:06	2.29	0.00
LF2-06	H1217	22-Jan-91	13:06	1.85	0.00

WELL	INST	DATE	TIME	Q	COND
LF3-02	S1393	26-Jan-88	12:00		2980
LF2-02	S1364	28-Jun-89	12:15	<	1500
LF2-05	S1367	26-Jan-88	12:00		3175
LF3-06	S1992	26-Jan-88	12:08		2730
LF3-02	S1393	23-Mar-88	11:15		1840
LF3-06	S1992	23-Mar-88	10:40		2350
LF2-01	S1401	23-Mar-88	12:35	<	1500
LF2-05	S1367	23-Mar-88	13:10		2670
LF3-01	S1989	29-Jan-88	12:00		1990
LF3-01	S1395	29-Apr-88	13:30	<	1500
LF3-02	S1400	29-Apr-88	13:30	<	1500
LF3-02	S1393	29-Apr-88	13:30	<	1500
LF3-04	S1396	29-Apr-88	13:30		3120
LF3-04	S1402	29-Apr-88	13:30		1880
LF3-06	S1992	29-Apr-88	13:30		2280
LF3-06	S1397	29-Apr-88	13:30		3480
LF3-07	S1399	29-Apr-88	13:30	<	1500
LF3-07	S1398	29-Apr-88	13:30	<	1500
LF2-05	S1367	29-Apr-88	10:50		2180
LF2-01	S1401	13-May-88	11:50	<	1500
LF2-02	S1364	13-May-88	13:35	<	1500
LF2-02	S1406	13-May-88	13:35	<	1500
LF2-05	S1367	13-May-88	13:15		1920
LF2-06	S1361	13-May-88	13:15	<	1500
LF3-01	S1989	13-May-88	10:15	<	1500
LF3-01	S1395	13-May-88	10:15	<	1500
LF3-02	S1400	13-May-88	10:15	<	1500
LF3-02	S1393	13-May-88	10:15	<	1500
LF3-04	S1396	13-May-88	10:25		3570
LF3-04	S1402	13-May-88	10:25		2430
LF3-06	S1992	13-May-88	10:25		2260
LF3-06	S1397	13-May-88	10:25		3350
LF3-07	S1399	13-May-88	10:15	<	1500
LF3-07	S1398	13-May-88	10:15	<	1500
LF3-07	S1398	09-Jun-88	13:30		1850
LF2-01	S1401	09-Jun-88	10:40	<	1500
LF2-02	S1364	09-Jun-88	11:10	<	1500
LF2-02	S1406	09-Jun-88	11:10	<	1500
LF2-05	S1367	09-Jun-88	11:53		1910
LF2-06	S1361	09-Jun-88	11:53	<	1500
LF3-01	S1989	09-Jun-88	13:50	<	1500
LF3-01	S1395	09-Jun-88	13:50	<	1500
LF3-02	S1400	09-Jun-88	13:50	<	1500
LF3-02	S1393	09-Jun-88	13:50	<	1500
LF3-04	S1396	09-Jun-88	13:20		6050
LF3-04	S1402	09-Jun-88	13:20		3980
LF3-06	S1992	09-Jun-88	13:20		2270
LF3-06	S1397	09-Jun-88	13:20		3600
LF3-07	S1399	09-Jun-88	13:30	<	1500
LF2-01	S1374	08-Jul-88	11:19		1750
LF2-01	S1401	08-Jul-88	11:19	<	1500
LF2-02	S1364	08-Jul-88	12:50	<	1500
LF2-02	S1406	08-Jul-88	12:50	<	1500
LF2-05	S1367	08-Jul-88	11:40		2170
LF2-06	S1361	08-Jul-88	11:40	<	1500
LF3-01	S1989	08-Jul-88	10:47		8600
LF3-01	S1395	08-Jul-88	10:47	<	1500
LF3-02	S1400	08-Jul-88	10:47		2025
LF3-02	S1393	08-Jul-88	10:47	<	1500
LF3-04	S1396	08-Jul-88	10:20		8600
LF3-04	S1402	08-Jul-88	10:20		6300
LF3-06	S1992	08-Jul-88	10:20		2300
LF3-06	S1397	08-Jul-88	10:20		3200
LF3-07	S1399	08-Jul-88	10:30	<	1500
LF3-07	S1398	08-Jul-88	10:30		2130
LF3-01	S1989	15-Aug-88	13:25		9400
LF3-01	S1395	15-Aug-88	13:25	<	1500

WELL	INST	DATE	TIME	Q	COND
LF3-02	S1400	15-Aug-88	13:25		3000
LF3-02	S1393	15-Aug-88	13:25	<	1500
LF3-04	S1396	15-Aug-88	13:00	<	1500
LF3-04	S1402	15-Aug-88	13:00	<	1500
LF3-06	S1992	15-Aug-88	13:00		2480
LF3-06	S1397	15-Aug-88	13:00		3170
LF3-07	S1399	15-Aug-88	12:55	<	1500
LF3-07	S1398	15-Aug-88	12:55		2230
LF2-01	S1374	15-Aug-88	13:45	<	1500
LF2-01	S1401	15-Aug-88	13:45	<	1500
LF2-02	S1364	15-Aug-88	14:30	<	1500
LF2-02	S1406	15-Aug-88	14:30	<	1500
LF2-05	S1367	15-Aug-88	14:13		2825
LF2-06	S1361	15-Aug-88	14:13	<	1500
LF2-01	S1374	09-Sep-88	10:25	<	1500
LF2-01	S1401	09-Sep-88	10:25	<	1500
LF2-02	S1364	09-Sep-88	11:20	<	1500
LF2-02	S1406	09-Sep-88	11:20	<	1500
LF2-05	S1367	09-Sep-88	10:55		3220
LF2-06	S1361	09-Sep-88	10:55	<	1500
LF3-01	S1989	09-Sep-88	13:05		6700
LF3-01	S1395	09-Sep-88	13:05	<	1500
LF3-02	S1400	09-Sep-88	13:05		2870
LF3-02	S1393	09-Sep-88	13:05	<	1500
LF3-04	S1396	09-Sep-88	13:28		5550
LF3-04	S1402	09-Sep-88	13:28		7000
LF3-06	S1992	09-Sep-88	13:28		2310
LF3-06	S1397	09-Sep-88	13:28		3180
LF3-07	S1399	09-Sep-88	13:28	<	1500
LF3-07	S1398	09-Sep-88	13:40		2200
LF2-01	S1374	24-Oct-88	10:20	<	1500
LF2-01	S1401	24-Oct-88	10:20	<	1500
LF2-02	S1364	24-Oct-88	10:55	<	1500
LF2-02	S1406	24-Oct-88	10:55	<	1500
LF2-05	S1367	24-Oct-88	10:40		3850
LF2-06	S1361	24-Oct-88	10:40		1580
LF3-01	S1989	24-Oct-88	13:05		2190
LF3-01	S1395	24-Oct-88	13:05	<	1500
LF3-02	S1400	24-Oct-88	13:05		1940
LF3-02	S1393	24-Oct-88	13:05	<	1500
LF3-04	S1396	24-Oct-88	12:34		1850
LF3-04	S1402	24-Oct-88	12:34		4870
LF3-06	S1992	24-Oct-88	12:34		2230
LF3-06	S1397	24-Oct-88	12:34		3200
LF3-07	S1399	24-Oct-88	12:34	<	1500
LF3-07	S1398	24-Oct-88	12:34		1920
LF2-01	S1374	30-Nov-88	11:00	<	1500
LF2-01	S1401	30-Nov-88	11:00	<	1500
LF2-02	S1364	30-Nov-88	11:30	<	1500
LF2-02	S1406	30-Nov-88	11:30	<	1500
LF2-05	S1367	30-Nov-88	13:40	<	1500
LF2-06	S1361	30-Nov-88	13:40	<	1500
LF3-01	S1989	30-Nov-88	13:55	<	1500
LF3-01	S1395	30-Nov-88	13:55	<	1500
LF3-02	S1400	30-Nov-88	13:55	<	1500
LF3-02	S1393	30-Nov-88	13:55	<	1500
LF3-04	S1396	30-Nov-88	14:05	<	1500
LF3-04	S1402	30-Nov-88	14:05		3580
LF3-06	S1992	30-Nov-88	14:05		2210
LF3-06	S1397	30-Nov-88	14:05		3230
LF3-07	S1399	30-Nov-88	15:15	<	1500
LF3-07	S1398	30-Nov-88	15:15		1960
LF3-01	S1989	15-Dec-88	12:49	<	1500
LF3-01	S1395	15-Dec-88	12:49	<	1500
LF3-02	S1400	15-Dec-88	12:49	<	1500
LF3-02	S1393	15-Dec-88	12:49	<	1500
LF3-04	S1396	15-Dec-88	13:31	<	1500

WELL	INST	DATE	TIME	Q	COND
LF3-04	S1402	15-Dec-88	13:31	<	1500
LF3-06	S1992	15-Dec-88	13:31		2130
LF3-06	S1397	15-Dec-88	13:31		3150
LF3-07	S1399	15-Dec-88	14:12	<	1500
LF3-07	S1398	15-Dec-88	14:12		1680
LF2-01	S1374	15-Dec-88	11:25	<	1500
LF2-01	S1401	15-Dec-88	11:25	<	1500
LF2-02	S1364	15-Dec-88	10:50	<	1500
LF2-02	S1406	15-Dec-88	10:50	<	1500
LF2-05	S1367	15-Dec-88	10:04		3810
LF2-06	S1361	15-Dec-88	10:04		1640
LF3-01	S1989	19-Jan-89	11:40	<	1500
LF3-01	S1395	19-Jan-89	11:40	<	1500
LF3-02	S1400	19-Jan-89	11:40	<	1500
LF3-02	S1393	19-Jan-89	11:40	<	1500
LF3-04	S1396	18-Jan-89	14:25	<	1500
LF3-04	S1402	18-Jan-89	14:25	<	1500
LF3-06	S1992	18-Jan-89	14:25		1840
LF3-06	S1397	18-Jan-89	14:25		2740
LF3-07	S1399	19-Jan-89	13:10		1500
LF3-07	S1398	19-Jan-89	13:10		1900
LF2-01	S1374	18-Jan-89	10:20	<	1500
LF2-01	S1401	18-Jan-89	10:20	<	1500
LF2-02	S1364	18-Jan-89	10:25	<	1500
LF2-02	S1406	18-Jan-89	10:25	<	1500
LF2-05	S1367	18-Jan-89	10:43	<	1500
LF2-06	S1361	18-Jan-89	10:43		3140
LF3-01	S1989	28-Feb-89	13:40	<	1500
LF3-02	S1400	28-Feb-89	13:40	<	1500
LF3-02	S1393	28-Feb-89	13:40	<	1500
LF3-04	S1396	28-Feb-89	14:25		4500
LF3-04	S1402	28-Feb-89	14:25	<	1500
LF3-04	S1396	28-Feb-89	14:25	<	1500
LF3-06	S1992	28-Feb-89	14:25		1680
LF3-06	S1397	28-Feb-89	14:25		2470
LF3-07	S1399	28-Feb-89	15:10	<	1500
LF3-07	S1398	28-Feb-89	15:10		1820
LF2-01	S1374	28-Feb-89	11:45	<	1500
LF2-01	S1401	28-Feb-89	11:45	<	1500
LF2-02	S1364	28-Feb-89	11:05	<	1500
LF2-02	S1406	28-Feb-89	11:05	<	1500
LF2-05	S1367	28-Feb-89	10:15		2710
LF2-06	S1361	28-Feb-89	10:15	<	1500
LF3-02	S1393	29-Mar-89	12:00	<	1500
LF3-04	S1396	29-Mar-89	12:02	<	1500
LF3-04	S1402	29-Mar-89	12:02	<	1500
LF3-06	S1992	29-Mar-89	12:02		1680
LF3-06	S1397	29-Mar-89	12:02		2380
LF3-07	S1399	29-Mar-89	12:10	<	1500
LF3-07	S1398	29-Mar-89	12:10		1800
LF2-01	S1374	29-Mar-89	10:17	<	1500
LF2-01	S1401	29-Mar-89	10:17	<	1500
LF2-02	S1364	29-Mar-89	10:55	<	1500
LF2-02	S1406	29-Mar-89	10:55	<	1500
LF2-05	S1367	29-Mar-89	11:22		2180
LF2-06	S1361	29-Mar-89	11:22	<	1500
LF2-01	S1374	27-Apr-89	10:40	<	1500
LF2-05	S1367	27-Apr-89	10:50		2110
LF2-06	S1361	27-Apr-89	10:50	<	1500
LF3-06	S1992	27-Apr-89	12:40		1620
LF2-05	S1367	27-Apr-89	10:40	<	1500
LF3-04	S1396	27-Apr-89	12:40	<	1500
LF3-01	S1989	01-Jun-89	12:05	<	1500
LF3-01	S1395	01-Jun-89	12:05	<	1500
LF3-06	S1397	27-Apr-89	12:40		2190
LF3-04	S1402	27-Apr-89	12:40		1980
LF3-07	S1398	27-Apr-89	12:00		1810

WELL	INST	DATE	TIME	Q	COND
LF3-02	S1400	01-Jun-89	12:05	<	1500
LF3-02	S1393	01-Jun-89	12:05	<	1500
LF3-02	S1393	01-Jun-39	12:05	<	1500
LF3-04	S1396	01-Jun-39	12:05		4100
LF3-04	S1402	01-Jun-89	12:05		4100
LF3-06	S1992	01-Jun-89	11:55		1550
LF3-06	S1397	01-Jun-89	11:55		2000
LF3-07	S1399	01-Jun-89	11:35	<	1500
LF3-07	S1398	01-Jun-89	11:35		1750
LF2-02	S1364	01-Jun-89	11:00	<	1500
LF2-02	S1406	01-Jun-89	11:00	<	1500
LF2-05	S1367	01-Jun-89	10:30		2250
LF2-01	S1374	01-Jun-89	10:00	<	1500
LF2-01	S1401	01-Jun-89	10:00	<	1500
LF3-06	S1397	28-Jun-90	12:50		1970
LF3-06	S1992	28-Jun-89	12:50	<	1500
LF3-06	S1397	28-Jun-89	12:50		1970
LF3-07	S1398	28-Jun-89	12:45		1710
LF2-01	S1374	28-Jun-89	11:55	<	1500
LF2-01	S1401	28-Jun-89	11:55	<	1500
LF2-06	S1361	01-Jun-89	10:30	<	1500
LF2-05	S1367	28-Jun-89	12:30		2420
LF3-01	S1395	28-Jun-89	13:20	<	1500
LF3-01	S1989	09-Aug-89	13:25		6250
LF3-02	S1400	28-Jun-89	13:20	<	1500
LF3-02	S1393	28-Jun-89	13:20	<	1500
LF3-07	S1399	28-Jun-89	12:45	<	1500
LF3-04	S1396	09-Aug-89	13:50		6650
LF3-04	S1402	09-Aug-89	13:50		7950
LF3-06	S1992	09-Aug-89	13:50	<	1500
LF3-06	S1397	09-Aug-89	13:50		2025
LF3-07	S1399	09-Aug-89	14:45	<	1500
LF3-07	S1398	09-Aug-89	14:45		1860
LF2-01	S1400	28-Jun-89	11:55	<	1500
LF2-01	S1401	09-Aug-89	10:25	<	1500
LF2-02	S1406	28-Jun-89	12:15	<	1500
LF3-01	S1395	09-Aug-89	13:25	<	1500
LF2-05	S1367	09-Aug-89	11:47		2400
LF2-06	S1361	09-Aug-89	11:47		1800
LF3-02	S1393	06-Sep-89	11:40	<	1500
LF3-04	S1396	06-Sep-89	11:10		4050
LF3-04	S1402	06-Sep-89	11:10		7400
LF3-06	S1397	06-Sep-89	11:10		1990
LF2-01	S1374	09-Aug-89	10:25	<	1500
LF3-07	S1398	06-Sep-89	10:46		1725
LF2-02	S1364	09-Aug-89	11:05	<	1500
LF2-02	S1406	09-Aug-89	11:05	<	1500
LF3-02	S1400	09-Aug-89	11:40	<	1500
LF2-06	S1361	05-Sep-89	15:00		1950
LF2-05	S1367	05-Sep-89	15:00		2400
LF3-01	S1989	12-Oct-89	12:50		2540
LF3-02	S1393	09-Aug-89	13:25	<	1500
LF3-07	S1399	06-Sep-89	10:46	<	1500
LF3-04	S1396	12-Oct-89	14:00	<	1500
LF3-04	S1402	12-Oct-89	14:00	<	1500
LF3-06	S1992	12-Oct-89	14:00	<	1500
LF3-06	S1992	12-Oct-89	14:00		1660
LF3-06	S1397	12-Sep-89	14:00		2100
LF3-06	S1397	12-Oct-89	14:00		2100
LF2-01	S1374	05-Sep-89	13:30	<	1500
LF3-07	S1398	12-Oct-89	14:41		1730
LF2-01	S1401	05-Sep-89	13:30	<	1500
LF2-02	S1364	05-Sep-89	14:10	<	1500
LF2-02	S1406	05-Sep-89	14:10	<	1500
LF3-01	S1395	12-Oct-89	12:50	<	1500
LF2-05	S1367	12-Oct-89	10:40		2050
LF2-06	S1361	12-Oct-89	10:40	<	1500

WELL	INST	DATE	TIME	Q	COND
LF2-06	S1361	12-Oct-89	10:40		2530
LF3-01	S1395	12-Oct-89	13:48	<	1500
LF3-02	S1400	12-Oct-89	12:50	<	1500
LF3-02	S1400	06-Sep-89	13:25	<	1500
LF3-07	S1399	12-Oct-89	14:41	<	1500
LF3-04	S1402	14-Nov-89	13:15		3590
LF3-06	S1992	14-Nov-89	13:15		1880
LF3-06	S1397	14-Nov-89	13:15		1860
LF2-01	S1374	12-Oct-89	09:20	<	1500
LF3-07	S1398	14-Nov-89	13:39		1720
LF2-01	S1401	12-Oct-89	09:20	<	1500
LF2-02	S1364	12-Oct-89	10:04	<	1500
LF2-02	S1406	12-Oct-89	10:04	<	1500
LF3-01	S1989	12-Oct-89	13:48	<	1500
LF2-05	S1367	14-Nov-89	11:00		2600
LF2-06	S1361	14-Nov-89	11:00		2090
LF3-01	S1395	14-Nov-89	13:48	<	1500
LF3-02	S1400	14-Nov-89	13:48	<	1500
LF3-02	S1393	14-Nov-89	13:48	<	1500
LF3-07	S1399	14-Nov-89	13:39	<	1500
LF3-04	S1402	14-Dec-89	11:15		2280
LF3-06	S1992	14-Dec-89	11:15	<	1500
LF3-06	S1397	14-Dec-89	11:15		1970
LF2-01	S1374	14-Nov-89	10:14	<	1500
LF3-07	S1398	14-Dec-89	11:35		1670
LF2-01	S1374	14-Dec-89	09:20	<	1500
LF2-01	S1401	14-Dec-89	09:20	<	1500
LF2-02	S1364	14-Dec-89	09:35	<	1500
LF2-02	S1406	14-Dec-89	09:35	<	1500
LF2-05	S1367	14-Dec-89	09:55		2600
LF2-06	S1361	14-Dec-89	09:55		2150
LF3-01	S1989	31-Jan-90	13:27	<	1500
LF3-04	S1396	14-Nov-89	13:15	<	1500
LF3-02	S1400	31-Jan-90	13:27	<	1500
LF3-02	S1393	31-Jan-90	13:27	<	1500
LF3-04	S1396	31-Jan-90	13:56	<	1500
LF3-04	S1402	31-Jan-90	13:56	<	1500
LF3-06	S1992	31-Jan-90	13:56	<	1500
LF3-06	S1397	31-Jan-90	13:56		1750
LF3-07	S1399	31-Jan-90	14:36	<	1500
LF3-07	S1398	31-Jan-90	14:36		1660
LF2-01	S1374	31-Jan-90	11:07	<	1500
LF2-01	S1401	31-Jan-90	11:07	<	1500
LF2-02	S1364	31-Jan-90	15:01	<	1500
LF2-02	S1406	31-Jan-90	15:01	<	1500
LF2-05	S1367	31-Jan-90	14:51		2410
LF2-06	S1361	31-Jan-90	14:51		2240
LF3-01	S1989	27-Feb-90	13:30	<	1500
LF3-01	S1395	27-Feb-90	13:30	<	1500
LF3-02	S1400	27-Feb-90	13:30	<	1500
LF3-02	S1393	27-Feb-90	13:30	<	1500
LF3-04	S1396	27-Feb-90	14:03	<	1500
LF3-04	S1402	27-Feb-90	14:03	<	1500
LF3-06	S1992	27-Feb-90	14:03	<	1500
LF3-06	S1397	27-Feb-90	14:03		1650
LF3-07	S1399	27-Feb-90	14:48	<	1500
LF3-07	S1398	27-Feb-90	14:48		1650
LF2-01	S1374	27-Feb-90	10:09	<	1500
LF2-01	S1401	27-Feb-90	10:09	<	1500
LF2-02	S1364	27-Feb-90	10:53	<	1500
LF2-02	S1406	27-Feb-90	10:53	<	1500
LF2-05	S1367	27-Feb-90	09:22		2300
LF2-06	S1361	27-Feb-90	09:22	<	1500
LF2-06	S1361	27-Feb-90	09:22		1780
LF3-01	S1989	28-Mar-90	12:45	<	1500
LF3-01	S1395	28-Mar-90	12:45	<	1500
LF3-02	S1400	28-Mar-90	12:45	<	1500
LF3-02	S1393	28-Mar-90	12:45	<	1500
LF3-04	S1396	28-Mar-90	13:25		1730
LF3-04	S1402	28-Mar-90	13:25		1540
LF3-06	S1992	28-Mar-90	13:25	<	1500
LF3-06	S1397	28-Mar-90	13:25		1530
LF3-07	S1399	28-Mar-90	14:10	<	1500
LF3-07	S1398	28-Mar-90	14:10		1660
LF2-01	S1374	28-Mar-90	10:32	<	1500
LF2-01	S1401	28-Mar-90	10:32	<	1500
LF2-02	S1364	28-Mar-90	10:50	<	1500
LF2-02	S1406	28-Mar-90	10:50	<	1500
LF2-05	S1367	28-Mar-90	11:20		2180
LF2-06	S1361	28-Mar-90	11:20	<	1500
LF2-06	S1361	28-Mar-90	11:20		1810
LF3-01	S1989	01-May-90	13:38	<	1500
LF3-02	S1400	01-May-90	13:38	<	1500
LF3-02	S1393	01-May-90	13:38	<	1500
LF3-04	S1396	01-May-90	14:07		5340
LF3-04	S1402	01-May-90	14:07		3190
LF3-06	S1992	01-May-90	14:07	<	1500
LF3-06	S1397	01-May-90	14:07	<	1500
LF3-07	S1399	01-May-90	15:00	<	1500
LF3-07	S1398	01-May-90	15:00		1660
LF2-01	S1374	01-May-90	10:35	<	1500
LF2-01	S1401	01-May-90	10:35	<	1500
LF2-02	S1364	01-May-90	11:05	<	1500
LF2-02	S1406	01-May-90	11:05	<	1500
LF2-05	S1367	01-May-90	11:30		2160
LF2-06	S1361	01-May-90	11:30		1640
LF3-01	S1989	28-Jun-90	09:39		3300
LF3-01	S1395	28-Jun-90	09:39	<	1500
LF3-02	S1400	28-Jun-90	09:39	<	1500
LF3-02	S1393	28-Jun-90	09:39	<	1500
LF3-04	S1396	27-Jun-90	15:15	<	1500
LF3-04	S1396	27-Jun-90	15:15		7750
LF3-04	S1402	27-Jun-90	15:15		5300
LF3-06	S1992	27-Jun-90	15:15	<	1500
LF3-06	S1397	27-Jun-90	15:15	<	1500
LF3-07	S1399	27-Jun-90	15:10	<	1500
LF3-07	S1398	27-Jun-90	15:10		1840
LF2-01	S1374	28-Jun-90	08:30	<	1500
LF2-01	S1401	28-Jun-90	08:30	<	1500
LF2-02	S1364	28-Jun-90	09:00	<	1500
LF2-02	S1406	28-Jun-90	09:00	<	1500
LF2-05	S1367	29-Jun-90	08:40		2020
LF2-06	S1361	29-Jun-90	08:40		1850
LF3-01	S1989	30-Jul-90	09:58		8000
LF3-01	S1395	30-Jul-90	09:58	<	1500
LF3-02	S1400	30-Jul-90	09:58	<	1500
LF3-02	S1393	30-Jul-90	09:58	<	1500
LF3-04	S1396	31-Jul-90	09:15		9800
LF3-04	S1402	31-Jul-90	09:15		7400
LF3-06	S1992	31-Jul-90	09:15	<	1500
LF3-06	S1397	31-Jul-90	09:15	<	1500
LF3-07	S1399	31-Jul-90	08:47	<	1500
LF3-07	S1398	31-Jul-90	08:47		1780
LF2-01	S1374	31-Jul-90	10:55	<	1500
LF2-01	S1401	31-Jul-90	10:55	<	1500
LF2-02	S1364	31-Jul-90	11:15	<	1500
LF2-02	S1406	31-Jul-90	11:15	<	1500
LF2-05	S1367	31-Jul-90	13:00		2600
LF2-06	S1361	31-Jul-90	13:00		2050
LF3-01	S1989	30-Aug-90	12:20		8250
LF3-01	S1395	30-Aug-90	12:20	<	1500
LF3-02	S1400	30-Aug-90	12:20	<	1500
LF3-02	S1393	30-Aug-90	12:20	<	1500
LF3-04	S1396	30-Aug-90	11:57		6950

WELL	INST	DATE	TIME	Q	COND
LF3-04	S1402	30-Aug-90	11:57		7600
LF3-06	S1992	30-Aug-90	11:57	<	1500
LF3-06	S1397	30-Aug-90	11:57		1550
LF3-07	S1399	30-Aug-90	11:50	<	1500
LF3-07	S1398	30-Aug-90	11:50		1650
LF2-01	S1374	30-Aug-90	12:58	<	1500
LF2-01	S1401	30-Aug-90	12:58	<	1500
LF2-02	S1364	30-Aug-90	13:17	<	1500
LF2-02	S1406	30-Aug-90	13:17	<	1500
LF2-05	S1367	30-Aug-90	13:40		2670
LF2-06	S1361	30-Aug-90	13:40		2150
LF3-01	S1989	05-Oct-90	14:38		5750
LF3-01	S1395	05-Oct-90	14:38	<	1500
LF3-02	S1400	05-Oct-90	14:38	<	1500
LF3-02	S1393	05-Oct-90	14:38	<	1500
LF3-04	S1396	05-Oct-90	14:16		6900
LF3-04	S1402	05-Oct-90	14:16		6600
LF3-06	S1992	05-Oct-90	14:16	<	1500
LF3-06	S1397	05-Oct-90	14:16		1650
LF3-07	S1399	05-Oct-90	14:07	<	1500
LF3-07	S1398	05-Oct-90	14:07		1660
LF2-01	S1374	05-Oct-90	15:00	<	1500
LF3-02	S1400	05-Oct-90	15:00	<	1500
LF2-02	S1364	05-Oct-90	15:15	<	1500
LF2-02	S1406	05-Oct-90	15:15	<	1500
LF2-05	S1367	05-Oct-90	15:32		3050
LF2-06	S1361	05-Oct-90	15:32		2240
LF3-01	S1989	01-Nov-90	12:40		1850
LF3-01	S1395	01-Nov-90	12:40	<	1500
LF3-02	S1400	01-Nov-90	12:40	<	1500
LF3-02	S1393	01-Nov-90	12:40		1550
LF3-04	S1396	01-Nov-90	11:45		4100
LF3-04	S1402	01-Nov-90	11:45		4800
LF3-06	S1992	01-Nov-90	11:45	<	1500
LF3-06	S1397	01-Nov-90	11:45		1650
LF3-07	S1399	01-Nov-90	11:17	<	1500
LF3-07	S1398	01-Nov-90	11:17		1700
LF2-01	S1374	01-Nov-90	14:09	<	1500
LF2-01	S1401	01-Nov-90	14:09	<	1500
LF2-02	S1364	01-Nov-90	13:30	<	1500
LF2-02	S1406	01-Nov-90	13:30	<	1500
LF2-05	S1367	01-Nov-90	12:56		3250
LF2-06	S1361	01-Nov-90	12:56		2300
LF3-01	S1989	04-Dec-90	11:35	<	1500
LF3-01	S1395	04-Dec-90	11:35	<	1500
LF3-02	S1400	04-Dec-90	11:35	<	1500
LF3-02	S1393	04-Dec-90	11:35		1550
LF3-04	S1402	04-Dec-90	11:09		2760
LF3-06	S1992	04-Dec-90	11:09	<	1500
LF3-06	S1397	04-Dec-90	11:09		1650
LF3-07	S1399	04-Dec-90	10:59	<	1500
LF3-07	S1398	04-Dec-90	10:59		1700
LF2-01	S1374	04-Dec-90	12:58	<	1500
LF2-01	S1401	04-Dec-90	12:58	<	1500
LF2-02	S1364	04-Dec-90	13:23	<	1500
LF2-02	S1406	04-Dec-90	13:23	<	1500
LF2-05	S1367	04-Dec-90	13:41		3300
LF2-06	S1361	04-Dec-90	13:41		2280
LF3-01	S1989	22-Jan-91	11:01	<	1500
LF3-01	S1395	22-Jan-91	11:01	<	1500
LF3-02	S1400	22-Jan-91	11:01	<	1500
LF3-02	S1393	22-Jan-91	11:01		1550
LF3-04	S1396	22-Jan-91	10:30	<	1500
LF3-04	S1402	22-Jan-91	10:30	<	1500
LF3-06	S1992	22-Jan-91	10:30	<	1500
LF3-06	S1397	22-Jan-91	10:30	<	1500
LF3-07	S1399	22-Jan-91	10:30	<	1500

WELL	INST	DATE	TIME	Q	COND
LF3-07	S1398	22-Jan-91	10:21		1680
LF2-01	S1374	22-Jan-91	11:36	<	1500
LF2-01	S1401	22-Jan-91	11:36	<	1500
LF2-02	S1364	22-Jan-91	12:40	<	1500
LF2-02	S1406	22-Jan-91	12:40	<	1500
LF2-05	S1367	22-Jan-91	13:06		3100
LF2-06	S1361	22-Jan-91	13:06		2100
LF2-01	S1401	14-Nov-89	10:14	<	1500
LF2-01	S1401	05-Oct-89	15:15	<	1500
LF2-02	S1406	14-Nov-89	10:30	<	1500
LF2-01	S1401	05-Oct-90	15:15		1500
LF2-06	S1361	28-Jun-89	12:30		1550
LF3-01	S1395	14-Dec-89	10:15	<	1500
LF3-01	S1395	31-Jan-90	13:27	<	1500
LF3-01	S1989	28-Jun-89	13:20		2940
LF3-01	S1989	14-Dec-89	10:15	<	1500
LF3-02	S1400	14-Dec-89	10:15	<	1500
LF3-04	S1396	01-Jun-89	11:55		4100
LF3-04	S1396	28-Jun-89	12:50		5900
LF3-04	S1396	04-Dec-90	11:09	<	1500
LF3-04	S1402	28-Jun-89	12:50		5800
LF3-06	S1992	09-Jun-89	11:10		1660
LF3-07	S1399	14-Dec-89	11:35		1500

WELL	YR	MO	D	TIME	DEP	COUNT
LF3-03	1988	02	09	11:20	224	4054
LF3-03	1988	02	09	11:20	216	3856
LF3-03	1988	02	09	11:20	210	3868
LF3-03	1988	02	09	11:20	204	3877
LF3-03	1988	02	09	11:20	198	3578
LF3-03	1988	02	09	11:20	192	3732
LF3-03	1988	02	09	11:20	186	3840
LF3-03	1988	02	09	11:20	180	3999
LF3-03	1988	02	09	11:20	174	3873
LF3-03	1988	02	09	11:20	168	3615
LF3-03	1988	02	09	11:20	162	3554
LF3-03	1988	02	09	11:20	156	3904
LF3-03	1988	02	09	11:20	150	4018
LF3-03	1988	02	09	11:20	144	3964
LF3-03	1988	02	09	11:20	138	4479
LF3-03	1988	02	09	11:20	132	4579
LF3-03	1988	02	09	11:20	126	3603
LF3-03	1988	02	09	11:20	120	3355
LF3-03	1988	02	09	11:20	114	3319
LF3-03	1988	02	09	11:20	108	3493
LF3-03	1988	02	09	11:20	102	3767
LF3-03	1988	02	09	11:20	96	3779
LF3-03	1988	02	09	11:20	90	3658
LF3-03	1988	02	09	11:20	84	3671
LF3-03	1988	02	09	11:20	78	3515
LF3-03	1988	02	09	11:20	72	3195
LF3-03	1988	02	09	11:20	66	3157
LF3-03	1988	02	09	11:20	60	3275
LF3-03	1988	02	09	11:20	54	3111
LF3-03	1988	02	09	11:20	48	3072
LF3-03	1988	02	09	11:20	42	3112
LF3-03	1988	02	09	11:20	36	3182
LF3-03	1988	02	09	11:20	30	3178
LF3-03	1988	02	09	11:20	24	3208
LF3-03	1988	02	09	11:20	18	4951
LF3-05	1988	02	09	10:50	279	8085
LF3-05	1988	02	09	10:50	252	9829
LF3-05	1988	02	09	10:50	246	10612
LF3-05	1988	02	09	10:50	240	10539
LF3-05	1988	02	09	10:50	234	10360
LF3-05	1988	02	09	10:50	228	6334
LF3-05	1988	02	09	10:50	222	3732
LF3-05	1988	02	09	10:50	216	4259
LF3-05	1988	02	09	10:50	210	5874
LF3-05	1988	02	09	10:50	204	4503
LF3-05	1988	02	09	10:50	198	4828
LF3-05	1988	02	09	10:50	192	4071
LF3-05	1988	02	09	10:50	186	3994
LF3-05	1988	02	09	10:50	180	4355
LF3-05	1988	02	09	10:50	174	4104
LF3-05	1988	02	09	10:50	168	4402
LF3-05	1988	02	09	10:50	162	4314
LF3-05	1988	02	09	10:50	156	3852
LF3-05	1988	02	09	10:50	150	4218
LF3-05	1988	02	09	10:50	144	3828
LF3-05	1988	02	09	10:50	138	3617
LF3-05	1988	02	09	10:50	132	3931
LF3-05	1988	02	09	10:50	126	4441
LF3-05	1988	02	09	10:50	120	3911
LF3-05	1988	02	09	10:50	114	4120
LF3-05	1988	02	09	10:50	108	3878
LF3-05	1988	02	09	10:50	102	3591
LF3-05	1988	02	09	10:50	96	3181
LF3-05	1988	02	09	10:50	90	3268
LF3-05	1988	02	09	10:50	84	3287
LF3-05	1988	02	09	10:50	78	3250
LF3-05	1988	02	09	10:50	72	3104

WELL	YR	MO	D	TIME	DEP	COUNT
LF3-05	1988	02	09	10:50	66	3112
LF3-05	1988	02	09	10:50	60	3290
LF3-05	1988	02	09	10:50	54	3056
LF3-05	1988	02	09	10:50	48	3613
LF3-05	1988	02	09	10:50	42	4180
LF3-05	1988	02	09	10:50	36	6909
LF3-05	1988	02	09	10:50	30	7339
LF3-05	1988	02	09	10:50	24	7102
LF3-05	1988	02	09	10:50	18	4924
LF2-03	1988	02	09	12:50	276	9982
LF2-03	1988	02	09	12:50	252	7892
LF2-03	1988	02	09	12:50	246	7089
LF2-03	1988	02	09	12:50	8141	5933
LF2-03	1988	02	09	12:50	240	8141
LF2-03	1988	02	09	12:50	234	5933
LF2-03	1988	02	09	12:50	228	3441
LF2-03	1988	02	09	12:50	222	6301
LF2-03	1988	02	09	12:50	216	4814
LF2-03	1988	02	09	12:50	210	5682
LF2-03	1988	02	09	12:50	204	3416
LF2-03	1988	02	09	12:50	198	3678
LF2-03	1988	02	09	12:50	192	3699
LF2-03	1988	02	09	12:50	186	4001
LF2-03	1988	02	09	12:50	180	4351
LF2-03	1988	02	09	12:50	174	4059
LF2-03	1988	02	09	12:50	168	4027
LF2-03	1988	02	09	12:50	162	3849
LF2-03	1988	02	09	12:50	156	3640
LF2-03	1988	02	09	12:50	150	3651
LF2-03	1988	02	09	12:50	144	3616
LF2-03	1988	02	09	12:50	138	3882
LF2-03	1988	02	09	12:50	132	4414
LF2-03	1988	02	09	12:50	126	4451
LF2-03	1988	02	09	12:50	120	3888
LF2-03	1988	02	09	12:50	114	3440
LF2-03	1988	02	09	12:50	108	3539
LF2-03	1988	02	09	12:50	102	3624
LF2-03	1988	02	09	12:50	96	3571
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LF2-03	1988	02	09	12:50	84	4437
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LF2-03	1988	02	09	12:50	72	3226
LF2-03	1988	02	09	12:50	66	3333
LF2-03	1988	02	09	12:50	60	3218
LF2-03	1988	02	09	12:50	54	3174
LF2-03	1988	02	09	12:50	48	3166
LF2-03	1988	02	09	12:50	42	3100
LF2-03	1988	02	09	12:50	36	2974
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LF2-03	1988	02	09	12:50	24	3692
LF2-03	1988	02	09	12:50	18	4100
LF2-04	1988	02	09	13:18	222	8847
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LF2-04	1988	02	09	13:18	246	6056
LF2-04	1988	02	09	13:18	240	6271
LF2-04	1988	02	09	13:18	234	4810
LF2-04	1988	02	09	13:18	228	3643
LF2-04	1988	02	09	13:18	222	3441
LF2-04	1988	02	09	13:18	216	3606
LF2-04	1988	02	09	13:18	210	3389
LF2-04	1988	02	09	13:18	204	3734
LF2-04	1988	02	09	13:18	198	4203
LF2-04	1988	02	09	13:18	192	3880
LF2-04	1988	02	09	13:18	186	3740
LF2-04	1988	02	09	13:18	180	3905
LF2-04	1988	02	09	13:18	174	4004
LF2-04	1988	02	09	13:18	168	4267

WELL	YR	MO	D	TIME	DEP	COUNT
LF2-04	1988	02	09	13:18	162	3963
LF2-04	1988	02	09	13:18	156	4084
LF2-04	1988	02	09	13:18	150	4181
LF2-04	1988	02	09	13:18	144	3879
LF2-04	1988	02	09	13:18	138	3804
LF2-04	1988	02	09	13:18	132	4190
LF2-04	1988	02	09	13:18	126	4415
LF2-04	1988	02	09	13:18	120	4394
LF2-04	1988	02	09	13:18	114	4047
LF2-04	1988	02	09	13:18	108	4602
LF2-04	1988	02	09	13:18	102	3941
LF2-04	1988	02	09	13:18	96	3840
LF2-04	1988	02	09	13:18	90	3614
LF2-04	1988	02	09	13:18	84	3517
LF2-04	1988	02	09	13:18	78	3390
LF2-04	1988	02	09	13:18	72	3540
LF2-04	1988	02	09	13:18	66	3879
LF2-04	1988	02	09	13:18	60	3591
LF2-04	1988	02	09	13:18	54	3563
LF2-04	1988	02	09	13:18	48	3430
LF2-04	1988	02	09	13:18	42	3238
LF2-04	1988	02	09	13:18	36	3309
LF2-04	1988	02	09	13:18	30	3280
LF2-04	1988	02	09	13:18	24	3136
LF2-04	1988	02	09	13:18	18	3020
LF2-07	1988	02	09	13:50	218	9304
LF2-07	1988	02	09	13:50	210	7767
LF2-07	1988	02	09	13:50	204	8245
LF2-07	1988	02	09	13:50	198	7416
LF2-07	1988	02	09	13:50	192	8659
LF2-07	1988	02	09	13:50	186	14326
LF2-07	1988	02	09	13:50	180	11366
LF2-07	1988	02	09	13:50	174	7967
LF2-07	1988	02	09	13:50	168	9844
LF2-07	1988	02	09	13:50	162	7298
LF2-07	1988	02	09	13:50	156	8094
LF2-07	1988	02	09	13:50	150	6202
LF2-07	1988	02	09	13:50	144	6739
LF2-07	1988	02	09	13:50	138	6240
LF2-07	1988	02	09	13:50	132	5193
LF2-07	1988	02	09	13:50	126	5367
LF2-07	1988	02	09	13:50	120	5555
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LF2-07	1988	02	09	13:50	96	5799
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LF2-07	1988	02	09	13:50	60	5498
LF2-07	1988	02	09	13:50	54	4243
LF2-07	1988	02	09	13:50	48	4537
LF2-07	1988	02	09	13:50	42	4227
LF2-07	1988	02	09	13:50	36	5015
LF2-07	1988	02	09	13:50	30	5840
LF2-07	1988	02	09	13:50	24	6115
LF2-07	1988	02	09	13:50	18	6219
LF2-03	1988	01	26	13:05	276	9906
LF2-03	1988	01	26	13:05	252	7916
LF2-03	1988	01	26	13:05	240	8095
LF2-03	1988	01	26	13:05	228	3407
LF2-03	1988	01	26	13:05	216	4893
LF2-03	1988	01	26	13:05	204	3482
LF2-03	1988	01	26	13:05	192	3740
LF2-03	1988	01	26	13:05	180	4249

LF2-03	1988	01	26	13:05	168	4015
LF2-03	1988	01	26	13:05	156	3666
LF2-03	1988	01	26	13:05	144	3600
LF2-03	1988	01	26	13:05	132	4501
LF2-03	1988	01	26	13:05	120	3773
LF2-03	1988	01	26	13:05	108	3547
LF2-03	1988	01	26	13:05	96	3647
LF2-03	1988	01	26	13:05	84	4524
LF2-03	1988	01	26	13:05	72	3243
LF2-03	1988	01	26	13:05	60	3149
LF2-03	1988	01	26	13:05	48	3002
LF2-07	1988	07	08	13:20	210	7866
LF2-07	1988	01	26	13:53	218	9346
LF2-07	1988	01	26	13:53	204	8252
LF2-07	1988	01	26	13:53	192	8606
LF2-07	1988	01	26	13:53	180	11320
LF2-07	1988	01	26	13:53	168	9814
LF2-07	1988	01	26	13:53	156	8153
LF2-07	1988	01	26	13:53	144	6689
LF2-07	1988	01	26	13:53	132	5355
LF2-07	1988	01	26	13:53	120	5747
LF2-07	1988	01	26	13:53	108	7054
LF2-07	1988	01	26	13:53	96	5694
LF2-07	1988	01	26	13:53	84	4779
LF2-07	1988	01	26	13:53	72	13495
LF2-07	1988	01	26	13:53	60	5947
LF2-07	1988	01	26	13:53	48	4570
LF2-07	1988	01	26	13:53	36	5140
LF2-07	1988	07	08	13:20	216	9185
LF2-04	1988	01	26	13:21	272	8962
LF2-04	1988	01	26	13:21	252	7265
LF2-04	1988	01	26	13:21	240	6295
LF2-04	1988	01	26	13:21	228	3676
LF2-04	1988	01	26	13:21	216	3438
LF2-04	1988	01	26	13:21	204	3749
LF2-04	1988	01	26	13:21	192	3817
LF2-04	1988	01	26	13:21	180	3725
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LF2-04	1988	01	26	13:21	156	4162
LF2-04	1988	01	26	13:21	144	3885
LF2-04	1988	01	26	13:21	132	4302
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LF2-04	1988	01	26	13:21	108	4594
LF2-04	1988	01	26	13:21	96	3875
LF2-04	1988	01	26	13:21	84	3497
LF2-04	1988	01	26	13:21	72	3351
LF2-04	1988	01	26	13:21	60	3522
LF2-04	1988	01	26	13:21	48	3366
LF2-04	1988	01	26	13:21	36	3240
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LF3-05	1988	01	26	12:08	240	10508
LF3-05	1988	01	26	12:08	228	6187
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LF3-05	1988	01	26	12:08	204	4476
LF3-05	1988	01	26	12:08	192	4096
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LF3-05	1988	01	26	12:08	156	3958
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LF3-05	1988	01	26	12:08	132	3987
LF3-05	1988	01	26	12:08	120	3935
LF3-05	1988	01	26	12:08	108	3962
LF3-05	1988	01	26	12:08	96	3194
LF3-05	1988	01	26	12:08	84	3463
LF3-05	1988	01	26	12:08	72	3044
LF3-05	1988	01	26	12:08	60	3299

LF3-03	1990	11	01	12:25	12	5328
LF3-03	1990	10	02	14:20	216	4272
LF3-03	1988	01	26	12:42	216	3817
LF3-03	1988	01	26	12:42	204	3905
LF3-03	1988	01	26	12:42	192	3581
LF3-03	1988	01	26	12:42	180	4010
LF3-03	1988	01	26	12:42	168	3684
LF3-03	1988	01	26	12:42	156	3981
LF3-03	1988	01	26	12:42	144	3972
LF3-03	1988	01	26	12:42	132	4402
LF3-03	1988	01	26	12:42	120	3377
LF3-03	1988	01	26	12:42	108	3797
LF3-03	1988	01	26	12:42	96	3914
LF3-03	1988	01	26	12:42	84	3653
LF3-03	1988	01	26	12:42	72	3210
LF3-03	1988	01	26	12:42	60	3182
LF3-03	1988	01	26	12:42	48	3135
LF3-03	1988	01	26	12:42	36	3265
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LF3-03	1988	02	25	10:47	210	4029
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LF3-03	1988	02	25	10:47	204	3808
LF3-03	1988	02	25	10:47	198	3627
LF3-03	1988	02	25	10:47	192	3727
LF3-03	1988	02	25	10:47	186	3864
LF3-03	1988	02	25	10:47	180	4014
LF3-03	1988	02	25	10:47	174	3877
LF3-03	1988	02	25	10:47	168	3807
LF3-03	1988	02	25	10:47	162	3597
LF3-03	1988	02	25	10:47	156	4005
LF3-03	1988	02	25	10:47	150	3954
LF3-03	1988	02	25	10:47	144	3902
LF3-03	1988	02	25	10:47	138	4506
LF3-03	1988	02	25	10:47	132	4587
LF3-03	1988	02	25	10:47	126	3566
LF3-03	1988	02	25	10:47	120	3494
LF3-03	1988	02	25	10:47	114	3282
LF3-03	1988	02	25	10:47	108	3734
LF3-03	1988	02	25	10:47	102	3639
LF3-03	1988	02	25	10:47	96	3849
LF3-03	1988	02	25	10:47	90	3637
LF3-03	1988	02	25	10:47	84	3684
LF3-03	1988	02	25	10:47	78	3515
LF3-03	1988	02	25	10:47	72	3307
LF3-03	1988	02	25	10:47	66	3211
LF3-03	1988	02	25	10:47	60	3208
LF3-03	1988	02	25	10:47	54	3110
LF3-03	1988	02	25	10:47	48	3131
LF3-03	1988	02	25	10:47	42	3004
LF3-03	1988	02	25	10:47	36	3210
LF3-03	1988	02	25	10:47	30	3154
LF3-03	1988	02	25	10:47	24	3056
LF3-03	1988	02	25	10:47	18	5074
LF3-03	1988	02	25	10:47	12	5990
LF3-03	1988	02	25	10:47	6	6097
LF3-03	1988	02	25	10:47	217	4112
LF3-05	1988	02	25	10:15	264	8039
LF3-05	1988	02	25	10:15	258	8286
LF3-05	1988	02	25	10:15	252	9580
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LF3-05	1988	02	25	10:15	240	10704
LF3-05	1988	02	25	10:15	234	10617
LF3-05	1988	02	25	10:15	228	6425
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LF3-05	1988	02	25	10:15	210	5827
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LF3-03	1990	10	02	14:20	120	3424
LF3-03	1990	10	02	14:20	114	3680
LF3-03	1990	10	02	14:20	108	3360
LF3-03	1990	10	02	14:20	102	3280
LF3-03	1990	10	02	14:20	96	3552
LF3-03	1990	10	02	14:20	90	3648
LF3-03	1990	10	02	14:20	84	3136
LF3-03	1990	10	02	14:20	78	3264
LF3-03	1990	10	02	14:20	72	3072
LF3-03	1990	10	02	14:20	66	3504
LF3-03	1990	10	02	14:20	60	3120
LF3-03	1990	10	02	14:20	54	3120
LF3-03	1990	10	02	14:20	48	3248
LF3-03	1990	10	02	14:20	42	2992
LF3-03	1990	10	02	14:20	36	3360
LF3-03	1990	10	02	14:20	30	2928
LF3-03	1990	10	02	14:20	24	2866
LF3-03	1990	10	02	14:20	18	5040
LF3-03	1990	10	02	14:20	12	5264
LF3-03	1990	10	02	14:20	6	3520
LF3-03	1990	11	01	12:25	217	3888
LF3-03	1990	11	01	12:25	216	3936
LF3-03	1990	11	01	12:25	210	4000
LF3-03	1990	11	01	12:25	204	3632
LF3-03	1990	11	01	12:25	198	3616
LF3-03	1990	11	01	12:25	192	3808
LF3-03	1990	11	01	12:25	186	4000
LF3-03	1990	11	01	12:25	180	3776
LF3-03	1990	11	01	12:25	174	3312
LF3-03	1990	11	01	12:25	168	3728
LF3-03	1990	11	01	12:25	162	3856
LF3-03	1990	11	01	12:25	156	3808
LF3-03	1990	11	01	12:25	150	3472
LF3-03	1990	11	01	12:25	144	4032
LF3-03	1990	11	01	12:25	138	4736
LF3-03	1990	11	01	12:25	132	4352
LF3-03	1990	11	01	12:25	126	3808
LF3-03	1990	11	01	12:25	120	3536
LF3-03	1990	11	01	12:25	114	3120
LF3-03	1990	11	01	12:25	108	3760
LF3-03	1990	11	01	12:25	102	3616
LF3-03	1990	11	01	12:25	96	3616
LF3-03	1990	11	01	12:25	90	3808
LF3-03	1990	11	01	12:25	84	3408
LF3-03	1990	11	01	12:25	78	3792
LF3-03	1990	11	01	12:25	72	3296
LF3-03	1990	11	01	12:25	66	3408
LF3-03	1990	11	01	12:25	60	3408
LF3-03	1990	11	01	12:25	54	3056
LF3-03	1990	11	01	12:25	48	2992
LF3-03	1990	11	01	12:25	42	2800
LF3-03	1990	11	01	12:25	36	2784
LF3-03	1990	11	01	12:25	30	2976
LF3-03	1990	11	01	12:25	24	2800
LF3-03	1990	11	01	12:25	18	4768
LF3-03	1990	11	01	12:25	12	5328
LF3-03	1990	11	01	12:25	6	3664
LF3-05	1990	08	01	13:50	264	8033

End of Well Reports

DRAFT

END-OF-WELL REPORT
CENTRAL FACILITIES LANDFILL AREA
WELL LF2-9

Prepared by:

_____

Deborah L. McElroy

Reviewed by:

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Approved by:

_____

William Pigott, CFA WAG Manager

END-OF-WELL-REPORT

I. GENERAL INFORMATION

A. Project Name: ~~INEL Deep Monitoring Wells~~ Hydrogeologic Characterization Study for CFA Landfills

B. Well Name/Number: LF2-09

C. Well Location: INEL, Central Facilities Area Landfill
Northing: 682898.62 ft Easting: 294194.66 ft
Land Surface Elevation: 4933.37 ft (brass marker)
NRTS datum
Survey Date: December 1990, MK-Ferguson

D. Plans:
1) *Hydrogeologic Characterization Study For CFA Landfills II and III, Idaho National Engineering Laboratory Technical Work Plan*, submitted to EG&G Idaho, Inc. by Science Applications International Corporation, April 15, 1988.
2) *Statement of Work for Groundwater Monitoring Well Construction at the CFA Landfills II and III*, EG&G Idaho, Inc.
3) *Synopsis of Work, Hydrogeologic Characterization Study for CFA Landfills II and III*, 31 January 1989 letter report, John Jaacks, Science Applications International Corporation.
4) Hydrogeologic Characterization Study for CFA Landfills II and III, Idaho National Engineering Laboratory, Technical Workplan, [illegible]

E. Logbooks used:
1) Well Drilling, Installation, and Development Logbook, No. CFA-2, EG&G Idaho, Inc.
2) Science Applications International Corporation Logbooks, submitted to EG&G Idaho, Inc., 04/18/88 through 11/08/88.

II. DRILLING AND COMPLETION OBSERVATIONS

A. Drilling Company: Denning Well Drilling
Drillers: D. Denning
On-Site Geologist: J. Jaacks/S. Ansley
Project Manager: L.C. Hell/M.H. Doornbos
Rig type: 670 Chicago Pneumatic
Bit type: Tricone bit

B. Summary of Drilling Activities:

DATE	ACTIVITY	MATERIALS USED
18-April-88	Set up at drill site. Drive surface casing to basalt (32 ft bls). Bentonite placed in annular space. Cleaned sediments out of casing. Drilled into basalt with 12-1/4 in tricone bit, using air rotary.	34 ft of 12-1/4 in ID carbon steel surface casing; 2 bags bentonite
19-April-88	Drilled to 130 ft bls. Hole caving from approximately 49-60 ft bls. Water used down hole to lubricate bit.	

DATE	ACTIVITY	MATERIALS USED
20-April-88	Because of caving problems, the hole was backfilled with sand from 130 to 76 ft bls and filled with cement from 76 to 25 ft bls.	2 yd^3 sand; 2 yd^3 portland Type I cement with sand and 5% bentonite
21-April-88	Cement and backfill sand drilled out. Drilled into basalt to 190 ft bls.	
22-April-88	Drilled from 180 to 310 ft bls.	
25-April-88	Drilled from 310 to 410 ft bls. Borehole caving from sedimentary layer encountered at approximately 377 to 385 ft bls.	
26-April-88	Hole had 20 ft of cave-in. Drilled and cleaned out borehole, and poured in cement to 345 ft bls to seal off caving layer.	2 yd^3 expansive cement with sand and 5% bentonite
27-April-88	Drilled out cement (345 to 410 ft bls) and continued drilling to 470 ft bls.	
28-April-88	Drilled from 470 ft to 590 ft bls.	
29-April-88	Drilled from 590 to 676 ft bls. Encountered a clay layer at 630 ft which was caving in as drilling proceeded.	
02-May-88	Performed geophysical logging: natural gamma, neutron, and caliper.	
03-May-88	Completed downhole logging: TV log and gamma log. Water level at 483 ft bls.	
07-July-88	6-in casing and well screen lowered to 613 ft bls. Borehole caving prevented lowering the well screen to the desired 632 to 642 ft interval.	160 ft of 6 in ID stainless steel casing; 453 ft of 6 in ID carbon steel casing
03-Aug-88	Six inch casing pulled. Tried to clean out borehole, using foam, but not successful. No circulation.	2 barrels of foam
04-Aug-88	Borehole was cleaned to 638 ft bls, using foam. Developed hole for 7.5 hours to try and clean out the sand.	6 barrels of foam
05-Aug-88	Sand level at 590 ft bls. Used rig compressors to blow sand out to 638 ft bls. Developed hole for 10 hrs.	3 buckets of foam
08-Aug-88	Sand level at 558 ft bls. Borehole cleaned to 630 ft bls and developed.	6 buckets (5 gal ea.) of EZ-Foam

DATE	ACTIVITY	MATERIALS USED
09-Aug-88	Developed hole for 3 hrs but sand still heaving into borehole.	EZ-Foam
10-Aug-88	U.S.G.S. conducted a resistivity log to look for water bearing fractures. None found.	
11-Aug-88	Top of well casing was sealed with a welded plate and completion of hole was deferred until next year.	

C. Summary of Well Construction Procedures:
Borehole LF2-09 was completed in September and October of 1989. The borehole had caved to 615.1 ft bls, and was completed above that depth. [illegible]

Type 304, 4-in ID, stainless steel, wire wrapped well screen (0.020 in slot size) was installed. The well screen was attached to 5.3 ft of 4-in nominal pipe size (4.5-in OD), type 304, stainless steel well casing (threaded, flush joint). The stainless steel well casing was joined with a dielectric union to 4-in nominal pipe size, 4.5-in OD, low-carbon steel well casing that extends to approximately 2 ft above ground surface.

The filter pack around the screen consists of grade 20 silica sand tremied down the borehole. A bentonite pellet seal was installed above the filter pack, using a tremie pipe, and hydrated by adding water on top of the pellets. The annulus above the bentonite was grouted to the surface, using a tremie pipe, with a mixture of 50% ASTM Type II cement, 45% sand, and 5% bentonite. Well development data is attached.

A Hydrostar piston pump was placed in the well, with the intake at 485 ft bls.

Surface completion included locking protective casing, and installment of a concrete pad and 3 impingement posts. The 12 1/4-in ID surface casing was cut off to near ground surface. The 4.5-in OD well casing extends above ground level and is topped with an aluminum locking box installed to protect the well head.

III. GEOLOGICAL OBSERVATIONS

A. Geological log, geophysical logs, stratigraphic column, and well construction diagram are attached.

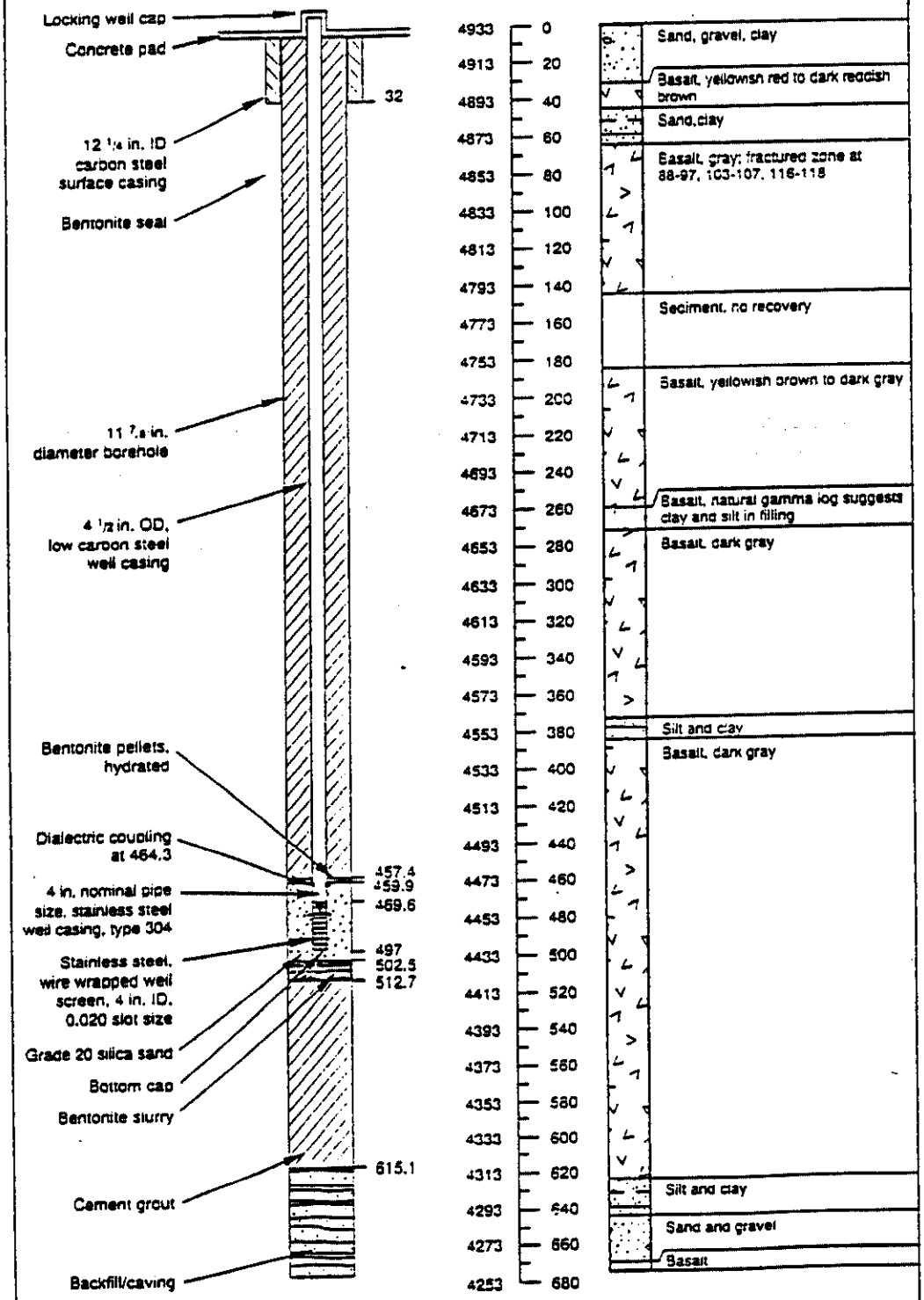
B. Samples collected. No information found.

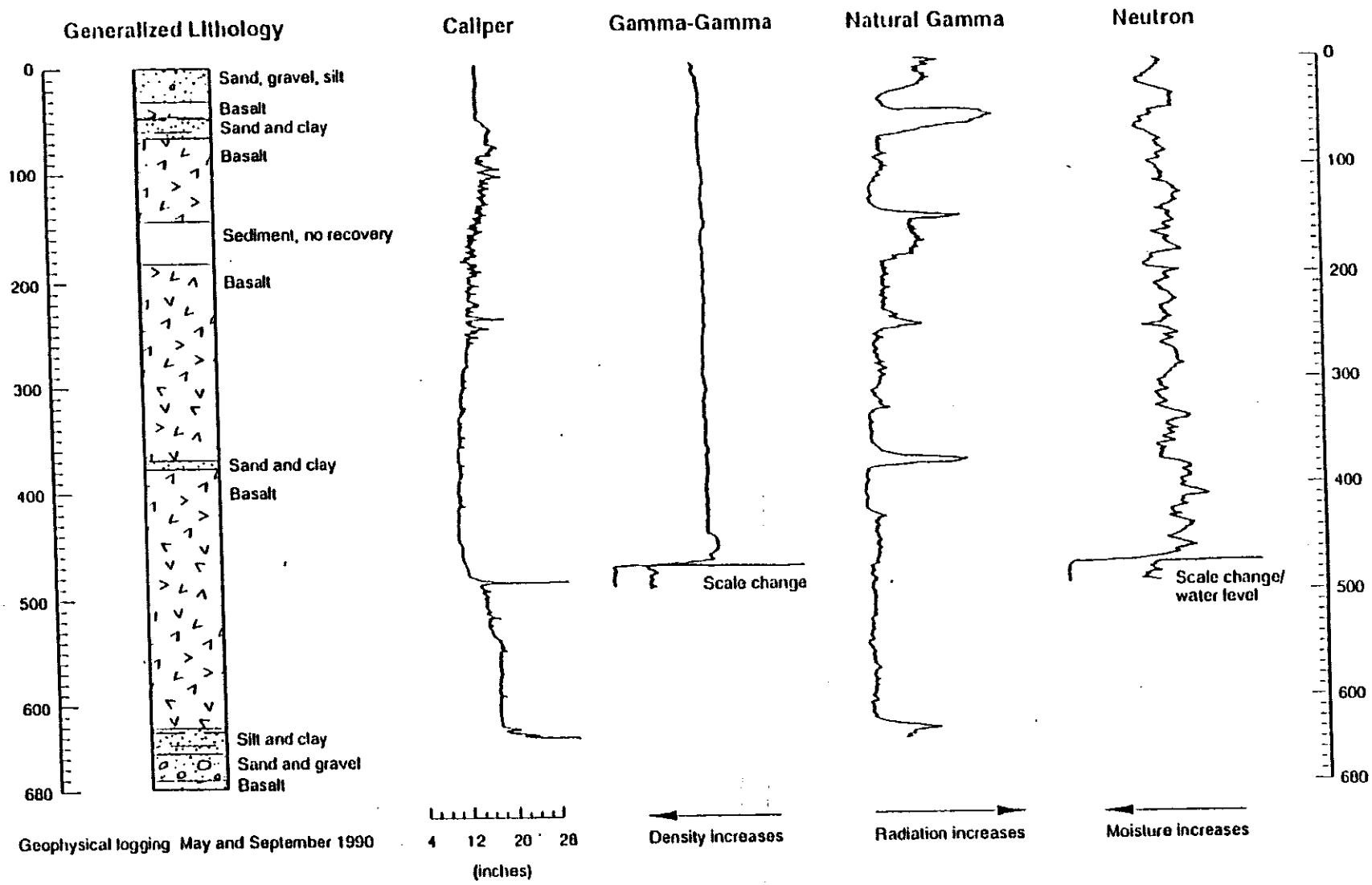
WELL DEVELOPMENT DATA: LF2-09

Development Method: Surge/Pump
Start Date: 11-Oct-89
End Date: 11-Oct-89
Volume Purged:

Time	Temperature (C)	pH (units)	Conductivity (millimhos/cm)
1300	15.96	9.85	0.614
1305	14.45	9.42	0.576
1315	13.05	9.18	0.569
1325	13.32	9.05	0.574
1330	13.17	9.02	0.588
1340	13.24	8.97	0.575
1350	13.20	8.92	0.570
1353	13.05	8.91	0.572
1359	12.94	8.87	0.571
1405	12.97	8.85	0.574
1410	12.98	8.86	0.574
1412	12.89	8.86	0.574
1413	12.90	8.87	0.574
1414	12.94	8.87	0.574
1419	12.98	8.87	0.575

GEOLOGIST: J. Jaacks/S. Ansley	LOG OF MONITORING WELL: LF2-C9	DEPTH OF WATER: 476.5 ft
DRILLING CONTRACTOR: Denning Drilling (1988, drilled) Hawley Drilling (1989, well completion)	LOCATION: INEL Central Facilities Area N 662898.62 ft E294194.66 ft	DATE MEASURED: 1989
		PUMP TYPE: Hydrostar piston pump
	TOTAL DEPTH OF HOLE: 676 ft	PUMP INTAKE DEPTH: 486 ft
DRILLING METHOD: Air rotary	TOTAL DEPTH OF WELL: 497 ft	EG&G Idaho, Inc.
GEOPHYSICAL LOGGING: USGS INEL	DATE DRILLED: 18-April-88 to 11-Aug-88	
	DATE INSTALLED: 20-Sept-89 to 9-Oct-89	
BOREHOLE DIAMETER: 12 1/4 in.: 0-676 ft	TOP OF FLANGE ELEVATION: 4935.14 ft	
	LAND SURFACE ELEVATION: 4933.37 ft	





Well CFA LF2-09

2-0095

END-OF-WELL REPORT
CENTRAL FACILITIES LANDFILL AREA
WELL LF2-12A

Prepared by:

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Deborah L. McElroy

Reviewed by:

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Approved by:

_____
William Pigott, CFA WAG Manager

END-OF-WELL-REPORT

I. GENERAL INFORMATION

A. Project Name: Hydrogeologic Characterization Study for CFA Landfills
B. Well Name/Number: LF2-12A
C. Well Location: INEL, Central Facilities Area Landfill
Northing: 683204.14 ft Easting: 294037.19 ft
Land Surface Elevation: 4933.7 ft (NRTS datum)
Survey Date: December 1990, MK-Ferguson
D. Plans:
1) *Technical Work Plan for the Hydrogeologic Characterization of CFA Landfills II and III*, EGG-WM-9119, July 6, 1990.
E. Logbooks used:
1) Field Team Leader's Daily Logbook, ERP-26-90
2) Well Drilling, Installation, and Development Logbook, ERP-146-90

II. DRILLING AND COMPLETION OBSERVATIONS

A. Drilling Company: P.C. Exploration
Drillers: Gregg Hickman, Bill Pavlock / Mack Stillwell, Paul Harmon
On-Site Geologist: John Ruth, Shannon Ansley, Deborah McElroy
Project Manager: Shannon Ansley
Rig type: Unknown
Bit type: Tricone bit for surficial sediments, air hammer bit for basalt

B. Summary of Drilling Activities:

DATE	ACTIVITY	MATERIALS USED
11-July-90	Decon equipment, take equipment blank.	
12-July-90	Used mud rotary to drill through surficial sediments with 14.5-inch diameter drill bit. Hit basalt at 25 to 26 ft bls. TD for day was 26.5 ft.	Hi-yield bentonite and water
13-July-90	Drilled to 30.9 ft bls. Surface casing (12-inch) pushed to 29.9 ft bls, 1 ft short of total depth. Could not push any further. Pressure grouted annulus.	2 yd^3 Type I and II Portland Cement with bentonite; 33 ft of 12-inch ID carbon steel surface casing
18-July-90	Planned to use 5.5-inch bit to drill through basalt to first interbed, where samples will be collected. A larger 11 7/8-inch bit is used after sample collection is completed. Drilled to 48 ft with 5.5-inch bit and reached first interbed.	

DATE	ACTIVITY	MATERIALS USED
19-July-90	Collected shelby tube sample from 48 to 50.3 ft bls.	
20-July-90	Reamed shelby tube hole to 50 ft bls, with 11 7/8-inch bit. Collected a shelby tube sample from 50.3 to 52.6 ft bls, 54.0 to 55.8 ft bls, 55.3 to 57.6 ft bls, 57.1 to 59.4 ft bls. Hit solid basalt at 59.6 ft bls, and drilled to 70 ft bls.	
23-July-90	Began reaming borehole with 11 7/8-inch hammer bit. Stopped reaming at 19.1 ft bls because surface casing had slipped down about 0.5 ft. Surface casing is no longer sealed. Crew welded an extra 1 ft of surface casing on to the existing surface casing.	
24-July-90	Reamed to 69 ft bls.	
25-July-90	Took a deviation measurement at approximately 94 ft bls, was 2 degrees from vertical. Drilled to 114.5 ft bls. Using some water spray in hole.	
26-July-90	Drilled to 171.7 ft bls.	
27-July-90	Drilled to 200 ft bls. Took deviation measurement at 180 ft bls, was 5 degrees from vertical.	
30-July-90	Repeated deviation measurements; 0.5 degrees from vertical at 100 ft bls, 0 degrees from vertical at 200 ft bls. Survey instrument was set in hammer and appeared to work better. Drilled to 226 ft bls.	
31-July-90	Took a deviation measurement at 295 ft bls, was 1 degree from vertical. Drill to 375 ft bls. Drill string stuck in borehole, can rotate bit but cannot pull up.	
01-Aug-90 to 04-Sept-90	Working to pull drill string. Finally were able to pull out the drill pipe and collar but the drill bit unscrewed and remained in the borehole. U.S.G.S. ran TV log. Measured water level ant 317 ft bls. Tried fishing for drill bit, but attempts were not successful. Decision was made to abandon the borehole.	

C. Summary of Construction/Abandonment Procedures:

On 13-Dec-1990, the bottom of the borehole was tagged at 357 ft bls. The borehole was then backfilled with cement to 60 ft bls, using 18.5 yd^3 of cement. On 14-Dec-1990, the surface casing was cut to 6 inches bls and the borehole was grouted to 5 ft bls using 16 yd^3 of cement. The borehole was later backfilled with cement to the surface, and a cement pad was poured over the top of the well casing. A brass marker was placed in the grout for identification and survey use.

The logbooks did not document the entire abandonment procedure for this borehole. The information not documented in the logbook was verbally communicated by Shannon Ansley (Project Manager during the drilling) on September 1, 1990.

NOTE: The borehole number LF2-12 was used in the logbooks, during the drilling of the borehole. The number was changed to LF2-I2A before the December 1990 location ~~and elevation~~ survey, in order to designate the borehole as abandoned (A).

III. GEOLOGICAL OBSERVATIONS

A. Geological log is attached.

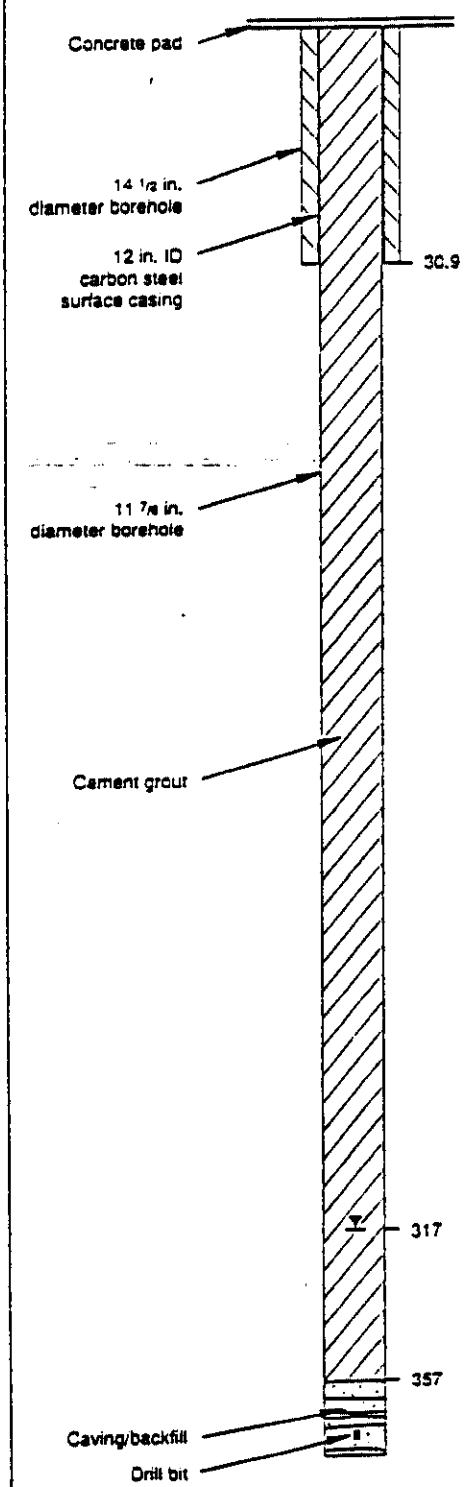
B. Samples collected.

Sample Depth	Comment
48 - 50.3 ft	1 ft of recovery (48 - 49 ft bls)
50.3 - 52.6 ft	
54.0 - 55.8 ft	2.3 ft of undisturbed sample. Top 0.5 ft is fill, 54 - 55.8 ft is undisturbed sediment.
55.3 - 57.6 ft	0.8 ft of fill on top, 1.5 ft undisturbed core
57.1 - 59.4 ft	0.6 ft of fill on top, 1.7 ft undisturbed core

Rinsate sample (Equipment Blank):

#61071190-01	TCCP metals
#61071190-02A	VOA
#61071190-02B	VOA
#61071190-03	VOA-trip blank

GEOLOGIST: John Ruth, Shannon Ansley, Deborah McElroy	LOG OF MONITORING WELL: LF2-12A	DEPTH OF WATER: 317 ft
DRILLING CONTRACTOR: PC Exploration	LOCATION: INEL Central Facilities Area N 683203.14 ft E 294037.19 ft	DATE MEASURED: 30-Aug-90
	TOTAL DEPTH OF HOLE: 375 ft	PUMP TYPE: N/A
DRILLING METHOD: Mud rotary-surficial sediments; Air rotary w/ downhole hammer-basalt	TOTAL DEPTH OF WELL: N/A (Abandoned)	PUMP INTAKE DEPTH: N/A
	DATE DRILLED: 11-Jul-90 to 4-Sept-90	EG&G Idaho, Inc.
GEOPHYSICAL LOGGING: TV logging, USGS INEL	DATE INSTALLED: N/A	
BOREHOLE DIAMETER: 14 1/2 in.: 0-30.9 ft; 11 7/8 in.: 30.9 - 375 ft	TOP OF CASING ELEVATION: (Casing is grouted below land surface)	
	LAND SURFACE ELEVATION: 4933.7 ft	



ELEV. (ft)	DEPTH (ft)	LITHOLOGIC DESCRIPTION
4944	0	Gravel, sand
4924	20	Basalt, fractured at 29 ft
4904	40	Sand, dark brownish-black, very fine to fine
4884	60	Basalt, black, dense; vuggy basalt at 74
4864	80	
4844	100	
4824	120	Basalt, black, scoriaceous
		Basalt, black, vuggy
4804	140	Sand?, brownish, fine-grained
4784	160	Basalt, black with alternating dense and vesicular zones.
4764	180	Fractured basalt with sediment in filling
		Basalt dense
4744	200	Clay, sandy
4724	220	Basalt, black, fine-grained; fractured at 221-225 ft, 260 ft, 275 ft, 280 ft, 300 ft, 324 ft, and 330 ft. Partial to complete loss of returns to surface.
4704	240	
4684	260	
4664	280	
4644	300	
4624	320	
4604	340	
4584	360	
4564	380	

▼ Water level

N92 0200

END-OF-WELL REPORT
CENTRAL FACILITIES LANDFILL AREA
WELL LF2-12

Prepared by:

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Deborah L. McElroy

Reviewed by:

_____

Approved by:

_____

William Pigott, CFA WAG Manager

END-OF-WELL-REPORT

I. GENERAL INFORMATION

A. Project Name: Hydrogeologic Characterization Study for CFA Landfills

B. Well Name/Number: LF2-12

C. Well Location: INEL, Central Facilities Area Landfill
Northing: 682924.45 ft Easting: 294018.71 ft
Land Surface Elevation: 4933.87 ft (brass marker) NRTS datum
Survey Date: December 1990, MK-Ferguson

D. Plans:
1) *Technical Work Plan for the Hydrogeologic Characterization of CFA Landfills II and III*, EGG-WM-9119, July 6, 1990.

E. Logbooks used:
1) Field Team Leader's Daily Logbook, ERP-29-90
2) Well Drilling, Installation, and Development Logbook, ERP-146-90

II. DRILLING AND COMPLETION OBSERVATIONS

A. Drilling Company: P. C. Exploration
Drillers: Mack Stillwell, Paul Harmon
On-Site Geologist: David Burgess
Project Manager: Shannon Ansley
Rig type: Unknown
Bit type: Tricone bit for surficial sediments, air hammer bit for basalt

B. Summary of Drilling Activities:

DATE	ACTIVITY	MATERIALS USED
02-Oct-90	Drilled through surficial sediments and into basalt with 15-inch tricone bit. Hit basalt at approximately 23 ft bls. TD for day was 30 ft bls.	
03-Oct-90	Pushed 12-inch surface casing down to 28 ft bls. Could not push to bottom of hole, but is 5 to 6 ft into the basalt	32 ft of 12-inch ID carbon steel surface casing
04-Oct-90	Drilled with 5.5-inch hammer bit to top of interbed at 46 ft bls. Collected interbed samples (#CF0090105, CF00100105, and CF00110205) from 46 to 50.5 ft bls. After interbed samples were collected, the borehole was reamed and drilled with an 11 7/8-inch bit to 65 ft bls. Cement grouted the borehole.	2 yd^3 cement, with bentonite, sand and CaCl added
05-Oct-90	Top of cement tagged at 25 ft bls. Drilled through cement and into basalt, to 100 ft bls. The borehole was grouted.	4 yd^3 cement, with bentonite, sand, and CaCl added

DATE	ACTIVITY	MATERIALS USED
08-Oct-90	Top of cement tagged at 50 ft bls. Drilled to 257 ft bls. Hit interbed at approximately 225 ft bls, back in basalt at 235 ft bls. Adding water spray to circulation to keep down dust. Grouted the borehole to 120 ft bls.	5.5 yd^3 cement, with bentonite, sand, and CaCl added
09-Oct-90	Drilled to 337 ft bls. Took a deviation measurement of 1 degree from vertical, at 200 ft bls then grouted up the borehole.	4 yd^3 cement, with sand, bentonite, and CaCl
10-Oct-90	Tagged the top of the grout at 243 ft bls and drilled to 374 ft bls. Had trouble with the borehole sloughing in from an interbed/cinder zone at 374 to 380 ft.	
11-Oct-90	Cleaned out hole, drilled to 377 ft bls, and grouted.	3.5 yd^3 cement, with sand, bentonite, and CaCl added
12-Oct-90	Tagged top of grout at 289 ft bls. Drilled to 437 ft bls. Grouted borehole.	? yd^3 cement with sand, bentonite, and CaCl added
15-Oct-90	Tagged top of cement grout at 327 ft bls. Cement still wet. Drilled through cement and took a deviation measurement at 400 ft bls, was 1.5 degrees from vertical. Drilled to a total depth of 517 ft bls and measured the water table at 489 ft bls.	
16-Oct-90	Water level is 475.5 ft bls, measured before began circulating air. Caved from 517 to 509 ft bls. Noticed some bridging or obstruction in borehole at 384 ft bls. U.S.G.S. sent a camera down the hole, for a TV log. Log showed a slight offset in the hole at approximately 380 ft bls. Cement had not held well.	

C. Summary of Well Construction Procedures:

DATE	ACTIVITY	MATERIALS USED
17-Oct-90	Installed 4-inch ID, passivated, Type 304, stainless steel, wire wrapped well screen (0.02-inch slot size) below water table with a threaded, passivated endplug attached to the bottom of the screen. Joined the well screen to 4-inch nominal pipe size (4.5-inch OD), Schedule 10S, Type 304, flush threaded, passivated, stainless steel well casing. Installed centralizers at 469 ft, 334 ft, and 163 ft bls. Began installing filter pack, using the tremie pipe. Installed 8-12 grade and 6-9 grade sand to 492 ft bls, then stopped for the day.	22 ft well screen; 470 ft well casing; top and bottom caps; three centralizers; 7 sacks silica sand (8-12 grade); 10 sacks silica sand (6-9 grade)
18-Oct-90	Completed installation of filter pack consisting of 6-9 grade silica sand, 10-20 grade silica sand. A bentonite seal was installed above the filter pack. Water was added to the bentonite	24 sacks silica sand (grade 6-9); 1 sack silica sand (grade 10-20); 25 gallons bentonite pellets, hydrated
19-Oct-90 to 23-Oct-90	Grouted well annulus with cement mix, using tremie pipe.	12 (94 pound) sacks cement; 16 (70 pound) sacks sand; 22 pounds of bentonite; 14 yd^3 cement with sand and bentonite added
24-Oct-90	Cut 12-inch casing off at ground level, installed 6-inch ID, locking, carbon steel, protective casing. Surface completion included concrete pad and impingement posts.	6 ft of 6-inch ID carbon steel protective casing
16-Nov-90	Installed Hydrostar piston pump. Pump intake set at 481.36 ft bls.	

B. Summary of Well Development Procedures:

DATE	ACTIVITY	MATERIALS USED
16-Nov-90	Surged well using a surge block for 60 minutes. Lowered a submersible pump into the well and began evacuating water. Measured specific conductance, temperature, pH, and dissolved oxygen of the development water. Pumped approximately 300 gallons, until parameters stabilized.	

III. GEOLOGICAL OBSERVATIONS

A. Geological log, geophysical logs, stratigraphic column, and well construction diagram are attached.

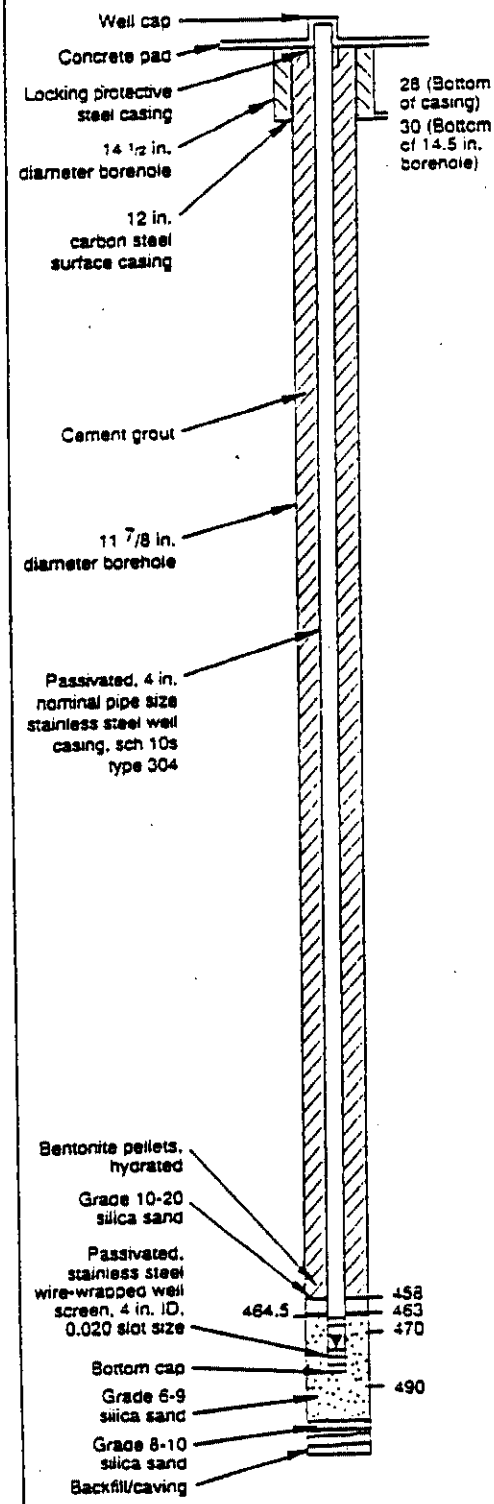
B. Samples collected.

Sample Depth	Comments
46 - 50.5 ft	#CF0090105, #CF0010105, #CF00110205

Samples are stored in the INEL Core Library

NOTE: The borehole number LF2-12A was recorded in the logbooks throughout the drilling and completion of this borehole. The number was changed to LF2-12 before the December 1990 surveying of the boreholes.

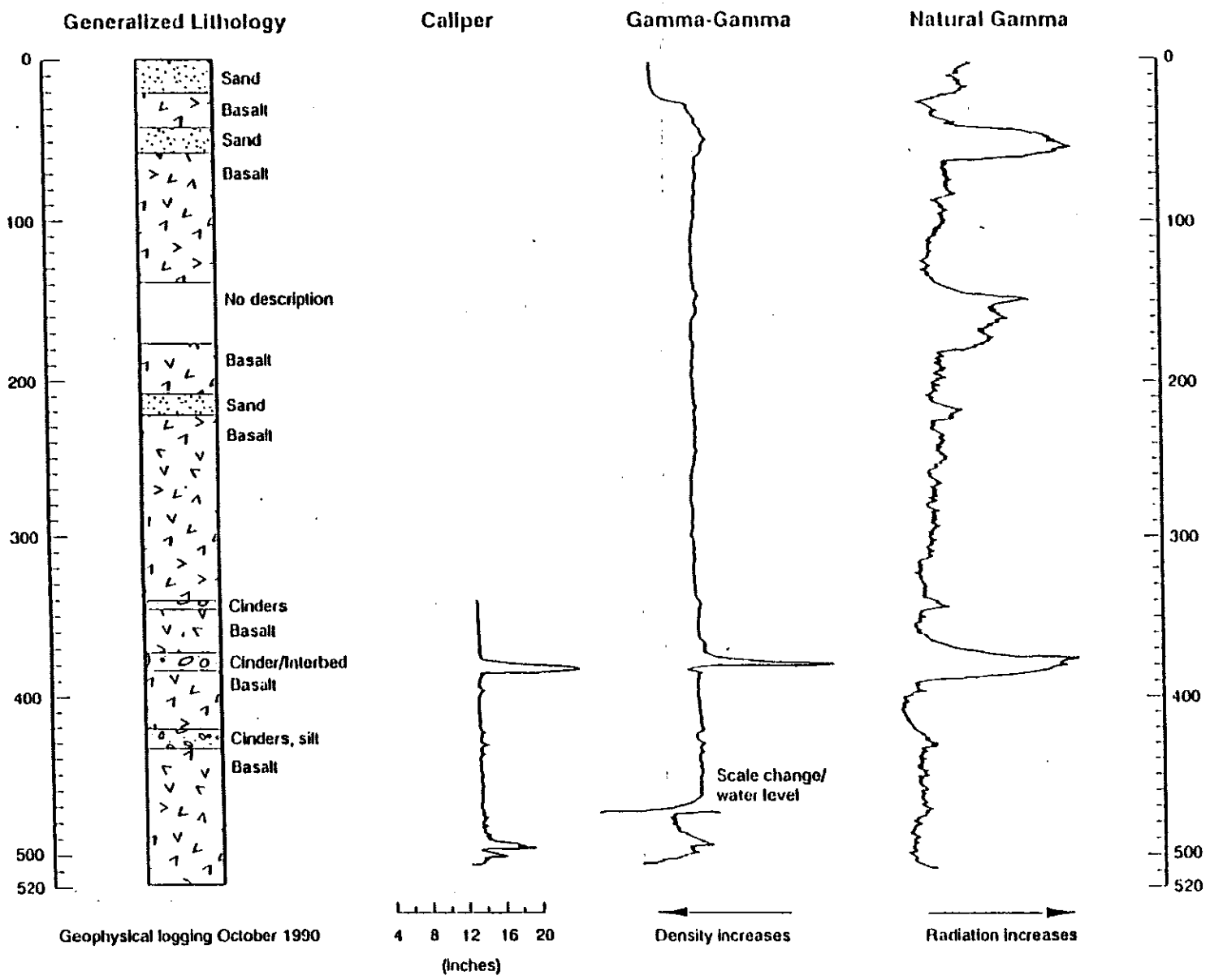
GEOLOGIST: Dave Burgess	LOG OF MONITORING WELL: LF2-12	DEPTH OF WATER: 475.5 ft
DRILLING CONTRACTOR: PC Exploration	LOCATION: INEL Central Facilities Area N 682924.45 ft E 294018.71 ft	DATE MEASURED: 18-Oct-90
		PUMP TYPE: Hydrostar piston pump
DRILLING METHOD: Mud rotary-surficial sediments; Air rotary w/ downhole hammer-basalt	TOTAL DEPTH OF HOLE: 517 ft	PUMP INTAKE DEPTH: 481.36 ft
	TOTAL DEPTH OF WELL: 490 ft	EG&G Idaho, Inc.
GEOPHYSICAL LOGGING: USGS INEL	DATE DRILLED: 02-Oct-90 to 16-Oct-90	
	DATE INSTALLED: 17-Oct-90 to 16-Nov-90	
BOREHOLE DIAMETER: 14 1/2 in.: 0-30 ft; 11 7/8 in.: 30-517 ft	TOP OF FLANGE ELEVATION: 4935.52 ft	
	LAND SURFACE ELEVATION: 4933.87 ft	



ELEV. (ft)	DEPTH (ft)	LITH	LITHOLOGIC DESCRIPTION
4933	0		Sand, course
4913	20		Basalt, gray
4893	40		Sand, light brownish red. Some fine basalt layers below 50.5 ft
4873	60		Basalt, hard
4853	80		
4833	100		
4813	120		
4793	140		
4773	160		No description. Geologic log suggests possible cinder zone encountered (poor circulation). Natural gamma log also indicates a change
4753	180		Basalt
4733	200		
4713	220		Sand, red, fine-grained
4693	240		Basalt, fractured at 245 ft; fractured on cinder zone at 257 - 265 ft, 285 ft
4673	260		
4653	280		
4633	300		
4613	320		
4593	340		Cinder zone, with red, medium to fine sand-sized grains
4573	360		Basalt
4553	380		Interbed or cinder zone?
4533	400		Basalt
4513	420		Cinder zone, silt sized, brownish red grains interlayered with course, angular vesicular basalt cinders, red-stained
4493	440		Basalt
4473	460		
4453	480		
4433	500		No recovery from 490 to 517 ft. Did observe some basalt with silt-size bright red cinder? material
4413	520		

NOTE: Centralizers placed at 163, 334, and 469 ft

N92 0203



Well CFA LF2-12

2-0096

END-OF-WELL REPORT
CENTRAL FACILITIES LANDFILL AREA
WELL LF3-9

Prepared by:

_____
Deborah L. McElroy

Reviewed by:

_____

Approved by:

_____
William Pigott, CFA WAG Manager

END-OF-WELL-REPORT

I. GENERAL INFORMATION

A. Project Name: Hydrogeologic Characterization Study for CFA Landfills

B. Well Name/Number: LF3-9

C. Well Location: INEL, Central Facilities Area Landfill
Northing: 682822.69 ft Easting: 291512.30 ft
Land Surface Elevation: 4942.33 ft (brass marker) NRTS datum
Survey Date: December 1990, MK-Ferguson

D. Plans:
1) *Technical Work Plan for the Hydrogeologic Characterization of CFA Landfills II and II*, EGG-WM-9119, July 6, 1990

E. Logbooks used:
1) Field Team Leader's Daily Logbook, ERP-347-90
2) Well Drilling, Installation, and Development Logbook, ERP-353-90

II. DRILLING AND COMPLETION OBSERVATIONS

A. Drilling Company: P. C. Exploration
Drillers: Mack Stillwell, Paul Harmon
On-Site Geologist: Kenneth Manchestor, Brian Higgs
Project Manager: Shannon Ansley
Rig type: Reichdrill-700
Bit type: Tricone bit for surficial sediments, air hammer bit for basalt

B. Summary of Drilling Activities:

DATE	ACTIVITY	MATERIALS USED
18-Oct-90	Drilled 17.5 ft with mud rotary and a 14.5-inch tricone bit through surficial sediments and into basalt. Pushed in and grouted the 12-inch ID surface casing. Could not push to TD, pushed to 14.48 ft bls (approximately 4.5 ft into the basalt)	Grout mix: 70 gallons water, 10 bags portland cement, 20 pounds bentonite, 20 pounds calcium chloride
19-Oct-90	Drilled with 5.5-inch air hammer bit to 62 ft bls. Hit a soft zone at 51 to 62 ft bls, but did not collect shelby tube samples due to poor drilling conditions. Circulation was poor to non-existent and there appeared to be a rubble zone.	
22-Oct-90	Reamed borehole with 11 7/8-inch hammer bit to 62 ft bls, then drill to 64 ft bls. The borehole was then grouted to 5 ft bls to stabilize the hole.	2.5 yd^3 cement grout with bentonite, sand, cement, and CaCl added

DATE	ACTIVITY	MATERIALS USED
13-Nov-90	U.S.G.S. logged hole with TV camera, determined there was no damage to the well screen. Water level measured at 492 ft bls in morning and 483 ft bls in afternoon. Pulled out well casing and screen.	
14-Nov-90	Fishing for tremie pipe.	
15-Nov-90 to 26-Nov-90	Continued fishing for tremie pipe. Retrieved last piece of tremie pipe on 26-Nov-90.	
30-Nov-90	Water level at 485.1 ft bls. Re-installed stainless steel screen and well casing. Bottom of casing installed to 500 ft bls. Installed filter pack using a tremie pipe.	28 sacks of 6-9 sand; 1 sack of 10-20 sand, 25 gallons of bentonite pellets; water to hydrate bentonite
01-Dec-90	Grouted annulus with cement, using tremie pipe.	unknown amount of cement
05-Dec-90	Continued grouting annulus.	7 yd^3 cement
11-Dec-90	Grouted to within 8 ft of the surface.	unknown amount of cement
unknown	Completed grouting annulus with cement to the surface. Installed 6-inch ID carbon steel protective casing. Concrete pad and impingement posts installed.	6 feet of 6-inch ID protective casing, unknown amount of cement
01-10-91	Installed Hydrostar piston pump. Pump intake set at 493 ft bls.	

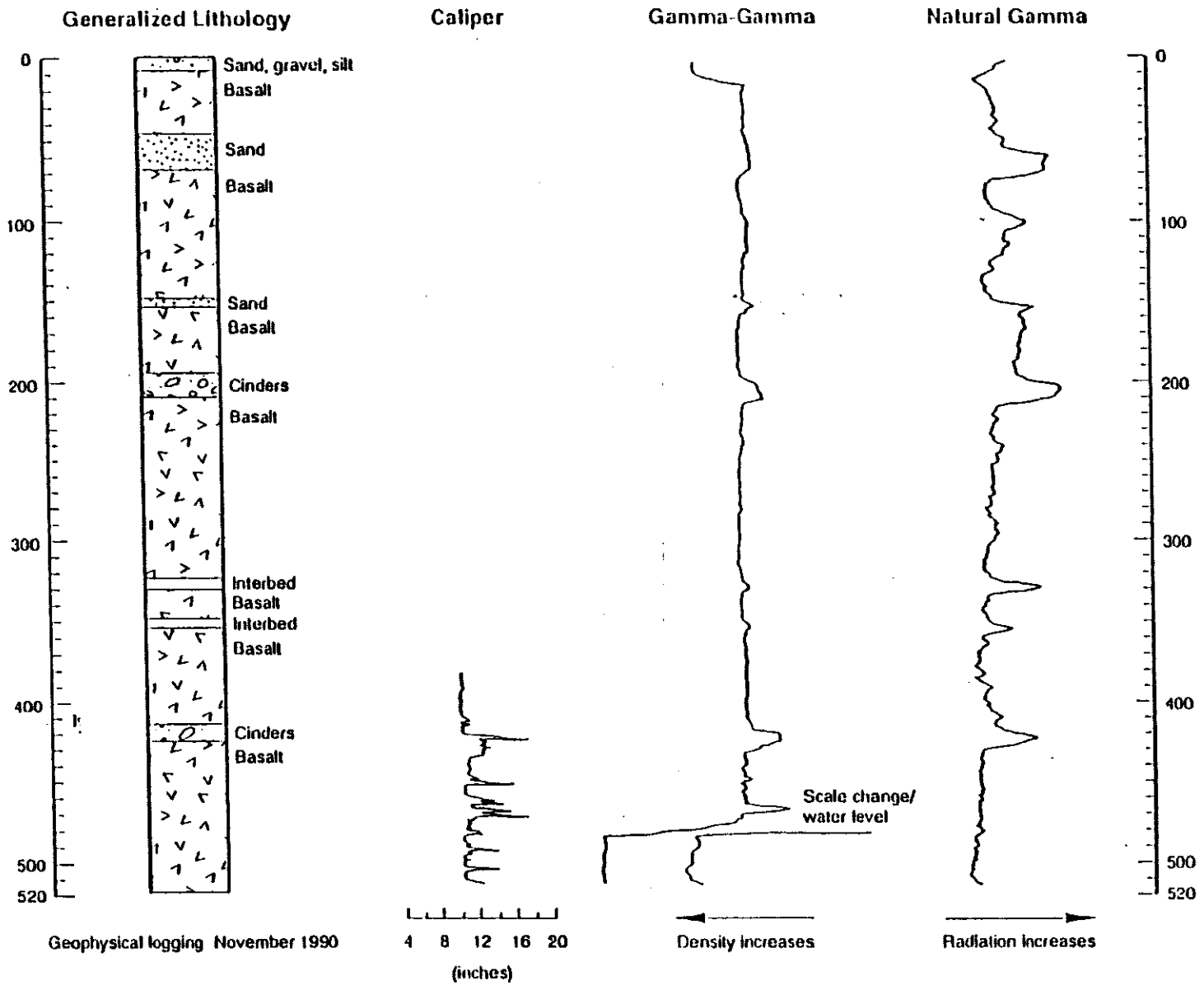
C. Summary of Well Development Procedures:

DATE	ACTIVITY	MATERIALS USED
12-Dec-90	Installed surge block.	
13-Dec-90	Surged well using the surge block for 40 minutes. Lowered a submersible pump into the well and pumped about 300 gallons of water out of the well, till water clear and measured parameters stabilized.	

III. GEOLOGICAL OBSERVATIONS

A. Geological log, geophysical logs, stratigraphic column, and well construction diagram are attached.

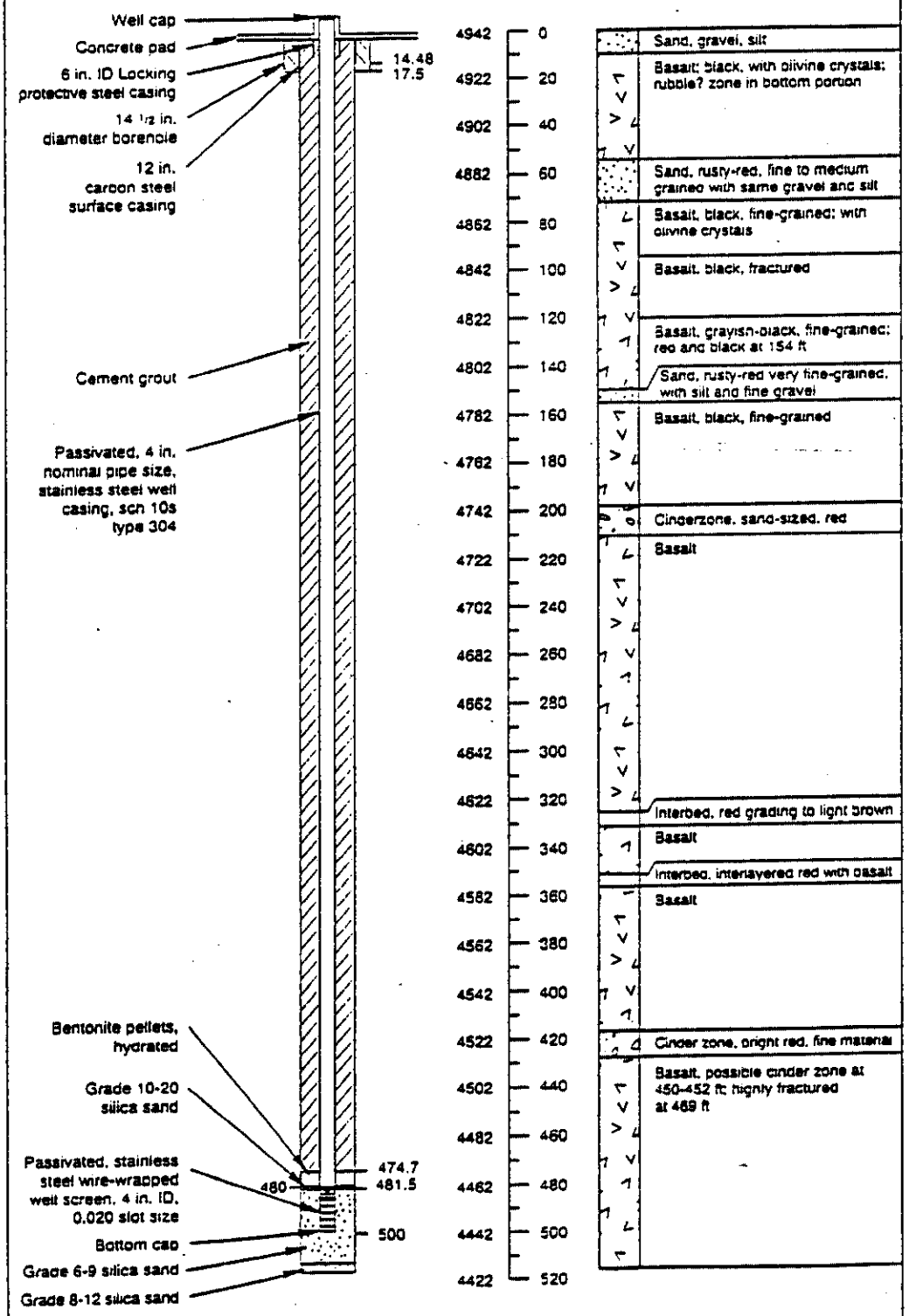
B. Samples collected. No samples were collected.



Well CFA LF3-9

2-0093

GEOLOGIST: Kenneth Manchestor/Brian Higgs	LOG OF MONITORING WELL: LF3-9	DEPTH OF WATER: 485.1 ft
DRILLING CONTRACTOR: PC Exploration	LOCATION: INEL Central Facilities Area N 582522.69 ft E 291512.30 ft	DATE MEASURED: 13-Nov-90
DRILLING METHOD: Mud rotary-surficial sediments Air rotary w/ downhole hammer-basalt	TOTAL DEPTH OF HOLE: 517 ft	PUMP TYPE: Hydrostarr Piston Pump
GEOPHYSICAL LOGGING: USGS INEL	TOTAL DEPTH OF WELL: 500 ft	PUMP INTAKE DEPTH: 493 ft
BOREHOLE DIAMETER: 14 1/2 in.: 0-17.5 ft 11 7/8 in.: 17.5 - 517 ft	DATE DRILLED: 18-Oct-90 to 07-Nov-90	EG&G Idaho, Inc.
	DATE INSTALLED: 07-Nov-90 to 10-Jan-90	
	TOP OF FLANGE ELEVATION: 4944.11 ft	
	LAND SURFACE ELEVATION: 4942.33 ft	



▼ Water level NOTE: 3 centralizers were installed, but depths are not known

N92 0201

END-OF-WELL REPORT
CENTRAL FACILITIES LANDFILL AREA
WELL LF3-10

Prepared by:

_____
Deborah L. McElroy

Reviewed by:

_____

Approved by:

_____
William Pigott, CFA WAG Manager

END-OF-WELL-REPORT

I. GENERAL INFORMATION

A. Project Name: Hydrogeologic Characterization Study for CFA Landfills

B. Well Name/Number: LF3-10

C. Well Location: INEL, Central Facilities Area Landfill
Northing: 683528.93 ft Easting: 290875.41 ft
Land Surface Elevation: 4943.87 ft (brass marker) NRTS datum
Survey Date: December 1990, MK-Ferguson

D. Plans:
1) *Technical Work Plan for the Hydrogeologic Characterization of CFA Landfills II and III, EGG-WM-9119, July 6, 1990.*

E. Logbooks used:
1) Well Drilling, Installation, and Development Logbook, ERP-31-90
2) Field Team Leader's Daily Logbook, ERP-26-90
3) Field Team Leader's Daily Logbook, ERP-347-90
4) Field Team Leader's Daily Logbook, ERP-29-90

II. DRILLING AND COMPLETION OBSERVATIONS

A. Drilling Company: P.C. Exploration
Drillers: Mack Stillwell, Paul Harmon
On-Site Geologist: David Burgess
Project Manager: Shannon Ansley
Rig type: Unknown
Bit type: Tricone bit for surficial sediments, air hammer bit for basalt

B. Summary of Drilling Activities:

DATE	ACTIVITY	MATERIALS USED
05-Sept-90	Set up at drill site.	
06-Sept-90	Began drilling into surficial sediment with a 14.5-inch tricone bit using the mud rotary method. Drilled to 25 ft bls.	
07-Sept-90	Continued mud rotary drilling, hit basalt at about 28-29 ft bls. Stopped at 33 ft bls. Pushed surface casing into the borehole, grouted using tremie pipe.	35 ft of 12-in carbon steel surface casing; cement with sand and bentonite added.
10-Sept-90	Deconned 11 7/8-inch hammer bit and collar.	

DATE	ACTIVITY	MATERIALS USED
11-Sept-90	Deconned pipe, set up for drilling through the first interbed with air hammer (5.5-inch bit). Drilled from 33 to 61 ft bls. Collected 0.8 ft of interbed soil sample with shelby tube from 60.2 to 61.0 ft bls.	
12-Sept-90	Cleaned hole to 61.2 ft bls. Collected shelby tube samples from 61.2 to 65.15 ft bls, recovered 1.6 ft of core. Borehole was sloughing, so drilled/reamed to 65.15 ft bls with 11 7/8-inch bit and grouted holed with cement.	2 yd^3 cement with sand and bentonite
13-Sept-90	Drilled out cement. Collected shelby tube sample from 65.5 to 67.25 ft bls with 1.25 ft of fill on top; 67.65 to 69.0 ft bls with 2.65 ft of fill on top. Again, the borehole was caving in and further attempts to collect samples were not successful. Reamed to 70 ft bls with the 11 7/8-inch bit.	
14-Sept-90	Drilled with 11 7/8-inch bit through the remainder of interbed and into the basalt to 83 ft bls. Grouted borehole to 62 ft bls to prevent further sloughing.	2 yd^3 cement with sand and bentonite
17-Sept-90	Drilled out cement from 62 to 83 ft bls and continued drilling to 220 ft bls. Performed deviation measurements at 100 and 200 ft bls. Grouted borehole.	3.5 yd^3 cement with sand, bentonite, and 2% CaCl
18-Sept-90	Drilled out cement grout from 116 ft bls to 200 ft bls. The interbed was open (not grouted) from 83 and 116 ft bls. Therefore, it was grouted to prevent sloughing.	5 yd^3 cement with sand, bentonite, and CaCl
19-Sept-90	Drilled out cement grout from 60.0 to 220 ft bls and continued drilling to 330 ft bls. Took deviation measurement at 300 ft bls (0.25 degrees from vertical). Grouted hole.	5 yd^3 cement with sand, bentonite, and CaCl
20-Sept-90	Drilled out cement from 205 to 320 ft bls and continued drilling to 380 ft bls, where began to lose circulation. Grouted hole.	5 yd^3 cement with sand, bentonite, and CaCl

DATE	ACTIVITY	MATERIALS USED
21-Sept-90	Drilled out cement from 290 to 375 ft bls, then drilled to 437 ft bls and grouted the borehole.	5.5 yd^3 cement with sand, bentonite, CaCl, and minor gravel
24-Sept-90	Drilled out cement grout from 297 to 437 ft bls. Took deviation measurement at 400 ft bls (0.25 to 0.50 degrees from vertical).	
25-Sept-90	Drilled from 437 to 510 ft bls. Water level measured at 485.8 ft bls. Performed geophysical logging: natural gamma, gamma-gamma, caliper, and TV logs.	
26-Sept-90	Depth of hole is 496.5 ft bls, filled in 13.5 ft. Drilled from 510 to a total depth of 530 ft bls.	

C. Summary of Well Construction Procedures:

DATE	ACTIVITY	MATERIALS
27-Sept-90	Tremie pipe was deconned. Tagged bottom of hole at 522 ft bls. Installed 4-inch ID, passivated, stainless steel well screen, wire-wrapped (0.020-inch slot size) and flush threaded with an endplug threaded to the bottom of the screen. Installed 4-inch nominal pipe size (4.26-inch ID), passivated, stainless steel well casing, schedule 10S, type 304, flush threaded, down the borehole with 2 ft of stick-up. Installed three stainless steel centralizers.	500 ft of well casing; 20 ft of well screen; endplug, 3 centralizers
28-Sept-90	Water level at 486 ft bls. Installed filter pack consisting of 6-9 grade sand and topped with 1.5 ft of 10-20 grade sand, using a tremie pipe. Installed bentonite pellet seal above the filter pack using a tremie pipe. Water was added to the hole during the sand and bentonite placement.	314 gallons of 6-9 grade sand, 5 gallons 10-20 grade sand, 25 gallons bentonite pellets, 445 gallons water
02-Oct-90	Grouted the well annulus using a tremie pipe.	6 sacks cement, 11 pounds bentonite, 5.5 sacks sand
09-Oct-90	Continued grouting the well annulus.	? cement

10-Oct-90	Continued grouting the well annulus.	6 yd^3 cement with bentonite and sand added
11-Oct-90	Continued grouting the well annulus.	3 yd^3 cement with bentonite and sand added
23-Oct-90	Completed grouting annulus with cement from 5 ft bls to land surface. Installed 6-inch ID carbon steel protective casing. Concrete pad and impingement posts installed.	6 feet of 6-inch ID protective casing, cement with sand and bentonite added
01-Nov-90	Installed Hydrostar piston pump. Pump intake set at 493.75 bls. Installed locking protective box over pump head at surface.	

D. Summary of Well Development Procedures:

DATE	ACTIVITY
31-Oct-90	Surged well in 5-ft intervals using a surge block, for total of 80 minutes. Water level (1 hour later) measured at 486 ft bls. Lowered a submersible pump into the well and began evacuating water. Measured the specific conductance, temperature, ph, and dissolved oxygen of the development water. Purged about 300 gallons of water.

III. GEOLOGICAL OBSERVATIONS

A. Geological log, geophysical logs, stratigraphic column, and well construction diagram are attached.

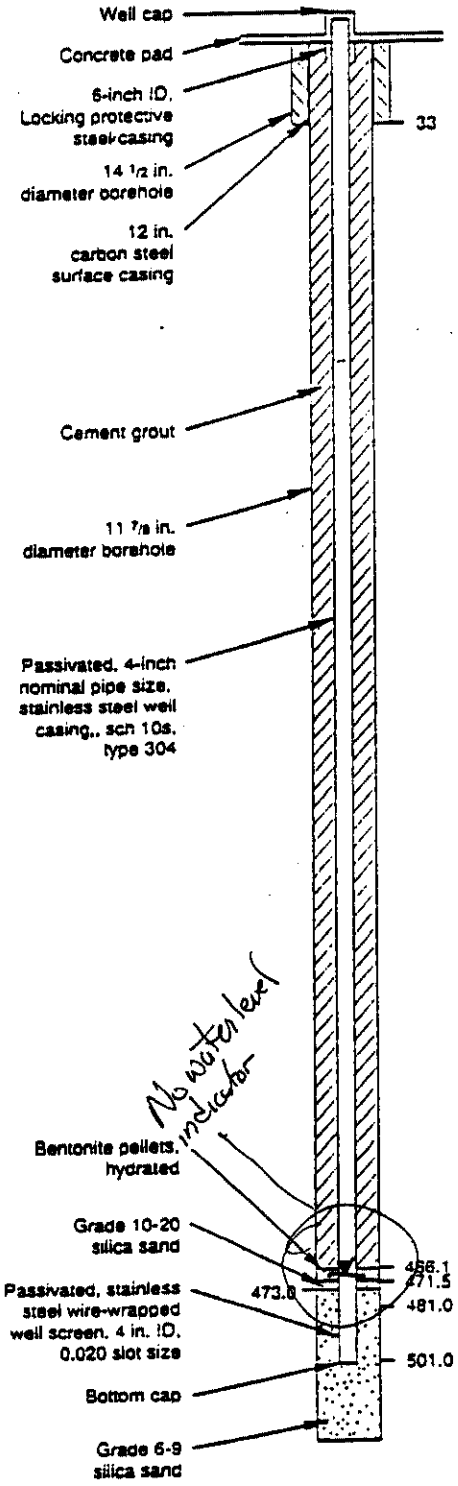
B. Samples collected.

Sample Depth	Comments
60.2-61.0 ft	0.8 ft of core
62.3-63.15 ft	
64.4-65.15 ft	
65.5-67.25 ft	1.75 ft of undisturbed core with 1.25 ft of fill on top
67.65-69.0 ft	1.35 ft of undisturbed core with 2.65 ft of fill on top

Samples are stored in the INEL Core Library.

GEOLOGIST: Dave Burgess	LOG OF MONITORING WELL: LF3-10	DEPTH OF WATER: 466 ft
DRILLING CONTRACTOR: PC Exploration	LOCATION: INEL Central Facilities Area N 683528.93 ft E 290875.41 ft	DATE MEASURED: 28-Sept-90
DRILLING METHOD: Mud rotary-surficial sediments; Air rotary w/ downhole hammer-basalt	TOTAL DEPTH OF HOLE: 530 ft	PUMP TYPE: Hydrostar piston pump
GEOPHYSICAL LOGGING: USGS INEL	TOTAL DEPTH OF WELL: 501 ft	PUMP INTAKE DEPTH: 493.75
BOREHOLE DIAMETER: 14 1/2 in.: 0-33 ft; 11 7/8 in.: 33-522 ft	DATE DRILLED: 5-Sept-90 to 26-Sept-90	EG&G Idaho, Inc.
	DATE INSTALLED: 27-Sept-90 to 23-Oct-90	
	TOP OF CASING ELEVATION: 4945.5 ft	4946.04 ft
	LAND SURFACE ELEVATION: 4943.5 ft	4943.57 ft

WELL COMPLETION



ELEV. (ft)	DEPTH (ft)
4944	0
4924	20
4904	40
4884	60
4864	80
4844	100
4824	120
4804	140
4784	160
4764	180
4744	200
4724	220
4704	240
4684	260
4664	280
4644	300
4624	320
4604	340
4584	360
4564	380
4544	400
4524	420
4504	440
4484	460
4464	480
4444	500
4424	520
4404	540

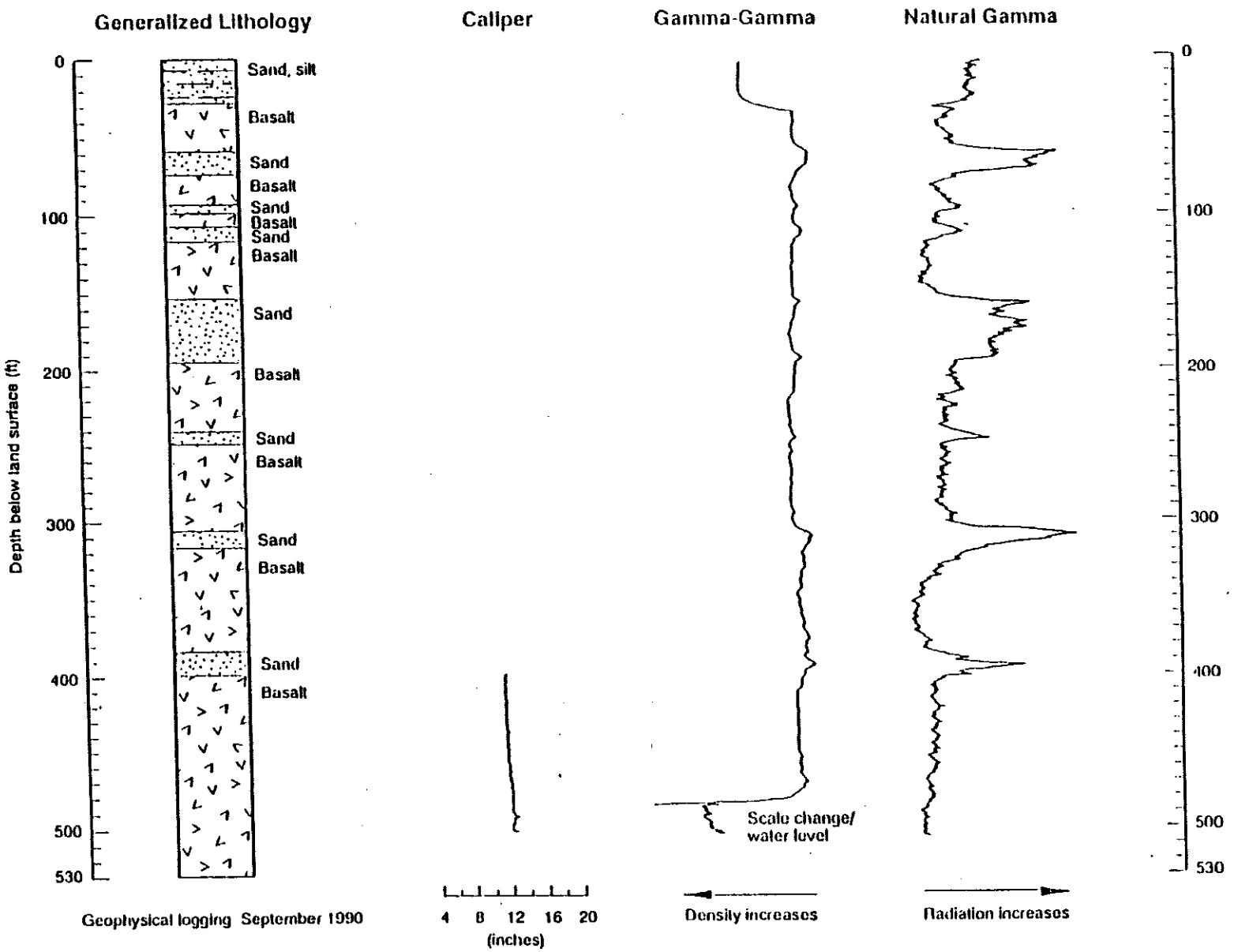
LITHOLOGIC DESCRIPTION

- Alluvium-silt, sand
- Basalt, dense, dark gray; vesicular basalt noted at 45 ft
- Sand, red-gray cinders at top, changing to medium to fine grained sand with 25% clay
- Basalt, black to gray
- Sand, red, medium to fine-grained, 20% clay
- Basalt
- Sand, blackish grey, fine-grained
- Basalt, black
- Sand, reddish brown, fine-grained with 0-3% clay, some interbedded basalt
- Basalt, black to gray
- Sand, dark brownish-red, fine to medium grained, with 20 to 30% clay
- Basalt, black
- Sand, light reddish brown, fine-grained, silty, well-sorted
- Basalt, black
- Sand,dark brown, fine-grained, sity, well-sorted
- Basalt; fracture zone noted 409-412; possible cinder zones noted at 486-487, 490-495, 504-513; broken basalt from 518-522

Water level

NOTE: Centralizers placed at 154.95, 315.3, and 480.64 ft lbs

N92 0202



Well CFA LF3-10

2-0094

END-OF-WELL REPORT
CENTRAL FACILITIES LANDFILL AREA
WELL LF3-11A

Prepared by:

_____
Deborah L. McElroy

Reviewed by:

_____

Approved by:

_____
William Pigott, CFA WAG Manager

END-OF-WELL-REPORT

I. GENERAL INFORMATION

A. Project Name: Hydrogeologic Characterization Study for CFA Landfills

B. Well Name/Number: LF3-11A

C. Well Location: INEL, Central Facilities Area Landfill
Northing: 686412.70 ft Easting: 292601.45 ft
Land Surface Elevation: 4936.0 ft (NRTS datum)
Survey Date: December 1990, MK-Ferguson

D. Plans:

1) *Technical Work Plan for the Hydrogeologic Characterization of CFA Landfills II and III*, EGG-WM-9119, July 6, 1990.

E. Logbooks used:

1) Field Team Leader's Daily Logbook, ERP-27-90
2) Field Team Leader's Daily Logbook, ERP-347-90
3) Well Drilling, Installation, and Development Logbook, CFA-3

II. DRILLING AND COMPLETION OBSERVATIONS

A. Drilling Company: P.C. Exploration
Drillers: Mack Stillwell, Paul Harmon, Scott McNinch, Wade Schotts
On-Site Geologist: David Burgess
Project Manager: Shannon Ansley
Rig type: Unknown
Bit type: Tricone bit for surficial sediments, air hammer bit for basalt.

B. Summary of Drilling Activities:

DATE	ACTIVITY	MATERIALS USED
06-Aug-90	Drill rig and pipe deconned.	
07-Aug-90	Casing deconned.	
10-Aug-90	Deconned mud pump, bit, and hose. Drilled approximately 5 ft bls with 15-inch tricone bit, using mud rotary.	
13-Aug-90	Drilled through surficial sediments and into basalt. Drilled to 35 ft bls and basalt was encountered at approximately 28 ft bls. Surface casing was pushed to 32.8 ft bls and grouted.	37 ft of 12 1/4-inch ID carbon steel surface casing; 20 sacks of cement with 2% bentonite, 140 gallons of water

DATE	ACTIVITY	MATERIALS USED
15-Aug-90	Drilled with 5.5-inch hammer bit to approximately 100 ft bls. Sample collection was attempted at 69 ft bls, but either the interbed was nonexistent or very thin at that depth.	
16-Aug-90	Reamed with 11 7/8-inch hammer bit to 65 ft bls.	
17-Aug-90	Continued reaming borehole.	
20-Aug-90	Took a deviation measurement at 100 ft, was 1 1/4 degree from vertical. Drilled to 117 ft bls. Cable clamps broke/slipped and bit, hammer and 3 drill pipes fell down hole.	
21-Aug-90	Worked to fish drill string out of hole.	
22-Aug-90	Fished drill string out of hole with an overshot assembly. Drilled to 133 ft bls.	
23-Aug-90	Drilled to 157 ft bls.	
24-Aug-90	Drilled to 215 ft bls.	
25-Aug-90	Grouted the borehole.	unknown amount of cement
27-Aug-90	Tagged top of cement at 78 ft bls. Drilled out 40 ft of cement and then decided cement was too wet to continue drilling.	
28-Aug-90	Drilled out cement to 215 ft bls. Continued drilling in basalt, to 220 ft bls. Took a deviation shot (5 degrees from vertical). This may have been a problem with the deviation tool. Grouted the borehole.	2 yd^3 cement
29-Aug-90	Tagged top of cement at 202 ft bls. Drilled to 300 ft bls and took deviation shot at 300 ft bls, (0.75 degrees from vertical). Drilled to 339 ft bls.	
30-Aug-90	Drilled to 379 ft bls. Grouted the borehole.	3 yd^3 cement

DATE	ACTIVITY	MATERIALS USED
31-Aug-90	Tagged grout at 310 ft bls. Drilled out grout to 320 ft bls, but seemed wet so stopped for the day.	
04-Sept-90	Drilled through the grout to 370 ft bls. Took a deviation measurement at 385 ft bls (0.5 degrees from vertical) and then drilled to 497 ft bls. Pulled the drillstring up 100 ft from the bottom.	
05-Sept-90 to 07-Sept-90	Were unable to pull the drillstring up, in the morning. Rigged up a tremie pipe to blow air around the bit to try and free the drill string. Lost one section of tremie down the borehole.	
10-Sept-90	Were able to retrieve the drill pipe, but the collar and hammer remained in the borehole. U.S.G.S. ran a camera down the borehole, and found the borehole was bridged at 315 ft bls.	
11-Sept-90	Decided to abandon the borehole. The borehole was renamed LF3-11A (A=abandoned).	
14-Dec-90	Began tripping in the tremie pipe to grout up the borehole. Tagged collar and hammer at 337 ft bls. Poured bentonite down the borehole, using the tremie pipe (to 318 ft bls).	100 gallons bentonite hydrated with 70 gallons of water
17-Dec-90	Poured cement grout to about 268 ft bls, using tremie pipe.	2 yd^3 cement with bentonite and sand added
18-Dec-90	Poured cement grout to about 100 ft bls, using tremie pipe. Another cement grout lift was poured, but depth and amount is not known.	8 yd^3 cement with bentonite and sand added
unknwown	Borehole abandonment completed. Surface casing was cut 6 inches bls, and a square cement pad was installed with a brass survey marker over the borehole grout.	cement with bentonite and sand added

C. Summary of Well Construction Procedures:
Borehole was abandoned.

D. Summary of Well Development Procedures:
Borehole was abandoned.

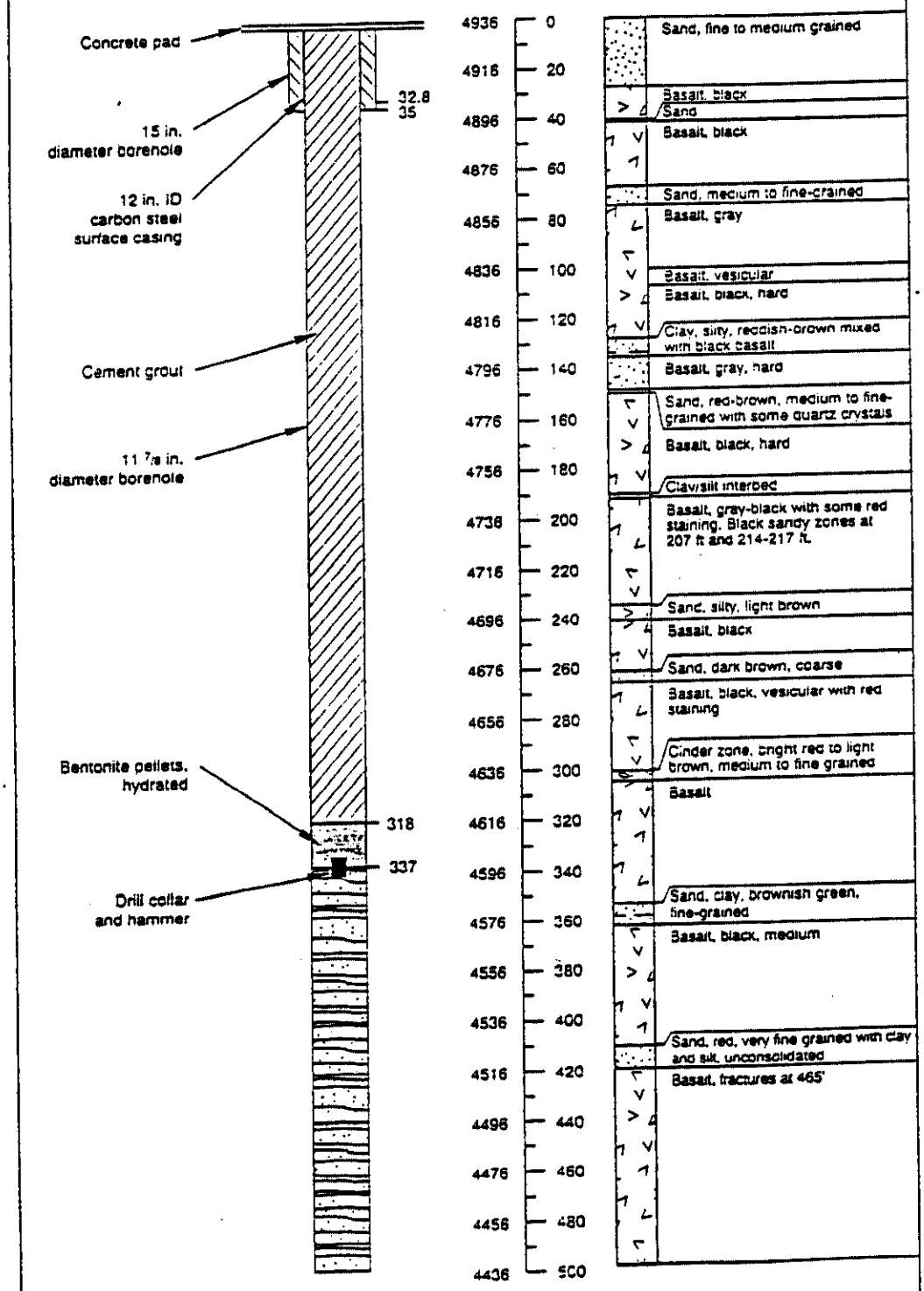
III. GEOLOGICAL OBSERVATIONS

A. Geological log is attached.

B. Samples collected. No samples were collected.

Note: The borehole number LF3-4 was used in the [illegible], ~~[illegible]~~ the drilling of the borehole. The number was changed to LF3-4A before the December 1990 location ~~[illegible]~~ survey, in order to designate the borehole as abandoned (A).

GEOLOGIST: David Burgess	LOG OF MONITORING WELL: LF3-11 A	LAND SURFACE ELEVATION: 4936.0 ft
DRILLING CONTRACTOR: PC Exploration	LOCATION: INEL Central Facilities Area N 686412.70 ft E 292601.45 ft	DEPTH TO WATER: not recorded
DRILLING METHOD: Mud rotary-surficial sediments Air rotary w/ downhole hammer-basalt	TOTAL DEPTH OF HOLE: 497 ft	DATE MEASURED: N/A
GEOPHYSICAL LOGGING: None	TOTAL DEPTH OF WELL: N/A (Abandoned)	PUMP TYPE: N/A
BOREHOLE DIAMETER: 15 in.: 0-35 ft 11 7/8 in.: 35-497 ft	DATE DRILLED: 05-Aug-90 to 18-Dec-90	PUMP INTAKE DEPTH: N/A
	DATE INSTALLED: N/A	EG&G Idaho, Inc.
	TOP OF CASING ELEVATION: (Casing is grouted below land surface)	



N92 0214

END-OF-WELL REPORT
CENTRAL FACILITIES LANDFILL AREA
WELL LF3-11

Prepared by:

_____

Deborah L. McElroy

Reviewed by:

_____

Approved by:

_____

William Pigott, CFA WAG Manager

END-OF-WELL-REPORT

I. GENERAL INFORMATION

A. Project Name: Hydrogeologic Characterization Study for CFA Landfills

B. Well Name/Number: LF3-11

C. Well Location: INEL, Central Facilities Area Landfill
Northing: 686243.56 ft Easting: 292682.55 ft
Land Surface Elevation: 4935.44 (brass marker) NRTS datum
Survey Date: December 1990, MK-Ferguson

D. Plans:
1) *Technical Work Plan for the Hydrogeologic Characterization of CFA Landfills II and III*, EGG-WM-9119, July 6, 1990.

E. Logbooks used:
1) Field Team Leader's Daily Logbook, ERP-27-90
2) Field Team Leader's Daily Logbook, ERP-347-90
3) Field Team Leader's Daily Logbook, ERP-29-90
4) Well Drilling, Installation, and Development Logbook, ERP-30-90

II. DRILLING AND COMPLETION OBSERVATIONS

A. Drilling Company: P.C. Exploration
Drillers: Scott McNinch, Wade Schotts
On-Site Geologist: Kenny Manchester
Project Manager: Shannon Ansley
Rig type: Unknown
Bit type: Tricone bit for surficial sediments, air hammer button bit for basalt

B. Summary of Drilling Activities:

DATE	ACTIVITY	MATERIALS USED
11-Sept-90	Deconned drill rig.	
12-Sept-90	Began mud rotary drilling in the surficial sediments with a 14 3/4-inch tricone bit. Hit basalt at 21.5 ft bls, drilled to 29.5 ft bls.	
13-Sept-90	Set surface casing at 29.5 ft bls and grouted with a cement mix containing 2% bentonite.	30 ft of 12-inch ID carbon steel surface casing, 14 sacks cement, 140 gallons water, 2/3 bag bentonite

DATE	ACTIVITY	MATERIALS USED
14-Sept-90	Tagged cement at about 15 ft bls. Drilled with a 5.5-inch button bit and a downhole air hammer. Will switch to a 11 7/8-inch hammer bit after sample collection in the first interbed. Drilled to 36 ft bls, where bit collared. May have encountered the interbed at 35 ft bls. Lost circulation so pulled out of the borehole.	
17-Sept-90	Drilled to 45 ft bls, no interbed encountered from 37 to 45 ft bls. Reamed borehole with 11 7/8-inch hammer bit to 38 ft bls.	
18-Sept-90	Grouted borehole up to 20 ft bls.	165 gallons cement mix (15 sacks cement, 30 pounds CaCl)
19-Sept-90	Drill out grout from 20 ft to 38 ft bls. Drilled borehole to 58 ft bls. Grouted the borehole.	1.5 yd^3 cement
20-Sept-90	Tagged grout at 35 ft bls. Drilled out grout and continued drilling to 138 ft bls. Grouted the borehole.	4 yd^3 cement with bentonite, sand, and CaCl added
21-Sept-90	Tagged cement grout at about 30 ft bls. Drilled out the grout to 125 ft bls. The borehole contained backfill from 125 to 138 ft bls. Took a deviation measurement at 100 ft bls (0.5 degrees from vertical). Drilled new hole from 138 to 199.5 ft bls.	
24-Sept-90	Drilled to 238.3 ft bls and grouted in the borehole.	5 yd^3 cement with sand, and bentonite added
25-Sept-90	Tagged cement about 108 ft bls. Drilled out cement to 236 ft bls (2 ft of backfill below cement). Drilled to 238 and took a deviation measurement at 200 ft (1 degree from vertical). Drilled to 338 ft bls. Grouted the borehole.	5 yd^3 cement with bentonite and sand added
26-Sept-90	Drilled out cement to 338 and continued to drill to 340 ft bls. Took a deviation shot (0.5 degrees from vertical) at 300 ft bls. Drilled to 385 ft bls and grouted the borehole.	2 yd^3 cement with bentonite and sand

DATE	ACTIVITY	MATERIALS USED
27-Sept-90	Tagged cement at 325 ft, drilled to about 350 ft, but cement appeared wet. Tripped out drill string to let cement grout set up.	
28-Sept-90	Drilled to 397 ft bls.	
29-Sept-90	Grouted up borehole.	cement mixed with CaCl, bentonite, and sand
01-Oct-90	Lowered drill string to 185 ft bls, but still did not encounter cement grout. Suspect it filled a fracture void. Decided to pull out of hole and regrout, because of lost circulation and poor grouting.	5 yd^3 cement with bentonite and sand added
02-Oct-90	Drilled out grout. Continued drilling into basalt, to 431 ft bls. Took a deviation shot at 400 ft bls (1 degree from vertical). Poured grout in borehole.	2 yd^3 cement with sand, bentonite, and CaCl added
03-Oct-90	Tagged grout at 394 ft bls and drilled out to 431 ft bls. Drilled new hole to 532 ft, total depth for this borehole.	
04-Oct-90	Depth to water was 477 ft bls. U.S.G.S. logged borehole, taking video, gamma-gamma, natural gamma, and caliper logs. Logs were zeroed at the top of the 12-inch surface casing (0.75 ft above land surface).	

C. Summary of Well Construction Procedures:

DATE	ACTIVITY	MATERIALS USED
04-Oct-90	Installed 4-inch ID, passivated, stainless steel well screen, wire-wrapped (0.02-inch slot size) and flush threaded with an endplug threaded to the bottom of the screen. Began installation of 4-inch nominal pipe size (4.5-inch OD), passivated, stainless steel well casing, schedule 10S, type 304, flush threaded, down the borehole with 2 ft of stick-up. Installed three stainless steel centralizers.	20 ft of 4-inch ID well screen, 480 ft of 4-inch well casing, 3 centralizers.

DATE	ACTIVITY	MATERIALS USED
05-Oct-90	Completed installation of well casing. Measured water level at 480.5 ft bls.	
08-Oct-90	Measured water level at 477.7 ft bls. Assumed this measurement was the most stable measurement. Installed filter pack consisting of 6-9 grade sand and topped with 1.5 ft of 10-20 grade sand, using a tremie pipe. Installed bentonite pellet seal above the filter pack using a tremie pipe. Water was added to the hole during the sand and bentonite placement.	50 sacks of 6-9 grade silica sand, 1 bag of 10-20 grade silica sand, 25 gallons Volclay/Pure Gold bentonite pellets, 75 gallons water
10-Oct-90	Began grouting the well annulus using a tremie pipe.	First cement grout lift: 50 gallons water, 11 pounds bentonite, 6 bags cement, 5.5 bags sand; lift #2: 5.5 yd^3 cement with sand and bentonite added
11-Oct-90	Continued grouting well annulus. Appeared to be filling a void, because lifts were small.	1 yd^3 cement with sand and bentonite added
12-Oct-90	Continued grouting well annulus.	6 yd^3 cement with sand and bentonite added
15-Oct-90	Continued grouting well annulus.	6 yd^3 cement with sand and bentonite added
16-Oct-90 to 24-Oct-90	Completed grouting well annulus to surface. Installed 6-inch ID carbon steel protective casing. Concrete pad and impingement posts were installed.	6 ft of 6-in ID protective casing, unknown amount of cement
05-Nov-90	Installed a Hydrostar piston pump. Pump intake was set at 485.06 ft bls. Water level was 477.7 ft bls.	

D. Summary of Well Development Procedures:

DATE	ACTIVITY	MATERIALS USED
02-Nov-90	Surged well using a surge block, for a total of 55 minutes. Lowered a submersible pump into the well and began evacuating water. Purged about 300 gallons until water was clear and parameters (temperature, pH, conductivity, dissolved oxygen) stabilized.	

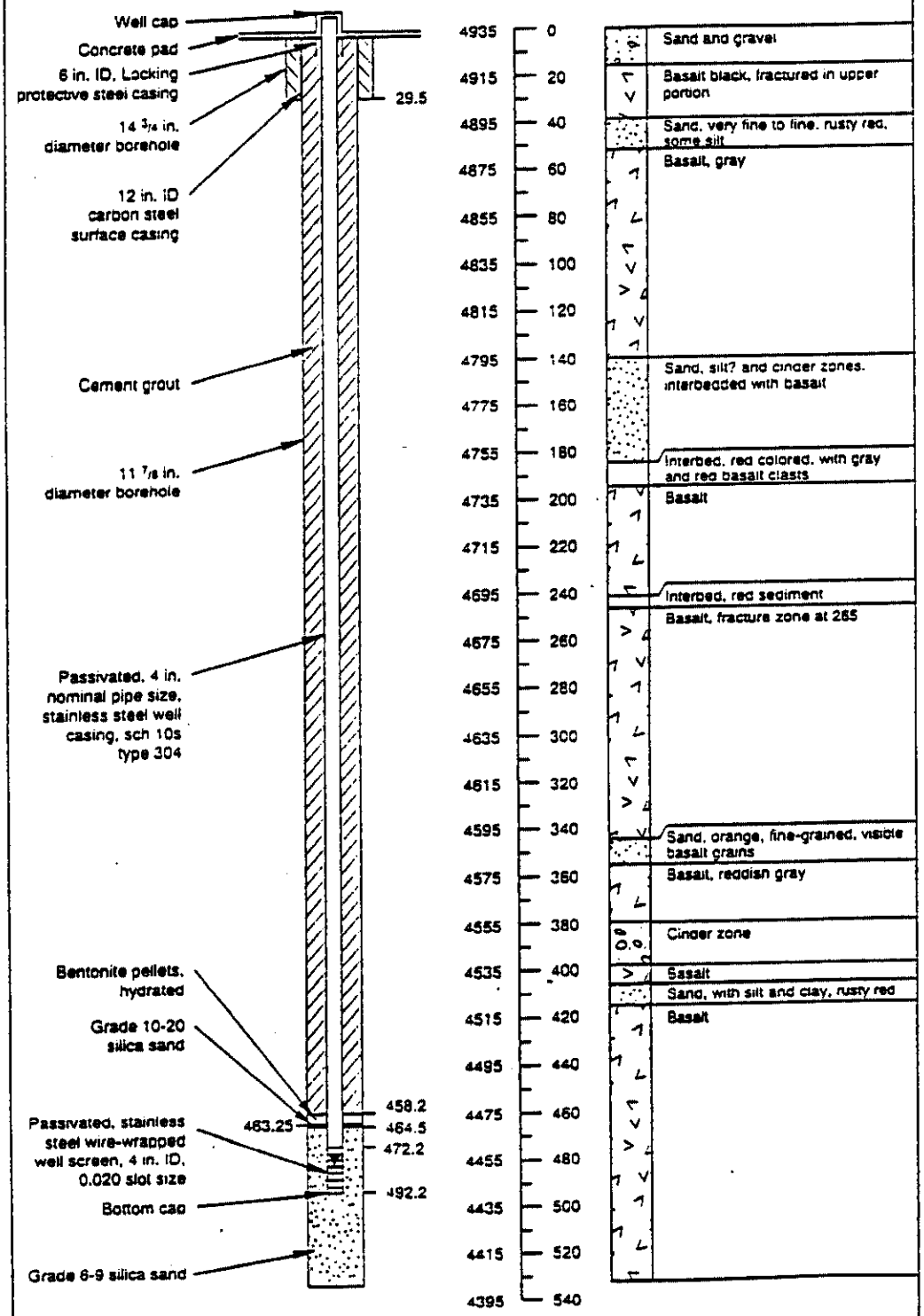
III. GEOLOGICAL OBSERVATIONS

A. Geological log, geophysical logs, stratigraphic column, and well construction diagram are attached.

B. Samples collected. No samples were collected.

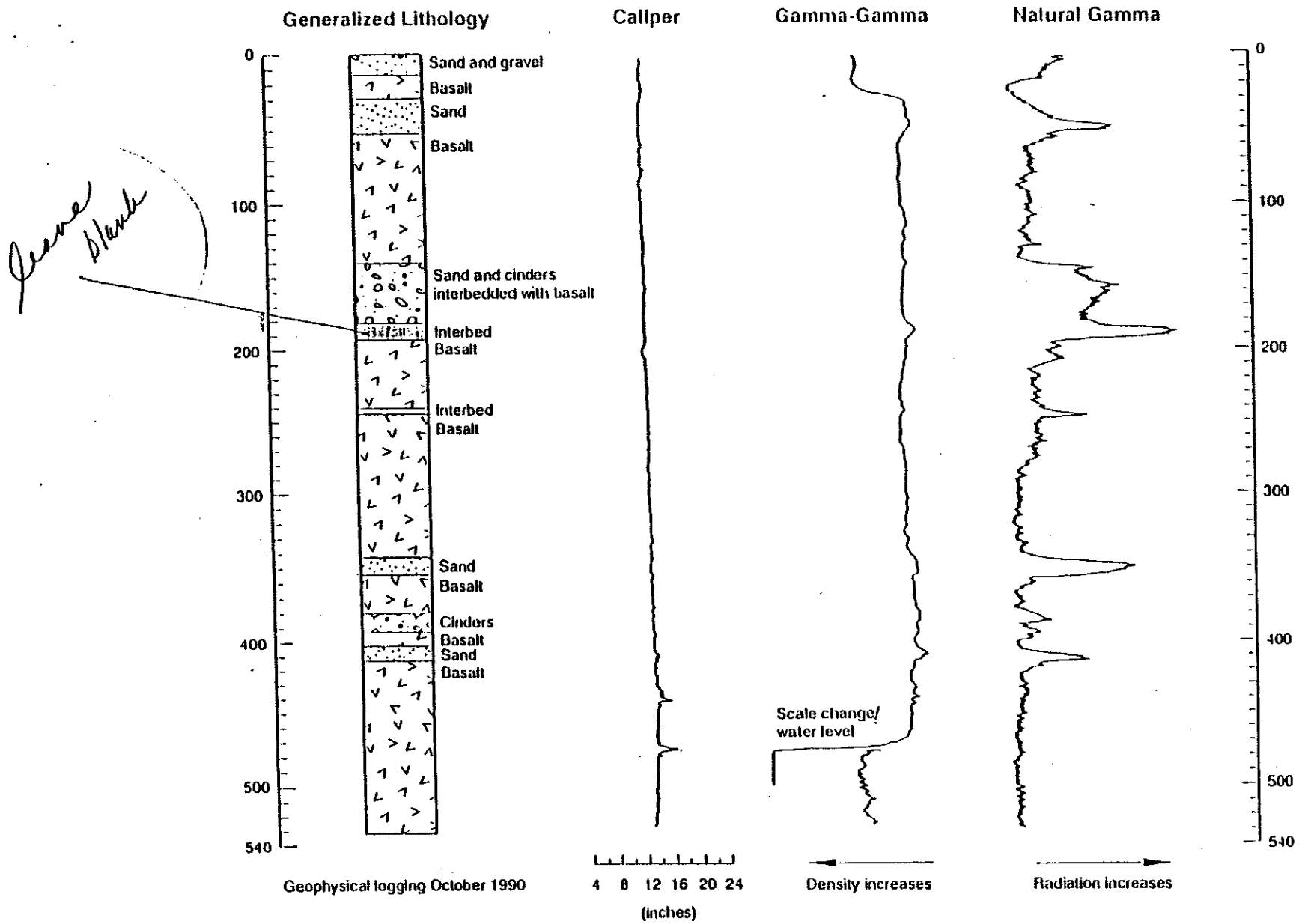
Note: Borehole number LF3-11A was used in logbook ERP-27-90 to record the drilling of this borehole, which was the second attempt to drill borehole LF3-11. The borehole number was changed to LF3-11 and is referred to as LF3-11 in logbooks ERP-347-90 and ERP-29-90.

GEOLOGIST: Kenneth Manchester	LOG OF MONITORING WELL: LF3-11	DEPTH OF WATER: 477.7 ft
DRILLING CONTRACTOR: PC Exploration	LOCATION: INEL Central Facilities Area N 686243.56 ft E 292682.55 ft	DATE MEASURED: 05-Nov-90
DRILLING METHOD: Mud rotary-surficial sediments; Air rotary w/ downhole hammer-basalt	TOTAL DEPTH OF HOLE: 532 ft	PUMP TYPE: Hydrostar Piston Pump
GEOPHYSICAL LOGGING: USGS INEL	TOTAL DEPTH OF WELL: 492.2 ft	PUMP INTAKE DEPTH: 485.05 ft
BOREHOLE DIAMETER: 14 1/2 in.: 0-29.5 ft; 11 7/8 in.: 29.5-532 ft	DATE DRILLED: 11-Sept-90 to 04-Oct-90	EG&G Idaho, Inc.
	DATE INSTALLED: 04-Oct-90 to 05-Nov-90	
	TOP OF FLANGE ELEVATION: 4937.75 ft	
	LAND SURFACE ELEVATION: 4935.44 ft	



Water level NOTE: Centralizers placed at 91, 296.6, and 472.7 ft bls.

N92 0213



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Well CFA LF3-11

2 0098

Existing Cover

Summary of Landfills II and III Existing Cover

Landfill II was operational from 1970 to September 1982 and was used as the primary landfill for the INEL during this period. The perimeter of landfill II is estimated to encompass approximately 12.5 acres. The depth to the bottom of the landfill on the southern end is approximately 30 ft whereas to the north end of the landfill it is not quite as deep. The standard disposal practices at this landfill were to dump a variety of waste into the abandoned gravel pit and soil was then spread between the layers of trash to prevent material from being blown away. The trash was compacted with a bulldozer and covered with compacted soil to bring the landfill surface flush with the ground surface. Approximately 3 to 4 ft of soil cover was placed over the trash; however locally it may be less than this. The soil cover has been seeded with crested wheat grass.

Landfill III was opened in October of 1982 when the operations at CFA Landfill II were terminated. In 1984, the cut and fill operation on the east was terminated and designated the inactive portion of landfill III. The inactive portion of the landfill encompasses an area 200 ft wide by 2400 ft long and 12 ft deep. The landfill operation was moved to the west where it is designated the active portion of the landfill and it is currently operational. The landfill is basically a cut and fill operation. Initially, in the inactive portion of Landfill III, trenches were cut 24 ft wide, 12 ft deep, and about 2400 ft long. Later, trenches in the active portion of the landfill have been cut about 36 ft wide, 12 ft deep and about 2200 ft long. The standard operating procedure for compacting and covering the wastes calls for the waste to be spread and compacted in layers no more than two ft thick and each layer covered with at least 6 in. of soil. Wastes are covered daily with certain wastes covered immediately after disposal for security reasons. A final layer of cover material, compacted to a minimum uniform depth of 2 ft, is placed over the entire surface of the filled trench. This is the current operating procedure and probably has been for the operational life of the landfill.

A hydrogeologic characterization of Landfill II cover was conducted to characterize the soil cover and to estimate the annual water infiltration through the cover (Miller, et al., 1990). The overall thickness of the soil cover was determined to be 1.5 ft on the average with a minimum of 0.33 ft and locations across the landfill. It was noted that the maximum thickness of the soil cover at a few locations may be greater than the 3.17 ft, due to several of the auger holes caved in or were blocked. The soil cover has an upper surface layer approximately 1-ft thick consisting of more sand than gravel and a lower layer at depths greater than 1 ft consisting of more gravel than sand. Measured saturated hydraulic conductivities ranged from 0.0020 to .0025 cm/sec. Water storage in the soil cover was measured to be 0.097 and 0.062 cm of water per cm of soil thickness for the upper 1 ft of soil cover and the lower soil cover at depths greater than 1 ft, respectively. Infiltration through the soil cover based on meteorological data for a 31-year record at CFA was determined to be 0.99 to 2.05 inches per year.

In semi-arid areas, such as the INEL, the potential evapotranspiration greatly exceeds precipitation, therefore the potential exists to control the soil water balance at a land fill site, precluding water from reaching the waste, by manipulating the vegetation and soil cover depth. Field studies at the InEL using crested wheatgrass and native soils for a cover material have indicated that a cover material (fill soil) depth of 2 m would store all precipitation that may infiltrate the soil cover, including snow accumulating locally as a result of heavy snow accumulation, preventing any water from reaching the waste (Anderson, et al., 1991). The Feasibility Study for the CFA landfills will review the practicable technologies for municipal landfill sites and the actual characteristics of the CFA landfills to provide a final cover that will preclude water from entering the waste.

Groundwater Data

EG&G Idaho

"Providing research and development services to the government"

INTEROFFICE CORRESPONDENCE

Date: May 12, 1992

To: W. R. Pigott, MS 1545

From: G. J. Stormberg, MS 2107

Subject: EVALUATION OF CFA GROUNDWATER DATA GJS-10-92

This is all of the data. Not all are only part

Purpose and Scope:

Groundwater quality data for CFA Landfills II and III were evaluated for use in determining whether or not a groundwater contaminant source and pathway exists from the landfills to the Snake River Plain aquifer. Part of this evaluation was to identify potential contaminants which may have been released from the landfills and which create a potential impact to the water quality of the aquifer.

Data Evaluated:

Data provided for this evaluation consisted of validated groundwater quality data from CFA monitoring wells LF2-8, LF3-8, LF2-9, and LF2-11 covering three quarterly sampling events in 1990. Monitoring well LF2-11 is noted as an upgradient well while the other three are noted as being downgradient with respect to the landfills (see Figure 1). The validated data included results from volatile organic, semivolatile organic, inorganic (metal), organochlorine herbicide, and organochlorine pesticide analyses.

Approach:

Each compound class was evaluated to identify constituents which were detected above applicable Maximum Contaminant Levels (MCLs). In general, analytical results for initial and duplicate sample analyses were very similar; therefore, only the initial results are discussed in this evaluation. A discussion of the findings is presented in the following section for each compound class. Constituents identified as being above applicable MCLs are shown graphically in attached figures.

Results:

Organochlorine Herbicides and Pesticides: Organochlorine pesticides and herbicides were not detected in the CFA Landfill monitoring wells.

Semivolatile Organics: Semivolatile organic compounds were not detected in the CFA monitoring wells.

Volatile Organics: Chloroform, 1,1,1-trichloroethane, benzene, trichloroethene, toluene, and methylene chloride were detected in groundwater samples collected at the CFA Landfills. However, detected concentrations for all constituents were far below any applicable MCL. For example, 1,1,1-trichloroethane was detected at concentrations ranging from 0.3 ug/L to 5 ug/L, but has a MCL of 200 ug/L. Similarly, trichloroethene was detected at a maximum concentration of 0.2 ug/L and has a MCL of 5 ug/L. Method blanks and other QC samples were not evaluated to determine if there was an outside source (i.e., analytical or sampling methodology) of these constituents. However, at the low detected concentrations, the CFA Landfills II and III are not considered a source of organic contaminants. This is supported by the fact that volatile organic constituents were detected in both upgradient and downgradient wells.

Inorganics (Metals): Several metal analytes (i.e., iron, chromium, and manganese) were detected at concentrations exceeding either primary or secondary MCLs. The majority of the iron and chromium is in the suspended or particulate phase, as evidenced by the fact that analyte concentrations in filtered samples (i.e., dissolved phase) were significantly less than for unfiltered samples (see attached figures). In fact, dissolved concentrations of iron and chromium in the groundwater fall below applicable MCLs for all samples. Based on discussions with both project and U. S. Geological Survey personnel, as well as from an evaluation of well construction information, it is felt that the particulate/suspended iron and chromium may be attributable to well casing material and dedicated sampling pumps. Wells LF3-8, LF2-8, LF2-9, and LF2-11 were constructed from a combination of carbon steel (unsaturated zone) and stainless steel (saturated zone). Spalling from the casing has been noted for several wells and this could account for the relatively high suspended iron concentrations in the groundwater. According to the manufacturer, the design and mechanical operation of the sampling pumps (Hydrostar model) results in the generation of filings/shavings of metal (high chromium stainless steel) from the drive/sucker rod. These filings are apparently pulled up through the discharge line during sampling.

Manganese was also detected at concentrations exceeding its 50 ug/L secondary MCL. There does not appear to be a relationship between unfiltered and filtered manganese concentrations with the exception that detected concentrations (in both sample sets) show an overall decrease from the second to the third quarter. Third quarter concentrations are close to or below the MCL for unfiltered samples and all third quarter results are below the 50 ug/L MCL for the filtered sample.

It should be noted that there is a general decreasing trend for metal analyte concentrations between the second and third quarter sampling events. Whether this trend continues with subsequent data is unknown. Based on the observed decreasing concentration trend of the above identified analytes, the fact that iron is generally not a contaminant problem (i.e., it is an essential element), and that manganese is also not generally identified as a major contaminant of concern (i.e., secondary MCL), the metal constituents in the CFA monitoring well groundwater pose a minor problem at worst.

Recommendations:

Based on the above evaluation, I would recommend that the following tasks be carried out:

1. All additional existing groundwater data should be validated and results tables generated. This information could then be used to determine whether the decreasing concentration trend of the metal analytes as noted in the previous section is a true trend or just short term fluctuation. Additionally, although radionuclides are not a general landfill constituent, radiological data should also be evaluated and compared to data from the Test Reactor Area (TRA) and the Idaho Chemical Processing Plant (ICPP).

2. An additional round (or two) of groundwater samples should be collected from available wells. In order to determine the contribution of the pumps to the groundwater chromium concentrations, I would recommend pulling the Hydrostar pumps, thoroughly purging the wells, and collecting groundwater samples with a portable stainless steel submersible pump. Filtered and unfiltered samples should be collected (as during previous events) and both total chromium and chrome III analyses should be carried out.

alk

Attachment:
As Stated

cc: W. E. Harrison, MS 2110 WEH/TRW
T. J. Meyer, MS 1545
S. M. Waters, MS 1406
Central Files, MS 1651
GJS Letter Files, MS 2107

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - VOLATILE ORGANIC METHOD 524.2 DATA

AREA	CFA	CFA	CFA	CFA	CFA
LOCATION	03-LF3-8	02-LF2-8	02-LF2-9	02-LF2-9	02-LF2-11
TYPE OF LOCATION	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	UPGRADIENT WELL
SAMPLE NUMBER	CFA0101A	CFA0201A	CFA0301A	CFA0302A	CFA0401A
MEDIA	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	CFA0101A	CFA0101A	CFA0101A	CFA0101A	CFA0101A
FIELD MEASUREMENTS					
pH	8.0	9.1	9.1	9.1	7.6
Conductivity (uS)	0.6	0.6	0.6	0.6	0.7
Temperature (C)	10.4	10.3	10.4	10.4	10.1
TARGET COMPOUNDS					
1,1,1-Trichloroethane	---	---	1	---	---
1,2-Dibromo-3-chloropropane	0.5 UR	0.5 UR	0.5 UR	0.5 UR	0.5 UR
Dilution Factor	1.000	1.000	1.000	1.000	1.000
Total (Allowed) Hold Time	14(14)d	15(14)d*	15(14)d*	15(14)d*	14(14)d

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - VOLATILE ORGANIC METHOD 524.2 DATA (Continued)

AREA	CFA
LOCATION	02-LF2-11
TYPE OF LOCATION	UPGRADIENT WELL
SAMPLE NUMBER	CFA0402A
MEDIA	GROUND WATER
UNITS	ug/L
SDG NUMBER	CFA0101A
FIELD MEASUREMENTS	
pH	
Conductivity (uS)	
Temperature (C)	
TARGET COMPOUNDS	
1,1,1-Trichloroethane	---
1,2-Dibromo-3-chloropropane	0.5 UR
Dilution Factor	1.000
Total (Allowed) Hold Time	14(14)d

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - VOLATILE ORGANIC METHOD 524.2 FIELD BLANK DATA

AREA	CFA
LOCATION	ASTM TYPEII H2O
TYPE OF LOCATION	00-FIELD BLANK
SAMPLE NUMBER	CFA0901A
MEDIA	WATER
UNITS	ug/L
SDG NUMBER	CFA0101A
TARGET COMPOUNDS	
Chloroform	3
1,2-Dibromo-3-chloropropane	0.5 UR
Dilution Factor	1.000
Total (Allowed) Hold Time	15(14)d*

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - VOLATILE ORGANIC METHOD 524.2 TRIP BLANK DATA

AREA	CFA	CFA	CFA	CFA	CFA
LOCATION	QC	QC	QC	QC	QC
TYPE OF LOCATION	00-TRIP BLANK	00-TRIP BLANK	00-TRIP BLANK	00-TRIP BLANK	00-TRIP BLANK
SAMPLE NUMBER	CFA0501A	CFA0601A	CFA0701A	CFA0801A	CFA0802A
MEDIA	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	CFA0101A	CFA0101A	CFA0101A	CFA0101A	CFA0101A
TARGET COMPOUNDS					
Methylene Chloride	---	9	4	---	---
Chloroform	---	---	---	---	3
1,2-Dibromo-3-chloropropane	0.5 UR	0.5 UR	0.5 UR	0.5 UR	0.5 UR
Dilution Factor	1.000	1.000	1.000	1.000	1.000
Total (Allowed) Hold Time	15(14)d*	15(14)d*	15(14)d*	15(14)d*	14(14)d

TABLE _-_-_ CFA LANDFILLS II AND III FY89 WELLS - VOLATILE ORGANIC METHOD 524.2 TRIP BLANK DATA (Continued)

AREA	CFA	CFA
LOCATION	QC	QC
TYPE OF LOCATION	00-TRIP BLANK	00-TRIP BLANK
SAMPLE NUMBER	CFA0803A	CFA0804A
MEDIA	WATER	WATER
UNITS	ug/L	ug/L
SDG NUMBER	CFA0101A	CFA0101A
TARGET COMPOUNDS		
Methylene Chloride	---	---
Chloroform	3	3
1,2-Dibromo-3-chloropropane	0.5 UR	0.5 UR
Dilution Factor	1.000	1.000
Total (Allowed) Hold Time	14(14)d	14(14)d

TABLE _._._ CFA LANDFILLS II AND III - SEMIVOLATILE APPENDIX IX ORGANIC DATA

AREA	CFA	CFA	CFA	CFA	CFA
LOCATION	03-LF3-8	03-LF3-8	02-LF2-8	02-LF2-9	02-LF2-9
TYPE OF LOCATION	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL
SAMPLE NUMBER	CFA0101D	CFA0101DRE	CFA0201D	CFA0301D	CFA0302D
MEDIA	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	CFA0101D	CFA0101D	CFA0101D	CFA0101D	CFA0101D
FIELD MEASUREMENTS					
pH	8.0	8.0		9.1	9.1
Conductivity (uS)	0.6	0.6		0.6	0.6
Temperature (C)	10.4	10.4		10.4	10.4
TARGET COMPOUNDS					
None Detected					
Dilution Factor	1.000	1.000	1.000	1.000	1.000
Anal (Allowed) Hold Time	5(40)d	7(40)d	4(40)d	4(40)d	4(40)d

TABLE _._._ CFA LANDFILLS II AND III - SEMIVOLATILE APPENDIX IX ORGANIC DATA (Continued)

AREA	CFA	CFA
LOCATION	02-LF2-11	02-LF2-11
TYPE OF LOCATION	UPGRADIENT WELL	UPGRADIENT WELL
SAMPLE NUMBER	CFA0401D	CFA0402D
MEDIA	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L
SDG NUMBER	CFA0101D	CFA0101D
FIELD MEASUREMENTS		
pH	7.6	7.6
Conductivity (uS)	0.7	0.7
Temperature (C)	10.1	10.1
TARGET COMPOUNDS		
None Detected		
Dilution Factor	1.000	1.000
Anal (Allowed) Hold Time	5(40)d	7(40)d

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - INORGANIC DATA

AREA	CFA	CFA	CFA	CFA	CFA	CFA
LOCATION	03-LF3-8	02-LF2-8	02-LF2-9	02-LF2-9	02-LF2-11	02-LF2-11
TYPE OF LOCATION	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	UPGRADIENT WELL	UPGRADIENT WELL
SAMPLE NUMBER	CFA0101H	CFA0201H	CFA0301H	CFA0302H	CFA0401H	CFA0402H
MEDIA	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	CFA0101H	CFA0101H	CFA0101H	CFA0101H	CFA0101H	CFA0101H
FIELD MEASUREMENTS						
pH	8.0	9.1	9.1	9.1	7.6	7.6
Conductivity (uS)	0.6	0.6	0.6	0.6	0.7	0.7
Temperature (C)	10.4	10.9	10.3	10.3	10.1	10.1
ANALYTES						
Arsenic	---	---	---	---	---	---
Barium	80.0 B	147 B	129 B	130 B	121 B	121 B
Cadmium	---	---	---	---	---	---
Chromium	312	206	293	307	379	358
Iron	5080	1100	4190	4370	5410	4500
Lead	2.3 B	---	---	---	---	---
Manganese	44.0	16.0	33.0	36.0	66.0	66.0
Mercury	---	---	---	---	---	---
Selenium	---	---	---	---	---	---
Silver	---	---	---	---	---	---
Sodium	38100	35700	36200	37400	42000	42300
Total (Allowed) Hold Time[a]	17(180)d	17(180)d	17(180)d	17(180)d	17(180)d	17(180)d
Total (Allowed) Hold Time[b]	14(26)d	14(26)d	15(26)d	14(26)d	14(26)d	14(26)d
Total (Allowed) Hold Time[c]	17(180)d	17(180)d	17(180)d	17(180)d	17(180)d	17(180)d

a. ICP
b. CVAAS
c. GFAAS

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - INORGANIC FIELD BLANK DATA

AREA	CFA
LOCATION	ASTM TYPEII H2O
TYPE OF LOCATION	00-FIELD BLANK
SAMPLE NUMBER	CFA0901H
MEDIA	WATER
UNITS	ug/L
SDG NUMBER	CFA0101H
ANALYTES	
Arsenic	---
Barium	---
Cadmium	---
Chromium	---
Iron	79.0 B
Lead	---
Manganese	---
Mercury	---
Selenium	---
Silver	---
Sodium	340 B
Total (Allowed) Hold Time[a]	17(180)d
Total (Allowed) Hold Time[b]	15(26)d
Total (Allowed) Hold Time[c]	17(180)d

a. ICP
b. CVAAS
c. GFAAS

TABLE _-_-_ CFA LANDFILLS II AND III FY89 WELLS - VOLATILE ORGANIC METHOD 524.2 DATA

AREA	CFA	CFA	CFA	CFA	CFA
LOCATION	03-LF3-8	02-LF2-8	02-LF2-9	02-LF2-9	02-LF2-11
TYPE OF LOCATION	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	UPGRADIENT WELL
SAMPLE NUMBER	CFA1001A	CFA1101A	CFA1201A	CFA1202A	CFA1301A
MEDIA	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	CFA1001A	CFA1001A	CFA1001A	CFA1001A	CFA1001A
FIELD MEASUREMENTS					
pH	8.2	8.8	9.1	9.1	7.6
Conductivity (uS)	0.5	0.6	0.5	0.5	0.6
Temperature (C)	12.5	12.0	12.1	12.1	11.0
TARGET COMPOUNDS					
Methylene Chloride'	---	---	---	0.2 J	---
Chloroform	---	0.5	0.2 J	0.2 J	---
1,1,1-Trichloroethane	0.5 J	0.6	0.6	0.6	5
Toluene	---	0.5	---	---	---
Dilution Factor	1.000	1.000	1.000	1.000	1.000
Total (Allowed) Hold Time	8(14)d	8(14)d	7(14)d	8(14)d	8(14)d

TABLE _-_-_ CFA LANDFILLS II AND III FY89 WELLS - VOLATILE ORGANIC METHOD 524.2 DATA (Continued)

AREA	CFA
LOCATION	02-LF2-11
TYPE OF LOCATION	UPGRADIENT WELL
SAMPLE NUMBER	CFA1302A
MEDIA	GROUND WATER
UNITS	ug/L
SDG NUMBER	CFA1001A
FIELD MEASUREMENTS	
pH	7.6
Conductivity (uS)	0.6
Temperature (C)	11.0
TARGET COMPOUNDS	
Methylene Chloride	---
Chloroform	---
1,1,1-Trichloroethane	0.5
Toluene	---
Dilution Factor	1.000
Total (Allowed) Hold Time	8(14)d

TABLE _-_-_ CFA LANDFILLS II AND III FY89 WELLS - VOLATILE ORGANIC METHOD 524.2 TRIP BLANK DATA

AREA	CFA	CFA	CFA	CFA	CFA
LOCATION	QC	QC	QC	QC	QC
TYPE OF LOCATION	00-TRIP BLANK	00-TRIP BLANK	00-TRIP BLANK	00-TRIP BLANK	00-TRIP BLANK
SAMPLE NUMBER	CFA1401A	CFA1501A	CFA1601A	CFA1701A	CFA17A1A
MEDIA	WATER	WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	CFA1001A	CFA1001A	CFA1001A	CFA1001A	CFA1001A
TARGET COMPOUNDS					
Chloromethane	---	---	13	---	---
Methylene Chloride	---	---	---	0.5	---
Chloroform	0.4 J	0.4 J	3	3	0.5 J
Bromodichloromethane	---	---	0.4 J	0.4 J	---
Toluene	---	---	0.2 J	0.3 J	---
Xylene (total)	---	---	0.2 J	0.2 J	---
1,3,5-Trimethylbenzene	---	---	---	0.1 J	---
1,2,4-Trimethylbenzene	---	---	0.1 J	0.2 J	---
Dilution Factor	1.000	1.000	1.000	1.000	1.000
Total (Allowed) Hold Time	9(14)d	9(14)d	8(14)d	8(14)d	8(14)d

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - VOLATILE ORGANIC METHOD 524.2 FIELD BLANK DATA

AREA	CFA
LOCATION	ASTM TYPEII H2O
TYPE OF LOCATION	00-FIELD BLANK
SAMPLE NUMBER	CFA1801A
MEDIA	WATER
UNITS	ug/L
SDG NUMBER	CFA1001A

TARGET COMPOUNDS
None detected.

Dilution Factor	1.000
Total (Allowed) Hold Time	7(14)d

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - SEMIVOLATILE APPENDIX IX ORGANIC DATA

AREA	CFA	CFA	CFA	CFA	CFA
LOCATION	03-LF3-8	02-LF2-8	02-LF2-9	02-LF2-9	02-LF2-11
TYPE OF LOCATION	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	UPGRADIENT WELL
SAMPLE NUMBER	CFA1001D	CFA1101D	CFA1201D	CFA1202D	CFA1301D
MEDIA	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	CFA1001D	CFA1001D	CFA1001D	CFA1001D	CFA1001D
FIELD MEASUREMENTS					
pH	8.2	8.8	9.1	9.1	7.6
Conductivity (uS)	0.5	0.6	0.5	0.5	0.6
Temperature (C)	12.5	12.0	12.1	12.1	11.0
TARGET COMPOUNDS					
None detected.					
Dilution Factor	1.000	1.000	1.000	1.000	1.000
Anal (Allowed) Hold Time	14(40)d	14(40)d	14(40)d	14(40)d	11(40)d

TABLE _-_-_ CFA LANDFILLS II AND III FY89 WELLS - SEMIVOLATILE APPENDIX IX ORGANIC DATA (Continued)

AREA	CFA
LOCATION	02-LF2-11
TYPE OF LOCATION	UPGRADIENT WELL
SAMPLE NUMBER	CFA1302D
MEDIA	GROUND WATER
UNITS	ug/L
SDG NUMBER	CFA1001D
FIELD MEASUREMENTS	
pH	7.6
Conductivity (uS)	0.6
Temperature (C)	11.0
TARGET COMPOUNDS	
None detected.	
Dilution Factor	1.000
Anal (Allowed) Hold Time	14(40)d

TABLE _-_-_ CFA LANDFILLS II AND III FY89 WELLS - SEMIVOLATILE APPENDIX IX ORGANIC FIELD BLANK DATA

AREA	CFA
LOCATION	ASTM TYPEII H20
TYPE OF LOCATION	00-FIELD BLANK
SAMPLE NUMBER	CFA1801D
MEDIA	WATER
UNITS	ug/L
SDG NUMBER	CFA1001D

TARGET COMPOUNDS
None detected.

Dilution Factor	1.000
Anal (Allowed) Hold Time	14(40)d

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - INORGANIC DATA

AREA	CFA	CFA	CFA	CFA	CFA	CFA
LOCATION	03-LF3-8	03-LF3-8	02-LF2-8	02-LF2-8	02-LF2-9	02-LF2-9
TYPE OF LOCATION	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL
SAMPLE NUMBER	CFA1001H	CFA1001M	CFA1101H	CFA1101M	CFA1201H	CFA1201M
MEDIA	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	CFA1001H	CFA1001M	CFA1001H	CFA1001M	CFA1001H	CFA1001M
FIELD MEASUREMENTS						
pH	8.2	8.2	8.8	8.8	9.1	9.1
Conductivity (uS)	0.5	0.5	0.6	0.6	0.5	0.5
Temperature (C)	12.5	12.5	12.0	12.0	12.1	12.1
ANALYTES						
Arsenic	1.1 B	1.4 B	1.3 B	---	1.3 B	---
Barium	86.0 B	82.0 B	142 B	101 B	152 B	83.0 B
Cadmium	---	1.0 UWUJ	1.0 UWUJ	1.0 UWUJ	1.0 UWUJ	1.0 UWUJ
Chromium	589 NJ	10.0 UUJ	285 NJ	14.0 J	263 NJ	567 J
Iron	11900	200 U	1540	160 U	4700	230 U
Lead	1.4 B	1.0 B	11.2	---	---	---
Manganese	217	200	153	214	154	213
Mercury	0.10 B	---	---	---	---	---
Selenium	2.0 UWUJ	2.0 UWUJ	2.0 UWUJ	2.8 BWJ	2.0 UWUJ	---
Silver	7.0 UNUJ	7.0 UUJ	7.0 UNUJ	7.0 UUJ	7.0 UNUJ	7.0 UUJ
Sodium	36300 EJ	36400 EJ	35800 EJ	35700 EJ	37600 EJ	35900 EJ
Total (Allowed) Hold Time[a]	7(180)d	7(180)d	8(180)d	8(180)d	7(180)d	7(180)d
Total (Allowed) Hold Time[b]	6(26)d	6(26)d	7(26)d	7(26)d	6(26)d	6(26)d
Total (Allowed) Hold Time[c]	7(180)d	7(180)d	8(180)d	8(180)d	7(180)d	7(180)d

a. ICP
b. CVAAS
c. GFAAS

TABLE _-_-_ CFA LANDFILLS II AND III FY89 WELLS - INORGANIC DATA (Continued)

AREA	CFA	CFA	CFA	CFA	CFA	CFA
LOCATION	02-LF2-9	02-LF2-9	02-LF2-11	02-LF2-11	02-LF2-11	02-LF2-11
TYPE OF LOCATION	DOWN GRAD WELL	DOWN GRAD WELL	UPGRADIENT WELL	UPGRADIENT WELL	UPGRADIENT WELL	UPGRADIENT WELL
SAMPLE NUMBER	CFA1202H	CFA1202M	CFA1301H	CFA1301M	CFA1302H	CFA1302M
MEDIA	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	CFA1001H	CFA1001M	CFA1001H	CFA1001M	CFA1001H	CFA1001M
FIELD MEASUREMENTS						
pH	9.1	9.1	7.6	7.6	7.6	7.6
Conductivity (uS)	0.5	0.5	0.6	0.6	0.6	0.6
Temperature (C)	12.1	12.1	11.0	11.0	11.0	11.0
ANALYTES						
Arsenic	---	---	1.1 B	---	---	1.0 BW
Barium	153 B	109 B	121 B	123 B	123 B	120 B
Cadmium	1.0 UWUJ	1.0 UWUJ	1.0 UWUJ	1.0 UWUJ	1.0 UWUJ	1.0 UWUJ
Chromium	241 NJ	10.0 UUJ	216 NJ	10.0 UUJ	192 NJ	10.0 UUJ
Iron	4900	150 U	17200	250 U	14700	140 U
Lead	---	---	---	---	---	1.8 B
Manganese	166	199	226	228	215	162
Mercury	---	---	---	---	---	---
Selenium	2.0 UWUJ	2.0 UWUJ	2.0 UWUJ	2.0 UWUJ	2.0 UWUJ	2.0 UWUJ
Silver	7.0 UNUJ	7.0 UUJ	7.0 UNUJ	7.0 UUJ	7.0 UNUJ	7.0 UUJ
Sodium	38400 EJ	39800 EJ	41000 EJ	41300 EJ	41600 EJ	41100 EJ
Total (Allowed) Hold Time[a]	7(180)d	7(180)d	6(180)d	6(180)d	6(180)d	6(180)d
Total (Allowed) Hold Time[b]	6(26)d	6(26)d	5(26)d	5(26)d	5(26)d	5(26)d
Total (Allowed) Hold Time[c]	7(180)d	7(180)d	6(180)d	6(180)d	6(180)d	6(180)d

a. ICP
b. CVAAS
c. GFAAS

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - INORGANIC FIELD BLANK DATA

AREA	QC	QC
LOCATION	ASTM TYPEII H2O	ASTM TYPEII H2O
TYPE OF LOCATION	00-FIELD BLANK	00-FIELD BLANK
SAMPLE NUMBER	CFA1801H	CFA1801M
MEDIA	WATER	WATER
UNITS	ug/L	ug/L
SDG NUMBER	CFA1001H	CFA1001M
ANALYTES		
Arsenic	---	---
Barium	33.0 B	5.0 B
Cadmium	---	---
Chromium	10.0 UNUJ	10.0 UUJ
Iron	40.0 BU	180 U
Lead	3.2	1.6 B
Manganese	122	233
Mercury	---	---
Selenium	---	2.0 UWUJ
Silver	7.0 UNUJ	7.0 UUJ
Sodium	256 UJ	256 UEJ
Total (Allowed) Hold Time[a]	8(180)d	8(180)d
Total (Allowed) Hold Time[b]	7(26)d	7(26)d
Total (Allowed) Hold Time[c]	8(180)d	8(180)d

a. ICP
b. CVAAS
c. GFAAS

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - VOLATILE ORGANIC METHOD 524.2 DATA

AREA	CFA	CFA	CFA	CFA	CFA
LOCATION	03-LF3-8	02-LF2-8	02-LF2-9	02-LF2-9	02-LF2-11
TYPE OF LOCATION	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	UPGRADIENT WELL
SAMPLE NUMBER	CFA1901A	CFA2001A	CFA2101A	CFA2102A	CFA2201A
MEDIA	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	CFA2001A	CFA2001A	CFA2001A	CFA2001A	CFA2001A
FIELD MEASUREMENTS					
pH	8.4	9.1	8.9	8.9	8.0
Conductivity (uS)	0.5	0.6	0.6	0.6	0.7
Temperature (C)	11.7	11.7	11.5	11.5	11.0
TARGET COMPOUNDS					
Chloroform	0.1 J	0.6	0.2 J	0.3 J	0.3 J
1,1,1-Trichloroethane	0.4 J	0.5	0.5	0.4 J	0.3 J
Benzene	0.3 J	---	---	---	---
Trichloroethene	---	0.2 J	---	---	---
Toluene	0.1 J	0.4 J	---	0.1 J	---
1,2-Dibromo-3-chloropropane	0.5 UR	0.5 UR	0.5 UR	0.5 UR	0.5 UR
Naphthalene	---	0.1 J	---	---	---
Dilution Factor	1.000	1.000	1.000	1.000	1.000
Total (Allowed) Hold Time	11(14)d	12(14)d	13(14)d	11(14)d	11(14)d

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - VOLATILE ORGANIC METHOD 524.2 DATA (Continued)

AREA	CFA
LOCATION	02-LF2-11
TYPE OF LOCATION	UPGRADIENT WELL
SAMPLE NUMBER	CFA2202A
MEDIA	GROUND WATER
UNITS	ug/L
SDG NUMBER	CFA2001A
FIELD MEASUREMENTS	
pH	8.0
Conductivity (uS)	0.7
Temperature (C)	11.0
TARGET COMPOUNDS	
Chloroform	---
1,1,1-Trichloroethane	0.3 J
Benzene	---
Trichloroethene	---
Toluene	---
1,2-Dibromo-3-chloropropane	0.5 UR
Naphthalene	---
Dilution Factor	1.000
Total (Allowed) Hold Time	10(14)d

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - VOLATILE ORGANIC METHOD 524.2 FIELD BLANK DATA

AREA	CFA
LOCATION	ASTM TYPEII H20
TYPE OF LOCATION	00-FIELD BLANK
SAMPLE NUMBER	CFA2701A
MEDIA	WATER
UNITS	ug/L
SDG NUMBER	CFA2001A
TARGET COMPOUNDS	
Chloroform	13
Bromodichloromethane	0.3 J
1,2-Dibromo-3-chloropropane	0.5 UR
Dilution Factor	1.000
Total (Allowed) Hold Time	12(14)d

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - VOLATILE ORGANIC METHOD 524.2 TRIP BLANK DATA

AREA	CFA	CFA	CFA
LOCATION	QC	QC	QC
TYPE OF LOCATION	00-TRIP BLANK	00-TRIP BLANK	00-TRIP BLANK
SAMPLE NUMBER	CFA2301A	CFA2401A	CFA2501A
MEDIA	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L
SDG NUMBER	CFA2001A	CFA2001A	CFA2001A
TARGET COMPOUNDS			
Chloroform	12	12	12
Benzene	---	---	0.3 J
Toluene	---	---	0.1 J
1,4-Dichlorobenzene	---	---	0.1 J
1,2-Dichlorobenzene	---	---	0.1 J
1,2-Dibromo-3-chloropropane	0.5 UR	0.5 UR	0.5 UR
Naphthalene	---	---	0.1 J
Dilution Factor	1.000	1.000	1.000
Total (Allowed) Hold Time	10(14)d	12(14)d	11(14)d

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - SEMIVOLATILE APPENDIX IX ORGANIC DATA

AREA	CFA	CFA	CFA	CFA	CFA
LOCATION	03-LF3-8	02-LF2-8	02-LF2-8	02-LF2-9	02-LF2-9
TYPE OF LOCATION	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL
SAMPLE NUMBER	CFA1901D	CFA2001D	CFA2001DRE	CFA2101D	CFA2102D
MEDIA	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	CFA2001A	CFA2001A	CFA2001A	CFA2001A	CFA2001A
FIELD MEASUREMENTS					
pH	8.4	9.1	9.1	8.9	8.9
Conductivity (uS)	0.5	0.6	0.6	0.6	0.6
Temperature (C)	11.7	11.7	11.7	11.5	11.5
TARGET COMPOUNDS					
Phenol	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2-Chlorophenol	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2-Methylphenol	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
4-Methylphenol	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2-Nitrophenol	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2,4-Dimethylphenol	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2,4-Dichlorophenol	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Naphthalene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
4-Chloro-3-methylphenol	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2-Methylnaphthalene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2,4,6-Trichlorophenol	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2,4,5-Trichlorophenol	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ
2-Chloronaphthalene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Acenaphthylene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Acenaphthene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2,4-Dinitrophenol	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ
4-Nitrophenol	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ
Fluorene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
4,6-Dinitro-2-methylphenol	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ
Pentachlorophenol	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ
Phenanthrene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Anthracene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Fluoranthene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Pyrene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzo(a)anthracene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Chrysene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzo(b)fluoranthene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzo(k)fluoranthene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzo(a)pyrene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Indeno(1,2,3-cd)pyrene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - SEMIVOLATILE APPENDIX IX ORGANIC DATA

AREA	CFA	CFA	CFA	CFA	CFA
LOCATION	03-LF3-8	02-LF2-8	02-LF2-8	02-LF2-9	02-LF2-9
TYPE OF LOCATION	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL
SAMPLE NUMBER	CFA1901D	CFA2001D	CFA2001DRE	CFA2101D	CFA2102D
MEDIA	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	CFA2001A	CFA2001A	CFA2001A	CFA2001A	CFA2001A
Dibenz(a,h)anthracene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzo(g,h,i)perylene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
3-Methylphenol	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2,6-Dichlorophenol	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
1,3-Dinitrobenzene	20 UXJ	20 UXJ	20 UXJ	20 UXJ	20 UXJ
2,3,4,6-Tetrachlorophenol	10 UXJ	10 UXJ	10 UXJ	10 UXJ	10 UXJ
3-Methylcholanthrene	10 UXJ	10 UXJ	10 UXJ	10 UXJ	10 UXJ
Dilution Factor	1.000	1.000	1.000	1.000	1.000
Anal (Allowed) Hold Time	39(40)d	13(40)d	39(40)d	44(40)d*	39(40)d

TABLE _-_-_ CFA LANDFILLS II AND III FY89 WELLS - SEMIVOLATILE APPENDIX IX ORGANIC DATA (Continued)

AREA	CFA	CFA
LOCATION	02-LF2-11	02-LF2-11
TYPE OF LOCATION	UPGRADIENT WELL	UPGRADIENT WELL
SAMPLE NUMBER	CFA2201D	CFA2202D
MEDIA	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L
SDG NUMBER	CFA2001A	CFA2001A
FIELD MEASUREMENTS		
pH	8.0	8.0
Conductivity (uS)	0.7	0.7
Temperature (C)	11.0	11.0
TARGET COMPOUNDS		
Phenol	10 UR	10 UR
2-Chlorophenol	10 UR	10 UR
2-Methylphenol	10 UR	10 UR
4-Methylphenol	10 UR	10 UR
2-Nitrophenol	10 UR	10 UR
2,4-Dimethylphenol	10 UR	10 UR
2,4-Dichlorophenol	10 UR	10 UR
Naphthalene	10 UR	10 UR
4-Chloro-3-methylphenol	10 UR	10 UR
2-Methylnaphthalene	10 UR	10 UR
2,4,6-Trichlorophenol	10 UR	10 UR
2,4,5-Trichlorophenol	50 UR	50 UR
2-Chloronaphthalene	10 UR	10 UR
Acenaphthylene	10 UR	10 UR
Acenaphthene	10 UR	10 UR
2,4-Dinitrophenol	50 UR	50 UR
4-Nitrophenol	50 UR	50 UR
Fluorene	10 UR	10 UR
4,6-Dinitro-2-methylphenol	50 UR	50 UR
Pentachlorophenol	50 UR	50 UR
Phenanthrene	10 UR	10 UR
Anthracene	10 UR	10 UR
Fluoranthene	10 UR	10 UR
Pyrene	10 UR	10 UR
Benzo(a)anthracene	10 UR	10 UR
Chrysene	10 UR	10 UR
Benzo(b)fluoranthene	10 UR	10 UR
Benzo(k)fluoranthene	10 UR	10 UR
Benzo(a)pyrene	10 UR	10 UR
Indeno(1,2,3-cd)pyrene	10 UR	10 UR

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - SEMIVOLATILE APPENDIX IX ORGANIC DATA (Continued)

AREA	CFA	CFA
LOCATION	02-LF2-11	02-LF2-11
TYPE OF LOCATION	UPGRADIENT WELL	UPGRADIENT WELL
SAMPLE NUMBER	CFA2201D	CFA2202D
MEDIA	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L
SDG NUMBER	CFA2001A	CFA2001A
Dibenz(a,h)anthracene	10 UR	10 UR
Benzo(g,h,i)perylene	10 UR	10 UR
3-Methylphenol	10 UR	10 UR
2,6-Dichlorophenol	10 UR	10 UR
1,3-Dinitrobenzene	20 UXR	20 UXR
2,3,4,6-Tetrachlorophenol	10 UXR	10 UXR
3-Methylcholanthrene	10 UXR	10 UXR
Dilution Factor	1.000	1.000
Anal (Allowed) Hold Time	10(40)d	10(40)d

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - SEMIVOLATILE APPENDIX IX ORGANIC FIELD BLANK DATA

AREA	CFA
LOCATION	ASTM TYPEII H20
TYPE OF LOCATION	OO-FIELD BLANK
SAMPLE NUMBER	CFA2701D
MEDIA	WATER
UNITS	ug/L
SDG NUMBER	CFA2001A
TARGET COMPOUNDS	
Phenol	10 UJ
2-Chlorophenol	10 UJ
2-Methylphenol	10 UJ
4-Methylphenol	10 UJ
2-Nitrophenol	10 UJ
2,4-Dimethylphenol	10 UJ
2,4-Dichlorophenol	10 UJ
Naphthalene	10 UJ
4-Chloro-3-methylphenol	10 UJ
2-Methylnaphthalene	10 UJ
2,4,6-Trichlorophenol	10 UJ
2,4,5-Trichlorophenol	50 UJ
2-Chloronaphthalene	10 UJ
Acenaphthylene	10 UJ
Acenaphthene	10 UJ
2,4-Dinitrophenol	50 UJ
4-Nitrophenol	50 UJ
Fluorene	10 UJ
4,6-Dinitro-2-methylphenol	50 UJ
Pentachlorophenol	50 UJ
Phenanthrene	10 UJ
Anthracene	10 UJ
Fluoranthene	10 UJ
Pyrene	10 UJ
Benzo(a)anthracene	10 UJ
Chrysene	10 UJ
Benzo(b)fluoranthene	10 UJ
Benzo(k)fluoranthene	10 UJ
Benzo(a)pyrene	10 UJ
Indeno(1,2,3-cd)pyrene	10 UJ
Dibenz(a,h)anthracene	10 UJ
Benzo(g,h,i)perylene	10 UJ
3-Methylphenol	10 UJ
2,6-Dichlorophenol	10 UJ
1,3-Dinitrobenzene	20 UXJ
2,3,4,6-Tetrachlorophenol	10 UXJ
3-Methylcholanthrene	10 UXJ
Dilution Factor	1.000
Anal (Allowed) Hold Time	14(40)d

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - INORGANIC DATA

AREA	CFA	CFA	CFA	CFA	CFA	CFA
LOCATION	03-LF3-8	03-LF3-8	02-LF2-8	02-LF2-8	02-LF2-9	02-LF2-9
TYPE OF LOCATION	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL
SAMPLE NUMBER	CFA1901H	CFA1901M	CFA2001H	CFA2001M	CFA2101H	CFA2101M
MEDIA	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	CFA2001A	CFA2001A	CFA2001A	CFA2001A	CFA2001A	CFA2001A
FIELD MEASUREMENTS						
pH	8.3	8.3	9.1	9.1	8.9	8.9
Conductivity (uS)	0.5	0.5	0.6	0.6	0.6	0.6
Temperature (C)	11.7	11.7	11.7	11.7	11.5	11.5
ANALYTES						
Arsenic	---	---	---	---	---	---
Barium	103 B	94.0 B	154 B	130 B	167 B	162 B
Cadmium	---	---	---	---	---	---
Chromium	409	---	776	12.0	30.0	9.0 B
Iron	5590	57.0 B	3990	49.0 B	2250	103
Lead	---	---	---	---	---	---
Manganese	54.0	10.0 B	72.0	6.0 B	9.0 B	5.0 B
Mercury	0.34	---	0.37	0.12 B	---	---
Selenium	3.1 BWJ	3.4 BWJ	---	---	---	---
Silver	---	---	---	---	---	---
Sodium	39700	38600	40000	39500	41700	42900
Total (Allowed) Hold Time[a]	42(180)d	42(180)d	43(180)d	43(180)d	42(180)d	42(180)d
Total (Allowed) Hold Time[b]	20(26)d	20(26)d	21(26)d	21(26)d	20(26)d	20(26)d
Total (Allowed) Hold Time[c]	42(180)d	42(180)d	43(180)d	43(180)d	42(180)d	42(180)d

a. ICP
b. CVAAS
c. GFAAS

TABLE _._._ CFA LANDFILLS II AND III FY89 WELLS - INORGANIC DATA (Continued)

AREA	CFA	CFA	CFA	CFA	CFA	CFA
LOCATION	02-LF2-9	02-LF2-9	02-LF2-11	02-LF2-11	02-LF2-11	02-LF2-11
TYPE OF LOCATION	DOWN GRAD WELL	DOWN GRAD WELL	UPGRADIENT WELL	UPGRADIENT WELL	UPGRADIENT WELL	UPGRADIENT WELL
SAMPLE NUMBER	CFA2102H	CFA2102M	CFA2201H	CFA2201M	CFA2202H	CFA2202M
MEDIA	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SDG NUMBER	CFA2001A	CFA2001A	CFA2001A	CFA2001A	CFA2001A	CFA2001A
FIELD MEASUREMENTS						
pH	8.9	8.9	8.0	8.0	8.0	8.0
Conductivity (uS)	0.6	0.6	0.7	0.7	0.7	0.7
Temperature (C)	11.5	11.5	11.0	11.0	11.0	11.0
ANALYTES						
Arsenic	---	---	---	2.0 UWJ	2.0 B	---
Barium	157 B	151 B	108 B	103 B	114 B	98.0 B
Cadmium	---	---	---	---	---	---
Chromium	206	---	169	---	202	---
Iron	2220	59.0 B	7510	48.0 B	9520	132
Lead	---	---	---	---	---	1.9 BWJ
Manganese	24.0	6.0 B	64.0	24.0	69.0	24.0
Mercury	0.32	0.18 B	---	---	---	0.10 B
Selenium	---	---	---	3.8 B	---	3.0 BWJ
Silver	---	---	---	---	---	---
Sodium	42600	43100	44000	45500	43200	44900
Total (Allowed) Hold Time[a]	42(180)d	42(180)d	41(180)d	41(180)d	41(180)d	41(180)d
Total (Allowed) Hold Time[b]	20(26)d	20(26)d	19(26)d	19(26)d	19(26)d	19(26)d
Total (Allowed) Hold Time[c]	42(180)d	42(180)d	41(180)d	41(180)d	41(180)d	41(180)d

a. ICP
b. CVAAS
c. GFAAS

TABLE _-_-_ CFA LANDFILLS II AND III FY89 WELLS - INORGANIC FIELD BLANK DATA

AREA	CFA	CFA
LOCATION	ASTM TYPEII H2O	ASTM TYPEII H2O
TYPE OF LOCATION	00-FIELD BLANK	00-FIELD BLANK
SAMPLE NUMBER	CFA2701H	CFA2701H
MEDIA	WATER	WATER
UNITS	ug/L	ug/L
SDG NUMBER	CFA2001A	CFA2001A
ANALYTES		
Arsenic	---	---
Barium	---	---
Cadmium	---	---
Chromium	---	---
Iron	15.0 B	47.0 B
Lead	1.4 B	---
Manganese	3.0 B	---
Mercury	0.14 B	0.13 B
Selenium	2.0 UUJ	---
Silver	---	---
Sodium	161 B	388 B
Total (Allowed) Hold Time[a]	43(180)d	43(180)d
Total (Allowed) Hold Time[b]	21(26)d	21(26)d
Total (Allowed) Hold Time[c]	43(180)d	43(180)d

a. ICP
b. CVAAS
c. GFAAS

TABLE _.-.- CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA03301A FOR INSTRUMENT VG1

AREA	QC		QC		QC		QC	CFA
LOCATION	INITIAL		CONTINUING		LAB CONTROL		METHOD	03-LF3-9
TYPE OF LOCATION	CALIBRATN		CALIBRATN		SAMPLE		BLANK	DOWN GRAD WELL
SAMPLE NUMBER	VSTD002		VSTD002		VLCS01		VBLK01	CFA0386'A
MEDIA	05/06/91		05/08/91		WATER		WATER	GROUND WATER
UNITS	RRF	%RSD	RRF002	%D	ug/L	%REC	ug/L	ug/L
Dichlorodifluoromethane	NP	NP	NP	NP	NP	NP	0.5 U	R
Chloromethane	0.12	19.0	0.13	9.6	2(2.3)	115%	0.5 U	0.7
Vinyl Chloride	0.14	5.4	0.16	10.0	2(2.5)	125%	0.5 U	0.5 U
Bromomethane	0.11	12.9	0.11	3.7	2(2.5)	125%	0.5 U	0.5 U
Chloroethane	0.10	4.4	0.11	8.0	2(2.5)	125%	0.5 U	0.5 U
1,1-Dichloroethene	0.14	3.2	0.16	8.4	0(2.3)	115%	0.5 U	0.5 U
Methylene Chloride	0.30	46.5	0.41	36.0	2(1.4)	70%	0.5	0.2 JB
trans-1,2-Dichloroethene	0.18	1.8	0.18	1.1	2(2.5)	125%	0.5 U	0.5 U
1,1-Dichloroethane	0.36	3.6	0.39	7.5	2(2.5)	125%	0.5 U	0.5 U
2,2-Dichloropropane	0.16	9.0	0.18	10.0	NP	NP	0.5 U	0.5 U
cis-1,2-Dichloroethene	0.16	3.1	0.16	2.5	2(2.4)	120%	0.5 U	0.5 U
Chloroform	0.35	0.9	0.35	1.4	2(2.7)	135%	0.5 U	0.1 J
Bromochloromethane	0.07	4.8	0.07	2.9	NP	NP	0.5 U	0.5 U
1,1,1-Trichloroethane	0.27	9.0	0.24	11.6	2(2.8)	140%	0.5 U	0.5
Carbon Tetrachloride	0.26	20.4	0.24	8.6	2(2.3)	115%	0.5 U	0.5 U
1,1-Dichloropropene	0.30	7.4	0.29	3.1	NP	NP	0.5 U	0.5 U
Benzene	0.75	18.0	0.68	9.1	2(2.3)	115%	0.5 U	0.5 U
1,2-Dichloroethane	0.16	18.0	0.15	8.0	2(2.3)	115%	0.5 U	0.5
Trichloroethene	0.33	10.8	0.34	5.2	2(2.4)	120%	0.5 U	0.1 J
1,2-Dichloropropane	0.25	16.1	0.35	38.0	2(2.4)	120%	0.5 U	0.5 U
Bromodichloromethane	0.29	9.7	0.34	18.0	2(2.5)	125%	0.5 U	0.5 U
Dibromomethane	0.09	2.4	0.10	11.0	0(2.4)	NP	0.5 U	0.5 U
Trans-1,3-Dichloropropene	NP	NP	NP	NP	NP	NP	NP	NP
Toluene	0.56	16.6	0.58	3.8	2(2.4)	120%	0.5 U	0.2 J
cis-1,3-Dichloropropene	NP	NP	NP	NP	NP	NP	NP	NP
1,1,2-Trichloroethane	0.12	5.8	0.13	10.0	2(2.4)	120%	0.5 U	0.5 U
Tetrachloroethene	0.36	6.9	0.35	3.6	2(2.4)	120%	0.5 U	0.5 U
1,3-Dichloropropane	0.20	12.5	0.22	13.0	NP	NP	0.5 U	0.5 U
Dibromochloromethane	0.14	10.6	0.15	6.5	2(2.4)	120%	0.5 U	0.5 U
1,2-Dibromoethane	0.11	7.3	0.11	0.9	2(2.5)	125%	0.5 U	0.5 U
Chlorobenzene	0.64	13.5	0.62	3.7	2(2.4)	120%	0.5 U	0.5 U
1,1,1,2-Tetrachloroethane	0.22	13.3	0.22	0.5	2(2.4)	120%	0.5 U	0.5 U
Ethylbenzene	1.42	20.3	1.43	1.0	2(2.4)	120%	0.5 U	0.5 U
Xylene (total meta & para)	0.52	16.3	0.51	1.9	6(7.3)	122%	0.5 U	0.5 U
Xylene (ortho)	0.45	18.4	0.44	2.9	2(2.4)	120%	0.5 U	0.5 U
Styrene	0.67	18.8	0.66	1.4	2(2.4)	120%	0.5 U	0.5 U
Bromoform	0.08	10.2	0.07	4.0	2(2.5)	125%	0.5 U	0.5 U
Isopropylbenzene	1.50	19.1	1.43	4.5	NP	NP	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.16	8.8	0.17	3.7	2(2.4)	120%	0.5 U	0.5 U
Bromobenzene	0.26	11.4	0.25	3.9	NP	NP	0.5 U	0.5 U

NP - Information Not Provided by Laboratory

9-4-92

TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA03301A FOR INSTRUMENT VG1 (Continued)

AREA	QC		QC		QC		QC	CFA
LOCATION	INITIAL		CONTINUING		LAB CONTROL		METHOD	03-LF3-9
TYPE OF LOCATION	CALIBRATN		CALIBRATN		SAMPLE		BLANK	DOWN GRAD WELL
SAMPLE NUMBER	VSTD002		VSTD002		VLCS01		VBLK01	CFA03801A
MEDIA	05/06/91		05/08/91		WATER		WATER	GROUND WATER
UNITS	RRF	%RSD	RRF002	%D	ug/L	%REC	ug/L	ug/L
1,2,3-Trichloropropane	0.67	14.5	0.69	2.8	2(2.4)	120%	0.5 U	0.5 U
n-Propylbenzene	2.10	19.0	2.05	2.4	NP	NP	0.5 U	0.5 U
2-Chlorotoluene	1.00	19.8	1.01	1.1	NP	NP	0.5 U	0.5 U
1,3,5-Trimethylbenzene	1.45	16.7	1.37	5.4	NP	NP	0.5 U	0.5 U
4-Chlorotoluene	1.21	18.8	1.17	3.6	NP	NP	0.5 U	0.5 U
tert-Butylbenzene	1.24	21.8	1.08	12.8	NP	NP	0.5 U	0.5 U
1,2,4-Trimethylbenzene	1.33	19.1	1.29	2.6	NP	NP	0.5 U	0.5 U
sec-Butylbenzene	1.99	19.0	1.86	6.8	NP	NP	0.5 U	0.5 U
1,3-Dichlorobehzene	0.62	14.8	0.57	7.4	NP	NP	0.5 U	0.5 U
1,4-Dichlorobenzene	0.62	13.5	0.58	8.0	NP	NP	0.5 U	0.5 U
n-Butylbenzene	2.02	19.7	1.87	7.3	NP	NP	0.5 U	0.5 U
1,2-Dichlorobenzene	0.50	10.4	0.47	5.8	NP	NP	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	0.03	25.6	0.03	7.1	2(2.9)	145%	0.5 U	0.5 U
1,2,4-Trichlorobenzene	0.40	11.6	0.35	12.0	NP	NP	0.5 U	0.5 U
Hexachlorobutadiene	0.52	6.7	0.40	23.5	NP	NP	0.5 U	0.5 U
Naphthalene	0.38	21.7	0.32	14.9	NP	NP	0.5 U	0.5 U
1,2,3-Trichlorobenzene	0.31	13.9	0.28	11.3	NP	NP	0.5 U	0.5 U
Trichlorofluoromethane	0.16	15.5	NP	NP	2(1.9)	95%	NP	1.0
Bromofluorobenzene	0.53	6.1	NP	NP				
1,2-Dichlorobenzene	0.34	9.6	NP	NP				
Surr 1(BFB) %Recovery								
Surr 2(DCB) %Recovery						114	91	92
Method Blank Run (Y/N)						NO		YES
Tunes Out of Criteria								
Minutes Past 12-Hr Tune								
Internal Std Area(FBZ)			98975820			75414430	81521000	68609010
FBZ Ret Time Shift								
Dilution Factor						1.000	1.000	1.000
Field/Shipping Time								3d
Anal (Allowed) Hold Time						0(10)d		5(10)d
Total (Allowed) Hold Time						0(14)d		8(14)d

NP - Information Not Provided by Laboratory

9-4-92

TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA03301A FOR INSTRUMENT VG1 (Continued)

AREA	QC		QC		QC	CFA	CFA
LOCATION	LAB CONTROL		CONTINUING		METHOD	QC	03-LF3-11
TYPE OF LOCATION	SAMPLE		CALIBRATN		BLANK	00-TRIP BLANK	UPGRADIENT WELL
SAMPLE NUMBER	VLCSLOW		VSTD002		VBLK02	CFA03301A	CFA04001A
MEDIA	WATER		05/08/91		WATER	WATER	GROUND WATER
UNITS	ug/L	%REC	RRF002	%D	ug/L	ug/L	ug/L
Dichlorodifluoromethane	NP	NP	NP	NP	0.5 U	R	R
Chloromethane	0.5(0.4)	80%	0.10	12.2	0.5 U	0.6	0.7
Vinyl Chloride	0.5(0.4)	120%	0.13	6.9	0.5 U	0.5 U	0.5 U
Bromomethane	0.5(0.6)	120%	0.10	9.2	0.5 U	0.5 U	0.5 U
Chloroethane	0.5(0.5)	100%	0.11	10.0	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	0.5(0.4)	80%	0.14	1.4	0.5 U	0.5 U	0.5 J
Methylene Chloride	0.5(0.8)	160%	0.26	14.0	1.0	0.9 J	0.5 U
trans-1,2-Dichloroethene	NP	NP	0.20	9.2	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5(0.5)	100%	0.39	9.7	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	NP	NP	0.17	5.5	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	0.5(0.5)	100%	0.18	13.0	0.5 U	0.5 U	0.5 U
Chloroform	0.5(0.5)	100%	0.38	8.0	0.5 U	0.5 U	0.5 U
Bromochloromethane	NP	NP	0.08	11.0	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5(0.5)	100%	0.26	1.9	0.5 U	0.5 U	0.5
Carbon Tetrachloride	0.5(0.4)	80%	0.22	16.0	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	NP	NP	0.29	2.4	0.5 U	0.5 U	0.5 U
Benzene	0.5(0.4)	80%	0.68	9.7	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.5(0.4)	80%	0.14	14.8	0.5 U	0.5 U	0.6
Trichloroethene	0.5(0.4)	80%	0.35	7.1	0.5 U	0.5 U	0.5 J
1,2-Dichloropropane	0.5(0.4)	80%	0.32	26.0	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0(0.4)	80%	0.34	19.0	0.5 U	0.5 U	0.5 U
Dibromomethane	0.5(0.4)	80%	0.11	19.0	0.5 U	0.5 U	0.5 U
Trans-1,3-Dichloropropene	NP	NP	NP	NP	NP	NP	NP
Toluene	0.5(0.4)	80%	0.59	6.3	0.8 J	0.4 JB	0.5 U
cis-1,3-Dichloropropene	NP	NP	NP	NP	NP	NP	NP
1,1,2-Trichloroethane	0.5(0.4)	80%	0.13	11.2	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.5(0.4)	80%	0.40	9.9	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	NP	NP	0.23	15.0	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5(0.4)	80%	0.16	17.0	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	0.5(0.4)	80%	0.12	9.6	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5(0.4)	80%	0.65	1.2	0.5 U	0.5 U	0.5 U
1,1,1,2-Tetrachloroethane	0.5(0.4)	80%	0.25	14.0	0.5 U	0.5 U	0.5 U
Ethylbenzene	0.5(0.4)	80%	1.49	5.1	0.5 U	0.5 U	0.5 U
Xylene (total meta & para)	1.0(0.7)	80%	0.54	4.0	0.5 U	0.5 U	0.5 U
Xylene (ortho)	0.5(0.4)	80%	0.48	6.2	0.5 U	0.5 U	0.5 U
Styrene	0.5(0.4)	80%	0.74	10.0	0.5 U	0.5 U	0.5 U
Bromoform	0.5(0.5)	100%	0.09	22.0	0.5 U	0.5 U	0.5 U
Isopropylbenzene	NP	NP	1.52	1.1	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.5(0.4)	80%	0.18	11.0	0.5 U	0.5 U	0.5 U
Bromobenzene	NP	NP	0.30	15.0	0.5 U	0.5 U	0.5 U

NP - Information Not Provided by Laboratory

TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA03301A FOR INSTRUMENT VG1 (Continued)

AREA		QC		QC	QC	CFA	CFA
LOCATION		LAB CONTROL		CONTINUING	METHOD	QC	03-LF3-11
TYPE OF LOCATION		SAMPLE		CALIBRATN	BLANK	00-TRIP BLANK	UPGRADIENT WELL
SAMPLE NUMBER		VLCSLOW		VSTD002	VBLK02	CFA03301A	CFA04001A
MEDIA		WATER		05/08/91	WATER	WATER	GROUND WATER
UNITS	ug/L	%REC	RRF002	%D	ug/L	ug/L	ug/L
1,2,3-Trichloropropane	0.5(0.4)	80%	0.75	12.0	0.5 U	0.5 U	0.5 U
n-Propylbenzene	NP	NP	2.09	0.8	0.5 U	0.5 U	0.5 U
2-Chlorotoluene	NP	NP	1.28	27.0	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	NP	NP	1.54	6.6	0.5 U	0.5 U	0.5 U
4-Chlorotoluene	NP	NP	1.21	0.2	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	NP	NP	1.15	7.1	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	NP	NP	1.43	7.8	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	NP	NP	2.05	3.0	0.5 U	0.5 U	0.5 U
1,3-Dichlorobehzene	NP	NP	0.70	12.0	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	NP	NP	0.70	11.0	0.5 U	0.5 U	0.5 U
n-Butylbenzene	NP	NP	2.02	0.2	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	NP	NP	0.58	15.0	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	0.5(0.6)	120%	0.04	50.0	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	NP	NP	0.43	8.5	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	NP	NP	0.50	4.8	0.5 U	0.5 U	0.5 U
Naphthalene	NP	NP	0.41	8.0	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	NP	NP	0.34	9.0	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	0.5(0.5)	100%	NP	NP	NP	0.2 J	1.1
Bromofluorobenzene			0.57	6.2			
1,2-Dichlorobenzene			0.38	11.5			
Surr 1(BFB) %Recovery							
Surr 2(DCB) %Recovery		99			86	107	87
Method Blank Run (Y/N)		YES				YES	YES
Tunes Out of Criteria							
Minutes Past 12-Hr Tune							
Internal Std Area(FBZ)		76663000		56488000	70046000	56699000	70391000
FBZ Ret Time Shift							
Dilution Factor		1.000			1.000	1.000	1.000
Field/Shipping Time						2d	2d
Anal (Allowed) Hold Time		0(10)d				11(10)d*	11(10)d*
Total (Allowed) Hold Time		0(14)d				13(14)d	13(14)d

NP - Information Not Provided by Laboratory

9-4-92

TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA03301A FOR INSTRUMENT VG1 (Continued)

AREA	CFA	QC	QC		QC	CFA
LOCATION	03-LF3-11	LAB CONTROL	CONTINUING		METHOD	03-LF3-10
TYPE OF LOCATION	UPGRADIENT WELL	SAMPLE	CALIBRATN		BLANK	DOWN GRAD WELL
SAMPLE NUMBER	CFA04002A	VSBLK27	VSTD002		VBLK03	CFA03901A
MEDIA	GROUND WATER	WATER	05/09/91		WATER	GROUND WATER
UNITS	ug/L	ug/L	RRF002	%D	ug/L	ug/L
Dichlorodifluoromethane	R	0.5 U	NP	NP	0.5 U	R
Chloromethane	0.7	0.5 U	0.13	9.6	0.5 U	0.6
Vinyl Chloride	0.5 U	0.5 U	0.14	0.7	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.12	5.5	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.10	5.0	0.5 U	0.5 U
1,1-Dichloroethene	0.5 U	0.5 U	0.16	14.0	0.5 U	0.5 U
Methylene Chloride	0.5 U	1.5	0.25	16.3	0.6	0.5 U
trans-1,2-Dichloroethene	0.5 U	0.5 U	0.19	4.3	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.38	4.7	0.5 U	0.5 U
2,2-Dichloropropane	0.5 U	0.5 U	0.20	23.0	0.5 U	0.5 U
cis-1,2-Dichloroethene	0.5 U	0.5 U	0.16	2.5	0.5 U	0.5 U
Chloroform	0.5 U	0.5 U	0.38	8.5	0.5 U	0.5 U
Bromochloromethane	0.5 U	0.5 U	0.07	0.0	0.5 U	0.5 U
1,1,1-Trichloroethane	0.7	0.5 U	0.31	14.0	0.5 U	0.5 U
Carbon Tetrachloride	0.8 J	0.5 U	0.30	17.0	0.5 U	0.5 U
1,1-Dichloropropene	0.5 U	0.5 U	0.30	1.7	0.5 U	0.5 U
Benzene	0.5 U	0.5 U	0.84	12.0	0.5 U	0.5 U
1,2-Dichloroethane	0.8	0.5 U	0.20	24.0	0.5 U	0.5
Trichloroethene	0.5 J	0.5 U	0.34	3.4	0.5 U	0.1 J
1,2-Dichloropropane	0.5 U	0.5 U	0.29	16.0	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.30	5.6	0.5 U	0.5 U
Dibromomethane	0.5 U	0.5 U	0.09	2.2	0.5 U	0.5 U
Trans-1,3-Dichloropropene	NP	NP	NP	NP	NP	NP
Toluene	0.5	0.5 U	0.57	1.6	0.5 U	0.4 J
cis-1,3-Dichloropropene	NP	NP	NP	NP	NP	NP
1,1,2-Trichloroethane	0.5 U	0.5 U	0.11	1.7	0.1 J	0.5 U
Tetrachloroethene	0.5 U	0.5 U	0.38	5.5	0.5 U	0.5 U
1,3-Dichloropropane	0.5 U	0.5 U	0.19	1.0	0.1 J	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.14	0.0	0.1 J	0.5 U
1,2-Dibromoethane	0.5 U	0.5 U	0.10	9.6	0.1 J	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.61	5.5	0.5 U	0.5 U
1,1,1,2-Tetrachloroethane	0.5 U	0.5 U	0.22	0.9	0.5 U	0.5 U
Ethylbenzene	0.5 U	0.5 U	1.42	0.3	0.5 U	0.5 U
Xylene (total meta & para)	0.5 U	0.5 U	0.52	0.2	0.5 U	0.5 U
Xylene (ortho)	0.5 U	0.5 U	0.45	0.2	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.64	3.5	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.08	0.0	0.5 U	0.5 U
Isopropylbenzene	0.5 U	0.5 U	1.49	0.9	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.15	6.1	0.5 U	0.5 U
Bromobenzene	0.5 U	0.5 U	0.26	1.9	0.5 U	0.5 U

NP - Information Not Provided by Laboratory

TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA03301A FOR INSTRUMENT VG1 (Continued)

AREA	CFA	QC	QC		QC	CFA
LOCATION	03-LF3-11	LAB CONTROL	CONTINUING		METHOD	03-LF3-10
TYPE OF LOCATION	UPGRADIENT WELL	SAMPLE	CALIBRATN		BLANK	DOWN GRAD WELL
SAMPLE NUMBER	CFA04002A	VSBLK27	VSTD002		VBLK03	CFA03901A
MEDIA	GROUND WATER	WATER	05/09/91		WATER	GROUND WATER
UNITS	ug/L	ug/L	RRF002	%D	ug/L	ug/L
1,2,3-Trichloropropane	0.5 U	0.5 U	0.66	0.9	0.5 U	0.5 U
n-Propylbenzene	0.5 U	0.5 U	2.08	1.2	0.5 U	0.5 U
2-Chlorotoluene	0.5 U	0.5 U	0.98	2.6	0.5 U	0.5 U
1,3,5-Trimethylbenzene	0.5 U	0.5 U	1.44	0.7	0.5 U	0.5 U
4-Chlorotoluene	0.5 U	0.5 U	1.15	5.4	0.5 U	0.5 U
tert-Butylbenzene	0.5 U	0.5 U	1.16	6.9	0.5 U	0.5 U
1,2,4-Trimethylbenzene	0.5 U	0.5 U	1.32	0.9	0.5 U	0.5 U
sec-Butylbenzene	0.5 U	0.5 U	1.99	0.0	0.5 U	0.5 U
1,3-Dichlorobenzene	0.5 U	0.5 U	0.59	4.8	0.5 U	0.5 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.59	5.8	0.5 U	0.5 U
n-Butylbenzene	0.5 U	0.5 U	1.95	3.1	0.5 U	0.5 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.48	3.6	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	0.5 U	0.5 U	0.03	3.6	0.5 U	0.5 U
1,2,4-Trichlorobenzene	0.5 U	0.5 U	0.35	13.0	0.1 J	0.5 U
Hexachlorobutadiene	0.5 U	0.5 U	0.48	8.3	0.1 J	0.5 U
Naphthalene	0.5 U	0.5 U	0.29	21.8	0.1 J	0.5 U
1,2,3-Trichlorobenzene	0.5 U	0.5 U	0.27	12.2	0.1 J	0.5 U
Trichlorofluoromethane	1.0	NP	NP	NP	NP	1.2
Bromofluorobenzene			0.51	5.5		
1,2-Dichlorobenzene			0.31	9.2		
Surr 1(BFB) %Recovery						
Surr 2(DCB) %Recovery	83*	83*			92	93
Method Blank Run (Y/N)	YES	YES				YES
Tunes Out of Criteria						
Minutes Past 12-Hr Tune						
Internal Std Area(FBZ)	70729000	67356520	71385000		74860990	66255000
FBZ Ret Time Shift						
Dilution Factor	1.000	1.000			1.000	1.000
Field/Shipping Time	2d					2d
Anal (Allowed) Hold Time	11(10)d*					6(10)d
Total (Allowed) Hold Time	13(14)d					8(14)d

NP - Information Not Provided by Laboratory

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TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA03301A FOR INSTRUMENT VG1 (Continued)

AREA	QC		CFA	CFA	CFA	QC	
LOCATION	CONTINUING		03-LF3-10	QC	QC	CONTINUING	
TYPE OF LOCATION	CALIBRATN		DOWN GRAD WELL	00-FIELD BLANK	00-TRIP BLANK	CALIBRATN	
SAMPLE NUMBER	VSTD002		CFA03902A	CFA04501A	CFA04101A	VSTD002	
MEDIA	05/10/91		GROUND WATER	WATER	WATER	05/11/91	
UNITS	RRF002	%D	ug/L	ug/L	ug/L	RRF002	%D
Dichlorodifluoromethane	NP	NP	R	R	R	NP	NP
Chloromethane	0.13	11.0	0.5	1	0.5 U	0.12	5.2
Vinyl Chloride	0.15	6.3	0.5 U	0.5 U	0.5 U	0.14	0.7
Bromomethane	0.11	3.7	0.5 U	0.5 U	0.5 U	0.13	15.0
Chloroethane	0.11	6.0	0.5 U	0.5 U	0.5 U	0.10	3.0
1,1-Dichloroethene	0.16	14.0	0.5 U	0.5 U	0.5 U	0.18	23.0
Methylene Chloride	1.13	276	0.5 U	0.5 U	0.5 U	0.24	19.3
trans-1,2-Dichloroethene	0.20	7.6	0.5 U	0.5 U	0.5 U	0.22	17.0
1,1-Dichloroethane	0.44	20.0	0.5 U	0.6 J	0.1 J	0.42	16.0
2,2-Dichloropropane	0.20	22.0	0.5 U	0.5 U	0.5 U	0.20	23.0
cis-1,2-Dichloroethene	0.18	13.0	0.5 U	0.5 U	0.5 U	0.19	19.0
Chloroform	0.39	11.0	0.5 U	34	44	0.42	19.0
Bromochloromethane	0.07	NP	0.5 U	0.5 U	0.5 U	0.07	5.9
1,1,1-Trichloroethane	0.33	23.0	0.4 J	0.6 J	0.5 U	0.33	24.0
Carbon Tetrachloride	0.27	4.7	0.5 U	0.5 U	0.5 U	0.28	8.2
1,1-Dichloropropene	0.31	3.7	0.5 U	0.5 U	0.5 U	0.31	5.8
Benzene	0.74	2.0	0.5 U	0.5 U	0.5 U	0.79	4.8
1,2-Dichloroethane	0.16	1.2	0.6	0.7	0.5 U	0.14	11.1
Trichloroethene	0.36	11.0	0.5 U	0.5 U	0.5 U	0.37	12.0
1,2-Dichloropropane	0.33	30.0	0.5 U	0.5 U	0.5 U	0.31	24.0
Bromodichloromethane	0.32	10.0	0.5 U	0.5 U	0.6	0.32	12.0
Dibromomethane	0.09	2.2	0.5 U	0.5 U	0.5 U	0.09	3.4
Trans-1,3-Dichloropropene	NP	NP	NP	NP	NP	NP	NP
Toluene	0.65	16.0	0.3 J	0.4 J	0.5 U	0.58	4.5
cis-1,3-Dichloropropene	NP	NP	NP	NP	NP	NP	NP
1,1,2-Trichloroethane	0.12	0.9	0.5 U	0.5 U	0.5 U	0.11	4.3
Tetrachloroethene	0.40	10.0	0.2 J	0.3 J	0.5 U	0.42	15.0
1,3-Dichloropropane	0.20	2.6	0.5 U	0.5 U	0.5 U	0.20	1.0
Dibromochloromethane	0.14	3.6	0.5 U	0.8 J	0.1 J	0.15	7.9
1,2-Dibromoethane	0.11	7.0	0.5 U	0.5 U	0.5 U	0.11	6.1
Chlorobenzene	0.64	0.8	0.5 U	0.5 U	0.5 U	0.63	2.3
1,1,1,2-Tetrachloroethane	0.22	2.3	0.5 U	0.5 U	0.5 U	0.24	8.7
Ethylbenzene	1.45	2.6	0.5 U	0.5 U	0.5 U	1.46	3.4
Xylene (total meta & para)	0.55	5.4	0.5 U	0.5 U	0.5 U	0.55	5.2
Xylene (ortho)	0.47	3.1	0.5 U	0.5 U	0.5 U	0.47	3.8
Styrene	0.69	4.1	0.5 U	0.5 U	0.5 U	0.70	5.0
Bromoform	0.08	1.3	0.5 U	0.5 U	0.5 U	0.08	8.0
Isopropylbenzene	1.56	4.1	0.5 U	0.5 U	0.5 U	1.56	3.9
1,1,2,2-Tetrachloroethane	0.14	12.2	0.5 U	0.5 U	0.5 U	0.14	14.0
Bromobenzene	0.27	3.9	0.5 U	0.5 U	0.5 U	0.28	10.0

NP - Information Not Provided by Laboratory

TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA03301A FOR INSTRUMENT VG1 (Continued)

AREA	QC		CFA	CFA	CFA	QC	
LOCATION	CONTINUING		03-LF3-10	QC	QC	CONTINUING	
TYPE OF LOCATION	CALIBRATN		DOWN GRAD WELL	00-FIELD BLANK	00-TRIP BLANK	CALIBRATN	
SAMPLE NUMBER	VSTD002		CFA03902A	CFA04501A	CFA04101A	VSTD002	
MEDIA	05/10/91		GROUND WATER	WATER	WATER	05/11/91	
UNITS	RRF002	%D	ug/L	ug/L	ug/L	RRF002	%D
1,2,3-Trichloropropane	0.69	2.8	0.5 U	0.5 U	0.5 U	0.69	3.7
n-Propylbenzene	2.27	8.1	0.5 U	0.5 U	0.5 U	2.07	1.5
2-Chlorotoluene	1.10	9.3	0.5 U	0.5 U	0.5 U	1.26	25.0
1,3,5-Trimethylbenzene	1.56	7.7	0.5 U	0.5 U	0.5 U	1.51	4.1
4-Chlorotoluene	1.23	1.1	0.5 U	0.5 U	0.5 U	1.18	3.1
tert-Butylbenzene	1.25	0.5	0.5 U	0.5 U	0.5 U	1.12	9.4
1,2,4-Trimethylbenzene	1.41	6.3	0.5 U	0.5 U	0.5 U	1.41	6.4
sec-Butylbenzene	2.10	5.2	0.5 U	0.5 U	0.5 U	2.06	3.1
1,3-Dichlorobenzene	0.65	4.4	0.5 U	0.5 U	0.5 U	0.66	7.4
1,4-Dichlorobenzene	0.65	4.2	0.5 U	0.5 U	0.5 U	0.68	8.3
n-Butylbenzene	2.06	2.3	0.5 U	0.5 U	0.5 U	2.06	2.3
1,2-Dichlorobenzene	0.50	1.4	0.5 U	0.5 U	0.5 U	0.52	4.4
1,2-Dibromo-3-chloropropane	0.04	28.0	0.5 U	0.5 U	0.5 U	0.03	14.0
1,2,4-Trichlorobenzene	0.36	11.0	0.5 U	0.5	0.5 U	0.38	3.5
Hexachlorobutadiene	0.49	5.0	0.5 U	0.5 U	0.5 U	0.49	6.0
Naphthalene	0.31	18.4	0.5 U	0.6 J	0.5 U	0.31	18.1
1,2,3-Trichlorobenzene	0.29	6.8	0.5 U	0.5 U	0.5 U	0.30	2.6
Trichlorofluoromethane	NP	NP	0.7	0.8	0.4 J	NP	NP
Bromofluorobenzene	0.54	0.4				0.51	5.1
1,2-Dichlorobenzene	0.34	0.3				0.34	0.0
Surr 1(BFB) %Recovery							
Surr 2(DCB) %Recovery			88	85*	101		
Method Blank Run (Y/N)			YES	YES	YES		
Tunes Out of Criteria						176, NP	
Minutes Past 12-Hr Tune							
Internal Std Area(FBZ)	62083000		63074500	62616000	59648500	58645000	
FBZ Ret Time Shift							
Dilution Factor			1.000	1.000	1.000		
Field/Shipping Time			2d	2d	2d		
Anal (Allowed) Hold Time			7(10)d	7(10)d	8(10)d		
Total (Allowed) Hold Time			9(14)d	9(14)d	10(14)d		

NP - Information Not Provided by Laboratory

9-4-92

TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA03301A FOR INSTRUMENT VG1 (Continued)

AREA	QC	QC	CFA	QC		QC
LOCATION	METHOD	METHOD	02-LF2-12	CONTINUING		METHOD
TYPE OF LOCATION	BLANK	BLANK	DOWN GRAD WELL	CALIBRATN		BLANK
SAMPLE NUMBER	VBLK05	VBLK04	CFA03701ARE	VSTD002		VBLK06
MEDIA	WATER	WATER	GROUND WATER	05/14/91		WATER
UNITS	ug/L	ug/L	ug/L	RRF002	%D	ug/L
Dichlorodifluoromethane	0.5 U	0.5 U	R	NP	NP	0.5 U
Chloromethane	0.5 U	0.5 U	0.7 U	0.13	12.0	0.5 U
Vinyl Chloride	0.5 U	0.5 U	0.5 U	0.16	8.3	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.12	14.0	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.11	8.0	0.5 U
1,1-Dichloroethene	0.5 U	0.5 U	0.5 U	0.17	18.0	0.5 U
Methylene Chloride	0.1 J	1.2	0.1 JB	0.41	36.0	0.7
trans-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	0.20	8.1	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.38	4.5	0.5 U
2,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.21	28.0	0.5 U
cis-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	0.17	8.2	0.5 U
Chloroform	0.5 U	0.5 U	0.3 J	0.38	8.5	0.5 U
Bromochloromethane	0.5 U	0.5 U	0.5 U	0.06	4.4	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.8	0.31	15.0	0.5 U
Carbon Tetrachloride	0.5 U	0.5 U	0.5 U	0.32	23.0	0.5 U
1,1-Dichloropropene	0.5 U	0.5 U	0.5 U	0.27	22.0	0.5 U
Benzene	0.5 U	0.5 U	0.5 U	0.84	12.0	0.5 U
1,2-Dichloroethane	0.5 U	0.5 U	0.6	0.18	11.0	0.5 U
Trichloroethene	0.5 U	0.5 U	0.1 J	0.32	0.3	0.5 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.28	14.0	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.28	1.4	0.5 U
Dibromomethane	0.5 U	0.5 U	0.5 U	0.08	9.0	0.5 U
Trans-1,3-Dichloropropene	NP	NP	NP	NP	NP	NP
Toluene	0.5 U	0.5 U	0.3 J	0.56	1.4	0.5 U
cis-1,3-Dichloropropene	NP	NP	NP	NP	NP	NP
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.10	9.7	0.5 U
Tetrachloroethene	0.5 U	0.5 U	0.5 U	0.37	1.6	0.5 U
1,3-Dichloropropane	0.5 U	0.5 U	0.5 U	0.18	8.2	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.13	9.4	0.5 U
1,2-Dibromoethane	0.5 U	0.5 U	0.5 U	0.09	20.2	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.54	15.6	0.5 U
1,1,1,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.20	10.0	0.5 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	1.34	5.3	0.5 U
Xylene (total meta & para)	0.5 U	0.5 U	0.5 U	0.50	3.7	0.5 U
Xylene (ortho)	0.5 U	0.5 U	0.5 U	0.40	10.8	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.61	8.6	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.06	13.3	0.5 U
Isopropylbenzene	0.5 U	0.5 U	0.5 U	1.38	8.2	0.5 U
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.14	14.0	0.5 U
Bromobenzene	0.5 U	0.5 U	0.5 U	0.24	8.9	0.5 U

NP - Information Not Provided by Laboratory

TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA03301A FOR INSTRUMENT VG1 (Continued)

AREA	QC	QC	CFA	QC		QC
LOCATION	METHOD	METHOD	02-LF2-12	CONTINUING		METHOD
TYPE OF LOCATION	BLANK	BLANK	DOWN GRAD WELL	CALIBRATN		BLANK
SAMPLE NUMBER	VBLK05	VBLK04	CFA03701ARE	VSTD002		VBLK06
MEDIA	WATER	WATER	GROUND WATER	05/14/91		WATER
UNITS	ug/L	ug/L	ug/L	RRF002	%D	ug/L
1,2,3-Trichloropropane	0.5 U	0.5 U	0.5 U	0.60	9.3	0.5 U
n-Propylbenzene	0.5 U	0.5 U	0.5 U	2.01	4.5	0.5 U
2-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.96	4.2	0.5 U
1,3,5-Trimethylbenzene	0.5 U	0.5 U	0.5 U	1.36	6.0	0.5 U
4-Chlorotoluene	0.5 U	0.5 U	0.5 U	1.09	10.0	0.5 U
tert-Butylbenzene	0.5 U	0.5 U	0.5 U	1.10	11.5	0.5 U
1,2,4-Trimethylbenzene	0.5 U	0.5 U	0.5 U	1.24	6.2	0.5 U
sec-Butylbenzene	0.5 U	0.5 U	0.5 U	1.87	6.4	0.5 U
1,3-Dichlorobehzene	0.5 U	0.5 U	0.5 U	0.57	8.1	0.5 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.57	9.1	0.5 U
n-Butylbenzene	0.5 U	0.5 U	0.5 U	1.89	6.2	0.5 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.44	10.7	0.5 U
1,2-Dibromo-3-chloropropane	0.5 U	0.5 U	0.5 U	0.02	10.7	0.5 U
1,2,4-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.29	27.5	0.5 U
Hexachlorobutadiene	0.5 U	0.5 U	0.5 U	0.42	18.5	0.5 U
Naphthalene	0.5 U	0.5 U	0.5 U	0.25	34.0	0.5 U
1,2,3-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.23	27.3	0.5 U
Trichlorofluoromethane	NP	NP	1.4	NP	NP	NP
Bromofluorobenzene				0.48	10.5	
1,2-Dichlorobenzene				0.30	12.2	
Surr 1(BFB) %Recovery						
Surr 2(DCB) %Recovery	92	84	100			92
Method Blank Run (Y/N)			YES			
Tunes Out of Criteria	176, NP		176, NP			
Minutes Past 12-Hr Tune						
Internal Std Area(FBZ)	62295000	64892000	58753500	72549010		64795090
FBZ Ret Time Shift						
Dilution Factor	1.000	1.000	1.000			1.000
Field/Shipping Time			3d			
Anal (Allowed) Hold Time			8(10)d			
Total (Allowed) Hold Time			11(14)d			

NP - Information Not Provided by Laboratory

9-4-92

TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA03301A FOR INSTRUMENT VG1 (Continued)

AREA LOCATION TYPE OF LOCATION SAMPLE NUMBER MEDIA UNITS	QC MATRIX SPIKE CFA03901AMS GROUND WATER ug/L	QC MATRIX SPIKE DUP CFA03901AMSD GROUND WATER ug/L	QC RELATIVE % DIFFER CFA03901ARPD
Dichlorodifluoromethane	R	R	
Chloromethane	0.6	0.5	
Vinyl Chloride	0.5 U	0.5 U	
Bromomethane	0.5 U	0.5 U	
Chloroethane	0.5 U	0.5 U	
1,1-Dichloroethene	2(83%)	2(95%)	14%
Methylene Chloride	0.2 J	0.1 J	
trans-1,2-Dichloroethene	0.5 U	0.5 U	
1,1-Dichloroethane	0.5 U	0.5 U	
2,2-Dichloropropane	0.5 U	0.5 U	
cis-1,2-Dichloroethene	0.5 U	0.5 U	
Chloroform	0.2 J	0.5 J	
Bromochloromethane	0 U	0.5 U	
1,1,1-Trichloroethane	0.5	0.5	
Carbon Tetrachloride	0.5 U	0.5 U	
1,1-Dichloropropene	0.5 U	0.5 U	
Benzene	2(87%)	3(113%)	30%
1,2-Dichloroethane	0.5	0.6	
Trichloroethene	2(74%)	2(91%)	22%
1,2-Dichloropropane	0.5 U	0.5 U	
Bromodichloromethane	0.5 U	0.5 U	
Dibromomethane	0.5 U	0.5 U	
Trans-1,3-Dichloropropene	NP	NP	
Toluene	2(95%)	2(100%)	5.3%
cis-1,3-Dichloropropene	NP	NP	
1,1,2-Trichloroethane	0.5 U	0.5 U	
Tetrachloroethene	0.2 J	0.2 J	
1,3-Dichloropropane	0.5 U	0.5 U	
Dibromochloromethane	0.5 U	0.5 U	
1,2-Dibromoethane	0.5 U	0.5 U	
Chlorobenzene	2(87%)	2(100%)	15%
1,1,1,2-Tetrachloroethane	0.5 U	0.5 U	
Ethylbenzene	0.5 U	0.5 U	
Xylene (total meta & para)	0.5 U	0.5 U	
Xylene (ortho)	0.5 U	0.5 U	
Styrene	0.5 U	0.5 U	
Bromoform	0.5 U	0.5 U	
Isopropylbenzene	0.5 U	0.5 U	
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	
Bromobenzene	0.5 U	0.5 U	

NP - Information Not Provided by Laboratory

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA03301A FOR INSTRUMENT VG1 (Continued)

AREA	QC	QC	QC
LOCATION	MATRIX	MATRIX	RELATIVE
TYPE OF LOCATION	SPIKE	SPIKE DUP	% DIFFER
SAMPLE NUMBER	CFA03901AMS	CFA03901AMSD	CFA03901ARPD
MEDIA	GROUND WATER	GROUND WATER	
UNITS	ug/L	ug/L	
1,2,3-Trichloropropane	0.5 U	0.5 U	
n-Propylbenzene	0.5 U	0.5 U	
2-Chlorotoluene	0.5 U	0.5 U	
1,3,5-Trimethylbenzene	0.5 U	0.5 U	
4-Chlorotoluene	0.5 U	0.5 U	
tert-Butylbenzene	0.5 U	0.5 U	
1,2,4-Trimethylbenzene	0.5 U	0.5 U	
sec-Butylbenzene	0.5 U	0.5 U	
1,3-Dichlorobenzene	0.5 U	0.5 U	
1,4-Dichlorobenzene	0.5 U	0.5 U	
n-Butylbenzene	0.5 U	0.5 U	
1,2-Dichlorobenzene	0.5 U	0.5 U	
1,2-Dibromo-3-chloropropane	0.5 U	0.5 U	
1,2,4-Trichlorobenzene	0.5 U	0.5 U	
Hexachlorobutadiene	0.5 U	0.5 U	
Naphthalene	0.5 U	0.5 U	
1,2,3-Trichlorobenzene	0.5 U	0.5 U	
Trichlorofluoromethane			
Bromofluorobenzene			
1,2-Dichlorobenzene			
Surr 1(BFB) %Recovery			
Surr 2(DCB) %Recovery	99	102	
Method Blank Run (Y/N)	YES	YES	
Tunes Out of Criteria			
Minutes Past 12-Hr Tune			
Internal Std Area(FBZ)	64999000	63371500	
FBZ Ret Time Shift			
Dilution Factor	1.000	1.000	
Field/Shipping Time			
Anal (Allowed) Hold Time			
Total (Allowed) Hold Time			

NP - Information Not Provided by Laboratory

9-4-92

TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - SEMIVOLATILE ORGANIC QC DATA - SDG NUMBER CFA03701D FOR INSTRUMENT HP6

	AREA	QC INITIAL CALIBRATN		QC CONTINUING CALIBRATN		QC METHOD BLANK	CFA 03-LF3-11 UPGRADIENT WELL	CFA 03-LF3-11 UPGRADIENT WELL	QC CONTINUING CALIBRATN		LAB CONTROL SAMPLE
	LOCATION										
	TYPE OF LOCATION										
	SAMPLE NUMBER	SSTD050		SSTD050		SBLK11A	CFA04002D	CFA04001D	SSTD050		LCS2257
	MEDIA	05/07/91		05/10/91		WATER	GROUND WATER	GROUND WATER	05/14/91		WATER
	UNITS	RRF	%RSD	RRF50	%D	ug/L	ug/L	ug/L	RRF50	%D	ug/L
CCC	Phenol	1.66	10.6	1.81	9.0	10 U	10 U	10 U	1.61	3.3	160 X
	bis(2-Chloroethyl)ether	1.58	11.8	1.72	8.2	10 U	10 U	10 U	1.55	2.3	10 U
	2-Chlorophenol	1.22	7.9	1.28	4.4	10 U	10 U	10 U	1.23	0.5	160 X
	1,3-Dichlorobenzene	1.37	5.6	1.38	0.9	10 U	10 U	10 U	1.41	2.9	10 U
CCC	1,4-Dichlorobenzene	1.41	5.7	1.41	0.2	10 U	10 U	10 U	1.43	1.6	56 X
	Benzyl alcohol	0.92	1.8	0.89	3.8	10 U	10 U	10 U	0.83	10.3	10 U
	1,2-Dichlorobenzene	1.33	5.0	1.29	2.6	10 U	10 U	10 U	1.36	2.4	10 U
	2-Methylphenol	1.16	10.2	1.20	2.8	10 U	10 U	10 U	1.12	3.4	10 U
	bis(2-Chloroisopropyl)ether	2.08	14.0	2.24	8.0	10 U	10 U	10 U	1.88	9.6	10 U
	4-Methylphenol	1.16	5.6	1.15	0.4	10 U	10 U	10 U	1.15	0.9	10 U
SPCC	N-Nitroso-di-n-propylamine	1.26	4.6	1.17	7.0	10 U	10 U	10 U	1.16	7.6	85 X
	Hexachloroethane	0.60	4.3	0.60	0.1	10 U	10 U	10 U	0.63	4.2	10 U
	Nitrobenzene	0.52	1.6	0.50	5.2	10 U	10 U	10 U	0.49	5.5	10 U
	Isophorone	1.15	2.7	1.08	5.7	10 U	10 U	10 U	1.07	7.1	10 U
CCC	2-Nitrophenol	0.24	2.2	0.24	1.9	10 U	10 U	10 U	0.24	3.2	10 U
	2,4-Dimethylphenol	0.44	1.4	0.42	3.9	10 U	10 U	10 U	0.43	2.4	10 U
	Benzoic acid	0.37	8.8	0.34	7.4	50 U	50 U	50 U	0.33	10.0	50 U
	bis(2-Chloroethoxy)methane	0.62	4.1	0.63	1.5	10 U	10 U	10 U	0.58	5.6	10 U
CCC	2,4-Dichlorophenol	0.35	1.7	0.34	4.9	10 U	10 U	10 U	0.36	1.0	10 U
	1,2,4-Trichlorobenzene	0.34	1.7	0.35	2.1	10 U	10 U	10 U	0.37	7.4	59 X
	Naphthalene	0.98	5.6	0.96	1.8	10 U	10 U	10 U	1.03	4.8	10 U
	4-Chloroaniline	0.48	2.9	0.49	2.0	10 U	10 U	10 U	0.47	1.9	10 U
CCC	Hexachlorobutadiene	0.19	1.4	0.19	0.6	10 U	10 U	10 U	0.22	15.6	10 U
CCC	4-Chloro-3-methylphenol	0.42	2.6	0.40	6.4	10 U	10 U	10 U	0.41	3.4	140 X
	2-Methylnaphthalene	0.70	4.1	0.70	0.9	10 U	10 U	10 U	0.74	6.0	10 U
SPCC	Hexachlorocyclopentadiene	0.31	6.5	0.26	15.0	10 U	10 U	10 U	0.29	8.0	10 U
CCC	2,4,6-Trichlorophenol	0.39	5.1	0.38	3.4	10 U	10 U	10 U	0.36	7.2	10 U
	2,4,5-Trichlorophenol	0.38	7.5	0.39	1.4	50 U	50 U	50 U	0.39	3.0	50 U
	2-Chloronaphthalene	1.09	4.7	1.12	3.2	10 U	10 U	10 U	1.10	1.7	10 U
	2-Nitroaniline	0.55	2.3	0.51	6.6	50 U	50 U	50 U	0.50	8.2	50 U
	Dimethylphthalate	1.49	5.4	1.44	3.7	10 U	10 U	10 U	1.49	0.1	10 U
	Acenaphthylene	1.81	7.1	1.82	0.4	10 U	10 U	10 U	1.88	3.7	10 U
	2,6-Dinitrotoluene	0.40	8.3	0.40	0.8	10 U	10 U	10 U	0.39	2.1	10 U
	3-Nitroaniline	0.35	21.9	0.29	16.9	50 U	50 U	50 U	0.25	27.3	50 U
CCC	Acenaphthene	1.11	5.8	1.14	2.5	10 U	10 U	10 U	1.16	4.7	68 X

TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - SEMIVOLATILE ORGANIC QC DATA - SDG NUMBER CFA03701D FOR INSTRUMENT HP6

AREA	QC		QC		QC	CFA	CFA	QC		LAB
LOCATION	INITIAL		CONTINUING		METHOD	03-LF3-11	03-LF3-11	CONTINUING		CONTROL
TYPE OF LOCATION	CALIBRATN		CALIBRATN		BLANK	UPGRADIENT WELL	UPGRADIENT WELL	CALIBRATN		SAMPLE
SAMPLE NUMBER	SSTD050		SSTD050		SBLK11A	CFA04002D	CFA04001D	SSTD050		LCS2257
MEDIA	05/07/91		05/10/91		WATER	GROUND WATER	GROUND WATER	05/14/91		WATER
UNITS	RRF	%RSD	RRF50	%D	ug/L	ug/L	ug/L	RRF50	%D	ug/L
SPCC 2,4-Dinitrophenol	0.23	21.5	0.23	1.4	50 U	50 U	50 U	0.19	18.5	50 U
SPCC 4-Nitrophenol	0.24	8.0	0.21	13.5	50 U	50 U	50 U	0.24	0.9	120 X
Dibenzofuran	1.63	4.0	1.62	0.6	10 U	10 U	10 U	1.62	0.9	10 U
2,4-Dinitrotoluene	0.57	7.1	0.56	2.5	10 U	10 U	10 U	0.54	5.2	73 X
Diethylphthalate	1.58	8.1	1.55	1.5	10 U	10 U	10 U	1.73	9.4	10 U
4-Chlorophenyl-phenylether	0.48	6.4	0.50	3.0	10 U	10 U	10 U	0.56	17.5	10 U
Fluorene	1.26	5.5	1.26	0.3	10 U	10 U	10 U	1.30	3.5	10 U
4-Nitroaniline	0.38	7.2	0.42	11.1	50 U	50 U	50 U	0.37	2.0	50 U
4,6-Dinitro-2'methylphenol	0.18	7.8	0.20	12.0	50 U	50 U	50 U	0.18	4.0	50 U
CCC N-Nitrosodiphenylamine (1)	0.55	7.7	0.60	8.4	10 U	10 U	10 U	0.56	1.7	10 U
4-Bromophenyl-phenylether	0.21	3.0	0.23	8.7	10 U	10 U	10 U	0.24	12.8	10 U
Hexachlorobenzene	0.29	1.2	0.30	5.2	10 U	10 U	10 U	0.30	4.9	10 U
CCC Pentachlorophenol	0.20	3.1	0.21	8.1	50 U	50 U	50 U	0.21	6.6	120 X
Phenanthrene	1.07	3.8	1.14	6.7	10 U	10 U	10 U	1.15	7.4	10 U
Anthracene	1.02	8.1	1.07	4.7	10 U	10 U	10 U	1.17	15.0	10 U
Di-n-butylphthalate	1.92	5.3	2.00	4.3	10 U	10 U	10 U	2.09	8.8	10 U
CCC Fluoranthene	1.12	4.0	1.18	5.7	10 U	10 U	10 U	1.22	8.8	10 U
Pyrene	1.65	4.0	1.75	5.8	10 U	10 U	10 U	1.50	9.2	76 X
Butylbenzylphthalate	1.31	5.2	1.34	2.8	10 U	10 U	10 U	1.12	14.0	10 U
3,3'-Dichlorobenzidine	0.26	25.6	0.20	21.8	20 U	20 U	20 U	0.23	10.3	20 U
Benzo(a)anthracene	1.42	5.0	1.41	0.9	10 U	10 U	10 U	1.41	0.9	10 U
Chrysene	1.25	9.2	1.33	6.1	10 U	10 U	10 U	1.35	7.4	10 U
bis(2-Ethylhexyl)phthalate	1.68	6.5	1.61	4.5	10 U	10 U	10 U	1.56	7.1	10 U
CCC Di-n-octylphthalate	2.58	4.3	2.67	3.6	10 U	10 U	10 U	2.59	0.7	10 U
Benzo(b)fluoranthene	1.29	11.2	1.72	33.0	10 U	10 U	10 U	1.59	22.6	10 U
Benzo(k)fluoranthene	0.96	15.9	0.74	23.3	10 U	10 U	10 U	0.89	7.4	10 U
CCC Benzo(a)pyrene	1.16	4.0	1.21	5.1	10 U	10 U	10 U	1.17	1.5	10 U
Indeno(1,2,3-cd)pyrene	1.30	8.1	1.23	5.3	10 U	10 U	10 U	1.01	22.2	10 U
Dibenz(a,h)anthracene	1.05	5.7	1.01	4.1	10 U	10 U	10 U	0.89	15.1	10 U
Benzo(g,h,i)perylene	1.08	8.1	0.93	14.4	10 U	10 U	10 U	0.73	32.9	10 U

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TABLE _.-._ CFA LANDFILLS II AND III FY90 WELLS - SEMIVOLATILE ORGANIC QC DATA - SDG NUMBER CFA03701D FOR INSTRUMENT HP6

AREA	QC INITIAL CALIBRATN		QC CONTINUING CALIBRATN		QC METHOD BLANK	CFA 03-LF3-11 UPGRADIENT WELL	CFA 03-LF3-11 UPGRADIENT WELL	QC CONTINUING CALIBRATN		LAB CONTROL SAMPLE
LOCATION										
TYPE OF LOCATION										
SAMPLE NUMBER	SSTD050		SSTD050		SBLK11A	CFA04002D	CFA04001D	SSTD050		LCS2257
MEDIA	05/07/91		05/10/91		WATER	GROUND WATER	GROUND WATER	05/14/91		WATER
UNITS	RRF	%RSD	RRF50	%D	ug/L	ug/L	ug/L	RRF50	%D	ug/L
Nitrobenzene-d5	0.49	7.2	0.41	16.3				0.41	17.1	
2-Fluorobiphenyl	1.19	6.9	1.02	13.7				1.04	12.6	
Terphenyl-d14	1.02	5.0	0.96	5.0				0.82	19.1	
Phenol-d6	1.62	7.3	1.63	0.4				1.42	12.3	
2-Fluorophenol	1.00	5.9	0.95	5.0				0.86	14.1	
2,4,6-Tribromophenol	0.18	4.9	0.18	1.9				0.21	11.6	
Surr 1(NBZ) %Recovery					88	79	67			73
Surr 2(FBP) %Recovery					85	72	60			65
Surr 3(TPH) %Recovery					79	62	66			81
Surr 4(PHL) %Recovery					66	74	66			79
Surr 5(2FP) %Recovery					64	75	66			77
Surr 6(TBP) %Recovery					67	73	69			74
Method Blank Run (Y/N)						YES	YES			YES
Tunes Out of Criteria										
Minutes Past 12-Hr Tune										35
Internal Std Area(DCB)			109449		84400	89162	89036	61202		76310
Internal Std Area(NPT)			396809		325315	333170	340105	215329		287179
Internal Std Area(ANT)			251427		213911	215506	222001	146484		186857
Internal Std Area(PHN)			373262		334531	340709	342877	230424		281104
Internal Std Area(CRY)			225631		270440	280594	272576	188347		240036
Internal Std Area(PRY)			252065		258420	260020	245596	204370		243624
DCB Ret Time Shift										
NPT Ret Time Shift										
ANT Ret Time Shift										
PHN Ret Time Shift										
CRY Ret Time Shift										
PRY Ret Time Shift										
Dilution Factor					1.000	1.000	1.000			1.000
Percent Moisture										
Field/Shipping Time						2d	2d			
Extraction (Allowed) Hold Time						5(5)d	5(5)d			0(10)d
Analytical (Allowed) Hold Time						8(40)d	8(40)d			13(40)d

Min RRF and RRF50 = 0.050 for SPCC.
Max %RSD = 30.0% and max %D = 25.0% for CCC.

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TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - SEMIVOLATILE ORGANIC QC DATA - SDG NUMBER CFA03701D FOR INSTRUMENT HP6

	AREA	QC INITIAL CALIBRATN		QC CONTINUING CALIBRATN		CFA	CFA	QC CONTINUING CALIBRATN		QC METHOD BLANK	CFA
	LOCATION					02-LF2-12	03-LF3-9			SBLK11B	03-LF3-10
	TYPE OF LOCATION					DOWN GRAD WELL	DOWN GRAD WELL			WATER	DOWN GRAD WELL
	SAMPLE NUMBER	SSTD050		SSTD050		CFA03701D	CFA03801D	SSTD050			CFA03901D
	MEDIA	05/21/91		05/23/91		GROUND WATER	GROUND WATER	05/23/91		WATER	GROUND WATER
	UNITS	RRF	%RSD	RRF50	%D	ug/L	ug/L	RRF50	%D	ug/L	ug/L
CCC	Phenol	1.91	11.4	2.22	16.4	10 U	10 U	2.17	13.6	10 U	10 U
	bis(2-Chloroethyl)ether	1.76	9.9	2.01	14.2	10 U	10 U	2.06	17.0	10 U	10 U
	2-Chlorophenol	1.38	6.3	1.52	9.9	10 U	10 U	1.53	10.5	10 U	10 U
	1,3-Dichlorobenzene	1.51	7.0	1.61	6.2	10 U	10 U	1.65	9.1	10 U	10 U
CCC	1,4-Dichlorobenzene	1.55	8.1	1.65	6.8	10 U	10 U	1.70	9.5	10 U	10 U
	Benzyl alcohol	0.99	3.8	1.01	2.2	10 U	10 U	1.06	6.7	10 U	10 U
	1,2-Dichlorobenzene	1.46	7.5	1.58	8.5	10 U	10 U	1.60	9.7	10 U	10 U
	2-Methylphenol	1.29	9.4	1.49	15.5	10 U	10 U	1.50	16.5	10 U	10 U
	bis(2-Chloroisopropyl)ether	2.49	13.1	2.92	17.2	10 U	10 U	3.08	23.6	10 U	10 U
	4-Methylphenol	1.57	7.5	1.76	12.7	10 U	10 U	1.79	14.5	10 U	10 U
SPCC	N-Nitroso-di-n-propylamine	1.42	4.8	1.44	0.8	10 U	10 U	1.44	1.0	10 U	10 U
	Hexachloroethane	0.65	4.8	0.70	7.7	10 U	10 U	0.69	6.5	10 U	10 U
	Nitrobenzene	0.51	6.2	0.54	7.0	10 U	10 U	0.54	6.0	10 U	10 U
	Isophorone	1.13	4.8	1.20	6.3	10 U	10 U	1.24	10.0	10 U	10 U
CCC	2-Nitrophenol	0.26	5.1	0.27	1.9	10 U	10 U	0.26	0.7	10 U	10 U
	2,4-Dimethylphenol	0.43	4.7	0.44	1.9	10 U	10 U	0.44	3.1	10 U	10 U
	Benzoic acid	0.35	11.2	0.35	0.2	50 U	50 U	0.31	10.7	50 U	50 U
	bis(2-Chloroethoxy)methane	0.67	4.3	0.72	7.2	10 U	10 U	0.72	8.4	10 U	10 U
CCC	2,4-Dichlorophenol	0.36	5.4	0.38	4.5	10 U	10 U	0.39	6.3	10 U	10 U
	1,2,4-Trichlorobenzene	0.36	4.3	0.39	7.7	10 U	10 U	0.38	4.7	10 U	10 U
	Naphthalene	1.09	7.6	1.14	4.6	10 U	10 U	1.20	10.0	10 U	10 U
	4-Chloroaniline	0.49	6.8	0.51	4.7	10 U	10 U	0.51	5.0	10 U	10 U
CCC	Hexachlorobutadiene	0.19	5.1	0.20	6.4	10 U	10 U	0.19	0.9	10 U	10 U
CCC	4-Chloro-3-methylphenol	0.39	5.0	0.43	9.5	10 U	10 U	0.44	10.5	10 U	10 U
	2-Methylnaphthalene	0.75	5.2	0.83	11.5	10 U	10 U	0.83	11.4	10 U	10 U
SPCC	Hexachlorocyclopentadiene	0.31	13.5	0.31	1.2	10 U	10 U	0.30	4.1	10 U	10 U
CCC	2,4,6-Trichlorophenol	0.40	5.9	0.40	0.8	10 U	10 U	0.40	0.6	10 U	10 U
	2,4,5-Trichlorophenol	0.40	9.6	0.45	12.6	50 U	50 U	0.45	14.2	50 U	50 U
	2-Chloronaphthalene	1.20	5.4	1.28	6.4	10 U	10 U	1.30	7.9	10 U	10 U
	2-Nitroaniline	0.52	4.7	0.55	5.3	50 U	50 U	0.56	8.1	50 U	50 U
	Dimethylphthalate	1.51	5.4	1.61	6.6	10 U	10 U	1.64	8.5	10 U	10 U
	Acenaphthylene	1.97	4.2	2.16	9.7	10 U	10 U	2.18	0.6	10 U	10 U
	2,6-Dinitrotoluene	0.42	7.9	0.44	4.6	10 U	10 U	0.44	4.5	10 U	10 U
	3-Nitroaniline	0.37	20.2	0.40	8.0	50 U	50 U	0.40	7.4	50 U	50 U
CCC	Acenaphthene	1.26	6.0	1.33	5.9	10 U	10 U	1.36	8.4	10 U	10 U

TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - SEMIVOLATILE ORGANIC QC DATA - SDG NUMBER CFA03701D FOR INSTRUMENT HP6

	AREA	QC INITIAL CALIBRATN		QC CONTINUING CALIBRATN		CFA 02-LF2-12	CFA 03-LF3-9	QC CONTINUING CALIBRATN		QC METHOD BLANK	CFA 03-LF3-10
	LOCATION					DOWN GRAD WELL	DOWN GRAD WELL			SBLK11B	DOWN GRAD WELL
	TYPE OF LOCATION	SSTD050		SSTD050		CFA03701D	CFA03801D	SSTD050		WATER	CFA03901D
	SAMPLE NUMBER	05/21/91		05/23/91		GROUND WATER	GROUND WATER	05/23/91		GROUND WATER	GROUND WATER
	MEDIA										
	UNITS	RRF	%RSD	RRF50	%D	ug/L	ug/L	RRF50	%D	ug/L	ug/L
SPCC	2,4-Dinitrophenol	0.20	23.5	0.21	1.9	50 U	50 U	0.15	28.0	50 U	50 U
SPCC	4-Nitrophenol	0.18	9.2	0.18	1.8	50 U	50 U	0.17	2.0	50 U	50 U
	Dibenzofuran	1.70	5.1	1.86	9.4	10 U	10 U	1.87	9.9	10 U	10 U
	2,4-Dinitrotoluene	0.54	6.9	0.59	8.7	10 U	10 U	0.58	7.0	10 U	10 U
	Diethylphthalate	1.63	8.2	1.82	11.5	10 U	10 U	1.85	13.3	10 U	10 U
	4-Chlorophenyl-phenylether	0.55	7.5	0.61	11.9	10 U	10 U	0.62	12.9	10 U	10 U
	Fluorene	1.34	6.4	1.47	9.5	10 U	10 U	1.50	11.4	10 U	10 U
	4-Nitroaniline	0.35	7.4	0.15	58.2	50 UJ	50 UJ	0.20	43.4	50 U	50 UJ
	4,6-Dinitro-2'-methylphenol	0.19	12.3	0.20	8.3	50 U	50 U	0.18	4.7	50 U	50 U
CCC	N-Nitrosodiphenylamine (1)	0.60	8.2	0.66	9.7	10 U	10 U	0.66	9.2	10 U	10 U
	4-Bromophenyl-phenylether	0.22	4.9	0.26	9.6	10 U	10 U	0.24	3.6	10 U	10 U
	Hexachlorobenzene	0.30	3.4	0.32	6.2	10 U	10 U	0.32	5.0	10 U	10 U
CCC	Pentachlorophenol	0.21	8.5	0.22	3.5	50 U	50 U	0.22	1.2	50 U	50 U
	Phenanthrene	1.24	4.7	1.34	7.5	10 U	10 U	1.31	5.4	10 U	10 U
	Anthracene	1.22	5.8	1.36	11.4	10 U	10 U	1.33	9.5	10 U	10 U
	Di-n-butylphthalate	2.19	4.8	2.30	5.2	10 U	10 U	2.31	5.5	10 U	10 U
CCC	Fluoranthene	1.30	5.1	1.38	6.0	10 U	10 U	1.36	4.0	10 U	10 U
	Pyrene	1.77	6.7	1.74	1.7	10 U	10 U	1.79	1.3	10 U	10 U
	Butylbenzylphthalate	1.32	9.0	1.28	3.4	10 U	10 U	1.29	2.2	10 U	10 U
	3,3'-Dichlorobenzidine	0.33	43.9	0.25	23.0	20 UJ	20 UJ	0.21	36.0	20 U	20 UJ
	Benzo(a)anthracene	1.51	8.3	1.50	0.7	10 U	10 U	1.55	2.5	10 U	10 U
	Chrysene	1.35	11.1	1.58	17.2	10 U	10 U	1.53	13.7	10 U	10 U
	bis(2-Ethylhexyl)phthalate	1.81	7.2	1.81	0.3	10 U	10 U	1.82	0.6	10 U	10 U
CCC	Di-n-octylphthalate	2.83	8.0	2.88	1.6	10 U	10 U	3.01	6.2	10 U	10 U
	Benzo(b)fluoranthene	1.39	14.6	1.62	16.1	10 U	10 U	1.75	25.9	10 U	10 U
	Benzo(k)fluoranthene	1.02	12.2	1.04	1.9	10 U	10 U	0.95	6.6	10 U	10 U
CCC	Benzo(a)pyrene	1.18	6.1	1.29	9.1	10 U	10 U	1.31	10.6	10 U	10 U
	Indeno(1,2,3-cd)pyrene	1.28	5.3	1.42	11.6	10 U	10 U	1.42	11.1	10 U	10 U
	Dibenz(a,h)anthracene	1.07	5.4	1.21	12.5	10 U	10 U	1.20	11.8	10 U	10 U
	Benzo(g,h,i)perylene	1.08	5.2	1.21	12.7	10 U	10 U	1.19	11.0	10 U	10 U

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TABLE _.-._ CFA LANDFILLS II AND III FY90 WELLS - SEMIVOLATILE ORGANIC QC DATA - SDG NUMBER CFA03701D FOR INSTRUMENT HP6

AREA	QC INITIAL CALIBRATN		QC CONTINUING CALIBRATN		CFA	CFA	QC CONTINUING CALIBRATN		QC METHOD BLANK	CIA
LOCATION	SSTD050		SSTD050		02-LF2-12	03-LF3-9	SSTD050		SBLK11B	03-LF3-10
TYPE OF LOCATION	05/21/91		05/23/91		DOWN GRAD WELL	DOWN GRAD WELL	05/23/91		WATER	DOWN GRAD WELL
SAMPLE NUMBER					CFA03701D	CFA03801D				CFA03901D
MEDIA					GROUND WATER	GROUND WATER			WATER	GROUND WATER
UNITS	RRF	%RSD	RRF50	%D	ug/L	ug/L	RRF50	%D	ug/L	ug/L
Nitrobenzene-d5	0.46	5.4	0.45	2.0			0.45	2.0		
2-Fluorobiphenyl	1.10	5.9	1.10	0.5			1.26	2.0		
Terphenyl-d14	1.04	11.7	0.99	7.6			0.97	6.8		
Phenol-d6	1.69	5.1	1.79	6.3			1.80	7.0		
2-Fluorophenol	1.10	5.9	1.10	0.5			1.11	0.9		
2,4,6-Tribromophenol	0.19	7.0	0.20	6.1			0.19	0.3		
Surr 1(NBZ) %Recovery					67	70			69	72
Surr 2(FBP) %Recovery					53	54			57	84
Surr 3(TPH) %Recovery					72	75			72	96
Surr 4(PHL) %Recovery					78	74			72	28
Surr 5(2FP) %Recovery					81	76			69	59
Surr 6(TBP) %Recovery					59	61			72	95
Method Blank Run (Y/N)					YES	YES				YES
Tunes Out of Criteria										
Minutes Past 12-Hr Tune										
Internal Std Area(DCB)			82411		71897	69079	80809		77566	83479
Internal Std Area(NPT)			303119		267971	261860	295930		286089	305462
Internal Std Area(ANT)			192004		174106	168625	187564		187413	145538
Internal Std Area(PHN)			292111		256072	258165	285220		294004	280950
Internal Std Area(CRY)			231700		203432	217995	221256		248436	177405
Internal Std Area(PRY)			259336		242614	258248	240901		262862	55183*
DCB Ret Time Shift										
NPT Ret Time Shift										
ANT Ret Time Shift										
PHN Ret Time Shift										
CRY Ret Time Shift										
PRY Ret Time Shift										
Dilution Factor					1.000	1.000			1.000	1.000
Percent Moisture										
Field/Shipping Time					3d	3d				2d
Extraction (Allowed) Hold Time					4(5)d	4(5)d				4(5)d
Analytical (Allowed) Hold Time					16(40)d	16(40)d				17(40)d

Min RRF and RRF50 = 0.050 for SPCC.
Max %RSD = 30.0% and max %D = 25.0% for CCC.

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - SEMIVOLATILE ORGANIC QC DATA - SDG NUMBER CFA03701D FOR INSTRUMENT HP6

	AREA	QC	QC	QC	CFA	CFA	QC		CFA
	LOCATION	MATRIX	MATRIX	RELATIVE	03-LF3-10	QC	CONTINUING		03-LF3-10
	TYPE OF LOCATION	SPIKE	SPIKE DUP	% DIFFER	DOWN GRAD WELL	00-FIELD BLANK	CALIBRATN		DOWN GRAD WELL
	SAMPLE NUMBER	CFA03901DMS	CFA03901DMSD	CFA03901DRPD	CFA03902D	CFA04501D	SSTD050		CFA03901DRE
	MEDIA	GROUND WATER	GROUND WATER		GROUND WATER	WATER	05/28/91		GROUND WATER
	UNITS	ug/L	ug/L		ug/L	ug/L	RRF50	%D	ug/L
CCC	Phenol	155(78%)	158(79%)	2%	10 U	10 U	2.25	17.6	10 U
	bis(2-Chloroethyl)ether	10 U	10 U		10 U	10 U	2.04	15.8	10 U
	2-Chlorophenol	154(77%)	160(80%)	3%	10 U	10 U	1.47	6.3	10 U
	1,3-Dichlorobenzene	10 U	10 U		10 U	10 U	1.61	6.7	10 U
CCC	1,4-Dichlorobenzene	53(53%)	56(56%)	5%	10 U	10 U	1.66	7.2	10 U
	Benzyl alcohol	10 U	10 U		10 U	10 U	1.04	5.7	10 U
	1,2-Dichlorobenzene	10 U	10 U		10 U	10 U	1.62	11.0	10 U
	2-Methylphenol	10 U	10 U		10 U	10 U	1.52	17.6	10 U
	bis(2-Chloroisopropyl)ether	10 U	10 U		10 U	10 U	3.00	20.3	10 U
	4-Methylphenol	10 U	10 U		10 U	10 U	1.79	14.4	10 U
SPCC	N-Nitroso-di-n-propylamine	84(84%)	84(84%)	0%	10 U	10 U	1.50	5.7	10 U
	Hexachloroethane	10 U	10 U		10 U	10 U	0.69	6.9	10 U
	Nitrobenzene	10 U	10 U		10 U	10 U	0.55	8.4	10 U
	Isophorone	10 U	10 U		10 U	10 U	1.26	11.7	10 U
CCC	2-Nitrophenol	10 U	10 U		10 U	10 U	0.27	1.6	10 U
	2,4-Dimethylphenol	10 U	10 U		10 U	10 U	0.42	2.6	10 U
	Benzoic acid	50 U	50 U		50 U	50 U	0.38	9.4	50 U
	bis(2-Chloroethoxy)methane	10 U	10 U		10 U	10 U	0.72	8.0	10 U
CCC	2,4-Dichlorophenol	10 U	10 U		10 U	10 U	0.39	6.4	10 U
	1,2,4-Trichlorobenzene	60(60%)	62(62%)	4%	10 U	10 U	0.37	4.3	10 U
	Naphthalene	10 U	10 U		10 U	10 U	1.21	10.7	10 U
	4-Chloroaniline	10 U	10 U		10 U	10 U	0.52	6.3	10 U
CCC	Hexachlorobutadiene	10 U	10 U		10 U	10 U	0.19	1.7	10 U
CCC	4-Chloro-3-methylphenol	149(74%)	147(73%)	1%	10 U	10 U	0.45	13.6	10 U
	2-Methylnaphthalene	10 U	10 U		10 U	10 U	0.84	12.6	10 U
SPCC	Hexachlorocyclopentadiene	10 U	10 U		10 U	10 U	0.29	5.3	10 U
CCC	2,4,6-Trichlorophenol	10 U	10 U		10 U	10 U	0.39	2.1	10 U
	2,4,5-Trichlorophenol	50 U	50 U		50 U	50 U	0.44	12.0	50 U
	2-Chloronaphthalene	10 U	10 U		10 U	10 U	1.24	2.5	10 U
	2-Nitroaniline	50 U	50 U		50 U	50 U	0.57	9.4	50 U
	Dimethylphthalate	10 U	10 U		10 U	10 U	1.64	8.5	10 U
	Acenaphthylene	10 U	10 U		10 U	10 U	2.16	9.8	10 U
	2,6-Dinitrotoluene	10 U	10 U		10 U	10 U	0.46	8.0	10 U
	3-Nitroaniline	50 U	50 U		50 U	50 U	0.32	14.1	50 U
CCC	Acenaphthene	70(70%)	70(71%)	1%	10 U	10 U	1.34	6.5	10 U

TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - SEMIVOLATILE ORGANIC QC DATA - SDG NUMBER CFA03701D FOR INSTRUMENT HP6

	AREA	QC	QC	QC	CFA	CFA	QC		CFA
	LOCATION	MATRIX	MATRIX	RELATIVE	03-LF3-10	QC	CONTINUING		03-LF3-10
	TYPE OF LOCATION	SPIKE	SPIKE DUP	% DIFFER	DOWN GRAD WELL	00-FIELD BLANK	CALIBRATN		DOWN GRAD WELL
	SAMPLE NUMBER	CFA03901DMS	CFA03901DMSD	CFA03901DRPD	CFA03902D	CFA04501D	SSTD050		CFA03901DRE
	MEDIA	GROUND WATER	GROUND WATER		GROUND WATER	WATER	05/28/91		GROUND WATER
	UNITS	ug/L	ug/L		ug/L	ug/L	RRF50	%D	ug/L
SPCC	2,4-Dinitrophenol	50 U	50 U		50 U	50 U	0.24	17.5	50 U
SPCC	4-Nitrophenol	152(76%)	147(73%)	4%	50 U	50 U	0.18	1.6	50 U
	Dibenzofuran	10 U	10 U		10 U	10 U	1.86	9.0	10 U
	2,4-Dinitrotoluene	75(75%)	72(72%)	4%	10 U	10 U	0.60	11.4	10 U
	Diethylphthalate	10 U	10 U		10 U	10 U	1.86	13.8	10 U
	4-Chlorophenyl-phenylether	10 U	10 U		10 U	10 U	0.60	10.1	10 U
	Fluorene	10 U	10 U		10 U	10 U	1.48	9.9	10 U
	4-Nitroaniline	50 U	50 U		50 UJ	50 UJ	0.37	3.9	50 UJ
	4,6-Dinitro-2-methylphenol	50 U	50 U		50 U	50 U	0.22	16.7	50 U
CCC	N-Nitrosodiphenylamine (1)	10 U	10 U		10 U	10 U	0.59	1.4	10 U
	4-Bromophenyl-phenylether	10 U	10 U		10 U	10 U	0.24	4.8	10 U
	Hexachlorobenzene	10 U	10 U		10 U	10 U	0.32	4.7	10 U
CCC	Pentachlorophenol	134(67%)	129(64%)	4%	50 U	50 U	0.23	6.5	50 U
	Phenanthrene	10 U	10 U		10 U	10 U	1.32	5.8	10 U
	Anthracene	10 U	10 U		10 U	10 U	1.33	9.7	10 U
	Di-n-butylphthalate	10 U	10 U		10 U	10 U	2.32	6.2	10 U
CCC	Fluoranthene	10 U	10 U		10 U	10 U	1.40	7.5	10 U
	Pyrene	71(71%)	72(72%)	1%	10 U	10 U	1.87	5.8	10 U
	Butylbenzylphthalate	10 U	10 U		10 U	10 U	1.38	5.0	10 U
	3,3'-Dichlorobenzidine	20 U	20 U		20 UJ	20 UJ	0.20	40.4	20 UJ
	Benzo(a)anthracene	10 U	10 U		10 U	10 U	1.64	8.4	10 U
	Chrysene	10 U	10 U		10 U	10 U	1.56	15.8	10 U
	bis(2-Ethylhexyl)phthalate	10 U	10 U		10 U	10 U	1.92	5.7	10 U
CCC	Di-n-octylphthalate	10 U	10 U		10 U	10 U	2.94	3.8	10 U
	Benzo(b)fluoranthene	10 U	10 U		10 U	10 U	1.73	24.5	10 U
	Benzo(k)fluoranthene	10 U	10 U		10 U	10 U	0.87	14.8	10 U
CCC	Benzo(a)pyrene	10 U	10 U		10 U	10 U	1.25	5.9	10 U
	Indeno(1,2,3-cd)pyrene	10 U	10 U		10 U	10 U	1.40	9.6	10 U
	Dibenz(a,h)anthracene	10 U	10 U		10 U	10 U	1.17	8.6	10 U
	Benzo(g,h,i)perylene	10 U	10 U		10 U	10 U	1.17	8.6	10 U

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - SEMIVOLATILE ORGANIC QC DATA - SDG NUMBER CFA03701D FOR INSTRUMENT HP6

AREA	QC	QC	QC	CFA	CFA	QC		CFA
LOCATION	MATRIX	MATRIX	RELATIVE	03-LF3-10	QC	CONTINUING		03-LF3-10
TYPE OF LOCATION	SPIKE	SPIKE DUP	% DIFFER	DOWN GRAD WELL	00-FIELD BLANK	CALIBRATN		DOWN GRAD WELL
SAMPLE NUMBER	CFA03901DMS	CFA03901DMSD	CFA03901DRPD	CFA03902D	CFA04501D	SSTD050		CFA03901DRE
MEDIA	GROUND WATER	GROUND WATER		GROUND WATER	WATER	05/28/91		GROUND WATER
UNITS	ug/L	ug/L		ug/L	ug/L	RRF50	%D	ug/L
Nitrobenzene-d5						0.46	1.2	
2-Fluorobiphenyl						1.20	3.0	
Terphenyl-d14						0.98	5.2	
Phenol-d6						1.79	6.4	
2-Fluorophenol						1.09	0.2	
2,4,6-Tribromophenol						0.19	0.4	
Surr 1(NBZ) %Recovery	74	70		67	67			74
Surr 2(FBP) %Recovery	63	62		57	59			86
Surr 3(TPH) %Recovery	74	71		71	69			91
Surr 4(PHL) %Recovery	78	77		68	72			30
Surr 5(2FP) %Recovery	75	75		70	74			63
Surr 6(TBP) %Recovery	77	71		74	75			87
Method Blank Run (Y/N)	YES	YES		YES	YES			YES
Tunes Out of Criteria								
Minutes Past 12-Hr Tune								
Internal Std Area(DCB)	79448	81534		77154	78549	85153		77649
Internal Std Area(NPT)	294104	314892		288331	295115	312675		289909
Internal Std Area(ANT)	188020	198570		183031	185435	206435		141061
Internal Std Area(PHN)	291769	300492		283099	293093	316000		258180
Internal Std Area(CRY)	247725	251587		248918	256276	241590		171956
Internal Std Area(PRY)	266145	273751		272246	287662	281385		51566*
DCB Ret Time Shift								
NPT Ret Time Shift								
ANT Ret Time Shift								
PHN Ret Time Shift								
CRY Ret Time Shift								
PRY Ret Time Shift								
Dilution Factor	1.000	1.000		1.000	1.000			1.000
Percent Moisture								
Field/Shipping Time				2d	2d			2d
Extraction (Allowed) Hold Time				4(5)d	4(5)d			4(5)d
Analytical (Allowed) Hold Time				17(40)d	17(40)d			21(40)d

Min RRF and RRF50 = 0.050 for SPCC.
Max %RSD = 30.0% and max %D = 25.0% for CCC.

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA03701

AREA LOCATION TYPE OF LOCATION SAMPLE NUMBER MEDIA UNITS	METHOD	QC INSTRUMENT DETECTION LIMIT ug/L	QC INITIAL CALIBRATION VERIFICATION %R1	QC CONTINUING CALIBRATION VERIFICATION %R1	 %R2	QC INITIAL CALIBRATION VERIFICATION %R2	QC CONTINUING CALIBRATION VERIFICATION %R3	 %R4
Aluminum	NR							
Antimony	NR							
Arsenic	F	1.0	109.9	109.7	110.6*		108.9	110.0
Barium	P	41.0	100.0	99.5	96.5		98.5	
Beryllium	NR							
Cadmium	P	3.0	99.8	98.8	96.2		99.6	
Calcium	NR							
Chromium	P	7.0	95.5	96.0	92.5		95.2	
Cobalt	NR							
Copper	NR							
Cyanide	NR							
Iron	P	69.0	98.3	99.6	96.2		100.0	
Lead	F	1.0	105.2	107.9	89.6*		106.0	
Magnesium	P	2491	99.4	98.2	95.0		97.8	
Manganese	NR							
Mercury	P	0.2	101.0	103.0		124.8*	104.5	97.5
Nickel	NR							
Potassium	NR							
Selenium	F	2.0	106.0	100.9	103.5		101.4	103.0
Silver	P	10.0	99.0	99.1	96.1		98.3	
Sodium	P	987	100.0	99.6	96.8		99.0	
Thallium	NR							
Vanadium	NR							
Zinc	NR							

Field/Shipping Time
Anal (Allowed) Hold Time[a]
Total (Allowed) Hold Time[a]
Anal (Allowed) Hold Time[b]
Total (Allowed) Hold Time[b]
Anal (Allowed) Hold Time[c]
Total (Allowed) Hold Time[c]

a. ICP
b. CVAAS
c. GFAAS

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA03T01 (Continued)

AREA LOCATION TYPE OF LOCATION SAMPLE NUMBER MEDIA UNITS	M E T H O D	QC CONTINUING CALIBRATION VERIFICATION %R5	QC CONTINUING CALIBRATION VERIFICATION %R6	QC INITIAL CALIBRATION VERIFICATION %R3	QC CONTINUING CALIBRATION VERIFICATION %R7	QC CONTINUING CALIBRATION VERIFICATION %R8	QC INITIAL CALIBRATION VERIFICATION %R4	QC CONTINUING CALIBRATION VERIFICATION %R9
Aluminum	NR							
Antimony	NR							
Arsenic	F	101.4		99.6	97.8		104.7	107.6
Barium	P							
Beryllium	NR							
Cadmium	P							
Calcium	NR							
Chromium	P							
Cobalt	NR							
Copper	NR							
Cyanide	NR							
Iron	P							
Lead	F							
Magnesium	P							
Manganese	NR							
Mercury	P	108.0						
Nickel	NR							
Potassium	NR							
Selenium	F	106.5	103.1	96.7	93.2	94.0		
Silver	P							
Sodium	P							
Thallium	NR							
Vanadium	NR							
Zinc	NR							
Field/Shipping Time								
Anal (Allowed) Hold Time[a]								
Total (Allowed) Hold Time[a]								
Anal (Allowed) Hold Time[b]								
Total (Allowed) Hold Time[b]								
Anal (Allowed) Hold Time[c]								
Total (Allowed) Hold Time[c]								

a. ICP
b. CVAAS
c. GFAAS

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA03701 (Continued)

AREA LOCATION TYPE OF LOCATION SAMPLE NUMBER MEDIA UNITS	MEDIO	QC INITIAL CALIBRATION VERIFICATION	QC CONTINUING CALIBRATION VERIFICATION		QC INITIAL CALIBRATION VERIFICATION	QC CONTINUING CALIBRATION VERIFICATION		QC INITIAL CALIBRATION VERIFICATION
		%R5	%R10	%R11	%R6	%R12	%R13	%R7
Aluminum	NR							
Antimony	NR							
Arsenic	F	96.8	90.0	91.8		98.6		
Barium	P	99.5	99.5	101.0				
Beryllium	NR							
Cadmium	P	98.6	98.6	99.2				
Calcium	NR							
Chromium	P	97.7	94.8	96.1				
Cobalt	NR							
Copper	NR							
Cyanide	NR							
Iron	P	99.4	97.3	99.6				
Lead	F	108.6	108.8		109.2	105.9	109.0	
Magnesium	P	99.2	98.8	99.6				
Manganese	NR							
Mercury	P	114.6	89.0	78.0*		78.0*	78.0*	
Nickel	NR							
Potassium	NR							
Selenium	F	96.0	91.7		96.3	92.4		104.0
Silver	P	100.0	99.4	101.0				
Sodium	P	99.6	99.6	101.0				
Thallium	NR							
Vanadium	NR							
Zinc	NR							
Field/Shipping Time								
Anal (Allowed) Hold Time[a]								
Total (Allowed) Hold Time[a]								
Anal (Allowed) Hold Time[b]								
Total (Allowed) Hold Time[b]								
Anal (Allowed) Hold Time[c]								
Total (Allowed) Hold Time[c]								

a. ICP
b. CVAAS
c. GFAAS

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA03701 (Continued)

AREA LOCATION TYPE OF LOCATION SAMPLE NUMBER MEDIA UNITS	METHOD	QC CONTINUING CALIBRATION VERIFICATION %R14	QC CONTINUING CALIBRATION VERIFICATION %R15	QC INITIAL CALIBRATION VERIFICATION %R8	QC CONTINUING CALIBRATION VERIFICATION %R16	QC CRDL STANDARD %R	QC CRDL STANDARD %R
Aluminum	NR						
Antimony	NR						
Arsenic	F					90.6	
Barium	P						
Beryllium	NR						
Cadmium	P						
Calcium	NR						
Chromium	P						
Cobalt	NR						
Copper	NR						
Cyanide	NR						
Iron	P						
Lead	F					94.7	
Magnesium	P						
Manganese	NR						
Mercury	P						
Nickel	NR						
Potassium	NR						
Selenium	F	91.9	91.7	97.5	103.6	96.0	118.8
Silver	P						
Sodium	P						
Thallium	NR						
Vanadium	NR						
Zinc	NR						
Field/Shipping Time							
Anal (Allowed) Hold Time[a]							
Total (Allowed) Hold Time[a]							
Anal (Allowed) Hold Time[b]							
Total (Allowed) Hold Time[b]							
Anal (Allowed) Hold Time[c]							
Total (Allowed) Hold Time[c]							

a. ICP
b. CVAAS
c. GFAAS

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TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA03701 (Continued)

AREA LOCATION TYPE OF LOCATION SAMPLE NUMBER MEDIA UNITS	METHOD	QC CRDL STANDARD %R	QC CRDL STANDARD %R	QC CRDL STANDARD %Ri	QC CRDL STANDARD %Rf	QC CRDL STANDARD %R	QC CRDL STANDARD %R
Aluminum	NR						
Antimony	NR						
Arsenic	F	102.3	114.9			115.4	106.0
Barium	P						
Beryllium	NR						
Cadmium	P			120.0	130.0		
Calcium	NR						
Chromium	P			105.0	120.0		
Cobalt	NR						
Copper	NR						
Cyanide	NR						
Iron	P						
Lead	F		104.2				212.3
Magnesium	P						
Manganese	NR						
Mercury	P						
Nickel	NR						
Potassium	NR						
Selenium	F		86.3				115.4
Silver	P			105.0	100.0		
Sodium	P						
Thallium	NR						
Vanadium	NR						
Zinc	NR						
Field/Shipping Time							
Anal (Allowed) Hold Time[a]							
Total (Allowed) Hold Time[a]							
Anal (Allowed) Hold Time[b]							
Total (Allowed) Hold Time[b]							
Anal (Allowed) Hold Time[c]							
Total (Allowed) Hold Time[c]							

a. ICP
b. CVAAS
c. GFAAS

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA03701 (Continued)

AREA	M		QC	QC	QC	QC	QC
LOCATION	E		CRDL	PREP	PREP	PREP	PREP
TYPE OF LOCATION	T		STANDARD	BLANK	BLANK	BLANK	BLANK
SAMPLE NUMBER	H						
MEDIA	O			WATER	WATER	WATER	WATER
UNITS	D	%Ri	%Rf	ug/L	ug/L	ug/L	ug/L
Aluminum	NR						
Antimony	NR						
Arsenic	F			1.0 U	1.0 U		1.0 U
Barium	P			41.0 U	41.0 U		-41.0 B
Beryllium	NR						
Cadmium	P	100.0	90.0	3.0 U	3.0 B		-18.0
Calcium	NR						
Chromium	P	105.0	105.0	7.0 U	7.0 U		7.0 U
Cobalt	NR						
Copper	NR						
Cyanide	NR						
Iron	P			69.0 U	69.0 U		69.0 U
Lead	F			1.0 U	1.4 B		1.0 U
Magnesium	P			2491 U	2491 U		2491 U
Manganese	NR						
Mercury	P				0.20 U	0.20 U	0.20 U
Nickel	NR						
Potassium	NR						
Selenium	F			2.0 U	2.0 U		2.6 B
Silver	P	100.0	110.0	10.0 U	10.0 U		10.0 U
Sodium	P			987 U	987 U		-999.0 B
Thallium	NR						
Vanadium	NR						
Zinc	NR						
Field/Shipping Time							
Anal (Allowed) Hold Time[a]							
Total (Allowed) Hold Time[a]							
Anal (Allowed) Hold Time[b]							
Total (Allowed) Hold Time[b]							
Anal (Allowed) Hold Time[c]							
Total (Allowed) Hold Time[c]							

a. ICP
b. CVAAS
c. GFAAS

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA03701 (Continued)

AREA	M	QC	QC	QC	QC	QC
LOCATION	E	LAB	LAB	LAB	LAB	LAB
TYPE OF LOCATION	T	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
SAMPLE NUMBER	H	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
MEDIA	O	WATER	WATER	WATER	WATER	WATER
UNITS	D	%R	%R	%R	%R	%R
Aluminum	NR					
Antimony	NR					
Arsenic	F	91.2	111.0			97.8
Barium	P	106.0	105.0			108.0
Beryllium	NR					
Cadmium	P	116.0	120.0			84.0
Calcium	NR					
Chromium	P	108.0	106.0			111.0
Cobalt	NR					
Copper	NR					
Cyanide	NR					
Iron	P	115.0	110.0			113.0
Lead	F	99.5	102.0			117.5
Magnesium	P					
Manganese	NR					
Mercury	P			110.0	102.0	
Nickel	NR					
Potassium	NR					
Selenium	F	81.0	72.0			97.0
Silver	P	108.0	106.0			102.0
Sodium	P					
Thallium	NR					
Vanadium	NR					
Zinc	NR					
Field/Shipping Time						
Anal (Allowed) Hold Time[a]						
Total (Allowed) Hold Time[a]						
Anal (Allowed) Hold Time[b]						
Total (Allowed) Hold Time[b]						
Anal (Allowed) Hold Time[c]						
Total (Allowed) Hold Time[c]						

a. ICP
b. CVAAS
c. GFAAS

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA03701 (Continued)

AREA	M	QC	QC		QC		CFA	CFA
LOCATION	E	LAB	INTERFERENCE		INTERFERENCE		02-LF2-12	02-LF2-12
TYPE OF LOCATION	T	CONTROL	CHECK		CHECK		DOWN GRAD WELL	DOWN GRAD WELL
SAMPLE NUMBER	H	SAMPLE	EPA SOLUTION AB		EPA SOLUTION AB		CFA03701H	CFA03701M
MEDIA	O	WATER					GROUND WATER	GROUND WATER
UNITS	D	%R	%Ri	%Rf	%Ri	%Rf	ug/L	ug/L
Aluminum	NR							
Antimony	NR							
Arsenic	F						1.4 B	1.3 B
Barium	P		102.0	101.0	96.2	97.2	166 B	118 B
Beryllium	NR							
Cadmium	P		98.5	99.4	102.0	104.0	3.0 U	3.0 U
Calcium	NR							
Chromium	P		96.2	97.2	100.8	100.8	24.0	7.0 B
Cobalt	NR							
Copper	NR							
Cyanide	NR							
Iron	P		94.0	96.5	96.0	97.5	234	69.0 U
Lead	F						4.5 W	3.9
Magnesium	P		97.0	96.6	99.4	101.4	15700	15500 J
Manganese	NR							
Mercury	P	90.0					2.0 UJ	0.20 U
Nickel	NR							
Potassium	NR							
Selenium	F						2.0 UJ	2.0 WNUJ
Silver	P		83.8	84.1	104.0	106.0	10.0 U	10.0 U
Sodium	P						39000	39700 J
Thallium	NR							
Vanadium	NR							
Zinc	NR							
Field/Shipping Time							3d	3d
Anal (Allowed) Hold Time[a]							25(180)d	34(180)d
Total (Allowed) Hold Time[a]							28(180)d	37(180)d
Anal (Allowed) Hold Time[b]							32(26)d*	35(26)d*
Total (Allowed) Hold Time[b]							35(26)d*	38(26)d*
Anal (Allowed) Hold Time[c]							25(180)d	34(180)d
Total (Allowed) Hold Time[c]							28(180)d	37(180)d

a. ICP
b. CVAAS
c. GFAAS

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TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA03701 (Continued)

AREA	M	QC	CFA	CFA	CFA	CFA
LOCATION	E	SERIAL	03-LF3-9	03-LF3-9	03-LF3-10	03-LF3-10
TYPE OF LOCATION	T	DILUTION	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL
SAMPLE NUMBER	H	CFA03701M	CFA03801H	CFA03801H	CFA03901H	CFA03901H
MEDIA	O	WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER
UNITS	D	%D	ug/L	ug/L	ug/L	ug/L
Aluminum	NR					
Antimony	NR					
Arsenic	F		2.2 B	1.1 B	1.0 U	1.0 U
Barium	P	100.0	149 B	98.0 B	117 B	151 B
Beryllium	NR					
Cadmium	P		3.0 U	3.0 U	3.0 U	3.0 U
Calcium	NR					
Chromium	P	100.0	45.0	7.0 U	25.0	7.0 U
Cobalt	NR					
Copper	NR					
Cyanide	NR					
Iron	P		455	69.0 U	404	69.0 U
Lead	F		2.0 BW	2.7 BW	5.0	2.0 BW
Magnesium	P	100.0	18400	16400	14900	15600
Manganese	NR					
Mercury	P		2.0 UJ	0.20 U	0.20 U	2.0 UJ
Nickel	NR					
Potassium	NR					
Selenium	F		2.0 WUJ	2.0 WNUJ	2.0 WUJ	2.0 NUJ
Silver	P		10.0 U	10.0 U	10.0 U	10.0 U
Sodium	P	26.7	34400	32900	35000	35100
Thallium	NR					
Vanadium	NR					
Zinc	NR					
Field/Shipping Time			3d	3d	2d	2d
Anal (Allowed) Hold Time[a]			25(180)d	34(180)d	34(180)d	25(180)d
Total (Allowed) Hold Time[a]			28(180)d	37(180)d	36(180)d	27(180)d
Anal (Allowed) Hold Time[b]			32(26)d*	35(26)d*	35(26)d*	32(26)d*
Total (Allowed) Hold Time[b]			35(26)d*	38(26)d*	37(26)d*	34(26)d*
Anal (Allowed) Hold Time[c]			25(180)d	34(180)d	34(180)d	25(180)d
Total (Allowed) Hold Time[c]			28(180)d	37(180)d	36(180)d	27(180)d

a. ICP
b. CVAAS
c. GFAAS

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TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA03701 (Continued)

AREA	M	CFA	CFA	CFA	QC	QC
LOCATION	E	03-LF3-10	03-LF3-10	03-LF3-11	MATRIX	DUPLICATE
TYPE OF LOCATION	T	DOWN GRAD WELL	DOWN GRAD WELL	UPGRADIENT WELL	SPIKE	PRECISION
SAMPLE NUMBER	H	CFA03902H	CFA03902M	CFA04001H	CFA04001HS	CFA04001HD
MEDIA	O	GROUND WATER	GROUND WATER	GROUND WATER	WATER	WATER
UNITS	D	ug/L	ug/L	ug/L	%R	RPD
Aluminum	NR					
Antimony	NR					
Arsenic	F	1.9 B	1.0 U	1.4 BW	NR	NR
Barium	P	158 B	11.0 B	150 B	NR	NR
Beryllium	NR					
Cadmium	P	3.0 U	3.0 U	3.0 U	NR	NR
Calcium	NR					
Chromium	P	51.0	7.0 U	29.0	NR	NR
Cobalt	NR					
Copper	NR					
Cyanide	NR					
Iron	P	527	69.0 U	410	NR	NR
Lead	F	8.6 W	1.5 B	3.7 W	NR	NR
Magnesium	P	15600	14900	13900	NR	NR
Manganese	NR					
Mercury	P	2.0 UJ	0.20 U	0.20 UN	544.2 N	NC
Nickel	NR					
Potassium	NR					
Selenium	F	2.0 UJ	2.0 WNUJ	2.0 WUJ	NR	NR
Silver	P	10.0 U	10.0 U	10.0 U	NR	NR
Sodium	P	35400	35400	25800	NR	NR
Thallium	NR					
Vanadium	NR					
Zinc	NR					
Field/Shipping Time		2d	2d	2d		
Anal (Allowed) Hold Time[a]		25(180)d	34(180)d	12(180)d		
Total (Allowed) Hold Time[a]		27(180)d	36(180)d	14(180)d		
Anal (Allowed) Hold Time[b]		32(26)d*	35(26)d*	27(26)d*		
Total (Allowed) Hold Time[b]		34(26)d*	37(26)d*	29(26)d*		
Anal (Allowed) Hold Time[c]		25(180)d	34(180)d	12(180)d		
Total (Allowed) Hold Time[c]		27(180)d	36(180)d	14(180)d		

a. ICP
b. CVAAS
c. GFAAS

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TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA03701 (Continued)

AREA	M	CFA	QC	QC	CFA	QC
LOCATION	E	03-LF3-11	MATRIX	DUPLICATE	03-LF3-11	SERIAL
TYPE OF LOCATION	T	UPGRADIENT WELL	SPIKE	PRECISION	UPGRADIENT WELL	DILUTION
SAMPLE NUMBER	H	CFA04001H	CFA04001MS	CFA04001MD	CFA04002H	CFA04002H
MEDIA	O	GROUND WATER	WATER	WATER	GROUND WATER	WATER
UNITS	D	ug/L	%R	RPD	ug/L	%D
Aluminum	NR					
Antimony	NR					
Arsenic	F	1.0 U	NR	NR	1.3 BW	
Barium	P	111 B	NR	NR	149 B	100.0
Beryllium	NR					
Cadmium	P	3.0 U	NR	NR	3.0 U	
Calcium	NR					
Chromium	P	7.0 U	NR	NR	120 J	20.8
Cobalt	NR					
Copper	NR					
Cyanide	NR					
Iron	P	69.0 U	NR	NR	1010 J	17.8
Lead	F	2.2 BW	NR	NR	2.2 B	
Magnesium	P	13400	NR	NR	14300 J	100.0
Manganese	NR					
Mercury	P	0.20 U	90.4	NC	0.20 UN	
Nickel	NR					
Potassium	NR					
Selenium	F	2.0 NUJ	NR	NR	2.0 WUJ	
Silver	P	10.0 U	NR	NR	10.0 U	
Sodium	P	26600	NR	NR	26800 J	21.1
Thallium	NR					
Vanadium	NR					
Zinc	NR					
Field/Shipping Time		2d			2d	
Anal (Allowed) Hold Time[a]		40(180)d			12(180)d	
Total (Allowed) Hold Time[a]		42(180)d			14(180)d	
Anal (Allowed) Hold Time[b]		41(26)d*			27(26)d*	
Total (Allowed) Hold Time[b]		43(26)d*			29(26)d*	
Anal (Allowed) Hold Time[c]		40(180)d			12(180)d	
Total (Allowed) Hold Time[c]		42(180)d			14(180)d	

a. ICP
b. CVAAS
c. GFAAS

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TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA03701 (Continued)

AREA	M	QC	QC	QC	CFA	QC
LOCATION	E	MATRIX	POST DIGEST	DUPLICATE	03-LF3-11	MATRIX
TYPE OF LOCATION	T	SPIKE	SPIKE	PRECISION	UPGRADIENT WELL	SPIKE
SAMPLE NUMBER	H	CFA04002HS	CFA04002H	CFA04002HD	CFA04002M	CFA04002MS
MEDIA	O	WATER	WATER	WATER	GROUND WATER	WATER
UNITS	D	%R	%R	RPD	ug/L	%R
Aluminum	NR					
Antimony	NR					
Arsenic	F	94.2		19.9	1.3 B	93.2
Barium	P	102.1	109.0	3.3	109 B	106.6
Beryllium	NR					
Cadmium	P	114.0	118.0	NC	3.0 U	80.0
Calcium	NR					
Chromium	P	95.5	110.0	0.8	7.0 U	108.0
Cobalt	NR					
Copper	NR					
Cyanide	NR					
Iron	P	95.0	112.0	2.9	69.0 U	106.0
Lead	F	98.6		23.7	3.7	117.8
Magnesium	P	NR		2.8	13500	NR
Manganese	NR					
Mercury	P	NR		NR	0.20 U	NR
Nickel	NR					
Potassium	NR					
Selenium	F	118.1		NC	3.5 BWNJ	56.2 N
Silver	P	104.0	108.0	NC	10.0 U	102.0
Sodium	P	NR		1.5	26200	NR
Thallium	NR					
Vanadium	NR					
Zinc	NR					
Field/Shipping Time					2d	
Anal (Allowed) Hold Time[a]					40(180)d	
Total (Allowed) Hold Time[a]					42(180)d	
Anal (Allowed) Hold Time[b]					27(26)d*	
Total (Allowed) Hold Time[b]					29(26)d*	
Anal (Allowed) Hold Time[c]					40(180)d	
Total (Allowed) Hold Time[c]					42(180)d	

a. ICP
b. CVAAS
c. GFAAS

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA03701 (Continued)

AREA	M	QC	CFA	CFA
LOCATION	E	DUPLICATE	QC	QC
TYPE OF LOCATION	T	PRECISION	00-FIELD BLANK	00-FIELD BLANK
SAMPLE NUMBER	H	CFA04002MD	CFA04501H	CFA04501M
MEDIA	O	WATER	WATER	WATER
UNITS	D	RPD	ug/L	ug/L
Aluminum	NR			
Antimony	NR			
Arsenic	F	6.4	1.0 U	1.0 U
Barium	P	NC	41.0 U	41.0 U
Beryllium	NR			
Cadmium	P	NC	3.0 U	3.0 U
Calcium	NR			
Chromium	P	200	7.0 U	7.0 U
Cobalt	NR			
Copper	NR			
Cyanide	NR			
Iron	P	NC	69.0 U	69.0 U
Lead	F	8.2	1.4 BW	1.4 B
Magnesium	P	0.7	2490 U	2490 U
Manganese	NR			
Mercury	P	NR	2.0 UJ	0.20 U
Nickel	NR			
Potassium	NR			
Selenium	F	200	2.0 UJ	2.0 NUJ
Silver	P	NC	10.0 U	10.0 U
Sodium	P	0.4	987 U	987 U
Thallium	NR			
Vanadium	NR			
Zinc	NR			
Field/Shipping Time			2d	2d
Anal (Allowed) Hold Time[a]			25(180)d	34(180)d
Total (Allowed) Hold Time[a]			27(180)d	36(180)d
Anal (Allowed) Hold Time[b]			32(26)d*	35(26)d*
Total (Allowed) Hold Time[b]			34(26)d*	37(26)d*
Anal (Allowed) Hold Time[c]			25(180)d	34(180)d
Total (Allowed) Hold Time[c]			27(180)d	36(180)d

a. ICP
b. CVAAS
c. GFAAS

8-26-92

TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA04701A FOR INSTRUMENT VG1

AREA	QC INITIAL CALIBRATN		QC CONTINUING CALIBRATN		QC METHOD BLANK	QC LAB CONTROL SAMPLE	CFA 02-LF2-12 DOWN GRAD WELL
LOCATION	VSTD010		VSTD010		VBLK02	VLCS02	CFA04601A
TYPE OF LOCATION	08/12/91		08/12/91		WATER	WATER	GROUND WATER
SAMPLE NUMBER							
MEDIA							
UNITS	RRF	%RSD	RRF010	%D	ug/L	ug/L	ug/L
Dichlorodifluoromethane	NP	NP	NP	NP	NP	NP	NP
Chloromethane	0.18	10.9	0.18	-2.2	1 U	1 U	NP
Vinyl Chloride	0.23	14.4	0.22	6.8	1 U	4.6	NP
Bromomethane	0.18	8.0	0.16	7.3	1 U	1 U	NP
Chloroethane	0.16	8.7	0.16	-1.3	1 U	1 U	NP
1,1-Dichloroethene	0.24	5.3	0.22	9.9	1 U	5.9	NP
Methylene Chloride	0.22	20.6	0.22	-2.8	2 U	4.3	NP
trans-1,2-Dichloroethene	0.24	5.3	0.22	9.9	1 U	5.9	NP
1,1-Dichloroethane	0.56	8.2	0.53	6.1	1 U	1 U	NP
2,2-Dichloropropane	0.39	11.3	0.31	18.9	1 U	1 U	NP
cis-1,2-Dichloroethene	0.26	8.8	0.22	16.0	1 U	1 U	NP
Chloroform	0.60	8.9	0.54	9.5	1 U	5.4	NP
Bromochloromethane	0.11	9.5	0.10	11.2	1 U	1 U	NP
1,1,1-Trichloroethane	0.51	7.3	0.50	3.1	1 U	5.7	NP
Carbon Tetrachloride	0.41	11.0	0.43	-5.7	1 U	5.8	NP
1,1-Dichloropropene	0.45	11.2	0.42	6.7	1 U	1 U	NP
Benzene	1.19	12.2	1.08	10.0	1 U	6	NP
1,2-Dichloroethane	0.22	9.2	0.22	-1.4	1 U	5.7	NP
Trichloroethene	0.38	8.1	0.36	5.3	1 U	4.3	NP
1,2-Dichloropropane	0.28	7.0	0.26	7.6	1 U	1 U	NP
Bromodichloromethane	0.36	8.1	0.32	9.8	1 U	1 U	NP
Dibromomethane	0.10	7.0	0.09	11.1	1 U	1 U	NP
Trans-1,3-Dichloropropene	0.20	16.6	0.16	17.3	1 U	1 U	NP
Toluene	0.70	14.8	0.62	11.6	1 U	5	NP
cis-1,3-Dichloropropene	0.26	12.2	0.21	20.8	1 U	1 U	NP
1,1,2-Trichloroethane	0.11	7.0	0.10	13.2	1 U	1 U	NP
Tetrachloroethene	0.48	14.6	0.41	14.8	1 U	6.4	NP
1,3-Dichloropropane	0.02	27.8	0.02	0.0	1 U	1 U	NP
Dibromochloromethane	0.18	11.2	0.15	12.6	1 U	1 U	NP
1,2-Dibromoethane	0.12	10.9	0.11	17.6	1 U	1 U	NP
Chlorobenzene	0.81	15.5	0.67	17.8	1 U	5.8	NP
1,1,1,2-Tetrachloroethane	0.30	14.9	0.25	17.5	1 U	1 U	NP
Ethylbenzene	3.23	23.1	2.74	15.2	1 U	1 U	NP
Xylene (total meta & para)	0.77	28.7	0.66	14.3	0.5 U	1 U	NP
Xylene (ortho)	0.65	27.4	0.55	14.9	0.5 U	1 U	NP
Styrene	0.93	28.8	0.80	13.1	1 U	1 U	NP
Bromoform	0.09	17.5	0.07	18.7	1 U	1 U	NP
Isopropylbenzene	2.14	26.8	1.90	11.1	1 U	1 U	NP
1,1,2,2-Tetrachloroethane	0.15	8.9	0.13	20.1	1 U	1 U	NP
Bromobenzene	0.36	16.6	0.31	12.4	1 U	1 U	NP

NP - Information Not Provided by Laboratory

9-3-92

TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA04701A FOR INSTRUMENT VG1 (Continued)

AREA	QC INITIAL CALIBRATN		QC CONTINUING CALIBRATN		QC METHOD BLANK	QC LAB CONTROL SAMPLE	CFA 02-LF2-12 DOWN GRAD WELL
LOCATION					VBLK02	VLCS02	CFA04601A
TYPE OF LOCATION	VSTD010		VSTD010		WATER	WATER	GROUND WATER
SAMPLE NUMBER	08/12/91		08/12/91				
MEDIA					ug/L	ug/L	ug/L
UNITS	RRF	%RSD	RRF010	%D			
1,2,3-Trichloropropane	0.15	9.6	0.12	18.5	1 U	1 U	NP
n-Propylbenzene	1.45	23.5	1.33	8.2	1 U	1 U	NP
2-Chlorotoluene	1.59	18.4	1.35	15.2	1 U	1 U	NP
1,3,5-Trimethylbenzene	2.98	26.5	2.56	13.8	1 U	1 U	NP
4-Chlorotoluene	1.86	21.5	1.64	12.0	1 U	1 U	NP
tert-Butylbenzene	2.55	26.8	2.16	15.2	1 U	1 U	NP
1,2,4-Trimethylbenzene	1.88	21.7	1.68	10.6	1 U	1 U	NP
sec-Butylbenzene	2.98	26.7	2.56	13.9	1 U	1 U	NP
1,3-Dichlorobenzene	0.91	18.2	0.78	15.2	1 U	1 U	NP
1,4-Dichlorobenzene	0.97	15.4	0.82	15.4	1 U	1 U	NP
n-Butylbenzene	2.86	26.5	2.34	18.0	1 U	1 U	NP
1,2-Dichlorobenzene	0.81	12.5	0.66	18.8	1 U	1 U	NP
1,2-Dibromo-3-chloropropane	0.03	21.1	0.02	16.7	1 U	1 U	NP
1,2,4-Trichlorobenzene	0.60	20.2	0.50	17.1	1 U	1 U	NP
Hexachlorobutadiene	0.66	18.9	0.58	12.5	1 U	1 U	NP
Naphthalene	0.54	26.8	0.44	17.9	1 U	1 U	NP
1,2,3-Trichlorobenzene	0.43	19.9	0.39	11.1	1 U	1 U	NP
Bromofluorobenzene	0.55	14.9	0.46	16.6			
1,2-Dichloroethane-d4	0.44	16.3	0.36	20.3			
Surr 1(BFB) %Recovery					95	97	96
Surr 2(DCB) %Recovery					100	103	102
Method Blank Run (Y/N)					YES	YES	YES
Tunes Out of Criteria							
Minutes Past 12-Hr Tune							
Internal Std Area(FBZ)			14645000		10357000	8999000	8356000
FBZ Ret Time Shift							
Dilution Factor					1.000	1.000	NP
Field/Shipping Time							
Anal (Allowed) Hold Time							
Total (Allowed) Hold Time							

NP - Information Not Provided by Laboratory

9-3-92

TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA04701A FOR INSTRUMENT VG1 (Continued)

AREA	CFA	CFA	CFA	CFA	CFA
LOCATION	03-LF3-10	03-LF3-10	QC	QC	QC
TYPE OF LOCATION	DOWN GRAD WELL	DOWN GRAD WELL	00-TRIP BLANK	00-TRIP BLANK	00-FIELD BLANK
SAMPLE NUMBER	CFA04801A	CFA04802A	CFA05101A	CFA05201A	CFA05401A
MEDIA	GROUND WATER	GROUND WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
Dichlorodifluoromethane	NP	NP	NP	NP	NP
Chloromethane	NP	NP	1 U	1 U	1 UJ
Vinyl Chloride	NP	NP	1 U	1 U	1 UJ
Bromomethane	NP	NP	1 U	1 U	1 UJ
Chloroethane	NP	NP	1 U	1 U	1 UJ
1,1-Dichloroethene	NP	NP	1 U	1 U	1 UJ
Methylene Chloride	NP	NP	0.6 J	0.5 J	0.8 J
trans-1,2-Dichloroethene	NP	NP	1 U	1 U	1 UJ
1,1-Dichloroethane	NP	NP	1 U	1 U	1 UJ
2,2-Dichloropropane	NP	NP	1 U	1 U	1 UJ
cis-1,2-Dichloroethene	NP	NP	1 U	1 U	1 UJ
Chloroform	NP	NP	1 U	1 U	43.8 J
Bromochloromethane	NP	NP	1 U	1 U	1 UJ
1,1,1-Trichloroethane	NP	NP	1 U	1 U	1 UJ
Carbon Tetrachloride	NP	NP	1 U	1 U	1 UJ
1,1-Dichloropropene	NP	NP	1 U	1 U	1 UJ
Benzene	NP	NP	1 U	1 U	1 UJ
1,2-Dichloroethane	NP	NP	1 U	1 U	1 UJ
Trichloroethene	NP	NP	1 U	1 U	1 UJ
1,2-Dichloropropane	NP	NP	1 U	1 U	1 UJ
Bromodichloromethane	NP	NP	1 U	1 U	0.5 J
Dibromomethane	NP	NP	1 U	1 U	1 UJ
Trans-1,3-Dichloropropene	NP	NP	1 U	1 U	1 UJ
Toluene	NP	NP	1 U	1 U	1 UJ
cis-1,3-Dichloropropene	NP	NP	1 U	1 U	1 UJ
1,1,2-Trichloroethane	NP	NP	1 U	1 U	1 UJ
Tetrachloroethene	NP	NP	1 U	1 U	1 UJ
1,3-Dichloropropane	NP	NP	1 R	1 R	1 R
Dibromochloromethane	NP	NP	1 U	1 U	1 UJ
1,2-Dibromoethane	NP	NP	1 U	1 U	1 UJ
Chlorobenzene	NP	NP	1 U	1 U	1 UJ
1,1,1,2-Tetrachloroethane	NP	NP	1 U	1 U	1 UJ
Ethylbenzene	NP	NP	1 U	1 U	1 UJ
Xylene (total meta & para)	NP	NP	0.5 U	0.5 U	0.5 UJ
Xylene (ortho)	NP	NP	0.5 U	0.5 U	0.5 UJ
Styrene	NP	NP	1 U	1 U	1 UJ
Bromoform	NP	NP	1 U	1 U	1 UJ
Isopropylbenzene	NP	NP	1 U	1 U	1 UJ
1,1,2,2-Tetrachloroethane	NP	NP	1 U	1 U	1 UJ
Bromobenzene	NP	NP	1 U	1 U	1 UJ

NP - Information Not Provided by Laboratory

9-3-92

TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA04701A FOR INSTRUMENT VG1 (Continued)

AREA	CFA	CFA	CFA	CFA	CFA
LOCATION	03-LF3-10	03-LF3-10	QC	QC	QC
TYPE OF LOCATION	DOWN GRAD WELL	DOWN GRAD WELL	00-TRIP BLANK	00-TRIP BLANK	00-FIELD BLANK
SAMPLE NUMBER	CFA04801A	CFA04802A	CFA05101A	CFA05201A	CFA05401A
MEDIA	GROUND WATER	GROUND WATER	WATER	WATER	WATER
UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
1,2,3-Trichloropropane	NP	NP	1 U	1 U	1 UJ
n-Propylbenzene	NP	NP	1 U	1 U	1 UJ
2-Chlorotoluene	NP	NP	1 U	1 U	1 UJ
1,3,5-Trimethylbenzene	NP	NP	1 U	1 U	1 UJ
4-Chlorotoluene	NP	NP	1 U	1 U	1 UJ
tert-Butylbenzene	NP	NP	1 U	1 U	1 UJ
1,2,4-Trimethylbenzene	NP	NP	1 U	1 U	1 UJ
sec-Butylbenzene	NP	NP	1 U	1 U	1 UJ
1,3-Dichlorobenzene	NP	NP	1 U	1 U	1 UJ
1,4-Dichlorobenzene	NP	NP	1 U	1 U	1 UJ
n-Butylbenzene	NP	NP	1 U	1 U	1 UJ
1,2-Dichlorobenzene	NP	NP	1 U	1 U	1 UJ
1,2-Dibromo-3-chloropropane	NP	NP	1 R	1 R	1 R
1,2,4-Trichlorobenzene	NP	NP	1 U	1 U	1 UJ
Hexachlorobutadiene	NP	NP	1 U	1 U	1 UJ
Naphthalene	NP	NP	1 U	1 U	1 UJ
1,2,3-Trichlorobenzene	NP	NP	1 U	1 U	1 UJ
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Surr 1(BFB) %Recovery	90	77*	92	88	79*
Surr 2(DCB) %Recovery	99	72*	108	85	85
Method Blank Run (Y/N)	YES	YES	YES	YES	YES
Tunes Out of Criteria					
Minutes Past 12-Hr Tune					
Internal Std Area(FBZ)	8228000	11510000	7396000	8172000	10112000
FBZ Ret Time Shift					
Dilution Factor	NP	NP	1.000	1.000	1.000
Field/Shipping Time	2d		3d	2d	3d
Anal (Allowed) Hold Time	10(10)d		10(10)d	10(10)d	10(10)d
Total (Allowed) Hold Time	12(14)d		13(14)d	12(14)d	13(14)d

NP - Information Not Provided by Laboratory

9-3-92

TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA04701A FOR INSTRUMENT VG1 (Continued)

AREA	QC	QC	QC
LOCATION	MATRIX	MATRIX	RELATIVE
TYPE OF LOCATION	SPIKE	SPIKE DUP	% DIFFER
SAMPLE NUMBER	CFA04801AMS	CFA04801AMSD	CFA04801ARPD
MEDIA	GROUND WATER	GROUND WATER	
UNITS	ug/L	ug/L	
Dichlorodifluoromethane	NP	NP	
Chloromethane	1 U	1 U	
Vinyl Chloride	3.4 X	3.9 X	
Bromomethane	1 U	1 U	
Chloroethane	1 U	1 U	
1,1-Dichloroethene	5(92%)	6(110%)	18%*
Methylene Chloride	2.8 B	3.4 X	
trans-1,2-Dichloroethene	4.6 X	5.5 X	
1,1-Dichloroethane	1 U	1 U	
2,2-Dichloropropane	1 U	1 U	
cis-1,2-Dichloroethene	1 U	0.3	
Chloroform	6.1 X	5.7 X	
Bromochloromethane	1 U	1 U	
1,1,1-Trichloroethane	4.8 X	6.1 X	
Carbon Tetrachloride	4.7 X	6.3 X	
1,1-Dichloropropene	1 U	1 U	
Benzene	5(96%)	4(82%)	16%*
1,2-Dichloroethane	4.7 X	6.7 X	
Trichloroethene	3(64%)*	4(80%)	22%*
1,2-Dichloropropane	1 U	1 U	
Bromodichloromethane	1 U	1 U	
Dibromomethane	1 U	1 U	
Trans-1,3-Dichloropropene	1 U	1 U	
Toluene	3(96%)	5(92%)	4%
cis-1,3-Dichloropropene	1 U	1 U	
1,1,2-Trichloroethane	1 U	1 U	
Tetrachloroethene	4.8 X	6.5 X	
1,3-Dichloropropane	1 U	1 U	
Dibromochloromethane	1 U	1 U	
1,2-Dibromoethane	1 U	1 U	
Chlorobenzene	4(82%)	6(112%)	31%*
1,1,1,2-Tetrachloroethane	1 U	1 U	
Ethylbenzene	1 U	1 U	
Xylene (total meta & para)	0.5 U	0.5 U	
Xylene (ortho)	0.5 U	0.5 U	
Styrene	1 U	1 U	
Bromoform	1 U	1 U	
Isopropylbenzene	1 U	1 U	
1,1,2,2-Tetrachloroethane	1 U	1 U	
Bromobenzene	1 U	1 U	

NP - Information Not Provided by Laboratory

9-3-92

TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA04701A FOR INSTRUMENT VG1 (Continued)

AREA	QC	QC	QC
LOCATION	MATRIX	MATRIX	RELATIVE
TYPE OF LOCATION	SPIKE	SPIKE DUP	% DIFFER
SAMPLE NUMBER	CFA04801AMS	CFA04801AMSD	CFA04801ARPD
MEDIA	GROUND WATER	GROUND WATER	
UNITS	ug/L	ug/L	
1,2,3-Trichloropropane	1 U	1 U	
n-Propylbenzene	1 U	1 U	
2-Chlorotoluene	1 U	1 U	
1,3,5-Trimethylbenzene	1 U	1 U	
4-Chlorotoluene	1 U	1 U	
tert-Butylbenzene	1 U	1 U	
1,2,4-Trimethylbenzene	1 U	1 U	
sec-Butylbenzene	1 U	1 U	
1,3-Dichlorobenzene	1 U	1 U	
1,4-Dichlorobenzene	1 U	1 U	
n-Butylbenzene	1 U	1 U	
1,2-Dichlorobenzene	1 U	1 U	
1,2-Dibromo-3-chloropropane	1 U	1 U	
1,2,4-Trichlorobenzene	3.9 X	5.1 X	
Hexachlorobutadiene	1 U	1 U	
Naphthalene	1 U	1 U	
1,2,3-Trichlorobenzene	1 U	1 U	
Bromofluorobenzene			
1,2-Dichloroethane-d4			
Surr 1(BFB) %Recovery	71*	89	
Surr 2(DCB) %Recovery	80	104	
Method Blank Run (Y/N)	YES	YES	
Tunes Out of Criteria			
Minutes Past 12-Hr Tune			
Internal Std Area(FBZ)	9729000	7505000	
FBZ Ret Time Shift			
Dilution Factor	1.000	1.000	
Field/Shipping Time			
Anal (Allowed) Hold Time			
Total (Allowed) Hold Time			

NP - Information Not Provided by Laboratory

9-3-92

TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA04701A FOR INSTRUMENT VG2

AREA	QC		QC		QC	CFA	CFA
LOCATION	INITIAL		CONTINUING		METHOD	QC	03-LF3-9
TYPE OF LOCATION	CALIBRATN		CALIBRATN		BLANK	00-TRIP BLANK	DOWN GRAD WELL
SAMPLE NUMBER	VSTD010		VSTD010		VBLK01	CFA05001A	CFA04701A
MEDIA	08/09/91		08/09/91		WATER	WATER	GROUND WATER
UNITS	RRF	%RSD	RRF010	%D	ug/L	ug/L	ug/L
Dichlorodifluoromethane	NP	NP	NP	NP	NP	NP	NP
Chloromethane	0.14	14.8	0.13	8.0	1 U	1 U	NP
Vinyl Chloride	0.11	17.1	0.12	-8.4	1 U	1 U	NP
Bromomethane	0.06	29.2	0.08	-26	1 U	1 U	NP
Chloroethane	0.07	29.2	0.08	-13	1 U	1 U	NP
1,1-Dichloroethene	0.11	29.9	0.13	-19	1 U	1 U	NP
Methylene Chloride	0.31	52.0	0.24	22.1	2	1 UJ	NP
trans-1,2-Dichloroethene	0.17	18.5	0.18	-5.2	1 U	1 U	NP
1,1-Dichloroethane	0.40	9.4	0.39	3.5	1 U	1 U	NP
2,2-Dichloropropane	0.36	9.1	0.34	3.1	1 U	1 U	NP
cis-1,2-Dichloroethene	0.21	5.9	0.20	2.9	1 U	1 U	NP
Chloroform	0.44	7.9	0.42	4.5	1 U	1 U	NP
Bromochloromethane	0.06	11.9	0.05	5.4	1 U	1 U	NP
1,1,1-Trichloroethane	0.41	6.3	0.41	0.5	1 U	0.1 J	NP
Carbon Tetrachloride	0.35	5.7	0.35	-0.6	1 U	1 U	NP
1,1-Dichloropropene	0.44	5.5	0.46	-5.2	1 U	1 U	NP
Benzene	0.93	6.2	0.97	-4.4	1 U	1 U	NP
1,2-Dichloroethane	0.18	11.1	0.17	7.1	1 U	1 U	NP
Trichloroethene	0.35	6.5	0.36	-2.6	1 U	1 U	NP
1,2-Dichloropropane	0.26	8.8	0.25	2.0	1 U	1 U	NP
Bromodichloromethane	0.44	7.9	0.42	4.5	1 U	1 U	NP
Dibromomethane	0.07	12.8	0.07	9.5	1 U	1 U	NP
Trans-1,3-Dichloropropene	0.17	12.4	0.15	12.0	1 U	1 U	NP
Toluene	0.67	2.9	0.68	-2.7	1 U	1 U	NP
cis-1,3-Dichloropropene	0.25	8.9	0.23	6.9	1 U	1 U	NP
1,1,2-Trichloroethane	0.09	13.1	0.09	6.4	1 U	1 U	NP
Tetrachloroethene	0.35	12.2	0.3	-12.0	1 U	1 U	NP
1,3-Dichloropropane	0.02	11.8	0.02	8.7	1 U	1 R	NP
Dibromochloromethane	0.12	11.3	0.11	6.7	1 U	1 U	NP
1,2-Dibromoethane	0.09	10.8	0.08	8.7	1 U	1 U	NP
Chlorobenzene	0.61	4.8	0.61	-0.5	1 U	1 U	NP
1,1,1,2-Tetrachloroethane	0.19	7.7	0.18	2.7	1 U	1 U	NP
Ethylbenzene	1.55	7.9	1.65	-6.7	1 U	1 U	NP
Xylene (total meta & para)	0.22	2.8	0.23	-4.5	0.5 U	0.5 U	NP
Xylene (ortho)	0.46	7.2	0.48	-4.8	0.5 U	0.5 U	NP
Styrene	0.64	7.4	0.67	-5.3	1 U	1 U	NP
Bromoform	0.06	17.7	0.06	9.7	1 U	1 U	NP
Isopropylbenzene	1.60	7.2	1.74	-8.3	1 U	1 U	NP
1,1,2,2-Tetrachloroethane	0.09	14.4	0.08	11.8	1 U	1 U	NP
Bromobenzene	0.21	9.1	0.22	-0.5	1 U	1 U	NP

NP - Information Not Provided by Laboratory

9-3-92

TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA04701A FOR INSTRUMENT VG2 (Continued)

AREA	CFA	CFA	QC	QC	QC
LOCATION	03-LF3-11	03-LF3-11	MATRIX	MATRIX	RELATIVE
TYPE OF LOCATION	UPGRADIENT WELL	UPGRADIENT WELL	SPIKE	SPIKE DUP	% DIFFER
SAMPLE NUMBER	CFA04901A	CFA04902A	CFA04901AMS	CFA04901AMSD	CFA04901ARPD
MEDIA	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	
UNITS	ug/L	ug/L	ug/L	ug/L	
Dichlorodifluoromethane	NP	NP	NP	NP	
Chloromethane	1 U	1 U	1 U	1 U	
Vinyl Chloride	1 U	1 U	7.5 X	7.3 X	
Bromomethane	1 U	1 U	1 U	1 U	
Chloroethane	1 U	1 U	1 U	1 U	
1,1-Dichloroethene	1 U	1 U	7(140%)	6(122%)	14%
Methylene Chloride	1 UJ	1 UJ	3.3 B	3.6 B	
trans-1,2-Dichloroethene	1 U	1 U	5.9 X	6 X	
1,1-Dichloroethane	1 U	1 U	1 U	1 U	
2,2-Dichloropropane	1 U	1 U	1 U	1 U	
cis-1,2-Dichloroethene	1 U	1 U	0.1 J	0.1 J	
Chloroform	1 U	1 U	5.4 X	5.3 X	
Bromochloromethane	1 U	1 U	1 U	1 U	
1,1,1-Trichloroethane	0.3 J	0.3 J	5.9 X	5.9 X	
Carbon Tetrachloride	1 U	1 U	5.2 X	5.3 X	
1,1-Dichloropropene	1 U	1 U	1 U	1 U	
Benzene	1 U	1 U	5(96%)	5(98%)	2%
1,2-Dichloroethane	1 U	1 U	6.4 X	6.4 X	
Trichloroethene	1 U	0.1 J	488%)	5(90%)	2%
1,2-Dichloropropane	1 U	1 U	1 U	1 U	
Bromodichloromethane	1 U	1 U	5.4 X	5.3 X	
Dibromomethane	1 U	1 U	1 U	1 U	
Trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	
Toluene	1 U	1 U	5(98%)	5(98%)	0%
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	
Tetrachloroethene	1 U	1 U	4.3 X	4.4 X	
1,3-Dichloropropane	1 R	1 R	1 U	1 U	
Dibromochloromethane	1 U	1 U	1 U	1 U	
1,2-Dibromoethane	1 U	1 U	1 U	1 U	
Chlorobenzene	1 U	1 U	5(104%)	5(108%)	4%
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	
Ethylbenzene	1 U	1 U	4.7 X	4.6 X	
Xylene (total meta & para)	0.5 U	0.5 U	9.5 U	9.7 X	
Xylene (ortho)	0.5 U	0.5 U	0.5 U	0.5 U	
Styrene	1 U	1 U	1 U	1 U	
Bromoform	1 U	1 U	1 U	1 U	
Isopropylbenzene	1 U	1 U	1 U	1 U	
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	
Bromobenzene	1 U	1 U	1 U	1 U	

NP - Information Not Provided by Laboratory

9-3-92

TABLE _.-._ CFA LANDFILLS II AND III FY90 WELLS - 524.2 VOLATILE ORGANIC QC DATA - SDG NUMBER CFA04701A FOR INSTRUMENT VG2 (Continued)

AREA	CFA	CFA	QC	QC	QC
LOCATION	03-LF3-11	03-LF3-11	MATRIX	MATRIX	RELATIVE
TYPE OF LOCATION	UPGRADIENT WELL	UPGRADIENT WELL	SPIKE	SPIKE DUP	% DIFFER
SAMPLE NUMBER	CFA04901A	CFA04902A	CFA04901AMS	CFA04901AMSD	CFA04901ARPD
MEDIA	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	
UNITS	ug/L	ug/L	ug/L	ug/L	
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	
n-Propylbenzene	1 U	1 U	1 U	1 U	
2-Chlorotoluene	1 U	1 U	1 U	1 U	
1,3,5-Trimethylbenzene	1 U	1 U	1 U	1 U	
4-Chlorotoluene	1 U	1 U	1 U	1 U	
tert-Butylbenzene	1 U	1 U	1 U	0 U	
1,2,4-Trimethylbenzene	1 U	1 U	1 U	1 U	
sec-Butylbenzene	1 U	1 U	1 U	1 U	
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U	
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	
n-Butylbenzene	1 U	1 U	1 U	1 U	
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	
1,2-Dibromo-3-chloropropane	1 R	1 R	1 U	1 U	
1,2,4-Trichlorobenzene	1 U	1 U	4.8 X	4.8 X	
Hexachlorobutadiene	1 U	1 U	1 U	1 U	
Naphthalene	1 U	1 U	1 U	1 U	
1,2,3-Trichlorobenzene	1 U	1 U	1 U	1 U	
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Surr 1(BFB) %Recovery	96	97	104	102	
Surr 2(DCB) %Recovery	88	87	93	92	
Method Blank Run (Y/N)	YES	YES	YES	YES	
Tunes Out of Criteria					
Minutes Past 12-Hr Tune					
Internal Std Area(FBZ)	38152000	36757000	35527000	36069000	
FBZ Ret Time Shift					
Dilution Factor	1.000	1.000	1.000	1.000	
Field/Shipping Time	4d	4d			
Anal (Allowed) Hold Time	7(10)d	7(10)d			
Total (Allowed) Hold Time	11(14)d	11(14)d			

NP - Information Not Provided by Laboratory

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AREA	QC
LOCATION	LAB CONTROL
TYPE OF LOCATION	SAMPLE
SAMPLE NUMBER	VLCS01
MEDIA	WATER
UNITS	ug/L
Dichlorodifluoromethane	NP
Chloromethane	1 U
Vinyl Chloride	1 U
Bromomethane	7
Chloroethane	1 U
1,1-Dichloroethene	5.7
Methylene Chloride	2.2
trans-1,2-Dichloroethene	5.8
1,1-Dichloroethane	1 U
2,2-Dichloropropane	1 U
cis-1,2-Dichloroethene	1 U
Chloroform	5.2
Bromochloromethane	1 U
1,1,1-Trichloroethane	5.5
Carbon Tetrachloride	5.2
1,1-Dichloropropene	1 U
Benzene	4.7
1,2-Dichloroethane	6
Trichloroethene	4.4
1,2-Dichloropropane	5.2
Bromodichloromethane	1 U
Dibromomethane	1 U
Trans-1,3-Dichloropropene	1 U
Toluene	4.8
cis-1,3-Dichloropropene	1 U
1,1,2-Trichloroethane	1 U
Tetrachloroethene	4.2
1,3-Dichloropropane	1 U
Dibromochloromethane	1 U
1,2-Dibromoethane	1 U
Chlorobenzene	5
1,1,1,2-Tetrachloroethane	1 U
Ethylbenzene	4.5
Xylene (total meta & para)	9.5
Xylene (ortho)	0.5 U
Styrene	1 U
Bromoform	1 U
Isopropylbenzene	1 U
1,1,2,2-Tetrachloroethane	1 U
Bromobenzene	1 U

NP - Information Not Provided by Laboratory

9-3-92

TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA04701H

AREA LOCATION TYPE OF LOCATION SAMPLE NUMBER MEDIA UNITS	M E T H O D	QC INSTRUMENT DETECTION LIMIT ug/L	QC INITIAL CALIBRATION VERIFICATION %R1	QC CONTINUING CALIBRATION VERIFICATION %R1	 %R2	QC CONTINUING CALIBRATION VERIFICATION %R3	 %R4	QC CONTINUING CALIBRATION VERIFICATION %R5	 %R6
Aluminum	NR								
Antimony	NR								
Arsenic	F	2.0	96.3	89.6*	92.0	96.5	96.5		
Barium	P	41.0	102.0	101.5	102.0	100.5	105.5	101.5	105.0
Beryllium	NR								
Cadmium	P	3.0	98.6	97.6	99.4	98.8	99.0	97.4	102.0
Calcium	NR								
Chromium	P	7.0	100.0	96.7	96.0	95.1	98.5	95.9	101.0
Cobalt	NR								
Copper	NR								
Cyanide	NR								
Iron	P	69.0	103.0	102.0	98.8	98.2	104.0	101.0	106.0
Lead	F	1.0	103.3	102.1	104.5	104.8	103.9		
Magnesium	NR								
Manganese	P	6.0	99.3	98.7	98.0	97.3	100.7	98.0	102.7
Mercury	CV	0.2	104.2	93.4	93.4	89.8	91.0		
Nickel	NR								
Potassium	NR								
Selenium	F	4.0	101.8	103.7	105.2	103.6	103.0		
Silver	P	10.0	98.4	99.6	98.4	99.4	103.0	102.0	103.0
Sodium	P	987	101.2	101.8	101.6	100.4	105.2	101.0	105.4
Thallium	NR								
Vanadium	NR								
Zinc	NR								

Field/Shipping Time
Anal (Allowed) Hold Time[a]
Total (Allowed) Hold Time[a]
Anal (Allowed) Hold Time[b]
Total (Allowed) Hold Time[b]
Anal (Allowed) Hold Time[c]
Total (Allowed) Hold Time[c]

a. ICP
b. CVAAS
c. GFAAS

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA04701H (Continued)

AREA LOCATION TYPE OF LOCATION SAMPLE NUMBER MEDIA UNITS	M E T H O D	QC INITIAL CALIBRATION VERIFICATION %R2	QC CONTINUING CALIBRATION VERIFICATION %R7	%R8	QC CONTINUING CALIBRATION VERIFICATION %R9	%R10	QC CONTINUING CALIBRATION VERIFICATION %R11	%R12	QC INITIAL CALIBRATION VERIFICATION %R3
Aluminum	NR								
Antimony	NR								
Arsenic	F	105.1	100.7	102.4	101.7				
Barium	P	103.0	99.5	101.5	103.5	105.0	102.0	96.5	99.0
Beryllium	NR								
Cadmium	P	101.4	98.4	99.8	100.6	100.8	98.4	96.0	99.6
Calcium	NR								
Chromium	P	101.0	96.4	98.9	101.0	102.0	98.2	94.4	95.6
Cobalt	NR								
Copper	NR								
Cyanide	NR								
Iron	P	105.0	98.6	105.0	106.0	106.0	99.6	90.8	101.0
Lead	F	103.9	108.9	104.9	106.1				
Magnesium	NR								
Manganese	P	102.0	97.3	100.0	102.7	102.7	99.3	94.0	98.0
Mercury	CV	104.2	93.4	93.4	89.8	91.0			
Nickel	NR								
Potassium	NR								
Selenium	F	104.6	103.3	109.4					
Silver	P	103.0	100.0	103.0	104.0	104.0	98.4	99.5	101.0
Sodium	P	103.0	98.6	101.8	104.4	105.0	101.6	96.0	99.0
Thallium	NR								
Vanadium	NR								
Zinc	NR								
Field/Shipping Time									
Anal (Allowed) Hold Time[a]									
Total (Allowed) Hold Time[a]									
Anal (Allowed) Hold Time[b]									
Total (Allowed) Hold Time[b]									
Anal (Allowed) Hold Time[c]									
Total (Allowed) Hold Time[c]									

a. ICP
b. CVAAS
c. GFAAS

TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA04701H (Continued)

AREA LOCATION TYPE OF LOCATION SAMPLE NUMBER MEDIA UNITS	M E T H O D	QC CONTINUING CALIBRATION VERIFICATION %R13	QC CONTINUING CALIBRATION VERIFICATION %R14	QC CONTINUING CALIBRATION VERIFICATION %R15	QC CRDL STANDARD %R	QC CRDL STANDARD %Ri	QC CRDL STANDARD %Rf	QC CRDL STANDARD %R
Aluminum	NR							
Antimony	NR							
Arsenic	F				101.7			111.5
Barium	P	100.5	102.0	101.5				
Beryllium	NR							
Cadmium	P	99.8	99.8	100.0		110.0	120.0	
Calcium	NR							
Chromium	P	97.9	98.1	97.5		105.0	110.0	
Cobalt	NR							
Copper	NR							
Cyanide	NR							
Iron	P	101.0	105.0	104.0				
Lead	F				200.0			210.8
Magnesium	NR							
Manganese	P	98.7	100.0	99.3		113.3	120.0	
Mercury	CV							
Nickel	NR							
Potassium	NR							
Selenium	F				102.4			124.8
Silver	P	99.7	101.0	102.0		55.0	75.0	
Sodium	P	100.2	102.0	101.6				
Thallium	NR							
Vanadium	NR							
Zinc	NR							
Field/Shipping Time								
Anal (Allowed) Hold Time[a]								
Total (Allowed) Hold Time[a]								
Anal (Allowed) Hold Time[b]								
Total (Allowed) Hold Time[b]								
Anal (Allowed) Hold Time[c]								
Total (Allowed) Hold Time[c]								

a. ICP
b. CVAAS
c. GFAAS

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TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA04701H (Continued)

AREA LOCATION TYPE OF LOCATION SAMPLE NUMBER MEDIA UNITS	M E T H O D	QC CRDL STANDARD %Ri	QC CRDL STANDARD %Rf	QC CRDL STANDARD %Ri	QC CRDL STANDARD %Rf	QC PREP BLANK WATER ug/L	QC PREP BLANK WATER ug/L	QC PREP BLANK WATER ug/L
Aluminum	NR							
Antimony	NR							
Arsenic	F					2.0 U	2.0 U	2.0 U
Barium	P					41.0 U	41.0 U	
Beryllium	NR							
Cadmium	P	110.0	120.0	100.0	110.0	3.0 U	3.0 U	
Calcium	NR							
Chromium	P	105.0	100.0	110.0	115.0	7.0 U	7.0 U	
Cobalt	NR							
Copper	NR							
Cyanide	NR							
Iron	P					69.0 U	69.0 U	
Lead	F					1.8 B	11.0 U	1.0 U
Magnesium	NR							
Manganese	P	106.7	103.3	110.0	113.3	6.0 U	6.0 U	
Mercury	CV					-0.30	-0.30	
Nickel	NR							
Potassium	NR							
Selenium	F					4.0 U	4.0 U	4.0 U
Silver	P	100.0	70.0	105.0	115.0	10.0 U	10.0 U	
Sodium	P					987 U	987 U	
Thallium	NR							
Vanadium	NR							
Zinc	NR							
Field/Shipping Time								
Anal (Allowed) Hold Time[a]								
Total (Allowed) Hold Time[a]								
Anal (Allowed) Hold Time[b]								
Total (Allowed) Hold Time[b]								
Anal (Allowed) Hold Time[c]								
Total (Allowed) Hold Time[c]								

a. ICP
b. CVAAS
c. GFAAS

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA04701H (Continued)

AREA	M	QC	QC	QC	QC	QC INTERFERENCE CHECK	
LOCATION	E	LAB	LAB	LAB	LAB	EPA SOLUTION AB	
TYPE OF LOCATION	T	CONTROL	CONTROL	CONTROL	CONTROL		
SAMPLE NUMBER	H	SAMPLE	SAMPLE	SAMPLE	SAMPLE		
MEDIA	O	WATER	WATER	WATER	WATER		
UNITS	D	%R	%R	%R	%R	%Ri	%Rf
Aluminum	NR						
Antimony	NR						
Arsenic	F	92.2			99.3		
Barium	P	106.5		107.0		105.0	106.6
Beryllium	NR						
Cadmium	P	108.0		114.0		103.0	104.0
Calcium	NR						
Chromium	P	108.0		110.0		102.0	103.2
Cobalt	NR						
Copper	NR						
Cyanide	NR						
Iron	P	111.0		109.0		101.5	102.5
Lead	F	112.5			115.5		
Magnesium	NR						
Manganese	P	106.8		107.8		103.4	105.4
Mercury	CV		98.2				
Nickel	NR						
Potassium	NR						
Selenium	F	111.6			101.4		
Silver	P	84.0		72.0		94.5	95.1
Sodium	P						
Thallium	NR						
Vanadium	NR						
Zinc	NR						
Field/Shipping Time							
Anal (Allowed) Hold Time[a]							
Total (Allowed) Hold Time[a]							
Anal (Allowed) Hold Time[b]							
Total (Allowed) Hold Time[b]							
Anal (Allowed) Hold Time[c]							
Total (Allowed) Hold Time[c]							

a. ICP
b. CVAAS
c. GFAAS

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TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA04701H (Continued)

AREA	M	QC INTERFERENCE CHECK EPA SOLUTION AB		QC INTERFERENCE CHECK EPA SOLUTION AB		CFA 02-LF2-12 DOWN GRAD WELL CFA04601H GROUND WATER	QC SERIAL DILUTION CFA04601H WATER	CFA 02-LF2-12 DOWN GRAD WELL CFA04601M GROUND WATER
LOCATION	E							
TYPE OF LOCATION	T							
SAMPLE NUMBER	H							
MEDIA	O							
UNITS	D	%Ri	%Rf	%Ri	%Rf	ug/L	%D	ug/L
Aluminum	NR							
Antimony	NR							
Arsenic	F					2.2 U		2.2 U
Barium	P	102.6	98.6	102.0	102.8	164 B	100.0	152 B
Beryllium	NR							
Cadmium	P	101.0	96.8	101.0	101.0	3.0 U		3.0 U
Calcium	NR							
Chromium	P	101.0	93.8	98.4	99.2	7.0 B	100.0	7.0 U
Cobalt	NR							
Copper	NR							
Cyanide	NR							
Iron	P	100.5	88.0	98.0	100.0	69.0 U		69.0 U
Lead	F					1.7 B		12.2 U
Magnesium	NR							
Manganese	P	102.0	96.2	100.6	101.2	6.0 U		6.0 U
Mercury	CV					0.20 R		0.20 R
Nickel	NR							
Potassium	NR							
Selenium	F					4.4 U		4.4 U
Silver	P	98.0	96.0	95.5	96.3	10.0 U		10.0 U
Sodium	P					43600	9.3	41100
Thallium	NR							
Vanadium	NR							
Zinc	NR							
Field/Shipping Time						3d		3d
Anal (Allowed) Hold Time[a]						10(180)d		10(180)d
Total (Allowed) Hold Time[a]						13(180)d		13(180)d
Anal (Allowed) Hold Time[b]						16(26)d		16(26)d
Total (Allowed) Hold Time[b]						19(26)d		19(26)d
Anal (Allowed) Hold Time[c]						18(180)d		18(180)d
Total (Allowed) Hold Time[c]						21(180)d		21(180)d

a. ICP
b. CVAAS
c. GFAAS

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TABLE _-_-_ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA04701H (Continued)

AREA	M	QC	CFA	CFA	QC	CFA
LOCATION	E	SERIAL	03-LF3-9	03-LF3-9	DUPLICATE	03-LF3-10
TYPE OF LOCATION	T	DILUTION	DOWN GRAD WELL	DOWN GRAD WELL	PRECISION	DOWN GRAD WELL
SAMPLE NUMBER	H	CFA04601M	CFA04701H	CFA04701M	CFA04701MD	CFA04801H
MEDIA	O	WATER	GROUND WATER	GROUND WATER	WATER	GROUND WATER
UNITS	D	%D	ug/L	ug/L	RPD	ug/L
Aluminum	NR					
Antimony	NR					
Arsenic	F		2.0 U	2.0 U	NC	2.2 U
Barium	P	100.0	137 B	134 B	4.2	148 B
Beryllium	NR					
Cadmium	P		3.3 U	3.3 U	NC	3.0 U
Calcium	NR					
Chromium	P		7.8 U	7.8 B	13.3	7.0 U
Cobalt	NR					
Copper	NR					
Cyanide	NR					
Iron	P		76.7 U	76.7 U	NC	69.0 U
Lead	F		1.8 B	2.3 B	15.8	3.9
Magnesium	NR					
Manganese	P	100.0	14.4 B	16.7	14.3	25.0
Mercury	CV		0.20 R	0.20 NR	NR	0.20 R
Nickel	NR					
Potassium	NR					
Selenium	F		4.0 U	4.0 U	NC	4.4 U
Silver	P		11.1 U	11.1 U	NC	10.0 U
Sodium	P	77.3	35000	34900	4.6	38200
Thallium	NR					
Vanadium	NR					
Zinc	NR					
Field/Shipping Time			4d	4d		2d
Anal (Allowed) Hold Time[a]			17(180)d	17(180)d		10(180)d
Total (Allowed) Hold Time[a]			21(180)d	21(180)d		12(180)d
Anal (Allowed) Hold Time[b]			17(26)d	17(26)d		16(26)d
Total (Allowed) Hold Time[b]			21(26)d	21(26)d		18(26)d
Anal (Allowed) Hold Time[c]			10(180)d	10(180)d		18(180)d
Total (Allowed) Hold Time[c]			14(180)d	14(180)d		20(180)d

a. ICP
b. CVAAS
c. GFAAS

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA04701H (Continued)

AREA	M	CFA	CFA	CFA	CFA	QC
LOCATION	E	03-LF3-10	03-LF3-10	03-LF3-10	03-LF3-11	SERIAL
TYPE OF LOCATION	T	DOWN GRAD WELL	DOWN GRAD WELL	DOWN GRAD WELL	UPGRADIENT WELL	DILUTION
SAMPLE NUMBER	H	CFA04801M	CFA04802H	CFA04802M	CFA04901H	CFA04901H
MEDIA	O	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	WATER
UNITS	D	ug/L	ug/L	ug/L	ug/L	%D
Aluminum	NR					
Antimony	NR					
Arsenic	F	2.0 U	2.0 U	2.2 U	2.0 U	
Barium	P	143 B	152 B	142 B	143 B	100.0
Beryllium	NR					
Cadmium	P	3.0 U	3.0 U	3.0 U	3.3 U	
Calcium	NR					
Chromium	P	7.0 U	12.0	7.0 U	12.2	100.0
Cobalt	NR					
Copper	NR					
Cyanide	NR					
Iron	P	69.0 U	69.0 U	69.0 U	76.7 U	
Lead	F	12.2 U	1.1 U	12.2 U	1.8 B	
Magnesium	NR					
Manganese	P	25.0	26.0	24.0	21.1	100.0
Mercury	CV	0.20 R	0.20 R	0.20 R	0.20 R	
Nickel	NR					
Potassium	NR					
Selenium	F	4.4 U	4.4 U	4.4 U	4.0 U	
Silver	P	10.0 U	10.0 U	10.0 U	11.1 U	
Sodium	P	37400	39200	372000	29100	11.8
Thallium	NR					
Vanadium	NR					
Zinc	NR					
Field/Shipping Time		2d	2d	2d	3d	
Anal (Allowed) Hold Time[a]		10(180)d	10(180)d	10(180)d	17(180)d	
Total (Allowed) Hold Time[a]		12(180)d	12(180)d	12(180)d	20(180)d	
Anal (Allowed) Hold Time[b]		16(26)d	16(26)d	16(26)d	17(26)d	
Total (Allowed) Hold Time[b]		18(26)d	18(26)d	18(26)d	20(26)d	
Anal (Allowed) Hold Time[c]		18(180)d	18(180)d	18(180)d	10(180)d	
Total (Allowed) Hold Time[c]		20(180)d	20(180)d	20(180)d	13(180)d	
Anal (Allowed) Hold Time[d]						
Total (Allowed) Hold Time[d]						

a. ICP
b. CVAAS
c. GFAAS

TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA04701H (Continued)

AREA	M	QC	QC	CFA	QC	QC
LOCATION	E	MATRIX	DUPLICATE	03-LF3-11	SERIAL	MATRIX
TYPE OF LOCATION	T	SPIKE	PRECISION	UPGRADIENT WELL	DILUTION	SPIKE
SAMPLE NUMBER	H	CFA04901HS	CFA04901HD	CFA04901M	CFA04901M	CFA04901HS
MEDIA	O	WATER	WATER	GROUND WATER	WATER	WATER
UNITS	D	%R	RPD	ug/L	%D	%R
Aluminum	NR					
Antimony	NR					
Arsenic	F	100.6	NR	2.0 U		101.7
Barium	P	107.1	NR	148 B	100.0	105.9
Beryllium	NR					
Cadmium	P	110.0	NR	3.3 U		110.0
Calcium	NR					
Chromium	P	107.0	NR	12.2	100.0	106.0
Cobalt	NR					
Copper	NR					
Cyanide	NR					
Iron	P	111.0	NR	76.7 U		109.0
Lead	F	108.0	NR	1.6 B		110.2
Magnesium	NR					
Manganese	P	106.8	NR	23.3	100.0	105.0
Mercury	CV	108.8	NC	0.20 NR		126.7 N
Nickel	NR					
Potassium	NR					
Selenium	F	111.3	NR	4.0 U		121.9
Silver	P	86.0	NR	11.1 U		80.0
Sodium	P	NR	NR	28300	4.3	NR
Thallium	NR					
Vanadium	NR					
Zinc	NR					
Field/Shipping Time				3d		
Anal (Allowed) Hold Time[a]				17(180)d		
Total (Allowed) Hold Time[a]				20(180)d		
Anal (Allowed) Hold Time[b]				17(26)d		
Total (Allowed) Hold Time[b]				20(26)d		
Anal (Allowed) Hold Time[c]				10(180)d		
Total (Allowed) Hold Time[c]				13(180)d		

a. ICP
b. CVAAS
c. GFAAS

TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA04701H (Continued)

AREA	M	QC	CFA	QC	CFA	CFA
LOCATION	E	DUPLICATE	03-LF3-11	DUPLICATE	03-LF3-11	QC
TYPE OF LOCATION	T	PRECISION	UPGRADIENT WELL	PRECISION	UPGRADIENT WELL	00-FIELD BLANK
SAMPLE NUMBER	H	CFA04901HD	CFA04902H	CFA04902HD	CFA04902H	CFA05401H
MEDIA	O	WATER	GROUND WATER	WATER	GROUND WATER	WATER
UNITS	D	RPD	ug/L	RPD	ug/L	ug/L
Aluminum	NR					
Antimony	NR					
Arsenic	F	NR	2.0 U	NC	2.0 U	2.2 U
Barium	P	NR	142 B	3.8	138 B	41.0 U
Beryllium	NR					
Cadmium	P	NR	3.3 U	NC	3.3 U	3.0 U
Calcium	NR					
Chromium	P	NR	13.3	NC	10.0 B	7.0 U
Cobalt	NR					
Copper	NR					
Cyanide	NR					
Iron	P	NR	76.7 U	NC	113	69.0 U
Lead	F	NR	1.1 B	20.0	1.6 B	1.1 U
Magnesium	NR					
Manganese	P	NR	20.0	5.4	20.0	6.0 U
Mercury	CV	NC	0.20 R	NR	0.20 NR	0.20 R
Nickel	NR					
Potassium	NR					
Selenium	F	NR	4.0 U	NC	4.0 U	4.4 U
Silver	P	NR	11.1 U	NC	11.1 U	10.0 U
Sodium	P	NR	29200	3.7	28700	987 U
Thallium	NR					
Vanadium	NR					
Zinc	NR					
Field/Shipping Time			3d		3d	3d
Anal (Allowed) Hold Time[a]			17(180)d		17(180)d	10(180)d
Total (Allowed) Hold Time[a]			20(180)d		20(180)d	13(180)d
Anal (Allowed) Hold Time[b]			17(26)d		17(26)d	16(26)d
Total (Allowed) Hold Time[b]			20(26)d		20(26)d	19(26)d
Anal (Allowed) Hold Time[c]			10(180)d		10(180)d	18(180)d
Total (Allowed) Hold Time[c]			13(180)d		13(180)d	21(180)d

a. ICP
b. CVAAS
c. GFAAS

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TABLE _._._ CFA LANDFILLS II AND III FY90 WELLS - INORGANIC QC DATA - SDG NUMBER CFA04701H (Continued)

AREA	M	CFA
LOCATION	E	QC
TYPE OF LOCATION	T	00-FIELD BLANK
SAMPLE NUMBER	H	CFA05401M
MEDIA	O	WATER
UNITS	D	ug/L
Aluminum	NR	
Antimony	NR	
Arsenic	F	2.2 U
Barium	P	41.0 U
Beryllium	NR	
Cadmium	P	3.0 U
Calcium	NR	
Chromium	P	7.0 U
Cobalt	NR	
Copper	NR	
Cyanide	NR	
Iron	P	69.0 U
Lead	F	4.9
Magnesium	NR	
Manganese	P	6.0 U
Mercury	CV	0.20 R
Nickel	NR	
Potassium	NR	
Selenium	F	4.4 U
Silver	P	10.0 U
Sodium	P	987 U
Thallium	NR	
Vanadium	NR	
Zinc	NR	
Field/Shipping Time		3d
Anal (Allowed) Hold Time[a]		10(180)d
Total (Allowed) Hold Time[a]		13(180)d
Anal (Allowed) Hold Time[b]		16(26)d
Total (Allowed) Hold Time[b]		19(26)d
Anal (Allowed) Hold Time[c]		18(180)d
Total (Allowed) Hold Time[c]		21(180)d

a. ICP
b. CVAAS
c. GFAAS

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