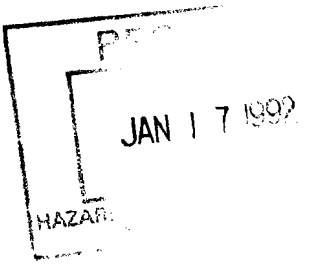
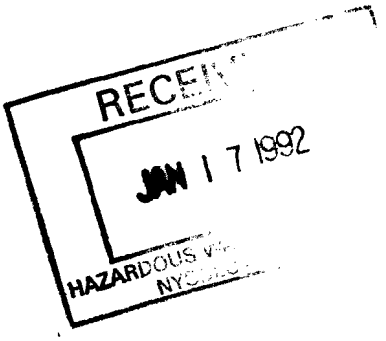


APPENDIX L

LEGGETTE, BRASHEARS & GRAHAM
1991



APPENDIX L1

LBG 1991 SOIL BORING LOGS

DATE COMPLETED July 30, 1991 | SETTING 37 - 47 ft bg

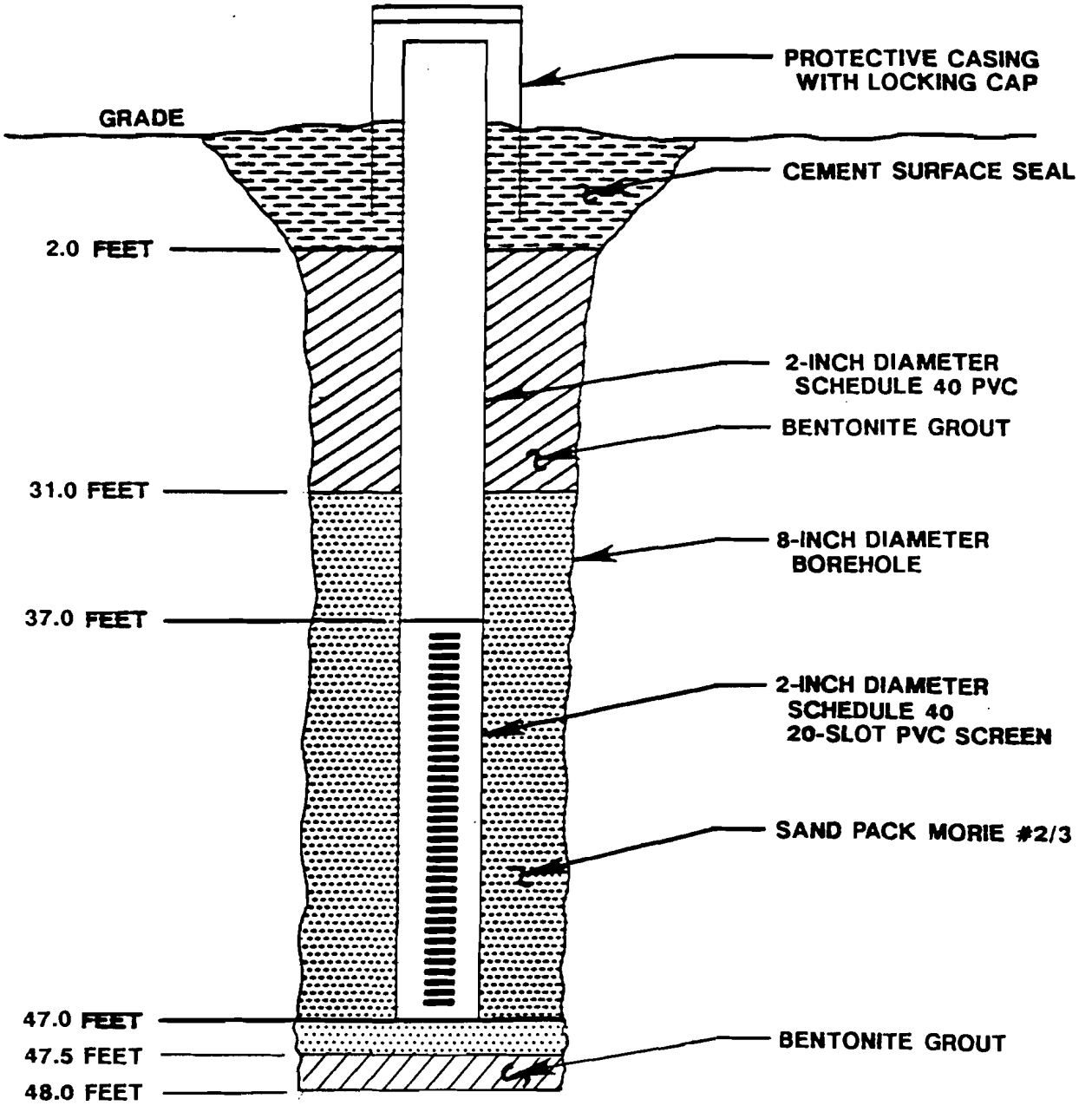
GEOLOGIC LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

WILTON, CONNECTICUT

OWNER Unisys Corporation, Great Neck, NY	
WELL NO. Soil Boring 10/Vent Well 7	
PAGE 1 OF 1 PAGES	
LOCATION South side of building west of reclamation area	SCREEN TYPE PVC
	DIAM. 2-inch SLOT NO. 20
DATE COMPLETED July 30, 1991	SETTING 37 - 47 ft bg
DRILLING COMPANY R & L Well Drilling	SAND PACK Morie No. 2/3
	CASING PVC
DRILLING METHOD Hollow-stem augers	SETTING 2.5 ft ag to 37 ft bg
SAMPLING METHOD Split spoon	DEVELOPMENT
OBSERVER Keith Yocis	DURATION
REFERENCE POINT (RP) Grade	STATIC WATER LEVEL
ELEVATION OF RP	YIELD
REMARKS	

DEPTH (FEET) FROM	TO	DESCRIPTION
10	12	SAND, medium, some coarse, little fine; and gravel, fine to medium; trace gravel, coarse; and silt; brown; PID = 3.6 ppm; 0.9-foot recovery.
20	22	SAND, medium; some coarse; and gravel, fine; little sand, fine to very coarse; and gravel, medium to coarse; trace cobble; brown; PID = 29 ppm; 1.3-foot recovery.
30	32	SAND, medium; some fine to coarse; little gravel, fine to coarse; and cobbles; and sand, very fine to very coarse; tan; PID = 5.5 ppm; 1.3-foot recovery.
40	42	SAND, medium; some coarse; little fine; and gravel, fine to coarse; trace cobble; PID = 5.8 ppm; 0.8-foot recovery.
	48	End of Borehole.



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

VENT WELL 7 CONSTRUCTION DIAGRAM

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/30/91

FIGURE

GEOLOGIC LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

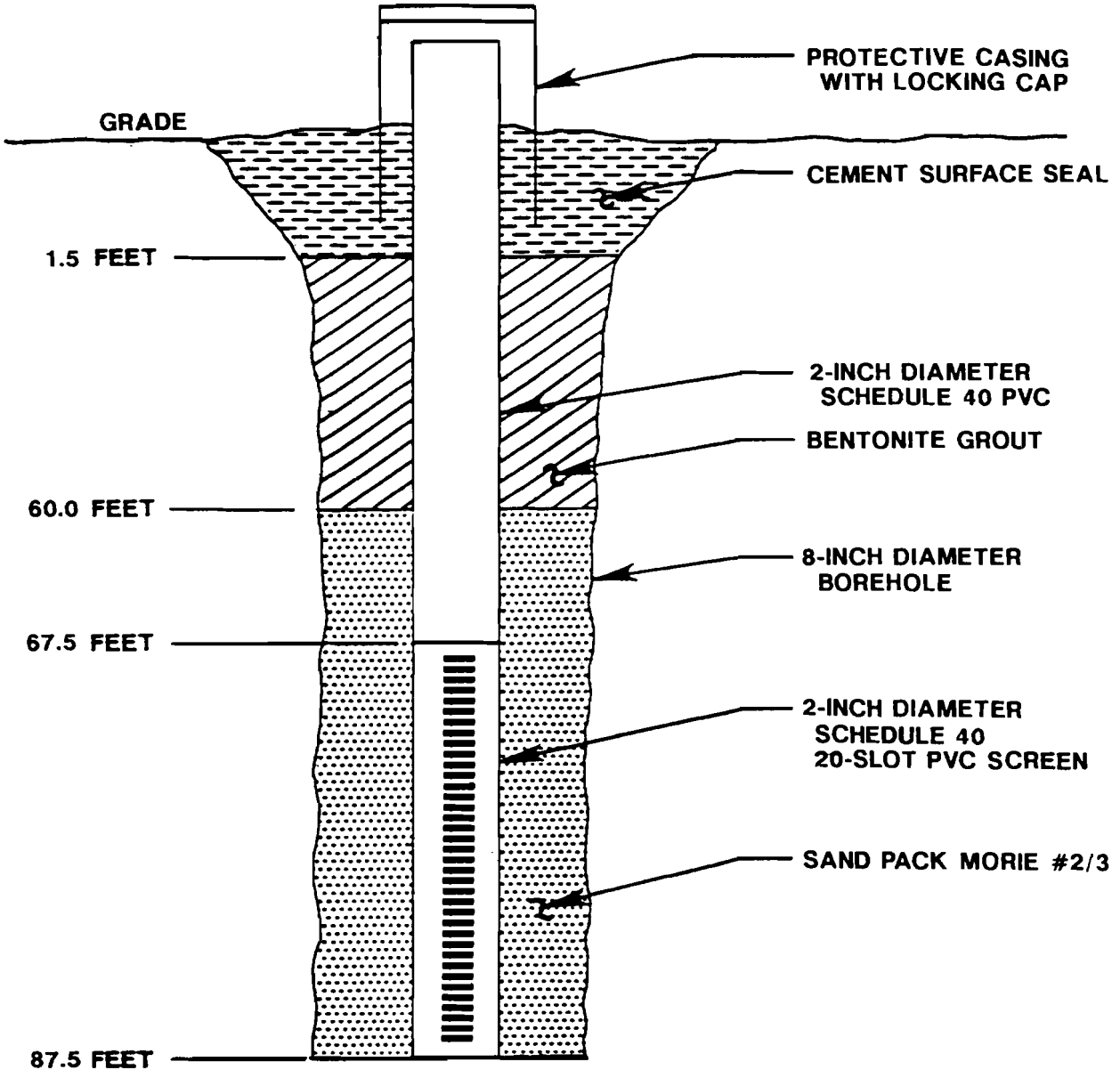
WILTON, CONNECTICUT

OWNER Unisys Corporation, Great Neck, NY	
WELL NO. Soil Boring 11/Vent Well 8	
PAGE 1 OF 2 PAGES	
LOCATION	SCREEN TYPE PVC
	DIAM. 2-inch SLOT NO. 20
DATE COMPLETED July 24, 1991	SETTING 67.5 - 87.5 ft bg
DRILLING COMPANY R & L Well Drilling	SAND PACK Morie 2/3 60 - 87.5 ft bg
	CASING PVC
DRILLING METHOD Hollow-stem augers	
	SETTING 2.5 ft ag to 67.5 ft bg
SAMPLING METHOD Split spoon	DEVELOPMENT
OBSERVER Keith Yocis	DURATION
REFERENCE POINT (RP) Grade	STATIC WATER LEVEL
ELEVATION OF RP	YIELD
REMARKS	

DEPTH (FEET) FROM	TO	DESCRIPTION
10	12	SAND, medium to coarse, some fine, and fine gravel; little medium to
		coarse gravel; trace cobbles; brown.
20	22	SAND, fine to medium, little very fine to coarse; some fine gravel,
		trace medium to coarse; brown, PID = 5.7 ppm, 1.1-foot recovery.
30	32	SAND, medium, some fine to coarse, little very fine; some fine gravel,
		trace medium to coarse; some silt; brown; PID = 61.9 ppm; 1.0-foot
		recovery.
33	38	CLAY and Sand, fine to medium; brown (cuttings).
40	42	SAND, fine to medium, little very fine, and silt; trace coarse sand,
		and cobbles; brown; PID = 10.1 ppm; 0.7-foot recovery.

OWNER	Unisys Corporation, Great Neck, New York	
WELL NO.	Soil Boring 11/Vent Well 8	PAGE 2 OF 2 PAGES

DEPTH (FEET) FROM	TO	DESCRIPTION
50	52	SAND, fine to medium, some coarse; little fine to coarse gravel;
		trace silt and clay; gray-brown; 0.5 foot thick.
		SAND, medium to coarse, some very coarse, trace fine; little fine to
		coarse gravel; brown; 0.9 foot thick; PID = 11.6 ppm; 1.4-foot
		recovery.
60	62	SAND, fine to medium, little very fine to coarse; trace silt and
		fine gravel; brown; PID = 11.5 ppm; 0.7-foot recovery.
70	72	SAND, medium to coarse, some very coarse, trace fine; little fine to
		coarse gravel; brown; 0.7 foot thick.
		SAND, medium to very coarse, little fine; some fine gravel; tan;
		0.25 foot thick.
		GRAVEL, fine; some very coarse to fine sand; iron stained red-orange;
		0.15 foot thick.
		SAND, medium to very coarse, little fine; some fine to medium gravel;
		trace micas; tan; 0.2 foot thick; PID = 5.2 ppm; 1.3-foot recovery.
80	82	SAND, medium to very coarse, little fine; some fine to coarse gravel;
		trace micas; saturated; tan; PID = 189 ppm; 1.6-foot recovery.
	90	End of Borehole.



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

VENT WELL 8 CONSTRUCTION DIAGRAM

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/20/91

FIGURE

GEOLOGIC LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

WILTON, CONNECTICUT

OWNER Unisys Corporation, Great Neck, NY	
WELL NO. Soil Boring 12	
PAGE 1 OF 1 PAGES	
LOCATION West of the Reclamation area	SCREEN TYPE
north of the garage	DIAM. SLOT NO.
DATE COMPLETED July 25, 1991	SETTING
DRILLING COMPANY R & L Well Drilling	SAND PACK
	CASING
DRILLING METHOD Hollow-stem auger	
	SETTING
SAMPLING METHOD Split spoon	DEVELOPMENT
OBSERVER Keith Yocis	DURATION
REFERENCE POINT (RP) Grade	STATIC WATER LEVEL
ELEVATION OF RP	YIELD
REMARKS No well installed.	

DEPTH (FEET) FROM	TO	DESCRIPTION
0	2.5	Hit refusal (boulder) move hole.
0	3	Hit refusal (boulder) move hole.
0	2	Hit refusal, abandon hole.

GEOLOGIC LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

WILTON, CONNECTICUT

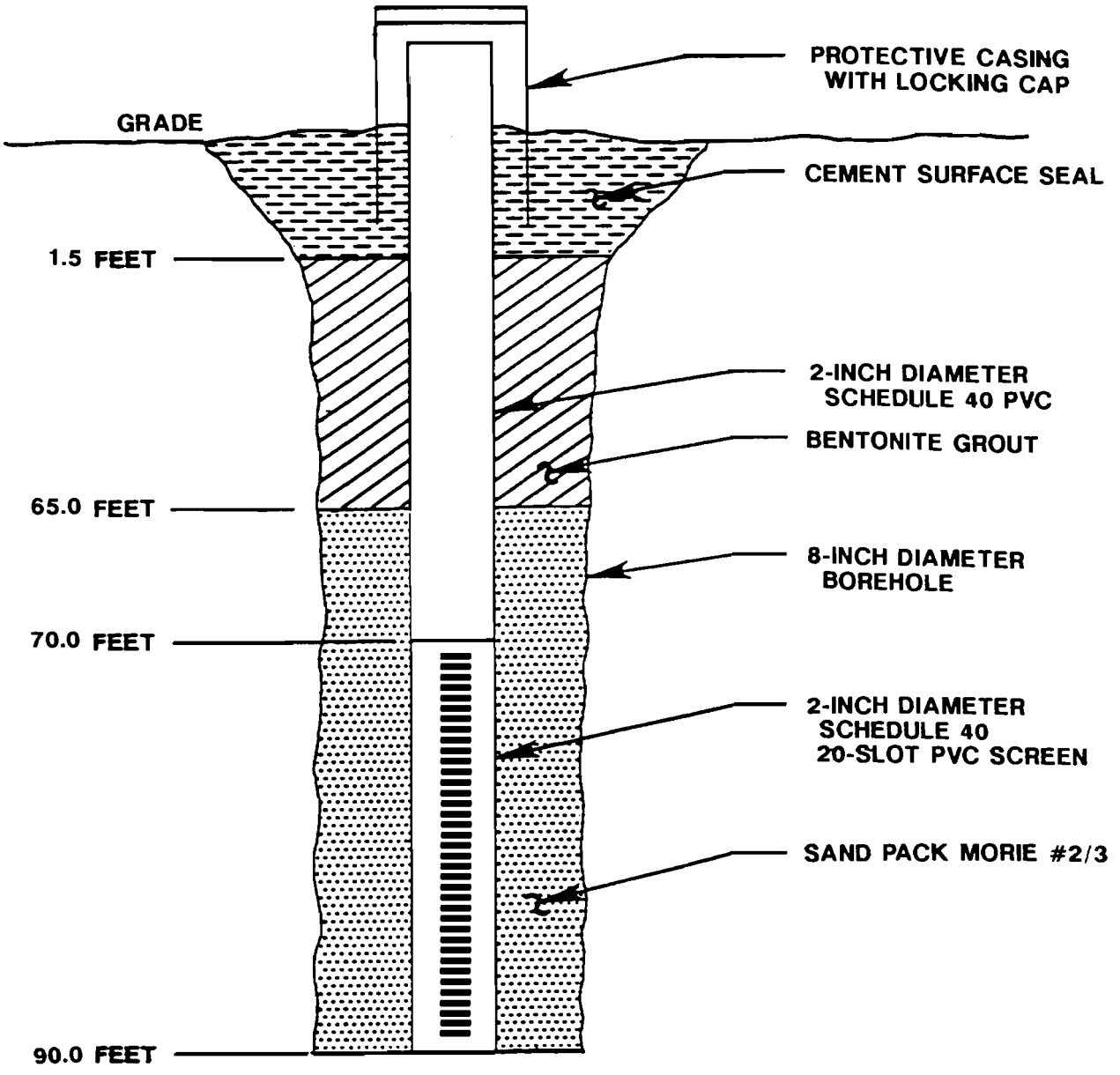
	OWNER Unisys Corporation, Great Neck, NY
	WELL NO. Soil Boring 13/Vent Well 9
	PAGE 1 OF 2 PAGES
LOCATION	SCREEN TYPE PVC
	DIAM. 2-inch SLOT NO. 20
DATE COMPLETED July 26, 1991	SETTING 70 - 90 ft bg
DRILLING COMPANY R & L Well Drilling	SAND PACK Morie 2/3 65 - 90 ft bg
DRILLING METHOD Hollow-stem augers	CASING PVC
SAMPLING METHOD Split spoon	SETTING 2.5 ft ag to 70 ft bg
OBSERVER Keith Yocis	DEVELOPMENT
REFERENCE POINT (RP) Grade	DURATION
ELEVATION OF RP	STATIC WATER LEVEL
REMARKS	YIELD

DEPTH (FEET) FROM	TO	DESCRIPTION
10	12	SAND, medium to very coarse, little fine; trace fine gravel; tan;
		0.5 foot thick.
		SAND, medium to coarse, some fine, trace very coarse; some fine gravel;
		tan with brown bands; 0.4 foot thick; PID = 26.3 ppm; 0.9-foot
		recovery.
30	32	Clay and sand, fine to medium; gradational to all clay; brown; 0.8
		foot thick.
		SAND, medium; trace fine gravel; brown; 0.1 foot thick.
		CLAY; little fine to medium sand; trace micas; brown; 0.4 foot thick.
		SAND, fine to coarse; tan; 0.1 foot thick.
		CLAY; trace fine sand; brown; 0.1 foot thick.
		SAND, medium, little coarse to fine; tan; 0.3 foot thick;

PID = 9.7 ppm; 1.8-foot recovery.

OWNER	Unisys Corporation, Great Neck, New York	
WELL NO.	Soil Boring 13/Vent Well 9	PAGE 2 OF 2 PAGES

DEPTH (FEET) FROM	TO	DESCRIPTION
50	52	SAND, medium, some fine to coarse; trace fine gravel and cobbles;
		tan; PID = 10.9 ppm; 0.7-foot recovery.
60	62	SAND, medium, some fine to coarse, trace very coarse; some fine
		gravel; tan; PID = 10.9 ppm; 1.0-foot recovery.
70	72	SAND, medium to coarse, some very coarse; little fine to coarse
		gravel; some iron staining; tan; 0.8 foot thick.
		SAND, medium, some fine, little very coarse; trace fine gravel; tan;
		0.7 foot thick; PID = 9.0 ppm; 1.5-foot recovery.
80	82	SAND, medium to very coarse, some fine; little fine to medium gravel;
		trace micas; saturated; tan; PID = 29.5 ppm; 1.5-foot recovery.
	90	End of Borehole.



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

VENT WELL 9 CONSTRUCTION DIAGRAM

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/20/91

FIGURE

GEOLOGIC LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

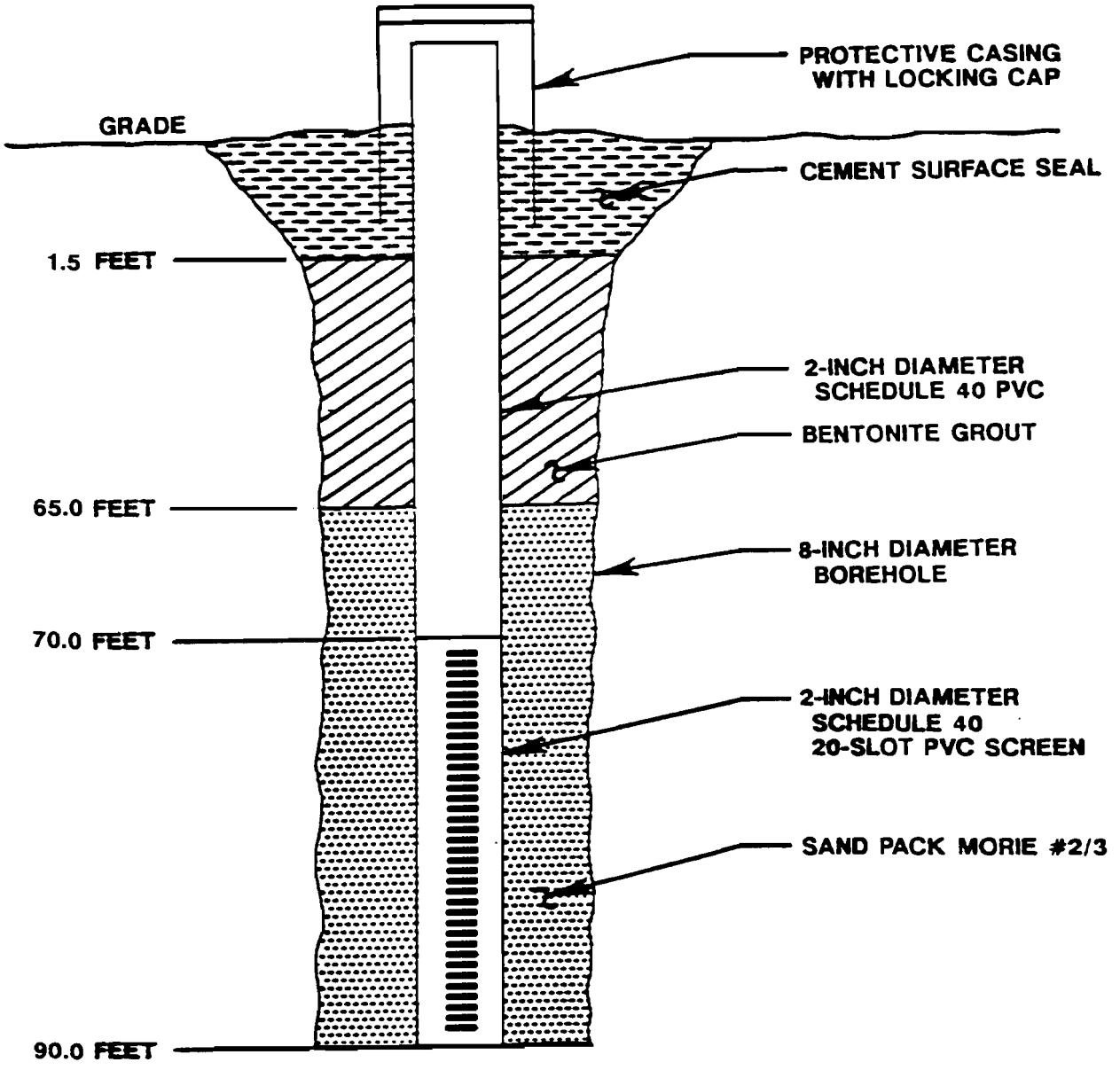
WILTON, CONNECTICUT

OWNER Unisys Corporation, Great Neck, NY	
WELL NO. Soil Boring 14/Vent Well 10	
PAGE 1 OF 2 PAGES	
LOCATION Approximately 190 feet north of reclamation area, 19 feet east of building	SCREEN TYPE PVC
	DIAM. 2-inch SLOT NO. 20
DATE COMPLETED August 16, 1991	SETTING 70 - 90 ft bg
DRILLING COMPANY R & L Well Drilling	SAND PACK Morie No. 2/3 65 - 90 ft bg
	CASING PVC
DRILLING METHOD Hollow-stem augers	
	SETTING 2.5 ft ag to 65 ft bg
SAMPLING METHOD Split spoon - 3 inch	DEVELOPMENT
OBSERVER Robert Emig	DURATION
REFERENCE POINT (RP) Grade	STATIC WATER LEVEL
ELEVATION OF RP	YIELD
REMARKS	

DEPTH (FEET) FROM	TO	DESCRIPTION
0	20	Sand, fine, and silt; large cobbles; brown (cuttings).
20	22	SAND, fine to medium; some medium gravel and silt; brown; 0.8 foot thick.
		SAND, medium; trace silt; yellow-brown; 0.5 foot thick; PID = 7.1 ppm.
22	30	SAND, fine to medium; some medium gravel; little silt; dark brown
		(cuttings).
30	32	Clay and Sand, medium; little medium gravel; brown; 0.6-foot recovery;
		PID = 4.8 ppm.
32	40	Sand, medium, and clay; some medium gravel; brown (cuttings).
40	42	Sand, medium, and clay; little medium gravel; brown; 1.4-foot recovery;
		PID = 4.6 ppm.
50	52	SAND, medium; some silt and coarse gravel; brown-yellow; 1.4-foot
		recovery; PID = 3.9 ppm.

OWNER	Unisys Corporation, Great Neck, New York		
WELL NO.	Soil Boring 14/Vent Well 10	PAGE 2 OF 2 PAGES	

DEPTH (FEET) FROM	TO	DESCRIPTION
52	60	SAND, coarse; some silt; wet at approximately 55 feet (cuttings).
60	62	SAND, medium to coarse; some coarse gravel; trace silt; yellow-brown;
		1.9-foot recovery; PID = 4.0 ppm.
62	70	Sand, coarse and gravel, coarse; some silt; brown (cuttings).
70	72	SAND, medium; little fine gravel and silt; brown-yellow; 1.4 feet
		thick.
		SAND, coarse and gravel, coarse; trace silt; tan; 0.6 foot thick;
		PID = 5.9 ppm.
72	80	Sand, coarse and gravel, medium; some silt; brown (cuttings).
80	82	SAND, medium to coarse; little gravel; trace silt; tan-brown mix;
		saturated; 2-foot recovery; PID = 5.2 ppm.
80	90	SAND, coarse and gravel, medium; trace silt (cuttings).
	90	End of Borehole.



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

VENT WELL 10 CONSTRUCTION DIAGRAM

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/27/91

FIGURE

GEOLOGIC LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

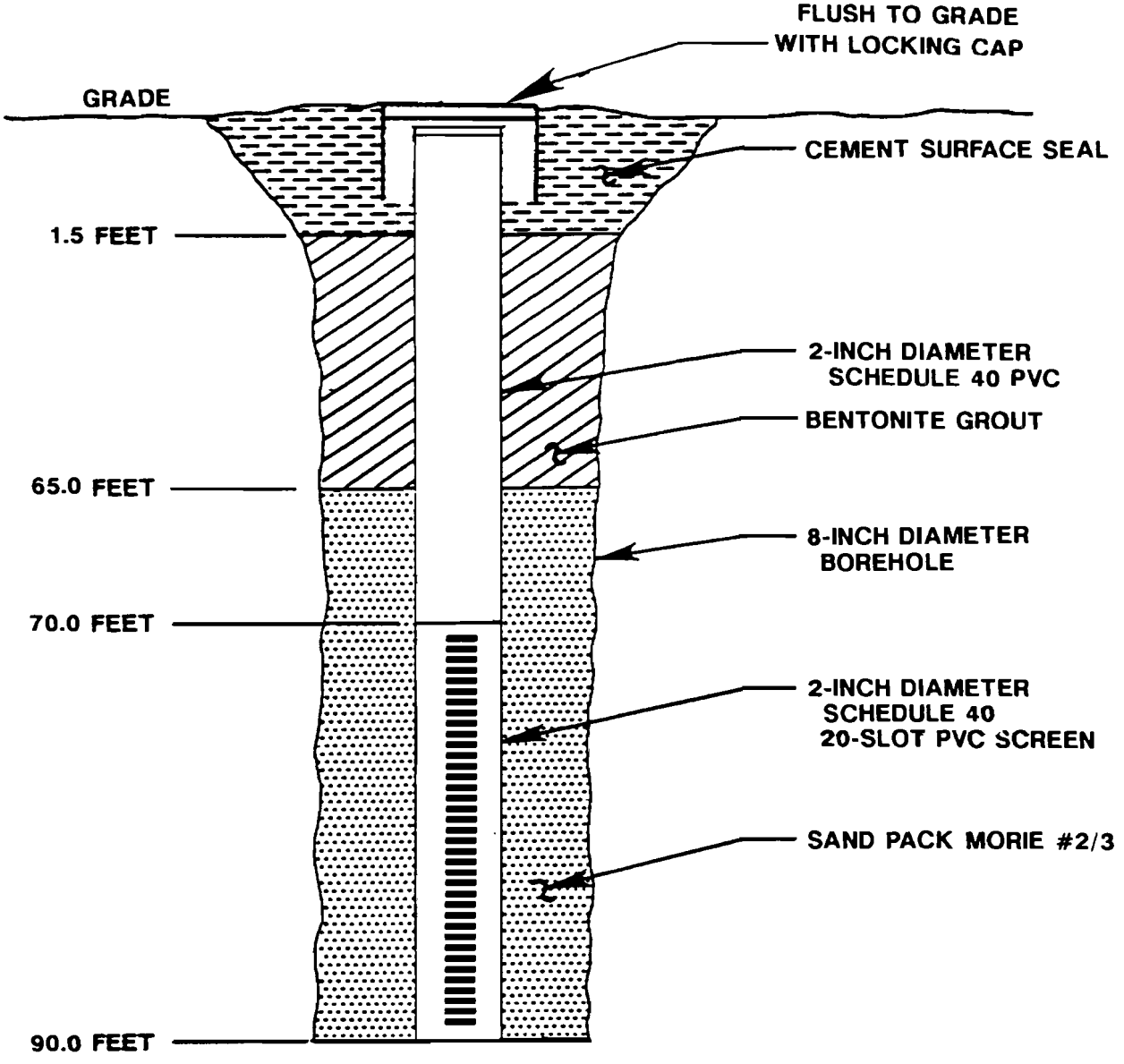
WILTON, CONNECTICUT

OWNER Unisys Corporation, Great Neck, NY	
WELL NO. Soil Boring 15/Vent Well 11	
PAGE 1 OF 2 PAGES	
LOCATION South parking lot, east of Guard Post 3	SCREEN TYPE PVC DIAM. 2-inch SLOT NO. 20
DATE COMPLETED August 6, 1991	SETTING 70 - 90 ft bg
DRILLING COMPANY R & L Well Drilling	SAND PACK Morie 2/3 65 - 90 ft bg
DRILLING METHOD Hollow-stem augers	CASING PVC SETTING 0 to 70 ft bg
SAMPLING METHOD Split spoon	DEVELOPMENT
OBSERVER John Benvegna	DURATION
REFERENCE POINT (RP) Grade	STATIC WATER LEVEL
ELEVATION OF RP	YIELD
REMARKS	

DEPTH (FEET) FROM	TO	DESCRIPTION
0	0.3	Asphalt.
0.3	10	SAND, coarse to very coarse and Gravel; some cobbles and boulders;
		brown (cuttings).
10	12	Sand, coarse to very coarse, little medium, and fine to medium gravel,
		trace coarse; brown-tan; PID = 2.4 ppm; 1.4-foot recovery.
12	20	SAND, coarse to very coarse and gravel; brown (cuttings).
20	22	Sand, coarse to very coarse, little medium, and fine to coarse gravel;
		brown; PID = 1.7 ppm; 1.8-foot recovery.
30	32	SAND, medium to coarse, little fine; little fine to medium Gravel;
		brown; PID = 4.2 ppm; 2.0-foot recovery.

OWNER	Unisys Corporation, Great Neck, New York	
WELL NO.	Soil Boring 15/Vent Well 11	PAGE 2 OF 2 PAGES

DEPTH (FEET) FROM	TO	DESCRIPTION
40	42	Sand, medium, some fine, little coarse to very coarse, and fine
		gravel; trace medium to coarse gravel; brown; PID = 7.8 ppm;
		1.3-foot recovery.
50	52	SAND, medium, some coarse, little very coarse to fine; trace fine
		gravel; brown; PID = 3.0 ppm; 0.3-foot recovery.
60	62	SAND, medium, some coarse, little very coarse; some fine to medium
		gravel; brown; PID = 9.5 ppm; 1.4-foot recovery.
70	72	SAND, medium to very coarse; some fine to medium gravel; trace fine
		sand and coarse gravel; iron stains; brown; PID = 4.1 ppm;
		0.8-foot recovery.
80	82	SAND, very coarse, little medium, trace fine; some fine to medium
		gravel, trace coarse; saturated; brown; PID = 7.8 ppm; 1.4-foot
		recovery.
	90	End of Borehole.



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

VENT WELL 11 CONSTRUCTION DIAGRAM

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/20/91 FIGURE

GEOLOGIC LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

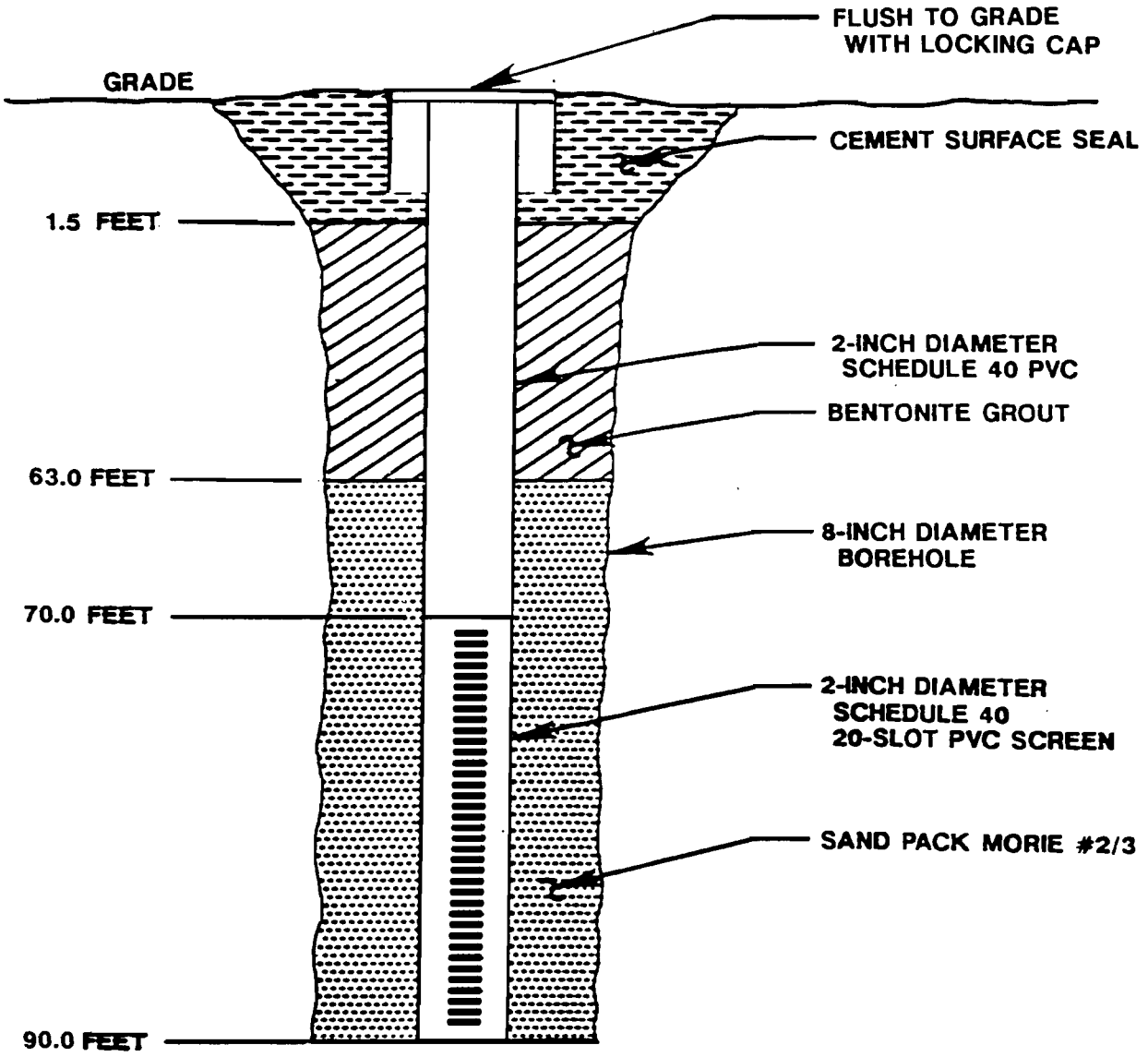
WILTON, CONNECTICUT

OWNER Unisys Corporation, Great Neck, NY	
WELL NO. Soil Boring 16/Vent Well 12	
PAGE 1 OF 2 PAGES	
LOCATION South of Guard Post 3, 6 ft north of culvert.	SCREEN TYPE PVC
	DIAM. 2-inch SLOT NO. 20
DATE COMPLETED August 14, 1991	SETTING 70 - 90 ft bg
DRILLING COMPANY R & L Well Drilling	SAND PACK Morie No. 2; 63 - 90 ft bg
	CASING PVC
DRILLING METHOD Hollow-stem augers	
	SETTING 2.5 ft ag to 70 ft bg
SAMPLING METHOD Split spoon - 3 inch	DEVELOPMENT
OBSERVER Robert Emig	DURATION
REFERENCE POINT (RP) Grade	STATIC WATER LEVEL
ELEVATION OF RP	YIELD
REMARKS	

DEPTH (FEET) FROM	TO	DESCRIPTION
0	20	SAND, medium; little silt; cobbles; dark brown (cuttings).
20	22	SAND, medium; some silt; little medium gravel; dark brown; 1.4-foot
		recovery; PID = 33.5 ppm.
22	30	SAND, medium; some very coarse gravel; trace silt; brown (cuttings).
30	32	No recovery.
32	40	SAND, medium; little silt; gravel; brown (cuttings).
40	42	SAND, medium; some silt; little coarse gravel; dark brown; 0.6 foot thick
		SAND; coarse; trace coarse gravel; yellow-brown; 0.9 foot thick;
		PID = 39.8 ppm.
42	50	SAND, medium; trace silt and gravel; dark brown (cuttings).
50	52	SAND, fine to medium; little fine gravel; yellowish; 1.4-foot
		recovery; PID = 14.1 ppm.

OWNER	Unisys Corporation, Great Neck, New York	
WELL NO.	Soil Boring 16/Vent Well 12	PAGE 2 OF 2 PAGES

DEPTH (FEET) FROM	TO	DESCRIPTION
52	60	SAND, medium; trace silt; brown (cuttings).
60	62	SAND, fine to medium; trace silt; brownish-yellow; moist;
		1.3 feet thick; PID 26.4 ppm.
		SAND, fine; some silt; brown; moist; 0.7 foot thick.
70	72	SAND, medium; some coarse gravel; trace silt yellowish-brown;
		2-foot recovery; PID = 21.8 ppm.
72	80	SAND, medium; some medium gravel; trace silt; light brown (cuttings).
80	82	SAND, medium, and coarse gravel; trace silt; brown-rust; saturated;
		1.5-foot recovery; PID = 32.8 ppm.
82	90	SAND, medium, and medium gravel; some silt; brown (cuttings).
	90	End of Borehole.



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

VENT WELL 12 CONSTRUCTION DIAGRAM

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/27/91

FIGURE

GEOLOGIC LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

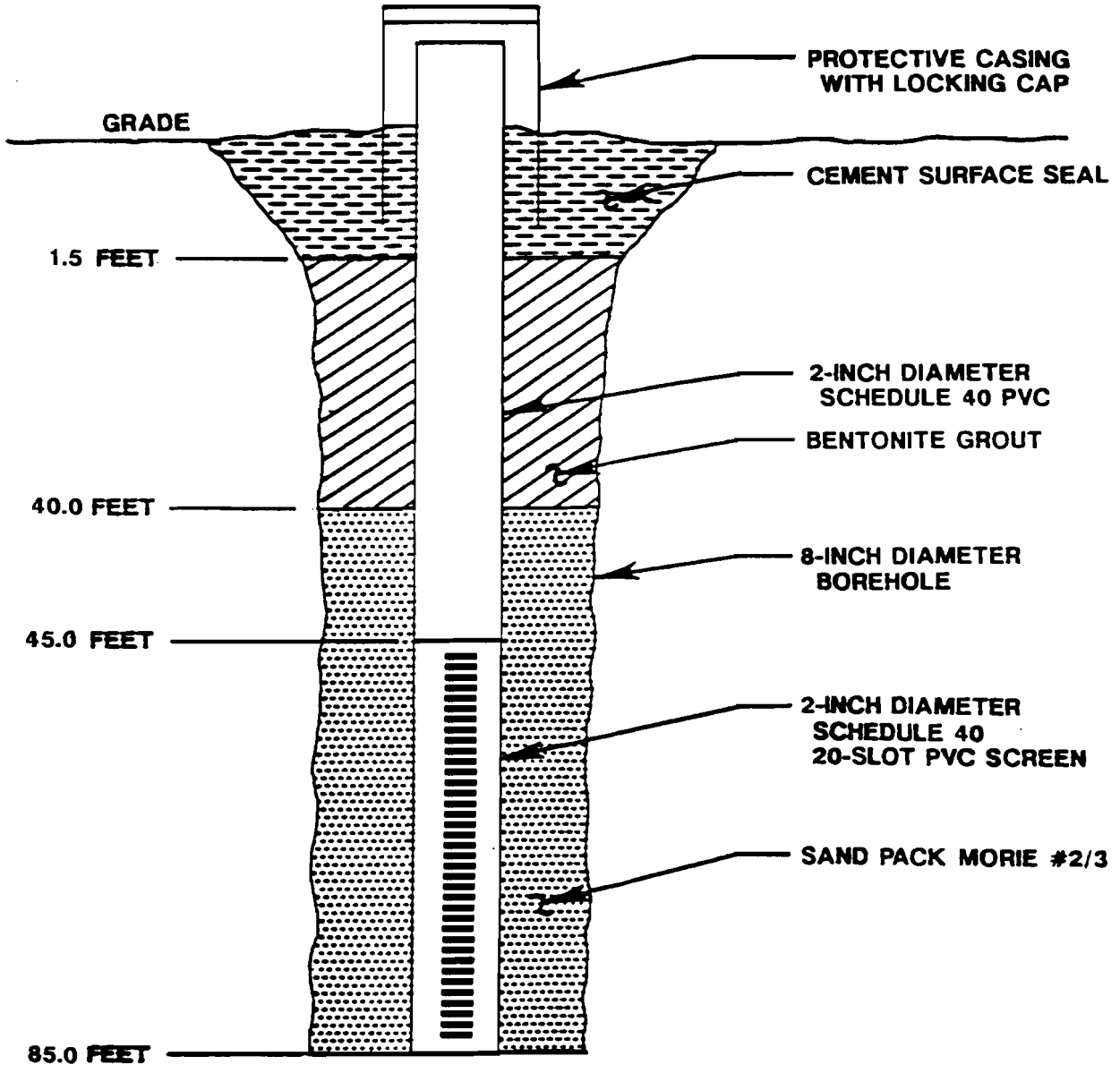
WILTON, CONNECTICUT

OWNER Unisys Corporation, Great Neck, NY	
WELL NO. Soil Boring 17/Vent Well 13	
PAGE 1 OF 2 PAGES	
LOCATION Reclamation Area	SCREEN TYPE PVC
	DIAM. 2-inch SLOT NO. 20
DATE COMPLETED August 22, 1991	SETTING 45 - 85 ft bg
DRILLING COMPANY R & L Well Drilling	SAND PACK Morie No. 2; 40 - 90 ft bg
	CASING PVC
DRILLING METHOD Hollow-stem augers	
	SETTING 2.5 ft ag to 45 ft bg
SAMPLING METHOD Split spoon - 3 inch	DEVELOPMENT
OBSERVER Robert Emig	DURATION
REFERENCE POINT (RP) Grade	STATIC WATER LEVEL
ELEVATION OF RP	YIELD
REMARKS	

DEPTH (FEET) FROM	TO	DESCRIPTION
0	10	SAND, medium to coarse; some coarse gravel; light brown (cuttings).
10	12	Sand, medium, and gravel, coarse; some silt; brown; 0.4-foot recovery.
12	20	Sand, medium, and gravel, coarse; some cobbles; trace silt; brown
		(cuttings).
20	22	Sand, medium, and gravel, coarse; some silt; brown; 2-foot recovery;
		PID = 4,689 ppm.
22	30	SAND, medium; some silt; little medium gravel; brown (cuttings);
30	32	SAND, medium; some silt; little gravel; 1.2 feet thick.
		Clay and Sand, fine to medium; little medium gravel; brown; 0.8 foot
		thick; PID = 5,300 ppm.
32	40	Sand, medium, and gravel, very coarse; trace silt; brown (cuttings).

OWNER	Unisys Corporation, Great Neck, New York	
WELL NO.	Soil Boring 17/Vent Well 13	PAGE 2 OF 2 PAGES

DEPTH (FEET) FROM	TO	DESCRIPTION
40	42	Sand, medium, and clay; some coarse gravel; brown; 2-foot recovery;
		PID = 1,307 ppm.
42	45	SAND, medium; some silt; brown (cuttings).
45	50	SAND, medium; some silt; gray; heavy odor (cuttings).
50	52	SAND, medium; little coarse gravel; gray; heavy odor; 1.4 feet thick.
		Sand, medium, and silt; some clay; little coarse gravel; brown; heavy
		odor; 0.6 foot thick; PID = 4,617 ppm.
52	60	SAND, medium; some clay; little gravel; trace silt; gray-brown
		(cuttings).
60	62	SAND, medium to coarse; little fine gravel and silt; brownish-gray;
		odor; 2-foot recovery; PID = 4,200 ppm.
62	70	SAND, medium to coarse; trace medium gravel and silt; gray (cuttings).
70	72	SAND, medium to coarse; some coarse gravel and silt; dark and light
		gray; 2-foot recovery; PID = 3,620 ppm.
72	80	SAND, medium to coarse; little coarse gravel; trace silt; gray
		(cuttings).
80	82	SAND, medium to coarse; little medium gravel; trace silt; black-
		gray; saturated; odor; 1.6-foot recovery; PID 2,500 ppm.
82	90	SAND, coarse; some coarse gravel; little silt; gray (cuttings).
	90	End of Borehole.



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

VENT WELL 13 CONSTRUCTION DIAGRAM

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/27/91

FIGURE

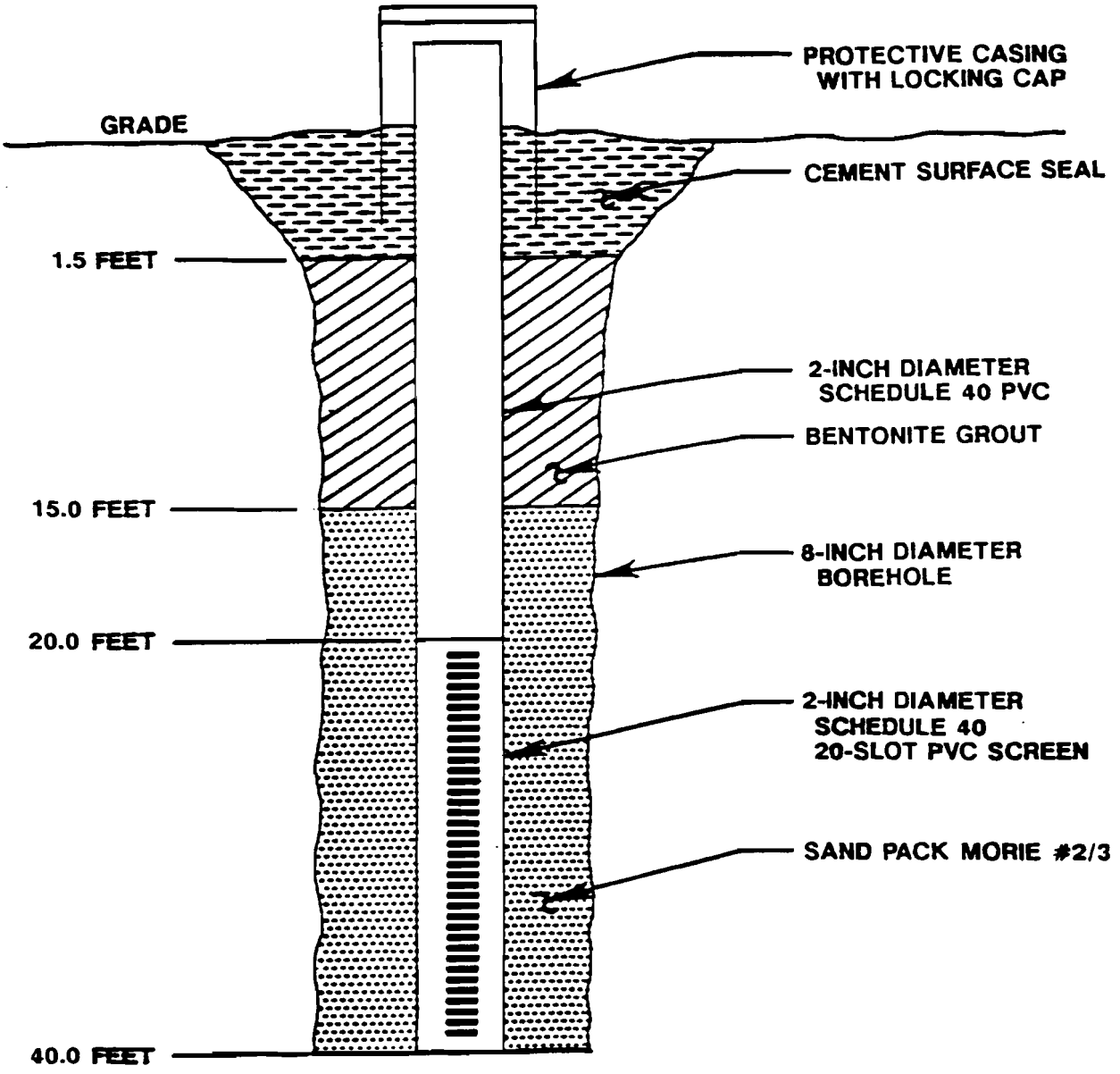
GEOLOGIC LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

WILTON, CONNECTICUT

OWNER Unisys Corporation, Great Neck, NY	
WELL NO. Soil Boring 18/Vent Well 14	
PAGE 1 OF 1 PAGES	
LOCATION Reclamation Area	SCREEN TYPE PVC
	DIAM. 2-inch SLOT NO. 20
DATE COMPLETED August 23, 1991	SETTING 20 - 40 ft bg
DRILLING COMPANY R & L Well Drilling	SAND PACK Morie No. 2; 15 - 40 ft bg
DRILLING METHOD Hollow-stem augers	CASING PVC
	SETTING 2.5 ft ag to 20 ft bg
SAMPLING METHOD Grab/cuttings	DEVELOPMENT
OBSERVER Robert Emig	DURATION
REFERENCE POINT (RP) Grade	STATIC WATER LEVEL
ELEVATION OF RP	YIELD
REMARKS	

DEPTH (FEET) FROM	TO	DESCRIPTION
0	10	SAND, medium; some coarse gravel and large cobbles; trace silt;
		brown.
10	15	SAND, medium; some coarse gravel; large cobbles; trace silt; brown.
15	20	SAND, medium; some medium gravel; trace silt; brown; odor.
20	30	SAND, medium; little medium gravel; trace silt; brown, odor; PID =
		4,400 ppm.
30	40	SAND, medium; little coarse gravel; trace silt; dark-brown; heavy
		odor.
40	42	Sand, coarse, and gravel; some silt; gray; heavy odor, 0.3 foot thick.
		Clay and sand, medium; brown; saturated; heavy odor; 1.7-foot thick;
		PID = 4,100 ppm. (split spoon).
	42	End of Borehole.



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

VENT WELL 14 CONSTRUCTION DIAGRAM

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/27/91

FIGURE

APPENDIX L2

LBG 1991 SOIL CHEMISTRY

an environmental testing company
200 Monroe Turnpike
Monroe, Connecticut 06468
(203) 261-4458
FAX (203) 268-5346

REPORT TRANSMITTAL

REPORT NUMBER 30910-1527

DATE August 22, 1991

CLIENT Unisys Corporation
3199 Pilot Knob
MS F1B05
Eagan, MN 55121

ATTENTION Mr. Kevin Krueger

The above referenced report is enclosed. Copies of this report and supporting data will be retained in our files in the event they are required for future reference.

If there are any questions concerning this report, please do not hesitate to contact us.

Any samples submitted to our Laboratory will be retained for a maximum of sixty (60) days from receipt of this report, unless other arrangements are desired.

August 22, 1991

30910-1527
UNISYS CORPORATION
3199 Pilot Knob
MS F1B05
Eagan, Minnesota 55121

Re: Great Neck, New York

Attention: Mr. Kevin Krueger

PURPOSE

Ten samples collected on July 23, 24 and 26, 1991 were submitted to IEA, Inc. by Unisys Corporation. The client requested the samples be analyzed for TCL volatile organics plus a library search for non-target compounds.

METHODOLOGY

Volatile organics were determined using purge and trap GC/MS. The instrumentation used was a Tekmar Dynamic Headspace Concentrator interfaced with a Hewlett-Packard Model 5995C GC/MS/DS.

All analyses were conducted according to NYSDEC '89 Protocols.

DISCUSSION

Volatile Organics - The laboratory followed the USEPA CLP SOW Document #OLM01.0 for the GC/MS calibration criteria.

Due to instrumentation problems, samples SVB112022, SVB114042, SVB116062, SVB118082 and TB 07/25/91 were not run within the seven day holding time. The client and NYSDEC were contacted regarding the holding time issue and permission was granted to proceed with the analyses. The samples were run on 08/03/91 (out of holding time) and these runs were reported. However, sample TB 07/25/91 leaked during the 08/03/91 run and could not be rerun due to insufficient sample.
Batch QC has been provided.

RESULTS

The results are presented in the following Tables. Also enclosed are the data packages containing all relevant QA/QC and raw data.

Prepared by: Robert Jabour for
Jeffrey C. Curran
Laboratory Manager

JCC/mt

cc: R. Vitale (Environmental Standards)

TABLE 1.0
30910-1527
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

Aqueous

All values are ug/L.

	Sample Identification		
Dilution Factor	1.0	1.0	
Method Blank I.D.	>B4946	>B4946	
Compound	Method Blank	TB 07/27/91	Quantitation Limits with no Dilution
Chloromethane	U	U	10
Bromomethane	U	U	10
Vinyl Chloride	U	U	10
Chloroethane	U	U	10
Methylene Chloride	U	U	5
Acetone	U	U	10
Carbon Disulfide	U	U	5
1,1-Dichloroethene	U	U	5
1,1-Dichloroethane	U	U	5
1,2-Dichloroethene (total)	U	U	5
Chloroform	U	U	5
,2-Dichloroethane	U	U	5
2-Butanone	U	U	10
1,1,1-Trichloroethane	U	U	5
Carbon Tetrachloride	U	U	5
Vinyl Acetate	U	U	10
Bromodichloromethane	U	U	5
1,2-Dichloropropane	U	U	5
cis-1,3-Dichloropropene	U	U	5
Trichloroethene	U	U	5
Dibromochloromethane	U	U	5
1,1,2-Trichloroethane	U	U	5
Benzene	U	U	5
trans-1,3-Dichloropropene	U	U	5
Bromoform	U	U	5
4-Methyl-2-pentanone	U	U	10
2-Hexanone	U	U	10
Tetrachloroethene	U	U	5
1,1,2,2-Tetrachloroethane	U	U	5
Toluene	U	U	5
Chlorobenzene	U	U	5
Ethylbenzene	U	U	5
Styrene	U	U	5
Xylene (total)	U	U	5

U - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Soil

TABLE 1.1
30910-1527
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/Kg.

	Sample Identification					
Dilution Factor	1.00	1.02	1.11	1.04	1.09	
Method Blank I.D.	>B4962	>B4962	>B4962	>B4962	>B4962	
Compound	Method Blank	SVB 112022	SVB 114042	SVB 116062	SVB 118082	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	10
Methylene Chloride	U	U	U	U	U	5
Acetone	20	U	U	U	U	10
Carbon Disulfide	U	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	U	31	U	27	5
Chloroform	U	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	U	5
2-Butanone	6J	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	5
Trichloroethene	U	U	9	U	U	5
Dibromochloromethane	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	5
Benzene	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	5
Bromoform	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	10
Tetrachloroethene	U	U	19	U	U	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	5
Toluene	U	U	U	U	U	5
Chlorobenzene	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	5
Styrene	U	U	U	U	U	5
Xylene (total)	U	U	U	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 1.2
30910-1527
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

Soil

All values are ug/Kg.

	Sample Identification					
Dilution Factor	1.00	1.04	1.43	1.02	2.42	
Method Blank I.D.	>B4962	>B4962	>B4962	>B4962	>B4962	
Compound	Method Blank	SVB 132022	SVB 134042	SVB 136062	SVB 138082	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	10
Methylene Chloride	U	U	U	U	U	5
Acetone	20	16B	24B	21B	U	10
Carbon Disulfide	U	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	U	U	U	65	5
Chloroform	U	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	U	5
2-Butanone	6J	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	5
Trichloroethene	U	U	U	U	U	5
Dibromochloromethane	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	5
Benzene	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	5
Bromoform	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	10
Tetrachloroethene	U	U	U	U	U	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	5
Toluene	U	U	U	U	U	5
Chlorobenzene	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	5
Styrene	U	U	U	U	U	5
Xylene (total)	U	U	U	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 2.0
30910-1527
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: Method Blank >B4946

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: TB 07/27/91

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: Method Blank >B4962

CAS#	Compound	RT	Estimated Concentration, ug/Kg
None detected			

Sample Identification: SVB112022

CAS#	Compound	RT	Estimated Concentration, ug/Kg
None detected			

Sample Identification: SVB114042

CAS#	Compound	RT	Estimated Concentration, ug/Kg
None detected			

Sample Identification: SVB116062

CAS#	Compound	RT	Estimated Concentration, ug/Kg
None detected			

TABLE 2.1
30910-1527
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: SVB118082

CAS#	Compound	RT	Estimated Concentration, ug/Kg
None detected			

Sample Identification: SVB132022

CAS#	Compound	RT	Estimated Concentration, ug/Kg
91203	Naphthalene	22.58	7J

Sample Identification: SVB134042

CAS#	Compound	RT	Estimated Concentration, ug/Kg
None detected			

Sample Identification: SVB136062

CAS#	Compound	RT	Estimated Concentration, ug/Kg
None detected			

Sample Identification: SVB138082

CAS#	Compound	RT	Estimated Concentration, ug/Kg
1634-04-4	Methyl tert butyl ether	8.66	26J

J - See Appendix for definition.

APPENDIX

U - Indicates that the compound was analyzed for but not detected.

J - Indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value, which is less than the specified minimum detection limit but is greater than zero.

B - This flag is used when the analyte is found in the blanks as well as the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of this analyte.

N - Indicates that the compound was analyzed for but not requested as an analyte. Value will not be listed on tabular result sheet.

X - Matrix spike compound.

(1) - Cannot be separated from diphenylamine.

(2) - Decomposes to azobenzene. Measured and calibrated as azobenzene.

A - This flag indicates that a TIC is a suspected aldol condensation product.

E - Indicates that it exceeds calibration curve range.

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

C - Confirmed by GC/MS.

T - Compound present in TCLP blank.

an environmental testing company
200 Monroe Turnpike
Monroe, Connecticut 06468
(203) 261-4458
FAX (203) 268-5346

REPORT TRANSMITTAL

REPORT NUMBER 30910-1578

DATE September 3, 1991

CLIENT Unisys Corporation
3199 Pilot Knob
MS F1B05
Eagan, MN 55121

ATTENTION Mr. Kevin Krueger

The above referenced report is enclosed. Copies of this report and supporting data will be retained in our files in the event they are required for future reference.

If there are any questions concerning this report, please do not hesitate to contact us.

Any samples submitted to our Laboratory will be retained for a maximum of sixty (60) days from receipt of this report, unless other arrangements are desired.

September 3, 1991

30910-1578
UNISYS CORPORATION
3199 Pilot Knob
MS F1B05
Eagan, Minnesota 55121

Re: Great Neck, New York

Attention: Mr. Kevin Krueger

PURPOSE

Six samples and two trip blanks were submitted to IEA, Inc. by Unisys Corporation. The client requested the samples be analyzed for TCL volatile organics plus a library search for non-target compounds.

METHODOLOGY

Volatile organics were determined using purge and trap GC/MS. The instrumentation used was a Tekmar Dynamic Headspace Concentrator interfaced with a Hewlett-Packard Model 5995C GC/MS/DS.

DISCUSSION

Volatile Organics - The laboratory followed USEPA CLP-SOW Document #OLM01.0 for the GC/MS calibration criteria.

Samples SVB-10 20-22 and SVB-10 40-42 were analyzed twice within NYSDEC holding times but the data was unacceptable due to retention time shifts. The samples were reanalyzed on 08/13/91 (one day past CLP holding times) but the method blank had acetone at 150 ppb (out of criteria). Acetone was also found in the samples at 100 ppb and 190 ppb respectively. The samples were reanalyzed again on 08/15/91 with no problems. The client was contacted and requested the runs from 08/13/91 and 08/15/91 be reported. The samples run on 08/15/91 have been flagged with the suffix "RE".

Sample TB 07/30/91 was analyzed out of NYSDEC holding time and 3 days past CLP holding time on 08/15/91. This run has been reported. Both trip blanks were analyzed by CLP 2/88 criteria, (NYSDEC '89 criteria could not be achieved).

Sample SVB-15 40-42 was analyzed 2 hours past NYSDEC holding time but within CLP holding time. The client requested the run be reported.

TIC's detected in method blank (VBLKAA) were caused by system carryover. These TIC's were not detected in any associated sample.

RESULTS

The results are presented in the following Tables. Also enclosed is the data package containing all relevant data.

Prepared by: Jeffrey C. Curran

Jeffrey C. Curran
Laboratory Manager

JCC/mt

The liability of IEA, Inc. is limited to the actual dollar value of this project.

TABLE 1.0
30910-1578
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

Aqueous

All values are ug/L.

	Sample Identification		
Dilution Factor	1.0	1.0	
Method Blank I.D.	>G5863	>G5863	
Compound	Method Blank	TB 08/07/91	Quantitation Limits with no Dilution
Chloromethane	U	U	10
Bromomethane	U	U	10
Vinyl Chloride	U	U	10
Chloroethane	U	U	10
Methylene Chloride	U	U	5
Acetone	U	U	10
Carbon Disulfide	U	U	5
1,1-Dichloroethene	U	U	5
1,1-Dichloroethane	U	U	5
1,2-Dichloroethene (total)	U	U	5
Chloroform	U	U	5
1,2-Dichloroethane	U	U	5
2-Butanone	U	U	10
1,1,1-Trichloroethane	U	U	5
Carbon Tetrachloride	U	U	5
Vinyl Acetate	U	U	10
Bromodichloromethane	U	U	5
1,2-Dichloropropane	U	U	5
cis-1,3-Dichloropropene	U	U	5
Trichloroethene	U	U	5
Dibromochloromethane	U	U	5
1,1,2-Trichloroethane	U	U	5
Benzene	U	U	5
trans-1,3-Dichloropropene	U	U	5
Bromoform	U	U	5
4-Methyl-2-pentanone	U	U	10
2-Hexanone	U	U	10
Tetrachloroethene	U	U	5
1,1,2,2-Tetrachloroethane	U	U	5
Toluene	U	U	5
Chlorobenzene	U	U	5
Ethylbenzene	U	U	5
Styrene	U	U	5
Xylene (total)	U	U	5

U - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Aqueous

TABLE 1.1
30910-1578
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification		
Dilution Factor	1.0	1.0	
Method Blank I.D.	>G5881	>G5881	
Compound	Method Blank	TB 07/30/91	Quantitation Limits with no Dilution
Chloromethane	U	U	10
Bromomethane	U	U	10
Vinyl Chloride	U	U	10
Chloroethane	U	U	10
Methylene Chloride	U	U	5
Acetone	U	U	10
Carbon Disulfide	U	U	5
1,1-Dichloroethene	U	U	5
1,1-Dichloroethane	U	U	5
1,2-Dichloroethene (total)	U	U	5
Chloroform	U	U	5
1,2-Dichloroethane	U	U	5
2-Butanone	U	U	10
1,1,1-Trichloroethane	U	U	5
Carbon Tetrachloride	U	U	5
Vinyl Acetate	U	U	10
Bromodichloromethane	U	U	5
1,2-Dichloropropane	U	U	5
cis-1,3-Dichloropropene	U	U	5
Trichloroethene	U	U	5
Dibromochloromethane	U	U	5
1,1,2-Trichloroethane	U	U	5
Benzene	U	U	5
trans-1,3-Dichloropropene	U	U	5
Bromoform	U	U	5
4-Methyl-2-pentanone	U	U	10
2-Hexanone	U	U	10
Tetrachloroethene	U	U	5
1,1,2,2-Tetrachloroethane	U	U	5
Toluene	U	U	5
Chlorobenzene	U	U	5
Ethylbenzene	U	U	5
Styrene	U	U	5
Xylene (total)	U	U	5

U - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 1.2
30910-1578
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

Soil

All values are ug/Kg.

	Sample Identification			
Dilution Factor	1.00	1.04	1.05	
Method Blank I.D.	>A7247	>A7247	>A7247	
Compound	Method Blank	SVB-10 20-22	SVB-10 40-42	Quantitation Limits with no Dilution
Chloromethane	U	U	U	10
Bromomethane	U	U	U	10
Vinyl Chloride	U	U	U	10
Chloroethane	U	U	U	10
Methylene Chloride	U	3J	3J	5
Acetone	150	100B	190B	10
Carbon Disulfide	U	U	U	5
1,1-Dichloroethene	U	U	U	5
1,1-Dichloroethane	U	U	U	5
1,2-Dichloroethene (total)	U	2J	10	5
Chloroform	U	U	U	5
1,2-Dichloroethane	U	U	U	5
2-Butanone	0.8J	U	2JB	10
1,1,1-Trichloroethane	U	U	U	5
Carbon Tetrachloride	U	U	U	5
Vinyl Acetate	U	U	U	10
Bromodichloromethane	U	U	U	5
1,2-Dichloropropane	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	5
Trichloroethene	U	U	U	5
Dibromochloromethane	U	U	U	5
1,1,2-Trichloroethane	U	U	U	5
Benzene	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	5
Bromoform	U	U	U	5
4-Methyl-2-pentanone	U	U	U	10
2-Hexanone	U	U	U	10
Tetrachloroethene	U	2J	5	5
1,1,2,2-Tetrachloroethane	U	U	U	5
Toluene	U	U	U	5
Chlorobenzene	U	U	U	5
Ethylbenzene	U	U	U	5
Styrene	U	U	U	5
Xylene (total)	0.8J	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Soil

TABLE 1.3
30910-1578
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/Kg.

	Sample Identification					
Dilution Factor	1.00	1.03	1.02	1.19	1.32	
Method Blank I.D.	>A7272	>A7272	>A7272	>A7272	>A7272	
Compound	Method Blank	SVB-15 20-22	SVB-15 60-62	SVB-15 80-82	SVB-15 40-42	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	10
Methylene Chloride	3J	1JB	1JB	U	U	5
Acetone	15	7JB	7JB	U	17B	10
Carbon Disulfide	U	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	U	U	U	U	5
Chloroform	U	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	U	5
2-Butanone	2J	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	5
Trichloroethene	U	U	U	U	U	5
Dibromochloromethane	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	5
Benzene	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	5
Bromoform	U	U	U	U	U	5
4-Methyl-2-pentanone	0.6J	U	U	U	U	10
2-Hexanone	U	U	U	U	U	10
Tetrachloroethene	U	U	U	U	U	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	5
Toluene	U	U	U	U	U	5
Chlorobenzene	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	5
Styrene	U	U	U	U	U	5
Xylene (total)	U	U	U	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Soil

TABLE 1.4
30910-1578
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/Kg.

	Sample Identification			
Dilution Factor	1.00	1.03	1.04	
Method Blank I.D.	>B5116	>B5116 SVB-10	>B5116 SVB-10	
Compound	Method Blank	20-22 RE	40-42 RE	Quantitation Limits with no Dilution
Chloromethane	U	U	U	10
Bromomethane	U	U	U	10
Vinyl Chloride	U	U	U	10
Chloroethane	U	U	U	10
Methylene Chloride	4J	U	U	5
Acetone	9J	13B	5JB	10
Carbon Disulfide	U	U	U	5
1,1-Dichloroethene	U	U	U	5
1,1-Dichloroethane	U	U	U	5
1,2-Dichloroethene (total)	U	U	U	5
Chloroform	U	U	U	5
1,2-Dichloroethane	U	U	U	5
2-Butanone	0.7J	U	U	10
1,1,1-Trichloroethane	U	U	U	5
Carbon Tetrachloride	U	U	U	5
Vinyl Acetate	U	U	U	10
Bromodichloromethane	U	U	U	5
1,2-Dichloropropane	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	5
Trichloroethene	U	U	U	5
Dibromochloromethane	U	U	U	5
1,1,2-Trichloroethane	U	U	U	5
Benzene	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	5
Bromoform	U	U	U	5
4-Methyl-2-pentanone	U	U	U	10
2-Hexanone	U	U	U	10
Tetrachloroethene	U	U	U	5
1,1,2,2-Tetrachloroethane	U	U	U	5
Toluene	U	U	U	5
Chlorobenzene	U	U	U	5
Ethylbenzene	U	U	U	5
Styrene	U	U	U	5
Xylene (total)	2J	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 2.0
30910-1578
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: Method Blank >G5863

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: TB 08/07/91

CAS#	Compound	RT	Estimated Concentration, ug/L
87683	1,1,2,3,4,4-Hexachloro-1,3-butadiene	27.15	59J
	Unknown trichlorobenzene isomer	27.68	38J
	Unknown trichlorobenzene isomer	26.95	20J
91203	Naphthalene	27.30	16J

Sample Identification: Method Blank >G5881

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: TB 07/30/91

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: Method Blank >A7247

CAS#	Compound	RT	Estimated Concentration, ug/Kg
96140	3-Methyl-pentane	9.29	11J

J - See Appendix for definition.

TABLE 2.1
30910-1578
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: SVB-10 20-22

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown branched alkane	24.09	10J
	Unknown C_4 alkyl benzene	25.75	10J
	Unknown cycloalkane	26.34	10J
	Unknown cycloalkane	24.55	9J
	Unknown cycloalkane	22.37	8J
	Unknown cycloalkane	23.09	8J
	Unknown alkane	25.95	7J
	Unknown branched alkane	24.42	7J
	Unknown branched cycloalkane	23.54	6J
	Unknown branched alkane	22.14	6J

Sample Identification: SVB-10 40-42

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	None detected		

Sample Identification: Method Blank >A7272

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown	21.65	62J
	Unknown isomer of trichlorobenzene	19.18	58J
91203	Naphthalene	21.19	52J

Sample Identification: SVB-15 20-22

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	None detected		

J - See Appendix for definition.

TABLE 2.2
30910-1578
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: SVB-15 60-62

CAS#	Compound	RT	Estimated Concentration, ug/Kg
None detected			

Sample Identification: SVB-15 80-82

CAS#	Compound	RT	Estimated Concentration, ug/Kg
None detected			

Sample Identification: SVB-15 40-42

CAS#	Compound	RT	Estimated Concentration, ug/Kg
None detected			

Sample Identification: Method Blank >B5116

CAS#	Compound	RT	Estimated Concentration, ug/Kg
None detected			

Sample Identification: SVB-10 20-22 RE

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown C_4 alkyl benzene	26.51	23J
	Unknown branched alkene	25.86	16J
2958761	Decahydro-2-methyl-naphthalene	26.06	14J
	Unknown alkyl benzene	25.24	12J
	Unknown alkane	25.44	8J
	Unknown alkane	23.52	8J
	Unknown alkylbenzene	24.95	7J
	Unknown decahydronaphthalene isomer	24.79	7J
	Unknown cycloalkane	24.04	6J
	Unknown C_4 alkyl benzene	25.08	6J

J - See Appendix for definition.

TABLE 2.3
30910-1578
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: SVB-10 40-42RE

CAS#	Compound	RT	Estimated Concentration, ug/Kg
None detected			

APPENDIX

U - Indicates that the compound was analyzed for but not detected.

J - Indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value, which is less than the specified minimum detection limit but is greater than zero.

B - This flag is used when the analyte is found in the blanks as well as the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of this analyte.

N - Indicates that the compound was analyzed for but not requested as an analyte. Value will not be listed on tabular result sheet.

X - Matrix spike compound.

(1) - Cannot be separated from diphenylamine.

(2) - Decomposes to azobenzene. Measured and calibrated as azobenzene.

A - This flag indicates that a TIC is a suspected aldol condensation product.

E - Indicates that it exceeds calibration curve range.

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

C - Confirmed by GC/MS.

T - Compound present in TCLP blank.

an environmental testing company
200 Monroe Turnpike
Monroe, Connecticut 06468
(203) 261-4458
FAX (203) 268-5346

REPORT TRANSMITTAL

REPORT NUMBER 30910-1662

DATE September 17, 1991

CLIENT Unisys Corporation
3199 Pilot Knob
MS F1B05
Eagan, MN 55121

ATTENTION Mr. Kevin Krueger

The above referenced report is enclosed. Copies of this report and supporting data will be retained in our files in the event they are required for future reference.

If there are any questions concerning this report, please do not hesitate to contact us.

Any samples submitted to our Laboratory will be retained for a maximum of thirty (30) days from receipt of this report, unless other arrangements are desired.

September 17, 1991

30910-1662
UNISYS CORPORATION
3199 Pilot Knob
MS F1B05
Eagan, Minnesota 55121

Re: Great Neck, New York

Attention: Mr. Kevin Krueger

PURPOSE

Eight samples and two trip blanks collected on August 14-16, 1991 were submitted to IEA, Inc. by Unisys Corporation. The client requested the samples be analyzed for TCL volatile organics plus a library search for non-target compounds.

METHODOLOGY

Volatile organics were determined using purge and trap GC/MS. The instrumentation used was a Tekmar Dynamic Headspace Concentrator interfaced with a Hewlett-Packard Model 5995C GC/MS/DS.

DISCUSSION

Volatile Organics - The laboratory followed USEPA CLP-SOW Document #OLM01.6 for the GC/MS calibration criteria.

The 08/15/91 trip blank was analyzed on 08/23/91 (one day past NYSDEC ASP holding time) due to instrumentation problems.

The low level water initial calibration on Instrument G on 08/22/91 contained five percent RSD's above the 20.5 percent criteria. This exceeds the OLM01.6 criteria by three compounds; however, the trip blanks were analyzed under this curve due to holding time considerations. The continuing calibration (>G6026) had no compounds out of criteria when compared to the above curve.

RESULTS

The results are presented in the following Tables. Also enclosed is the data package containing all relevant data.

Prepared by: Jeffrey C. Curran
Laboratory Manager

JCC/mt

The liability of IEA, Inc. is limited to the actual dollar value of this project.

TABLE 1.0
30910-1662
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

Aqueous

All values are ug/L.

	Sample Identification			
Dilution Factor	1.0	1.0	1.0	
Method Blank I.D.	>G6027	>G6027	>G6027	
Compound	Method Blank	TB 08/15/91	TB 08/16/91	Quantitation Limits with no Dilution
Chloromethane	U	U	U	10
Bromomethane	U	U	U	10
Vinyl Chloride	U	U	U	10
Chloroethane	U	U	U	10
Methylene Chloride	2J	U	U	5
Acetone	12	U	12B	10
Carbon Disulfide	U	U	U	5
1,1-Dichloroethene	U	U	U	5
1,1-Dichloroethane	U	U	U	5
1,2-Dichloroethene (total)	U	U	U	5
Chloroform	U	U	U	5
1,2-Dichloroethane	U	U	U	5
2-Butanone	U	U	U	10
1,1,1-Trichloroethane	U	U	U	5
Carbon Tetrachloride	U	U	U	5
Vinyl Acetate	U	U	U	10
Bromodichloromethane	U	U	U	5
1,2-Dichloropropane	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	5
Trichloroethene	U	U	U	5
Dibromochloromethane	U	U	U	5
1,1,2-Trichloroethane	U	U	U	5
Benzene	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	5
Bromoform	U	U	U	5
4-Methyl-2-pentanone	U	U	U	10
2-Hexanone	U	U	U	10
Tetrachloroethene	U	U	U	5
1,1,2,2-Tetrachloroethane	U	U	U	5
Toluene	0.7J	U	U	5
Chlorobenzene	U	U	U	5
Ethylbenzene	U	U	U	5
Styrene	U	U	U	5
Xylene (total)	U	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 1.1
30910-1662
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

Soil

All values are ug/Kg.

	Sample Identification						
Dilution Factor	1.00	1.20	1.04	1.11	1.05	1.05	
Method Blank I.D.	>B5234	>B5234	>B5234	>B5234	>B5234	>B5234	
Compound	Method Blank	SVB-16 80-82'	SVB-16 40-42'	SVB-16 60-62'	SVB-16 20-22'	SVB-14 60-62'	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	U	10
Methylene Chloride	U	5J	6	6	7	4J	5
Acetone	5J	9JB	13B	13B	19B	26B	10
Carbon Disulfide	U	U	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	30	U	U	U	U	5
Chloroform	U	U	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	U	U	5
2-Butanone	U	U	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	U	5
Trichloroethene	U	2J	U	U	U	U	5
Dibromochloromethane	U	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	U	5
Benzene	U	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	U	5
Bromoform	U	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	U	10
Tetrachloroethene	U	2J	U	U	U	U	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	5
Toluene	U	U	U	U	U	U	5
Chlorobenzene	U	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	U	5
Styrene	U	U	U	U	U	U	5
Xylene (total)	U	U	U	17	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Soil

TABLE 1.2
30910-1662
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/Kg.

	Sample Identification						
Dilution Factor	1.00	1.14	1.23	1.04	1.20	1.20	
Method Blank I.D.	>B5234	>B5234	>B5234	>B5234	>B5234	>B5234	
Compound	Method Blank	SVB-14 40-42'	SVB-14 80-82'	SVB-14 20-22'	SVB-16 80-82' MS	SVB-16 80-82' MSD	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	U	10
Methylene Chloride	U	4J	U	4J	9	3J	5
Acetone	5J	40B	U	29B	22B	7JB	10
Carbon Disulfide	U	U	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	70X	70X	5
1,1-Dichloroethane	U	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	U	U	U	19	8	5
Chloroform	U	U	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	U	U	5
2-Butanone	U	U	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	U	5
Trichloroethene	U	U	U	U	61X	60X	5
Dibromochloromethane	U	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	U	5
Benzene	U	U	U	U	66X	66X	5
trans-1,3-Dichloropropene	U	U	U	U	U	U	5
Bromoform	U	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	U	10
Tetrachloroethene	U	U	U	U	U	U	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	5
Toluene	U	U	U	U	64X	64X	5
Chlorobenzene	U	U	U	U	60X	63X	5
Ethylbenzene	U	U	U	U	U	U	5
Styrene	U	U	U	U	U	U	5
Xylene (total)	U	U	15	U	U	U	5

U, J, B, X - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 2.0
30910-1662
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: Method Blank >G6027

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: TB 08/15/91

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: TB 08/16/91

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: Method Blank >B5234

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkane	26.29	16J
	Unknown alkane	25.80	10J
	Unknown	22.80	6J

Sample Identification: SVB-16 80-82'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkane	25.17	10J
	Unknown alkane	23.47	8J
	Unknown alkane	25.75	8JB
	Unknown alkane	24.06	7J
	Unknown alkane	26.24	7JB

J, B - See Appendix for definition.

TABLE 2.1
30910-1662
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: SVB-16 40-42'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkane	26.26	8JB
	Unknown	24.83	6J
	Unknown alkane	25.80	6J
	Unknown	23.46	6J

Sample Identification: SVB-16 60-62'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkene	26.30	14J
	Unknown alkene	23.51	12J
	Unknown	25.78	8J
	Unknown alkane	24.19	8J
	Unknown	25.26	6J

Sample Identification: SVB-16 20-22'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkane	26.50	13JB
	Unknown alkane	26.07	8J
	Unknown alkene	24.22	8J
	Unknown ketone	23.01	7J
	Unknown	23.66	5J

Sample Identification: SVB-14 60-62'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkane	23.50	7J

J, B - See Appendix for definition.

TABLE 2.2
30910-1662
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: SVB-14 40-42'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkane	24.93	26J
	Unknown C_3 alkyl benzene	23.50	22J
	Unknown alkane	23.01	22J
	Unknown alkane	20.54	16J
	Unknown branched alkane	22.23	15J
	Unknown alkene	21.74	12J
	Unknown C_5 alkyl benzene	26.14	12J
	Unknown C_4 alkyl benzene	25.22	11J
	Unknown cycloalkane	24.02	11J
	Unknown	24.18	10J

Sample Identification: SVB-14 80-82'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown C_3 alkyl benzene	23.51	7J
	Unknown	24.65	7J

Sample Identification: SVB-14 20-22'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown C_3 alkyl benzene	23.50	7J
	Unknown	26.27	6J

J - See Appendix for definition.

APPENDIX

U - Indicates that the compound was analyzed for but not detected.

J - Indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value, which is less than the specified minimum detection limit but is greater than zero.

B - This flag is used when the analyte is found in the blanks as well as the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of this analyte.

N - Indicates that the compound was analyzed for but not requested as an analyte. Value will not be listed on tabular result sheet.

X - Matrix spike compound.

(1) - Cannot be separated.

(2) - Decomposes to azobenzene. Measured and calibrated as azobenzene.

A - This flag indicates that a TIC is a suspected aldol condensation product.

E - Indicates that it exceeds calibration curve range.

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

C - Confirmed by GC/MS.

T - Compound present in TCLP blank.

an environmental testing company
200 Monroe Turnpike
Monroe, Connecticut 06468
(203) 261-4458
FAX (203) 268-5346

REPORT TRANSMITTAL

REPORT NUMBER 30910-1721

DATE October 2, 1991

CLIENT Unisys Corporation
3199 Pilot Knob
MS F1B05
Eagan, Minnesota 55121

ATTENTION Mr. Kevin Krueger

The above referenced report is enclosed. Copies of this report and supporting data will be retained in our files in the event they are required for future reference.

If there are any questions concerning this report, please do not hesitate to contact us.

Any samples submitted to our Laboratory will be retained for a maximum of thirty (30) days from receipt of this report, unless other arrangements are desired.

October 2, 1991

30910-1721
UNISYS CORPORATION
3199 Pilot Knob
MS F1B05
Eagan, Minnesota 55121

Re: Great Neck, New York

Attention: Mr. Kevin Krueger

PURPOSE

Thirteen samples collected on August 21, 1991 were submitted to IEA, Inc. by Unisys Corporation. The client requested the samples be analyzed for the parameters listed in Table 1.0.

METHODOLOGY

Volatile organics were determined using purge and trap GC/MS. The instrumentation used was a Tekmar Dynamic Headspace Concentrator interfaced with a Hewlett-Packard Model 5995C GC/MS/DS.

Semi-volatile organics were determined using capillary GC/MS. The instrumentation used was a Hewlett-Packard Model 5890 gas chromatograph interfaced with a Model 5970 Mass Selective Detector.

Pesticides and polychlorinated biphenyls (PCB's) were determined using GC/ECD. The instrumentation used was a HP Model 5890 gas chromatograph equipped with an electron capture detector (Ni^{63}).

Metals were determined by ICP using either a JA61 simultaneous ICAP or a PE6500-XR sequential ICP. Graphite furnace elements were determined using either a PEZ5100 or a PEZ3030 GFAAS. Mercury was determined by the cold vapor technique utilizing the Spectro Products Model HG-4 mercury analyzer.

Cyanide was determined colorimetrically after preliminary distillation.

All analyses were conducted according to NYSDEC '89 Protocols.

DISCUSSION

Miscellaneous - Twelve samples were received at IEA, Inc. on 08/23/91, but due to an indistinct chain-of-custody the laboratory logged in thirteen samples.

Numerous attempts were made to get a revised chain-of-custody, however a response was not made therefore the laboratory took the initiative to log in the samples based on the sample bottle labels. Two bottle sets were received for sample SVB-17 40-42' for volatiles which was written on the original chain-of-custody. The laboratory interpreted it to be two separate samples for two reasons: 1) the sample ID's being written on separate lines on the original chain-of-custody; and 2) the sample ID's were written under two sample bottle sets.

The laboratory received the revised chain-of-custody on 09/13/91 with sample SVB-17 40-42' listed as only one sample. The analyses had already been performed (holding times were due on 08/30/91) therefore two sample results were reported for SVB-17 40-42. The results were reported under the following sample ID's: SVB-17 40-42' 002 and SVB-17 40-42' 011.

Volatile Organics - The initial calibration on instrument G on 08/22/91 for low level water did not meet OLM01.3 SOW calibration criteria. Four compounds exceeded the 20.5 percent RSD criteria (only two are permitted to be outside criteria).

Dibromochloromethane - 27.8% RSD
1,1,2,2-Tetrachloroethane - 21.2% RSD
Xylene (total) - 27.1% RSD
Bromofluorobenzene - 26.9% RSD

The target compounds listed above were not detected in any of the samples analyzed under this initial calibration.

Samples SVB-17 60-62', SVB-17 40-42' and SVB-17B 20-22' were analyzed within holding time as low level soils, however results indicated reanalysis at high medium level soil dilutions was necessary. A medium level analysis was performed for these samples within holding time but were not acceptable at their dilutions. Samples SVB-17 60-62' and SVB-17B 20-22' were successfully analyzed on 08/31/91 (eight days from sample receipt) and SVB-17 40-42' was run on 09/03/91 (eleven days from sample receipt). The client requested both sets of medium level soil data only be reported.

Sample SVB-17 80-82' was analyzed within holding time as a medium level soil, however internal standard areas were below 50 percent of the calibration standard and surrogate recoveries were diluted out. A reanalysis was performed one day past NYSDEC '89 holding time on 08/31/91 and results proved matrix interference of internal standard area recoveries. Both sets of data were reported.

Sample SVB-17 40-42' was originally analyzed within holding time at a medium level soil dilution for acetone, however the analysis proved to be over diluted. A reanalysis took place eleven days after sample receipt at the proper dilution for acetone. The QC was also run out of holding time for this sample. Both sets of data for SVB-17 40-42' were reported.

The laboratory followed the USEPA CLP-SOW document #OLM01.0 for the GC/MS calibration criteria.

Semi-Volatile Organics - Sample SVB-17 12-20' exhibited suppression of the internal standard phenanthrene-d_{10} in both initial and subsequent analyses. The matrix spike/matrix spike duplicate had the internal standard within criteria, although it was on the low side. Since matrix interference was proven both runs for this sample have been reported.

The laboratory followed the USEPA CLP-SOW document #OLM01.0 for the GC/MS calibration criteria.

Pesticides/PCB's - Forms indicating mass injected for evaluation and individual mixes are enclosed in the package following the Form 10's. MSB SVB-17 12-20' did not meet the required 75 percent recovery for aldrin. Samples SVB-17 12-20', SVB-17 50-60' and corresponding matrix spike/matrix spike duplicates had to be diluted 1:5 because of severe matrix interference. Samples SVB-17 12-20' MS and SVB-17 12-20' MSD had high recovery of several matrix spike compounds because of matrix interference. All calculations were performed off of the DB-1701 column and peaks were taken for calculations of PCB's that are circled on the scans. Corresponding peaks were taken from standards.

The following standards did not meet NYSDEC '89 criteria. After each listed standard, the run was stopped and samples in the last sequence were reanalyzed on the same column.

Date	Time	GC #	Standard	Comments
09/19/91	23:46	4A	Ind A	Lindane, heptachlor, aldrin, heptachlor epoxide C_f >20% difference
09/20/91	00:31	4A	Ind B	delta-BHC C_f >20% difference

Metals - IEC's are electronically employed by the TJA ICAP-61. However, the ICSA is utilized as a monitoring device to detect any additional adjustments that may be required. These modifications are calculated and applied manually. They are so noted in the raw data.

One "E" flag occurred from serial dilution of sample SVB-17 30-40' for zinc. The diluted sample reading was 48.88 ug/L. This is at the low end of the working curve where instrument drift or electronic fluctuations may be responsible for this flag. It is unlikely that a matrix effect is the cause, however further study would be required to confirm this.

Chromium and copper failed the control limits for duplicate analysis of sample SVB-17 12-20' and resulted in asterisks "*". This sample contained numerous stones. It is felt that a problem associated with sample homogeneity is responsible for these flags.

Lead and selenium failed the criteria for spike recovery analysis of sample SVB-17 12-20'. The resultant "N" flags are most likely caused by the previously mentioned problems with sample homogeneity. This is substantiated by the fact that the ICAP lead spike recovery for the duplicate sample was low requiring a "W" flag. However, further investigation would be required to prove this.

No other flags or problems were encountered during analysis. All remaining data appears to be consistent.

RESULTS

The results are presented in the following Tables. Also enclosed are the data packages containing all relevant QA/QC and raw data.

Prepared by: Sohan D Johar for
Jeffrey C. Curran
Laboratory Manager

JCC/adj

The liability of IEA, Inc. is limited to the actual dollar value of this project.

TABLE 1.0
30910-1721
UNISYS CORPORATION
ANALYTICAL REQUESTS

Sample Identification	Requested Parameters
SVB-17 20-22′, SVB-17 60-62′, SVB-17 40-42′ 002, SVB-17B, 20-22′, SVB-17 40-42′ 011, TB 001, TB 002, TB 003, SVB-17 80-82′	TCL volatile organics plus a library search for non-target compounds
SVB-17 12-20′, SVB-17 30-40′, SVB-17 50-60′, SVB-17 70-80′	TCL semi-volatile organics plus a library search for non-target compounds, TCL pesticides/PCB's, TAL metals, cyanide

Aqueous

TABLE 2.0
30910-1721
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification				
Dilution Factor	1.0	1.0	1.0	1.0	
Method Blank I.D.	>G6157	>G6157	>G6157	>G6157	
Compound	Method Blank	TB 001	TB 002	TB 003	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	10
Bromomethane	U	U	U	U	10
Vinyl Chloride	U	U	U	U	10
Chloroethane	U	U	U	U	10
Methylene Chloride	0.8J	1JB	2JB	0.9JB	5
Acetone	6J	2JB	U	U	10
Carbon Disulfide	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	5
1,2-Dichloroethene (total)	U	U	U	U	5
Chloroform	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	5
2-Butanone	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	5
Vinyl Acetate	U	U	U	U	10
Bromodichloromethane	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	5
Trichloroethene	U	U	U	U	5
Dibromochloromethane	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	5
Benzene	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	5
Bromoform	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	10
2-Hexanone	U	U	U	U	10
Tetrachloroethene	U	U	U	U	5
1,1,2,2-Tetrachloroethane	U	U	U	U	5
Toluene	U	U	U	0.5J	5
Chlorobenzene	U	U	U	U	5
Ethylbenzene	U	U	U	U	5
Styrene	U	U	U	U	5
Xylene (total)	U	U	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Soil

TABLE 2.1
30910-1721
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/Kg.

	Sample Identification				
Dilution Factor	1.00	52.00	51.50	54.50	MEDIUM LEVEL
Method Blank I.D.	>A7470	>A7470	>A7470	>A7470	
Compound	Method Blank	SVB-17 20-22'	SVB-17 60-62'	SVB-17 40-42' 002	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	1,200
Bromomethane	U	U	U	U	1,200
Vinyl Chloride	U	U	U	U	1,200
Chloroethane	U	U	U	U	1,200
Methylene Chloride	U	5,700J	U	U	620
Acetone	4,400	130,000B	110,000B	100,000B	1,200
Carbon Disulfide	U	U	U	U	620
1,1-Dichloroethene	U	U	U	U	620
1,1-Dichloroethane	U	U	U	U	620
1,2-Dichloroethene (total)	U	U	U	U	620
Chloroform	U	U	U	U	620
1,2-Dichloroethane	U	U	U	U	620
2-Butanone	U	U	U	U	1,200
1,1,1-Trichloroethane	U	U	U	U	620
Carbon Tetrachloride	U	U	U	U	620
Vinyl Acetate	U	U	U	U	1,200
Bromodichloromethane	U	U	U	U	620
1,2-Dichloropropane	U	U	U	U	620
cis-1,3-Dichloropropene	U	U	U	U	620
Trichloroethene	U	92,000	13,000J	U	620
Dibromochloromethane	U	U	U	U	620
1,1,2-Trichloroethane	U	U	U	U	620
Benzene	U	U	U	U	620
trans-1,3-Dichloropropene	U	U	U	U	620
Bromoform	U	U	U	U	620
4-methyl-2-Pentanone	U	U	U	U	1,200
2-Hexanone	U	U	U	U	1,200
Tetrachloroethene	U	1,200,000	210,000	U	620
1,1,2,2-Tetrachloroethane	U	U	U	U	620
Toluene	54J	6,200JB	88,000B	4,600JB	620
Chlorobenzene	U	U	U	U	620
Ethylbenzene	U	U	17,000J	U	620
Styrene	U	U	U	U	620
Xylene (total)	U	38,000	98,000	U	620

U, J, B - See Appendix for definition.
Note: Sample detection limit = MDL x dilution factor.

Soil

TABLE 2.2
30910-1721
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/Kg.

	Sample Identification				
Dilution Factor	1.00	57.00	52.50	55.00	MEDIUM LEVEL
Method Blank I.D.	>A7470	>A7470	>A7470	>A7470	
Compound	Method Blank	SVB-17 80-82'	SVB-17B 20-22'	SVB-17 40-42' 011	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	1,200
Bromomethane	U	U	U	U	1,200
Vinyl Chloride	U	U	U	U	1,200
Chloroethane	U	U	U	U	1,200
Methylene Chloride	U	U	5,700J	7,600J	620
Acetone	4,400	440,000B	130,000B	270,000B	1,200
Carbon Disulfide	U	U	U	U	620
1,1-Dichloroethene	U	U	U	U	620
1,1-Dichloroethane	U	U	U	U	620
1,2-Dichloroethene (total)	U	U	U	U	620
Chloroform	U	U	U	U	620
1,2-Dichloroethane	U	U	U	U	620
2-Butanone	U	U	U	U	1,200
1,1,1-Trichloroethane	U	U	U	U	620
Carbon Tetrachloride	U	U	U	U	620
Vinyl Acetate	U	U	U	U	1,200
Bromodichloromethane	U	U	U	U	620
1,2-Dichloropropane	U	U	U	U	620
cis-1,3-Dichloropropene	U	U	U	U	620
Trichloroethene	U	U	99,000	U	620
Dibromochloromethane	U	U	U	U	620
1,1,2-Trichloroethane	U	U	U	U	620
Benzene	U	U	U	U	620
trans-1,3-Dichloropropene	U	U	U	U	620
Bromoform	U	U	U	U	620
4-methyl-2-Pentanone	U	U	U	U	1,200
2-Hexanone	U	U	U	U	1,200
Tetrachloroethene	U	U	1,800,000E	19,000J	620
1,1,2,2-Tetrachloroethane	U	U	U	U	620
Toluene	54J	57,000B	5,200JB	U	620
Chlorobenzene	U	U	U	U	620
Ethylbenzene	U	21,000J	U	U	620
Styrene	U	U	U	U	620
Xylene (total)	U	130,000	6,400J	U	620

U, J, B, E - See Appendix for definition.
Note: Sample detection limit = MDL x dilution factor.

Soil

TABLE 2.3
30910-1721
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/Kg.

	Sample Identification				
Dilution Factor	1.00	25.75	57.00	105.00	MEDIUM LEVEL
Method Blank I.D.	>A7483	>A7483	>A7483	>A7483	
		SVB-17	SVB-17	SVB-17B	Quantitation
	Method	60-62'	80-82'	20-22'	Limits with no
Compound	Blank	RE	RE	RE	Dilution
Chloromethane	U	U	U	U	1,200
Bromomethane	U	U	U	U	1,200
Vinyl Chloride	U	U	U	U	1,200
Chloroethane	U	U	U	U	1,200
Methylene Chloride	U	U	U	U	620
Acetone	2,600	U	U	560,000B	1,200
Carbon Disulfide	U	U	U	U	620
1,1-Dichloroethene	U	U	U	U	620
1,1-Dichloroethane	U	U	U	U	620
1,2-Dichloroethene (total)	U	4,400J	U	U	620
hloroform	U	U	U	U	620
1,2-Dichloroethane	U	U	U	U	620
2-Butanone	U	U	U	U	1,200
1,1,1-Trichloroethane	U	U	U	U	620
Carbon Tetrachloride	U	U	U	U	620
Vinyl Acetate	U	U	U	U	1,200
Bromodichloromethane	U	U	U	U	620
1,2-Dichloropropane	U	U	U	U	620
cis-1,3-Dichloropropene	U	U	U	U	620
Trichloroethene	U	12,000J	U	100,000	620
Dibromochloromethane	U	U	U	U	620
1,1,2-Trichloroethane	U	U	U	U	620
Benzene	U	U	U	U	620
trans-1,3-Dichloropropene	U	U	U	U	620
Bromoform	U	U	U	U	620
4-methyl-2-Pentanone	U	U	U	U	1,200
2-Hexanone	U	U	U	U	1,200
Tetrachloroethene	U	180,000	U	2,100,000	620
1,1,2,2-Tetrachloroethane	U	U	U	U	620
Toluene	U	82,000	37,000	7,500J	620
Chlorobenzene	U	U	U	U	620
Ethylbenzene	U	14,000J	16,000J	U	620
Styrene	U	U	U	U	620
Xylene (total)	U	86,000	93,000	10,000J	620

'I, J, B - See Appendix for definition.
ote: Sample detection limit = MDL x dilution factor.

Soil

TABLE 2.4
30910-1721
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/Kg.

	Sample Identification					
Dilution Factor	1.00	1.09	1.10	1.10	1.10	MEDIUM LEVEL
Method Blank I.D.	>A7495	>A7495 SVB-17	>A7495 SVB-17	>A7495 SVB-17	>A7495 SVB-17	
Compound	Method Blank	40-42' 002 RE	40-42' 011 RE	40-42' 011 MS	40-42' 011 MSD	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	1,200
Bromomethane	U	U	U	U	U	1,200
Vinyl Chloride	U	U	U	U	U	1,200
Chloroethane	U	U	U	U	U	1,200
Methylene Chloride	U	300J	340J	U	U	620
Acetone	U	9,900	11,000	5,900	7,600	1,200
Carbon Disulfide	U	U	U	U	U	620
1,1-Dichloroethene	U	U	U	6,400X	7,300X	620
1,1-Dichloroethane	U	U	U	U	U	620
1,2-Dichloroethene (total)	U	310J	U	U	U	620
Chloroform	U	U	U	U	U	620
1,2-Dichloroethane	U	U	U	U	U	620
2-Butanone	U	U	U	U	U	1,200
1,1,1-Trichloroethane	U	U	U	U	U	620
Carbon Tetrachloride	U	U	U	U	U	620
Vinyl Acetate	U	U	U	U	U	1,200
Bromodichloromethane	U	U	U	U	U	620
1,2-Dichloropropane	U	U	U	U	U	620
cis-1,3-Dichloropropene	U	U	U	U	U	620
Trichloroethene	U	490J	U	7,100X	7,900X	620
Dibromochloromethane	U	U	U	U	U	620
1,1,2-Trichloroethane	U	U	U	U	U	620
Benzene	U	U	U	6,900X	7,900X	620
trans-1,3-Dichloropropene	U	U	U	U	U	620
Bromoform	U	U	U	U	U	620
4-methyl-2-Pentanone	U	U	U	U	U	1,200
2-Hexanone	U	U	U	U	U	1,200
Tetrachloroethene	U	3,000	160J	U	U	620
1,1,2,2-Tetrachloroethane	U	U	U	U	U	620
Toluene	U	1,800	U	6,400X	7,500X	620
Chlorobenzene	U	U	U	6,500X	7,600X	620
Ethylbenzene	U	140J	U	U	U	620
Styrene	U	U	U	U	U	620
Xylene (total)	U	800	U	U	U	620

U, J, X - See Appendix for definition.
Note: Sample detection limit = MDL x dilution factor.

TABLE 3.0
30910-1721
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: Method Blank >G6157

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: TB 001

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: TB 002

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: TB 003

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: Method Blank >A7470

CAS#	Compound	RT	Estimated Concentration, ug/Kg
None detected			

TABLE 3.1
30910-1721
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: SVB-17 20-22'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown branched alkene	22.33	62,000J
	Unknown branched alkane	23.38	59,000J
	Unknown branched alkene	21.65	45,000J
	Unknown	24.77	45,000J
	Unknown alkene	24.55	44,000J
	Unknown	23.73	44,000J
	Unknown alkane	22.92	43,000J
	Unknown branched alkane	21.42	40,000J
	Unknown cycloalkane	23.83	36,000J
	Unknown C_3 alkyl benzene	22.63	33,000J

Sample Identification: SVB-17 60-62'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkane	22.90	170,000J
	Unknown C_3 alkyl benzene	23.35	100,000J
	Unknown alkane	24.75	95,000J
	Unknown cycloalkane	21.56	69,000J
	Unknown	22.31	64,000J
	Unknown alkane	20.46	61,000J
	Unknown C_3 alkyl benzene	22.61	53,000J
	Unknown branched alkane	22.12	50,000J
	Unknown ketone	24.49	44,000J
	Unknown cycloalkane	23.81	40,000J

Sample Identification: SVB-17 40-42' 002

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	None detected		

J - See Appendix for definition.

TABLE 3.2
30910-1721
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: SVB-17 80-82'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkane	22.91	710,000J
	Unknown cycloalkane	21.61	280,000J
	Unknown branched alkane	23.40	280,000J
	Unknown alkane	24.80	270,000J
	Unknown alcohol	22.32	250,000J
	Unknown alkane	20.47	230,000J
	Unknown alkane	22.13	220,000J
	Unknown cycloalkane	22.81	200,000J
	Unknown cycloalkane	23.85	170,000J
	Unknown branched alkane	21.41	160,000J

Sample Identification: SVB-17B 20-22'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkene	24.56	130,000J
	Unknown alkene	23.75	88,000J
	Unknown	23.85	66,000J
	Unknown branched alkene	22.35	65,000J
	Unknown	24.79	65,000J
	Unknown	23.43	62,000J
	Unknown	23.23	56,000J
	Unknown	24.24	56,000J
	Unknown branched alkane	21.67	49,000J
	Unknown	25.05	44,000J

Sample Identification: SVB-17 40-42' 011

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	None detected		

J - See Appendix for definition.

TABLE 3.3
30910-1721
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: Method Blank >A7483

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	None detected		

Sample Identification: SVB-17 60-62' RE

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkane	22.94	100,000J
	Unknown C_3 alkyl benzene	23.36	76,000J
	Unknown alkane	20.50	47,000J
	Unknown branched alkane	22.32	47,000J
	Unknown cycloalkane	21.60	45,000J
	Unknown cycloalkane	22.81	44,000J
	Unknown C_3 alkyl benzene	22.61	41,000J
	Unknown C_4 alkyl benzene	24.50	36,000J
	Unknown alkane	24.79	36,000J
	Unknown branched alkane	22.16	33,000J

Sample Identification: SVB-17 80-82' RE

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkane	22.90	280,000J
	Unknown alkane	24.75	110,000J
	Unknown	22.31	100,000J
	Unknown cycloalkane	21.56	98,000J
	Unknown alkane	20.46	98,000J
	Unknown branched alkane	22.12	83,000J
	Unknown C_3 alkyl benzene	22.61	72,000J
	Unknown branched alkane	21.40	70,000J
	Unknown cycloalkane	22.80	63,000J
	Unknown C_4 alkyl benzene	24.49	57,000J

TABLE 3.4
30910-1721
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: SVB-17B 20-22' RE

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkyl benzene	22.35	620J
	Unknown	23.75	570J
	Unknown ketone	24.56	560J
	Unknown	24.79	520J

Sample Identification: Method Blank >A7495

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	None detected		

Sample Identification: SVB-17 40-42' 002 RE

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkane	22.93	2,100J
	Unknown alkane	24.79	1,800J
	Unknown branched alkane	23.39	980J
	Unknown alkane	20.49	740J
	Unknown branched alkane	22.31	730J

Sample Identification: SVB-17 40-42' 011 RE

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	None detected		

J - See Appendix for definition.

TABLE 4.0
30910-1741
UNISYS CORPORATION
EPA TCL SEMI-VOLATILE ORGANICS

All values are ug/Kg.

	Sample Identification				
Dilution Factor	1.00	1.06	1.06	1.09	
Method Blank I.D.	>C1703	>C1703	>C1703	>C1703	
Compound	Method Blank	SVB-17 12-20'	SVB-17 12-20' RE	SVB-17 30-40'	Quantitation Limits with no Dilution
Phenol	U	U	U	U	330
bis(2-Chloroethyl)ether	U	U	U	U	330
2-Chlorophenol	U	U	U	U	330
1,3-Dichlorobenzene	U	U	U	U	330
1,4-Dichlorobenzene	U	U	U	U	330
Benzyl alcohol	U	U	U	U	330
1,2-Dichlorobenzene	U	560	550	U	330
2-Methylphenol	U	U	U	U	330
bis(2-Chloroisopropyl)ether	U	U	U	U	330
4-Methylphenol	U	U	U	130J	330
-Nitroso-di-n-propylamine	U	U	U	U	330
exachloroethane	U	U	U	U	330
Nitrobenzene	U	U	U	U	330
Isophorone	U	U	U	U	330
2-Nitrophenol	U	U	U	U	330
2,4-Dimethylphenol	U	U	U	U	330
Benzoic acid	U	U	U	U	1,600
bis(2-Chloroethoxy)methane	U	U	U	U	330
2,4-Dichlorophenol	U	U	U	U	330
1,2,4-Trichlorobenzene	U	U	U	U	330
Naphthalene	U	580	660	170J	330
4-Chloroaniline	U	U	U	U	330
Hexachlorobutadiene	U	U	U	U	330
4-Chloro-3-methylphenol	U	U	U	U	330
2-Methylnaphthalene	U	U	430	70J	330
Hexachlorocyclopentadiene	U	U	U	U	330
2,4,6-Trichlorophenol	U	U	U	U	330
2,4,5-Trichlorophenol	U	U	U	U	1,600
2-Chloronaphthalene	U	U	U	U	330
2-Nitroaniline	U	U	U	U	1,600
Dimethylphthalate	U	U	U	U	330
Acenaphthylene	U	U	U	U	330
2,6-Dinitrotoluene	U	U	U	U	330

U, J - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 4.0
30910-1741
UNISYS CORPORATION
EPA TCL SEMI-VOLATILE ORGANICS

All values are ug/Kg.

	Sample Identification				
Dilution Factor	1.00	1.06	1.06	1.09	
Method Blank I.D.	>C1703	>C1703	>C1703	>C1703	
Compound	Method Blank	SVB-17 12-20'	SVB-17 12-20' RE	SVB-17 30-40'	Quantitation Limits with no Dilution
3-Nitroaniline	U	U	U	U	1,600
Acenaphthene	U	U	U	U	330
2,4-Dinitrophenol	U	U	U	U	1,600
4-Nitrophenol	U	U	U	U	1,600
Dibenzofuran	U	U	U	U	330
2,4-Dinitrotoluene	U	U	U	U	330
Diethylphthalate	U	U	U	29J	330
4-Chlorophenyl-phenylether	U	U	U	U	330
Fluorene	U	U	U	U	330
4-Nitroaniline	U	U	U	U	1,600
',6-Dinitro-2-methylphenol	U	U	U	U	1,600
-Nitrosodiphenylamine (1)	U	U	U	U	330
4-Bromophenyl-phenylether	U	U	U	U	330
Hexachlorobenzene	U	U	U	U	330
Pentachlorophenol	U	U	U	U	1,600
Phenanthrene	U	U	260J	61J	330
Anthracene	U	U	U	U	330
Di-n-butylphthalate	13J	270JB	270JB	60JB	330
Fluoranthene	U	U	U	U	330
Pyrene	U	U	U	U	330
Butylbenzylphthalate	U	U	U	U	330
3,3'-Dichlorobenzidine	U	U	U	U	660
Benzo(a)anthracene	U	U	U	U	330
Chrysene	U	U	U	U	330
bis(2-Ethylhexyl)phthalate	220J	2,600B	2,600B	640B	330
Di-n-octylphthalate	U	U	U	U	330
Benzo(b)fluoranthene	U	U	U	U	330
Benzo(k)fluoranthene	U	U	U	U	330
Benzo(a)pyrene	U	U	U	U	330
Indeno(1,2,3-cd)pyrene	U	U	U	U	330
Dibenzo(a,h)anthracene	U	U	U	U	330
Benzo(g,h,i)perylene	U	U	U	U	330

U, J, B, (1) - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 4.1
30910-1721
UNISYS CORPORATION
EPA TCL SEMI-VOLATILE ORGANICS

All values are ug/Kg.

	Sample Identification					
Dilution Factor	1.00	1.06	1.08	1.06	1.06	
Method Blank I.D.	>C1703	>C1703	>C1703	>C1703	>C1703	
Compound	Method Blank	SVB-27 50-60'	SVB-17 70-80'	SVB-17 12-20' MS	SVB-17 12-20' MSD	Quantitation Limits with no Dilution
Phenol	U	U	U	3,800X	4,400X	330
bis(2-Chloroethyl)ether	U	U	U	U	U	330
2-Chlorophenol	U	U	U	3,600X	4,100X	330
1,3-Dichlorobenzene	U	U	U	U	U	330
1,4-Dichlorobenzene	U	U	U	1,400X	1,700X	330
Benzyl alcohol	U	U	U	U	U	330
1,2-Dichlorobenzene	U	1,100	620	500	590	330
2-Methylphenol	U	U	U	U	U	330
bis(2-Chloroisopropyl)ether	U	U	U	U	U	330
4-Methylphenol	U	U	U	U	U	330
'-Nitroso-di-n-propylamine	U	U	U	2,800X	2,700X	330
Hexachloroethane	U	U	U	U	U	330
Nitrobenzene	U	U	U	U	U	330
Isophorone	U	U	U	U	U	330
2-Nitrophenol	U	U	U	U	U	330
2,4-Dimethylphenol	U	310J	U	U	U	330
Benzoic acid	U	U	U	U	U	1,600
bis(2-Chloroethoxy)methane	U	U	U	U	U	330
2,4-Dichlorophenol	U	U	U	U	U	330
1,2,4-Trichlorobenzene	U	U	U	2,300X	2,600X	330
Naphthalene	U	3,100	2,600	500	530	330
4-Chloroaniline	U	U	U	U	U	330
Hexachlorobutadiene	U	U	U	U	U	330
4-Chloro-3-methylphenol	U	U	U	4,000X	4,000X	330
2-Methylnaphthalene	U	1,500	1,600	330J	320J	330
Hexachlorocyclopentadiene	U	U	U	U	U	330
2,4,6-Trichlorophenol	U	U	U	U	U	330
2,4,5-Trichlorophenol	U	U	U	U	U	1,600
2-Chloronaphthalene	U	U	U	U	U	330
2-Nitroaniline	U	U	U	U	U	1,600
Dimethylphthalate	U	U	U	U	U	330
Acenaphthylene	U	U	U	U	U	330
2,6-Dinitrotoluene	U	U	U	U	U	330

U, J, X - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 4.1
30910-1721
UNISYS CORPORATION
EPA TCL SEMI-VOLATILE ORGANICS

All values are ug/Kg.

	Sample Identification					
Dilution Factor	1.00	1.06	1.08	1.06	1.06	
Method Blank I.D.	>C1703	>C1703	>C1703	>C1703 SVB-17	>C1703 SVB-17	
Compound	Method Blank	SVB-27 50-60'	SVB-17 70-80'	12-20' MS	12-20' MSD	Quantitation Limits with no Dilution
3-Nitroaniline	U	U	U	U	U	1,600
Acenaphthene	U	U	U	2,700X	2,500X	330
2,4-Dinitrophenol	U	U	U	U	U	1,600
4-Nitrophenol	U	U	U	9,100XE	8,300XE	1,600
Dibenzofuran	U	U	U	U	U	330
2,4-Dinitrotoluene	U	U	U	2,000X	1,900X	330
Diethylphthalate	U	U	U	U	U	330
4-Chlorophenyl-phenylether	U	U	U	U	U	330
Fluorene	U	110J	150J	U	U	330
'-Nitroaniline	U	U	U	U	U	1,600
,6-Dinitro-2-methylphenol	U	U	U	U	U	1,600
N-Nitrosodiphenylamine (1)	U	U	U	U	U	330
4-Bromophenyl-phenylether	U	U	U	U	U	330
Hexachlorobenzene	U	U	U	U	U	330
Pentachlorophenol	U	U	U	5,400X	6,400XE	1,600
Phenanthrene	U	570	550	230J	U	330
Anthracene	U	U	U	U	U	330
Di-n-butylphthalate	13J	350B	170JB	280JB	230JB	330
Fluoranthene	U	U	U	U	U	330
Pyrene	U	U	U	1,600X	1,700X	330
Butylbenzylphthalate	U	U	U	220J	220J	330
3,3'-Dichlorobenzidine	U	U	U	U	U	660
Benzo(a)anthracene	U	U	U	U	U	330
Chrysene	U	U	U	U	U	330
bis(2-Ethylhexyl)phthalate	220J	2,200B	520B	2,300B	2,900B	330
Di-n-octylphthalate	U	U	U	U	U	330
Benzo(b)fluoranthene	U	U	U	U	U	330
Benzo(k)fluoranthene	U	U	U	U	U	330
Benzo(a)pyrene	U	U	U	U	U	330
Indeno(1,2,3-cd)pyrene	U	U	U	U	U	330
Dibenzo(a,h)anthracene	U	U	U	U	U	330
Benzo(g,h,i)perylene	U	U	U	U	U	330

U, J, B, X, E, (1) - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 5.0
30910-1721
UNISYS CORPORATION
SEMI-VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: Method Blank >C1703

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Aldol condensation product	8.82	33,000JA
	Unknown acid ester	30.10	300J
	Unknown ketone (MW=98)	7.62	190J

Sample Identification: SVB-17 12-20'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkane	22.91	50,000J
	Unknown	19.08	14,000J
	Unknown	19.70	12,000J
	Unknown alkane	18.91	11,000J
	Aldol condensation product	8.89	6,200JAB
	Unknown	20.23	5,000J
	Unknown alkane	20.30	4,800J
	Unknown alkane	21.63	4,600J
	Unknown branched alkane	22.27	3,800J
	Unknown branched alkane	19.78	3,000J
	Unknown C_4 alkyl benzene	14.56	2,700J
	Unknown branched alkane	18.59	1,900J
	Unknown	12.97	1,900J
	Unknown C_3 alkyl benzene	12.21	1,700J
	Unknown	14.86	1,500J
	Unknown	18.21	1,500J
	Unknown alkane	14.13	1,500J
	Unknown branched alkene	11.43	1,500J
	Unknown alkane	17.41	1,400J
	Unknown	20.40	1,100J
	Unknown	14.41	1,100J

J, A, B - See Appendix for definition.

TABLE 5.1
30910-1721
UNISYS CORPORATION
SEMI-VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: SVB-17 12-20' RE

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkane	18.94	11,000J
	Unknown	19.72	9,700J
	Unknown	19.09	6,600J
	Unknown alkene	20.24	4,900J
	Aldol condensation product	8.87	4,600JAB
	Unknown branched alkane	21.66	4,500J
	Unknown	23.15	4,300J
	Unknown alkane	20.32	4,200J
	Unknown branched alkane	22.87	3,300J
	Unknown branched alkane	22.30	3,100J
	Unknown	14.58	2,700J
	Unknown branched alkane	19.81	2,600J
	Unknown branched alkane	18.62	1,900J
	Unknown branched alkane	13.01	1,700J
	Unknown	14.88	1,600J
	Unknown alkane	12.23	1,500J
	Unknown branched cycloalkane	18.24	1,400J
	Unknown alkane	17.44	1,400J
	Unknown branched alkene	11.45	1,300J
	Unknown branched alkane	18.40	1,200J
	Unknown alkane	14.15	1,200J

Sample Identification: SVB-17 30-40'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Aldol condensation product	8.90	47,000JAB
1120214	Undecane	22.95	3,600J
	Unknown alkane	14.05	2,700J
	Unknown alkane	12.17	2,400J
	Unknown	19.09	2,100J
	Unknown branched alkane	22.88	1,600J
629787	Heptadecane	22.80	1,600J
	Unknown branched alkane	23.99	1,600J
	Unknown	18.99	1,500J
	Unknown alkane	25.10	1,400J
	Unknown alkane	21.55	1,100J
	Unknown alkane	24.11	1,000J
	Unknown	19.64	930J

J, A, B - See Appendix for definition.

TABLE 5.2
30910-1721
UNISYS CORPORATION
SEMI-VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: SVB-17 30-40' (Continued)

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown branched alkane	22.18	890J
	Unknown isomer of methylpyridine	8.03	840J
	Unknown branched cycloalkane	12.92	790J
	Unknown	23.65	730J
	Unknown alkane	26.15	700J
	Unknown C_3 alkyl benzene	12.75	670J
	Unknown alkane	20.24	650J
	Unknown	13.39	620J

Sample Identification: SVB-17 50-60'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown alkane	22.88	34,000J
	Unknown branched alkane	24.07	16,000J
	Unknown alkane	25.18	12,000J
	Unknown branched alkane	24.19	9,500J
	Unknown alkane	18.88	8,200J
	Unknown alkane	21.60	8,100J
	Unknown	19.05	8,000J
	Unknown alkane	26.24	7,700J
	Unknown	19.69	7,600J
	Aldol condensation product	8.84	5,900JAB
	Unknown alkane	20.29	5,300J
	Unknown alkane	12.25	4,400J
	Unknown alkane	27.23	3,700J
	Unknown branched alkane	23.98	3,600J
	Unknown	20.20	3,600J
	Unknown C_4 alkyl benzene	13.32	2,900J
	Unknown branched alkane	22.24	2,800J
	Unknown	11.49	2,700J
	Unknown alkane	14.12	2,700J
	Unknown PAH	19.57	2,400J
	Unknown alkane	19.75	2,300J

J, A, B - See Appendix for definition.

TABLE 5.3
30910-1721
UNISYS CORPORATION
SEMI-VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: SVB-17 70-80'

CAS#	Compound	RT	Estimated Concentration, ug/Kg
	Unknown branched alkane	22.88	63,000J
	Unknown branched alkane	24.05	38,000J
	Aldol condensation product	8.92	22,000JAB
	Unknown branched alkane	22.94	21,000J
	Unknown alkane	25.17	19,000J
	Unknown alkane	24.18	15,000J
	Unknown alkane	21.60	13,000J
	Unknown alkane	26.23	11,000J
	Unknown branched alkane	12.23	9,400J
	Unknown alkane	14.12	7,900J
	Unknown alkane	25.09	7,900J
	Unknown alkane	18.88	7,300J
	Unknown branched alkane	20.28	5,500J
	Unknown C_4 alkyl benzene	13.31	5,200J
	Unknown branched alkane	22.22	5,000J
	Unknown C_3 alkyl benzene	11.49	4,600J
	Unknown	20.20	3,900J
	Unknown	19.67	3,600J
	Unknown	19.10	3,400J
	Unknown branched alkane	13.44	3,300J
	Unknown branched alkane	12.66	3,100J

J, A, B - See Appendix for definition.

TABLE 6.0
30910-1721
UNISYS CORPORATION
EPA TCL PESTICIDES/PCB's

Soil

All values are ug/Kg.

Sample Identification								
Dilution Factor	1.00	5.30	1.09	5.30	1.08	5.30	5.30	
Method Blank I.D.	0827 -B02	0827 -B02	0827 -B02	0827 -B02	0827 -B02	0827 -B02	0827 -B02	
Compound	Method Blank	SVB-17 12-20'	SVB-17 30-40'	SVB-18 50-60'	SVB-17 70-80'	SVB-17 12-20' MS	SVB-17 12-20' MSD	Quantitation Limits with no Dilution
alpha-BHC	U	U	U	U	U	U	U	8.0
beta-BHC	U	U	U	U	U	U	U	8.0
delta-BHC	U	U	U	U	U	U	U	8.0
gamma-BHC	U	48	U	88	U	98X	110X	8.0
Heptachlor	U	U	U	U	U	64X	68X	8.0
Aldrin	U	U	U	U	U	98X	110X	8.0
Heptachlor Epoxide	U	U	U	U	U	U	U	8.0
Endosulfan I	U	U	U	U	U	U	U	8.0
Dieldrin	U	U	U	U	U	74X	81X	16
,4'-DDE	U	U	U	U	U	U	U	16
ndrin	U	U	U	U	U	99X	100X	16
Endosulfan II	U	U	U	U	U	U	U	16
4,4'-DDD	U	U	U	U	U	U	U	16
Endosulfan Sulfate	U	U	U	U	U	U	U	16
4,4'-DDT	U	U	U	U	U	240X	240X	16
Methoxychlor	U	U	U	U	U	U	U	80
Endrin-Ketone	U	U	U	U	U	U	U	16
alpha-Chlordane	U	U	U	U	U	U	U	80
gamma-Chlordane	U	U	U	U	U	U	U	80
Toxaphene	U	U	U	U	U	U	U	160
PCB - 1016	U	U	U	U	U	U	U	80
PCB - 1221	U	U	U	U	U	U	U	80
PCB - 1232	U	U	U	U	U	U	U	80
PCB - 1242	U	U	U	U	U	U	U	80
PCB - 1248	U	U	U	2,300	2,000	U	U	80
PCB - 1254	U	890	U	760	730	1,000	1,100	160
PCB - 1260	U	U	U	U	U	U	U	160

U, X - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 7.0
30910-1721
UNISYS CORPORATION
TAL METALS PLUS CYANIDE

All values are mg/Kg dry basis.

Parameter	SVB-17 12-20'	SVB-17 30-40'	SVB-17 50-60'	SVB-17 70-80'
Aluminum	2,100	5,430	2,120	1,750
Antimony	3.9U	4.0U	4.1U	3.9U
Arsenic	0.32B	0.57B	0.18U	0.18U
Barium	13.5B	37.5	18.7B	13.5B
Beryllium	0.18U	0.41B	0.19B	0.18U
Cadmium	0.58B	0.52B	0.19U	0.18U
Calcium	393B	961	196B	104B
Chromium	8.7*	13.2*	4.1*	5.1*
Cobalt	4.1B	5.5B	1.6B	1.7B
Copper	24.1*	15.6*	5.1*	3.8B*
Iron	7,430	12,800	4,570	4,910
Lead	5.3N	22.3N	2.2N	2.7NS
Magnesium	812B	1,900	566B	549B
Manganese	61.9	218	93.1	58.4
Mercury	0.09	0.09U	0.09U	0.08U
Nickel	18.4	15.0	7.9	8.3
Potassium	444B	1,370	459B	392B
Selenium	0.18UN	0.18UNW	0.18UN	0.18UN
Silver	0.54U	0.55U	0.56U	0.54U
Sodium	33.8B	96.7B	38.7B	62.9B
Thallium	0.35UW	0.37UW	0.36UW	0.36UW
Vanadium	6.3B	16.4	6.1B	5.5B
Zinc	27.0E	32.3E	10.8E	9.1E
Cyanide	2.6U	2.7U	2.7U	2.6U

B, E, N, S, U, W, * - See Metals Appendix for definition.

APPENDIX

U - Indicates that the compound was analyzed for but not detected.

J - Indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value, which is less than the specified minimum detection limit but is greater than zero.

B - This flag is used when the analyte is found in the blanks as well as the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of this analyte.

N - Indicates that the compound was analyzed for but not requested as an analyte. Value will not be listed on tabular result sheet.

X - Matrix spike compound.

(1) - Cannot be separated.

(2) - Decomposes to azobenzene. Measured and calibrated as azobenzene.

A - This flag indicates that a TIC is a suspected aldol condensation product.

E - Indicates that it exceeds calibration curve range.

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

C - Confirmed by GC/MS.

T - Compound present in TCLP blank.

APPENDIX/METALS DATA

C - Concentration qualifiers

U - Indicates analyte result less than instrument detection limit (IDL)

B - Indicates analyte result between IDL and contract required detection limit (CRDL)

Q - QC qualifiers

E - Reported value is estimated because of the presence of interference

M - Duplicate injection precision not met

N - Spiked sample recovery not within control limits

S - The reported value was determined by the method of standard additions (MSA)

W - Post-digest spike recovery furnace analysis was out of 85-115 percent control limit, while sample absorbance was less than 50 percent of spike absorbance

* - Duplicate analysis not within control limit

+ - Correlation coefficient for MSA is less than 0.995

M - Method codes

P - ICP

A - Flame AA

F - Furnace AA

CV - Cold vapor AA (manual)

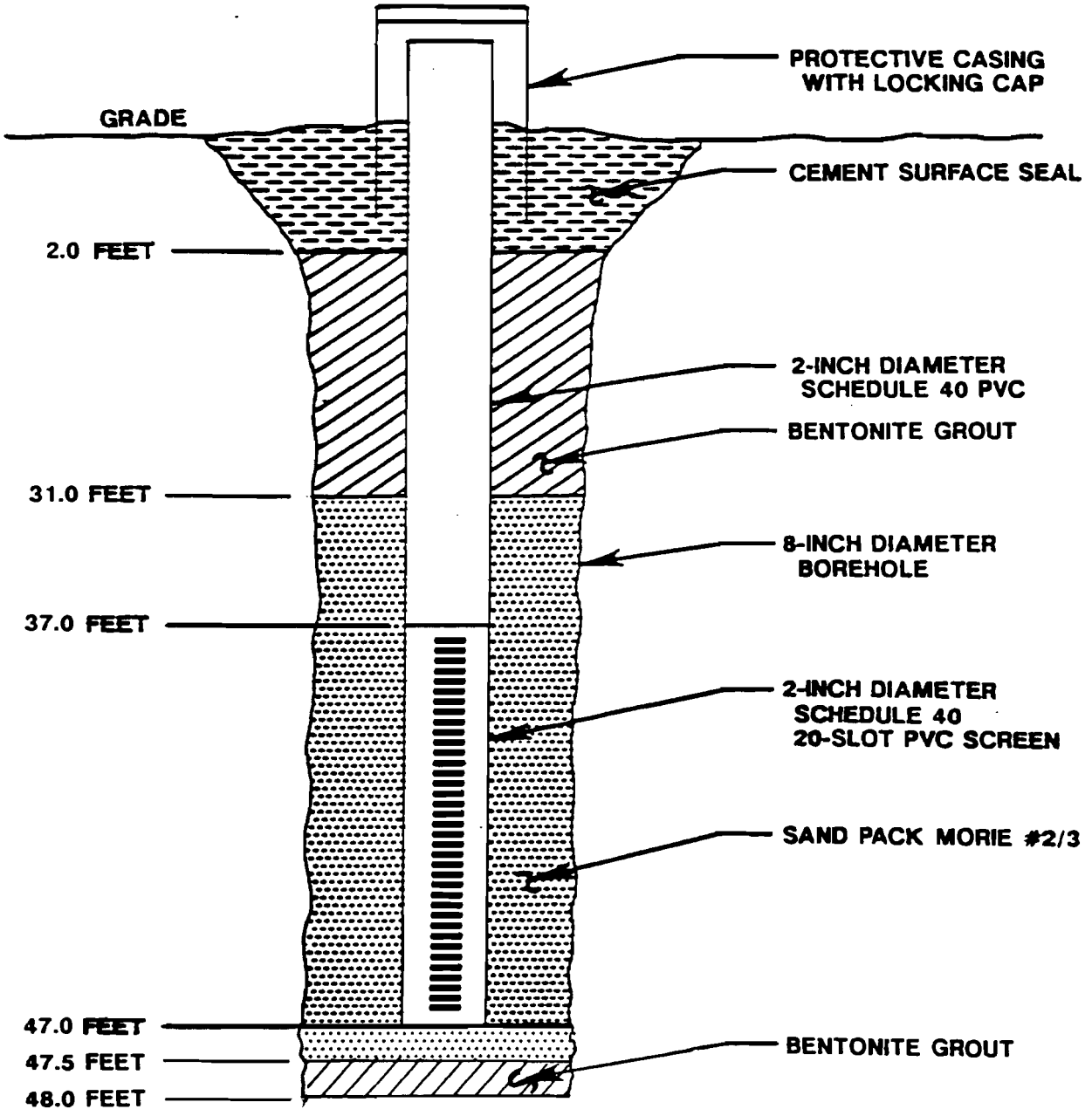
C - Cyanide

NR - Not Required

NC - Not Calculated as per protocols

APPENDIX L3

LBG 1991 VENT WELL CONSTRUCTION LOGS



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

VENT WELL 7 CONSTRUCTION DIAGRAM

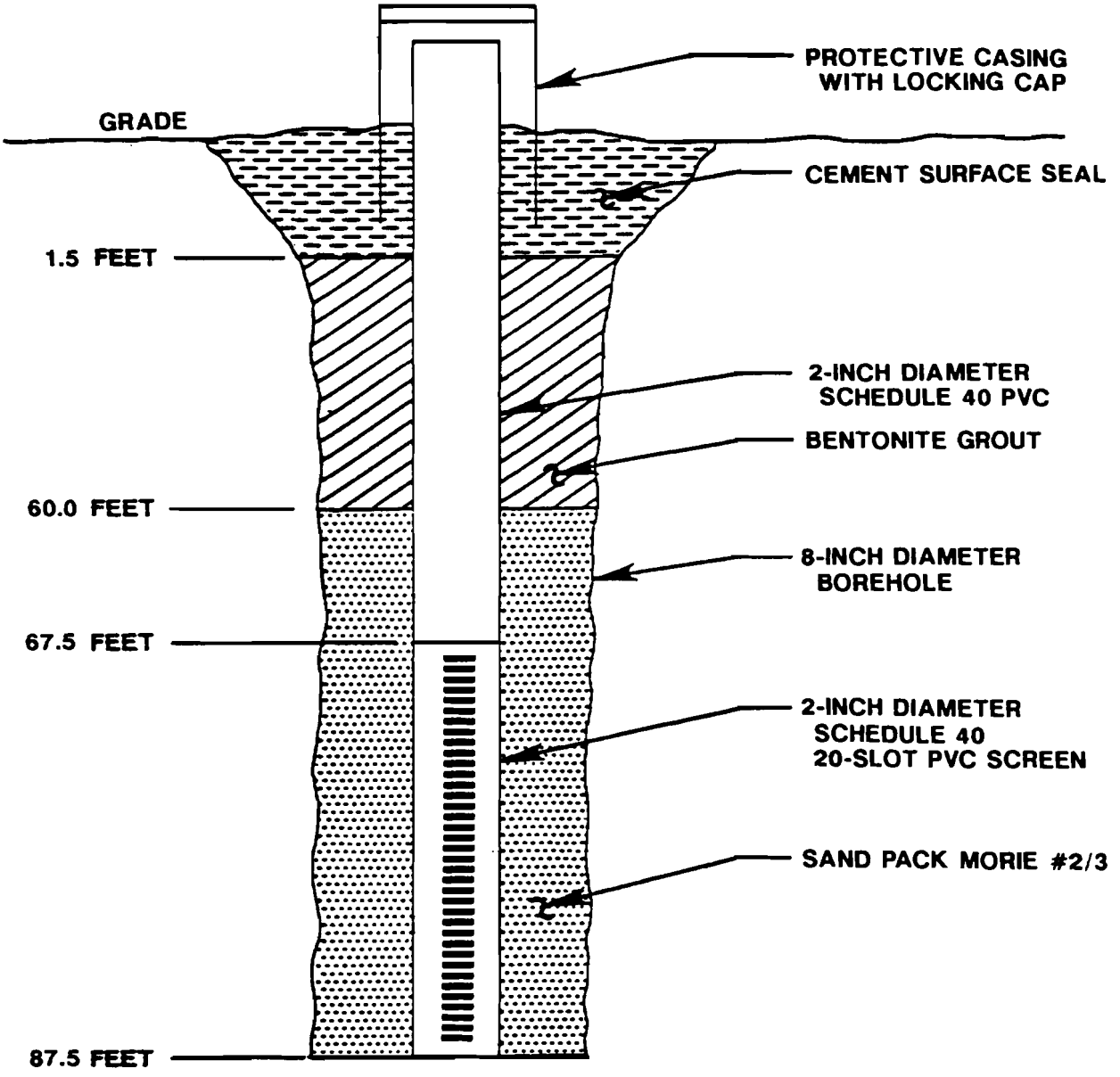
DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/30/91

FIGURE



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

VENT WELL 8 CONSTRUCTION DIAGRAM

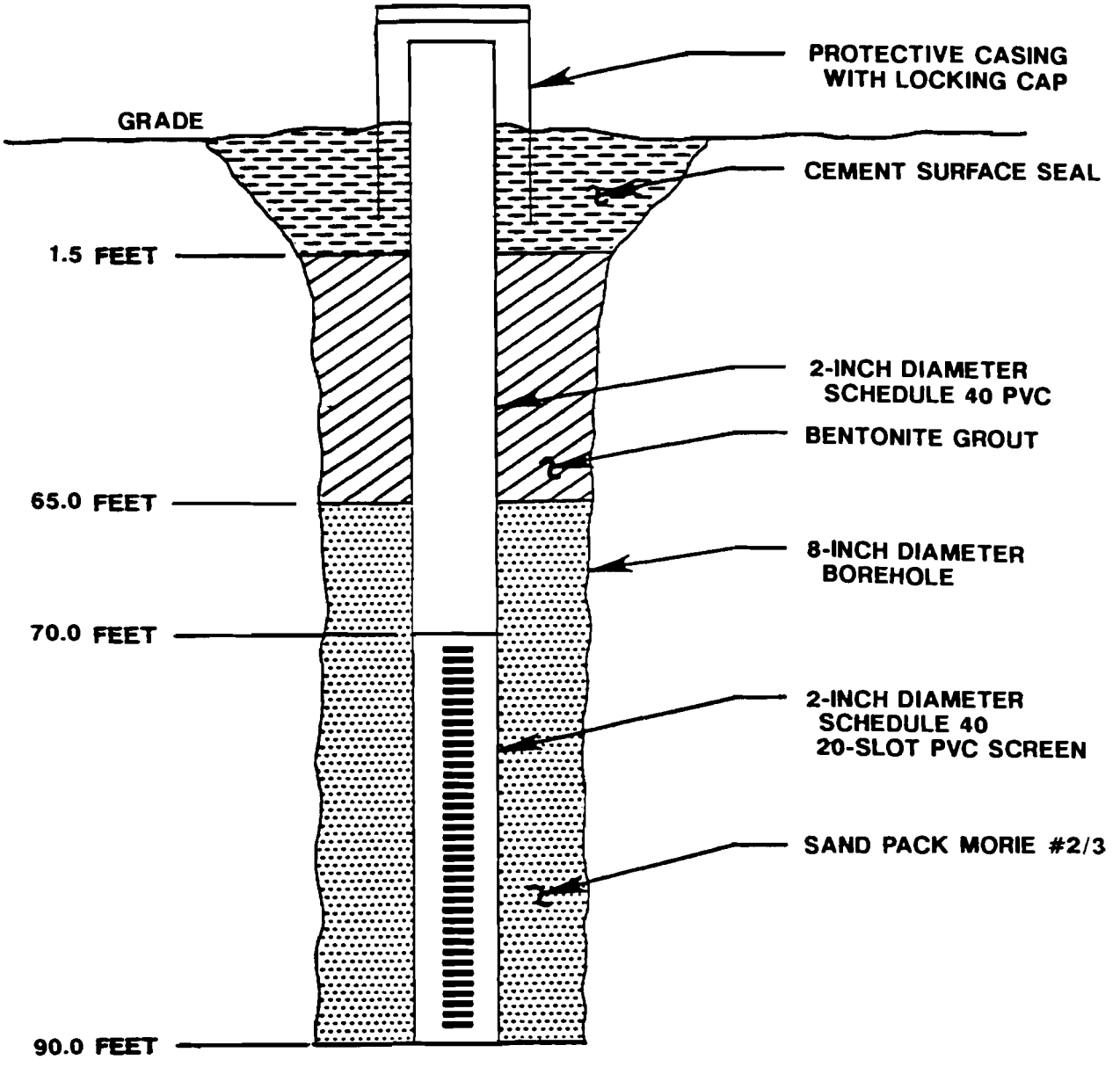
DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/20/91

FIGURE



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

VENT WELL 9 CONSTRUCTION DIAGRAM

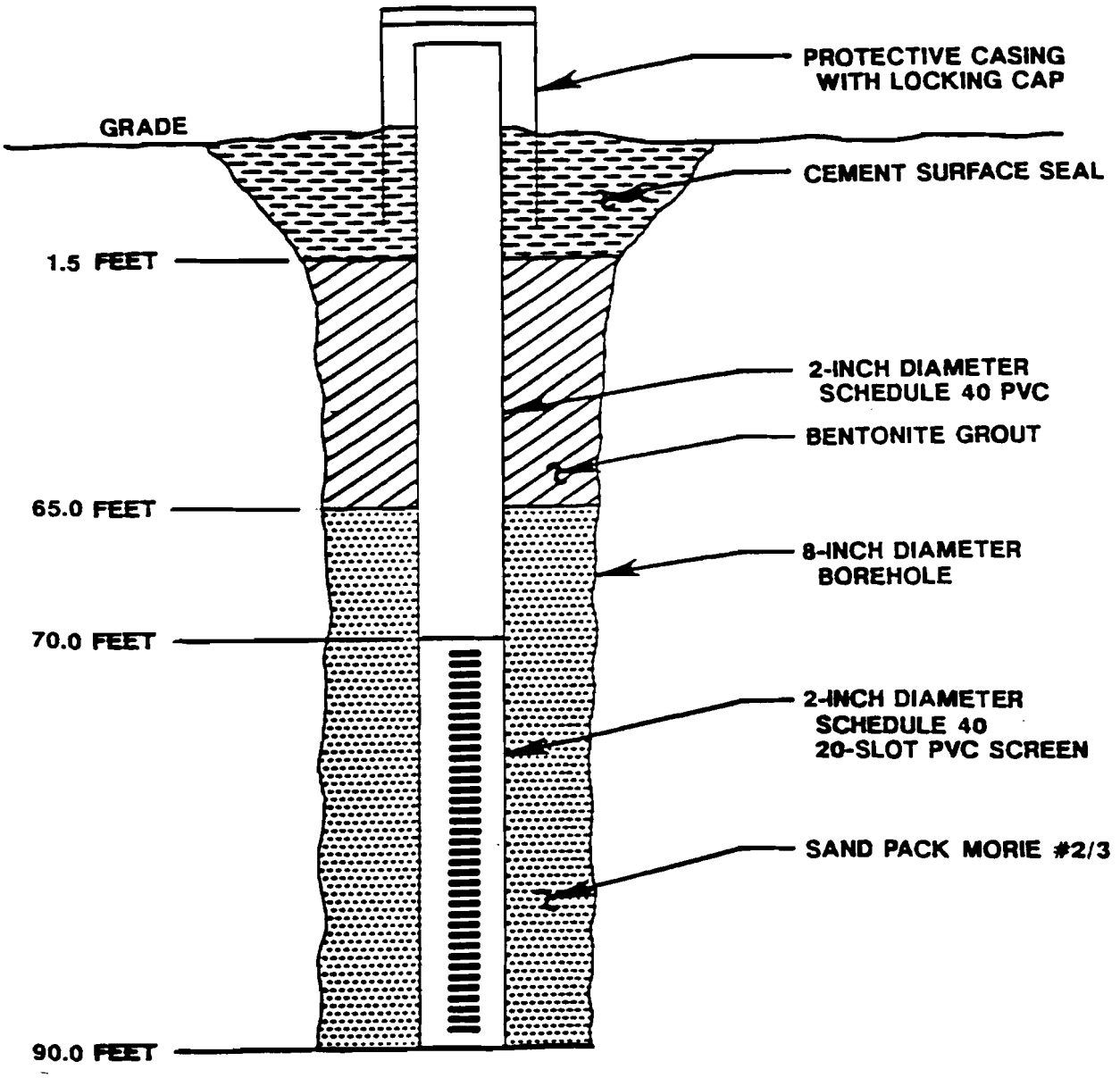
DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/20/91

FIGURE



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

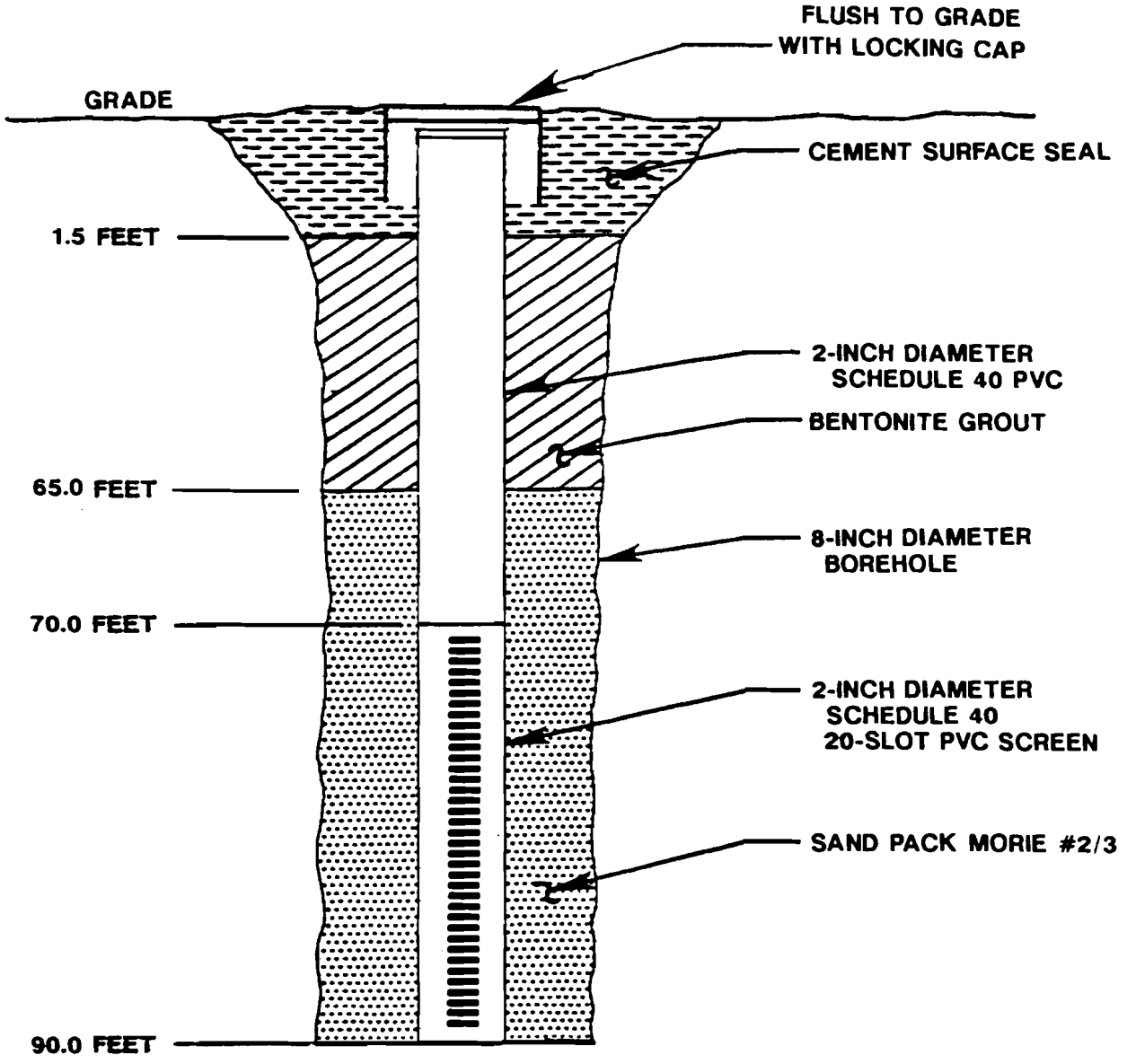
VENT WELL 10 CONSTRUCTION DIAGRAM

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/27/91 FIGURE



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

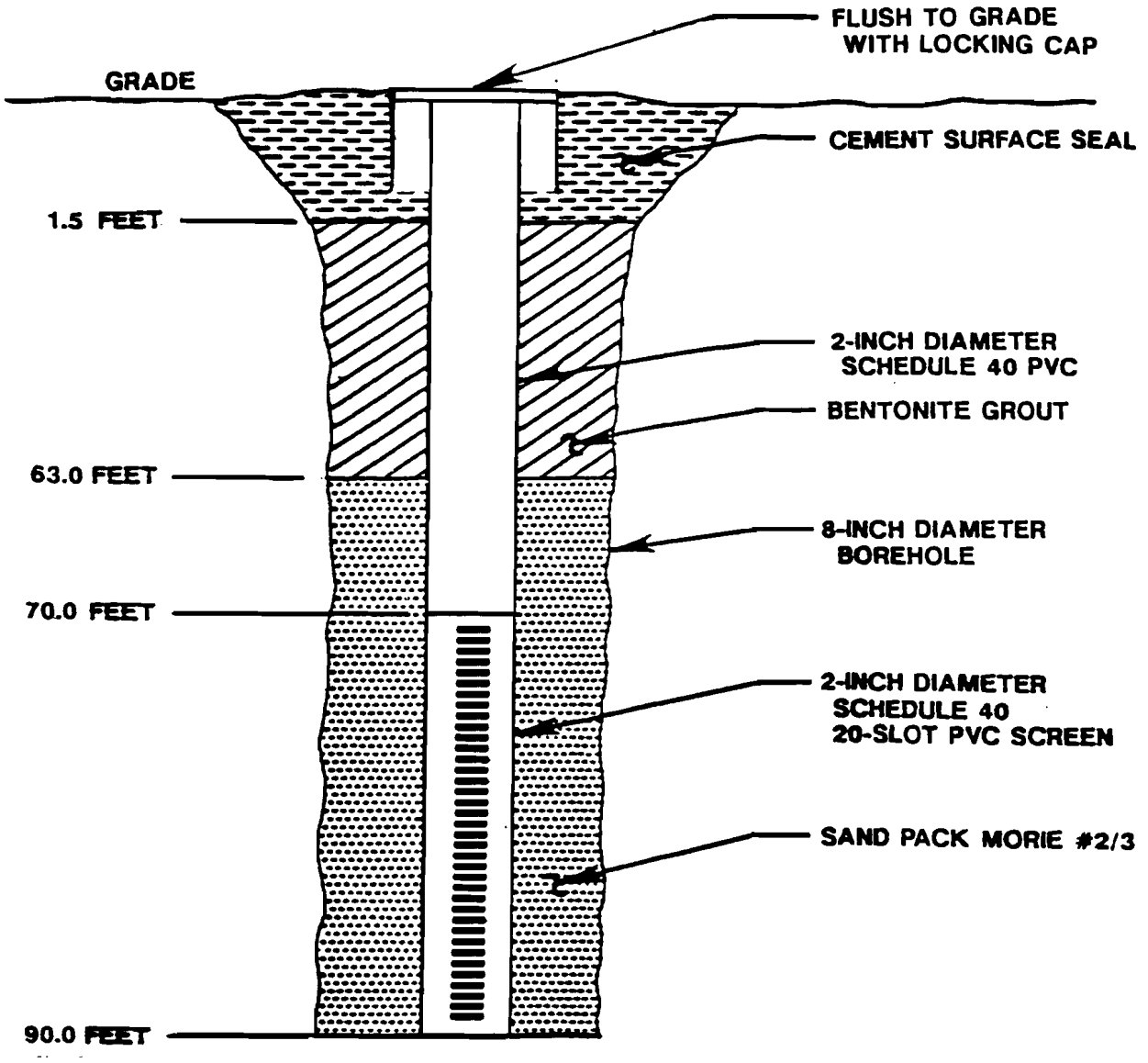
VENT WELL 11 CONSTRUCTION DIAGRAM

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/20/91 FIGURE



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

VENT WELL 12 CONSTRUCTION DIAGRAM

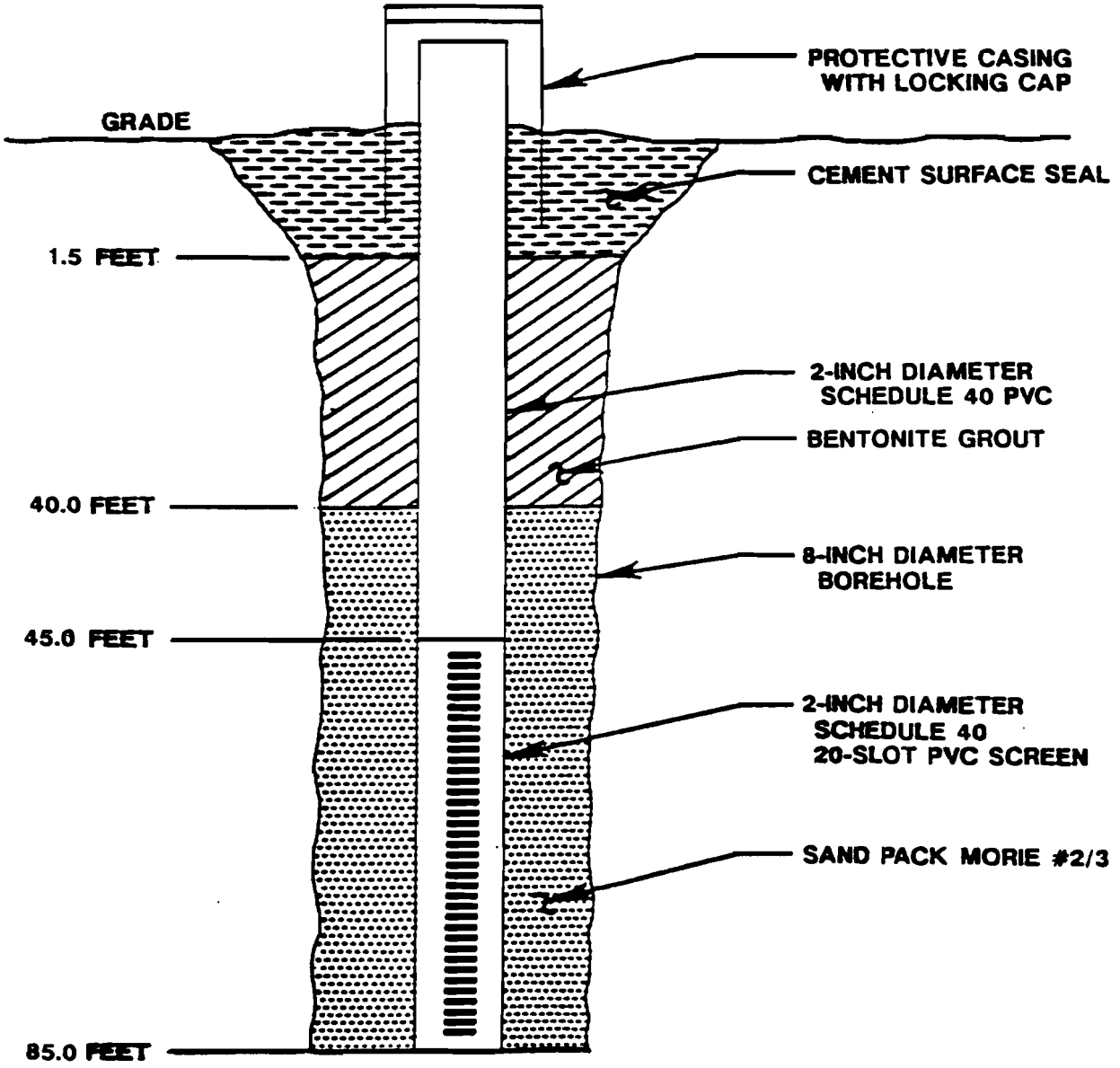
DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/27/91

FIGURE



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

VENT WELL 13 CONSTRUCTION DIAGRAM

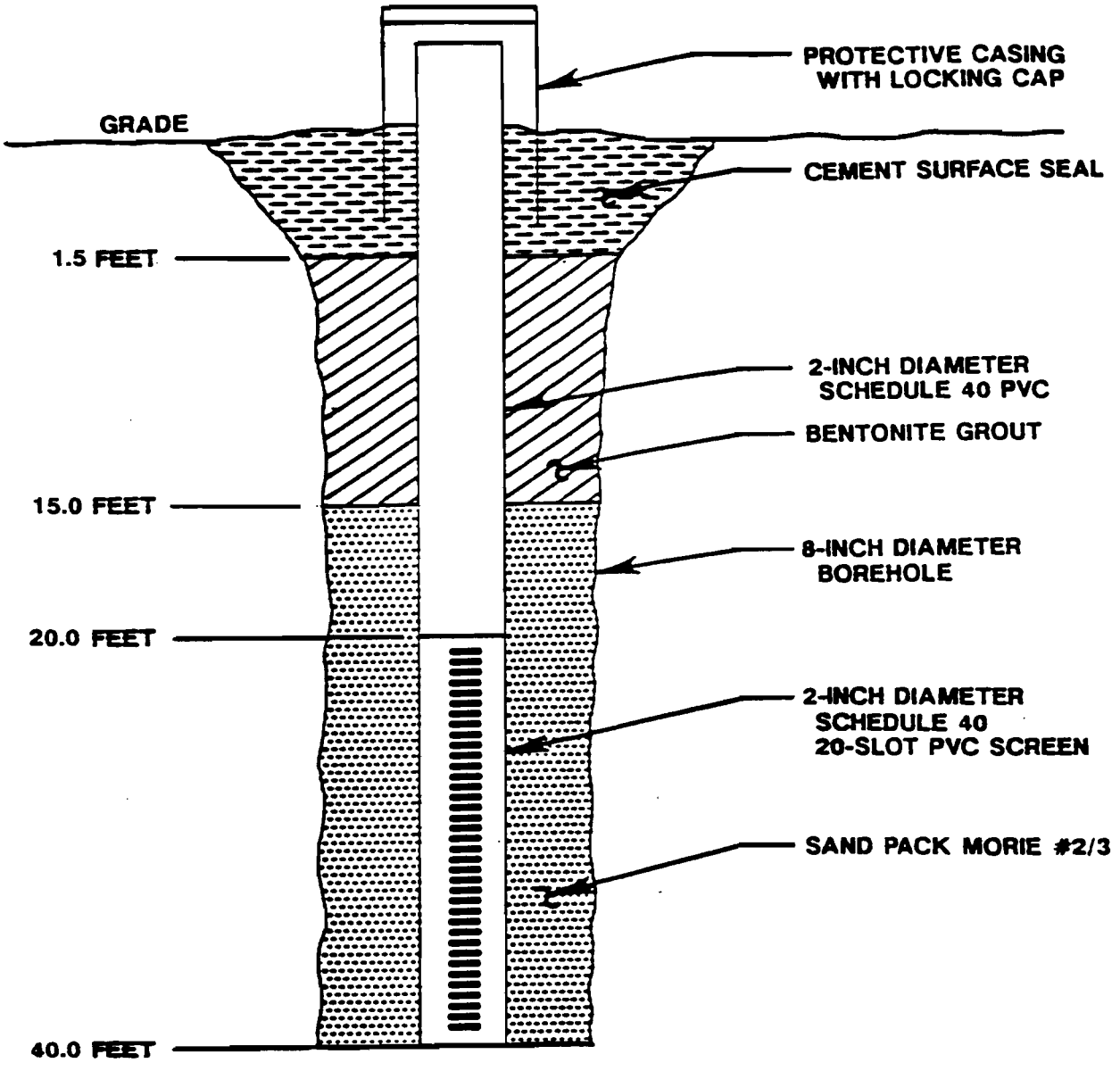
DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/27/91

FIGURE



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

VENT WELL 14 CONSTRUCTION DIAGRAM

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/27/91

FIGURE

APPENDIX L4

LBG 1991 WELL LOGS

GEOLOGIC LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

WILTON, CONNECTICUT

OWNER Unisys Corporation, Great Neck, NY	
WELL NO. 2 MU	
PAGE 1 OF 2 PAGES	
LOCATION Northeast corner of the garage building	SCREEN TYPE PVC Schedule-40
	DIAM. 4-inch SLOT NO. 20
DATE COMPLETED July 11, 1991	SETTING 175-185 feet below grade
DRILLING COMPANY R & L Well Drilling	SAND PACK 2-3 Morie Mix; 168-185 ft bg
	CASING 4-inch Schedule-40 PVC
DRILLING METHOD Mud rotary/8-inch annulus	SETTING 0 - 175 feet below grade
SAMPLING METHOD Grab/wash samples	DEVELOPMENT July 12, 1991; submersible pump
OBSERVER Keith Yocis	DURATION
REFERENCE POINT (RP)	STATIC WATER LEVEL
ELEVATION OF RP Grade	YIELD Greater than 20 gpm

REMARKS Bentonite grout set from 0 to 168 feet below grade. Drilling fluid; Aquagel Gold Seal, bentonite mud.

DEPTH (FEET) FROM	TO	DESCRIPTION
	10	Gravel, fine to coarse, and medium to very coarse sand; little very fine to fine sand; trace silt; tan.
	20	GRAVEL, fine, little medium, and medium to very coarse sand; trace very fine to fine sand and silt; tan.
	30	GRAVEL, fine, little medium gravel, and medium to very coarse sand; trace very fine to fine sand and silt; tan.
	40	Gravel, fine, and coarse to very coarse sand, little fine to medium; trace very fine sand and silt; tan.
	50	Gravel, fine, trace medium; very coarse to coarse sand, little fine to medium; trace very fine sand and silt; clay; tan.

OWNER	Unisys Corporation	
WELL NO.	2 MU	PAGE 2 OF 2 PAGES

DEPTH (FEET) FROM	TO	DESCRIPTION
	70	Gravel, fine, and very coarse sand, little medium; trace very fine
		to fine sand and silt; tan.
	80	Gravel, fine, and very coarse sand, little medium; trace very fine
		to fine sand and silt; MICAS; tan.
	90	GRAVEL, fine, some medium; some very coarse sand, little very fine;
		trace silt; MICAS; tan.
	100	Gravel, fine, and coarse sand; little very fine to medium sand and
		sandy clay; trace MICAS; tan.
	120	SAND, fine to medium, trace coarse; MICAS; tan.
	130	SAND, fine to medium, trace coarse; brown.
	140	SAND, fine to medium, trace coarse; MICAS; tan.
	150	SAND, fine to medium, trace coarse; MICAS; tan.
	160	SAND, fine to medium, trace coarse; MICAS; tan.
	170	SAND, fine to medium, little coarse, trace very coarse; MICAS; tan.
176	179	CLAY; trace lignite; dark gray.
	180	SAND, very fine to fine; trace silt; MICAS; tan.
	190	SAND, very fine to fine; trace silt; MICAS; tan.
	195	SAND, very fine, little fine; trace silt; and MICAS; tan.
	200	SILT.
	205	SAND, medium, little fine to coarse; trace fine gravel; tan.
	210	SAND, medium to coarse, some fine, little very coarse; trace fine
		gravel; brown.
	210	End of boring.

GEOLOGIC LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

WILTON, CONNECTICUT

OWNER	Unisys Corporation Great Neck, New York
WELL NO.	6 MI
PAGE	1 OF 2 PAGES
LOCATION	West of the former foundry building, 30 feet north of diffusion Well 5
SCREEN TYPE	PVC Schedule 40
DIAM.	4-inch
SLOT NO.	20
DATE COMPLETED	June 28, 1991
SETTING	215-235 feet below grade
DRILLING COMPANY	R & L Well Drilling
SAND PACK	175-240 feet below grade
CASING	4-inch PVC Schedule 40
DRILLING METHOD	Mud rotary/8-inch annulus
SETTING	2.5 feet above grade to 215 feet below grade
SAMPLING METHOD	Grab/wash samples
DEVELOPMENT	June 28, 1991 submersible pump
OBSERVER	J. Benvegna
DURATION	1.25 hours
REFERENCE POINT (RP)	Grade
STATIC WATER LEVEL	80.4 feet below grade
ELEVATION OF RP	
YIELD	Greater than 20 gallons per minute

REMARKS: Bentonite grout set from 0 - 175 feet below grade. Drilling fluid: aquagel gold seal bentonite mud.

DEPTH (FEET) FROM	TO	DESCRIPTION
	10	SAND, coarse to very coarse; some fine gravel.
	20	SAND, coarse; some very coarse; little fine gravel.
	25	SAND, coarse; little very coarse; some silt; little clay; brown.
	30	SAND, coarse; some very coarse; little medium; trace silt.
	40	SAND, coarse to very coarse; some medium; little fine gravel; trace silt and clay.
	40	Clean mud pit, noted; fine to very fine sand not in grab samples.
	50	SAND, coarse, some medium to very coarse; trace gravel.
	60	SAND, coarse to very coarse, little medium; trace fine gravel.
	70	SAND, coarse, some medium, trace very coarse; slightly finer than 60 foot sample.
	80	SAND, coarse, some medium, trace very coarse.

OWNER Unisys Corporation

WELL NO. 6 MI PAGE 2 OF 2 PAGES

DEPTH (FEET) FROM	TO	DESCRIPTION
	90	SAND, medium, some coarse, little fine.
	100	SAND, fine to medium, some very fine; very little sample, return;
		washing through strainer.
	110	SAND, fine to very fine; brown.
	120	SAND, fine to very fine, trace medium; brown.
	130	SAND, very fine to fine; tan, gray.
	140	SAND, very fine to fine; tan, gray.
	150	SAND, very fine to fine; gray.
	170	SAND, very fine to fine; gray.
	190	SAND, fine to very fine, little medium; tan; slightly coarser.
	200	SAND, fine, some very fine to medium; tan.
	210	SAND, fine, some very fine to medium; tan.
	220	SAND, medium, some fine; gray. Visually coarser.
	230	SAND, medium, trace fine; gray.
	240	SAND, coarse, little very coarse, trace medium.
	240	End of boring.

GEOLOGIC LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

WILTON, CONNECTICUT

OWNER Unisys Corporation, Great Neck, NY	
WELL NO. Recovery Well 1	
PAGE 1 OF 2 PAGES	
LOCATION 50 feet west of Well Cluster 1	SCREEN TYPE Stainless-steel made by Cook Screen Company
	DIAM. 16-inch SLOT NO. 50
DATE COMPLETED August 8, 1991	SETTING 140-160 & 171-191/sump 191-196 ftbg
DRILLING COMPANY R & L Well Drilling	SAND PACK Morie 2/3 mix
DRILLING METHOD Mud rotary: 10" pilot hole reamed to 14 and 20"	CASING 16-inch black steel pipe
	SETTING 3.0 ft ag to 140 ft bg
SAMPLING METHOD 0 - 150 ft grab/wash samples 160 - 220 ft split-spoon samples	DEVELOPMENT
OBSERVER John Benvegna	DURATION
REFERENCE POINT (RP) Grade	STATIC WATER LEVEL
ELEVATION OF RP	YIELD
REMARKS	

DEPTH (FEET) FROM	TO	DESCRIPTION
0	30	SAND, medium to coarse; some fine to medium gravel; few cobbles and boulders; tan.
45	50	SILT and CLAY; some fine sand; gray.
	60	SILT and fine sand; gray.
	70	SAND, fine to very fine, some medium; little silt; gray.
	110	SAND, very fine to fine; tan.
	120	SAND, fine to very fine, trace medium; tan.
	130	SAND, fine to very fine, trace medium; trace silt and clay; tan.
	150	SAND, fine, some medium; tan; slightly coarser than 130 feet.
		SPLIT SPOONS
160	161.5	SAND, fine, some medium; some silt; orange, tan; 0.3-foot recovery.

OWNER	Unisys Corporation, Great Neck, New York	
WELL NO.	Recovery Well 1	PAGE 2 OF 2 PAGES

DEPTH (FEET) FROM	TO	DESCRIPTION
180	181.5	SAND, fine to medium; little silt; tan-gray; 1.5-foot recovery.
190	192	Driller notes smooth drilling, may be silt and clay.
	193	Driller notes rough drilling may be coming out of silt and clay.
200	201.5	SAND, fine to medium; some silt; white; a little finer than 180 foot
		sample; 1.3-foot recovery.
210	213	Driller notes very smooth drilling (CLAY), lost circulation of mud;
		white silty clay in mud.
220	221.5	SAND, fine to very fine; some silt; orange-white; 0.7 foot thick.
		SAND, fine to very fine with three 0.1 foot layers of white-orange
		silt and clay mixed in; 0.9 foot thick.
	270	End of Borehole.

GEOLOGIC LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

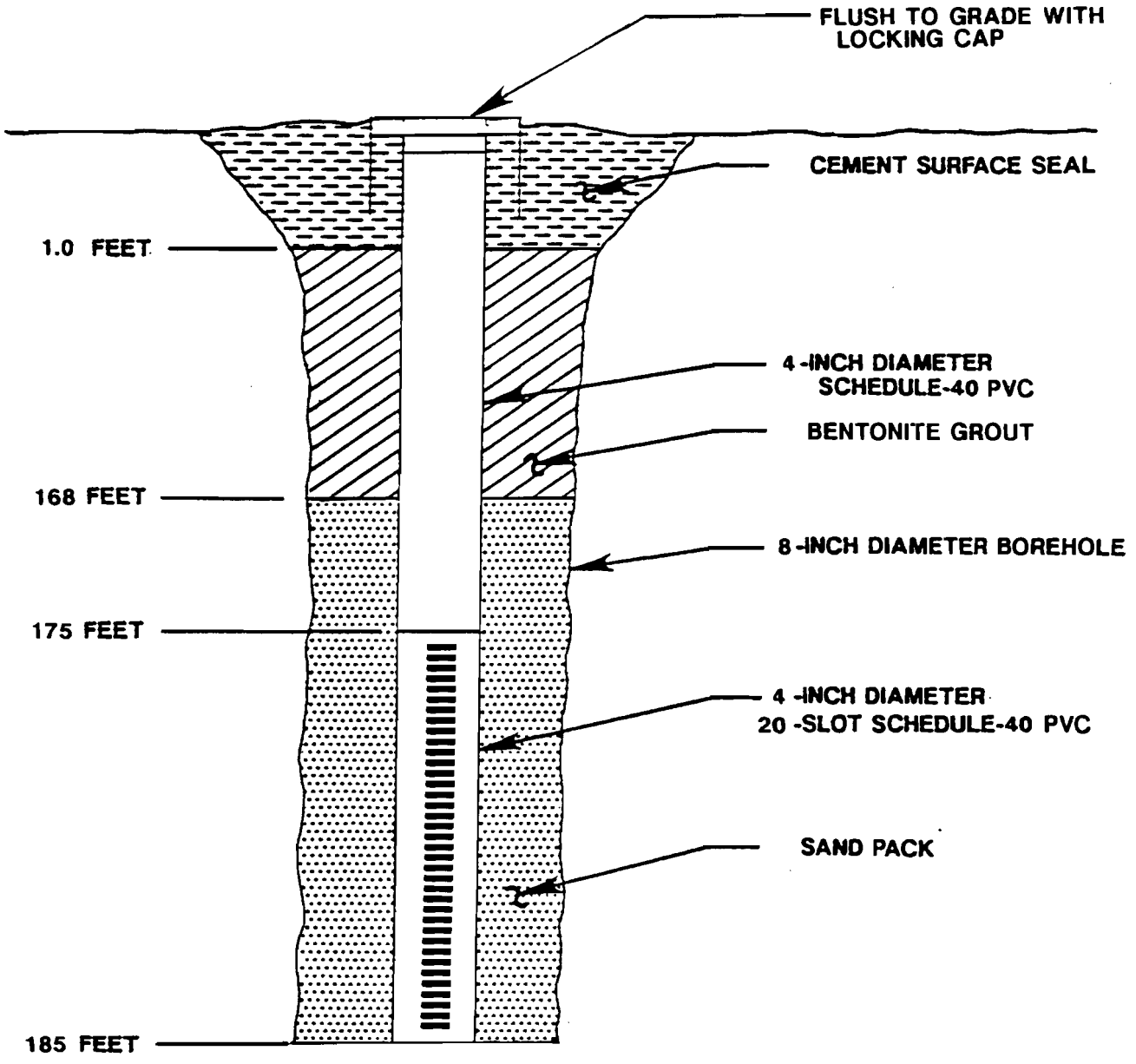
WILTON, CONNECTICUT

OWNER Unisys Corporation, Great Neck, NY	
WELL NO. Recovery Well 2	
PAGE 1 OF 2 PAGES	
LOCATION Reclamation area across from Guard Post No. 3	SCREEN TYPE Stainless-steel made by Cook Screen Company
	DIAM. 8-inch SLOT NO. 30
DATE COMPLETED July 19, 1991	SETTING screen 180-210/sump 210-215 ftbg
DRILLING COMPANY R & L Well Drilling	SAND PACK Morie No. 2
	CASING 8"I.D. - 8 3/4"O.D. black steel pipe
DRILLING METHOD Mud rotary: 8" pilot hole reamed to 10 and 14"	SETTING 2.5 ft ag to 180 ft bg
SAMPLING METHOD 0 - 195 ft grab/wash samples 200 - 261 ft split-spoon samples	DEVELOPMENT
OBSERVER John Benvegna	DURATION
REFERENCE POINT (RP) Grade	STATIC WATER LEVEL
ELEVATION OF RP	YIELD
REMARKS	

DEPTH (FEET) FROM	TO	DESCRIPTION
	10	SAND, coarse to very coarse, and fine gravel; some cobbles.
	28	SHEEN noticed on mud; odor at top of borehole; 6.5 ppm on PID.
	35	SAND, coarse to very coarse; some fine gravel.
	75	SAND, coarse to very coarse; some fine gravel; black sheen on mud.
	95	SAND, coarse to medium, trace very coarse to fine; gray; slight odor.
105	110	SILTY clay noted in strainer, bucket sample yielded medium to fine sand.
	115	Driller notes very dense material, bit rotation slowing; a lot of brown silt and clay in mud.
	115	SAND, fine to very fine; some silt; trace clay; gray.
	130	Silty clay in mud; gray.
	140	Driller notes medium sand in mud; coming out of silt and clay.

OWNER	Unisys Corporation, Great Neck, New York	
WELL NO.	Recovery Well 2	PAGE 2 OF 2 PAGES

DEPTH (FEET) FROM	TO	DESCRIPTION
	150	SAND, fine to very fine, little medium; trace silt; brown.
	175	SAND, fine to very fine, some medium, little coarse; tan; gray.
	185	SAND, medium to coarse, some very coarse; little silt and clay
		noted in mud.
	195	SAND, fine to medium, little coarse, trace very fine; brown.
		SPLIT-SPOON SAMPLES
200	201.5	SAND, medium, some coarse, little very coarse; trace fine sand and
		gravel; brown; 0.4-foot recovery.
220	221.5	SAND, medium, some coarse; 0.3 foot layer of medium to coarse sand
		and fine gravel at bottom of spoon; 0.1 foot layer of red silt
		0.3 feet from bottom of spoon; 0.8-foot recovery.
240	241.5	SAND, coarse to medium, some very coarse; 1.10-foot recovery.
260	261.5	SAND, medium to fine, some very fine; little silt; streaks of black
		and brown silt throughout sample; 0.85-foot recovery.
		End of Borehole.



NOT TO SCALE

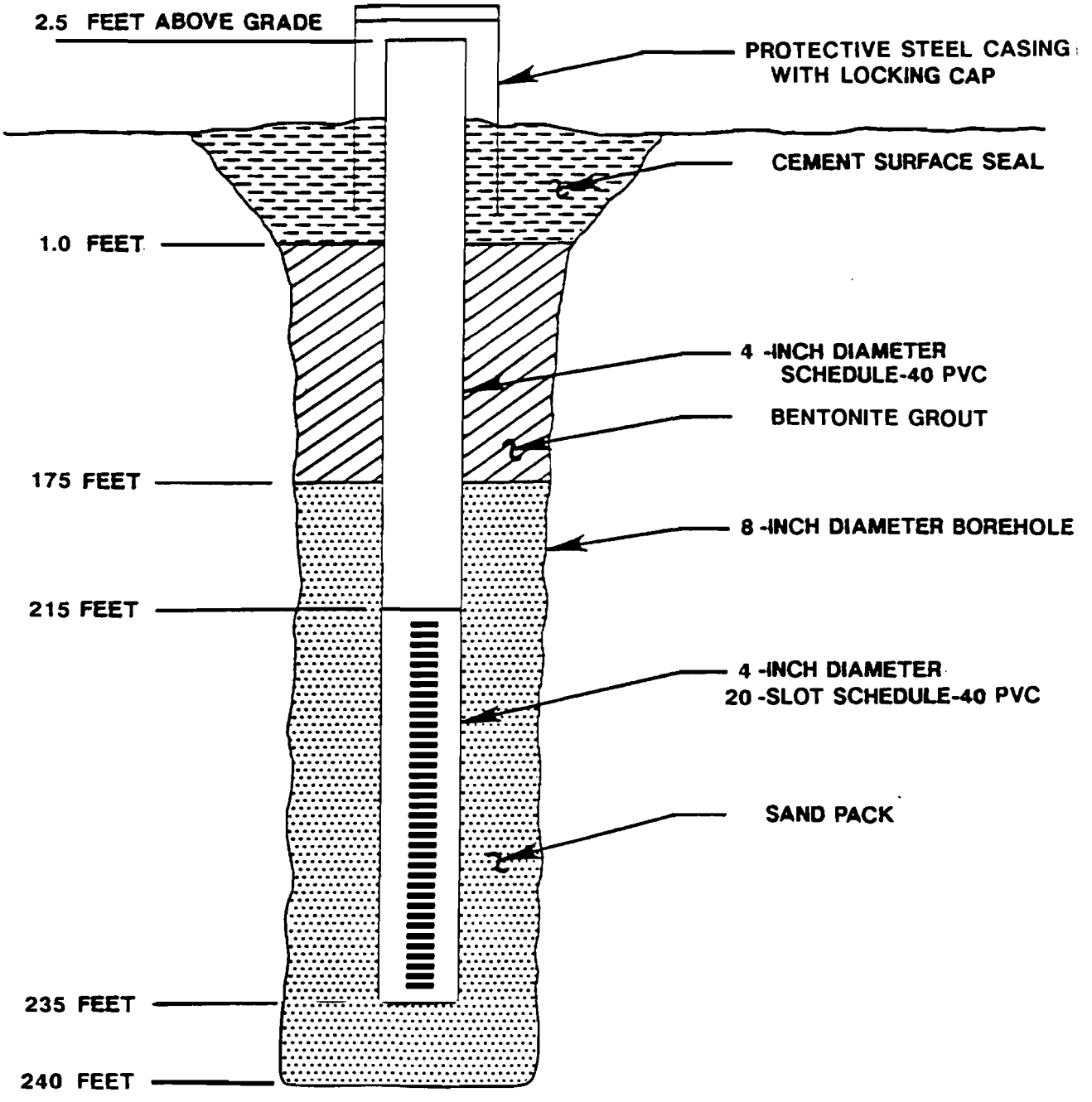
UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

WELL CONSTRUCTION DIAGRAM OF WELL 2MU

DATE	REVISED

PREPARED BY: LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 7/18/91 FIGURE



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

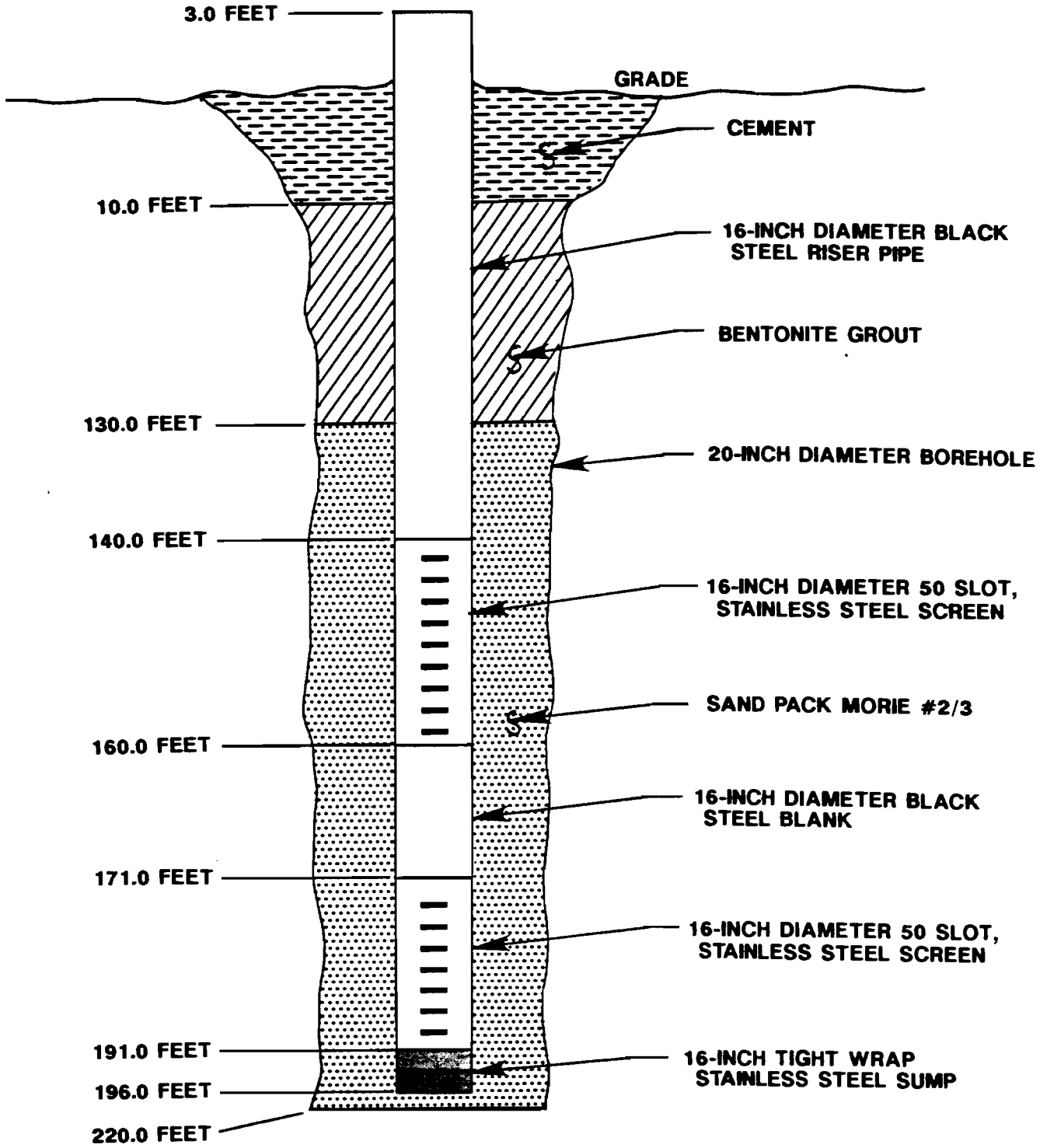
WELL CONSTRUCTION DIAGRAM OF WELL 6MI

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 7/18/91 FIGURE



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

RECOVERY WELL 1
WELL CONSTRUCTION DIAGRAM

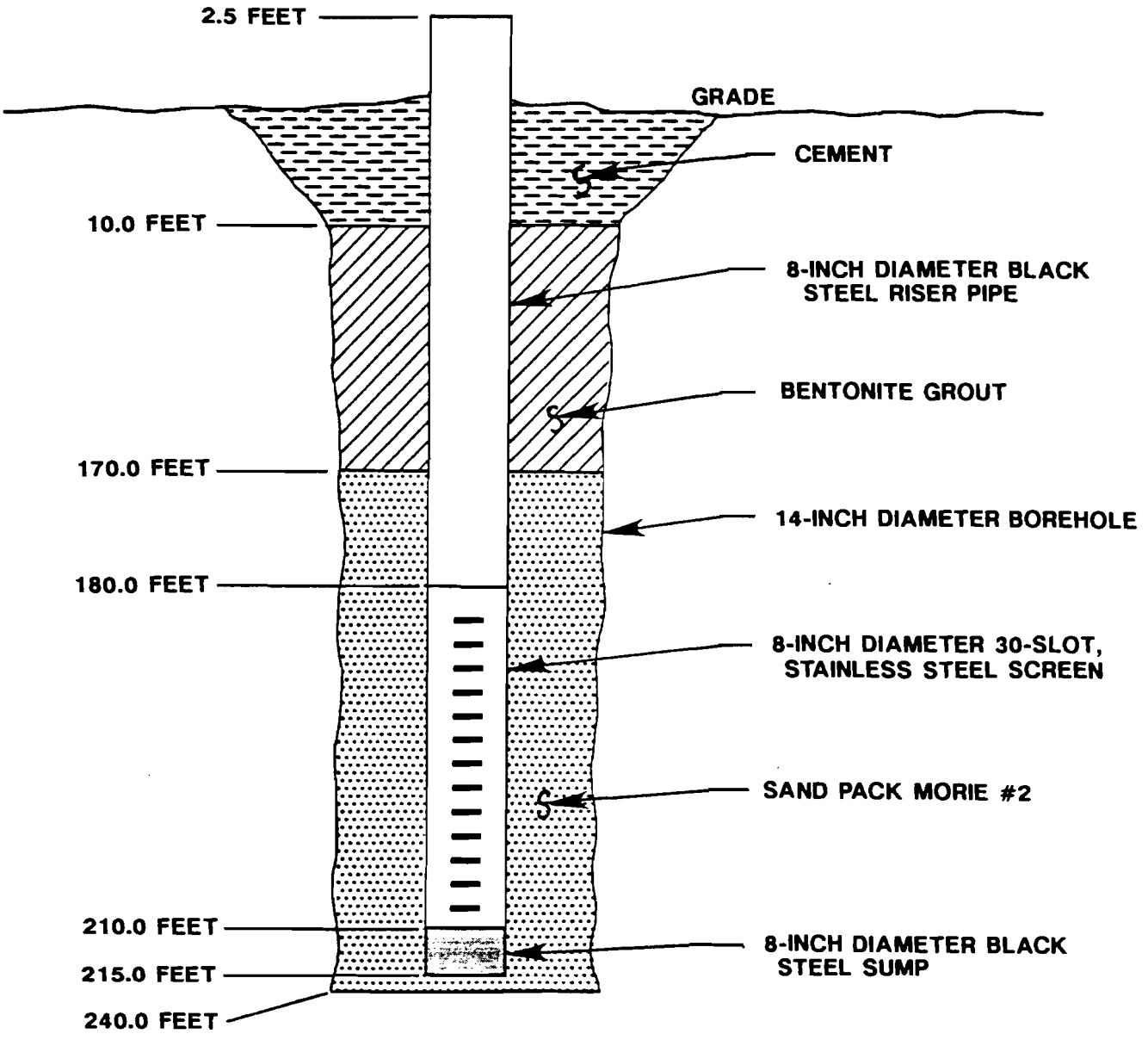
DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/20/91

FIGURE



NOT TO SCALE

UNISYS CORPORATION
SHIPBOARD AND GROUND SYSTEMS GROUP
GREAT NECK, NEW YORK

RECOVERY WELL 2
WELL CONSTRUCTION DIAGRAM

DATE	REVISED

PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207

DATE: 8/20/91 FIGURE

APPENDIX L5

LBG 1991 GROUND WATER CHEMISTRY

an environmental testing company
200 Monroe Turnpike
Monroe, Connecticut 06468
(203) 261-4458
FAX (203) 268-5346

REPORT TRANSMITTAL

REPORT NUMBER 30910-1848

DATE October 22, 1991

CLIENT Unisys Corporation
3199 Pilot Knob
MS F1B05
Eagan, MN 55121

ATTENTION Mr. Kevin Krueger

The above referenced report is enclosed. Copies of this report and supporting data will be retained in our files in the event they are required for future reference.

If there are any questions concerning this report, please do not hesitate to contact us.

Any samples submitted to our Laboratory will be retained for a maximum of thirty (30) days from receipt of this report, unless other arrangements are desired.

October 22, 1991

30910-1848
UNISYS CORPORATION
3199 Pilot Knob
MS F1B05
Eagan, Minnesota 55121

Re: Great Neck, NY C-34141

Attention: Mr. Kevin Krueger

PURPOSE

Eighteen samples, four trip blanks and one field blank collected on September 17-20, 1991 were submitted to IEA, Inc. by Unisys Corporation. The client requested the samples be analyzed for TCL volatile organics plus a library search for non-target compounds.

METHODOLOGY

Volatile organics were determined using purge and trap GC/MS. The instrumentation used was a Tekmar Dynamic Headspace Concentrator interfaced with a Hewlett-Packard Model 5995C GC/MS/DS.

DISCUSSION

Volatile Organics - Sample VW-9 was run at a 1:100 dilution within holding time. This sample needed to be rerun at a 1:20 dilution which was done one day past holding time. Both sets of data have been reported. The 1:100 diluted run has been designated with the suffix "DL".

The following samples were diluted for target compounds:

Sample	Dilution	Sample	Dilution
6MI	1:5	VW-13	1:200
2MU	1:4	VW-8	1:100
8GL	1:2	VW-14	1:500
12MI	1:2	VW-14	1:500
10GL	1:2	VW-9*	1:20
7GL	1:2	VW-9 DL	1:100
5MI	1:2	2MI	1:5

*out of holding time

The QC for sample VW-9 was run on the 8th day after receipt (one day past holding time). The client was contacted and requested this be noted in the case narrative and the data be reported.

The laboratory followed USEPA CLP-SOW Document #OLM01.0 for the GC/MS calibration criteria.

RESULTS

The results are presented in the following Tables. Also enclosed is the data package containing all relevant QA/QC and raw data.

Prepared by: Sohail Jabari for
Jeffrey C. Curran
Laboratory Manager

JCC/adj

The liability of IEA, Inc. is limited to the actual dollar value of this project.

Aqueous

TABLE 1.0
30910-1848
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification		
Dilution Factor	1.0	1.0	
Method Blank I.D.	>A7848	>A7848	
Compound	Method Blank	8GU	Quantitation Limits with no Dilution
Chloromethane	U	U	10
Bromomethane	U	U	10
Vinyl Chloride	U	U	10
Chloroethane	U	U	10
Methylene Chloride	U	U	5
Acetone	13	U	10
Carbon Disulfide	U	U	5
1,1-Dichloroethene	U	3J	5
1,1-Dichloroethane	U	U	5
1,2-Dichloroethene (total)	U	50	5
Chloroform	2J	U	5
1,2-Dichloroethane	U	U	5
2-Butanone	4J	U	10
1,1,1-Trichloroethane	U	3J	5
Carbon Tetrachloride	U	U	5
Vinyl Acetate	U	U	10
Bromodichloromethane	U	U	5
1,2-Dichloropropane	U	U	5
cis-1,3-Dichloropropene	U	U	5
Trichloroethene	U	39	5
Dibromochloromethane	U	U	5
1,1,2-Trichloroethane	U	U	5
Benzene	U	U	5
trans-1,3-Dichloropropene	U	U	5
Bromoform	U	U	5
4-Methyl-2-pentanone	U	U	10
2-Hexanone	U	U	10
Tetrachloroethene	U	29	5
1,1,2,2-Tetrachloroethane	U	U	5
Toluene	0.6J	U	5
Chlorobenzene	U	U	5
Ethylbenzene	U	U	5
Styrene	U	U	5
Xylene (total)	U	U	5

U, J - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Aqueous

TABLE 1.1
30910-1848
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification						
Dilution Factor	1.0	1.0	1.0	5.0	100.0	100.0	
Method Blank I.D.	>A7878	>A7878	>A7878	>A7878	>A7878	>A7878	
Compound	Method Blank	TB 09/21/91	TB 09/24/91	2MI	VW-8	VW-9 DL	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	U	10
Methylene Chloride	3J	2JB	U	13JB	120JB	170JB	5
Acetone	41	8JB	5JB	78B	1,400B	3,800	10
Carbon Disulfide	U	U	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	U	U	670	17,000	2,200	5
Chloroform	U	U	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	U	U	5
2-Butanone	U	U	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	U	5
Trichloroethene	U	U	U	180	390J	620	5
Dibromochloromethane	U	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	U	5
Benzene	U	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	U	5
Bromoform	U	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	U	10
Tetrachloroethene	U	U	U	100	830	680	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	5
Toluene	U	U	U	U	U	88J	5
Chlorobenzene	U	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	U	5
Styrene	U	U	U	U	U	U	5
Xylene (total)	U	U	U	U	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Aqueous

TABLE 1.2
30910-1848
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification						
Dilution Factor	1.0	1.0	1.0	2.0	2.0	1.0	
Method Blank I.D.	>A7858	>A7858	>A7858	>A7858	>A7858	>A7858	
Compound	Method Blank	TB 09/19/91	TB 09/20/91	8GL	12MI	6GL	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	U	10
Methylene Chloride	U	1J	U	U	U	U	5
Acetone	4J	4JB	3JB	22B	6JB	6JB	10
Carbon Disulfide	U	U	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	2J	U	5
1,1-Dichloroethane	U	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	U	U	350	320	15	5
Chloroform	U	2J	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	U	U	5
2-Butanone	U	U	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	U	5
Trichloroethene	U	U	U	140	75	3J	5
Dibromochloromethane	U	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	U	5
Benzene	U	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	U	5
Bromoform	U	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	U	10
Tetrachloroethene	U	U	U	94	73	2J	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	5
Toluene	U	U	U	U	U	U	5
Chlorobenzene	U	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	U	5
Styrene	U	U	U	U	U	U	5
Xylene (total)	U	U	U	U	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Aqueous

TABLE 1.3
30910-1848
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification						
Dilution Factor	1.0	1.0	2.0	1.0	2.0	2.0	
Method Blank I.D.	>A7858	>A7858	>A7858	>A7858	>A7858	>A7858	
Compound	Method Blank	12ML	10GL	5GL	7GL	5MI	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	U	10
Methylene Chloride	U	U	2J	U	U	U	5
Acetone	4J	6JB	14JB	1JB	13JB	11JB	10
Carbon Disulfide	U	U	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	41	110	23	230	300	5
Chloroform	U	U	U	U	1J	U	5
1,2-Dichloroethane	U	U	U	U	U	U	5
2-Butanone	U	U	U	U	U	U	10
1,1,1-Trichloroethane	U	U	2J	U	U	U	5
Carbon Tetrachloride	U	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	U	5
Trichloroethene	U	5	44	7	63	89	5
Dibromochloromethane	U	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	U	5
Benzene	U	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	U	5
Bromoform	U	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	U	10
Tetrachloroethene	U	12	210	4J	32	49	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	5
Toluene	U	U	U	U	2J	2J	5
Chlorobenzene	U	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	U	5
Styrene	U	U	U	U	U	U	5
Xylene (total)	U	U	U	U	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 1.4
30910-1848
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

Aqueous

All values are ug/L.

	Sample Identification					
Dilution Factor	1.0	500.0	1.0	200.0	20.0	
Method Blank I.D.	>A7932	>A7932	>A7932	>A7932	>A7932	
Compound	Method Blank	VW-14	VW-10	VW-13	VW-9	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	10
Methylene Chloride	U	1,100J	U	U	U	5
Acetone	6J	16,000B	5JB	3,700B	380B	10
Carbon Disulfide	U	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	U	30	18,000	2,100	5
Chloroform	U	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	U	5
2-Butanone	U	U	U	U	U	10
1,1,1-Trichloroethane	U	750J	1J	U	U	5
Carbon Tetrachloride	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	5
Trichloroethene	U	98,000	64	220J	260	5
Dibromochloromethane	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	5
Benzene	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	5
Bromoform	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	10
Tetrachloroethene	U	54,000	60	770J	430	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	5
Toluene	U	19,000	U	5,500	13J	5
Chlorobenzene	U	U	U	U	U	5
Ethylbenzene	U	850J	U	480J	U	5
Styrene	U	U	U	U	U	5
Xylene (total)	U	4,100	U	2,000	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Aqueous

TABLE 1.5
30910-1848
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification			
Dilution Factor	1.0	20.0	20.0	
Method Blank I.D.	>B5675	>B5675	>B5675	
Compound	Method Blank	VW-9 MS	VW-9 MSD	Quantitation Limits with no Dilution
Chloromethane	U	U	U	10
Bromomethane	U	U	U	10
Vinyl Chloride	U	U	U	10
Chloroethane	U	U	U	10
Methylene Chloride	U	U	U	5
Acetone	2J	U	U	10
Carbon Disulfide	U	U	U	5
1,1-Dichloroethene	U	790X	840X	5
1,1-Dichloroethane	U	U	U	5
1,2-Dichloroethene (total)	U	1,800X	2,000	5
hloroform	U	U	U	5
,2-Dichloroethane	U	U	U	5
2-Butanone	U	U	U	10
1,1,1-Trichloroethane	U	U	U	5
Carbon Tetrachloride	U	U	U	5
Vinyl Acetate	U	U	U	10
Bromodichloromethane	U	U	U	5
1,2-Dichloropropane	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	5
Trichloroethene	U	1,200X	1,200X	5
Dibromochloromethane	U	U	U	5
1,1,2-Trichloroethane	U	U	U	5
Benzene	U	990X	1,000X	5
trans-1,3-Dichloropropene	U	U	U	5
Bromoform	U	U	U	5
4-Methyl-2-pentanone	U	U	U	10
2-Hexanone	U	U	U	10
Tetrachloroethene	U	390	430	5
1,1,2,2-Tetrachloroethane	U	U	U	5
Toluene	U	920X	980X	5
Chlorobenzene	U	940X	960X	5
Ethylbenzene	U	U	U	5
Styrene	U	U	U	5
Xylene (total)	U	U	U	5

U, J, X - See Appendix for definition.
ote: Sample detection limit = quantitation limit x dilution factor.

Aqueous

TABLE 1.6
30910-1848
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification					
Dilution Factor	1.0	5.0	1.0	4.0	1.0	
Method Blank I.D.	>G6509	>G6509	>G6509	>G6509	>G6509	
Compound	Method Blank	6MI	FB	2MU	TB 09/18/91	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	10
Methylene Chloride	U	5J	0.7J	5J	0.9J	5
Acetone	3J	67B	6JB	65B	4JB	10
Carbon Disulfide	U	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	600	U	670	U	5
Chloroform	U	U	U	7J	2J	5
1,2-Dichloroethane	U	U	U	U	U	5
2-Butanone	U	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	5
Trichloroethene	U	100	U	170	U	5
Dibromochloromethane	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	5
Benzene	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	5
Bromoform	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	10
Tetrachloroethene	U	110	U	120	U	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	5
Toluene	U	U	U	2J	U	5
Chlorobenzene	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	5
Styrene	U	U	U	U	U	5
Xylene (total)	U	U	U	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 2.0
30910-1848
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: Method Blank >A7848

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: 8GU

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: Method Blank >A7878

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: TB 09/21/91

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: TB 09/24/91

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: 2MI

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

TABLE 2.1
30910-1848
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: VW-9 DL

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: VW-8

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: Method Blank >A7858

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: TB 09/19/91

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: TB 09/20/91

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: 8GL

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

TABLE 2.2
30910-1848
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: 12MI

CAS#	Compound	RT	Estimated Concentration, ug/L
	Unknown siloxane	22.23	35J
	Unknown siloxane	25.29	33J
	Unknown siloxane	22.42	14J

Sample Identification: 6GL

CAS#	Compound	RT	Estimated Concentration, ug/L
	Unknown siloxane	22.41	44J
	Unknown alkane	26.28	7J

Sample Identification: 12ML

CAS#	Compound	RT	Estimated Concentration, ug/L
	Unknown siloxane	25.30	21J
	Unknown siloxane	22.43	14J

Sample Identification: 10GL

CAS#	Compound	RT	Estimated Concentration, ug/L
	Unknown siloxane	22.36	29J

Sample Identification: 5GL

CAS#	Compound	RT	Estimated Concentration, ug/L
	Unknown siloxane	22.42	11J

J - See Appendix for definition.

TABLE 2.3
30910-1848
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: 7GL

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: 5MI

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: Method Blank >A7932

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: VW-14

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: VW-10

CAS#	Compound	RT	Estimated Concentration, ug/L
	Unknown siloxane	25.39	57J
	Unknown siloxane	22.56	7J
110543	Hexane	8.54	6J

J - See Appendix for definition.

TABLE 2.4
30910-1848
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: VW-13

CAS#	Compound	RT	Estimated Concentration, ug/L
	Unknown siloxane	22.50	63,000J
	Unknown siloxane	25.37	48,000J
	Unknown alkane	8.51	1,600J
	Unknown siloxane	23.87	1,000J

Sample Identification: VW-9

CAS#	Compound	RT	Estimated Concentration, ug/L
1634-04-4	Methyl tert-butyl ether	8.05	450J
	Unknown siloxane	25.39	320J
110543	Hexane	8.73	230J

Sample Identification: Method Blank >G6509

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: 6MI

CAS#	Compound	RT	Estimated Concentration, ug/L
	Unknown alkane	8.66	70J
76-13-1	1,1,2-Trichlorotrifluoroethane	6.44	28J

Sample Identification: FB

CAS#	Compound	RT	Estimated Concentration, ug/L
	Unknown alkane	8.70	5J

J - See Appendix for definition.

TABLE 2.5
30910-1848
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: 2MU

CAS#	Compound	RT	Estimated Concentration, ug/L
	Unknown alkane	8.67	100J
76-13-1	1,1,2-Trichlorotrifluoroethane	6.29	48J

Sample Identification: TB 09/18/91

CAS#	Compound	RT	Estimated Concentration, ug/L
	Unknown alkane	8.64	6J

J - See Appendix for definition.

APPENDIX

U - Indicates that the compound was analyzed for but not detected.

J - Indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value, which is less than the specified minimum detection limit but is greater than zero.

B - This flag is used when the analyte is found in the blanks as well as the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of this analyte.

N - Indicates that the compound was analyzed for but not requested as an analyte. Value will not be listed on tabular result sheet.

X - Matrix spike compound.

(1) - Cannot be separated.

(2) - Decomposes to azobenzene. Measured and calibrated as azobenzene.

A - This flag indicates that a TIC is a suspected aldol condensation product.

E - Indicates that it exceeds calibration curve range.

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

C - Confirmed by GC/MS.

T - Compound present in TCLP blank.

an environmental testing company
200 Monroe Turnpike
Monroe, Connecticut 06468
(203) 261-4458
FAX (203) 268-5346

REPORT TRANSMITTAL

REPORT NUMBER 30910-1848A

DATE October 31, 1991

CLIENT Unisys Corporation
3199 Pilot Knob
MS F1B05
Eagan, MN 55121

ATTENTION Mr. Kevin Krueger

The above referenced report is enclosed. Copies of this report and supporting data will be retained in our files in the event they are required for future reference.

If there are any questions concerning this report, please do not hesitate to contact us.

Any samples submitted to our Laboratory will be retained for a maximum of thirty (30) days from receipt of this report, unless other arrangements are desired.

October 31, 1991

30910-1848A
UNISYS CORPORATION
3199 Pilot Knob
MS F1B05
Eagan, Minnesota 55121

Re: Great Neck, NY

Attention: Mr. Kevin Krueger

PURPOSE

Twelve samples, two field blanks and three trip blanks were submitted to IEA, Inc. by Unisys Corporation. The client requested the samples be analyzed for TCL volatile organics plus a library search for non-target compounds.

METHODOLOGY

Volatile organics were determined using purge and trap GC/MS. The instrumentation used was a Tekmar Dynamic Headspace Concentrator interfaced with a Hewlett-Packard Model 5995C GC/MS/DS.

DISCUSSION

Volatile Organics - Samples 2GL and 11MI were analyzed undiluted within holding time. Analysis at the necessary dilutions (1:10 and 1:5 respectively) did not occur until after midnight of the last day of holding time. Both sets of data were reported. The matrix spike/matrix spike duplicate of sample 2GL were analyzed out of holding time.

The following samples were analyzed at dilutions due to high levels of target compounds:

Sample	Dilution
11GL	1:20
VW-12	1:10
VW-3	1:20
4MI	1:5
VW-2	1:1,000
4GL	1:2
3GL	1:5

RESULTS

The results are presented in the following Tables. Also enclosed are the data packages containing all relevant QA/QC and raw data.

Prepared by: _____ for

Jeffrey C. Curran
Laboratory Manager

JCC/mt

The liability of IEA, Inc. is limited to the actual dollar value of this project.

TABLE 1.0
30910-1848A
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

Aqueous

All values are ug/L.

	Sample Identification				
Dilution Factor	1.0	1.0	1.0	1.0	
Method Blank I.D.	>A7932	>A7932	>A7932	>A7932	
Compound	Method Blank	TB 09/25/91	2GL MSB	2GL	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	10
Bromomethane	U	U	U	U	10
Vinyl Chloride	U	U	U	U	10
Chloroethane	U	U	U	U	10
Methylene Chloride	U	U	2J	U	5
Acetone	6J	U	20B	11B	10
Carbon Disulfide	U	U	U	U	5
1,1-Dichloroethene	U	U	51X	1J	5
1,1-Dichloroethane	U	U	U	U	5
2-Dichloroethene (total)	U	U	U	920E	5
Chloroform	U	U	U	1J	5
1,2-Dichloroethane	U	U	U	U	5
2-Butanone	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	5
Vinyl Acetate	U	U	U	U	10
Bromodichloromethane	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	5
Trichloroethene	U	U	50X	170	5
Dibromochloromethane	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	5
Benzene	U	U	54X	U	5
trans-1,3-Dichloropropene	U	U	U	U	5
Bromoform	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	10
2-Hexanone	U	U	U	U	10
Tetrachloroethene	U	U	U	110	5
1,1,2,2-Tetrachloroethane	U	U	U	U	5
Toluene	U	U	46X	U	5
Chlorobenzene	U	U	47X	U	5
Ethylbenzene	U	U	U	U	5
Styrene	U	U	U	U	5
Xylene (total)	U	U	U	U	5

J, B, E, X - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Aqueous

TABLE 1.1
30910-1848A
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification				
Dilution Factor	1.0	10.0	1.0	1.0	
Method Blank I.D.	>A7932	>A7932	>A7932	>A7932	
Compound	Method Blank	2GL RE	FB 09/24/91	11MI	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	10
Bromomethane	U	U	U	U	10
Vinyl Chloride	U	U	U	U	10
Chloroethane	U	U	U	U	10
Methylene Chloride	U	U	U	U	5
Acetone	6J	250B	U	11B	10
Carbon Disulfide	U	U	U	U	5
1,1-Dichloroethene	U	U	U	2J	5
1,1-Dichloroethane	U	U	U	U	5
2-Dichloroethene (total)	U	980	U	490E	5
Chloroform	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	5
2-Butanone	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	1J	5
Carbon Tetrachloride	U	U	U	U	5
Vinyl Acetate	U	U	U	U	10
Bromodichloromethane	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	5
Trichloroethene	U	170	U	120	5
Dibromochloromethane	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	5
Benzene	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	5
Bromoform	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	10
2-Hexanone	U	U	U	U	10
Tetrachloroethene	U	110	U	120	5
1,1,2,2-Tetrachloroethane	U	U	U	U	5
Toluene	U	U	U	U	5
Chlorobenzene	U	U	U	U	5
Ethylbenzene	U	U	U	U	5
Styrene	U	U	U	U	5
Xylene (total)	U	U	U	U	5

J, B, E - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Aqueous

TABLE 1.2
30910-1848A
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification				
Dilution Factor	1.0	5.0	20.0	1.0	
Method Blank I.D.	>A7932	>A7932	>A7932	>A7932	
Compound	Method Blank	11MI RE	11GL	9GL	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	10
Bromomethane	U	U	U	U	10
Vinyl Chloride	U	U	U	U	10
Chloroethane	U	U	U	U	10
Methylene Chloride	U	U	U	U	5
Acetone	6J	110B	550B	12B	10
Carbon Disulfide	U	U	U	U	5
1,1-Dichloroethene	U	U	U	1J	5
1,1-Dichloroethane	U	U	U	U	5
1,2-Dichloroethene (total)	U	490	2,300	82	5
Chloroform	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	5
2-Butanone	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	1J	5
Carbon Tetrachloride	U	U	U	U	5
Vinyl Acetate	U	U	U	U	10
Bromodichloromethane	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	5
Trichloroethene	U	120	210	51	5
Dibromochloromethane	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	5
Benzene	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	5
Bromoform	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	10
2-Hexanone	U	U	U	U	10
Tetrachloroethene	U	110	510	36	5
1,1,2,2-Tetrachloroethane	U	U	U	U	5
Toluene	U	4J	84J	U	5
Chlorobenzene	U	U	U	U	5
Ethylbenzene	U	U	U	U	5
Styrene	U	U	U	U	5
Xylene (total)	U	U	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 1.3
30910-1848A
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

Aqueous

All values are ug/L.

	Sample Identification					
Dilution Factor	1.0	10.0	10.0	2.0	1.0	
Method Blank I.D.	>B5675	>B5675	>B5675	>B5675	>B5675	
Compound	Method Blank	2GL MS	2GL MSD	4GL	FB 09/25/91	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	10
Methylene Chloride	U	U	U	U	U	5
Acetone	2J	210B	220B	6JB	5JB	10
Carbon Disulfide	U	U	U	U	U	5
1,1-Dichloroethene	U	430X	420X	U	U	5
1,1-Dichloroethane	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	990	1,000	320	U	5
Chloroform	U	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	U	5
2-Butanone	U	U	U	U	3J	10
1,1,1-Trichloroethane	U	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	5
Trichloroethene	U	590X	630X	91	U	5
Dibromochloromethane	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	5
Benzene	U	460X	490X	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	5
Bromoform	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	10
Tetrachloroethene	U	120	120	58	U	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	5
Toluene	U	450X	460X	U	U	5
Chlorobenzene	U	450X	470X	U	U	5
Ethylbenzene	U	U	U	U	U	5
Styrene	U	U	U	U	U	5
Xylene (total)	U	U	U	U	U	5

U, J, B, X - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Aqueous

TABLE 1.4
30910-1848A
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification					
Dilution Factor	1.0	5.0	10.0	1.0	1.0	
Method Blank I.D.	>B5683	>B5683	>B5683	>B5683	>B5683	
Compound	Method Blank	3GL	VW-12	TB 09/26/91	TB 09/27/91	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	10
Methylene Chloride	U	U	U	U	U	5
Acetone	2J	31JB	20JB	2JB	2JB	10
Carbon Disulfide	U	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	820	1,200	U	U	5
Chloroform	U	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	U	5
2-Butanone	U	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	5
Trichloroethene	U	180	200	U	U	5
Dibromochloromethane	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	5
Benzene	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	5
Bromoform	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	10
Tetrachloroethene	U	110	320	U	U	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	5
Toluene	U	U	U	U	5	5
Chlorobenzene	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	5
Styrene	U	U	U	U	U	5
Xylene (total)	U	U	U	U	U	5

J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Aqueous

TABLE 1.5
30910-1848A
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification						
Dilution Factor	1.0	1.0	20.0	5.0	1,000.0	1.0	
Method Blank I.D.	>B5695	>B5695	>B5695	>B5695	>B5695	>B5695	
Compound	Method Blank	VW-11	VW-3	4MI	VW-2	VW-6	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	U	10
Methylene Chloride	U	U	U	U	U	U	5
Acetone	13	2JB	130JB	15JB	5,600JB	4JB	10
Carbon Disulfide	U	U	U	U	U	U	5
1,1-Dichloroethene	U	4J	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	67	2,100	440	3,000J	44	5
Chloroform	U	U	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	U	U	5
2-Butanone	U	U	U	U	U	U	10
1,1,1-Trichloroethane	U	4J	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	U	5
Trichloroethene	U	39	130	31	64,000	32	5
Dibromochloromethane	U	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	U	5
Benzene	U	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	U	5
Bromoform	U	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	U	10
Tetrachloroethene	U	30	310	U	21,000	21	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	5
Toluene	U	U	U	U	18,000	U	5
Chlorobenzene	U	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	U	5
Styrene	U	U	U	U	U	U	5
Xylene (total)	U	U	U	U	2,300J	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 2.0
30910-1848A
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: Method Blank >A7932

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: TB 09/25/91

CAS#	Compound	RT	Estimated Concentration, ug/L
110543	Hexane	8.54	6J

Sample Identification: 2GL

CAS#	Compound	RT	Estimated Concentration, ug/L
110543	Hexane	8.57	25J

Sample Identification: 2GL RE

CAS#	Compound	RT	Estimated Concentration, ug/L
110543	Hexane	8.54	110J

Sample Identification: FB 09/24/91

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

J - See Appendix for definition.

TABLE 2.1
30910-1848A
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: 11MI

CAS#	Compound	RT	Estimated Concentration, ug/L
	Unknown siloxane	22.79	47J
110543	Hexane	8.77	14J

Sample Identification: 11MI RE

CAS#	Compound	RT	Estimated Concentration, ug/L
	Unknown siloxane	22.51	53J
110543	Hexane	8.59	49J
67641	2-Propanone	6.25	27J
	Unknown siloxane	25.37	26J

Sample Identification: 11GL

CAS#	Compound	RT	Estimated Concentration, ug/L
110543	Hexane	8.59	160J

Sample Identification: 9GL

CAS#	Compound	RT	Estimated Concentration, ug/L
110543	Hexane	8.62	7J
76131	1,1,2-Trichlorotrifluoroethane	6.47	9J

Sample Identification: Method Blank >B5675

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

J - See Appendix for definition.

TABLE 2.2
30910-1848A
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: 4GL

CAS#	Compound	RT	Estimated Concentration, ug/L
110543	Hexane	8.91	16J

Sample Identification: FB 09/25/91

CAS#	Compound	RT	Estimated Concentration, ug/L
110543	Hexane	8.91	11J

Sample Identification: 3GL

CAS#	Compound	RT	Estimated Concentration, ug/L
110543	Hexane	8.93	38J

Sample Identification: VW-12

CAS#	Compound	RT	Estimated Concentration, ug/L
110543	Hexane	8.91	100J

Sample Identification: TB 09/26/91

CAS#	Compound	RT	Estimated Concentration, ug/L
110543	Hexane	8.95	11J

J - See Appendix for definition.

TABLE 2.3
30910-1848A
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: TB 09/27/91

CAS#	Compound	RT	Estimated Concentration, ug/L
110543	Hexane	8.93	12J

Sample Identification: Method Blank >B5695

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: VW-11

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: VW-3

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: 4MI

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

J - See Appendix for definition.

TABLE 2.4
30910-1848A
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: VW-2

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

Sample Identification: VW-6

CAS#	Compound	RT	Estimated Concentration, ug/L
	None detected		

APPENDIX

U - Indicates that the compound was analyzed for but not detected.

J - Indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value, which is less than the specified minimum detection limit but is greater than zero.

B - This flag is used when the analyte is found in the blanks as well as the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of this analyte.

N - Indicates that the compound was analyzed for but not requested as an analyte. Value will not be listed on tabular result sheet.

X - Matrix spike compound.

(1) - Cannot be separated.

(2) - Decomposes to azobenzene. Measured and calibrated as azobenzene.

A - This flag indicates that a TIC is a suspected aldol condensation product.

E - Indicates that it exceeds calibration curve range.

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

C - Confirmed by GC/MS.

T - Compound present in TCLP blank.

an environmental testing company
200 Monroe Turnpike
Monroe, Connecticut 06468
(203) 261-4458
FAX (203) 268-5346

REPORT TRANSMITTAL

REPORT NUMBER 30910-1848B

DATE October 31, 1991

CLIENT Unisys Corporation
3199 Pilot Knob
MS F1B05
Eagan, MN 55121

ATTENTION Mr. Kevin Krueger

The above referenced report is enclosed. Copies of this report and supporting data will be retained in our files in the event they are required for future reference.

If there are any questions concerning this report, please do not hesitate to contact us.

Any samples submitted to our Laboratory will be retained for a maximum of thirty (30) days from receipt of this report, unless other arrangements are desired.

October 31, 1991

30910-1848B
UNISYS CORPORATION
3199 Pilot Knobb
MS F1B05
Eagan, Minnesota 55121

Re: Great Neck, NY C-34141

Attention: Mr. Kevin Krueger

PURPOSE

Ten samples, one field blank and three trip blanks collected on September 27, 30 and October 1, 1991 were submitted to IEA, Inc. by Unisys Corporation. The client requested the samples be analyzed for TCL volatile organics plus a library search for non-target compounds.

METHODOLOGY

Volatile organics were determined using purge and trap GC/MS. The instrumentation used was a Tekmar Dynamic Headspace Concentrator interfaced with a Hewlett-Packard Model 5995C GC/MS/DS.

DISCUSSION

Volatile Organics - The continuing calibration on 10/05/91 met CLP 3/90 criteria, with the exception that chloroethane did not respond. This was caused by background interference of an ion similar to those ions present in chloroethane that made interpretation of the peak impossible. Samples FB, TB 09/28/91, 1MI, 13GL and 1GL were on last day of holding time so they were analyzed under this calibration.

The laboratory followed the USEPA CLP-SOW Document #OLM01.0 for the GC/MS calibration criteria.

RESULTS

The results are presented in the following Tables.

Prepared by: Jeffrey C. Curran
Laboratory Manager

JCC/adj

Aqueous

TABLE 1.0
30910-1848B
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification						
Dilution Factor	1.0	1.0	1.0	20.0	20.0	1.0	
Method Blank I.D.	>B5713	>B5713	>B5713	>B5713	>B5713	>B5713	
Compound	Method Blank	FB	TB 09/28/91	1MI	13GL	1GL	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	U	10
Methylene Chloride	U	U	U	U	U	U	5
Acetone	4J	5JB	U	590B	390B	U	10
Carbon Disulfide	U	U	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	U	U	2,800	2,700	84	5
Chloroform	3J	2JB	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	U	U	5
2-Butanone	U	U	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	U	5
Trichloroethene	U	U	U	260	240	23	5
Dibromochloromethane	U	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	U	5
Benzene	U	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	U	5
Bromoform	U	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	U	10
Tetrachloroethene	U	U	U	370	340	19	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	5
Toluene	U	U	U	U	U	U	5
Chlorobenzene	U	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	U	U	5
Styrene	U	U	U	U	U	U	5
Xylene (total)	U	U	U	U	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Aqueous

TABLE 1.1
30910-1848B
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification					
Dilution Factor	1.0	1.0	1.0	1.0	1.0	
Method Blank I.D.	>B5723	>B5723	>B5723	>B5723	>B5723	
Compound	Method Blank	1MI/L MSD	TB 10/01/91	1MI/L	1GU	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	10
Methylene Chloride	U	5	U	U	U	5
Acetone	U	14	U	U	U	10
Carbon Disulfide	U	U	U	U	U	5
1,1-Dichloroethene	U	44X	U	U	U	5
1,1-Dichloroethane	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	U	U	160	21	5
Chloroform	4J	U	2JB	U	U	5
1,2-Dichloroethane	U	U	U	U	U	5
2-Butanone	U	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	U	5	5
Carbon Tetrachloride	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	5
Trichloroethene	U	44X	U	190	4J	5
Dibromochloromethane	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	5
Benzene	U	48X	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	5
Bromoform	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	10
Tetrachloroethene	U	U	U	37	U	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	5
Toluene	U	50X	U	U	U	5
Chlorobenzene	U	51X	U	U	U	5
Ethylbenzene	U	U	U	U	U	5
Styrene	U	U	U	U	U	5
Xylene (total)	U	U	U	U	U	5

U, J, B, X - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Aqueous

TABLE 1.2
30910-1848B
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification				
Dilution Factor	1.0	1.0	500.0	1.0	
Method Blank I.D.	>B5723	>B5723	>B5723	>B5723	
Compound	Method Blank	1MI/L MSD	VW-5	1MI/L MS	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	10
Bromomethane	U	U	U	U	10
Vinyl Chloride	U	U	U	U	10
Chloroethane	U	U	U	U	10
Methylene Chloride	U	U	U	5	5
Acetone	U	U	1,100J	U	10
Carbon Disulfide	U	U	U	5	5
1,1-Dichloroethene	U	50X	U	55X	5
1,1-Dichloroethane	U	U	U	5	5
1,2-Dichloroethene (total)	U	160	48,000	160	5
Chloroform	4J	U	U	6B	5
,2-Dichloroethane	U	U	U	6	5
2-Butanone	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	6	5
Carbon Tetrachloride	U	U	U	U	5
Vinyl Acetate	U	U	U	U	10
Bromodichloromethane	U	U	U	U	5
1,2-Dichloropropane	U	U	U	5	5
cis-1,3-Dichloropropene	U	U	U	7	5
Trichloroethene	U	240XE	U	200X	5
Dibromochloromethane	U	U	U	3J	5
1,1,2-Trichloroethane	U	U	U	U	5
Benzene	U	52X	U	55X	5
trans-1,3-Dichloropropene	U	U	U	U	5
Bromoform	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	10
2-Hexanone	U	U	U	9J	10
Tetrachloroethene	U	36	U	32	5
1,1,2,2-Tetrachloroethane	U	U	U	U	5
Toluene	U	56X	8,700	59X	5
Chlorobenzene	U	55X	U	54X	5
Ethylbenzene	U	U	U	6	5
Styrene	U	U	U	5	5
Xylene (total)	U	U	U	15	5

U, J, B, X, E - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Aqueous

TABLE 1.3
30910-1848B
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification					
Dilution Factor	1.0	1.0	1.0	500.0	500.0	
Method Blank I.D.	>B5744	>B5744	>B5744	>B5744	>B5744	
Compound	Method Blank	MW-13	1ML	VW-4	VW-1	Quantitation Limits with no Dilution
Chloromethane	U	U	U	U	U	10
Bromomethane	U	U	U	U	U	10
Vinyl Chloride	U	U	U	U	U	10
Chloroethane	U	U	U	U	U	10
Methylene Chloride	U	U	U	U	U	5
Acetone	U	U	U	9,100	U	10
Carbon Disulfide	U	U	U	U	U	5
1,1-Dichloroethene	U	U	U	U	U	5
1,1-Dichloroethane	U	U	U	U	U	5
1,2-Dichloroethene (total)	U	45	19	72,000	90,000	5
Chloroform	U	U	U	U	U	5
1,2-Dichloroethane	U	U	U	U	U	5
2-Butanone	U	U	U	U	U	10
1,1,1-Trichloroethane	U	U	U	U	U	5
Carbon Tetrachloride	U	U	U	U	U	5
Vinyl Acetate	U	U	U	U	U	10
Bromodichloromethane	U	U	U	U	U	5
1,2-Dichloropropane	U	U	U	U	U	5
cis-1,3-Dichloropropene	U	U	U	U	U	5
Trichloroethene	U	10	10	U	U	5
Dibromochloromethane	U	U	U	U	U	5
1,1,2-Trichloroethane	U	U	U	U	U	5
Benzene	U	U	U	U	U	5
trans-1,3-Dichloropropene	U	U	U	U	U	5
Bromoform	U	U	U	U	U	5
4-Methyl-2-pentanone	U	U	U	U	U	10
2-Hexanone	U	U	U	U	U	10
Tetrachloroethene	U	12	17	U	11,000	5
1,1,2,2-Tetrachloroethane	U	U	U	U	U	5
Toluene	U	3J	3J	3,300	16,000	5
Chlorobenzene	U	U	U	U	U	5
Ethylbenzene	U	U	U	U	1,100J	5
Styrene	U	U	U	U	U	5
Xylene (total)	U	U	U	U	4,800	5

U, J - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

Aqueous

TABLE 1.4
30910-1848B
UNISYS CORPORATION
EPA TCL VOLATILE ORGANICS

All values are ug/L.

	Sample Identification		
Dilution Factor	1.0	1.0	
Method Blank I.D.	>A8082	>A8082	
Compound	Method Blank	TB 10/02/91	Quantitation Limits with no Dilution
Chloromethane	U	U	10
Bromomethane	U	U	10
Vinyl Chloride	U	U	10
Chloroethane	U	U	10
Methylene Chloride	U	U	5
Acetone	17	13B	10
Carbon Disulfide	U	U	5
1,1-Dichloroethene	U	U	5
1,1-Dichloroethane	U	U	5
1,2-Dichloroethene (total)	U	U	5
Chloroform	1J	U	5
1,2-Dichloroethane	U	U	5
2-Butanone	U	U	10
1,1,1-Trichloroethane	U	U	5
Carbon Tetrachloride	U	U	5
Vinyl Acetate	U	U	10
Bromodichloromethane	U	U	5
1,2-Dichloropropane	U	U	5
cis-1,3-Dichloropropene	U	U	5
Trichloroethene	U	U	5
Dibromochloromethane	U	U	5
1,1,2-Trichloroethane	U	U	5
Benzene	U	U	5
trans-1,3-Dichloropropene	U	U	5
Bromoform	U	U	5
4-Methyl-2-pentanone	U	U	10
2-Hexanone	U	U	10
Tetrachloroethene	U	U	5
1,1,2,2-Tetrachloroethane	U	U	5
Toluene	U	U	5
Chlorobenzene	U	U	5
Ethylbenzene	U	U	5
Styrene	U	U	5
Xylene (total)	U	U	5

U, J, B - See Appendix for definition.
Note: Sample detection limit = quantitation limit x dilution factor.

TABLE 2.0
30910-1848B
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: Method Blank >B5713

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: FB

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: TB 09/28/91

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: 1MI

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: 13GL

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: 1GL

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

TABLE 2.1
30910-1848B
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: Method Blank >B5723

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: TB 10/01/91

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: 1MI/L

CAS#	Compound	RT	Estimated Concentration, ug/L
76131	1,1,2-Trichlorotrifluoroethane	6.90	5J

Sample Identification: 1GU

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: VW-5

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: Method Blank >B5744

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

J - See Appendix for definition.

TABLE 2.2
30910-1848B
UNISYS CORPORATION
VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Sample Identification: MW-13

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: 1ML

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: VW-4

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: VW-1

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: Method Blank >A8082

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

Sample Identification: TB 10/02/91

CAS#	Compound	RT	Estimated Concentration, ug/L
None detected			

APPENDIX

U - Indicates that the compound was analyzed for but not detected.

J - Indicates that the compound was analyzed for and determined to be present in the sample. The mass spectrum of the compound meets the identification criteria of the method. The concentration listed is an estimated value, which is less than the specified minimum detection limit but is greater than zero.

B - This flag is used when the analyte is found in the blanks as well as the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of this analyte.

N - Indicates that the compound was analyzed for but not requested as an analyte. Value will not be listed on tabular result sheet.

X - Matrix spike compound.

(1) - Cannot be separated.

(2) - Decomposes to azobenzene. Measured and calibrated as azobenzene.

A - This flag indicates that a TIC is a suspected aldol condensation product.

E - Indicates that it exceeds calibration curve range.

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

C - Confirmed by GC/MS.

T - Compound present in TCLP blank.

APPENDIX K

ROUX ASSOCIATES AQUIFER PERFORMANCE TEST