N96095.AR.000238
NWIRP CALVERTON NY
5090.3a

~~19.49.02.0005~~

Summary Results Report
for
Pilot Study
Air Sparging/Vapor Extraction System

Naval Weapons Industrial Reserve
Plant (NWIRP)
Calverton, New York

Volume II

Northern Division
Naval Facilities Engineering Command
Contract Number N62472-90-D-1298
Contract Task Order 0223

June 1996

CF Braun Engineering Corporation

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APPENDIX A

SUMMARY OF RFI - SITE 2 DATA

ACAD: Q:\DATA\CADD\0206\SITE2.DWG 04/27/95 MB VIEW=1117PLOT S2TAGNW

CHEMICAL	FT-MW-01 I
CHLOROFORM	2 J
IRON	87.0 J
MANGANESE	14.0 J
ZINC	24.0 J

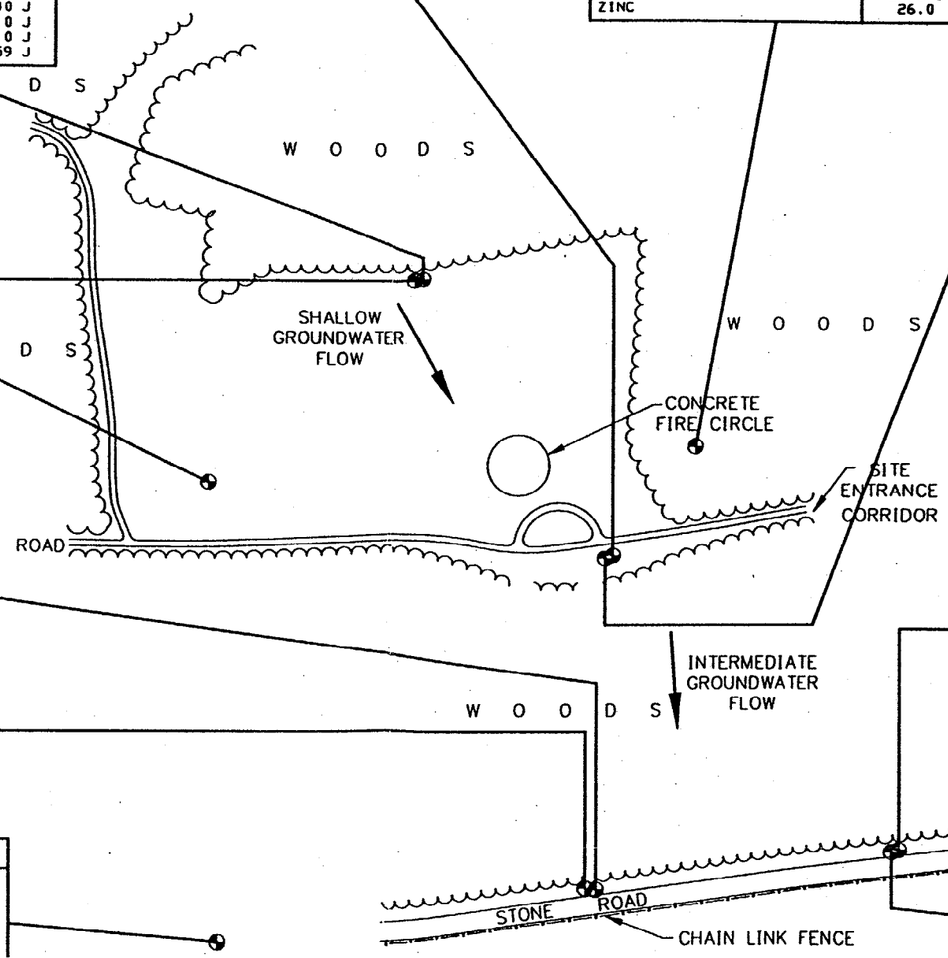
CHEMICAL	FT-MW-01 S
ALDRIN	0.017 J
4,4'-DDE	0.011 JN
PCB'S	1.38 J
ALUMINUM	34800 J
ARSENIC	15.8 J
BARIUM	186 J
CHROMIUM	23.0 J
COBALT	53.0 J
IRON	29300 J
LEAD	25.4 J
MANGANESE	2340 J
NICKEL	64.0 J
VANADIUM	49.0 J
ZINC	259 J

CHEMICAL	FT-MW-02 I
CHLOROFORM	2 J
BIS(2-ETHYLHEXYL)PHTHALATE	0.8 J
ALUMINUM	142
IRON	188
MANGANESE	158
ZINC	79.0

CHEMICAL	FT-MW-04 S
1,1,1-TRICHLOROETHANE	2 J
ALDRIN	0.0087 J
HEPTACHLOR EPOXIDE	0.015 JN
PCB'S	0.84 JN
BARIUM	110
COBALT	15.0
IRON	3780
LEAD	7.0 J
MANGANESE	525
NICKEL	29.0 J
ZINC	26.0

CHEMICAL	FT-MW-02 S	FT-MW-02 S DU
VINYL CHLORIDE	25	25
CHLOROETHANE	1,100	1,100
1,1-DICHLOROETHENE	9 J	13 J
1,1-DICHLOROETHANE	1,100	1,200
1,2-DICHLOROETHENE (TOTAL)	310	290
2-BUTANONE	71 J	
1,1,1-TRICHLOROETHANE	120	140
TRICHLOROETHENE	7 J	9 J
BENZENE	14 J	15 J
4-METHYL-2-PENTANONE		19 J
TETRACHLOROETHENE	20	21
TOLUENE	280	320
ETHYLBENZENE	16 J	21
TOTAL XYLENES	180	230
PHENOL	41	46
1,2-DICLOROBENZENE	8 J	7 J
2-METHYLPHENOL	18 J	20 J
4-METHYLPHENOL	160	180
2,4-DIMETHYLPHENOL	39	47 J
TOTAL PAH'S	94 J	111 J
TOTAL PHTHALATES	11 J	19 J
ENDOSULFAN EPOXIDE	0.13 J	0.12 J
METHOXYCHLOR	0.63 J	0.56 J
ENDRIN KETONE	0.65 J	0.59 J
PCB'S	18 J	17 J
ALUMINUM	3250	3410
ARSENIC	6.2	
BARIUM	118	119
CHROMIUM	12.0	15.0
IRON	43300	41400
LEAD	15.0 J	12.0 J
MANGANESE	459	436
VANADIUM	48.0	50.0
ZINC		103

CHEMICAL	FT-MW-03 S	FT MW03 S DU
1,1,1-TRICHLOROETHANE	5 J	5 J
TRICHLOROETHENE	51	48
ALDRIN	0.0087 J	0.0089 J
HEPTACHLOR EPOXIDE	0.018 JN	0.017 JN
4,4'-DDE		0.011 J
4,4'-DDT		0.021 J
PCB'S	0.83 JN	0.83 JN
ALUMINUM	23200 J	22400 J
ARSENIC	10.1 J	10.8 J
BARIUM	72.0 J	77.0 J
CHROMIUM	21.0 J	24.0 J
COBALT	19.0 J	18.0 J
IRON	29200 J	28400 J
LEAD	21.6 J	21.2 J
MANGANESE	1880 J	1810 J
NICKEL	38.0 J	34.0 J
VANADIUM	43.0 J	46.0 J
ZINC	66.0 J	100 J



CHEMICAL	FT-MW-05 S
VINYL CHLORIDE	4 J
CHLOROETHANE	130
1,1-DICHLOROETHANE	16
1,2-DICHLOROETHENE (TOTAL)	26
1,1,1-TRICHLOROETHANE	2 J
TOLUENE	23
ETHYLBENZENE	2 J
TOTAL XYLENES	17
1,2-DICHLOROBENZENE	2 J
2-METHYLPHENOL	1 J
4-METHYLPHENOL	2 J
2,4-DIMETHYLPHENOL	3 J
TOTAL PAH'S	13 J
TOTAL PHTHALATES	0.5 J
ALUMINUM	44000 J
ARSENIC	15.4 J
BARIUM	92.0 J
CHROMIUM	41.0 J
COBALT	18.0 J
IRON	60500 J
LEAD	30.8 J
MANGANESE	725.0 J
NICKEL	28.0 J
VANADIUM	70.0 J
ZINC	164 J

CHEMICAL	FT-MW-05 I
1,1-DICHLOROETHANE	3 J
1,1,1-TRICHLOROETHANE	2 J
TOTAL PHTHALATES	4 J
ALUMINUM	161 J
BARIUM	29.0 J
IRON	608 J
MANGANESE	3490 J
NICKEL	53.0 J
ZINC	90.0 J

CHEMICAL	FT-MW-06 I
CHLOROFORM	2 J
ALUMINUM	253 J
IRON	476 J
MANGANESE	51.0 J
ZINC	162 J

CHEMICAL	FT-MW-06 S
1,1,1-TRICHLOROETHANE	1 J
ALUMINUM	21500 J
ARSENIC	12.8 J
BARIUM	73.0 J
CHROMIUM	29.0 J
COBALT	17.0 J
IRON	27800 J
LEAD	21.6 J
MANGANESE	1100 J
NICKEL	29.0 J
VANADIUM	46.0 J
ZINC	142 J

CHEMICAL	FT-MW-07 S
4,4'-DDT	0.013 J
ALUMINUM	5730
BARIUM	86.0
IRON	2810
LEAD	6.0 J
MANGANESE	524
NICKEL	23.0 J
ZINC	15.0

NOTES:

SAMPLE RESULTS FOR ORGANICS ARE REPORTED AS ug/L FOR AQUEOUS AND ug/Kg FOR SOLIDS.

SAMPLE RESULTS FOR INORGANICS ARE REPORTED AS ug/L FOR AQUEOUS AND mg/kg FOR SOLIDS.

FIGURE 5-20

GROUNDWATER SAMPLE RESULTS
SITE 2 - FIRE TRAINING AREA
NWIRP, CALVERTON, NY

0 200 400
SCALE IN FEET

Halliburton NUS CORPORATION

5-97

APPENDIX B

SURVEY DATA

CTO223
NWIRP CALVERTON, NY

SURVEY POINT #	NORTHING	EASTING	ELEV.	DESCRIPTION
1	250075.20	2332056.19	45.59	SCM 6-1036
2	250185.11	2332962.04	43.33	SCM 6-1035
3	250329.96	2332178.35	46.83	N RedHd
4	250464.81	2331872.50	50.64	W-Stk
5	250535.23	2331598.42	55.93	N RedHd
6	250529.03	2331195.45	55.10	W-Stk
7	250503.54	2331373.89	52.20	W-Stk
101	250859.60	2331086.20	64.16	Extraction Well #E1
102	250859.87	2331086.10	62.46	Ground
103	250820.49	2331086.49	62.12	Ground
104	250820.28	2331086.68	63.54	Extraction Well #E2
105	250781.01	2331086.54	63.15	Extraction Well #E3
106	250781.21	2331086.37	61.98	Ground
107	250863.61	2331125.35	62.39	Ground
108	250863.39	2331125.25	64.06	Extraction Well #E4
109	250823.03	2331126.49	64.00	Extraction Well #E5
110	250823.14	2331126.57	62.68	Ground
111	250783.58	2331126.00	62.25	Ground
112	250783.37	2331126.24	63.41	Extraction Well #E6
113	250738.80	2331119.76	60.59	SoilBoring#101
114	250704.36	2331097.64	62.01	Extraction Well #E7
115	250704.33	2331097.42	60.37	Ground
116	250726.53	2331127.28	60.23	Ground
117	250726.55	2331127.47	61.46	Extraction Well #E8
118	250749.21	2331162.14	61.32	Extraction Well #E9
119	250749.10	2331162.01	60.79	Ground
120	250683.89	2331133.14	59.37	Injection Well #I1
121	250683.75	2331132.90	58.97	Ground
122	250702.81	2331170.10	58.94	Ground
123	250703.03	2331170.36	59.46	Injection Well #I2
124	250643.79	2331126.80	59.10	Extraction Well #E10
125	250643.63	2331126.59	56.65	Ground
126	250661.50	2331162.11	56.89	Ground
127	250661.35	2331162.38	58.60	Extraction Well #E11
128	250678.41	2331199.01	58.50	Extraction Well #E12
129	250678.40	2331198.80	57.20	Ground
130	250629.79	2331198.16	56.37	Injection Well #I4
131	250629.69	2331197.99	55.89	Ground
132	250544.52	2331120.19	57.94	Extraction Well #E13
133	250546.95	2331120.74	56.32	Ground
134	250563.04	2331155.94	56.04	Ground
135	250562.77	2331155.69	57.54	Extraction Well #E14
136	250581.98	2331191.36	57.33	Extraction Well #E15
137	250582.10	2331191.10	55.82	Ground
138	250588.84	2331195.95	55.65	SoilBoring#102
139	250597.08	2331196.21	57.28	Outside Edge of Burn Pit
140	250610.27	2331198.87	57.27	Outside Edge of Burn Pit

CTO223
NWIRP CALVERTON, NY

SURVEY POINT #	NORTHING	EASTING	ELEV.	DESCRIPTION
141	250623.36	2331197.08	57.32	Outside Edge of Burn Pit
142	250636.37	2331190.28	57.28	Outside Edge of Burn Pit
143	250645.98	2331179.43	57.27	Outside Edge of Burn Pit
144	250650.97	2331166.66	57.30	Outside Edge of Burn Pit
145	250651.39	2331151.72	57.34	Outside Edge of Burn Pit
146	250647.12	2331139.27	57.30	Outside Edge of Burn Pit
147	250639.35	2331129.06	57.29	Outside Edge of Burn Pit
148	250629.09	2331121.98	57.27	Outside Edge of Burn Pit
149	250617.06	2331118.34	57.28	Outside Edge of Burn Pit
150	250604.18	2331118.51	57.29	Outside Edge of Burn Pit
151	250592.08	2331122.86	57.26	Outside Edge of Burn Pit
152	250581.93	2331130.67	57.29	Outside Edge of Burn Pit
153	250574.85	2331141.19	57.30	Outside Edge of Burn Pit
154	250571.28	2331153.28	57.32	Outside Edge of Burn Pit
155	250571.47	2331164.85	57.35	Outside Edge of Burn Pit
156	250576.21	2331178.31	57.29	Outside Edge of Burn Pit
157	250584.00	2331188.10	57.28	Outside Edge of Burn Pit
158	250600.63	2331226.88	56.81	Extraction Well #E16
159	250600.77	2331226.55	55.25	Ground
160	250619.80	2331261.61	55.13	Ground
161	250619.47	2331261.72	57.15	Extraction Well #E17
162	250537.21	2331176.22	55.68	Injection Well #E15
163	250537.49	2331176.43	55.13	Ground
164	250549.41	2331204.47	56.01	Injection Well #I6
165	250549.47	2331204.15	54.62	Ground
166	250561.98	2331232.42	54.46	Ground
167	250561.77	2331232.03	55.93	Injection Well I7
168	250573.47	2331258.14	55.83	Injection Well #I8
169	250573.25	2331258.34	54.30	Ground
170	250587.70	2331284.49	54.20	Ground
171	250587.64	2331284.22	54.81	Injection Well #I9
172	250510.73	2331216.31	55.30	Extraction Well #EI9
173	250510.92	2331216.45	54.39	Ground
174	250521.73	2331237.05	53.77	Ground
175	250521.66	2331236.89	54.67	Extraction Well #E20
176	250553.54	2331296.64	54.25	Extraction Well #E22
177	250553.36	2331296.56	53.40	Ground
178	250532.97	2331325.04	54.21	Injection Well #I13
179	250532.84	2331324.30	53.00	Ground
180	250489.19	2331272.42	53.36	Ground
181	250489.60	2331271.99	55.50	MW02--S TPVC
182	250489.86	2331271.95	56.02	MW02-S TCosting
183	250477.46	2331219.04	54.82	Injection Well #I10
184	250477.20	2331218.87	54.36	Ground
185	250493.66	2331255.02	53.83	Ground
186	250493 82	2331255.27	54.27	Injection Well #I11
187	250505.37	2331287.13	53.44	Injection Well #I12
188	250505.37	2331286.61	53.01	Ground

CT0223
NWIRP CALVERTON, NY

SURVEY POINT #	NORTHING	EASTING	ELEV.	DESCRIPTION
189	250494.25	2331189.28	55.34	Ground
190	250494.24	2331189.07	56.20	Extraction Well #E18
191	250438.57	2331264.11	57.72	Extraction Well #E25
192	250438.49	2331263.78	56.56	Ground
193	250459.70	2331295.07	54.62	Ground
194	250480.26	2331327.82	52.95	Extraction Well #E27
195	250480.60	2331328.14	52.43	Ground
196	250494.46	2331365.48	52.15	Ground
197	250494.63	2331365.62	52.64	Extraction Well #E28
198	250513.86	2331403.62	54.53	Extraction Well #E29
199	250513.65	2331403.53	53.88	Ground
200	250457.42	2331387.22	52.47	Injection Well #I16
201	250457.03	2331386.85	51.28	Ground
202	250564.96	2331305.61	53.54	SoilBoring#103
203	250567.47	2331322.63	54.97	Extraction Well #E23
204	250567.48	2331322.10	53.84	Ground
205	250551.87	2331362.61	54.57	Ground
206	250551.67	2331362.85	55.67	Injection Well #I14
207	250435.63	2331362.65	51.47	Injection Well #I15
208	250435.59	2331362.87	50.99	Ground
209	250383.37	2331383.83	51.98	Ground
210	250383.75	2331383.59	52.56	Extraction Well #E30
211	250410.52	2331405.10	51.07	Extraction Well #E31
212	250410.60	2331405.35	50.45	Ground
213	250438.95	2331427.82	50.62	Ground
214	250438.84	2331427.51	51.12	Extraction Well #E32
215	250459.11	2331294.36	55.21	Extraction Well #E26
216	250423.42	2331218.84	59.96	Extraction Well #E24
217	250423.33	2331218.60	58.97	Ground
218	250539.84	2331270.43	54.20	Extraction Well #E21
219	250540.00	2331270.63	53.40	Ground
220	250587.56	2331120.98	56.38	Ground
221	250587.31	2331121.13	56.89	Injection Well #I3

APPENDIX C

INJECTION WELL BORING LOGS

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: I1
PROJECT NO.: 5563 — DATE: 7-26-95 — DRILLER: Delta
ELEVATION: 58.97 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA :
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
0807	1.0					Brn to D Brn	Silty Fgr SAND	SM/SP	
				— —		yellow orange	Fgr SAND	SP	
0810	5.0			— —					
						tan	Fgr SAND	SP	
0815	10.0								
									Wet @ 14±
0820	15.0								
									7-31-95 1439
							X	X	re-drill @ 3' W
0824	20.0								of original well
									HSA 0 to 27
									2" PVC screen 25-26
									H_2O @ 19.4' bgs
0827									
				TD 22.5			Screen 25 ~~21.5~~ - 26 ~~22.5~~		Bentonite 19 ~~17~~ - 24 ~~20~~
	25.0						Sand 24 ~~20~~ - 27 ~~22.5~~		

REMARKS F-7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½" ⌀ Borehole

BORING I1

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: I 2
PROJECT NO.: 5563 — DATE: 7-26-95 — DRILLER: Delta
ELEVATION: 58.94 — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY & SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft)	SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
0915	1.0					Brn to	Silty Fgr SAND	SM/SP	
						D Brn	Tr Wood		Moist Hydrocarbon odor
						yellow orange	Fgr SAND	SP	
	5.0								
						tan	Fgr SAND	SP	
	10.0								
						Lt tan			
0920	15.0								
									H_2O @ 15'
							7-31-95 @ 1553		
					*	*	Re-drill @ 3' west of		Pesticide Odor OVA Cuttings 0ppm
	20.0						original borehole		82 ppm
							HSA 0 to 27		
							3" PVC screen 25-26		
							H_2O @ 19.5' bgs @ 1618		
0929									
				TD 23'			Screen ~~21.8~~ 25 - ~~22.8~~ 26		Bentonite 19 - 24
	25.0						Sand ~~19~~ 24 - ~~22.8~~ 27		

REMARKS: F.T. failing HSA Rig
4¼" ID, 7½" OD Augers
8½" Ø Bore hole

BORING I 2

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATIO**

PROJECT: NWIRP Carverton — BORING NO.: I 3
PROJECT NO.: 5563 — DATE: 7-26-95 — DRILLER: Delta
ELEVATION: 56.38 — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA :
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1109	1.0					Brn	Fgr SAND Tr silt & Gravel	SP	
						D Brn	Fgr SAND tr Wood Some Clay	SP	Cohesive Fuel Od
1110	5.0								
						yellow Brn	Fgr SAND	SP	
1117	10.0								
						Tan	Fgr SAND	SP	Fuel odor
									v poorly sorted
1120	15.0								
									H_2O @ 15-17±
1123	20.0								
						gray tan			
1125							F gr SAND	SP	
				TD 22'					
							Screen 21 - 22		Bentonite 16 - 1
	2S0						Sand 19 - 22		

REMARKS: F-7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½" Ø Borehole

BORING I 3

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: I4
PROJECT NO.: 55563 — DATE: 7-26-95 — DRILLER: Delta
ELEVATION: 55.89 — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS/6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth/Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1011	1.0					Gray to Brn	Fgr SAND tr silt	SP	
						tan	Fgr SAND	SP	
						Brn			odor
1014	5.0					yellow orange	Fgr SAND	SP	
						Brn			Drizzle @ 1017
									No odor
						Tan			
						orange	Fgr SAND	SP	
1021	10.0								
						tan	Fgr SAND	SP	
1023	15.0								
									H_2O @ 15±
	20.0								
1029						gray tan			
				TD 23			Screen 21.9 – 22.9		Bentonite 17 – 20
	25.0						Sand 20.5 – ~~21.5~~ 22.9	TF	

REMARKS: E-7 Failing HSA Rig
4¼" ID, 7½" OD Augers

BORING: I4

PAGE 1 OF

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Bethpage — BORING NO.: I5
PROJECT NO.: 5563 — DATE: 7-25-95 — DRILLER: Delta
ELEVATION: 55.13' — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA: 7-25 1st rain @ 0815
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FT.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
0754	1.0					D Brn to Brn	Fgr SAND	SP	
0756	5.0					tan	Fgr SAND	SP	
						grey tan	Fgr SAND	SP	
	10.0								
0804	15.0								
									H_2O @ 15'-17'
0808	20.0								
						grey	Mgr SAND	SP	Slight Odor
0816									
				TD 23'			Screen 22 - 23		Bentonite 15 - 20
	25.0						Sand 20 - 23		

REMARKS: F-7 Failing HSA Rig
4¼" ID 7½" OD Augers
8½" ⌀ Bore hole

BORING: I5

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: I6
PROJECT NO.: 5563 — DATE: 7-25-95 — DRILLER: Delta
ELEVATION: 54.62 — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FT.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
0928	1.0					Brn	Silty Fgr SAND	SM/SP	
						to D Brn	Tr Wood		Slight Odor
						Grey Tan	Fgr SAND	SP	
	5.0					Tan	Fgr SAND	SP	
						gray tan	Fgr SAND		
	10.0								
	15.0								
									H_2O @ 15'±
0947									
0948	20.0								
0953						gray	F-Mgr SAND	SP	Slight Odor
				TD22					
							Screen 20-22		Bentonite 15-22
	25.0						Sand 20-22		

REMARKS: F-7 Failing HSA Rig
4¼ ID 7½" OD Augers
8½" ø Borehole

BORING I6

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: I 7
PROJECT NO.: 5563 — DATE: 7-25-95 — DRILLER: DELTA
ELEVATION: 94.46 — FIELD GEOLOGIST: T. EVANS
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1030	1.0					D Brn	Silty Fgr SAND	SM/SP	
						yellow orange	Fgr SAND		
1032	5.0					DBrn to Brn	Fgr SAND		Coloaire
						Brn	Fgr SAND		
									Slight odor
1037	10.0								
1040	15.0								H_2O @ 14'-16' ±
						lt tan	Fgr SAND	SP	
						to			
1043	20.0					tan gray			
						gray	F-Mgr SAND	SP	Odor
									Film on soil
1048									
				TD23			screen 22.8-23.8		Bentonite 15-20
	25.0						sand 20-23.8		

REMARKS: F-7 Failing HSA Rig
4¼" ID 7½" OD Augers
8½" Ø Bore hole

BORING I 7

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWI RP Calverton — BORING NO.: I 8
PROJECT NO.: 5563 — DATE: 7-25-95 — DRILLER: Delta
ELEVATION: 54.30 — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1143	1.0					Brn	Silty Fgr SAND	SM/SP	
						yellow	Fgr SAND		
						orange			
						DBrn			Odor (solvent)
	5.0					Tan			
						Brn	Fgr SAND	SP	
						Tan	Fgr SAND	SP	
1149	10.0								
1153	15.0								11.0 @ 15'-17' ±
									Odor (solvent)
1155	20.0								
1158	22.0								
				TD 22			Screen 21.5'-22.5'		
							Sand 20'-22.5'		
							Bentonite 15'-20'		

REMARKS: F-7 Failing HSA Rig
4¼" ID 7½" OD Augers
8½" ø Borehole

BORING I 8

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: I9
PROJECT NO.: 5563 — DATE: 7-25-85 — DRILLER: Delta
ELEVATION: 54.20 — FIELD GEOLOGIST: T EVANS
WATER LEVEL DATA :
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1348	1.0					Tan	Fgr SAND	SP	
						Brn	Fgr SAND	SP	
									Buried metal @ 3'±
1349	5.0					Tan	Fgr SAND		
1354	10.0								
1356	15.0								
									H_2O @ 15' - 16'
									Odor (Petroleum
1358	20.0								
1403						gray	F-mgr SAND	SP	
				TD 22'					
							Screen 22 - 23		Bentonite 15-20
	25.0						Sand 20 - 23		

REMARKS: F-7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½" ø Borehole

BORING I9

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: I 10
PROJECT NO.: 5563 — DATE: 7-24-95 — DRILLER: Delta
ELEVATION: 54.36 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
0833	1.0					Brn	Fgr SAND	SP	
						yellow brn			
						tan			
0834	5.0								
						gray tan	Fgr SAND	SP	
						to tan			
	10.0								
0845	15.0								
0848	20.0								wet
									Screen 22.5'-23.5'
									Sand 20-23.5'
0911									Bentonite 16'-20'
	25.0			TD 24'					

REMARKS: E-7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½" ø Borehole

BORING I 10

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATIO**

PROJECT: NWIRP Calverton — BORING NO.: I 11
PROJECT NO.: 5563 — DATE: 7-24-95 — DRILLER: Delta
ELEVATION: 53.83 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1058	1.0					Brn	Fgr SAND	SP	
						yellow orange	Fgr SAND	SP	
	5.0								
						tan	Fgr SAND	SP	
1104	10.0								
1108	15.0								Wet 15'-16'
									Film on soil
									Odor
									OVD cuttings 140 ppm B2 1-3 ppm
1111	20.0								
						gray	Mgr SAND	SP	
									Screen 21.2'-22.7'
1113									Sand 20.5-22
				TD 23'					Bentonite 15-20
	25.0								

REMARKS F-7 Failing HSA Rig
4¼" ID 7½" OD Augers
8½" Ø Borehole

BORING I 11

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: I 12
PROJECT NO.: 5563 — DATE: 7-24-95 — DRILLER: Delta
ELEVATION: 53.01 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FL) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, FL)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1315	1.0					Brn	Fgr SAND	SP	
						OBrn			
1317	5.0					yellow orange	Fr SAND	SP	
						tan	Fgr SAND	SP	
	10.0								
1322	15.0								
									Wet 15'-16'
1326	20.0								
						grey	Mgr SAND.	SP	Fuel odor
									OVA cuttings 100ppm
							7-28-95 Pull well up 1'		B2 0ppm
				TD 23'			Screen 21 ~~22~~ - 23 ~~23~~		Bentonite 15-20
	25.0						Sand 20 - 23		

REMARKS: F-7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½" Ø Bore hole

BORING I 12

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATIO**

PROJECT: NWIRP Calverton — BORING NO.: I 13
PROJECT NO.: 5563 — DATE: 7-24-95 — DRILLER: Delta
ELEVATION: 53.00 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA :
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FT.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth/ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1422	1.0					Brn	Fgr SAND	SP	
						DBrn	Fgr SAND	SP	cohesive / slight odor
1425	5.0					yellow brn	Fgr SAND	SP	
						brn			
						tan	Fgr SAND	SP	v poorly graded
1431	10.0								
1434	15.0								
									wet @ 15'-16'
	20.0								Odor
									1034 WL 13.25
						Gray	Mgr SAND	SP	
1491							7-28-95 pull well up 1'		
				TD 23'			Screen 21.5 - 22.5		Bentonite 15-20
	25.0						Sand 20 - 23.5'		

REMARKS: F-7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½" ϕ Borehole

BORING I 13

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: I 14
PROJECT NO.: 5563 — DATE: 7-27-95 — DRILLER: Delta
ELEVATION: 54.57 — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA:
(Date, Time & Conditions) 7-28-95 1028 hrs 15.0' bgs

SAMPLE NO. & TYPE	DEPTH (ft) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
0946	1.0					Brn	Fgr SAND Tr Roots	SP	
						yellow	Fgr SAND	SP	
						brn			
0947	5.0					tan	Fgr SAND	SP	
0952	10.0								
0956	15.0								
						Lt Tan			
									H_2O @ 16'-17' ±
1000	20.0								
						Lt Tan	7-28-95		
							pull riser up 1.8'		20.7 01:
									Screen ~~22.5~~ – ~~23.5~~
1003									Sand 20.5 – ~~23.5~~
				TD 23.5					Bentonite 16 – ~~20.5~~
	25.0								

REMARKS: F-7 Failing ASA Rig
4¼" ID 7½" OD Augers
8½" Ø Borehole

BORING I 14

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATIO**

PROJECT: NWIRP Calverton — BORING NO.: I15
PROJECT NO.: 5563 — DATE: 7-26-95 — DRILLER: Delta
ELEVATION: 50.99 — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA :
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FL) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, FL)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1401	1.0					Brn	SILTY SAND Tr Rocks	SM/SP	
						orange yellow	Fgr SAND	SP	
1402	5.0					Tan	Fgr SAND	SP	
						Brn	Fgr SAND	SP	
1409	10.0					Tan	Fgr SAND	SP	
						Lt Tan			
	15.0								H_2O @ 14-16' ft
1416									
									Odor
						Gray Tan			
	20.0								
1422									
				TD22'			Screen 21 - 22		
							Sand 20 - 22		
	25.0						Bentonite 16 - 20		

REMARKS: F.7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½" ø Borehole

BORING I15

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: I16
PROJECT NO.: 5563 — DATE: 7-27-95 — DRILLER: Delta
ELEVATION: 51.28 — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA:
(Date, Time & Conditions) 7-28-95 1015 hrs 11.95' bgs

SAMPLE NO. & TYPE	DEPTH (FT) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth/ft)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
0800	1.0					Brn	SILTY Fgr SAND	SM/SP	
						DBrn	Fgr SAND	SP	Cohesive Fuel odor
	5.0					Brn	Fgr SAND	SP	
0808	10.0					Tan Brn			
						Tan	Fgr SAND	SP	
	15.0								
									H_2O @ 16'-17' ±
0815	20.0								
							7-28-95 Pull		
							riser pipe up 2.8'		
0818							19 to 20		
				TD 23'			Screen ~~21.8~~ - ~~22.8~~		Bentonite 16-19
	25.0						Sand 19.0 - 22.8		

REMARKS F-7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½" Ø Borehole

BORING I16

PAGE 1 OF 1

* See Legend on Back

APPENDIX D

INJECTION WELL
WELL CONSTRUCTION SHEETS

CF BRAUN ENGINEERING CORPORATION

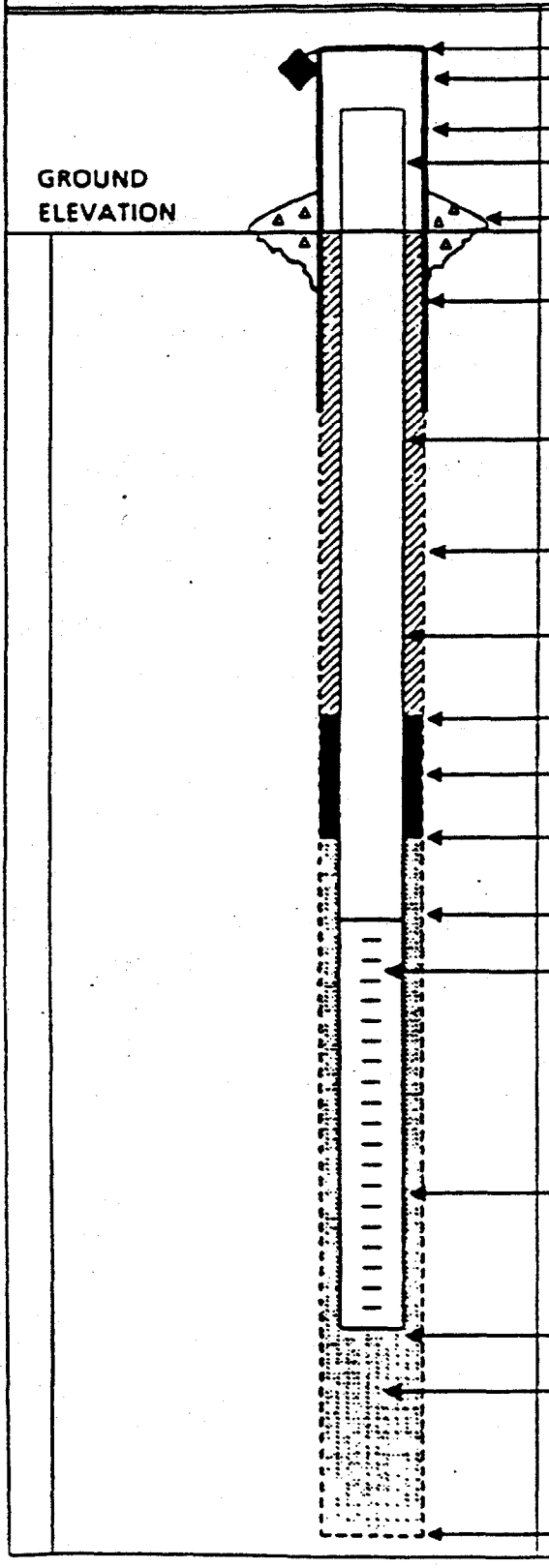
BORING NO I-1

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5363
ELEVATION 58.97
FIELD GEOLOGIST T. Evans

LOCATION Galverton NY
BORING I-1
DATE 7-26-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD NA



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: 59.37
STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 0.4
TYPE OF SURFACE SEAL: None
I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA
RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40
BOREHOLE DIAMETER: 8 1/2"
TYPE OF BACKFILL: Cement/Bentonite Grout
ELEVATION / DEPTH TOP OF SEAL: 39.97/~~21~~ 19' TSE
TYPE OF SEAL: Bentonite
DEPTH TOP OF SAND PACK: 24'
ELEVATION / DEPTH TOP OF SCREEN: 33.97/25'
TYPE OF SCREEN: PVC Sch 40
SLOT SIZE x LENGTH: 0.02" x 1'
I.D. OF SCREEN: 2"
TYPE OF SAND PACK: #1 Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 32.97/26'
ELEVATION / DEPTH BOTTOM OF SAND PACK: 31.97/27'
TYPE OF BACKFILL BELOW OBSERVATION WELL: Sand
ELEVATION / DEPTH OF HOLE: 31.97/27'

CF BRAUN ENGINEERING CORPORATION

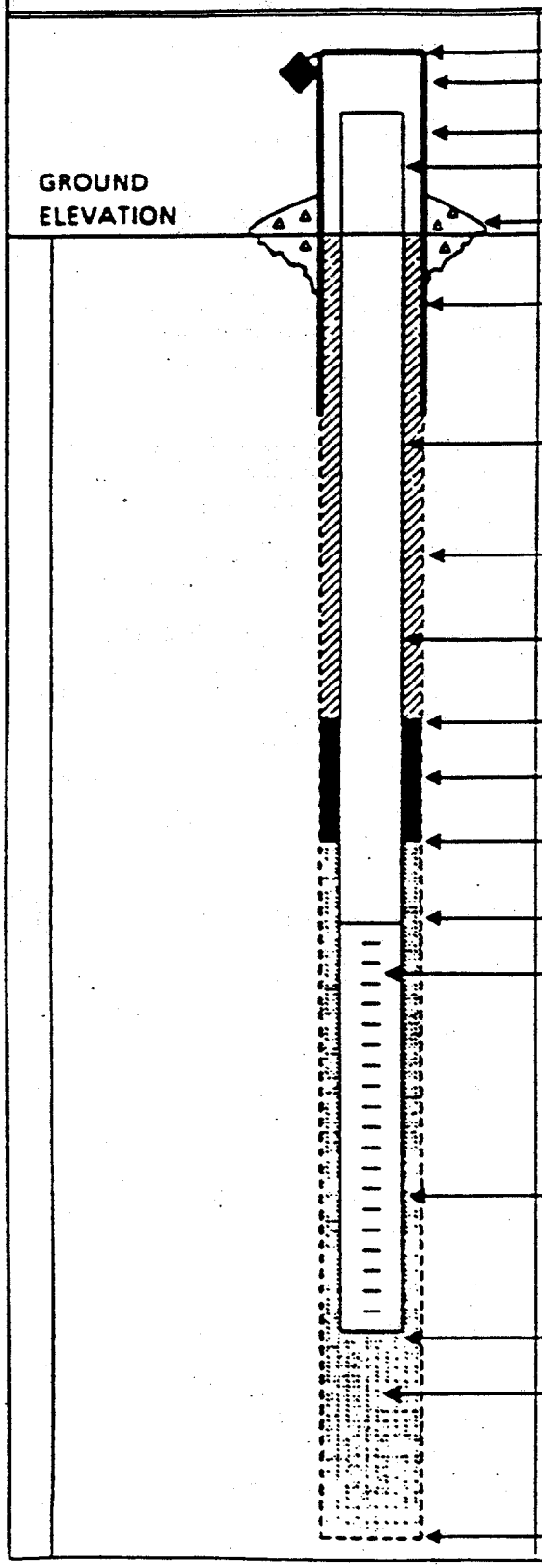
BORING NO I-2

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 58.94
FIELD GEOLOGIST T. Evans

LOCATION Calverton NY
BORING I-2
DATE 7-26-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD NA



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: 59.46

STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 0.52

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 39.94/19'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 34.94/24'

ELEVATION / DEPTH TOP OF SCREEN: 33.94/25'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.02" x 1'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 32.94/26'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 31.94/27'

TYPE OF BACKFILL BELOW OBSERVATION WELL: Sand

ELEVATION / DEPTH OF HOLE: 31.94/27'

CF BRAUN ENGINEERING CORPORATION

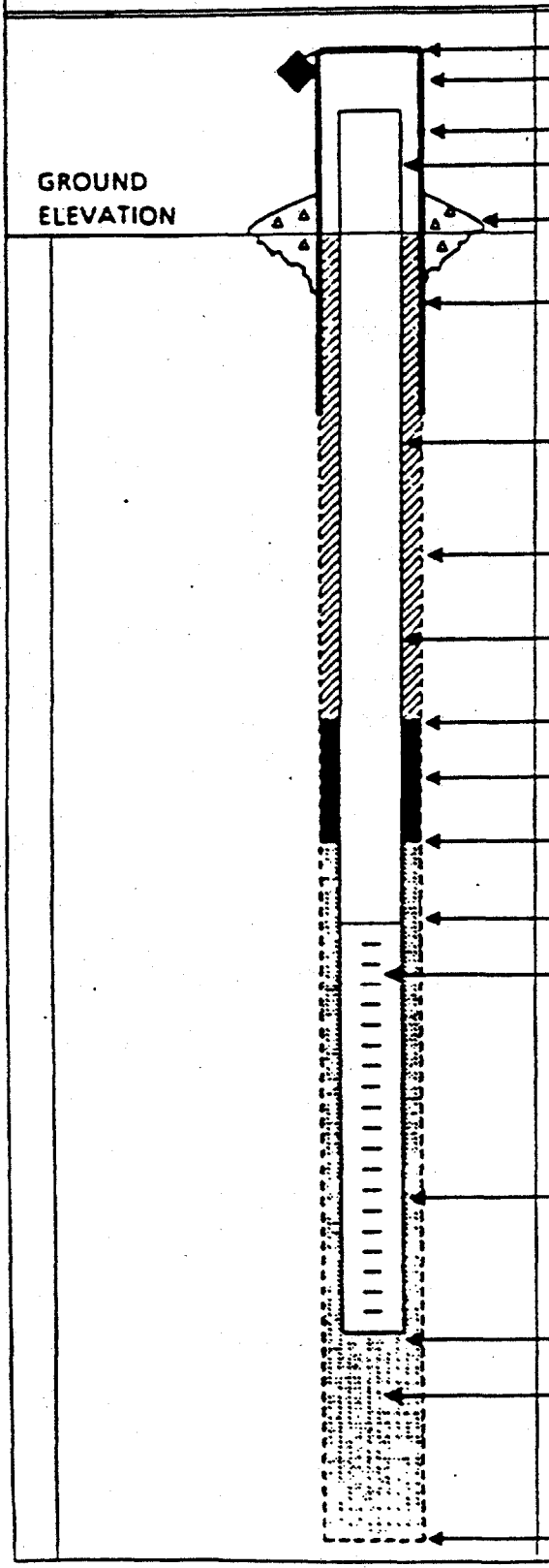
BORING NO I-3

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 56.38
FIELD GEOLOGIST T Evans

LOCATION Galverton NY
BORING I-3
DATE 7-26-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD NA



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: 56.89

STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 0.51

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 40.38/16'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 37.38/19'

ELEVATION / DEPTH TOP OF SCREEN: 35.38/21'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.02" x 1'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 34.38/22'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 34.38/22'

TYPE OF BACKFILL BELOW OBSERVATION WELL: NA

ELEVATION / DEPTH OF HOLE: 34.38/22'

CF BRAUN ENGINEERING CORPORATION

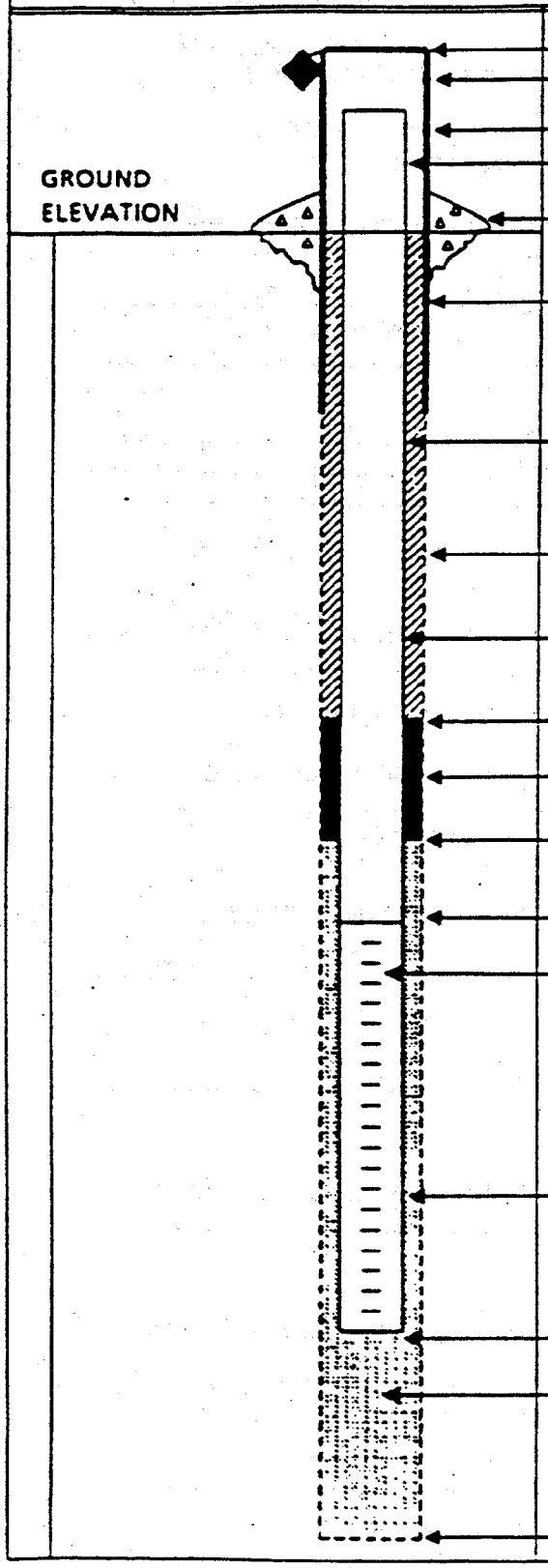
BORING NO I-4

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 55.89
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING I-4
DATE 7-26-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD NA



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: 56.37

STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 0.48

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 38.89 / 17'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 35.39/20.5'

ELEVATION / DEPTH TOP OF SCREEN: 33.99/21.9'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.02" X 1'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 32.99/22.9'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 32.99/22.9

TYPE OF BACKFILL BELOW OBSERVATION WELL: SAND

ELEVATION / DEPTH OF HOLE: 32.89/23.0

CF BRAUN ENGINEERING CORPORATION

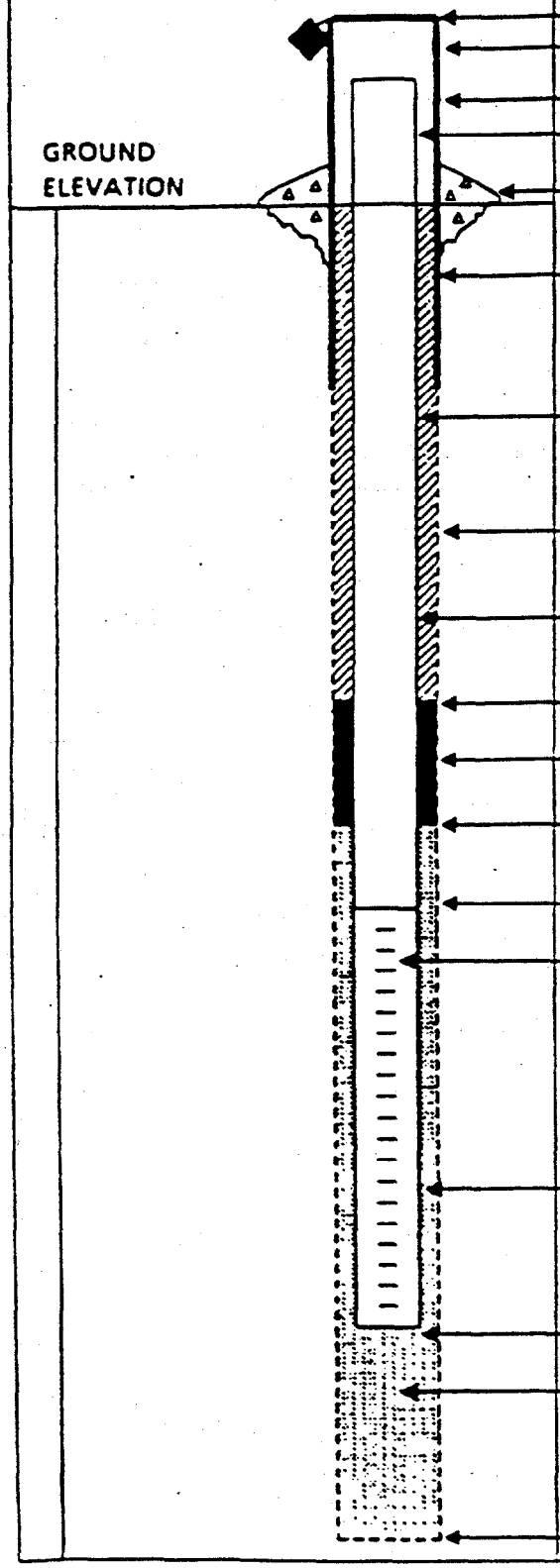
BORING NO I-5

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 55.13
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING I-5
DATE 7-25-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD NA



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: 55.68
STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 0.55
TYPE OF SURFACE SEAL: None
I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA
RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40
BOREHOLE DIAMETER: 8 1/2"
TYPE OF BACKFILL: Cement / Bentonite Grout
ELEVATION / DEPTH TOP OF SEAL: 40.13 / 15'
TYPE OF SEAL: Bentonite
DEPTH TOP OF SAND PACK: 35.13 / 20'
ELEVATION / DEPTH TOP OF SCREEN: 33.13 / 22'
TYPE OF SCREEN: PVC Sch 40
SLOT SIZE x LENGTH: 0.02" x 1"
I.D. OF SCREEN: 2"
TYPE OF SAND PACK: #1 Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 32.13 / 23'
ELEVATION / DEPTH BOTTOM OF SAND PACK: 32.13 / 23'
TYPE OF BACKFILL BELOW OBSERVATION WELL: NA
ELEVATION / DEPTH OF HOLE: 32.13 / 23'

CF BRAUN ENGINEERING CORPORATION

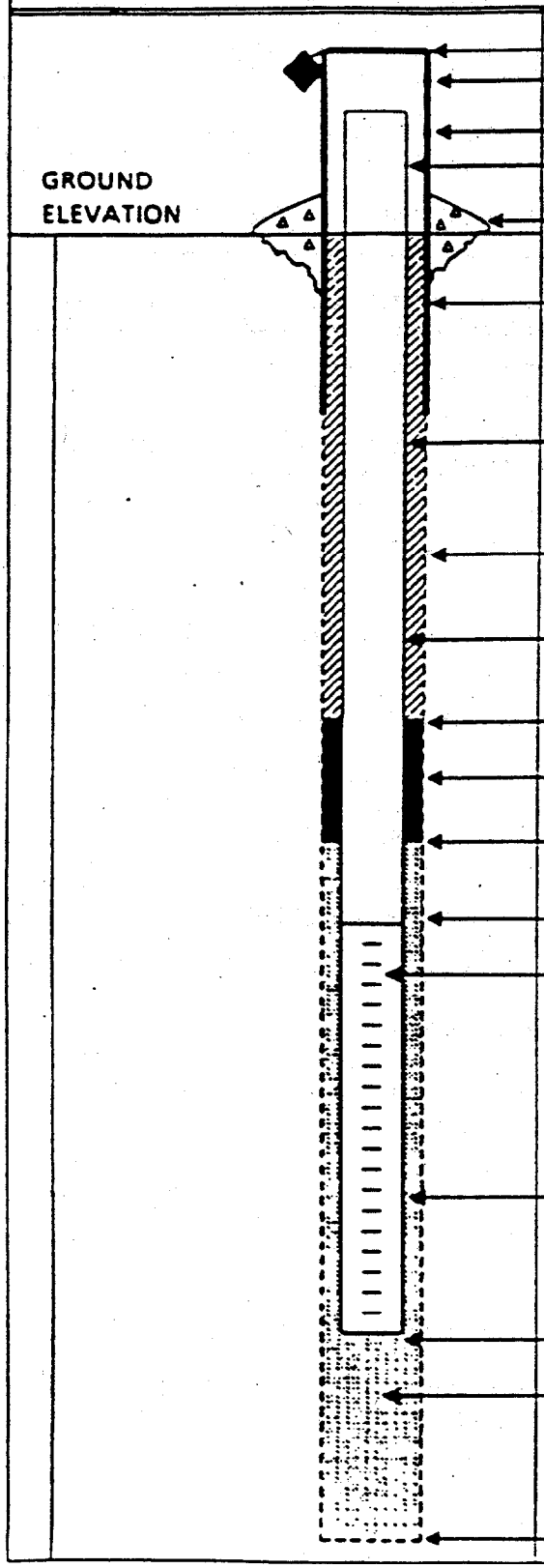
BORING NO I-6

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 54.62
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING I-6
DATE 7-25-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD NA



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: 56.01

STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 1.39

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC SCH 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 39.62/15'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 34.62/20'

ELEVATION / DEPTH TOP OF SCREEN: 33.62/21'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.02" x 1'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 32.62/22'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 32.62/22

TYPE OF BACKFILL BELOW OBSERVATION WELL: NA

ELEVATION / DEPTH OF HOLE: 32.62/22'

CF BRAUN ENGINEERING CORPORATION

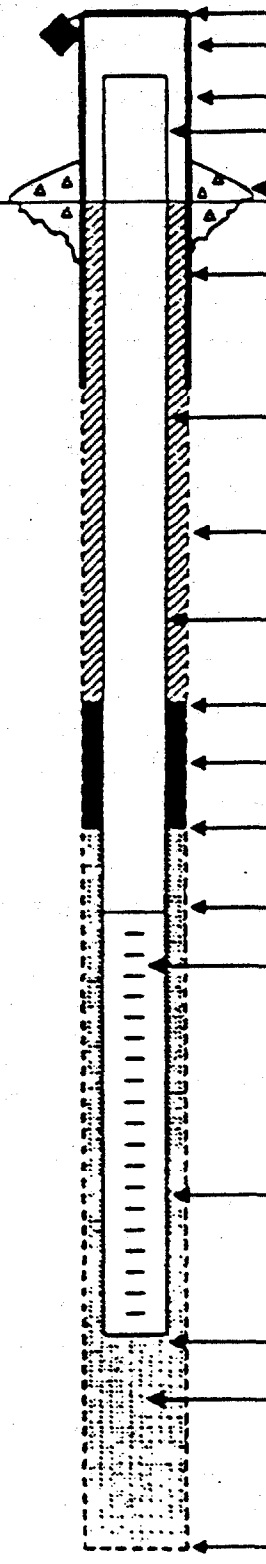
BORING NO I-7

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 54.46
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING I-7
DATE 7-25-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD NA



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: 55.93

STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 1.47

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 39.46/15'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 34.46/20'

ELEVATION / DEPTH TOP OF SCREEN: 31.66/22.8'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.02" x 1'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 30.66/23.8'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 31.46/23.8

TYPE OF BACKFILL BELOW OBSERVATION WELL: NA

ELEVATION / DEPTH OF HOLE: 31.46/23.8

CF BRAUN ENGINEERING CORPORATION

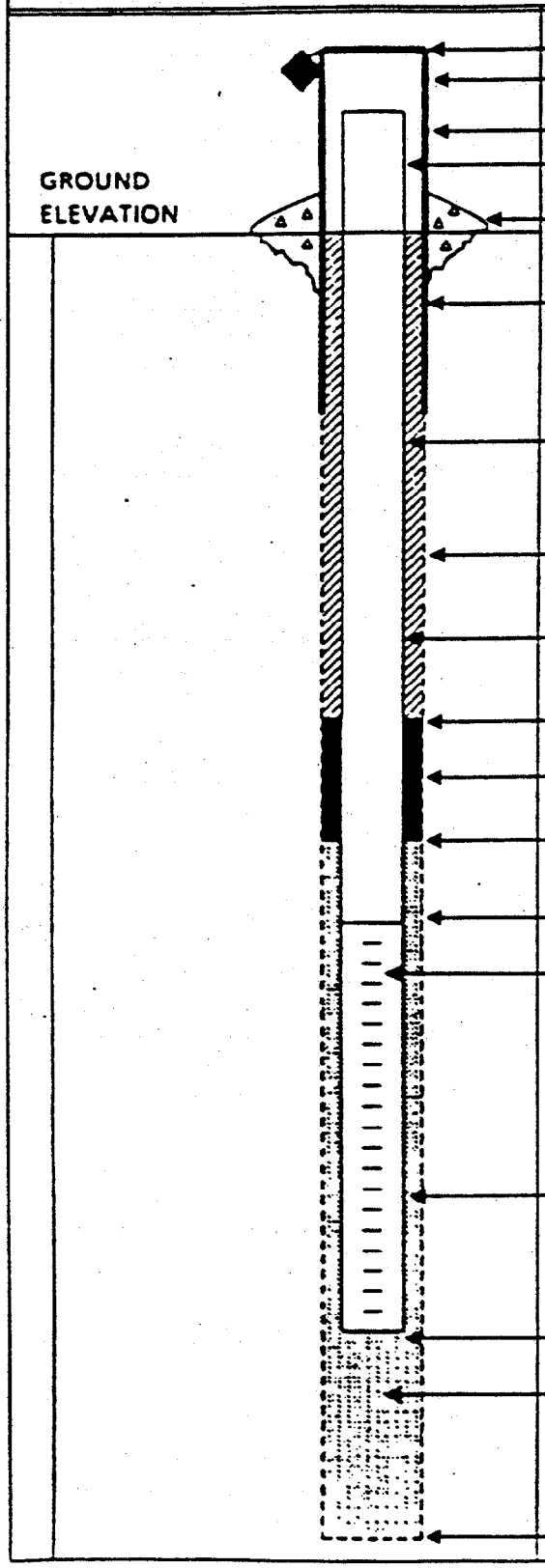
BORING NO I-8

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 54.30
FIELD GEOLOGIST T. Evans

LOCATION Calverton NY
BORING I-8
DATE 7-25-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD NA



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: 55.83
STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 1.50
TYPE OF SURFACE SEAL: None
I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA
RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40
BOREHOLE DIAMETER: 8½"
TYPE OF BACKFILL: Cement / Bentonite Grout
ELEVATION / DEPTH TOP OF SEAL: 39.30 / 15'
TYPE OF SEAL: Bentonite
DEPTH TOP OF SAND PACK: 34.30 / 20'
ELEVATION / DEPTH TOP OF SCREEN: 32.80 / 21.5'
TYPE OF SCREEN: PVC
SLOT SIZE x LENGTH: 0.02" x 1"
I.D. OF SCREEN: 2"
TYPE OF SAND PACK: #1 Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 31.80 / 22.5'
ELEVATION / DEPTH BOTTOM OF SAND PACK: 32.30 / 2
TYPE OF BACKFILL BELOW OBSERVATION WELL: NA
ELEVATION / DEPTH OF HOLE: 32.30 / 22'

CF BRAUN ENGINEERING CORPORATION

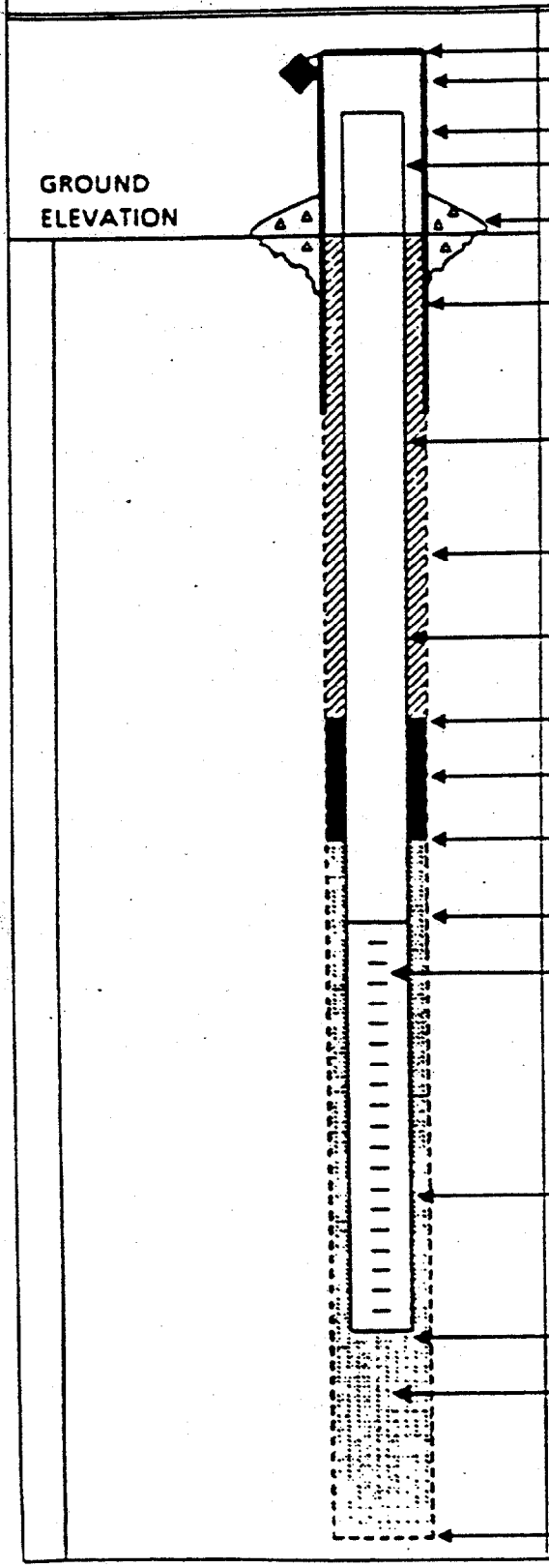
BORING NO I-9

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 54.20
FIELD GEOLOGIST T. Evans

LOCATION Calverton NY
BORING I-9
DATE

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD NA



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: 54.81
STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 0.61
TYPE OF SURFACE SEAL: None
I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA
RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40
BOREHOLE DIAMETER: 8 1/2"
TYPE OF BACKFILL: Cement / Bentonite Grout
ELEVATION / DEPTH TOP OF SEAL: 39.20 / 15'
TYPE OF SEAL: Bentonite
DEPTH TOP OF SAND PACK: 34.20 / 20'
ELEVATION / DEPTH TOP OF SCREEN: 32.20 / 22'
TYPE OF SCREEN: PVC Sch 40
SLOT SIZE x LENGTH: 0.02" x 1'
I.D. OF SCREEN: 2"
TYPE OF SAND PACK: #1 Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 31.20 / 23'
ELEVATION / DEPTH BOTTOM OF SAND PACK: 32.20 / 22'
TYPE OF BACKFILL BELOW OBSERVATION WELL: NA
ELEVATION / DEPTH OF HOLE: 32.20 / 22'

CF BRAUN ENGINEERING CORPORATION

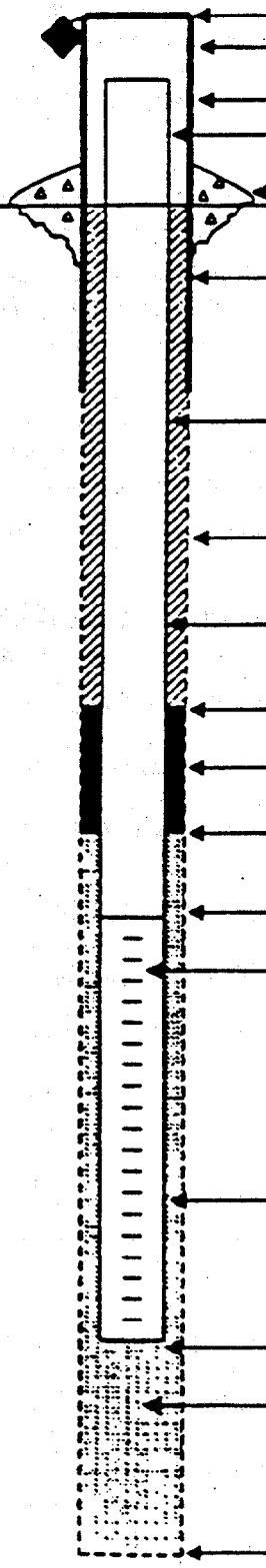
BORING NO I-10

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 54.36
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING I-10
DATE 7-24-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD NA



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: 54.82

STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 0.46

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 38.36/16'

TYPE OF SEAL: bentonite

DEPTH TOP OF SAND PACK: 34.36/20'

ELEVATION / DEPTH TOP OF SCREEN: 31.86/22.5'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.02" x 1'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 30.86/23.5'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 30.86/23.5'

TYPE OF BACKFILL BELOW OBSERVATION WELL: NA

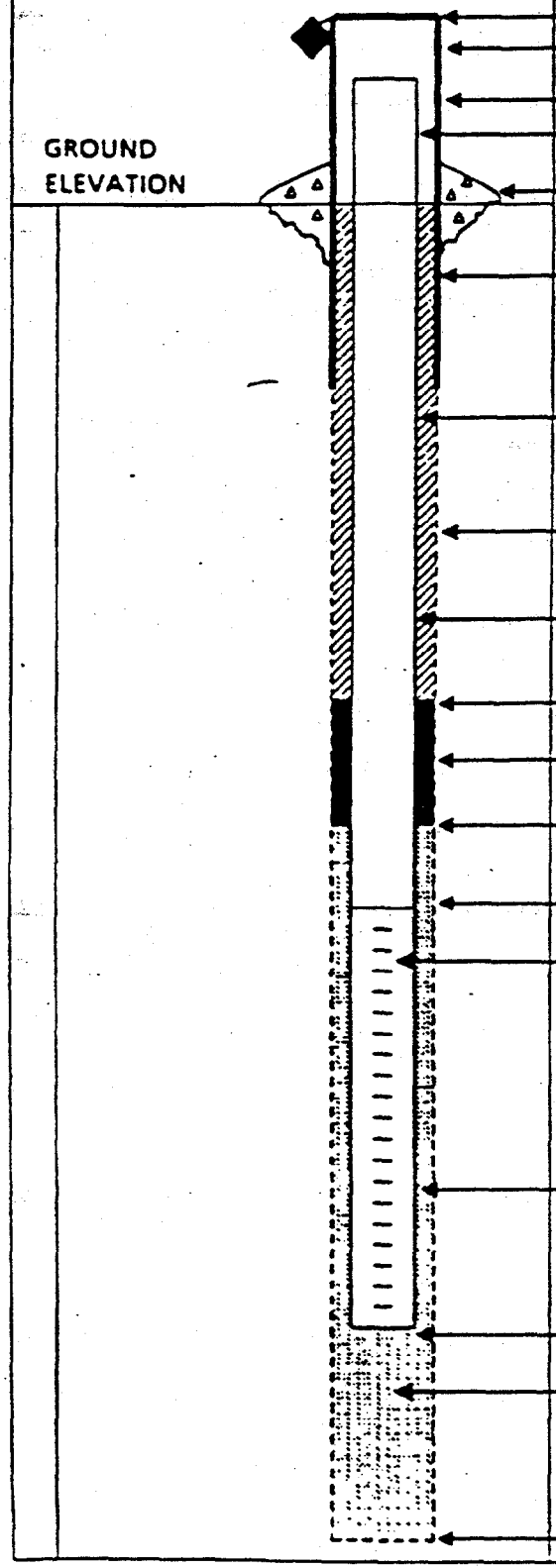
ELEVATION / DEPTH OF HOLE: 30.86/23.5'

CF BRAUN ENGINEERING CORPORATION

BORING NO I-11

MONITORING WELL SHEET

PROJECT NWIRP	LOCATION Calverton NY	DRILLER Delta
PROJECT NO. 5563	BORING I-11	DRILLING METHOD HSA
ELEVATION 53.83	DATE 7-24-95	DEVELOPMENT METHOD NA
FIELD GEOLOGIST T Evans		



ELEVATION OF TOP OF SURFACE CASING: NA

ELEVATION OF TOP OF RISER PIPE: 54.27

STICK - UP TOP OF SURFACE CASING: NA

STICK - UP RISER PIPE: 0.44

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: NA

TYPE OF SURFACE CASING: NA

RISER PIPE I.D. 2"

TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 38.83/15'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 33.33/20.5'

ELEVATION / DEPTH TOP OF SCREEN: 32.63/21.2'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.02" x 1'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 31.63/22.2'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 30.83/23'

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 30.83/23'

CF BRAUN ENGINEERING CORPORATION

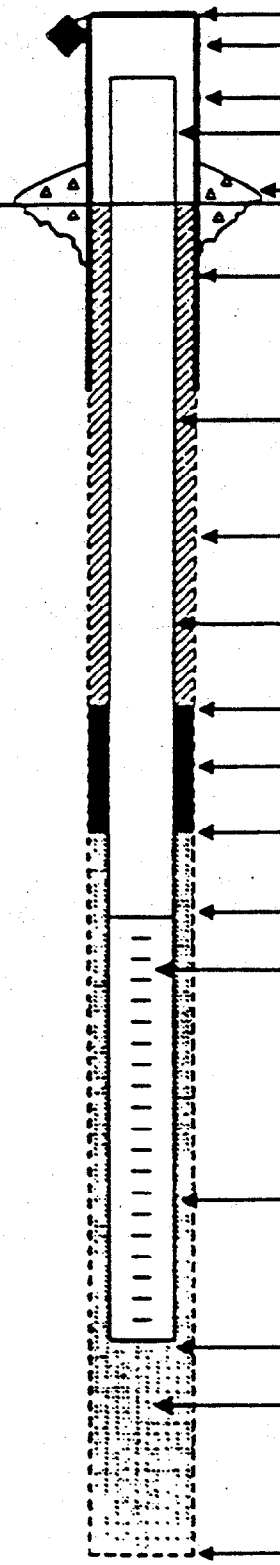
BORING NO I-12

MONITORING WELL SHEET

PROJECT NW IRP
PROJECT NO. 5563
ELEVATION 53.01
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING I-12
DATE 7-24-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD NA



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: 53.44
STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 0.43
TYPE OF SURFACE SEAL: None
I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA
RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40
BOREHOLE DIAMETER: 8½"
TYPE OF BACKFILL: Cement/Bentonite Grout
ELEVATION / DEPTH TOP OF SEAL: 38.01/15'
TYPE OF SEAL: Bentonite
DEPTH TOP OF SAND PACK: 33.01/20'
ELEVATION / DEPTH TOP OF SCREEN: 32.01/21'
TYPE OF SCREEN: PVC Sch 40
SLOT SIZE x LENGTH: 0.02" x 1'
I.D. OF SCREEN: 2"
TYPE OF SAND PACK: #1 Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 31.01/22'
ELEVATION / DEPTH BOTTOM OF SAND PACK: 30.01/23
TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural
ELEVATION / DEPTH OF HOLE: 30.01/23'

CF BRAUN ENGINEERING CORPORATION

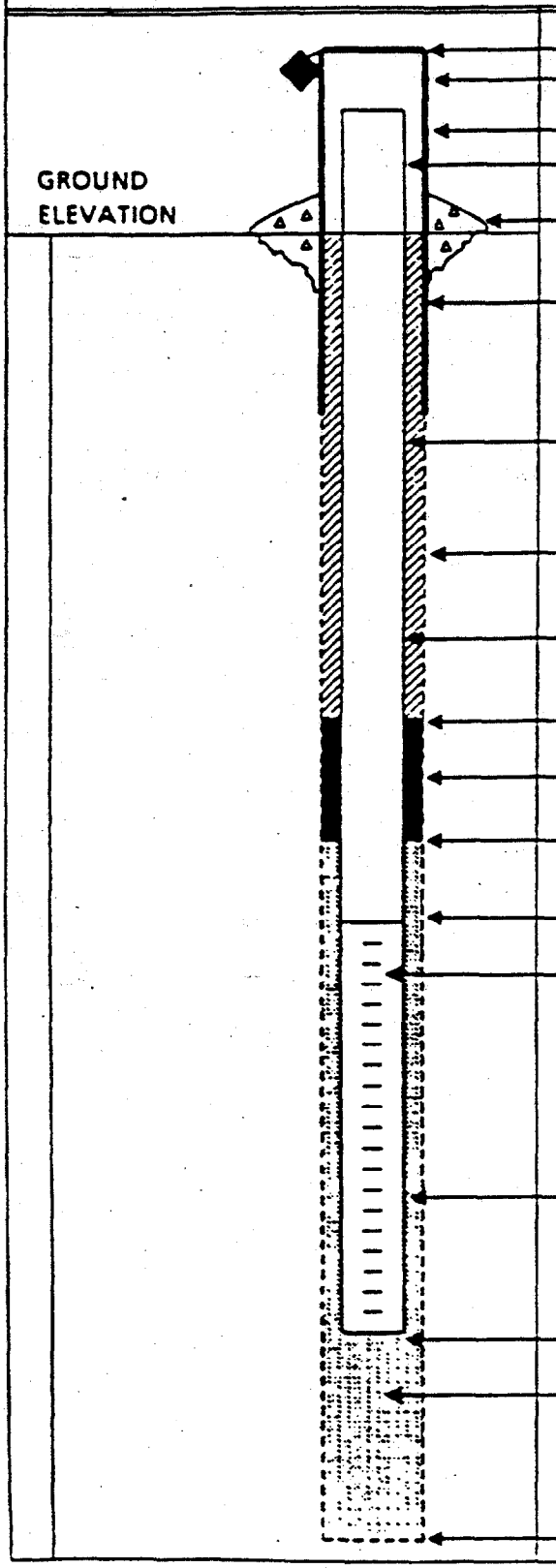
BORING NO I-13

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 55263
ELEVATION 53.00
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING I-13
DATE 7-24-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD NA



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: 54.21
STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 1.21
TYPE OF SURFACE SEAL: None
I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA
RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40
BOREHOLE DIAMETER: 8½"
TYPE OF BACKFILL: Cement/Bentonite Grout
ELEVATION / DEPTH TOP OF SEAL: 38.00/15'
TYPE OF SEAL: Bentonite
DEPTH TOP OF SAND PACK: 33.00/20'
ELEVATION / DEPTH TOP OF SCREEN: 31.50/21.5'
TYPE OF SCREEN: PVC Sch 40
SLOT SIZE x LENGTH: 0.02" x 1'
I.D. OF SCREEN: 2"
TYPE OF SAND PACK: #1 Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 30.50/22.5'
ELEVATION / DEPTH BOTTOM OF SAND PACK: 30.00/23'
TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural
ELEVATION / DEPTH OF HOLE: 30.00/23'

CF BRAUN ENGINEERING CORPORATION

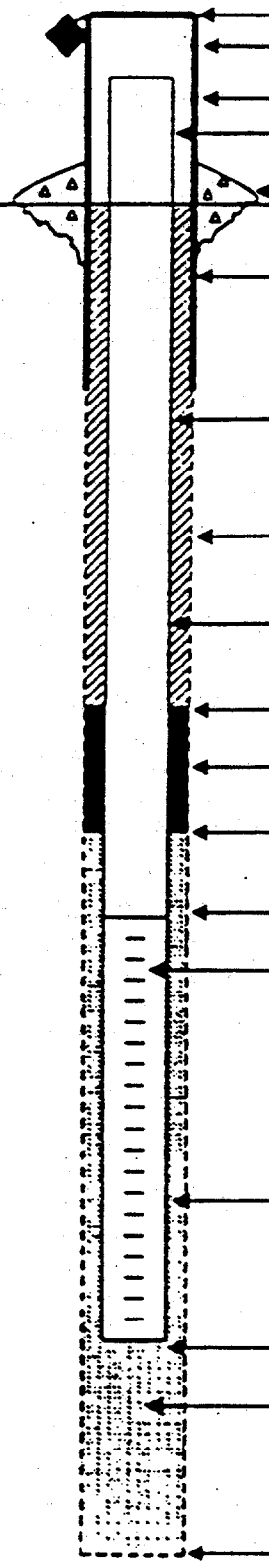
BORING NO I-14

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 39.57
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING I-14
DATE 7-27-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD NA



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: 35.67
STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 1.10
TYPE OF SURFACE SEAL: None
I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA
RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40
BOREHOLE DIAMETER: 8 1/2"
TYPE OF BACKFILL: Cement / Bentonite Grout
ELEVATION / DEPTH TOP OF SEAL: 38.57 / 16'
TYPE OF SEAL: Bentonite
DEPTH TOP OF SAND PACK: 34.07 / 20.5'
ELEVATION / DEPTH TOP OF SCREEN: 33.87 / 20.7'
TYPE OF SCREEN: PVC Sch 40
SLOT SIZE x LENGTH: 0.02" X 1'
I.D. OF SCREEN: 2"
TYPE OF SAND PACK: #1 Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 32.87 / 21.7'
ELEVATION / DEPTH BOTTOM OF SAND PACK: 31.07 / 23.
TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural
ELEVATION / DEPTH OF HOLE: 31.07 / 23.5

CF BRAUN ENGINEERING CORPORATION

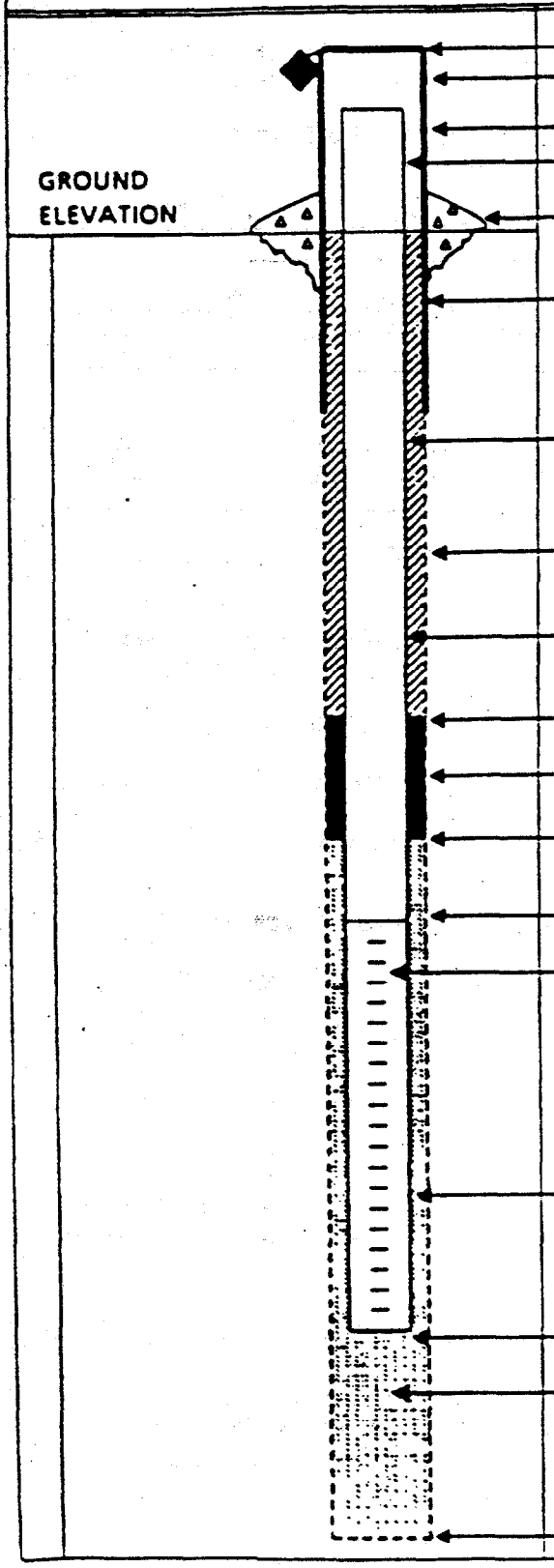
BORING NO I-15

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 50.99
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING I-15
DATE 7-26-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD NA



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: 51.47
STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 0.48
TYPE OF SURFACE SEAL: None
I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA
RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40
BOREHOLE DIAMETER: 8 1/2"
TYPE OF BACKFILL: Cement/Bentonite Grout
ELEVATION / DEPTH TOP OF SEAL: 34.99/16'
TYPE OF SEAL: Bentonite
DEPTH TOP OF SAND PACK: 30.99/20'
ELEVATION / DEPTH TOP OF SCREEN: 29.99/21'
TYPE OF SCREEN: PVC Sch 40
SLOT SIZE x LENGTH: 0.02" x 1'
I.D. OF SCREEN: 2"
TYPE OF SAND PACK: #1 Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 28.99/22'
ELEVATION / DEPTH BOTTOM OF SAND PACK: 28.99/22'
TYPE OF BACKFILL BELOW OBSERVATION WELL: NA
ELEVATION / DEPTH OF HOLE: 28.99/22'

CF BRAUN ENGINEERING CORPORATION

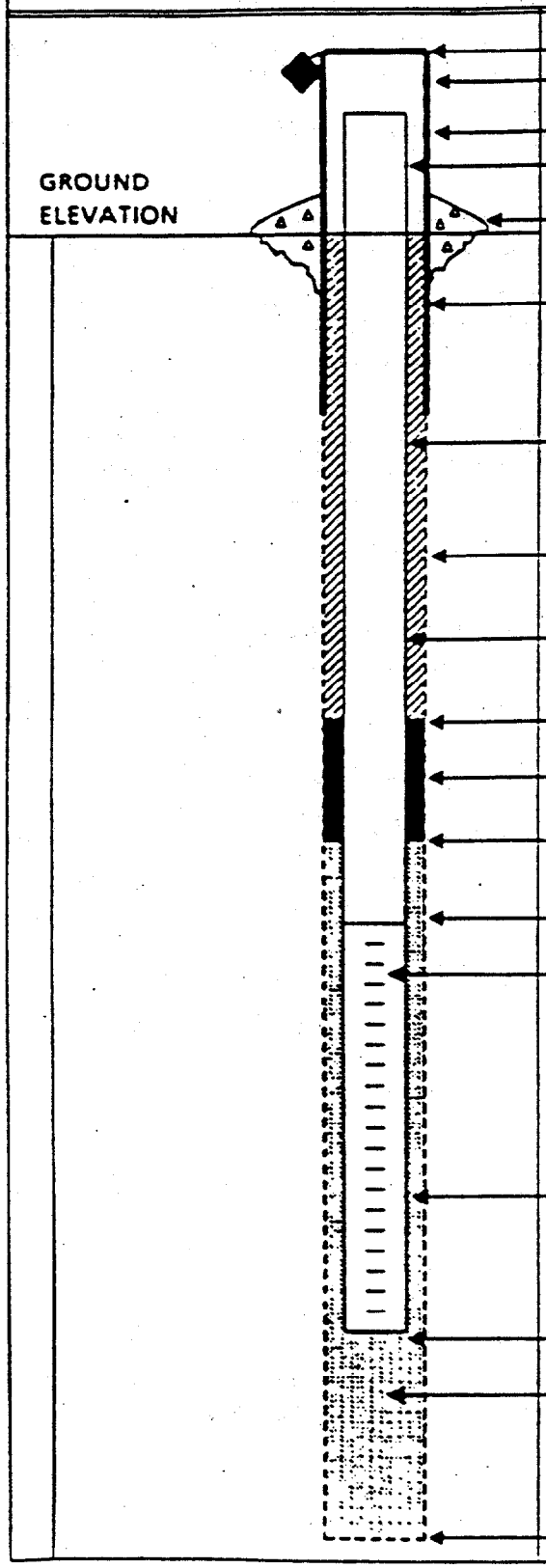
BORING NO I-16

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 51.28
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING I-16
DATE 7-27-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD



ELEVATION OF TOP OF SURFACE CASING: NA
ELEVATION OF TOP OF RISER PIPE: TE ~~52.47~~ 52.47

STICK - UP TOP OF SURFACE CASING: NA
STICK - UP RISER PIPE: 1.19

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: NA
TYPE OF SURFACE CASING: NA

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 35.28/16'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 32.28/19'

ELEVATION / DEPTH TOP OF SCREEN: 32.28/19'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.02" x 1'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 31.28/20'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 28.28/23

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 28.28/23'

APPENDIX E

EXTRACTION WELL BORING LOGS

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E 1
PROJECT NO.: 5563 — DATE: 7-19-95 — DRILLER: Delta
ELEVATION: 62.46 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA :
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					DBrn	F gr Silty SAND	SM	0951
	5.0					^	F gr SAND	SP	0953
						DBrn	F gr SILTY SAND	SM	
						Tan	F gr SAND	SP	
	10.0			TD 9'					1003
							Grout		
							Bentonite 1'-3'	→	3/4 x 5 gal bu
							Sand 3'-8'	→	1½ x 50# bag
	15.0						Screen 4'-8'	→	2" PVC 20 slot
	20.0								
	25.0								

REMARKS F-7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½" ø Borehole

BORING E 1

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-2
PROJECT NO.: 5563 — DATE: — DRILLER: Delta
ELEVATION: 62.12 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					DBrn	Fgr Silty SAND	SM	1105
	5.0					yellow orange	F gr SAND	SP	1107
						DBrn	F gr SILTY SAND	SM	
						Tan	Fgr SAND	SP	1112
				TDG					
	10.0								
							Grout		
							Bentonite 1'-3'		→ 3/4 x 5gal bucket
							Sand 3'-8'		→ 1½ X 50# bag
	15.0						Screen 4'-8'		→ 2" PVC 20 slot
									OVA
									0ppm cuttings
	20.0								
	25.0								

REMARKS: F-7 Failing HSA Rig
4½" ID 7½" OD Augers
8½" ID Bore hole

BORING E-2

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-3
PROJECT NO.: 5563 — DATE: 7-19-95 — DRILLER: Delta
ELEVATION: 61.98 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time	OVA
	1.0					DBrn	Fgr SILTY SAND	SM	1140	
	5.0								1144	0 ppm
							TR gravel			
						Tan	Fgr SAND	SP		
									1149	0 ppm
	10.0			TD 9'						
							Grout			
							Bentonite 1'-3'	→	3/4 x 5 gal bucket	
							Sand 3'-8'	→	1 1/2 x 50# bag	
	15.0						Screen 4'-8'	→	2" PVC 20 slot	
	20.0									
	25.0									

REMARKS F-7 Failing HSA Rig
4 1/4" ID, 7 1/2" OD Augers
8 1/2" ⌀ Borehole

BORING E-3

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWI RP Calverton — BORING NO.: E-4
PROJECT NO.: 5563 — DATE: 7-19-95 — DRILLER: Delta
ELEVATION: 62.39 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					DBrn	Silty F gr SAND	SM	1424
	5.0					yellow orange	F-gr. SAND	SP	1426
						tan gray	F gr. SAND	SP	v poorly graded
	10.0			TD 9'					1431
							Grout		
							Bentonite 1-3'		→ 3/4 x 5 gal buckets
							Sand 3-8'		→ 1½ x 50# bags
	15.0						Screen 4-8'		→ 2" PVC 20 slot
	20.0								
	25.0								

REMARKS: E-7 Failing HSA Rig.
4¼" ID, 7½" OD Augers
8½" Ø Borehole

BORING: E-

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATIO**

PROJECT: NWIRP Calverton — BORING NO.: E-5
PROJECT NO.: 5563 — DATE: 7-19-95 — DRILLER: Delta
ELEVATION: 62.68 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time	OVA
	1.0					DBrn	Fgr SAND Tr silt	SP	1344	
							some gray layers			
						tan	Fgr sand	SP		
	5.0					DBrn	Fgr SAND	SP	1346	0 ppm
						yellow orange	F-Mgr SAND			
						tan gray	Fgr SAND	SP	1350	
									v poorly graded	
	10.0			TO 9'						
							Grout			
							Bentonite 1-3	→	3/4 x 5 gal buck	
							Sand #1 3-8	→	1½ x 80# bag	
							Screen 4-8	→	2" PVC 20 sl	
	15.0									
	20.0									
	25.0									

REMARKS: E-7 Failing HSA Rig
4¼" ID 7½" OD Augers
9½" Ø Borehole

BORING E-5

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* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-6
PROJECT NO.: 5563 — DATE: 7-19-95 — DRILLER: Delta
ELEVATION: 62.25 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					DBrn	Fgr SANDY SILT Tr Clay	SM/ML	1315
	5.0					yellow orange	SILTY SAND	SM	1316
						DBrn	Silty SAND	SM	
						tan	Fgr SAND	SP	
									1322
	10.0			TOC,			Grout		
							Bentonite 1'-3'		→ 3/4 x 5 gal bucket
							Sand 3'-8'		→ 1 1/2 x 50# bag
							Screen 4'-8'		→ 2" PVC 0.010 slot
	15.0								OVA Reading
									0 ppm cuttings
	20.0								
	25.0								

REMARKS: F-7 Failing HSA Rig
4 1/4" ID, 7 1/2" OD Augers
8 1/2" Ø Borehole

BORING E

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* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NW1 RP Calverton — BORING NO.: E-7
PROJECT NO.: 5563 — DATE: 7-19-95 — DRILLER: Delta
ELEVATION: 60.37 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FT.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					DBrn	Fgr SAND Tr SILT	SP/SM	1457
									strong hydrocarbon odor
	5.0					yellow orange	Fgr SAND	SP	
									1459
						DBrn	SAND	SM	Hydrocarbon odor cohesive
						tan-grey	Fgr SAND	SP	v poorly graded
	10.0			TD9					1507
									OVA
									3ppm cuttings
							Grout		
	15.0						Bentonite 1'-3'	→	3/4 x 5 gal bucket
							Sand 3-8	→	1 1/2 x 50# bag
							Screen 4-8'	→	2" PVC 20 slot
	20.0								
	25.0								

REMARKS: E-7 Failing HSA Rig
4 1/4" ID, 7 1/2" OD Augers
8 1/2" Ø Borehole

BORING: E-7

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* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-8
PROJECT NO.: 5563 — DATE: 7-20-95 — DRILLER: Delta
ELEVATION: 60.23 — FIELD GEOLOGIST:
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FL) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, FL)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					yellow orange	F-Mgr SAND Tr gravel	SP	0800
	5.0								0801
						tan	F-Mgr SAND	SP	
									0806
	10.0			TD 9'					OVA 0 ppm cuttings
							Grout		
							Bentonite 1'-3'	→	1 x 5 gal bucket
							Sand 3'-8'	→	1½ x 50# bag
	15.0						Screen 4'-8'	→	2" PVC 20 slot
	20.0								
	25.0								

REMARKS: F-7 Failing HSA Rig
4¼" ID 7½" OD Augers
8½" Ø Borehole

BORING E-8

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* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATIO**

PROJECT: NWIRP Calverton — BORING NO.: E-9
PROJECT NO.: 5563 — DATE: 7-20-95 — DRILLER: Delta
ELEVATION: 60.79 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS TIME
	1.0					DBrn	VF-F gr SILTY SAND	SM/SP	0822
	5.0					yellow orange	F gr SAND	SP	0826
						tan	F gr SAND	SP	v poorly graded 0829
	10.0			TD 91					
							Grout		
							Bentonite 1-3	→	1 x 5gal buck
							Sand #1 3'-8'	→	1½ x 50# bag
							Screen 4-8'	→	2" PVC 20 slot
	15.0								
	20.0								
	25.0								

REMARKS: F-7 Failing HSA Rig
4 1/4" ID 7 1/2" OD Augers
8 1/2" Ø Borehole

BORING E-9

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BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-10
PROJECT NO.: 5563 — DATE: 7-20-95 — DRILLER: Delta
ELEVATION: 56.65 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FT.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					D Brn	Fgr SAND	SP	0950
									Hydrocarbon, odor 1-2'
						yellow orange	Fgr SAND	SP	
	5.0								0952
						tan	Fgr SAND	SP	vpoorly graded
									0955
	10.0			TD 9.					
							Grout		
							Bentonite 1'-3'		→ 1 x 5 gal bucket
							Sand 3'-8'		→ 1½ x 50# bags
	15.0						Screen 4'-8'		→ 2" PVC 20 slot
	20.0								
	25.0								

REMARKS F-7 Failing HSA Rig
4¼" ID, 7½" ⌀ Augers
8½" ⌀ Bore hole

BORING E

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BORING LOG — **CF BRAUN ENGINEERING CORPORATIO**

PROJECT: NWIRP Calverton — BORING NO.: E-11
PROJECT NO.: 5563 — DATE: 7-20-95 — DRILLER: Delta
ELEVATION: 56.89 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA :
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS TIME
	1.0					yellow orange	Fgr SAND	SP	0922 vPoorly
	5.0					Tan	Fgr SAND	SP	0923
						tan gray	Fgr SAND	SP	vPoorly Gra
									0926
	10.0			TD 9'					
							Grout		
							Bentonite 1'-3'		→ 1 x 5gal bucke
							Sand 3'-8'		→ #1 2 x 50# bag
	15.0						Screen 4'-8'		→ 2" PVC 20 slot
	20.0								
	25.0								

REMARKS F-7 Failing HSA Rig
4¼" ID 7½" OD
8½" ø Borehole

BORING E-11

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BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-12
PROJECT NO.: 5563 — DATE: 7-20-95 — DRILLER: Delta
ELEVATION: 57.20 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FT.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					D Brn	VF-Fgr SAND Tr Silt	SW/SP	0859
						yellow orange	F-mgr SAND	SP	
	5.0					tan	Fgr SAND	SP	v poorly graded
									0900
				TD 8.5'					0903
	10.0								
							Grout		
							Bentonite 1'-3'	→	1 x 5 gal bucket
							Sand 3'-8'	→	#1 2 x 50# bags
							Screen 4'-8'	→	2" PVC 20 slot
	15.0								
	20.0								
	25.0								

REMARKS: E-7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½"Ø Borehole

BORING E-

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BORING LOG — **CF BRAUN ENGINEERING CORPORATIO**

PROJECT: NWIRP Calverton — BORING NO.: E - 13
PROJECT NO.: 5563 — DATE: 7-20-95 — DRILLER: Delta
ELEVATION: 56.32 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FL) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, FL)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					Brn	Fgr SAND	SP	1020
						DBrn	Fgr SAND Tr gravel wood	SP	
						DBrn	Fgr SAND Tr Silt	SP	water
	5.0					yellow Orange	Fgr SAND	SP	1031
						tan-grey	Fgr Sand	SP	1035
									1037
	10.0			TD 9'					
							Grout		
							Bentonite 1'-3'	→ 3/4 x 5gal bucket	
							Sand 3-8'	→ 1 1/2 x 80# bag	
	15.0						Screen 4-8'	→ 2" PVC 20 slot	
	20.0								
	25.0								

REMARKS: F-7 Failing HSA Rig
4 1/4" ID, 7 1/2" OD Augers
8 1/2" ø Borehole

BORING E - 13

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BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-14
PROJECT NO.: 5563 — DATE: 7-20-95 — DRILLER: Delta
ELEVATION: 56.04 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					Brn	Gravelly FSr SAND	SP	1057
						O Brn	Fgr SAND Tr wood	SP	Hydrocarbon odor
	5.0								1059
						orange yellow	Fgr SAND	SP	moist
									1103
	10.0			TD 9					
							Grout		
							Bentonite 1'-3'		→ 3/4 x 5gal buckets
							Sand #1 3-8'		→ 1½ x 50# bag
	15.0						Screen 4'-8'		→ 2" PVC 20 slot
	20.0								
	25.0								

REMARKS: F-7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½" Ø Borehole

BORING E-

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BORING LOG — **CF BRAUN ENGINLERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-15
PROJECT NO.: 5563 — DATE: 7-20-95 — DRILLER: Delta
ELEVATION: 55.82 — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					Brn	Gravelly SAND F-mgr	SW	1126
						DBrn	Silty Sand F gr	SM	
	5.0								1127
						DBrn	Silty SAND F gr		Hydro carbon odo
						Tan	Sand	SP	
									1128
	10.0			TD 9'					
							Grout		
							Bentonite 1'-3'	→	x 5gal buck
							Sand #1 3'-8'	→	x 50# bags
	15.0						Screen 4'-8'	→	2" PVC 20 slo.
									OVA
									3ppm cuttings
	20.0								
	25.0								

REMARKS: F-7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½" ø Bore hole

BORING E-15

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BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-16
PROJECT NO.: 5563 — DATE: 7-20-95 — DRILLER: Delta
ELEVATION: 55.25 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FT.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0								1336
						yellow orange	Fgr SAND	SP	
						D Brn	Fgr SAND Tr silt	SP	Hydrocarbon Odor
									Cuttings OVA 80ppm BZ 0ppm
	5.0					Tan	Fgr SAND	SP	Moist
									1338
									Cuttings 3 ppm BZ 0 ppm
						Tan gray	Fgr SAND	SP	V poorly graded
	10.0			TD 9'					1341
							Grout		
							Bentonite 1'-3'		→ 3/4 x 5 gal bucket
							Sand 3'-8'		→ 1 1/2 x 50# bag
	15.0						Screen 4'-8'		→ 2" pvc 20 slot
	20.0								
	25.0								

REMARKS: E-7 Failing HSA Rig
4 1/4" ID, 7 1/2" OD Augers
8 1/2" ø Bore hole

BORING E

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BORING LOG — **CF BRAUN ENGINEERING CORPORATIO**

PROJECT: NWIRP Calverton — BORING NO.: E-17
PROJECT NO.: 5562 — DATE: 7-20-95 — DRILLER: Delta
ELEVATION: 55.13 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA :
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					Brn	Fgr SAND	SP	1318
						Tan	Fgr SAND	SP	Damp
	5.0						Tr gravel @ 4'		1319
						tan gray	Fgr SAND	SP	Vpoorly sorted
									1321
	10.0			TD 9'					
							Grout		
							Bentonite 1'-3'		→ 3/4 x 5gal buck
							Sand #1 3'-8'		→ 1½ x 50# bags
							Screen 4'-8'		→ 20 slot 2" PVC
	15.0								
	20.0								
	25.0								

REMARKS E-7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½" ø Borehole

BORING E-17

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BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-18
PROJECT NO.: 5563 — DATE: 7-21-95 — DRILLER: Delta
ELEVATION: 55.34 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					Brn	Fgr SAND tr gravel	SP	0742
						yellow brn	Fgr SAND tr gravel	SP	
						tan	Fgr SAND	SP	v poorly graded
	5.0								
									0745
									0746
	10.0			TD 9'					
							Grout		
							Bentonite 1-3'		→ 3/4 x 5gal bucket
							Sand 3-8		→ 1½ x 50# bag
							Screen 4-8'		→ 2" PVC 20slot
	15.0								
	20.0								
	25.0								

REMARKS: F-7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½" ø Borehole

BORING E-

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BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NW IRP Calverton
BORING NO.: E-19
PROJECT NO.: 55 63
DATE: 7-21-95
DRILLER: Delta
ELEVATION: 54.39
FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA :
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FL) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, FL)	MATERIAL DESCRIPTION* SOIL DENSITY: CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					DBrn	Fgr SAND Tr Silt	SP	0804
						yellow orange	Fgr SAND	SP	
	5.0					Tan	Fgr SAND	SP	v poorly graded
									0808
	10.0			TD 6'					
							Grout		
							Bentonite 1'-3'		→ 3/4 x 5 gal buck
							Sand 3'-8'		→ 1 1/2 x 50# bag
	15.0						Screen 4-8'		→ 2" PVC 20 slot
	20.0								
	25.0								

REMARKS E-7 Failing HSA Rig
4 1/4" ID 7 1/2" OD Augers
8 1/2" ø Borehole

BORING E-19

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BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-20
PROJECT NO.: 55603 — DATE: 7-21-95 — DRILLER: Delta
ELEVATION: 53.77 — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					yellow brown	Fgr SAND	SP	0823
						B Brn	Fgr SAND Tr gravel	SP	Hydrocarbon odor
	5.0								0824
						tan-grey	Fgr SAND	SP	Hydrocarbon odor
									0828
	10.0			TD 9'					
							Screen 4-8 2" PVC		OVA cuttings BZ 0ppm
							Sand 3-8 #1		
							Bentonite 1-3		
	15.0								
	20.0								
	25.0								

REMARKS: F-7 Failing HSA Rig
4 1/4" ID 7 1/4" OD Augers
8 1/2" Ø Borehole

BORING E-

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* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATIO**

PROJECT: NWIRP Calverton — BORING NO.: E-21
PROJECT NO.: 5563 — DATE: 7-20-95 — DRILLER: Delta
ELEVATION: 53.40 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					D Brn	Fgr SAND Tr Silt	SP	1504
	5.0					DBrn	Fgr SAND	SP	1505
						tan	Fgr SAND	SP	v. poorly graded
									1509
	10.0			10.9'					
									OVA 0ppm
							Grout		
							Bentonite 1'-3'		→ 3/4 x 5 gal buck
							Sand #1 3-8		→ 1½ x 50# bag
	15.0						Screen 4-8		→ 2" PVC 20 slot
	20.0								
	25.0								

REMARKS: E-7 Failing HSA Rig
4¼" ID 7½" OD Augers
8½" ⌀ Borehole

BORING E-21

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BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-22
PROJECT NO.: 5563 — DATE: 7-20-95 — DRILLER: Delta
ELEVATION: 53.40 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA :
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	1.0					D Brn	Fgr SAND	SP	1436
						yellow	Fgr SAND	SP	
						orange			
	5.0								1437
						tan	Fgr SAND	SP	
									1441
				TD 8'					OVA 0 ppm
	10.0								
							Grout		
							Bentonite 1'-3'		→ 3/4 x 5gal bucket
							Sand #1 3'-8'		→ 1 1/2 x 50# bag
							Screen 4-8'		→ 2" pvc 20 slot
	15.0								
	20.0								
	25.0								

REMARKS: F-7 Failing HSA Rig
4 1/4" ID, 7 1/2" OD Augers
8 1/2" ø Borehole

BORING E

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BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-23
PROJECT NO.: 5563 — DATE: 7-20-95 — DRILLER: Delta
ELEVATION: 53.84 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					yellow orange	fgr SAND	SP	1417
						tan	fgr SAND	SP	v poorly graded
	5.0								1418
									1420
	10.0			10.9'					
									OVA = 0 ppm
							Grout		
							Bentonite 1'-3'		→ 3/4 x 5gal bucket
							Sand #1 3'-8'		→ 1 1/2 x 80# bag
	15.0						Screen 4'-8'		→ 2" PVC 20 slot
	20.0								
	25.0								

REMARKS: F-7 Failing HSA Rig
4 1/4" ID, 7 1/2" OD Augers
8 1/2" Ø Borehole

BORING: E-23

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BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRD Calverton — BORING NO.: E 24
PROJECT NO.: 5563 — DATE: 7-27-95 — DRILLER: Delta
ELEVATION: 58.97 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (FT.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1116	1.0					Dark Brn	Fgr Sand Tr Silt, Roots	SP	
						yellow brn	Fgr SAND	SP	
						to Tan			
1117	5.0								
1122									
	10.0			TD 9'					
							Screen 4-8'		
							Sand 4'-9'		
							Bentonite 1-4'		
	15.0								
	20.0								
	25.0								

REMARKS: F-7 Failing HSA Rig
4¼" ID 7½" OD Augers
8½" ø Borehole

BORING E

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATIO**

PROJECT: NWIRP Calverton — BORING NO.: E-25
PROJECT NO.: 5563 — DATE: 7-21-95 — DRILLER: Delta
ELEVATION: 56.56 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

~~SAMPLE NO. & TYPE~~ Time	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1040	1.0					Black to	Organics Some Sand	PT	
						gray	Fgr SAND	SP	
						yellow orange	Fgr SAND	SP	
1041	5.0					Tan	Fgr SAND	SP	
1046									
	10.0			TD 9'					
							Grout		
							Bentonite 1'-3'		→ 3/4 x 5gal buc
							Sand 3'-8'		→ 1½ x 50# bag
							screen 4'-8'		→ 2" PVC 20 slo

REMARKS E-7 Failing HSA Rig
4¼" ID, 7½" OD
8½" ϕ Bore hole

BORING E-2

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-2C
PROJECT NO.: 5563 — DATE: 7-21-95 — DRILLER: Delta
ELEVATION: 54.62 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

Sample No. Time	Depth (ft.) or Run No.	Blows 6" or RQD (%)	Sample Recovery Sample Length	Lithology Change (Depth, ft.)	Soil Density Consistency or Rock Hardness	Color	Material Classification	Rock Br. or USCS	Remarks
1123	1.0					DGrey	Fgr SAND Tr Org	SP	
						yellow orange	Fgr SAND	SP	
1124	5.0					Tan	Fgr SAND	SP	vpoorly graded
1129									
	10.0			TD=9'					
							Grout		
							Bentonite 1-3'		→ 3/4 x 5gal bucket
							Sand 3'-8'		→ #1 1 1/2 x 50# Bags
							Screen 4'-8'		→ 2" PVC 20 slot
	15.0								
	20.0								
	25.0								

REMARKS: E-7 Failing HSA Rig
4 1/4" ID, 7 1/2" OD Augers
8 1/2" ⌀ Bore hole

BORING E-

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-27
PROJECT NO.: 5563 — DATE: 7-21-95 — DRILLER: Delta
ELEVATION: 52.43 — FIELD GEOLOGIST:
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS Time
	1.0					D Brn	Fgr SAND	SP	0929
						Brn			
						orange yellow	Fgr SAND	SP	
	5.0								0932
						tan	Fgr SAND	SP	
									0936
	10.0			TD 9'					
									OVA Cuttings 3 ppm BZ 0 ppm
							Grout		
							Bentonite 1'-3'	→	3/4 x 5 gal buck
							Sand 3'-8'	→	1 1/2 x 50# bags
							Screen 4-8'	→	2" PVC 20 slot

REMARKS F-7 Failing USA Rig
4 1/4" ID, 7 1/2" OD Augers
8 1/2" Ø Bore hole

BORING E-27

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-28
PROJECT NO.: 5563 — DATE: 7-21-95 — DRILLER: Delta
ELEVATION: 52.15 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

~~Sample No. & Type~~ Time	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY - SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1312	1.0					D Brn to Brn	Fgr SAND	SP	
						yellow orange	Fgr SAND	SP	
1314	5.0								
1318									
	10.0			TOG'					
							Grout		
							Bentonite 1'-3'		→ 3/4 x Sgal bucket
							Sand 3'-8'		→ # 1 1/2 x 50# bag
							Screen 4'-8'		→ 2" PVC 20 Slot

REMARKS: E-7 Failing HSA Rig
4 1/4" ID, 7 1/2" OD Augers
8 1/2" ⌀ Borehole

BORING E

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATIO**

PROJECT: NWIRP Beth page — BORING NO.: E-29
PROJECT NO.: 5563 — DATE: 7-21-95 — DRILLER: Delta
ELEVATION: 53.88 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
	1.0					yellow brn	VF-Fgr SAND	SP	0858
									v poorly graded
	5.0								0859
						brn			
						brn			
									0902
				TDG'					
							Grout		
							Bentonite 1'-3'		→ 3/4 x 5gal buck
							Sand 3'-8'		→ 1½ x 50# bags
							Screen 4'-8'		→ 2" PVC 20 slo

REMARKS: I-7 Failing HSA Rig
4¼" ID 7½" OD Augers
8½" ø Borehole

BORING E-29

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-30
PROJECT NO.: 5563 — DATE: 7-21-95 — DRILLER: Delta
ELEVATION: 51.98 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

~~Sample No. & Type~~ Time	DEPTH (FL) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY & SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, FL)	MATERIAL DESCRIPTION* SOIL DENSITY/CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1403	1.0					gray Brn	Organics Some SAND	PT	
						yellow orange	Fgr SAND	SP	
1405	5.0					tan	Fgr SAND	SP	
1407						tan gray	Fgr SAND	SP	
	10.0			TOG'					
							Screen 4-8 2" PVC		
							Sand 3-8 #1		
							Bentonite 1-3		

REMARKS: E-7 Failing HSA Rig.
4 1/4" ID 7 1/2" OD Augers
8 1/2" Ø Borehole

BORING E-

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-31
PROJECT NO.: 5563 — DATE: 7-21-95 — DRILLER: Delta
ELEVATION: 50.45 — FIELD GEOLOGIST: T. Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

~~SAMPLE NO. & TYPE~~ TIME	DEPTH (FT.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1426	1.0					Brn	Fgr SAND	SP	
						gray			
						Brn	Fgr SAND	SP	
						yellow orange	Fgr SAND	SP	
1429	5.0								
1432						tan	Fgr SAND	SP	
	10.0			TOG'					
									Solvent odor
							Grout		OVA unable to
							Bentonite 1'-3'		pump (battery low
							Sand #1 3-8'		→ 3/4 x 5gal bucket
	15.0								→ 1 1/2 x 50# bag
							Screen 4-8'		→ 2" PVC 20 slot
	20.0								
	25.0								

REMARKS: F-7. Failing HSA Rig.
4 1/4" ID, 7 1/2" OD Augers
8 1/2" ø Bore hole

BORING E-31

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: E-32
PROJECT NO.: 5563 — DATE: 7-21-95 — DRILLER: Delta
ELEVATION: 50.62 — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA:
(Date, Time & Conditions)

SAMPLE NO. OR TYPE Time	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth ft.)	MATERIAL DESCRIPTION* SOIL DENSITY/ CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
1504	1.0					Gray Brn	Organics Some SAND	PT	
						yellow orange	Fgr SAND	SP	
1505	5.0					tan	Fgr SAND	SP	
1507									
	10.0			TOG'					
							Grout		
							Bentonite 1'-3'		→ 3/4 x 5gal bucket
							Sand #1 3'-8'		→ 1½ x 50# bags
	15.0						Screen 4'-8'		→ 2" PVC 20 slot
	20.0								
	25.0								

REMARKS: E-7 Failing HSA Rig
4¼" ID, 7½" OD Augers
8½" Ø Borehole

BORING E-

PAGE 1 OF 1

* See Legend on Back

APPENDIX F

EXTRACTION WELL
WELL CONSTRUCTION SHEETS

CF BRAUN ENGINEERING CORPORATION

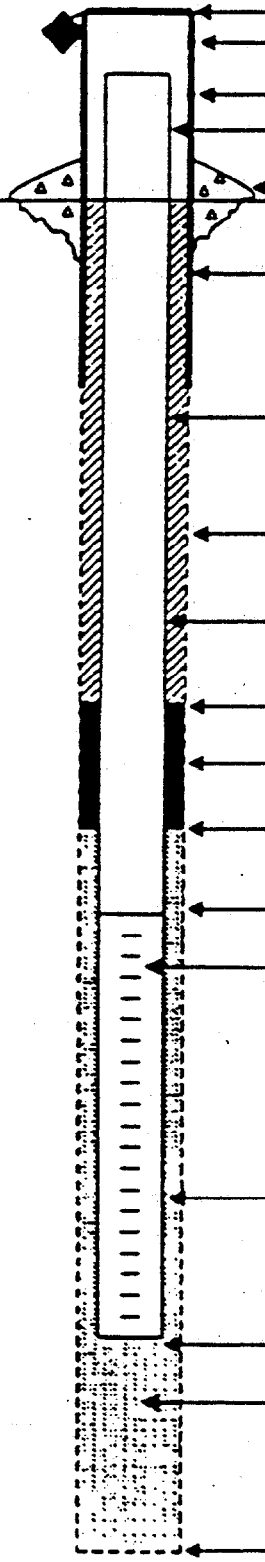
BORING NO E-1

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 62.46
FIELD GEOLOGIST T. Evans

LOCATION Calverton NY
BORING E-1
DATE 7-19-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~ 63.46

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~ 1.0'

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement / Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 61.46 / 1.0'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 59.46 / 3.0'

ELEVATION / DEPTH TOP OF SCREEN: 58.46 / 4.0'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 54.46 / 8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 53.46 / 9.0' TE

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 53.46 / 9.0'

CF BRAUN ENGINEERING CORPORATION

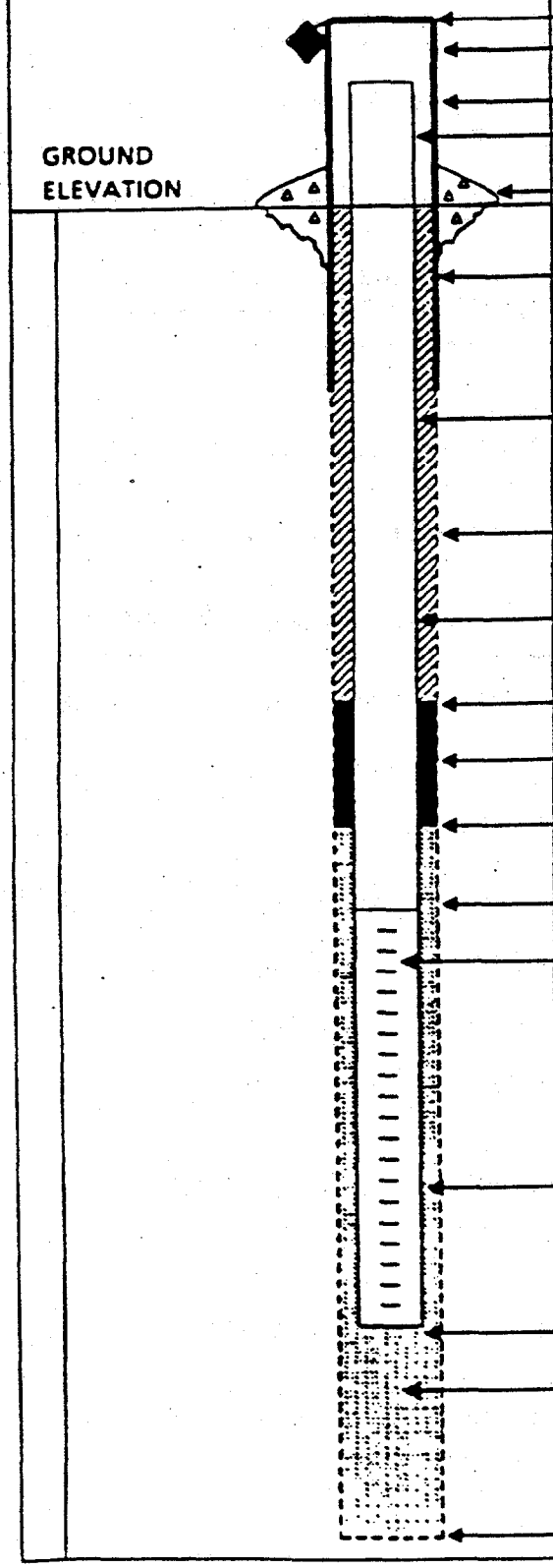
BORING NO E-2

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 62.12
FIELD GEOLOGIST T. Evans

LOCATION Calverton NY
BORING E-2
DATE 7-19-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD –



ELEVATION OF TOP OF SURFACE CASING: –
ELEVATION OF TOP OF RISER PIPE: ~63.12

STICK - UP TOP OF SURFACE CASING: –
STICK - UP RISER PIPE: ~1.0'

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: –
TYPE OF SURFACE CASING: –

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 61.12/1.0'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 59.12/3.0'

ELEVATION / DEPTH TOP OF SCREEN: 58.12/4.0'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 54.12/8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 53.12/9.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 53.12/9.0'

CF BRAUN ENGINEERING CORPORATION

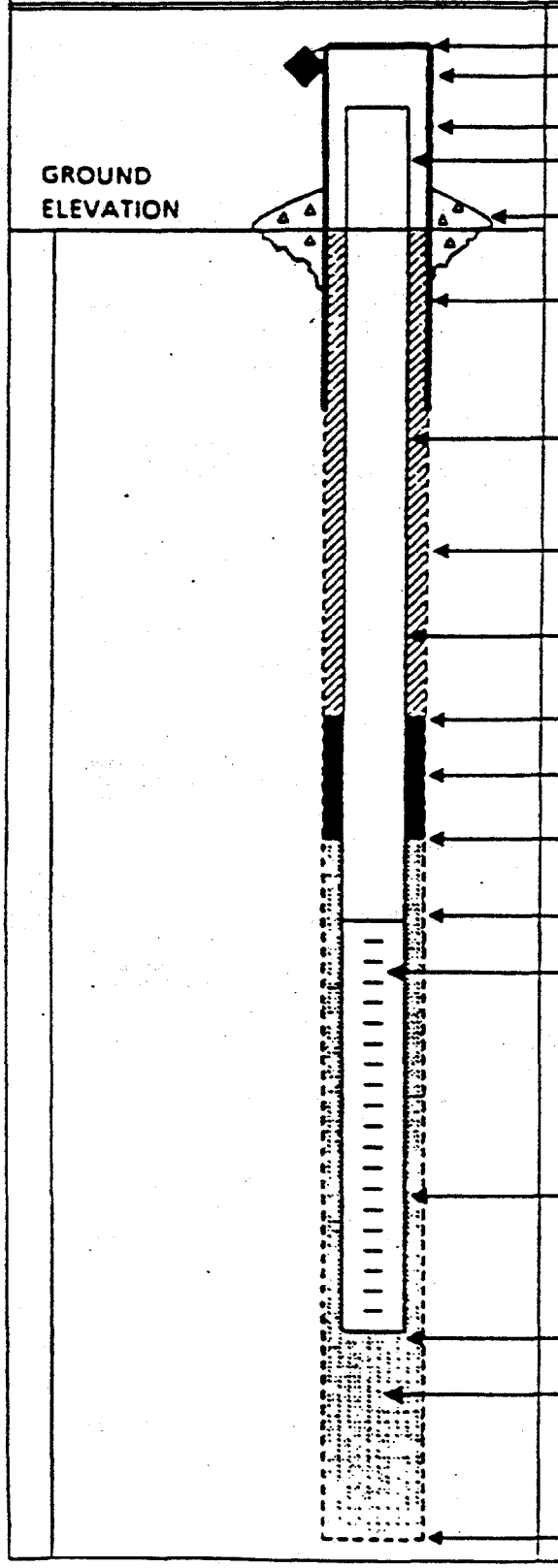
BORING NO E - 3

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 101.98
FIELD GEOLOGIST T. Evans

LOCATION Calverton NY
BORING E - 3
DATE 7 - 19 - 95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~62.98

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~1.0'

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement / Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 60.98/1.0'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 58.98/3.0'

ELEVATION / DEPTH TOP OF SCREEN: 57.98/4.0'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 53.48/8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 52.48/9.0'

TYPE OF BACKFILL BELOW OBSERVATION WELL: ~~[illegible]~~ Natural

ELEVATION / DEPTH OF HOLE: 52.48/9.0'

CF BRAUN ENGINEERING CORPORATION

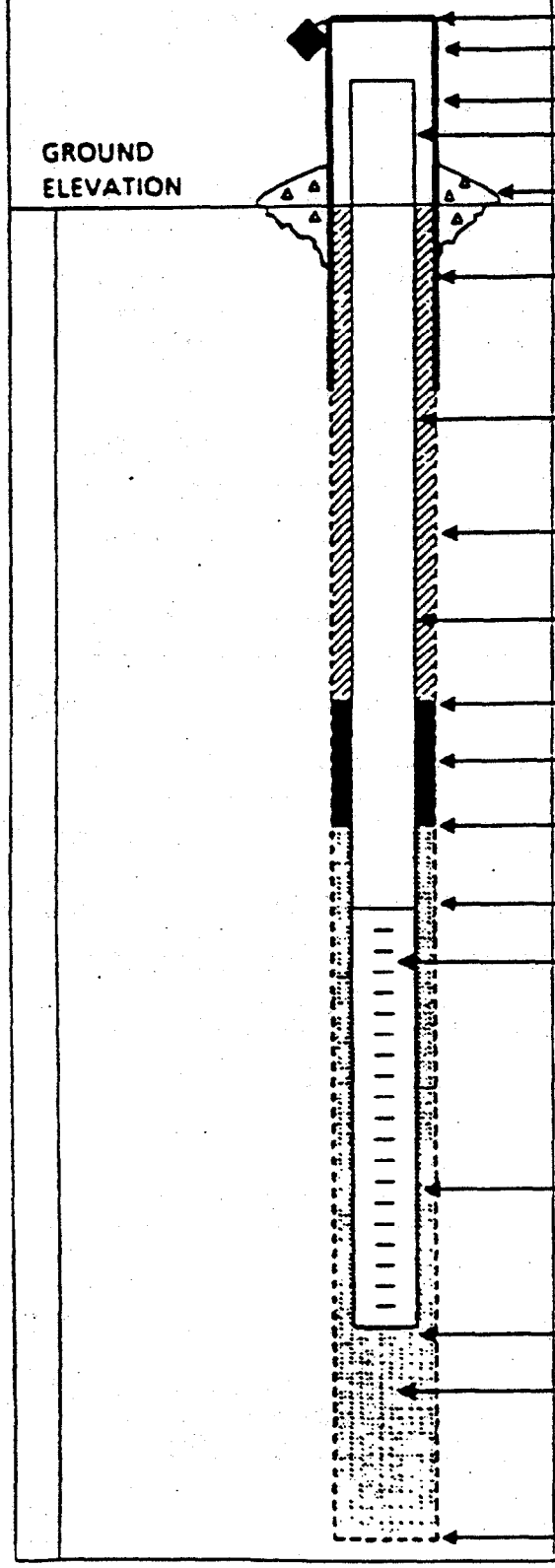
BORING NO E-4

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 62.39
FIELD GEOLOGIST T. Evans

LOCATION Calverton NY
BORING E-4
DATE 7-19-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: 63.39

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: 1.0'

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 61.39/1.0'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 59.39/3.0'

ELEVATION / DEPTH TOP OF SCREEN: 58.39/4.0'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 54.39/8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 53.39/9.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: ~~[illegible]~~ Natural

ELEVATION / DEPTH OF HOLE: 53.39/9.0'

CF BRAUN ENGINEERING CORPORATION

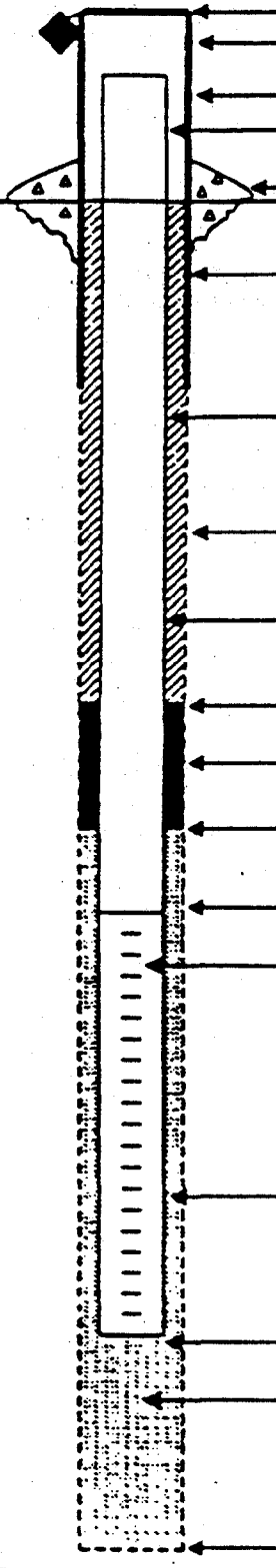
BORING NO E-5

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 62.68
FIELD GEOLOGIST T. Evans

LOCATION Calverton NY
BORING E-5
DATE 7-19-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~63.68

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~1.0'

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement / Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 61.68 / 1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 59.68 / 3.0

ELEVATION / DEPTH TOP OF SCREEN: 58.68 / 4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 54.68 / 8.0

ELEVATION / DEPTH BOTTOM OF SAND PACK: 54.68 / 8.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 53.68 / 9.0

CF BRAUN ENGINEERING CORPORATION

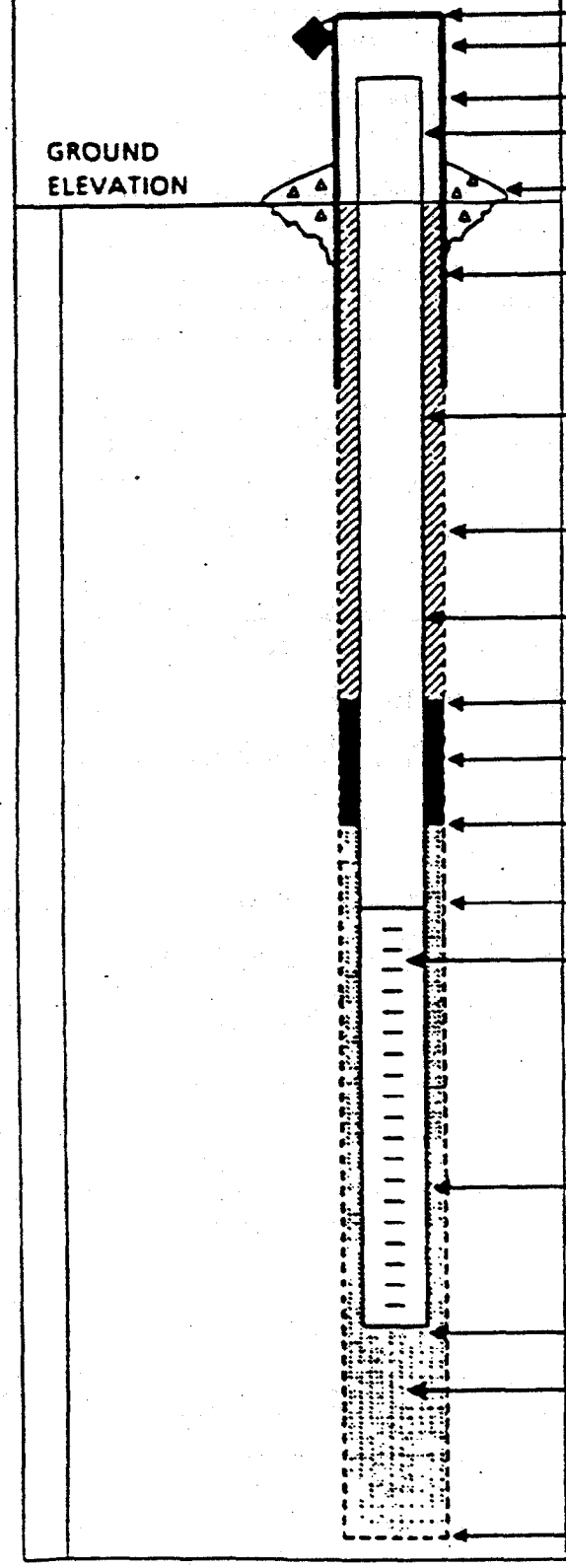
BORING NO E-6

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 62.25
FIELD GEOLOGIST T. Evans

LOCATION Calverton NY
BORING E-6
DATE 7-19-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: 63.25

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: 1.0'

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 61.25/1.0'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 59.25/3.0'

ELEVATION / DEPTH TOP OF SCREEN: 58.25/4.0'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 54.25/8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 54.25/8.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 53.25/9.0'

CF BRAUN ENGINEERING CORPORATION

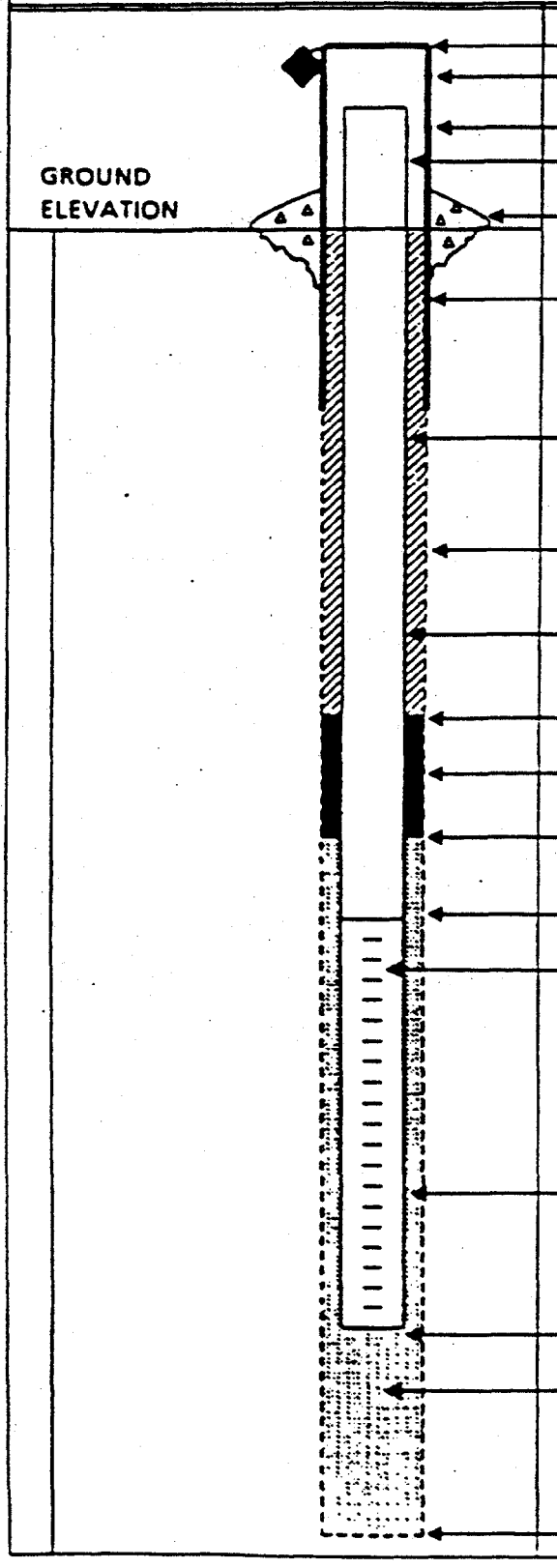
BORING NO E-7

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 61.37
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-7
DATE 7-19-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~61.37

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~ 1.0'

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement / Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 59.37 / 1.0' TE

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 57.37 / 3.0' TE

ELEVATION / DEPTH TOP OF SCREEN: 56.37 / 4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1

ELEVATION / DEPTH BOTTOM OF SCREEN: 52.37 / 8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 52.37 / 8.0'

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 51.37 / 9.0'

CF BRAUN ENGINEERING CORPORATION

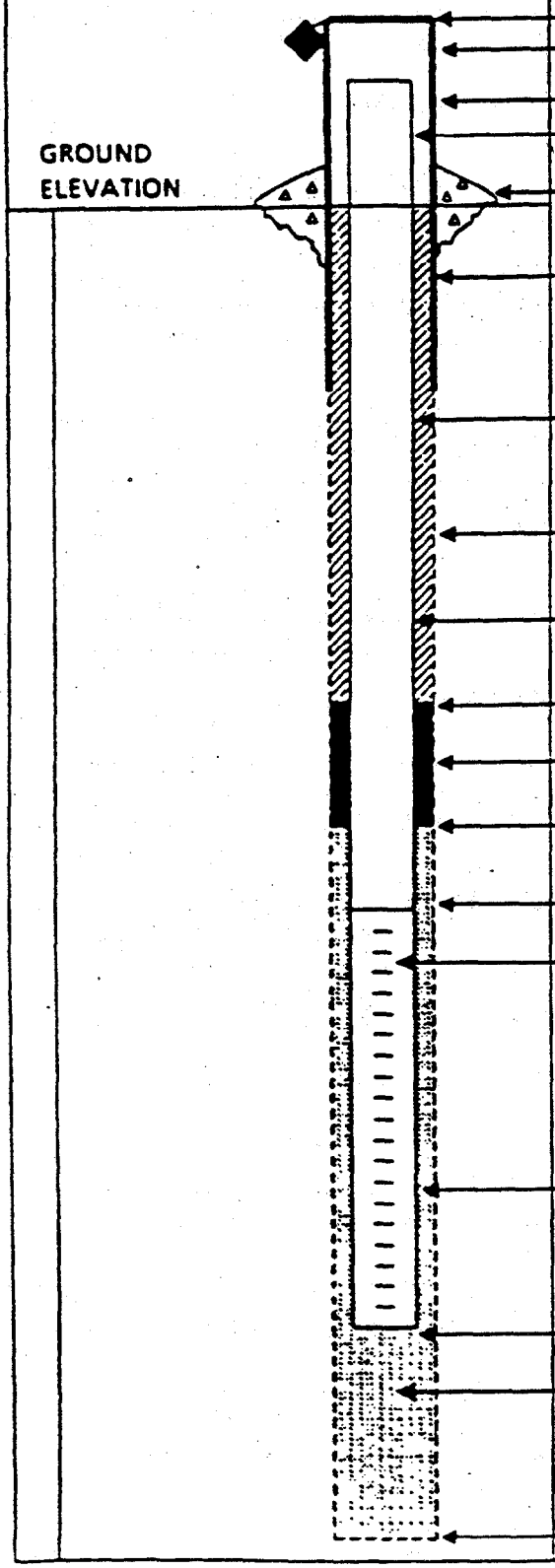
BORING NO E-8

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 55263
ELEVATION 60.23
FIELD GEOLOGIST T. EVANS

LOCATION Calverton NY
BORING E-8
DATE 7-20-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~61.23

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~ 1.0'

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement / Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 59.23 / 1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 57.23 / 3.0

ELEVATION / DEPTH TOP OF SCREEN: 56.23 / 4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 52.23 / 8.0

ELEVATION / DEPTH BOTTOM OF SAND PACK: 52.23 / 8.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 51.23 / 9.0

CF BRAUN ENGINEERING CORPORATION

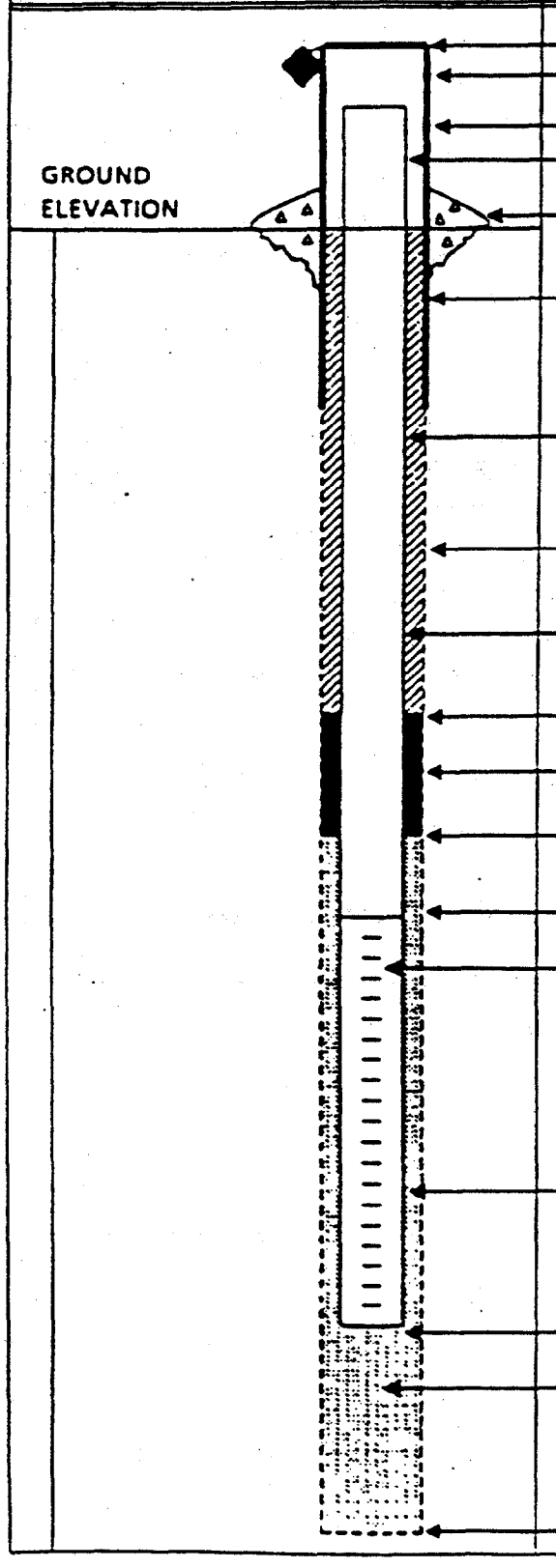
BORING NO E-9

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 61.79
FIELD GEOLOGIST T. EVANS

LOCATION CALVERTON NY
BORING E-9
DATE 7-20-95

DRILLER DELTA
DRILLING METHOD HSA
DEVELOPMENT METHOD



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~61.79
STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~ 1.0'
TYPE OF SURFACE SEAL: None
I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —
RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40
BOREHOLE DIAMETER: 8 1/2"
TYPE OF BACKFILL: Cement/Bentonite Grout
ELEVATION / DEPTH TOP OF SEAL: 59.79/1.0
TYPE OF SEAL: Bentonite
DEPTH TOP OF SAND PACK: 57.79/3.0
ELEVATION / DEPTH TOP OF SCREEN: 56.79/4.0
TYPE OF SCREEN: PVC Sch 40
SLOT SIZE x LENGTH: 0.020" x 4'
I.D. OF SCREEN: 2"
TYPE OF SAND PACK: #1 Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 52.79/8.0'
ELEVATION / DEPTH BOTTOM OF SAND PACK: 52.79/8.0'
TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural
ELEVATION / DEPTH OF HOLE: 51.79/9.0'

CF BRAUN ENGINEERING CORPORATION

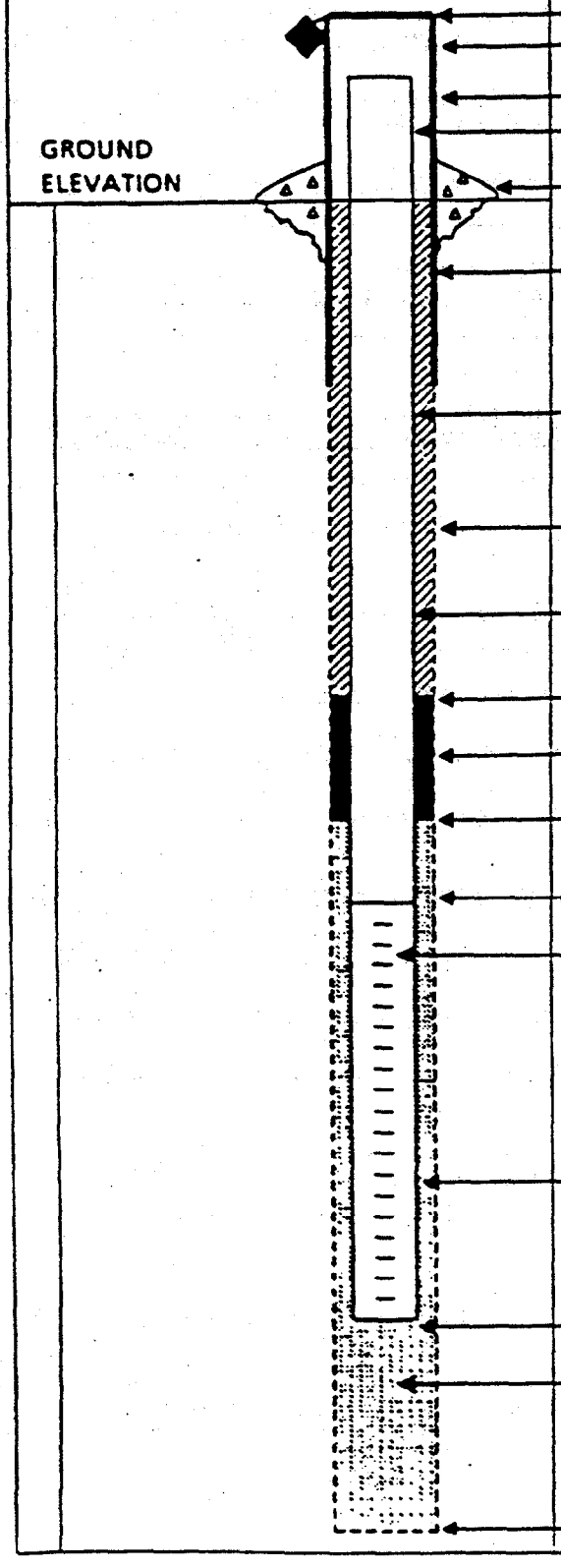
BORING NO E-10

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 56.65
FIELD GEOLOGIST T. EVANS

LOCATION Calverton NY
BORING E-10
DATE 7-20-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD



ELEVATION OF TOP OF SURFACE CASING: ~~57.65~~ TC
ELEVATION OF TOP OF RISER PIPE: ~57.65
STICK - UP TOP OF SURFACE CASING: –
STICK - UP RISER PIPE: ~1.0'
TYPE OF SURFACE SEAL: None
I.D. OF SURFACE CASING: –
TYPE OF SURFACE CASING: –
RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40
BOREHOLE DIAMETER: 8½"
TYPE OF BACKFILL: Cement/ Bentonite Grout
ELEVATION / DEPTH TOP OF SEAL: 55.65/1.0'
TYPE OF SEAL: Bentonite
DEPTH TOP OF SAND PACK: 53.65/3.0'
ELEVATION / DEPTH TOP OF SCREEN: 51.65/4.0'
TYPE OF SCREEN: PVC Sch 40
SLOT SIZE x LENGTH: 0.020" x 4'
I.D. OF SCREEN: 2"
TYPE OF SAND PACK: #1 Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 47.65/8.0'
ELEVATION / DEPTH BOTTOM OF SAND PACK: 46.65/9.0
TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural
ELEVATION / DEPTH OF HOLE: 46.65/9.0'

CF BRAUN ENGINEERING CORPORATION

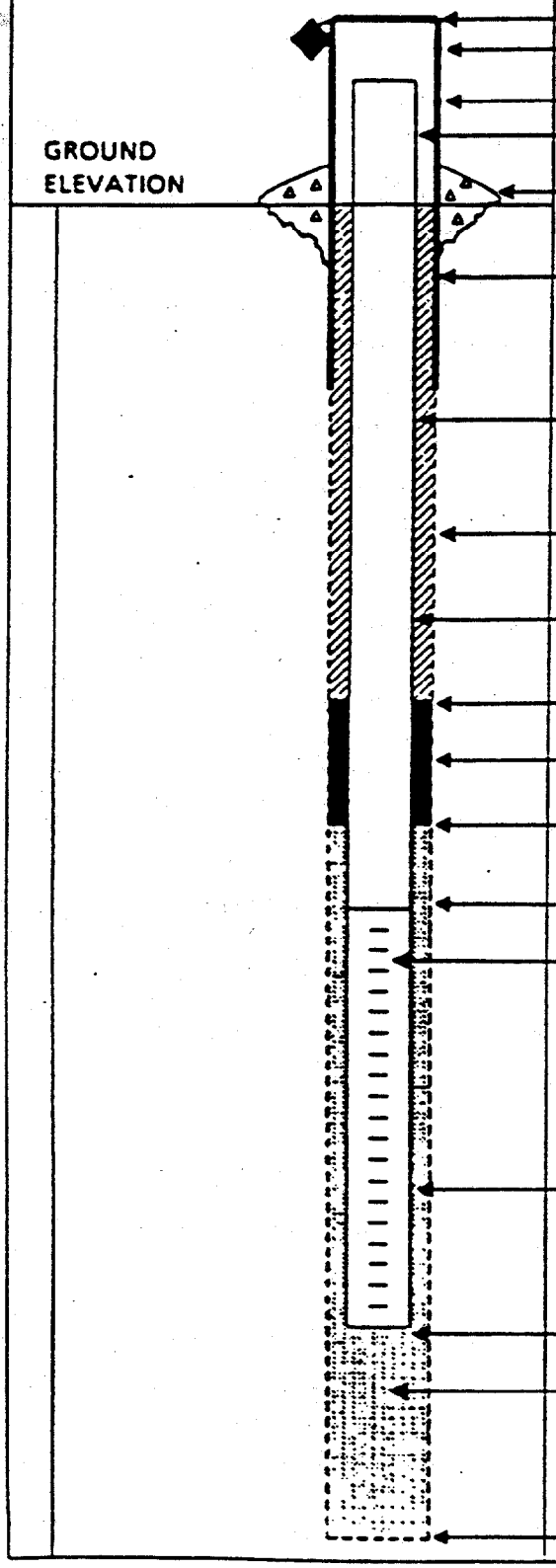
BORING NO E-11

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 56.89
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-11
DATE 7-20-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~ 57.89

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: 1.0'

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Bentonite

ELEVATION / DEPTH TOP OF SEAL: 55.89 / 1.0'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 53.89 / 3.0'

ELEVATION / DEPTH TOP OF SCREEN: 52.89 / 4.0'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 48.89 / 8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 48.89 / 8.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 47.89 / 9.0

CF BRAUN ENGINEERING CORPORATION

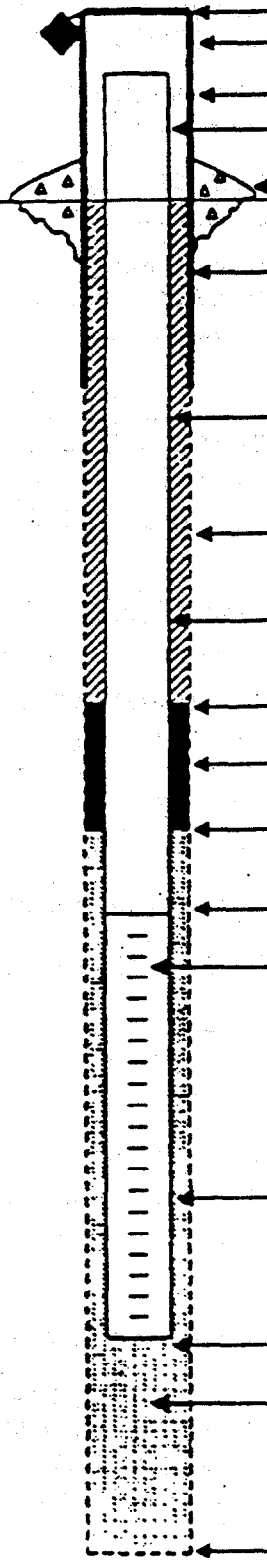
BORING NO. E-12

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 57.20
FIELD GEOLOGIST T. Evans

LOCATION Calverton NY
BORING E-12
DATE 7-20-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~58.20

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~1.0'

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 56.20 / 1.0'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 54.20 / 3.0'

ELEVATION / DEPTH TOP OF SCREEN: 53.20 / 4.0'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 49.20 / 8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 49.20 / 8.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 48.20 / 9.0'

CF BRAUN ENGINEERING CORPORATION

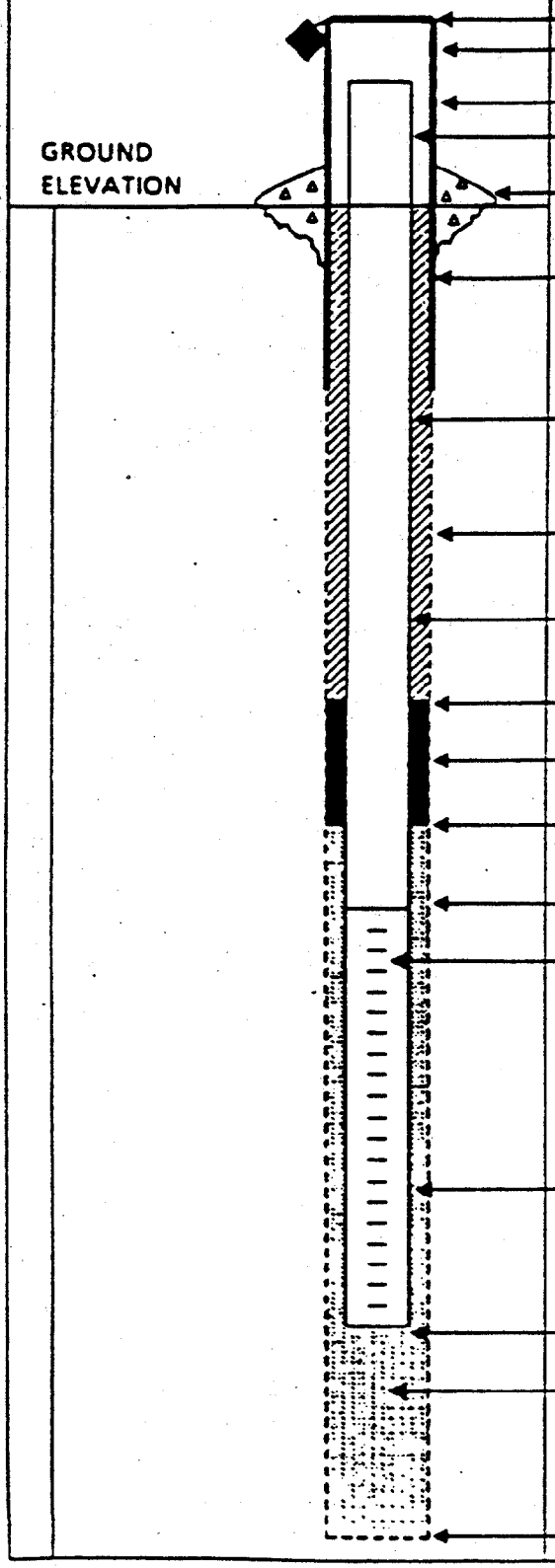
BORING NO. E-13

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 56.32
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-13
DATE 7-20-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~ 57.32

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~ 1.0'

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement / Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 55.32 / 1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 53.32 / 3.0

ELEVATION / DEPTH TOP OF SCREEN: 52.32 / 4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 48.32 / 8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 48.32 / 8.0'

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 47.32 / 9.0'

CF BRAUN ENGINEERING CORPORATION

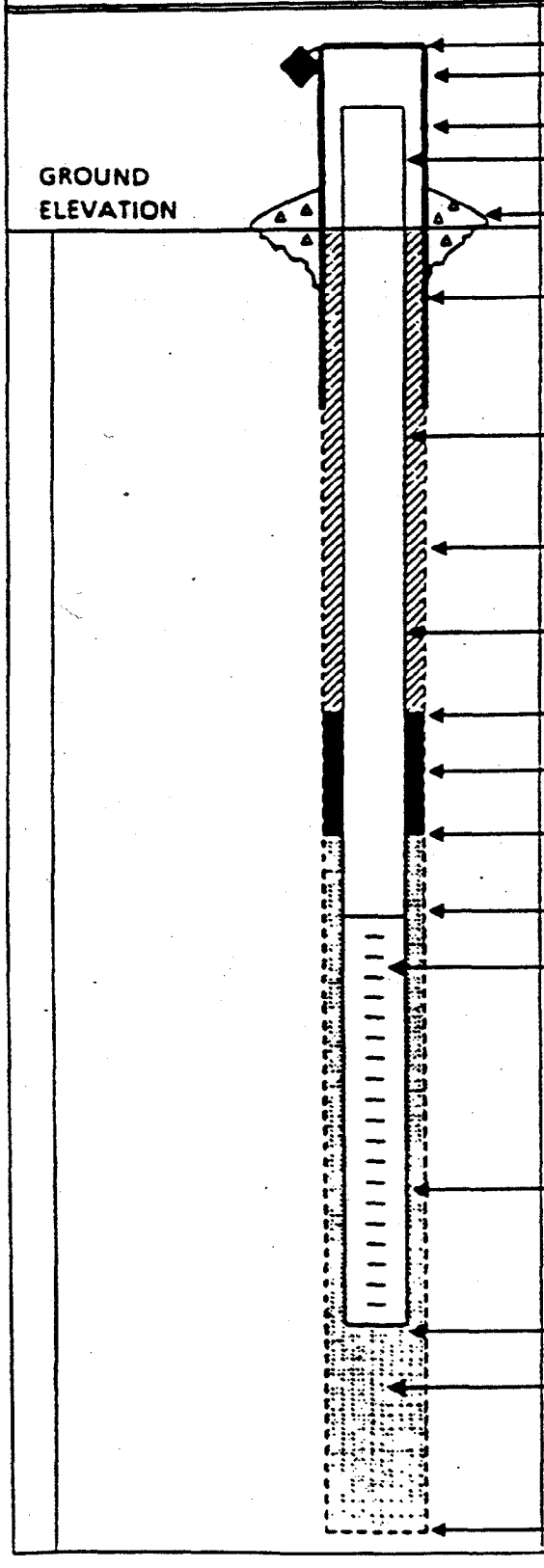
BORING NO E-1

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 56.04
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-14
DATE 7-20-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD



ELEVATION OF TOP OF SURFACE CASING: –
ELEVATION OF TOP OF RISER PIPE: ~57.04

STICK - UP TOP OF SURFACE CASING: –
STICK - UP RISER PIPE: ~ 1.0

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: –
TYPE OF SURFACE CASING: –

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement/Bentonite

ELEVATION / DEPTH TOP OF SEAL: 55.04 / 1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 53.04 / 3.0

ELEVATION / DEPTH TOP OF SCREEN: 52.04 / 4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 48.04 / 8.

ELEVATION / DEPTH BOTTOM OF SAND PACK: 48.04 / 8.

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 47.04 / 9.

CF BRAUN ENGINEERING CORPORATION

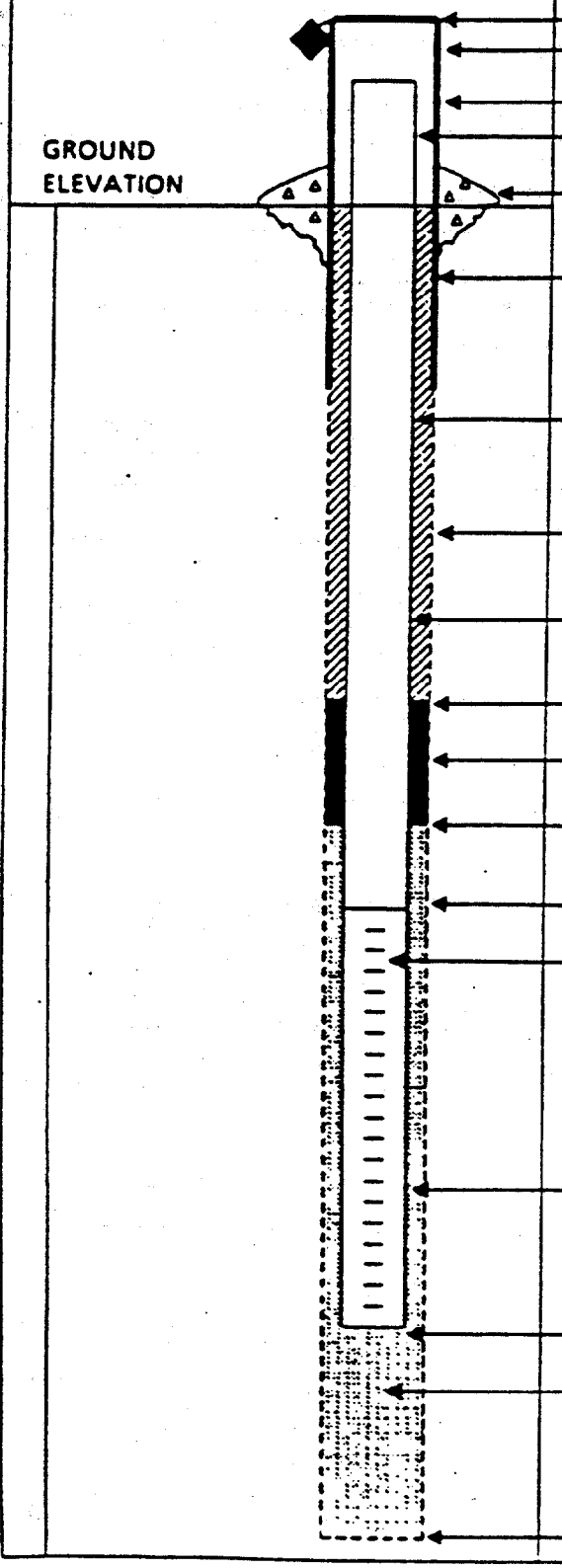
BORING NO E-15

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 55.82
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-15
DATE 7-20-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~56.82

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~1.0'

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 54.82/1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 52.82/3.0

ELEVATION / DEPTH TOP OF SCREEN: 51.82/4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 47.82/8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 47.82/8.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 46.82/9.0'

CF BRAUN ENGINEERING CORPORATION

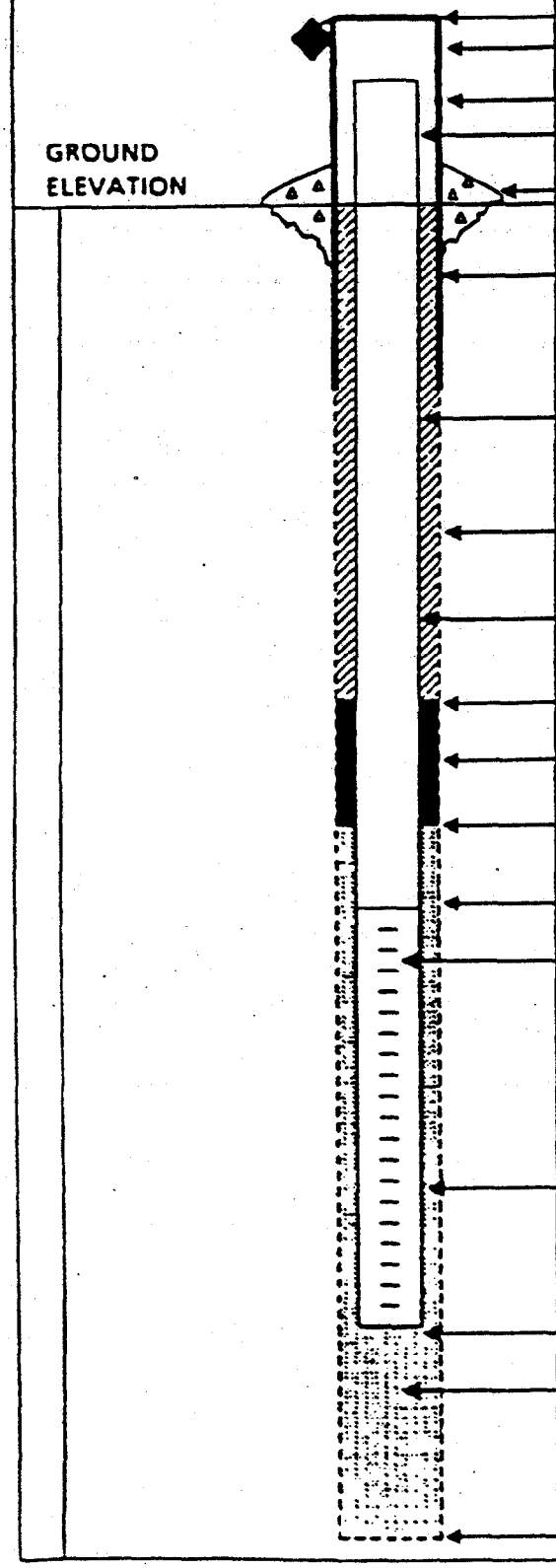
BORING NO E-16

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 55.25
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-16
DATE 7-20-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD –



ELEVATION OF TOP OF SURFACE CASING: –
ELEVATION OF TOP OF RISER PIPE: ~56.25

STICK - UP TOP OF SURFACE CASING: –
STICK - UP RISER PIPE: 1.0'

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: –
TYPE OF SURFACE CASING: –

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 54.25/1.0'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 52.25/3.0'

ELEVATION / DEPTH TOP OF SCREEN: 51.25/4.0'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 47.25/8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 46.25/9.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 46.25/9.0

CF BRAUN ENGINEERING CORPORATION

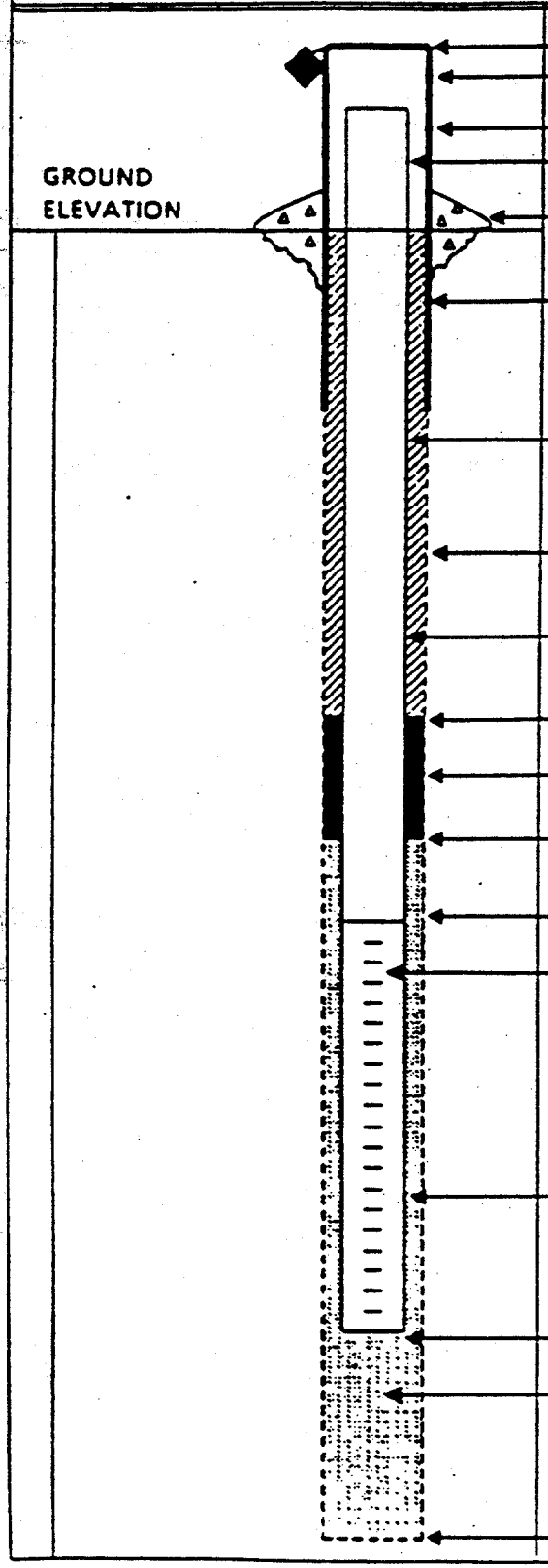
BORING NO E-17

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 55.13
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-17
DATE 7-20-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~56.13

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~1.0

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement / Bentonite

ELEVATION / DEPTH TOP OF SEAL: 54.13 / 1.0'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 52.13 / 3.0'

ELEVATION / DEPTH TOP OF SCREEN: 51.13 / 4.0'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4.5'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 47.13 / 8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 46.13 / 9.0'

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 46.13 / 9.0'

CF BRAUN ENGINEERING CORPORATION

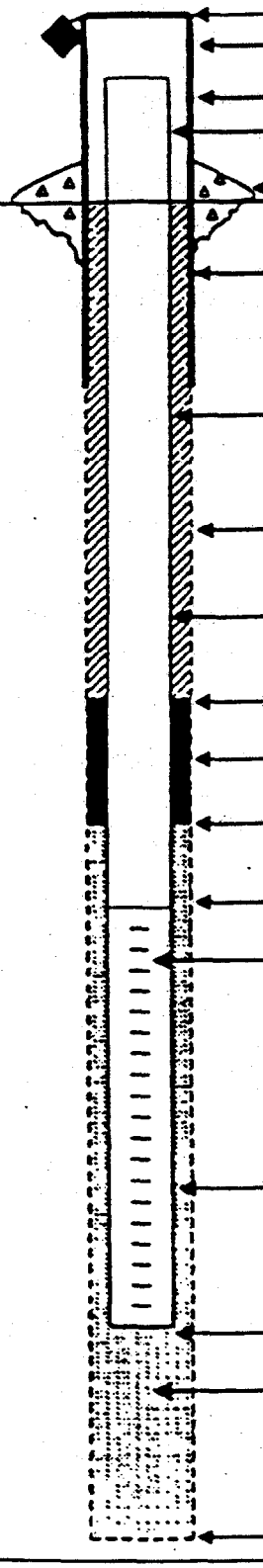
BORING NO E-18

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5363
ELEVATION 55.34
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-18
DATE 7-21-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~56.34
STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~ 1.0'
TYPE OF SURFACE SEAL: None
I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —
RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40
BOREHOLE DIAMETER: 8½"
TYPE OF BACKFILL: Cement / Bentonite
ELEVATION / DEPTH TOP OF SEAL: 54.34/1.0'
TYPE OF SEAL: Bentonite
DEPTH TOP OF SAND PACK: 52.34/3.0'
ELEVATION / DEPTH TOP OF SCREEN: 51.34/4.0'
TYPE OF SCREEN: PVC Sch 40
SLOT SIZE x LENGTH: 0.020" x 4'
I.D. OF SCREEN: 2"
TYPE OF SAND PACK: #1 Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 47.34/8.0'
ELEVATION / DEPTH BOTTOM OF SAND PACK: 47.34/8.
TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural
ELEVATION / DEPTH OF HOLE: 46.34/9.0'

CF BRAUN ENGINEERING CORPORATION

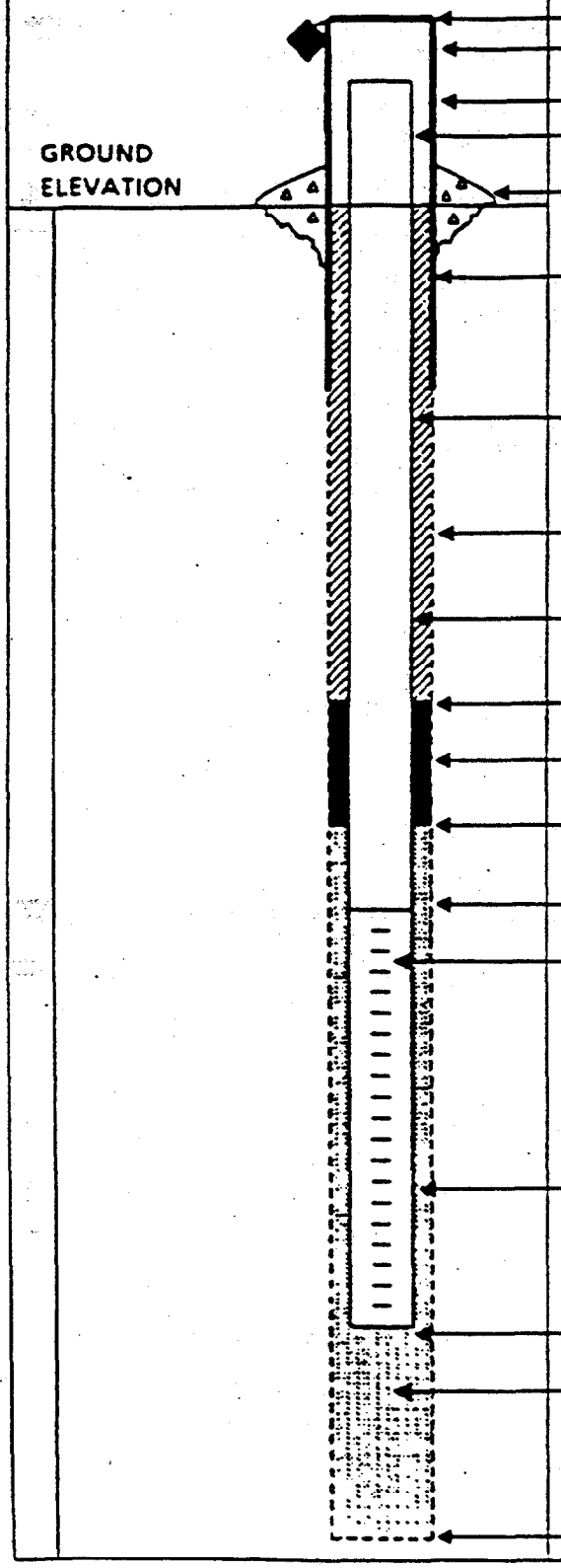
BORING NO E-19

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5263
ELEVATION 54.39
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-19
DATE 7-21-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~55.39

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~ 1.0

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 53.39/1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 51.39/3.0

ELEVATION / DEPTH TOP OF SCREEN: 50.39/4.0

TYPE OF SCREEN: PVC Sch40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 46.39/8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 46.39/8.0'

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 45.39/9.0'

CF BRAUN ENGINEERING CORPORATION

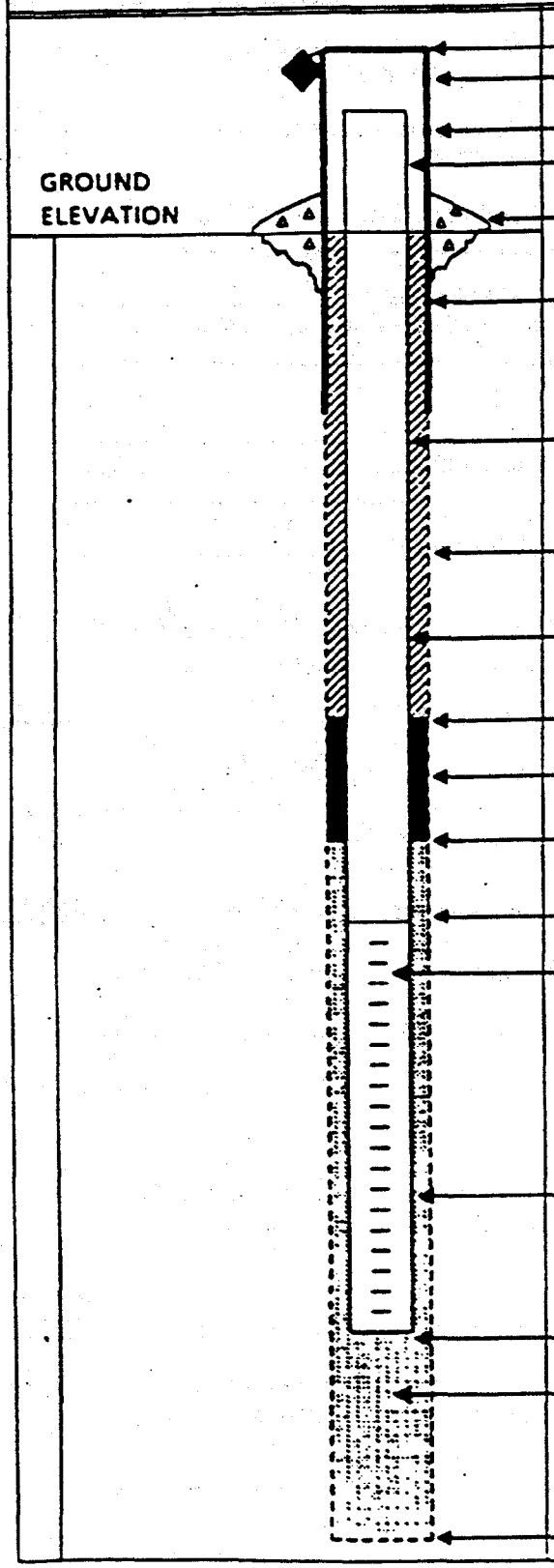
BORING NO. E-20

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 53.77
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-20
DATE 7-21-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~54.37

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~1.0

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 52.77/1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 50.77/3.0

ELEVATION / DEPTH TOP OF SCREEN: 49.77/4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 45.77/8.0

ELEVATION / DEPTH BOTTOM OF SAND PACK: 45.77/8.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 44.77/9.0

CF BRAUN ENGINEERING CORPORATION

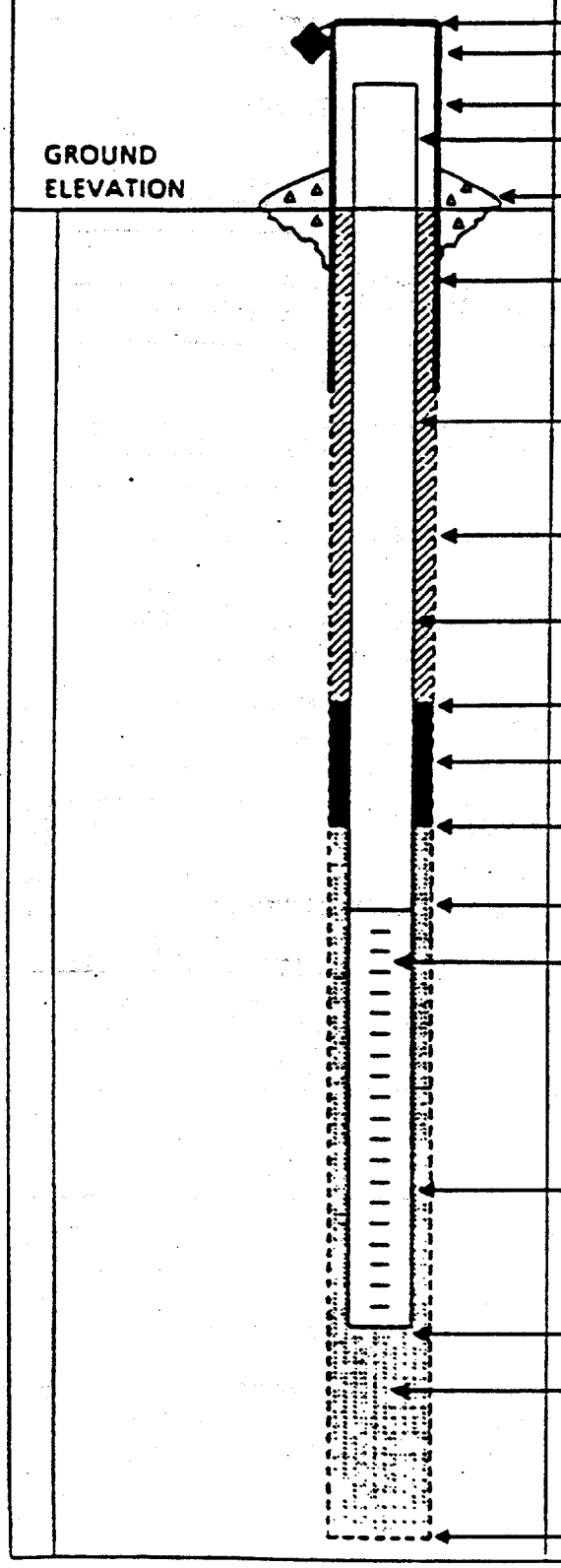
BORING NO. E-21

MONITORING WELL SHEET

PROJECT: NWIRP
PROJECT NO.: 5563
ELEVATION: 53.40
FIELD GEOLOGIST:

LOCATION: Calverton NY
BORING: E-21
DATE: 7-20-95

DRILLER: Delta
DRILLING METHOD: HSA
DEVELOPMENT METHOD:



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~ 54.40

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~ 1.0

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 52.40 / 1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 50.40 / 3.0

ELEVATION / DEPTH TOP OF SCREEN: 49.40 / 4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 45.40 / 8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 45.40 / 8.0'

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 44.40 / 9.0'

CF BRAUN ENGINEERING CORPORATION

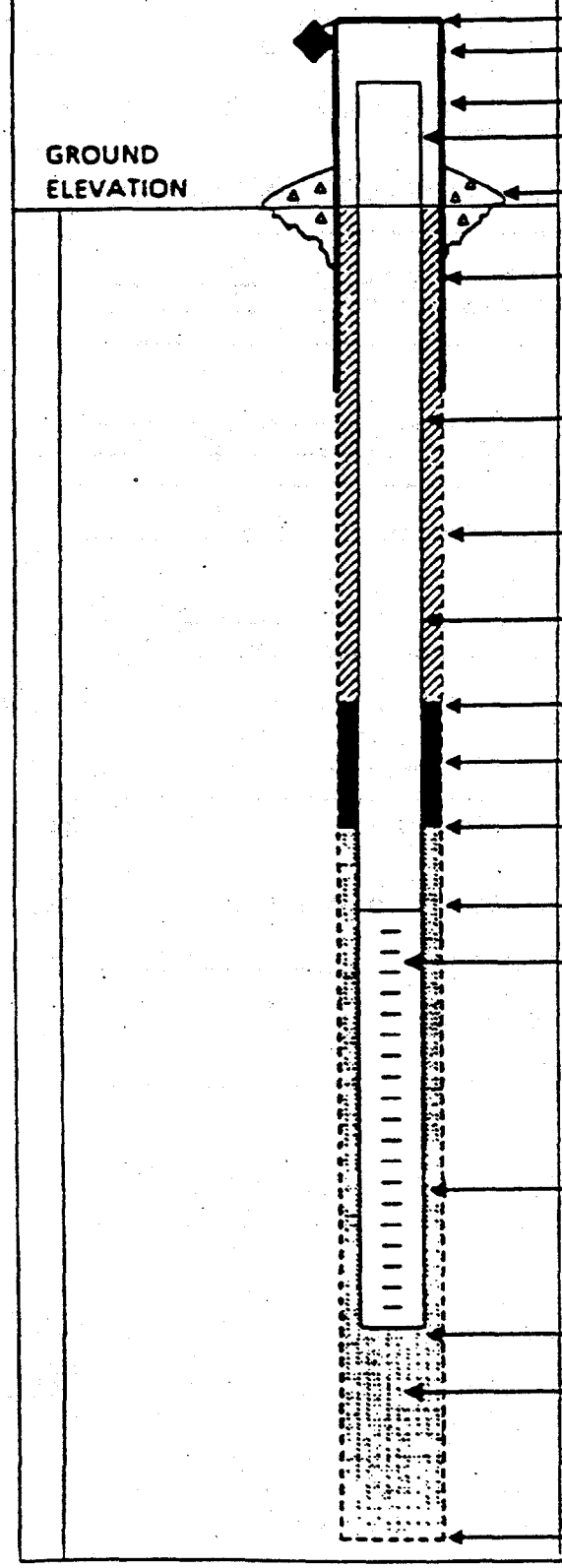
BORING NO. E-22

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 53.40
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-22
DATE 7-20-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD



ELEVATION OF TOP OF SURFACE CASING: –
ELEVATION OF TOP OF RISER PIPE: ~ 54.40

STICK - UP TOP OF SURFACE CASING: –
STICK - UP RISER PIPE: TOP 1.0

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: –
TYPE OF SURFACE CASING: –

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 52.40 / 1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 50.40 / 3.0

ELEVATION / DEPTH TOP OF SCREEN: 49.40 / 4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 45.40 / 8.0

ELEVATION / DEPTH BOTTOM OF SAND PACK: 45.40 / 8.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: NA

ELEVATION / DEPTH OF HOLE: 45.40 / 8.0

CF BRAUN ENGINEERING CORPORATION

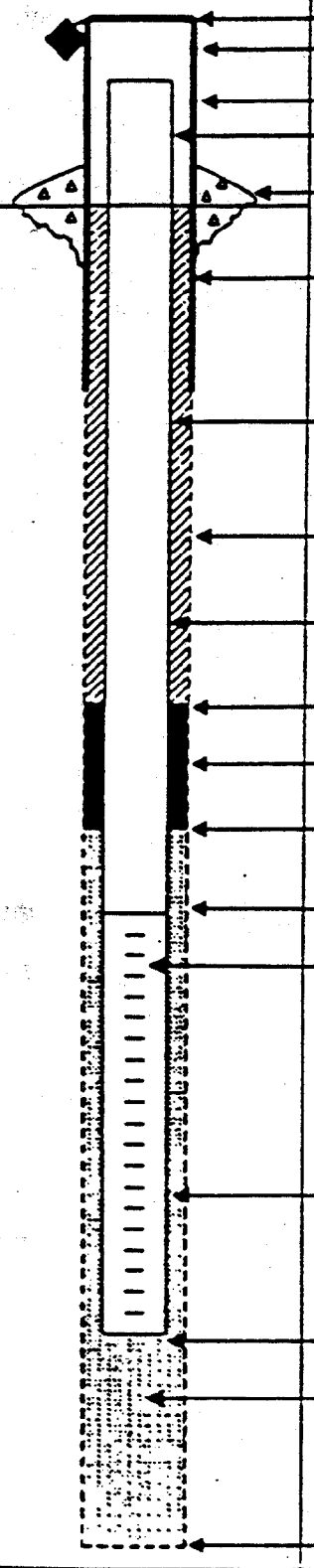
BORING NO. E-23

MONITORING WELL SHEET

PROJECT: NWIRP
PROJECT NO.: 5563
ELEVATION: 53.84
FIELD GEOLOGIST: T. Evans

LOCATION: Calverton NY
BORING: E-23
DATE: 7-20-95

DRILLER: Delta
DRILLING METHOD: HSA
DEVELOPMENT METHOD:



ELEVATION OF TOP OF SURFACE CASING: –
ELEVATION OF TOP OF RISER PIPE: ~ 54.84

STICK - UP TOP OF SURFACE CASING: –
STICK - UP RISER PIPE: ~ 1.0

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: –
TYPE OF SURFACE CASING: –

RISER PIPE I.D. 2.0"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement / Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 52.84 / 1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 50.84 / 3.0

ELEVATION / DEPTH TOP OF SCREEN: 49.84 / 4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: # Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 45.84 / 8.0

ELEVATION / DEPTH BOTTOM OF SAND PACK: 45.84 / 8.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 44.84 / 9.0

CF BRAUN ENGINEERING CORPORATION

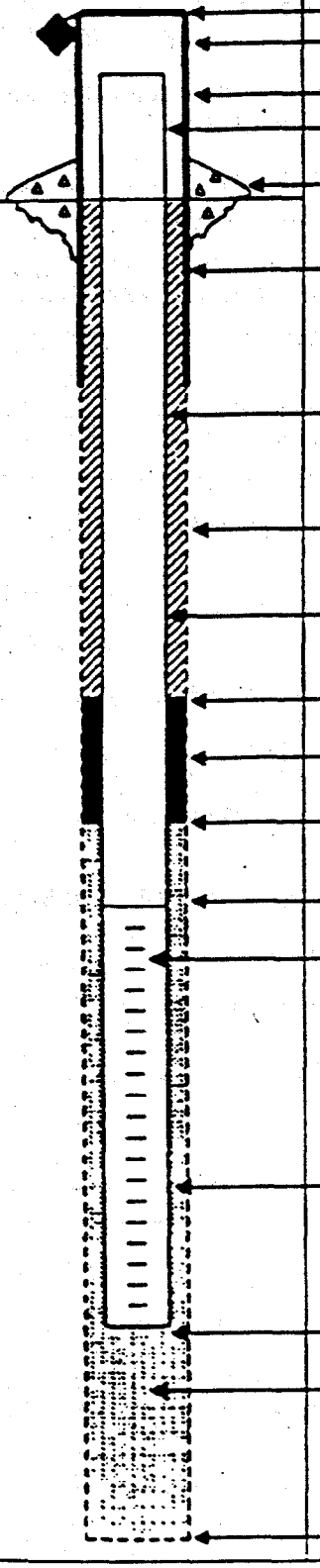
BORING NO. E24

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 58.97
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E24
DATE 7-27-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~59.97

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~1.0

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement / Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 57.97 / 1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 54.97 / 4.0

ELEVATION / DEPTH TOP OF SCREEN: 54.97 / 4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 50.97 / 8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 50.97 / 8..

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 49.97 / 9.0'

CF BRAUN ENGINEERING CORPORATION

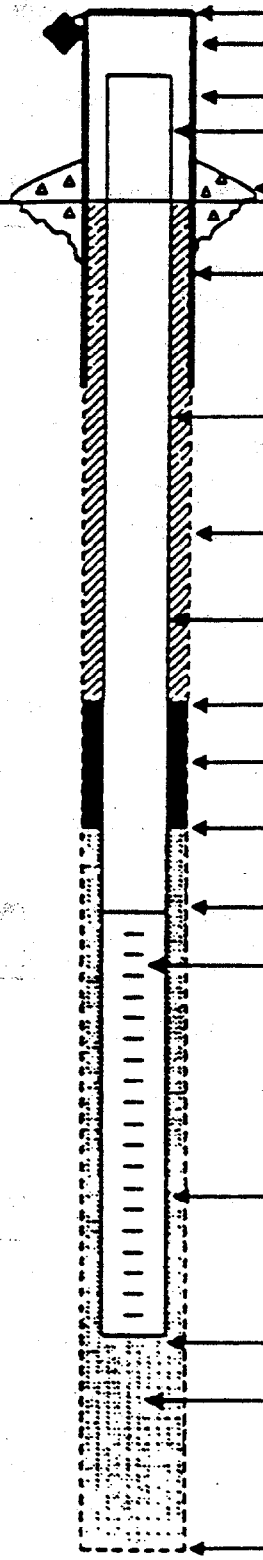
BORING NO E-25

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 56.56
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-25
DATE 7-21-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~57.56

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~1.0

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement/Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 55.56/1.0'

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 53.56/3.0'

ELEVATION / DEPTH TOP OF SCREEN: 52.56/4.0'

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 48.56/8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 48.56/8.0'

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 47.56/9.0'

CF BRAUN ENGINEERING CORPORATION

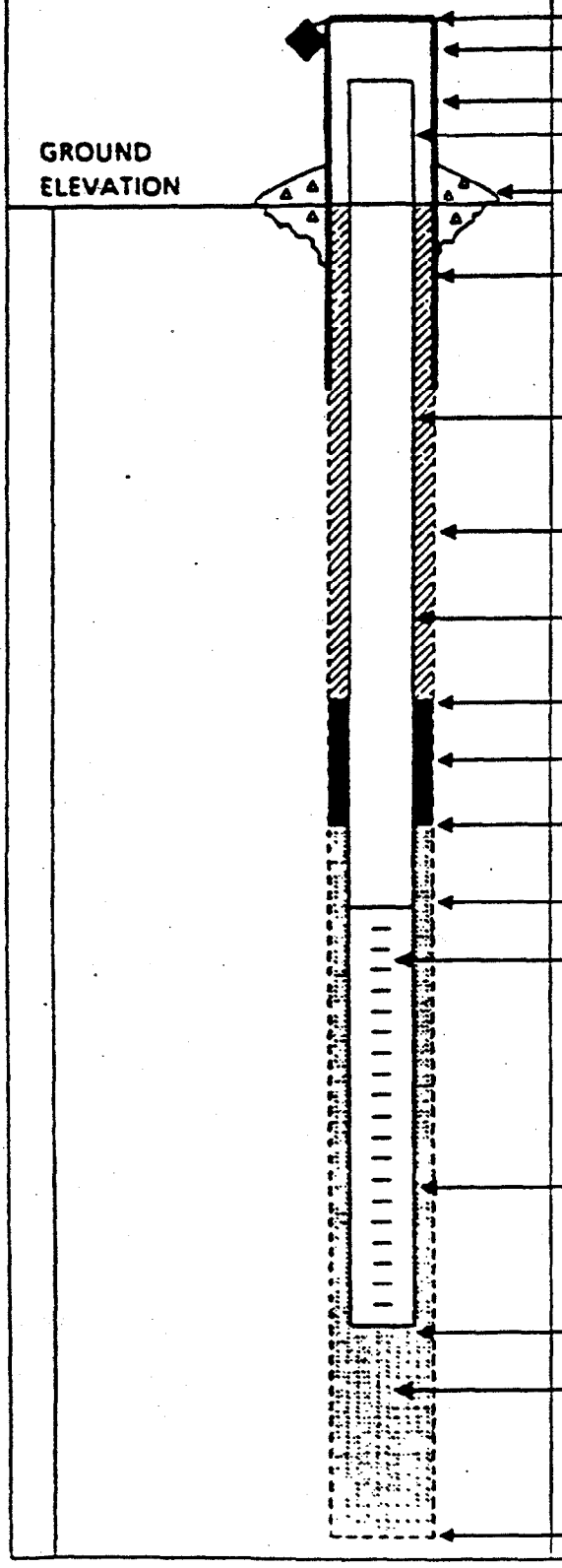
BORING NO: E-2

MONITORING WELL SHEET

PROJECT: NWIRP
PROJECT NO.: 5503
ELEVATION: 54.62
FIELD GEOLOGIST: T Evans

LOCATION: Calverton NY
BORING: E-26
DATE: 7-21-95

DRILLER: Delta
DRILLING METHOD: HSA
DEVELOPMENT METHOD: —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~~54.62~~ 55.62
STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: 1.0
TYPE OF SURFACE SEAL: None
I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —
RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40
BOREHOLE DIAMETER: 8½"
TYPE OF BACKFILL: Cement / Bentonite Grout
ELEVATION / DEPTH TOP OF SEAL: 53.62/1.0
TYPE OF SEAL: Bentonite
DEPTH TOP OF SAND PACK: 51.62/3.0
ELEVATION / DEPTH TOP OF SCREEN: 50.62/4.0
TYPE OF SCREEN: PVC Sch 40
SLOT SIZE x LENGTH: 0.020" x 4'
I.D. OF SCREEN: 2"
TYPE OF SAND PACK: #1 Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 46.62/8.0
ELEVATION / DEPTH BOTTOM OF SAND PACK: 46.62/8
TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural
ELEVATION / DEPTH OF HOLE: 45.62/9.0

CF BRAUN ENGINEERING CORPORATION

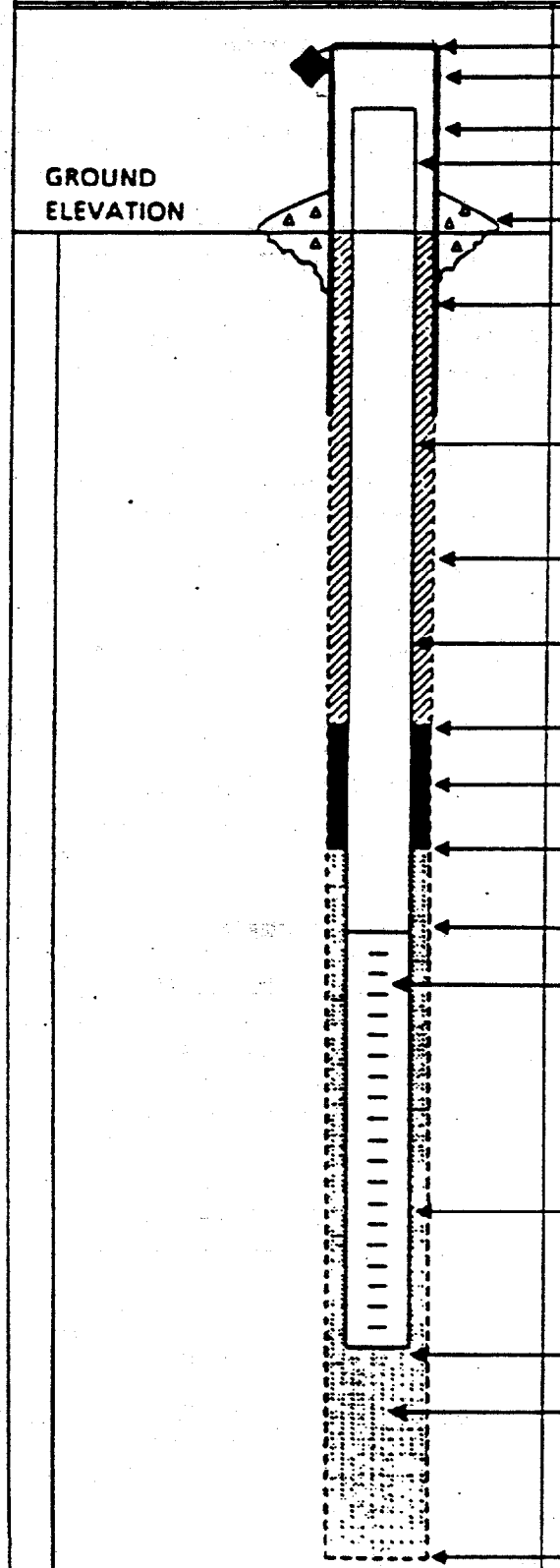
BORING NO E-27

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 52.43
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-27
DATE 7-21-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD -



ELEVATION OF TOP OF SURFACE CASING: -
ELEVATION OF TOP OF RISER PIPE: ~53.43
STICK - UP TOP OF SURFACE CASING: -
STICK - UP RISER PIPE: ~1.0
TYPE OF SURFACE SEAL: None
I.D. OF SURFACE CASING: -
TYPE OF SURFACE CASING: -
RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40
BOREHOLE DIAMETER: 8½"
TYPE OF BACKFILL: Cement/Bentonite Grout
ELEVATION / DEPTH TOP OF SEAL: 51.43/1.0
TYPE OF SEAL: Bentonite
DEPTH TOP OF SAND PACK: 44.43/3.0
ELEVATION / DEPTH TOP OF SCREEN: 48.43/4.0
TYPE OF SCREEN: PVC Sch 40
SLOT SIZE x LENGTH: 0.020" x 4'
I.D. OF SCREEN: 2"
TYPE OF SAND PACK: #1 Sand
ELEVATION / DEPTH BOTTOM OF SCREEN: 44.43/8.0
ELEVATION / DEPTH BOTTOM OF SAND PACK: 44.43/8.0
TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural
ELEVATION / DEPTH OF HOLE: 43.43/9.0

CF BRAUN ENGINEERING CORPORATION

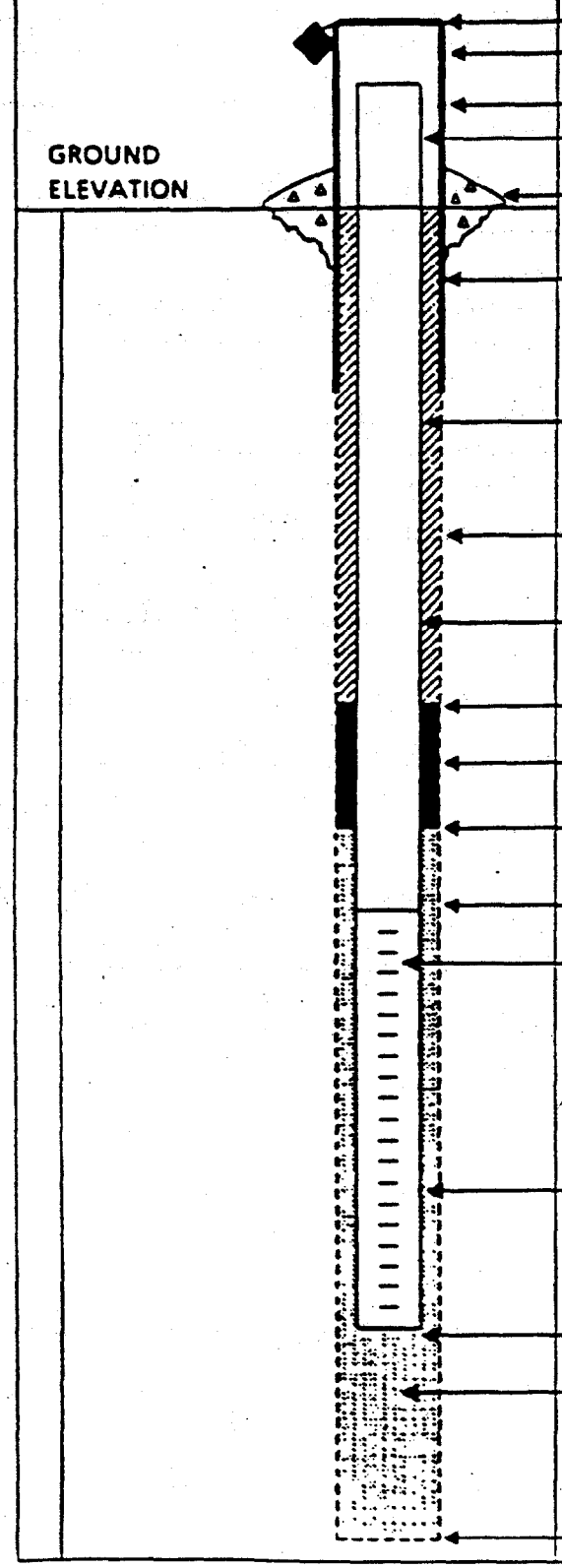
BORING NO E-28

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5363
ELEVATION 52.15
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-28
DATE 7-21-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~53.15

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~1.0

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 51.15/1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 49.15/3.0

ELEVATION / DEPTH TOP OF SCREEN: 48.15/4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 44.15/8.0'

ELEVATION / DEPTH BOTTOM OF SAND PACK: 44.15/8.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 43.15/9.0'

CF BRAUN ENGINEERING CORPORATION

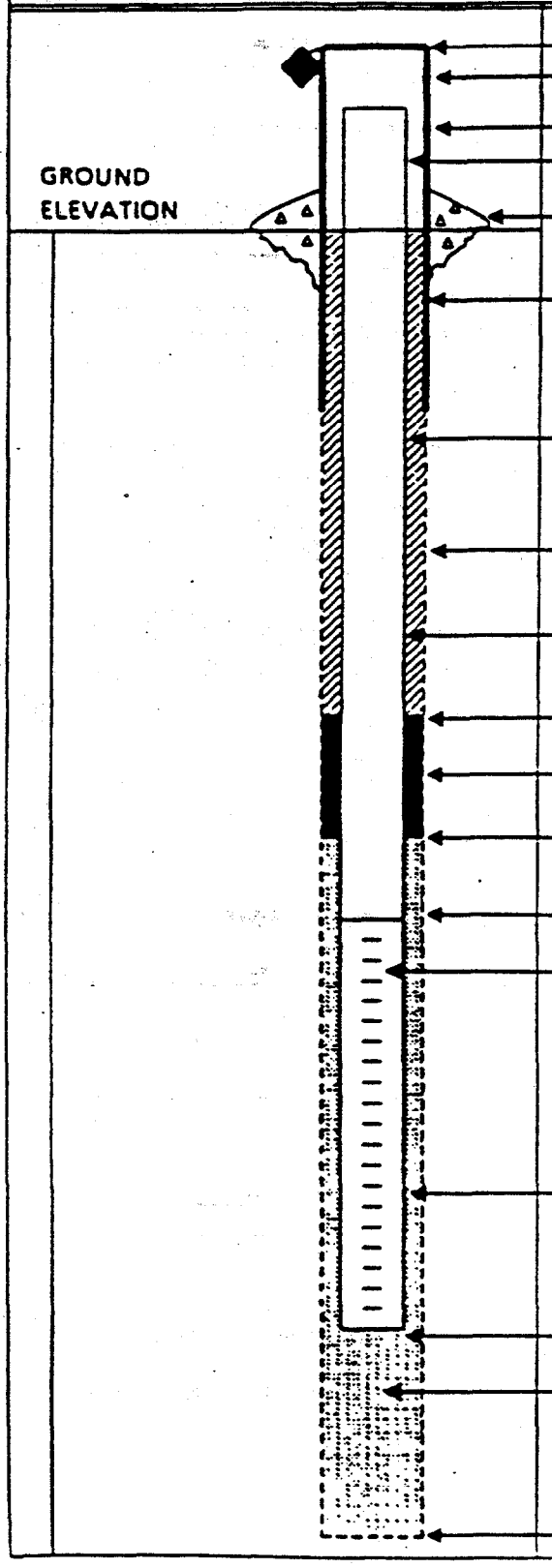
BORING NO E-29

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 53.88
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-29
DATE 7-21-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~54.88

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~1.0

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Cement / Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 52.88/1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 50.88/3.0

ELEVATION / DEPTH TOP OF SCREEN: 49.88/4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 45.88/8.0

ELEVATION / DEPTH BOTTOM OF SAND PACK: 45.88/8.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 44.88/9.0

CF BRAUN ENGINEERING CORPORATION

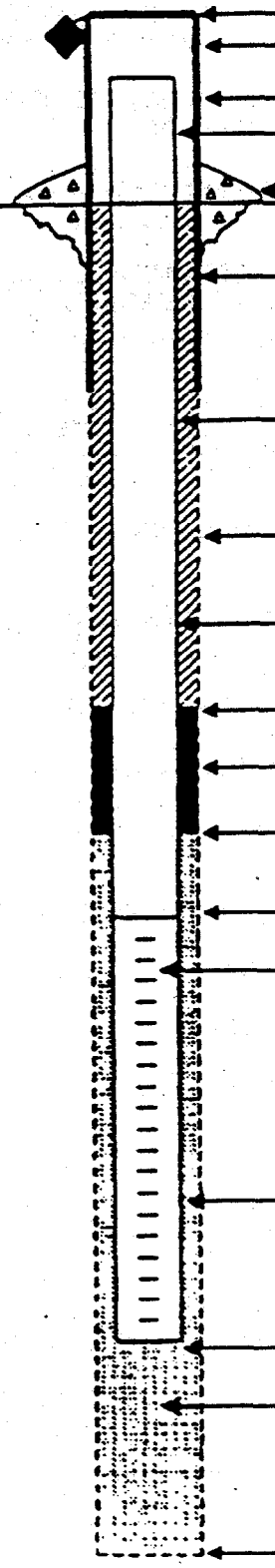
BORING NO E-30

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 51.98
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-30
DATE 7-21-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~52.98

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~1.0

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8½"

TYPE OF BACKFILL: Bentonite/Cement Grout

ELEVATION / DEPTH TOP OF SEAL: 50.98/1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 48.98/3.0

ELEVATION / DEPTH TOP OF SCREEN: 47.98/4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 43.98/8.0

ELEVATION / DEPTH BOTTOM OF SAND PACK: 43.98/8.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 42.98/9.0

CF BRAUN ENGINEERING CORPORATION

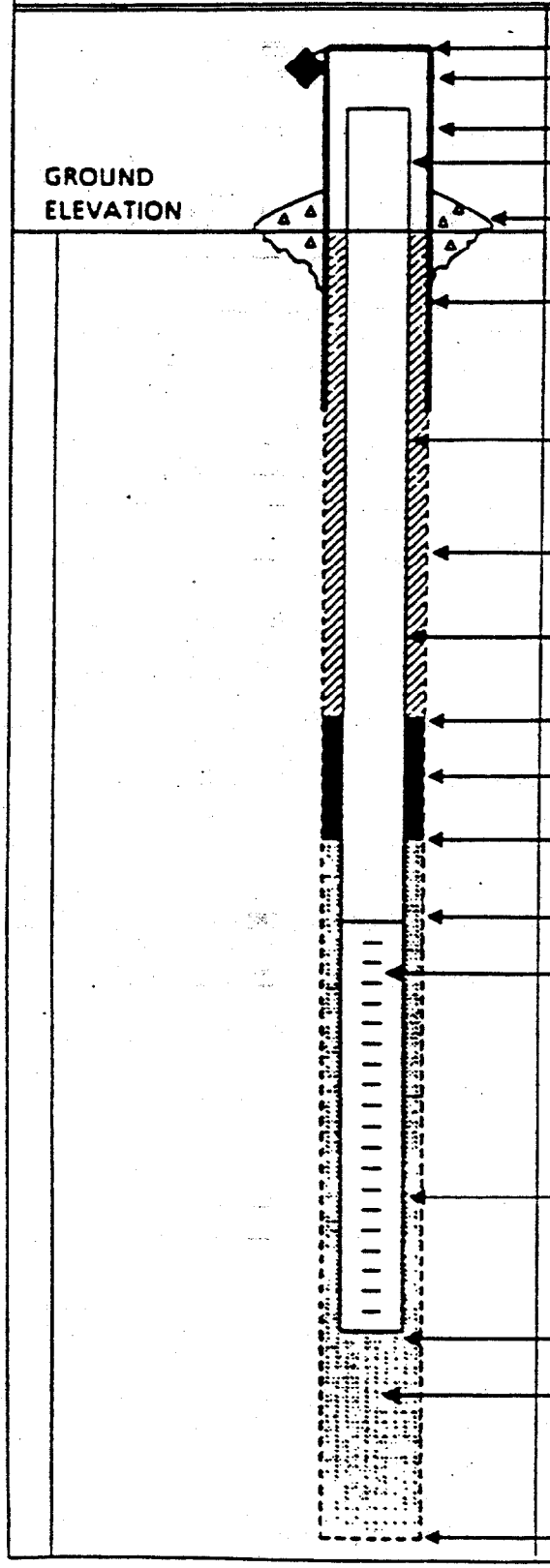
BORING NO E-31

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 50.45
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-31
DATE 7-21-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD



ELEVATION OF TOP OF SURFACE CASING: –
ELEVATION OF TOP OF RISER PIPE: ~51.45

STICK - UP TOP OF SURFACE CASING: –
STICK - UP RISER PIPE: ~1.0

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: –
TYPE OF SURFACE CASING: –

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement / Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 49.45 / 1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 47.45 / 3.0

ELEVATION / DEPTH TOP OF SCREEN: 46.45 / 4.0

TYPE OF SCREEN: PVC

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 42.45 / 8.0

ELEVATION / DEPTH BOTTOM OF SAND PACK: 42.45 / 8.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 41.45 / 9.0

CF BRAUN ENGINEERING CORPORATION

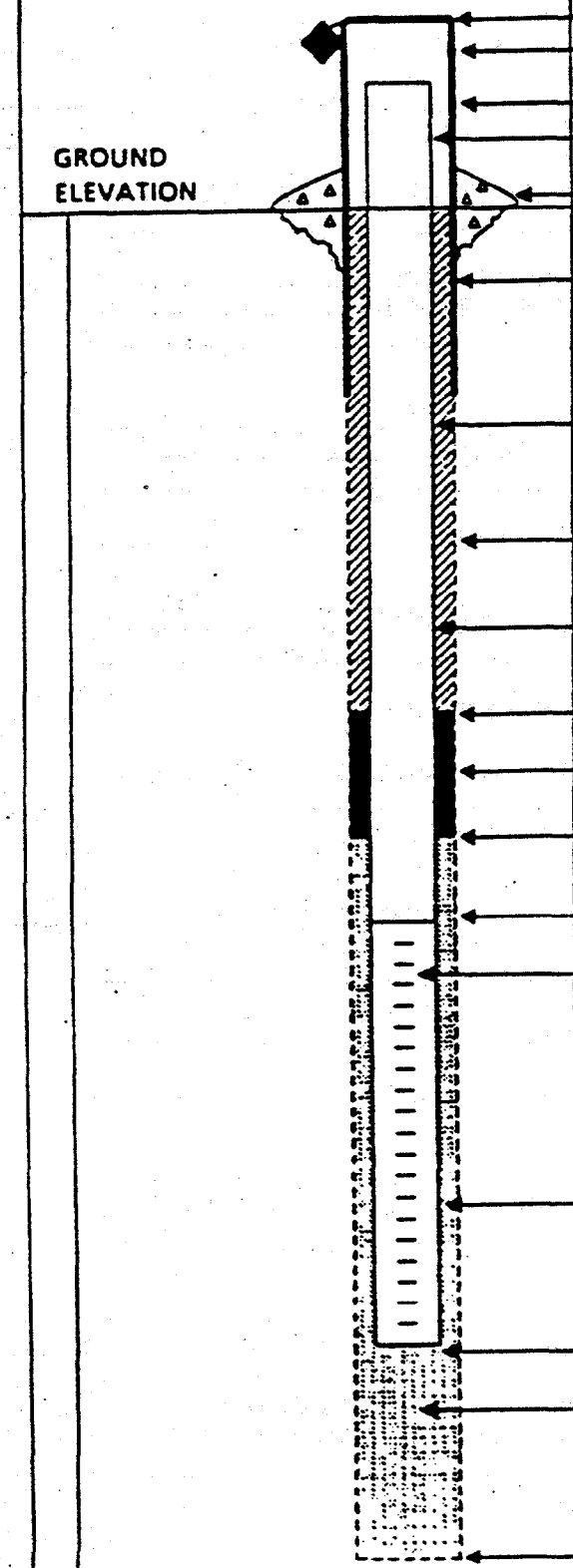
BORING NO E-32

MONITORING WELL SHEET

PROJECT NWIRP
PROJECT NO. 5563
ELEVATION 50.62
FIELD GEOLOGIST T Evans

LOCATION Calverton NY
BORING E-32
DATE 7-21-95

DRILLER Delta
DRILLING METHOD HSA
DEVELOPMENT METHOD —



ELEVATION OF TOP OF SURFACE CASING: —
ELEVATION OF TOP OF RISER PIPE: ~51.62

STICK - UP TOP OF SURFACE CASING: —
STICK - UP RISER PIPE: ~1.0

TYPE OF SURFACE SEAL: None

I.D. OF SURFACE CASING: —
TYPE OF SURFACE CASING: —

RISER PIPE I.D. 2"
TYPE OF RISER PIPE: PVC Sch 40

BOREHOLE DIAMETER: 8 1/2"

TYPE OF BACKFILL: Cement / Bentonite Grout

ELEVATION / DEPTH TOP OF SEAL: 49.62/1.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: 47.62/3.0

ELEVATION / DEPTH TOP OF SCREEN: 46.62/4.0

TYPE OF SCREEN: PVC Sch 40

SLOT SIZE x LENGTH: 0.020" x 4'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #1 Sand

ELEVATION / DEPTH BOTTOM OF SCREEN: 42.62/8.0

ELEVATION / DEPTH BOTTOM OF SAND PACK: 42.62/8.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Natural

ELEVATION / DEPTH OF HOLE: 41.62/9.0

APPENDIX G

CHAIN OF CUSTODY RECORD

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

For LLI use only
Acct. # 7558 Sample # 2355948-57

Please print. Instructions on reverse side correspond with circled numbers. FEDEX AB# 5461991150

(1)
Client: CF Braun / Halliburton NUS Acct. #:
Project Name/#: NWIRP Calverton / 5563 PWSID #:
Project Manager: Dave Brayack P.O.#
Sampler: Timothy Evans Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #: 1072234

(2) Sample Identification | Date Collected | Time Collected | (3) Grab | Composite | Matrix (4): Soil | Water (Potable / NPDES) | Other | Total # of Containers | (5) Analyses Requested: 40 mL vial 7038 Trip Blank | 40 mL vial 4542 TCL VOA | 1L Amber 4678 TCL SVCC | 1L Amber 937 TCL Pest/PCB | 1L glass 1126 TPH | 125 mL w/m glass 4593 TCL VOA | 500 mL w/L glass 4688 TCL SVCC 1562 TPH | 1225 TCL Pest/PCB | 500 mL w/m glass 5893 Total phosphorus | 1465 TKN 1511 TKN | Remarks | (6) Temperature of samples upon receipt (if requested)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	40 mL vial 7038 Trip Blank	40 mL vial 4542 TCL VOA	1L Amber 4678 TCL SVCC	1L Amber 937 TCL Pest/PCB	1L glass 1126 TPH	125 mL w/m glass 4593 TCL VOA	500 mL w/L glass 4688 TCL SVCC 1562 TPH	1225 TCL Pest/PCB	500 mL w/m glass 5893 Total phosphorus	1465 TKN 1511 TKN	Remarks	Temperature of samples upon receipt (if requested)
FT-SB-TB-Ø1	7.27.95	—	✓			✓		2	2										Lab Trip Blank	
FT-SB1Ø1-1.Ø	7.31.95	0842	✓		✓			4						1	1		1	1		
FT-SB1Ø1-19.5	↓	0912	✓		✓			5						1	1	1	1	1		
FT-SB1Ø2-1.Ø		1019	✓		✓			4						1	1		1	1		
FT-SB1Ø2-16.Ø		1053	✓		✓			5						1	1	1	1	1		
FT-SB1Ø3-1.Ø		1320	✓		✓			4						1	1		1	1		
FT-SB1Ø3-12.Ø		1340	✓		✓			5						1	1	1	1	1		
FT-SB-DU-Ø1		0000	✓		✓			5						1	1	1	1	1	Rec'd 2 bottles @ Duplicate-Ø1 LLI/DI	
FT-SB-FB-Ø1		1849	✓			✓		10		3	3	2	2						Field Blank-DI	
FT-SB-RB-Ø1		1922	✓			✓		9		3	2	2	2						Rinsate Blank-SS Trowel	

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8.1.95	0830			
			Harlan Collins	8/2/95	0926

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

For LLI use only
Acct. # 7558 Sample # 2365874-83

Please print. Instructions on reverse side correspond with circled numbers. FedEx AB# 5461991172

(1)
Client: CF Braun / Halliburton NUS Acct. #: CTO-223
Project Name/#: NWIRP Calverton/5563 PWSID #:
Project Manager: Dave Brayack P.O.#
Sampler: Timothy Evans Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #: 1072408

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (Potable / NPDES)	Other	Total # of Containers	40 mL vial 7038 Trip Blank (TCL VOA)	40 mL vial 4592 TCL VOA	1L Amber TCL SVOC 4678	1L Amber TCL Pest/PCB 937					Remarks	Temperature of samples upon receipt (if requested)
FT-IW-TB-Ø2 ✓ (1)	~~8-16-95~~ 8-2-95	—	✓			✓		3	3								Lab Trip Blank	
FT-IWØ6-Ø1 2	8-16-95	1125	✓			✓		3	~~3~~	3								
FT-GWØ2-Ø1 3	8-16-95	1235	✓			✓		24		9	9	6					Do MS/MSD	
FT-IW13-Ø1 4	8-16-95	1545	✓			✓		3		3								
FT-IW-DU-Ø2 5	8-16-95	0000	✓			✓		3		3							Duplicate Ø2	
FT-IW16-Ø1 6	8-16-95	1626	✓			✓		3		3								
FT-IW-FB-Ø2 7	8-16-95	1644	✓			✓		3		3							Field Blank Potable H2O Source	
FT-IW-RB-Ø2 8	8-16-95	1655	✓			✓		8		3	3	2					Rinsate Blank Stainless Steel Bailer	

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (C...

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8-2-95	1530	[signature]	8/3/95	1315
[signature]	8/17/95	0830			
			K. Gentz	8-18-95	0915

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

For LLI use only
Acct. # 7558 Sample # 2374043-45

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Halliburton NUS Acct. #:
Project Name/#: Calverton, CT0223 PWSID #:
Project Manager: David Brayack P.O.#
Sampler: David Brayack Quote #:
Name of state where samples were collected: New York

For LLI use only
FSC:
SCR #:

(2)

Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	Matrix (4) Soil	Water ☐ Potable ☐ NPDES	Other (*Air)	Total # of Containers	(5) Analyses Requested: BTEX & Chlorinated VOCs (TO-14)							Remarks	(6) Temperature of samples upon receipt (if requested)
FT-AS00-FB	9/1/95	1055	✓				X	1	X								
FT-AS00-01	9/1/95	1125	✓				X	1	X								
FT-AS00-02	9/1/95	~~1125~~ 1100	✓				X	1	X								

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
David D Brayack	9/1/95	1400	Fed Ex	9/1/95	1400
			[signature]	9/2/95	1000

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

For LLI use only
Acct. # 7558 Sample # 2376564-66

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Halliburton NUS Acct. #:
Project Name/#: Calverton CTO 223 PWSID #:
Project Manager: D Brayack P.O.#
Sampler: C. Farkos Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #:

(2)

Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	Matrix (4) Soil	Water ☐ Potable ☐ NPDES	Other (AIR)	Total # of Containers	(5) Analyses Requested: BTEX & Chlorinated VOC (Test TO-14)							Remarks	Temperature of samples upon receipt (if requested)
FT - AS00 - FB	9/7/95	9:40	X				X	1	X								
FT - AS00 - 01	9/7/95	9:20	X				X	1	X								
FT - AS00 - 02	9/7/95	9:30	X				X	1	X								

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (GLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
C. A. Farkos	9/7/95	10:00	Fed Exp.	9/7/95	1400
			K. Gaston	9-8-95	092

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

For LLI use only
Acct. # 7550 ~~[illegible]~~ Sample # 2391069-71

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Halliburton NUS Acct. #:
Project Name/#: Calverton CTO-223 PWSID #:
Project Manager: D Brayack P.O.#
Sampler: C Farkos Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (☐ Potable ☐ NPDES)	Other	Total # of Containers	Semivol SW 846 8270	Pest/PCB SW-846 8080							Remarks	Temperature of samples upon receipt of requested
FT-SB101-01	9/28/95	9:30		X	X			1	X									
FT-SB102-01	9/28/95	9:45		X	X			1	X									
FT-SB103-01	9/28/95	10:00		X	X			1	X									
FT-SB101-01	" "	9:30		X	X			1		X								
FT-SB102-01	" "	9:45		X	X			1		X								
FT-SB103-01	" "	10:00		X	X			1		X								

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	9/28/95	1645	Fed Ex Office	9/28	
			[signature]	9/29/95	0940

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

For LLI use only
Acct. # 7558 Sample # 2391054-57

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Halliburton NUS
Acct. #:
Project Name/#: Cathedral CTO223
PWSID #:
Project Manager: D Brasch
P.O.#
Sampler: C Fathos
Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Potable / Water / NPDES	Other	Total # of Containers	N-Hxt/N-H-6 EPA 300.0	Vol SW-846-8240	Semi SW-846-8270	Pest/PCB-SW-846-8080					Remarks	Temperature of container upon receipt (if applicable)
~~C.S.F~~ FT-GW02	9/28/95	1215	X			X		2	X									
FT-GW02		1215	X			X		3		X								
FT-GW02		1215	X			X		2			X							
FT-GW02		1215	X			X		2				X						
FT-IW08		1040	X			X		3		X								
FT-IW 06		1040	X			X		2	X									
FT-IW13		1100	X			X		3		X								
FT-IW16		1115	X			X		3		X								

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (C

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	9/28/95	1645	Fed Ex	9/28/95	
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: [signature]	Date	Time

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

For LLI use only
Acct. # 7558 Sample # 2391160-62

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Halliburton NUS
Acct. #:
Project Name/#: Cahenton CTO 223
PWSID #:
Project Manager: D Brasack
P.O.#
Sampler: C Farkas
Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #:

(2)

Sample Identification	Date Collected	Time Collected	Grab (3)	Composite	Matrix (4): Soil	Matrix (4): Water (☐ Potable ☐ NPDES)	Matrix (4): Other	Total # of Containers	BTEX & Chlorinated Vac (TO-14) (5)							Remarks (6)	Temperature of sample upon receipt (if required)
FT-AS00-FB	9/29/95	800	X				X	1	X								
FT-AS00-01		830	X				X	1	X								
FT-AS00-02		815	X				X	1	X								

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
C A Farkas	9/29/95	1400	Fed Ex	9/29/95	
			K. Gaston	9/30/95	0950

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

~~WHITE~~ WHITE IN BOX 1
YELLOW IN BOX 2

For LLI use only
Acct. # 7558
Sample # 2405289-92

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: HALLIBURTON NUS
Acct. #:
Project Name/#: CTO 223
PWSID #:
Project Manager: D Brayach
P.O.#
Sampler: C FARKOS
Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (☐ Potable ☐ NPDES)	Other AIR	Total # of Containers	BTEX & Chlorinated TO-14							Remarks	Temperature of sample upon receipt (if applicable)
FT-A500-FB	10/25/95	12:03	X				X	1	X								
FT-A500-16	10/25/95	12:20	X				X	1	X								
FT-A500-01	10/25/95	12:45	X				X	1	X								
FT-A500-02	10/25/95	12:35	X				X	1	X								

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
C A Farkos	10/25/95	1700	To Fed Exp	10/25	

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

For LLI use only
Acct. # 7558 Sample # 2405544-46

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Halliburton NUS Acct. #:
Project Name/#: Calverton CTO 223 PWSID #:
Project Manager: D Brayack P.O.#
Sampler: C Farkos Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #:

(2)

Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	Matrix (4) Soil	Water ☐ Potable ☐ NPDES	Other	Total # of Containers	(5) Analyses Requested: Semivol SW 846 8230	Pest/PCB SW 846 8080							Remarks	(6) Temperature of samples upon receipt (if requested)
FT - SB101 - 01	10/25/95	12:50		X	X			1	X									
FT - SB101 - 01	↓	12:52		X	X			1		X								
FT - SB102 - 01	↓	13:10		X	X			1	X									
FT - SB102 - 01	↓	13:12		X	X			1		X								
FT - SB103 - 01	↓	13:20		X	X			1	X									
FT - SB103 - 01	↓	13:23		X	X			1		X								

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
C A [signature]	10/25/95	1700	To Fed Exp	10/25/95	
			Harlan Collins	10/26/95	0920

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

For LLI use only
Acct. # 7558 Sample # 2406132-35

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Halliburton NUS Acct. #:
Project Name/#: Calverton CTO223 PWSID #:
Project Manager: D Brayach P.O.#
Sampler: C Farkos Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #:

(2) Matrix (4) (5) Analyses Requested (6)

Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	Soil	Water (☐ Potable ☐ NPDES)	Other	Total # of Containers	Nitrate/Nitrite EPA 300	Volatiles SW-846-8240	Semi VOL SW 846 8270	Pest/PCB SW 846-8080				Remarks	Temperature of sample upon receipt (if requested)
FT - GW02	10/26/95	10:50	X			X		2	X								
FT - GW02		10:50	X			X		3		X							
FT - GW02		10:50	X			X		2			X						
FT - GW02		10:50	X			X		2				X					
FT - IW06		10:20	X			X		3		X							
FT - IW06		10:20	X			X		2	X							Rec'd both bottles broken. SW	
FT - IW13		9:30	X			X		3		X	~~X~~					Rec'd vials for voc analyses. Did not receive bottles for SVOOS. SW	
FT - IW16		9:50	X			X		3		X	~~X~~						

KAK 10/27/95 per call to Dave Brayach, VOAs only for these 2 locations

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (C

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	10/26/95	1600	To Fed Exp	10/26/95	
			[signature]	[illegible]	[illegible]

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

WHITE - BOX #1
YELLOW - BOX #2

For LLI use only
Acct. # 7558 Sample # 2420624-27

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Halliburton NUS
Acct. #:
Project Name/#: Culverton CTO 223
PWSID #:
Project Manager: D Brayack
P.O.#
Sampler: C Fankos
Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Potable / NPDES	Water	Other AIR	Total # of Containers	TO-14 (BTEX)	Remarks	Temperature of Sample upon receipt (if requested)
FT-A500-FB	11/20/95	12:20	X					X	1	X		
FT-A500-16		12:25	X					X	1	X		
FT-A500-01		12:40	X					X	1	X		
FT-A500-02		12:50	X					X	1	X		

(7) **Turnaround Time Requested** (TAT) (please circle) Normal Rush
(Rush TAT is subject to LLI approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
CA Fankos	11/20/95	17:00	to Fed Ex	11/20/95	
			Annelise Hutchison	11/21/95	0930

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

For LLI use only
Acct. # 7558 Sample # 2421831-33

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Halliburton NUS Acct. #:
Project Name/#: Calverton - CTO 223 PWSID #:
Project Manager: D Brayach P.O.#
Sampler: C Farkus Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (Potable / NPDES)	Other	Total # of Containers	SW 846-8230	SW 846-8080							Remarks	Temperature Upon Receipt (if requested)
FT-SB101-01	11/21/95	810		X				1	X									
FT-SB101-01		"		X				1		X								
FT-SB102-01		820		X				1	X									
FT-SB102-01		"		X				1		X								
FT-SB103-01		830		X				1	X									
FT-SB103-01		"		X				1		X								

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
CA [signature]	11/21/95	1700	To Fed Exp	11/21/95	
			[signature]	11/21/95	0940

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

For LLI use only
Acct. # 7558 Sample # 2421713-16

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: HNUS Acct. #:
Project Name/#: Catherton - CTO 223 PWSID #:
Project Manager: D Brayach P.O.#
Sampler: C Farkos Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (☐ Potable ☐ NPDES)	Other	Total # of Containers	Nitrate/Nitrite EPA300	SW846-8240	SW846-8270	SW846-8080					Remarks	Temperature of samples upon receipt (if requested)
FT-GW02	11/21/95	10:20	X			X		2	X									
FT-GW02		10:00	X			X		3		X								
FT-GW02		10:30	X			X		2			X							
FT-IW06		10:50	X			X		2	X ← move			NO X						
FT-IW06		10:55	X			X		3		X								
FT-IW13		11:15	X			X		3		X								
FT-IW16		11:30	X			X		3		X								
FT-GW02		10:10	X			X		2				X						

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	11/21/95	1700	To Fed Exp	11/21/95	
			[signature]	11/21/95	[illegible]

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

For LLI use only
Acct. # ~~6226~~ 7558 Sample # 2437333-7

Please print. Instructions on reverse side correspond with circled numbers.

(1) Halliburton NUS

Client: CF Braun Acct. #:
Project Name/#: Calverton PWSID #:
Project Manager: Dave Brayack P.O.#
Sampler: Tim Evans Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #:

(2) (3) (4) (5) (6)

									40 mL vial TCL VOA #4592	1L Amber TCL SVOA #4678	1L Amber TCL Pest/PCB #937	1L Amber Nitrate/Nitrite EPA 300.0					
FT-IW06	12.19.95	1059	✓			✓		3	3			1	Analyze for NO2/NO3 per Call to Dave Brayack 12/22/95 KAK				Rec'd Nitrite/Nitrate
FT-IW13	↓	1145	✓			✓		3	3								
FT-GW-DU03		0000	✓			✓		3	3								Duplicate 03
FT-IW16		~~1547~~ 1547	✓			✓		3	3								
FT-GW02-S		~~1639~~	✓			✓		~~9~~	~~3~~	3	2	1					No VOA Rec'd
		1439						6	Did not receive 12/22/95 KAK								12/20/95 [illegible]
		KAK per fax received on 12/22/95 from Tim Evans.															

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (C

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	12/19/95	1630			
			[signature]	12/20/95	1700

(9)

2 w Holl PO B 5, Lan A 176((71 2300 ies: W l yellov l accor mples to Lancaster Laboratories. The pink copy should be retained by the client 102 Rev 6/1/95

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

For LLI use only
Acct. # ~~6076~~ 7558 Sample # 2437720-6

Halliburton NUS **Please print. Instructions on reverse side correspond with circled numbers.**

(1)
Client: CF Braun Acct. #:
Project Name/#: Calverton / 5563 PWSID #:
Project Manager: Dave Brayack P.O.#
Sampler: Tim Evans Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #:

(2) Sample Identification

Sample Identification									40 mL vial Trip Blank #4593	4oz glass TCL VOC #4593	16oz glass STCL SVOC #4688	TCL Pest/PCB #1225 TPH #1502					Temperature of sample upon receipt (if requested)
TB 12/20	12/20/95	1007	✓		✓		3	3								Trip Blank	
FT-SB101 - 0002	↓	1112	✓	✓			2		1	1							
FT-SB101 - 2022		1138	✓	✓			2		1	TE 1							
FT-SB102 - 0002		1223	✓	✓			2		1	1							
FT-SB102 - 1517		1254	✓	✓			2		1	1							
FT-SB103 - 0002		1354	✓	✓			2		1	1							
FT-SB103 - 1416		1420	✓	✓			2		1	1							

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
Timothy S E	12/20/95	1710			
			K. M	12-21-95	1410

Analysis Request/Environmental Services Chain of Custody

Lancaster Laboratories
A Thermo Analytical Laboratory

For LLI use only
Acct. # 7558 Sample # 2450297-98

Please print. Instructions on reverse side correspond with circled numbers. FedEx AB# 846 529 2135

Client: Halliburton NUS/CF Braun Acct. #:
Project Name/#: CT0223/5563 PWSID #:
Project Manager Dave Brayack P.O.#
Sampler: Tim Evans Quote #:
Name of state where samples were collected: NY

For LLI use only
FSC:
SCR #: 1078644

Sample	Date	Time						Trip Blank #7038 40 mL Glass	TCL VOA #4592 40 mL Vial	TCL SVOC, TCL Post/PCB 1L Glass						Lab Trip Blank
TB-04	1.16.95	—	✓		✓		2	2								
FT-GW02	1.23.96	1115	✓		✓		8		3	5						

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to LLI approval and surchage.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

Data Package Options (please circle if requested)
QC Summary Type VI
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	1-16-96	1910	[signature]	1/22/96	2030
[signature]	1.23.96	1230			
			[signature]	1/ /96	0940

White ... The pink copy should be retained by the client ... Rev. 6/1/95

APPENDIX H

SAMPLE LOG SHEETS

SAMPLE LOG SHEET

CF BRAUN ENGINEERING CORPORATION

☐ SURFACE SOIL
☒ SUBSURFACE SOIL
☐ SEDIMENT
☐ LAGOON/POND
☐ OTHER

SAMPLERS SIGNATURE [signature]

SITE NAME NWIRP Calverton

SITE NUMBER 5563

SAMPLE No.	SAMPLE METHOD	DEPTH (FT)	DATE	TIME	SAMPLED BY	CONCENTRATION (L)LOW (H)HIGH	(G)GRAB (C)COMPOSITE	ANALYSES: TCL VOC	TCL SVOC TCL PEST/PCB TPH	Total Phosphorus	Kjeldahl Nitrogen	Pseudomonas Bacterial Count	Soil Classification		No. OF CONT TOTAL	SOIL DESCRIPTION
FT-SB1Ø1-1.Ø	2"SS	1-3	7.31.95	0842	TSE	L	G	✓	✓			✓			4	Sand Tr Gravel
FT-SB1Ø1-19.5	3"SS	19.5-21.5	7.31.95	0912	TSE	L	G	✓	✓	✓	✓	✓	✓		6	Sand
FT-SB1Ø2-1.Ø	2"SS	1-3	7.31.95	1019	TSE	L	G	✓	✓			✓			4	Silty Sand
FT-SB1Ø2-16.Ø	2"SS	16-18	7.31.95	1053	TSE	L	G	✓	✓	✓	✓	✓	✓		6	Sand
FT-SB1Ø3: 1.Ø	2"SS	1-3	7.31.95	1320	TSE	L	G	✓	✓			✓			4	Sand
FT-SB1Ø3-12.Ø	2"SS	12-14	7.31.95	1340	TSE	L	G	✓	✓	✓	✓	✓	✓		6	Sand
FT-SB-DU-Ø1	2"SS	-	7.31.95	-	TSE	L	G	✓	✓						2	Duplicate of FT-SB1Ø3-12.Ø

REMARKS: SS = split-barrel sampler

LAB: Chemical: Lancaster Labs

CF BRAUN ENGINEERING CORPORATION

SINGLE SAMPLE LOG SHEET

Project Site Name: MWRP Calverton

Project No.: 5563

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Other _____
- ☒ QA Sample Type: Trip Blank

Sample ID No.: FT-SB-TB-01

Sample Location: Site 2

Sampled By: ~~Tim Evans~~ TBE

C.O.C. No.: _____

Sample Method: Direct Fill, TBE ~~Stainless Steel Bailer~~

Depth Sampled: –

Sample Date and Time: 7-27-95 –

Type of Sample
- ☒ Grab
- ☐ Composite
- ☐ Grab-Composite
- ☐ High Concentration
- ☒ Low Concentration

Composite Sample Data		
Sample	Time	Color/Description

Grab Sample Data	
Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)

Analysis	Container Requirements	Collected (✓)
TCL VOC	2 x 40mL vial	✓

Map:

Observations/Notes: Lab Trip Blank

Circle If Applicable:	
MS/MSD	Duplicate ID No:

Signature(s): [illegible] TBE

CF BRAUN ENGINEERING CORPORATION

SINGLE SAMPLE LOG SHEET

Project Site Name: NWIRP Calverton

Project No.: 5263

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Other _____
- ☒ QA Sample Type: Field Blank

Sample ID No.: FT-SB-FB-01

Sample Location: Site 2

Sampled By: Tim Evans

C.O.C. No.: _____

Sample Method: Direct Fill

Depth Sampled: —

Sample Date and Time: 7-31-95 1844

Type of Sample
- ☒ Grab
- ☐ Composite
- ☐ Grab-Composite
- ☐ High Concentration
- ☒ Low Concentration

Composite Sample Data

Sample	Time	Color/Description

Grab Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)

Analysis	Container Requirements	Collected (✓)
TCL VOA	3x 40mL Vial	✓
TCL SVOC	3x 1L Amber	✓
TCL Pest/PCB	2x 1L Amber	✓
TPH	2x 1L glass	✓

Map:

Observations/Notes: DI source H_2O

Circle If Applicable:

MS/MSD	Duplicate ID No:

Signature(s): [illegible]

CF BRAUN ENGINEERING CORPORATION

SINGLE SAMPLE LOG SHEET

Project Site Name: NWIRP Calverton

Project No.: 53563

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Other _____
- ☒ QA Sample Type: Rinsate Blank

Sample ID No.: FT-SB-RB-01

Sample Location: Site 2

Sampled By: Tim Evans

C.O.C. No.: _____

Sample Method: Direct Fill	Composite Sample Data		
	Sample	Time	Color/Description
Depth Sampled: —			
Sample Date and Time: 7-31-95 1922			
Type of Sample			
☒ Grab			
☐ Composite			
☐ Grab-Composite	Grab Sample Data		
☐ High Concentration	Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)	
☒ Low Concentration			

Analysis	Container Requirements	Collected (✓)	Map:
TCL VOA	3 x 40mL vial	✓	
TCL SVOC	3 x 1L Amber	✓	
TCL Pest/PCB	2 x 1L Amber	✓	
TPH	2x 1L glass	✓	

Observations/Notes: Stainless Steel trowel

Circle If Applicable:		Signature(s):
MS/MSD	Duplicate ID No:	[illegible]

CF BRAUN ENGINEERING CORPORATION

GROUNDWATER

SAMPLE LOG SHEET

Project Site Name: NWIRP Calverton

Project No.: 5563

- ☐ Domestic Well Data
- ☒ Monitoring Well Data
- ☐ Other Well Type:
- ☐ QA Sample Type:

Sample ID No.: FT-GW02-01

Sample Location: Site 2

Sampled By: Tim Evans

C.O.C. No.:

Sampling Data

Date: 8-15-95	pH	S.C.	Temp. (°C)	Turbidity	Color	DO	TBD	TBD
Time: ~~1202~~ 1235			20.1	270	clear	DO 11.13 mg/L		
Method: Bailer								

Purge Data

Date: 8-15-95	Volume	pH	S.C.	Temp. (°C)	Turbidity	Color	DO	TBD
Method: Bailer	Initial							
Monitor Reading (ppm):	1							
Well Casing Dia. & Material Type: 4" PVC	2							
	3							
Total Well Depth (TD): 22.35	4							
Static Water Level (WL): 17.67	5							
TD-WL (ft.) = 4.68							↑	
One Casing Volume: (gal/L) 3.10							DO	
Start Purge (hrs.): 1210								
End Purge (hrs.): 1230								
Total Purge Time (min): 20								
Total Amount Purged (gal/L): 9.5								

Analyte	Preservative	Container Requirements	Collected (✓)
TCL VOC	HCL	3 x 40 mL Vial	✓
TCL SVOC	—	3 x 1 L Amber	✓
TCL Pest / PCB	—	2 x 1 L Amber	✓

Observations/Notes: ~ 1 - 1.5 feet free product

Circle If Applicable:

MS/MSD 3x volume

Duplicate ID No:

Signature(s):

TBD: To Be Determined

CF BRAUN ENGINEERING CORPORATION

GROUNDWATER

SAMPLE LOG SHEET

Project Site Name: NWIRP Calverton

Project No.: 5563

☐ Domestic Well Data
☐ Monitoring Well Data
☒ Other Well Type: Injection Well
☐ QA Sample Type:

Sample ID No.: FT-IWØ6-Ø1

Sample Location: Site 2

Sampled By: Tim Evans

C.O.C. No.:

Sampling Data

	pH	S.C.	Temp. (°C)	Turbidity	Color	TBD	TBD	TBD
Date: 8-16-95								
Time: 11:25			16.3	95		DO 10.15 mg/L		
Method: Bailer								

Purge Data

	Volume	pH	S.C.	Temp. (°C)	Turbidity	Color	TBD	TBD
Date: 8-16-95								
Method: Bailer	Initial							
Monitor Reading (ppm):	1							
Well Casing Dia. & Material Type: 2" PVC	2							
	3			16.3			10.15	
Total Well Depth (TD): 25.90	4							
Static Water Level (WL): 18.12	5							
TD-WL (ft.) = 7.78							↑	
One Casing Volume: (Gal/L) 1.3							DO	
Start Purge (hrs.): 11:15								
End Purge (hrs.): 11:22								
Total Purge Time (min): 7								
Total Amount Purged (gal/L): 4								

Analysis	Preservative	Container Requirements	Collected (✓)
TCL VOC	HCl	3X 40 mL vial	✓

Observations/Notes:

Cloudy

Circle if Applicable:

MS/MSD

Duplicate ID No:

Signature(s):

TBD: To Be Determined

CF BRAUN ENGINEERING CORPORATION

GROUNDWATER

SAMPLE LOG SHEET

Project Site Name: NWIRP Calverton

Project No.: 5563

- ☐ Domestic Well Data
- ☐ Monitoring Well Data
- ☒ Other Well Type: Injection Well
- ☐ QA Sample Type:

Sample ID No.: FT-IW13-Ø1

Sample Location: Site 2

Sampled By: Tim Evans

C.O.C. No.:

Sampling Data

Date: 8.16.95	pH	S.C.	Temp. (°C)	Turbidity	Color	TBD	TBD	TBD
Time: 1545								
Method: Bailer	/	/	21.1	132	tan	DO 11.59 mg/L		

Purge Data

Date: 8.16.95	Volume	pH	S.C.	Temp. (°C)	Turbidity	Color	TBD	TBD
Method: Bailer	Initial							
Monitor Reading (ppm):	1							
Well Casing Dia. & Material Type: 2" PVC	2							
	3			21.1	132	tan	11.59	
Total Well Depth (TD): 25.90	4							
Static Water Level (WL): 17.22	5							
TD-WL (ft.) = 8.68							↑	
One Casing Volume: (gal/L) 1.4							DO	
Start Purge (hrs.): 1535							(mg/L)	
End Purge (hrs.): 1539								
Total Purge Time (min): 4								
Total Amount Purged (gal/L): 4.5								

Analysis	Preservative	Container Requirements	Collected (✓)
TCL VOC	HCl	3 x 40 mL vial	✓

Observations/Notes:

tan & cloudy
film on H_2O surface

Circle If Applicable:		Signature(s):
MS/MSD	Duplicate ID No: FT-IW ~~[illegible]~~ -DU-Ø2 @ 8.16.95 0000 hrs	[signature]

TBD: To Be Determined

CF BRAUN ENGINEERING CORPORATION

GROUNDWATER

SAMPLE LOG SHEET

Project Site Name: NWIRP Calverton

Project No.: 55203

☐ Domestic Well Data
☐ Monitoring Well Data
☒ Other Well Type: Injection Well
☐ QA Sample Type:

Sample ID No.: FT-IW16-01

Sample Location: Site 2

Sampled By: Tim Evans

C.O.C. No.:

Sampling Data

	pH	S.C.	Temp. (°C)	Turbidity	Color	TBD	TBD	TBD
Date: 8-16-95								
Time: 1626								
Method: Bailer	✓	✓	17.8°C	6.54	tan cloudy	DO 13.54 mg/L		

Purge Data

	Volume	pH	S.C.	Temp.(°C)	Turbidity	Color	TBD	TBD
Date: 8-16-95								
Method: Bailer	Initial							
Monitor Reading (ppm):	1							
Well Casing Dia. & Material Type: 2" PVC	2							
	3			17.8	6.54	cloudy	13.54	
Total Well Depth (TD): 20.90	4							
Static Water Level (WL): 13.00	5							
TD-WL (ft.) = 7.90							↑	
One Casing Volume: (gal/L) 1.3							DO	
Start Purge (hrs.): 1620								
End Purge (hrs.): 1624								
Total Purge Time (min): 4								
Total Amount Purged (gal/L): 4								

Analysis	Preservative	Container Requirements	Collected (✓)
TCL VOC	HCL	3 x 40mL vial	✓

Observations/Notes:

Cloudy + tan
film on H_2O surface

Circle If Applicable:

MS/MSD	Duplicate ID No:

Signature(s): Timothy S. E

TBD: To Be Determined

CF BRAUN ENGINEERING CORPORATION

SINGLE SAMPLE LOG SHEET

Project Site Name: NWIRP Calverton

Sample ID No.: FT-IW-TB-02

Project No.: 5563

Sample Location: Site 2

Sampled By: ~~Tim Evans~~ TSE

C.O.C. No.:

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Other _____
- ☒ QA Sample Type: Trip Blank

Sample Method: Direct Fill

Depth Sampled: —

Sample Date and Time: 8.2-95 —

Type of Sample

- ☒ Grab
- ☐ Composite
- ☐ Grab-Composite
- ☐ High Concentration
- ☒ Low Concentration

Composite Sample Data

Sample	Time	Color/Description

Grab Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)

Analysis	Container Requirements	Collected ✓/✗
TCL VOC	2 x 40mL vial	✓

Map:

Observations/Notes: Lab Trip Blank

Circle If Applicable:

MS/MSD

Duplicate ID No:

Signature(s):

CF BRAUN ENGINEERING CORPORATION

SINGLE SAMPLE LOG SHEET

Project Site Name: NWIRP Calverton

Sample ID No.: FT-TW-FB-02

Project No.: 5563

Sample Location: Site 2

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Other _____
- ☒ QA Sample Type: Field Blank

Sampled By: Tim Evans

C.O.C. No.: _____

Sample Method: Direct Fill

Depth Sampled: —

Sample Date and Time: 8-16-95 1644

Type of Sample
- ☒ Grab
- ☐ Composite
- ☐ Grab-Composite
- ☐ High Concentration
- ☒ Low Concentration

Composite Sample Data

Sample	Time	Color/Description

Grab Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)

Analysis	Container Requirements	Collected (✓)
TCL VOA	3x 40mL vial	✓

Map:

Observations/Notes: Tap H_2O source @ Steam shop

Circle If Applicable:

MS/MSD	Duplicate ID No:

Signature(s): Tim Evans

CF BRAUN ENGINEERING CORPORATION

SINGLE SAMPLE LOG SHEET

Project Site Name: NWIRP Calverton

Sample ID No.: FT-IW-RB-02

Project No.: 5563

Sample Location: Site 2

Sampled By: Tim Evans

C.O.C. No.:

- ☐ Surface Soil
- ☐ Subsurface Soil
- ☐ Sediment
- ☐ Other _____
- ☒ QA Sample Type: Rinsate Blank

Sample Method: Direct Fill

Depth Sampled: -

Sample Date and Time: 8-16-95 1655

Type of Sample
- ☒ Grab
- ☐ Composite
- ☐ Grab-Composite
- ☐ High Concentration
- ☒ Low Concentration

Composite Sample Data

Sample	Time	Color/Description

Grab Sample Data

Color	Description: (Sand, Clay, Dry, Moist, Wet, etc.)

Analysis	Container Requirements	Collected (✓)
TCL VOA	3 x 40mL vial	✓
TCL SVOC	3 x 1L Amber	✓
TCL Pest / PCB	2 x 1L Amber	✓

Map:

Observations/Notes: stainless steel Boiler

Circle if Applicable:

MS/MSD

Duplicate ID No:

Signature(s): [illegible]

CF Braun Engineering Corporation

MULTIPLE SAMPLE LOG SHEET

☐ SURFACE SOIL
☒ SUBSURFACE SOIL
☐ SEDIMENT
☐ LAGOON/POND
☐ OTHER

SAMPLER(S) SIGNATURE [signature]

PROJECT NAME: Calverton

PROJECT NUMBER: 5563

AREA DESIGNATION Fire Training Area

Sample No.	SAMPLE METHOD	DEPTH (FT)	DATE	TIME	SAMPLED BY	CONCENTRATION (L)LOW (H)HIGH	(G)GRAB (C)COMPOSITE	ANALYSES: 4oz glass TCL VOA	ANALYSES: 16oz glass TCL SVOC P/P, TPH						No. OF CONT. TOTAL	SOIL DESCRIPTION
FT-SB101-0002	3"SS	0-2	12/20/95	1112	TE	L	G	1	1						2	Silty SAND / SAND Tr Gravel
FT-SB101-2022	3"SS	20-22	12/20/95	1138	TE	L	G	1	1						2	F-Mgr SAND
FT-SB102-0002	3"SS	20-22	12/20/95	1223	TE	L	G	1	1						2	SAND Tr Coal + Gravel
FT-SB102-1517	3"SS	15-17	12/20/95	1254	TE	L	G	1	1						2	F-Mgr SAND
FT-SB103-0002	3"SS	0-2	12/20/95	1354	TE	L	G	1	1						2	Fgr SAND
FT-SB103-1416	3"SS	14-16	12/20/95	1420	TE	L	G	1	1						2	Fgr SAND

REMARKS:

LAB: Lancaster Labs Inc
Lancaster PA

COC NO:

ACAD: C:\FORMS\SAMP... 02/17/95 TD

CF Braun Engineering Corporation

GROUNDWATER

SAMPLE LOG SHEET

Project Site Name: Calverton

Project No.: 5563

☐ Domestic Well Data
☐ Monitoring Well Data
☒ Other Well Type: Injection Well
☐ QA Sample Type:

Sample ID No.: FT - IW6

Sample Location: FPTA

Sampled By: TE/CF

C.O.C. No.:

Sampling Data

Date: 12-19-95
Time: 10 59
Method: PE Bailer

pH	S.C.	Temp (°C)	Turbidity	Odor	TDS	TID	TIP
3.83	.270	12.9	5			DO* 7.40	Sol 0.01

Purge Data

Date: 12-19-95
Method: Bail
Monitor Reading (ppm): —
Well Casing Dia. & Material Type: 2" PVC
Total Well Depth (TD): 24.42
Static Water Level (WL): 16.77
TD-WL (ft.) = 7.65
One Casing Volume: (gal) 4.7
Start Purge (hrs.): 1045
End Purge (hrs.): 1053
Total Purge Time (min): 8
Total Amount Purged (gal) 15

Volume	pH	S.C.	Temp (°C)	Turbidity	Odor	TID	TIP
Initial						DO*	Sol
1						↓	↓
2							
3	3.83	.270	12.9	5	clear	7.40	0.01
4							
5							

Analyte	Preservative	Container Requirements	Collected ✓
TCL VOA	HCl	3 x 40 ml Vial	✓
Nitrate / Nitrite	—	3 x 1L Amber	✓

Observations/Notes: Collected @ end of AS/SVE operation

* Do not calibrated due to Error/broken sensor

24.5
- .08
24.42
16.77
7.65

Circle If Applicable:

MS/MSD | Duplicate ID No:

Signature(s): [illegible]

*SD. To Be Determined

CF Braun Engineering Corporation

GROUNDWATER

SAMPLE LOG SHEET

Project Site Name: Calverton

Project No.: 5363

- ☐ Domestic Well Data
- ☐ Monitoring Well Data
- ☒ Other Well Type: Injection
- ☐ QA Sample Type:

Sample ID No.: FT - IW 13

Sample Location: FPTA

Sampled By: TE/CE

C.O.C. No.:

Sampling Data

	pH	S.C.	Temp (°C)	Turbidity	Color	TBD	TBD	TBD
Date: 12.19.95 Time: 1145 Method: PE Bailer	4.12	.241	13.1	9	clear	DO 7.24	Sal 0.00	

Purge Data

	Volume	pH	S.C.	Temp (°C)	Turbidity	Color	TBD	TBD
Date: 12.19.95	Initial						DO*	Sal
Method: Bail	1						↓	↓
Monitor Reading (ppm): —	2							
Well Casing Dia. & Material Type: 2" PVC	3	4.12	.241	13.1	9	clear	7.24	0.00
Total Well Depth (TD): 23.66	4							
Static Water Level (WL): 15.01	5							
TD-WL (ft.) = 8.65								
One Casing Volume: (gal) 5.3								
Start Purge (hrs.): 1132								
End Purge (hrs.): 1140								
Total Purge Time (min): 8								
Total Amount Purged (gal): 16								

Analyte	Preservative	Container Requirements	Collected (✓)
TCL VOA	HCl	3x40mL vial	✓

Observations/Notes: Collected @ end of AS/SVE operation

* DO sensor damaged

Circle if Applicable:

MS/MSD

Duplicate ID No: FT - ~~GW~~ TE GW DU 03

Signature(s): [illegible]

TBD: To Be Determined

CF Braun Engineering Corporation

GROUNDWATER
SAMPLE LOG SHEET

Project Site Name: Calverton
Project No.: 55603
Sample ID No.: FT-IW16
Sample Location: FPTA
Sampled By: TE / CF
C.O.C. No.:

- ☐ Domestic Well Data
- ☐ Monitoring Well Data
- ☒ Other Well Type: Injection well
- ☐ QA Sample Type:

Sampling Data

Date: 12-19-95	pH	S.C.	Temp (°C)	Turbidity	Color	TDS	TSD	TSP
Time: 1347 ~~1347~~ TE	5.78	.350	9.4	>999	tan	00* 7.20	Sal .01	
Method: PE Bailer								

Purge Data

Date: 12.19.95	Volume	pH	S.C.	Temp (°C)	Turbidity	Color	TSD	TSP
Method: Bail	Initial						DO*	Sal
Monitor Reading (ppm):	1						↓	↓
Well Casing Dia. & Material Type: 2" PVC	2							
	3	5.78	.350	9.4	>999	tan	7.20	0.01
Total Well Depth (TD): 21.06	4							
Static Water Level (WL): 13.36	5							
TD-WL (ft.) = 7.70								
One Casing Volume: (gal/L) 4.75								
Start Purge (hrs.): 1341								
End Purge (hrs.): 1347								
Total Purge Time (min):								
Total Amount Purged (gal/L) 15								

Analyte	Preservative	Container Requirements	Collected (✓)
TCL VOA	HCl	3 x 40 mL vial	✓

Observations/Notes: Collected @ end of AS/SVE operation
* DO sensor damaged

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No:	Timothy SL

TSD: To Be Determined

CF Braun Engineering Corporation

GROUNDWATER
SAMPLE LOG SHEET

Project Site Name: Calverton

Project No.: 5563

- ☐ Domestic Well Data
- ☒ Monitoring Well Data
- ☐ Other Well Type:
- ☐ QA Sample Type:

Sample ID No.: FT- GW02 - 5

Sample Location: FPTA

Sampled By: TE / CF

C.O.C. No.:

Sampling Data

	pH	S.C.	Temp (°C)	Turbidity	Color	TBD	TBD	TBD
Date: 12.15.95 Time: 1739 ~~1639~~ Method: PE Bailer	5.37	.483	12.2	274	clear	DO 5.88	5.21 0.01	

Purge Data

	Volume	pH	S.C.	Temp (°C)	Turbidity	Color	TBD	TBD
Date:	Initial						DO	52'
Method:	1						↓	↓
Monitor Reading (ppm):	2							
Well Casing Dia. & Material Type: 4" PVC	3	5.37	.483	12.2	274	Clear	5.88	0.01
Total Well Depth (TD): 22.20	4							
Static Water Level (WL): 16.36	5							
TD-WL (ft.) = 8.84								
One Casing Volume: (gal/L) 14.4								
Start Purge (hrs.): 1550								
End Purge (hrs.): 1636								
Total Purge Time (min): 46								
Total Amount Purged (gal/L): 66								

Analyte	Preservative	Container Requirements	Collected (✓)
~~TCL VOA~~	~~HCL~~	~~3x 40mL~~	~~✓~~ TE
TCL SVOA	—	3x 1L Amber	✓
TCL Pest / PCB	—	2x 1L Amber	✓

Observations/Notes: Collected @ end of AS/SVE operation
16.36
16.34
.02' Free Product

Circle If Applicable:

MS/MSD

Duplicate ID No: ~~FT-GW-DUP03~~ TE

Signature(s):

TBD: To Be Determined

CF BRAUN ENGINEERING **GROUNDWATER**

SAMPLE LOG SHEET

Project Site Name: Calverton

Project No.: 5563

- ☐ Domestic Well Data
- ☒ Monitoring Well Data
- ☐ Other Well Type:
- ☐ QA Sample Type:

Sample ID No.: FT-GW02

Sample Location: Fire Training

Sampled By: TE

C.O.C. No.: 1078644

Sampling Data

Date: 1-23-95
Time: 1115
Method: PE Bailer

pH	S.C.	Temp. (°C)	Turbidity	Color	TBD	TBD	TBD
4.55	.658	12.9	-1	Tan	DO 7.52 mg/L	Sal .02%	lt. sheen

Purge Data

Date: 1-23-96
Method: PE Bail
Monitor Reading (ppm): —
Well Casing Dia. & Material Type: 4" PVC
Total Well Depth (TD): 22.20'
Static Water Level (WL): 15.79
TD-WL (ft.) = 6.41
One Casing Volume: (gal/L) 16
Start Purge (hrs.): 1044
End Purge (hrs.): 1111
Total Purge Time (min): 27
Total Amount Purged (gal/L): 48

Volume	pH	S.C.	Temp. (°C)	Turbidity	Color	TBD	TBD
Initial							
1							
2							
3							
4							
5							

Analysis	Preservative	Container Requirements	Collected (✓)
TCL VOC	HCl	3x40 mL	✓
TCL Pest/PCB, SVOC	—	5 L	✓

Observations/Notes:
temp ~38°F
overcast

6.41 ft
x .653 gal/ft
4.2 gal = 1 vol
x 3.785 L/gal
15.8 L = 1 vol

15.78' Product
− 15.79' H_2O
.01' Free Product

Circle If Applicable:

MS/MSD	Duplicate ID No:

Signature(s): [signature]

TBD: To Be Determined

APPENDIX I

SOIL BORING
BORING LOGS

BORING LOG — **CF BRAUN ENGINEERING CORPORATIO**

PROJECT: NWIRP Calverton — BORING NO.: SB101
PROJECT NO.: 5563 — DATE: 7-31-95 — DRILLER: Delta
ELEVATION: — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA :
(Date, Time & Conditions)

	SAMPLE NO. & TYPE	DEPTH (Ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, Ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS
		1.0					Tan	Fgr Sand Tr Roots & Gravel	SP	Auger 0-1' OV
0840	S-1 1-3		4 4 5 11	1.8/2.0		M Dense	gray Brn	Fgr SAND Tr Fine gravel	SP	Op
		3.0								
										Auger 3-19.5'
		5.0					Tan	Fgr SAND		
							Brn	Fgr SAND	SP	
							Tan	Fgr SAND v poorly graded	SP	
0858		10.0								
0904		15.0								
		20.0	5							
0912	S-2 19.5 -		5 8 11 2	1.4/2.0		M Dense	Tan gray	Fgr SAND	SP	(3"SS) Opp wet @ bottom
0920	S-3 21.5-23.5		2 2 2	1.0/2.0		V Loose				(2"SS) Opp saturated
					TD 23.5					
		25.0								

REMARKS F-7 Failing HSA Rig
4 1/4" ID, 7 1/2" OD Augers, 2" SS
8 1/2" ø Borehole

BORING SB10

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATION**

PROJECT: NWIRP Calverton — BORING NO.: SB1Ø2
PROJECT NO.: 5563 — DATE: 7-31-95 — DRILLER: Delta
ELEVATION: — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA: —
(Date, Time & Conditions) —

	SAMPLE NO. & TYPE	DEPTH (FL) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY/SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, FL)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS OVA
1014		1.0					yellow brn	Silty Fgr SAND / Fgr Sand	SM/SP	Auger 0'-1' —
1019	S-1 1-3		5 4	0.9/2.0		M Dense	O Brn	Silty Fgr SAND	SM	(2" SS & 3" SS taken) 0 ppm
		3.0	7 7							
										Auger 3'-16'
		5.0								
							Tan	Fgr SAND	SP	
		10.0								
										odor BZ - 0 ppm
		15.0								
		16.0								stained @ top
1053	S-2 16-18		3 6	2.0/2.0		Moist	Tan	Fgr SAND	SP	moist to saturated
		18.0	7 11							56 ppm
		20.0								
		25.0								

REMARKS F-7 Failing HSA Rig
4 1/4" ID 7 1/2" OD Augers 2" SS
8 1/2" Ø Borehole

BORING SB1Ø2

PAGE 1 OF 1

* See Legend on Back

BORING LOG — **CF BRAUN ENGINEERING CORPORATIO**

PROJECT: NW IRP Calverton — BORING NO.: SB103
PROJECT NO.: 5563 — DATE: 7-31-95 — DRILLER: Delta
ELEVATION: — FIELD GEOLOGIST: T Evans
WATER LEVEL DATA: —
(Date, Time & Conditions)

	SAMPLE NO. & TYPE	DEPTH (ft.) OR RUN NO.	BLOWS 6" OR RQD (%)	SAMPLE RECOVERY · SAMPLE LENGTH	LITHOLOGY CHANGE (Depth, ft.)	MATERIAL DESCRIPTION* SOIL DENSITY CONSISTENCY OR ROCK HARDNESS	COLOR	MATERIAL CLASSIFICATION	ROCK BR. OR USCS	REMARKS OVA
1310		1.0								Auger 1'-3'
1320	S-1 1-3		5 5 6 9	2.0/2.0		M Dense	gray brn brn	Fgr SAND	SP	Moist 0p
		3.0								
		5.0								
							Tan	Fgr SAND	SP	
		10.0								
		12.0								
1340	S-2 12-14		5 5			M Dense	Tan	Fgr SAND	SP	black stain oily moist to wet 180
		14.0	6 7					Mgr		
		15.0								
								Dup-01 taken @ 1340 hrs		
		20.0								
		25.0								

REMARKS: F-7 Failing HSA Rig
4 1/4" ID, 7 1/2" OD Augers 3" SS
8 1/2" Ø Borehole

BORING SB103
PAGE 1 OF 1

* See Legend on Back

CF Braun Engineering Corporation **BORING LOG** Page 1 of 1

PROJECT NAME: CTO 223
PROJECT NUMBER: 55603
DRILLING COMPANY: Delta
WATER LEVEL DATA:

BORING NUMBER: SB101-3
DATE: 12-20-95
GEOLOGIST: T Evans

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows/6" or RQD (%)	Sample Recovery/Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/Consistency or Rock Hardness	Color	Material Classification	USCS	Remarks: Time	PID or HNu Reading (ppm)
S-1 0-2	1.0	10/14	1.5/20		M Dense	Reddish Brn	Silty SAND	SP	1112	0.0
	2.0	9/11				Tan Brn	SAND Fgr Tr Fine Gravel	SP	FT-SB101-0002	
	5.0					Brn	Fgr SAND		1118	
						tn yellow brn				
						Tan	Fgr SAND		1122	
	10.0									
						Lt Tan				
									1126	
	15.0									
	20.0									
S-2 20-22		11/14	1.5/0.0	12/2 days ▽ 20.9'	Dense	White Tan	F-Mgr Sand		1138 FT-SB101-2022	0.0
	22.0	16/20							Saturated @ 20.9'	
							HSA 20'			
							2 x 3" SS			
							Natural Backfill			

* When rock coring enter rock brokeness

CONVERTED TO WELL ___ Yes ✓ No. WELL I.D.#:
REMARKS: Ford F-7 Failing HSA Rig
3" SS
2 1/4" ID Auger
Signature(s):

CF Braun Engineering Corporation **BORING LOG** Page 1 of

PROJECT NAME: CTO 223
PROJECT NUMBER: 5563
DRILLING COMPANY: Delta
WATER LEVEL DATA:

BORING NUMBER: SB102-3
DATE: 12-20-95
GEOLOGIST: T Evans

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows/6" or RQD (%)	Sample Recovery/Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/Consistency or Rock Hardness	Color	Material Classification	USCS	Remarks: Time	RQD*
S-1 0-2	1.0	12/8	0.7/2.0		M Dense	Brn	SAND Tr Coal + Fine gravel	SP	1223	0.
	2.0	8/7								
	5.0									
						Black	SAND Fgr		Cohesive	
						Brn	SAND Fgr	SP		
									1238	
	10.0									
						LtBrn				
									1243	
	15.0									
S-2 15-17		7/9	2.0/2.0	12 holes @ 16.0	M Dense	LtBrn	F-Mgr SANDS	SP	1254	2
	17.0	7/5				DGray			Fuel Odor	
				17.0					H_2O @ ~16.0'	
							HSA 15'			
							2" x 2" SS			

*When rock coring enter rock brokeness.

CONVERTED TO WELL: ___ Yes ✓ No: WELL I.D.#:
REMARKS: Ford F-7 Failing HSA Rig
3 1/4" ID
3" SS
Signature(s): Timothy S

CF Braun Engineering Corporation **BORING LOG** Page 1 of 1

PROJECT NAME: CTO 223
PROJECT NUMBER: 5563
DRILLING COMPANY: Delta
WATER LEVEL DATA:

BORING NUMBER: SB103 - 3
DATE: 12-20-95
GEOLOGIST: T Evans

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows/6" or RQD (%)	Sample Recovery/Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	Soil Density/Consistency or Rock Hardness	Color	Material Classification	USCS	Remarks Time	PID or HNU Reading (ppm)
S-1 0-2	1.0	11/9	2.0/2.0	- - -		Gray Brn	Fgr Sand	SP	1354	8.0
	2.0	7/10				orange brn	Fgr sand			
	5.0									
	10.0									
	14.0									
S-2 14-16	15.0	15/12	2.3/2.0	- - -		brn	Gravel (mgr)	GP	1420	137
	16.0	14/11		12/20/95 @ 15.75		brn/gray	Fgr. SAND	SP	Fuel Odor	
				TD 16					Saturated @ ~15.75	
							HSA 14'			
							2 x 2" SS			
							Natural Backfill			

* When rock coring enter rock brokeness.

CONVERTED TO WELL: ___ Yes ✓ No. WELL I.D.#:
REMARKS: Ford F-7 Failing HSA Rig.
3 1/4" ID Augers
3" SS
Signature(s): Timothy SC

APPENDIX J

ANALYTICAL RESULT

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Analysis Report

LABORATORY CHRONICLE

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2355948
Collected: 07/31/95 at 08:42 by TE

Submitted: 08/02/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB101-1.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
101-1 SDG#: CAL01-01

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
0564	Pseudomonas aeruginosa		1	08/02/95	AMP
0307	Heterotrophic Plate Count		1	08/02/95	ERC
4593	TCL Volatiles by 8240	SW-846 8240B	1	08/07/95	TLN
0819	Solid Sample Pesticide Extract	SW-846 3550A	1	08/04/95	DTQ
1225	TCL Pesticides in Solids	SW-846 8080	1	08/18/95	DDS
0381	BNA Soil Extraction	SW-846 3550A	1	08/03/95	JF
4688	TCL SW846 Semivolatiles Soil	SW-846 8270B	1	08/05/95	DJE
4689	TCL SW846 Semivolatiles/Soil	SW-846 8270B	1	08/05/95	DJE
0111	Moisture	EPA 160.3 (modified)	1	08/03/95	DSS
1562	Petroleum Hydrocarbons	EPA 418.1 (modified)	1	08/04/95	MMC

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Analysis Report

Lancaster Laboratories
Where quality is a science.

LABORATORY CHRONICLE

LLI Sample No. SW 2355949
Collected: 07/31/95 at 09:12 by TE

Submitted: 08/02/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB101-19.5 Grab Soil Sample

NWIRP Calverton, NY CTO-223
10119 SDG#: CAL01-02

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
0564	Pseudomonas aeruginosa		1	08/02/95	AMP
0307	Heterotrophic Plate Count		1	08/07/95	ERC
4593	TCL Volatiles by 8240	SW-846 8240B	1	08/07/95	LMT
0819	Solid Sample Pesticide Extract	SW-846 3550A	1	08/04/95	DTQ
1225	TCL Pesticides in Solids	SW-846 8080	1	08/19/95	DDS
0381	BNA Soil Extraction	SW-846 3550A	1	08/03/95	JF
4688	TCL SW846 Semivolatiles Soil	SW-846 8270B	1	08/05/95	DJE
4689	TCL SW846 Semivolatiles/Soil	SW-846 8270B	1	08/05/95	DJE
1465	Total Kjeldahl Nitrogen Digest	AOAC 15th Ed., 906.76	1	08/03/95	BLH
1511	Total Kjeldahl Nitrogen	EPA 351.2	1	08/03/95	CAA
5893	Total Phosphorus as P (solid)	EPA 365.1	1	08/08/95	CAA
0111	Moisture	EPA 160.3 (modified)	1	08/03/95	DSS
1562	Petroleum Hydrocarbons	EPA 418.1 (modified)	1	08/04/95	MMC

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Analysis Report

LABORATORY CHRONICLE

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LLI Sample No. SW 2355950
Collected: 07/31/95 at 10:19 by TE

Submitted: 08/02/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB102-1.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
102-1 SDG#: CAL01-03

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
0564	Pseudomonas aeruginosa		1	08/02/95	AMP
0307	Heterotrophic Plate Count		1	08/02/95	ERC
4593	TCL Volatiles by 8240	SW-846 8240B	1	08/08/95	CAD
0819	Solid Sample Pesticide Extract	SW-846 3550A	1	08/04/95	DTQ
1225	TCL Pesticides in Solids	SW-846 8080	1	08/19/95	DDS
0381	BNA Soil Extraction	SW-846 3550A	1	08/03/95	JF
4688	TCL SW846 Semivolatiles Soil	SW-846 8270B	1	08/07/95	RRC
4689	TCL SW846 Semivolatiles/Soil	SW-846 8270B	1	08/07/95	RRC
0111	Moisture	EPA 160.3 (modified)	1	08/03/95	DSS
1562	Petroleum Hydrocarbons	EPA 418.1 (modified)	1	08/04/95	MMC

MEMBER ACIL

Lancaster Laboratories
2425 New Holland Pike
P.O. Box 12425
Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

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Analysis Report

LABORATORY CHRONICLE

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LLI Sample No. SW 2355951
Collected: 07/31/95 at 10:53 by TE

Submitted: 08/02/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB102-16.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
10216 SDG#: CAL01-04

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
0564	Pseudomonas aeruginosa		1	08/02/95	AMP
0307	Heterotrophic Plate Count		1	08/02/95	ERC
4593	TCL Volatiles by 8240	SW-846 8240B	1	08/08/95	CAD
0819	Solid Sample Pesticide Extract	SW-846 3550A	1	08/04/95	DTQ
1225	TCL Pesticides in Solids	SW-846 8080	1	08/19/95	DDS
0381	BNA Soil Extraction	SW-846 3550A	1	08/03/95	JF
4688	TCL SW846 Semivolatiles Soil	SW-846 8270B	1	08/07/95	DJE
4689	TCL SW846 Semivolatiles/Soil	SW-846 8270B	1	08/07/95	DJE
1465	Total Kjeldahl Nitrogen Digest	AOAC 15th Ed., 906.76	1	08/03/95	BLH
1511	Total Kjeldahl Nitrogen	EPA 351.2	1	08/03/95	CAA
5893	Total Phosphorus as P (solid)	EPA 365.1	1	08/08/95	CAA
0111	Moisture	EPA 160.3 (modified)	1	08/03/95	DSS
1562	Petroleum Hydrocarbons	EPA 418.1 (modified)	1	08/04/95	MMC

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Analysis Report

LABORATORY CHRONICLE

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2355952
Collected: 07/31/95 at 13:20 by TE

Submitted: 08/02/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB103-1.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
103-1 SDG#: CAL01-05

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
0564	Pseudomonas aeruginosa		1	08/02/95	AMP
0307	Heterotrophic Plate Count		1	08/02/95	ERC
4593	TCL Volatiles by 8240	SW-846 8240B	1	08/08/95	CAD
0819	Solid Sample Pesticide Extract	SW-846 3550A	1	08/04/95	DTQ
1225	TCL Pesticides in Solids	SW-846 8080	1	08/19/95	DDS
0381	BNA Soil Extraction		1	08/03/95	JF
4688	TCL SW846 Semivolatiles Soil	SW-846 8270B	1	08/08/95	DJE
4689	TCL SW846 Semivolatiles/Soil	SW-846 8270B	1	08/08/95	DJE
0111	Moisture	EPA 160.3 (modified)	1	08/03/95	DSS
1562	Petroleum Hydrocarbons	EPA 418.1 (modified)	1	08/04/95	MMC

MEMBER ACIL
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See reverse side for explanation of symbols and abbreviations.

Analysis Report

LABORATORY CHRONICLE

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Where quality is a science.

LLI Sample No. SW 2355953
Collected: 07/31/95 at 13:40 by TE

Submitted: 08/02/95

FT-SB103-12.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
10312 SDG#: CAL01-06

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
0564	Pseudomonas aeruginosa		1	08/02/95	AMP
0307	Heterotrophic Plate Count		1	08/02/95	ERC
4593	TCL Volatiles by 8240	SW-846 8240B	1	08/08/95	CAD
0819	Solid Sample Pesticide Extract	SW-846 3550A	1	08/04/95	DTQ
1225	TCL Pesticides in Solids	SW-846 8080	1	08/19/95	DDS
0381	BNA Soil Extraction	SW-846 3550A	1	08/03/95	JF
4688	TCL SW846 Semivolatiles Soil	SW-846 8270B	1	08/10/95	DJE
4689	TCL SW846 Semivolatiles/Soil	SW-846 8270B	1	08/10/95	DJE
1465	Total Kjeldahl Nitrogen Digest	AOAC 15th Ed., 906.76	1	08/03/95	BLH
1511	Total Kjeldahl Nitrogen	EPA 351.2	1	08/03/95	CAA
5893	Total Phosphorus as P (solid)	EPA 365.1	1	08/08/95	CAA
0111	Moisture	EPA 160.3 (modified)	1	08/03/95	DSS
1562	Petroleum Hydrocarbons	EPA 418.1 (modified)	1	08/04/95	MMC

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See reverse side for explanation of symbols and abbreviations.

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Analysis Report

LABORATORY CHRONICLE

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2355954
Collected: 07/31/95 by TE

Submitted: 08/02/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB-DU-01 Grab Soil Sample

NWIRP Calverton, NY CTO-223
DU-01 SDG#: CAL01-07

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
0564	Pseudomonas aeruginosa		1	08/02/95	AMP
0307	Heterotrophic Plate Count		1	08/02/95	ERC
4593	TCL Volatiles by 8240	SW-846 8240B	1	08/08/95	TLN
0819	Solid Sample Pesticide Extract	SW-846 3550A	1	08/04/95	DTQ
1225	TCL Pesticides in Solids	SW-846 8080	1	08/19/95	DDS
0381	BNA Soil Extraction	SW-846 3550A	1	08/03/95	JF
4688	TCL SW846 Semivolatiles Soil	SW-846 8270B	1	08/10/95	DJE
4689	TCL SW846 Semivolatiles/Soil	SW-846 8270B	1	08/10/95	DJE
1465	Total Kjeldahl Nitrogen Digest	AOAC 15th Ed., 906.76	1	08/03/95	BLH
1511	Total Kjeldahl Nitrogen	EPA 351.2	1	08/03/95	CAA
5893	Total Phosphorus as P (solid)	EPA 365.1	1	08/08/95	CAA
0111	Moisture	EPA 160.3 (modified)	1	08/03/95	DSS
1562	Petroleum Hydrocarbons	EPA 418.1 (modified)	1	08/04/95	MMC

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#2
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Analysis Report

Lancaster Laboratories
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LABORATORY CHRONICLE

LLI Sample No. WW 2355955
Collected: 07/31/95 at 18:49 by TE

Submitted: 08/02/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB-FB-01 Field Blank Grab Water Sample

NWIRP Calverton, NY CTO-223
FB-01 SDG#: CAL01-08FB

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	08/03/95	PRC
0817	Water Sample Pest. Extraction	SW-846 3510B	1	08/04/95	HLE
0937	TCL Pesticides in Waters	SW-846 8080	1	08/20/95	GJF
0813	BNA Water Extraction	SW-846 3510B	1	08/03/95	LJC
4678	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	08/04/95	RRC
4679	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	08/04/95	RRC
1126	Petroleum Hydrocarbons	EPA 418.1	1	08/15/95	CLC

10

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Analysis Repo

Lancaster Laboratories
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LABORATORY CHRONICLE

LLI Sample No. WW 2355956
Collected: 07/31/95 at 19:22 by TE

Submitted: 08/02/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB-RB-01 Rinsate Blank Grab Water Sample

NWIRP Calverton, NY CTO-223
RB-01 SDG#: CAL01-09RB

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	08/03/95	PRC
0817	Water Sample Pest. Extraction	SW-846 3510B	1	08/04/95	HLE
0937	TCL Pesticides in Waters	SW-846 8080	1	08/20/95	GJF
0813	BNA Water Extraction	SW-846 3510B	1	08/03/95	LJC
4678	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	08/04/95	RRC
4679	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	08/04/95	RRC
1126	Petroleum Hydrocarbons	EPA 418.1	1	08/15/95	CLC

&&&

Analysis Report

LABORATORY CHRONICLE

Lancaster Laboratories
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LLI Sample No. WW 2355957
Collected: ~~07/31/95~~ 07/27/95 PB 9/5/95
Submitted: 08/02/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB-TB-01 Trip Blank Water Sample

NWIRP Calverton, NY CTO-223
TB-01 SDG#: CAL01-10TB*

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	08/03/95	CAZ

12

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16
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METHODOLOGY SUMMARY/REFERENCE

4592 TCL Volatiles by 8240B (water)

The water sample is purged with helium and the volatiles are collected on a Tenax/Silica gel/charcoal trap which is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Waste
SW-846, Method 8240B, Revision 2, Sept. 1994

****

4593 TCL Volatiles by 8240B (soil)

The method allows for 2 concentration levels. In the low level method, 5 grams of soil with 5 ml of DI water are purged with helium at 40 C and the volatiles are collected on a Tenax/Silica gel trap. In the medium level method, 4 grams of soil are extracted with 10 mls of methanol. The extract is then diluted in 5 ml DI water and purged at ambient temperature onto a Tenax/Silica gel trap. In both methods, the trap is subsequently desorbed onto the GC/MS for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Waste
SW-846, Method 8240B, Revision 2, Sept. 1994

****

0819 Solid Sample Pesticide Extraction

A sonic probe extraction with methylene chloride and acetone is used. Alternatively, the sample may be soxhlet extracted with hexane and acetone. The extracts are concentrated and Florisilled.

Reference: Test Methods for Evaluating Solid Wastes, SW-846,
Method 3550A, September 1994

****

1225 TCL Pesticides in Solids

The sample is solvent extracted and cleaned up on a Florisil column. The resulting extract is quantitatively analyzed by gas chromatography with an electron capture detector.

Reference: Test Methods for Evaluating Solid Waste
SW-846, Method 8080, September 1986

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0817 Water Sample Pesticide Extraction

Pesticides are extracted from the water with methylene chloride. The extract is then dried and concentrated. If necessary, florisil fractionation is used to minimize matrix interferences.

Reference: Test Methods for Evaluating Solid Wastes, SW-846, Method 3510B, September 1994

****

0937 TCL Pesticides (water)

The sample is solvent extracted and quantitatively analyzed by gas chromatography with an electron capture detector.

Reference: Test Methods for Evaluating Solid Wastes, SW-846, Method 8080, September 1986

****

4678/4679 TCL Semivolatiles by 8270B (water)

The sample is solvent extracted and then analyzed by GC/MS for the target compound list.

Reference: Test Methods for Evaluating Solid Waste SW-846, Method 8270B, Update II, January 13, 1995

****

4688/4689 TCL Semivolatiles by 8270B (soils)

The sample is solvent extracted and then analyzed by GC/MS for the target compound list.

Reference: Test Methods for Evaluating Solid Waste SW-846, Method 8270B, Update II, January 13, 1995

****

1465 Total Kjeldahl Nitrogen Digestion (solids)

The sample is digested with sulfuric acid/potassium sulfate and catalyst at 410C for one hour using a Labconco Digestor-25 block digestor. This digestion converts all nitrogenous compounds (except nitrate and nitrite) in the sample to ammonia, which is subsequently measured on an autoanalyzer.

Reference: Official Methods of Analysis of the Association of Official Analytical Chemists, 15th Edition, 1990, Method 906.76

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1511 Total Kjeldahl Nitrogen Solids - Autoanalyzer

The sample was previously digested with sulfuric acid, potassium sulfate, and mercuric sulfate. This solution is then analyzed for the converted ammonia nitrogen using the reaction of the ammonia and sodium salicylate, sodium nitroprusside, and sodium hypochlorite in a buffered alkaline medium to form an ammonia salicylate complex. The absorbance is read at 660 nm and is compared to a standard curve. An autoanalyzer is used.

Reference: Method for Chemical Analysis of Water and Wastes
USEPA 600/4-79-020, Method 351.2

****

5893 Total Phosphorus as P (water/solid)

All forms of phosphorus are converted to orthophosphate by an acid-persulfate digestion. The orthophosphate ion reacts with ammonium molybdate in acidic solution to form an antimony-phosphomolybdate complex. On reduction with ascorbic acid, this complex forms a blue color. The absorbance is read at 660 nm and is compared to a standard curve.

Reference: Methods for Chemical Analysis of Water and Wastes
USEPA 600/4-79-020, Method 365.1

****

0111 Moisture (solid)

A well mixed sample is placed in a tared container and dried to constant weight in an oven at 103-105C. The decrease in weight is the total moisture.

Reference: Methods for Chemical Analysis of Water and Wastes
USEPA 600/4-79-020, Method 160.3 (modified)

****

1562 Total Petroleum Hydrocarbons (solid)

A soil sample is dried with magnesium sulfate. Petroleum hydrocarbons are then extracted with trichlorotrifluoroethane using a sonicator. Silica gel is added. Petroleum hydrocarbons in the extract are quantitatively measured by an infrared spectrophotometer. The method is accepted by NJDEPE.

Reference: Methods for the Chemical Analysis of Water and Wastes
USEPA 600/4-79-020, Method 418.1, Modified

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1126 Total Petroleum Hydrocarbons (water)

The sample is extracted with trichlorotrifluoroethane in a separatory funnel. Silica gel is added. Petroleum hydrocarbons in the extract are quantitatively measured by an infrared spectrophotometer.

Reference: Methods for Chemical Analysis of Water and Wastes USEPA 600/4-79-020, Method 418.1

****

0307 Heterotrophic Plate Count (soil)

Duplicate sample aliquots (or appropriate dilutions) are quantitatively added to sterile petri plates. A suitable agar medium is added and the plates are incubated for an appropriate time and temp.; colonies on the plate are counted and a quantitative result is calculated.

Reference: Standard Methods for the Examination of Water and Wastewater, 18th edition, 1992, p 9-35.

****

0564 Pseudomonas aeruginosa (soil)

The methodology for P. aeruginosa detection consists of enrichment, selective plating, isolation, and identification of isolates by API rapid ID kit.

Reference: USP, 21st Edition.

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LLI Sample No. SW 2355948
Collected: 7/31/95 at 08:42 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

FT-SB101-1.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
101-1 SDG#: CAL01-01

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
0564	Pseudomonas aeruginosa	Absent		/11 grams		
	Atypical colony growth occurred on this sample which may indicate the presence of other Pseudomonas species.					
	See notebook reference 12848 & 13395.					
0307	Heterotrophic Plate Count	200,000.	1.	cfu/g		
	Sample was greater than 24 hours old when analyzed.					
1421	CLP Form I - VOA's			See Page 3		
4593	TCL Volatiles by 8240	see form I				
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 4		
4688	TCL SW846 Semivolatiles Soil	see form I				
4689	TCL SW846 Semivolatiles/Soil	see form I				
0111	Moisture	3.3	0.5	% by wt.		
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.					
1562	Petroleum Hydrocarbons	600.	100.	mg/kg	600.	100.

Bis(2-ethylhexyl)phthalate was detected in the method blank at a concentration of 76.0 ug/kg. The blank value was not subtracted from the analytical result.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
03:05:06 D 0002 10 REP 122294 477213
288 0.00 00098819 DIS000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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Lancaster, PA 17605-2425
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LLI Sample No. SW 2355948
Collected: 7/31/95 at 08:42 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

FT-SB101-1.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
101-1 SDG#: CAL01-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.01	mg/kg	N.D.	0.01
1222	Dieldrin	N.D.	0.01	mg/kg	N.D.	0.01
1985	DDE	N.D.	0.01	mg/kg	N.D.	0.01
1223	Endrin	N.D.	0.01	mg/kg	N.D.	0.01
1990	Endosulfan II	N.D.	0.04	mg/kg	N.D.	0.04
1986	DDD	N.D.	0.01	mg/kg	N.D.	0.01
1991	Endosulfan Sulfate	N.D.	0.03	mg/kg	N.D.	0.03
1221	DDT	N.D.	0.01	mg/kg	N.D.	0.01
3017	Endrin Ketone	N.D.	0.1	mg/kg	N.D.	0.1
1859	Methoxychlor	N.D.	0.05	mg/kg	N.D.	0.05
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	2.	mg/kg	N.D.	2.
1992	Endrin Aldehyde	N.D.	0.1	mg/kg	N.D.	0.1
1993	PCB-1016	N.D.	0.2	mg/kg	N.D.	0.2
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.2
1995	PCB-1232	N.D.	0.2	mg/kg	N.D.	0.2
1996	PCB-1242	N.D.	0.2	mg/kg	N.D.	0.2
1997	PCB-1248	N.D.	0.2	mg/kg	N.D.	0.2
1998	PCB-1254	N.D.	0.2	mg/kg	N.D.	0.2
1999	PCB-1260	0.9	0.2	mg/kg	1.0	0.2

Due to the interference of Aroclor, the value reported for Endosulfan II represents the lowest quantitation limit obtainable.

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101-1

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355948
Sample wt/vol: 5.0 (g/mL) G Lab File ID: >EG710
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 3 Date Analyzed: 08/07/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG 0

CAS NO.	COMPOUND		
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	23	B
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	11	
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101-1

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355948
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2105
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 3 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/05/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
100-51-6	Benzyl alcohol	690	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
65-85-0	Benzoic acid	1700	U
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	340	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	340	U
131-11-3	Dimethylphthalate	340	U
606-20-2	2,6-Dinitrotoluene	340	U
208-96-8	Acenaphthylene	340	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

101-1

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355948
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2105
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 3 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/05/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG 0

CAS NO.	COMPOUND		
99-09-2	3-Nitroaniline	340	U
83-32-9	Acenaphthene	140	J
51-28-5	2,4-Dinitrophenol	860	U
100-02-7	4-Nitrophenol	860	U
132-64-9	Dibenzofuran	42	J
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	110	J
100-01-6	4-Nitroaniline	340	U
534-52-1	4,6-Dinitro-2-methylphenol	860	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	860	U
85-01-8	Phenanthrene	1400	
120-12-7	Anthracene	270	J
86-74-8	Carbazole	190	J
84-74-2	Di-n-butylphthalate	340	U
206-44-0	Fluoranthene	2100	
129-00-0	Pyrene	2300	
85-68-7	Butylbenzylphthalate	88	J
91-94-1	3,3'-Dichlorobenzidine	690	U
56-55-3	Benzo(a)anthracene	1300	
117-81-7	bis(2-Ethylhexyl)phthalate	130	J B
218-01-9	Chrysene	1500	
117-84-0	Di-n-octylphthalate	340	U
205-99-2	Benzo(b)fluoranthene	2100	
207-08-9	Benzo(k)fluoranthene	790	
50-32-8	Benzo(a)pyrene	1600	
193-39-5	Indeno(1,2,3-cd)pyrene	920	
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	1100	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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P.O. Box 12425
Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2355949
Collected: 7/31/95 at 09:12 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

FT-SB101-19.5 Grab Soil Sample

NWIRP Calverton, NY CTO-223
10119 SDG#: CAL01-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
0564	Pseudomonas aeruginosa	Absent		/11 grams		
	Atypical colony growth occurred on this sample which may indicate the presence of other Pseudomonas species.					
0307	Heterotrophic Plate Count	10,000.	1.	cfu/g		
	Sample was greater than 24 hours old when analyzed.					
	The sample was repeated 8-7-95 at 1145 by Earl R. Custer. The reported value is based on the repeated work. The original value would have been estimated 11,000/gram.					
1421	CLP Form I - VOA's			See Page 3		
4593	TCL Volatiles by 8240	see form I				
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 5		
4688	TCL SW846 Semivolatiles Soil	see form I				
4689	TCL SW846 Semivolatiles/Soil	see form I				
1511	Total Kjeldahl Nitrogen	N.D.	50.	mg/kg	N.D.	50.
5893	Total Phosphorus as P (solid)	17.	2.	mg/kg	18.	3.
	The total phosphorus result reported is the average of the following replicates: 17 mg/kg, 16 mg/kg, 18 mg/kg. Three separate trials were prepared and analyzed because a non-homogeneity of the sample is often found at the low aliquot weights necessary for this analysis. The average weight of the sample analyzed was .5029 g.					
0111	Moisture	4.9	0.5	% by wt.		
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.					
1562	Petroleum Hydrocarbons	N.D.	20.	mg/kg	N.D.	20.
	Bis(2-ethylhexyl)phthalate was detected in the method blank at a concentration of 76.0 ug/kg. The blank value was not subtracted from the analytical result.					

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
03:06:31 D 0002 10 REP 122294 477213
288 0.00 00103619 DIS000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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2425 New Holland Pike
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MEMBER ACIL

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2355949
Collected: 7/31/95 at 09:12 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

FT-SB101-19.5 Grab Soil Sample

NWIRP Calverton, NY CTO-223
10119 SDG#: CAL01-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.01	mg/kg	N.D.	0.01
1222	Dieldrin	N.D.	0.01	mg/kg	N.D.	0.01
1985	DDE	N.D.	0.01	mg/kg	N.D.	0.01
1223	Endrin	N.D.	0.01	mg/kg	N.D.	0.01
1990	Endosulfan II	N.D.	0.01	mg/kg	N.D.	0.01
1986	DDD	N.D.	0.01	mg/kg	N.D.	0.01
1991	Endosulfan Sulfate	N.D.	0.03	mg/kg	N.D.	0.03
1221	DDT	N.D.	0.01	mg/kg	N.D.	0.01
3017	Endrin Ketone	N.D.	0.1	mg/kg	N.D.	0.1
1859	Methoxychlor	N.D.	0.05	mg/kg	N.D.	0.05
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	2.	mg/kg	N.D.	2.
1992	Endrin Aldehyde	N.D.	0.1	mg/kg	N.D.	0.1
1993	PCB-1016	N.D.	0.2	mg/kg	N.D.	0.2
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.2
1995	PCB-1232	N.D.	0.2	mg/kg	N.D.	0.2
1996	PCB-1242	N.D.	0.2	mg/kg	N.D.	0.2
1997	PCB-1248	N.D.	0.2	mg/kg	N.D.	0.2
1998	PCB-1254	N.D.	0.2	mg/kg	N.D.	0.2
1999	PCB-1260	N.D.	0.2	mg/kg	N.D.	0.2

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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See reverse side for explanation of symbols and abbreviations.

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10119

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
atrix: (soil/water) SOIL
ample wt/vol: 5.0 (g/mL) G
evel: (low/med) LOW
Moisture: not dec. 5
olumn: (pack/cap) CAP

Lab Sample ID: 2355949
Lab File ID: >EG712
Date Received: 08/02/95
Date Analyzed: 08/07/95
Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	19	J B
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	3	J
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10119

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355949
Sample wt/vol: 5.0 (g/mL) G Lab File ID: >EG712
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 5 Date Analyzed: 08/07/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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Lancaster, PA 17605-2425
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10119

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355949
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2106
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 5 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/05/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
100-51-6	Benzyl alcohol	700	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-di-n-propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
65-85-0	Benzoic acid	1800	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	350	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	350	U
131-11-3	Dimethylphthalate	350	U
606-20-2	2,6-Dinitrotoluene	350	U
208-96-8	Acenaphthylene	350	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

26

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See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10119

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355949
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2106
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 5 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/05/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	UG/KG	Q
99-09-2--------	3-Nitroaniline	350	U
83-32-9--------	Acenaphthene	350	U
51-28-5--------	2,4-Dinitrophenol	880	U
100-02-7-------	4-Nitrophenol	880	U
132-64-9-------	Dibenzofuran	350	U
121-14-2-------	2,4-Dinitrotoluene	350	U
84-66-2--------	Diethylphthalate	350	U
7005-72-3------	4-Chlorophenyl-phenylether	350	U
86-73-7--------	Fluorene	350	U
100-01-6-------	4-Nitroaniline	350	U
534-52-1-------	4,6-Dinitro-2-methylphenol	880	U
86-30-6--------	N-Nitrosodiphenylamine (1)	350	U
101-55-3-------	4-Bromophenyl-phenylether	350	U
118-74-1-------	Hexachlorobenzene	350	U
87-86-5--------	Pentachlorophenol	880	U
85-01-8--------	Phenanthrene	350	U
120-12-7-------	Anthracene	350	U
86-74-8--------	Carbazole	350	U
84-74-2--------	Di-n-butylphthalate	350	U
206-44-0-------	Fluoranthene	350	U
129-00-0-------	Pyrene	350	U
85-68-7--------	Butylbenzylphthalate	350	U
91-94-1--------	3,3'-Dichlorobenzidine	700	U
56-55-3--------	Benzo(a)anthracene	350	U
117-81-7-------	bis(2-Ethylhexyl)phthalate	190	J B
218-01-9-------	Chrysene	350	U
117-84-0-------	Di-n-octylphthalate	350	U
205-99-2-------	Benzo(b)fluoranthene	350	U
207-08-9-------	Benzo(k)fluoranthene	350	U
50-32-8--------	Benzo(a)pyrene	350	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	350	U
53-70-3--------	Dibenz(a,h)anthracene	350	U
191-24-2-------	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Analysis Report

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2355950
Collected: 7/31/95 at 10:19 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

FT-SB102-1.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
102-1 SDG#: CAL01-03

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
0564	Pseudomonas aeruginosa	Absent		/11 grams		
	Atypical colony growth occurred on this sample which may indicate the presence of other Pseudomonas species.					
0307	Heterotrophic Plate Count	5,400,000.	1.	cfu/g		
	Sample was greater than 24 hours old when analyzed.					
1421	CLP Form I - VOA's			See Page 3		
4593	TCL Volatiles by 8240	see form 1				
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 4		
4688	TCL SW846 Semivolatiles Soil	see form 1				
4689	TCL SW846 Semivolatiles/Soil	see form 1				
0111	Moisture	3.7	0.5	% by wt.		
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.					
1562	Petroleum Hydrocarbons	360.	50.	mg/kg	370.	50.

Bis(2-ethylhexyl)phthalate was detected in the method blank at a concentration of 76.0 ug/kg. The blank value was not subtracted from the analytical result.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
03:08:13 D 0002 10 REP 122294 477213
288 0.00 00098819 DIS000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

28

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2355950
Collected: 7/31/95 at 10:19 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

FT-SB102-1.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
102-1 SDG#: CAL01-03

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.01	mg/kg	N.D.	0.01
1222	Dieldrin	N.D.	0.01	mg/kg	N.D.	0.01
1985	DDE	N.D.	0.01	mg/kg	N.D.	0.01
1223	Endrin	N.D.	0.01	mg/kg	N.D.	0.01
1990	Endosulfan II	N.D.	0.01	mg/kg	N.D.	0.01
1986	DDD	N.D.	0.01	mg/kg	N.D.	0.01
1991	Endosulfan Sulfate	N.D.	0.03	mg/kg	N.D.	0.03
1221	DDT	N.D.	0.01	mg/kg	N.D.	0.01
3017	Endrin Ketone	N.D.	0.1	mg/kg	N.D.	0.1
1859	Methoxychlor	N.D.	0.05	mg/kg	N.D.	0.05
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	2.	mg/kg	N.D.	2.
1992	Endrin Aldehyde	N.D.	0.1	mg/kg	N.D.	0.1
1993	PCB-1016	N.D.	0.2	mg/kg	N.D.	0.2
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.2
1995	PCB-1232	N.D.	0.2	mg/kg	N.D.	0.2
1996	PCB-1242	N.D.	0.2	mg/kg	N.D.	0.2
1997	PCB-1248	N.D.	0.2	mg/kg	N.D.	0.2
1998	PCB-1254	N.D.	0.2	mg/kg	N.D.	0.2
1999	PCB-1260	0.16 J	0.2	mg/kg	0.17 J	0.2

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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See reverse side for explanation of symbols and abbreviations.

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

102-1

.ab Name: LANCASTER LABS Contract: _____.
.ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
latrix: (soil/water) SOIL Lab Sample ID: 2355950
Sample wt/vol: 5.0 (g/mL) G Lab File ID: >EG722
.evel: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 4 Date Analyzed: 08/08/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG 0

CAS NO.	COMPOUND			
74-87-3	Chloromethane	5	U	
75-01-4	Vinyl Chloride	5	U	
74-83-9	Bromomethane	5	U	
75-00-3	Chloroethane	5	U	
75-35-4	1,1-Dichloroethene	5	U	
67-64-1	Acetone	23		B
75-15-0	Carbon Disulfide	5	U	
75-09-2	Methylene Chloride	2	J	
156-60-5	trans-1,2-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
156-59-2	cis-1,2-Dichloroethene	5	U	
67-66-3	Chloroform	5	U	
107-06-2	1,2-Dichloroethane	5	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon Tetrachloride	5	U	
71-43-2	Benzene	5	U	
79-01-6	Trichloroethene	5	U	
78-87-5	1,2-Dichloropropane	5	U	
75-27-4	Bromodichloromethane	5	U	
10061-01-5	cis-1,3-Dichloropropene	5	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
124-48-1	Dibromochloromethane	5	U	
75-25-2	Bromoform	5	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
108-88-3	Toluene	5	U	
127-18-4	Tetrachloroethene	2	J	
591-78-6	2-Hexanone	10	U	
108-90-7	Chlorobenzene	5	U	
100-41-4	Ethylbenzene	5	U	
1330-20-7	Xylene (total)	6		
100-42-5	Styrene	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

30

See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

102-1

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355950
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2151
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 4 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/07/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
100-51-6	Benzyl alcohol	690	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-di-n-propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
65-85-0	Benzoic acid	1700	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	36	J
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	350	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	350	U
131-11-3	Dimethylphthalate	350	U
606-20-2	2,6-Dinitrotoluene	350	U
208-96-8	Acenaphthylene	350	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

102-1

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355950
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2151
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 4 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/07/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	350	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	870	U
100-02-7	4-Nitrophenol	870	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	350	U
534-52-1	4,6-Dinitro-2-methylphenol	870	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	870	U
85-01-8	Phenanthrene	190	J
120-12-7	Anthracene	47	J
86-74-8	Carbazole	350	U
84-74-2	Di-n-butylphthalate	350	U
206-44-0	Fluoranthene	420	
129-00-0	Pyrene	410	
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	690	U
56-55-3	Benzo(a)anthracene	270	J
117-81-7	bis(2-Ethylhexyl)phthalate	370	B
218-01-9	Chrysene	320	J
117-84-0	Di-n-octylphthalate	350	U
205-99-2	Benzo(b)fluoranthene	430	
207-08-9	Benzo(k)fluoranthene	160	J
50-32-8	Benzo(a)pyrene	310	J
193-39-5	Indeno(1,2,3-cd)pyrene	190	J
53-70-3	Dibenz(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	220	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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MEMBER ACIL

See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. SW 2355951
Collected: 7/31/95 at 10:53 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

FT-SB102-16.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
10216 SDG#: CAL01-04

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
0564	Pseudomonas aeruginosa	Absent		/11 grams		
0307	Heterotrophic Plate Count	830,000.	1.	cfu/g		
	Sample was greater than 24 hours old when analyzed.					
1421	CLP Form I - VOA's			See Page 3		
4593	TCL Volatiles by 8240	see form I				
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 4		
4688	TCL SW846 Semivolatiles Soil	see form I				
4689	TCL SW846 Semivolatiles/Soil	see form I				
1511	Total Kjeldahl Nitrogen	N.D.	40.	mg/kg	N.D.	50.
5893	Total Phosphorus as P (solid)	41.	2.	mg/kg	52.	3.
	The total phosphorus result reported is the average of the following replicates:					
	38 mg/kg					
	40 mg/kg					
	45 mg/kg.					
	Three separate trials were prepared and analyzed because a non-homogeneity of the sample is often found at the low aliquot weights necessary for this analysis. The average weight of the sample analyzed was .5039 g.					
0111	Moisture	20.7	0.5	% by wt.		
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.					
1562	Petroleum Hydrocarbons	1,000.	100.	mg/kg	1,200.	100.

Bis(2-ethylhexyl)phthalate was detected in the method blank at a concentration of 76.0 ug/kg. The blank value was not subtracted from the analytical result.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
03:10:00 D 0002 10 REP 122294 477213
288 0.00 00103619 DIS000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. SW 2355951
Collected: 7/31/95 at 10:53 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

FT-SB102-16.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
10216 SDG#: CAL01-04

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.01	mg/kg	N.D.	0.01
1222	Dieldrin	N.D.	0.01	mg/kg	N.D.	0.01
1985	DDE	N.D.	0.01	mg/kg	N.D.	0.01
1223	Endrin	N.D.	0.01	mg/kg	N.D.	0.01
1990	Endosulfan II	N.D.	0.01	mg/kg	N.D.	0.01
1986	DDD	N.D.	0.01	mg/kg	N.D.	0.01
1991	Endosulfan Sulfate	N.D.	0.03	mg/kg	N.D.	0.04
1221	DDT	N.D.	0.01	mg/kg	N.D.	0.01
3017	Endrin Ketone	N.D.	0.1	mg/kg	N.D.	0.1
1859	Methoxychlor	N.D.	0.05	mg/kg	N.D.	0.06
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	2.	mg/kg	N.D.	3.
1992	Endrin Aldehyde	N.D.	0.1	mg/kg	N.D.	0.1
1993	PCB-1016	N.D.	0.2	mg/kg	N.D.	0.3
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.3
1995	PCB-1232	N.D.	0.2	mg/kg	N.D.	0.3
1996	PCB-1242	N.D.	0.2	mg/kg	N.D.	0.3
1997	PCB-1248	N.D.	0.2	mg/kg	N.D.	0.3
1998	PCB-1254	N.D.	0.2	mg/kg	N.D.	0.3
1999	PCB-1260	0.06 J	0.2	mg/kg	0.08 J	0.3

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10216

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355951
Sample wt/vol: 5.0 (g/mL) G Lab File ID: >EG723
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 21 Date Analyzed: 08/08/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	6	U
75-01-4	Vinyl Chloride	6	U
74-83-9	Bromomethane	6	U
75-00-3	Chloroethane	6	U
75-35-4	1,1-Dichloroethene	6	U
67-64-1	Acetone	43	B
75-15-0	Carbon Disulfide	6	U
75-09-2	Methylene Chloride	3	J
156-60-5	trans-1,2-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	3	J
156-59-2	cis-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
108-05-4	Vinyl Acetate	13	U
78-93-3	2-Butanone	34	
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
71-43-2	Benzene	6	U
79-01-6	Trichloroethene	6	U
78-87-5	1,2-Dichloropropane	6	U
75-27-4	Bromodichloromethane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
79-00-5	1,1,2-Trichloroethane	6	U
124-48-1	Dibromochloromethane	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	3	J
108-88-3	Toluene	15	
127-18-4	Tetrachloroethene	6	U
591-78-6	2-Hexanone	13	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	4	J
1330-20-7	Xylene (total)	33	
100-42-5	Styrene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10216

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355951
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2152
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 21 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/07/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	420	U
111-44-4	bis(2-Chloroethyl)ether	420	U
95-57-8	2-Chlorophenol	420	U
541-73-1	1,3-Dichlorobenzene	420	U
106-46-7	1,4-Dichlorobenzene	420	U
100-51-6	Benzyl alcohol	840	U
95-50-1	1,2-Dichlorobenzene	420	U
95-48-7	2-Methylphenol	420	U
108-60-1	2,2'-oxybis(1-Chloropropane)	420	U
106-44-5	4-Methylphenol	130	J
621-64-7	N-Nitroso-di-n-propylamine	420	U
67-72-1	Hexachloroethane	420	U
98-95-3	Nitrobenzene	420	U
78-59-1	Isophorone	420	U
88-75-5	2-Nitrophenol	420	U
105-67-9	2,4-Dimethylphenol	420	U
65-85-0	Benzoic acid	2100	U
111-91-1	bis(2-Chloroethoxy)methane	420	U
120-83-2	2,4-Dichlorophenol	420	U
120-82-1	1,2,4-Trichlorobenzene	420	U
91-20-3	Naphthalene	420	U
106-47-8	4-Chloroaniline	420	U
87-68-3	Hexachlorobutadiene	420	U
59-50-7	4-Chloro-3-methylphenol	420	U
91-57-6	2-Methylnaphthalene	93	J
77-47-4	Hexachlorocyclopentadiene	420	U
88-06-2	2,4,6-Trichlorophenol	420	U
95-95-4	2,4,5-Trichlorophenol	420	U
91-58-7	2-Chloronaphthalene	420	U
88-74-4	2-Nitroaniline	420	U
131-11-3	Dimethylphthalate	420	U
606-20-2	2,6-Dinitrotoluene	420	U
208-96-8	Acenaphthylene	420	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
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Manager, Environmental Science

31

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10216

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355951
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2152
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 21 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/07/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	420	U
83-32-9	Acenaphthene	420	U
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
132-64-9	Dibenzofuran	420	U
121-14-2	2,4-Dinitrotoluene	420	U
84-66-2	Diethylphthalate	420	U
7005-72-3	4-Chlorophenyl-phenylether	420	U
86-73-7	Fluorene	420	U
100-01-6	4-Nitroaniline	420	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	420	U
101-55-3	4-Bromophenyl-phenylether	420	U
118-74-1	Hexachlorobenzene	420	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	150	J
120-12-7	Anthracene	420	U
86-74-8	Carbazole	420	U
84-74-2	Di-n-butylphthalate	420	U
206-44-0	Fluoranthene	120	J
129-00-0	Pyrene	110	J
85-68-7	Butylbenzylphthalate	420	U
91-94-1	3,3'-Dichlorobenzidine	840	U
56-55-3	Benzo(a)anthracene	420	U
117-81-7	bis(2-Ethylhexyl)phthalate	370	J B
218-01-9	Chrysene	46	J
117-84-0	Di-n-octylphthalate	420	U
205-99-2	Benzo(b)fluoranthene	420	U
207-08-9	Benzo(k)fluoranthene	420	U
50-32-8	Benzo(a)pyrene	420	U
193-39-5	Indeno(1,2,3-cd)pyrene	420	U
53-70-3	Dibenz(a,h)anthracene	420	U
191-24-2	Benzo(g,h,i)perylene	420	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

Analysis Report

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2355952
Collected: 7/31/95 at 13:20 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

FT-SB103-1.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
103-1 SDG#: CAL01-05

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
0564	Pseudomonas aeruginosa	Absent		/11 grams		
	Atypical colony growth occurred on this sample which may indicate the presence of other Pseudomonas species.					
0307	Heterotrophic Plate Count	24,000.	1,000.	cfu/g		
	Sample was greater than 24 hours old when analyzed.					
	The sample was repeated 8-7-95 at 1145 by Earl R. Custer. The reported value is based on the repeated work. The original value would have been estimated 12,000/gram.					
1421	CLP Form I - VOA's			See Page 3		
4593	TCL Volatiles by 8240	see form I				
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 4		
4688	TCL SW846 Semivolatiles Soil	see form I				
4689	TCL SW846 Semivolatiles/Soil	see form I				
0111	Moisture	5.0	0.5	% by wt.		
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.					
1562	Petroleum Hydrocarbons	600.	100.	mg/kg	600.	100.
	Bis(2-ethylhexyl)phthalate was detected in the method blank at a concentration of 76.0 ug/kg. The blank value was not subtracted from the analytical result.					

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
03:11:50 D 0002 10 REP 122294 477213
288 0.00 00098819 DIS000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
P.O. Box 12425
Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2355952
Collected: 7/31/95 at 13:20 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

FT-SB103-1.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
103-1 SDG#: CAL01-05

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.01	mg/kg	N.D.	0.01
1222	Dieldrin	N.D.	0.01	mg/kg	N.D.	0.01
1985	DDE	N.D.	0.01	mg/kg	N.D.	0.01
1223	Endrin	N.D.	0.01	mg/kg	N.D.	0.01
1990	Endosulfan II	N.D.	0.01	mg/kg	N.D.	0.01
1986	DDD	N.D.	0.01	mg/kg	N.D.	0.01
1991	Endosulfan Sulfate	N.D.	0.03	mg/kg	N.D.	0.03
1221	DDT	N.D.	0.01	mg/kg	N.D.	0.01
3017	Endrin Ketone	N.D.	0.1	mg/kg	N.D.	0.1
1859	Methoxychlor	N.D.	0.05	mg/kg	N.D.	0.05
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	2.	mg/kg	N.D.	2.
1992	Endrin Aldehyde	N.D.	0.1	mg/kg	N.D.	0.1
1993	PCB-1016	N.D.	0.2	mg/kg	N.D.	0.2
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.2
1995	PCB-1232	N.D.	0.2	mg/kg	N.D.	0.2
1996	PCB-1242	N.D.	0.2	mg/kg	N.D.	0.2
1997	PCB-1248	N.D.	0.2	mg/kg	N.D.	0.2
1998	PCB-1254	N.D.	0.2	mg/kg	N.D.	0.2
1999	PCB-1260	N.D.	0.2	mg/kg	N.D.	0.2

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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MEMBER ACIL

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

103-1

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
atrix: (soil/water) SOIL Lab Sample ID: 2355952
ample wt/vol: 5.0 (g/mL) G Lab File ID: >EG721
evel: (low/med) LOW Date Received: 08/02/95
Moisture: not dec. 5 Date Analyzed: 08/08/95
olumn: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
74-87-3	Chloromethane	5	U	
75-01-4	Vinyl Chloride	5	U	
74-83-9	Bromomethane	5	U	
75-00-3	Chloroethane	5	U	
75-35-4	1,1-Dichloroethene	5	U	
67-64-1	Acetone	28		B
75-15-0	Carbon Disulfide	5	U	
75-09-2	Methylene Chloride	5	U	
156-60-5	trans-1,2-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
156-59-2	cis-1,2-Dichloroethene	5	U	
67-66-3	Chloroform	5	U	
107-06-2	1,2-Dichloroethane	5	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon Tetrachloride	5	U	
71-43-2	Benzene	5	U	
79-01-6	Trichloroethene	5	U	
78-87-5	1,2-Dichloropropane	5	U	
75-27-4	Bromodichloromethane	5	U	
10061-01-5	cis-1,3-Dichloropropene	5	U	
10061-02-6	trans-1,3-Dichloropropene	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
124-48-1	Dibromochloromethane	5	U	
75-25-2	Bromoform	5	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
108-88-3	Toluene	5	U	
127-18-4	Tetrachloroethene	5	U	
591-78-6	2-Hexanone	10	U	
108-90-7	Chlorobenzene	5	U	
100-41-4	Ethylbenzene	5	U	
1330-20-7	Xylene (total)	5	U	
100-42-5	Styrene	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

#2 8
9/1 10

Lancaster Laboratories
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

103-1

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355952
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2153
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 5 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/08/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		Q
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
100-51-6	Benzyl alcohol	700	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-di-n-propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
65-85-0	Benzoic acid	1800	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	350	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	350	U
131-11-3	Dimethylphthalate	350	U
606-20-2	2,6-Dinitrotoluene	350	U
208-96-8	Acenaphthylene	350	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

103-1

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355952
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2153
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 5 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/08/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	350	U
83-32-9	Acenaphthene	350	U
51-28-5	2,4-Dinitrophenol	880	U
100-02-7	4-Nitrophenol	880	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	350	U
534-52-1	4,6-Dinitro-2-methylphenol	880	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	880	U
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-butylphthalate	350	U
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	350	U
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	700	U
56-55-3	Benzo(a)anthracene	350	U
117-81-7	bis(2-Ethylhexyl)phthalate	340	J B
218-01-9	Chrysene	350	U
117-84-0	Di-n-octylphthalate	350	U
205-99-2	Benzo(b)fluoranthene	350	U
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	350	U
193-39-5	Indeno(1,2,3-cd)pyrene	350	U
53-70-3	Dibenz(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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Lancaster Laboratories
2425 New Holland Pike
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Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2355953
Collected: 7/31/95 at 13:40 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

FT-SB103-12.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
10312 SDG#: CAL01-06

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
0564	Pseudomonas aeruginosa	Absent		/11 grams		
	Atypical colony growth occurred on this sample which may indicate the presence of other Pseudomonas species.					
0307	Heterotrophic Plate Count	2,000.	1,000.	cfu/g		
	Sample was greater than 24 hours old when analyzed.					
	The sample was repeated 8-7-95 at 1145 by Earl R. Custer. The reported value is based on the repeated work. The original value would have been estimated 1,000/gram.					
1421	CLP Form I - VOA's			See Page 4		
4593	TCL Volatiles by 8240	see form I				
	The quantitation limits for the GC/MS volatile compounds were raised because sample dilution was necessary to bring target compounds into the calibration range of the system.					
1225	TCL Pesticides in Solids			See Page 3		
1422	CLP Form I - Semi-volatiles			See Page 6		
4688	TCL SW846 Semivolatiles Soil	see form I				
4689	TCL SW846 Semivolatiles/Soil	see form I				
1511	Total Kjeldahl Nitrogen	N.D.	50.	mg/kg	N.D.	60.
5893	Total Phosphorus as P (solid)	33.	2.	mg/kg	37.	3.
	The total phosphorus result reported is the average of the following replicates: 35 mg/kg, 36 mg/kg, 28 mg/kg. Three separate trials were prepared and analyzed because a non-homogeneity of the sample is often found at the low aliquot weights necessary for this analysis. The average weight of the sample analyzed was .5044 g.					
0111	Moisture	10.5	0.5	% by wt.		
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.					
1562	Petroleum Hydrocarbons	22,000.	3,000.	mg/kg	24,000.	3,000.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
03:13:46 D 0002 10 REP 122294 477213
288 0.00 00103619 DIS000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2355953
Collected: 7/31/95 at 13:40 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

FT-SB103-12.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
10312 SDG#: CAL01-06

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION

The usual quantitation limits could not be attained due to the matrix of the sample or interferences observed in the GC/MS semivolatile analysis.

The GC/MS semivolatile internal standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

Bis(2-ethylhexyl)phthalate was detected in the method blank at a concentration of 76.0 ug/kg. The blank value was not subtracted from the analytical result.

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2355953
Collected: 7/31/95 at 13:40 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

FT-SB103-12.0 Grab Soil Sample

NWIRP Calverton, NY CTO-223
10312 SDG#: CAL01-06

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS		DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids								
1981	Alpha BHC	N.D.		0.01	mg/kg	N.D.		0.01
1982	Beta BHC	N.D.		0.01	mg/kg	N.D.		0.01
1983	Delta BHC	N.D.		0.01	mg/kg	N.D.		0.01
1218	Gamma BHC - Lindane	N.D.		0.01	mg/kg	N.D.		0.01
1219	Heptachlor	N.D.		0.01	mg/kg	N.D.		0.01
1220	Aldrin	N.D.		0.01	mg/kg	N.D.		0.01
1984	Heptachlor Epoxide	N.D.		0.01	mg/kg	N.D.		0.01
1989	Endosulfan I	N.D.		0.01	mg/kg	N.D.		0.01
1222	Dieldrin	N.D.		0.01	mg/kg	N.D.		0.01
1985	DDE	N.D.		0.01	mg/kg	N.D.		0.01
1223	Endrin	N.D.		0.01	mg/kg	N.D.		0.01
1990	Endosulfan II	N.D.		0.01	mg/kg	N.D.		0.01
1986	DDD	N.D.		0.01	mg/kg	N.D.		0.01
1991	Endosulfan Sulfate	N.D.		0.03	mg/kg	N.D.		0.03
1221	DDT	N.D.		0.01	mg/kg	N.D.		0.01
3017	Endrin Ketone	N.D.		0.1	mg/kg	N.D.		0.1
1859	Methoxychlor	N.D.		0.05	mg/kg	N.D.		0.06
3025	Alpha Chlordane	N.D.		0.01	mg/kg	N.D.		0.01
3026	Gamma Chlordane	N.D.		0.01	mg/kg	N.D.		0.01
1988	Toxaphene	N.D.		2.	mg/kg	N.D.		2.
1992	Endrin Aldehyde	N.D.		0.1	mg/kg	N.D.		0.1
1993	PCB-1016	N.D.		0.2	mg/kg	N.D.		0.2
1994	PCB-1221	N.D.		0.2	mg/kg	N.D.		0.2
1995	PCB-1232	N.D.		0.2	mg/kg	N.D.		0.2
1996	PCB-1242	N.D.		0.2	mg/kg	N.D.		0.2
1997	PCB-1248	N.D.		0.2	mg/kg	N.D.		0.2
1998	PCB-1254	0.20	J	0.2	mg/kg	0.22	J	0.2
1999	PCB-1260	N.D.		0.2	mg/kg	N.D.		0.2

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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See reverse side for explanation of symbols and abbreviations.

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10312

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
latrix: (soil/water) SOIL Lab Sample ID: 2355953
ample wt/vol: 1.0 (g/mL) G Lab File ID: >EG801
evel: (low/med) LOW Date Received: 08/02/95
Moisture: not dec. 10 Date Analyzed: 08/08/95
olumn: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q	
74-87-3	Chloromethane	28	U
75-01-4	Vinyl Chloride	28	U
74-83-9	Bromomethane	28	U
75-00-3	Chloroethane	28	U
75-35-4	1,1-Dichloroethene	1200	
67-64-1	Acetone	170	B
75-15-0	Carbon Disulfide	28	U
75-09-2	Methylene Chloride	16	J B
156-60-5	trans-1,2-Dichloroethene	28	U
75-34-3	1,1-Dichloroethane	150	
156-59-2	cis-1,2-Dichloroethene	28	U
67-66-3	Chloroform	28	U
107-06-2	1,2-Dichloroethane	28	U
108-05-4	Vinyl Acetate	56	U
78-93-3	2-Butanone	200	
71-55-6	1,1,1-Trichloroethane	4400	E
56-23-5	Carbon Tetrachloride	28	U
71-43-2	Benzene	28	U
79-01-6	Trichloroethene	120	
78-87-5	1,2-Dichloropropane	28	U
75-27-4	Bromodichloromethane	28	U
10061-01-5	cis-1,3-Dichloropropene	28	U
10061-02-6	trans-1,3-Dichloropropene	28	U
79-00-5	1,1,2-Trichloroethane	28	U
124-48-1	Dibromochloromethane	28	U
75-25-2	Bromoform	28	U
108-10-1	4-Methyl-2-Pentanone	56	U
108-88-3	Toluene	4900	E
127-18-4	Tetrachloroethene	170	
591-78-6	2-Hexanone	56	U
108-90-7	Chlorobenzene	28	U
100-41-4	Ethylbenzene	1900	E
1330-20-7	Xylene (total)	8800	E
100-42-5	Styrene	28	U
79-34-5	1,1,2,2-Tetrachloroethane	28	U

FORM I VOA 1/87 Rev.

4a

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10312DL

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355953
Sample wt/vol: 4.0 (g/mL) G Lab File ID: >JG916
Level: (low/med) MED Date Received: 08/02/95
% Moisture: not dec. 10 Date Analyzed: 08/10/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	690	U
75-01-4	Vinyl Chloride	690	U
74-83-9	Bromomethane	690	U
75-00-3	Chloroethane	690	U
75-35-4	1,1-Dichloroethene	500	J D
67-64-1	Acetone	2800	U
75-15-0	Carbon Disulfide	690	U
75-09-2	Methylene Chloride	690	U
156-60-5	trans-1,2-Dichloroethene	690	U
75-34-3	1,1-Dichloroethane	690	U
156-59-2	cis-1,2-Dichloroethene	690	U
67-66-3	Chloroform	690	U
107-06-2	1,2-Dichloroethane	690	U
108-05-4	Vinyl Acetate	1400	U
78-93-3	2-Butanone	1400	U
71-55-6	1,1,1-Trichloroethane	5300	D
56-23-5	Carbon Tetrachloride	690	U
71-43-2	Benzene	690	U
79-01-6	Trichloroethene	690	U
78-87-5	1,2-Dichloropropane	690	U
75-27-4	Bromodichloromethane	690	U
10061-01-5	cis-1,3-Dichloropropene	690	U
10061-02-6	trans-1,3-Dichloropropene	690	U
79-00-5	1,1,2-Trichloroethane	690	U
124-48-1	Dibromochloromethane	690	U
75-25-2	Bromoform	690	U
108-10-1	4-Methyl-2-Pentanone	1400	U
108-88-3	Toluene	6600	D
127-18-4	Tetrachloroethene	310	J D
591-78-6	2-Hexanone	1400	U
108-90-7	Chlorobenzene	690	U
100-41-4	Ethylbenzene	2300	D
1330-20-7	Xylene (total)	19000	D
100-42-5	Styrene	690	U
79-34-5	1,1,2,2-Tetrachloroethane	690	U

FORM I VOA 1/87 Rev.

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10312

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355953
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2251
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/10/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	3700	U
111-44-4	bis(2-Chloroethyl)ether	3700	U
95-57-8	2-Chlorophenol	3700	U
541-73-1	1,3-Dichlorobenzene	3700	U
106-46-7	1,4-Dichlorobenzene	3700	U
100-51-6	Benzyl alcohol	7400	U
95-50-1	1,2-Dichlorobenzene	3700	U
95-48-7	2-Methylphenol	3700	U
108-60-1	2,2'-oxybis(1-Chloropropane)	3700	U
106-44-5	4-Methylphenol	3700	U
621-64-7	N-Nitroso-di-n-propylamine	3700	U
67-72-1	Hexachloroethane	3700	U
98-95-3	Nitrobenzene	3700	U
78-59-1	Isophorone	3700	U
88-75-5	2-Nitrophenol	3700	U
105-67-9	2,4-Dimethylphenol	3700	U
65-85-0	Benzoic acid	18000	U
111-91-1	bis(2-Chloroethoxy)methane	3700	U
120-83-2	2,4-Dichlorophenol	3700	U
120-82-1	1,2,4-Trichlorobenzene	3700	U
91-20-3	Naphthalene	42000	
106-47-8	4-Chloroaniline	3700	U
87-68-3	Hexachlorobutadiene	3700	U
59-50-7	4-Chloro-3-methylphenol	3700	U
91-57-6	2-Methylnaphthalene	150000	E
77-47-4	Hexachlorocyclopentadiene	3700	U
88-06-2	2,4,6-Trichlorophenol	3700	U
95-95-4	2,4,5-Trichlorophenol	3700	U
91-58-7	2-Chloronaphthalene	3700	U
88-74-4	2-Nitroaniline	3700	U
131-11-3	Dimethylphthalate	3700	U
606-20-2	2,6-Dinitrotoluene	3700	U
208-96-8	Acenaphthylene	3700	U

FORM I SV-1 1/87 Rev.

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See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10312DL

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355953DL
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2550
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/15/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 20.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	7400	U
111-44-4	bis(2-Chloroethyl)ether	7400	U
95-57-8	2-Chlorophenol	7400	U
541-73-1	1,3-Dichlorobenzene	7400	U
106-46-7	1,4-Dichlorobenzene	7400	U
100-51-6	Benzyl alcohol	15000	U
95-50-1	1,2-Dichlorobenzene	7400	U
95-48-7	2-Methylphenol	7400	U
108-60-1	2,2'-oxybis(1-Chloropropane)	7400	U
106-44-5	4-Methylphenol	7400	U
621-64-7	N-Nitroso-di-n-propylamine	7400	U
67-72-1	Hexachloroethane	7400	U
98-95-3	Nitrobenzene	7400	U
78-59-1	Isophorone	7400	U
88-75-5	2-Nitrophenol	7400	U
105-67-9	2,4-Dimethylphenol	7400	U
65-85-0	Benzoic acid	37000	U
111-91-1	bis(2-Chloroethoxy)methane	7400	U
120-83-2	2,4-Dichlorophenol	7400	U
120-82-1	1,2,4-Trichlorobenzene	7400	U
91-20-3	Naphthalene	21000	D
106-47-8	4-Chloroaniline	7400	U
87-68-3	Hexachlorobutadiene	7400	U
59-50-7	4-Chloro-3-methylphenol	7400	U
91-57-6	2-Methylnaphthalene	72000	D
77-47-4	Hexachlorocyclopentadiene	7400	U
88-06-2	2,4,6-Trichlorophenol	7400	U
95-95-4	2,4,5-Trichlorophenol	7400	U
91-58-7	2-Chloronaphthalene	7400	U
88-74-4	2-Nitroaniline	7400	U
131-11-3	Dimethylphthalate	7400	U
606-20-2	2,6-Dinitrotoluene	7400	U
208-96-8	Acenaphthylene	7400	U

FORM I SV-1 1/87 Rev.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10312RE

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355953RE
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2302
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/11/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	3700	U
111-44-4	bis(2-Chloroethyl)ether	3700	U
95-57-8	2-Chlorophenol	3700	U
541-73-1	1,3-Dichlorobenzene	3700	U
106-46-7	1,4-Dichlorobenzene	3700	U
100-51-6	Benzyl alcohol	7400	U
95-50-1	1,2-Dichlorobenzene	3700	U
95-48-7	2-Methylphenol	3700	U
108-60-1	2,2'-oxybis(1-Chloropropane)	3700	U
106-44-5	4-Methylphenol	3700	U
621-64-7	N-Nitroso-di-n-propylamine	3700	U
67-72-1	Hexachloroethane	3700	U
98-95-3	Nitrobenzene	3700	U
78-59-1	Isophorone	3700	U
88-75-5	2-Nitrophenol	3700	U
105-67-9	2,4-Dimethylphenol	3700	U
65-85-0	Benzoic acid	18000	U
111-91-1	bis(2-Chloroethoxy)methane	3700	U
120-83-2	2,4-Dichlorophenol	3700	U
120-82-1	1,2,4-Trichlorobenzene	3700	U
91-20-3	Naphthalene	55000	
106-47-8	4-Chloroaniline	3700	U
87-68-3	Hexachlorobutadiene	3700	U
59-50-7	4-Chloro-3-methylphenol	3700	U
91-57-6	2-Methylnaphthalene	190000	E
77-47-4	Hexachlorocyclopentadiene	3700	U
88-06-2	2,4,6-Trichlorophenol	3700	U
95-95-4	2,4,5-Trichlorophenol	3700	U
91-58-7	2-Chloronaphthalene	3700	U
88-74-4	2-Nitroaniline	3700	U
131-11-3	Dimethylphthalate	3700	U
606-20-2	2,6-Dinitrotoluene	3700	U
208-96-8	Acenaphthylene	3700	U

FORM I SV-1 1/87 Rev.

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See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10312

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355953
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2251
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/10/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3700	U
83-32-9	Acenaphthene	3700	U
51-28-5	2,4-Dinitrophenol	9200	U
100-02-7	4-Nitrophenol	9200	U
132-64-9	Dibenzofuran	3700	U
121-14-2	2,4-Dinitrotoluene	3700	U
84-66-2	Diethylphthalate	3700	U
7005-72-3	4-Chlorophenyl-phenylether	3700	U
86-73-7	Fluorene	1500	J
100-01-6	4-Nitroaniline	3700	U
534-52-1	4,6-Dinitro-2-methylphenol	9200	U
86-30-6	N-Nitrosodiphenylamine (1)	3700	U
101-55-3	4-Bromophenyl-phenylether	3700	U
118-74-1	Hexachlorobenzene	3700	U
87-86-5	Pentachlorophenol	9200	U
85-01-8	Phenanthrene	1400	J
120-12-7	Anthracene	3700	U
86-74-8	Carbazole	3700	U
84-74-2	Di-n-butylphthalate	1300	J
206-44-0	Fluoranthene	1200	J
129-00-0	Pyrene	3700	U
85-68-7	Butylbenzylphthalate	1500	J
91-94-1	3,3'-Dichlorobenzidine	7400	U
56-55-3	Benzo(a)anthracene	3700	U
117-81-7	bis(2-Ethylhexyl)phthalate	2700	J B
218-01-9	Chrysene	3700	U
117-84-0	Di-n-octylphthalate	3700	U
205-99-2	Benzo(b)fluoranthene	3700	U
207-08-9	Benzo(k)fluoranthene	3700	U
50-32-8	Benzo(a)pyrene	3700	U
193-39-5	Indeno(1,2,3-cd)pyrene	3700	U
53-70-3	Dibenz(a,h)anthracene	3700	U
191-24-2	Benzo(g,h,i)perylene	3700	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10312DL

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355953DL
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2550
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/15/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 20.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2--------	3-Nitroaniline	7400	U
83-32-9--------	Acenaphthene	7400	U
51-28-5--------	2,4-Dinitrophenol	18000	U
100-02-7-------	4-Nitrophenol	18000	U
132-64-9-------	Dibenzofuran	7400	U
121-14-2-------	2,4-Dinitrotoluene	7400	U
84-66-2--------	Diethylphthalate	7400	U
7005-72-3------	4-Chlorophenyl-phenylether	7400	U
86-73-7--------	Fluorene	2700	J D
100-01-6-------	4-Nitroaniline	7400	U
534-52-1-------	4,6-Dinitro-2-methylphenol	18000	U
86-30-6--------	N-Nitrosodiphenylamine (1)	7400	U
101-55-3-------	4-Bromophenyl-phenylether	7400	U
118-74-1-------	Hexachlorobenzene	7400	U
87-86-5--------	Pentachlorophenol	18000	U
85-01-8--------	Phenanthrene	2400	J D
120-12-7-------	Anthracene	7400	U
86-74-8--------	Carbazole	7400	U
84-74-2--------	Di-n-butylphthalate	7400	U
206-44-0-------	Fluoranthene	7400	U
129-00-0-------	Pyrene	7400	U
85-68-7--------	Butylbenzylphthalate	7400	U
91-94-1--------	3,3'-Dichlorobenzidine	15000	U
56-55-3--------	Benzo(a)anthracene	7400	U
117-81-7-------	bis(2-Ethylhexyl)phthalate	3600	J DB
218-01-9-------	Chrysene	7400	U
117-84-0-------	Di-n-octylphthalate	7400	U
205-99-2-------	Benzo(b)fluoranthene	7400	U
207-08-9-------	Benzo(k)fluoranthene	7400	U
50-32-8--------	Benzo(a)pyrene	7400	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	7400	U
53-70-3--------	Dibenz(a,h)anthracene	7400	U
191-24-2-------	Benzo(g,h,i)perylene	7400	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10312RE

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355953RE
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2302
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/11/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3700	U
83-32-9	Acenaphthene	3700	U
51-28-5	2,4-Dinitrophenol	9200	U
100-02-7	4-Nitrophenol	9200	U
132-64-9	Dibenzofuran	3700	U
121-14-2	2,4-Dinitrotoluene	3700	U
84-66-2	Diethylphthalate	3700	U
7005-72-3	4-Chlorophenyl-phenylether	3700	U
86-73-7	Fluorene	1800	J
100-01-6	4-Nitroaniline	3700	U
534-52-1	4,6-Dinitro-2-methylphenol	9200	U
86-30-6	N-Nitrosodiphenylamine (1)	3700	U
101-55-3	4-Bromophenyl-phenylether	3700	U
118-74-1	Hexachlorobenzene	3700	U
87-86-5	Pentachlorophenol	9200	U
85-01-8	Phenanthrene	1500	J
120-12-7	Anthracene	3700	U
86-74-8	Carbazole	3700	U
84-74-2	Di-n-butylphthalate	1400	J
206-44-0	Fluoranthene	1200	J
129-00-0	Pyrene	3700	U
85-68-7	Butylbenzylphthalate	1800	J
91-94-1	3,3'-Dichlorobenzidine	7400	U
56-55-3	Benzo(a)anthracene	3700	U
117-81-7	bis(2-Ethylhexyl)phthalate	3000	J B
218-01-9	Chrysene	3700	U
117-84-0	Di-n-octylphthalate	3700	U
205-99-2	Benzo(b)fluoranthene	3700	U
207-08-9	Benzo(k)fluoranthene	3700	U
50-32-8	Benzo(a)pyrene	3700	U
193-39-5	Indeno(1,2,3-cd)pyrene	3700	U
53-70-3	Dibenz(a,h)anthracene	3700	U
191-24-2	Benzo(g,h,i)perylene	3700	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
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LLI Sample No. SW 2355954
Collected: 7/31/95 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

FT-SB-DU-01 Grab Soil Sample

NWIRP Calverton, NY CTO-223
DU-01 SDG#: CAL01-07

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	LIMIT OF QUANTITATION
0564	Pseudomonas aeruginosa	Absent		/11 grams		
	Atypical colony growth occurred on this sample which may indicate the presence of other Pseudomonas species.					
0307	Heterotrophic Plate Count	330.	1.	cfu/g		
	Sample was greater than 24 hours old when analyzed.					
	The sample was repeated 8-7-95 at 1145 by Earl R. Custer. The reported value is based on the repeated work. The original value would have been estimated 11,000/gram.					
1421	CLP Form I - VOA's			See Page 4		
4593	TCL Volatiles by 8240	see form I				
	The quantitation limits for the GC/MS volatile compounds were raised because sample dilution was necessary to bring target compounds into the calibration range of the system.					
	Poor surrogate recoveries were observed for the GC/MS volatile fraction. The analysis was repeated and poor surrogate recoveries were again observed indicating a significant matrix effect.					
	The concentration reported for 1,1-dichloroethene is estimated since it exceeded the calibration range of the instrument when determined by the low level method, but was less than the quantitation limit when determined by the medium level method.					
1225	TCL Pesticides in Solids			See Page 3		
1422	CLP Form I - Semi-volatiles			See Page 7		
4688	TCL SW846 Semivolatiles Soil	see form I				
4689	TCL SW846 Semivolatiles/Soil	see form I				
1511	Total Kjeldahl Nitrogen	N.D.	50.	mg/kg	N.D.	50.
5893	Total Phosphorus as P (solid)	28.	2.	mg/kg	31.	3.
	The total phosphorus result reported is the average of the following replicates:					
	28 mg/kg					
	30 mg/kg					
	26 mg/kg.					
	Three separate trials were prepared and analyzed because a non-homogeneity of the sample is often found at the low aliquot weights necessary for this analysis. The average weight of the sample analyzed was .5033 g.					
0111	Moisture	9.7	0.5	% by wt.		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
03:15:53 D 0002 10 REP 122294 477213
288 0.00 00103619 DIS000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. SW 2355954
Collected: 7/31/95 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

FT-SB-DU-01 Grab Soil Sample

NWIRP Calverton, NY CTO-223
DU-01 SDG#: CAL01-07

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.					
1562	Petroleum Hydrocarbons	30,000.	3,000.	mg/kg	33,000.	3,000.

The usual quantitation limits could not be attained due to the matrix of the sample or interferences observed in the GC/MS semivolatile analysis.

The GC/MS semivolatile internal standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

Bis(2-ethylhexyl)phthalate was detected in the method blank at a concentration of 76.0 ug/kg. The blank value was not subtracted from the analytical result.

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

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Group Leader, Water Quality

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LLI Sample No. SW 2355954
Collected: 7/31/95 by TE
through at :
Submitted: 8/ 2/95 Reported: 9/ 7/95
Discard: 9/ 7/95

FT-SB-DU-01 Grab Soil Sample

NWIRP Calverton, NY CTO-223
DU-01 SDG#: CAL01-07

Account No: 07558
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P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.01	mg/kg	N.D.	0.01
1222	Dieldrin	N.D.	0.01	mg/kg	N.D.	0.01
1985	DDE	N.D.	0.01	mg/kg	N.D.	0.01
1223	Endrin	N.D.	0.01	mg/kg	N.D.	0.01
1990	Endosulfan II	N.D.	0.01	mg/kg	N.D.	0.01
1986	DDD	N.D.	0.01	mg/kg	N.D.	0.01
1991	Endosulfan Sulfate	N.D.	0.03	mg/kg	N.D.	0.03
1221	DDT	N.D.	0.01	mg/kg	N.D.	0.01
3017	Endrin Ketone	N.D.	0.1	mg/kg	N.D.	0.1
1859	Methoxychlor	N.D.	0.05	mg/kg	N.D.	0.06
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	2.	mg/kg	N.D.	2.
1992	Endrin Aldehyde	N.D.	0.1	mg/kg	N.D.	0.1
1993	PCB-1016	N.D.	0.2	mg/kg	N.D.	0.2
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.2
1995	PCB-1232	N.D.	0.2	mg/kg	N.D.	0.2
1996	PCB-1242	N.D.	0.2	mg/kg	N.D.	0.2
1997	PCB-1248	N.D.	0.2	mg/kg	N.D.	0.2
1998	PCB-1254	0.3	0.2	mg/kg	0.3	0.2
1999	PCB-1260	N.D.	0.2	mg/kg	N.D.	0.2

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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16
9/ 90

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-01

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355954
Sample wt/vol: 1.0 (g/mL) G Lab File ID: >EG802
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 10 Date Analyzed: 08/08/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	28	U
75-01-4	Vinyl Chloride	28	U
74-83-9	Bromomethane	28	U
75-00-3	Chloroethane	28	U
75-35-4	1,1-Dichloroethene	2000	E
67-64-1	Acetone	230	B
75-15-0	Carbon Disulfide	28	U
75-09-2	Methylene Chloride	17	J B
156-60-5	trans-1,2-Dichloroethene	28	U
75-34-3	1,1-Dichloroethane	200	
156-59-2	cis-1,2-Dichloroethene	28	U
67-66-3	Chloroform	28	U
107-06-2	1,2-Dichloroethane	28	U
108-05-4	Vinyl Acetate	56	U
78-93-3	2-Butanone	230	
71-55-6	1,1,1-Trichloroethane	6100	E
56-23-5	Carbon Tetrachloride	28	U
71-43-2	Benzene	28	U
79-01-6	Trichloroethene	170	
78-87-5	1,2-Dichloropropane	28	U
75-27-4	Bromodichloromethane	28	U
10061-01-5	cis-1,3-Dichloropropene	28	U
10061-02-6	trans-1,3-Dichloropropene	28	U
79-00-5	1,1,2-Trichloroethane	28	U
124-48-1	Dibromochloromethane	28	U
75-25-2	Bromoform	28	U
108-10-1	4-Methyl-2-Pentanone	56	U
108-88-3	Toluene	5700	E
127-18-4	Tetrachloroethene	300	
591-78-6	2-Hexanone	56	U
108-90-7	Chlorobenzene	28	U
100-41-4	Ethylbenzene	3000	E
1330-20-7	Xylene (total)	10000	E
100-42-5	Styrene	28	U
79-34-5	1,1,2,2-Tetrachloroethane	28	U

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-01DL

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
atrix: (soil/water) SOIL Lab Sample ID: 2355954
ample wt/vol: 4.0 (g/mL) G Lab File ID: >JG917
evel: (low/med) MED Date Received: 08/02/95
Moisture: not dec. 10 Date Analyzed: 08/10/95
olumn: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	690	U
75-01-4	Vinyl Chloride	690	U
74-83-9	Bromomethane	690	U
75-00-3	Chloroethane	690	U
75-35-4	1,1-Dichloroethene	560	J D
67-64-1	Acetone	2800	U
75-15-0	Carbon Disulfide	690	U
75-09-2	Methylene Chloride	690	U
156-60-5	trans-1,2-Dichloroethene	690	U
75-34-3	1,1-Dichloroethane	690	U
156-59-2	cis-1,2-Dichloroethene	690	U
67-66-3	Chloroform	690	U
107-06-2	1,2-Dichloroethane	690	U
108-05-4	Vinyl Acetate	1400	U
78-93-3	2-Butanone	1400	U
71-55-6	1,1,1-Trichloroethane	5500	D
56-23-5	Carbon Tetrachloride	690	U
71-43-2	Benzene	690	U
79-01-6	Trichloroethene	690	U
78-87-5	1,2-Dichloropropane	690	U
75-27-4	Bromodichloromethane	690	U
10061-01-5	cis-1,3-Dichloropropene	690	U
10061-02-6	trans-1,3-Dichloropropene	690	U
79-00-5	1,1,2-Trichloroethane	690	U
124-48-1	Dibromochloromethane	690	U
75-25-2	Bromoform	690	U
108-10-1	4-Methyl-2-Pentanone	1400	U
108-88-3	Toluene	7700	D
127-18-4	Tetrachloroethene	250	J D
591-78-6	2-Hexanone	1400	U
108-90-7	Chlorobenzene	690	U
100-41-4	Ethylbenzene	2900	D
1330-20-7	Xylene (total)	24000	D
100-42-5	Styrene	690	U
79-34-5	1,1,2,2-Tetrachloroethane	690	U

FORM I VOA 1/87 Rev.

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-01RE

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355954
Sample wt/vol: 1.0 (g/mL) G Lab File ID: >EG803
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 10 Date Analyzed: 08/08/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	28	U
75-01-4	Vinyl Chloride	28	U
74-83-9	Bromomethane	28	U
75-00-3	Chloroethane	28	U
75-35-4	1,1-Dichloroethene	2100	E
67-64-1	Acetone	240	B
75-15-0	Carbon Disulfide	28	U
75-09-2	Methylene Chloride	20	J B
156-60-5	trans-1,2-Dichloroethene	28	U
75-34-3	1,1-Dichloroethane	200	
156-59-2	cis-1,2-Dichloroethene	28	U
67-66-3	Chloroform	28	U
107-06-2	1,2-Dichloroethane	28	U
108-05-4	Vinyl Acetate	56	U
78-93-3	2-Butanone	56	U
71-55-6	1,1,1-Trichloroethane	6300	E
56-23-5	Carbon Tetrachloride	28	U
71-43-2	Benzene	6	J
79-01-6	Trichloroethene	190	
78-87-5	1,2-Dichloropropane	28	U
75-27-4	Bromodichloromethane	28	U
10061-01-5	cis-1,3-Dichloropropene	28	U
10061-02-6	trans-1,3-Dichloropropene	28	U
79-00-5	1,1,2-Trichloroethane	28	U
124-48-1	Dibromochloromethane	28	U
75-25-2	Bromoform	28	U
108-10-1	4-Methyl-2-Pentanone	56	U
108-88-3	Toluene	5900	E
127-18-4	Tetrachloroethene	340	
591-78-6	2-Hexanone	56	U
108-90-7	Chlorobenzene	28	U
100-41-4	Ethylbenzene	3100	E
1330-20-7	Xylene (total)	9600	E
100-42-5	Styrene	28	U
79-34-5	1,1,2,2-Tetrachloroethane	28	U

FORM I VOA 1/87 Rev.

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-01

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355954
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2252
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/10/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	3700	U
111-44-4	bis(2-Chloroethyl)ether	3700	U
95-57-8	2-Chlorophenol	3700	U
541-73-1	1,3-Dichlorobenzene	3700	U
106-46-7	1,4-Dichlorobenzene	3700	U
100-51-6	Benzyl alcohol	7400	U
95-50-1	1,2-Dichlorobenzene	3700	U
95-48-7	2-Methylphenol	3700	U
108-60-1	2,2'-oxybis(1-Chloropropane)	3700	U
106-44-5	4-Methylphenol	3700	U
621-64-7	N-Nitroso-di-n-propylamine	3700	U
67-72-1	Hexachloroethane	3700	U
98-95-3	Nitrobenzene	3700	U
78-59-1	Isophorone	3700	U
88-75-5	2-Nitrophenol	3700	U
105-67-9	2,4-Dimethylphenol	3700	U
65-85-0	Benzoic acid	18000	U
111-91-1	bis(2-Chloroethoxy)methane	3700	U
120-83-2	2,4-Dichlorophenol	3700	U
120-82-1	1,2,4-Trichlorobenzene	3700	U
91-20-3	Naphthalene	84000	E
106-47-8	4-Chloroaniline	3700	U
87-68-3	Hexachlorobutadiene	3700	U
59-50-7	4-Chloro-3-methylphenol	3700	U
91-57-6	2-Methylnaphthalene	360000	E
77-47-4	Hexachlorocyclopentadiene	3700	U
88-06-2	2,4,6-Trichlorophenol	3700	U
95-95-4	2,4,5-Trichlorophenol	3700	U
91-58-7	2-Chloronaphthalene	3700	U
88-74-4	2-Nitroaniline	3700	U
131-11-3	Dimethylphthalate	3700	U
606-20-2	2,6-Dinitrotoluene	3700	U
208-96-8	Acenaphthylene	3700	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
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Manager, Environmental Science

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-01DL

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355954DL
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2352
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/11/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 20.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	7400	U
111-44-4	bis(2-Chloroethyl)ether	7400	U
95-57-8	2-Chlorophenol	7400	U
541-73-1	1,3-Dichlorobenzene	7400	U
106-46-7	1,4-Dichlorobenzene	7400	U
100-51-6	Benzyl alcohol	15000	U
95-50-1	1,2-Dichlorobenzene	7400	U
95-48-7	2-Methylphenol	7400	U
108-60-1	2,2'-oxybis(1-Chloropropane)	7400	U
106-44-5	4-Methylphenol	7400	U
621-64-7	N-Nitroso-di-n-propylamine	7400	U
67-72-1	Hexachloroethane	7400	U
98-95-3	Nitrobenzene	7400	U
78-59-1	Isophorone	7400	U
88-75-5	2-Nitrophenol	7400	U
105-67-9	2,4-Dimethylphenol	7400	U
65-85-0	Benzoic acid	37000	U
111-91-1	bis(2-Chloroethoxy)methane	7400	U
120-83-2	2,4-Dichlorophenol	7400	U
120-82-1	1,2,4-Trichlorobenzene	7400	U
91-20-3	Naphthalene	26000	D
106-47-8	4-Chloroaniline	7400	U
87-68-3	Hexachlorobutadiene	7400	U
59-50-7	4-Chloro-3-methylphenol	7400	U
91-57-6	2-Methylnaphthalene	92000	D
77-47-4	Hexachlorocyclopentadiene	7400	U
88-06-2	2,4,6-Trichlorophenol	7400	U
95-95-4	2,4,5-Trichlorophenol	7400	U
91-58-7	2-Chloronaphthalene	7400	U
88-74-4	2-Nitroaniline	7400	U
131-11-3	Dimethylphthalate	7400	U
606-20-2	2,6-Dinitrotoluene	7400	U
208-96-8	Acenaphthylene	7400	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-01RE

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355954RE
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2351
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/11/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	3700	U
111-44-4	bis(2-Chloroethyl)ether	3700	U
95-57-8	2-Chlorophenol	3700	U
541-73-1	1,3-Dichlorobenzene	3700	U
106-46-7	1,4-Dichlorobenzene	3700	U
100-51-6	Benzyl alcohol	7400	U
95-50-1	1,2-Dichlorobenzene	3700	U
95-48-7	2-Methylphenol	3700	U
108-60-1	2,2'-oxybis(1-Chloropropane)	3700	U
106-44-5	4-Methylphenol	3700	U
621-64-7	N-Nitroso-di-n-propylamine	3700	U
67-72-1	Hexachloroethane	3700	U
98-95-3	Nitrobenzene	3700	U
78-59-1	Isophorone	3700	U
88-75-5	2-Nitrophenol	3700	U
105-67-9	2,4-Dimethylphenol	3700	U
65-85-0	Benzoic acid	18000	U
111-91-1	bis(2-Chloroethoxy)methane	3700	U
120-83-2	2,4-Dichlorophenol	3700	U
120-82-1	1,2,4-Trichlorobenzene	3700	U
91-20-3	Naphthalene	77000	E
106-47-8	4-Chloroaniline	3700	U
87-68-3	Hexachlorobutadiene	3700	U
59-50-7	4-Chloro-3-methylphenol	3700	U
91-57-6	2-Methylnaphthalene	270000	E
77-47-4	Hexachlorocyclopentadiene	3700	U
88-06-2	2,4,6-Trichlorophenol	3700	U
95-95-4	2,4,5-Trichlorophenol	3700	U
91-58-7	2-Chloronaphthalene	3700	U
88-74-4	2-Nitroaniline	3700	U
131-11-3	Dimethylphthalate	3700	U
606-20-2	2,6-Dinitrotoluene	3700	U
208-96-8	Acenaphthylene	3700	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
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Manager, Environmental Science

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-01

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355954
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2252
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/10/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3700	U
83-32-9	Acenaphthene	2200	J
51-28-5	2,4-Dinitrophenol	9200	U
100-02-7	4-Nitrophenol	9200	U
132-64-9	Dibenzofuran	3700	U
121-14-2	2,4-Dinitrotoluene	3700	U
84-66-2	Diethylphthalate	3700	U
7005-72-3	4-Chlorophenyl-phenylether	3700	U
86-73-7	Fluorene	2800	J
100-01-6	4-Nitroaniline	3700	U
534-52-1	4,6-Dinitro-2-methylphenol	9200	U
86-30-6	N-Nitrosodiphenylamine (1)	3700	U
101-55-3	4-Bromophenyl-phenylether	3700	U
118-74-1	Hexachlorobenzene	3700	U
87-86-5	Pentachlorophenol	9200	U
85-01-8	Phenanthrene	5800	
120-12-7	Anthracene	1800	J
86-74-8	Carbazole	3700	U
84-74-2	Di-n-butylphthalate	1400	J
206-44-0	Fluoranthene	7300	
129-00-0	Pyrene	6600	
85-68-7	Butylbenzylphthalate	2200	J
91-94-1	3,3'-Dichlorobenzidine	7400	U
56-55-3	Benzo(a)anthracene	3500	J
117-81-7	bis(2-Ethylhexyl)phthalate	3100	J B
218-01-9	Chrysene	3400	J
117-84-0	Di-n-octylphthalate	3700	U
205-99-2	Benzo(b)fluoranthene	1300	J
207-08-9	Benzo(k)fluoranthene	3700	U
50-32-8	Benzo(a)pyrene	2600	J
193-39-5	Indeno(1,2,3-cd)pyrene	1100	J
53-70-3	Dibenz(a,h)anthracene	3700	U
191-24-2	Benzo(g,h,i)perylene	1100	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

#2
9/1

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-01DL

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355954DL
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2352
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/11/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 20.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2--------	3-Nitroaniline	7400	U
83-32-9--------	Acenaphthene	7400	U
51-28-5--------	2,4-Dinitrophenol	18000	U
100-02-7-------	4-Nitrophenol	18000	U
132-64-9-------	Dibenzofuran	7400	U
121-14-2-------	2,4-Dinitrotoluene	7400	U
84-66-2--------	Diethylphthalate	7400	U
7005-72-3------	4-Chlorophenyl-phenylether	7400	U
86-73-7--------	Fluorene	3000	J D
100-01-6-------	4-Nitroaniline	7400	U
534-52-1-------	4,6-Dinitro-2-methylphenol	18000	U
86-30-6--------	N-Nitrosodiphenylamine (1)	7400	U
101-55-3-------	4-Bromophenyl-phenylether	7400	U
118-74-1-------	Hexachlorobenzene	7400	U
87-86-5--------	Pentachlorophenol	18000	U
85-01-8--------	Phenanthrene	6200	J D
120-12-7-------	Anthracene	2400	J D
86-74-8--------	Carbazole	7400	U
84-74-2--------	Di-n-butylphthalate	3600	J D
206-44-0-------	Fluoranthene	8400	D
129-00-0-------	Pyrene	5600	J D
85-68-7--------	Butylbenzylphthalate	1800	J D
91-94-1--------	3,3'-Dichlorobenzidine	15000	U
56-55-3--------	Benzo(a)anthracene	3100	J D
117-81-7-------	bis(2-Ethylhexyl)phthalate	3600	J DB
218-01-9-------	Chrysene	2900	J D
117-84-0-------	Di-n-octylphthalate	7400	U
205-99-2-------	Benzo(b)fluoranthene	2700	J D
207-08-9-------	Benzo(k)fluoranthene	7400	U
50-32-8--------	Benzo(a)pyrene	2100	J D
193-39-5-------	Indeno(1,2,3-cd)pyrene	7400	U
53-70-3--------	Dibenz(a,h)anthracene	7400	U
191-24-2-------	Benzo(g,h,i)perylene	7400	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-01RE

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2355954RE
Sample wt/vol: 30 (g/mL) G Lab File ID: >A2351
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/11/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2--------	3-Nitroaniline	3700	U
83-32-9--------	Acenaphthene	810	J
51-28-5--------	2,4-Dinitrophenol	9200	U
100-02-7-------	4-Nitrophenol	9200	U
132-64-9-------	Dibenzofuran	3700	U
121-14-2-------	2,4-Dinitrotoluene	3700	U
84-66-2--------	Diethylphthalate	3700	U
7005-72-3------	4-Chlorophenyl-phenylether	3700	U
86-73-7--------	Fluorene	2200	J
100-01-6-------	4-Nitroaniline	3700	U
534-52-1-------	4,6-Dinitro-2-methylphenol	9200	U
86-30-6--------	N-Nitrosodiphenylamine (1)	3700	U
101-55-3-------	4-Bromophenyl-phenylether	3700	U
118-74-1-------	Hexachlorobenzene	3700	U
87-86-5--------	Pentachlorophenol	9200	U
85-01-8--------	Phenanthrene	5900	
120-12-7-------	Anthracene	1700	J
86-74-8--------	Carbazole	3700	U
84-74-2--------	Di-n-butylphthalate	1900	J
206-44-0-------	Fluoranthene	8300	
129-00-0-------	Pyrene	5700	
85-68-7--------	Butylbenzylphthalate	1800	J
91-94-1--------	3,3'-Dichlorobenzidine	7400	U
56-55-3--------	Benzo(a)anthracene	3200	J
117-81-7-------	bis(2-Ethylhexyl)phthalate	3500	J B
218-01-9-------	Chrysene	3000	J
117-84-0-------	Di-n-octylphthalate	3700	U
205-99-2-------	Benzo(b)fluoranthene	2700	J
207-08-9-------	Benzo(k)fluoranthene	3700	U
50-32-8--------	Benzo(a)pyrene	2200	J
193-39-5-------	Indeno(1,2,3-cd)pyrene	970	J
53-70-3--------	Dibenz(a,h)anthracene	3700	U
191-24-2-------	Benzo(g,h,i)perylene	940	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. WW 2355955
Collected: 7/31/95 at 18:49 by TE

Submitted: 8/ 2/95 Reported: 8/24/95
Discard: 10/24/95

FT-SB-FB-01 Field Blank Grab Water Sample

NWIRP Calverton, NY CTO-223
FB-01 SDG#: CAL01-08FB

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
TCL Pesticides in Waters				
1600	Alpha BHC	N.D.	0.01	ug/l
1601	Beta BHC	N.D.	0.01	ug/l
1603	Delta BHC	N.D.	0.01	ug/l
1602	Gamma BHC - Lindane	N.D.	0.01	ug/l
1604	Heptachlor	N.D.	0.01	ug/l
1605	Aldrin	N.D.	0.01	ug/l
1606	Heptachlor Epoxide	N.D.	0.01	ug/l
1616	Endosulfan I	N.D.	0.01	ug/l
1610	Dieldrin	N.D.	0.01	ug/l
1607	DDE	N.D.	0.01	ug/l
1611	Endrin	N.D.	0.01	ug/l
1615	Endosulfan II	N.D.	0.01	ug/l
1608	DDD	N.D.	0.01	ug/l
1617	Endosulfan Sulfate	N.D.	0.03	ug/l
1609	DDT	N.D.	0.01	ug/l
0938	Endrin Ketone	N.D.	0.1	ug/l
1860	Methoxychlor	N.D.	0.05	ug/l
1361	Alpha Chlordane	N.D.	0.01	ug/l
1362	Gamma Chlordane	N.D.	0.01	ug/l
1613	Toxaphene	N.D.	4.	ug/l
1618	Endrin Aldehyde	N.D.	0.1	ug/l
1619	PCB-1016	N.D.	1.	ug/l
1620	PCB-1221	N.D.	1.	ug/l
1621	PCB-1232	N.D.	1.	ug/l
1622	PCB-1242	N.D.	1.	ug/l
1623	PCB-1248	N.D.	1.	ug/l
1624	PCB-1254	N.D.	1.	ug/l
1626	PCB-1260	N.D.	1.	ug/l

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB-01

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2355955
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >IG321
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. _____ Date Analyzed: 08/03/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB-01

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2355955
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >A2050
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/04/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	20	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
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See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB-01

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2355955
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >A2050
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/04/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

Analysis Report

Lancaster Laboratories
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LLI Sample No. WW 2355956
Collected: 7/31/95 at 19:22 by TE

Submitted: 8/ 2/95 Reported: 8/24/95
Discard: 10/24/95

FT-SB-RB-01 Rinsate Blank Grab Water Sample

NWIRP Calverton, NY CTO-223
RB-01 SDG#: CAL01-09RB

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 3
4592	TCL Volatiles by 8240 - Water	see form I		
0937	TCL Pesticides in Waters			See Page 2
1422	CLP Form I - Semi-volatiles			See Page 4
4678	TCL SW846 Semivolatiles/Waters	see form I		
4679	TCL SW846 Semivolatiles/Waters	see form I		
1126	Petroleum Hydrocarbons	N.D.	0.3	mg/l

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:36:24 D 0002 10 122294 477213
440 0.00 00080475 ASR000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

MEMBER ACIL
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Lancaster, PA 17605-2425
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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. WW 2355956
Collected: 7/31/95 at 19:22 by TE

Submitted: 8/ 2/95 Reported: 8/24/95
Discard: 10/24/95

FT-SB-RB-01 Rinsate Blank Grab Water Sample

NWIRP Calverton, NY CTO-223
RB-01 SDG#: CAL01-09RB

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
TCL Pesticides in Waters				
1600	Alpha BHC	N.D.	0.01	ug/l
1601	Beta BHC	N.D.	0.01	ug/l
1603	Delta BHC	N.D.	0.01	ug/l
1602	Gamma BHC - Lindane	N.D.	0.01	ug/l
1604	Heptachlor	N.D.	0.01	ug/l
1605	Aldrin	N.D.	0.01	ug/l
1606	Heptachlor Epoxide	N.D.	0.01	ug/l
1616	Endosulfan I	N.D.	0.01	ug/l
1610	Dieldrin	N.D.	0.01	ug/l
1607	DDE	N.D.	0.01	ug/l
1611	Endrin	N.D.	0.01	ug/l
1615	Endosulfan II	N.D.	0.01	ug/l
1608	DDD	0.01	0.01	ug/l
1617	Endosulfan Sulfate	N.D.	0.03	ug/l
1609	DDT	N.D.	0.01	ug/l
0938	Endrin Ketone	N.D.	0.1	ug/l
1860	Methoxychlor	N.D.	0.05	ug/l
1361	Alpha Chlordane	N.D.	0.01	ug/l
1362	Gamma Chlordane	N.D.	0.01	ug/l
1613	Toxaphene	N.D.	4.	ug/l
1618	Endrin Aldehyde	N.D.	0.1	ug/l
1619	PCB-1016	N.D.	1.	ug/l
1620	PCB-1221	N.D.	1.	ug/l
1621	PCB-1232	N.D.	1.	ug/l
1622	PCB-1242	N.D.	1.	ug/l
1623	PCB-1248	N.D.	1.	ug/l
1624	PCB-1254	N.D.	1.	ug/l
1626	PCB-1260	N.D.	1.	ug/l

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

MEMBER ACIL

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See reverse side for explanation of symbols and abbreviations.

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RB-01

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
latrix: (soil/water) WATER Lab Sample ID: 2355956
ample wt/vol: 5.0 (g/mL) ML Lab File ID: >IG322
evel: (low/med) LOW Date Received: 08/02/95
Moisture: not dec. _____ Date Analyzed: 08/03/95
olumn: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	Q
74-87-3	Chloromethane	5 U
75-01-4	Vinyl Chloride	5 U
74-83-9	Bromomethane	5 U
75-00-3	Chloroethane	5 U
75-35-4	1,1-Dichloroethene	5 U
67-64-1	Acetone	7 J
75-15-0	Carbon Disulfide	5 U
75-09-2	Methylene Chloride	5 U
156-60-5	trans-1,2-Dichloroethene	5 U
75-34-3	1,1-Dichloroethane	5 U
156-59-2	cis-1,2-Dichloroethene	5 U
67-66-3	Chloroform	5 U
107-06-2	1,2-Dichloroethane	5 U
108-05-4	Vinyl Acetate	10 U
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
71-43-2	Benzene	5 U
79-01-6	Trichloroethene	5 U
78-87-5	1,2-Dichloropropane	5 U
75-27-4	Bromodichloromethane	5 U
10061-01-5	cis-1,3-Dichloropropene	5 U
10061-02-6	trans-1,3-Dichloropropene	5 U
79-00-5	1,1,2-Trichloroethane	5 U
124-48-1	Dibromochloromethane	5 U
75-25-2	Bromoform	5 U
108-10-1	4-Methyl-2-Pentanone	10 U
108-88-3	Toluene	5 U
127-18-4	Tetrachloroethene	5 U
591-78-6	2-Hexanone	10 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
1330-20-7	Xylene (total)	5 U
100-42-5	Styrene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	5 U

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RB-01

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2355956
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >A2051
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/04/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	20	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RB-01

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2355956
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >A2051
Level: (low/med) LOW Date Received: 08/02/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 08/03/95
Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/04/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
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Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. WW 2355957
Collected: ~~7/31/95~~ 07/27/95 PB 9/5/95
Submitted: 8/ 2/95 Reported: 8/24/95
Discard: 10/24/95

FT-SB-TB-01 Trip Blank Water Sample

NWIRP Calverton, NY CTO-223
TB-01 SDG#: CAL01-10TB*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:37:18 D 0002 10 122294 477213
440 0.00 00019250 ASR000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-01

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
latrix: (soil/water) WATER Lab Sample ID: 2355957
ample wt/vol: 5.0 (g/mL) ML Lab File ID: >IG324
evel: (low/med) LOW Date Received: 08/02/95
Moisture: not dec. _____ Date Analyzed: 08/03/95
olumn: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
P.O. Box 12425
Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
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LLI Sample No. SW 2391069
Collected: 9/28/95 at 09:30 by CF

Submitted: 9/29/95 Reported: 10/19/95
Discard: 12/19/95

FT-SB101-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
SB101 SDG#: CAL05-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 3		
4688	TCL SW846 Semivolatiles Soil	see form 1				
4689	TCL SW846 Semivolatiles/Soil	see form 1				
0111	Moisture	2.5	0.5	% by wt.		

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.

Benzo(b)fluoranthene and benzo(k)fluoranthene were not resolved under the sample analysis conditions. The result reported for benzo(b)fluoranthene represents the combined total of both isomers.

Diethylphthalate was detected in the method blank at a concentration of 70.0 ug/kg. The blank value was not subtracted from the analytical result.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
03:55:53 D 0002 3 122294 485893
249 0.00 00066374 ASR000

7

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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LLI Sample No. SW 2391069
Collected: 9/28/95 at 09:30 by CF

Submitted: 9/29/95 Reported: 10/19/95
Discard: 12/19/95

FT-SB101-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
SB101 SDG#: CAL05-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
	TCL Pesticides in Solids					
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.01	mg/kg	N.D.	0.01
1222	Dieldrin	N.D.	0.01	mg/kg	N.D.	0.01
1985	DDE	N.D.	0.01	mg/kg	N.D.	0.01
1223	Endrin	N.D.	0.01	mg/kg	N.D.	0.01
1990	Endosulfan II	N.D.	0.01	mg/kg	N.D.	0.01
1986	DDD	N.D.	0.01	mg/kg	N.D.	0.01
1991	Endosulfan Sulfate	N.D.	0.03	mg/kg	N.D.	0.03
1221	DDT	N.D.	0.02	mg/kg	N.D.	0.02
3017	Endrin Ketone	N.D.	0.1	mg/kg	N.D.	0.1
1859	Methoxychlor	N.D.	0.05	mg/kg	N.D.	0.05
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	2.	mg/kg	N.D.	2.
1992	Endrin Aldehyde	N.D.	0.1	mg/kg	N.D.	0.1
1993	PCB-1016	N.D.	0.2	mg/kg	N.D.	0.2
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.2
1995	PCB-1232	N.D.	0.2	mg/kg	N.D.	0.2
1996	PCB-1242	N.D.	0.2	mg/kg	N.D.	0.2
1997	PCB-1248	N.D.	0.2	mg/kg	N.D.	0.2
1998	PCB-1254	N.D.	0.2	mg/kg	N.D.	0.2
1999	PCB-1260	0.3	0.2	mg/kg	0.4	0.2

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.
Despite numerous cleanup methods, we were unable to reach our usual quantitation limits.

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

8

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB101

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
atrix: (soil/water) SOIL Lab Sample ID: 2391069
ample wt/vol: 30 (g/mL) G Lab File ID: >A5809
evel: (low/med) LOW Date Received: 09/29/95
Moisture: not dec. 2 dec. _____. Date Extracted: 10/02/95
xtraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 10/04/95
PC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
100-51-6	Benzyl alcohol	680	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
65-85-0	Benzoic acid	1700	U
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	62	J
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	340	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	340	U
131-11-3	Dimethylphthalate	340	U
606-20-2	2,6-Dinitrotoluene	340	U
208-96-8	Acenaphthylene	340	U

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB101

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2391069
Sample wt/vol: 30 (g/mL) G Lab File ID: >A5809
Level: (low/med) LOW Date Received: 09/29/95
% Moisture: not dec. 2 dec. _____. Date Extracted: 10/02/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 10/04/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q		
99-09-2	3-Nitroaniline	340	U	
83-32-9	Acenaphthene	130	J	
51-28-5	2,4-Dinitrophenol	850	U	
100-02-7	4-Nitrophenol	850	U	
132-64-9	Dibenzofuran	67	J	
121-14-2	2,4-Dinitrotoluene	340	U	
84-66-2	Diethylphthalate	76	J	B
7005-72-3	4-Chlorophenyl-phenylether	340	U	
86-73-7	Fluorene	140	J	
100-01-6	4-Nitroaniline	340	U	
534-52-1	4,6-Dinitro-2-methylphenol	850	U	
86-30-6	N-Nitrosodiphenylamine (1)	340	U	
101-55-3	4-Bromophenyl-phenylether	340	U	
118-74-1	Hexachlorobenzene	340	U	
87-86-5	Pentachlorophenol	850	U	
85-01-8	Phenanthrene	1300		
120-12-7	Anthracene	240	J	
86-74-8	Carbazole	210	J	
84-74-2	Di-n-butylphthalate	340	U	
206-44-0	Fluoranthene	2500		
129-00-0	Pyrene	2200		
85-68-7	Butylbenzylphthalate	90	J	
91-94-1	3,3'-Dichlorobenzidine	680	U	
56-55-3	Benzo(a)anthracene	1200		
117-81-7	bis(2-Ethylhexyl)phthalate	100	J	
218-01-9	Chrysene	1400		
117-84-0	Di-n-octylphthalate	340	U	
205-99-2	Benzo(b)fluoranthene	2300		
207-08-9	Benzo(k)fluoranthene	340	U	
50-32-8	Benzo(a)pyrene	1300		
193-39-5	Indeno(1,2,3-cd)pyrene	890		
53-70-3	Dibenz(a,h)anthracene	270	J	
191-24-2	Benzo(g,h,i)perylene	900		

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

10

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717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2391070
Collected: 9/28/95 at 09:45 by CF

Submitted: 9/29/95 Reported: 10/19/95
Discard: 12/19/95

FT-SB102-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
SB102 SDG#: CAL05-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 3		
4688	TCL SW846 Semivolatiles Soil	see form 1				
4689	TCL SW846 Semivolatiles/Soil	see form 1				
0111	Moisture	5.3	0.5	% by wt.		

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.

Benzo(b)fluoranthene and benzo(k)fluoranthene were not resolved under the sample analysis conditions. The result reported for benzo(b)fluoranthene represents the combined total of both isomers.

The quantitation limits for the GC/MS semivolatile compounds were raised due to the high concentration of non-target compounds.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
03:56:33 D 0002 3 122294 485893
249 0.00 00066374 ASR000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2391070
Collected: 9/28/95 at 09:45 by CF

Submitted: 9/29/95 Reported: 10/19/95
Discard: 12/19/95

FT-SB102-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
SB102 SDG#: CAL05-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.01	mg/kg	N.D.	0.01
1222	Dieldrin	N.D.	0.01	mg/kg	N.D.	0.01
1985	DDE	N.D.	0.01	mg/kg	N.D.	0.01
1223	Endrin	N.D.	0.01	mg/kg	N.D.	0.01
1990	Endosulfan II	N.D.	0.01	mg/kg	N.D.	0.01
1986	DDD	N.D.	0.01	mg/kg	N.D.	0.01
1991	Endosulfan Sulfate	N.D.	0.03	mg/kg	N.D.	0.03
1221	DDT	N.D.	0.01	mg/kg	N.D.	0.01
3017	Endrin Ketone	N.D.	0.1	mg/kg	N.D.	0.1
1859	Methoxychlor	N.D.	0.05	mg/kg	N.D.	0.05
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	2.	mg/kg	N.D.	2.
1992	Endrin Aldehyde	N.D.	0.1	mg/kg	N.D.	0.1
1993	PCB-1016	N.D.	0.4	mg/kg	N.D.	0.4
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.2
1995	PCB-1232	N.D.	0.2	mg/kg	N.D.	0.2
1996	PCB-1242	N.D.	0.6	mg/kg	N.D.	0.6
1997	PCB-1248	N.D.	0.4	mg/kg	N.D.	0.4
1998	PCB-1254	0.5	0.2	mg/kg	0.5	0.2
1999	PCB-1260	N.D.	0.2	mg/kg	N.D.	0.2

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

12

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB102

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
atrix: (soil/water) SOIL Lab Sample ID: 2391070
ample wt/vol: 30 (g/mL) G Lab File ID: >A5851
evel: (low/med) LOW Date Received: 09/29/95
Moisture: not dec. 5 dec. _____. Date Extracted: 10/02/95
xtraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 10/04/95
PC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	3500	U
111-44-4	bis(2-Chloroethyl)ether	3500	U
95-57-8	2-Chlorophenol	3500	U
541-73-1	1,3-Dichlorobenzene	3500	U
106-46-7	1,4-Dichlorobenzene	3500	U
100-51-6	Benzyl alcohol	7000	U
95-50-1	1,2-Dichlorobenzene	3500	U
95-48-7	2-Methylphenol	3500	U
108-60-1	2,2'-oxybis(1-Chloropropane)	3500	U
106-44-5	4-Methylphenol	3500	U
621-64-7	N-Nitroso-di-n-propylamine	3500	U
67-72-1	Hexachloroethane	3500	U
98-95-3	Nitrobenzene	3500	U
78-59-1	Isophorone	3500	U
88-75-5	2-Nitrophenol	3500	U
105-67-9	2,4-Dimethylphenol	3500	U
65-85-0	Benzoic acid	18000	U
111-91-1	bis(2-Chloroethoxy)methane	3500	U
120-83-2	2,4-Dichlorophenol	3500	U
120-82-1	1,2,4-Trichlorobenzene	3500	U
91-20-3	Naphthalene	2300	J
106-47-8	4-Chloroaniline	3500	U
87-68-3	Hexachlorobutadiene	3500	U
59-50-7	4-Chloro-3-methylphenol	3500	U
91-57-6	2-Methylnaphthalene	6000	
77-47-4	Hexachlorocyclopentadiene	3500	U
88-06-2	2,4,6-Trichlorophenol	3500	U
95-95-4	2,4,5-Trichlorophenol	3500	U
91-58-7	2-Chloronaphthalene	3500	U
88-74-4	2-Nitroaniline	3500	U
131-11-3	Dimethylphthalate	3500	U
606-20-2	2,6-Dinitrotoluene	3500	U
208-96-8	Acenaphthylene	450	J

FORM I SV-1 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB102

.ab Name: LANCASTER LABS Contract: _____.
.ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
latrix: (soil/water) SOIL Lab Sample ID: 2391070
;ample wt/vol: 30 (g/mL) G Lab File ID: >A5851
.evel: (low/med) LOW Date Received: 09/29/95
; Moisture: not dec. 5 dec. _____. Date Extracted: 10/02/95
:xtraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 10/04/95
;PC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 10.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3500	U
83-32-9	Acenaphthene	940	J
51-28-5	2,4-Dinitrophenol	8800	U
100-02-7	4-Nitrophenol	8800	U
132-64-9	Dibenzofuran	1200	J
121-14-2	2,4-Dinitrotoluene	3500	U
84-66-2	Diethylphthalate	3500	U
7005-72-3	4-Chlorophenyl-phenylether	3500	U
86-73-7	Fluorene	1300	J
100-01-6	4-Nitroaniline	3500	U
534-52-1	4,6-Dinitro-2-methylphenol	8800	U
86-30-6	N-Nitrosodiphenylamine (1)	3500	U
101-55-3	4-Bromophenyl-phenylether	3500	U
118-74-1	Hexachlorobenzene	3500	U
87-86-5	Pentachlorophenol	8800	U
85-01-8	Phenanthrene	1900	J
120-12-7	Anthracene	560	J
86-74-8	Carbazole	420	J
84-74-2	Di-n-butylphthalate	490	J
206-44-0	Fluoranthene	3300	J
129-00-0	Pyrene	3000	J
85-68-7	Butylbenzylphthalate	1800	J
91-94-1	3,3'-Dichlorobenzidine	7000	U
56-55-3	Benzo(a)anthracene	1500	J
117-81-7	bis(2-Ethylhexyl)phthalate	3900	
218-01-9	Chrysene	1800	J
117-84-0	Di-n-octylphthalate	3500	U
205-99-2	Benzo(b)fluoranthene	3000	J
207-08-9	Benzo(k)fluoranthene	3500	U
50-32-8	Benzo(a)pyrene	1600	J
193-39-5	Indeno(1,2,3-cd)pyrene	730	J
53-70-3	Dibenz(a,h)anthracene	3500	U
191-24-2	Benzo(g,h,i)perylene	760	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

#2 6
9/1..90

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LLI Sample No. SW 2391071
Collected: 9/28/95 at 10:00 by CF

Submitted: 9/29/95 Reported: 10/19/95
Discard: 12/19/95

FT-SB103-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
SB103 SDG#: CAL05-03*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 3		
4688	TCL SW846 Semivolatiles Soil	see form 1				
4689	TCL SW846 Semivolatiles/Soil	see form 1				
0111	Moisture	3.6	0.5	% by wt.		

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.

Benzo(b)fluoranthene and benzo(k)fluoranthene were not resolved under the sample analysis conditions. The result reported for benzo(b)fluoranthene represents the combined total of both isomers.

Diethylphthalate was detected in the method blank at a concentration of 70.0 ug/kg. The blank value was not subtracted from the analytical result.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
03:57:22 D 0002 3 122294 485893
249 0.00 00066374 ASR000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2391071
Collected: 9/28/95 at 10:00 by CF

Submitted: 9/29/95 Reported: 10/19/95
Discard: 12/19/95

FT-SB103-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
SB103 SDG#: CAL05-03*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS		DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids								
1981	Alpha BHC	N.D.		0.01	mg/kg	N.D.		0.01
1982	Beta BHC	N.D.		0.01	mg/kg	N.D.		0.01
1983	Delta BHC	N.D.		0.01	mg/kg	N.D.		0.01
1218	Gamma BHC - Lindane	N.D.		0.01	mg/kg	N.D.		0.01
1219	Heptachlor	N.D.		0.01	mg/kg	N.D.		0.01
1220	Aldrin	N.D.		0.01	mg/kg	N.D.		0.01
1984	Heptachlor Epoxide	N.D.		0.01	mg/kg	N.D.		0.01
1989	Endosulfan I	N.D.		0.01	mg/kg	N.D.		0.01
1222	Dieldrin	N.D.		0.01	mg/kg	N.D.		0.01
1985	DDE	N.D.		0.01	mg/kg	N.D.		0.01
1223	Endrin	N.D.		0.01	mg/kg	N.D.		0.01
1990	Endosulfan II	N.D.		0.01	mg/kg	N.D.		0.01
1986	DDD	N.D.		0.01	mg/kg	N.D.		0.01
1991	Endosulfan Sulfate	N.D.		0.03	mg/kg	N.D.		0.03
1221	DDT	N.D.		0.01	mg/kg	N.D.		0.01
3017	Endrin Ketone	N.D.		0.1	mg/kg	N.D.		0.1
1859	Methoxychlor	N.D.		0.05	mg/kg	N.D.		0.05
3025	Alpha Chlordane	N.D.		0.01	mg/kg	N.D.		0.01
3026	Gamma Chlordane	N.D.		0.01	mg/kg	N.D.		0.01
1988	Toxaphene	N.D.		2.	mg/kg	N.D.		2.
1992	Endrin Aldehyde	N.D.		0.1	mg/kg	N.D.		0.1
1993	PCB-1016	N.D.		0.2	mg/kg	N.D.		0.2
1994	PCB-1221	N.D.		0.2	mg/kg	N.D.		0.2
1995	PCB-1232	N.D.		0.2	mg/kg	N.D.		0.2
1996	PCB-1242	N.D.		0.2	mg/kg	N.D.		0.2.
1997	PCB-1248	N.D.		0.2	mg/kg	N.D.		0.2
1998	PCB-1254	0.14	J	0.2	mg/kg	0.15	J	0.2
1999	PCB-1260	0.13	J	0.2	mg/kg	0.14	J	0.2

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB103

.ab Name: LANCASTER LABS Contract: _____.
.ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2391071
Sample wt/vol: 30 (g/mL) G Lab File ID: >A5853
.evel: (low/med) LOW Date Received: 09/29/95
% Moisture: not dec. 4 dec. _____. Date Extracted: 10/02/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 10/04/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
100-51-6	Benzyl alcohol	690	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-di-n-propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
65-85-0	Benzoic acid	1700	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	65	J
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	350	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	350	U
131-11-3	Dimethylphthalate	350	U
606-20-2	2,6-Dinitrotoluene	350	U
208-96-8	Acenaphthylene	350	U

FORM I SV-1 1/87 Rev.

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Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

See reverse side for explanation of symbols and abbreviations.

#2
9/1

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SB103

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2391071
Sample wt/vol: 30 (g/mL) G Lab File ID: >A5853
Level: (low/med) LOW Date Received: 09/29/95
% Moisture: not dec. 4 dec. _____. Date Extracted: 10/02/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 10/04/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q	
99-09-2	3-Nitroaniline	350	U
83-32-9	Acenaphthene	56	J
51-28-5	2,4-Dinitrophenol	870	U
100-02-7	4-Nitrophenol	870	U
132-64-9	Dibenzofuran	41	J
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	78	J B
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	94	J
100-01-6	4-Nitroaniline	350	U
534-52-1	4,6-Dinitro-2-methylphenol	870	U
86-30-6	N-Nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	870	U
85-01-8	Phenanthrene	200	J
120-12-7	Anthracene	63	J
86-74-8	Carbazole	84	J
84-74-2	Di-n-butylphthalate	350	U
206-44-0	Fluoranthene	380	
129-00-0	Pyrene	420	
85-68-7	Butylbenzylphthalate	140	J
91-94-1	3,3'-Dichlorobenzidine	690	U
56-55-3	Benzo(a)anthracene	170	J
117-81-7	bis(2-Ethylhexyl)phthalate	430	
218-01-9	Chrysene	230	J
117-84-0	Di-n-octylphthalate	350	U
205-99-2	Benzo(b)fluoranthene	380	
207-08-9	Benzo(k)fluoranthene	350	U
50-32-8	Benzo(a)pyrene	200	J
193-39-5	Indeno(1,2,3-cd)pyrene	100	J
53-70-3	Dibenz(a,h)anthracene	350	U
191-24-2	Benzo(g,h,i)perylene	120	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

&&&

Analysis Repo

LABORATORY CHRONICLE

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2405544
Collected: 10/25/95 at 12:50 by CF

Submitted: 10/26/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB101-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
10101 SDG#: CAL08-01

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
0819	Solid Sample Pesticide Extract	SW-846 3550	1	11/03/95	LGR
1225	TCL Pesticides in Solids	SW-846 8080	1	11/09/95	DDS
0381	BNA Soil Extraction	SW-846 3550A	1	10/27/95	LJC
4688	TCL SW846 Semivolatiles Soil	SW-846 8270B	1	11/03/95	MAR
4689	TCL SW846 Semivolatiles/Soil	SW-846 8270B	1	11/03/95	MAR
0111	Moisture	EPA 160.3 (modified)	1	10/27/95	DML

2

&&&

Analysis Report

LABORATORY CHRONICLE

Lancaster Laboratories
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LLI Sample No. SW 2405545
Collected: 10/25/95 at 13:10 by CF

Submitted: 10/26/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB102-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
10201 SDG#: CAL08-02

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
0819	Solid Sample Pesticide Extract	SW-846 3550	1	11/03/95	LGR
1225	TCL Pesticides in Solids	SW-846 8080	1	11/09/95	DDS
0381	BNA Soil Extraction	SW-846 3550A	1	10/27/95	LJC
4688	TCL SW846 Semivolatiles Soil	SW-846 8270B	1	11/03/95	MAR
4689	TCL SW846 Semivolatiles/Soil	SW-846 8270B	1	11/03/95	MAR
0111	Moisture	EPA 160.3 (modified)	1	10/27/95	DML

3

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&&&

Analysis Report

LABORATORY CHRONICLE

Lancaster Laboratories
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LLI Sample No. SW 2405546
Collected: 10/25/95 at 13:20 by CF

Submitted: 10/26/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB103-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
10203 SDG#: CAL08-03*

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
0819	Solid Sample Pesticide Extract	SW-846 3550	1	11/03/95	LGR
1225	TCL Pesticides in Solids	SW-846 8080	1	11/09/95	DDS
0381	BNA Soil Extraction	SW-846 3550A	1	10/27/95	LJC
4688	TCL SW846 Semivolatiles Soil	SW-846 8270B	1	11/03/95	MAR
4689	TCL SW846 Semivolatiles/Soil	SW-846 8270B	1	11/03/95	MAR
0111	Moisture	EPA 160.3 (modified)	1	10/27/95	DML

4

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METHODOLOGY SUMMMARY/REFERENCE

0819 Solid Sample Pesticide Extraction

A sonic probe extraction with methylene chloride and acetone is used. Alternatively, the sample may be soxhlet extracted with hexane and acetone. The extracts are concentrated and Florisilled.

Reference: Test Methods for Evaluating Solid Wastes, SW-846, Method 3550, September 1994

****

1225 TCL Pesticides in Solids

The sample is solvent extracted and cleaned up on a Florisil column. The resulting extract is quantitatively analyzed by gas chromatography with an electron capture detector.

Reference: Test Methods for Evaluating Solid Waste SW-846, Method 8080, September 1986

****

4688/4689 TCL Semivolatiles by 8270B (soils)

The sample is solvent extracted and then analyzed by GC/MS for the target compound list.

Reference: Test Methods for Evaluating Solid Waste SW-846, Method 8270B, Update II, January 13, 1995

****

0111 Moisture (solid)

A well mixed sample is placed in a tared container and dried to constant weight in an oven at 103-105C. The decrease in weight is the total moisture.

Reference: Methods for Chemical Analysis of Water and Wastes USEPA 600/4-79-020, Method 160.3 (modified)

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LLI Sample No. SW 2405544
Collected: 10/25/95 at 12:50 by CF

Submitted: 10/26/95 Reported: 11/17/95
Discard: 1/17/96

FT-SB101-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
10101 SDG#: CAL08-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 3		
4688	TCL SW846 Semivolatiles Soil	see form 1				
4689	TCL SW846 Semivolatiles/Soil	see form 1				
0111	Moisture	9.9	0.5	% by wt.		

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.
This sample was dried in the oven approx. 72 hours instead of 24 hours due to a laboratory oversight. The LCS/LCSD analyzed with this sample was within specifications.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:05:56 D 0002 3 122294 489528
885 663.74 00066374 ASR000

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

6

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Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2405544
Collected: 10/25/95 at 12:50 by CF

Submitted: 10/26/95 Reported: 11/17/95
Discard: 1/17/96

FT-SB101-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
10101 SDG#: CAL08-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.01	mg/kg	N.D.	0.01
1222	Dieldrin	N.D.	0.01	mg/kg	N.D.	0.01
1985	DDE	N.D.	0.01	mg/kg	N.D.	0.01
1223	Endrin	N.D.	0.01	mg/kg	N.D.	0.01
1990	Endosulfan II	N.D.	0.01	mg/kg	N.D.	0.01
1986	DDD	N.D.	0.01	mg/kg	N.D.	0.01
1991	Endosulfan Sulfate	N.D.	0.03	mg/kg	N.D.	0.03
1221	DDT	N.D.	0.02	mg/kg	N.D.	0.02
3017	Endrin Ketone	N.D.	0.1	mg/kg	N.D.	0.1
1859	Methoxychlor	N.D.	0.05	mg/kg	N.D.	0.06
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	2.	mg/kg	N.D.	2.
1992	Endrin Aldehyde	N.D.	0.1	mg/kg	N.D.	0.1
1993	PCB-1016	N.D.	0.2	mg/kg	N.D.	0.2
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.2
1995	PCB-1232	N.D.	0.2	mg/kg	N.D.	0.2
1996	PCB-1242	N.D.	0.2	mg/kg	N.D.	0.2
1997	PCB-1248	N.D.	0.2	mg/kg	N.D.	0.2
1998	PCB-1254	N.D.	0.2	mg/kg	N.D.	0.2
1999	PCB-1260	0.2	0.2	mg/kg	0.2	0.2

Due to interfering peaks on the chromatogram, the value reported for DDT represents the lowest quantitation limit obtainable.

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

7

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10101

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2405544
Sample wt/vol: 30 (g/mL) G Lab File ID: >D0255
Level: (low/med) LOW Date Received: 10/26/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 10/27/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 11/03/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
100-51-6	Benzyl alcohol	740	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-di-n-propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
65-85-0	Benzoic acid	1800	U
111-91-1	bis(2-Chloroethoxy)methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	370	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	370	U
131-11-3	Dimethylphthalate	370	U
606-20-2	2,6-Dinitrotoluene	370	U
208-96-8	Acenaphthylene	370	U

FORM I SV-1 1/87 Rev.

8

Respectfully Submitted
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Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10101

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2405544
Sample wt/vol: 30 (g/mL) G Lab File ID: >D0255
Level: (low/med) LOW Date Received: 10/26/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 10/27/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 11/03/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q
99-09-2--------	3-Nitroaniline	370 U
83-32-9--------	Acenaphthene	370 U
51-28-5--------	2,4-Dinitrophenol	920 U
100-02-7-------	4-Nitrophenol	920 U
132-64-9-------	Dibenzofuran	370 U
121-14-2-------	2,4-Dinitrotoluene	370 U
84-66-2--------	Diethylphthalate	370 U
7005-72-3------	4-Chlorophenyl-phenylether	370 U
86-73-7--------	Fluorene	370 U
100-01-6-------	4-Nitroaniline	370 U
534-52-1-------	4,6-Dinitro-2-methylphenol	920 U
86-30-6--------	N-Nitrosodiphenylamine (1)	370 U
101-55-3-------	4-Bromophenyl-phenylether	370 U
118-74-1-------	Hexachlorobenzene	370 U
87-86-5--------	Pentachlorophenol	920 U
85-01-8--------	Phenanthrene	120 J
120-12-7-------	Anthracene	370 U
86-74-8--------	Carbazole	370 U
84-74-2--------	Di-n-butylphthalate	370 U
206-44-0-------	Fluoranthene	220 J
129-00-0-------	Pyrene	150 J
85-68-7--------	Butylbenzylphthalate	370 U
91-94-1--------	3,3'-Dichlorobenzidine	740 U
56-55-3--------	Benzo(a)anthracene	99 J
117-81-7-------	bis(2-Ethylhexyl)phthalate	180 J
218-01-9-------	Chrysene	99 J
117-84-0-------	Di-n-octylphthalate	370 U
205-99-2-------	Benzo(b)fluoranthene	130 J
207-08-9-------	Benzo(k)fluoranthene	370 U
50-32-8--------	Benzo(a)pyrene	89 J
193-39-5-------	Indeno(1,2,3-cd)pyrene	370 U
53-70-3--------	Dibenz(a,h)anthracene	370 U
191-24-2-------	Benzo(g,h,i)perylene	370 U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. SW 2405545
Collected: 10/25/95 at 13:10 by CF

Submitted: 10/26/95 Reported: 11/17/95
Discard: 1/17/96

FT-SB102-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
10201 SDG#: CAL08-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 3		
4688	TCL SW846 Semivolatiles Soil	see form 1				
4689	TCL SW846 Semivolatiles/Soil	see form 1				
0111	Moisture	13.0	0.5	% by wt.		

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.
This sample was dried in the oven approx. 72 hours instead of 24 hours due to a laboratory oversight. The LCS/LCSD analyzed with this sample was within specifications.

The GC/MS semivolatile surrogate recovery of nitrobenzene-d5 was outside of QC limits. The recovery was, however, greater than 10%.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:06:44 D 0002 3 122294 489528
885 663.74 00066374 ASR000

10

Respectfully Submitted
Jon S. Kauffman, Ph.D.
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See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. SW 2405545
Collected: 10/25/95 at 13:10 by CF

Submitted: 10/26/95 Reported: 11/17/95
Discard: 1/17/96

FT-SB102-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
10201 SDG#: CAL08-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.02	mg/kg	N.D.	0.02
1222	Dieldrin	N.D.	0.02	mg/kg	N.D.	0.02
1985	DDE	N.D.	0.02	mg/kg	N.D.	0.02
1223	Endrin	N.D.	0.02	mg/kg	N.D.	0.02
1990	Endosulfan II	N.D.	0.02	mg/kg	N.D.	0.02
1986	DDD	N.D.	0.02	mg/kg	N.D.	0.02
1991	Endosulfan Sulfate	N.D.	0.06	mg/kg	N.D.	0.07
1221	DDT	N.D.	0.02	mg/kg	N.D.	0.02
3017	Endrin Ketone	N.D.	0.2	mg/kg	N.D.	0.2
1859	Methoxychlor	N.D.	0.1	mg/kg	N.D.	0.1
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	4.	mg/kg	N.D.	5.
1992	Endrin Aldehyde	N.D.	0.2	mg/kg	N.D.	0.2
1993	PCB-1016	N.D.	0.2	mg/kg	N.D.	0.2
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.2
1995	PCB-1232	N.D.	0.2	mg/kg	N.D.	0.2
1996	PCB-1242	N.D.	0.2	mg/kg	N.D.	0.2
1997	PCB-1248	N.D.	0.5	mg/kg	N.D.	0.6
1998	PCB-1254	0.6	0.2	mg/kg	0.6	0.2
1999	PCB-1260	N.D.	0.4	mg/kg	N.D.	0.5

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

11

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10201

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2405545
Sample wt/vol: 30 (g/mL) G Lab File ID: >D0257
Level: (low/med) LOW Date Received: 10/26/95
% Moisture: not dec. 13 dec. _____. Date Extracted: 10/27/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 11/03/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	380	U
111-44-4	bis(2-Chloroethyl)ether	380	U
95-57-8	2-Chlorophenol	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
100-51-6	Benzyl alcohol	770	U
95-50-1	1,2-Dichlorobenzene	380	U
95-48-7	2-Methylphenol	380	U
108-60-1	2,2'-oxybis(1-Chloropropane)	380	U
106-44-5	4-Methylphenol	380	U
621-64-7	N-Nitroso-di-n-propylamine	380	U
67-72-1	Hexachloroethane	380	U
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	380	U
65-85-0	Benzoic acid	1900	U
111-91-1	bis(2-Chloroethoxy)methane	380	U
120-83-2	2,4-Dichlorophenol	380	U
120-82-1	1,2,4-Trichlorobenzene	380	U
91-20-3	Naphthalene	380	U
106-47-8	4-Chloroaniline	380	U
87-68-3	Hexachlorobutadiene	380	U
59-50-7	4-Chloro-3-methylphenol	380	U
91-57-6	2-Methylnaphthalene	3100	
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	380	U
95-95-4	2,4,5-Trichlorophenol	380	U
91-58-7	2-Chloronaphthalene	380	U
88-74-4	2-Nitroaniline	380	U
131-11-3	Dimethylphthalate	380	U
606-20-2	2,6-Dinitrotoluene	380	U
208-96-8	Acenaphthylene	380	U

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10201

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2405545
Sample wt/vol: 30 (g/mL) G Lab File ID: >D0257
Level: (low/med) LOW Date Received: 10/26/95
% Moisture: not dec. 13 dec. _____. Date Extracted: 10/27/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 11/03/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q
99-09-2--------	3-Nitroaniline	380 U
83-32-9--------	Acenaphthene	380 U
51-28-5--------	2,4-Dinitrophenol	960 U
100-02-7-------	4-Nitrophenol	960 U
132-64-9-------	Dibenzofuran	840
121-14-2-------	2,4-Dinitrotoluene	380 U
84-66-2--------	Diethylphthalate	380 U
7005-72-3------	4-Chlorophenyl-phenylether	380 U
86-73-7--------	Fluorene	380 U
100-01-6-------	4-Nitroaniline	380 U
534-52-1-------	4,6-Dinitro-2-methylphenol	960 U
86-30-6--------	N-Nitrosodiphenylamine (1)	380 U
101-55-3-------	4-Bromophenyl-phenylether	380 U
118-74-1-------	Hexachlorobenzene	380 U
87-86-5--------	Pentachlorophenol	960 U
85-01-8--------	Phenanthrene	2100
120-12-7-------	Anthracene	340 J
86-74-8--------	Carbazole	380 U
84-74-2--------	Di-n-butylphthalate	380 U
206-44-0-------	Fluoranthene	2600
129-00-0-------	Pyrene	1500
85-68-7--------	Butylbenzylphthalate	2100
91-94-1--------	3,3'-Dichlorobenzidine	770 U
56-55-3--------	Benzo(a)anthracene	880
117-81-7-------	bis(2-Ethylhexyl)phthalate	4200
218-01-9-------	Chrysene	900
117-84-0-------	Di-n-octylphthalate	380 U
205-99-2-------	Benzo(b)fluoranthene	1100
207-08-9-------	Benzo(k)fluoranthene	350 J
50-32-8--------	Benzo(a)pyrene	820
193-39-5-------	Indeno(1,2,3-cd)pyrene	830
53-70-3--------	Dibenz(a,h)anthracene	230 J
191-24-2-------	Benzo(g,h,i)perylene	800

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
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LLI Sample No. SW 2405546
Collected: 10/25/95 at 13:20 by CF

Submitted: 10/26/95 Reported: 11/17/95
Discard: 1/17/96

FT-SB103-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
10203 SDG#: CAL08-03*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 3		
4688	TCL SW846 Semivolatiles Soil	see form 1				
4689	TCL SW846 Semivolatiles/Soil	see form 1				
0111	Moisture	12.8	0.5	% by wt.		

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.
This sample was dried in the oven approx. 72 hours instead of 24 hours due to a laboratory oversight. The LCS/LCSD analyzed with this sample was within specifications.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:08:07 D 0002 3 122294 489528
885 663.74 00066374 ASR000

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

14

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Where quality is a science.

LLI Sample No. SW 2405546
Collected: 10/25/95 at 13:20 by CF

Submitted: 10/26/95 Reported: 11/17/95
Discard: 1/17/96

FT-SB103-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
10203 SDG#: CAL08-03*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.01	mg/kg	N.D.	0.01
1222	Dieldrin	N.D.	0.01	mg/kg	N.D.	0.01
1985	DDE	N.D.	0.01	mg/kg	N.D.	0.01
1223	Endrin	N.D.	0.01	mg/kg	N.D.	0.01
1990	Endosulfan II	N.D.	0.01	mg/kg	N.D.	0.01
1986	DDD	N.D.	0.01	mg/kg	N.D.	0.01
1991	Endosulfan Sulfate	N.D.	0.03	mg/kg	N.D.	0.03
1221	DDT	N.D.	0.01	mg/kg	N.D.	0.01
3017	Endrin Ketone	N.D.	0.1	mg/kg	N.D.	0.1
1859	Methoxychlor	N.D.	0.05	mg/kg	N.D.	0.06
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	2.	mg/kg	N.D.	2.
1992	Endrin Aldehyde	N.D.	0.1	mg/kg	N.D.	0.1
1993	PCB-1016	N.D.	0.2	mg/kg	N.D.	0.2
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.2
1995	PCB-1232	N.D.	0.2	mg/kg	N.D.	0.2
1996	PCB-1242	N.D.	0.2	mg/kg	N.D.	0.2
1997	PCB-1248	N.D.	0.2	mg/kg	N.D.	0.2
1998	PCB-1254	N.D.	0.2	mg/kg	N.D.	0.2
1999	PCB-1260	0.10 J	0.2	mg/kg	0.12 J	0.2

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10203

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2405546
Sample wt/vol: 30 (g/mL) G Lab File ID: >D0256
Level: (low/med) LOW Date Received: 10/26/95
% Moisture: not dec. 13 dec. _____. Date Extracted: 10/27/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 11/03/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	380	U
111-44-4	bis(2-Chloroethyl)ether	380	U
95-57-8	2-Chlorophenol	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
100-51-6	Benzyl alcohol	770	U
95-50-1	1,2-Dichlorobenzene	380	U
95-48-7	2-Methylphenol	380	U
108-60-1	2,2'-oxybis(1-Chloropropane)	380	U
106-44-5	4-Methylphenol	380	U
621-64-7	N-Nitroso-di-n-propylamine	380	U
67-72-1	Hexachloroethane	380	U
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	380	U
65-85-0	Benzoic acid	1900	U
111-91-1	bis(2-Chloroethoxy)methane	380	U
120-83-2	2,4-Dichlorophenol	380	U
120-82-1	1,2,4-Trichlorobenzene	380	U
91-20-3	Naphthalene	380	U
106-47-8	4-Chloroaniline	380	U
87-68-3	Hexachlorobutadiene	380	U
59-50-7	4-Chloro-3-methylphenol	380	U
91-57-6	2-Methylnaphthalene	380	U
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	380	U
95-95-4	2,4,5-Trichlorophenol	380	U
91-58-7	2-Chloronaphthalene	380	U
88-74-4	2-Nitroaniline	380	U
131-11-3	Dimethylphthalate	380	U
606-20-2	2,6-Dinitrotoluene	380	U
208-96-8	Acenaphthylene	380	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10203

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2405546
Sample wt/vol: 30 (g/mL) G Lab File ID: >D0256
Level: (low/med) LOW Date Received: 10/26/95
% Moisture: not dec. 13 dec. _____. Date Extracted: 10/27/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 11/03/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
99-09-2--------	3-Nitroaniline	380	U
83-32-9--------	Acenaphthene	380	U
51-28-5--------	2,4-Dinitrophenol	960	U
100-02-7-------	4-Nitrophenol	960	U
132-64-9-------	Dibenzofuran	380	U
121-14-2-------	2,4-Dinitrotoluene	380	U
84-66-2--------	Diethylphthalate	380	U
7005-72-3------	4-Chlorophenyl-phenylether	380	U
86-73-7--------	Fluorene	380	U
100-01-6-------	4-Nitroaniline	380	U
534-52-1-------	4,6-Dinitro-2-methylphenol	960	U
86-30-6--------	N-Nitrosodiphenylamine (1)	380	U
101-55-3-------	4-Bromophenyl-phenylether	380	U
118-74-1-------	Hexachlorobenzene	380	U
87-86-5--------	Pentachlorophenol	960	U
85-01-8--------	Phenanthrene	380	U
120-12-7-------	Anthracene	380	U
86-74-8--------	Carbazole	380	U
84-74-2--------	Di-n-butylphthalate	380	U
206-44-0-------	Fluoranthene	380	U
129-00-0-------	Pyrene	380	U
85-68-7--------	Butylbenzylphthalate	380	U
91-94-1--------	3,3'-Dichlorobenzidine	770	U
56-55-3--------	Benzo(a)anthracene	380	U
117-81-7-------	bis(2-Ethylhexyl)phthalate	200	J
218-01-9-------	Chrysene	380	U
117-84-0-------	Di-n-octylphthalate	380	U
205-99-2-------	Benzo(b)fluoranthene	380	U
207-08-9-------	Benzo(k)fluoranthene	380	U
50-32-8--------	Benzo(a)pyrene	380	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	380	U
53-70-3--------	Dibenz(a,h)anthracene	380	U
191-24-2-------	Benzo(g,h,i)perylene	380	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
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See reverse side for explanation of symbols and abbreviations.

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LABORATORY CHRONICLE

LLI Sample No. SW 2421831
Collected: 11/21/95 at 08:10 by CF

Submitted: 11/22/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB101-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
1011- SDG#: CAL12-01

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS DATE AND TIME	ANALYST
0819	Solid Sample Pesticide Extract	SW-846 3550	1	11/27/95 1600	Daniel T. Quinn, Jr.
1225	TCL Pesticides in Solids	SW-846 8080	1	12/06/95 1441	Nancy Saunders
0381	BNA Soil Extraction	SW-846 3550A	1	11/27/95 0930	Maria A. Davenport
4688	TCL SW846 Semivolatiles Soil	SW-846 8270B	1	12/01/95 2023	Lynn Wallace
4689	TCL SW846 Semivolatiles/Soil	SW-846 8270B	1	12/01/95 2023	Lynn Wallace
0111	Moisture	EPA 160.3 (modified)	1	11/26/95 1634	Elaine F. Stoltzfus

&&&

Analysis Report

LABORATORY CHRONICLE

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LLI Sample No. SW 2421832
Collected: 11/21/95 at 08:20 by CF

Submitted: 11/22/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB102-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
1021- SDG#: CAL12-02

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS DATE AND TIME	ANALYST
0819	Solid Sample Pesticide Extract	SW-846 3550 DNL 12/26/95	1	11/27/95 1600	Daniel T. Quinn, Jr.
1225	TCL Pesticides in Solids	SW-846 8081	1	12/06/95 2048	Nancy Saunders
0381	BNA Soil Extraction	SW-846 3550A	1	11/27/95 0930	Maria A. Davenport
4688	TCL SW846 Semivolatiles Soil	SW-846 8270B	1	12/01/95 2121	Lynn Wallace
4689	TCL SW846 Semivolatiles/Soil	SW-846 8270B	1	12/01/95 2121	Lynn Wallace
0111	Moisture	EPA 160.3 (modified)	1	11/26/95 1634	Elaine F. Stoltzfus

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4-16
9-1/90

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Analysis Repo

LABORATORY CHRONICLE

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LLI Sample No. SW 2421833
Collected: 11/21/95 at 08:30 by CF

Submitted: 11/22/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-SB103-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
1031- SDG#: CAL12-03*

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS DATE AND TIME	ANALYST
0819	Solid Sample Pesticide Extract	SW-846 3550 DWL 12/26/95	1	11/27/95 1600	Daniel T. Quinn, Jr.
1225	TCL Pesticides in Solids	SW-846 8081B	1	12/06/95 2149	Nancy Saunders
0381	BNA Soil Extraction	SW-846 3550A	1	11/27/95 0930	Maria A. Davenport
4688	TCL SW846 Semivolatiles Soil	SW-846 8270B	1	12/01/95 0006	Lynn Wallace
4689	TCL SW846 Semivolatiles/Soil	SW-846 8270B	1	12/01/95 0006	Lynn Wallace
0111	Moisture	EPA 160.3 (modified)	1	11/26/95 1634	Elaine F. Stoltzfus

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METHODOLOGY SUMMARY/REFERENCE

0819 Solid Sample Pesticide Extraction

A sonic probe extraction with methylene chloride and acetone is used. Alternatively, the sample may be soxhlet extracted with hexane and acetone. The extracts are concentrated and Florisilled.

Reference: Test Methods for Evaluating Solid Wastes, SW-846, Method 3550, September 1986

****

1225 TCL Pesticides in Solids

The sample is solvent extracted and cleaned up on a Florisil column. The resulting extract is quantitatively analyzed by gas chromatography with an electron capture detector.

Reference: Test Methods for Evaluating Solid Waste SW-846, Method 8080, September 1986

****

4688/4689 TCL Semivolatiles by 8270B (soils)

The sample is solvent extracted and then analyzed by GC/MS for the target compound list.

Reference: Test Methods for Evaluating Solid Waste SW-846, Method 8270B, Update II, January 13, 1995

****

0111 Moisture (solid)

A well mixed sample is placed in a tared container and dried to constant weight in an oven at 103-105C. The decrease in weight is the total moisture.

Reference: Methods for Chemical Analysis of Water and Wastes USEPA 600/4-79-020, Method 160.3 (modified)

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A subsidiary of Thermo Process Systems Inc., a Thermo Electron company

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Where quality is a science.

LLI Sample No. SW 2421831
Collected: 11/21/95 at 08:10 by CF

Submitted: 11/22/95 Reported: 12/14/95
Discard: 2/13/96

FT-SB101-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
1011- SDG#: CAL12-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
0819	Solid Sample Pesticide Extract	See Below	1.	See Below		
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 3		
4688	TCL SW846 Semivolatiles Soil	see form I				
4689	TCL SW846 Semivolatiles/Soil	see form I				
0111	Moisture	10.4	0.5	% by wt.		

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.

Phenanthrene, fluoranthene, pyrene, chrysene, and benzo(a)anthracene were detected in the method blank at concentrations below the limit of quantitation. The blank values were not subtracted from the analytical results.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
09:37:00 D 0002 3 REP 122294 493496
288 663.74 00066374 ASR000

7

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. SW 2421831
Collected: 11/21/95 at 08:10 by CF

Submitted: 11/22/95 Reported: 12/14/95
Discard: 2/13/96

FT-SB101-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
1011- SDG#: CAL12-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.01	mg/kg	N.D.	0.01
1222	Dieldrin	N.D.	0.01	mg/kg	N.D.	0.01
1985	DDE	N.D.	0.01	mg/kg	N.D.	0.01
1223	Endrin	N.D.	0.01	mg/kg	N.D.	0.01
1990	Endosulfan II	0.01	0.01	mg/kg	0.02	0.01
1986	DDD	N.D.	0.01	mg/kg	N.D.	0.01
1991	Endosulfan Sulfate	N.D.	0.03	mg/kg	N.D.	0.03
1221	DDT	N.D.	0.01	mg/kg	N.D.	0.01
3017	Endrin Ketone	N.D.	0.1	mg/kg	N.D.	0.1
1859	Methoxychlor	N.D.	0.05	mg/kg	N.D.	0.06
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	2.	mg/kg	N.D.	2.
1992	Endrin Aldehyde	N.D.	0.1	mg/kg	N.D.	0.1
1993	PCB-1016	N.D.	0.2	mg/kg	N.D.	0.2
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.2
1995	PCB-1232	N.D.	0.2	mg/kg	N.D.	0.2
1996	PCB-1242	N.D.	0.2	mg/kg	N.D.	0.2
1997	PCB-1248	N.D.	0.2	mg/kg	N.D.	0.2
1998	PCB-1254	N.D.	0.2	mg/kg	N.D.	0.2
1999	PCB-1260	0.6	0.2	mg/kg	0.6	0.2

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

8

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See reverse side for explanation of symbols and abbreviations.

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1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

1011-

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2421831
Sample wt/vol: 30 (g/mL) G Lab File ID: >A8100
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 11/27/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 12/01/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
100-51-6	Benzyl alcohol	740	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-di-n-propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
65-85-0	Benzoic acid	1800	U
111-91-1	bis(2-Chloroethoxy)methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	1200	
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-methylphenol	370	U
91-57-6	2-Methylnaphthalene	160	J
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	370	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	370	U
131-11-3	Dimethylphthalate	370	U
606-20-2	2,6-Dinitrotoluene	370	U
208-96-8	Acenaphthylene	370	U

FORM I SV-1 1/87 Rev.

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Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

See reverse side for explanation of symbols and abbreviations.

#2
9/1

Lancaster Laboratories
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1011-

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2421831
Sample wt/vol: 30 (g/mL) G Lab File ID: >A8100
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. 10 dec. _____. Date Extracted: 11/27/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 12/01/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	370	U
83-32-9	Acenaphthene	170	J
51-28-5	2,4-Dinitrophenol	920	U
100-02-7	4-Nitrophenol	920	U
132-64-9	Dibenzofuran	58	J
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	160	J
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	160	J
100-01-6	4-Nitroaniline	370	U
534-52-1	4,6-Dinitro-2-methylphenol	920	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	920	U
85-01-8	Phenanthrene	1400	B
120-12-7	Anthracene	240	J
86-74-8	Carbazole	220	J
84-74-2	Di-n-butylphthalate	370	U
206-44-0	Fluoranthene	1900	B
129-00-0	Pyrene	1500	B
85-68-7	Butylbenzylphthalate	84	J
91-94-1	3,3'-Dichlorobenzidine	740	U
56-55-3	Benzo(a)anthracene	880	B
117-81-7	bis(2-Ethylhexyl)phthalate	370	U
218-01-9	Chrysene	950	B
117-84-0	Di-n-octylphthalate	370	U
205-99-2	Benzo(b)fluoranthene	1400	
207-08-9	Benzo(k)fluoranthene	530	
50-32-8	Benzo(a)pyrene	970	
193-39-5	Indeno(1,2,3-cd)pyrene	620	
53-70-3	Dibenz(a,h)anthracene	260	J
191-24-2	Benzo(g,h,i)perylene	760	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

10

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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Lancaster Laboratories
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LLI Sample No. SW 2421832
Collected: 11/21/95 at 08:20 by CF

Submitted: 11/22/95 Reported: 12/12/95
Discard: 2/11/96

FT-SB102-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
1021- SDG#: CAL12-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 3		
4688	TCL SW846 Semivolatiles Soil	see form I				
4689	TCL SW846 Semivolatiles/Soil	see form I				
0111	Moisture	10.8	0.5	% by wt.		

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.

Phenanthrene, fluoranthene, chrysene and benzo(a)anthracene were detected in the method blank at concentrations below the limit of quantitation. The blank values were not subtracted from the analytical results.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
03:12:06 D 0002 3 122294 493496
885 663.74 00066374 ASR000

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

11

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Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2421832
Collected: 11/21/95 at 08:20 by CF

Submitted: 11/22/95 Reported: 12/12/95
Discard: 2/11/96

FT-SB102-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
1021- SDG#: CAL12-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.01	mg/kg	N.D.	0.01
1222	Dieldrin	N.D.	0.01	mg/kg	N.D.	0.01
1985	DDE	N.D.	0.01	mg/kg	N.D.	0.01
1223	Endrin	N.D.	0.01	mg/kg	N.D.	0.01
1990	Endosulfan II	N.D.	0.01	mg/kg	N.D.	0.01
1986	DDD	N.D.	0.01	mg/kg	N.D.	0.01
1991	Endosulfan Sulfate	N.D.	0.03	mg/kg	N.D.	0.03
1221	DDT	N.D.	0.01	mg/kg	N.D.	0.01
3017	Endrin Ketone	N.D.	0.1	mg/kg	N.D.	0.1
1859	Methoxychlor	N.D.	0.05	mg/kg	N.D.	0.06
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	2.	mg/kg	N.D.	2.
1992	Endrin Aldehyde	N.D.	0.1	mg/kg	N.D.	0.1
1993	PCB-1016	N.D.	0.2	mg/kg	N.D.	0.2
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.2
1995	PCB-1232	N.D.	0.2	mg/kg	N.D.	0.2
1996	PCB-1242	N.D.	0.2	mg/kg	N.D.	0.2
1997	PCB-1248	N.D.	0.2	mg/kg	N.D.	0.2
1998	PCB-1254	N.D.	0.2	mg/kg	N.D.	0.2
1999	PCB-1260	0.20 J	0.2	mg/kg	0.22 J	0.2

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1021-

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2421832
Sample wt/vol: 30 (g/mL) G Lab File ID: >A8101
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. 11 dec. _____. Date Extracted: 11/27/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 12/01/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl)ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
100-51-6	Benzyl alcohol	750	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-di-n-propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
65-85-0	Benzoic acid	1900	U
111-91-1	bis(2-Chloroethoxy)methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	370	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	370	U
131-11-3	Dimethylphthalate	370	U
606-20-2	2,6-Dinitrotoluene	370	U
208-96-8	Acenaphthylene	370	U

FORM I SV-1 1/87 Rev.

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Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1021-

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2421832
Sample wt/vol: 30 (g/mL) G Lab File ID: >A8101
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. 11 dec. _____. Date Extracted: 11/27/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 12/01/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	370	U
83-32-9	Acenaphthene	370	U
51-28-5	2,4-Dinitrophenol	940	U
100-02-7	4-Nitrophenol	940	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
86-73-7	Fluorene	370	U
100-01-6	4-Nitroaniline	370	U
534-52-1	4,6-Dinitro-2-methylphenol	940	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
87-86-5	Pentachlorophenol	940	U
85-01-8	Phenanthrene	54	J B
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-butylphthalate	370	U
206-44-0	Fluoranthene	77	J B
129-00-0	Pyrene	370	U
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3'-Dichlorobenzidine	750	U
56-55-3	Benzo(a)anthracene	41	J B
117-81-7	bis(2-Ethylhexyl)phthalate	370	U
218-01-9	Chrysene	55	J B
117-84-0	Di-n-octylphthalate	370	U
205-99-2	Benzo(b)fluoranthene	370	U
207-08-9	Benzo(k)fluoranthene	370	U
50-32-8	Benzo(a)pyrene	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	370	U
53-70-3	Dibenz(a,h)anthracene	370	U
191-24-2	Benzo(g,h,i)perylene	370	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

14

Respectfully Submitted
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Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
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LLI Sample No. SW 2421833
Collected: 11/21/95 at 08:30 by CF

Submitted: 11/22/95 Reported: 12/12/95
Discard: 2/11/96

FT-SB103-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
1031- SDG#: CAL12-03*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 3		
4688	TCL SW846 Semivolatiles Soil	see form 1				
4689	TCL SW846 Semivolatiles/Soil	see form 1				
0111	Moisture	7.4	0.5	% by wt.		

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.

The quantitation limits for the GC/MS semivolatile compounds were raised due to the high concentration of non-target compounds.

The GC/MS semivolatile internal standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

Phenanthrene, di-n-butylphthalate, fluoranthene, pyrene, chrysene, benzo(a)anthracene and bis(2-Ethylhexyl)phthalate were detected in the method blank at concentrations below the limit of quantitation. The blank values were not subtracted from the analytical results.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
03:12:59 D 0002 3 122294 493496
885 663.74 00066374 ASR000

Respectfully Submitted
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Manager, Environmental Science

15

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. SW 2421833
Collected: 11/21/95 at 08:30 by CF

Submitted: 11/22/95 Reported: 12/12/95
Discard: 2/11/96

FT-SB103-01 Composite Soil Sample

NWIRP Calverton, NY CTO-223
1031- SDG#: CAL12-03*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.01	mg/kg	N.D.	0.01
1222	Dieldrin	N.D.	0.01	mg/kg	N.D.	0.01
1985	DDE	N.D.	0.01	mg/kg	N.D.	0.01
1223	Endrin	N.D.	0.01	mg/kg	N.D.	0.01
1990	Endosulfan II	N.D.	0.02	mg/kg	N.D.	0.02
1986	DDD	N.D.	0.01	mg/kg	N.D.	0.01
1991	Endosulfan Sulfate	N.D.	0.03	mg/kg	N.D.	0.03
1221	DDT	N.D.	0.01	mg/kg	N.D.	0.01
3017	Endrin Ketone	N.D.	0.1	mg/kg	N.D.	0.1
1859	Methoxychlor	N.D.	0.05	mg/kg	N.D.	0.05
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	2.	mg/kg	N.D.	2.
1992	Endrin Aldehyde	N.D.	0.1	mg/kg	N.D.	0.1
1993	PCB-1016	N.D.	0.2	mg/kg	N.D.	0.2
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.2
1995	PCB-1232	N.D.	0.3	mg/kg	N.D.	0.3
1996	PCB-1242	N.D.	0.2	mg/kg	N.D.	0.2
1997	PCB-1248	N.D.	0.6	mg/kg	N.D.	0.6
1998	PCB-1254	0.5	0.2	mg/kg	0.6	0.2
1999	PCB-1260	N.D.	0.2	mg/kg	N.D.	0.2

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.
Despite numerous cleanup methods, we were unable to reach our usual quantitation limits.

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

16

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See reverse side for explanation of symbols and abbreviations.

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 1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

1031-

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2421833
Sample wt/vol: 30 (g/mL) G Lab File ID: >A8050
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. 7 dec. _____. Date Extracted: 11/27/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 12/01/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	3600	U
111-44-4	bis(2-Chloroethyl)ether	3600	U
95-57-8	2-Chlorophenol	3600	U
541-73-1	1,3-Dichlorobenzene	3600	U
106-46-7	1,4-Dichlorobenzene	3600	U
100-51-6	Benzyl alcohol	7200	U
95-50-1	1,2-Dichlorobenzene	3600	U
95-48-7	2-Methylphenol	3600	U
108-60-1	2,2'-oxybis(1-Chloropropane)	3600	U
106-44-5	4-Methylphenol	3600	U
621-64-7	N-Nitroso-di-n-propylamine	3600	U
67-72-1	Hexachloroethane	3600	U
98-95-3	Nitrobenzene	3600	U
78-59-1	Isophorone	3600	U
88-75-5	2-Nitrophenol	3600	U
105-67-9	2,4-Dimethylphenol	3600	U
65-85-0	Benzoic acid	18000	U
111-91-1	bis(2-Chloroethoxy)methane	3600	U
120-83-2	2,4-Dichlorophenol	3600	U
120-82-1	1,2,4-Trichlorobenzene	3600	U
91-20-3	Naphthalene	6400	
106-47-8	4-Chloroaniline	3600	U
87-68-3	Hexachlorobutadiene	3600	U
59-50-7	4-Chloro-3-methylphenol	3600	U
91-57-6	2-Methylnaphthalene	15000	
77-47-4	Hexachlorocyclopentadiene	3600	U
88-06-2	2,4,6-Trichlorophenol	3600	U
95-95-4	2,4,5-Trichlorophenol	3600	U
91-58-7	2-Chloronaphthalene	3600	U
88-74-4	2-Nitroaniline	3600	U
131-11-3	Dimethylphthalate	3600	U
606-20-2	2,6-Dinitrotoluene	3600	U
208-96-8	Acenaphthylene	3600	U

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Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1031-RE

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2421833RE
Sample wt/vol: 30 (g/mL) G Lab File ID: >A8103
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. 7 dec. _____. Date Extracted: 11/27/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 12/02/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	3600	U
111-44-4	bis(2-Chloroethyl)ether	3600	U
95-57-8	2-Chlorophenol	3600	U
541-73-1	1,3-Dichlorobenzene	3600	U
106-46-7	1,4-Dichlorobenzene	3600	U
100-51-6	Benzyl alcohol	7200	U
95-50-1	1,2-Dichlorobenzene	3600	U
95-48-7	2-Methylphenol	3600	U
108-60-1	2,2'-oxybis(1-Chloropropane)	3600	U
106-44-5	4-Methylphenol	3600	U
621-64-7	N-Nitroso-di-n-propylamine	3600	U
67-72-1	Hexachloroethane	3600	U
98-95-3	Nitrobenzene	3600	U
78-59-1	Isophorone	3600	U
88-75-5	2-Nitrophenol	3600	U
105-67-9	2,4-Dimethylphenol	3600	U
65-85-0	Benzoic acid	18000	U
111-91-1	bis(2-Chloroethoxy)methane	3600	U
120-83-2	2,4-Dichlorophenol	3600	U
120-82-1	1,2,4-Trichlorobenzene	3600	U
91-20-3	Naphthalene	5400	
106-47-8	4-Chloroaniline	3600	U
87-68-3	Hexachlorobutadiene	3600	U
59-50-7	4-Chloro-3-methylphenol	3600	U
91-57-6	2-Methylnaphthalene	13000	
77-47-4	Hexachlorocyclopentadiene	3600	U
88-06-2	2,4,6-Trichlorophenol	3600	U
95-95-4	2,4,5-Trichlorophenol	3600	U
91-58-7	2-Chloronaphthalene	3600	U
88-74-4	2-Nitroaniline	3600	U
131-11-3	Dimethylphthalate	3600	U
606-20-2	2,6-Dinitrotoluene	3600	U
208-96-8	Acenaphthylene	3600	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
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Manager, Environmental Science

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1031-

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2421833
Sample wt/vol: 30 (g/mL) G Lab File ID: >A8050
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. 7 dec. _____. Date Extracted: 11/27/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 12/01/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2--------	3-Nitroaniline	3600	U
83-32-9--------	Acenaphthene	3600	U
51-28-5--------	2,4-Dinitrophenol	9000	U
100-02-7-------	4-Nitrophenol	9000	U
132-64-9-------	Dibenzofuran	1600	J
121-14-2-------	2,4-Dinitrotoluene	3600	U
84-66-2--------	Diethylphthalate	3600	U
7005-72-3------	4-Chlorophenyl-phenylether	3600	U
86-73-7--------	Fluorene	1600	J
100-01-6-------	4-Nitroaniline	3600	U
534-52-1-------	4,6-Dinitro-2-methylphenol	9000	U
86-30-6--------	N-Nitrosodiphenylamine (1)	3600	U
101-55-3-------	4-Bromophenyl-phenylether	3600	U
118-74-1-------	Hexachlorobenzene	3600	U
87-86-5--------	Pentachlorophenol	9000	U
85-01-8--------	Phenanthrene	1300	J B
120-12-7-------	Anthracene	3600	U
86-74-8--------	Carbazole	3600	U
84-74-2--------	Di-n-butylphthalate	470	J B
206-44-0-------	Fluoranthene	1300	J B
129-00-0-------	Pyrene	900	J B
85-68-7--------	Butylbenzylphthalate	940	J
91-94-1--------	3,3'-Dichlorobenzidine	7200	U
56-55-3--------	Benzo(a)anthracene	510	J B
117-81-7-------	bis(2-Ethylhexyl)phthalate	3600	B
218-01-9-------	Chrysene	480	J B
117-84-0-------	Di-n-octylphthalate	3600	U
205-99-2-------	Benzo(b)fluoranthene	3600	U
207-08-9-------	Benzo(k)fluoranthene	3600	U
50-32-8--------	Benzo(a)pyrene	3600	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	3600	U
53-70-3--------	Dibenz(a,h)anthracene	3600	U
191-24-2-------	Benzo(g,h,i)perylene	3600	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1031-RE

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2421833RE
Sample wt/vol: 30 (g/mL) G Lab File ID: >A8103
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. 7 dec. _____. Date Extracted: 11/27/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 12/02/95
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
99-09-2	3-Nitroaniline	3600	U	
83-32-9	Acenaphthene	3600	U	
51-28-5	2,4-Dinitrophenol	9000	U	
100-02-7	4-Nitrophenol	9000	U	
132-64-9	Dibenzofuran	1500	J	
121-14-2	2,4-Dinitrotoluene	3600	U	
84-66-2	Diethylphthalate	3600	U	
7005-72-3	4-Chlorophenyl-phenylether	3600	U	
86-73-7	Fluorene	1500	J	
100-01-6	4-Nitroaniline	3600	U	
534-52-1	4,6-Dinitro-2-methylphenol	9000	U	
86-30-6	N-Nitrosodiphenylamine (1)	3600	U	
101-55-3	4-Bromophenyl-phenylether	3600	U	
118-74-1	Hexachlorobenzene	3600	U	
87-86-5	Pentachlorophenol	9000	U	
85-01-8	Phenanthrene	1300	J	B
120-12-7	Anthracene	3600	U	
86-74-8	Carbazole	3600	U	
84-74-2	Di-n-butylphthalate	410	J	B
206-44-0	Fluoranthene	1400	J	B
129-00-0	Pyrene	890	J	B
85-68-7	Butylbenzylphthalate	860	J	
91-94-1	3,3'-Dichlorobenzidine	7200	U	
56-55-3	Benzo(a)anthracene	460	J	B
117-81-7	bis(2-Ethylhexyl)phthalate	3600		B
218-01-9	Chrysene	400	J	B
117-84-0	Di-n-octylphthalate	3600	U	
205-99-2	Benzo(b)fluoranthene	3600	U	
207-08-9	Benzo(k)fluoranthene	3600	U	
50-32-8	Benzo(a)pyrene	3600	U	
193-39-5	Indeno(1,2,3-cd)pyrene	3600	U	
53-70-3	Dibenz(a,h)anthracene	3600	U	
191-24-2	Benzo(g,h,i)perylene	3600	U	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. WW 2437720
Collected: 12/20/95 at 10:07 by TE

Submitted: 12/21/95 Reported: 1/12/96
Discard: 3/13/96

TB-12/20 Trip Blank Water Sample

NWIRP Calverton, NY CTO-223
1220T SDG#: CAL14-01TB

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
at (717) 656-2300
12:53:20 D 0002 7 122294 497384
232 192.50 00019250 ASR000

12

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1220T

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2437720
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DDM06
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. _____ Date Analyzed: 12/22/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	Q	
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	8	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

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PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations. 2216 Rev. 10/30/95

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. SW 2437721
Collected: 12/20/95 at 11:12 by TE

Submitted: 12/21/95 Reported: 1/12/96
Discard: 3/13/96

FT-SB101-0002 Grab Soil Sample

NWIRP Calverton, NY CTO-223
10002 SDG#: CAL14-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
1421	CLP Form I - VOA's			See Page 3		
4593	TCL Volatiles by 8240	see form I				
	Poor surrogate recoveries were observed for the GC/MS volatile fraction. The analysis was repeated and poor surrogate recoveries were again observed indicating a significant matrix effect.					
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 5		
4688	TCL SW846 Semivolatiles Soil	see form I				
4689	TCL SW846 Semivolatiles/Soil	see form I				
0111	Moisture	7.8	0.5	% by wt.		
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.					
1562	Petroleum Hydrocarbons	900.	200.	mg/kg	1,000.	200.

Bis(2-ethylhexyl)phthalate was detected in the method blank at a concentration of 120.0 ug/kg. The blank value was not subtracted from the analytical result.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
at (717) 656-2300
12:53:48 D 0002 7 122294 497384
232 948.19 00094819 ASR000

14

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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717-656-2300 Fax: 717-656-2681

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. SW 2437721
Collected: 12/20/95 at 11:12 by TE

Submitted: 12/21/95 Reported: 1/12/96
Discard: 3/13/96

FT-SB101-0002 Grab Soil Sample

NWIRP Calverton, NY CTO-223
10002 SDG#: CAL14-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS		DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids								
1981	Alpha BHC	N.D.		0.05	mg/kg	N.D.		0.05
1982	Beta BHC	N.D.		0.05	mg/kg	N.D.		0.05
1983	Delta BHC	N.D.		0.05	mg/kg	N.D.		0.05
1218	Gamma BHC - Lindane	N.D.		0.05	mg/kg	N.D.		0.05
1219	Heptachlor	N.D.		0.05	mg/kg	N.D.		0.05
1220	Aldrin	N.D.		0.05	mg/kg	N.D.		0.05
1984	Heptachlor Epoxide	0.004	J	0.01	mg/kg	0.005	J	0.01
1989	Endosulfan I	N.D.		0.05	mg/kg	N.D.		0.05
1222	Dieldrin	N.D.		0.05	mg/kg	N.D.		0.05
1985	DDE	N.D.		0.05	mg/kg	N.D.		0.05
1223	Endrin	N.D.		0.06	mg/kg	N.D.		0.07
1990	Endosulfan II	N.D.		0.05	mg/kg	N.D.		0.05
1986	DDD	N.D.		0.05	mg/kg	N.D.		0.05
1991	Endosulfan Sulfate	0.011	J	0.03	mg/kg	0.012	J	0.03
1221	DDT	N.D.		0.05	mg/kg	N.D.		0.05
3017	Endrin Ketone	N.D.		0.5	mg/kg	N.D.		0.5
1859	Methoxychlor	N.D.		0.3	mg/kg	N.D.		0.3
3025	Alpha Chlordane	N.D.		0.1	mg/kg	N.D.		0.1
3026	Gamma Chlordane	N.D.		0.05	mg/kg	N.D.		0.05
1988	Toxaphene	N.D.		10.	mg/kg	N.D.		10.
1992	Endrin Aldehyde	N.D.		0.5	mg/kg	N.D.		0.5
1993	PCB-1016	N.D.		1.	mg/kg	N.D.		1.
1994	PCB-1221	N.D.		1.	mg/kg	N.D.		1.
1995	PCB-1232	N.D.		1.	mg/kg	N.D.		1.
1996	PCB-1242	N.D.		1.	mg/kg	N.D.		1.
1997	PCB-1248	N.D.		1.	mg/kg	N.D.		1.
1998	PCB-1254	N.D.		1.	mg/kg	N.D.		1.
1999	PCB-1260	1.2		0.2	mg/kg	1.3		0.2

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.
Despite numerous cleanup methods, we were unable to reach our usual quantitation limits.

Questions? Contact your Client Services Representative at (717) 656-2300

15

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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Lancaster Laboratories
A Thermo Analytical Laboratory

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

10002

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437721
Sample wt/vol: 5.0 (g/mL) G Lab File ID: >GDM13
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 8 Date Analyzed: 12/22/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	22	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	J
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	11	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	11	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

16

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations. 2216 Rev. 10/30/95

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10002RE

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437721
Sample wt/vol: 5.0 (g/mL) G Lab File ID: >GDM15
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 8 Date Analyzed: 12/22/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q
74-87-3	Chloromethane	5 U
75-01-4	Vinyl Chloride	5 U
74-83-9	Bromomethane	5 U
75-00-3	Chloroethane	5 U
75-35-4	1,1-Dichloroethene	5 U
67-64-1	Acetone	22 U
75-15-0	Carbon Disulfide	5 U
75-09-2	Methylene Chloride	3 J
156-60-5	trans-1,2-Dichloroethene	5 U
75-34-3	1,1-Dichloroethane	5 U
156-59-2	cis-1,2-Dichloroethene	5 U
67-66-3	Chloroform	5 U
107-06-2	1,2-Dichloroethane	5 U
108-05-4	Vinyl Acetate	11 U
78-93-3	2-Butanone	11 U
71-55-6	1,1,1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
71-43-2	Benzene	5 U
79-01-6	Trichloroethene	5 U
78-87-5	1,2-Dichloropropane	5 U
75-27-4	Bromodichloromethane	5 U
10061-01-5	cis-1,3-Dichloropropene	5 U
10061-02-6	trans-1,3-Dichloropropene	5 U
79-00-5	1,1,2-Trichloroethane	5 U
124-48-1	Dibromochloromethane	5 U
75-25-2	Bromoform	5 U
108-10-1	4-Methyl-2-Pentanone	11 U
108-88-3	Toluene	5 U
127-18-4	Tetrachloroethene	5 U
591-78-6	2-Hexanone	11 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
1330-20-7	Xylene (total)	5 U
100-42-5	Styrene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	5 U

FORM I VOA 1/87 Rev.

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10002

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437721
Sample wt/vol: 30 (g/mL) G Lab File ID: >C6151
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 8 dec. _____. Date Extracted: 12/22/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 01/04/96
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		Q
108-95-2	Phenol	360	U
111-44-4	bis(2-Chloroethyl)ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
100-51-6	Benzyl alcohol	730	U
95-50-1	1,2-Dichlorobenzene	360	U
95-48-7	2-Methylphenol	360	U
108-60-1	2,2'-oxybis(1-Chloropropane)	360	U
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-di-n-propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
65-85-0	Benzoic acid	1800	U
111-91-1	bis(2-Chloroethoxy)methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-methylphenol	360	U
91-57-6	2-Methylnaphthalene	37	J
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	360	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	360	U
131-11-3	Dimethylphthalate	360	U
606-20-2	2,6-Dinitrotoluene	360	U
208-96-8	Acenaphthylene	360	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations. 2216 Rev. 10/30/95

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10002

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437721
Sample wt/vol: 30 (g/mL) G Lab File ID: >C6151
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 8 dec. _____. Date Extracted: 12/22/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 01/04/96
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	360	U
83-32-9	Acenaphthene	170	J
51-28-5	2,4-Dinitrophenol	900	U
100-02-7	4-Nitrophenol	900	U
132-64-9	Dibenzofuran	63	J
121-14-2	2,4-Dinitrotoluene	360	U
84-66-2	Diethylphthalate	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
86-73-7	Fluorene	160	J
100-01-6	4-Nitroaniline	360	U
534-52-1	4,6-Dinitro-2-methylphenol	900	U
86-30-6	N-Nitrosodiphenylamine (1)	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
87-86-5	Pentachlorophenol	900	U
85-01-8	Phenanthrene	1400	
120-12-7	Anthracene	280	J
86-74-8	Carbazole	220	J
84-74-2	Di-n-butylphthalate	360	U
206-44-0	Fluoranthene	1800	
129-00-0	Pyrene	1600	
85-68-7	Butylbenzylphthalate	94	J
91-94-1	3,3'-Dichlorobenzidine	730	U
56-55-3	Benzo(a)anthracene	890	
117-81-7	bis(2-Ethylhexyl)phthalate	180	J B
218-01-9	Chrysene	960	
117-84-0	Di-n-octylphthalate	130	J
205-99-2	Benzo(b)fluoranthene	1200	
207-08-9	Benzo(k)fluoranthene	390	
50-32-8	Benzo(a)pyrene	960	
193-39-5	Indeno(1,2,3-cd)pyrene	940	
53-70-3	Dibenz(a,h)anthracene	360	U
191-24-2	Benzo(g,h,i)perylene	1200	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. SW 2437722
Collected: 12/20/95 at 11:38 by TE

Submitted: 12/21/95 Reported: 1/12/96
Discard: 3/13/96

FT-SB101-2022 Grab Soil Sample

NWIRP Calverton, NY CTO-223
12022 SDG#: CAL14-03

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	LIMIT OF QUANTITATION
1421	CLP Form I - VOA's			See Page 3		
4593	TCL Volatiles by 8240	see form I				
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 4		
4688	TCL SW846 Semivolatiles Soil	see form I				
4689	TCL SW846 Semivolatiles/Soil	see form I				
0111	Moisture	11.1	0.5	% by wt.		
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.					
1562	Petroleum Hydrocarbons	7. J	20.	mg/kg	8. J	20.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
at (717) 656-2300
12:55:21 D 0002 7 122294 497384
232 948.19 00094819 ASR000

20

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.05	mg/kg	N.D.	0.06
1982	Beta BHC	N.D.	0.05	mg/kg	N.D.	0.06
1983	Delta BHC	N.D.	0.05	mg/kg	N.D.	0.06
1218	Gamma BHC - Lindane	N.D.	0.05	mg/kg	N.D.	0.06
1219	Heptachlor	N.D.	0.05	mg/kg	N.D.	0.06
1220	Aldrin	N.D.	0.05	mg/kg	N.D.	0.06
1984	Heptachlor Epoxide	N.D.	0.05	mg/kg	N.D.	0.06
1989	Endosulfan I	N.D.	0.05	mg/kg	N.D.	0.06
1222	Dieldrin	N.D.	0.05	mg/kg	N.D.	0.06
1985	DDE	N.D.	0.05	mg/kg	N.D.	0.06
1223	Endrin	N.D.	0.05	mg/kg	N.D.	0.06
1990	Endosulfan II	N.D.	0.05	mg/kg	N.D.	0.06
1986	DDD	N.D.	0.05	mg/kg	N.D.	0.06
1991	Endosulfan Sulfate	N.D.	0.2	mg/kg	N.D.	0.2
1221	DDT	N.D.	0.05	mg/kg	N.D.	0.06
3017	Endrin Ketone	N.D.	0.5	mg/kg	N.D.	0.6
1859	Methoxychlor	N.D.	0.3	mg/kg	N.D.	0.3
3025	Alpha Chlordane	N.D.	0.05	mg/kg	N.D.	0.06
3026	Gamma Chlordane	N.D.	0.05	mg/kg	N.D.	0.06
1988	Toxaphene	N.D.	10.	mg/kg	N.D.	10.
1992	Endrin Aldehyde	N.D.	0.5	mg/kg	N.D.	0.6
1993	PCB-1016	N.D.	1.	mg/kg	N.D.	1.
1994	PCB-1221	N.D.	1.	mg/kg	N.D.	1.
1995	PCB-1232	N.D.	1.	mg/kg	N.D.	1.
1996	PCB-1242	N.D.	1.	mg/kg	N.D.	1.
1997	PCB-1248	N.D.	1.	mg/kg	N.D.	1.
1998	PCB-1254	N.D.	1.	mg/kg	N.D.	1.
1999	PCB-1260	N.D.	1.	mg/kg	N.D.	1.

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.
Despite numerous cleanup methods, we were unable to reach our usual quantitation limits.

Questions? Contact your Client Services Representative at (717) 656-2300

21

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

IA

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

12022

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437722
Sample wt/vol: 5.0 (g/mL) G Lab File ID: >GDM14
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 11 Date Analyzed: 12/22/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q
74-87-3	Chloromethane	6 U
75-01-4	Vinyl Chloride	6 U
74-83-9	Bromomethane	6 U
75-00-3	Chloroethane	6 U
75-35-4	1,1-Dichloroethene	6 U
67-64-1	Acetone	22 U
75-15-0	Carbon Disulfide	6 U
75-09-2	Methylene Chloride	3 J
156-60-5	trans-1,2-Dichloroethene	6 U
75-34-3	1,1-Dichloroethane	6 U
156-59-2	cis-1,2-Dichloroethene	6 U
67-66-3	Chloroform	6 U
107-06-2	1,2-Dichloroethane	6 U
108-05-4	Vinyl Acetate	11 U
78-93-3	2-Butanone	11 U
71-55-6	1,1,1-Trichloroethane	6 U
56-23-5	Carbon Tetrachloride	6 U
71-43-2	Benzene	6 U
79-01-6	Trichloroethene	6 U
78-87-5	1,2-Dichloropropane	6 U
75-27-4	Bromodichloromethane	6 U
10061-01-5	cis-1,3-Dichloropropene	6 U
10061-02-6	trans-1,3-Dichloropropene	6 U
79-00-5	1,1,2-Trichloroethane	6 U
124-48-1	Dibromochloromethane	6 U
75-25-2	Bromoform	6 U
108-10-1	4-Methyl-2-Pentanone	11 U
108-88-3	Toluene	6 U
127-18-4	Tetrachloroethene	6 U
591-78-6	2-Hexanone	11 U
108-90-7	Chlorobenzene	6 U
100-41-4	Ethylbenzene	6 U
1330-20-7	Xylene (total)	6 U
100-42-5	Styrene	6 U
79-34-5	1,1,2,2-Tetrachloroethane	6 U

FORM I VOA 1/87 Rev.

22

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations. 2216 Rev. 10/30/95

Lancaster Laboratories
A Thermo Analytical Laboratory

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

12022

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437722
Sample wt/vol: 30 (g/mL) G Lab File ID: >C6152
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 11 dec. _____. Date Extracted: 12/22/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 01/04/96
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q
108-95-2	Phenol	370 U
111-44-4	bis(2-Chloroethyl)ether	370 U
95-57-8	2-Chlorophenol	370 U
541-73-1	1,3-Dichlorobenzene	370 U
106-46-7	1,4-Dichlorobenzene	370 U
100-51-6	Benzyl alcohol	750 U
95-50-1	1,2-Dichlorobenzene	370 U
95-48-7	2-Methylphenol	370 U
108-60-1	2,2'-oxybis(1-Chloropropane)	370 U
106-44-5	4-Methylphenol	370 U
621-64-7	N-Nitroso-di-n-propylamine	370 U
67-72-1	Hexachloroethane	370 U
98-95-3	Nitrobenzene	370 U
78-59-1	Isophorone	370 U
88-75-5	2-Nitrophenol	370 U
105-67-9	2,4-Dimethylphenol	370 U
65-85-0	Benzoic acid	1900 U
111-91-1	bis(2-Chloroethoxy)methane	370 U
120-83-2	2,4-Dichlorophenol	370 U
120-82-1	1,2,4-Trichlorobenzene	370 U
91-20-3	Naphthalene	370 U
106-47-8	4-Chloroaniline	370 U
87-68-3	Hexachlorobutadiene	370 U
59-50-7	4-Chloro-3-methylphenol	370 U
91-57-6	2-Methylnaphthalene	370 U
77-47-4	Hexachlorocyclopentadiene	370 U
88-06-2	2,4,6-Trichlorophenol	370 U
95-95-4	2,4,5-Trichlorophenol	370 U
91-58-7	2-Chloronaphthalene	370 U
88-74-4	2-Nitroaniline	370 U
131-11-3	Dimethylphthalate	370 U
606-20-2	2,6-Dinitrotoluene	370 U
208-96-8	Acenaphthylene	370 U

FORM I SV-1 1/87 Rev.

23

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

12022

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437722
Sample wt/vol: 30 (g/mL) G Lab File ID: >C6152
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 11 dec. _____. Date Extracted: 12/22/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 01/04/96
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2--------	3-Nitroaniline	370	U
83-32-9--------	Acenaphthene	370	U
51-28-5--------	2,4-Dinitrophenol	930	U
100-02-7-------	4-Nitrophenol	930	U
132-64-9-------	Dibenzofuran	370	U
121-14-2-------	2,4-Dinitrotoluene	370	U
84-66-2--------	Diethylphthalate	370	U
7005-72-3------	4-Chlorophenyl-phenylether	370	U
86-73-7--------	Fluorene	370	U
100-01-6-------	4-Nitroaniline	370	U
534-52-1-------	4,6-Dinitro-2-methylphenol	930	U
86-30-6--------	N-Nitrosodiphenylamine (1)	370	U
101-55-3-------	4-Bromophenyl-phenylether	370	U
118-74-1-------	Hexachlorobenzene	370	U
87-86-5--------	Pentachlorophenol	930	U
85-01-8--------	Phenanthrene	370	U
120-12-7-------	Anthracene	370	U
86-74-8--------	Carbazole	370	U
84-74-2--------	Di-n-butylphthalate	370	U
206-44-0-------	Fluoranthene	370	U
129-00-0-------	Pyrene	370	U
85-68-7--------	Butylbenzylphthalate	370	U
91-94-1--------	3,3'-Dichlorobenzidine	750	U
56-55-3--------	Benzo(a)anthracene	370	U
117-81-7-------	bis(2-Ethylhexyl)phthalate	370	U
218-01-9-------	Chrysene	370	U
117-84-0-------	Di-n-octylphthalate	130	J
205-99-2-------	Benzo(b)fluoranthene	370	U
207-08-9-------	Benzo(k)fluoranthene	370	U
50-32-8--------	Benzo(a)pyrene	370	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	370	U
53-70-3--------	Dibenz(a,h)anthracene	370	U
191-24-2-------	Benzo(g,h,i)perylene	370	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

24

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. SW 2437723
Collected: 12/20/95 at 12:23 by TE

Submitted: 12/21/95 Reported: 1/12/96
Discard: 3/13/96

FT-SB102-0002 Grab Soil Sample

NWIRP Calverton, NY CTO-223
20002 SDG#: CAL14-04

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
1421	CLP Form I - VOA's			See Page 3		
4593	TCL Volatiles by 8240	see form I				
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 4		
4688	TCL SW846 Semivolatiles Soil	see form I				
4689	TCL SW846 Semivolatiles/Soil	see form I				
0111	Moisture	6.6	0.5	% by wt.		
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.					
1562	Petroleum Hydrocarbons	90.	20.	mg/kg	100.	20.

Petroleum hydrocarbons were detected in the method blank at a concentration of 12 mg/kg on an as received basis. This blank value was not subtracted from the analytical result. Due to the nature of this analysis, it is typical to have a result for the blank.

Bis(2-ethylhexyl)phthalate was detected in the method blank at a concentration of 120.0 ug/kg. The blank value was not subtracted from the analytical result.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
at (717) 656-2300
12:56:41 D 0002 7 122294 497384
232 948.19 00094819 ASR000

25

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. SW 2437723
Collected: 12/20/95 at 12:23 by TE

Submitted: 12/21/95 Reported: 1/12/96
Discard: 3/13/96

FT-SB102-0002 Grab Soil Sample

NWIRP Calverton, NY CTO-223
20002 SDG#: CAL14-04

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.05	mg/kg	N.D.	0.05
1982	Beta BHC	N.D.	0.05	mg/kg	N.D.	0.05
1983	Delta BHC	N.D.	0.05	mg/kg	N.D.	0.05
1218	Gamma BHC - Lindane	N.D.	0.05	mg/kg	N.D.	0.05
1219	Heptachlor	N.D.	0.05	mg/kg	N.D.	0.05
1220	Aldrin	N.D.	0.05	mg/kg	N.D.	0.05
1984	Heptachlor Epoxide	N.D.	0.05	mg/kg	N.D.	0.05
1989	Endosulfan I	N.D.	0.05	mg/kg	N.D.	0.05
1222	Dieldrin	N.D.	0.05	mg/kg	N.D.	0.05
1985	DDE	N.D.	0.05	mg/kg	N.D.	0.05
1223	Endrin	N.D.	0.05	mg/kg	N.D.	0.05
1990	Endosulfan II	N.D.	0.05	mg/kg	N.D.	0.05
1986	DDD	N.D.	0.05	mg/kg	N.D.	0.05
1991	Endosulfan Sulfate	N.D.	0.2	mg/kg	N.D.	0.2
1221	DDT	N.D.	0.05	mg/kg	N.D.	0.05
3017	Endrin Ketone	N.D.	0.5	mg/kg	N.D.	0.5
1859	Methoxychlor	N.D.	0.3	mg/kg	N.D.	0.3
3025	Alpha Chlordane	N.D.	0.05	mg/kg	N.D.	0.05
3026	Gamma Chlordane	N.D.	0.05	mg/kg	N.D.	0.05
1988	Toxaphene	N.D.	10.	mg/kg	N.D.	10.
1992	Endrin Aldehyde	N.D.	0.5	mg/kg	N.D.	0.5
1993	PCB-1016	N.D.	1.	mg/kg	N.D.	1.
1994	PCB-1221	N.D.	1.	mg/kg	N.D.	1.
1995	PCB-1232	N.D.	1.	mg/kg	N.D.	1.
1996	PCB-1242	N.D.	1.	mg/kg	N.D.	1.
1997	PCB-1248	N.D.	1.	mg/kg	N.D.	1.
1998	PCB-1254	N.D.	1.	mg/kg	N.D.	1.
1999	PCB-1260	N.D.	1.	mg/kg	N.D.	1.

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.
Despite numerous cleanup methods, we were unable to reach our usual quantitation limits.

Questions? Contact your Client Services Representative at (717) 656-2300

26

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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Lancaster Laboratories
A Thermo Analytical Laboratory

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

20002

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437723
Sample wt/vol: 5.0 (g/mL) G Lab File ID: >GDM16
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 6 Date Analyzed: 12/22/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q
74-87-3	Chloromethane	5 U
75-01-4	Vinyl Chloride	5 U
74-83-9	Bromomethane	5 U
75-00-3	Chloroethane	5 U
75-35-4	1,1-Dichloroethene	5 U
67-64-1	Acetone	21 U
75-15-0	Carbon Disulfide	5 U
75-09-2	Methylene Chloride	2 J
156-60-5	trans-1,2-Dichloroethene	5 U
75-34-3	1,1-Dichloroethane	5 U
156-59-2	cis-1,2-Dichloroethene	5 U
67-66-3	Chloroform	5 U
107-06-2	1,2-Dichloroethane	5 U
108-05-4	Vinyl Acetate	11 U
78-93-3	2-Butanone	11 U
71-55-6	1,1,1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
71-43-2	Benzene	5 U
79-01-6	Trichloroethene	5 U
78-87-5	1,2-Dichloropropane	5 U
75-27-4	Bromodichloromethane	5 U
10061-01-5	cis-1,3-Dichloropropene	5 U
10061-02-6	trans-1,3-Dichloropropene	5 U
79-00-5	1,1,2-Trichloroethane	5 U
124-48-1	Dibromochloromethane	5 U
75-25-2	Bromoform	5 U
108-10-1	4-Methyl-2-Pentanone	11 U
108-88-3	Toluene	5 U
127-18-4	Tetrachloroethene	5 U
591-78-6	2-Hexanone	11 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
1330-20-7	Xylene (total)	5 U
100-42-5	Styrene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	5 U

FORM I VOA 1/87 Rev.

27

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations. 2216 Rev. 10/30/95

Lancaster Laboratories
A Thermo Analytical Laboratory

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

20002

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437723
Sample wt/vol: 30 (g/mL) G Lab File ID: >C6153
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 7 dec. _____. Date Extracted: 12/22/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 01/04/96
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	360	U
111-44-4	bis(2-Chloroethyl)ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
100-51-6	Benzyl alcohol	720	U
95-50-1	1,2-Dichlorobenzene	360	U
95-48-7	2-Methylphenol	360	U
108-60-1	2,2'-oxybis(1-Chloropropane)	360	U
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-di-n-propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
65-85-0	Benzoic acid	1800	U
111-91-1	bis(2-Chloroethoxy)methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-methylphenol	360	U
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	360	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	360	U
131-11-3	Dimethylphthalate	360	U
606-20-2	2,6-Dinitrotoluene	360	U
208-96-8	Acenaphthylene	360	U

FORM I SV-1 1/87 Rev.

28

Respectfully Submitted
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Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

20002

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437723
Sample wt/vol: 30 (g/mL) G Lab File ID: >C6153
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 7 dec. _____. Date Extracted: 12/22/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 01/04/96
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2--------	3-Nitroaniline	360	U
83-32-9--------	Acenaphthene	360	U
51-28-5--------	2,4-Dinitrophenol	890	U
100-02-7-------	4-Nitrophenol	890	U
132-64-9-------	Dibenzofuran	360	U
121-14-2-------	2,4-Dinitrotoluene	360	U
84-66-2--------	Diethylphthalate	360	U
7005-72-3------	4-Chlorophenyl-phenylether	360	U
86-73-7--------	Fluorene	360	U
100-01-6-------	4-Nitroaniline	360	U
534-52-1-------	4,6-Dinitro-2-methylphenol	890	U
86-30-6--------	N-Nitrosodiphenylamine (1)	360	U
101-55-3-------	4-Bromophenyl-phenylether	360	U
118-74-1-------	Hexachlorobenzene	360	U
87-86-5--------	Pentachlorophenol	890	U
85-01-8--------	Phenanthrene	160	J
120-12-7-------	Anthracene	360	U
86-74-8--------	Carbazole	360	U
84-74-2--------	Di-n-butylphthalate	360	U
206-44-0-------	Fluoranthene	230	J
129-00-0-------	Pyrene	240	J
85-68-7--------	Butylbenzylphthalate	360	U
91-94-1--------	3,3'-Dichlorobenzidine	720	U
56-55-3--------	Benzo(a)anthracene	100	J
117-81-7-------	bis(2-Ethylhexyl)phthalate	130	J B
218-01-9-------	Chrysene	120	J
117-84-0-------	Di-n-octylphthalate	140	J
205-99-2-------	Benzo(b)fluoranthene	360	U
207-08-9-------	Benzo(k)fluoranthene	360	U
50-32-8--------	Benzo(a)pyrene	360	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	360	U
53-70-3--------	Dibenz(a,h)anthracene	360	U
191-24-2-------	Benzo(g,h,i)perylene	360	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. SW 2437724
Collected: 12/20/95 at 12:54 by TE

Submitted: 12/21/95 Reported: 1/12/96
Discard: 3/13/96

FT-SB102-1517 Grab Soil Sample

NWIRP Calverton, NY CTO-223
21517 SDG#: CAL14-05

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
1421	CLP Form I - VOA's			See Page 3		
4593	TCL Volatiles by 8240	see form I				
	The GC/MS volatile analysis was performed according to the medium level soil method due to the level of target compounds. The quantitation limits were therefore raised.					
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 4		
4688	TCL SW846 Semivolatiles Soil	see form I				
4689	TCL SW846 Semivolatiles/Soil	see form I				
0111	Moisture	16.0	0.5	% by wt.		
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.					
1562	Petroleum Hydrocarbons	23,000.	2,000.	mg/kg	27,000.	2,000.

Bis(2-ethylhexyl)phthalate was detected in the method blank at a concentration of 120.0 ug/kg. The blank value was not subtracted from the analytical result.

The quantitation limits for the GC/MS semivolatile compounds were raised due to the high concentration of non-target compounds.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
at (717) 656-2300
12:57:47 D 0002 7 122294 497384
232 948.19 00094819 ASR000

30

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. SW 2437724
Collected: 12/20/95 at 12:54 by TE

Submitted: 12/21/95 Reported: 1/12/96
Discard: 3/13/96

FT-SB102-1517 Grab Soil Sample

NWIRP Calverton, NY CTO-223
21517 SDG#: CAL14-05

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS		DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids								
1981	Alpha BHC	N.D.		0.05	mg/kg	N.D.		0.06
1982	Beta BHC	N.D.		0.05	mg/kg	N.D.		0.06
1983	Delta BHC	N.D.		0.05	mg/kg	N.D.		0.06
1218	Gamma BHC - Lindane	N.D.		0.05	mg/kg	N.D.		0.06
1219	Heptachlor	N.D.		0.05	mg/kg	N.D.		0.06
1220	Aldrin	N.D.		0.05	mg/kg	N.D.		0.06
1984	Heptachlor Epoxide	N.D.		0.05	mg/kg	N.D.		0.06
1989	Endosulfan I	N.D.		0.05	mg/kg	N.D.		0.06
1222	Dieldrin	N.D.		0.05	mg/kg	N.D.		0.06
1985	DDE	N.D.		0.05	mg/kg	N.D.		0.06
1223	Endrin	N.D.		0.05	mg/kg	N.D.		0.06
1990	Endosulfan II	0.03		0.01	mg/kg	0.03		0.01
1986	DDD	0.01		0.01	mg/kg	0.02		0.01
1991	Endosulfan Sulfate	N.D.		0.2	mg/kg	N.D.		0.2
1221	DDT	N.D.		0.05	mg/kg	N.D.		0.06
3017	Endrin Ketone	N.D.		0.5	mg/kg	N.D.		0.6
1859	Methoxychlor	N.D.		0.3	mg/kg	N.D.		0.4
3025	Alpha Chlordane	N.D.		0.05	mg/kg	N.D.		0.06
3026	Gamma Chlordane	N.D.		0.05	mg/kg	N.D.		0.06
1988	Toxaphene	N.D.		10.	mg/kg	N.D.		10.
1992	Endrin Aldehyde	0.018	J	0.1	mg/kg	0.021	J	0.1
1993	PCB-1016	N.D.		1.	mg/kg	N.D.		1.
1994	PCB-1221	N.D.		1.	mg/kg	N.D.		1.
1995	PCB-1232	N.D.		1.	mg/kg	N.D.		1.
1996	PCB-1242	N.D.		1.	mg/kg	N.D.		1.
1997	PCB-1248	N.D.		1.	mg/kg	N.D.		1.
1998	PCB-1254	N.D.		1.	mg/kg	N.D.		1.
1999	PCB-1260	1.0		0.2	mg/kg	1.2		0.2

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.
Despite numerous cleanup methods, we were unable to reach our usual quantitation limits.

Questions? Contact your Client Services Representative at (717) 656-2300

31

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

21517

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437724
Sample wt/vol: 4.0 (g/mL) G Lab File ID: >JDQ05
Level: (low/med) MED Date Received: 12/21/95
% Moisture: not dec. 16 Date Analyzed: 12/26/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	Q
74-87-3	Chloromethane	740 U
75-01-4	Vinyl Chloride	740 U
74-83-9	Bromomethane	740 U
75-00-3	Chloroethane	740 U
75-35-4	1,1-Dichloroethene	740 U
67-64-1	Acetone	3000 U
75-15-0	Carbon Disulfide	740 U
75-09-2	Methylene Chloride	740 U
156-60-5	trans-1,2-Dichloroethene	740 U
75-34-3	1,1-Dichloroethane	740 U
156-59-2	cis-1,2-Dichloroethene	740 U
67-66-3	Chloroform	740 U
107-06-2	1,2-Dichloroethane	740 U
108-05-4	Vinyl Acetate	1500 U
78-93-3	2-Butanone	1500 U
71-55-6	1,1,1-Trichloroethane	740 U
56-23-5	Carbon Tetrachloride	740 U
71-43-2	Benzene	740 U
79-01-6	Trichloroethene	740 U
78-87-5	1,2-Dichloropropane	740 U
75-27-4	Bromodichloromethane	740 U
10061-01-5	cis-1,3-Dichloropropene	740 U
10061-02-6	trans-1,3-Dichloropropene	740 U
79-00-5	1,1,2-Trichloroethane	740 U
124-48-1	Dibromochloromethane	740 U
75-25-2	Bromoform	740 U
108-10-1	4-Methyl-2-Pentanone	1500 U
108-88-3	Toluene	4400
127-18-4	Tetrachloroethene	210 J
591-78-6	2-Hexanone	1500 U
108-90-7	Chlorobenzene	740 U
100-41-4	Ethylbenzene	1600
1330-20-7	Xylene (total)	13000
100-42-5	Styrene	740 U
79-34-5	1,1,2,2-Tetrachloroethane	740 U

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations. 2216 Rev. 10/30/95

Lancaster Laboratories
A Thermo Analytical Laboratory

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

21517

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437724
Sample wt/vol: 30 (g/mL) G Lab File ID: >C6210
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 16 dec. _____. Date Extracted: 12/22/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 01/05/96
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 5.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2000	U
111-44-4	bis(2-Chloroethyl)ether	2000	U
95-57-8	2-Chlorophenol	2000	U
541-73-1	1,3-Dichlorobenzene	2000	U
106-46-7	1,4-Dichlorobenzene	2000	U
100-51-6	Benzyl alcohol	4000	U
95-50-1	1,2-Dichlorobenzene	700	J
95-48-7	2-Methylphenol	2000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	2000	U
106-44-5	4-Methylphenol	2000	U
621-64-7	N-Nitroso-di-n-propylamine	2000	U
67-72-1	Hexachloroethane	2000	U
98-95-3	Nitrobenzene	2000	U
78-59-1	Isophorone	3000	
88-75-5	2-Nitrophenol	2000	U
105-67-9	2,4-Dimethylphenol	2000	U
65-85-0	Benzoic acid	9900	U
111-91-1	bis(2-Chloroethoxy)methane	2000	U
120-83-2	2,4-Dichlorophenol	2000	U
120-82-1	1,2,4-Trichlorobenzene	2000	U
91-20-3	Naphthalene	3800	
106-47-8	4-Chloroaniline	2000	U
87-68-3	Hexachlorobutadiene	2000	U
59-50-7	4-Chloro-3-methylphenol	2000	U
91-57-6	2-Methylnaphthalene	11000	
77-47-4	Hexachlorocyclopentadiene	2000	U
88-06-2	2,4,6-Trichlorophenol	2000	U
95-95-4	2,4,5-Trichlorophenol	2000	U
91-58-7	2-Chloronaphthalene	2000	U
88-74-4	2-Nitroaniline	2000	U
131-11-3	Dimethylphthalate	2000	U
606-20-2	2,6-Dinitrotoluene	2000	U
208-96-8	Acenaphthylene	2000	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

21517

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437724
Sample wt/vol: 30 (g/mL) G Lab File ID: >C6210
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 16 dec. _____. Date Extracted: 12/22/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 01/05/96
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2000	U
83-32-9	Acenaphthene	770	J
51-28-5	2,4-Dinitrophenol	5000	U
100-02-7	4-Nitrophenol	5000	U
132-64-9	Dibenzofuran	700	J
121-14-2	2,4-Dinitrotoluene	2000	U
84-66-2	Diethylphthalate	2000	U
7005-72-3	4-Chlorophenyl-phenylether	2000	U
86-73-7	Fluorene	2000	U
100-01-6	4-Nitroaniline	2000	U
534-52-1	4,6-Dinitro-2-methylphenol	5000	U
86-30-6	N-Nitrosodiphenylamine (1)	2000	U
101-55-3	4-Bromophenyl-phenylether	2000	U
118-74-1	Hexachlorobenzene	2000	U
87-86-5	Pentachlorophenol	5000	U
85-01-8	Phenanthrene	2600	
120-12-7	Anthracene	2000	U
86-74-8	Carbazole	2000	U
84-74-2	Di-n-butylphthalate	2000	U
206-44-0	Fluoranthene	2100	
129-00-0	Pyrene	1700	J
85-68-7	Butylbenzylphthalate	710	J
91-94-1	3,3'-Dichlorobenzidine	4000	U
56-55-3	Benzo(a)anthracene	550	J
117-81-7	bis(2-Ethylhexyl)phthalate	4900	B
218-01-9	Chrysene	600	J
117-84-0	Di-n-octylphthalate	2000	U
205-99-2	Benzo(b)fluoranthene	520	J
207-08-9	Benzo(k)fluoranthene	2000	U
50-32-8	Benzo(a)pyrene	2000	U
193-39-5	Indeno(1,2,3-cd)pyrene	2000	U
53-70-3	Dibenz(a,h)anthracene	2000	U
191-24-2	Benzo(g,h,i)perylene	2000	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. SW 2437725
Collected: 12/20/95 at 13:54 by TE

Submitted: 12/21/95 Reported: 1/12/96
Discard: 3/13/96

FT-SB103-0002 Grab Soil Sample

NWIRP Calverton, NY CTO-223
30002 SDG#: CAL14-06

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
1421	CLP Form I - VOA's			See Page 3		
4593	TCL Volatiles by 8240	see form I				
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 4		
4688	TCL SW846 Semivolatiles Soil	see form I				
4689	TCL SW846 Semivolatiles/Soil	see form I				
0111	Moisture	3.1	0.5	% by wt.		
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.					
1562	Petroleum Hydrocarbons	N.D.	20.	mg/kg	N.D.	20.

Bis(2-ethylhexyl)phthalate was detected in the method blank at a concentration of 120.0 ug/kg. The blank value was not subtracted from the analytical result.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
at (717) 656-2300
12:59:01 D 0002 7 122294 497384
232 948.19 00094819 ASR000

35

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. SW 2437725
Collected: 12/20/95 at 13:54 by TE

Submitted: 12/21/95 Reported: 1/12/96
Discard: 3/13/96

FT-SB103-0002 Grab Soil Sample

NWIRP Calverton, NY CTO-223
30002 SDG#: CAL14-06

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids						
1981	Alpha BHC	N.D.	0.01	mg/kg	N.D.	0.01
1982	Beta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1983	Delta BHC	N.D.	0.01	mg/kg	N.D.	0.01
1218	Gamma BHC - Lindane	N.D.	0.01	mg/kg	N.D.	0.01
1219	Heptachlor	N.D.	0.01	mg/kg	N.D.	0.01
1220	Aldrin	N.D.	0.01	mg/kg	N.D.	0.01
1984	Heptachlor Epoxide	N.D.	0.01	mg/kg	N.D.	0.01
1989	Endosulfan I	N.D.	0.01	mg/kg	N.D.	0.01
1222	Dieldrin	N.D.	0.01	mg/kg	N.D.	0.01
1985	DDE	N.D.	0.01	mg/kg	N.D.	0.01
1223	Endrin	N.D.	0.01	mg/kg	N.D.	0.01
1990	Endosulfan II	N.D.	0.01	mg/kg	N.D.	0.01
1986	DDD	N.D.	0.01	mg/kg	N.D.	0.01
1991	Endosulfan Sulfate	N.D.	0.06	mg/kg	N.D.	0.06
1221	DDT	N.D.	0.01	mg/kg	N.D.	0.01
3017	Endrin Ketone	N.D.	0.2	mg/kg	N.D.	0.2
1859	Methoxychlor	N.D.	0.1	mg/kg	N.D.	0.1
3025	Alpha Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
3026	Gamma Chlordane	N.D.	0.01	mg/kg	N.D.	0.01
1988	Toxaphene	N.D.	4.	mg/kg	N.D.	4.
1992	Endrin Aldehyde	N.D.	0.1	mg/kg	N.D.	0.1
1993	PCB-1016	N.D.	0.2	mg/kg	N.D.	0.2
1994	PCB-1221	N.D.	0.2	mg/kg	N.D.	0.2
1995	PCB-1232	N.D.	0.2	mg/kg	N.D.	0.2
1996	PCB-1242	N.D.	0.2	mg/kg	N.D.	0.2
1997	PCB-1248	N.D.	0.2	mg/kg	N.D.	0.2
1998	PCB-1254	N.D.	0.2	mg/kg	N.D.	0.2
1999	PCB-1260	N.D.	0.2	mg/kg	N.D.	0.2

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.
Despite numerous cleanup methods, we were unable to reach our usual quantitation limits.

Questions? Contact your Client Services Representative
at (717) 656-2300

36

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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Lancaster Laboratories
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

30002

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437725
Sample wt/vol: 5.0 (g/mL) G Lab File ID: >GDM17
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 3 Date Analyzed: 12/22/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	21	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

37

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations. 2216 Rev. 10/30/95

Lancaster Laboratories
A Thermo Analytical Laboratory

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

30002

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437725
Sample wt/vol: 30 (g/mL) G Lab File ID: >C6154
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 3 dec. _____. Date Extracted: 12/22/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 01/04/96
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl)ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
100-51-6	Benzyl alcohol	690	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
65-85-0	Benzoic acid	1800	U
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	340	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	340	U
131-11-3	Dimethylphthalate	340	U
606-20-2	2,6-Dinitrotoluene	340	U
208-96-8	Acenaphthylene	340	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
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Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

30002

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437725
Sample wt/vol: 30 (g/mL) G Lab File ID: >C6154
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 3 dec. _____. Date Extracted: 12/22/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 01/04/96
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	340	U
83-32-9	Acenaphthene	340	U
51-28-5	2,4-Dinitrophenol	860	U
100-02-7	4-Nitrophenol	860	U
132-64-9	Dibenzofuran	340	U
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	340	U
100-01-6	4-Nitroaniline	340	U
534-52-1	4,6-Dinitro-2-methylphenol	860	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	860	U
85-01-8	Phenanthrene	340	U
120-12-7	Anthracene	340	U
86-74-8	Carbazole	340	U
84-74-2	Di-n-butylphthalate	340	U
206-44-0	Fluoranthene	340	U
129-00-0	Pyrene	340	U
85-68-7	Butylbenzylphthalate	340	U
91-94-1	3,3'-Dichlorobenzidine	690	U
56-55-3	Benzo(a)anthracene	340	U
117-81-7	bis(2-Ethylhexyl)phthalate	150	J B
218-01-9	Chrysene	340	U
117-84-0	Di-n-octylphthalate	340	U
205-99-2	Benzo(b)fluoranthene	340	U
207-08-9	Benzo(k)fluoranthene	340	U
50-32-8	Benzo(a)pyrene	340	U
193-39-5	Indeno(1,2,3-cd)pyrene	340	U
53-70-3	Dibenz(a,h)anthracene	340	U
191-24-2	Benzo(g,h,i)perylene	340	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. SW 2437726
Collected: 12/20/95 at 14:20 by TE

Submitted: 12/21/95 Reported: 1/12/96
Discard: 3/13/96

FT-SB103-1416 Grab Soil Sample

NWIRP Calverton, NY CTO-223
31416 SDG#: CAL14-07*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	AS RECEIVED LIMIT OF QUANTITATION	UNITS	DRY WEIGHT RESULTS	DRY WEIGHT LIMIT OF QUANTITATION
1421	CLP Form I - VOA's			See Page 4		
4593	TCL Volatiles by 8240	see form I				
	The GC/MS volatile analysis was performed according to the medium level soil method due to the level of target compounds. The quantitation limits were therefore raised.					
1225	TCL Pesticides in Solids			See Page 2		
1422	CLP Form I - Semi-volatiles			See Page 5		
4688	TCL SW846 Semivolatiles Soil	see form I				
4689	TCL SW846 Semivolatiles/Soil	see form I				
0111	Moisture	14.4	0.5	% by wt.		
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius.					
1562	Petroleum Hydrocarbons	7,000.	1,000.	mg/kg	8,000.	1,000.

Bis(2-ethylhexyl)phthalate was detected in the method blank at a concentration of 120.0 ug/kg. The blank value was not subtracted from the analytical result.

The quantitation limits for the GC/MS semivolatile compounds were raised due to the high concentration of non-target compounds.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
at (717) 656-2300
13:00:19 D 0002 7 122294 497384
232 948.19 00094819 ASR000

40

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. SW 2437726
Collected: 12/20/95 at 14:20 by TE

Submitted: 12/21/95 Reported: 1/12/96
Discard: 3/13/96

FT-SB103-1416 Grab Soil Sample

NWIRP Calverton, NY CTO-223
31416 SDG#: CAL14-07*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		AS RECEIVED LIMIT OF QUANTITATION	AS RECEIVED UNITS	DRY WEIGHT RESULTS		DRY WEIGHT LIMIT OF QUANTITATION
TCL Pesticides in Solids								
1981	Alpha BHC	N.D.		0.01	mg/kg	N.D.		0.01
1982	Beta BHC	0.002	J	0.01	mg/kg	0.003	J	0.01
1983	Delta BHC	N.D.		0.01	mg/kg	N.D.		0.01
1218	Gamma BHC - Lindane	N.D.		0.01	mg/kg	N.D.		0.01
1219	Heptachlor	N.D.		0.01	mg/kg	N.D.		0.01
1220	Aldrin	N.D.		0.01	mg/kg	N.D.		0.01
1984	Heptachlor Epoxide	N.D.		0.01	mg/kg	N.D.		0.01
1989	Endosulfan I	N.D.		0.01	mg/kg	N.D.		0.01
1222	Dieldrin	N.D.		0.01	mg/kg	N.D.		0.01
1985	DDE	N.D.		0.01	mg/kg	N.D.		0.01
1223	Endrin	N.D.		0.01	mg/kg	N.D.		0.01
1990	Endosulfan II	N.D.		0.01	mg/kg	N.D.		0.01
1986	DDD	N.D.		0.01	mg/kg	N.D.		0.01
1991	Endosulfan Sulfate	N.D.		0.06	mg/kg	N.D.		0.07
1221	DDT	N.D.		0.01	mg/kg	N.D.		0.01
3017	Endrin Ketone	N.D.		0.2	mg/kg	N.D.		0.2
1859	Methoxychlor	N.D.		0.1	mg/kg	N.D.		0.1
3025	Alpha Chlordane	N.D.		0.01	mg/kg	N.D.		0.01
3026	Gamma Chlordane	N.D.		0.01	mg/kg	N.D.		0.01
1988	Toxaphene	N.D.		4.	mg/kg	N.D.		5.
1992	Endrin Aldehyde	N.D.		0.2	mg/kg	N.D.		0.2
1993	PCB-1016	N.D.		0.2	mg/kg	N.D.		0.2
1994	PCB-1221	N.D.		0.2	mg/kg	N.D.		0.2
1995	PCB-1232	N.D.		0.2	mg/kg	N.D.		0.2
1996	PCB-1242	N.D.		0.2	mg/kg	N.D.		0.2
1997	PCB-1248	N.D.		0.2	mg/kg	N.D.		0.2
1998	PCB-1254	N.D.		0.2	mg/kg	N.D.		0.2
1999	PCB-1260	N.D.		0.4	mg/kg	N.D.		0.5

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.
Despite numerous cleanup methods, we were unable to reach our usual quantitation limits.

Questions? Contact your Client Services Representative at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

MEMBER ACIL
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PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

31416

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437726
Sample wt/vol: 4.0 (g/mL) G Lab File ID: >JD002
Level: (low/med) MED Date Received: 12/21/95
% Moisture: not dec. 14 Date Analyzed: 12/26/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	730	U
75-01-4	Vinyl Chloride	730	U
74-83-9	Bromomethane	730	U
75-00-3	Chloroethane	730	U
75-35-4	1,1-Dichloroethene	730	U
67-64-1	Acetone	2900	U
75-15-0	Carbon Disulfide	730	U
75-09-2	Methylene Chloride	730	U
156-60-5	trans-1,2-Dichloroethene	730	U
75-34-3	1,1-Dichloroethane	730	U
156-59-2	cis-1,2-Dichloroethene	730	U
67-66-3	Chloroform	730	U
107-06-2	1,2-Dichloroethane	730	U
108-05-4	Vinyl Acetate	1400	U
78-93-3	2-Butanone	1400	U
71-55-6	1,1,1-Trichloroethane	1300	
56-23-5	Carbon Tetrachloride	730	U
71-43-2	Benzene	730	U
79-01-6	Trichloroethene	730	U
78-87-5	1,2-Dichloropropane	730	U
75-27-4	Bromodichloromethane	730	U
10061-01-5	cis-1,3-Dichloropropene	730	U
10061-02-6	trans-1,3-Dichloropropene	730	U
79-00-5	1,1,2-Trichloroethane	730	U
124-48-1	Dibromochloromethane	730	U
75-25-2	Bromoform	730	U
108-10-1	4-Methyl-2-Pentanone	1400	U
108-88-3	Toluene	3000	
127-18-4	Tetrachloroethene	730	U
591-78-6	2-Hexanone	1400	U
108-90-7	Chlorobenzene	730	U
100-41-4	Ethylbenzene	1200	
1330-20-7	Xylene (total)	11000	
100-42-5	Styrene	730	U
79-34-5	1,1,2,2-Tetrachloroethane	730	U

FORM I VOA 1/87 Rev.

42

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2425 New Holland Pike
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717-656-2300 Fax: 717-656-2681

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations. 2216 Rev. 10/30/95

Lancaster Laboratories
A Thermo Analytical Laboratory

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

31416

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437726
Sample wt/vol: 30 (g/mL) G Lab File ID: >C6155
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 14 dec. _____. Date Extracted: 12/22/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 01/04/96
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1900	U
111-44-4	bis(2-Chloroethyl)ether	1900	U
95-57-8	2-Chlorophenol	1900	U
541-73-1	1,3-Dichlorobenzene	1900	U
106-46-7	1,4-Dichlorobenzene	1900	U
100-51-6	Benzyl alcohol	3900	U
95-50-1	1,2-Dichlorobenzene	1900	U
95-48-7	2-Methylphenol	1900	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1900	U
106-44-5	4-Methylphenol	1900	U
621-64-7	N-Nitroso-di-n-propylamine	1900	U
67-72-1	Hexachloroethane	1900	U
98-95-3	Nitrobenzene	1900	U
78-59-1	Isophorone	1200	J
88-75-5	2-Nitrophenol	1900	U
105-67-9	2,4-Dimethylphenol	1900	U
65-85-0	Benzoic acid	9900	U
111-91-1	bis(2-Chloroethoxy)methane	1900	U
120-83-2	2,4-Dichlorophenol	1900	U
120-82-1	1,2,4-Trichlorobenzene	1900	U
91-20-3	Naphthalene	2500	
106-47-8	4-Chloroaniline	1900	U
87-68-3	Hexachlorobutadiene	1900	U
59-50-7	4-Chloro-3-methylphenol	1900	U
91-57-6	2-Methylnaphthalene	8700	
77-47-4	Hexachlorocyclopentadiene	1900	U
88-06-2	2,4,6-Trichlorophenol	1900	U
95-95-4	2,4,5-Trichlorophenol	1900	U
91-58-7	2-Chloronaphthalene	1900	U
88-74-4	2-Nitroaniline	1900	U
131-11-3	Dimethylphthalate	1900	U
606-20-2	2,6-Dinitrotoluene	1900	U
208-96-8	Acenaphthylene	1900	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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2425 New Holland Pike
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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

31416

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: 2437726
Sample wt/vol: 30 (g/mL) G Lab File ID: >C6155
Level: (low/med) LOW Date Received: 12/21/95
% Moisture: not dec. 14 dec. _____. Date Extracted: 12/22/95
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 01/04/96
GPC Cleanup: (Y/N) Y pH: _____. Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	1900	U
51-28-5	2,4-Dinitrophenol	4800	U
100-02-7	4-Nitrophenol	4800	U
132-64-9	Dibenzofuran	260	J
121-14-2	2,4-Dinitrotoluene	1900	U
84-66-2	Diethylphthalate	1900	U
7005-72-3	4-Chlorophenyl-phenylether	1900	U
86-73-7	Fluorene	660	J
100-01-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-methylphenol	4800	U
86-30-6	N-Nitrosodiphenylamine (1)	1900	U
101-55-3	4-Bromophenyl-phenylether	1900	U
118-74-1	Hexachlorobenzene	1900	U
87-86-5	Pentachlorophenol	4800	U
85-01-8	Phenanthrene	310	J
120-12-7	Anthracene	1900	U
86-74-8	Carbazole	1900	U
84-74-2	Di-n-butylphthalate	260	J
206-44-0	Fluoranthene	1900	U
129-00-0	Pyrene	1900	U
85-68-7	Butylbenzylphthalate	550	J
91-94-1	3,3'-Dichlorobenzidine	3900	U
56-55-3	Benzo(a)anthracene	1900	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	J B
218-01-9	Chrysene	1900	U
117-84-0	Di-n-octylphthalate	630	J
205-99-2	Benzo(b)fluoranthene	1900	U
207-08-9	Benzo(k)fluoranthene	1900	U
50-32-8	Benzo(a)pyrene	1900	U
193-39-5	Indeno(1,2,3-cd)pyrene	1900	U
53-70-3	Dibenz(a,h)anthracene	1900	U
191-24-2	Benzo(g,h,i)perylene	1900	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. AQ 2374043
Collected: 9/ 1/95 at 10:55 by DB

Submitted: 9/ 2/95 Reported: 9/ 8/95
Discard: 9/ 8/95

FT-ASOO-FB Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
ASOFB SDG#: CAL03-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9001	TCL Volatiles in Air	See Attached		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
13:23:23 D 0002 3 122294 481985
050 0.00 00035000 DIS000

Respectfully Submitted
Dennis Urban, M.S.
Chemist IV

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See reverse side for explanation of symbols and abbreviations.

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:FT-AS00-FB
Lab Sample ID:2374043
Injection Volume: 250.0 cc
Instrument ID:HP4508

Date Collected: 9/01/95
Date Analyzed: 9/05/95
Nominal Volume: 250 cc
Lab File ID:C:\HPCHEM\1\DATA\SEP05\0901017.D

Date Received: 9/02/95
Time Analyzed:20:29
Dilution Factor: 1.0

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	0.4	U
75-01-4	Vinyl Chloride	0.6	U
74-83-9	Bromomethane	0.8	U
75-00-3	Chloroethane	0.6	U
75-35-4	1,1-Dichloroethene	0.9	U
67-64-1	Acetone	170	
75-15-0	Carbon Disulfide	2	U
75-09-2	Methylene Chloride	31	
156-60-5	trans-1,2-Dichloroethene	0.9	U
75-34-3	1,1-Dichloroethane	0.9	U
156-59-2	cis-1,2-Dichloroethene	0.9	U
78-93-3	2-Butanone	29	
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	J
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	0.9	U
71-43-2	Benzene	2	J
79-01-6	Trichloroethene	2	J
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
108-88-3	Toluene	18	
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	2	J
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	2	U
106-93-4	1,2-Dibromoethane	2	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	1	J
1330-20-7	m/p-Xylene	4	J
95-47-6	o-Xylene	2	J
100-42-5	Styrene	1	J
75-25-2	Bromoform	2	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	3	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

MEMBER ACIL
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Lancaster, PA 17605-2425
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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:FT-AS00-FB Date Collected: 9/01/95 Date Received: 9/02/95
Lab Sample ID:2374043 Date Analyzed: 9/05/95 Time Analyzed:20:29
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4508 Lab File ID:C:\HPCHEM\1\DATA\SEP05\0901017.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	8	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. AQ 2374044
Collected: 9/ 1/95 at 11:25 by DB

Submitted: 9/ 2/95 Reported: 9/11/95
Discard: 9/11/95

FT-ASOO-01 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
ASOO1 SDG#: CAL03-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9001	TCL Volatiles in Air	See Attached		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
08:31:39 D 0002 3 REP 122294 481985
288 0.00 00035000 DIS000

Respectfully Submitted
Dennis Urban, M.S.
Chemist IV

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Lancaster Laboratories
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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:FT-AS00-01 Date Collected: 9/01/95 Date Received: 9/02/95
Lab Sample ID:2374044 Date Analyzed: 9/05/95 Time Analyzed:22:49
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4508 Lab File ID:C:\HPCHEM\1\DATA\SEP05\1201020.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	0.4	U
75-01-4	Vinyl Chloride	170	
74-83-9	Bromomethane	0.8	U
75-00-3	Chloroethane	4600	
75-35-4	1,1-Dichloroethene	87	
67-64-1	Acetone	140	
75-15-0	Carbon Disulfide	6	
75-09-2	Methylene Chloride	11	
156-60-5	trans-1,2-Dichloroethene	10	
75-34-3	1,1-Dichloroethane	8600	
156-59-2	cis-1,2-Dichloroethene	990	
78-93-3	2-Butanone	2	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	9700	
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	5	
71-43-2	Benzene	67	
79-01-6	Trichloroethene	440	
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
108-88-3	Toluene	2700	
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	45	
127-18-4	Tetrachloroethene	920	
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	2	U
106-93-4	1,2-Dibromoethane	2	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	310	
1330-20-7	m/p-Xylene	1200	
95-47-6	o-Xylene	700	
100-42-5	Styrene	0.9	U
75-25-2	Bromoform	2	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	3	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

MEMBER ACIL

Lancaster Laboratories
2425 New Holland Pike
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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:FT-AS00-01 Date Collected: 9/01/95 Date Received: 9/02/95
Lab Sample ID:2374044 Date Analyzed: 9/05/95 Time Analyzed:22:49
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4508 Lab File ID:C:\HPCHEM\1\DATA\SEP05\1201020.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	8	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. AQ 2374045
Collected: 9/ 1/95 at 11:00 by DB
through at :
Submitted: 9/ 2/95 Reported: 9/25/95
Discard: 9/25/95

FT-ASOO-02 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
ASOO2 SDG#: CAL03-03

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9001	TCL Volatiles in Air	See Attached		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
10:23:07 D 0002 3 REP 122294 481985
386 0.00 00035000 DIS000

Respectfully Submitted
Dennis Urban, M.S.
Chemist IV

MEMBER ACIL
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2425 New Holland Pike
P.O. Box 12425
Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:FT-AS00-02 Date Collected: 9/01/95 Date Received: 9/02/95
Lab Sample ID:2374045 Date Analyzed: 9/07/95 Time Analyzed:00:11
Injection Volume: 50.0 cc Nominal Volume: 250 cc Dilution Factor: 5.0
Instrument ID:HP4508 Lab File ID:C:\HPCHEM\1\DATA\SEP06\1201017.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	2	U
75-01-4	Vinyl Chloride	5	D
74-83-9	Bromomethane	4	U
75-00-3	Chloroethane	3	U
75-35-4	1,1-Dichloroethene	4	U
67-64-1	Acetone	150	D
75-15-0	Carbon Disulfide	8	U
75-09-2	Methylene Chloride	39	D
156-60-5	trans-1,2-Dichloroethene	4	U
75-34-3	1,1-Dichloroethane	4	U
156-59-2	cis-1,2-Dichloroethene	4	U
78-93-3	2-Butanone	94	D
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	7	U
107-06-2	1,2-Dichloroethane	4	U
71-43-2	Benzene	3	U
79-01-6	Trichloroethene	6	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	7	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-Pentanone	11	U
108-88-3	Toluene	28	D
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	6	U
127-18-4	Tetrachloroethene	7	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	9	U
106-93-4	1,2-Dibromoethane	8	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylene	7	D
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	11	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
541-73-1	1,3-Dichlorobenzene	16	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:FT-AS00-02 Date Collected: 9/01/95 Date Received: 9/02/95
Lab Sample ID:2374045 Date Analyzed: 9/07/95 Time Analyzed:00:11
Injection Volume: 50.0 cc Nominal Volume: 250 cc Dilution Factor: 5.0
Instrument ID:HP4508 Lab File ID:C:\HPCHEM\1\DATA\SEP06\1201017.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	16	U
95-50-1	1,2-Dichlorobenzene	16	U
120-82-1	1,2,4-Trichlorobenzene	40	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.
in higher limits of detection on this sample.
U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

Respectfully Submitted
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LLI Sample No. AQ 2374045
Collected: 9/ 1/95 at 11:00 by DB
through at :
Submitted: 9/ 2/95 Reported: 9/25/95
Discard: 9/25/95

FT-ASOO-02 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
ASOO2 SDG#: CAL03-03

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9001	TCL Volatiles in Air	See Attached		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
10:23:07 D 0002 3 REP 122294 481985
386 0.00 00035000 DIS000

Respectfully Submitted
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Chemist IV

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LLI Sample No. AQ 2376564
Collected: 9/ 7/95 at 09:40 by CF

Submitted: 9/ 8/95 Reported: 9/13/95
Discard: 9/13/95

FT-AS00-FB Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
970FB SDG#: CAL03-04

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9382	TCL Volatiles in Air	See Attached		

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1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
13:39:26 D 0002 3 122294 482615
050 0.00 00035000 DIS000

Respectfully Submitted
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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:970FB Date Collected: 9/07/95 Date Received: 9/08/95
Lab Sample ID:2376564 Date Analyzed: 9/12/95 Time Analyzed:03:52
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4224 Lab File ID:C:\HPCHEM\1\DATA\SEP11\1501027.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	2	J
75-01-4	Vinyl Chloride	0.6	U
74-83-9	Bromomethane	0.8	U
75-00-3	Chloroethane	4	
75-35-4	1,1-Dichloroethene	0.9	U
67-64-1	Acetone	120	
75-15-0	Carbon Disulfide	14	
75-09-2	Methylene Chloride	28	
156-60-5	trans-1,2-Dichloroethene	0.9	U
75-34-3	1,1-Dichloroethane	13	
156-59-2	cis-1,2-Dichloroethene	2	J
78-93-3	2-Butanone	19	
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	27	
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	0.9	U
71-43-2	Benzene	2	J
79-01-6	Trichloroethene	4	J
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
108-88-3	Toluene	60	
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	8	
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	2	U
106-93-4	1,2-Dibromoethane	2	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	7	
1330-20-7	m/p-Xylene	25	
95-47-6	o-Xylene	14	
100-42-5	Styrene	4	J
75-25-2	Bromoform	2	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	3	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for [illegible]

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:970FB
Lab Sample ID:2376564
Injection Volume: 250.0 cc
Instrument ID:HP4224

Date Collected: 9/07/95
Date Analyzed: 9/12/95
Nominal Volume: 250 cc
Lab File ID:C:\HPCHEM\1\DATA\SEP11\1501027.D

Date Received: 9/08/95
Time Analyzed:03:52
Dilution Factor: 1.0

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	8	U

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Respectfully Submitted
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LLI Sample No. AQ 2376565
Collected: 9/ 7/95 at 09:20 by CF

Submitted: 9/ 8/95 Reported: 9/13/95
Discard: 9/13/95

FT-AS00-01 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
97001 SDG#: CAL03-05

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9382	TCL Volatiles in Air	See Attached		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
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Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
13:39:41 D 0002 3 122294 482615
050 0.00 00035000 DIS000

Respectfully Submitted
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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:97001 Date Collected: 9/07/95 Date Received: 9/08/95
Lab Sample ID:2376565 Date Analyzed: 9/12/95 Time Analyzed:04:43
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4224 Lab File ID:C:\HPCHEM\1\DATA\SEP11\1601028.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	6	
75-01-4	Vinyl Chloride	49	
74-83-9	Bromomethane	0.8	U
75-00-3	Chloroethane	2200	D
75-35-4	1,1-Dichloroethene	100	
67-64-1	Acetone	100	
75-15-0	Carbon Disulfide	30	
75-09-2	Methylene Chloride	30	
156-60-5	trans-1,2-Dichloroethene	15	
75-34-3	1,1-Dichloroethane	8000	D
156-59-2	cis-1,2-Dichloroethene	820	D
78-93-3	2-Butanone	2	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	11000	D
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	0.9	U
71-43-2	Benzene	68	
79-01-6	Trichloroethene	340	
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
108-88-3	Toluene	2200	D
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	53	
127-18-4	Tetrachloroethene	650	
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	2	U
106-93-4	1,2-Dibromoethane	2	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	230	
1330-20-7	m/p-Xylene	670	
95-47-6	o-Xylene	490	
100-42-5	Styrene	0.9	U
75-25-2	Bromoform	2	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	3	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:97001 Date Collected: 9/07/95 Date Received: 9/08/95
Lab Sample ID:2376565 Date Analyzed: 9/12/95 Time Analyzed:04:43
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4224 Lab File ID:C:\HPCHEM\1\DATA\SEP11\1601028.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	8	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
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Respectfully Submitted
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LLI Sample No. AQ 2376566
Collected: 9/ 7/95 at 09:30 by CF

Submitted: 9/ 8/95 Reported: 9/13/95
Discard: 9/13/95

FT-AS00-02 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
97002 SDG#: CAL03-06

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9382	TCL Volatiles in Air	See Attached		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
13:39:55 D 0002 3 122294 482615
050 0.00 00035000 DIS000

Respectfully Submitted
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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:97002 Date Collected: 9/07/95 Date Received: 9/08/95
Lab Sample ID:2376566 Date Analyzed: 9/12/95 Time Analyzed:05:33
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4224 Lab File ID:C:\HPCHEM\1\DATA\SEP11\1701029.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	0.4	U
75-01-4	Vinyl Chloride	37	
74-83-9	Bromomethane	0.8	U
75-00-3	Chloroethane	270	D
75-35-4	1,1-Dichloroethene	1	J
67-64-1	Acetone	120	
75-15-0	Carbon Disulfide	7	
75-09-2	Methylene Chloride	120	
156-60-5	trans-1,2-Dichloroethene	0.9	U
75-34-3	1,1-Dichloroethane	5	
156-59-2	cis-1,2-Dichloroethene	1	J
78-93-3	2-Butanone	7	
67-66-3	Chloroform	9	
71-55-6	1,1,1-Trichloroethane	13	
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	0.9	U
71-43-2	Benzene	1	J
79-01-6	Trichloroethene	2	J
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
108-88-3	Toluene	33	
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	7	J
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	2	U
106-93-4	1,2-Dibromoethane	2	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	7	
1330-20-7	m/p-Xylene	29	
95-47-6	o-Xylene	17	
100-42-5	Styrene	3	J
75-25-2	Bromoform	2	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	3	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

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Respectfully Submitted
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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:97002 Date Collected: 9/07/95 Date Received: 9/08/95
Lab Sample ID:2376566 Date Analyzed: 9/12/95 Time Analyzed:05:33
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4224 Lab File ID:C:\HPCHEM\1\DATA\SEP11\1701029.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	8	
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	8	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

Respectfully Submitted
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LLI Sample No. AQ 2391160
Collected: 9/29/95 at 08:00 by CF

Submitted: 9/30/95 Reported: 10/10/95
Discard: 10/10/95

FT-AS00-FB Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
AS0FB SDG#: CAL06-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9382	TCL Volatiles in Air	See Attached		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
11:20:28 D 0002 3 REP 122294 485917
386 0.00 00035000 DIS000

Respectfully Submitted
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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:AS00-FB Date Collected: / / Date Received: 9/30/95
Lab Sample ID:2391160 Date Analyzed:10/02/95 Time Analyzed:23:11
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4224 Lab File ID:C:\HPCHEM\1\DATA\OCT02\1301021.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	2	J
75-01-4	Vinyl Chloride	0.6	U
74-83-9	Bromomethane	0.8	U
75-00-3	Chloroethane	0.6	U
75-35-4	1,1-Dichloroethene	0.9	U
67-64-1	Acetone	74	
75-15-0	Carbon Disulfide	5	
75-09-2	Methylene Chloride	12	
156-60-5	trans-1,2-Dichloroethene	0.9	U
75-34-3	1,1-Dichloroethane	0.9	U
156-59-2	cis-1,2-Dichloroethene	0.9	U
78-93-3	2-Butanone	25	
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	2	J
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	0.9	U
71-43-2	Benzene	1	J
79-01-6	Trichloroethene	2	J
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
108-88-3	Toluene	27	
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	46	
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	2	U
106-93-4	1,2-Dibromoethane	2	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	2	J
1330-20-7	m/p-Xylene	6	
95-47-6	o-Xylene	2	J
100-42-5	Styrene	2	B
75-25-2	Bromoform	2	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	3	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader: GC/MS Volatiles

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:AS00-FB Date Collected: / / Date Received: 9/30/95
Lab Sample ID:2391160 Date Analyzed:10/02/95 Time Analyzed:23:11
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4224 Lab File ID:C:\HPCHEM\1\DATA\OCT02\1301021.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	8	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

Respectfully Submitted
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See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. AQ 2391161
Collected: 9/29/95 at 08:30 by CF

Submitted: 9/30/95 Reported: 10/10/95
Discard: 10/10/95

FT-AS00-01 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
AS001 SDG#: CAL06-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9382	TCL Volatiles in Air	See Attached		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
11:20:59 D 0002 3 REP 122294 485917
386 0.00 00035000 DIS000

Respectfully Submitted
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10

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:AS00-01 Date Collected: / / Date Received: 9/30/95
Lab Sample ID:2391161 Date Analyzed:10/03/95 Time Analyzed:00:51
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4224 Lab File ID:C:\HPCHEM\1\DATA\OCT02\1501023.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	19	
75-01-4	Vinyl Chloride	38	
74-83-9	Bromomethane	0.8	U
75-00-3	Chloroethane	1900	
75-35-4	1,1-Dichloroethene	94	
67-64-1	Acetone	41	
75-15-0	Carbon Disulfide	19	
75-09-2	Methylene Chloride	2	U
156-60-5	trans-1,2-Dichloroethene	10	
75-34-3	1,1-Dichloroethane	10000	
156-59-2	cis-1,2-Dichloroethene	940	
78-93-3	2-Butanone	2	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	15000	
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	11	
71-43-2	Benzene	70	
79-01-6	Trichloroethene	270	
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
108-88-3	Toluene	2500	
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	56	
127-18-4	Tetrachloroethene	1000	
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	2	U
106-93-4	1,2-Dibromoethane	2	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	220	
1330-20-7	m/p-Xylene	870	
95-47-6	o-Xylene	660	
100-42-5	Styrene	0.9	U
75-25-2	Bromoform	2	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	3	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

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Group Leader, GC/MS Volatiles

See reverse side for explanation of abbreviations and qualifiers.

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:AS00-01 Date Collected: / / Date Received: 9/30/95
Lab Sample ID:2391161 Date Analyzed:10/03/95 Time Analyzed:00:51
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4224 Lab File ID:C:\HPCHEM\1\DATA\OCT02\1501023.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	4	J
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	8	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

Respectfully Submitted
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LLI Sample No. AQ 2391162
Collected: 9/29/95 at 08:15 by CF

Submitted: 9/30/95 Reported: 10/10/95
Discard: 10/10/95

FT-AS00-02 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
AS002 SDG#: CAL06-03

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9382	TCL Volatiles in Air	See Attached		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
11:21:21 D 0002 3 REP 122294 485917
386 0.00 00035000 DIS000

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:AS00-02 Date Collected: / / Date Received: 9/30/95
Lab Sample ID:2391162 Date Analyzed:10/03/95 Time Analyzed:02:31
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4224 Lab File ID:C:\HPCHEM\1\DATA\OCT02\1701025.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	0.7	J
75-01-4	Vinyl Chloride	17	
74-83-9	Bromomethane	0.8	U
75-00-3	Chloroethane	1300	
75-35-4	1,1-Dichloroethene	0.9	U
67-64-1	Acetone	60	
75-15-0	Carbon Disulfide	2	U
75-09-2	Methylene Chloride	12	
156-60-5	trans-1,2-Dichloroethene	0.9	U
75-34-3	1,1-Dichloroethane	78	
156-59-2	cis-1,2-Dichloroethene	0.9	U
78-93-3	2-Butanone	15	
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	0.9	U
71-43-2	Benzene	0.8	J
79-01-6	Trichloroethene	2	J
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
108-88-3	Toluene	24	
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	23	
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	2	U
106-93-4	1,2-Dibromoethane	2	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	1	J
1330-20-7	m/p-Xylene	5	
95-47-6	o-Xylene	2	J
100-42-5	Styrene	2	B
75-25-2	Bromoform	2	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	3	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

14

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Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:AS00-02 Date Collected: / / Date Received: 9/30/95
Lab Sample ID:2391162 Date Analyzed:10/03/95 Time Analyzed:02:31
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4224 Lab File ID:C:\HPCHEM\1\DATA\OCT02\1701025.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	8	U

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J = Compound detected but below the limit of quantitation.

15

Respectfully Submitted
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LLI Sample No. AQ 2405289
Collected: 10/25/95 at 12:03 by CF

Submitted: 10/26/95 Reported: 11/ 2/95
Discard: 11/ 2/95

FT-ASOO-FB Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
FBASO SDG#: CAL07-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9382	TCL Volatiles in Air	See Attached		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
05:50:34 D 0002 4 122294 489460
050 0.00 00035000 DIS000

Respectfully Submitted 8
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Group Leader, GC/MS Volatiles

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:FBAS0 Date Collected:10/25/95 Date Received:10/26/95
Lab Sample ID:2405289 Date Analyzed:10/27/95 Time Analyzed:13:59
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4508 Lab File ID:C:\HPCHEM\1\DATA\OCT27\0801008.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	0.4	U
75-01-4	Vinyl Chloride	0.6	U
74-83-9	Bromomethane	0.8	U
75-00-3	Chloroethane	0.6	U
75-35-4	1,1-Dichloroethene	0.9	U
67-64-1	Acetone	60	
75-15-0	Carbon Disulfide	2	U
75-09-2	Methylene Chloride	3	J
156-60-5	trans-1,2-Dichloroethene	0.9	U
75-34-3	1,1-Dichloroethane	0.9	U
156-59-2	cis-1,2-Dichloroethene	0.9	U
78-93-3	2-Butanone	14	
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	0.9	U
71-43-2	Benzene	1	J
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
108-88-3	Toluene	33	
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	1	U
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	2	U
106-93-4	1,2-Dibromoethane	2	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	1	J
1330-20-7	m/p-Xylene	4	J
95-47-6	o-Xylene	2	J
100-42-5	Styrene	2	J
75-25-2	Bromoform	2	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	3	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:FBAS0 Date Collected:10/25/95 Date Received:10/26/95
Lab Sample ID:2405289 Date Analyzed:10/27/95 Time Analyzed:13:59
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4508 Lab File ID:C:\HPCHEM\1\DATA\OCT27\0801008.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	8	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

Respectfully Submitted
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See reverse side for explanation of symbols and abbreviations

Analysis Report

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LLI Sample No. AQ 2405290
Collected: 10/25/95 at 12:20 by CF

Submitted: 10/26/95 Reported: 11/ 2/95
Discard: 11/ 2/95

FT-ASOO-16 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
16ASO SDG#: CAL07-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9382	TCL Volatiles in Air	See Attached		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
05:50:41 D 0002 4 122294 489460
050 0.00 00035000 DIS000

11

Respectfully Submitted
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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:16ASO Date Collected:10/25/95 Date Received:10/26/95
Lab Sample ID:2405290 Date Analyzed:10/28/95 Time Analyzed:00:50
Injection Volume: 50.0 cc Nominal Volume: 250 cc Dilution Factor: 50.0
Instrument ID:HP4508 Lab File ID:C:\HPCHEM\1\DATA\OCT27\1901005.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	22	U
75-01-4	Vinyl Chloride	28	U
74-83-9	Bromomethane	42	U
75-00-3	Chloroethane	28	U
75-35-4	1,1-Dichloroethene	43	U
67-64-1	Acetone	130	U
75-15-0	Carbon Disulfide	85	U
75-09-2	Methylene Chloride	94	U
156-60-5	trans-1,2-Dichloroethene	43	U
75-34-3	1,1-Dichloroethane	160	D
156-59-2	cis-1,2-Dichloroethene	43	U
78-93-3	2-Butanone	80	U
67-66-3	Chloroform	53	U
71-55-6	1,1,1-Trichloroethane	320	D
56-23-5	Carbon Tetrachloride	68	U
107-06-2	1,2-Dichloroethane	44	U
71-43-2	Benzene	35	U
79-01-6	Trichloroethene	58	U
78-87-5	1,2-Dichloropropane	50	U
75-27-4	Bromodichloromethane	72	U
10061-01-5	cis-1,3-Dichloropropene	49	U
108-10-1	4-Methyl-2-Pentanone	110	U
108-88-3	Toluene	290	D
10061-02-6	trans-1,3-Dichloropropene	49	U
79-00-5	1,1,2-Trichloroethane	59	U
127-18-4	Tetrachloroethene	74	U
591-78-6	2-Hexanone	110	U
124-48-1	Dibromochloromethane	92	U
106-93-4	1,2-Dibromoethane	83	U
108-90-7	Chlorobenzene	50	U
100-41-4	Ethyl Benzene	47	U
1330-20-7	m/p-Xylene	47	U
95-47-6	o-Xylene	47	U
100-42-5	Styrene	46	U
75-25-2	Bromoform	110	U
79-34-5	1,1,2,2-Tetrachloroethane	74	U
541-73-1	1,3-Dichlorobenzene	160	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.
Limits of quantitation were raised due to a high concentration
of carbon dioxide in the sample, which interfered w

Respectfully Submitted
Michele McClarin, B.A.
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See reverse side for explanation of symbols and abbreviations

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:16ASO
Lab Sample ID:2405290
Injection Volume: 50.0 cc
Instrument ID:HP4508

Date Collected:10/25/95
Date Analyzed:10/28/95
Nominal Volume: 250 cc
Lab File ID:C:\HPCHEM\1\DATA\OCT27\1901005.D

Date Received:10/26/95
Time Analyzed:00:50
Dilution Factor: 50.0

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	160	U
95-50-1	1,2-Dichlorobenzene	160	U
120-82-1	1,2,4-Trichlorobenzene	400	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.
Limits of quantitation were raised due to a high concentration of carbon dioxide in the sample, which interfered with undiluted analysis.

Respectfully Submitted
Michele McClarin, B.A.
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LLI Sample No. AQ 2405291
Collected: 10/25/95 at 12:45 by CF

Submitted: 10/26/95 Reported: 11/ 2/95
Discard: 11/ 2/95

FT-AS00-01 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
01ASO SDG#: CAL07-03

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9382	TCL Volatiles in Air	See Attached		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
05:50:49 D 0002 4 122294 489460
050 0.00 00035000 DIS000

Respectfully Submitted
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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:01ASO Date Collected:10/25/95 Date Received:10/26/95
Lab Sample ID:2405291 Date Analyzed:10/27/95 Time Analyzed:05:23
Injection Volume: 500.0 cc Nominal Volume: 250 cc Dilution Factor: 5.0
Instrument ID:HP4508 Lab File ID:C:\HPCHEM\1\DATA\OCT26\2601026.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	2	U
75-01-4	Vinyl Chloride	3	U
74-83-9	Bromomethane	4	U
75-00-3	Chloroethane	12	D
75-35-4	1,1-Dichloroethene	6	D
67-64-1	Acetone	66	D
75-15-0	Carbon Disulfide	14	D
75-09-2	Methylene Chloride	30	D
156-60-5	trans-1,2-Dichloroethene	4	U
75-34-3	1,1-Dichloroethane	4200	D
156-59-2	cis-1,2-Dichloroethene	500	D
78-93-3	2-Butanone	8	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	12000	D
56-23-5	Carbon Tetrachloride	7	U
107-06-2	1,2-Dichloroethane	4	U
71-43-2	Benzene	34	D
79-01-6	Trichloroethene	140	D
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	7	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-Pentanone	11	U
108-88-3	Toluene	1100	D
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	6	U
127-18-4	Tetrachloroethene	530	D
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	9	U
106-93-4	1,2-Dibromoethane	8	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	290	D
1330-20-7	m/p-Xylene	1400	D
95-47-6	o-Xylene	1000	D
100-42-5	Styrene	5	U
75-25-2	Bromoform	11	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
541-73-1	1,3-Dichlorobenzene	16	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.
Limits of quantitation were raised due to high concentrations of target and non-target compounds in the sample.

Respectfully Submitted
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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:01ASO
Lab Sample ID:2405291
Injection Volume: 500.0 cc
Instrument ID:HP4508

Date Collected:10/25/95
Date Analyzed:10/27/95
Nominal Volume: 250 cc
Lab File ID:C:\HPCHEM\1\DATA\OCT26\2601026.D

Date Received:10/26/95
Time Analyzed:05:23
Dilution Factor: 5.0

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	16	U
95-50-1	1,2-Dichlorobenzene	16	U
120-82-1	1,2,4-Trichlorobenzene	40	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.
Limits of quantitation were raised due to high concentrations of target and non-target compounds in the sample.

16

Respectfully Submitted
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717 656 2300 FAX 717 656 2681

See reverse side for explanation of symbols and abbreviations

Analysis Report

Lancaster Laboratories
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LLI Sample No. AQ 2405292
Collected: 10/25/95 at 12:35 by CF

Submitted: 10/26/95 Reported: 11/ 2/95
Discard: 11/ 2/95

FT-ASOO-02 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
02ASO SDG#: CAL07-04*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9382	TCL Volatiles in Air	See Attached		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
05:50:57 D 0002 4 122294 439460
050 0.00 00035000 DIS000

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:02ASO Date Collected:10/25/95 Date Received:10/26/95
Lab Sample ID:2405292 Date Analyzed:10/27/95 Time Analyzed:22:09
Injection Volume: 50.0 cc Nominal Volume: 250 cc Dilution Factor: 5.0
Instrument ID:HP4508 Lab File ID:C:\HPCHEM\1\DATA\OCT27\1701003.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	2	U
75-01-4	Vinyl Chloride	3	U
74-83-9	Bromomethane	4	U
75-00-3	Chloroethane	62	D
75-35-4	1,1-Dichloroethene	63	D
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	8	U
75-09-2	Methylene Chloride	9	U
156-60-5	trans-1,2-Dichloroethene	4	U
75-34-3	1,1-Dichloroethane	15000	D
156-59-2	cis-1,2-Dichloroethene	480	D
78-93-3	2-Butanone	8	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	21000	D
56-23-5	Carbon Tetrachloride	7	U
107-06-2	1,2-Dichloroethane	4	U
71-43-2	Benzene	5	D
79-01-6	Trichloroethene	25	D
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	7	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-Pentanone	11	U
108-88-3	Toluene	190	D
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	6	U
127-18-4	Tetrachloroethene	41	D
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	9	U
106-93-4	1,2-Dibromoethane	8	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethyl Benzene	5	U
1330-20-7	m/p-Xylene	5	U
95-47-6	o-Xylene	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	11	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
541-73-1	1,3-Dichlorobenzene	16	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.
Limits of quantitation were raised due to a high concentration of carbon dioxide in the sample, which interfered w

Respectfully Submitted
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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:02ASO
Lab Sample ID:2405292
Injection Volume: 50.0 cc
Instrument ID:HP4508

Date Collected:10/25/95
Date Analyzed:10/27/95
Nominal Volume: 250 cc
Lab File ID:C:\HPCHEM\1\DATA\OCT27\1701003.D

Date Received:10/26/95
Time Analyzed:22:09
Dilution Factor: 5.0

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	16	U
95-50-1	1,2-Dichlorobenzene	16	U
120-82-1	1,2,4-Trichlorobenzene	40	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.
Limits of quantitation were raised due to a high concentration of carbon dioxide in the sample, which interfered with undiluted analysis.

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Analysis Rep

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LABORATORY CHRONI

LLI Sample No. AQ 2420624
Collected: 11/20/95 at 12:20 by CF

Submitted: 11/21/95

FI-AS00-FB Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
FBCAL SDG#: CAL10-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
9382	TCL Volatiles in Air	EPA Method TO14		11/27/95	AR2

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717-656-2300 FAX 717-656-2681

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Analysis Report

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LABORATORY CHRONICLE

LLI Sample No. AQ 2420625
Collected: 11/20/95 at 12:25 by CF

Submitted: 11/21/95

FT-AS00-16 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
16CAL SDG#: CAL10-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
9382	TCL Volatiles in Air	EPA Method TO14		11/27/95	ARZ

&&&

Analysis Rep

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LABORATORY CHRONIC

LLI Sample No. AQ 2420626
Collected: 11/20/95 at 12:40 by CF

Submitted: 11/21/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-AS00-01 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
01CAL SDG#: CAL10-03

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
9382	TCL Volatiles in Air	EPA Method TO14		11/28/95	ARZ

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Analysis Report

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LABORATORY CHRONICLE

LLI Sample No. AQ 2420627
Collected: 11/20/95 at 12:50 by CF

Submitted: 11/21/95

FT-AS00-02 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
02CAL SOG#: CAL10-04*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
9382	TCL Volatiles in Air	EPA Method TO14		11/28/95	ARZ

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P.O. Box 12425
Lancaster, PA 17605-2425
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METHODOLOGY SUMMARY/REFERENCE

9382 TCL Volatiles in Air

Samples in Tedlar Bag are concentrated on a cryogenic trap and a cryofocusing trap after passing through a Nafion dryer water removal system. The cryofocuser is subsequently heated and the volatiles organics are desorbed onto a GC/MS system for chromatographic and mass spectral analysis.

Reference: Winberry, W.T.; Murphy, N.T.; Riggan, R.M., Methods for the Determination of Toxic Organic Compounds in Air, EPA Method TO14, 1988, pp. 467-583

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LLI Sample No. AQ 2420624
Collected: 11/20/95 at 12:20 by CF

Submitted: 11/21/95 Reported: 11/30/95
Discard: 11/30/95

FT-AS00-FB Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
FBCAL SDG#: CAL10-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9382	TCL Volatiles in Air	0.00000		ug/m3

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
06:10:48 D 0002 4 122294 493201
885 0.00 00035000 DIS000

Respectfully Submitted
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Group Leader, GC/MS Volatiles

7

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:FBCAL | Date Collected:11/20/95 | Date Received:11/21/95
Lab Sample ID:2420624 | Date Analyzed:11/27/95 | Time Analyzed:20:11
Injection Volume: 250.0 cc | Nominal Volume: 250 cc | Dilution Factor: 1.0
Instrument ID:HP4224 | Lab File ID:C:\HPCHEM\1\DATA\NOV27\0701009.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	2	J
75-01-4	Vinyl Chloride	0.6	U
74-83-9	Bromomethane	0.8	U
75-00-3	Chloroethane	0.6	U
75-35-4	1,1-Dichloroethene	1	J
67-64-1	Acetone	43	
75-15-0	Carbon Disulfide	11	
75-09-2	Methylene Chloride	9	
156-60-5	trans-1,2-Dichloroethene	0.9	U
75-34-3	1,1-Dichloroethane	2	J
156-59-2	cis-1,2-Dichloroethene	0.9	J
78-93-3	2-Butanone	62	
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	10	
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	0.9	U
71-43-2	Benzene	4	
79-01-6	Trichloroethene	1	J
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
108-88-3	Toluene	37	
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	2	J
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	2	U
106-93-4	1,2-Dibromoethane	2	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	2	J
1330-20-7	m/p-Xylene	6	
95-47-6	o-Xylene	3	J
100-42-5	Styrene	2	J
75-25-2	Bromoform	2	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	3	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:FBCAL
Lab Sample ID:2420624
Injection Volume: 250.0 cc
Instrument ID:HP4224

Date Collected:11/20/95
Date Analyzed:11/27/95
Nominal Volume: 250 cc
Lab File ID:C:\HPCHEM\1\DATA\NOV27\0701009.D

Date Received:11/21/95
Time Analyzed:20:11
Dilution Factor: 1.0

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	8	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

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LLI Sample No. AQ 2420625
Collected: 11/20/95 at 12:25 by CF

Submitted: 11/21/95 Reported: 11/30/95
Discard: 11/30/95

FT-ASOO-16 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
16CAL SDG#: CAL10-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9382	TCL Volatiles in Air	0.00000		ug/m3

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
06:11:03 D 0002 4 122294 493201
885 0.00 00035000 DISOOO

Respectfully Submitted
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Group Leader, GC/MS Volatiles

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:16CAL Date Collected:11/20/95 Date Received:11/21/95
Lab Sample ID:2420625 Date Analyzed:11/27/95 Time Analyzed:21:01
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4224 Lab File ID:C:\HPCHEM\1\DATA\NOV27\0801010.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	0.4	U
75-01-4	Vinyl Chloride	0.6	U
74-83-9	Bromomethane	0.8	U
75-00-3	Chloroethane	0.6	U
75-35-4	1,1-Dichloroethene	1	J
67-64-1	Acetone	36	
75-15-0	Carbon Disulfide	9	
75-09-2	Methylene Chloride	8	
156-60-5	trans-1,2-Dichloroethene	0.9	U
75-34-3	1,1-Dichloroethane	2	J
156-59-2	cis-1,2-Dichloroethene	2	J
78-93-3	2-Butanone	56	
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	10	
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	0.9	U
71-43-2	Benzene	3	J
79-01-6	Trichloroethene	2	J
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
108-88-3	Toluene	36	
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	15	
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	2	U
106-93-4	1,2-Dibromoethane	2	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	2	J
1330-20-7	m/p-Xylene	6	
95-47-6	o-Xylene	2	J
100-42-5	Styrene	2	J
75-25-2	Bromoform	2	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	3	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

1.

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Lancaster Laboratories
2425 New Holland Pike
P.O. Box 12425
Lancaster, PA 17605-2425
717.656.2300 FAX 717.656.2681

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS-Volatiles

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:16CAL
Lab Sample ID:2420625
Injection Volume: 250.0 cc
Instrument ID:HP4224

Date Collected:11/20/95
Date Analyzed:11/27/95
Nominal Volume: 250 cc
Lab File ID:C:\HPCHEM\1\DATA\NOV27\0801010.D

Date Received:11/21/95
Time Analyzed:21:01
Dilution Factor: 1.0

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	8	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

Respectfully Submitted
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Group Leader, GC/MS Volatiles

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Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

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Analysis Report

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LLI Sample No. AQ 2420626
Collected: 11/20/95 at 12:40 by CF

Submitted: 11/21/95 Reported: 11/30/95
Discard: 11/30/95

FT-AS00-01 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
01CAL SDG#: CAL10-03

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9382	TCL Volatiles in Air	0.00000		ug/m3

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
06:11:16 D 0002 4 122294 493201
885 0.00 00035000 DIS000

Respectfully Submitted
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Group Leader, GC/MS Volatiles

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:01CAL Date Collected:11/20/95 Date Received:11/21/95
Lab Sample ID:2420626 Date Analyzed:11/28/95 Time Analyzed:00:08
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4224 Lab File ID:C:\HPCHEM\1\DATA\NOV27\1001002.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	0.4	U
75-01-4	Vinyl Chloride	0.6	U
74-83-9	Bromomethane	0.8	U
75-00-3	Chloroethane	150	
75-35-4	1,1-Dichloroethene	16	
67-64-1	Acetone	35	
75-15-0	Carbon Disulfide	24	
75-09-2	Methylene Chloride	2	U
156-60-5	trans-1,2-Dichloroethene	0.9	U
75-34-3	1,1-Dichloroethane	1800	
156-59-2	cis-1,2-Dichloroethene	300	
78-93-3	2-Butanone	2	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	7000	
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	0.9	U
71-43-2	Benzene	35	
79-01-6	Trichloroethene	120	
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
108-88-3	Toluene	400	
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	550	
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	2	U
106-93-4	1,2-Dibromoethane	2	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	180	
1330-20-7	m/p-Xylene	860	
95-47-6	o-Xylene	660	
100-42-5	Styrene	0.9	U
75-25-2	Bromoform	2	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	3	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:01CAL
Lab Sample ID:2420626
Injection Volume: 250.0 cc
Instrument ID:HP4224

Date Collected:11/20/95
Date Analyzed:11/28/95
Nominal Volume: 250 cc
Lab File ID:C:\HPCHEM\1\DATA\NOV27\1001002.D

Date Received:11/21/95
Time Analyzed:00:08
Dilution Factor: 1.0

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	8	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

Respectfully Submitted
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LLI Sample No. AQ 2420627
Collected: 11/20/95 at 12:50 by CF

Submitted: 11/21/95 Reported: 11/30/95
Discard: 11/30/95

FT-AS00-02 Grab Tedlar Bag Sample

NWIRP Calverton, NY CTO-223
OZCAL SDG#: CAL10-04*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
5695	TO-14 Form 1			See Page 2
9382	TCL Volatiles in Air	0.00000		ug/m3

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
06:11:28 D 0002 4 122294 493201
885 0.00 00035000 DIS000

Respectfully Submitted
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Group Leader, GC/MS Volatiles

16

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:02CAL Date Collected:11/20/95 Date Received:11/21/95
Lab Sample ID:2420627 Date Analyzed:11/28/95 Time Analyzed:00:58
Injection Volume: 250.0 cc Nominal Volume: 250 cc Dilution Factor: 1.0
Instrument ID:HP4224 Lab File ID:C:\HPCHEM\1\DATA\NOV27\1101003.D

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
74-87-3	Chloromethane	0.4	U
75-01-4	Vinyl Chloride	0.6	U
74-83-9	Bromomethane	0.8	U
75-00-3	Chloroethane	190	
75-35-4	1,1-Dichloroethene	60	
67-64-1	Acetone	38	
75-15-0	Carbon Disulfide	18	
75-09-2	Methylene Chloride	2	U
156-60-5	trans-1,2-Dichloroethene	6	
75-34-3	1,1-Dichloroethane	4000	
156-59-2	cis-1,2-Dichloroethene	610	
78-93-3	2-Butanone	2	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	13000	
56-23-5	Carbon Tetrachloride	1	U
107-06-2	1,2-Dichloroethane	0.9	U
71-43-2	Benzene	19	
79-01-6	Trichloroethene	100	
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
108-88-3	Toluene	200	
10061-02-6	trans-1,3-Dichloropropene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
127-18-4	Tetrachloroethene	110	
591-78-6	2-Hexanone	2	U
124-48-1	Dibromochloromethane	2	U
106-93-4	1,2-Dibromoethane	2	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethyl Benzene	8	
1330-20-7	m/p-Xylene	12	
95-47-6	o-Xylene	6	
100-42-5	Styrene	0.9	U
75-25-2	Bromoform	2	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	3	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

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Respectfully Submitted
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Group Leader, GC/MS-Volatiles

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VOLATILE ORGANICS IN AIR
TEDLAR BAG SAMPLE
ANALYSIS DATA SHEET

Sample No.:02CAL
Lab Sample ID:2420627
Injection Volume: 250.0 cc
Instrument ID:HP4224

Date Collected:11/20/95
Date Analyzed:11/28/95
Nominal Volume: 250 cc
Lab File ID:C:\HPCHEM\1\DATA\NOV27\1101003.D

Date Received:11/21/95
Time Analyzed:00:58
Dilution Factor: 1.0

CAS RN	COMPOUND NAME	CONCENTRATION (UG/M3)	Q
106-46-7	1,4-Dichlorobenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	8	U

U = Compound was undetected at the specified limit of detection.
B = Compound was found in method blank. D = analysis of diluted sample.
J = Compound detected but below the limit of quantitation.

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Respectfully Submitted
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Group Leader, GC/MS Volatiles

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LABORATORY CHRONICLE

LLI Sample No. WW 2365875
Collected: 08/16/95 at 11:25 by TE

Submitted: 08/18/95

FT-IW06-01 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW601 SDG#: CAL02-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	08/28/95	TCL

4

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Analysis Report

LABORATORY CHRONICLE

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LLI Sample No. WW 2365876
Collected: 08/16/95 at 12:35 by TE

Submitted: 08/18/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-GW02-01 Unspiked Grab Water Sample

NWIRP Calverton, NY CTO-223
GW201 SDG#: CAL02-03BKG

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	08/28/95	TCL
0817	Water Sample Pest. Extraction	SW-846 3510B	1	08/22/95	HLE
0937	TCL Pesticides in Waters	SW-846 8081	1	08/24/95	DDS
0813	BNA Water Extraction	SW-846 3510B	1	08/21/95	TS
4678	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	08/22/95	AJS
4679	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	08/22/95	AJS

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Analysis Report

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LABORATORY CHRONICLE

LLI Sample No. WW 2365877
Collected: 08/16/95 at 12:35 by TE

Submitted: 08/18/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-GW02-01 Matrix Spike Grab Water Sample

NWIRP Calverton, NY CTO-223
GW201 SDG#: CAL02-03MS

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	08/28/95	TCL
0817	Water Sample Pest. Extraction	SW-846 3510B	1	08/22/95	HLE
0937	TCL Pesticides in Waters	SW-846 8081	1	08/24/95	DDS
0813	BNA Water Extraction	SW-846 3510B	1	08/21/95	TS
4678	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	08/22/95	AJS
4679	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	08/22/95	AJS

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#2
9/1

LABORATORY CHRONICLE

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LLI Sample No. WW 2365878
Collected: 08/16/95 at 12:35 by TE

Submitted: 08/18/95

FT-GW02-01 Matrix Spike Dup. Grab Water Sample

NWIRP Calverton, NY CTO-223
GW201 SDG#: CAL02-03MSD

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	08/28/95	TCL
0817	Water Sample Pest. Extraction	SW-846 3510B	1	08/22/95	HLE
0937	TCL Pesticides in Waters	SW-846 8081	1	08/24/95	DDS
0813	BNA Water Extraction	SW-846 3510B	1	08/21/95	TS
4678	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	08/22/95	AJS
4679	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	08/22/95	AJS

7

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Analysis Repo

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LABORATORY CHRONICLE

LLI Sample No. WW 2365879
Collected: 08/16/95 at 15:45 by TE

Submitted: 08/18/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-IW13-01 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW131 SDG#: CAL02-04

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	08/28/95	TCL

8

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Analysis Report

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LABORATORY CHRONICLE

LLI Sample No. WW 2365880
Collected: 08/16/95 by TE

Submitted: 08/18/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-IW-DU-02 Grab Water Sample

NWIRP Calverton, NY CTO-223
IWDU2 SDG#: CAL02-05

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	08/28/95	TCL

9

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Analysis Repo

LABORATORY CHRONICLE

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LLI Sample No. WW 2365881
Collected: 08/16/95 at 16:26 by TE

Submitted: 08/18/95

FT-IW16-01 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW161 SDG#: CAL02-06

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	08/28/95	TCL

10

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Analysis Report

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LABORATORY CHRONICLE

LLI Sample No. WW 2365882
Collected: 08/16/95 at 16:44 by TE

Submitted: 08/18/95

FT-IW-FB-02 Field Blank Grab Water Sample

NWIRP Calverton, NY CTO-223
IWFB2 SDG#: CAL02-07FB

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	08/28/95	TCL

11

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#2
9/1

METHODOLOGY SUMMARY/REFERENCE

4592 TCL Volatiles by 8240B (water)

The water sample is purged with helium and the volatiles are collected on a Tenax/Silica gel/charcoal trap which is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Waste
SW-846, Method 8240B, Revision 2, Sept. 1994

****

0817 Water Sample Pesticide Extraction

Pesticides are extracted from the water with methylene chloride. The extract is then dried and concentrated. If necessary, florisil fractionation is used to minimize matrix interferences.

Reference: Test Methods for Evaluating Solid Wastes,
SW-846, Method 3510B, September 1994

****

0937 TCL Pesticides (water)

The sample is solvent extracted and quantitatively analyzed by gas chromatography with an electron capture detector.

Reference: Test Methods for Evaluating Solid Wastes,
SW-846, Method 8081, September 1994

****

4678/4679 TCL Semivolatiles by 8270B (water)

The sample is solvent extracted and then analyzed by GC/MS for the target compound list.

Reference: Test Methods for Evaluating Solid Waste
SW-846, Method 8270B, Update II, January 13, 1995

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Analysis Report

LABORATORY CHRONICLE

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LLI Sample No. WW 2365883
Collected: 08/16/95 at 16:55 by TE

Submitted: 08/18/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-IW-RB-02 Rinsate Blank Grab Water Sample

NWIRP Calverton, NY CTO-223
1WRB2 SDG#: CAL02-08RB*

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	08/29/95	SAM
0817	Water Sample Pest. Extraction	SW-846 3510B	1	08/22/95	HLE
0937	TCL Pesticides in Waters	SW-846 8081	1	09/04/95	GJF
0813	BNA Water Extraction	SW-846 3510B	1	08/21/95	TS
4678	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	08/22/95	AJS
4679	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	08/22/95	AJS

12

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LLI Sample No. WW 2365874
Collected:

Submitted: 8/18/95 Reported: 9/27/95
Discard: 11/27/95

FT-IW-TB-02 Trip Blank Water Sample

NWIRP Calverton, NY CTO-223
TB-02 SDG#: CAL02-01TB

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:01:27 D 0002 10 122294 479895
135 192.50 00019250 ASR000

14

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

MEMBER ACIL

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-02

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2365874
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >JGT01
Level: (low/med) LOW Date Received: 08/18/95
% Moisture: not dec. _____ Date Analyzed: 08/29/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

#2

Lancaster Laboratories
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LLI Sample No. WW 2365875
Collected: 8/16/95 at 11:25 by TE

Submitted: 8/18/95 Reported: 9/27/95
Discard: 11/27/95

FT-IW06-01 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW601 SDG#: CAL02-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:01:48 D 0002 10 122294 479895
135 192.50 00019250 ASR000

16

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW601

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2365875
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >JGS15
Level: (low/med) LOW Date Received: 08/18/95
% Moisture: not dec. _____ Date Analyzed: 08/28/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	10	J
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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See reverse side for explanation of symbols and abbreviations.

#22

Lancaster Laboratories
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LLI Sample No. WW 2365876
Collected: 8/16/95 at 12:35 by TE

Submitted: 8/18/95 Reported: 9/27/95
Discard: 11/27/95

FT-GW02-01 Unspiked Grab Water Sample

NWIRP Calverton, NY CTO-223
GW201 SDG#: CAL02-03BKG

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 3
4592	TCL Volatiles by 8240 - Water	see form I		
0937	TCL Pesticides in Waters			See Page 2
1422	CLP Form I - Semi-volatiles			See Page 5
4678	TCL SW846 Semivolatiles/Waters	see form I		
4679	TCL SW846 Semivolatiles/Waters	see form I		

Di-n-butylphthalate was detected in the method blank at a concentration of 7.0 ug/l. The blank value was not subtracted from the analytical result.

The GC/MS semivolatile surrogate recovery of nitrobenzene-d5 was outside of QC limits. The recovery was, however, greater than 10%.

The GC/MS semivolatile internal standard peak areas were outside of QC limits. The matrix spike and matrix spike duplicate samples were analyzed and internal standard peak areas were again outside of QC limits, indicating a significant matrix effect.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:02:12 D 0002 10 122294 479895
135 750.75 00075075 ASR000

18

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
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LLI Sample No. WW 2365876
Collected: 8/16/95 at 12:35 by TE

Submitted: 8/18/95 Reported: 9/27/95
Discard: 11/27/95

FT-GW02-01 Unspiked Grab Water Sample

NWIRP Calverton, NY CTO-223
GW201 SDG#: CAL02-03BKG

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		LIMIT OF QUANTITATION	UNITS
TCL Pesticides in Waters					
1600	Alpha BHC	N.D.		0.05	ug/l
1601	Beta BHC	N.D.		0.05	ug/l
1603	Delta BHC	N.D.		0.1	ug/l
1602	Gamma BHC - Lindane	N.D.		0.05	ug/l
1604	Heptachlor	N.D.		0.05	ug/l
1605	Aldrin	N.D.		0.05	ug/l
1606	Heptachlor Epoxide	N.D.		0.05	ug/l
1616	Endosulfan I	0.04	J	0.05	ug/l
1610	Dieldrin	N.D.		0.05	ug/l
1607	DDE	N.D.		0.05	ug/l
1611	Endrin	N.D.		0.05	ug/l
1615	Endosulfan II	N.D.		0.1	ug/l
1608	DDD	N.D.		0.05	ug/l
1617	Endosulfan Sulfate	N.D.		0.2	ug/l
1609	DDT	N.D.		0.1	ug/l
0938	Endrin Ketone	N.D.		0.5	ug/l
1860	Methoxychlor	N.D.		0.3	ug/l
1361	Alpha Chlordane	N.D.		0.01	ug/l
1362	Gamma Chlordane	N.D.		0.1	ug/l
1613	Toxaphene	N.D.		20.	ug/l
1618	Endrin Aldehyde	N.D.		0.5	ug/l
1619	PCB-1016	N.D.		5.	ug/l
1620	PCB-1221	N.D.		5.	ug/l
1621	PCB-1232	N.D.		5.	ug/l
1622	PCB-1242	N.D.		5.	ug/l
1623	PCB-1248	N.D.		5.	ug/l
1624	PCB-1254	N.D.		5.	ug/l
1626	PCB-1260	26.		5.	ug/l

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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See reverse side for explanation of symbols and abbreviations

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW201

b Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2365876
mple wt/vol: 5.0 (g/mL) ML Lab File ID: >JGS10
vel: (low/med) LOW Date Received: 08/18/95
% Moisture: not dec. _____ Date Analyzed: 08/28/95
lumn: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	25	
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	430	E
75-35-4	1,1-Dichloroethene	8	
67-64-1	Acetone	52	
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	200	
156-59-2	cis-1,2-Dichloroethene	220	
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	2	J
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	140	
71-55-6	1,1,1-Trichloroethane	59	
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	8	
79-01-6	Trichloroethene	2	J
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	15	
108-88-3	Toluene	250	
127-18-4	Tetrachloroethene	12	
591-78-6	2-Hexanone	15	
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	13	
1330-20-7	Xylene (total)	110	
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW201DL

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2365876
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >JGS11
Level: (low/med) LOW Date Received: 08/18/95
% Moisture: not dec. _____ Date Analyzed: 08/28/95
Column: (pack/cap) CAP Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	23	D
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	420	D
75-35-4	1,1-Dichloroethene	7	J D
67-64-1	Acetone	65	D
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	180	D
156-59-2	cis-1,2-Dichloroethene	220	D
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
108-05-4	Vinyl Acetate	20	U
78-93-3	2-Butanone	140	D
71-55-6	1,1,1-Trichloroethane	54	D
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	8	J D
79-01-6	Trichloroethene	2	J D
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	17	J D
108-88-3	Toluene	230	D
127-18-4	Tetrachloroethene	12	D
591-78-6	2-Hexanone	20	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	12	D
1330-20-7	Xylene (total)	100	D
100-42-5	Styrene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U

FORM I VOA 1/87 Rev.

21

Respectfully Submitted
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See reverse side for explanation of symbols and abbreviations.

#22

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW201

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2365876
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >B9806
Level: (low/med) LOW Date Received: 08/18/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 08/21/95
Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/22/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	35	
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	2	J
100-51-6	Benzyl alcohol	20	U
95-50-1	1,2-Dichlorobenzene	5	J
95-48-7	2-Methylphenol	23	
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	230	E
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	38	
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	45	
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	19	
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
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Manager, Environmental Science

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW201DL

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
atrix: (soil/water) WATER Lab Sample ID: 2365876DL
ample wt/vol: 1000 (g/mL) ML Lab File ID: >B9810
evel: (low/med) LOW Date Received: 08/18/95
Moisture: not dec. _____. dec. _____. Date Extracted: 08/21/95
ctraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/22/95
PC Cleanup: (Y/N) N pH: _____. Dilution Factor: 3.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	34	D
111-44-4	bis(2-Chloroethyl)ether	30	U
95-57-8	2-Chlorophenol	30	U
541-73-1	1,3-Dichlorobenzene	30	U
106-46-7	1,4-Dichlorobenzene	30	U
100-51-6	Benzyl alcohol	60	U
95-50-1	1,2-Dichlorobenzene	10	J D
95-48-7	2-Methylphenol	20	J D
108-60-1	2,2'-oxybis(1-Chloropropane)	30	U
106-44-5	4-Methylphenol	250	D
621-64-7	N-Nitroso-di-n-propylamine	30	U
67-72-1	Hexachloroethane	30	U
98-95-3	Nitrobenzene	30	U
78-59-1	Isophorone	30	U
88-75-5	2-Nitrophenol	30	U
105-67-9	2,4-Dimethylphenol	38	D
65-85-0	Benzoic acid	150	U
111-91-1	bis(2-Chloroethoxy)methane	30	U
120-83-2	2,4-Dichlorophenol	30	U
120-82-1	1,2,4-Trichlorobenzene	30	U
91-20-3	Naphthalene	34	D
106-47-8	4-Chloroaniline	30	U
87-68-3	Hexachlorobutadiene	30	U
59-50-7	4-Chloro-3-methylphenol	30	U
91-57-6	2-Methylnaphthalene	29	J D
77-47-4	Hexachlorocyclopentadiene	30	U
88-06-2	2,4,6-Trichlorophenol	30	U
95-95-4	2,4,5-Trichlorophenol	30	U
91-58-7	2-Chloronaphthalene	30	U
88-74-4	2-Nitroaniline	30	U
131-11-3	Dimethylphthalate	30	U
606-20-2	2,6-Dinitrotoluene	30	U
208-96-8	Acenaphthylene	30	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
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Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW201

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2365876
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >B9806
Level: (low/med) LOW Date Received: 08/18/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 08/21/95
Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/22/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	5	J
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	4	J
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	7	J B
206-44-0	Fluoranthene	5	J
129-00-0	Pyrene	4	J
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	J
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

84

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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P.O. Box 12425
Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW201DL

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
atrix: (soil/water) WATER Lab Sample ID: 2365876DL
ample wt/vol: 1000 (g/mL) ML Lab File ID: >B9810
evel: (low/med) LOW Date Received: 08/18/95
Moisture: not dec. _____. dec. _____. Date Extracted: 08/21/95
xtraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/22/95
PC Cleanup: (Y/N) N pH: _____. Dilution Factor: 3.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2--------	3-Nitroaniline	30	U
83-32-9--------	Acenaphthene	30	U
51-28-5--------	2,4-Dinitrophenol	75	U
100-02-7-------	4-Nitrophenol	75	U
132-64-9-------	Dibenzofuran	30	U
121-14-2-------	2,4-Dinitrotoluene	30	U
84-66-2--------	Diethylphthalate	30	U
7005-72-3------	4-Chlorophenyl-phenylether	30	U
86-73-7--------	Fluorene	14	J D
100-01-6-------	4-Nitroaniline	30	U
534-52-1-------	4,6-Dinitro-2-methylphenol	75	U
86-30-6--------	N-Nitrosodiphenylamine (1)	30	U
101-55-3-------	4-Bromophenyl-phenylether	30	U
118-74-1-------	Hexachlorobenzene	30	U
87-86-5--------	Pentachlorophenol	75	U
85-01-8--------	Phenanthrene	10	J D
120-12-7-------	Anthracene	30	U
86-74-8--------	Carbazole	30	U
84-74-2--------	Di-n-butylphthalate	20	J DB
206-44-0-------	Fluoranthene	15	J D
129-00-0-------	Pyrene	30	U
85-68-7--------	Butylbenzylphthalate	30	U
91-94-1--------	3,3'-Dichlorobenzidine	60	U
56-55-3--------	Benzo(a)anthracene	30	U
117-81-7-------	bis(2-Ethylhexyl)phthalate	8	J D
218-01-9-------	Chrysene	30	U
117-84-0-------	Di-n-octylphthalate	30	U
205-99-2-------	Benzo(b)fluoranthene	30	U
207-08-9-------	Benzo(k)fluoranthene	30	U
50-32-8--------	Benzo(a)pyrene	30	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	30	U
53-70-3--------	Dibenz(a,h)anthracene	30	U
191-24-2-------	Benzo(g,h,i)perylene	30	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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Lancaster, PA 17605-2425
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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
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LLI Sample No. WW 2365877
Collected: 8/16/95 at 12:35 by TE

Submitted: 8/18/95 Reported: 9/27/95
Discard: 11/27/95

FT-GW02-01 Matrix Spike Grab Water Sample

NWIRP Calverton, NY CTO-223
GW201 SDG#: CAL02-03MS

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 3
4592	TCL Volatiles by 8240 - Water	see form I		
	The quantitation limits for the GC/MS volatile compounds were raised because sample dilution was necessary to bring target compounds into the calibration range of the system.			
0937	TCL Pesticides in Waters			See Page 2
1422	CLP Form I - Semi-volatiles			See Page 4
4678	TCL SW846 Semivolatiles/Waters	see form I		
4679	TCL SW846 Semivolatiles/Waters	see form I		

The GC/MS semivolatile internal standard peak areas were outside of QC limits. The unspiked and matrix spike duplicate samples were analyzed and internal standard peak areas were again outside of QC limits, indicating a significant matrix effect.

The GC/MS semivolatile surrogate recovery of nitrobenzene-d5 was outside of QC limits. The recovery was, however, greater than 10%.

Di-n-butylphthalate was detected in the method blank at a concentration of 7.0 ug/l. The blank value was not subtracted from the analytical result.

The concentration of any compound above 160.0 ug/l is tentative since it is above the calibration range in the analysis of the sample.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:03:22 D 0002 10 122294 479895
135 0.00 00000000 ASR000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. WW 2365877
Collected: 8/16/95 at 12:35 by TE

Submitted: 8/18/95 Reported: 9/27/95
Discard: 11/27/95

FT-GW02-01 Matrix Spike Grab Water Sample

NWIRP Calverton, NY CTO-223
GW201 SDG#: CAL02-03MS

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
CL Pesticides in Waters				
1600	Alpha BHC	0.19	0.05	ug/l
1601	Beta BHC	0.19	0.05	ug/l
1603	Delta BHC	0.17	0.05	ug/l
1602	Gamma BHC - Lindane	0.18	0.05	ug/l
1604	Heptachlor	0.17	0.05	ug/l
1605	Aldrin	0.16	0.05	ug/l
1606	Heptachlor Epoxide	0.16	0.05	ug/l
1616	Endosulfan I	0.17	0.05	ug/l
1610	Dieldrin	0.19	0.05	ug/l
1607	DDE	0.16	0.05	ug/l
1611	Endrin	0.20	0.05	ug/l
1615	Endosulfan II	0.25	0.05	ug/l
1608	DDD	0.12	0.05	ug/l
1617	Endosulfan Sulfate	0.2	0.2	ug/l
1609	DDT	0.14	0.05	ug/l
1938	Endrin Ketone	N.D.	0.5	ug/l
1860	Methoxychlor	0.15	0.05	ug/l
1361	Alpha Chlordane	N.D.	0.01	ug/l
1362	Gamma Chlordane	N.D.	0.01	ug/l
1613	Toxaphene	N.D.	20.	ug/l
1618	Endrin Aldehyde	0.092 J	0.1	ug/l
1619	PCB-1016	N.D.	5.	ug/l
1620	PCB-1221	N.D.	5.	ug/l
1621	PCB-1232	N.D.	5.	ug/l
1622	PCB-1242	N.D.	5.	ug/l
1623	PCB-1248	N.D.	5.	ug/l
1624	PCB-1254	N.D.	5.	ug/l
1626	PCB-1260	6.	5.	ug/l

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

27

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW201DLMS

I b Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2365877
mple wt/vol: 5.0 (g/mL) ML Lab File ID: >JGS12
vel: (low/med) LOW Date Received: 08/18/95
% Moisture: not dec. _____ Date Analyzed: 08/28/95
Column: (pack/cap) CAP Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	31	D
75-01-4	Vinyl Chloride	53	D
74-83-9	Bromomethane	28	D
75-00-3	Chloroethane	460	D
75-35-4	1,1-Dichloroethene	30	D
67-64-1	Acetone	310	D
75-15-0	Carbon Disulfide	210	D
75-09-2	Methylene Chloride	44	D
156-60-5	trans-1,2-Dichloroethene	49	D
75-34-3	1,1-Dichloroethane	210	D
156-59-2	cis-1,2-Dichloroethene	240	D
67-66-3	Chloroform	35	D
107-06-2	1,2-Dichloroethane	34	D
108-05-4	Vinyl Acetate	140	D
78-93-3	2-Butanone	410	D
71-55-6	1,1,1-Trichloroethane	81	D
56-23-5	Carbon Tetrachloride	30	D
71-43-2	Benzene	36	D
79-01-6	Trichloroethene	35	D
78-87-5	1,2-Dichloropropane	36	D
75-27-4	Bromodichloromethane	36	D
10061-01-5	cis-1,3-Dichloropropene	34	D
10061-02-6	trans-1,3-Dichloropropene	14	D
79-00-5	1,1,2-Trichloroethane	40	D
124-48-1	Dibromochloromethane	38	D
75-25-2	Bromoform	38	D
108-10-1	4-Methyl-2-Pentanone	200	D
108-88-3	Toluene	290	D
127-18-4	Tetrachloroethene	61	D
591-78-6	2-Hexanone	200	D
108-90-7	Chlorobenzene	35	D
100-41-4	Ethylbenzene	51	D
1330-20-7	Xylene (total)	240	D
100-42-5	Styrene	39	D
79-34-5	1,1,2,2-Tetrachloroethane	48	D

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW201MS

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
atrix: (soil/water) WATER Lab Sample ID: 2365877
ample wt/vol: 1000 (g/mL) ML Lab File ID: >B9811
evel: (low/med) LOW Date Received: 08/18/95
Moisture: not dec. _____. dec. _____. Date Extracted: 08/21/95
xtraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/22/95
PC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	92	
111-44-4	bis(2-Chloroethyl)ether	140	
95-57-8	2-Chlorophenol	110	
541-73-1	1,3-Dichlorobenzene	99	
106-46-7	1,4-Dichlorobenzene	95	
100-51-6	Benzyl alcohol	92	
95-50-1	1,2-Dichlorobenzene	100	
95-48-7	2-Methylphenol	100	
108-60-1	2,2'-oxybis(1-Chloropropane)	93	
106-44-5	4-Methylphenol	270	E
621-64-7	N-Nitroso-di-n-propylamine	190	E
67-72-1	Hexachloroethane	86	
98-95-3	Nitrobenzene	150	
78-59-1	Isophorone	180	E
88-75-5	2-Nitrophenol	150	
105-67-9	2,4-Dimethylphenol	150	
65-85-0	Benzoic acid	13	J
111-91-1	bis(2-Chloroethoxy)methane	90	
120-83-2	2,4-Dichlorophenol	120	
120-82-1	1,2,4-Trichlorobenzene	180	E
91-20-3	Naphthalene	300	E
106-47-8	4-Chloroaniline	40	
87-68-3	Hexachlorobutadiene	150	
59-50-7	4-Chloro-3-methylphenol	150	
91-57-6	2-Methylnaphthalene	110	
77-47-4	Hexachlorocyclopentadiene	87	
88-06-2	2,4,6-Trichlorophenol	80	
95-95-4	2,4,5-Trichlorophenol	43	
91-58-7	2-Chloronaphthalene	61	
88-74-4	2-Nitroaniline	96	
131-11-3	Dimethylphthalate	46	
606-20-2	2,6-Dinitrotoluene	120	
208-96-8	Acenaphthylene	79	

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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#2216
9/13/95

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW201MS

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2365877
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >B9811
Level: (low/med) LOW Date Received: 08/18/95
Moisture: not dec. _____. dec. _____. Date Extracted: 08/21/95
Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/22/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	56	
83-32-9	Acenaphthene	94	
51-28-5	2,4-Dinitrophenol	80	
100-02-7	4-Nitrophenol	96	
132-64-9	Dibenzofuran	93	
121-14-2	2,4-Dinitrotoluene	98	
84-66-2	Diethylphthalate	96	
7005-72-3	4-Chlorophenyl-phenylether	120	
86-73-7	Fluorene	120	
100-01-6	4-Nitroaniline	130	
534-52-1	4,6-Dinitro-2-methylphenol	75	
86-30-6	N-Nitrosodiphenylamine (1)	71	
101-55-3	4-Bromophenyl-phenylether	91	
118-74-1	Hexachlorobenzene	87	
87-86-5	Pentachlorophenol	100	
85-01-8	Phenanthrene	74	
120-12-7	Anthracene	73	
86-74-8	Carbazole	68	
84-74-2	Di-n-butylphthalate	73	B
206-44-0	Fluoranthene	51	
129-00-0	Pyrene	160	
85-68-7	Butylbenzylphthalate	110	
91-94-1	3,3'-Dichlorobenzidine	6	J
56-55-3	Benzo(a)anthracene	88	
117-81-7	bis(2-Ethylhexyl)phthalate	92	
218-01-9	Chrysene	85	
117-84-0	Di-n-octylphthalate	84	
205-99-2	Benzo(b)fluoranthene	85	
207-08-9	Benzo(k)fluoranthene	82	
50-32-8	Benzo(a)pyrene	80	
193-39-5	Indeno(1,2,3-cd)pyrene	77	
53-70-3	Dibenz(a,h)anthracene	73	
191-24-2	Benzo(g,h,i)perylene	72	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
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LLI Sample No. WW 2365878
Collected: 8/16/95 at 12:35 by TE

Submitted: 8/18/95 Reported: 9/27/95
Discard: 11/27/95

FT-GW02-01 Matrix Spike Dup. Grab Water Sample

NWIRP Calverton, NY CTO-223
GW201 SDG#: CAL02-03MSD

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 3
4592	TCL Volatiles by 8240 - Water	see form I		
	The quantitation limits for the GC/MS volatile compounds were raised because sample dilution was necessary to bring target compounds into the calibration range of the system.			
0937	TCL Pesticides in Waters			See Page 2
1422	CLP Form I - Semi-volatiles			See Page 4
4678	TCL SW846 Semivolatiles/Waters	see form I		
4679	TCL SW846 Semivolatiles/Waters	see form I		

The GC/MS semivolatile internal standard peak areas were outside of QC limits. The unspiked and matrix spike samples were analyzed and internal standard peak areas were again outside of QC limits, indicating a significant matrix effect.

The GC/MS semivolatile surrogate recovery of nitrobenzene-d5 was outside of QC limits. The recovery was, however, greater than 10%.

Di-n-butylphthalate was detected in the method blank at a concentration of 7.0 ug/l. The blank value was not subtracted from the analytical result.

The concentration of any compound above 160.0 ug/l is tentative since it is above the calibration range in the analysis of the sample.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:04:23 D 0002 10 122294 479895
135 0.00 00000000 ASR000

31

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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Lancaster, PA 17605-2425
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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
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LLI Sample No. WW 2365878
Collected: 8/16/95 at 12:35 by TE

Submitted: 8/18/95 Reported: 9/27/95
Discard: 11/27/95

FT-GW02-01 Matrix Spike Dup. Grab Water Sample

NWIRP Calverton, NY CTO-223
GW201 SDG#: CAL02-03MSD

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		LIMIT OF QUANTITATION	UNITS
TCL Pesticides in Waters					
1600	Alpha BHC	0.18		0.05	ug/l
1601	Beta BHC	0.21		0.05	ug/l
1603	Delta BHC	0.18		0.05	ug/l
1602	Gamma BHC - Lindane	0.19		0.05	ug/l
1604	Heptachlor	0.18		0.05	ug/l
1605	Aldrin	0.18		0.05	ug/l
1606	Heptachlor Epoxide	0.17		0.05	ug/l
1616	Endosulfan I	0.18		0.05	ug/l
1610	Dieldrin	0.20		0.05	ug/l
1607	DDE	0.17		0.05	ug/l
1611	Endrin	0.21		0.05	ug/l
1615	Endosulfan II	0.29		0.05	ug/l
1408	DDD	0.10		0.05	ug/l
17	Endosulfan Sulfate	0.2		0.2	ug/l
09	DDT	0.13		0.05	ug/l
0938	Endrin Ketone	N.D.		0.5	ug/l
1860	Methoxychlor	0.14		0.05	ug/l
1361	Alpha Chlordane	N.D.		0.01	ug/l
1362	Gamma Chlordane	N.D.		0.01	ug/l
1613	Toxaphene	N.D.		20.	ug/l
1618	Endrin Aldehyde	0.083	J	0.1	ug/l
1619	PCB-1016	N.D.		5.	ug/l
1620	PCB-1221	N.D.		5.	ug/l
1621	PCB-1232	N.D.		5.	ug/l
1622	PCB-1242	N.D.		5.	ug/l
1623	PCB-1248	N.D.		5.	ug/l
1624	PCB-1254	N.D.		5.	ug/l
1626	PCB-1260	8.		5.	ug/l

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

32

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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See reverse side for explanation of symbols and abbreviations.

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW201DLMSD

Name: LANCASTER LABS Contract: _____.
Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
trix: (soil/water) WATER Lab Sample ID: 2365878
ple wt/vol: 5.0 (g/mL) ML Lab File ID: >JGS13
vel: (low/med) LOW Date Received: 08/18/95
oisture: not dec. _____ Date Analyzed: 08/28/95
lumn: (pack/cap) CAP Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	28	D
75-01-4	Vinyl Chloride	54	D
74-83-9	Bromomethane	28	D
75-00-3	Chloroethane	450	D
75-35-4	1,1-Dichloroethene	30	D
67-64-1	Acetone	300	D
75-15-0	Carbon Disulfide	200	D
75-09-2	Methylene Chloride	40	D
156-60-5	trans-1,2-Dichloroethene	48	D
75-34-3	1,1-Dichloroethane	220	D
156-59-2	cis-1,2-Dichloroethene	260	D
67-66-3	Chloroform	34	D
107-06-2	1,2-Dichloroethane	34	D
108-05-4	Vinyl Acetate	140	D
78-93-3	2-Butanone	410	D
71-55-6	1,1,1-Trichloroethane	89	D
56-23-5	Carbon Tetrachloride	30	D
71-43-2	Benzene	35	D
79-01-6	Trichloroethene	34	D
78-87-5	1,2-Dichloropropane	35	D
75-27-4	Bromodichloromethane	35	D
10061-01-5	cis-1,3-Dichloropropene	33	D
10061-02-6	trans-1,3-Dichloropropene	14	D
79-00-5	1,1,2-Trichloroethane	38	D
124-48-1	Dibromochloromethane	37	D
75-25-2	Bromoform	37	D
108-10-1	4-Methyl-2-Pentanone	200	D
108-88-3	Toluene	290	D
127-18-4	Tetrachloroethene	57	D
591-78-6	2-Hexanone	190	D
108-90-7	Chlorobenzene	34	D
100-41-4	Ethylbenzene	48	D
1330-20-7	Xylene (total)	230	D
100-42-5	Styrene	38	D
79-34-5	1,1,2,2-Tetrachloroethane	48	D

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW201MSD

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2365878
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >B9812
Level: (low/med) LOW Date Received: 08/18/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 08/21/95
Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/22/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	71	
111-44-4	bis(2-Chloroethyl)ether	92	
95-57-8	2-Chlorophenol	95	
541-73-1	1,3-Dichlorobenzene	80	
106-46-7	1,4-Dichlorobenzene	83	
100-51-6	Benzyl alcohol	81	
95-50-1	1,2-Dichlorobenzene	84	
95-48-7	2-Methylphenol	91	
108-60-1	2,2'-oxybis(1-Chloropropane)	110	
106-44-5	4-Methylphenol	240	E
621-64-7	N-Nitroso-di-n-propylamine	160	
67-72-1	Hexachloroethane	81	
98-95-3	Nitrobenzene	92	
78-59-1	Isophorone	100	
88-75-5	2-Nitrophenol	90	
105-67-9	2,4-Dimethylphenol	95	
65-85-0	Benzoic acid	11	J
111-91-1	bis(2-Chloroethoxy)methane	66	
120-83-2	2,4-Dichlorophenol	100	
120-82-1	1,2,4-Trichlorobenzene	96	
91-20-3	Naphthalene	190	E
106-47-8	4-Chloroaniline	62	
87-68-3	Hexachlorobutadiene	94	
59-50-7	4-Chloro-3-methylphenol	100	
91-57-6	2-Methylnaphthalene	120	
77-47-4	Hexachlorocyclopentadiene	67	
88-06-2	2,4,6-Trichlorophenol	77	
95-95-4	2,4,5-Trichlorophenol	45	
91-58-7	2-Chloronaphthalene	54	
88-74-4	2-Nitroaniline	78	
131-11-3	Dimethylphthalate	42	
606-20-2	2,6-Dinitrotoluene	87	
208-96-8	Acenaphthylene	62	

FORM I SV-1 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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P.O. Box 12425
Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW201MSD

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
atrix: (soil/water) WATER Lab Sample ID: 2365878
ample wt/vol: 1000 (g/mL) ML Lab File ID: >B9812
evel: (low/med) LOW Date Received: 08/18/95
Moisture: not dec. _____. dec. _____. Date Extracted: 08/21/95
xtraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/22/95
PC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	140	
83-32-9	Acenaphthene	68	
51-28-5	2,4-Dinitrophenol	53	
100-02-7	4-Nitrophenol	58	
132-64-9	Dibenzofuran	73	
121-14-2	2,4-Dinitrotoluene	73	
84-66-2	Diethylphthalate	72	
7005-72-3	4-Chlorophenyl-phenylether	78	
86-73-7	Fluorene	76	
100-01-6	4-Nitroaniline	92	
534-52-1	4,6-Dinitro-2-methylphenol	64	
86-30-6	N-Nitrosodiphenylamine (1)	70	
101-55-3	4-Bromophenyl-phenylether	79	
118-74-1	Hexachlorobenzene	80	
87-86-5	Pentachlorophenol	93	
85-01-8	Phenanthrene	70	
120-12-7	Anthracene	66	
86-74-8	Carbazole	65	
84-74-2	Di-n-butylphthalate	65	B
206-44-0	Fluoranthene	50	
129-00-0	Pyrene	120	
85-68-7	Butylbenzylphthalate	94	
91-94-1	3,3'-Dichlorobenzidine	29	
56-55-3	Benzo(a)anthracene	74	
117-81-7	bis(2-Ethylhexyl)phthalate	82	
218-01-9	Chrysene	72	
117-84-0	Di-n-octylphthalate	83	
205-99-2	Benzo(b)fluoranthene	78	
207-08-9	Benzo(k)fluoranthene	76	
50-32-8	Benzo(a)pyrene	75	
193-39-5	Indeno(1,2,3-cd)pyrene	66	
53-70-3	Dibenz(a,h)anthracene	62	
191-24-2	Benzo(g,h,i)perylene	63	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

35

Respectfully Submitted
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Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. WW 2365879
Collected: 8/16/95 at 15:45 by TE

Submitted: 8/18/95 Reported: 9/27/95
Discard: 11/27/95

FT-IW13-01 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW131 SDG#: CAL02-04

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:05:22 D 0002 10 122294 479895
135 192.50 00019250 ASR000

36

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW131

b Name: LANCASTER LABS Contract: _____.
b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
trix: (soil/water) WATER Lab Sample ID: 2365879
mple wt/vol: 5.0 (g/mL) ML Lab File ID: >JGS16
vel: (low/med) LOW Date Received: 08/18/95
Moisture: not dec. _____ Date Analyzed: 08/28/95
lumn: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	10	J
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	J
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	2	J
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	4	J
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

37

MEMBER ACIL

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

#2216

Lancaster Laboratories
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LLI Sample No. WW 2365880
Collected: 8/16/95 by TE

Submitted: 8/18/95 Reported: 9/27/95
Discard: 11/27/95

FT-IW-DU-02 Grab Water Sample

NWIRP Calverton, NY CTO-223
IWDU2 SDG#: CAL02-05

Account No: 07558
Halliburton NUS
Crown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form 1		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:05:50 D 0002 10 122294 479895
135 192.50 00019250 ASR000

38

Respectfully Submitted
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See reverse side for explanation of symbols and abbreviations.

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IWDU2

b Name: LANCASTER LABS Contract: _____.
b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
trix: (soil/water) WATER Lab Sample ID: 2365880
mple wt/vol: 5.0 (g/mL) ML Lab File ID: >JGS17
vel: (low/med) LOW Date Received: 08/18/95
Moisture: not dec. _____ Date Analyzed: 08/28/95
lumn: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	15	J
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	3	J
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	4	J
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	2	J
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	4	J
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. WW 2365881
Collected: 8/16/95 at 16:26 by TE

Submitted: 8/18/95 Reported: 9/27/95
Discard: 11/27/95

FT-IW16-01 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW161 SDG#: CAL02-06

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form 1		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:06:18 D 0002 10 122294 479895
135 192.50 00019250 ASR000

40

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

MEMBER ACIL

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW161

b Name: LANCASTER LABS Contract: _____.
b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
trix: (soil/water) WATER Lab Sample ID: 2365881
mple wt/vol: 5.0 (g/mL) ML Lab File ID: >JGS18
vel: (low/med) LOW Date Received: 08/18/95
Moisture: not dec. _____ Date Analyzed: 08/28/95
lumn: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	22	
75-35-4	1,1-Dichloroethene	12	
67-64-1	Acetone	28	
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	4	J
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	85	
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	7	J
71-55-6	1,1,1-Trichloroethane	120	
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	9	
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	11	
127-18-4	Tetrachloroethene	4	J
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	10	
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. WW 2365882
Collected: 8/16/95 at 16:44 by TE

Submitted: 8/18/95 Reported: 9/27/95
Discard: 11/27/95

FT-IW-FB-02 Field Blank Grab Water Sample

NWIRP Calverton, NY CTO-223
IWFB2 SDG#: CAL02-07FB

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:06:42 D 0002 10 122294 479895
135 192.50 00019250 ASR000

42

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

MEMBER ACIL

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IWFB2

b Name: LANCASTER LABS Contract: _____.
b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
trix: (soil/water) WATER Lab Sample ID: 2365882
mple wt/vol: 5.0 (g/mL) ML Lab File ID: >JGS19
vel: (low/med) LOW Date Received: 08/18/95
Moisture: not dec. _____ Date Analyzed: 08/28/95
lumn: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	17	J
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	3	J
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

MEMBER ACIL

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

#2216

Lancaster Laboratories
Where quality is a science.

LLI Sample No. WW 2365883
Collected: 8/16/95 at 16:55 by TE

Submitted: 8/18/95 Reported: 9/27/95
Discard: 11/27/95

FT-IW-RB-02 Rinsate Blank Grab Water Sample

NWIRP Calverton, NY CTO-223
IWRB2 SDG#: CAL02-08RB*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
421	CLP Form I - VOA's			See Page 3
592	TCL Volatiles by 8240 - Water	see form I		
937	TCL Pesticides in Waters			See Page 2
1422	CLP Form I - Semi-volatiles			See Page 4
4678	TCL SW846 Semivolatiles/Waters	see form I		
679	TCL SW846 Semivolatiles/Waters	see form I		

Di-n-butylphthalate was detected in the method blank at a concentration of 7.0 ug/l. The blank value was not subtracted from the analytical result.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:07:09 D 0002 10 122294 479895
135 750.75 00075075 ASR000

44

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
Where quality is a science.

LLI Sample No. WW 2365883
Collected: 8/16/95 at 16:55 by TE

Submitted: 8/18/95 Reported: 9/27/95
Discard: 11/27/95

FT-IW-RB-02 Rinsate Blank Grab Water Sample

NWIRP Calverton, NY CTO-223
IWRB2 SDG#: CAL02-08RB*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
TCL Pesticides in Waters				
1600	Alpha BHC	N.D.	0.01	ug/l
1601	Beta BHC	N.D.	0.01	ug/l
1603	Delta BHC	N.D.	0.01	ug/l
1602	Gamma BHC - Lindane	N.D.	0.01	ug/l
1604	Heptachlor	N.D.	0.01	ug/l
1605	Aldrin	N.D.	0.01	ug/l
1606	Heptachlor Epoxide	N.D.	0.01	ug/l
1616	Endosulfan I	N.D.	0.01	ug/l
1610	Dieldrin	N.D.	0.01	ug/l
1607	DDE	N.D.	0.01	ug/l
1611	Endrin	N.D.	0.01	ug/l
1615	Endosulfan II	N.D.	0.01	ug/l
1608	DDD	N.D.	0.01	ug/l
1617	Endosulfan Sulfate	N.D.	0.03	ug/l
1609	DDT	N.D.	0.01	ug/l
0938	Endrin Ketone	N.D.	0.1	ug/l
1860	Methoxychlor	N.D.	0.05	ug/l
1361	Alpha Chlordane	N.D.	0.01	ug/l
1362	Gamma Chlordane	N.D.	0.01	ug/l
1613	Toxaphene	N.D.	4.	ug/l
1618	Endrin Aldehyde	N.D.	0.1	ug/l
1619	PCB-1016	N.D.	1.	ug/l
1620	PCB-1221	N.D.	1.	ug/l
1621	PCB-1232	N.D.	1.	ug/l
1622	PCB-1242	N.D.	1.	ug/l
1623	PCB-1248	N.D.	1.	ug/l
1624	PCB-1254	N.D.	1.	ug/l
1626	PCB-1260	N.D.	1.	ug/l

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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See reverse side for explanation of symbols and abbreviations.

#2216

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IWRB2

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2365883
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >JGT04
Level: (low/med) LOW Date Received: 08/18/95
% Moisture: not dec. _____ Date Analyzed: 08/29/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IWRB2

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
latrix: (soil/water) WATER Lab Sample ID: 2365883
ample wt/vol: 1000 (g/mL) ML Lab File ID: >B9809
evel: (low/med) LOW Date Received: 08/18/95
Moisture: not dec. _____. dec. _____. Date Extracted: 08/21/95
xtraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/22/95
PC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	20	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IVRB2

'ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
matrix: (soil/water) WATER Lab Sample ID: 2365883
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >B9809
evel: (low/med) LOW Date Received: 08/18/95
Moisture: not dec. _____. dec. _____. Date Extracted: 08/21/95
Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/22/95
'PC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	7	J B
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
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LLI Sample No. WW 2391054
Collected: 9/28/95 at 12:15 by CF

Submitted: 9/29/95 Reported: 10/13/95
Discard: 12/13/95

FT-GW02 Grab Water Sample

NWIRP Calverton, NY CTO-223
TGW02 SDG#: CAL04-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 3
4592	TCL Volatiles by 8240 - Water	see form I		
0937	TCL Pesticides in Waters			See Page 2
1422	CLP Form I - Semi-volatiles			See Page 4
4678	TCL SW846 Semivolatiles/Waters	see form I		
4679	TCL SW846 Semivolatiles/Waters	see form I		
0332	Nitrite Nitrogen	N.D.	0.5	mg/l
0368	Nitrate Nitrogen	N.D.	0.5	mg/l

The GC/MS semivolatile internal standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
09:38:22 D 0002 4 122294 485891
440 0.00 00077154 ASR000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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LLI Sample No. WW 2391054
Collected: 9/28/95 at 12:15 by CF

Submitted: 9/29/95 Reported: 10/13/95
Discard: 12/13/95

FT-GW02 Grab Water Sample

NWIRP Calverton, NY CTO-223
TGW02 SDG#: CAL04-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
TCL Pesticides in Waters				
1600	Alpha BHC	N.D.	0.05	ug/l
1601	Beta BHC	N.D.	0.05	ug/l
1603	Delta BHC	N.D.	0.05	ug/l
1602	Gamma BHC - Lindane	N.D.	0.05	ug/l
1604	Heptachlor	N.D.	0.05	ug/l
1605	Aldrin	N.D.	0.05	ug/l
1606	Heptachlor Epoxide	N.D.	0.05	ug/l
1616	Endosulfan I	N.D.	0.05	ug/l
1610	Dieldrin	N.D.	0.05	ug/l
1607	DDE	N.D.	0.05	ug/l
1611	Endrin	N.D.	0.05	ug/l
1615	Endosulfan II	N.D.	0.3	ug/l
1608	DDD	N.D.	0.05	ug/l
1617	Endosulfan Sulfate	N.D.	0.2	ug/l
1609	DDT	N.D.	0.05	ug/l
0938	Endrin Ketone	N.D.	0.5	ug/l
1860	Methoxychlor	N.D.	0.3	ug/l
1361	Alpha Chlordane	N.D.	0.01	ug/l
1362	Gamma Chlordane	N.D.	0.1	ug/l
1613	Toxaphene	N.D.	20.	ug/l
1618	Endrin Aldehyde	N.D.	0.5	ug/l
1619	PCB-1016	N.D.	5.	ug/l
1620	PCB-1221	N.D.	5.	ug/l
1621	PCB-1232	N.D.	5.	ug/l
1622	PCB-1242	N.D.	5.	ug/l
1623	PCB-1248	N.D.	5.	ug/l
1624	PCB-1254	N.D.	5.	ug/l
1626	PCB-1260	10.	5.	ug/l

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.
Despite numerous cleanup methods, we were unable to reach our usual quantitation limits.

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

10

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Lancaster, PA 17605-2425

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TGW02

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2391054
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DC311
Level: (low/med) LOW Date Received: 09/29/95
% Moisture: not dec. _____ Date Analyzed: 10/03/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	21	
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	40	B
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	39	
156-59-2	cis-1,2-Dichloroethene	18	
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	40	
71-55-6	1,1,1-Trichloroethane	20	
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	19	
108-88-3	Toluene	78	
127-18-4	Tetrachloroethene	5	
591-78-6	2-Hexanone	21	
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	13	
1330-20-7	Xylene (total)	120	
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

1

MEMBER ACIL

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TGW02

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2391054
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >C1857
Level: (low/med) LOW Date Received: 09/29/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 10/02/95
Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/03/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	22	
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	20	U
95-50-1	1,2-Dichlorobenzene	3	J
95-48-7	2-Methylphenol	13	
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	91	
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	17	
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	2	J
91-20-3	Naphthalene	51	
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	36	
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

12

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
P.O. Box 12425
Lancaster, PA 17605-2425

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TGW02RE

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2391054RE
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >C1859
Level: (low/med) LOW Date Received: 09/29/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 10/02/95
Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/03/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	22	
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	20	U
95-50-1	1,2-Dichlorobenzene	3	J
95-48-7	2-Methylphenol	13	
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	89	
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	17	
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	2	J
91-20-3	Naphthalene	52	
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	36	
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
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Manager, Environmental Science

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TGW02

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2391054
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >C1857
Level: (low/med) LOW Date Received: 09/29/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 10/02/95
Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/03/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	2	J
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	J
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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P.O. Box 12425
Lancaster, PA 17605-2425
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See reverse side for explanation of symbols and abbreviations

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TGW02RE

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2391054RE
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >C1859
Level: (low/med) LOW Date Received: 09/29/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 10/02/95
Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/03/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	1	J
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	2	J
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	5	J
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations

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LLI Sample No. WW 2391055
Collected: 9/28/95 at 10:40 by CF

Submitted: 9/29/95 Reported: 10/13/95
Discard: 12/13/95

FT-IW06 Grab Water Sample

NWIRP Calverton, NY CTO-223
CIW06 SDG#: CAL04-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		
0332	Nitrite Nitrogen	N.D.	0.5	mg/l
0368	Nitrate Nitrogen	20.	3.	mg/l

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
09:39:59 D 0002 4 122294 485891
440 0.00 00021329 ASR000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

16

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CIW06

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2391055
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >D0312
Level: (low/med) LOW Date Received: 09/29/95
% Moisture: not dec. _____ Date Analyzed: 10/03/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	16	J B
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	27	
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations

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LLI Sample No. WW 2391056
Collected: 9/28/95 at 11:00 by CF

Submitted: 9/29/95 Reported: 10/13/95
Discard: 12/13/95

FT-IW13 Grab Water Sample

NWIRP Calverton, NY CTO-223
TIW13 SDG#: CAL04-03

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
09:40:44 D 0002 4 122294 485891
440 0.00 00019250 ASR000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

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P.O. Box 12425
Lancaster, PA 17605-2425

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TIW13

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2391056
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DC313
Level: (low/med) LOW Date Received: 09/29/95
% Moisture: not dec. _____ Date Analyzed: 10/03/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	16	J B
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	23	
71-55-6	1,1,1-Trichloroethane	5	
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	2	J
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	2	J
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations

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LLI Sample No. WW 2391057
Collected: 9/28/95 at 11:15 by CF

Submitted: 9/29/95 Reported: 10/13/95
Discard: 12/13/95

FT-IW16 Grab Water Sample

NWIRP Calverton, NY CTO-223
TIW16 SDG#: CAL04-04*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
09:41:25 D 0002 4 122294 485891
440 0.00 00019250 ASR000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

20

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#2

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TIW16

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2391057
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DC314
Level: (low/med) LOW Date Received: 09/29/95
% Moisture: not dec. _____ Date Analyzed: 10/03/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	24	B
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	57	
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	35	
71-55-6	1,1,1-Trichloroethane	33	
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	J
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	2	J
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

&&&

Analysis Repo

LABORATORY CHRONICI

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LLI Sample No. WW 2406132
Collected: 10/26/95 at 10:50 by CF

Submitted: 10/27/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-GW02 Grab Water Sample

NWIRP Calverton, NY CTO-223
GW02- SDG#: CAL09-01

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	11/04/95	TCL
0817	Water Sample Pest. Extraction	SW-846 3510B	1	11/02/95	JSF
0937	TCL Pesticides in Waters	SW-846 8081	1	11/09/95	DDS
0813	BNA Water Extraction	SW-846 3510B	1	10/30/95	WFO
4678	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	11/03/95	RS
4679	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	11/03/95	RS
0368	Nitrate Nitrogen	EPA 300.0	1	10/31/95	CAA
1506	Nitrite Nitrogen	EPA 300.0	1	10/31/95	CAA

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2425 New Holland Pike
P.O. Box 12425
Lancaster, PA 17605-2425
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Analysis Report

LABORATORY CHRONICLE

Lancaster Laboratories
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LLI Sample No. WW 2406133
Collected: 10/26/95 at 10:20 by CF

Submitted: 10/27/95

FT-IW06 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW06- SDG#: CAL09-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	11/04/95	TCL

8

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Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations

&&&

Analysis Repo

LABORATORY CHRONICL

Lancaster Laboratories
Where quality is a science.

LLI Sample No. WW 2406134
Collected: 10/26/95 at 09:30 by CF

Submitted: 10/27/95

FT-IW13 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW13- SDG#: CAL09-03

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	11/04/95	TCL

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P.O. Box 12425
Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

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&&&

Analysis Report

LABORATORY CHRONICLE

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LLI Sample No. WW 2406135
Collected: 10/26/95 at 09:50 by CF

Submitted: 10/27/95

FT-IW16 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW16- SDG#: CAL09-04*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	DATE OF ANALYSIS	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	11/04/95	TCL

10

METHODOLOGY SUMMARY/REFERENCE

4592 TCL Volatiles by 8240B (water)

The water sample is purged with helium and the volatiles are collected on a Tenax/Silica gel/charcoal trap which is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Waste
SW-846, Method 8240B, Revision 2, Sept. 1994

****

0817 Water Sample Pesticide Extraction

Pesticides are extracted from the water with methylene chloride. The extract is then dried and concentrated. If necessary, florisil fractionation is used to minimize matrix interferences.

Reference: Test Methods for Evaluating Solid Wastes,
SW-846, Method 3510B, September 1994

****

0937 TCL Pesticides (water)

The sample is solvent extracted and quantitatively analyzed by gas chromatography with an electron capture detector.

Reference: Test Methods for Evaluating Solid Wastes,
SW-846, Method 8081, September 1994

****

4678/4679 TCL Semivolatiles by 8270B (water)

The sample is solvent extracted and then analyzed by GC/MS for the target compound list.

Reference: Test Methods for Evaluating Solid Waste
SW-846, Method 8270B, Update II, January 13, 1995

****

0368 Nitrate Nitrogen Ion Chromatography (water)

A small volume of sample is introduced onto an ion chromatograph The anions are then separated and measured by a system consisting of a guard column, separator column, suppressor, and conductivity detector. Dionex Ion Chromatographs are used.

Reference: Methods for Chemical Analysis of Water and Wastes
USEPA 600/4-79-020, Method 300.0

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A subsidiary of Thermo Process Systems Inc., a Thermo Electron company

1506 Nitrite Nitrogen by Ion Chromatograph (water)

A small volume of sample is introduced into an ion chromatograph The anions are then separated and measured by a system consisting of a guard column, separator column, suppressor, and conductivity detector. Dionex Ion Chromatographs are used.

Reference: Methods for Chemical Analysis of Water and Wastes
USEPA 600/4-84-017, Method 300.0

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LLI Sample No. WW 2406132
Collected: 10/26/95 at 10:50 by CF

Submitted: 10/27/95 Reported: 11/17/95
Discard: 1/17/96

FT-GW02 Grab Water Sample

NWIRP Calverton, NY CTO-223
GW02- SDG#: CAL09-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 3
4592	TCL Volatiles by 8240 - Water	see form I		
0937	TCL Pesticides in Waters			See Page 2
1422	CLP Form I - Semi-volatiles			See Page 4
4678	TCL SW846 Semivolatiles/Waters	see form I		
4679	TCL SW846 Semivolatiles/Waters	see form I		
0368	Nitrate Nitrogen	N.D.	0.5	mg/l
1506	Nitrite Nitrogen	N.D.	0.5	mg/l

The GC/MS semivolatile surrogate recovery of nitrobenzene-d5 was outside of QC limits. The recovery was, however, greater than 10%.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:13:09 D 0002 4 122294 489703
885 765.38 00076538 ASR000

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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Lancaster, PA 17605-2425
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See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. WW 2406132
Collected: 10/26/95 at 10:50 by CF

Submitted: 10/27/95 Reported: 11/17/95
Discard: 1/17/96

FT-GW02 Grab Water Sample

NWIRP Calverton, NY CTO-223
GW02- SDG#: CAL09-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		LIMIT OF QUANTITATION	UNITS
TCL Pesticides in Waters					
1600	Alpha BHC	0.007	J	0.01	ug/l
1601	Beta BHC	N.D.		0.1	ug/l
1603	Delta BHC	N.D.		0.1	ug/l
1602	Gamma BHC - Lindane	N.D.		0.1	ug/l
1604	Heptachlor	N.D.		0.1	ug/l
1605	Aldrin	N.D.		0.1	ug/l
1606	Heptachlor Epoxide	N.D.		0.1	ug/l
1616	Endosulfan I	0.009	J	0.01	ug/l
1610	Dieldrin	0.08		0.01	ug/l
1607	DDE	N.D.		0.1	ug/l
1611	Endrin	N.D.		0.1	ug/l
1615	Endosulfan II	0.34		0.01	ug/l
1608	DDD	N.D.		0.1	ug/l
1617	Endosulfan Sulfate	N.D.		0.3	ug/l
1609	DDT	N.D.		0.1	ug/l
0938	Endrin Ketone	N.D.		1.	ug/l
1860	Methoxychlor	N.D.		0.5	ug/l
1361	Alpha Chlordane	N.D.		0.1	ug/l
1362	Gamma Chlordane	N.D.		0.1	ug/l
1613	Toxaphene	N.D.		40.	ug/l
1618	Endrin Aldehyde	N.D.		1.	ug/l
1619	PCB-1016	N.D.		10.	ug/l
1620	PCB-1221	N.D.		10.	ug/l
1621	PCB-1232	N.D.		10.	ug/l
1622	PCB-1242	N.D.		10.	ug/l
1623	PCB-1248	N.D.		10.	ug/l
1624	PCB-1254	N.D.		10.	ug/l
1626	PCB-1260	9.		1.	ug/l

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.
Despite numerous cleanup methods, we were unable to reach our usual quantitation limits.

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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See reverse side for explanation of symbols and abbreviations

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW02-

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2406132
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >FN406
Level: (low/med) LOW Date Received: 10/27/95
% Moisture: not dec. _____ Date Analyzed: 11/04/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	20	
75-35-4	1,1-Dichloroethene	6	
67-64-1	Acetone	16	J
75-15-0	Carbon Disulfide	48	
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	36	
156-59-2	cis-1,2-Dichloroethene	21	
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	41	
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	1	J
79-01-6	Trichloroethene	1	J
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	8	J
108-88-3	Toluene	75	
127-18-4	Tetrachloroethene	12	
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	12	
1330-20-7	Xylene (total)	120	
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW02-

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2406132
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >F5101
Level: (low/med) LOW Date Received: 10/27/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 10/30/95
Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 11/03/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	8	J
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	20	U
95-50-1	1,2-Dichlorobenzene	3	J
95-48-7	2-Methylphenol	7	J
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	17	
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	3	J
91-20-3	Naphthalene	63	
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	58	
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW02-

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2406132
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >F5101
Level: (low/med) LOW Date Received: 10/27/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 10/30/95
Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 11/03/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2--------	3-Nitroaniline	10	U
83-32-9--------	Acenaphthene	10	U
51-28-5--------	2,4-Dinitrophenol	25	U
100-02-7-------	4-Nitrophenol	25	U
132-64-9-------	Dibenzofuran	10	U
121-14-2-------	2,4-Dinitrotoluene	10	U
84-66-2--------	Diethylphthalate	10	U
7005-72-3------	4-Chlorophenyl-phenylether	10	U
86-73-7--------	Fluorene	1	J
100-01-6-------	4-Nitroaniline	10	U
534-52-1-------	4,6-Dinitro-2-methylphenol	25	U
86-30-6--------	N-Nitrosodiphenylamine (1)	10	U
101-55-3-------	4-Bromophenyl-phenylether	10	U
118-74-1-------	Hexachlorobenzene	10	U
87-86-5--------	Pentachlorophenol	25	U
85-01-8--------	Phenanthrene	10	U
120-12-7-------	Anthracene	10	U
86-74-8--------	Carbazole	10	U
84-74-2--------	Di-n-butylphthalate	1	J
206-44-0-------	Fluoranthene	10	U
129-00-0-------	Pyrene	2	J
85-68-7--------	Butylbenzylphthalate	10	U
91-94-1--------	3,3'-Dichlorobenzidine	20	U
56-55-3--------	Benzo(a)anthracene	10	U
117-81-7-------	bis(2-Ethylhexyl)phthalate	4	J
218-01-9-------	Chrysene	10	U
117-84-0-------	Di-n-octylphthalate	10	U
205-99-2-------	Benzo(b)fluoranthene	10	U
207-08-9-------	Benzo(k)fluoranthene	10	U
50-32-8--------	Benzo(a)pyrene	10	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	10	U
53-70-3--------	Dibenz(a,h)anthracene	10	U
191-24-2-------	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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Lancaster, PA 17605-2425
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LLI Sample No. WW 2406133
Collected: 10/26/95 at 10:20 by CF

Submitted: 10/27/95 Reported: 11/17/95
Discard: 1/17/96

FT-IW06 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW06- SDG#: CAL09-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:14:27 D 0002 4 122294 489703
885 192.50 00019250 ASR000

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

18

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Lancaster, PA 17605-2425

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#22

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW06-

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2406133
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >FN407
Level: (low/med) LOW Date Received: 10/27/95
% Moisture: not dec. _____ Date Analyzed: 11/04/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

9

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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LLI Sample No. WW 2406134
Collected: 10/26/95 at 09:30 by CF

Submitted: 10/27/95 Reported: 11/17/95
Discard: 1/17/96

FT-IW13 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW13- SDG#: CAL09-03

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:15:00 D 0002 4 122294 489703
885 192.50 00019250 ASR000

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations

#2

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW13-

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2406134
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >FN408
Level: (low/med) LOW Date Received: 10/27/95
% Moisture: not dec. _____ Date Analyzed: 11/04/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	Q	
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	7	
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	38	
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	11	
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	4	J
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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See reverse side for explanation of symbols and abbreviations

Lancaster Laboratories
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LLI Sample No. WW 2406135
Collected: 10/26/95 at 09:50 by CF

Submitted: 10/27/95 Reported: 11/17/95
Discard: 1/17/96

FT-IW16 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW16- SDG#: CAL09-04*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
04:15:35 D 0002 4 122294 489703
885 192.50 00019250 ASR000

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW16-

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2406135
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >FN409
Level: (low/med) LOW Date Received: 10/27/95
% Moisture: not dec. _____ Date Analyzed: 11/04/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	Q
74-87-3	Chloromethane	5 U
75-01-4	Vinyl Chloride	5 U
74-83-9	Bromomethane	5 U
75-00-3	Chloroethane	94
75-35-4	1,1-Dichloroethene	6
67-64-1	Acetone	16 J
75-15-0	Carbon Disulfide	5 U
75-09-2	Methylene Chloride	5 U
156-60-5	trans-1,2-Dichloroethene	5 U
75-34-3	1,1-Dichloroethane	170
156-59-2	cis-1,2-Dichloroethene	3 J
67-66-3	Chloroform	5 U
107-06-2	1,2-Dichloroethane	5 U
108-05-4	Vinyl Acetate	10 U
78-93-3	2-Butanone	13
71-55-6	1,1,1-Trichloroethane	37
56-23-5	Carbon Tetrachloride	5 U
71-43-2	Benzene	5 U
79-01-6	Trichloroethene	3 J
78-87-5	1,2-Dichloropropane	5 U
75-27-4	Bromodichloromethane	5 U
10061-01-5	cis-1,3-Dichloropropene	5 U
10061-02-6	trans-1,3-Dichloropropene	5 U
79-00-5	1,1,2-Trichloroethane	5 U
124-48-1	Dibromochloromethane	5 U
75-25-2	Bromoform	5 U
108-10-1	4-Methyl-2-Pentanone	10 U
108-88-3	Toluene	8
127-18-4	Tetrachloroethene	1 J
591-78-6	2-Hexanone	10 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	3 J
1330-20-7	Xylene (total)	13
100-42-5	Styrene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	5 U

FORM I VOA 1/87 Rev.

2

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. WW 2421713
Collected: 11/21/95 at 10:00 by CF

Submitted: 11/22/95

FT-GW02 Grab Water Sample

NWIRP Calverton, NY CTO-223
GW02W SDG#: CAL11-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS DATE AND TIME	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	12/02/95 1544	David P. Chandler, Jr.
0817	Water Sample Pest. Extraction	SW-846 3510A	1	11/28/95 0430	Joseph S. Feister
0937	TCL Pesticides in Waters	SW-846 8080	1	12/08/95 1741	Douglas D. Seitz
0813	BNA Water Extraction	SW-846 3510B	1	11/27/95 0925	Lisa J. Cooke
4678	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	11/29/95 1700	David J. Evans
4679	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	11/29/95 1700	David J. Evans
0368	Nitrate Nitrogen	EPA 300.0	1	11/28/95 2202	Christine A. Armon
1506	Nitrite Nitrogen	EPA 300.0	1	11/28/95 2202	Christine A. Armon

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&&&

Analysis Report

LABORATORY CHRONICLE

Lancaster Laboratories
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LLI Sample No. WW 2421714
Collected: 11/21/95 at 10:50 by CF

Submitted: 11/22/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

FT-IW06 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW06W SDG#: CAL11-02

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS DATE AND TIME	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	12/02/95 1015	David P. Chandler, Jr.
0368	Nitrate Nitrogen	EPA 300.0	1	11/28/95 2210	Christine A. Armon
1506	Nitrite Nitrogen	EPA 300.0	1	11/28/95 2210	Christine A. Armon

4

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Analysis Repo

LABORATORY CHRONICLE

Lancaster Laboratories
Where quality is a science.

LLI Sample No. WW 2421715
Collected: 11/21/95 at 11:15 by CF

Submitted: 11/22/95

FT-IW13 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW13W SDG#: CAL11-03

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS DATE AND TIME	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	12/02/95 1052	David P. Chandler, Jr.

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&&&

Analysis Rep

LABORATORY CHRONICI

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LLI Sample No. WW 2421716
Collected: 11/21/95 at 11:30 by CF

Submitted: 11/22/95

FT-IW16 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW16W SDG#: CAL11-04*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS DATE AND TIME	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	12/02/95 1621	David P. Chandler, Jr.

6

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METHODOLOGY SUMMARY/REFERENCE

4592 TCL Volatiles by 8240B (water)

The water sample is purged with helium and the volatiles are collected on a Tenax/Silica gel/charcoal trap which is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Waste
SW-846, Method 8240B, Revision 2, Sept. 1994

****

0817 Water Sample Pesticide Extraction

Pesticides are extracted from the water with methylene chloride The extract is then dried and concentrated. If necessary, florisil fractionation is used to minimize matrix interferences.

Reference: Test Methods for Evaluating Solid Wastes,
SW-846, Method 3510A, July 1992

****

0937 TCL Pesticides (water)

The sample is solvent extracted and quantitatively analyzed by gas chromatography with an electron capture detector.

Reference: Test Methods for Evaluating Solid Wastes,
SW-846, Method 8080, September 1986

****

4678/4679 TCL Semivolatiles by 8270B (water)

The sample is solvent extracted and then analyzed by GC/MS for the target compound list.

Reference: Test Methods for Evaluating Solid Waste
SW-846, Method 8270B, Update II, January 13, 1995

****

0368 Nitrate Nitrogen Ion Chromatography (water)

A small volume of sample is introduced onto an ion chromatograp The anions are then separated and measured by a system consisting of a guard column, separator column, suppressor, and conductivity detector. Dionex Ion Chromatographs are used.

Reference: Methods for Chemical Analysis of Water and Wastes
USEPA 600/4-79-020, Method 300.0

1506 Nitrite Nitrogen by Ion Chromatograph (water)

A small volume of sample is introduced into an ion chromatograp . The anions are then separated and measured by a system consisting of a guard column, separator column, suppressor, and conductivity detector. Dionex Ion Chromatographs are used.

Reference: Methods for Chemical Analysis of Water and Wastes
USEPA 600/4-84-017, Method 300.0

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LLI Sample No. WW 2421713
Collected: 11/21/95 at 10:00 by CF

Submitted: 11/22/95 Reported: 12/12/95
Discard: 2/11/96

FT-GW02 Grab Water Sample

NWIRP Calverton, NY CTO-223
GW02W SDG#: CAL11-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 3
4592	TCL Volatiles by 8240 - Water	see form I		
0937	TCL Pesticides in Waters			See Page 2
1422	CLP Form I - Semi-volatiles			See Page 4
4678	TCL SW846 Semivolatiles/Waters	see form I		
4679	TCL SW846 Semivolatiles/Waters	see form I		
0368	Nitrate Nitrogen	N.D.	0.5	mg/l
1506	Nitrite Nitrogen	N.D.	0.5	mg/l

The GC/MS semivolatile surrogate recovery of nitrobenzene-d5 was outside of QC limits. The recovery was, however, greater than 10%.

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
12:31:02 D 0002 4 122294 493458
885 765.38 00076538 ASR000

9

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. WW 2421713
Collected: 11/21/95 at 10:00 by CF

Submitted: 11/22/95 Reported: 12/12/95
Discard: 2/11/96

FT-GW02 Grab Water Sample

NWIRP Calverton, NY CTO-223
GW02W SDG#: CAL11-01

Account No: 07558
Halliburton NUS
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993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
TCL Pesticides in Waters				
1600	Alpha BHC	N.D.	0.01	ug/l
1601	Beta BHC	N.D.	0.01	ug/l
1603	Delta BHC	N.D.	0.01	ug/l
1602	Gamma BHC - Lindane	N.D.	0.02	ug/l
1604	Heptachlor	N.D.	0.01	ug/l
1605	Aldrin	N.D.	0.01	ug/l
1606	Heptachlor Epoxide	N.D.	0.01	ug/l
1616	Endosulfan I	N.D.	0.01	ug/l
1610	Dieldrin	N.D.	0.01	ug/l
1607	DDE	N.D.	0.02	ug/l
1611	Endrin	N.D.	0.01	ug/l
1615	Endosulfan II	N.D.	0.3	ug/l
1608	DDD	N.D.	0.01	ug/l
1617	Endosulfan Sulfate	N.D.	0.03	ug/l
1609	DDT	N.D.	0.01	ug/l
0938	Endrin Ketone	N.D.	0.1	ug/l
1860	Methoxychlor	N.D.	0.1	ug/l
1361	Alpha Chlordane	N.D.	0.02	ug/l
1362	Gamma Chlordane	N.D.	0.01	ug/l
1613	Toxaphene	N.D.	4.	ug/l
1618	Endrin Aldehyde	N.D.	0.5	ug/l
1619	PCB-1016	N.D.	1.	ug/l
1620	PCB-1221	N.D.	2.	ug/l
1621	PCB-1232	N.D.	2.	ug/l
1622	PCB-1242	N.D.	1.	ug/l
1623	PCB-1248	N.D.	2.	ug/l
1624	PCB-1254	N.D.	1.	ug/l
1626	PCB-1260	B.	1.	ug/l

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.
Despite numerous cleanup methods, we were unable to reach our usual quantitation limits.

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

10

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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See reverse side for explanation of symbols and abbreviations

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW02W

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2421713
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >FD212
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. _____ Date Analyzed: 12/02/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	17	
75-35-4	1,1-Dichloroethene	1	J
67-64-1	Acetone	17	J
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	24	
156-59-2	cis-1,2-Dichloroethene	14	
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	3	J
71-55-6	1,1,1-Trichloroethane	26	
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	1	J
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	62	
127-18-4	Tetrachloroethene	12	
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	10	
1330-20-7	Xylene (total)	100	
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

11

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Respectfully Submitted
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Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW02W

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2421713
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >C4957
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 11/27/95
Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 11/29/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	20	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	23	
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	4	J
91-20-3	Naphthalene	67	
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	87	
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
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Manager, Environmental Science

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW02W

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2421713
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >C4957
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 11/27/95
Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 11/29/95
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	2	J
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	2	J
120-12-7	Anthracene	10	U
86-74-8	Carbazole	8	J
84-74-2	Di-n-butylphthalate	1	J
206-44-0	Fluoranthene	1	J
129-00-0	Pyrene	2	J
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	160	
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
P.O. Box 12425
Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

See reverse side for explanation of symbols and abbreviations.

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LLI Sample No. WW 2421714
Collected: 11/21/95 at 10:50 by CF

Submitted: 11/22/95 Reported: 12/12/95
Discard: 2/11/96

FT-IW06 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW06W SDG#: CAL11-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		
0368	Nitrate Nitrogen	13.2	0.5	mg/l
1506	Nitrite Nitrogen	N.D.	0.5	mg/l

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
12:32:17 D 0002 4 122294 493458
885 207.13 00020713 ASR000

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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Lancaster, PA 17605-2425

MEMBER ACIL

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW06W

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2421714
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >FD204
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. _____ Date Analyzed: 12/02/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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Lancaster, PA 17605-2425
717-656-2300 FAX 717-656-2681

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LLI Sample No. WW 2421715
Collected: 11/21/95 at 11:15 by CF

Submitted: 11/22/95 Reported: 12/12/95
Discard: 2/11/96

FT-IW13 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW13W SDG#: CAL11-03

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
12:32:46 D 0002 4 122294 493458
885 192.50 00019250 ASR000

16

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW13W

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2421715
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >FD205
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. _____ Date Analyzed: 12/02/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	2	J
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	13	
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	34	
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	8	
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	2	J
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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LLI Sample No. WW 2421716
Collected: 11/21/95 at 11:30 by CF

Submitted: 11/22/95 Reported: 12/12/95
Discard: 2/11/96

FT-IW16 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW16W SDG#: CAL11-04*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form 1		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
12:33:16 D 0002 4 122294 493458
885 192.50 00019250 ASR000

10

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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#22

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW16W

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2421716
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >FD213
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. _____ Date Analyzed: 12/02/95
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	100	
75-35-4	1,1-Dichloroethene	15	
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	390	E
156-59-2	cis-1,2-Dichloroethene	7	
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	170	
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	1	J
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	6	J
108-88-3	Toluene	5	
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	10	
1330-20-7	Xylene (total)	35	
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations.

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW16WDL

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2421716
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >FD218
Level: (low/med) LOW Date Received: 11/22/95
% Moisture: not dec. _____ Date Analyzed: 12/02/95
Column: (pack/cap) CAP Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	67	D
75-35-4	1,1-Dichloroethene	11	D
67-64-1	Acetone	40	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	300	D
156-59-2	cis-1,2-Dichloroethene	5	J D
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
108-05-4	Vinyl Acetate	20	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	110	D
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	20	U
108-88-3	Toluene	4	J D
127-18-4	Tetrachloroethene	10	U
591-78-6	2-Hexanone	20	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	8	J D
1330-20-7	Xylene (total)	28	D
100-42-5	Styrene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U

FORM I VOA 1/87 Rev.

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

19H
alem
12-25-9

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
P.O. Box 12425
Lancaster, PA 17605-2425

LABORATORY CHRONICLE

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. WW 2437333
Collected: 12/19/95 at 10:59 by TE

Submitted: 12/20/95

FT-IW06 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW06- SDG#: CAL13-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS DATE AND TIME	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	12/21/95 2156	Steven J. Lennon
0368	Nitrate Nitrogen	EPA 300.0	1	12/21/95 1832	Daniel P. Lavrich
1506	Nitrite Nitrogen	EPA 300.0	1	12/21/95 1832	Daniel P. Lavrich

MEMBER ACIL
Lancaster Laboratories
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PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

LABORATORY CHRONICLE

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. WW 2437334
Collected: 12/19/95 at 11:45 by TE

Submitted: 12/20/95

FT-IW13 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW13- SDG#: CAL13-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS DATE AND TIME	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	12/21/95 2231	Steven J. Lennon

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PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

LABORATORY CHRONICLE

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. WW 2437335
Collected: 12/19/95 by TE

Submitted: 12/20/95

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

FT-GW-DU03 Duplicate 03 Grab Water Sample

NWIRP Calverton, NY CTO-223
GW03- SDG#: CAL13-03

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS DATE AND TIME	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	12/22/95 1115	Thomas C. Lehman

5

Analysis Report

LABORATORY CHRONICLE

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. WW 2437336
Collected: 12/19/95 at 13:47 by TE

Submitted: 12/20/95

FT-IW16 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW16- SDG#: CAL13-04

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS DATE AND TIME	ANALYST
4592	TCL Volatiles by 8240 - Water	SW-846 8240B	1	12/22/95 1200	Thomas C. Lehman

&&

Analysis Repor

LABORATORY CHRONICLE

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. WW 2437337
Collected: 12/19/95 at 14:39 by TE

Submitted: 12/20/95

FT-GW02-S Grab Water Sample

NWIRP Calverton, NY CTO-223
GW02- SDG#: CAL13-05*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

CAT NO	ANALYSIS NAME	METHOD	TRIAL	ANALYSIS DATE AND TIME	ANALYST
0817	Water Sample Pest. Extraction	SW-846 3510B	1	12/21/95 1430	Michael Kielb
0937	TCL Pesticides in Waters	SW-846 8080	1	12/28/95 1925	Nancy Saunders
0813	BNA Water Extraction	SW-846 3510B	1	12/22/95 0945	Tara Spaide
4678	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	01/04/96 1122	David J. Evans
4679	TCL SW846 Semivolatiles/Waters	SW-846 8270B	1	01/04/96 1122	David J. Evans
0368	Nitrate Nitrogen	EPA 300.0	1	12/21/95 1840	Daniel P. Lavrich
1506	Nitrite Nitrogen	EPA 300.0	1	12/21/95 1840	Daniel P. Lavrich

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PO Box 12425
Lancaster, PA 17605-2425
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See reverse side for explanation of symbols and abbreviations.

METHODOLOGY SUMMARY/REFERENCE

4592 TCL Volatiles by 8240B (water)

The water sample is purged with helium and the volatiles are collected on a Tenax/Silica gel/charcoal trap which is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Test Methods for Evaluating Solid Waste
SW-846, Method 8240B, Revision 2, Sept. 1994

****

0817 Water Sample Pesticide Extraction

Pesticides are extracted from the water with methylene chloride. The extract is then dried and concentrated. If necessary, florisil fractionation is used to minimize matrix interferences.

Reference: Test Methods for Evaluating Solid Wastes,
SW-846, Method 3510B, September 1994

****

0937 TCL Pesticides (water)

The sample is solvent extracted and quantitatively analyzed by gas chromatography with an electron capture detector.

Reference: Test Methods for Evaluating Solid Wastes,
SW-846, Method 8080, September 1986

****

4678/4679 TCL Semivolatiles by 8270B (water)

The sample is solvent extracted and then analyzed by GC/MS for the target compound list.

Reference: Test Methods for Evaluating Solid Waste
SW-846, Method 8270B, Update II, January 13, 1995

****

0368 Nitrate Nitrogen Ion Chromatography (water)

A small volume of sample is introduced onto an ion chromatograph. The anions are then separated and measured by a system consisting of a guard column, separator column, suppressor, and conductivity detector. Dionex Ion Chromatographs are used.

Reference: Methods for Chemical Analysis of Water and Wastes
USEPA 600/4-79-020, Method 300.0

1506 Nitrite Nitrogen by Ion Chromatograph (water)

A small volume of sample is introduced into an ion chromatograph. The anions are then separated and measured by a system consisting of a guard column, separator column, suppressor, and conductivity detector. Dionex Ion Chromatographs are used.

Reference: Methods for Chemical Analysis of Water and Wastes
USEPA 600/4-84-017, Method 300.0

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. WW 2437333
Collected: 12/19/95 at 10:59 by TE

Submitted: 12/20/95 Reported: 1/ 9/96
Discard: 3/10/96

FT-IW06 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW06- SDG#: CAL13-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
421	CLP Form I - VOA's			See Page 2
592	TCL Volatiles by 8240 - Water	see form I		
368	Nitrate Nitrogen	8.4	0.5	mg/l
506	Nitrite Nitrogen	N.D.	0.5	mg/l

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
at (717) 656-2300
12:14:43 D 0002 5 0 122294 497255
232 207.13 00020713 ASR000

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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PO Box 12425
Lancaster, PA 17605-2425
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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. WW 2437334
Collected: 12/19/95 at 11:45 by TE

Submitted: 12/20/95 Reported: 1/ 9/96
Discard: 3/10/96

FT-IW13 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW13- SDG#: CAL13-02

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
at (717) 656-2300
12:15:32 D 0002 5 D 122294 497255
232 192.50 00019250 ASR000

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

11

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW13-

b Name: LANCASTER LABS Contract: _____.
b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
trix: (soil/water) WATER Lab Sample ID: 2437334
nple wt/vol: 5.0 (g/mL) ML Lab File ID: >JDL04
vel: (low/med) LOW Date Received: 12/20/95
Moisture: not dec. _____ Date Analyzed: 12/21/95
lumn: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	12	
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	22	
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	7	
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	2	J
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

MEMBER ACIL
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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations. 2216 Rev. 10/30/95

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. WW 2437335
Collected: 12/19/95 by TE

Submitted: 12/20/95 Reported: 1/ 9/96
Discard: 3/10/96

FT-GW-DU03 Duplicate 03 Grab Water Sample

NWIRP Calverton, NY CTO-223
GW03- SDG#: CAL13-03

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-1D4J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
at (717) 656-2300
12:17:00 D 0002 5 0 122294 497255
232 192.50 00019250 ASR000

13

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

GW03-

b Name: LANCASTER LABS Contract: _____.
b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
trix: (soil/water) WATER Lab Sample ID: 2437335
mple wt/vol: 5.0 (g/mL) ML Lab File ID: >JDM11
vel: (low/med) LOW Date Received: 12/20/95
Moisture: not dec. _____ Date Analyzed: 12/22/95
lumn: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	11	
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	23	
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	6	
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	2	J
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

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PO Box 12425
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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations. 2216 Rev. 10/30/95

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. WW 2437336
Collected: 12/19/95 at 13:47 by TE

Submitted: 12/20/95 Reported: 1/ 9/96
Discard: 3/10/96

FT-IW16 Grab Water Sample

NWIRP Calverton, NY CTO-223
IW16- SDG#: CAL13-04

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
at (717) 656-2300
12:18:44 D 0002 5 0 122294 497255
232 192.50 00019250 ASR000

15

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

IA

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IW16-

Name: LANCASTER LABS Contract: _____.
Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
trix: (soil/water) WATER Lab Sample ID: 2437336
mple wt/vol: 5.0 (g/mL) ML Lab File ID: >JDM12
vel: (low/med) LOW Date Received: 12/20/95
Moisture: not dec. _____ Date Analyzed: 12/22/95
lumn: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	16	
75-35-4	1,1-Dichloroethene	2	J
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	210	
156-59-2	cis-1,2-Dichloroethene	2	J
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	85	
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	2	J
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	8	
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

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717-656-2300 Fax: 717-656-2681

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations. 2216 Rev. 10/30/95

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. WW 2437337
Collected: 12/19/95 at 14:39 by TE

Submitted: 12/20/95 Reported: 1/ 9/96
Discard: 3/10/96

FT-GW02-S Grab Water Sample

NWIRP Calverton, NY CTO-223
GW02- SDG#: CAL13-05*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
0937	TCL Pesticides in Waters			See Page 2
1422	CLP Form I - Semi-volatiles			See Page 3
4678	TCL SW846 Semivolatiles/Waters	see form 1		
4679	TCL SW846 Semivolatiles/Waters	see form 1		
0368	Nitrate Nitrogen	N.D.	0.5	mg/l
1506	Nitrite Nitrogen	N.D.	0.5	mg/l

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
at (717) 656-2300
12:20:00 D 0002 5 0 122294 497255
232 572.88 00057288 ASR000

Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

17

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See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. WW 2437337
Collected: 12/19/95 at 14:39 by TE

Submitted: 12/20/95 Reported: 1/ 9/96
Discard: 3/10/96

FT-GW02-S Grab Water Sample

NWIRP Calverton, NY CTO-223
GW02- SDG#: CAL13-05*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne, PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		LIMIT OF QUANTITATION	UNITS
CL Pesticides in Waters					
600	Alpha BHC	0.03	J	0.1	ug/l
601	Beta BHC	N.D.		0.1	ug/l
603	Delta BHC	N.D.		0.1	ug/l
602	Gamma BHC - Lindane	0.05	J	0.1	ug/l
604	Heptachlor	N.D.		0.1	ug/l
605	Aldrin	N.D.		0.1	ug/l
606	Heptachlor Epoxide	N.D.		0.1	ug/l
616	Endosulfan I	N.D.		0.1	ug/l
610	Dieldrin	N.D.		0.1	ug/l
607	DDE	N.D.		0.1	ug/l
611	Endrin	N.D.		0.1	ug/l
615	Endosulfan II	N.D.		0.1	ug/l
608	DDD	N.D.		0.1	ug/l
617	Endosulfan Sulfate	N.D.		0.3	ug/l
609	DDT	N.D.		0.1	ug/l
1938	Endrin Ketone	N.D.		1.	ug/l
1860	Methoxychlor	N.D.		0.5	ug/l
1361	Alpha Chlordane	N.D.		0.1	ug/l
1362	Gamma Chlordane	N.D.		0.1	ug/l
1613	Toxaphene	N.D.		40.	ug/l
1618	Endrin Aldehyde	N.D.		1.	ug/l
1619	PCB-1016	N.D.		10.	ug/l
1620	PCB-1221	N.D.		10.	ug/l
1621	PCB-1232	N.D.		10.	ug/l
1622	PCB-1242	N.D.		10.	ug/l
1623	PCB-1248	N.D.		10.	ug/l
1624	PCB-1254	N.D.		10.	ug/l
1626	PCB-1260	2.6	J	10.	ug/l

Due to interfering peaks on the chromatogram, the values reported represent the lowest quantitation limits obtainable.
Despite numerous cleanup methods, we were unable to reach our usual quantitation limits.

Questions? Contact your Client Services Representative at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

MEMBER ACIL
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Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW02-

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2437337
ample wt/vol: 1000 (g/mL) ML Lab File ID: >C6150
evel: (low/med) LOW Date Received: 12/20/95
% Moisture: not dec. _____. dec. _____. Date Extracted: 12/22/95
xtraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 01/04/96
PC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	20	U
95-50-1	1,2-Dichlorobenzene	4	J
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	7	J
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	8	J
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	1	J
91-20-3	Naphthalene	35	
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	55	
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U

FORM I SV-1 1/87 Rev.

Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

MEMBER ACIL

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

See reverse side for explanation of symbols and abbreviations.

2216 Rev. 10/30/95

Lancaster Laboratories
A Thermo Analytical Laboratory

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW02-

ab Name: LANCASTER LABS Contract: _____.
ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
atrix: (soil/water) WATER Lab Sample ID: 2437337
ample wt/vol: 1000 (g/mL) ML Lab File ID: >C6150
evel: (low/med) LOW Date Received: 12/20/95
Moisture: not dec. _____. dec. _____. Date Extracted: 12/22/95
xtraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 01/04/96
PC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	3	J
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	1	J
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	2	J
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	1	J
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	36	
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
Jon S. Kauffman, Ph.D.
Manager, Environmental Science

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Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. WW 2450297
Collected: 1/23/96 at 11:15 by TE

Submitted: 1/25/96 Reported: 2/ 9/96
Discard: 4/10/96

FT-GW02 Grab Water Sample

NWIRP Calverton, NY CTO-223
FTW02 SDG#: CAL15-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 3
4592	TCL Volatiles by 8240 - Water	see form 1		
	The quantitation limits for the GC/MS volatile compounds were raised due to the level of non-target compounds.			
0937	TCL Pesticides in Waters			See Page 2
1422	CLP Form I - Semi-volatiles			See Page 4
4678	TCL SW846 Semivolatiles/Waters	see form 1		
4679	TCL SW846 Semivolatiles/Waters	see form 1		
9121	Benzyl Alcohol	N.D.	200.	ug/l
9123	Benzoic Acid	N.D.	500.	ug/l

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
14:05:08 D 0002 2 122294 500787
232 750.75 00075075 ASR000

Respectfully Submitted
Erik Frederiksen, BA
Group Leader, Water Quality

MEMBER ACIL
Lancaster Laboratories
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PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

See reverse side for explanation of symbols and abbreviations

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. WW 2450297
Collected: 1/23/96 at 11:15 by TE

Submitted: 1/25/96 Reported: 2/ 9/96
Discard: 4/10/96

FT-GW02 Grab Water Sample

NWIRP Calverton, NY CTO-223
FTW02 SDG#: CAL15-01

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
TCL Pesticides in Waters				
1600	Alpha BHC	0.05	0.01	ug/l
1601	Beta BHC	N.D.	0.1	ug/l
1603	Delta BHC	N.D.	0.1	ug/l
1602	Gamma BHC - Lindane	N.D.	0.1	ug/l
1604	Heptachlor	0.04	0.01	ug/l
1605	Aldrin	0.02	0.01	ug/l
1606	Heptachlor Epoxide	N.D.	0.1	ug/l
1616	Endosulfan I	N.D.	0.1	ug/l
1610	Dieldrin	0.08	0.01	ug/l
1607	DDE	N.D.	0.1	ug/l
1611	Endrin	N.D.	0.1	ug/l
1615	Endosulfan II	0.46	0.01	ug/l
1608	DDD	N.D.	0.1	ug/l
1617	Endosulfan Sulfate	N.D.	0.3	ug/l
1609	DDT	N.D.	0.1	ug/l
0938	Endrin Ketone	N.D.	1.	ug/l
1860	Methoxychlor	N.D.	0.5	ug/l
1361	Alpha Chlordane	N.D.	0.1	ug/l
1362	Gamma Chlordane	N.D.	0.1	ug/l
1613	Toxaphene	N.D.	40.	ug/l
1618	Endrin Aldehyde	N.D.	1.	ug/l
1619	PCB-1016	N.D.	10.	ug/l
1620	PCB-1221	N.D.	10.	ug/l
1621	PCB-1232	N.D.	10.	ug/l
1622	PCB-1242	N.D.	10.	ug/l
1623	PCB-1248	N.D.	10.	ug/l
1624	PCB-1254	N.D.	10.	ug/l
1626	PCB-1260	20.	10.	ug/l

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FTW02

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2450297
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DJT18
Level: (low/med) LOW Date Received: 01/25/96
% Moisture: not dec. _____ Date Analyzed: 01/30/96
Column: (pack/cap) CAP Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	50	U
75-01-4	Vinyl Chloride	50	U
74-83-9	Bromomethane	50	U
75-00-3	Chloroethane	40	J
75-35-4	1,1-Dichloroethene	50	U
67-64-1	Acetone	280	
75-15-0	Carbon Disulfide	50	U
75-09-2	Methylene Chloride	50	U
156-60-5	trans-1,2-Dichloroethene	50	U
75-34-3	1,1-Dichloroethane	69	
156-59-2	cis-1,2-Dichloroethene	53	
67-66-3	Chloroform	50	U
107-06-2	1,2-Dichloroethane	50	U
108-05-4	Vinyl Acetate	100	U
78-93-3	2-Butanone	100	
71-55-6	1,1,1-Trichloroethane	29	J
56-23-5	Carbon Tetrachloride	50	U
71-43-2	Benzene	50	U
79-01-6	Trichloroethene	50	U
78-87-5	1,2-Dichloropropane	50	U
75-27-4	Bromodichloromethane	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
10061-02-6	trans-1,3-Dichloropropene	50	U
79-00-5	1,1,2-Trichloroethane	50	U
124-48-1	Dibromochloromethane	50	U
75-25-2	Bromoform	50	U
108-10-1	4-Methyl-2-Pentanone	100	U
108-88-3	Toluene	94	
127-18-4	Tetrachloroethene	37	J
591-78-6	2-Hexanone	100	U
108-90-7	Chlorobenzene	50	U
100-41-4	Ethylbenzene	50	U
1330-20-7	Xylene (total)	140	
100-42-5	Styrene	50	U
79-34-5	1,1,2,2-Tetrachloroethane	50	U

FORM I VOA 1/87 Rev.

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Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FTW02

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2450297
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >F9007
Level: (low/med) LOW Date Received: 01/25/96
% Moisture: not dec. _____. dec. _____. Date Extracted: 01/29/96
Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 02/01/96
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	100	U
111-44-4	bis(2-Chloroethyl)ether	100	U
95-57-8	2-Chlorophenol	100	U
541-73-1	1,3-Dichlorobenzene	100	U
106-46-7	1,4-Dichlorobenzene	100	U
100-51-6	Benzyl alcohol	200	U
95-50-1	1,2-Dichlorobenzene	100	U
95-48-7	2-Methylphenol	100	U
108-60-1	2,2'-oxybis(1-Chloropropane)	100	U
106-44-5	4-Methylphenol	72	J
621-64-7	N-Nitroso-di-n-propylamine	100	U
67-72-1	Hexachloroethane	100	U
98-95-3	Nitrobenzene	100	U
78-59-1	Isophorone	100	U
88-75-5	2-Nitrophenol	100	U
105-67-9	2,4-Dimethylphenol	36	J
65-85-0	Benzoic acid	500	U
111-91-1	bis(2-Chloroethoxy)methane	100	U
120-83-2	2,4-Dichlorophenol	100	U
120-82-1	1,2,4-Trichlorobenzene	100	U
91-20-3	Naphthalene	16	J
106-47-8	4-Chloroaniline	100	U
87-68-3	Hexachlorobutadiene	100	U
59-50-7	4-Chloro-3-methylphenol	100	U
91-57-6	2-Methylnaphthalene	20	J
77-47-4	Hexachlorocyclopentadiene	100	U
88-06-2	2,4,6-Trichlorophenol	100	U
95-95-4	2,4,5-Trichlorophenol	100	U
91-58-7	2-Chloronaphthalene	100	U
88-74-4	2-Nitroaniline	100	U
131-11-3	Dimethylphthalate	100	U
606-20-2	2,6-Dinitrotoluene	100	U
208-96-8	Acenaphthylene	100	U

FORM I SV-1 1/87 Rev.

Respectfully Submitted
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Manager, Environmental Science

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FTW02

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2450297
Sample wt/vol: 1000 (g/mL) ML Lab File ID: >F9007
Level: (low/med) LOW Date Received: 01/25/96
% Moisture: not dec. _____. dec. _____. Date Extracted: 01/29/96
Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 02/01/96
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	100	U
83-32-9	Acenaphthene	26	J
51-28-5	2,4-Dinitrophenol	250	U
100-02-7	4-Nitrophenol	250	U
132-64-9	Dibenzofuran	100	U
121-14-2	2,4-Dinitrotoluene	100	U
84-66-2	Diethylphthalate	100	U
7005-72-3	4-Chlorophenyl-phenylether	100	U
86-73-7	Fluorene	39	J
100-01-6	4-Nitroaniline	100	U
534-52-1	4,6-Dinitro-2-methylphenol	250	U
86-30-6	N-Nitrosodiphenylamine (1)	100	U
101-55-3	4-Bromophenyl-phenylether	100	U
118-74-1	Hexachlorobenzene	100	U
87-86-5	Pentachlorophenol	250	U
85-01-8	Phenanthrene	100	U
120-12-7	Anthracene	100	U
86-74-8	Carbazole	100	U
84-74-2	Di-n-butylphthalate	100	U
206-44-0	Fluoranthene	100	U
129-00-0	Pyrene	100	U
85-68-7	Butylbenzylphthalate	100	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo(a)anthracene	100	U
117-81-7	bis(2-Ethylhexyl)phthalate	43	J
218-01-9	Chrysene	100	U
117-84-0	Di-n-octylphthalate	100	U
205-99-2	Benzo(b)fluoranthene	100	U
207-08-9	Benzo(k)fluoranthene	100	U
50-32-8	Benzo(a)pyrene	100	U
193-39-5	Indeno(1,2,3-cd)pyrene	100	U
53-70-3	Dibenz(a,h)anthracene	100	U
191-24-2	Benzo(g,h,i)perylene	100	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

Respectfully Submitted
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LLI Sample No. WW 2450298
Collected:

Submitted: 1/25/96 Reported: 2/ 9/96
Discard: 4/10/96

TB-04 Trip Blank Water Sample

NWIRP Calverton, NY CTO-223
TB-04 SDG#: CAL15-02TB*

Account No: 07558
Halliburton NUS
Brown & Root Environmental
993 Old Eagle Sch. Rd. Ste 415
Wayne PA 19087-1710

P.O. GCPP-93-104J-1298
Rel. TA#16-223

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
1421	CLP Form I - VOA's			See Page 2
4592	TCL Volatiles by 8240 - Water	see form I		

1 COPY TO Halliburton NUS ATTN: Mr. David Brayack
1 COPY TO Data Package Group

Questions? Contact your Client Services Representative
Katherine A. Klinefelter at (717) 656-2300
14:06:58 D 0002 2 122294 500787
232 192.50 00019250 ASR000

Respectfully Submitted
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Group Leader, Water Quality

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-04

Lab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) WATER Lab Sample ID: 2450298
Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DJT16
Level: (low/med) LOW Date Received: 01/25/96
% Moisture: not dec. _____ Date Analyzed: 01/30/96
Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
124-48-1	Dibromochloromethane	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
108-88-3	Toluene	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	10	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (total)	5	U
100-42-5	Styrene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA 1/87 Rev.

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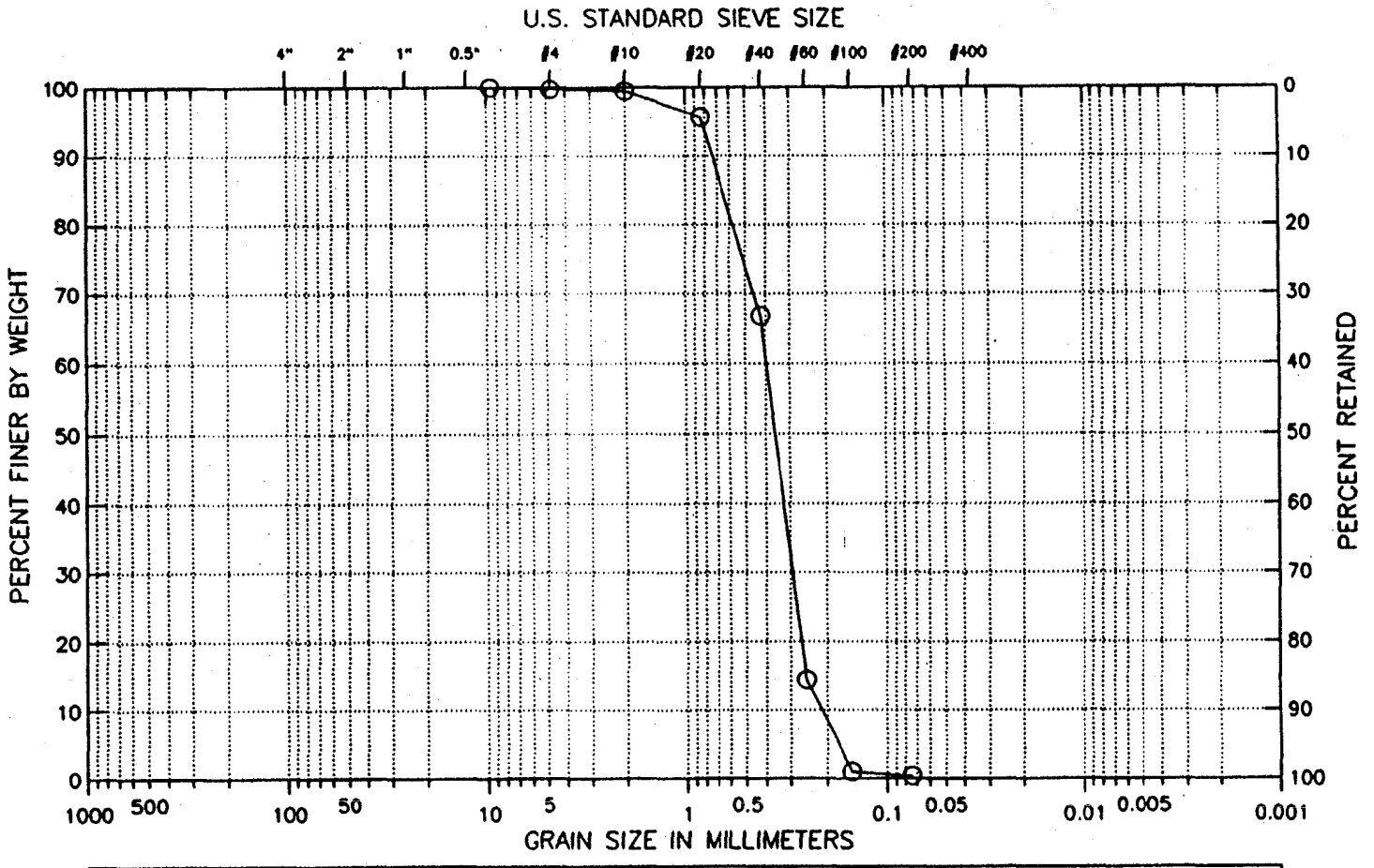
Respectfully Submitted
Michele McClarin, B.A.
Group Leader, GC/MS Volatiles

See reverse side for explanation of symbols and abbreviations

Boring No. : ---	Project : NWIRP
Sample No: FT-SB101-19.5	Project No.: GTX-843
Test Method ASTM D422	Location: Calverton, NY
Filename : SB101195	Test Date 08/02/95



Classification :
(SP) Poorly graded sand
Visual Description :
Moist, light brown fine sand

Remarks :
Determined to be non-plastic

Figure 1

GEOTECHNICAL LABORATORY TEST DATA

Project : NWIRP
Project No. : GTX-843
Boring No. : ---
Sample No. : FT-SB101-19.5
Location : Calverton, NY
Soil Description : Moist, light brown fine sand
Remarks : Determined to be non-plastic

Depth : ---
Test Date : 08/02/95
Test Method : ASTM D422

Filename : SB101195
Elevation : ---
Tested by : swj
Checked by : gtt

FINE SIEVE SET

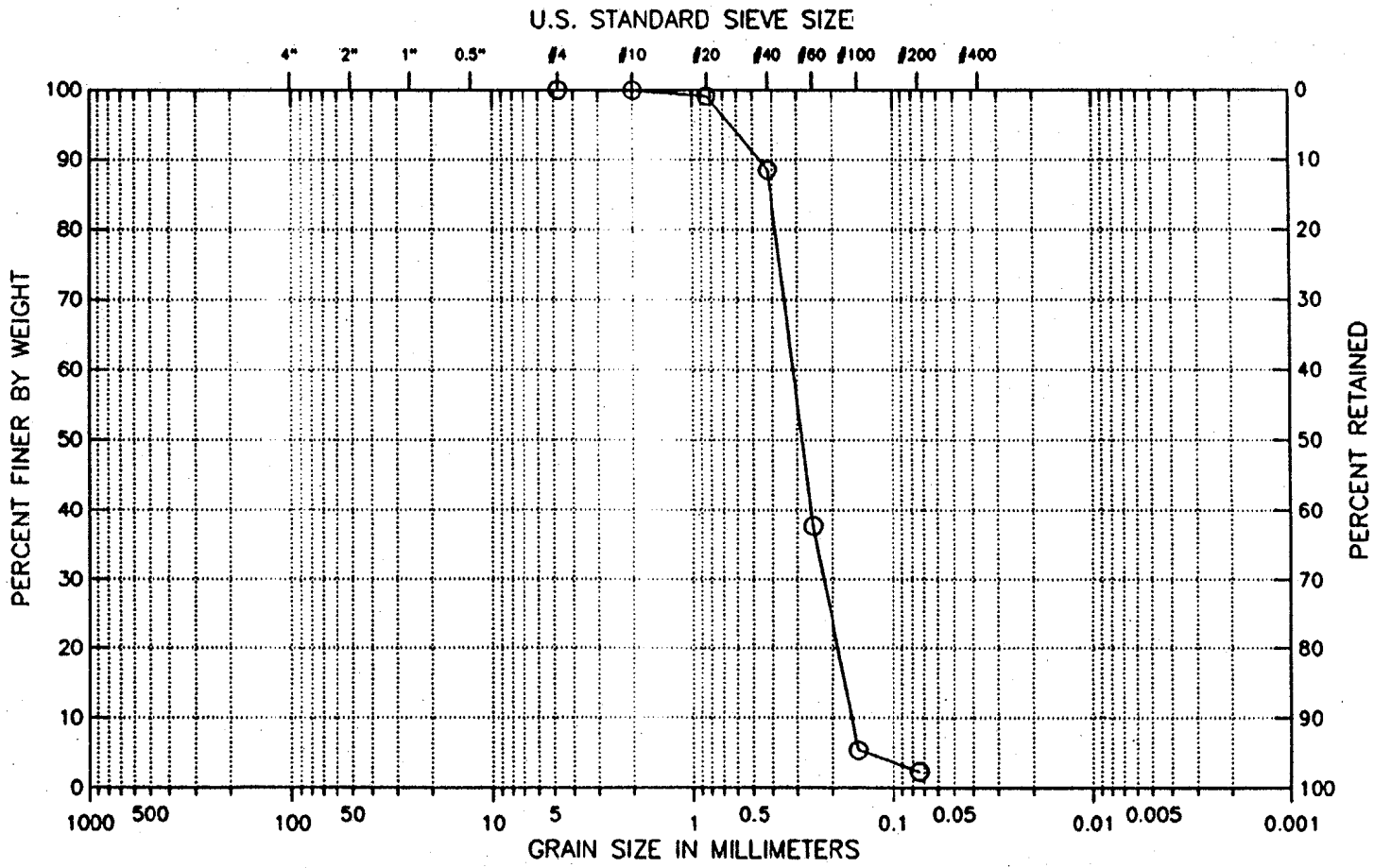
Sieve Mesh	Sieve Openings Inches	Sieve Openings Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.375"	0.374	9.51	0.00	0.00	100
#4	0.187	4.75	0.29	0.29	100
#10	0.079	2.00	0.27	0.56	99
#20	0.033	0.84	4.11	4.67	96
#40	0.017	0.42	30.74	35.41	67
#60	0.010	0.25	55.71	91.12	14
#100	0.006	0.15	14.28	105.40	1
#200	0.003	0.07	0.68	106.08	0
Pan			0.42	106.50	0

Total Dry Weight of Sample = 115.51

D85 : 0.6515 mm
D60 : 0.3928 mm
D50 : 0.3557 mm
D30 : 0.2917 mm
D15 : 0.2514 mm
D10 : 0.2106 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-3(0)
AASHTO Group Name : Fine Sand

Boring No. : ---	Project : NWIRP
Sample No: FT-SB102-16.0	Project No.: GTX-843
Test Method ASTM D422	Location: Calverton, NY
Filename : SB10216	Test Date 08/02/95



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :
(SP) Poorly graded sand
Visual Description :
Saturated, dark & light brown fine sand

Remarks :
Determined to be non-plastic

Figure 2

GEOTECHNICAL LABORATORY TEST DATA

Project : NWIRP
Project No. : GTX-843
Boring No. : ---
Sample No. : FT-SB102-16.0
Location : Calverton, NY
Soil Description : Saturated, dark & light brown fine sand
Remarks : Determined to be non-plastic

Depth : ---
Test Date : 08/02/95
Test Method : ASTM D422

Filename : SB10216
Elevation : ---
Tested by : swj
Checked by : gtt

FINE SIEVE SET

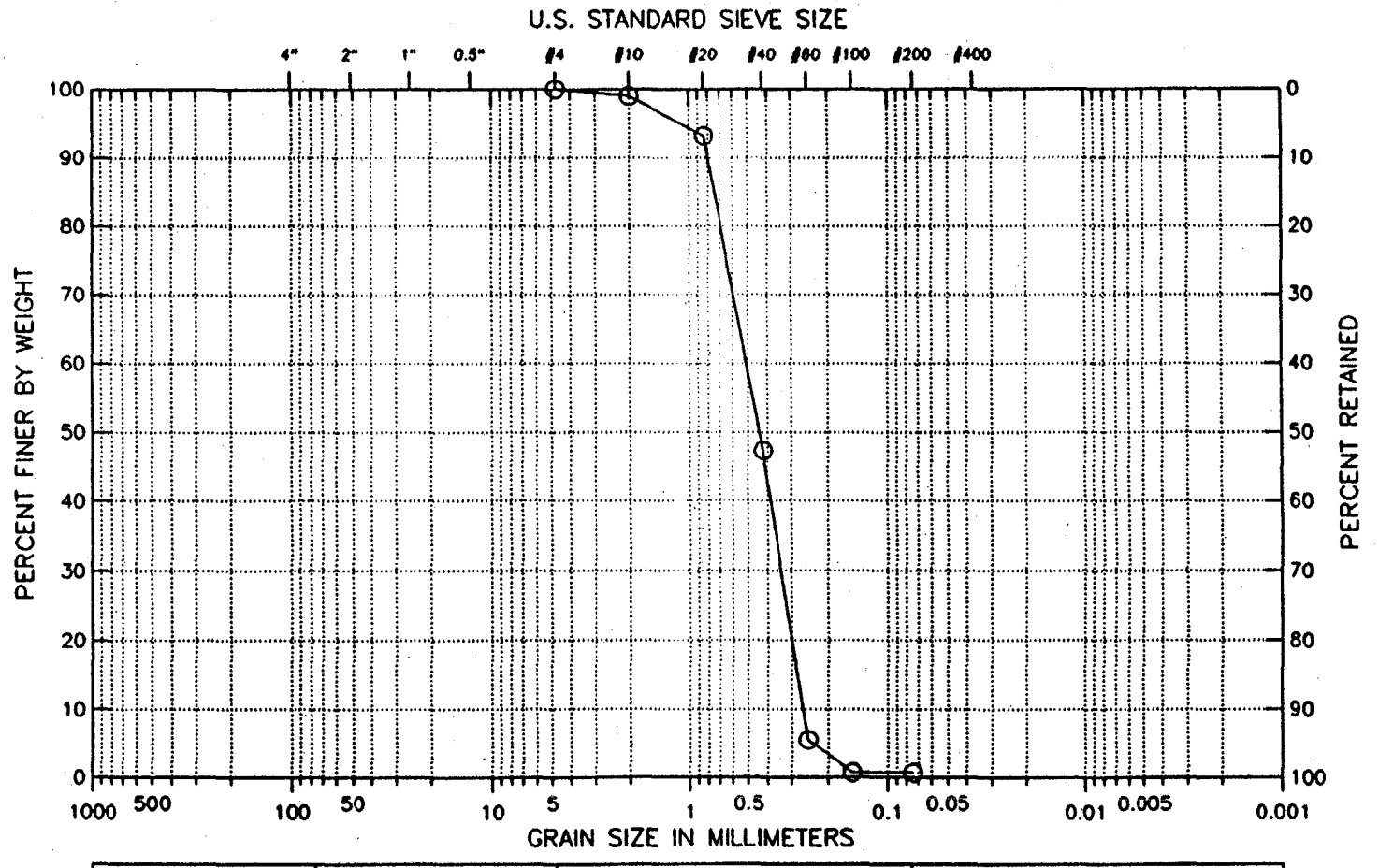
Sieve Mesh	Sieve Openings Inches	Sieve Openings Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#4	0.187	4.75	0.00	0.00	100
#10	0.079	2.00	0.04	0.04	100
#20	0.033	0.84	0.50	0.54	99
#40	0.017	0.42	6.47	7.01	89
#60	0.010	0.25	30.99	38.00	38
#100	0.006	0.15	19.73	57.73	5
#200	0.003	0.07	1.90	59.63	2
Pan			1.41	61.04	0

Total Dry Weight of Sample = 70.26

D85 : 0.4052 mm
D60 : 0.3138 mm
D50 : 0.2833 mm
D30 : 0.2208 mm
D15 : 0.1737 mm
D10 : 0.1603 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-3(0)
AASHTO Group Name : Fine Sand

Boring No. : ---	Project : NWIRP
Sample No: FT-SB103-12.0	Project No.: GTX-843
Test Method ASTM D422	Location: Calverton, NY
Filename : SB10312	Test Date 08/02/95



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :
(SP) Poorly graded sand
Visual Description :
Wet, light brown sand with oily texture

Remarks :
Determined to be non-plastic

Figure 3

GEOTECHNICAL LABORATORY TEST DATA

Project : NWIRP
Project No. : GTX-843
Boring No. : ---
Sample No. : FT-SB103-12.0
Location : Calverton, NY
Soil Description : Wet, light brown sand with oily texture
Remarks : Determined to be non-plastic

Depth : ---
Test Date : 08/02/95
Test Method : ASTM D422

Filename : SB10312
Elevation : ---
Tested by : swj
Checked by : gtt

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Sieve Openings Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#4	0.187	4.75	0.00	0.00	100
#10	0.079	2.00	0.70	0.70	99
#20	0.033	0.84	4.05	4.75	93
#40	0.017	0.42	32.02	36.77	47
#60	0.010	0.25	29.17	65.94	6
#100	0.006	0.15	3.36	69.30	1
#200	0.003	0.07	0.00	69.30	1
Pan			0.48	69.78	0

Total Dry Weight of Sample = 78.93

D85 : 0.7429 mm
D60 : 0.5089 mm
D50 : 0.4375 mm
D30 : 0.3388 mm
D15 : 0.2813 mm
D10 : 0.2643 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

APPENDIX K

CALCULATIONS

By D. Brayack 6/5/96
Checked by C. Forkas CF

Calculations

1.0 Extraction System

1.1 From Table 3-5 Calculate average VOC loadings (note ug to mg conversion)
For Chlorinated: 26.007; 23.373; 29.612; 17.528; 10.056 mg/m^3
Average total chlorinated VOCs in air stream: 21.32 mg/m^3

For Non-chlorinated: 5.125; 3.788; 4.380; 3.904; 2.194 mg/m^3
Average total non-chlorinated VOCs in air stream: 3.88 mg/m^3

Ratio of chlorinated to non-chlorinated
21.32 mg/m^3 divided by 3.88 mg/m^3
which equals 5.49

Detemine volume of air treated during trial

Air flow rate (from Table 3-1) combined system at start 262 cfm.
Average flow rate based on individual measurements (Table 3-1)
Average of 217, 218, 207, 199, 218, 229, 227, 196, 209
which equals: 213
Average 262 and 213 237.5 Use 240 cfm

System operated approximately 100 days at 240 cfm
240 cfm * 1440 min/day * 100 days / 35 cf/m^3 [cf = cubic feet]
Total volume of air extracted= 987,429 cubic meter of air

Multiply volume of air by concentration:
For chlorinated VOCs
987,000 m^3 * 21.32 mg/m^3 / 454,000 mg/lb 46 lbs

For non-chlorinated VOCs
987,000 m^3 * 3.88 mg/m^3 / 454,000 mg/lb 8 lbs

1.2 Estimate the loading of total petroleum hydrocarbons based on draeger tube analysis, from Table 3-6
Average TPH concentration: 35; 30; 25; 20; 20 ppm-v (Table 3-6)
26
Assume that the TPH has an average molecular weight of C10H22
= 12*10+22*1 142

Convert 1 ppm-v to mg/m^3 units

1 ppm-v * 142 g/mole/ 22.4l /mole 6.34E-06 g / l

6.34E-06 g/l * 1000 mg/g * 1000 l/m^3 6.34 mg/m^3

CF

Calculate total volume of TPH removed.
987,000 m^3 * 26 ppm-v*6.34 (mg/m^3/ppm-v) / 454,000 mg/lb
358 lbs

1.3 Calculate total carbon dioxide removed.

Average CO2 concentration (Table 3-6)
Average: 1, 3, 1, 0.5, 0.5 % (Add 0.5% for the last month of operation)
1.20%

Calculate total CO2 removed
987,000cfm*35CF/CM *0.075 lb/CF*0.0120*44/29*12/44 12,865 pounds
where 44/29 & 12/44 are a molecular weight conversion from air to CO2& CO2 to C
0.075lb/cf = density of air.

2.0 Extraction Wells E1 - E6

2.1 From Table 3-5 Calculate average VOC loadings (note ug to mg conversion)
For Chlorinated: 0.48;0.032 mg/m^3
Average total chlorinated VOCs in air stream: 0.256 mg/m^3

For Non-chlorinated: '0.29, 0.051 mg/m^3
Average total non-chlorinated VOCs in air stream: 0.1705 mg/m^3

Ratio of chlorinated to non-chlorinated
0.256 mg/m^3 divided by 0.1705 mg/m^3
which equals 1.50

Detemine volume of air treated during trial

E1 to E6 operated approximately 100 days at 30 cfm (Table 3-1)
30 ft^3/min * 1440 min/day * 100 days / 35 cf/m^3 [cf = cubic feet]
Total volume of air extracted= 123,429 cubic meter of air

Multiply volume of air by concentration:
For chlorinated VOCs
123,000 m^3 * 0.256 mg/m^3 / 454,000 mg/lb 0.07 lbs

For Non-chlorinated VOCs
123,000 m^3 * 0.17 mg/m^3 / 454,000 mg/lb 0.05 lbs

2.2 Calculate total carbon dioxide removed.

Average CO2 concentration (From notes)
Average: 1.5, 0.5
1.00%

Calculate total CO2 removed
123,000cfm*35CF/CM *0.075 lb/CF*0.01*44/29*12/44 1,336 pounds
where 44/29 & 12/44 are a molecular weight conversion from air to CO2& CO2 to C

CS

3.0 Extraction Wells, E19 to E23

Detemine volume of air treated during trial

E19 to E 23 operated approximately 100 days at 50 cfm (Table 3-1)
50 cfm * 1440 min/day * 100 days / 35 cf/m^3 [cf = cubic feet]
Total volume of air extracted= 205,714 cubic meter of air

Determine CO2 removed from area.

Average CO2 concentration (From Table 3-6)
Average: 1,2,2,3, 0.5, 0.5
1.50%

Calculate total CO2 removed
206,000cfm*35CF/CM *0.075 lb/CF*0.015*44/29*12/44 3,356 pounds
where 44/29 & 12/44 are a molecular weight conversion from air to CO2& CO2 to C

4.0 Oxygen migration to the subsurface.

First evaluate the quantity of oxygen that can be conveyed to the soils via migration with precipitation.

Annual precipitation rate: 45 inches/year
Net infiltration rate: 45 inches/year (*)

* based on site conditions of sand and minimal vegatation, asume minimal runoff and evapo-transpiration

Infiltration rate over 2 acres is calculated as follows
2 acres * 43,560 ft^2/acre * 45 inches/12 (inches/foot)
which equals 326,700 ft^3

Dissolved oxygen content of rainwater is approximately 10 mg/l
Quantity of oxygen conveyed by preciptation is as follows.

327,000 ft^3/yr * 10 mg/l * 62.4 lb/ft^3 / (1000000 mg/l)
204 lb O2/yr

Estimate a conservative O2 transfer rate by diffusion.

Diffusion coefficient (O2 in air): 0.178 cm^2/sec
which equals 0.0000178 m^2/sec
Convert to ft^2/year
1.78E-05 m^2/sec *(3.28 ft)^2/m^2*60sec/min*1440min/day*365day/yr
6,039 ft^2/yr

CSF

Diffusion formula (ignore the formation and counterflow of methane)

J = -D (Csurf - 0) / z

Set Z equal to 30 feet (average depth to groundwater time 2 to account for flow around sand particles.

Calculate Csurf as follows.
Density of air: 0.075 lb/ft^3
Concentration of oxygen = 0.075 lb/ft^3 * 21% 0.01575 lb/ft^3

J = - 6,039 ft^2/yr * 0.01575 lb/ft^3 / 30 ft = 3.17 lb/ft^2-yr

To accurately calculate the diffusion rate, one must know the area available for transport. The maximum case is the soil porosity (=0.25). However, this is unrealistic since there are voids which are not available for transport, including those filled with silts, clays, and water.
Use 10% of the porosity, for this estimate.

Multiply by area of site (= 2 acre) times the porsity (0.25) time 10%

3.17 lb/ft^2-yr*2 acres*43,560 ft^2/acre*0.25*0.1 6,905 lb/yr

This coresponds to:
6905 lb/yr * 12/32 (MW conversion) = 2,590 lb/yr of organics as C

Actual oxygen transfer rates to the more shallow soils may be higher, because the distance is shorter. However, this use would inhibit the oxygen transfer to the deeper contamination (free product) near the

The equivalent air transfer rate for the vacuum system is
240 ft^3/min * 0.075 lb/ft^3 * 21%*1440 min/day*365day/yr

1,986,768 lb/yr

Based on Carbon dioxide measuresment of 1 to 2% in the offgas.

Oxygen utilization rates are approximately

Average:	1.2% *32/44 / 21%	4.16%
Maximum:	3% * 32/44 / 21%	10%

Checked by D Bergh

AIR MONITORING RESULTS - FT-AS00-01

Days	CHLORINATED VOC VOC Concentration (mg/m^3)	CHLORINATED VOC VOC Removed* (lbs)	NON-CHLORINATED VOC VOC Concentration (mg/m^3)	NON-CHLORINATED VOC VOC Removed* (lbs)
1	26	1	5	1
7	24	4	4	2
22	27	12	4	3
29	30	12	4	3
55	18	25	4	5
81	10	33	2	7
110		46		9

* Assume constant air extraction flow rate of 240 ft^3/min = 6.80 m^3/min.

GROUNDWATER MONITORING RESULTS

Days	GW02 Total Chlorinated VOC (ug/L)	GW02 Total Non-Chlorinated VOC (ug/L)	IW06 Total Chlorinated VOC (ug/L)	IW06 Total Non-Chlorinated VOC (ug/L)	IW13 Total Chlorinated VOC (ug/L)	IW13 Total Non-Chlorinated VOC (ug/L)	IW16 Total Chlorinated VOC (ug/L)	IW16 Non-Chlorinated OC (ug/L)
0	948	411	0	10	11	0	256	21
28	103	254	0	27	9	0	97	0
56	137	264	0	0	65	0	314	14
82	95	172	0	0	59	0	593	36
110			0	0	43	0	317	8
145	228	234						

AIR RESULTS(ppm) - DRAEGER TUBE ANALYSIS

Days	ENTERING ACTIVATED CARBON SYSTEM CO2 Concentration (%)	ENTERING ACTIVATED CARBON SYSTEM CO2 Removed (as lbs C)*	WELL SERIES E19 - E23 CO2 Concentration (%)	WELL SERIES E19 - E23 CO2 Removed (as lbs C)**
1	1	106	1	18
7	1	851	2	180
22	1	2446	2	743
29	3	2446	2	743
55	1	7977	3	2319
81	0.5	10051	0.5	3422
110		12364	0.5	3774

* Assume constant air extraction flow rate of 240 ft^3/min = 6.80 m^3/min as measured 9/7/95
**Air extraction flow rates obtained from field data measured at E-19 to E23

APPENDIX L

DRAEGER TUBE STANDARD OPERATING PROCEDURE

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1.0 PURPOSE

To establish procedures for the use and calibration of colorimetric detector tubes.

2.0 SCOPE

Applies to each usage of colorimetric detector tubes by Brown & Root Environmental personnel.

3.0 GLOSSARY

Detector Tubes - Small, glass tubes filled with solid absorbents such as silica gel, activated alumina, or inert granules, and impregnated with detecting chemicals, through which air is aspirated at a controlled rate. These tubes are designed to detect specific airborne substances, by a reaction with the absorbent causing a color change. Also known variously as "colorimetric tubes" or "indicator tubes."

4.0 RESPONSIBILITIES

Equipment Manager - The Equipment Manager shall ensure that all air monitoring instrumentation for field activities is operationally checked out, fully charged, and calibrated prior to issuance for field service. Deficiencies identified by the Equipment Manager will result in removing those instruments from service until repairs can be facilitated.

Field Operations Leader (FOL)/Field Team Leader (FTL) - The FOL/FTL shall ensure all field team members employing detector tubes as part of their assigned duties are adequately trained in the operation and limitations of these devices. The FOL/FTL shall ensure that they are used as directed by site guidance documents (i.e., Work Plan, Health and Safety Plan, etc.). Additionally, the FOL/FTL shall ensure that the appropriate documentation and recordkeeping requirements are fulfilled.

Health and Safety Officer (HSO) - The HSO is responsible for determining air monitoring requirements for the site activities. Identification of the types of air monitoring devices to be used, and direction for their proper use will be indicated in the site-specific Health and Safety Plan (HASP).

Site Safety Officer (SSO) - The SSO shall ensure the instruments identified are employed in the manner directed by the HSO. This will include observing and enforcing any action levels specified for the application of engineering controls, personal protective equipment (PPE) use, and administrative controls.

5.0 PROCEDURES

5.1 Preliminary Evaluation

Detector tubes with direct-reading colorimetric indication have many applications. Approximately 350 different substances can be measured with detector tubes. Detector tubes consist of a vial which contains a chemical preparation that reacts with the measured substance by changing color. The basis of any direct-reading detector tube is the chemical reaction of the measured substance with the sorbent media in the tube. For some tubes, the color change reaction in the detector tube is proportional to the concentration of the reacting contaminant. On scaled tubes, it is possible to quantitate this concentration by the length of the stain in the tube. When a length of stain indication is not practical, the alternative is a detector tube with the indication based on interpretation of color intensity according to a given reference standard or set of standards.

For many years, only a few gases could be measured with detector tubes. The main area of application of these devices is the measurement of air contaminants at the workplace, to be compared to appropriate occupational exposure limits. Decreasing occupational exposure limits have made it necessary to develop more sensitive detector tubes. In addition, efforts to better understand the exposure profile in the workplace have resulted in special detector tubes for long-term measurement which determine time-weighted averages over given time periods.

Short-term tubes are designed for on-the-spot measurements at a particular location over a relatively short-time period. Short-term measurements may last from 10 seconds to 15 minutes. Some applications of short-term tubes are the evaluation of concentration fluctuations in the workplace, the measurement of contaminants in the worker's breathing zone, the investigation of confined spaces prior to entry, and to check for gas leaks in process pipelines.

Long-term tubes provide integrated measurements that represent the average concentration during a given sample period. The long-term tubes are used for measurements between one and eight hours. Long-term tubes can be used as personal or area monitors to determine the time weighted-average concentrations.

The advantage of detector tubes, as compared to methods requiring laboratory analysis, is that:

- The measurement can be carried out easily and yields a measurement result within minutes.
- No other simple system is currently able to cover such a wide range of gases and vapors quantitatively and qualitatively.
- The system is light-weight, compact, and economical.

The accuracy of detector tubes is commonly within 25 percent of the true concentration of the contaminant being sampled.

There are some disadvantages and limitations to using detector tubes. They are as follows:

- Specific tubes must be selected before going into the field. Contaminants of concern must be identified prior to starting activities.
- When complex substances or components that are chemically very similar, (such as methanol, ethanol, and propanol) are present, direct-reading detector tubes may indicate erroneous results. Many tubes have various cross sensitivities and may be masked by other compounds that are present in the air.
- Response time can be slow.
- Stroke or pump number may be excessively high which may result in slow response time.
- Because most tubes contain silica gel, high humidity may affect the results.
- Relative standard deviation can range from 5 to 40 percent.
- Variations between lot numbers may lead to different results. Therefore, sample tubes from the same lot number should be used to obtain comparative results.

- Over time, the stain on many tubes will increase even after removal from the contaminated atmosphere. Therefore, tubes must be interpreted promptly and they cannot be used to document or illustrate concentrations after the sampling event.

- Tubes have limited shelf life (typically tubes can be kept for 2 years).

5.2 Types of Detector Tubes

The following types of detector tubes are in current use:

1. Scale tubes: Detector tubes with one or two scales printed on them and with a single indicating layer.

2. Detector tubes consisting of one or several prelayers and one indicating layer.

3. Detector tubes with a vial (solid, liquid, vaporous) and an indicating layer.

5.3 Pre-Use Check-Out

It is very important to use the same flow rate during both calibration and measurement. The collection efficiency varies considerably with the flow rate and a number of indicating tubes are therefore very sensitive to this rate. Hand-held bellows pumps and rubber squeeze bulbs are frequently used for aspirating the air through the tubes. These devices can deteriorate due to the aging of rubber parts and obstruction of valves, changing the flow rate through the tube. The flow must be checked at intervals; either by timing the period of the bulb expansion or by drawing the air (by means of the squeeze bulb) through a rotometer (or soap-bulb flowmeter).

It is also important to check whether the instrument is leakproof, in order to avoid drawing (through the tube) a volume of air different from that drawn during calibration. This check is done by inserting an unopened tube into the holder, squeezing the bulb, and measuring the time of the bulb's expansion or the beginning of its expansion. There must be no evidence of expansion at the end of a 1-minute period (or other time given in the manufacturer's instructions). In the case of calibrated piston pumps, the handle shall be pulled out completely, held in this position for 2 minutes, and then released. If more than 5 percent of the piston remains out of its original position, there are leaks and the device should not be used. To avoid leaks, it is necessary to replace valves, tube connections, or the rubber bulb.

It is important that the total volume of air be drawn through the tube and, for this reason, enough time must be allowed for each stroke of the pump. Even upon a full expansion of the pump, the tube may still be under a vacuum with air still being slowly drawn through it.

5.4 Use of Detector Tubes

The tubes shall be checked and used as follows:

1. Each batch of new tubes shall be carefully checked. A number of tubes shall be randomly selected and checked against a known concentration of a gas or vapor. For maximum reliability, the tubes shall be checked about every 6 months.

2. Tubes showing a discoloration shall not be used. This indicates that a leak in the tube exists, or that a breakdown of the indicating chemicals has occurred.

3. The tubes shall not be overly exposed to light, since some indicating chemicals are sensitive to light.

4. The tubes shall be stored in a cool, dry area.

5. The tubes shall not be used beyond the indicated expiration date.

6. The sealed tube ends shall be properly broken. Openings larger or smaller than appropriate could affect the flow rate.

7. With some tubes, the air must flow in one direction. This is usually indicated by an arrow or a dot. This type of tube may contain a drying agent or a precleaning layer, ahead of the indicating chemical to remove interfering gases or vapors. Additionally, the tube may contain an oxidizing layer that releases a certain part of the vapor test molecule which, in turn, reacts with the indicating chemical.

8. The color or stain produced shall be evaluated immediately. Many colors fade rapidly, and some stains will increase over time (even after removal from the contaminated atmosphere).

9. If no color develops, the tube shall not be reused.

10. Indicator tubes shall be used within the specified temperature range. If a temperature correction factor is given, this shall be used. Hot gases and vapors shall be cooled before testing. However, cooling can condense vapors. Some tubes require pressure (altitude) corrections.

11. The tubes shall be used at the recommended detection levels.

12. The effect of interfering gases and vapors shall be understood. The presence of multiple contaminants may lead to erroneous results. Care must be taken to rule out interferences from mixtures of chemicals in the air.

13. If interference is suspected or if the values obtained are doubtful, then the atmosphere shall be evaluated by using other instrumental or chemical analysis techniques.

6.0 REFERENCES

"Principles of the Chemistry of Gas Measuring Techniques," Henry, Manfred, Industrial Hygiene News, December 1985.

Industrial Hygiene Measurements (550), NIOSH, May 1974.

Encyclopedia of Occupational Health and Safety, I.L.O., 1971.

7.0 ATTACHMENTS

None.

APPENDIX M

SITE PHOTOGRAPHS

1. Air Extraction/Treatment System, Air Injection Blower

2. Looking north toward the Fire Training Ring from the Air Air Extraction/Treatment System

3. Looking south toward the Air Extraction/Treatment System and the Fire Training Ring from the North Field Series E1 to E6

00614FB2Y

4. Looking south toward the Air Extraction/Treatment System and the Fire Training Ring from Air Extraction Well E9

5. Looking south toward Air Extraction Wells E27 to E29 and E30 to E32 from the Air Extraction/Treatment System

6. Looking south toward Air Extraction Wells E27 to E29 and E30 to E32 and Air Injection Well I16 from the access road