

**RCRA Facility Investigation
Addendum**
for
**Naval Weapons
Industrial Reserve Plant**
Calverton, New York



**Northern Division
Naval Facilities Engineering Command**
Contract Number N62472-90-D-1298
Contract Task Order 0138

September 1995

**RCRA FACILITY INVESTIGATION ADDENDUM
FOR
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
CALVERTON, NEW YORK**

**COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

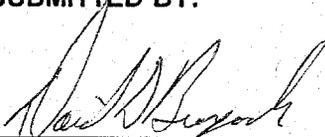
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**CONTRACT NUMBER N62472-90-D-1298
CONTRACT TASK ORDER 0138**

SEPTEMBER 1995

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NWIRP CALVERTON, RCRA FACILITY INVESTIGATION ADDENDUM GROUNDWATER SAMPLING - SECOND ROUND

This addendum was prepared to present the results of the second round of groundwater sampling (March 1995) at four RCRA Facility Investigation sites at the NWIRP Calverton. The first round of groundwater samples was collected in August 1994. The August 1994 sample event was intended to represent a dry weather period, whereas the March 1995 sample event was intended to represent a wet weather period. Climatological data recorded at the JFK Airport during these sample events indicate that August of 1994 was actually a wetter than normal month, with 6.69 inches of precipitation. And March 1995 was a drier than normal month, with 1.31 inches of precipitation. The average precipitation for this area is approximately 3.6 inches per month. Although, the assumption that the wet and dry months was reversed, the sampling was conducted under both wet and dry conditions, as planned. The four sites tested consist of Site 1 - Northeast Pond Disposal Area, Site 2 - Fire Training Area, Site 6A - Fuel Calibration Area, and Site 7 - Fuel Depot.

In addition to the second round of groundwater sample results, the first round of groundwater data is presented and a brief comparison of the data from the two sample events is discussed for each site for each class of compound. A brief discussion of data quality is also presented with discussion for each site. As a point of departure for evaluation of the data, preliminary remediation goals (PRGs) being developed for the Corrective Measure Study are referenced as relevant. The PRGs are based on drinking water standards for groundwater using primarily the more stringent of Federal and state MCLs. In the absence of a MCL, risk-based criteria are used as a PRG.

Chain-of-custody forms are presented in Attachment 1. All analytical data is presented in Attachment 2. Data validation letters are presented in Attachment 3.

1.0 SITE 1 - NORTHEAST POND DISPOSAL AREA - RESULTS

March 1995 groundwater samples were collected and analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticide/Polychlorinated Biphenyl (PCB) organic compounds, Target Analyte List (TAL) metals/cyanide, and hexavalent chromium. The results of both the March 1995 and the August 1994 sample events are presented in Table 1. These results are discussed below.

For VOCs, the only detections noted were chloromethane in sample NP-GW01 (August 1994 only) at a concentration of 3 ug/l and chloroform in sample NP-GW04 (March 1995 only) at 0.8 ug/l. The detected concentrations for these compounds are less than PRGs and there does not appear to be any trend between the two sample events for this class of chemicals.

Bis(2-ethylhexyl)phthalate was detected in only one sample (NP-GW02) during the August 1994 sample event at a concentration of 1 ug/l. This concentration is less than the Method Detection Limit (MDL) of 2 ug/l. It should be noted that this compound is a common laboratory contaminant.

Pesticides were detected in three out of four August 1994 groundwater samples, but were not detected in any March 1995 samples. Most of the detections from the August 1994 sample event were at or below the MDL for the specific compounds. The lack of detections during the March 1995 sample event indicate that pesticides may not be a groundwater problem at the site. Additional testing is required to develop any firm conclusion.

PCBs were detected in three out of four samples during both the August 1994 and March 1995 sample events. Most of the reported results were greater than the chemical-specific MDL/IDL. In general, the March 1995 sample event results were 2 to 3 times lower than August 1994 sample event results. In addition, one PCB compound was detected during the August 1994 sample event but not in the March 1995 sample event.

For the metals and cyanide data, the majority of the chemical concentrations were observed to remain the same, or decrease slightly between the August 1994 and March 1995 sampling events. Chemical specific results are discussed as follows.

- Antimony was detected in three March 1995 samples only. Antimony was not detected in any August 1994 samples. The March results ranged from 3.2 to 8.8 ug/l. Two of the three results were greater than the Federal MCL of 6 ug/l.
- Lead was detected in all four August 94 samples and three March 1995 samples. The New York State Preliminary Remediation Goal (PRG) for lead is 15 ug/l. The August 1994 results ranged from 3.6 to 45.3 ug/l and the March 1995 results ranged from 2.0 to 110 ug/l.
- Manganese was detected in all samples during both sampling rounds. August 1994 results ranged from 198 ug/l to 1,940 ug/l and March 1995 results ranged from 63.3 to 1,010 ug/l. The PRG for manganese is 200 ug/l. All August 1994 results are equal to or above the PRG and

only 2 March 1995 results were greater than the PRG. Note that manganese in groundwater at concentrations above this PRG are common and are often the result of naturally occurring site minerals. As a result, even though the reported concentrations may exceed the PRG, they should not be considered as a stand-alone site contaminant.

- Mercury was detected in two August 1994 samples and three March 1995 samples at low levels. The August 1994 result for sample NP-GW02 was the only result that exceeded the 2 ug/l PRG.
- Silver and cyanide were only detected in one March 1995 sample. Silver was detected at a concentration 29 ug/l and cyanide was detected at 11 ug/l.
- Thallium was detected in one sample during August 1994 and 2 samples during March 1995. The August 1994 results was on the average 2.5 times higher than March 1995 results. It should be noted that all positive results in August 1994 and March 1995 were greater than the PRG of 2 ug/l.
- Zinc was detected in all samples during both sampling rounds. The PRG for zinc is 300 ug/l. The August 1994 results ranged from 133 to 1,260 ug/l and the March 1995 results ranged from 5.2 to 420 ug/l. The August 1994 sampling round yielded much higher zinc concentrations.
- Hexavalent chromium was detected in two samples during August 1994 and March 1995. The PRG for total chromium is 50 ug/l. The August 1994 results ranged from 32 to 76 ug/l and March 1995 results ranged from 36 to 43 ug/l. Results for both rounds were similar, however, only one sample result exceeded the PRG.

Overall, no major data quality problems were encountered. Specific comments are summarized as follows.

- Continuing calibration percent differences for several VOC and SVOC compounds exceeded 25%. Therefore, these sample results were qualified as estimated. Two VOCs were detected in field blanks at a concentration of 0.5 to 0.6 ug/l and two SVOC compounds were detected in the rinsate blank at a concentration of 0.1 to 0.4 ug/l. Action levels of 5 to 10 times the concentration were applied to the data.

- The CRDL standard percent recovery for lead was high. The affected lead results were qualified with a J. The matrix spike recovery for hexavalent chromium and silver was low. As a result, this data was qualified with a J. Laboratory or field duplicate analysis results were non-compliant for arsenic, beryllium, cadmium, chromium, nickel, thallium, and mercury were non-compliant. Associated data was qualified with a J.

Overall, a comparison of analytical results from the two rounds of groundwater sampling found no significant difference. As a result, no modifications to the conclusions of the RFI (August 1995) are proposed.

One outstanding concern with the findings of this study is that relatively insoluble contaminants such as PCBs, pesticides, and some metals are found in the groundwater samples at concentrations only slightly greater than PRGs. When the relative magnitude of exceedence is coupled with the potential concern that intrusion of contaminated soil into the well may bias the results high, one may incorrectly conclude the presence of groundwater contamination. To resolve this issue, future groundwater sample rounds at this site will utilize low-flow sampling techniques to more accurately reflect groundwater conditions.

2.0 SITE 2 - FIRE TRAINING AREA - RESULTS

March 1995 groundwater samples were collected and analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticide/Polychlorinated Biphenyl (PCB) organic compounds, Target Analyte List (TAL) metals/cyanide, and hexavalent chromium. The results of both the March 1995 and the August 1994 sample events are presented in Table 2. These results are discussed below.

Fourteen VOCs were detected in one or more samples collected during both sampling rounds. The majority of the compounds and the highest concentrations were observed in the same monitoring well (FT-GW02-S) during both sample events. In most cases, the samples collected during August 1994 had very similar or slightly higher (within a factor of 2) concentrations of VOCs than those samples collected in March 1995. In those wells identified as contaminated, the concentrations of many volatiles exceed the chemical-specific PRGs for August 1994 and March 1995. For the monitoring wells which were identified as clean (VOC concentrations less than PRGs) based on August 1994 data, the March 1995 results confirmed these findings.

SVOCs were detected in samples from four of eleven monitoring wells in both August 1994 and March 1995. On the average, the August 1994 results are slightly higher than for the subsequent sampling

round. The maximum detections of semivolatile compounds were found in sample FT-GW02-S (August 1994 and March 1995). Concentrations of phenol, 4-methylphenol, naphthalene, and bis(2-ethylhexyl)phthalate exceeded PRGs in samples collected during August 1994. Similarly, concentrations of phenol, 4-methylphenol, and naphthalene exceeded PRGs in samples collected during March 1995.

Pesticides were detected in five of eleven monitoring wells sampled in August 1994, but in only one of eleven wells sampled in March 1995. Only the concentration of endosulfan sulfate in sample FT-GW02-S (August 1994) was in excess of the PRGs. All other pesticide detections were present in concentrations less than and/or equal to PRGs.

PCBs were detected in samples from five out of eleven monitoring wells during both sampling rounds. Concentrations of PCBs are present in higher concentrations in samples collected during August 1994. All PCB detections during both sampling rounds exceed the 0.1 ug/l PRG.

For the metals and cyanide data, the majority of the chemical concentrations were observed to remain the same, or decrease slightly between the August 1994 and March 1995 sampling events. Chemical specific results are discussed as follows.

- Lead was detected in seven of eleven monitoring wells during both sampling rounds. In the August 1994 samples, concentrations of lead ranged from 6 to 30.8 ug/l and in March 1995 samples, lead concentrations ranged from 8 to 16 ug/l. August 1994 sampling results yielded five samples with lead concentrations in excess of the 15 ug/l PRG. In March 1995 only one sample (FT-GW06) had a lead concentration in excess of the PRG.
- Manganese was detected in all of the monitoring wells during both sampling rounds. Manganese concentrations ranged from 51 to 3,490 ug/l in samples collected in August 1994. Manganese concentrations ranged from 14.8 to 1,240 ug/l in samples collected during the March 1995 sampling round. The PRG for manganese is 200 ug/l. Samples collected in August 1994 displayed higher manganese concentrations than the subsequent sampling round. However, the concentrations for the majority of samples taken during both sampling rounds were still in excess of the PRG. Note that manganese in groundwater at concentrations above this PRG are common and are often the result of naturally occurring site minerals. As a result, even though the reported concentrations may exceed the PRG, they should not be considered as a stand-alone site contaminant.

- Thallium was detected in three of eleven wells during August 1994, but in only one well in March 1995. The concentrations observed for the 1994 results ranged from 1.6 to 6.3 ug/l, whereas the one positive result in 1995 was 1.8 ug/l. The PRG for thallium is 2 ug/l. Two of the August 1994 sample results exceeded the PRG.

Overall, no major data quality problems were encountered. Specific comments are summarized as follows.

- Continuing calibration percent differences for several VOC and SVOC compounds exceeded 25%. Therefore, these sample results were qualified as estimated. Several VOCs were detected in field blanks at a concentration of 0.9 to 2 ug/l. Action levels of 5 to 10 times the concentration were applied to the data.
- The CRDL standard analysis recovery for selenium was high, positive results were qualified with a J. The matrix spike recovery for silver was extremely low. The reported non-detect results were rejected. Several metals (beryllium, cadmium, selenium, and thallium) were observed to have poor correlation between duplicates. This data was qualified with a J.

Overall, a comparison of analytical results from the two rounds of groundwater sampling found no significant difference. As a result, no modifications to the conclusions of the RFI (August 1995) are proposed.

One outstanding concern with the findings of this study is that relatively insoluble contaminants such as PCBs, pesticides, and some metals are found in the groundwater samples at concentrations only slightly greater than PRGs. When the relative magnitude of exceedence is coupled with the potential concern that intrusion of contaminated soil into the well may bias the results high, one may incorrectly conclude the presence of groundwater contamination. To resolve this issue, future groundwater sample rounds at this site will utilize low-flow sampling techniques to more accurately reflect groundwater conditions.

3.0 SITE 6A - FUEL CALIBRATION AREA - RESULTS

March 1995 groundwater samples were collected and analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticide/Polychlorinated Biphenyl (PCB) organic compounds, and lead. The results of both the March 1995 and the August 1994 sample events are presented in Table 3. These results are discussed below.

VOCs were detected in seven of ten monitoring wells in August 1994 and in four of ten wells in March 1995. Results for the two sampling rounds are not significantly different. In general, almost every positive volatile result, regardless of sampling round, was in excess of the chemical-specific PRG. It is also notable that sample FC-GW02-S contained the highest concentrations of all detected volatile organic compounds during both sampling rounds.

In addition, the concentration of chlorinated VOCs were observed to fluctuate between the two rounds of groundwater samples for the two wells. In monitoring well samples FC-GW02-I (collected at depth near the center of the contaminated groundwater), the total chlorinated VOC concentration was 307 ug/l in the August 1994 sample; whereas the total concentration was only 0.5J ug/l in the March 1995 samples. For monitoring well sample FC-GW04-S (collected side gradient of the contaminated groundwater), the total chlorinated VOC concentration increased from 4J ug/l in August 1994 to 52.6 ug/l in March 1995.

SVOCs were detected in two of ten monitoring wells during both sampling rounds. Positive detections of SVOCs were slightly higher during the August 1994 sampling round. Some positive results for samples collected in August 1994 yielded results for phenol, 4-methylphenol, naphthalene, and 2-methylnaphthalene that exceed the chemical-specific PRGs. As was noted for the VOCs, sample FC-GW02-S (rounds 1 and 2) results contained the maximum detected concentrations.

Lead was detected in samples from five of ten monitoring wells during August 1994, with detections ranging from 5 to 30 ug/l. During the March 1995 sampling event, lead was detected in six of ten wells, with results ranging from 2 to 4 ug/l. The August 1994 results were 2.5 to 7.5 times higher than the March 1995 results. Maximum concentration were detected in sample FC-GW02-S; however, only the August 1994 result in sample FC-GW02-S and its duplicate exceeded the 15 ug/l PRG.

Overall, no major data quality problems were encountered. Specific comments are summarized as follows.

- Continuing calibration percent differences for several VOC and SVOC compounds exceeded 25%. Therefore, these sample results were qualified as estimated. Two VOCs were detected in field blanks at a concentration of 0.5 to 0.6 ug/l and two SVOC compounds were detected in the rinsate blank at a concentration of 0.1 to 0.4 ug/l. Actions levels of 5 to 10 times the concentration were applied to the data.
- The CRDL standard percent recovery for lead was high. The affected lead results were qualified with a J.

Overall, a comparison of analytical results from the two rounds of groundwater samples found no significant difference. As a result, no modifications to the conclusions of the RFI (August 1995) are proposed.

One outstanding concern with the findings of this study is that lead was found in the groundwater samples at concentrations only slightly greater than PRGs. When the relative magnitude of exceedence is coupled with the potential concern that intrusion of contaminated soil into the well may bias the results high, one may incorrectly conclude the presence of groundwater contamination. To resolve this issue, future groundwater sample rounds at this site will utilize low-flow sampling techniques to more accurately reflect groundwater conditions.

4.0 SITE 7 - FUEL DEPOT AREA - RESULTS

March 1995 groundwater samples were collected and analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticide/Polychlorinated Biphenyl (PCB) organic compounds, and lead. The results of both the March 1995 and the August 1994 sample events are presented in Table 4. These results are discussed below.

VOCs were detected in six of the ten monitoring wells during the August 1994 sampling. VOCs were detected in seven of the ten monitoring wells during the March 1995 sampling. Most VOCs were detected at low concentrations (less than PRGs) and displayed little variability between sampling rounds. The most significant exceptions were toluene, ethylbenzene, and xylenes. These compounds were detected at relatively high concentration (10 to 1000 times the PRG) in the samples from both rounds in well FD-GW04. Each of these compounds has a PRG of 5 ug/l. However, there was no significant difference between results from both sampling rounds for toluene, ethylbenzene, and xylenes.

In general, SVOCs were detected at low levels in three of ten monitoring wells sampled during August 1994 and four of ten wells sampled during March 1995. Based on a comparison of the results, there does not appear to be any significant trend between sample results from August 1994 and March 1995. Of the SVOC compounds detected, naphthalene and 2-methylnaphthalene were detected at higher concentration than any other SVOC. The PRG for naphthalene is 10 ug/l and the PRG for 2-methylnaphthalene is 50 ug/l. Naphthalene concentrations ranged from 3 to 150 ug/l and 2-methylnaphthalene concentrations ranged from 1 to 78 ug/l.

Lead was detected in nine of the ten wells from the August 1994 sample event, with concentrations ranging from 3R to 32R ug/l, (where R indicates that the results were rejected because of low matrix spike

recovery). Lead was detected in six of the ten wells in March 1995. The PRG for lead is 15 ug/l. The concentration of lead in the March 1995 samples ranged from 3 to 25 ug/l.

Overall, no major data quality problems were encountered. Specific comments are summarized as follows.

- Continuing calibration percent differences for several VOC and SVOC compounds exceeded 25%. Therefore, these sample results were qualified as estimated. Several VOCs were detected in field blanks at a concentration of 0.9 to 2 ug/l. Action levels of 5 to 10 times the concentration were applied to the data.

Overall, a comparison of analytical results from the two rounds of groundwater samples found no significant difference. As a result, no modifications to the conclusions of the RFI (August 1995) are proposed.

One outstanding concern with the findings of this study is that lead was found in the groundwater samples at concentrations only slightly greater than PRGs. When the relative magnitude of exceedence is coupled with the potential concern that intrusion of contaminated soil into the well may bias the results high, one may incorrectly conclude the presence of groundwater contamination. To resolve this issue, future groundwater sample rounds at this site will utilize low-flow sampling techniques to more accurately reflect groundwater conditions.

TABLE 1

COMPARISON OF GROUNDWATER RESULTS - RDS. 1 & 2
SITE 1 - NORTHEAST POND DISPOSAL AREA
NWIRP CALVERTON, NEW YORK

CHEMICAL	MDL/IDL (ug/L)	NP-GW01		NP-GW02				NP-GW03		NP-GW04	
		AUG '94	MAR '95	AUG '94	AUG '94 ^D	MAR '95	MAR '95 ^D	AUG '94	MAR '95	AUG '94	MAR '95
TCL VOLATILES											
CHLOROMETHANE	1	3 J									
CHLOROFORM	1										0.8 J
TCL SEMIVOLATILES											
BIS(2-ETHYLHEXYL) PHTHALATE	2			1 J							
TCL PEST./PCBS											
ALDRIN	0.032			0.061 J	0.067 J			0.048 J		0.018 J	
DIELDRIN										0.013 JN	
4,4'-DDD	0.057			0.026 J	0.033 J			0.033 JN		0.013 JN	
ENDRIN KETONE	0.046			0.019 J	0.016 J						
AROCHLOR 1248	0.27			2.3 JN	2.9 JN	0.66 J	0.88 J	3 J	2	0.9 J	0.34 JN
AROCHLOR 1254	0.25			1 JN	1.1 JN			1.7 JN		0.68 J	
AROCHLOR 1260	0.34			0.47 J	0.44 J	0.14 JN	0.23 J	0.49 J		0.32 J	0.13 J
TAL METALS											
ALUMINIUM	90	1,210 J	440	488 J	178 J	3,340	2,920	25,600 J	18,300	1,080 J	1,560
ANTIMONY	30/60		3.2			6.7					8.8
ARSENIC	3/1			16.4	15.5	6.1 J	4.1		1.6 J		
BARIUM	20/10	33.4	20.2	202	210	126	134	175	86.0	66.1	57.9
BERYLLIUM	3/1								1.4 J		1.9 J
CADMIUM	.20/1					2.8 J	2.0		1.9 J		
CALCIUM	1000/100	9,420	5,640	419,000	400,000	411,000	407,000	57,800	44,600	9,770	1,740
CHROMIUM	10/1					26.4	21.8	22.5	13.3 J		1.0 J
COBALT	10/1		1.2	10.0		1.5		10.8	4.8		3.3

TABLE 1 (CONTINUED)
COMPARISON OF GROUNDWATER RESULTS - RDS. 1 & 2
SITE 1 - NORTHEAST POND DISPOSAL AREA
NWIRP CALVERTON, NEW YORK

CHEMICAL	MDL/IDL (ug/L)	NP-GW01		NP-GW02				NP-GW03		NP-GW04	
		AUG '94	MAR '95	AUG '94	AUG '94 ^D	MAR '95	MAR '95 ^D	AUG '94	MAR '95	AUG '94	MAR '95
COPPER	10/1			48.6				164	109		3.2
IRON	40	1,400	530	9,410	14,500	6,300	5,830	3,110	2,380	1,370	1,340
LEAD	3/2	3.6 J		8.6 J	7.6 J	70.0 J	110 J	45.3 J	88.8	4.4 J	2.0 J
MAGNESIUM	400/600	1,730	1,720	34,000	33,300	17,700	17,600	4,520	3,480	2,000	1,740
MANGANESE	5/1	237	77.5	1,940	1,810	1,010	965	198	63.3	213	207
MERCURY	.20			4.1 J	1.8 J	0.40 J		0.28 J	0.42 J		0.31 J
NICKEL	20/1			59.7	46.7	49.5 J	44.1 J	22.1	11.3 J		
POTASSIUM	600/1000	1,100	2,260	21,900	21,400	11,000	9,720	3,830	3,340	825	
SILVER	10					22.0 J	29.0 J				
SODIUM	1000	6,600	4,820	25,300	24,800	10,100	9,790	4,170	3,440	6,860	7,170
THALLIUM	5/1		4.1		12.4 J	3.2 J	1.3 J				
VANADIUM	10					20.0	16.7	18.6	21.1		
ZINC	10/1	133 J	5.2	1,260 J	412 J	420	373	509 J	263	133 J	12.3
CYANIDE	10					11.0	10.0				
HEXAVALENT CHROMIUM	.01/10			76.0 J	18.0 J	37.0 J	43.0 J	32.0 J	36.0 J		

D - Duplicate
J - Estimated

TABLE 2

COMPARISON OF GROUNDWATER RESULTS - RDS. 1 & 2
 SITE 2 - FIRE TRAINING AREA
 NWIRP CALVERTON, NEW YORK

CHEMICAL	MDL/IDL (ug/L)	FT-GW01-S		FT-GW01-I		FT-GW02-S				FT-GW02-I	
		AUG '94	MAR '95	AUG '94	MAR '95	AUG '94	AUG '94 ^D	MAR '95	MAR '95 ^D	AUG '94	MAR '95
TCL VOLATILES											
VINYL CHLORIDE	2					25	25	5 J	9 J		
CHLOROETHANE	2					1,100	1,100	190	340		
ACETONE	9							85 J	140 J		
1,1-DICHLOROETHENE	2					9 J	13 J	2 J	3 J		
1,1-DICHLOROETHANE	2					1,100	1,200	310	590		
1,2-DICHLOROETHENE (TOTAL)	2					310	290	93	100 J		
CHLOROFORM	1			2 J						2 J	
2-BUTANONE	5					71 J		82	130 J		
1,1,1-TRICHLOROETHANE	2					120	140	50	58 J		
TRICHLOROETHENE	2					7 J	9 J				
BENZENE	1							3 J	4 J		
4-METHYL-2-PENTANONE	6						19 J	15	27 J		
TETRACHLOROETHENE	2					20	21	13			
TOLUENE	1					280	320	200	320		
ETHYLBENZENE	1					16 J	21	18	18 J		
TOTAL XYLENES	0.5					180	230	180	150 J		

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TABLE 2 (CONTINUED)
 COMPARISON OF GROUNDWATER RESULTS - RDS. 1 & 2
 SITE 2 - FIRE TRAINING AREA
 NWIRP CALVERTON, NEW YORK

CHEMICAL	MDL/IDL (ug/L)	FT-GW01-S		FT-GW01-I		FT-GW02-S				FT-GW02-I	
		AUG '94	MAR '95	AUG '94	MAR '95	AUG '94	AUG '94 ^D	MAR '95	MAR '95 ^D	AUG '94	MAR '95
TCL SEMIVOLATILES											
PHENOL	2					41	46	22	18		
1,2-DICHLOROBENZENE	2					8 J	7 J				
2-METHYLPHENOL	2					18 J	20 J	8 J	7 J		
4-METHYLPHENOL	1					160	180	120	110		
2,4-DIMETHYLPHENOL	2					39	47 J				
NAPHTHALENE	1					50	54 J	19	19		
2-METHYLNAPHTHALENE	1					31	34 J				
DIETHYL PHTHALATE	2							5 J	5 J		
PHENANTHRENE	1						2 J				
DI-N-BUTYLPHTHALATE	2					2 J	2 J				0.2 J
FLUORANTHENE	2					3 J	4 J				
PYRENE	2					4 J	6 J				
BUTYLBENZYL PHTHALATE	2							0.7 J			
BENZO(A)ANTHRACENE	2						2 J				
CHRYSENE	2					2 J	3 J				
BIS(2-ETHYLHEXYL) PHTHALATE	2				0.4 J	9 J	17 J	3 J	2 J	0.8 J	
BENZO(B)FLUORANTHENE	3					2 J	3 J				
BENZO(K)FLUORANTHENE	1					2 J	3 J				
TCL PEST./PCBS											
ALDRIN	0.032	0.017 J									
4,4'-DDE	0.052	0.011 JN						0.032 J	0.041 J		
ENDOSULFAN SULFATE	0.047					0.13 J	0.12 J				
METHOXYCHLOR	0.38					0.63 J	0.56 J				
ENDRIN KETONE	0.046					0.65 J	0.59 J				
AROCHLOR 1248	0.27	0.88 J	0.34 J								

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TABLE 2 (CONTINUED)
 COMPARISON OF GROUNDWATER RESULTS - RDS. 1 & 2
 SITE 2 - FIRE TRAINING AREA
 NWIRP CALVERTON, NEW YORK

CHEMICAL	MDL/IDL (ug/L)	FT-GW01-S		FT-GW01-I		FT-GW02-S				FT-GW02-I	
		AUG '94	MAR '95	AUG '94	MAR '95	AUG '94	AUG '94 ^D	MAR '95	MAR '95 ^D	AUG '94	MAR '95
AROCHLOR 1254	0.25	0.5 JN	0.22 JN								
AROCHLOR 1260	0.34					18 J	17 J	4.4 JN	6.9 JN		0.3 J
TAL METALS											
ALUMINUM	90.0	34800 J	14900 J			3250	3410	1480 J	1520 J	142	
ANTIMONY	60				2.1						1.2
ARSENIC	5/1	15.8 J	3.2 J			6.2		2.7 J	3.6 J		3.1 J
BARIUM	20/10	186 J	138		10.7	118	119	146	147		13.6
BERYLLIUM	3/1		2.8 J								
CADMIUM	5/1		1.1 J								
CALCIUM	1000/100	19700 J	12600	2560	1970	20000	20900	20400	20600	6700	4710
CHROMIUM	10	23 J				12	15				
COBALT	10/1	53 J	31.8					1.4	1.5		1
COPPER	10/1		10.8					2	4		
IRON	40	29300 J	10200 J	87 J	134 J	43300	41400	31400 J	30600 J	188	220 J
LEAD	3	25.4 J	8			15 J	12	8	9		
MAGNESIUM	400/100	4980	2770	972	951	3830	3640	3510	3540	3300	1990
MANGANESE	5/1	2340 J	1010	14 J	14.8	459	436	519	519	158	31.1
NICKEL	20/1	64 J	14								
POTASSIUM	600/1000	2770	3940			3210	2960	4360	3640	1280	
SELENIUM	3/1								2.9 J		5.9 J
SODIUM	1000	5760 J	6520	4650	5160	4360	4160	6230	6260	5260	4950
THALLIUM	5/1								3.5 J		6.3 J
VANADIUM	10	49 J	15.8			48	50	17	17		
ZINC	10/1	259 J	131	24 J	67.9		103	19.4	18.2	79	11.8

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Addendum

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TABLE 2 (CONTINUED)
 COMPARISON OF GROUNDWATER RESULTS - RDS. 1 & 2
 SITE 2 - FIRE TRAINING AREA
 NWIRP CALVERTON, NEW YORK

CHEMICAL	MDL/IDL (ug/L)	FT-GW02-I	FT-GW03-S			FT-GW04-S		FT-GW05-S		FT-GW05-I	
		AUG '95 ^D	AUG '94	AUG '94 ^D	MAR '95	AUG '94	MAR '95	AUG '94	MAR '95	AUG '94	MAR '95
TCL VOLATILES											
VINYL CHLORIDE	2							4 J	4 J		
CHLOROETHANE	2							130	79		
1,1-DICHLOROETHANE	2							16	22	3 J	
1,2-DICHLOROETHENE (TOTAL)	2							26	26		
CHLOROFORM	1										0.9 J
1,1,1-TRICHLOROETHANE	2		5 J	5 J	6 J	2 J		2 J	0.6 J	2 J	
TRICHLOROETHENE	2		51	48	87						
TOLUENE	1							23			
ETHYLBENZENE	1							2 J	2 J		
TOTAL XYLENES	0.5							17	8 J		
TCL SEMIVOLATILES											
PHENOL	2	18									
1,2-DICHLOROBENZENE	2							2 J			
2-METHYLPHENOL	2	7 J						1 J	0.6 J		
4-METHYLPHENOL	1	110						2 J			
2,4-DIMETHYLPHENOL	2							3 J	1 J		
NAPHTHALENE	1	19						7 J	6 J		
2-METHYLNAPHTHALENE	1							6 J			
DIETHYL PHTHALATE	2	5 J								1 J	
DI-N-BUTYLPHTHALATE	2							0.5 J			
TCL PEST./PCBS											
ALDRIN	0.032		0.0087 J	0.0089 J		0.0087 J					
HEPTACHLOR EPOXIDE	0.021		0.018 JN	0.017 JN		0.015 JN					
4,4'-DDE	0.052			0.011 J							
4,4'-DDT	0.057			0.021 J							

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Addendum

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TABLE 2 (CONTINUED)
 COMPARISON OF GROUNDWATER RESULTS - RDS. 1 & 2
 SITE 2 - FIRE TRAINING AREA
 NWIRP CALVERTON, NEW YORK

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Addendum

CHEMICAL	MDL/IDL (ug/L)	FT-GW02-I	FT-GW03-S			FT-GW04-S		FT-GW05-S		FT-GW05-I	
		AUG '95 ^D	AUG '94	AUG '94 ^D	MAR '95	AUG '94	MAR '95	AUG '94	MAR '95	AUG '94	MAR '95
AROCHLOR 1248	0.27		0.49 J	0.5 J		0.45 J	0.37 J				
AROCHLOR 1254	0.25		0.34 JN	0.33 JN		0.39 J	0.24 J				0.15 J
AROCHLOR 1260	0.34	1.1									
TAL METALS											
ALUMINUM	90		23200 J	22400	11100 J	6740	10600 J	44000 J	14500 J	161 J	117
ANTIMONY	30/1								2.8		
ARSENIC	5/1		10.1 J	10.8 J	3.5 J		4 J	15.4 J	7.2 J		
BARIUM	20/10	10.2	72 J	77 J	71.9	110	130	92 J	68.3	29 J	34.7
BERYLLIUM	3/1						1.6 J				
CADMIUM	5/1										
CALCIUM	1000/100	4410	18000 J	18000 J	38200	6420	7140	7030 J	3880	5430	4000
CHROMIUM	10		21 J	24 J	12		16	41 J	18		
COBALT	10/1		19 J	18 J	5.9	15	11.2	18 J	6.8		
COPPER	10/1				15.3		13.2		23.8		14.3
IRON	40	53 J	29200 J	28400 J	12700 J	3780	10100	60500 J	41400 J	608	260 J
LEAD	3/2		21.6 J	21.2 J	12	7 J	10	30.8 J	14		
MAGNESIUM	400/100	1910	4120	4100	5210	1380	2110	4210	1930	2040	1670
MANGANESE	5/1	30.4	1880 J	1810 J	854	525	682	725 J	550	3490 J	1340
NICKEL	20/1		38 J	34 J		29 J	10.2	28 J	2.3	53 J	
POTASSIUM	600/1000		3140	3090	2790	804	1730	3210		983	
SELENIUM	3/1				1.1 J				1.2 J		
SODIUM	1000	5000	3430	3440	5010	5000	4800	6590	6810	5540	6330
THALLIUM	5/1	1.8 J					1.6				
VANADIUM	10		43 J	46 J	19.7		15.2	70 J	24.8		
ZINC	10/1	13.5	66 J	100 J	39.9	26	30.8	164 J	30.4	90 J	16

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TABLE 2 (CONTINUED)
COMPARISON OF GROUNDWATER RESULTS - RDS. 1 & 2
SITE 2 - FIRE TRAINING AREA
NWIRP CALVERTON, NEW YORK

CHEMICAL	MDL/IDL (ug/L)	FT-GW06-S		FT-GW06-I		FT-GW07-S	
		AUG '94	MAR '95	AUG '94	MAR '95	AUG '94	MAR '95
TCL VOLATILES							
CHLOROFORM	1			2 J	2 J		1 J
1,1,1-TRICHLOROETHANE	2	1 J					
TCL PEST./PCBS							
4,4'-DDT	0.057					0.013 J	
AROCHLOR 1248	0.27	0.3 J					
TAL METALS							
ALUMINUM	90	21500 J	17100 J	253 J	638 J	5730	7520 J
ARSENIC	5/1	12.8 J	7.6 J				3.3 J
BARIUM	20/10	73 J	76.2			86	88.1
BERYLLIUM	3/1		1.6 J				1.5 J
CALCIUM	1000/100	7000 J	5300	9250 J	1790	1610	2220
CHROMIUM	10	29 J	17				
COBALT	10/1	17 J	7.3				5.2
COPPER	10/1		14.4		1.1		8.9
IRON	40	27800 J	22700 J	476 J	1100 J	2810	9230 J
LEAD	3/2	21.6 J	16			6 J	8
MAGNESIUM	400/100	2370	2050	3070	733	806	1260
MANGANESE	5/1	1100 J	808	51 J	50.1	524	907
NICKEL	20/1	29 J				23 J	
POTASSIUM	600/1000	2000	1910	1800		737	
SELENIUM	3/1		2.5 J		1 J		1.7 J
SODIUM	1000	5100 J	7080	14900 J	11100	4970	5240
VANADIUM	10	46 J	35.3				11.7
ZINC	10/1	142 J	20.3	162 J	18.8	15	27.4

D - Duplicate
 J - Estimated

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 Addendum

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TABLE 3

COMPARISON OF GROUNDWATER RESULTS - RDS. 1 & 2
SITE 6A - FUEL CALIBRATION AREA
NWIRP CALVERTON, NEW YORK

CHEMICAL	MDL/IDL (ug/L)	FC-GW01-S		FC-GW01-I		FC-GW02-S				FC-GW02-I		
		AUG '94	MAR '95	AUG '94	MAR '95	AUG '94	AUG '94 ^D	MAR '95	MAR '95 ^D	AUG '94	MAR '95	
TCL VOLATILES												
CHLOROETHANE	2					320 J	360 J	360 J	430			
1,1-DICHLOROETHENE	2					380 J	200 J	110 J	88 J	2 J		
1,1-DICHLOROETHANE	2					5800	4600	4800	4800	95		
1,2-DICHLOROETHANE	2										0.5 J	
1,1,1-TRICHLOROETHANE	2					15000	13000	12000	11000	210		
TRICHLOROETHENE	2							7 J				
BENZENE	1							6 J				
TETRACHLOROETHENE	2							0.6 J				
TOLUENE	1					330 J	310 J	190 J	220 J			
ETHYLBENZENE	1							88 J	92 J			
TOTAL XYLENES	0.5					390 J	420 J	690 J	780			
TCL SEMIVOLATILES												
PHENOL	2					12	11					
1,2-DICHLOROENZENE	2					8 J	9 J	5 J	6 J			
2-METHYLPHENOL	2					5 J	5 J					
4-METHYLPHENOL	1					84	80		27			
NAPHTHALENE	1					120	120	70	74			
2-METHYLNAPHTHALENE	1					74	70	50	57			
ACENAPHTHENE	1					1 J	1 J					
DIBENZOFURAN	2					2 J	2 J		1 J			
DIETHYL PHTHALATE	2									0.7 J	0.3 J	
FLUORENE	2					2 J	2 J					
DI-N-BUTYLPHTHALATE	2									0.6 J		
BIS(2-ETHYLHEXYL) PHTHALATE	2					2 J	2 J					
TAL METALS												
LEAD	2	7.0	2.0 J			30.0 J	29.0 J	4.0 J	4.0 J	5.0 J		

TABLE 3 (CONTINUED)
 COMPARISON OF GROUNDWATER RESULTS - RDS. 1 & 2
 SITE 6A - FUEL CALIBRATION AREA
 NWIRP CALVERTON, NEW YORK

CHEMICAL	MDL/IDL (ug/L)	FC-GW03-S		FC-GW04-S		FC-GW04-I		FC-GW05-S		FC-GW05-I	
		AUG '94	MAR '95								
TCL VOLATILES											
CHLOROETHANE	2	110	2 J		26						
1,1-DICHLOROETHENE	2	2 J									
1,1-DICHLOROETHANE	2	8 J	1 J	4 J	26						
1,2-DICHLOROETHANE	2				0.6 J						
1,1,1-TRICHLOROETHANE	2					3 J				2 J	
ETHYLBENZENE	1	33	15								
TOTAL XYLENES	0.5	310	120								
TCL SEMIVOLATILES											
2,4-DIMETHYLPHENOL	1	3 J									
NAPHTHALENE	1	22	5 J								
2-METHYLNAPHTHALENE	1	11	9 J								
TAL METALS											
LEAD	2		3.0 J	10.0	3.0 J			10.0	2.0 J		

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TABLE 3 (CONTINUED)
COMPARISON OF GROUNDWATER RESULTS - RDS. 1 & 2
SITE 6A - FUEL CALIBRATION AREA
NWIRP CALVERTON, NEW YORK

CHEMICAL	MDL/IDL (ug/L)	FC-GW06-S	
		AUG '94	MAR '95
TCL VOLATILES			
1,1,1-TRICHLOROETHANE	2	2 J	
TOLUENE	1	2 J	
TAL METALS			
LEAD	2		3.0 J

D - Duplicate
 J - Estimated

TABLE 4

COMPARISON OF GROUNDWATER RESULTS - RDS. 1 & 2
SITE 7 - FUEL DEPOT
NWIRP CALVERTON, NEW YORK

CHEMICAL	MDL/IDL (ug/L)	FD-GW01-S		FD-GW01-I		FD-GW02-S		FD-GW02-I		FD-GW03-S	
		AUG '94	MAR '95								
TCL VOLATILES											
1,1-DICHLOROETHANE	2			3 J	3 J			3 J	2 J		
CHLOROFORM	2			1 J	0.5 J				0.3 J		
1,2-DICHLOROETHANE	2				0.6 J		0.6 J		0.6 J		
1,1,1-TRICHLOROETHANE	2			2 J	1 J			2 J	0.7 J		
TCL SEMIVOLATILES											
DIETHYL PHTHALATE	2								0.3 J		
TAL METALS											
LEAD	3/2	10 R	9.0			10 R	14.0 J	4 R		5 R	3.0 J

TABLE 4 (CONTINUED)
 COMPARISON OF GROUNDWATER RESULTS - RDS. 1 & 2
 SITE 7 - FUEL DEPOT
 NWIRP CALVERTON, NEW YORK

D-01-95-13
Addendum

CHEMICAL	MDL/IDL (ug/L)	FD-GW03-I		FD-GW04-S			FD-GW04-I		FC-GW05-S	
		AUG '94	MAR '95	AUG '94	AUG '94 ^D	MAR '95	AUG '94	MAR '95	AUG '94	MAR '95
TCL VOLATILES										
1,1-DICHLOROETHANE	2		2 J				3 J	2 J		
1,2-DICHLOROETHANE	2					0.5 J		0.6 J		
1,1,1-TRICHLOROETHANE	2			1 J	2 J	1 J		1 J		
TOLUENE	2			34	31	45				
ETHYLBENZENE	1			170	190	200			26	
TOTAL XYLENES	0.5			1500	1600	1600			29	
TCL SEMIVOLATILES										
2,4-DIMETHYLPHENOL	1			11 J	5 J	0.9 J				
NAPHTHALENE	1		0.1 J	8 J	3 J	15			8 J	
2-METHYLNAPHTHALENE	1			2 J	1 J	5 J			13	
BIS(2-ETHYLHEXYL) PHTHALATE	2								2 J	
TAL METALS										
LEAD	2	3 R		13 R	32 R	14.0	14 R		10 R	6.0

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**TABLE 4 (CONTINUED)
COMPARISON OF GROUNDWATER RESULTS - RDS. 1 & 2
SITE 7 - FUEL DEPOT
NWIRP CALVERTON, NEW YORK**

CHEMICAL	MDL/IDL (ug/L)	FC-GW06-S		
		AUG '94	MAR '95	MAR '95 ^D
TCL VOLATILES				
TOLUENE	1	160	25	20 J
ETHYLBENZENE	1	290	170	120 J
TOTAL XYLENES	0.5	2400	850	860
TCL SEMIVOLATILES				
4-METHYLPHENOL	1	15		
NAPHTHALENE	1	150	41	37
2-METHYLNAPHTHALENE	1	78	22	19
DIBENZOFURAN	2	2 J		
DIETHYL PHTHALATE	2	1 J		
FLUORENE	2	2 J		
PHENANTHRENE	1	1 J		
BIS(2-ETHYLHEXYL) PHTHALATE	2	3 J	0.5 J	0.3 J
TAL METALS				
LEAD	2	18 R	25.0	20.0

D - Duplicate

J - Estimated

R - Rejected (low matrix spike recovery)

ATTACHMENT 1

CHAIN-OF-CUSTODY FORMS

P. 003

TEL: 410 381 2329

RECRA ENVIRONMENTAL

R - 11 95 (TUE) 12:53

RECRA ENVIRONMENTAL, INC.

HALLIBURTON NUS → #1 CHAIN OF CUSTODY RECORD

PROJECT NO		SITE NAME				NO OF CONTAINERS	ANALYSTS								REMARKS				
0206		CALVERTON					TEL: 410 381 2329												
SAMPLERS (SIGNATURE)																			
Terry R. Aguirre																			
STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION														
NP-GW04-TB	03/06	1200		X	NP-GW04-TB	2	2												
NP-GW04		1300		X	NP-GW04	8	2	2	1	1	1	1							
NP-GW02		1335		X	NP-GW02	24	6	6	3	3	3	3					DO MS/MSD		
NP-GW03		1430		X	NP-GW03	8	2	2	1	1	1	1							
NP-GW01		1505		X	NP-GW01	8	2	2	1	1	1	1							
NP-GW01-RB01		1515		X	NP-GW01-RB01	8	2	2	1	1	1	1					RINSE TO ANALYZE		
NP-DU-01		0200		X	NP-DU-01	8	2	2	1	1	1	1					DUPLICATE OF NP-GW02		
TEMP 1		1600		X	TEMP 1	1	-	-	-	-	-	-					TEMP. BLANK		
TEMP 2		1604		X	TEMP 2	1	-	-	-	-	-	-					TEMP. BLANK		
TEMP 3		1605		X	TEMP 3	1	-	-	-	-	-	-					TEMP. BLANK		
FC-GW06		1615		X	FC-GW06-5	5	2	2	-	-	-	-							

RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)
Terry R. Aguirre	03-06-95 1200	FEDERAL EXPRESS			
RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE/TIME	REMARKS	
			3/7/95 10:00	COOLERS SHIPPED TO RECRA FOR ANALYSIS	

Distribution: Original accompanies shipment / copy to coordinator hold files

P. 004
 TEL: 410 381 2329
 RECRA ENVIRONMENTA
 11' 95 (TUE) 12:54

RECRA ENVIRONMENTAL, INC.

HALLIBURTON NUS → #2 CHAIN OF CUSTODY RECORD

PROJECT NO		SITE NAME				NO OF CON TAINERS	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TOTAL VOLUME (GAL)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">SER. VOLUMES</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">32oz BOTTLES</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TOTAL LEAD</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PP & PE (LBS)</div> </div>				REMARKS			
0206		CALVERTON												
SAMPLERS (SIGNATURE)						Tony R. Rojahn								
STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION									
FC-GW01-TB	07/07	0800		X	FC-GW01-TB	2	2							TRIP BLANK
FC-GW01		0822		X	FC-GW01-I	5	2	2	1					
FC-GW01		0826		X	FC-GW01-S	5	2	2	1					
FC-GW04		0927		X	FC-GW04-S	5	2	2	1					
FC-GW04		0932		X	FC-GW04-I	5	2	2	1					
FC-GW05		1030		X	FC-GW05-S	5	2	2	1					
FC-GW05		1035		X	FC-GW05-I	5	2	2	1					
FC-GW03		1100		X	FC-GW03-S	5	2	2	1					
FC-GW03-RB		1240		X	FC-GW03-RB01	5	2	2	1					REMOVE TO "HOLD"
FC-GW02		1320		X	FC-GW02-S	5	2	2	1					
FC-GW02		1330		X	FC-GW02-I	5	2	2	1					
FD-GW02		1420		X	FD-GW02-S	5	2	2	1					
FD-GW02		1430		X	FD-GW02-I	5	2	2	1					
FD-GW03		1520		X	FD-GW03-S	5	2	2	1					

RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)
<i>Tony R. Rojahn</i>	3/7/95 1000				
RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE/TIME	REMARKS	
		<i>[Signature]</i>	3/8/95 10	SHIPPED TO RECRA FOR ANALYSIS	

Distributor: Original accompanies shipment copy to coordinator hold files

Custodian 1/10/2005

P.005

TEL: 410 381 2529

-11 95 (TUE) 12:55 RECRA ENVIRONMENTA

RECRA ENVIRONMENTAL, INC.

HALLIBURTON NUS → #3 CHAIN OF CUSTODY RECORD

PROJECT NO 0206					SITE NAME CALVERTON		NO OF CONTAINERS	TEL. VOLUMES	NO. PL. VOLS. (HLL)	NO. VOLUMES	TOTAL ARRES.	NO. OF LOGS	NO. OF (HANDS)	TEMPERATURE	REMARKS
SAMPLER(S) SIGNATURE: <i>Taylor</i>															
STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION										
FD-GW3	03/07	1535		X	FD GW03-I	✓	5	2	2	1					
FC-DU-01		0000		X	FC-DU-01	✓	5	2	2	1					DUP. OF FC-GW03-S
TEMP		1610		X	TEMP. 4		1						1	TEMPERATURE BLANK	
TEMP		1615		X	TEMP. 5		1						1		↓
TEMP		1620		X	TEMP. 6		1						1		↓

RELINQUISHED BY (SIGNATURE): <i>Taylor</i>	DATE/TIME: 3/7/95 1600	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE/TIME:	RECEIVED BY (SIGNATURE):
RELINQUISHED BY (SIGNATURE):	DATE/TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE/TIME:	RECEIVED BY (SIGNATURE):
RELINQUISHED BY (SIGNATURE):	DATE/TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE): <i>[Signature]</i>	DATE/TIME: 3/8/95 10:00	REMARKS: SHIPPED TO RECRA FOR ANALY	Coolers 10/10/2°C

Distribution: Original accompanies shipment copy to coordinator field files

mD#5015/1

RECRA ENVIRONMENTAL, INC. HALLIBURTON NUS → #6 CHAIN OF CUSTODY RECORD

PROJECT NO		SITE NAME				NO OF CONTAINERS	ANALYSIS PARAMETERS							REMARKS	MGA CHURNING			
0206		DALVERTON					TCL VOLATILES	ADM Vials (M)	TCL SEMI-VOLATILES	3202 AMBER	3202 AMBER	3202 AMBER	3202 AMBER			TEMPERATURE		
SAMPLERS (SIGNATURE)																		
David A. Vest Tony Aguilera																		
STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION													
FT-GW01	03/09	0800		X	FT-GW01-TB	2	2									TRIP BLANK		
FT-GW01		0840		X	FT-GW01-S	7	2	2	1	1	1							
FT-GW01		0850		X	FT-GW01-S	7	2	2	1	1	1							
FT-GW04		0935		X	FT-GW04-S	7	2	2	1	1	1							
FT-GW02		1020		X	FT-GW02-S	21	6	6	3	3	3					DO MS/MSD		
FT-GW02		1045		X	FT-GW02-I	7	2	2	1	1	1					Ⓢ		
FT-DU-01		0000		X	FT-DU-01	7	2	2	1	1	1					DUPLICATE FT-GW02 S		
FT-DU-02		0000		X	FT-DU-02	7	2	2	1	1	1					↓ FT-GW02 I		
FT-GW02		1250		X	FT-GW02-RAS	7	2	2	1	1	1					RINSE to Hold if Problems Occur		
TEMP		1310		X	TEMP 11	1	-	-	-	-	-					TEMPERATURE BLANK		
		1315		X	TEMP 12	1	-	-	-	-	-							
		1320		X	TEMP 13	1	-	-	-	-	-							
		1325		X	TEMP 14	1	-	-	-	-	-							
FT-GW02	03/09	1330		X	FT-GW02-RAS	8	2	2	1	1	1					FIELD BLANK <i>DI</i>		
		1345		X	FT-GW02-RAS	8	2	2	1	1	1					FIELD BLANK <i>10.6.06</i>		
RELINQUISHED BY (SIGNATURE)		DATE/TIME		RECEIVED BY (SIGNATURE)		RELINQUISHED BY (SIGNATURE)		DATE/TIME		RECEIVED BY (SIGNATURE)		RELINQUISHED BY (SIGNATURE)		DATE/TIME		RECEIVED BY (SIGNATURE)		
Tony Aguilera		3/9/95 1600		FEDERAL EXPRESS AB# 4056783054														
RELINQUISHED BY (SIGNATURE)		DATE/TIME		RECEIVED BY (SIGNATURE)		RELINQUISHED BY (SIGNATURE)		DATE/TIME		RECEIVED BY (SIGNATURE)		RELINQUISHED BY (SIGNATURE)		DATE/TIME		RECEIVED BY (SIGNATURE)		
RELINQUISHED BY (SIGNATURE)		DATE/TIME		RECEIVED FOR LABORATORY BY (SIGNATURE)		DATE/TIME		REMARKS SHIPPED SAMPLES TO RECRA LAB FOR ANALYSIS										
				[Signature]		3/10/95 1200												

Distribution: Original accompanies shipment copy to coordinator field files

10/2/95

RECRA ENVIRONMENTAL, INC.

HALLIBURTON NUS → #4 CHAIN OF CUSTODY RECORD

PROJECT NO		SITE NAME				NO OF CONTAINERS	ANALYSIS							REMARKS				
0206		CALVERTON					TOLUENE	XYLENE	BENZENE	ETHYLENE GLYCOL	PROPYLENE GLYCOL	DIETHYLENE GLYCOL	TRICHLOROETHYLENE		PERCHLOROETHYLENE			
SAMPLERS (SIGNATURE)						STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION							
Tony R. Regan																		
FD-GW01	03/08	0800		X	FD-GW01-TB	2	2										TRIP BLANK	
		0805		X	FD-GW01-S	5	2	2	1									
		0810		X	FD-GW01-I	5	2	2	1									
FD-GW04		0900		X	FD-GW04-S	5	2	2	1									
FD-GW04		0906		X	FD-GW04-I	5	2	2	1									
FD-GW05		1005		X	FD-GW05-S	5	2	2	1									
FD-GW06		1020		X	FD-GW06-S	5	2	2	1									
FD-DU-01		0000		X	FD-DU-01	5	2	2	1								FD-GW-06S DUPLICATES	
FT-GW05		1105		X	FT-GW05-S	7	2	2	-	1	1	1						
FT-GW05		1130		X	FT-GW05-S	7	2	2	-	1	1	1						
FT-GW05		1250		X	FT-GW05-RB01	7	2	2	-	1	1	1					RINSE TO ANALYZE	
FT-GW06		1345		X	FT-GW06-S	7	2	2	-	1	1	1						
FT-GW06		1447		X	FT-GW06-I	7	2	2	-	1	1	1						
FT-GW07		1503		X	FT-GW07-S	7	2	2	-	1	1	1						

RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)	DATE/TIME
<i>Tony Regan</i>	3/8/95 1000	FEDERAL EXPRESS 10# 4056703065					
RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)	DATE/TIME
RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE/TIME	REMARKS			
			3/9/95 1000	SHIPPED TO RECRA FOR ANALYSIS Temps = 2°/4°/4°/5°			

Distribution: Original accompanies shipment Copy to coordinator field files

RECRA ENVIRONMENTAL, INC.

HALLIBURTON NUS → #5 CHAIN OF CUSTODY RECORD

PROJECT NO		SITE NAME				NO OF CONTAINERS	ANALYSIS PARAMETERS							REMARKS
0206		CALVERTON					TCV VOLATILES	PHENOLS (TCV)	TCV SEMI-VOLATILES	2282 INORGANICS	2282 ORGANICS	TCV ANIONS	TCV CATIONS	
SAMPLERS (SIGNATURE)														
Terry Rial														
STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION									
FT-GW03	03/68	1540		X	FT-GW03-5	7	2	2	1	1	1	-		
TEMP		1600		X	TEMP 7	1						1	TEMPERATURE BLANKS	
↓		1605		X	TEMP 8	1						1	" "	
↓		1610		X	TEMP 9	1						1	" "	
↓		1615		X	TEMP 10	1						1	" "	
RELINQUISHED BY (SIGNATURE)						DATE/TIME	RECEIVED BY (SIGNATURE)				DATE/TIME	RECEIVED BY (SIGNATURE)		
Terry Rial						3/8/95 1600	FEDERAL EXPRESS ARR# 4056783065							
RELINQUISHED BY (SIGNATURE)						DATE/TIME	RECEIVED BY (SIGNATURE)				DATE/TIME	RECEIVED BY (SIGNATURE)		
RELINQUISHED BY (SIGNATURE)						DATE/TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)				DATE/TIME	REMARKS		
							[Signature]				3/9/95 1615	SWAPPED TO RECRA FOR ANALYSIS Temp = 2°/4°/4°/5° C		

Distribution: Original accompanies shipment copy to coordinator field files

C-100017

ATTACHMENT 2

ANALYTICAL DATA

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
RECRA ENVIRONMENTAL, INC.

CLIENT ID:
LABORATORY ID:

FC-GW06-S
A5126108

FC-GW01-I
A5128002

FC-GW01-S
A5128003

FC-GW04-S
A5128004

FC-GW04-I
A5128005

TAL METAL WATERS (UG/L)

ANALYTE

CRDL

IDL

LEAD

3

2

3.0 J

2.0 U

2.0 J

3.0 J

2.0 U

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
RECRA ENVIRONMENTAL, INC.

CLIENT ID:
LABORATORY ID:

FC-GW05-S
A5128006

FC-GW05-I
A5128007

FC-GW03-S
A5128008

FC-GW02-S
A5128010

FC-GW02-I
A5128011

TAL METAL WATERS (UG/L)

ANALYTE

CRDL

IDL

LEAD

3

2

2.0 J

2.0 U

3.0 J

4.0 J

2.0 U

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
RECRA ENVIRONMENTAL, INC.

CLIENT ID:
LABORATORY ID:

FD-GW02-S
A5128012

FD-GW02-I
A5128013

FD-GW03-S
A5128014

FD-GW03-I
A5128015

FC-DU-01
A5128016

TAL METAL WATERS (UG/L)

ANALYTE

CRDL

IDL

LEAD

3

2

14.0 J

2.0 U

3.0 J

2.0 U

4.0 J

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

NP-GW04
 A5126102

NP-GW02
 A5126103

NP-GW03
 A5126104

NP-GW01
 A5126105

NP-GW01-RB01
 A5126106

TAL METAL WATERS (UG/L)

ANALYTE	CRDL	IDL	NP-GW04 A5126102	NP-GW02 A5126103	NP-GW03 A5126104	NP-GW01 A5126105	NP-GW01-RB01 A5126106	STATUS
ALUMINUM	200	90	1560	3340	18300	440	90.0	U
ANTIMONY	60	1	8.8	6.7	1.0	3.2	1.0	U
ARSENIC	10	1	1.0	6.1	1.8	1.0	1.0	UJ
BARIUM	200	10	57.9	126	86.0	20.2	10.0	U
BERYLLIUM	5	1	1.9	1.0	1.4	1.0	1.0	UJ
CADMIUM	5	1	1.0	2.8	1.9	1.0	1.0	UJ
CALCIUM	5000	100	1740	411000	44600	5640	217	U
CHROMIUM	10	1	1.0	26.4	13.3	1.0	1.0	UJ
COBALT	50	1	3.3	1.5	4.8	1.2	1.0	U
COPPER	25	1	3.2	1.0	109	1.0	1.0	U
IRON	100	40	1340	6300	2380	530	40.0	U
LEAD	3	2	2.0	70.0	88.8	2.0	2.0	UJ
MAGNESIUM	5000	600	1740	17700	3480	1720	600	U
MANGANESE	15	1	207	1010	63.3	77.5	1.0	U
MERCURY	0.2	0.2	0.31	0.40	0.42	0.20	0.20	UJ
NICKEL	10	1	1.0	49.5	11.3	1.0	1.0	UJ
POTASSIUM	5000	1000	1000	11000	3340	2260	1000	U
SELENIUM	5	1	1.0	1.0	1.0	1.0	1.0	UJ
SILVER	10	10	10.0	22.0	10.0	10.0	10.0	UJ
SODIUM	5000	1000	7170	10100	3440	4820	1440	U
THALLIUM	10	1	1.0	3.2	1.0	4.1	1.0	UJ
VANADIUM	50	10	10.0	20.0	21.1	10.0	10.0	U
ZINC	20	1	12.3	420	283	6.2	1.0	U
CYANIDE	10	10	10.0	11.0	10.0	10.0	10.0	U
HEXAVALENT CHROMIUM	10	10	10.0	37.0	36.0	10.0	10.0	UJ

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
RECRA ENVIRONMENTAL, INC.

CLIENT ID:
LABORATORY ID:

NP-DU-01
A5126107

TAL METAL WATERS (UG/L)

ANALYTE	CRDL	IDL		
ALUMINUM	200	90	2920	
ANTIMONY	60	1	1.0	U
ARSENIC	10	1	4.1	J
BARIIUM	200	10	134	
BERYLLIUM	5	1	1.0	UJ
CADMIUM	5	1	2.0	J
CALCIUM	5000	100	407000	
CHROMIUM	10	1	21.8	J
COBALT	50	1	1.0	U
COPPER	25	1	1.0	U
IRON	100	40	5830	
LEAD	3	2	110	J
MAGNESIUM	5000	600	17600	
MANGANESE	15	1	985	
MERCURY	0.2	0.2	0.20	UJ
NICKEL	10	1	44.1	J
POTASSIUM	5000	1000	9720	
SELENIUM	5	1	1.0	UJ
SILVER	10	10	29.0	J
SODIUM	5000	1000	9790	
THALLIUM	10	1	1.3	J
VANADIUM	50	10	16.7	
ZINC	20	1	373	
CYANIDE	10	10	10.0	
HEXAVALENT CHROMIUM	10	10	43.0	J

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FT-GW05-S FT-GW05-I FT-GW05-RB01 FT-GW06-S FT-GW06-I
 A5131209 A5131210 A5131211 A5131212 A5131213

TAL METAL WATERS (UG/L)

ANALYTE	CRDL	IDL	FT-GW05-S A5131209		FT-GW05-I A5131210		FT-GW05-RB01 A5131211		FT-GW06-S A5131212		FT-GW06-I A5131213	
ALUMINUM	200	90	14500	J	117	J	90.0	UJ	17100	J	638	J
ANTIMONY	60	1	2.8		1.0	U	1.1		1.0	U	1.0	U
ARSENIC	10	1	7.2	J	1.0	UJ	1.0	UJ	7.6	J	1.0	UJ
BARIUM	200	10	68.3		34.7		10.0	U	76.2		10.0	U
BERYLLIUM	5	1	1.0	UJ	1.0	UJ	1.0	UJ	1.6	J	1.0	UJ
CADMIUM	5	1	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
CALCIUM	5000	100	3880		4000		199		5300		1790	
CHROMIUM	10	10	18.0		10.0	U	10.0	U	17.0		10.0	U
COBALT	50	1	6.8		1.0	U	1.0	U	7.3		1.0	U
COPPER	25	1	23.8		14.3		1.0	U	14.4		1.1	
IRON	100	40	41400	J	260	J	40.0	UJ	22700	J	1100	J
LEAD	3	2	14.0		2.0	U	2.0	U	16.0		2.0	U
MAGNESIUM	5000	100	1930		1670		100	U	2050		733	
MANGANESE	15	1	550		1340		1.3		808		50.1	
MERCURY	0.2	0.2	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
NICKEL	10	1	2.3		1.0	U	1.0	U	1.0	U	1.0	U
POTASSIUM	5000	1000	1000	U	1000	U	1000	U	1910		1000	U
SELENIUM	5	1	1.2	J	1.0	UJ	1.0	UJ	2.5	J	1.0	J
SILVER	10	3	3.0	UR	3.0	UR	3.0	UR	3.0	UR	3.0	UR
SODIUM	5000	1000	6810		6330		1220		7080		11100	
THALLIUM	10	1	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ	1.0	UJ
VANADIUM	50	10	24.8		10.0	U	10.0	U	35.5		10.0	U
ZINC	20	1	30.4		16.0		1.8		20.3		18.8	
CYANIDE	10	10	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
HEXAVALENT CHROMIUM	10	10	NA		NA		NA		NA		NA	

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FT-GW07-S FT-GW03-S FT-GW01-S FT-GW01-I FT-GW04-S
 A5131214 A5131215 A5133602 A5133603 A5133604

TAL METAL WATERS (UG/L)

ANALYTE	CRDL	IDL	FT-GW07-S	FT-GW03-S	FT-GW01-S	FT-GW01-I	FT-GW04-S
ALUMINUM	200	90	7520 J	11100 J	14900 J	90.0 UJ	10600 J
ANTIMONY	60	1	1.0 U	1.0 U	1.0 U	2.1	1.0 U
ARSENIC	10	1	3.3 J	3.5 J	3.2 J	1.0 UJ	4.0 J
BARIUM	200	10	88.1	71.9	138	10.7	130
BERYLLIUM	5	1	1.5 J	1.0 UJ	2.8 J	1.0 UJ	1.6 J
CADMIUM	5	1	1.0 UJ	1.0 UJ	1.1 J	1.0 UJ	1.0 UJ
CALCIUM	5000	100	2220	38200	12600	1970	7140
CHROMIUM	10	10	10.0 U	12.0	10.0 U	10.0 U	16.0
COBALT	50	1	5.2	5.9	31.8	1.0 U	11.2
COPPER	25	1	8.9	15.3	10.8	1.0 U	13.2
IRON	100	40	9230 J	12700 J	10200 J	134 J	10100 J
LEAD	3	2	8.0	12.0	8.0	2.0 U	10.0
MAGNESIUM	5000	100	1260	5210	2770	951	2110
MANGANESE	15	1	907	854	1010	14.8	682
MERCURY	0.2	0.2	0.20 U				
NICKEL	10	1	1.0 U	1.0 U	14.0	1.0 U	10.2
POTASSIUM	5000	1000	1000 U	2790	3940	1000 U	1730
SELENIUM	5	1	1.7 J	1.1 J	1.0 UJ	1.0 UJ	1.0 UJ
SILVER	10	3	3.0 UR				
SODIUM	5000	1000	5240	5010	6520	5160	4800
THALLIUM	10	1	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.6 J
VANADIUM	50	10	11.7	19.7	15.8	10.0 U	15.2
ZINC	20	1	27.4	39.9	131	67.9	30.8
CYANIDE	10	10	10.0 U				
HEXAVALENT CHROMIUM	10	10	NA	NA	NA	NA	NA

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FT-GW02-S FT-GW02-I FT-DU-01 FT-DU-02 FT-GW02-RB01
 A5133605 A5133606 A5133607 A5133608 A5133609

TAL METAL WATERS (UG/L)

ANALYTE	CRDL	IDL	FT-GW02-S A5133605	FT-GW02-I A5133606	FT-DU-01 A5133607	FT-DU-02 A5133608	FT-GW02-RB01 A5133609
ALUMINUM	200	90	1480 J	90.0 UJ	1520 J	90.0 UJ	90.0 UJ
ANTIMONY	60	1	1.0 U	1.2 U	1.0 U	1.0 U	1.0 U
ARSENIC	10	1	2.7 J	3.1 J	3.6 J	1.0 UJ	1.0 UJ
BARIUM	200	10	146	13.6	147	10.2	10.0 U
BERYLLIUM	5	1	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
CADMIUM	5	1	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
CALCIUM	5000	100	20400	4710	20600	4410	217
CHROMIUM	10	10	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
COBALT	50	1	1.4	1.0	1.5	1.0 U	1.0 U
COPPER	25	1	2.0	1.0 U	4.0	1.0 U	1.0 U
IRON	100	40	31400 J	220 J	30600 J	53.0 J	40.0 UJ
LEAD	3	2	8.0	2.0 U	9.0	2.0 U	2.0 U
MAGNESIUM	5000	100	3510	1990	3540	1910	100 U
MANGANESE	15	1	519	31.1	519	30.4	1.0 U
MERCURY	0.2	0.2	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
NICKEL	10	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
POTASSIUM	5000	1000	4360	1000 U	3640	1000 U	1000 U
SELENIUM	5	1	1.0 UJ	5.9 J	2.9 J	1.0 UJ	1.0 UJ
SILVER	10	3	3.0 UR	3.0 UR	3.0 UR	3.0 UR	3.0 UR
SODIUM	5000	1000	6230	4950	6260	5000	1340
THALLIUM	10	1	1.0 UJ	6.3 J	3.5 J	1.8 J	1.0 UJ
VANADIUM	50	10	17.0	10.0 U	17.0	10.0 U	10.0 U
ZINC	20	1	19.4	11.8	18.2	13.5	2.1
CYANIDE	10	10	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
HEXAVALENT CHROMIUM	10	10	NA	NA	NA	NA	NA

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FT-GW02-FB01 FT-GW02-FB02
 A5133610 A5133611

TAL METAL WATERS (UG/L)

ANALYTE	CRDL	IDL				
ALUMINUM	200	90	90.0	UJ	90.0	UJ
ANTIMONY	60	1	1.0	U	1.2	
ARSENIC	10	1	1.0	UJ	1.0	UJ
BARIUM	200	10	10.0	U	11.5	
BERYLLIUM	5	1	1.0	UJ	1.0	UJ
CADMIUM	5	1	1.0	UJ	1.0	UJ
CALCIUM	5000	100	1290		17500	
CHROMIUM	10	10	10.0	U	10.0	U
COBALT	50	1	1.0	U	1.0	U
COPPER	25	1	1.0	U	1.0	U
IRON	100	40	40.0	UJ	211	J
LEAD	3	2	2.0	U	2.0	U
MAGNESIUM	5000	100	100	U	7380	
MANGANESE	15	1	1.0	U	5.1	
MERCURY	0.2	0.2	0.20	U	0.20	U
NICKEL	10	1	1.0	U	1.0	U
POTASSIUM	5000	1000	1000	U	1000	U
SELENIUM	5	1	1.0	UJ	2.8	J
SILVER	10	3	3.0	UR	3.0	UR
SODIUM	5000	1000	1350		7930	
THALLIUM	10	1	1.9	J	1.5	J
VANADIUM	50	10	10.0	U	10.0	U
ZINC	20	1	4.1		16.2	
CYANIDE	10	10	10.0	U	10.0	U
HEXAVALENT CHROMIUM	10	10	10.0	U	10.0	U

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
RECRA ENVIRONMENTAL, INC.

CLIENT ID:
LABORATORY ID:

FD-GW01-S A5131202	FD-GW01-I A5131203	FD-GW04-S A5131204	FD-GW04-I A5131205	FD-GW05-S A5131206
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TAL METAL WATERS (UG/L)

ANALYTE	CRDL	IDL						
LEAD	3	2	9.0	2.0 U	14.0	2.0 U	6.0	

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
RECRA ENVIRONMENTAL, INC.

CLIENT ID:
LABORATORY ID:

FD-GW06-S
A5131207

FD-DU-01
A5131208

TAL METAL WATERS (UG/L)

ANALYTE	CRDL	IDL		
LEAD	3	2	25.0	20.0

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

NP-GW04-TB NP-GW04 NP-GW02 NP-GW03 NP-GW01
 A5126101 A5126102 A5126103 A5126104 A5126105

TCL VOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL								
CHLOROMETHANE	10	1	10	U	10	U	10	U	10	U
BROMOMETHANE	10	1	10	U	10	U	10	U	10	U
VINYL CHLORIDE	10	2	10	U	10	U	10	U	10	U
CHLOROETHANE	10	2	10	U	10	U	10	U	10	U
METHYLENE CHLORIDE	10	8	10	U	10	U	10	U	10	U
ACETONE	10	9	10	UJ	10	UJ	10	UJ	10	UJ
CARBON DISULFIDE	10	1	10	U	10	U	10	U	10	U
1,1-DICHLOROETHENE	10	2	10	U	10	U	10	U	10	U
1,1-DICHLOROETHANE	10	2	10	U	10	U	10	U	10	U
1,2-DICHLOROETHENE (TOTAL)	10	2	10	U	10	U	10	U	10	U
CHLOROFORM	10	1	10	U	0.8	J	10	U	10	U
1,2-DICHLOROETHANE	10	2	10	U	10	U	10	U	10	U
2-BUTANONE	10	5	10	UJ	10	UJ	10	UJ	10	UJ
1,1,1-TRICHLOROETHANE	10	2	10	U	10	U	10	U	10	U
CARBON TETRACHLORIDE	10	3	10	U	10	U	10	U	10	U
BROMODICHLOROMETHANE	10	1	10	U	10	U	10	U	10	U
1,2-DICHLOROPROPANE	10	1	10	U	10	U	10	U	10	U
CIS-1,3-DICHLOROPROPENE	10	1	10	U	10	U	10	U	10	U
TRICHLOROETHENE	10	2	10	U	10	U	10	U	10	U
DIBROMOCHLOROMETHANE	10	1	10	U	10	U	10	U	10	U
1,1,2-TRICHLOROETHANE	10	1	10	U	10	U	10	U	10	U
BENZENE	10	1	10	U	10	U	10	U	10	U
TRANS-1,3-DICHLOROPROPENE	10	2	10	U	10	U	10	U	10	U
BROMOFORM	10	1	10	U	10	U	10	U	10	U
4-METHYL-2-PENTANONE	10	6	10	UJ	10	UJ	10	UJ	10	UJ
2-HEXANONE	10	4	10	UJ	10	UJ	10	UJ	10	UJ
TETRACHLOROETHENE	10	2	10	U	10	U	10	U	10	U
TOLUENE	10	1	10	U	10	U	10	U	10	U
1,1,2,2-TETRACHLOROETHANE	10	2	10	U	10	U	10	U	10	U
CHLOROBENZENE	10	0.9	10	U	10	U	10	U	10	U
ETHYL BENZENE	10	1	10	U	10	U	10	U	10	U
STYRENE	10	1	10	U	10	U	10	U	10	U
TOTAL XYLENES	10	0.5	10	U	10	U	10	U	10	U

DILUTION FACTOR: 1.0 1.0 1.0 1.0 1.0

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FC-GW01-S A5128003 FC-GW04-S A5128004 FC-GW04-I A5128005 FC-GW05-S A5128006 FC-GW05-I A5128007

TCL VOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL	FC-GW01-S A5128003	FC-GW04-S A5128004	FC-GW04-I A5128005	FC-GW05-S A5128006	FC-GW05-I A5128007
CHLOROMETHANE	10	1	10 U				
BROMOMETHANE	10	1	10 UJ				
VINYL CHLORIDE	10	2	10 U				
CHLOROETHANE	10	2	10 U	26 U	10 U	10 U	10 U
METHYLENE CHLORIDE	10	8	10 U				
ACETONE	10	9	10 UJ				
CARBON DISULFIDE	10	1	10 U				
1,1-DICHLOROETHENE	10	2	10 U				
1,1-DICHLOROETHANE	10	2	10 U	26 U	10 U	10 U	10 U
1,2-DICHLOROETHENE (TOTAL)	10	2	10 U				
CHLOROFORM	10	1	10 U				
1,2-DICHLOROETHANE	10	2	10 U	0.6 J	10 U	10 U	10 U
2-BUTANONE	10	5	10 U				
1,1,1-TRICHLOROETHANE	10	2	10 U				
CARBON TETRACHLORIDE	10	3	10 U				
BROMODICHLOROMETHANE	10	1	10 U				
1,2-DICHLOROPROPANE	10	1	10 U				
CIS-1,3-DICHLOROPROPENE	10	1	10 U				
TRICHLOROETHENE	10	2	10 U				
DIBROMOCHLOROMETHANE	10	1	10 U				
1,1,2-TRICHLOROETHANE	10	1	10 U				
BENZENE	10	1	10 U				
TRANS-1,3-DICHLOROPROPENE	10	2	10 U				
BROMOFORM	10	1	10 U				
4-METHYL-2-PENTANONE	10	6	10 U				
2-HEXANONE	10	4	10 U				
TETRACHLOROETHENE	10	2	10 U				
TOLUENE	10	1	10 U				
1,1,2,2-TETRACHLOROETHANE	10	2	10 U				
CHLOROBENZENE	10	0.9	10 U				
ETHYL BENZENE	10	1	10 U				
STYRENE	10	1	10 U				
TOTALXYLENES	10	0.5	10 U				
DILUTION FACTOR:			1.0	1.0	1.0	1.0	1.0

* RESULT FROM DILUTION ANALYSIS

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FC-GW03-S FC-GW02-S FC-GW02-I FD-GW02-S
 A5128008 A5128010 A5128011 A5128012

TCL VOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL	FC-GW03-S	FC-GW02-S	FC-GW02-I	FD-GW02-S
CHLOROMETHANE	10	1	10 U	10 U	10 U	10 U
BROMOMETHANE	10	1	10 UJ	10 UJ	10 U	10 U
VINYL CHLORIDE	10	2	10 U	10 U	10 U	10 U
CHLOROETHANE	10	2	2 J	*360 J	10 U	10 U
METHYLENE CHLORIDE	10	8	10 U	10 U	10 U	10 U
ACETONE	10	9	10 UJ	10 UJ	10 U	10 U
CARBON DISULFIDE	10	1	10 U	10 U	10 U	10 U
1,1-DICHLOROETHENE	10	2	10 U	110 J	10 U	10 U
1,1-DICHLOROETHANE	10	2	1 J	*4800	10 U	10 U
1,2-DICHLOROETHENE (TOTAL)	10	2	10 U	10 U	10 U	10 U
CHLOROFORM	10	1	10 U	10 U	10 U	10 U
1,2-DICHLOROETHANE	10	2	10 U	10 U	0.5 J	0.6 J
2-BUTANONE	10	5	10 U	10 U	10 U	10 U
1,1,1-TRICHLOROETHANE	10	2	10 U	*12000	10 U	10 U
CARBON TETRACHLORIDE	10	3	10 U	10 U	10 U	10 U
BROMODICHLOROMETHANE	10	1	10 U	10 U	10 U	10 U
1,2-DICHLOROPROPANE	10	1	10 U	10 U	10 U	10 U
CIS-1,3-DICHLOROPROPENE	10	1	10 U	10 U	10 U	10 U
TRICHLOROETHENE	10	2	10 U	7 J	10 U	10 U
DIBROMOCHLOROMETHANE	10	1	10 U	10 U	10 U	10 U
1,1,2-TRICHLOROETHANE	10	1	10 U	10 U	10 U	10 U
BENZENE	10	1	10 U	6 J	10 U	10 U
TRANS-1,3-DICHLOROPROPENE	10	2	10 U	10 U	10 U	10 U
BROMOFORM	10	1	10 U	10 U	10 U	10 U
4-METHYL-2-PENTANONE	10	6	10 U	10 U	10 U	10 U
2-HEXANONE	10	4	10 U	10 U	10 U	10 U
TETRACHLOROETHENE	10	2	10 U	0.6 J	10 U	10 U
TOLUENE	10	1	10 U	190 J	10 U	10 U
1,1,2,2-TETRACHLOROETHANE	10	2	10 U	10 U	10 U	10 U
CHLOROBENZENE	10	0.9	10 U	10 U	10 U	10 U
ETHYL BENZENE	10	1	15	88 J	10 U	10 U
STYRENE	10	1	10 U	10 U	10 U	10 U
TOTAL XYLENES	10	0.5	120	*690 J	10 U	10 U
DILUTION FACTOR:			1.0	1.0	1.0	1.0

* RESULT FROM DILUTION ANALYSIS

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FD-GW02-1
 A5128013

FD-GW03-S
 A5128014

FD-GW03-1
 A5128015

FC-DU-01
 A5128016

TCL VOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL	FD-GW02-1 A5128013	FD-GW03-S A5128014	FD-GW03-1 A5128015	FC-DU-01 A5128016
CHLOROMETHANE	10	1	10 U	10 U	10 U	250 U
BROMOMETHANE	10	1	10 U	10 U	10 U	250 U
VINYL CHLORIDE	10	2	10 U	10 U	10 U	250 U
CHLOROETHANE	10	2	10 U	10 U	10 U	430 U
METHYLENE CHLORIDE	10	8	10 U	10 U	10 U	250 U
ACETONE	10	9	10 U	10 U	10 U	250 U
CARBON DISULFIDE	10	1	10 U	10 U	10 U	250 U
1,1-DICHLOROETHENE	10	2	10 U	10 U	10 U	88 J
1,1-DICHLOROETHANE	10	2	2 J	10 U	2 J	*4800
1,2-DICHLOROETHENE (TOTAL)	10	2	10 U	10 U	10 U	250 U
CHLOROFORM	10	1	0.3 J	10 U	10 U	250 U
1,2-DICHLOROETHANE	10	2	0.6 J	10 U	10 U	250 U
2-BUTANONE	10	5	10 U	10 U	10 U	250 U
1,1,1-TRICHLOROETHANE	10	2	0.7 J	10 U	10 U	*11000
CARBON TETRACHLORIDE	10	3	10 U	10 U	10 U	250 U
BROMODICHLOROMETHANE	10	1	10 U	10 U	10 U	250 U
1,2-DICHLOROPROPANE	10	1	10 U	10 U	10 U	250 U
CIS-1,3-DICHLOROPROPENE	10	1	10 U	10 U	10 U	250 U
TRICHLOROETHENE	10	2	10 U	10 U	10 U	250 U
DIBROMOCHLOROMETHANE	10	1	10 U	10 U	10 U	250 U
1,1,2-TRICHLOROETHANE	10	1	10 U	10 U	10 U	250 U
BENZENE	10	1	10 U	10 U	10 U	250 U
TRANS-1,3-DICHLOROPROPENE	10	2	10 U	10 U	10 U	250 U
BROMOFORM	10	1	10 U	10 U	10 U	250 U
4-METHYL-2-PENTANONE	10	6	10 U	10 U	10 U	250 U
2-HEXANONE	10	4	10 U	10 U	10 U	250 U
TETRACHLOROETHENE	10	2	10 U	10 U	10 U	250 U
TOLUENE	10	1	10 U	10 U	10 U	220 J
1,1,2,2-TETRACHLOROETHANE	10	2	10 U	10 U	10 U	250 U
CHLOROBENZENE	10	0.9	10 U	10 U	10 U	250 U
ETHYL BENZENE	10	1	10 U	10 U	10 U	92 J
STYRENE	10	1	10 U	10 U	10 U	250 U
TOTAL XYLENES	10	0.5	10 U	10 U	10 U	780 U

DILUTION FACTOR: 1.0 1.0 1.0 25.0

* RESULT FROM DILUTION ANALYSIS

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID: FC-GW04-I FC-GW05-S FC-GW05-I FC-GW03-S FC-GW02-S
 LABORATORY ID: A5128005 A5128006 A5128007 A5128008 A5128010

TCL SEMIVOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL	FC-GW04-I A5128005	FC-GW05-S A5128006	FC-GW05-I A5128007	FC-GW03-S A5128008	FC-GW02-S A5128010
PHENOL	10	2	10 U				
BIS(2-CHLOROETHYL) ETHER	10	2	10 U				
2-CHLOROPHENOL	10	1	10 U				
1,3-DICHLOROBENZENE	10	1	10 U				
1,4-DICHLOROBENZENE	10	1	10 U				
1,2-DICHLOROBENZENE	10	2	10 U	10 U	10 U	10 U	5 J
2-METHYLPHENOL	10	2	10 U				
2,2'-OXYBIS(1-CHLOROPROPANE)	10	1	10 UJ				
4-METHYLPHENOL	10	1	10 U				
N-NITROSO-DI-N-PROPYLAMINE	10	1	10 U				
HEXACHLOROETHANE	10	0.8	10 U				
NITROBENZENE	10	2	10 U				
ISOPHORONE	10	1	10 U				
2-NITROPHENOL	10	2	10 U				
2,4-DIMETHYLPHENOL	10	2	10 U				
BIS(2-CHLOROETHOXY) METHANE	10	1	10 U				
2,4-DICHLOROPHENOL	10	0.8	10 U				
1,2,4-TRICHLOROBENZENE	10	0.8	10 U				
NAPHTHALENE	10	1	10 U	10 U	10 U	5 J	70 U
4-CHLOROANILINE	10	1	10 U				
HEXACHLOROBUTADIENE	10	1	10 U				
4-CHLORO-3-METHYLPHENOL	10	1	10 U				
2-METHYLNAPHTHALENE	10	1	10 U	10 U	10 U	9 J	50 U
HEXACHLOROCYCLOPENTADIENE	10	2	10 U				
2,4,6-TRICHLOROPHENOL	10	3	10 U				
2,4,5-TRICHLOROPHENOL	25	3	25 U				
2-CHLORONAPHTHALENE	10	2	10 U				
2-NITROANILINE	25	2	25 U				
DIMETHYL PHTHALATE	10	1	10 U				
ACENAPHTHYLENE	10	1	10 U				
2,6-DINITROTOLUENE	10	2	10 U				
3-NITROANILINE	25	2	25 U				
ACENAPHTHENE	10	1	10 U				

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FC-GW04-I A5128005 FC-GW05-S A5128006 FC-GW05-I A5128007 FC-GW03-S A5128008 FC-GW02-S A5128010

TCL SEMIVOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL	FC-GW04-I A5128005	FC-GW05-S A5128006	FC-GW05-I A5128007	FC-GW03-S A5128008	FC-GW02-S A5128010
2,4-DINITROPHENOL	25	2	25 U				
4-NITROPHENOL	25	3	25 UJ				
DIBENZOFURAN	10	2	10 U				
2,4-DINITROTOLUENE	10	1	10 U				
DIETHYL PHTHALATE	10	2	10 U				
4-CHLOROPHENYL PHENYL ETHER	10	1	10 U				
FLUORENE	10	2	10 U				
4-NITROANILINE	25	3	25 U				
4,6-DINITRO-2-METHYLPHENOL	25	2	25 U				
N-NITROSODIPHENYLAMINE	10	1	10 U				
4-BROMOPHENYL PHENYL ETHER	10	2	10 U				
HEXACHLOROBENZENE	10	2	10 U				
PENTACHLOROPHENOL	25	4	25 UJ				
PHENANTHRENE	10	1	10 U				
ANTHRACENE	10	2	10 U				
CARBAZOLE	10	2	10 U				
DI-N-BUTYL PHTHALATE	10	2	10 U				
FLUORANTHENE	10	2	10 U				
PYRENE	10	2	10 U				
BUTYLBENZYL PHTHALATE	10	2	10 U				
3,3'-DICHLOROBENZIDINE	10	2	10 U				
BENZO(A)ANTHRACENE	10	2	10 U				
CHRYSENE	10	2	10 U				
BIS(2-ETHYLHEXYL) PHTHALATE	10	2	10 U				
DI-N-OCTYL PHTHALATE	10	2	10 U				
BENZO(B)FLUORANTHENE	10	3	10 U				
BENZO(K)FLUORANTHENE	10	1	10 U				
BENZO(A)PYRENE	10	2	10 U				
INDENO(1,2,3-CD)PYRENE	10	3	10 U				
DIBENZO(A,H)ANTHRACENE	10	2	10 U				
BENZO(G,H,I)PERYLENE	10	3	10 U				

DILUTION FACTOR: 1.0 1.0 1.0 1.0 1.0

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FC-GW02-1
 A5128011

FD-GW02-S
 A5128012

FD-GW02-I
 A5128013

FD-GW03-S
 A5128014

FD-GW03-I
 A5128015

TCL SEMIVOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL	FC-GW02-1 A5128011	FD-GW02-S A5128012	FD-GW02-I A5128013	FD-GW03-S A5128014	FD-GW03-I A5128015
PHENOL	10	2	10 U				
BIS(2-CHLOROETHYL) ETHER	10	2	10 U				
2-CHLOROPHENOL	10	1	10 U				
1,3-DICHLOROBENZENE	10	1	10 U				
1,4-DICHLOROBENZENE	10	1	10 U				
1,2-DICHLOROBENZENE	10	2	10 U				
2-METHYLPHENOL	10	2	10 U				
2,2'-OXYBIS(1-CHLOROPROPANE)	10	1	10 U				
4-METHYLPHENOL	10	1	10 U				
N-NITROSO-DI-N-PROPYLAMINE	10	1	10 U				
HEXACHLOROETHANE	10	0.8	10 U				
NITROBENZENE	10	2	10 U				
ISOPHORONE	10	1	10 U				
2-NITROPHENOL	10	2	10 U				
2,4-DIMETHYLPHENOL	10	2	10 U				
BIS(2-CHLOROETHOXY) METHANE	10	1	10 U				
2,4-DICHLOROPHENOL	10	0.8	10 U				
1,2,4-TRICHLOROBENZENE	10	0.8	10 U				
NAPHTHALENE	10	1	10 U	10 U	10 U	10 U	0.1 J
4-CHLOROANILINE	10	1	10 U				
HEXACHLOROBUTADIENE	10	1	10 U				
4-CHLORO-3-METHYLPHENOL	10	1	10 U				
2-METHYLNAPHTHALENE	10	1	10 U				
HEXACHLOROCYCLOPENTADIENE	10	2	10 U				
2,4,6-TRICHLOROPHENOL	10	3	10 U				
2,4,5-TRICHLOROPHENOL	25	3	25 U				
2-CHLORONAPHTHALENE	10	2	10 U				
2-NITROANILINE	25	2	25 U				
DIMETHYL PHTHALATE	10	1	10 U				
ACENAPHTHYLENE	10	1	10 U				
2,6-DINITROTOLUENE	10	2	10 U				
3-NITROANILINE	25	2	25 U				
ACENAPHTHENE	10	1	10 U				

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FC-GW02-I
 A5128011

FD-GW02-S
 A5128012

FD-GW02-I
 A5128013

FD-GW03-S
 A5128014

FD-GW03-I
 A5128015

TCL SEMIVOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL	FC-GW02-I A5128011	FD-GW02-S A5128012	FD-GW02-I A5128013	FD-GW03-S A5128014	FD-GW03-I A5128015
2,4-DINITROPHENOL	25	2	25 U				
4-NITROPHENOL	25	3	25 UJ				
DIBENZOFURAN	10	2	10 U				
2,4-DINITROTOLUENE	10	1	10 U				
DIETHYL PHTHALATE	10	2	10 U	10 U	0.3 J	10 U	10 U
4-CHLOROPHENYL PHENYL ETHER	10	1	10 U				
FLUORENE	10	2	10 U				
4-NITROANILINE	25	3	25 U				
4,6-DINITRO-2-METHYLPHENOL	25	2	25 U				
N-NITROSODIPHENYLAMINE	10	1	10 U				
4-BROMOPHENYL PHENYL ETHER	10	2	10 U				
HEXACHLOROENZENE	10	2	10 U				
PENTACHLOROPHENOL	25	4	25 UJ				
PHENANTHRENE	10	1	10 U				
ANTHRACENE	10	2	10 U				
CARBAZOLE	10	2	10 U				
DI-N-BUTYL PHTHALATE	10	2	10 U				
FLUORANTHENE	10	2	10 U				
PYRENE	10	2	10 U				
BUTYLBENZYL PHTHALATE	10	2	10 U				
3,3'-DICHLOROBENZIDINE	10	2	10 U				
BENZO(A)ANTHRACENE	10	2	10 U				
CHRYSENE	10	2	10 U				
BIS(2-ETHYLHEXYL) PHTHALATE	10	2	10 U				
DI-N-OCTYL PHTHALATE	10	2	10 U				
BENZO(B)FLUORANTHENE	10	3	10 U				
BENZO(K)FLUORANTHENE	10	1	10 U				
BENZO(A)PYRENE	10	2	10 U				
INDENO(1,2,3-CD)PYRENE	10	3	10 U				
DIBENZO(A,H)ANTHRACENE	10	2	10 U				
BENZO(G,H,I)PERYLENE	10	3	10 U				

DILUTION FACTOR: 1.0 1.0 1.0 1.0 1.0

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
RECRA ENVIRONMENTAL, INC.

CLIENT ID:
LABORATORY ID:

FC-DU-01
A5128016

TCL SEMIVOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL		
PHENOL	10	2	10	U
BIS(2-CHLOROETHYL) ETHER	10	2	10	U
2-CHLOROPHENOL	10	1	10	U
1,3-DICHLOROBENZENE	10	1	10	U
1,4-DICHLOROBENZENE	10	1	10	U
1,2-DICHLOROBENZENE	10	2	6	J
2-METHYLPHENOL	10	2	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	1	10	U
4-METHYLPHENOL	10	1	27	
N-NITROSO-DI-N-PROPYLAMINE	10	1	10	U
HEXACHLOROETHANE	10	0.8	10	U
NITROBENZENE	10	2	10	U
ISOPHORONE	10	1	10	U
2-NITROPHENOL	10	2	10	U
2,4-DIMETHYLPHENOL	10	2	10	U
BIS(2-CHLOROETHOXY) METHANE	10	1	10	U
2,4-DICHLOROPHENOL	10	0.8	10	U
1,2,4-TRICHLOROBENZENE	10	0.8	10	U
NAPHTHALENE	10	1	74	
4-CHLOROANILINE	10	1	10	U
HEXACHLOROBUTADIENE	10	1	10	U
4-CHLORO-3-METHYLPHENOL	10	1	10	U
2-METHYLNAPHTHALENE	10	1	57	
HEXACHLOROCYCLOPENTADIENE	10	2	10	U
2,4,6-TRICHLOROPHENOL	10	3	10	U
2,4,5-TRICHLOROPHENOL	25	3	25	U
2-CHLORONAPHTHALENE	10	2	10	U
2-NITROANILINE	25	2	25	U
DIMETHYL PHTHALATE	10	1	10	U
ACENAPHTHYLENE	10	1	10	U
2,6-DINITROTOLUENE	10	2	10	U
3-NITROANILINE	25	2	25	U
ACENAPHTHENE	10	1	10	U

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
RECRA ENVIRONMENTAL, INC.

CLIENT ID:
LABORATORY ID:

FC-DU-01
A5128016

TCL SEMIVOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL		
2,4-DINITROPHENOL	25	2	25	U
4-NITROPHENOL	25	3	25	UJ
DIBENZOFURAN	10	2	1	J
2,4-DINITROTOLUENE	10	1	10	U
DIETHYL PHTHALATE	10	2	10	U
4-CHLOROPHENYL PHENYL ETHER	10	1	10	U
FLUORENE	10	2	10	U
4-NITROANILINE	25	3	25	U
4,6-DINITRO-2-METHYLPHENOL	25	2	25	U
N-NITROSODIPHENYLAMINE	10	1	10	U
4-BROMOPHENYL PHENYL ETHER	10	2	10	U
HEXACHLOROBENZENE	10	2	10	U
PENTACHLOROPHENOL	25	4	25	U
PHENANTHRENE	10	1	10	U
ANTHRACENE	10	2	10	U
CARBAZOLE	10	2	10	U
DI-N-BUTYL PHTHALATE	10	2	10	UJ
FLUORANTHENE	10	2	10	U
PYRENE	10	2	10	U
BUTYLBENZYL PHTHALATE	10	2	10	U
3,3'-DICHLOROBENZIDINE	10	2	10	U
BENZO(A)ANTHRACENE	10	2	10	U
CHRYSENE	10	2	10	U
BIS(2-ETHYLHEXYL) PHTHALATE	10	2	10	UJ
DI-N-OCTYL PHTHALATE	10	2	10	U
BENZO(B)FLUORANTHENE	10	3	10	U
BENZO(K)FLUORANTHENE	10	1	10	U
BENZO(A)PYRENE	10	2	10	U
INDENO(1,2,3-CD)PYRENE	10	3	10	U
DIBENZO(A,H)ANTHRACENE	10	2	10	U
BENZO(G,H,I)PERYLENE	10	3	10	U

DILUTION FACTOR: 1.0

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

NP-GW04
 A5126102

NP-GW02
 A5126103

NP-GW03
 A5126104

NP-GW01
 A5126105

NP-GW01-RB01
 A5126106

TCL SEMIVOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL	NP-GW04 A5126102	NP-GW02 A5126103	NP-GW03 A5126104	NP-GW01 A5126105	NP-GW01-RB01 A5126106
PHENOL	10	2	10 U				
BIS(2-CHLOROETHYL) ETHER	10	2	10 U				
2-CHLOROPHENOL	10	1	10 U				
1,3-DICHLOROBENZENE	10	1	10 U				
1,4-DICHLOROBENZENE	10	1	10 U				
1,2-DICHLOROBENZENE	10	2	10 U				
2-METHYLPHENOL	10	2	10 U				
2,2'-OXYBIS(1-CHLOROPROPANE)	10	1	10 U				
4-METHYLPHENOL	10	1	10 U				
N-NITROSO-DI-N-PROPYLAMINE	10	1	10 U				
HEXACHLOROETHANE	10	0.8	10 U				
NITROBENZENE	10	2	10 U				
ISOPHORONE	10	1	10 U				
2-NITROPHENOL	10	2	10 U				
2,4-DIMETHYLPHENOL	10	2	10 U				
BIS(2-CHLOROETHOXY) METHANE	10	1	10 U				
2,4-DICHLOROPHENOL	10	0.8	10 U				
1,2,4-TRICHLOROBENZENE	10	0.8	10 U				
NAPHTHALENE	10	1	10 U				
4-CHLOROANILINE	10	1	10 U				
HEXACHLOROBUTADIENE	10	1	10 U				
4-CHLORO-3-METHYLPHENOL	10	1	10 U				
2-METHYLNAPHTHALENE	10	1	10 U				
HEXACHLOROCYCLOPENTADIENE	10	2	10 U				
2,4,6-TRICHLOROPHENOL	10	3	10 U				
2,4,5-TRICHLOROPHENOL	25	3	25 U				
2-CHLORONAPHTHALENE	10	2	10 U				
2-NITROANILINE	25	2	25 U				
DIMETHYL PHTHALATE	10	1	10 U				
ACENAPHTHYLENE	10	1	10 U				
2,6-DINITROTOLUENE	10	2	10 U				
3-NITROANILINE	25	2	25 U				
ACENAPHTHENE	10	1	10 U				

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

NP-GW04
 A5126102

NP-GW02
 A5126103

NP-GW03
 A5126104

NP-GW01
 A5126105

NP-GW01-RB01
 A5126106

TCL SEMIVOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL	NP-GW04 A5126102		NP-GW02 A5126103		NP-GW03 A5126104		NP-GW01 A5126105		NP-GW01-RB01 A5126106	
2,4-DINITROPHENOL	25	2	25	U	25	U	25	U	25	U	25	U
4-NITROPHENOL	25	3	25	U	25	U	25	U	25	U	25	U
DIBENZOFURAN	10	2	10	U	10	U	10	U	10	U	10	U
2,4-DINITROTOLUENE	10	1	10	U	10	U	10	U	10	U	10	U
DIETHYL PHTHALATE	10	2	10	U	10	U	10	U	10	U	10	U
4-CHLOROPHENYL PHENYL ETHER	10	1	10	U	10	U	10	U	10	U	10	U
FLUORENE	10	2	10	U	10	U	10	U	10	U	10	U
4-NITROANILINE	25	3	25	U	25	U	25	U	25	U	25	U
4,6-DINITRO-2-METHYLPHENOL	25	2	25	U	25	U	25	U	25	U	25	U
N-NITROSODIPHENYLAMINE	10	1	10	U	10	U	10	U	10	U	10	U
4-BROMOPHENYL PHENYL ETHER	10	2	10	U	10	U	10	U	10	U	10	U
HEXACHLOROBENZENE	10	2	10	U	10	U	10	U	10	U	10	U
PENTACHLOROPHENOL	25	4	25	U	25	U	25	U	25	U	25	U
PHENANTHRENE	10	1	10	U	10	U	10	U	10	U	10	U
ANTHRACENE	10	2	10	U	10	U	10	U	10	U	10	U
CARBAZOLE	10	2	10	U	10	U	10	U	10	U	10	U
DI-N-BUTYL PHTHALATE	10	2	10	U	10	U	10	U	10	U	0.4	J
FLUORANTHENE	10	2	10	U	10	U	10	U	10	U	10	U
PYRENE	10	2	10	U	10	U	10	U	10	U	10	U
BUTYLBENZYL PHTHALATE	10	2	10	U	10	U	10	U	10	U	10	U
3,3'-DICHLOROBENZIDINE	10	2	10	U	10	U	10	U	10	U	10	U
BENZO(A)ANTHRACENE	10	2	10	U	10	U	10	U	10	U	10	U
CHRYSENE	10	2	10	U	10	U	10	U	10	U	10	U
BIS(2-ETHYLHEXYL) PHTHALATE	10	2	10	U	10	U	10	U	10	U	0.1	J
DI-N-OCTYL PHTHALATE	10	2	10	U	10	U	10	U	10	U	10	U
BENZO(B)FLUORANTHENE	10	3	10	U	10	U	10	U	10	U	10	U
BENZO(K)FLUORANTHENE	10	1	10	U	10	U	10	U	10	U	10	U
BENZO(A)PYRENE	10	2	10	U	10	U	10	U	10	U	10	U
INDENO(1,2,3-CD)PYRENE	10	3	10	U	10	U	10	U	10	U	10	U
DIBENZO(A,H)ANTHRACENE	10	2	10	U	10	U	10	U	10	U	10	U
BENZO(G,H,I)PERYLENE	10	3	10	U	10	U	10	U	10	U	10	U
DILUTION FACTOR:			1.0		1.0		1.0		1.0		1.0	

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

NP-DU-01 FC-GW06-S FC-GW01-I FC-GW01-S FC-GW04-S
 A5126107 A5126108 A5128002 A5128003 A5128004

TCL SEMIVOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL	NP-DU-01	FC-GW06-S	FC-GW01-I	FC-GW01-S	FC-GW04-S
PHENOL	10	2	10 U	10 U	10 U	10 U	10 U
BIS(2-CHLOROETHYL) ETHER	10	2	10 U	10 U	10 U	10 U	10 U
2-CHLOROPHENOL	10	1	10 U	10 U	10 U	10 U	10 U
1,3-DICHLOROBENZENE	10	1	10 U	10 U	10 U	10 U	10 U
1,4-DICHLOROBENZENE	10	1	10 U	10 U	10 U	10 U	10 U
1,2-DICHLOROBENZENE	10	2	10 U	10 U	10 U	10 U	10 U
2-METHYLPHENOL	10	2	10 U	10 U	10 U	10 U	10 U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	1	10 U	10 U	10 U	10 U	10 U
4-METHYLPHENOL	10	1	10 U	10 U	10 U	10 U	10 U
N-NITROSO-DI-N-PROPYLAMINE	10	1	10 U	10 U	10 U	10 U	10 U
HEXACHLOROETHANE	10	0.8	10 U	10 U	10 U	10 U	10 U
NITROBENZENE	10	2	10 U	10 U	10 U	10 U	10 U
ISOPHORONE	10	1	10 U	10 U	10 U	10 U	10 U
2-NITROPHENOL	10	2	10 U	10 U	10 U	10 U	10 U
2,4-DIMETHYLPHENOL	10	2	10 U	10 U	10 U	10 U	10 U
BIS(2-CHLOROETHOXY) METHANE	10	1	10 U	10 U	10 U	10 U	10 U
2,4-DICHLOROPHENOL	10	0.8	10 U	10 U	10 U	10 U	10 U
1,2,4-TRICHLOROBENZENE	10	0.8	10 U	10 U	10 U	10 U	10 U
NAPHTHALENE	10	1	10 U	10 U	10 U	10 U	10 U
4-CHLOROANILINE	10	1	10 U	10 U	10 U	10 U	10 U
HEXACHLOROBUTADIENE	10	1	10 U	10 U	10 U	10 U	10 U
4-CHLORO-3-METHYLPHENOL	10	1	10 U	10 U	10 U	10 U	10 U
2-METHYLNAPHTHALENE	10	1	10 U	10 U	10 U	10 U	10 U
HEXACHLOROCYCLOPENTADIENE	10	2	10 U	10 U	10 U	10 U	10 U
2,4,6-TRICHLOROPHENOL	10	3	10 U	10 U	10 U	10 U	10 U
2,4,5-TRICHLOROPHENOL	25	3	25 U	25 U	25 U	25 U	25 U
2-CHLORONAPHTHALENE	10	2	10 U	10 U	10 U	10 U	10 U
2-NITROANILINE	25	2	25 U	25 U	25 U	25 U	25 U
DIMETHYL PHTHALATE	10	1	10 U	10 U	10 U	10 U	10 U
ACENAPHTHYLENE	10	1	10 U	10 U	10 U	10 U	10 U
2,6-DINITROTOLUENE	10	2	10 U	10 U	10 U	10 U	10 U
3-NITROANILINE	25	2	25 U	25 U	25 U	25 U	25 U
ACENAPHTHENE	10	1	10 U	10 U	10 U	10 U	10 U

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

NP-DU-01
 A5126107

FC-GW06-S
 A5126108

FC-GW01-I
 A5128002

FC-GW01-S
 A5128003

FC-GW04-S
 A5128004

TCL SEMIVOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL								
2,4-DINITROPHENOL	25	2	25	U	25	U	25	U	25	U
4-NITROPHENOL	25	3	25	U	25	U	25	UJ	25	UJ
DIBENZOFURAN	10	2	10	U	10	U	10	U	10	U
2,4-DINITROTOLUENE	10	1	10	U	10	U	10	U	10	U
DIETHYL PHTHALATE	10	2	10	U	10	U	10	U	10	U
4-CHLOROPHENYL PHENYL ETHER	10	1	10	U	10	U	10	U	10	U
FLUORENE	10	2	10	U	10	U	10	U	10	U
4-NITROANILINE	25	3	25	U	25	U	25	U	25	U
4,6-DINITRO-2-METHYLPHENOL	25	2	25	U	25	U	25	U	25	U
N-NITROSODIPHENYLAMINE	10	1	10	U	10	U	10	U	10	U
4-BROMOPHENYL PHENYL ETHER	10	2	10	U	10	U	10	U	10	U
HEXACHLOROBENZENE	10	2	10	U	10	U	10	U	10	U
PENTACHLOROPHENOL	25	4	25	U	25	U	25	UJ	25	UJ
PHENANTHRENE	10	1	0.1	J	10	U	10	U	10	U
ANTHRACENE	10	2	10	U	10	U	10	U	10	U
CARBAZOLE	10	2	10	U	10	U	10	U	10	U
DI-N-BUTYL PHTHALATE	10	2	10	U	10	U	10	U	10	U
FLUORANTHENE	10	2	10	U	10	U	10	U	10	U
PYRENE	10	2	10	U	10	U	10	U	10	U
BUTYLBENZYL PHTHALATE	10	2	10	U	10	U	10	U	10	U
3,3'-DICHLOROBENZIDINE	10	2	10	U	10	U	10	U	10	U
BENZO(A)ANTHRACENE	10	2	10	U	10	U	10	U	10	U
CHRYSENE	10	2	10	U	10	U	10	U	10	U
BIS(2-ETHYLHEXYL) PHTHALATE	10	2	10	U	10	U	10	U	10	U
DI-N-OCTYL PHTHALATE	10	2	10	UJ	10	U	10	U	10	U
BENZO(B)FLUORANTHENE	10	3	10	UJ	10	U	10	U	10	U
BENZO(K)FLUORANTHENE	10	1	10	UJ	10	U	10	U	10	U
BENZO(A)PYRENE	10	2	10	UJ	10	U	10	U	10	U
INDENO(1,2,3-CD)PYRENE	10	3	10	UJ	10	U	10	U	10	U
DIBENZO(A,H)ANTHRACENE	10	2	10	UJ	10	U	10	U	10	U
BENZO(G,H,I)PERYLENE	10	3	10	UJ	10	U	10	U	10	U

DILUTION FACTOR:

1.0

1.0

1.0

1.0

1.0

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

NP-GW04
 A5126102

NP-GW02
 A5126103

NP-GW03
 A5126104

NP-GW01
 A5126105

NP-GW01-RB01
 A5126106

TCL PESTICIDE/PCB WATERS (UG/L)

ANALYTE	CRQL	MDL	NP-GW04		NP-GW02		NP-GW03		NP-GW01		NP-GW01-RB01	
			A5126102		A5126103		A5126104		A5126105		A5126106	
ALPHA-BHC	0.05	0.030	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ
BETA-BHC	0.05	0.023	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
DELTA-BHC	0.05	0.026	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
GAMMA-BHC (LINDANE)	0.05	0.026	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ
HEPTACHLOR	0.05	0.290	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
ALDRIN	0.05	0.032	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
HEPTACHLOR EPOXIDE	0.05	0.021	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
ENDOSULFAN I	0.05	0.027	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
DIELDRIN	0.1	0.056	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDE	0.1	0.052	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
ENDRIN	0.1	0.055	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
ENDOSULFAN II	0.1	0.042	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDD	0.1	0.057	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
ENDOSULFAN SULFATE	0.1	0.047	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDT	0.1	0.057	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
METHOXYCHLOR	0.5	0.380	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
ENDRIN KETONE	0.1	0.046	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
ENDRIN ALDEHYDE	0.1	0.460	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
ALPHA-CHLORDANE	0.05	0.023	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
GAMMA-CHLORDANE	0.05	0.022	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
TOXAPHENE	5	1.6	5	U	5	U	5	U	5	U	5	U
AROCLOR 1016	1	0.17	1	U	1	U	1	U	1	U	1	U
AROCLOR 1221	2	0.23	2	U	2	U	2	U	2	U	2	U
AROCLOR 1232	1	0.23	1	U	1	U	1	U	1	U	1	U
AROCLOR 1242	1	0.23	1	U	1	U	1	U	1	U	1	U
AROCLOR 1248	1	0.27	0.34	JN	0.66	J	2	U	1	U	1	U
AROCLOR 1254	1	0.25	1	U	1	U	1	U	1	U	1	U
AROCLOR 1260	1	0.34	0.13	J	0.14	JN	1	U	1	U	1	U
DILUTION FACTOR:			1.0		1.0		1.0		1.0		1.0	

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
RECRA ENVIRONMENTAL, INC.

CLIENT ID:
LABORATORY ID:

NP-DU-01
A5126107

TCL PESTICIDE/PCB WATERS (UG/L)

ANALYTE	CRQL	MDL		
ALPHA-BHC	0.05	0.030	0.05	UJ
BETA-BHC	0.05	0.023	0.05	U
DELTA-BHC	0.05	0.026	0.05	U
GAMMA-BHC (LINDANE)	0.05	0.026	0.05	UJ
HEPTACHLOR	0.05	0.290	0.05	U
ALDRIN	0.05	0.032	0.05	U
HEPTACHLOR EPOXIDE	0.05	0.021	0.05	U
ENDOSULFAN I	0.05	0.027	0.05	U
DIELDRIN	0.1	0.056	0.1	U
4,4'-DDE	0.1	0.052	0.1	U
ENDRIN	0.1	0.055	0.1	U
ENDOSULFAN II	0.1	0.042	0.1	U
4,4'-DDD	0.1	0.057	0.1	U
ENDOSULFAN SULFATE	0.1	0.047	0.1	U
4,4'-DDT	0.1	0.057	0.1	U
METHOXYCHLOR	0.5	0.380	0.5	U
ENDRIN KETONE	0.1	0.046	0.1	U
ENDRIN ALDEHYDE	0.1	0.460	0.1	U
ALPHA-CHLORDANE	0.05	0.023	0.05	U
GAMMA-CHLORDANE	0.05	0.022	0.05	U
TOXAPHENE	5	1.6	5	U
AROCLOR 1016	1	0.17	1	U
AROCLOR 1221	2	0.23	2	U
AROCLOR 1232	1	0.23	1	U
AROCLOR 1242	1	0.23	1	U
AROCLOR 1248	1	0.27	0.88	J
AROCLOR 1254	1	0.25	1	U
AROCLOR 1260	1	0.34	0.23	J

DILUTION FACTOR:

1.0

Lab Name: Recre Environmental Contract: 0138

Lab Code: RECNY Case No.: 5015 SAS No.: _____ SDG No.: GW01

Matrix: (soil/water) WATER Lab Sample ID: A5128008

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: K6855.MSO

Level: (low/med) LOW Date Samp/Recv: 03/07/95 03/08/95

% Moisture: not dec. _____ Date Analyzed: 03/10/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 10 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN ALKANE	5.33	27	J
2.	TRIMETHYL BENZENE ISOMER	19.78	16	J
3.	UNKNOWN BENZENE DERIVATIVE	20.40	23	J
4.	TRIMETHYL BENZENE ISOMER	20.53	130	J
5.	TRIMETHYL BENZENE ISOMER	20.65	85	J
6.	TRIMETHYL BENZENE ISOMER	21.22	180	J
7.	TRIMETHYL BENZENE ISOMER	21.87	60	J
8.	UNKNOWN	22.18	17	J
9.	TETRAMETHYL BENZENE ISOMER	22.27	16	J
10.	UNKNOWN PAH DERIVATIVE	23.05	10	J

4-21-95
JAA

FC-GW05-S

Lab Name: Recra Environmental Contract: 0138
 Lab Code: RECNX Case No.: 5015 SAS No.: _____ SDG No.: GW01
 Matrix: (soil/water) WATER Lab Sample ID: A5128006
 Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 21802X.MSO
 Level: (low/med) LOW Date Samp/Recv: 03/07/95 03/06
 ‡ Moisture: _____ decanted: (Y/N) N Date Extracted: 03/09/95
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 03/25/95
 Injection Volume: 2.00 (uL) Dilution Factor: 1.00
 GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 1CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	
1. 111-46-6	ETHANOL, 2-2'-OXYBIS	7.65	9	JN

FC-GW05-I

Lab Name: Recra EnvironmentalContract: 0138Lab Code: RECNVCase No.: 5015

SAS No.: _____

SDG No.: GW01Matrix: (soil/water) WATERLab Sample ID: A5128007Sample wt/vol: 1000.0 (g/mL) MLLab File ID: 21803X.MSOLevel: (low/med) LOWDate Samp/Recv: 03/07/95 03/08/95% Moisture: _____ decanted: (Y/N) NDate Extracted: 03/09/95Concentrated Extract Volume: 1000 (uL)Date Analyzed: 03/25/95Injection Volume: 2.00 (uL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: 7.0CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/LNumber TICs found: 20

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	CYCLOHEXENOL ISOMER	5.65	4	J
2. 930-68-7	2-CYCLOHEXEN-1-ONE	6.48	3	JN
3.	UNKNOWN ACID	18.55	8	J
4.	UNKNOWN ACID	21.40	2	J
5.	OXYGENATED COMPOUND	25.30	8	J
6.	UNKNOWN	26.30	3	J
7.	UNKNOWN	26.73	14	J
8.	UNKNOWN ALCOHOL	26.98	5	J
9.	UNKNOWN ALKANE	28.02	6	J
10.	UNKNOWN	28.60	20	J
11.	UNKNOWN	28.97	11	J
12.	UNKNOWN ALKANE	29.12	14	BJ
13.	UNKNOWN ALKANE	30.15	8	J
14.	UNKNOWN ALKANE	31.17	7	J
15.	UNKNOWN	31.53	24	J
16.	UNKNOWN	31.65	5	BJ
17.	UNKNOWN ALKANE	32.15	8	BJ
18.	UNKNOWN	32.98	3	J
19.	UNKNOWN	33.10	6	J
20.	UNKNOWN	34.22	28	J

4-21-95
JAI

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FD-GW06-S
 A5131207

FD-DU-01
 A5131208

FT-GW05-S
 A5131209

FT-GW05-I
 A5131210

FT-GW05-RB01
 A5131211

TCL SEMIVOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL	FD-GW06-S A5131207	FD-DU-01 A5131208	FT-GW05-S A5131209	FT-GW05-I A5131210	FT-GW05-RB01 A5131211
PHENOL	10	2		10 U	10 U	10 U	10 U
BIS(2-CHLOROETHYL) ETHER	10	2		10 U U	10 U U	10 U	10 U
2-CHLOROPHENOL	10	1		10 U U	10 U U	10 U U	10 U U
1,3-DICHLOROBENZENE	10	1		10 U U	10 U U	10 U U	10 U U
1,4-DICHLOROBENZENE	10	1		10 U U	10 U U	10 U U	10 U U
1,2-DICHLOROBENZENE	10	2		10 U U	10 U U	10 U U	10 U U
2-METHYLPHENOL	10	2		10 U U	10 U U	10 U U	10 U U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	1		10 U U	10 U U	0.6 J	10 U U
4-METHYLPHENOL	10	1		10 U U	10 U U	10 U U	10 U U
N-NITROSO-DI-N-PROPYLAMINE	10	1		10 U U	10 U U	10 U U	10 U U
HEXACHLOROETHANE	10	0.8		10 U U	10 U U	10 U U	10 U U
NITROBENZENE	10	2		10 U U	10 U U	10 U U	10 U U
ISOPHORONE	10	1		10 U U	10 U U	10 U U	10 U U
2-NITROPHENOL	10	2		10 U U	10 U U	10 U U	10 U U
2,4-DIMETHYLPHENOL	10	2		10 U U	10 U U	10 U U	10 U U
BIS(2-CHLOROETHOXY) METHANE	10	1		10 U U	10 U U	1 J	10 U U
2,4-DICHLOROPHENOL	10	0.8		10 U U	10 U U	10 U U	10 U U
1,2,4-TRICHLOROBENZENE	10	0.8		10 U U	10 U U	10 U U	10 U U
NAPHTHALENE	10	1		10 U	10 U	10 U U	10 U U
4-CHLOROANILINE	10	1	41	37	6	10 U U	10 U U
HEXACHLOROBUTADIENE	10	1	10	10 U	10 U U	10 U U	10 U U
4-CHLORO-3-METHYLPHENOL	10	1	10	10 U	10 U U	10 U U	10 U U
2-METHYLNAPHTHALENE	10	1	22	19	10 U U	10 U U	10 U U
HEXACHLOROCYCLOPENTADIENE	10	2	10	10 U	10 U U	10 U U	10 U U
2,4,6-TRICHLOROPHENOL	10	3	10	10 U U	10 U U	10 U U	10 U U
2,4,5-TRICHLOROPHENOL	25	3	25	25 U U	25 U U	25 U U	25 U U
2-CHLORONAPHTHALENE	10	2	10	10 U U	10 U U	25 U U	25 U U
2-NITROANILINE	25	2	25	25 U U	25 U U	25 U U	25 U U
DIMETHYL PHTHALATE	10	1	10	10 U U	10 U U	10 U U	10 U U
ACENAPHTHYLENE	10	1	10	10 U U	10 U U	10 U U	10 U U
2,6-DINITROTOLWENE	10	2	10	10 U U	10 U U	10 U U	10 U U
3-NITROANILINE	25	2	25	25 U U	25 U U	25 U U	25 U U
ACENAPHTHENE	10	1	10	10 U	10 U	25 U	25 U

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FD-GW06-S
 A5131207

FD-DU-01
 A5131208

FT-GW05-S
 A5131209

FT-GW05-1
 A5131210

FT-GW05-RB01
 A5131211

TCL SEMIVOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL										
2,4-DINITROPHENOL	25	2	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ
4-NITROPHENOL	25	3	25	U	25	U	25	U	25	U	25	U
DIBENZOFURAN	10	2	10	U	10	U	10	U	10	U	10	U
2,4-DINITROTOLUENE	10	1	10	U	10	U	10	U	10	U	10	U
DIETHYL PHTHALATE	10	2	10	U	10	U	10	U	10	U	10	U
4-CHLOROPHENYL PHENYL ETHER	10	1	10	U	10	U	10	U	10	U	10	U
FLUORENE	10	2	10	U	10	U	10	U	10	U	10	U
4-NITROANILINE	25	3	25	U	25	U	25	U	25	U	25	U
4,6-DINITRO-2-METHYLPHENOL	25	2	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ
N-NITROSODIPHENYLAMINE	10	1	10	U	10	U	10	U	10	U	10	U
4-BROMOPHENYL PHENYL ETHER	10	2	10	U	10	U	10	U	10	U	10	U
HEXACHLOROBENZENE	10	2	10	U	10	U	10	U	10	U	10	U
PENTACHLOROPHENOL	25	4	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ
PHENANTHRENE	10	1	10	U	10	U	10	U	10	U	10	U
ANTHRACENE	10	2	10	U	10	U	10	U	10	U	10	U
CARBAZOLE	10	2	10	U	10	U	10	U	10	U	10	U
DI-N-BUTYL PHTHALATE	10	2	10	U	10	U	10	U	10	U	10	U
FLUORANTHENE	10	2	10	U	10	U	10	U	10	U	10	U
PYRENE	10	2	10	U	10	U	10	U	10	U	10	U
BUTYLBENZYL PHTHALATE	10	2	10	U	10	U	10	U	10	U	10	U
3,3'-DICHLOROBENZIDINE	10	2	10	U	10	U	10	U	10	U	10	U
BENZO(A)ANTHRACENE	10	2	10	U	10	U	10	U	10	U	10	U
CHRYSENE	10	2	10	U	10	U	10	U	10	U	10	U
BIS(2-ETHYLHEXYL) PHTHALATE	10	2	0.5	J	0.3	J	10	U	10	U	10	U
DI-N-OCTYL PHTHALATE	10	2	10	U	10	U	10	U	10	U	10	U
BENZO(B)FLUORANTHENE	10	3	10	U	10	U	10	U	10	U	10	UJ
BENZO(K)FLUORANTHENE	10	1	10	U	10	U	10	U	10	U	10	U
BENZO(A)PYRENE	10	2	10	U	10	U	10	U	10	U	10	U
INDENO(1,2,3-CD)PYRENE	10	3	10	U	10	U	10	U	10	U	10	U
DIBENZO(A,H)ANTHRACENE	10	2	10	U	10	U	10	U	10	U	10	U
BENZO(G,H,I)PERYLENE	10	3	10	U	10	U	10	U	10	U	10	U

DILUTION FACTOR: 1.0 1.0 1.0 1.0 1.0

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FT-DU-01
 A5133607

FT-DU-02
 A5133608

FT-GW02-RB01
 A5133609

FT-GW02-FB01
 A5133610

FT-GW02-FB02
 A5133611

TCL SEMIVOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL	FT-DU-01	FT-DU-02	FT-GW02-RB01	FT-GW02-FB01	FT-GW02-FB02	
PHENOL	10	2	18		10	U	10	U
BIS(2-CHLOROETHYL) ETHER	10	2	10	U	10	U	10	U
2-CHLOROPHENOL	10	1	10	U	10	U	10	U
1,3-DICHLOROBENZENE	10	1	10	U	10	U	10	U
1,4-DICHLOROBENZENE	10	1	10	U	10	U	10	U
1,2-DICHLOROBENZENE	10	2	10	U	10	U	10	U
2-METHYLPHENOL	10	2	7	J	10	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	1	10	U	10	U	10	U
4-METHYLPHENOL	10	1	*110		0.6	J	10	U
N-NITROSO-DI-N-PROPYLAMINE	10	1	10	U	10	U	10	U
HEXACHLOROETHANE	10	0.8	10	U	10	U	10	U
NITROBENZENE	10	2	10	U	10	U	10	U
ISOPHORONE	10	1	10	U	10	U	10	U
2-NITROPHENOL	10	2	10	U	10	U	10	U
2,4-DIMETHYLPHENOL	10	2	10	U	10	U	10	U
BIS(2-CHLOROETHOXY) METHANE	10	1	10	U	10	U	10	U
2,4-DICHLOROPHENOL	10	0.8	10	U	10	U	10	U
1,2,4-TRICHLOROBENZENE	10	0.8	10	U	10	U	10	U
NAPHTHALENE	10	1	19		10	U	10	U
4-CHLOROANILINE	10	1	10	U	10	U	10	U
HEXACHLOROBUTADIENE	10	1	10	U	10	U	10	U
4-CHLORO-3-METHYLPHENOL	10	1	10	U	10	U	10	U
2-METHYLNAPHTHALENE	10	1	10	U	10	U	10	U
HEXACHLOROCYCLOPENTADIENE	10	2	10	UJ	10	U	10	U
2,4,6-TRICHLOROPHENOL	10	3	10	UJ	10	U	10	U
2,4,5-TRICHLOROPHENOL	25	3	25	UJ	25	U	25	U
2-CHLORONAPHTHALENE	10	2	10	UJ	10	U	10	U
2-NITROANILINE	25	2	25	UJ	25	U	25	U
DIMETHYL PHTHALATE	10	1	10	UJ	10	U	10	U
ACENAPHTHYLENE	10	1	10	UJ	10	U	10	U
2,6-DINITROTOLUENE	10	2	10	UJ	10	U	10	U
3-NITROANILINE	25	2	25	UJ	25	U	25	U
ACENAPHTHENE	10	1	10	UJ	10	U	10	U

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FT-DU-01
 A5133607

FT-DU-02
 A5133608

FT-GW02-RB01
 A5133609

FT-GW02-FB01
 A5133610

FT-GW02-FB02
 A5133611

TCL SEMIVOLATILE WATERS (UG/L)

ANALYTE	CRQL	MDL										
2,4-DINITROPHENOL	25	2	25	UJ	25	U	25	U	25	U	25	U
4-NITROPHENOL	25	3	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ
DIBENZOFURAN	10	2	10	UJ	10	U	10	U	10	U	10	U
2,4-DINITROTOLUENE	10	1	10	UJ	10	U	10	U	10	U	10	U
DIETHYL PHTHALATE	10	2	5	J	10	U	10	U	10	U	10	U
4-CHLOROPHENYL PHENYL ETHER	10	1	10	UJ	10	U	10	U	10	U	10	U
FLUORENE	10	2	10	UJ	10	U	10	U	10	U	10	U
4-NITROANILINE	25	3	25	UJ	25	U	25	U	25	U	25	U
4,6-DINITRO-2-METHYLPHENOL	25	2	25	U	25	U	25	U	25	U	25	U
N-NITROSODIPHENYLAMINE	10	1	10	U	10	U	10	U	10	U	10	U
4-BROMOPHENYL PHENYL ETHER	10	2	10	U	10	U	10	U	10	U	10	U
HEXACHLOROBENZENE	10	2	10	U	10	U	10	U	10	U	10	U
PENTACHLOROPHENOL	25	4	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ
PHENANTHRENE	10	1	10	U	10	U	10	U	10	U	10	U
ANTHRACENE	10	2	10	U	10	U	10	U	10	U	10	U
CARBAZOLE	10	2	10	U	10	U	10	U	10	U	10	U
DI-N-BUTYL PHTHALATE	10	2	10	U	0.2	J	10	U	10	U	10	U
FLUORANTHENE	10	2	10	U	10	U	10	U	10	U	10	U
PYRENE	10	2	10	U	10	U	10	U	10	U	10	U
BUTYLBENZYL PHTHALATE	10	2	10	U	10	U	10	U	10	U	10	U
3,3'-DICHLOROBENZIDINE	10	2	10	U	10	U	10	U	10	U	10	U
BENZO(A)ANTHRACENE	10	2	10	U	10	U	10	U	10	U	10	U
CHRYSENE	10	2	10	U	10	U	10	U	10	U	10	U
BIS(2-ETHYLHEXYL) PHTHALATE	10	2	2	J	0.5	J	10	U	10	U	10	U
DI-N-OCTYL PHTHALATE	10	2	10	U	10	U	10	U	10	U	10	U
BENZO(B)FLUORANTHENE	10	3	10	U	10	U	10	U	10	U	10	U
BENZO(K)FLUORANTHENE	10	1	10	U	10	U	10	U	10	U	10	U
BENZO(A)PYRENE	10	2	10	U	10	U	10	U	10	U	10	U
INDENO(1,2,3-CD)PYRENE	10	3	10	U	10	U	10	U	10	U	10	U
DIBENZO(A,H)ANTHRACENE	10	2	10	U	10	U	10	U	10	U	10	U
BENZO(G,H,I)PERYLENE	10	3	10	U	10	U	10	U	10	U	10	U

DILUTION FACTOR:

1.0

1.0

1.0

1.0

1.0

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FT-GW05-S FT-GW05-I FT-GW05-RB01 FT-GW06-S FT-GW06-I
 A5131209 A5131210 A5131211 A5131212 A5131213

TCL PESTICIDE/PCB WATERS (UG/L)

ANALYTE	CRQL	MDL	FT-GW05-S		FT-GW05-I		FT-GW05-RB01		FT-GW06-S		FT-GW06-I	
			A5131209	A5131210	A5131211	A5131212	A5131213	A5131213	A5131213	A5131213	A5131213	A5131213
ALPHA-BHC	0.05	0.030	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ
BETA-BHC	0.05	0.023	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
DELTA-BHC	0.05	0.026	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
GAMMA-BHC (LINDANE)	0.05	0.026	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ
HEPTACHLOR	0.05	0.290	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
ALDRIN	0.05	0.032	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
HEPTACHLOR EPOXIDE	0.05	0.021	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
ENDOSULFAN I	0.05	0.027	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
DIELDRIN	0.1	0.056	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDE	0.1	0.052	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
ENDRIN	0.1	0.055	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
ENDOSULFAN II	0.1	0.042	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDD	0.1	0.057	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
ENDOSULFAN SULFATE	0.1	0.047	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDT	0.1	0.057	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
METHOXYCHLOR	0.5	0.380	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
ENDRIN KETONE	0.1	0.046	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
ENDRIN ALDEHYDE	0.1	0.460	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
ALPHA-CHLORDANE	0.05	0.023	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
GAMMA-CHLORDANE	0.05	0.022	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
TOXAPHENE	5	1.6	5	U	5	U	5	U	5	U	5	U
AROCLOR 1016	1	0.17	1	U	1	U	1	U	1	U	1	U
AROCLOR 1221	2	0.23	2	U	2	U	2	U	2	U	2	U
AROCLOR 1232	1	0.23	1	U	1	U	1	U	1	U	1	U
AROCLOR 1242	1	0.23	1	U	1	U	1	U	1	U	1	U
AROCLOR 1248	1	0.27	1	U	1	U	1	U	1	U	1	U
AROCLOR 1254	1	0.25	1	U	0.15	J	1	U	1	U	1	U
AROCLOR 1260	1	0.34	1	U	1	U	1	U	1	U	1	U
DILUTION FACTOR:			1.0		1.0		1.0		1.0		1.0	

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FT-GW07-S FT-GW03-S FT-GW01-S FT-GW01-I FT-GW04-S
 A5131214 A5131215 A5133602 A5133603 A5133604

TCL PESTICIDE/PCB WATERS (UG/L)

ANALYTE	CRQL	MDL	FT-GW07-S		FT-GW03-S		FT-GW01-S		FT-GW01-I		FT-GW04-S	
ALPHA-BHC	0.05	0.030	0.05	UJ								
BETA-BHC	0.05	0.023	0.05	U								
DELTA-BHC	0.05	0.026	0.05	U								
GAMMA-BHC (LINDANE)	0.05	0.026	0.05	UJ								
HEPTACHLOR	0.05	0.290	0.05	U								
ALDRIN	0.05	0.032	0.05	U								
HEPTACHLOR EPOXIDE	0.05	0.021	0.05	U								
ENDOSULFAN I	0.05	0.027	0.05	U								
DIELDRIN	0.1	0.056	0.1	U								
4,4'-DDE	0.1	0.052	0.1	U								
ENDRIN	0.1	0.055	0.1	U								
ENDOSULFAN II	0.1	0.042	0.1	U								
4,4'-DDD	0.1	0.057	0.1	U								
ENDOSULFAN SULFATE	0.1	0.047	0.1	U								
4,4'-DDT	0.1	0.057	0.1	U								
METHOXYCHLOR	0.5	0.380	0.5	U								
ENDRIN KETONE	0.1	0.046	0.1	U								
ENDRIN ALDEHYDE	0.1	0.460	0.1	U								
ALPHA-CHLORDANE	0.05	0.023	0.05	U								
GAMMA-CHLORDANE	0.05	0.022	0.05	U								
TOXAPHENE	5	1.6	5	U	5	U	5	U	5	U	5	U
AROCLOR 1016	1	0.17	1	U	1	U	1	U	1	U	1	U
AROCLOR 1221	2	0.23	2	U	2	U	2	U	2	U	2	U
AROCLOR 1232	1	0.23	1	U	1	U	1	U	1	U	1	U
AROCLOR 1242	1	0.23	1	U	1	U	1	U	1	U	1	U
AROCLOR 1248	1	0.27	1	U	1	U	0.34	J	1	U	0.37	J
AROCLOR 1254	1	0.25	1	U	1	U	0.22	JN	1	U	0.24	J
AROCLOR 1260	1	0.34	1	U	1	U	1	U	1	U	1	U

DILUTION FACTOR:

1.0 1.0 1.0 1.0 1.0

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FT-GW02-S FT-GW02-I FT-DU-01 FT-DU-02 FT-GW02-RB01
 A5133605 A5133606 A5133607 A5133608 A5133609

TCL PESTICIDE/PCB WATERS (UG/L)

ANALYTE	CRQL	MDL	FT-GW02-S		FT-GW02-I		FT-DU-01		FT-DU-02		FT-GW02-RB01	
			A5133605		A5133606		A5133607		A5133608		A5133609	
ALPHA-BHC	0.05	0.030	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ
BETA-BHC	0.05	0.023	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
DELTA-BHC	0.05	0.026	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
GAMMA-BHC (LINDANE)	0.05	0.026	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ	0.05	UJ
HEPTACHLOR	0.05	0.290	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
ALDRIN	0.05	0.032	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
HEPTACHLOR EPOXIDE	0.05	0.021	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
ENDOSULFAN I	0.05	0.027	0.012	JN	0.05	U	0.05	U	0.05	U	0.05	U
DIELDRIN	0.1	0.056	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDE	0.1	0.052	0.032	J	0.1	U	0.041	J	0.1	U	0.1	U
ENDRIN	0.1	0.055	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
ENDOSULFAN II	0.1	0.042	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDD	0.1	0.057	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
ENDOSULFAN SULFATE	0.1	0.047	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDT	0.1	0.057	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
METHOXYCHLOR	0.5	0.380	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
ENDRIN KETONE	0.1	0.046	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
ENDRIN ALDEHYDE	0.1	0.460	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
ALPHA-CHLORDANE	0.05	0.023	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
GAMMA-CHLORDANE	0.05	0.022	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
TOXAPHENE	5	1.6	5	U	5	U	5	U	5	U	5	U
AROCLOR 1016	1	0.17	1	U	1	U	1	U	1	U	1	U
AROCLOR 1221	2	0.23	2	U	2	U	2	U	2	U	2	U
AROCLOR 1232	1	0.23	1	U	1	U	1	U	1	U	1	U
AROCLOR 1242	1	0.23	1	U	1	U	1	U	1	U	1	U
AROCLOR 1248	1	0.27	1	U	1	U	1	U	1	U	1	U
AROCLOR 1254	1	0.25	1	U	1	U	1	U	1	U	1	U
AROCLOR 1260	1	0.34	4.4	JN	0.3	J	6.9	JN	1.1		1	U
DILUTION FACTOR:			1.0		1.0		1.0		1.0		1.0	

CTO 138, NWIRP CALVERTON, CALVERTON, NEW YORK
 RECRA ENVIRONMENTAL, INC.

CLIENT ID:
 LABORATORY ID:

FT-GW02-FB01 FT-GW02-FB02
 A5133610 A5133611

TCL PESTICIDE/PCB WATERS (UG/L)

ANALYTE	CRQL	MDL				
ALPHA-BHC	0.05	0.030	0.05	UJ	0.05	UJ
BETA-BHC	0.05	0.023	0.05	U	0.05	U
DELTA-BHC	0.05	0.026	0.05	U	0.05	U
GAMMA-BHC (LINDANE)	0.05	0.026	0.05	UJ	0.05	UJ
HEPTACHLOR	0.05	0.290	0.05	U	0.05	U
ALDRIN	0.05	0.032	0.05	U	0.05	U
HEPTACHLOR EPOXIDE	0.05	0.021	0.05	U	0.05	U
ENDOSULFAN I	0.05	0.027	0.05	U	0.05	U
DIELDRIN	0.1	0.056	0.1	U	0.1	U
4,4'-DDE	0.1	0.052	0.1	U	0.1	U
ENDRIN	0.1	0.055	0.1	U	0.1	U
ENDOSULFAN II	0.1	0.042	0.1	U	0.1	U
4,4'-DDD	0.1	0.057	0.1	U	0.1	U
ENDOSULFAN SULFATE	0.1	0.047	0.1	U	0.1	U
4,4'-DDT	0.1	0.057	0.1	U	0.1	U
METHOXYCHLOR	0.5	0.380	0.5	U	0.5	U
ENDRIN KETONE	0.1	0.046	0.1	U	0.1	U
ENDRIN ALDEHYDE	0.1	0.460	0.1	U	0.1	U
ALPHA-CHLORDANE	0.05	0.023	0.05	U	0.05	U
GAMMA-CHLORDANE	0.05	0.022	0.05	U	0.05	U
TOXAPHENE	5	1.6	5	U	5	U
AROCLOR 1016	1	0.17	1	U	1	U
AROCLOR 1221	2	0.23	2	U	2	U
AROCLOR 1232	1	0.23	1	U	1	U
AROCLOR 1242	1	0.23	1	U	1	U
AROCLOR 1248	1	0.27	1	U	1	U
AROCLOR 1254	1	0.25	1	U	1	U
AROCLOR 1260	1	0.34	1	U	1	U

DILUTION FACTOR: 1.0 1.0

Lab Name: Recra EnvironmentalContract: 0138Lab Code: RECNYCase No.: 5015

SAS No.: _____

SDG No.: FDGW01Matrix: (soil/water) WATERLab Sample ID: A5131208Sample wt/vol: 5.00 (g/mL) MLLab File ID: K6903.MSOLevel: (low/med) LOWDate Samp/Recv: 03/08/95 03/09/95

Moisture: not dec. _____

Date Analyzed: 03/14/95GC Column: DB-624 ID: 0.53 (mm)Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 10CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN BENZENE ISOMER	20.42	10	J
2.	ETHYL METHYL BENZENE ISOMER	20.53	52	JJ
3.	ETHYL METHYL BENZENE ISOMER	20.67	30	JJJ
4.	ETHYL METHYL BENZENE ISOMER	21.00	18	JJJJ
5.	ETHYL METHYL BENZENE ISOMER	21.25	92	JJJJJ
6.	ETHYL METHYL BENZENE ISOMER	21.88	36	JJJJJJ
7.	PAH DERIVATIVE	22.20	11	JJJJJJJ
8.	ETHYL DIMETHYL BENZENE ISOM	22.30	12	JJJJJJJJ
9.	ETHYL DIMETHYL BENZENE ISOM	22.77	10	JJJJJJJJJ
10.	UNKNOWN	23.15	23	JJJJJJJJJJ

Lab Name: Recra EnvironmentalContract: 0138Lab Code: RECNYCase No.: 5015

SAS No.: _____

SDG No.: FDGW01Matrix: (soil/water) WATERLab Sample ID: A5131208DLSample wt/vol: 5.00 (g/mL) MLLab File ID: K6905.MSOLevel: (low/med) LOWDate Samp/Recv: 03/08/95 03/09/95

% Moisture: not dec. _____

Date Analyzed: 03/14/95GC Column: DB-624 ID: 0.53 (mm)Dilution Factor: 2.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 10CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	ETHYL METHYL BENZENE ISOMER	20.58	160	J
2.	ETHYL METHYL BENZENE ISOMER	20.72	120	J
3.	ETHYL METHYL BENZENE ISOMER	21.02	55	J
4.	ETHYL METHYL BENZENE ISOMER	21.28	270	J
5.	ETHYL METHYL BENZENE ISOMER	21.93	120	J
6.	ETHYL DIMETHYL BENZENE ISOM	22.33	35	J
7.	UNK METHYL ALKANE DERIVATIVE	22.50	38	J
8.	ETHYL DIMETHYL BENZENE ISOM	22.80	46	J
9.	DIETHYL BENZENE ISOMER	23.38	43	J
10.	DIETHYL BENZENE ISOMER	23.58	42	J

FD-GW01-I

Lab Name: Recra Environmental Contract: 0138

Lab Code: RECN Case No.: 5015 SAS No.: _____ SDG No.: FDGW01

Matrix: (soil/water) WATER Lab Sample ID: A5131203

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: K6882.MSO

Level: (low/med) LOW Date Samp/Recv: 03/08/95 03/09/95

% Moisture: not dec. _____ Date Analyzed: 03/13/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN FREON DERIVATIVE	6.35	9	J

Lab Name: Recra EnvironmentalContract: 0138Lab Code: RECNVCase No.: 5015

SAS No.: _____

SDG No.: FDGW01Matrix: (soil/water) WATERLab Sample ID: A5131205Sample wt/vol: 5.00 (g/mL) MLLab File ID: K6883.MSOLevel: (low/med) LOWDate Samp/Recv: 03/08/95 03/09/95

† Moisture: not dec. _____

Date Analyzed: 03/13/95GC Column: DB-624 ID: 0.53 (mm)Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN FREON DERIVATIVE	6.38	8	J

Lab Name: Recra EnvironmentalContract: 0138Lab Code: RECNVCase No.: 5015

SAS No.: _____

SDG No.: FDGW01Matrix: (soil/water) WATERLab Sample ID: A5131204Sample wt/vol: 5.00 (g/mL) MLLab File ID: K6884.MSQLevel: (low/med) LOWDate Samp/Recv: 03/08/95 03/09/95

% Moisture: not dec. _____

Date Analyzed: 03/13/95GC Column: DB-624 ID: 0.53 (mm)Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 10CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN	16.47	87	J
2.	TRIMETHYL BENZENE ISOMER	19.75	280	J
3.	UNKNOWN	20.37	280	J
4.	TRIMETHYL BENZENE ISOMER	20.50	1300	J
5.	TRIMETHYL BENZENE ISOMER	20.63	760	J
6.	TRIMETHYL BENZENE ISOMER	20.95	480	J
7.	TRIMETHYL BENZENE ISOMER	21.20	2000	J
8.	PAH DERIVATIVE	22.17	190	J
9.	UNKNOWN	22.25	100	J
10.	PAH DERIVATIVE	23.03	73	J

Lab Name: Recra Environmental

Contract: 0138

Lab Code: RECNX

Case No.: 5015

SAS No.: _____

SDG No.: FDGW01

Matrix: (soil/water) WATER

Lab Sample ID: A5131204DL

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: K6892.MSO

Level: (low/med) LOW

Date Samp/Recv: 03/08/95 03/09/95

% Moisture: not dec. _____

Date Analyzed: 03/14/95

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 5.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 9

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

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNK METHYL ALKANE DERIVATIVE	12.93	35	J
2.	ETHYL METHYL BENZENE ISOMER	19.78	44	J
3.	UNKNOWN BENZENE DERIVATIVE	20.40	49	J
4.	ETHYL METHYL BENZENE ISOMER	20.53	240	J
5.	ETHYL METHYL BENZENE ISOMER	20.65	140	J
6.	ETHYL METHYL BENZENE ISOMER	20.98	81	J
7.	ETHYL METHYL BENZENE ISOMER	21.23	360	J
8.	ETHYL METHYL BENZENE ISOMER	21.88	130	J
9.	PAH DERIVATIVE	22.20	30	J

FD-GW06-S

Lab Name: Recra Environmental Contract: 0138

Lab Code: RECNY Case No.: 5015 SAS No.: _____ SDG No.: EDGW01

Matrix: (soil/water) WATER Lab Sample ID: A5131207

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: K6902.MSO

Level: (low/med) LOW Date Samp/Recv: 03/08/95 03/09/95

% Moisture: not dec. _____ Date Analyzed: 03/14/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN BENZENE DERIVATIVE	20.40	79	J
2.	ETHYL METHYL BENZENE ISOMER	20.53	420	J
3.	ETHYL METHYL BENZENE ISOMER	20.65	260	J
4.	ETHYL METHYL BENZENE ISOMER	20.98	160	J
5.	ETHYL METHYL BENZENE ISOMER	21.23	720	J
6.	ETHYL METHYL BENZENE ISOMER	21.88	320	J
7.	PAH DERIVATIVE	22.20	98	J
8.	ETHYL DIMETHYL BENZENE ISOM	22.28	100	J
9.	ETHYL DIMETHYL BENZENE ISOM	22.75	100	J
10.	ETHYL DIMETHYL BENZENE ISOM	23.57	78	J

Lab Name: Recrea Environmental

Contract: 0138

Lab Code: RECNY

Case No.: 5015

SAS No.: _____

SDG No.: FDGW01

Matrix: (soil/water) WATER

Lab Sample ID: A5131207DL

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: K6904.MSQ

Level: (low/med) LOW

Date Samp/Recv: 03/08/95 03/09/95

Moisture: not dec. _____

Date Analyzed: 03/14/95

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 2.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 10

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

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	ETHYL METHYL BENZENE ISOMER	20.53	160	J
2.	ETHYL METHYL BENZENE ISOMER	20.67	120	J
3.	ETHYL METHYL BENZENE ISOMER	20.98	55	J
4.	ETHYL METHYL BENZENE ISOMER	21.25	270	J
5.	ETHYL METHYL BENZENE ISOMER	21.88	120	J
6.	ETHYL METHYL BENZENE ISOMER	22.45	40	J
7.	UNK METHYL ALKANE DERIVATIVE	22.75	50	J
8.	ETHYL DIMETHYL BENZENE ISOM	23.35	56	J
9.	ETHYL DIMETHYL BENZENE ISOM	23.47	37	J
10.	ETHYL DIMETHYL BENZENE ISOM	23.57	57	J

Lab Name: Recra Environmental Contract: 0138

Lab Code: RECNY Case No.: 5015 SAS No.: _____ SDG No.: FDGW01

Matrix: (soil/water) WATER

Lab Sample ID: A5133607

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: L5019.RR

Level: (low/med) LOW

Date Samp/Recv: 03/09/95 03/10/95

% Moisture: not dec. _____

Date Analyzed: 03/13/95

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 10

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

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	ALKYLBENZENE DERIVATIVE	19.78	55	J
2.	TRIMETHYLBENZENE ISOMER	19.92	54	J
3.	TRIMETHYLBENZENE ISOMER	20.48	110	J
4.	ETHYLMETHYLBENZENE ISOMER	21.12	88	J
5.	ALKYLBENZENE DERIVATIVE	22.02	50	J
6.	TETRAMETHYLBENZENE ISOMER	22.73	44	J
7.	SATURATED HYDROCARBON	23.40	78	J
8.	UNKNOWN	23.47	96	J
9.	SATURATED HYDROCARBON	23.63	58	J
10.	UNKNOWN	23.73	88	J

FT-DU-01 DL

Lab Name: Recra Environmental

Contract: 0138

Lab Code: RECNY

Case No.: 5015

SAS No.: _____

SDG No.: FDGW01

Matrix: (soil/water) WATER

Lab Sample ID: A5133607DL

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: L5046.RR

Level: (low/med) LOW

Date Samp/Recv: 03/09/95 03/10/95

Moisture: not dec. _____

Date Analyzed: 03/14/95

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 4.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

Number TICs found: 10

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	METHYL ETHYL BENZENE ISOMER	19.77	69	J
2.	TRIMETHYL BENZENE ISOMER	19.90	70	J
3.	BENZENE DERIVATIVE	20.22	58	J
4.	TRIMETHYL BENZENE ISOMER	20.47	130	J
5.	BENZENE DERIVATIVE	21.12	130	J
6.	LONG CHAIN SAT. HYDROCARBON	21.73	56	J
7.	BENZENE DERIVATIVE	22.02	110	J
8.	UNKNOWN	22.57	71	J
9.	TETRAMETHYL BENZENE ISOMER	22.72	130	J
10.	BENZENE DERIVATIVE	22.80	65	J

PT-DU-02

Lab Name: Recra Environmental

Contract: 0138

Lab Code: RECNV

Case No.: 5015

SAS No.: _____

SDG No.: FDGW01

Matrix: (soil/water) WATER

Lab Sample ID: A5133608

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: L5032.RR

Level: (low/med) LOW

Date Samp/Recv: 03/09/95 03/10/95

% Moisture: not dec. _____

Date Analyzed: 03/14/95

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

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

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN	10.48	6	J

Lab Name: Recra Environmental

Contract: 0138

Lab Code: RECNV

Case No.: 5015

SAS No.: _____

SDG No.: FDGW01

Matrix: (soil/water) WATER

Lab Sample ID: A5133609

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: L5021.RR

Level: (low/med) LOW

Date Samp/Recv: 03/09/95 03/10/95

% Moisture: not dec. _____

Date Analyzed: 03/13/95

GC Column: DB-624 ID: 0.53 (mm)

Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 5

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

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	DIMETHYL NAPHTHALENE ISOMER	20.55	6	J
2.	UNKNOWN	21.38	15	J
3.	UNKNOWN	22.07	7	J
4.	UNKNOWN	23.17	8	J
5.	UNKNOWN HYDROCARBON	23.47	6	J

FT-GW02-S

Lab Name: Recra EnvironmentalContract: 0138Lab Code: RECNVCase No.: 5015

SAS No.: _____

SDG No.: FDGW01Matrix: (soil/water) WATERLab Sample ID: A5133605Sample wt/vol: 5.00 (g/mL) MLLab File ID: L5015.RRLevel: (low/med) LOWDate Samp/Recv: 03/09/95 03/10/95

‡ Moisture: not dec. _____

Date Analyzed: 03/13/95GC Column: DB-624 ID: 0.53 (mm)Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 10CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	ETHYL METHYL BENZENE ISOMER	19.78	66	J
2.	TRIMETHYL BENZENE ISOMER	19.92	62	J
3.	ETHYL METHYL BENZENE ISOMER	20.23	43	J
4.	TRIMETHYL BENZENE ISOMER	20.48	160	J
5.	TRIMETHYL BENZENE ISOMER	21.13	110	J
6.	UNKNOWN	21.75	32	J
7.	BENZENE DERIVATIVE	22.03	59	J
8.	BENZENE DERIVATIVE	22.33	38	J
9.	BENZENE DERIVATIVE	22.58	44	J
10.	TETRAMETHYL BENZENE ISOMER	22.75	47	J

Lab Name: Recra Environmental

Contract: 0138

Lab Code: RECNY

Case No.: 5015

SAS No.: _____

SDG No.: FDGW01

Lab Sample ID: A5133605DL

Lab File ID: L5045.RR

Date Samp/Recv: 03/09/95 03/10/95

Date Analyzed: 03/14/95

Dilution Factor: 2.00

Soil Aliquot Volume: _____ (uL)

Matrix: (soil/water) WATER

Sample wt/vol: 5.00 (g/mL) ML

Level: (low/med) LOW

† Moisture: not dec. _____

GC Column: DB-624 ID: 0.53 (mm)

Soil Extract Volume: _____ (uL)

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

Number TICs found: 10

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	BENZENE DERIVATIVE	19.75	50	J
2.	TRIMETHYL BENZENE ISOMER	19.88	49	J
3.	BENZENE DERIVATIVE	20.20	34	J
4.	TRIMETHYL BENZENE ISOMER	20.47	120	J
5.	BENZENE DERIVATIVE	21.10	87	J
6.	BENZENE DERIVATIVE	21.53	49	J
7.	BENZENE DERIVATIVE	22.00	50	J
8.	BENZENE DERIVATIVE	22.30	32	J
9.	BENZENE DERIVATIVE	22.55	34	J
10.	TETRAMETHYL BENZENE ISOMER	22.72	37	J

FT-GW05-S

Lab Name: Recre Environmental Contract: 0138

Lab Code: RECNX Case No.: 5015 SAS No.: _____ SDG No.: FDGW01

Matrix: (soil/water) WATER Lab Sample ID: A5131209

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: K6897.MSO

Level: (low/med) LOW Date Samp/Recv: 03/08/95 03/09/95

Moisture: not dec. _____ Date Analyzed: 03/14/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	ETHYL METHYL BENZENE DERV.	21.22	11	J

FD-DU-01

Lab Name: Recra EnvironmentalContract: 0138Lab Code: RECNYCase No.: 5015

SAS No.: _____

SDG No.: FDGW01Matrix: (soil/water) WATERLab Sample ID: A5131208Sample wt/vol: 1000.0 (g/mL) MLLab File ID: 22521Z.MSQLevel: (low/med) LOWDate Samp/Recv: 03/08/95 03/09/95% Moisture: _____ decanted: (Y/N) NDate Extracted: 03/14/95Concentrated Extract Volume: 1000 (uL)Date Analyzed: 03/24/95Injection Volume: 2.00 (uL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: 7.0Number TICs found: 20

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	ETHYL METHYL BENZENE ISOMER	4.72	20	J
2.	TRIMETHYL BENZENE ISOMER	5.02	36	J
3.	TRIMETHYL BENZENE ISOMER	5.23	23	J
4.	TETRA MEHTYL BENZENE ISOMER	5.98	4	J
5.	UNKNOWN BENZENE DERIVATIVE	6.22	10	J
6.	UNKNOWN	6.88	5	J
7.	UNKNOWN ALKANE	7.05	5	J
8.	UNKNOWN ALKANE	7.28	8	J
9.	UNKNOWN	7.57	4	J
10.	UNKNOWN	7.72	3	J
11.	UNKNOWN ALKANE	8.13	22	J
12.	DIMEHTYL NAPHTHALENE ISOMER	8.35	5	J
13.	UNKNOWN	8.65	11	J
14.	UNKNOWN	9.60	11	J
15.	UNKNOWN	9.90	6	J
16.	UNKNOWN	14.15	7	J
17.	UNKNOWN	17.73	14	J
18.	UNKNOWN ALCOHOL	17.98	25	J
19.	UNKNOWN	18.18	4	J
20.	UNKNOWN ALKANE	19.37	23	J

FD-GW01-I

Lab Name: Recra Environmental Contract: 0138Lab Code: RECNV Case No.: 5015 SAS No.: _____ SDG No.: FDGW01Matrix: (soil/water) WATER Lab Sample ID: A5131203Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 22500Z.MSOLevel: (low/med) LOW Date Samp/Recv: 03/08/95 03/09/95% Moisture: _____ decanted: (Y/N) N Date Extracted: 03/14/95Concentrated Extract Volume: 1000 (uL) Date Analyzed: 03/23/95Injection Volume: 2.00 (uL) Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: 7.0Number TICs found: 11CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN	3.55	6	BJ R
2.	UNKNOWN	13.87	6	J
3.	UNKNOWN	15.95	14	J
4.	UNKNOWN	16.10	11	J
5.	UNKNOWN	16.37	32	BJ R
6.	UNKNOWN	17.82	24	J
7.	UNKNOWN ALCOHOL	18.02	18	BJ R
8.	UNKNOWN	18.75	4	J
9.	UNKNOWN	19.48	23	J
10.	UNKNOWN	21.05	13	J
11.	UNKNOWN	23.03	8	J

5-2-95
JAJ

Lab Name: Recra Environmental Contract: 0138

Lab Code: RECNY Case No.: 5015 SAS No.: _____ SDG No.: FDGW01

Matrix: (soil/water) WATER Lab Sample ID: A5131202

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 22499Z.MSO

Level: (low/med) LOW Date Samp/Recv: 03/08/95 03/09/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 03/14/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 03/23/95

Injection Volume: 2.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 8

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

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN	3.55	4	J BS <i>R</i>
2.	UNKNOWN	9.57	4	J
3.	UNKNOWN	13.85	5	J
4.	UNKNOWN	15.95	14	J
5.	UNKNOWN	17.80	18	J
6.	UNKNOWN	18.75	3	J
7.	UNKNOWN	19.48	14	J
8.	UNKNOWN	21.03	5	J

5-3-95

FD-GW04-I

Lab Name: Recra EnvironmentalContract: 0138Lab Code: RECNVCase No.: 5015

SAS No.: _____

SDG No.: FDGW01Matrix: (soil/water) WATERLab Sample ID: A5131205Sample wt/vol: 1000.0 (g/mL) MLLab File ID: 22518Z.MSOLevel: (low/med) LOWDate Samp/Recv: 03/08/95 03/09/95Moisture: _____ decanted: (Y/N) NDate Extracted: 03/14/95Concentrated Extract Volume: 1000 (uL)Date Analyzed: 03/24/95Injection Volume: 2.00 (uL)Dilution Factor: 1.00GPC Cleanup: (Y/N) NpH: 7.0Number TICs found: 12

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN	3.48	6	BJ
2.	UNKNOWN	13.78	5	J
3.	UNKNOWN	15.88	11	J
4.	UNKNOWN	16.03	8	J
5.	UNKNOWN	17.73	26	J
6.	UNKNOWN	17.83	6	J
7.	UNKNOWN	18.18	2	J
8.	UNKNOWN	18.68	4	J
9.	UNKNOWN	19.42	24	J
10.	UNKNOWN	20.23	2	J
11.	UNKNOWN	20.98	10	J
12.	UNKNOWN	22.92	5	J

5-13-95

Lab Name: Recra EnvironmentalContract: 0138Lab Code: RECNYCase No.: 5015

SAS No.: _____

SDG No.: FDGW01Matrix: (soil/water) WATERLab Sample ID: A5131204Sample wt/vol: 1000.0 (g/mL) MLLab File ID: 22517Z.MSQLevel: (low/med) LOWDate Samp/Recv: 03/08/95 03/09/95* Moisture: _____ decanted: (Y/N) NDate Extracted: 03/14/95Concentrated Extract Volume: 1000 (uL)Date Analyzed: 03/24/95Injection Volume: 2.00 (uL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/LNumber TICs found: 17

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN	4.65	5	J
2.	ETHYL METHYL BENZENE ISOMER	4.73	29	J
3.	TRIMETHYL BENZENE ISOMER	5.02	39	J
4.	TRIMETHYL BENZENE ISOMER	5.23	22	J
5.	TETRA MEHTYL BENZENE ISOMER	6.22	5	J
6.	UNKNOWN ACID	7.80	5	J
7.	UNKNOWN	7.87	5	J
8.	UNKNOWN	8.48	6	J
9.	UNKNOWN	9.60	32	J
10.	UNKNOWN	11.32	6	J
11.	UNKNOWN	13.80	5	J
12.	UNKNOWN	14.73	4	J
13.	UNKNOWN	15.88	13	J
14.	UNKNOWN	16.15	4	J
15.	UNKNOWN	17.75	25	J
16.	UNKNOWN	19.42	22	J
17.	UNKNOWN	20.98	10	J

FD-GW05-S

Lab Name: Recra EnvironmentalContract: 0138Lab Code: RECNYCase No.: 5015

SAS No.: _____

SDG No.: EDGW01Matrix: (soil/water) WATERLab Sample ID: A5131206Sample wt/vol: 1000.0 (g/mL) MLLab File ID: 22519Z.MSOLevel: (low/med) LOWDate Samp/Recv: 03/08/95 03/09/95* Moisture: _____ decanted: (Y/N) NDate Extracted: 03/14/95Concentrated Extract Volume: 1000 (uL)Date Analyzed: 03/24/95Injection Volume: 2.00 (uL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: 7.0CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/LNumber TICs found: 13

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN	3.47	9	BJ
2.	CYCLOHEXENOL ISOMER	3.97	3	J
3.	UNKNOWN	9.53	10	J
4.	UNKNOWN	13.80	7	J
5.	UNKNOWN	14.73	4	J
6.	UNKNOWN	15.88	17	J
7.	UNKNOWN	16.17	6	BJ
8.	UNKNOWN	16.32	21	BJ
9.	UNKNOWN	17.75	32	J
10.	UNKNOWN	18.68	2	J
11.	UNKNOWN	19.42	26	J
12.	UNKNOWN	20.98	12	J
13.	UNKNOWN	22.95	4	J

5-3-95

Lab Name: Recra EnvironmentalContract: 0138Lab Code: RECNYCase No.: 5015

SAS No.: _____

SDG No.: FDGW01Matrix: (soil/water) WATERLab Sample ID: A5131207Sample wt/vol: 1000.0 (g/mL) MLLab File ID: 22520Z.MSOLevel: (low/med) LOWDate Samp/Recv: 03/08/95 03/09/95* Moisture: _____ decanted: (Y/N) NDate Extracted: 03/14/95Concentrated Extract Volume: 1000 (uL)Date Analyzed: 03/24/95Injection Volume: 2.00 (uL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

Number TICs found: 18(ug/L or ug/Kg) UG/L

CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	ETHYL METHYL BENZENE ISOMER	4.82	21	J
2.	TRIMETHYL BENZENE ISOMER	5.02	36	J
3.	TRIMETHYL BENZENE ISOMER	5.23	23	J
4.	DIETHYL BENZENE ISOMER	5.50	11	J
5.	TETRA METHYL BENZENE ISOMER	5.98	4	J
6.	TETRA METHYL BENZENE ISOMER	6.23	10	J
7.	UNKNOWN	6.88	7	J
8.	UNKNOWN	7.05	6	J
9.	UNKNOWN ALKANE	7.30	10	J
10.	UNKNOWN ALKANE	7.92	30	J
11.	UNKNOWN ALKANE	8.13	37	J
12.	DIMETHYL NAPHTHALENE ISOMER	8.37	4	J
13.	DIMETHYL NAPHTHALENE ISOMER	8.53	15	J
14.	UNKNOWN	9.60	8	J
15.	UNKNOWN	9.90	6	J
16.	UNKNOWN	14.15	6	J
17.	UNKNOWN	17.73	11	J
18.	UNKNOWN	17.98	22	BJ

51-55
JPD

FT-GW07-S

Lab Name: Recra Environmental Contract: 0138Lab Code: RECN Case No.: 5015 SAS No.: _____ SDG No.: FDGW01Matrix: (soil/water) WATERLab Sample ID: A5131214Sample wt/vol: 1000.0 (g/mL) MLLab File ID: 22526Z.MSOLevel: (low/med) LOWDate Samp/Recv: 03/08/95 03/09/95‡ Moisture: _____ decanted: (Y/N) NDate Extracted: 03/14/95Concentrated Extract Volume: 1000 (uL)Date Analyzed: 03/24/95Injection Volume: 2.00 (uL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: 7.0Number TICs found: 10CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

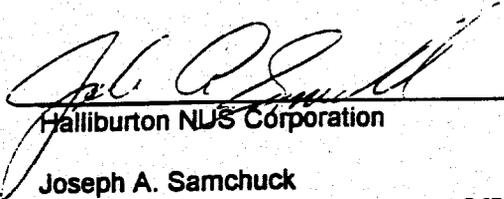
CAS NO.	Compound Name	RT	Est. Conc.	Q
1.	UNKNOWN	3.50	16	BS
2.	CYCLOHEXENOL ISOMER	3.98	4	J
3. 930-68-7	2-CYCLOHEXEN -1- ONE	4.45	3	JN
4.	UNKNOWN	13.78	4	J
5.	UNKNOWN	14.82	6	J
6.	UNKNOWN	15.87	8	J
7.	UNKNOWN	16.15	5	J
8.	UNKNOWN	17.73	12	J
9.	UNKNOWN	19.40	12	J
10.	UNKNOWN	20.97	4	J

5-3-95
JN

ATTACHMENT 3

DATA VALIDATION LETTERS

MEMO TO: DAVE BRAYACK
DATE: MAY 2, 1995 - PAGE 4



Halliburton NUS Corporation

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. **Appendix A - Qualified Laboratory Results**
2. **Appendix B - Regional Worksheets**
3. **Appendix C - Support Documentation**

MEMO TO: DAVE BRAYACK
DATE: MAY 2, 1995 - PAGE 5

- UR1 - Data is qualified as unusable and rejected, "UR", as a result of extremely low aqueous matrix spike recovery as noted for silver.
- J1 - Accept data, but qualify as estimated, "J", positive results for selenium due to marginally high CRDL Standard analysis recovery.
- J2 - Accept data, but qualify as estimated, "J" positive results for aluminum due to marginally low matrix spike recovery (i.e., < 75%, but > 30%).
- J3 - Accept data, but qualify as estimated, "J", positive results for arsenic, beryllium, cadmium, selenium, and/or thallium as a result of aqueous laboratory duplicate imprecision.
- J4 - Accept data, but qualify as estimated, "J", positive results for iron as a result of problems noted with field duplicate imprecision.
- J5 - Accept data, but qualify as estimated, "J", positive results > 10X IDL for aluminum as a result of problems noted during the ICP Serial Dilution Analysis.
- UJ1 - Accept data, but qualify as estimated, "UJ", nondetects for aluminum as a result of marginally low matrix spike recovery (i.e., < 75%, but > 30%).
- UJ2 - Accept data, but qualify as estimated, "UJ", nondetects for arsenic, beryllium, cadmium, selenium, and/or thallium as a result of aqueous laboratory duplicate imprecision.
- UJ3 - Accept data, but qualify as estimated, "UJ", nondetect for iron as a result of field duplicate imprecision.



INTERNAL CORRESPONDENCE

C-49-04-5-132

TO: DAVE BRAYACK
DATE: APRIL 21, 1995
FROM: MICHELLE L. ALLEN
COPIES: DV FILE
SUBJECT: ORGANIC DATA VALIDATION - VOC/SVOC/PEST/PCB
CTO 138, NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP),
CALVERTON, NEW YORK
SDG NO. FCGW01

SAMPLES: 23/Aqueous/

NP-GW01	NP-GW02	NP-GW03	NP-GW04
NP-DU-01	FC-GW01-I	FC-GW01-S	FC-GW02-I
FC-GW02-S	FC-GW03-S	FC-GW04-I	FC-GW04-S
FC-GW05-I	FC-GW05-S	FC-GW06-S	FC-DU-01
FD-GW02-I	FD-GW02-S	FD-GW03-I	FD-GW03-S
NP-GW01-TB	FC-GW01-TB	NP-GW01-RB01	

INTRODUCTION

A validation was performed on the analytical data from the Target Compound List (TCL) volatile and semivolatile organic compound analyses of twenty-three (23) aqueous samples (with the exception of the trip blanks, which were analyzed for TCL volatiles only) analyzed by RECRA Environmental, Inc. under SDG FCGW01. In addition, six samples were analyzed for pesticide/PCB organic compounds. These samples were collected by Halliburton NUS Corporation on March 6th and 7th, 1995.

Included with this sample set are two field duplicate pairs (samples NP-GW02/NP-DU-01 and FC-GW02-S/FC-DU-01), two trip blanks (designated -TB), and one rinsate blank (NP-GW01-RB01) were included in this sample delivery group.

All analyses were conducted in accordance with Naval Energy and Environmental Support Activity (NEESA) Level D Quality Assurance/Quality Control (QA/QC) criteria, using Contract Laboratory Program (CLP) Statement of Work (SOW) OLM01.8 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters:

- * • Holding times
- * • GC/MS tuning and system performance
- Initial/continuing calibrations
- Laboratory and field blank results

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 DATE: APRIL 21, 1995 - PAGE 2

- Internal standards performance
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate results
- Field duplicate precision
- * • Compound identification
- Compound quantitation
- * • Detection limits
- Tentatively Identified Compounds (TICs)

The symbol (*) indicates that all quality control criteria were met for this parameter. Documentation of compliance for these indicated parameters is provided in the attached Appendix C (Regional Worksheets).

Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix D. Qualified Analytical results are presented in Appendix A.

SUMMARY

Volatile Organic Compound Analysis

Several continuing calibration Percent Differences (%Ds) for bromomethane, acetone, 2-butanone, 4-methyl-2-pentanone, and 2-hexanone exceeded the 25% quality control limit. The nondetected results reported for these compounds in the associated samples are qualified as estimated, "UJ".

The following contaminants were detected in the laboratory method blank analyses at the maximum concentrations indicated:

<u>Compound</u>	<u>Maximum Concentration</u>	<u>Action Level</u>
Toluene	0.5 µg/L	5 µg/L
Chlorobenzene	0.6 µg/L	3 µg/L

Blank Actions:

- Value < Contract Required Quantitation Limit (CRQL); report CRQL followed by a U.
- Value > CRQL and < action level; report value followed by a U.
- Value > CRQL and > action level; report value unqualified.

The dilution factor and aliquot used for analysis were taken into consideration during the application of the action level. No action was necessary for chlorobenzene since no positive results were reported for this compound in the environmental samples. The positive results reported for toluene in the affected samples were qualified in the manner indicated by the blank action table.

MEMO TO: DAVE BRAYACK
DATE: APRIL 21, 1995 - PAGE 3

The Percent Recovery (%R) for the surrogate spike compound p-bromofluorobenzene in sample FC-GW02-S was slightly above the upper quality control limit. The 100-fold dilution of this sample yielded an acceptable %R for this surrogate. It is the professional opinion of the data validator that the lower detection limits are more representative, hence, the results from the undiluted analysis, with the exception of those compounds which exceeded the instrument's linear calibration range, were used in the validation of the data. Only positive results are affected by this noncompliance. The positive results used in the data validation were qualified as estimated, "J". No actions were warranted for chloroethane, 1,1-dichloroethane, 1,1,1-trichloroethane, and xylenes (total) since these results were taken from the diluted analysis.

The target compounds chloroethane, 1,1-dichloroethane, 1,1,1-trichloroethane, and xylenes (total) in sample FC-GW02-S and 1,1-dichloroethane and 1,1,1-trichloroethane in sample FC-DU-01 exceeded the instrument's calibration range. The results for these compounds from the diluted analyses were used in the data validation. It should be noted that the results for chloroethane and xylenes (total) were below the detection limit in the diluted analysis of sample FC-GW02-S, hence, these results are qualified as estimated, "J".

Sample FC-DU-01 was originally analyzed at a 25-fold dilution as a result of a high concentration of target compounds. This dilution has subsequently resulted in elevated detection limits for nondetected compounds. Additionally, the corresponding field duplicate sample, FC-GW02-S, was analyzed both diluted and undiluted.

Semivolatile Organic Compound Analysis

Some initial calibration Percent Relative Standard Deviations (%RSDs) for 2,2'-oxybis(1-chloropropane), di-n-octylphthalate, and benzo[b]fluoranthene exceeded the 30% quality control limit. No qualifications were necessary since only nondetected results were reported for these compounds in the associated samples and nondetects are not compromised by this calibration noncompliance.

Continuing calibration %Ds for 2,2'-oxybis(1-chloropropane), 2-nitroaniline, 4-nitrophenol, pentachlorophenol, di-n-butylphthalate, and bis(2-ethylhexyl)phthalate were greater than 25%. Only nondetected results were reported for these compounds in the affected samples and these nondetects are qualified as estimated, "UJ".

No contaminants were detected in the laboratory method blanks. The following contaminants were detected in the rinsate blank at the

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 DATE: APRIL 21, 1995 - PAGE 4

maximum concentrations indicated:

<u>Compound</u>	<u>Maximum Concentration</u>	<u>Action Level</u>
di-n-butylphthalate	0.4 µg/L	4 µg/L
bis(2-ethylhexyl)phthalate	0.1 µg/L	1 µg/L

Blank Actions:

- Value < Contract Required Quantitation Limit (CRQL); report CRQL followed by a U.
- Value > CRQL and < action level; report value followed by a U.
- Value > CRQL and > action level; report value unqualified.

The dilution factor and aliquot used for analysis were taken into consideration during the application of the action level. Positive results reported for di-n-butylphthalate and bis(2-ethylhexyl)phthalate in the affected samples were qualified in the manner indicated by the blank action table.

The surrogate %Rs for terphenyl-d4 (TPH) in samples FC-GW01-I and FD-GW03-I were low. No actions were necessary according to Region II data validation guidance.

The Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis of sample NP-GW02 yielded high %Rs for 4-chloro-3-methylphenol and pentachlorophenol. No qualifications were necessary since the %Rs were only marginally outside of the quality control limits and actions are not taken based on MS/MSD data alone.

The internal standard area for perylene-d12 (PRY) in sample NP-GW02 was low. In addition, the MS and MSD exhibited similar results. The nondetects reported for the target compounds associated with this failed internal standard were qualified as estimated, "UJ".

Several Tentatively Identified Compounds (TICs) were reported in the semivolatile laboratory method blanks. Environmental sample TICs also reported in associated blanks and TICs identified as adol-condensation products (laboratory artifacts) are not included in the Appendix A TIC summary. TICs present at less than 5X the concentration present in the associated method blanks have been qualified as rejected, "R".

Pesticide/PCB Organic Compound Analysis

The initial calibration %RSDs for alpha-BHC and gamma-BHC on column 2 exceeded the 20% quality control criteria. The nondetected results reported for these compounds in the environmental samples are qualified as estimated, "UJ".

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DATE: APRIL 21, 1995 - PAGE 5

The surrogate %Rs for decachlorobiphenyl (DCB) on column 2, only, were below the lower quality control limit in samples NP-GW01, NP-GW02, and NP-GW02MSD. Additionally, low DCB %Rs were noted on both columns in samples NP-GW03 and NP-GW02MS. No actions were warranted since only one surrogate %R was noncompliant.

The MS/MSD analysis of sample NP-GW02 yielded a high Relative Percent Difference (RPD) for gamma-BHC. No qualifications were necessary since the %Rs were acceptable and actions are not taken based on MS/MSD data alone.

Positive results for some PCBs had %Ds between the two gas chromatographic (GC) analytical columns which were greater than 25%. This performance may indicate that the quantitation of this compound may not be exact. As stated in the Region II worksheets, the positive results with %Ds > 25%, yet < 50% are qualified as estimated, "J". The positive results for the PCBs in which had %Ds > 50%, yet < 90% are qualified as presumptively present, "JN".

Samples NP-DU-01 and NP-GW04 yielded %Ds between the GC columns for Aroclor 1260 which were greater than 90%. However, it was noted that the laboratory only quantitated the PCB from one peak on column 2 (DB-1701). Upon review of the sample chromatograms, the data reviewer initially compared the calibration standards from both columns to the samples to determine if the PCB pattern was recognizable. Secondly, two additional Aroclor 1260 peaks were chosen from the calibration standard analyzed on column 2. The corresponding calibration factors were determined and used to re-quantitate the positive PCB result from column 2. The re-quantitated results for these samples were replaced on the qualified spreadsheets and the sample Form Is, and these new values and %Ds were transposed on the Form Xs.

Some positive pesticide/PCB MS/MSD results had %Ds between the analytical GC columns which exceeded 25%. No action was taken since these are quality control samples.

ADDITIONAL COMMENTS

No other problems were noted. Positive results reported at concentrations below the CRQL are qualified as estimated, "J".

EXECUTIVE SUMMARY

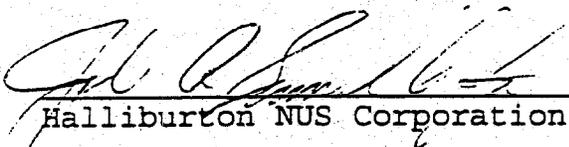
Laboratory Performance Issues: Chlorobenzene, toluene, and TICs were detected in the laboratory method blanks. Some initial calibration %RSDs exceeded the quality control limits in the semivolatile and pesticide/PCB fractions. Continuing calibration %Ds for several volatile and semivolatile compounds exceeded 25%.

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DATE: APRIL 21, 1995 - PAGE 6

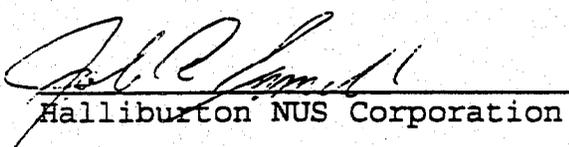
Other Factors Affecting Data Quality: Di-n-butylphthalate and bis(2-ethylhexyl)phthalate were detected in the rinsate blank. Some samples contained noncompliant volatile, semivolatile, and pesticide/PCB surrogate recoveries. A noncompliant internal standard area was noted for one environmental sample in the semivolatile fraction. The semivolatile and pesticide/PCB MS/MSD analyses contained noncompliant %Rs or RPDs. There were some high %Ds between GC columns for some positive PCB results. Two positive PCB results were recalculated since they were originally quantitated using only one reference peak. Positive results reported at concentrations below the CRQL are qualified as estimates.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (3/90), as amended for use within EPA Region II, and the NEESA guidelines "Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program" (20.2-047B, 6/88). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NEESA guidelines and the Quality Assurance Project Plan (QAPP)."


Halliburton NUS Corporation

Michelle L. Allen
Chemist/Data Validator


Halliburton NUS Corporation

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

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DATE: APRIL 21, 1995 - PAGE 7

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Regional Worksheets
4. Appendix D - Support Documentation

Summary of Tentatively Identified Compounds (TICs)
Remaining After Data Qualification

Fraction

Named TIC

Volatile

Unknown alkane
Unknown alkylbenzene
Unknown PAH Derivative
Tetramethylbenzene isomers
Trimethylbenzene isomers

Semivolatile

Unknowns
Unknown acids
Unknown alcohol
Unknown alkanes
Unknown hydrocarbons
Unknown methyl alkane
Unknown oxygenated hydrocarbon
Unknown PAH derivative
Benzene derivatives
Dichlorobenzoic acid isomer
Dichlorocyclohexane isomer
Dimethyl naphthalene isomers
Ethanol, 2,2'-oxybis
Ethylmethylbenzene isomer
Naphthalene derivative
Oxygenated compounds
Propyl benzene
Sulfur
Tetramethylbenzene isomers
Trimethylbenzene isomers

Data Qualifier Key

- U - Value is a nondetect as reported by the laboratory or has been qualified based on blank contamination.
- J - Positive result is considered to be estimated based on various technical reasons (i.e., high surrogate %R, %D between GC columns > 25%, yet < 50%, or values less than the CRQL).
- JN - Positive result is considered presumptively present as a result of %D between GC columns > 50%, yet < 90%.
- UJ - Nondetected result is considered to be estimated as a result of various technical reasons (pesticide/PCB initial calibration %RSD > 20%, continuing calibration %D > 25%, low internal standard areas, or high internal standard areas).
- R - Reject positive results detected at concentrations less than 5X the amount present in associated laboratory blanks.



INTERNAL CORRESPONDENCE

C-49-04-5-175

TO: DAVE BRAYACK

DATE: APRIL 25, 1995

FROM: MICHELLE L. ALLEN

COPIES: DV FILE

SUBJECT: ORGANIC DATA VALIDATION - VOC/SVOC/PEST/PCB
CTO 138, NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP),
CALVERTON, NEW YORK
SDG NO. FDGW01

SAMPLES: 26/Aqueous/

FD-GW01-I	FD-GW01-S	FD-GW04-I	FD-GW04-S
FD-GW05-S	FD-GW06-S	FD-DU-01	FT-GW01-I
FT-GW01-S	FT-GW02-I	FT-GW02-S	FT-GW03-S
FT-GW04-S	FT-GW05-I	FT-GW05-S	FT-GW06-I
FT-GW06-S	FT-GW07-S	FT-DU-01	FT-DU-02
FD-GW01-TB	FT-GW05-RB01	FT-GW01-TB	FT-GW02-RB01
FT-GW02-FB01	FT-GW02-FB02		

INTRODUCTION

A validation was performed on the analytical data from the Target Compound List (TCL) volatile and semivolatile organic compound analyses of twenty-six (26) aqueous samples (with the exception of the trip blanks, which were analyzed for TCL volatiles only) analyzed by RECRA Environmental, Inc. under SDG FDGW01. In addition, seventeen samples were analyzed for pesticide/PCB organic compounds. These samples were collected by Halliburton NUS Corporation on March 8th and 9th, 1995.

Included with this sample set are three field duplicate pairs (samples FD-DU-01/FD-GW06-S, FT-DU-01/FT-GW02-S, and FT-DU-02/FT-GW02-I), two trip blanks (designated -TB), two rinsate blanks (designated -RB-), and two field blanks (designated -FB-) were included in this sample delivery group.

All analyses were conducted in accordance with Naval Energy and Environmental Support Activity (NEESA) Level D Quality Assurance/Quality Control (QA/QC) criteria, using Contract Laboratory Program (CLP) Statement of Work (SOW) OLM01.8 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters:

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- * • Holding times
- * • GC/MS tuning and system performance
- Initial/continuing calibrations
- Laboratory and field blank results
- Internal standards performance
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate results
- Field duplicate precision
- * • Compound identification
- Compound quantitation
- * • Detection limits
- Tentatively Identified Compounds (TICs)

The symbol (*) indicates that all quality control criteria were met for this parameter. Documentation of compliance for these indicated parameters is provided in the attached Appendix C (Regional Worksheets).

Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix D. Qualified Analytical results are presented in Appendix A.

SUMMARY

Volatile Organic Compound Analysis

Several continuing calibration Percent Differences (%Ds) for bromomethane, acetone, 2-butanone, 4-methyl-2-pentanone, and 2-hexanone exceeded the 25% quality control limit. The positive and nondetected results reported for these compounds in the associated samples are qualified as estimated, "J" and "UJ", respectively.

No contaminants were detected in the field quality control blanks. The following compounds were detected in the laboratory method blank analyses at the maximum concentrations indicated:

<u>Compound</u>	<u>Maximum Concentration</u> ($\mu\text{g/L}$)	<u>Action Level</u> ($\mu\text{g/L}$)
Cis-1,3-dichloropropane	0.9	5
Dibromochloromethane	0.9	5
Bromoform	1	5
Trichloroethene	1	5
Tetrachloroethene	2	10
Toluene	2	20
1,1,2-Trichloroethane	1	5
Xylenes (total)	1	5

Blank Actions:

- Value < Contract Required Quantitation Limit (CRQL); report

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- CRQL followed by a U.
- Value > CRQL and < action level; report value followed by a U.
 - Value > CRQL and > action level; report value unqualified.

The dilution factor and aliquot used for analysis were taken into consideration during the application of the action level. No action was necessary for cis-1,3-dichloropropane, dibromochloromethane, bromoform, and 1,1,2-trichloroethane since no positive results were reported for these compounds in the environmental samples. The positive results reported for the remaining compounds in the affected samples were qualified in the manner indicated by the blank action table.

The Percent Recovery (%R) for the surrogate spike compound p-bromofluorobenzene (BFB) in sample FD-DU-01 was slightly above the upper quality control limit. Additionally, a high %R for 1,2-dichloroethane-d4 (DCE) was noted in sample FT-DU-01. The diluted analyses of these samples yielded acceptable %Rs for the volatile surrogates. However, it is the professional opinion of the data validator that the lower detection limits from the undiluted analyses are more representative, hence, the results from the undiluted analyses, with the exception of those compounds which exceeded the instrument's linear calibration range, were used in the validation of the data. Only positive results are affected by this surrogate noncompliance. The positive results used in the data validation were qualified as estimated, "J". No actions were warranted for xylenes (total) in sample FD-DU-01, and for chloroethane, 1,1-dichloroethane, and toluene in sample FT-DU-01 since these results were taken from the diluted analyses.

The BFB %R was above the upper quality control limit in the 2-fold dilution analysis of sample FD-GW06-S DL. The positive result for xylenes (total) used in the data validation was qualified as estimated, "J". No further actions were necessary since the undiluted analysis yielded acceptable surrogate %Rs.

A high %R was noted for the surrogate spike compound, DCE, in the Matrix Spike Duplicate (MSD) sample, FT-GW02-S MSD. No actions were necessary since surrogate spike %Rs were within the quality control limits in the unspiked sample.

The Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses of sample FT-GW02-S yielded %Rs for toluene below the lower quality control limit. No action was taken since the positive toluene result in the unspiked sample was taken from the 2-fold dilution. In addition, the Relative Percent Difference (RPD) for benzene was slightly high. No qualifications were necessary as the %Rs for this compound were acceptable and actions are not taken based on MS/MSD data alone.

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Several volatile target compounds in samples FT-GW02-S, FT-DU-01, FD-GW04-S, FD-GW06-S, and FD-DU-01 exceeded the instrument's calibration range. The results for these compounds from the diluted analyses were used in the data validation.

Semivolatile Organic Compound Analysis

Some initial calibration Percent Relative Standard Deviations (%RSDs) for bis(2-chloroisopropyl) ether, hexachlorocyclopentadiene, 2,4-dinitrophenol, benzo[b]fluoranthene, and indeno[1,2,3-cd]pyrene exceeded the 30% quality control limit. No qualifications were necessary since only nondetected results were reported for these compounds in the associated samples and nondetects are not compromised by this calibration noncompliance.

Continuing calibration %Ds for bis(2-chloroisopropyl) ether, 2,4-nitrophenol, 4-nitrophenol, 4,6-dinitro-2-methylphenol, pentachlorophenol, and benzo[b]fluoranthene were greater than 25%. This calibration noncompliance indicates a lack of consistency in instrumental responses which could lead to compromised detection and quantitation of the affected compounds. Only nondetected results were reported for these compounds in the affected samples and these nondetects are qualified as estimated, "UJ".

No contaminants were detected in the field quality control blanks or laboratory method blanks.

The surrogate %R for phenol-d5 (PHL) in sample FD-DU-01 RE was high. No actions were necessary since only one acid surrogate was noncompliant and this reanalysis of this sample was not used in the data validation.

The MS/MSD analyses performed on sample FT-GW02-S yielded low %Rs for acenaphthene. Additionally, the %Rs for pentachlorophenol were above the upper quality control limit. No qualifications were taken since according to Region II guidance actions are not taken based on MS/MSD data alone.

The RPD for 1,2,4-trichlorobenzene in the MS/MSD analyses was above the upper quality control limit. No qualifications were necessary since the %Rs for this compound were acceptable and actions are not taken based on MS/MSD data alone.

The internal standard areas for acenaphthene-d10 (ANT) in samples FT-GW02-S, FT-GW02-S MS, and FT-GW02-S MSD were high. However, the ANT area in 2-fold dilution of this sample was acceptable. It is the professional opinion of the data validator that the lower detection limits are more representative, hence, the undiluted results were used in the validation. The positive and nondetected results reported for the target compounds associated with this

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failed internal standard are qualified as estimated, "J" and "UJ", respectively.

The internal standard area for ANT was above the upper quality control limit in sample FT-DU-01. No improvement was noted in the undiluted reanalysis of this sample (designated FT-DU-01 RE). However, an acceptable ANT area was noted in 2-fold dilution of this sample. It is the professional opinion of the data validator that the lower detection limits are more representative, hence, the undiluted results were used in the validation. The positive and nondetected results reported for the target compounds associated with this failed internal standard are qualified as estimated, "J" and "UJ", respectively.

Several Tentatively Identified Compounds (TICs) were reported in the semivolatile laboratory method blanks. Environmental sample TICs also reported in associated blanks and TICs identified as adol-condensation products (laboratory artifacts) are not included in the Appendix A TIC summary.

Pesticide/PCB Organic Compound Analysis

The initial calibration %RSDs for alpha-BHC and gamma-BHC on column DB-1701 exceeded the 20% quality control criteria. The nondetected results reported for these compounds in the environmental samples are qualified as estimated, "UJ".

The %Rs for the surrogate spike compound, tetrachloro-m-xylene (TCX) in the laboratory method blank (PBLK01) and samples FT-GW02-FB02 and FTGW05-S were below the advisory quality control limit. No qualification was necessary to the environmental samples since only one pesticide/PCB surrogate was noncompliant.

Some surrogate %Rs for decachlorobiphenyl (DCB) were below the lower quality control limit in samples FT-GW01-I, FT-DU-01, FT-GW02-I, FT-GW02-RB01, FT-GW05-I, and FT-GW06-S. No actions were warranted since only one surrogate %R was noncompliant.

The MS/MSD analyses of sample FT-GW02-S yielded high RPDs for all the spiked compounds. In addition, the MSD %Rs for gamma-BHC, aldrin, dieldrin, endrin, and 4,4'-DDT were above the upper quality control limits. No qualifications were necessary since no positive results were reported for these compounds in the unspiked sample and actions are not taken based on MS/MSD data alone.

Positive results for some PCBs had %Ds between the two gas chromatographic (GC) analytical columns which were greater than 25%. This performance may indicate that the quantitation of this compound may not be exact. As stated in the Region II worksheets, the positive results with %Ds > 25%, yet < 50% are qualified as

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estimated, "J". The positive results for the PCBs in which had %Ds >50%, yet < 90% are qualified as presumptively present, "JN". It should be noted that the positive PCB results reported on the Form Is in samples FT-GW01-S, FT-GW04-S, and FT-GW05-I were only quantitated from one or two peaks from column DB-1701. These results represent the lower of the two concentrations determined on the GC analytical columns. It is the professional opinion of the data validator that the higher values in these samples are more representative since the mean concentrations of the PCBs were determined from 3 PCB peaks. Hence, the higher values for these PCBs in the environmental samples were replaced on the qualified spreadsheets and the sample Form Is.

Some positive pesticide/PCB MS/MSD results had %Ds between the analytical GC columns which exceeded 25%. No action was taken since these are quality control samples.

ADDITIONAL COMMENTS

No other problems were noted. Positive results reported at concentrations below the CRQL are qualified as estimated, "J".

EXECUTIVE SUMMARY

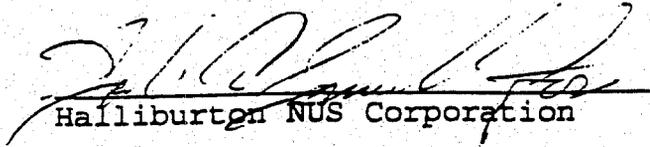
Laboratory Performance Issues: Several volatile target compounds and semivolatile TICs were detected in the laboratory method blanks. Some initial calibration %RSDs exceeded the quality control limits in the semivolatile and pesticide/PCB fractions. Continuing calibration %Ds for several volatile and semivolatile compounds exceeded 25%.

Other Factors Affecting Data Quality: Some samples contained noncompliant volatile, semivolatile, and pesticide/PCB surrogate recoveries. Failed internal standard areas were noted for some semivolatile samples. The volatile, semivolatile, and pesticide/PCB MS/MSD analyses contained noncompliant %Rs and/or RPDs. There were some high %Ds between GC columns for some positive PCB results. The higher value between the GC columns was reported for some sample PCBs since the lower value was quantitated using only one or two standard peaks. Positive results reported at concentrations below the CRQL are qualified as estimates.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (3/90), as amended for use within EPA Region II, and the NEESA guidelines "Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program" (20.2-047B, 6/88). The text of this report has been formulated to address only those problem areas affecting data quality.

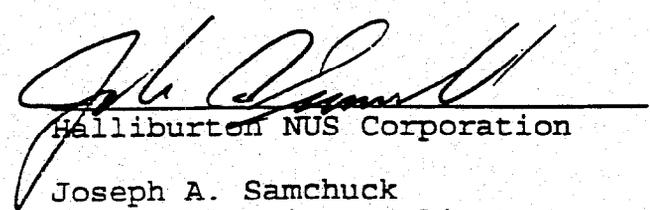
MEMO TO: DAVE BRAYACK
DATE: APRIL 25, 1995 - PAGE 7

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NEESA guidelines and the Quality Assurance Project Plan (QAPP)."



Halliburton NUS Corporation

Michelle L. Allen
Chemist/Data Validator



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Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Regional Worksheets
4. Appendix D - Support Documentation

Data Qualifier Key

- U - Value is a nondetect as reported by the laboratory or has been qualified based on blank contamination.
- J - Positive result is considered to be estimated based on various technical reasons (i.e., continuing calibration %D > 25%, high surrogate %Rs, %D between GC columns > 25%, yet < 50%, noncompliant internal standard areas, or values less than the CRQL).
- JN - Positive result is considered presumptively present as a result of %D between GC columns > 50%, yet < 90%.
- UJ - Nondetected result is considered to be estimated as a result of various technical reasons (pesticide/PCB initial calibration %RSD > 20%, continuing calibration %D > 25%, or noncompliant internal standard areas).

Summary of Tentatively Identified Compounds (TICs)
Remaining After Data Qualification

Fraction

Named TIC

Volatile

Unknown
Unknown benzene derivative
Unknown benzene isomer
Unknown freon derivative
Unknown hydrocarbon
Unknown methyl alkane derivative
Alkylbenzene derivatives
Benzene derivatives
Diethyl benzene isomer
Dimethyl naphthalene isomer
Ethyl dimethyl benzene isomers
Ethyl methyl benzene derivative
Ethyl methyl benzene isomers
Long chain saturated hydrocarbon
PAH Derivatives
Saturated hydrocarbons
Tetramethylbenzene isomer
Trimethylbenzene isomers

Semivolatile

Unknown
Unknown acid
Unknown alcohol
Unknown alkanes
Unknown benzene derivative
Unknown cyclic alkane
Unknown derivative
Unknown hydrocarbons
Unknown methyl alkane
Unknown PAH
Cyclic alkane
Cyclohexenol isomer
Decane isomer
Diethyl alkane
Diethyl benzene isomer
Dimethyl naphthalene isomers
Ethyl alkane

Summary of Tentatively Identified Compounds (TICs)
Remaining After Data Qualification

Fraction

Named TIC

Semivolatile

Ethyl methyl alkane
Ethyl methyl benzene isomer
Headecanoic acid
Hydrocarbons
Long chain saturated hydrocarbons
Methyl alkanes
Tetramethylbenzene isomers
Trimethylbenzene isomers
Trimethyl benzoic isomer