

Underground Storage Tank Removal
and Closure Assessment
NCDOT State Project 6.759001T (R-529A)
Service Distributing Company, Inc. and
Alvin and Carole Hardy Properties
Parcels 5 and 28
Boone, North Carolina
December 10, 1992

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DIVISION OF
GEOLOGICAL
DEPARTMENT OF

AQUATERRA
Environmental Consultants

**Underground Storage Tank Removal
and Closure Assessment
NCDOT State Project 6.759001T (R-529A)
Service Distributing Company, Inc. and
Alvin and Carole Hardy Properties
Parcels 5 and 28
Boone, North Carolina
December 10, 1992**

Prepared For
North Carolina Department of Transportation
Geotechnical Unit
Raleigh, North Carolina

Prepared By
Aquaterra, Inc.
Greensboro, North Carolina



AQUATERRA

Environmental Consultants

December 10, 1992

Mr. Gregory A. Smith
North Carolina Department of Transportation
Geotechnical Unit
Post Office Box 25201
Century Center
Raleigh, North Carolina 27611-5201

Reference: Underground Storage Tank Removal and Closure Assessment
NCDOT State Project No. 6.759001T (R-529A)
Service Distributing Company, Inc. and
Alvin and Carole Hardy Properties
Parcels 5 and 28
Boone, North Carolina
Aquaterra Job No. G781

Dear Mr. Smith:

Aquaterra, Inc. has conducted underground storage tank (UST) closure assessments at the Service Distributing Company, Inc. and the Alvin and Carole Hardy properties, Parcels 5 and 28 respectively, located in Boone, North Carolina. The assessment was conducted in an effort to satisfy the UST closure assessment requirements set forth in 40 CFR Part 280 Subpart G.

If you have any questions, please contact us at (919) 852-5003.

Sincerely,

AQUATERRA, INC.

Susan Kite, P.G.
Project Geologist/Project Manager

C. Earl Jones
Project Manager

CEJB/SK/slw
GR131-92

Corporate Office:

P O Box 50328
Raleigh, NC 27650
(919) 859-9987
FAX (919) 859-9930

Charlotte Office:

P O Box 668107
Charlotte, NC 28266-8107
(704) 525-8680
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(919) 273-5003
FAX (919) 271-8138

**Underground Storage Tank Removal
and Closure Assessment
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Service Distributing Company, Inc. and
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1 Introduction

Aquaterra, Inc. (Aquaterra) was contracted by the North Carolina Department of Transportation (NCDOT) to conduct an underground storage tank (UST) closure assessment at the Service Distributing Company, Inc. (SERVCO) and Alvin and Carole Hardy (Hardy) properties, Parcels 5 and 28 respectively, located in Boone, North Carolina (see Figure 1). It was Aquaterra's understanding that one 3,000 gallon kerosene UST and one 2,000 gallon kerosene UST were located at the SERVCO site. The USTs at the Hardy site included a 1,000 gallon gasoline UST and a 1,000 gallon UST that had previously contained kerosene and diesel fuel. Aquaterra supervised the removal of the USTs which was conducted by Four Seasons Industrial Services, Inc. (Four Seasons).

A preassessment was conducted at the sites between December 1991 and January 1992, which indicated that a release had occurred at each of the sites. Surface staining was also noted south of the storage shed at the Hardy property and confirmed with laboratory analysis. This area was also to be remediated during the UST removals.

X PSA

The closure assessment included screening the in situ and excavated soils with an organic vapor analyzer (OVA) for total volatilized organic compounds (VOCs), which may indicate petroleum hydrocarbon contamination. The procedure for screening the soils involves filling a clean container approximately halfway with soil and sealing the container. This creates an open space in the jar where the VOCs from the soil accumulate. After allowing approximately 10 minutes for this process to occur, the probe of the OVA is inserted into the headspace of the container to obtain a VOC reading.

2 Site Investigation

2.1 SERVCO (Parcel 5)

On October 26, 1992, Aquaterra mobilized an environmental technician to the SERVCO site to conduct a UST closure assessment. The closure assessment was conducted in conjunction with the removal of one 3,000 gallon kerosene UST (P28-1) and one 2,000 gallon kerosene UST (P28-2). Prior to removal of UST P28-1 and UST P28-2, approximately 50 gallons of product was removed from each UST and disposed of by Four Seasons. The soils on top of and around USTs P28-1 and P28-2 were excavated and the USTs were removed. Soils in the pit bottom were visually noted to be moist at a depth of 10 feet. UST P28-1, measuring 64 inches (D) x 18 feet (L) and UST P28-2, measuring 64 inches (D) x 12 feet (L) were visually inspected by the technician. Both USTs were observed to be in good condition,



exhibiting slight pitting and no obvious holes. Copies of the non-hazardous waste disposal manifest and the UST disposal manifests are included in Attachment A.

Four pit bottom soil samples (P28-1N, P28-1S, P28-2N, and P28-2S) were collected from a depth of approximately 10 feet below the ground surface for laboratory analysis (see Figure 2). The soil samples were screened with an OVA for total VOCs according to the methods previously described. OVA readings ranged from 30 parts per million (ppm) to greater than 1,000 ppm (see Table 1).

Immediately following the collection of the soil samples, the sidewalls of the excavation began to fail, undermining the stability of the existing parking lot. The excavation was therefore backfilled with clean soil from an off-site source by NCDOT personnel.

2.2 Hardy Property (Parcel 28)

On October 27, 1992, Aquaterra mobilized an environmental technician to the Hardy site to conduct a UST closure assessment. The closure assessment was conducted in conjunction with the removal of one 1,000 gallon UST (P5-1) that previously contained kerosene and diesel fuel and one 1,000 gallon gasoline UST (P5-2). Prior to the removal of the USTs, approximately 60 gallons of a product and water mixture were removed and disposed of by Four Seasons. The soils on top of and around UST P5-1 were excavated and the UST was removed. The UST, measuring 46 inches (D) x 144 inches (L) was visually inspected by the technician and noted to exhibit slight pitting and no obvious holes. The soils on top of and around the UST P5-2 were excavated and the UST was removed. The UST, measuring 46 inches (D) x 144 inches (L) was visually inspected by the technician and noted to exhibit some pitting and surface deterioration but no obvious holes. Copies of the non-hazardous waste manifest and the UST disposal manifests are included in Attachment A.

Two pit bottom soil samples were collected from each UST excavation (P5-1E, P5-1W, P5-2E, and P5-2W) at a depth of approximately 8 feet below the ground surface for laboratory analysis (see Figure 3). The soil samples were screened with an OVA for total VOCs according to the methods previously described. OVA readings ranged from 20 ppm to 50 ppm (see Table 1).

3 Laboratory Procedures and Results

All soil samples were immediately placed in laboratory provided glassware and labeled with a tag indicating the date, time, sample number, sampler's name, and analysis to be conducted. The samples were placed in a cooler, chilled with ice to approximately 4° C, and transported to an analytical laboratory in accordance with EPA approved chain-of-custody procedures. All soil samples were analyzed for total petroleum hydrocarbons (TPH) by laboratory gas chromatograph (GC) according to SW-846 Extraction Methods 3550 and 5030. Extraction Method 3550 is used to extract the heavier weight hydrocarbons such as diesel fuel, kerosene, and #2 fuel oil. Extraction Method 5030 is used to extract the lighter weight hydrocarbons such as gasoline. These laboratory analyses support the OVA readings and document the closure assessment.

3.1 *SERVCO (Parcel 5)*

Laboratory analytical results of the soil samples collected from the UST excavations at the SERVCO site exhibited TPH levels of 7.7 mg/kg (P28-1N), 76 mg/kg (P28-1S), and 470 mg/kg (P28-2S), identified with a distillation range similar to #2 fuel oil. Soil sample P28-2N exhibited a TPH level of 2,000 mg/kg, identified with a distillation range similar to kerosene (see Table 1 and Attachment B).

3.2 *Hardy Property (Parcel 28)*

Laboratory analytical results of the soil samples collected from the UST excavations at the Hardy property exhibited TPH levels of 14 mg/kg (P5-1W), 1,200 mg/kg (P5-2E), and 22 mg/kg (P5-2W), identified with a distillation range similar to #2 fuel oil. Soil sample P5-1E did not exhibit TPH levels above the laboratory method detection limit of 2.0 mg/kg (see Table 1 and Attachment B).

4 Remobilization and Additional Soil Excavation

On November 9, 1992, Aquaterra mobilized an environmental technician to the Hardy site to conduct additional soil excavation activities. Soil samples previously collected in the vicinity of the former 1,000 gallon gasoline UST (P5-2) exhibited TPH levels above the North Carolina Department of Environment, Health, and Natural Resources (NCDEHNR), Division of Environmental Management (DEM) action level of 40 mg/kg for #2 fuel oil. The soils in the area of the former 1,000 gallon gasoline UST were excavated and screened with an OVA. The OVA readings ranged from 150 ppm to 1,000 ppm during the excavation efforts. The additional excavation continued to the north approximately 15 feet and to the west approximately 10 feet from the initial excavation limits. The depth of the excavation varied from 3 to 8 feet deep with apparent ground water encountered at a depth of approximately 8 feet. One in situ soil sample (Pit-2E) and one pit water sample (Pit-2) were collected for laboratory analysis (see Figure 4). Once apparent ground water was encountered, the excavation was halted in this area.

Additional soil excavation was also conducted in the area east of the former diesel/kerosene UST P5-1. This area was targeted due to surface staining and elevated TPH levels discovered during pre-assessment activities at the site. Soils exhibiting surface staining were excavated and screened with an OVA for total VOCs according to the methods previously described. At a depth of approximately 3 feet, OVA readings ranged from 1 to 10 ppm and excavation was halted. One additional soil sample (S-1) was collected approximately 4 feet south and 3 feet east of the former 1,000 gallon diesel/kerosene UST P5-1 at a depth of 3 feet below the ground surface (see Figure 4).

Approximately 130 cubic yards of petroleum hydrocarbon contaminated soils were excavated during the remobilization efforts. The soils were placed on and covered with polyethylene sheeting. It is Aquaterra's understanding that the excavated soils are the responsibility of the NCDOT.

5 Laboratory Procedures and Results

The soil and water samples collected during the remobilization excavations were transported to the analytical laboratory according to the methods previously described. The soil samples were analyzed for TPH by GC according to SW-846 Extraction Methods 3550 and 5030. The water sample was analyzed for purgeable halocarbons according to EPA Method 601, for purgeable aromatics according to EPA Method 602, and for base/neutral extractables according to EPA Method 625.

Laboratory analytical results of soil sample Pit-2E exhibited TPH at a level of 100 mg/kg identified with a distillation range similar to #2 fuel oil. Soil sample S-1 exhibited TPH at a level of 2.5 mg/kg identified with a distillation range similar to #2 fuel oil (see Table 2 and Attachment C). The pit water sample (Pit-2) exhibited (2 µg/L) xylenes. No other purgeable aromatics, purgeable halocarbons or base/neutral parameters were detected.

6 Conclusions and Recommendations

6.1 *SERVCO (Parcel 5)*

Based on the laboratory analytical results of the soil samples collected from beneath the former 2,000 gallon and 3,000 gallon kerosene USTs, petroleum hydrocarbon contamination exists in the soils surrounding the USTs at a depth of approximately 10 feet. It is also possible that these soils are in contact with shallow ground water due to moist soils being noted at approximately 10 feet during the UST removal. The contamination was identified with a distillation range similar to kerosene (ranging from 7.7 mg/kg to 470 mg/kg) and #2 fuel oil (2,000 mg/kg). These results indicate that either the USTs have contained a product other than kerosene in the past or some of the existing USTs at the SERVCO site are contributing to the contamination encountered in the UST excavation. Aquaterra recommends in situ treatment of the petroleum hydrocarbon contaminated soil due to the unstable nature of the embankment during the UST removals. Aquaterra also recommends that a shallow ground water monitoring well be installed in the vicinity of the former USTs excavation to determine if the shallow ground water has been impacted by a release from the USTs..

6.2 *Hardy Property (Parcel 28)*

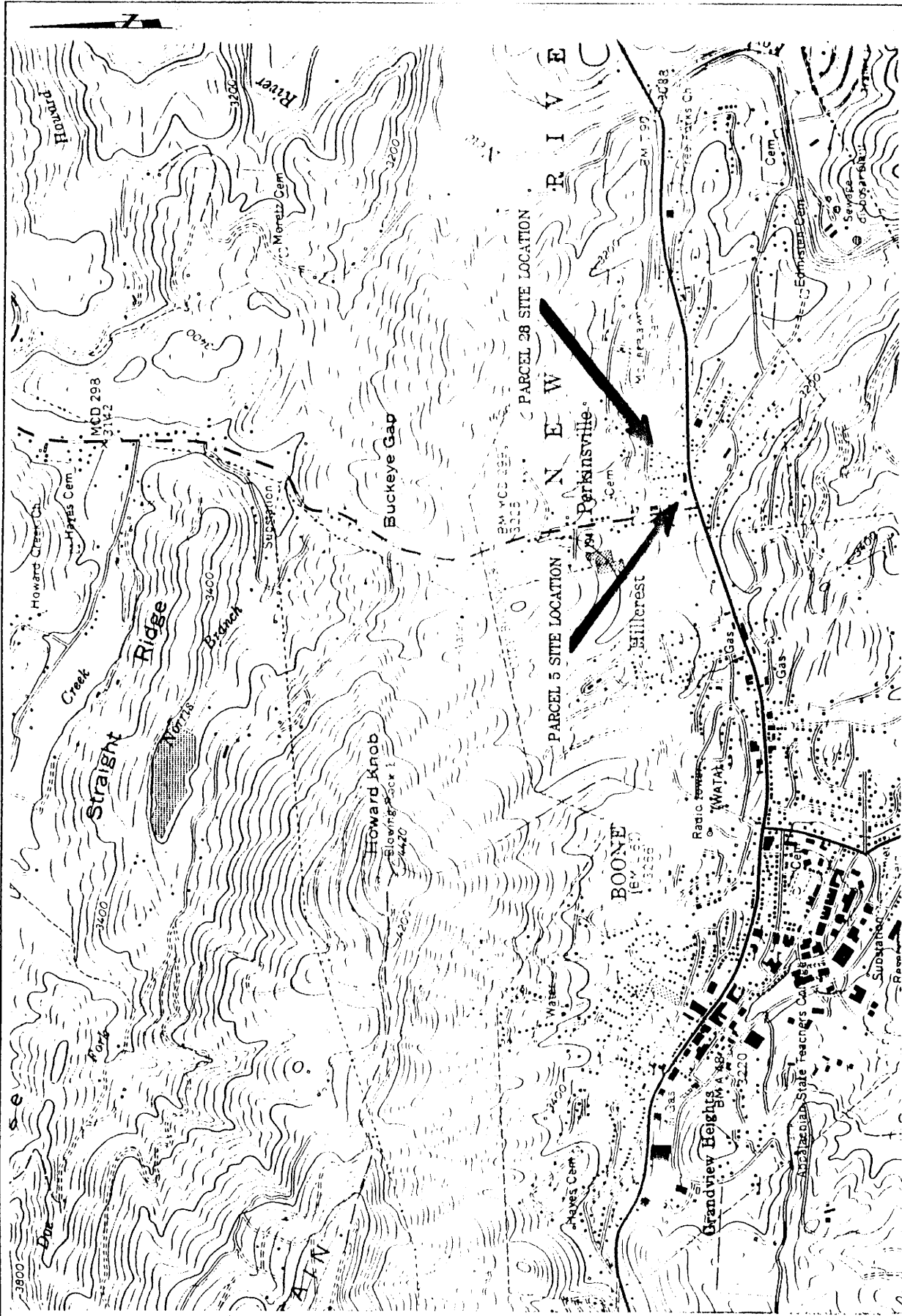
Based on the laboratory analytical results of the soil samples collected from beneath the former 1,000 gallon kerosene/diesel fuel UST (P5-1) and the sample collected after the removal of petroleum hydrocarbon contaminated soil adjacent to the former UST, Aquaterra does not recommend additional assessment activities in this area. The soil samples did not exhibit TPH levels above the DEM soil clean-up level of 40 mg/kg for SW-846 Method 3550 parameters.


Based on the laboratory analytical results of the samples collected from the former 1,000 gallon gasoline UST (P5-1) excavation, petroleum hydrocarbon contamination is present and in contact with the ground water. Petroleum hydrocarbons were

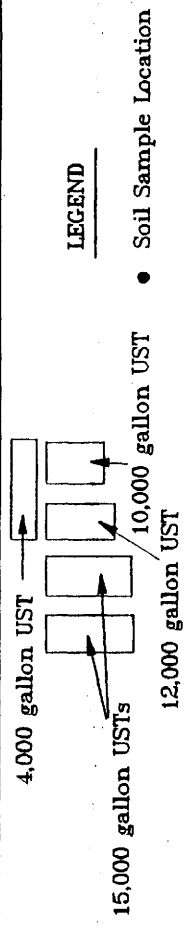
identified with a distillation range similar to #2 fuel oil at a concentration of 100 mg/kg at a depth of 8 feet at which point ground water was observed to be seeping into the pit. The sample collected from the pit water identified xylenes ($2 \mu\text{g/L}$) only to be present at this time in the shallow ground water. Although this concentration is below the North Carolina Water Quality Standard for xylenes ($400 \mu\text{g/L}$), it is likely that the DEM will require a ground water monitoring program be initiated to ensure that ground water quality will not be contravened in the future by the residual TPH in the soils. Aquaterra therefore recommends that a shallow ground water monitoring well be installed in the immediate vicinity of the former 1,000 gallon gasoline UST excavation, to monitor the ground water quality.

Aquaterra also recommends that a copy of this closure assessment report be submitted to the NCDEHNR, DEM, Winston-Salem Regional Office at the following address:

NCDEHNR, DEM
Winston-Salem Regional Office
8025 North Point Boulevard, Suite 100
Winston-Salem, North Carolina 27106

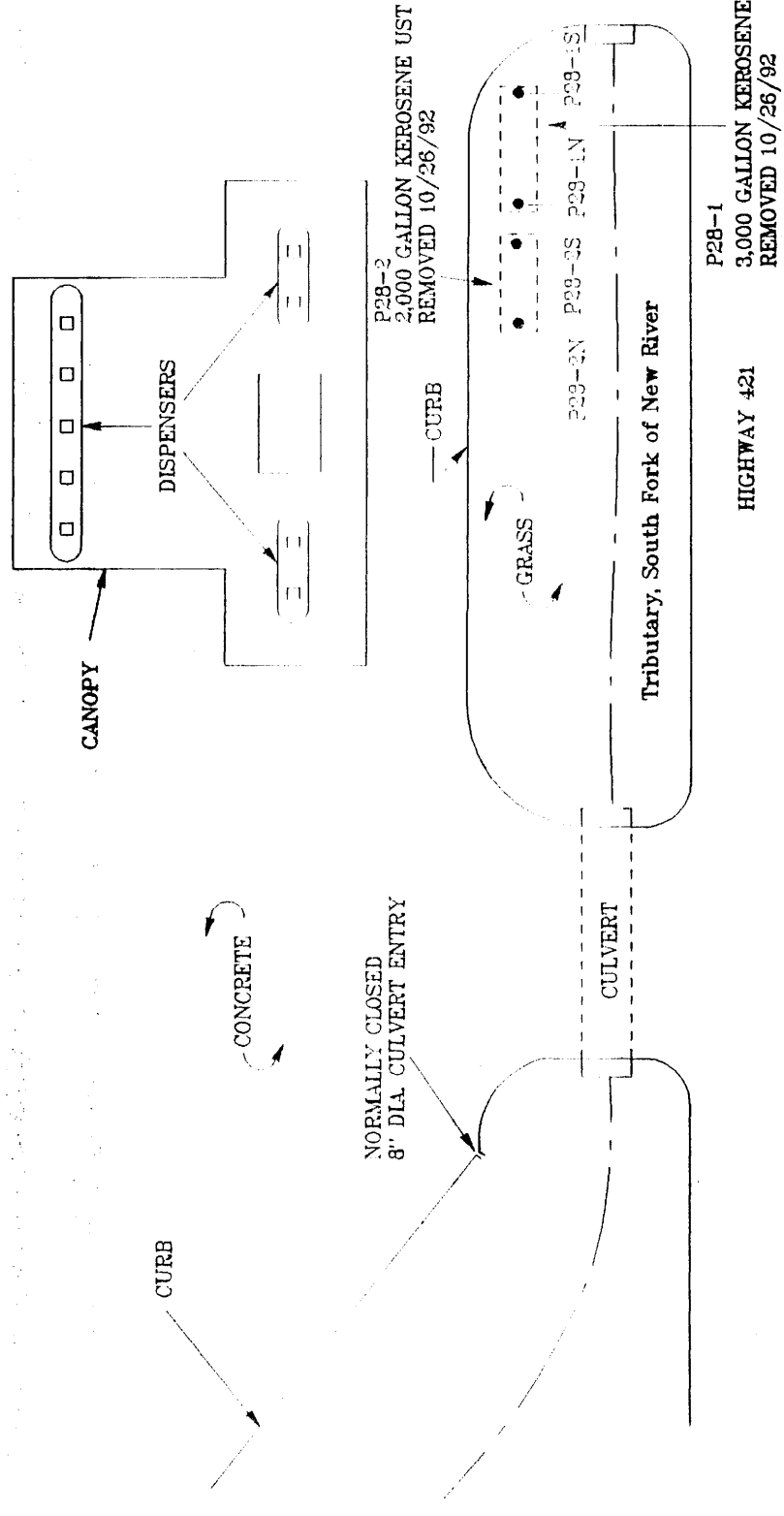



 AQUATERRA, INC. RALEIGH GREENSBORO, CHARLOTTE NORTH CAROLINA	Author	ACB	Drawing	N/A	Layers	0.1	Date	11/10/92	Title	Site Location Map
	Job No.	G781	Revision	N/A	Figure	1	App. Scale	1:24000	Project	6.759001T (R529A) Watauga County Boone, North Carolina



LEGEND

● Soil Sample Location

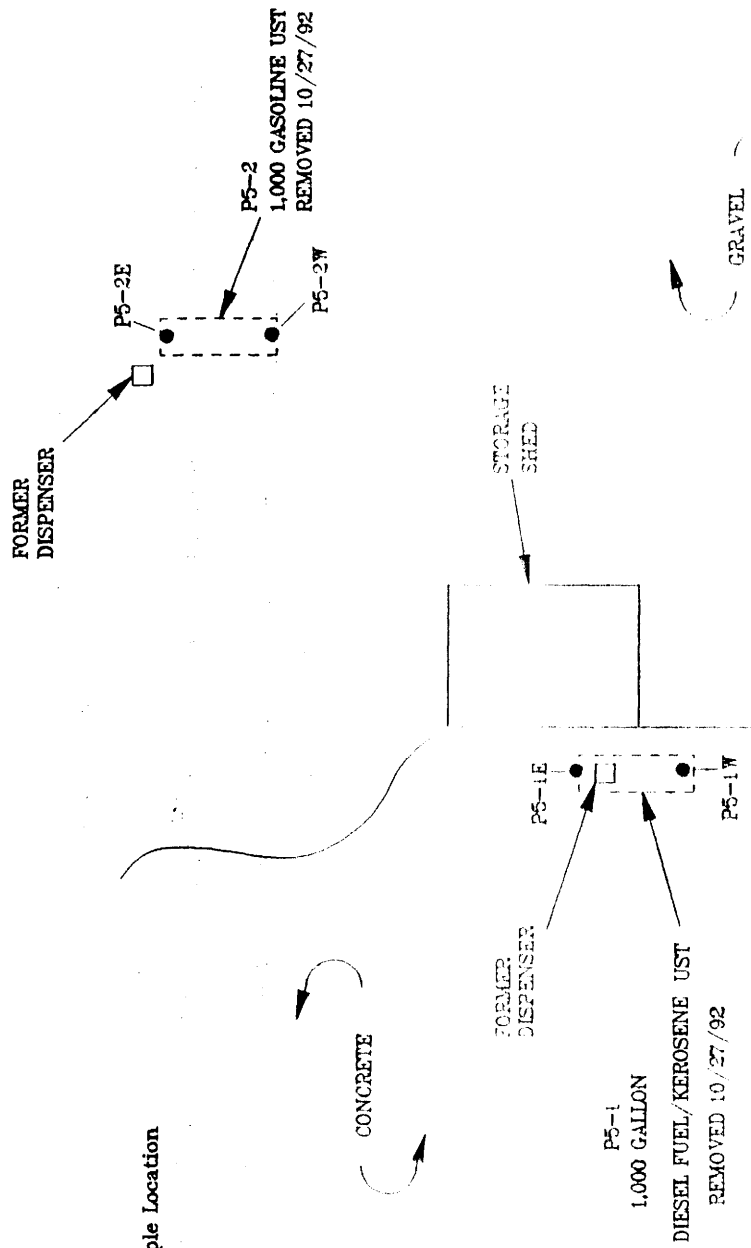



 <p>AQUATERRA, INC. RALEIGH, GREENSBORO, CHARLOTTE N O R T H C A R O L I N A</p>		<p>Author ACB</p> <p>Job No. G781</p>	<p>Drawing G781-4</p> <p>Revision</p>	<p>Layers 0.1, 2</p> <p>Figure 2</p>	<p>Date 11/10/92</p> <p>App. Scale 1"=30'</p>	<p>Title Service Distributing Co. Inc. (Parcel 5) Soil Sample Location</p> <p>Project 6.759001T (R529A) Watauga County Boone, North Carolina</p>
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LEGEND

● Soil Sample Location



 AQUATERRA, INC. RALEIGH, GREENSBORO, CHARLOTTE NORTH CAROLINA		Author	ACB	Drawing	G781-5	Layers	0.1,2	Date	11/10/92	Title	Alvin and Carole Hardy (Parcel 28) Soil Sample Location Map
		Job No.	G781	Revision		Figure	3	App. Scale	1"=20'	Project	6.759001T (P529A) Watauga County Boone, North Carolina



PIT-2 (WATER SAMPLE)

PIT-2E

EXCAVATION LIMITS

P5-2
1,000 GALLON
GASOLINE UST
REMOVED 10/27/92

STORAGE
SHED

GRAVEL

EXCAVATION LIMITS

S-1

FORMER
DISPENSER

CONCRETE

P5-1
1,000 GALLON
DIESEL FUEL/KEROSENE UST
REMOVED 10/27/92

LEGEND

● Sample Location



AQUATERRA, INC.

RALEIGH, GREENSBORO, CHARLOTTE
N O R T H C A R O L I N A

Author	ACB	Drawing	G781-6	Layers	0.1.2	Date	11/10/92	Title	Alvin and Carole Hardy (Parcel 28)
Job No.	G781	Revision		Figure	4	App. Scale	1"=20'	Project	Soil and Water Sample Location Map
								6.759001T (P529A)	
								Watauga County	
								Boone, North Carolina	

Table 1. Soil Sample OVA Readings and Laboratory Analytical Results for NCDOT State Project 6.759001T (R-529A), Boone, North Carolina.

Sample ID	Date	Depth (feet)	OVA (ppm)	TPH by GC	
				Method 3550 (mg/kg)	Method 5030 (mg/kg)
<i>SERVCO Property</i>					
P28-1N	10-26-92	10	>1,000	7.7 ^a	<2.0
P28-1S	10-26-92	10	30	76 ^a	<2.0
P28-2N	10-26-92	10	>1,000	2,000 ^b	<5.0
P28-2S	10-26-92	10	>1,000	470 ^a	<5.0
<i>Hardy Property</i>					
P5-1E	10-27-92	8	20	<2.0	<2.0
P5-1W	10-27-92	8	50	14 ^a	<2.0
P5-2E	10-27-92	8	35	1,200 ^a	<2.0
P5-2W	10-27-92	8	20	22 ^a	<2.0

^aIdentified with a distillation range similar to #2 fuel oil.

^bIdentified with a distillation range similar to kerosene.

Analytical Laboratory: Industrial & Environmental Analysts, Inc.
Cary, North Carolina

Aquaterra Job No. G781
GR131-92

Table 2. Additional Excavation Soil Sample Laboratory Analytical Results for NCDOT State Project 6.759001T (R-529A), Boone, North Carolina.

Sample ID	Date	Depth (feet)	TPH by GC	
			Method 3550 (mg/kg)	Method 5030 (mg/kg)
Pit-2E	11-9-92	8	100 ^a	<2.0
S-1	11-9-92	3	2.5 ^a	<2.0

^aIdentified with a distillation range similar to #2 fuel oil.

*Analytical Laboratory: Industrial & Environmental Analysts, Inc.
Cary, North Carolina*

*Aquaterra Job No. G781
GR131-92*

Table 3. Water Sample Laboratory Analytical Results for NCDOT State Project 6.759001T (R-529A), Boone, North Carolina.

Sample ID	Date	Xylenes ($\mu\text{g/L}$)	North Carolina Water Quality Standard ($\mu\text{g/L}$)
Pit-2	11-9-92	2	400

All other EPA Method 601, 602, and 625 B/N parameters were below laboratory method detection limits.

*Analytical Laboratory: Industrial & Environmental Analysts, Inc.
Cary, North Carolina*

*Aquaterra Job No. G781
GR131-92*



FOUR SEASONS INDUSTRIAL SERVICES, INC.

Post Office Box 16590
Greensboro, North Carolina 27416
(919) 273-2718

NO 4353

NON-HAZARDOUS WASTE MANIFEST

Manifest # 4353 F.S.I.S. JOB # _____ Date: 10/26/92
 Generator: D.O.T. (Appl. Inc.) Phone No.: _____
BOONE N.C. EPA ID No.: N/A
 Contact: LAN

Process which generated waste:

I certify that the materials described below are properly described, classified, packaged, marked & labeled, and are in proper condition to be transported in commerce under the applicable regulations of the State, the Environmental Protection Agency and the Department of Transportation. I certify that the waste described below is non-hazardous. I certify that the specific waste was delivered to the carrier named below for legal treatment, storage, or disposal at the site indicated.

Date 10/26/92 Signature _____

Description of waste	Circle Form Solid Liquid Gas Sludge	Quantity	Circle Units Gallons) Cu. Yds. Pounds Tons	Container	
				No.	Type
<u>WASTE WATER W/ FIBER MIXTURES</u>		<u>1</u>		<u>1</u>	<u>7</u>

Transporter: FOUR SEASONS Unit Number(s) 4 1017
3107 S. Glenwood Phone No.: 719 275 2718
Greensboro, N.C. EPA ID No.: NC F971-7712
 Vehicle License Tag Number(s) 2 1 Container: 1 - KEN

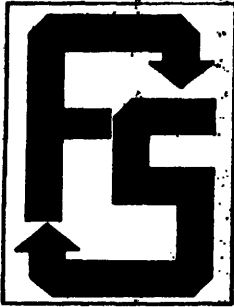
I certify that the specified waste was transferred in a registered (licensed) vehicle to the disposal treatment, storage, or disposal facility named below and was accepted.

Pick-up Driver's Signature _____ Date _____ Delivering Driver's Signature _____ Date _____

Facility: FOUR SEASONS Phone No.: 719 275 2718
WATSON AV
Greensboro, N.C. Contact: Waymon

Handling Method: PT 5011
 I certify that the transporter above delivered the specified material to this TSD facility and was accepted and properly handled in the above manner. We are authorized and qualified by the State of _____ to handle this material.

Date 10 27 92 Signature: _____

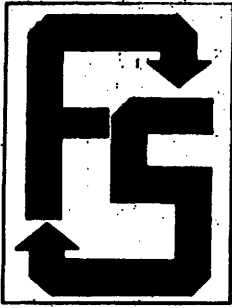


FOUR SEASONS INDUSTRIAL SERVICES, INC.

Post Office Box 16590
Greensboro, North Carolina 27416-0590
(919)273-2718

TANK DISPOSAL MANIFEST 9250290

1)	Tank Owner/Authorized Representative: Name and Mailing Address _____ <u>D.O.T. Agency 102127</u> <u>Boone, N.C.</u>			
2)	Tank Owner/Authorized Representative: Phone No. (____) _____			
3)	Description of Tanks:			
	<u>Tank No.</u>	<u>Capacity</u>	<u>Previous Contents</u>	<u>Comments</u>
	<u>E-28-1</u>	<u>3,000</u>	<u>Acetone</u>	<u>GOOD</u>
			<u>#299</u>	
4)	Tank Owner/Authorized Representative Certification: The undersigned certifies that the above listed storage tanks have been removed from the premises of the tank Owner.			
	<u>Alan BURWELL</u>	<u>[Signature]</u>	<u>10/28/92</u>	
	Printed/Typed Name	Signature	Month Day Year	
5)	Transporter: The undersigned certifies that the above listed storage tanks have been transported to the Four Seasons Industrial Services facility at 519 Patton Ave. Greensboro, N.C.			
	<u>NAT Festerman</u>	<u>[Signature]</u>	<u>10-28-92</u>	
	Printed/Typed Name	Signature	Month Day Year	
6)	Decontamination Manager: The undersigned certifies that the above listed storage tanks have been cleaned and scrapped.			
	<u>Wayman H. Autry Jr.</u>	<u>[Signature]</u>	<u>10-29-92</u>	
	Printed/Typed Name	Signature	Month Day Year	
7)	Disposal Certification: The undersigned certifies that the above-named storage tank(s) have been cut into scrap pieces and accepted by the metal recycling facility			
	Recycling Facility: <u>W H Griffin Wrecking Co</u>			
	<u>Robert Fields</u>	<u>[Signature]</u>	<u>10-30-92</u>	
	Printed/Typed Name	Signature	Month Day Year	



FOUR SEASONS INDUSTRIAL SERVICES, INC.

Post Office Box 16590
Greensboro, North Carolina 27416-0590
(919)273-2718

TANK DISPOSAL MANIFEST 9250390

1) Tank Owner/Authorized Representative: Name and Mailing Address _____ <u>Patricia DOT. AQUILA LERDA</u>			
2) Tank Owner/Authorized Representative: Phone No. () _____			
3) Description of Tanks:			
<u>Tank No.</u>	<u>Capacity</u>	<u>Previous Contents</u>	<u>Comments</u>
<u>028-2</u>	<u>2,000</u>	<u>KEROSENE</u>	<u>GOOD</u> <u># 300</u>
4) Tank Owner/Authorized Representative Certification: The undersigned certifies that the above listed storage tanks have been removed from the premises of the tank Owner.			
<u>Alan BURKELL</u> Printed/Typed Name	<u>Alan Burkell</u> Signature		<u>10/28/92</u> Month Day Year
5) Transporter: The undersigned certifies that the above listed storage tanks have been transported to the Four Seasons Industrial Services facility at 519 Patton Ave. Greensboro, N.C.			
<u>NAT FesterMAN</u> Printed/Typed Name	<u>Nat Fester</u> Signature		<u>10-28-92</u> Month Day Year
6) Decontamination Manager: The undersigned certifies that the above listed storage tanks have been cleaned and scrapped.			
<u>Wayman H. Astory Jr.</u> Printed/Typed Name	<u>Wayman H. Astory Jr.</u> Signature		<u>10-29-92</u> Month Day Year
7) Disposal Certification: The undersigned certifies that the above-named storage tank(s) have been cut into scrap pieces and accepted by the metal recycling facility.			
Recycling Facility: <u>DH Saffin Wrecking Co.</u>			
<u>Robert Fields</u> Printed/Typed Name	<u>Robert Fields</u> Signature		<u>10-30-92</u> Month Day Year

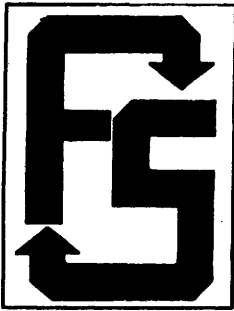


FOUR SEASONS INDUSTRIAL SERVICES, INC.

Post Office Box 16590
Greensboro, North Carolina 27416-0590
(919)273-2718

TANK DISPOSAL MANIFEST 9250290

1) Tank Owner/Authorized Representative: Name and Mailing Address			
D.O.T. Aqua Terra			
2) Tank Owner/Authorized Representative: Phone No. ()			
3) Description of Tanks:			
<u>Tank No.</u>	<u>Capacity</u>	<u>Previous Contents</u>	<u>Comments</u>
P-5-1	1,000	Kerosene	GOOD #302
4) Tank Owner/Authorized Representative Certification: The undersigned certifies that the above listed storage tanks have been removed from the premises of the tank Owner.			
Alan BURENELL	<i>Alan Burenell</i>		10/28/92
Printed/Typed Name	Signature		Month Day Year
5) Transporter: The undersigned certifies that the above listed storage tanks have been transported to the Four Seasons Industrial Services facility at 519 Patton Ave. Greensboro, N.C.			
James P. Berruth	<i>J-P B</i>		10-28-92
Printed/Typed Name	Signature		Month Day Year
6) Decontamination Manager: The undersigned certifies that the above listed storage tanks have been cleaned and scrapped.			
Waymon H. Autry	<i>Waymon H. Autry</i>		10-29-92
Printed/Typed Name	Signature		Month Day Year
7) Disposal Certification: The undersigned certifies that the above-named storage tank(s) have been cut into scrap pieces and accepted by the metal recycling facility.			
Recycling Facility: <i>W H Griffin Wrecking Co.</i>			
Robert Fields	<i>Robert Fields</i>		10-30-92
Printed/Typed Name	Signature		Month Day Year



FOUR SEASONS INDUSTRIAL SERVICES, INC.

Post Office Box 16590
Greensboro, North Carolina 27416-0590
(919)273-2718

TANK DISPOSAL MANIFEST 9250290

1)	Tank Owner/Authorized Representative: Name and Mailing Address _____ <u>D.O.T. AQUA TERZA</u> <u>BOONE, N.C.</u>			
2)	Tank Owner/Authorized Representative: Phone No. () _____			
3)	Description of Tanks:			
	<u>Tank No.</u>	<u>Capacity</u>	<u>Previous Contents</u>	<u>Comments</u>
	<u>P-5-2</u>	<u>1,000</u>	<u>GASOLINE</u>	<u>Scrap</u>
4)	Tank Owner/Authorized Representative Certification: The undersigned certifies that the above listed storage tanks have been removed from the premises of the tank Owner.			
	<u>Alan Brubaker</u> Printed/Typed Name	<u>Alan Brubaker</u> Signature	<u>10/28/92</u> Month Day Year	
5)	Transporter: The undersigned certifies that the above listed storage tanks have been transported to the Four Seasons Industrial Services facility at 519 Patton Ave. Greensboro, N.C.			
	<u>Jim Bennett</u> Printed/Typed Name	<u>J. Bennett</u> Signature	<u>10/28/92</u> Month Day Year	
6)	Decontamination Manager: The undersigned certifies that the above listed storage tanks have been cleaned and scrapped.			
	<u>Wayman H. Astley Jr</u> Printed/Typed Name	<u>Wayman H. Astley Jr</u> Signature	<u>10-29-92</u> Month Day Year	
7)	Disposal Certification: The undersigned certifies that the above-named storage tank(s) have been cut into scrap pieces and accepted by the metal recycling facility.			
	Recycling Facility: <u>W H Griffin Wrecking Co.</u>			
	<u>Robert Fields</u> Printed/Typed Name	<u>Robert Fields</u> Signature	<u>10-30-92</u> Month Day Year	

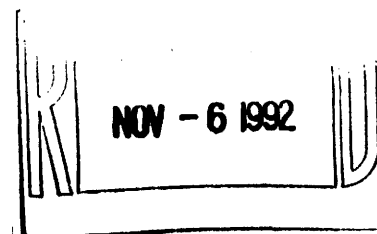


IEA
An Aquarion Company

An Environmental Testing Company
Post Office Box 12846
Research Triangle Park, NC 27709

Phone 919-677-0090
Fax 919-677-0427

November 6, 1992



Sue Kite
Aquaterra, Inc.
319 J South Westgate Drive
Greensboro, NC 27407

IEA Project No.: 835728
IEA Reference No.: W9210553
Client Project I.D.: G781

Dear Ms. Kite,

Transmitted herewith are the results of analyses on eight samples submitted to our laboratory.

The sample(s) were received chilled and intact.

Analyses were performed according to approved methodologies and meet the requirements of the IEA Quality Assurance Program except where noted. Please see the enclosed reports for your results and a copy of the Chain of Custody documentation.

Please do not hesitate to call your Client Account Representative should you have any questions regarding this report.

Very truly yours,

IEA, Inc.

Linda F. Mitchell
Director, Technical Support Services

State Certification:

Georgia - #816	Tennessee - #00296	Alabama - #40210
New Jersey - #67719	Virginia - #00179	South Carolina - #99021
California - #1768	West Virginia - #50	North Carolina - #37720/#84
Massachusetts - NC039	Kentucky - #90049	Kansas - E-158/E-1189

Monroe,
Connecticut
203-261-4458

Sunrise,
Florida
305-846-1730

Schaumburg,
Illinois
708-705-0740

N Billerica,
Massachusetts
617-272-5212

Whippany,
New Jersey
201-428-8181

Essex Junction,
Vermont
802-878-5138



IEA

An Aquarion Company

Total Petroleum Hydrocarbon Analysis

IEA Sample No:	835-728-1	Date Sampled:	10-26-92
Client Sample No:	P28-1N	Date Received:	10-28-92
Client Project No:	G781	Date Extracted:	11-03-92

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil, kerosene, varsol)
 Date Analyzed: 11-03-92 Analyzed by: Burke
 Time Analyzed: 2331

The sample contains a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil. The concentration is 7.7 mg/kg. The quantitation limit is 2.0 mg/kg.

Comment:

=====

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
 Date Analyzed: 10-30-92 Analyzed by: Burke
 Time Analyzed: 2240

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:

FAX



Total Petroleum Hydrocarbon Analysis

IEA Sample No: 835-728-2 Date Sampled: 10-26-92
Client Sample No: P28-1S Date Received: 10-28-92
Client Project No: G781 Date Extracted: 11-03-92

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil, kerosene, varsol)
Date Analyzed: 11-04-92 Analyzed by: Burke
Time Analyzed: 0013

The sample contains a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil. The concentration is 76 mg/kg. The quantitation limit is 2.0 mg/kg.

Comment:

=====
Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
Date Analyzed: 10-30-92 Analyzed by: Burke
Time Analyzed: 2315

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:

FAX



IEA

An Aquarion Company

Total Petroleum Hydrocarbon Analysis

IEA Sample No:	835-728-3	Date Sampled:	10-26-92
Client Sample No:	P28-2N	Date Received:	10-28-92
Client Project No:	G781	Date Extracted:	11-03-92

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil, kerosene, varsol)
 Date Analyzed: 11-04-92 Analyzed by: Burke
 Time Analyzed: 0922

The sample contains a petroleum hydrocarbon blend with a distillation range similar to kerosene. The concentration is 2000 mg/kg. The quantitation limit is 200 mg/kg.

Comment:

Quantitation limit elevated due to extract dilution prior to analysis. Extract diluted due to the presence of target compounds.

=====

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
 Date Analyzed: 10-30-92 Analyzed by: Burke
 Time Analyzed: 2350

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 5.0 mg/kg.

Comment:

Quantitation limit elevated due to sample dilution prior to analysis. Sample diluted due to the presence of non-target compounds.

FAX



Total Petroleum Hydrocarbon Analysis

IEA Sample No: 835-728-4 Date Sampled: 10-26-92
 Client Sample No: P28-2S Date Received: 10-28-92
 Client Project No: G781 Date Extracted: 11-03-92

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil, kerosene, varsol)
 Date Analyzed: 11-04-92 Analyzed by: Burke
 Time Analyzed: 1005

The sample contains a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil. The concentration is 470 mg/kg. The quantitation limit is 40 mg/kg.

Comment:

Quantitation limit elevated due to extract dilution prior to analysis. Extract diluted due to the presence of target compounds.

=====

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
 Date Analyzed: 10-31-92 Analyzed by: Burke
 Time Analyzed: 0024

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 5.0 mg/kg.

Comment:

Quantitation limit elevated due to sample dilution prior to analysis. Sample diluted due to the presence of non-target compounds.

FAX



IEA

An Aquarion Company

Total Petroleum Hydrocarbon Analysis

IEA Sample No: 835-728-5 Date Sampled: 10-27-92
Client Sample No: P5-1E Date Received: 10-28-92
Client Project No: G781 Date Extracted: 11-03-92

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil, kerosene, varsol)
Date Analyzed: 11-04-92 Analyzed by: Burke
Time Analyzed: 0220

The sample does not contain a petroleum hydrocarbon blend in the distillation range referenced above. The quantitation limit is 2.0 mg/kg.

Comment:

=====

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
Date Analyzed: 10-31-92 Analyzed by: Burke
Time Analyzed: 0059

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:

FAX



Total Petroleum Hydrocarbon Analysis

IEA Sample No: 835-728-6 Date Sampled: 10-27-92
 Client Sample No: P5-1W Date Received: 10-28-92
 Client Project No: G781 Date Extracted: 11-03-92

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil, kerosene, varsol)
 Date Analyzed: 11-04-92 Analyzed by: Burke
 Time Analyzed: 0302

The sample contains a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil. The concentration is 14 mg/kg. The quantitation limit is 2.0 mg/kg.

Comment:

=====

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
 Date Analyzed: 10-31-92 Analyzed by: Burke
 Time Analyzed: 0243

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:

FAX



IEA

An Aquarion Company

Total Petroleum Hydrocarbon Analysis

IEA Sample No:	835-728-7	Date Sampled:	10-27-92
Client Sample No:	P5-2E	Date Received:	10-28-92
Client Project No:	G781	Date Extracted:	11-03-92

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil, kerosene, varsol)
 Date Analyzed: 11-04-92 Analyzed by: Burke
 Time Analyzed: 0922

The sample contains a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil. The concentration is 1200 mg/kg. The quantitation limit is 200 mg/kg.

Comment:

Quantitation limit elevated due to extract dilution prior to analysis. Extract diluted due to the presence of target compounds.

=====

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
 Date Analyzed: 10-31-92 Analyzed by: Burke
 Time Analyzed: 0317

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:

FAX



Total Petroleum Hydrocarbon Analysis

IEA Sample No:	835-728-8	Date Sampled:	10-27-92
Client Sample No:	P5-2W	Date Received:	10-28-92
Client Project No:	G781	Date Extracted:	11-03-92

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil, kerosene, varsol)
Date Analyzed: 11-04-92 Analyzed by: Burke
Time Analyzed: 0427

The sample contains a petroleum hydrocarbon blend with a distillation range similar to #2 fuel oil. The concentration is 22 mg/kg. The quantitation limit is 2.0 mg/kg.

Comment:

=====

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
Date Analyzed: 10-31-92 Analyzed by: Burke
Time Analyzed: 0352

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:

FAX

Total Petroleum Hydrocarbon Analysis

IEA Sample No: 835-728 Date Sampled: N/A
Client Sample No: QC Blank Date Received: N/A
Client Project No: G781 Date Extracted: 11-03-92

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil, kerosene, varsol)
Date Analyzed: 11-03-92 Analyzed by: Burke
Time Analyzed: 2124

The sample does not contain a petroleum hydrocarbon blend in the distillation range referenced above. The quantitation limit is 2.0 mg/kg.

Comment:
N/A=Not Applicable
Corresponding Samples: 835-728-1 through 835-728-8

=====
Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
Date Analyzed: 10-30-92 Analyzed by: Burke
Time Analyzed: 0825

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:
N/A=Not Applicable
Corresponding Samples: 835-728-1 through 835-728-8

FAX

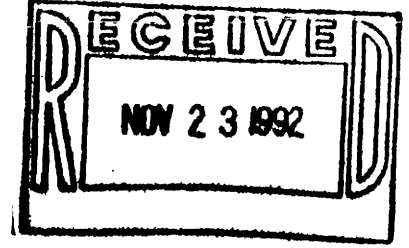
CHAIN OF CUSTODY RECORD

PROJ NO	PROJECT NAME		NO OF CONTAINERS	REMARKS
	DATE	TIME		
1781	DET - BONE			
SAMPLERS: (Signature) <i>[Signature]</i>				
STA NO.	DATE	TIME	STATION LOCATION	NO OF CONTAINERS
P28-1N	1/24/12	X	Station 1	2
P28-1S	1/24/12	X	Station 1	2
P28-2N	1/24/12	X	Station 1	2
P28-2S	1/24/12	X	Station 1	2
P5-1E	1/27/12	X	Station 1	2
P5-1W	1/27/12	X	Station 1	2
P5-2E	1/27/12	X	Station 1	2
P5-2W	1/27/12	X	Station 1	2
<p><i>[Handwritten notes in Remarks column: "Send assets to Excelsior S/C", "Jim Kay / Rob Burchell", "1/27/12 Journey end"]</i></p>				
Received by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Received by: (Signature)
<i>[Signature]</i>	1/28/12	<i>[Signature]</i>		
Relinquished by: (Signature)	Date / Time	Relinquished by: (Signature)	Date / Time	Relinquished by: (Signature)
<i>[Signature]</i>	1/28/12	<i>[Signature]</i>		
Received by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Received by: (Signature)
<i>[Signature]</i>	1/28/12	<i>[Signature]</i>		
Relinquished by: (Signature)	Date / Time	Relinquished by: (Signature)	Date / Time	Relinquished by: (Signature)
<i>[Signature]</i>		<i>[Signature]</i>		
Remarks			Date / Time	
			1/28/12	12:30
<p>10 # 1-2247 LEA # 35-728</p>				

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory; Pink copy retained by samplers. Yellow copy retained by laboratory.



November 20, 1992



Susan Kite
Aquaterra, Inc.
319 J South Westgate Drive
Greensboro, NC 27407

IEA Project No.: 835733
IEA Reference No.: W9211174
Client Project I.D.: G781

Dear Ms. Kite,

Transmitted herewith are the results of analyses on two samples submitted to our laboratory.

The sample(s) were received chilled and intact.

Analyses were performed according to approved methodologies and meet the requirements of the IEA Quality Assurance Program except where noted. Please see the enclosed reports for your results and a copy of the Chain of Custody documentation.

Please do not hesitate to call your Client Account Representative should you have any questions regarding this report.

Very truly yours,

IEA, Inc.

Linda F. Mitchell
Director, Technical Support Services

State Certification:

Georgia - #816	Tennessee - #00296	Alabama - #40210
New Jersey - #67719	Virginia - #00179	South Carolina - #99021
California - #1768	West Virginia - #50	North Carolina - #37720/#84
Massachusetts - NC039	Kentucky - #90049	Kansas - E-158/E-1189



Total Petroleum Hydrocarbon Analysis

IEA Sample No:	835-733	Date Sampled:	N/A
Client Sample No:	QC Blank	Date Received:	N/A
Client Project No:	G781	Date Extracted:	11-13-92

Extraction (SW 846 - 3550) / GC-FID analysis (for #2 fuel oil, kerosene, varsol)
Date Analyzed: 11-13-92 Analyzed by: Burke
Time Analyzed: 1847

The sample does not contain a petroleum hydrocarbon blend in the distillation range referenced above. The quantitation limit is 2.0 mg/kg.

Comment:
N/A = Not Applicable
Corresponding Samples: 835-733-1 & 835-73-2

=====
Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
Date Analyzed: 11-12-92 Analyzed by: Burke
Time Analyzed: 1110

The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:
N/A = Not Applicable
Corresponding Sample: 835-733-1

FAX



IEA
An Aquarion Company

Total Petroleum Hydrocarbon Analysis

IEA Sample No: 835-733 Date Sampled: N/A
Client Sample No: QC Blank Date Received: N/A
Client Project No: G781

Purge and Trap (SW 846 - 5030) / GC-FID analysis (for gasoline only)
Date Analyzed: 11-14-92 Analyzed by: Joaquin
Time Analyzed: 0619

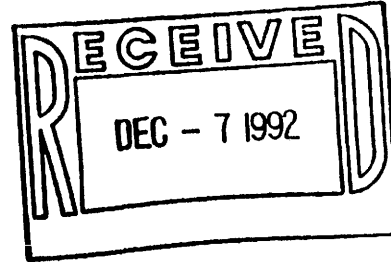
The sample does not contain a petroleum hydrocarbon blend with a distillation range similar to gasoline. The quantitation limit is 2.0 mg/kg.

Comment:
N/A = Not Applicable
Corresponding Sample: 835-733-2

FAX



December 7, 1992



Susan Kite
Aquaterra, Inc.
319J South Westgate Drive
Greensboro, NC 27407

IEA Project No.: 835733(0)
IEA Reference No.: W9211174
Client Project I.D.: G781

Dear Ms. Kite,

Transmitted herewith are the results of analyses on one sample submitted to our laboratory.

The sample(s) were received chilled and intact.

Analyses were performed according to approved methodologies and meet the requirements of the IEA Quality Assurance Program except where noted. Please see the enclosed reports for your results and a copy of the Chain of Custody documentation.

Please do not hesitate to call your Client Account Representative should you have any questions regarding this report.

Very truly yours,

IEA, Inc.

Darlene K. Brandt
for

Linda F. Mitchell
Director, Technical Support Services

State Certification:

Georgia - #816	Tennessee - #00296	Alabama - #40210
New Jersey - #67719	Virginia - #00179	South Carolina - #99021
California - #1768	West Virginia - #50	North Carolina - #37720/#84
Massachusetts - NC039	Kentucky - #90049	Kansas - E-158/E-1189

Monroe,
Connecticut
203-261-4458

Sunrise,
Florida
305-846-1730

Schaumburg,
Illinois
708-705-0740

N. Billerica,
Massachusetts
617-272-5212

Whippany,
New Jersey
201-428-8181

Essex Junction,
Vermont
802-878-5138

PURGEABLE AROMATICS
EPA 602 COMPOUND LIST

IEA Sample Number:	835-733(0)-1	Date Received:	11/11/92
Client Name:	Aquaterra	Date Sampled:	11/09/92
Client Project ID:	G781	Date Analyzed:	11/13/92
Sample Identification:	Pit-2	Analysis By:	Ware
Matrix	Water	Dilution Factor:	1.0

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Benzene	1.0	BQL
2	Chlorobenzene	1.0	BQL
3	1,2-Dichlorobenzene	1.0	BQL
4	1,3-Dichlorobenzene	1.0	BQL
5	1,4-Dichlorobenzene	1.0	BQL
6	Ethylbenzene	1.0	BQL
7	Toluene	1.0	BQL
8	Xylenes (Total)	1.0	2

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit



**PURGEABLE AROMATICS
EPA 602 COMPOUND LIST**

IEA Sample Number:	835-733(0)	Date Received:	N/A
Client Name:	Aquaterra	Date Sampled:	N/A
Client Project ID:	G781	Date Analyzed:	11/12/92
Sample Identification:	QC Blank	Analysis By:	Ware
Matrix	Water	Dilution Factor:	1.0

Number	Compound	Quantitation	Results
		Limit (ug/L)	Concentration (ug/L)
1	Benzene	1.0	BQL
2	Chlorobenzene	1.0	BQL
3	1,2-Dichlorobenzene	1.0	BQL
4	1,3-Dichlorobenzene	1.0	BQL
5	1,4-Dichlorobenzene	1.0	BQL
6	Ethylbenzene	1.0	BQL
7	Toluene	1.0	BQL
8	Xylenes (Total)	1.0	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Samples: 835-733(0)-1



IEA

An Aquarion Company

PURGEABLE HALOCARBONS EPA 601 COMPOUND LIST

IEA Sample Number:	835-733(0)-1	Date Received:	11/11/92
Client Name:	Aquaterra	Date Sampled:	11/09/92
Client Project ID:	G781	Date Analyzed:	11/17/92
Sample Identification:	Pit-2	Analysis By:	Russell
Matrix:	Water	Dilution Factor:	1.0

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Chloromethane	1.0	BQL
2	Bromomethane	1.0	BQL
3	Vinyl Chloride	1.0	BQL
4	Dichlorodifluoromethane	1.0	BQL
5	Chloroethane	1.0	BQL
6	Methylene chloride	1.0	BQL
7	Trichlorofluoromethane	1.0	BQL
8	1,1-Dichloroethene	1.0	BQL
9	1,1-Dichloroethane	1.0	BQL
10	trans-1,2-Dichloroethene	1.0	BQL
11	Chloroform	1.0	BQL
12	1,2-Dichloroethane	1.0	BQL
13	1,1,1-Trichloroethane	1.0	BQL
14	Carbon tetrachloride	1.0	BQL
15	Bromodichloromethane	1.0	BQL
16	1,2-Dichloropropane	1.0	BQL
17	cis-1,3-Dichloropropene	1.0	BQL
18	Trichloroethene	1.0	BQL
19	trans-1,3-Dichloropropene	1.0	BQL
20	1,1,2-Trichloroethane	1.0	BQL
21	Dibromochloromethane	1.0	BQL
22	2-Chloroethylvinyl ether	1.0	BQL
23	Bromoform	1.0	BQL
24	Tetrachloroethene	1.0	BQL
25	1,1,2,2-Tetrachloroethane	1.0	BQL
26	Chlorobenzene	1.0	BQL
27	1,3-Dichlorobenzene	1.0	BQL
28	1,2-Dichlorobenzene	1.0	BQL
29	1,4-Dichlorobenzene	1.0	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit



PURGEABLE HALOCARBONS
EPA 601 COMPOUND LIST

IEA Sample Number:	835-733(0)	Date Received:	N/A
Client Name:	Aquaterra	Date Sampled:	N/A
Client Project ID:	G781	Date Analyzed:	11/16/92
Sample Identification:	QC Blank	Analysis By:	Ware
Matrix:	Water	Dilution Factor:	1.0

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Chloromethane	1.0	BQL
2	Bromomethane	1.0	BQL
3	Vinyl Chloride	1.0	BQL
4	Dichlorodifluoromethane	1.0	BQL
5	Chloroethane	1.0	BQL
6	Methylene chloride	1.0	BQL
7	Trichlorofluoromethane	1.0	BQL
8	1,1-Dichloroethene	1.0	BQL
9	1,1-Dichloroethane	1.0	BQL
10	trans-1,2-Dichloroethene	1.0	BQL
11	Chloroform	1.0	BQL
12	1,2-Dichloroethane	1.0	BQL
13	1,1,1-Trichloroethane	1.0	BQL
14	Carbon tetrachloride	1.0	BQL
15	Bromodichloromethane	1.0	BQL
16	1,2-Dichloropropane	1.0	BQL
17	cis-1,3-Dichloropropene	1.0	BQL
18	Trichloroethene	1.0	BQL
19	trans-1,3-Dichloropropene	1.0	BQL
20	1,1,2-Trichloroethane	1.0	BQL
21	Dibromochloromethane	1.0	BQL
22	2-Chloroethylvinyl ether	1.0	BQL
23	Bromoform	1.0	BQL
24	Tetrachloroethene	1.0	BQL
25	1,1,2,2-Tetrachloroethane	1.0	BQL
26	Chlorobenzene	1.0	BQL
27	1,3-Dichlorobenzene	1.0	BQL
28	1,2-Dichlorobenzene	1.0	BQL
29	1,4-Dichlorobenzene	1.0	BQL

Comments:

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

N/A = Not Applicable

Corresponding Samples: 835-733(0)-1

GC/MS BASE/NEUTRAL EXTRACTABLES
 EPA 625 COMPOUND LIST

IEA Sample Number:	835-733(Ø)-1	Date Received:	11/11/92
Client Name:	Aquaterra	Date Sampled:	11/Ø9/92
Client Project ID:	G781	Date Extracted:	11/12/92
Sample Identification:	Pit-2	Date Analyzed:	11/17/92
Matrix:	Water	Analysis By:	Morse
		Dilution Factor:	1.Ø

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acenaphthene	1Ø	BQL
2	Acenaphthylene	1Ø	BQL
3	Anthracene	1Ø	BQL
4	Benzo(a)anthracene	1Ø	BQL
5	Benzo(a)pyrene	1Ø	BQL
6	Benzo(b)fluoranthene	1Ø	BQL
7	Benzo(g,h,i)perylene	1Ø	BQL
8	Benzo(k)fluoranthene	1Ø	BQL
9	bis(2-Chloroethoxy)methane	1Ø	BQL
1Ø	bis(2-Chloroethyl)ether	1Ø	BQL
11	bis(2-Chloroisopropyl)ether	1Ø	BQL
12	bis(2-Ethylhexyl)phthalate	1Ø	BQL
13	4-Bromophenyl phenyl ether	1Ø	BQL
14	Benzyl butyl phthalate	1Ø	BQL
15	2-Chloronaphthalene	1Ø	BQL
16	4-Chlorophenyl phenyl ether	1Ø	BQL
17	Chrysene	1Ø	BQL
18	Dibenzo(a,h)anthracene	1Ø	BQL
19	1,2-Dichlorobenzene	1Ø	BQL
2Ø	1,3-Dichlorobenzene	1Ø	BQL
21	1,4-Dichlorobenzene	1Ø	BQL
22	3,3'-Dichlorobenzidine	1Ø	BQL
23	Diethyl phthalate	1Ø	BQL
24	Dimethyl phthalate	1Ø	BQL
25	Di-n-butylphthalate	1Ø	BQL
26	2,4-Dinitrotoluene	1Ø	BQL
27	2,6-Dinitrotoluene	1Ø	BQL
28	Di-n-octylphthalate	1Ø	BQL
29	Fluoranthene	1Ø	BQL
3Ø	Fluorene	1Ø	BQL
31	Hexachlorobenzene	1Ø	BQL
32	Hexachlorobutadiene	1Ø	BQL
33	Hexachlorocyclopentadiene	1Ø	BQL
34	Hexachloroethane	1Ø	BQL
35	Indeno(1,2,3-cd)pyrene	1Ø	BQL
36	Isophorone	1Ø	BQL
37	Naphthalene	1Ø	BQL



IEA

An Aquarion Company

GC/MS BASE/NEUTRAL EXTRACTABLES EPA 625 COMPOUND LIST

IEA Sample Number:	835-733(0)-1	Date Received:	11/11/92
Client Name:	Aquaterra	Date Sampled:	11/09/92
Client Project ID:	G781	Date Extracted:	11/12/92
Sample Identification:	Pit-2	Date Analyzed:	11/17/92
Matrix:	Water	Analysis By:	Morse
		Dilution Factor:	1.0

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
38	Nitrobenzene	10	BQL
39	N-Nitroso-di-n-propylamine	10	BQL
40	N-Nitrosodiphenylamine	10	BQL
41	Phenanthrene	10	BQL
42	Pyrene	10	BQL
43	1,2,4-Trichlorobenzene	10	BQL
44	Benzidine	*	*
45	N-Nitrosodimethylamine	10	BQL

Comments:

*This compound is no longer provided as a normal target deliverable for Method 625. Please contact your account representative for further information.

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Surrogate, 2-Fluorobiphenyl, in QC Blank (SVB072) had a recovery of 36% (2-Fluorobiphenyl limits 43%-116%). However, the sample's recovery of 67% was well within the range.

No target results in sample or blank were above the quantitation limit.

**IEA**

An Aquarion Company

GC/MS BASE/NEUTRAL EXTRACTABLES
EPA 625 COMPOUND LIST

IEA Sample Number:	835-733(0)	Date Received:	N/A
Client Name:	Aquaterra	Date Sampled:	N/A
Client Project ID:	G781	Date Extracted:	11/12/92
Sample Identification:	QC Blank (SVB072)	Date Analyzed:	11/16/92
Matrix:	Water	Analysis By:	Morse
		Dilution Factor:	1.0

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
1	Acenaphthene	10	BQL
2	Acenaphthylene	10	BQL
3	Anthracene	10	BQL
4	Benzo(a)anthracene	10	BQL
5	Benzo(a)pyrene	10	BQL
6	Benzo(b)fluoranthene	10	BQL
7	Benzo(g,h,i)perylene	10	BQL
8	Benzo(k)fluoranthene	10	BQL
9	bis(2-Chloroethoxy)methane	10	BQL
10	bis(2-Chloroethyl)ether	10	BQL
11	bis(2-Chloroisopropyl)ether	10	BQL
12	bis(2-Ethylhexyl)phthalate	10	BQL
13	4-Bromophenyl phenyl ether	10	BQL
14	Benzyl butyl phthalate	10	BQL
15	2-Chloronaphthalene	10	BQL
16	4-Chlorophenyl phenyl ether	10	BQL
17	Chrysene	10	BQL
18	Dibenzo(a,h)anthracene	10	BQL
19	1,2-Dichlorobenzene	10	BQL
20	1,3-Dichlorobenzene	10	BQL
21	1,4-Dichlorobenzene	10	BQL
22	3,3'-Dichlorobenzidine	10	BQL
23	Diethyl phthalate	10	BQL
24	Dimethyl phthalate	10	BQL
25	Di-n-butylphthalate	10	BQL
26	2,4-Dinitrotoluene	10	BQL
27	2,6-Dinitrotoluene	10	BQL
28	Di-n-octylphthalate	10	BQL
29	Fluoranthene	10	BQL
30	Fluorene	10	BQL
31	Hexachlorobenzene	10	BQL
32	Hexachlorobutadiene	10	BQL
33	Hexachlorocyclopentadiene	10	BQL
34	Hexachloroethane	10	BQL
35	Indeno(1,2,3-cd)pyrene	10	BQL
36	Isophorone	10	BQL
37	Naphthalene	10	BQL



IEA

An Aquarion Company

GC/MS BASE/NEUTRAL EXTRACTABLES EPA 625 COMPOUND LIST

IEA Sample Number:	835-733(0)	Date Received:	N/A
Client Name:	Aquaterra	Date Sampled:	N/A
Client Project ID:	G781	Date Extracted:	11/12/92
Sample Identification:	QC Blank (SVB072)	Date Analyzed:	11/16/92
Matrix:	Water	Analysis By:	Morse
		Dilution Factor:	1.0

Number	Compound	Quantitation Limit (ug/L)	Results Concentration (ug/L)
38	Nitrobenzene	10	BQL
39	N-Nitroso-di-n-propylamine	10	BQL
40	N-Nitrosodiphenylamine	10	BQL
41	Phenanthrene	10	BQL
42	Pyrene	10	BQL
43	1,2,4-Trichlorobenzene	10	BQL
44	Benzidine	*	*
45	N-Nitrosodimethylamine	10	BQL

Comments:

*This compound is no longer provided as a normal target deliverable for Method 625. Please contact your account representative for further information.

Sample specific quantitation limits may be calculated by multiplying the quantitation limit by the dilution factor.

BQL = Below Quantitation Limit

Surrogate, 2-Fluorobiphenyl, below method specified criteria.

N/A = Not Applicable

Corresponding Samples: 835-733(0)-1

