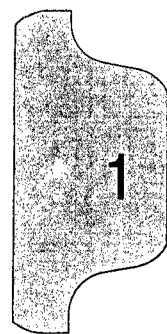


GW - 14

MONITORING REPORTS

DATE:

1989



1

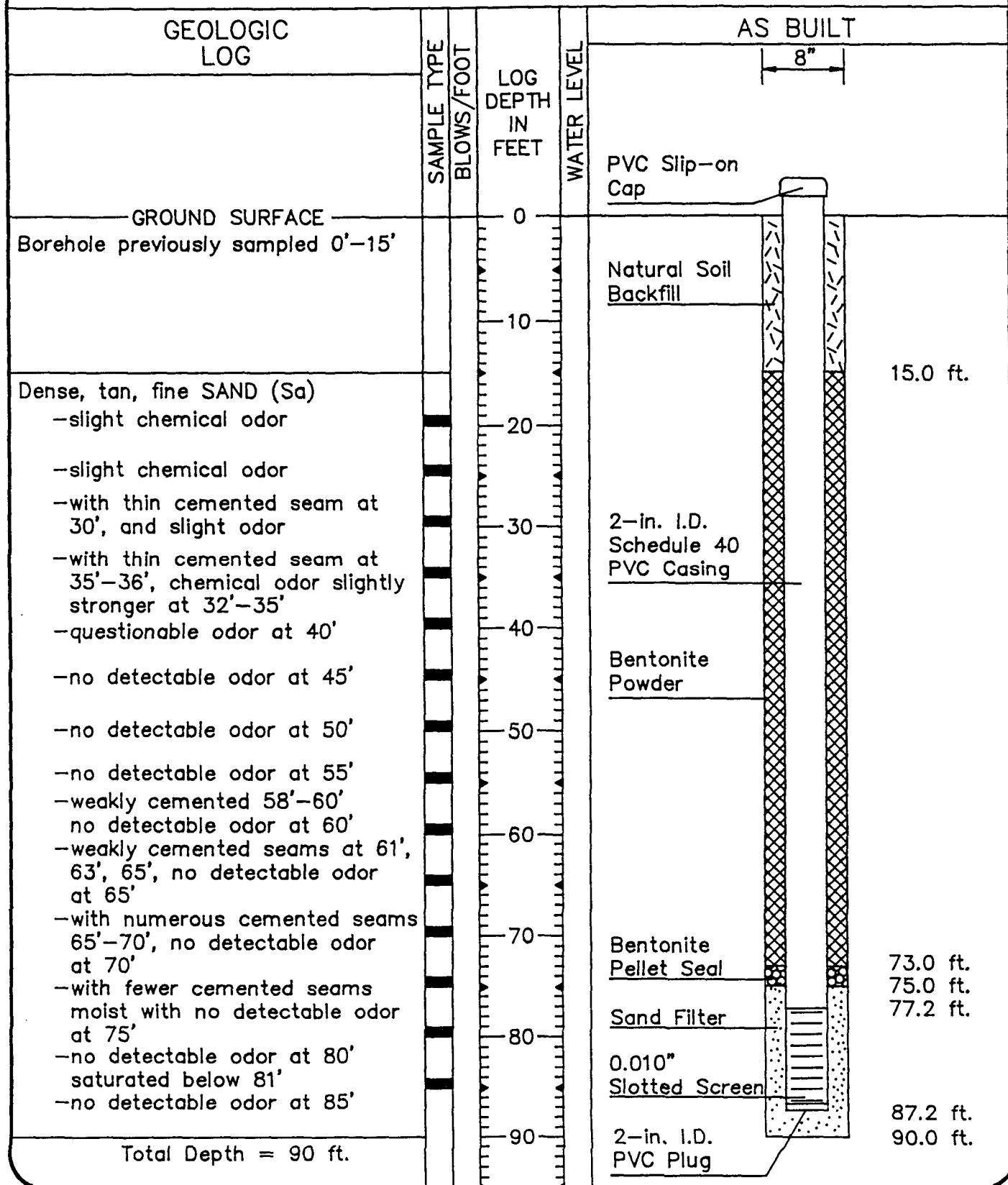
ATTACHMENT 1

**BORING LOGS AND
WELL INSTALLATION DETAILS**

LOG & AS-BUILT DIAGRAM

GEOLOGIST: Darryl Carlson
 DRILLER: Southwest Engineering
 DRILLING METHOD: Hollowstem Auger

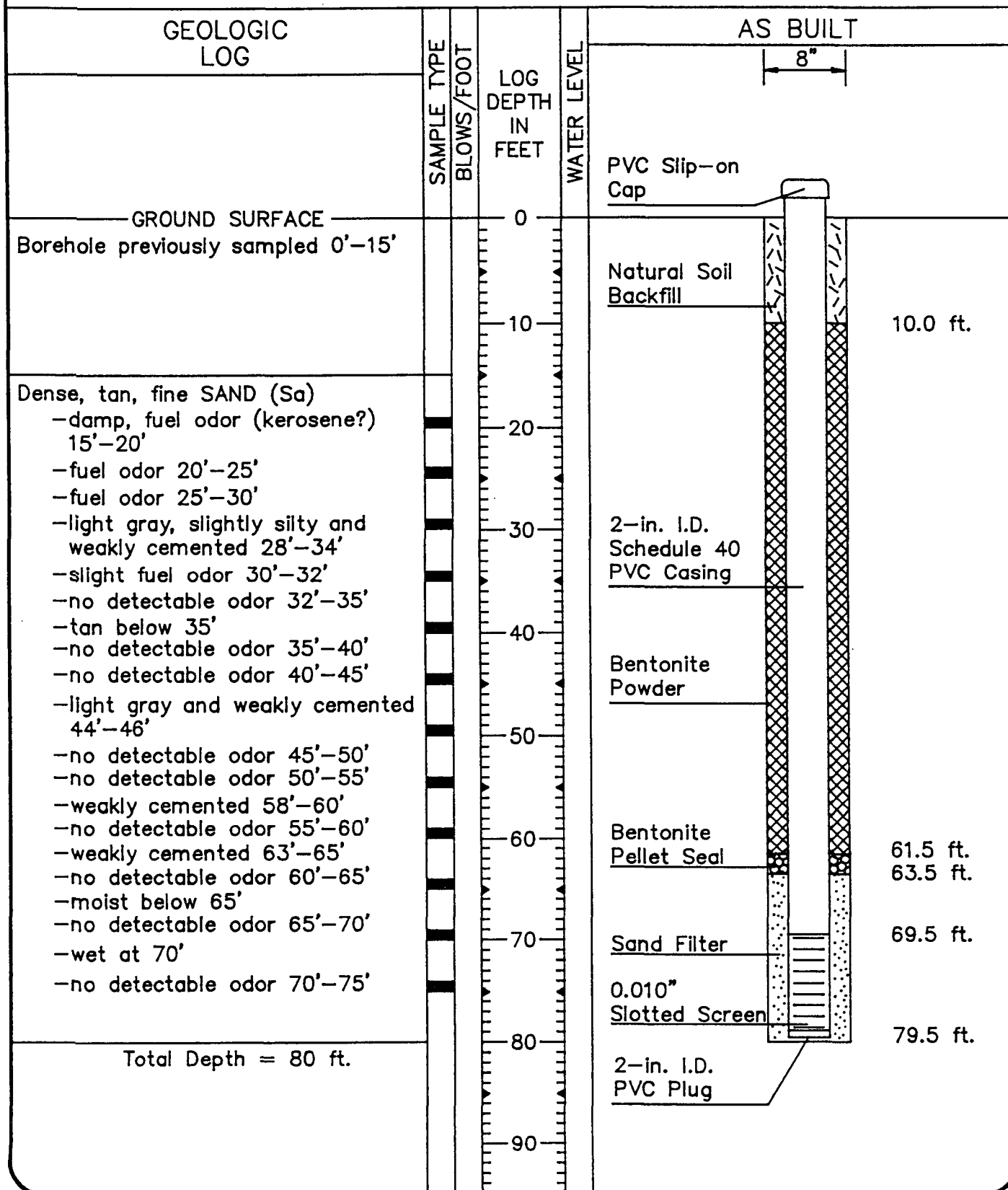
COMPLETION DATE: 11-9-88
 TOP OF CASING ELEV.: 114.4'
 GROUND SURFACE ELEV.: 98.6 ft.



LOG & AS-BUILT DIAGRAM

GEOLOGIST: Darryl Carlson
 DRILLER: Southwest Engineering
 DRILLING METHOD: Hollowstem Auger

COMPLETION DATE: 11-10-88
 TOP OF CASING ELEV.: 100.0'
 GROUND SURFACE ELEV.: 84.7'



LOG & AS-BUILT DIAGRAM

GEOLOGIST: Darryl Carlson

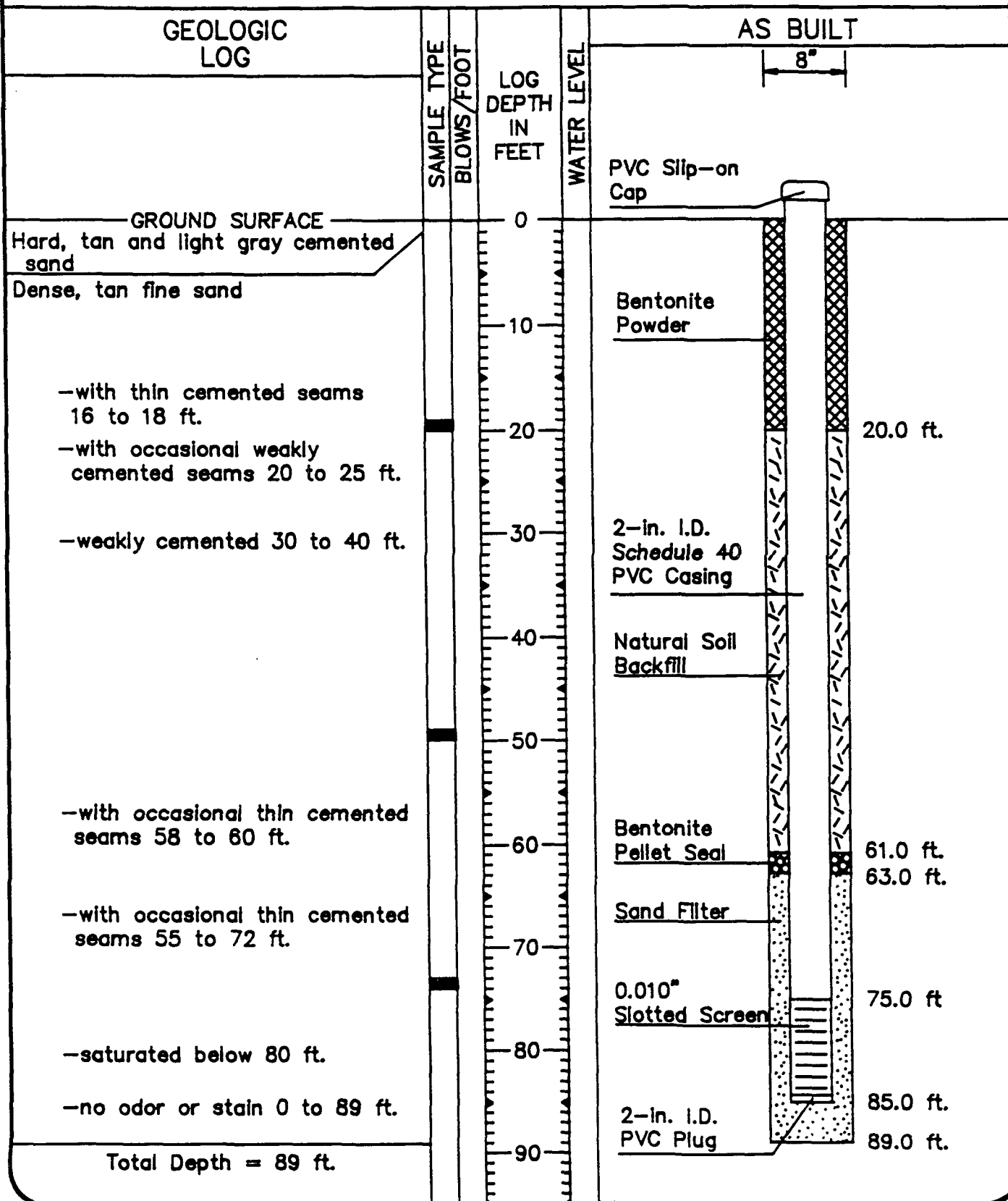
DRILLER: Southwest Engineering

DRILLING METHOD: Hollowstem Auger

COMPLETION DATE: 1-20-89

TOP OF CASING ELEV.: 115.85'

GROUND SURFACE ELEV.: Not Determined



LOG & AS-BUILT DIAGRAM

GEOLOGIST: Darryl Carlson

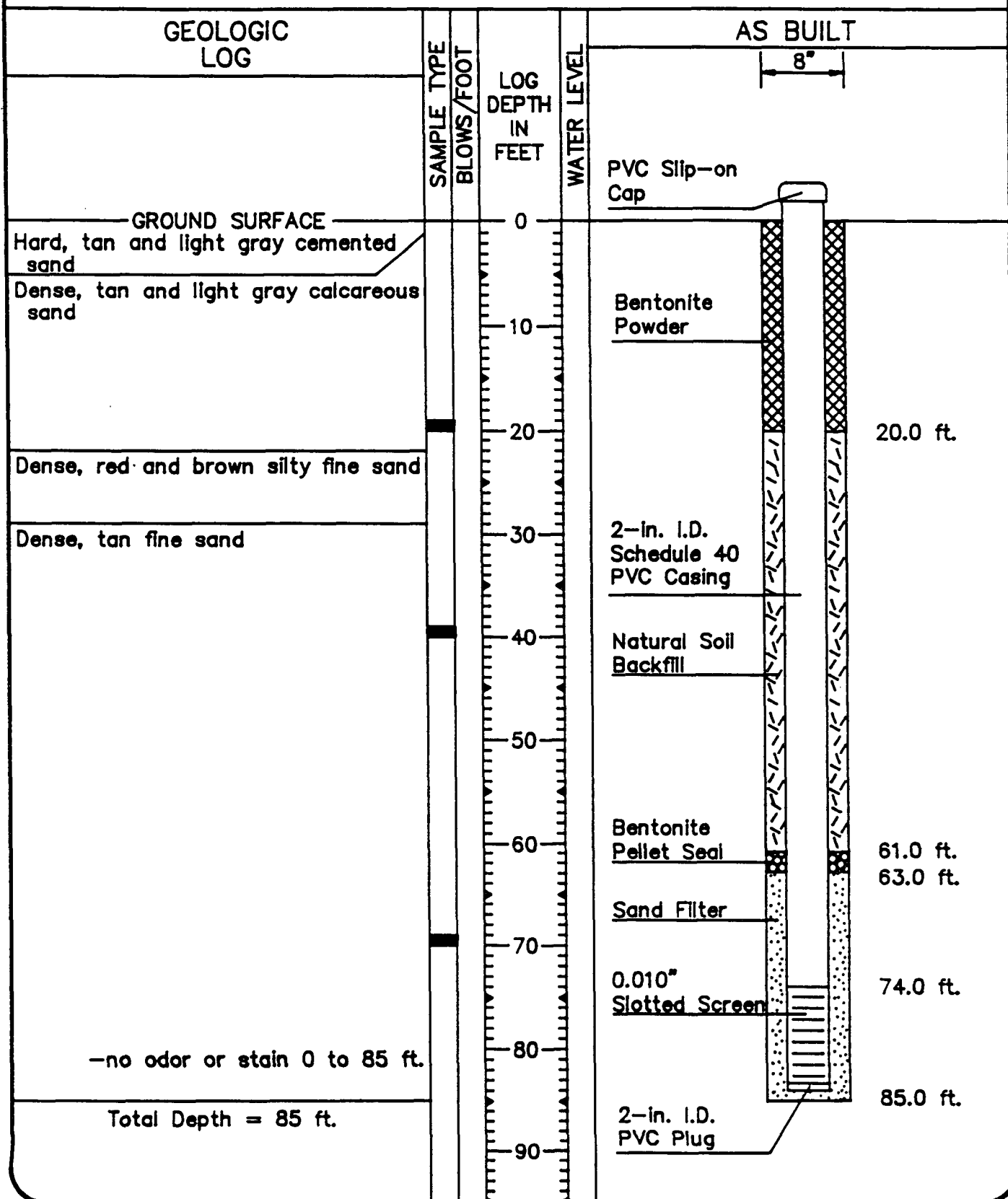
COMPLETION DATE: 1-21-89

DRILLER: Southwest Engineering

TOP OF CASING ELEV.: 109.76'

DRILLING METHOD: Hollowstem Auger

GROUND SURFACE ELEV.: Not Determined



LOG & AS-BUILT DIAGRAM

GEOLOGIST: John Buchanan

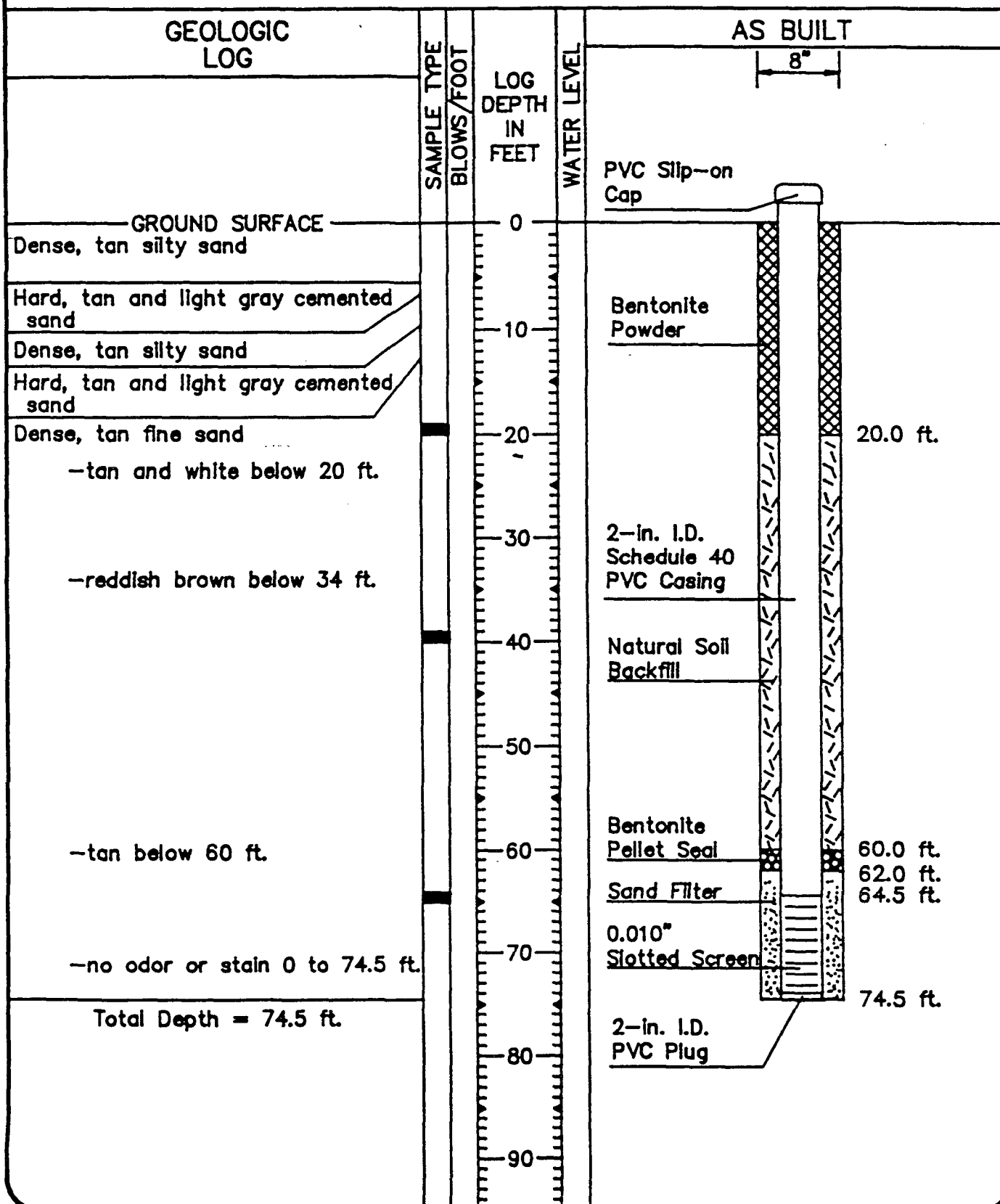
COMPLETION DATE: 1-16-89

DRILLER: Southwest Engineering

TOP OF CASING ELEV.: 98.73'

DRILLING METHOD: Hollowstem Auger

GROUND SURFACE ELEV.: Not Determined



LOG & AS-BUILT DIAGRAM

GEOLOGIST: John Buchanan

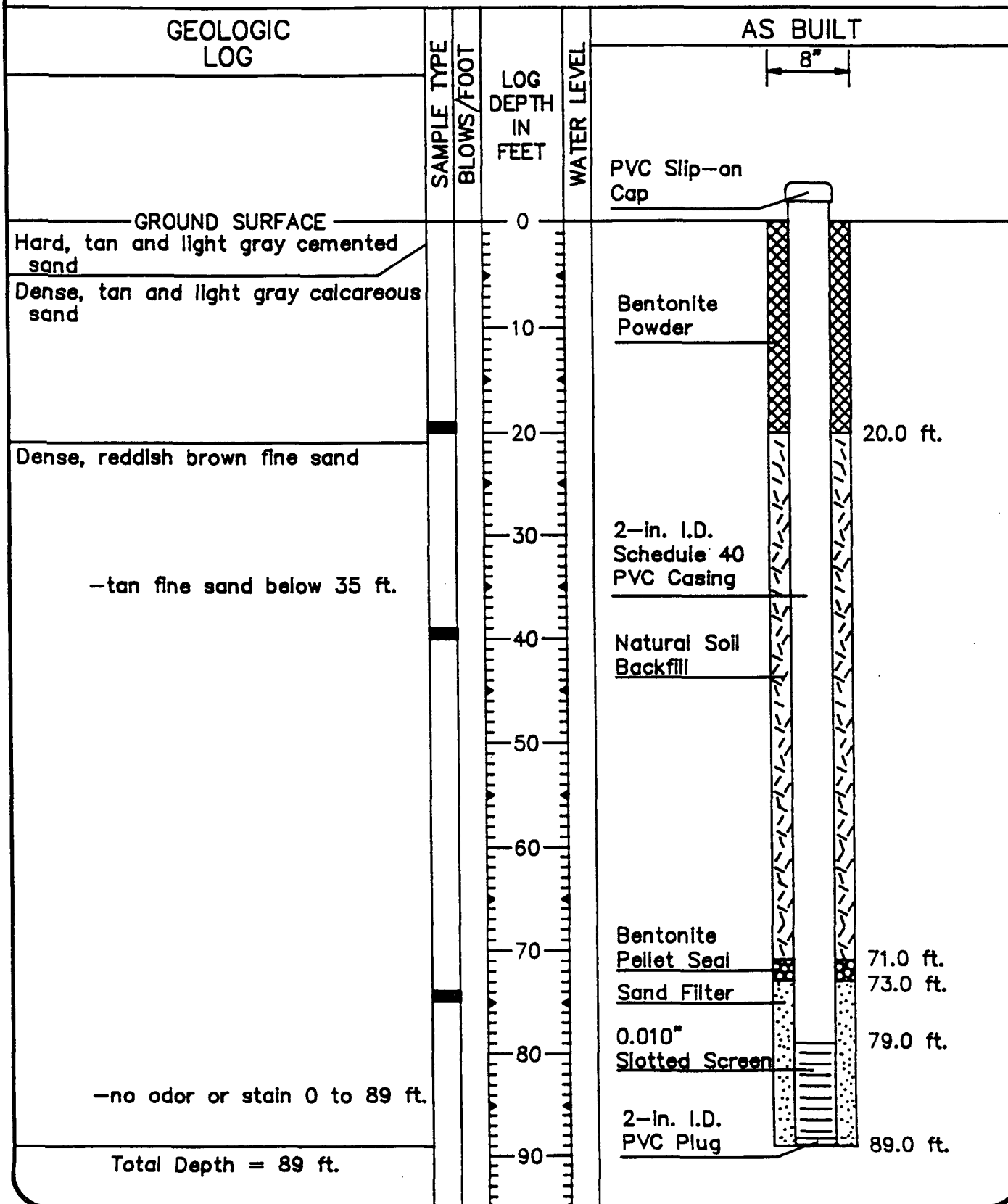
COMPLETION DATE: 1-19-89

DRILLER: Southwest Engineering

TOP OF CASING ELEV.: 115.90'

DRILLING METHOD: Hollowstem Auger

GROUND SURFACE ELEV.: Not Determined



LOG & AS-BUILT DIAGRAM

GEOLOGIST: Darryl Carlson

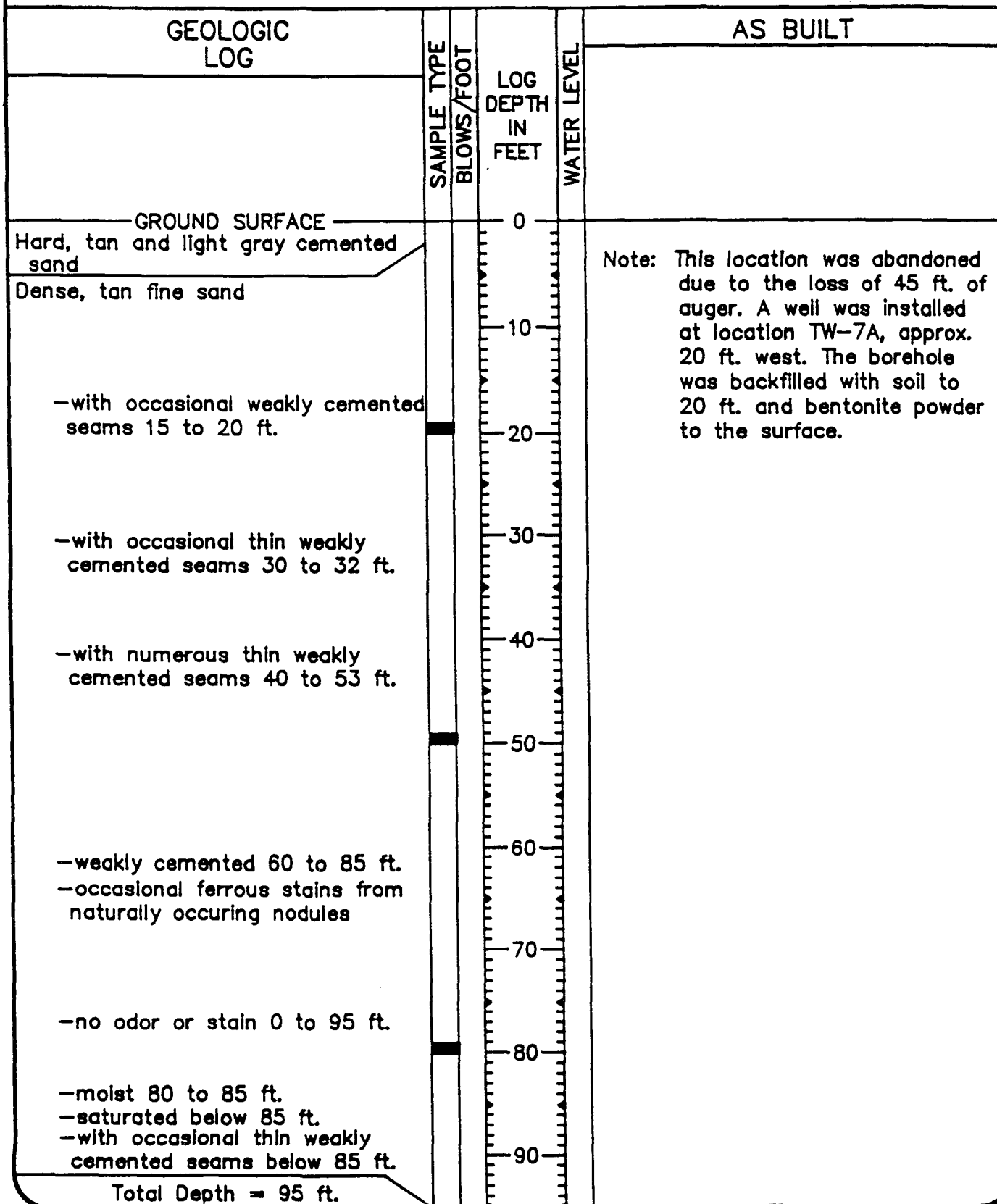
COMPLETION DATE: 1-14-89

DRILLER: Southwest Engineering

TOP OF CASING ELEV.: None

DRILLING METHOD: Hollowstem Auger

GROUND SURFACE ELEV.:



LOG & AS-BUILT DIAGRAM

GEOLOGIST: Darryl Carlson

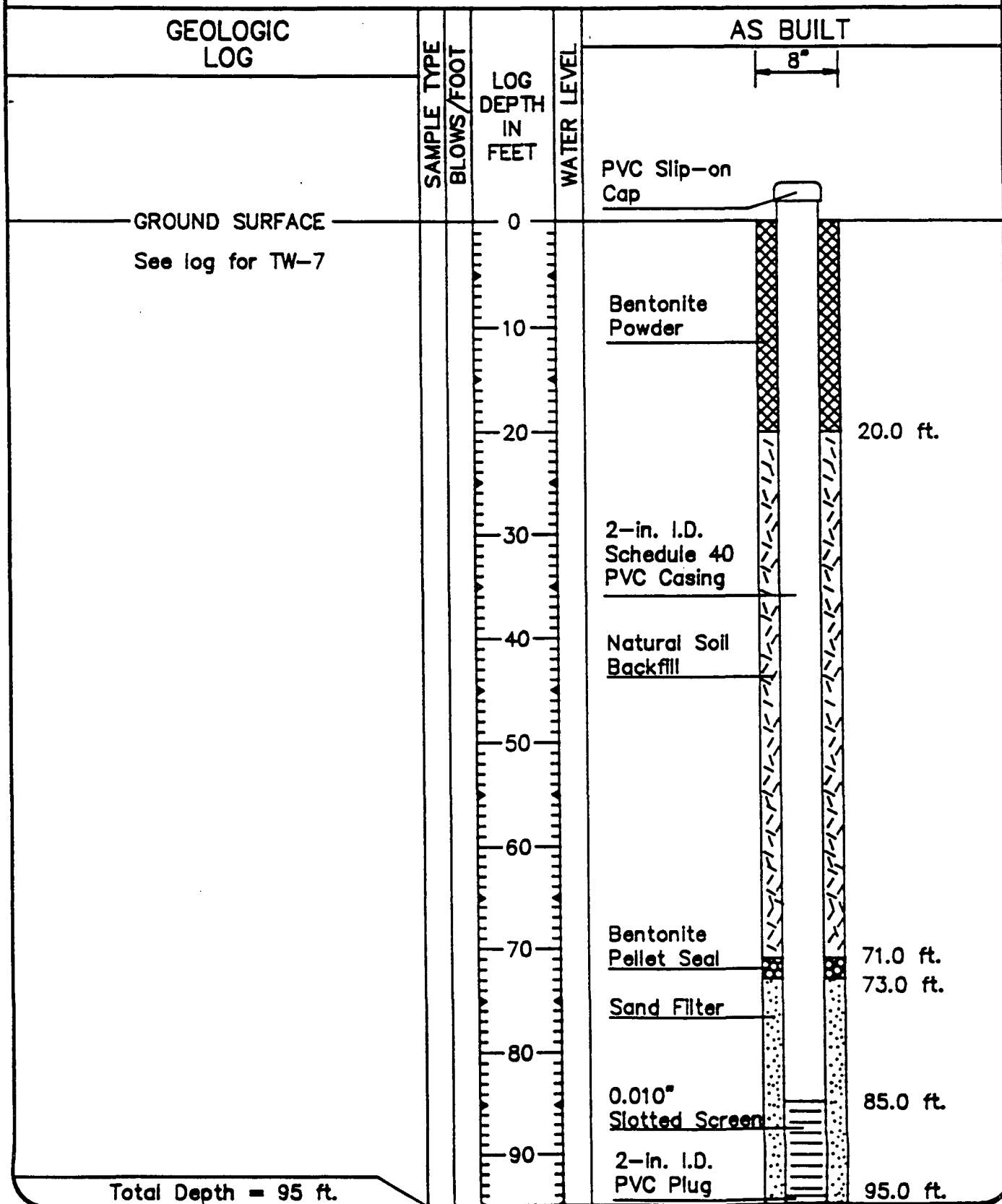
COMPLETION DATE: 1-20-89

DRILLER: Southwest Engineering

TOP OF CASING ELEV.: 121.98'

DRILLING METHOD: Hollowstem Auger

GROUND SURFACE ELEV.: Not Determined



LOG & AS-BUILT DIAGRAM

GEOLOGIST: John Buchanan

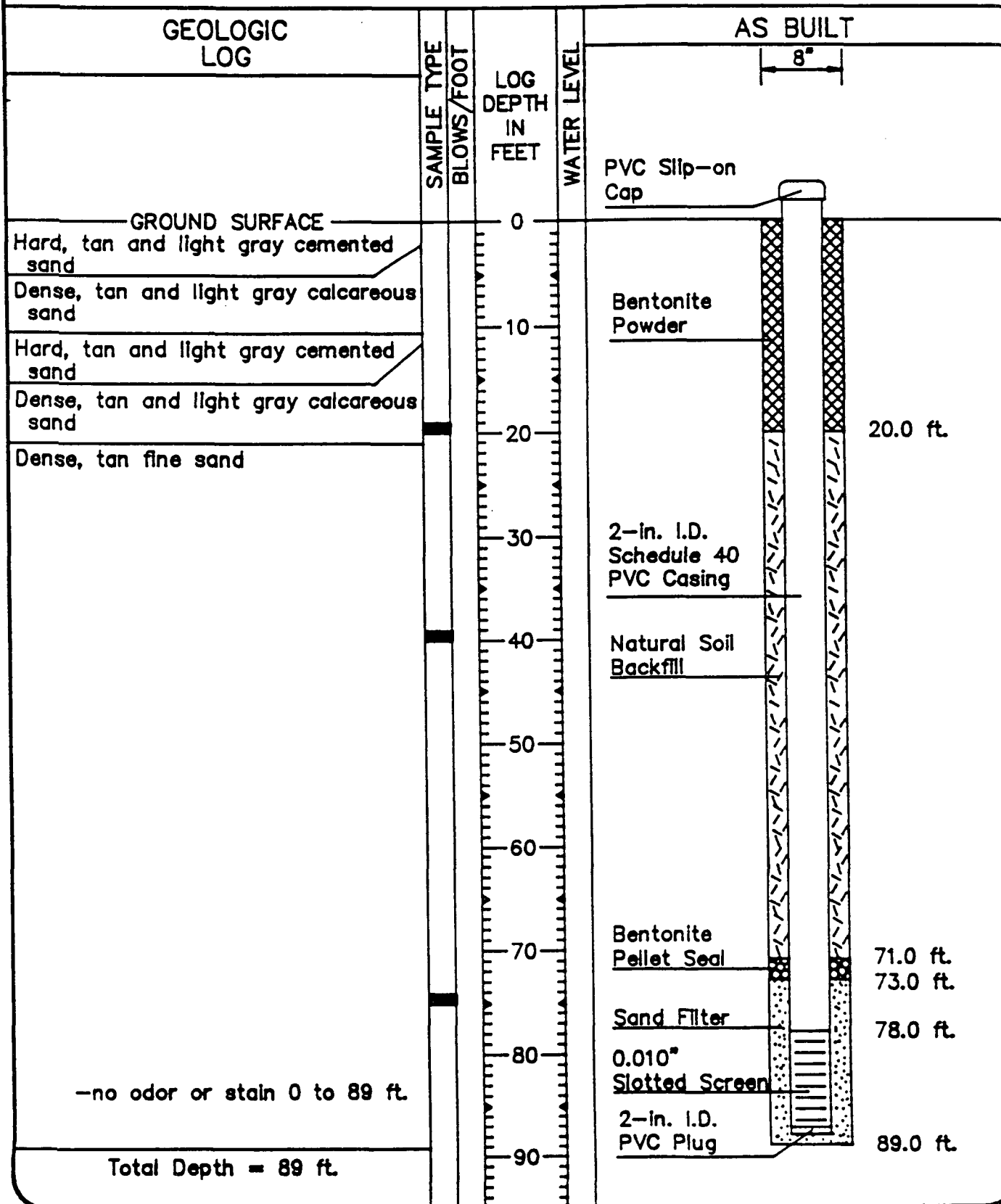
COMPLETION DATE: 1-26-89

DRILLER: Southwest Engineering

TOP OF CASING ELEV.: 113.64'

DRILLING METHOD: Hollowstem Auger

GROUND SURFACE ELEV.: Not Determined



LOG & AS-BUILT DIAGRAM

GEOLOGIST: John Buchanan

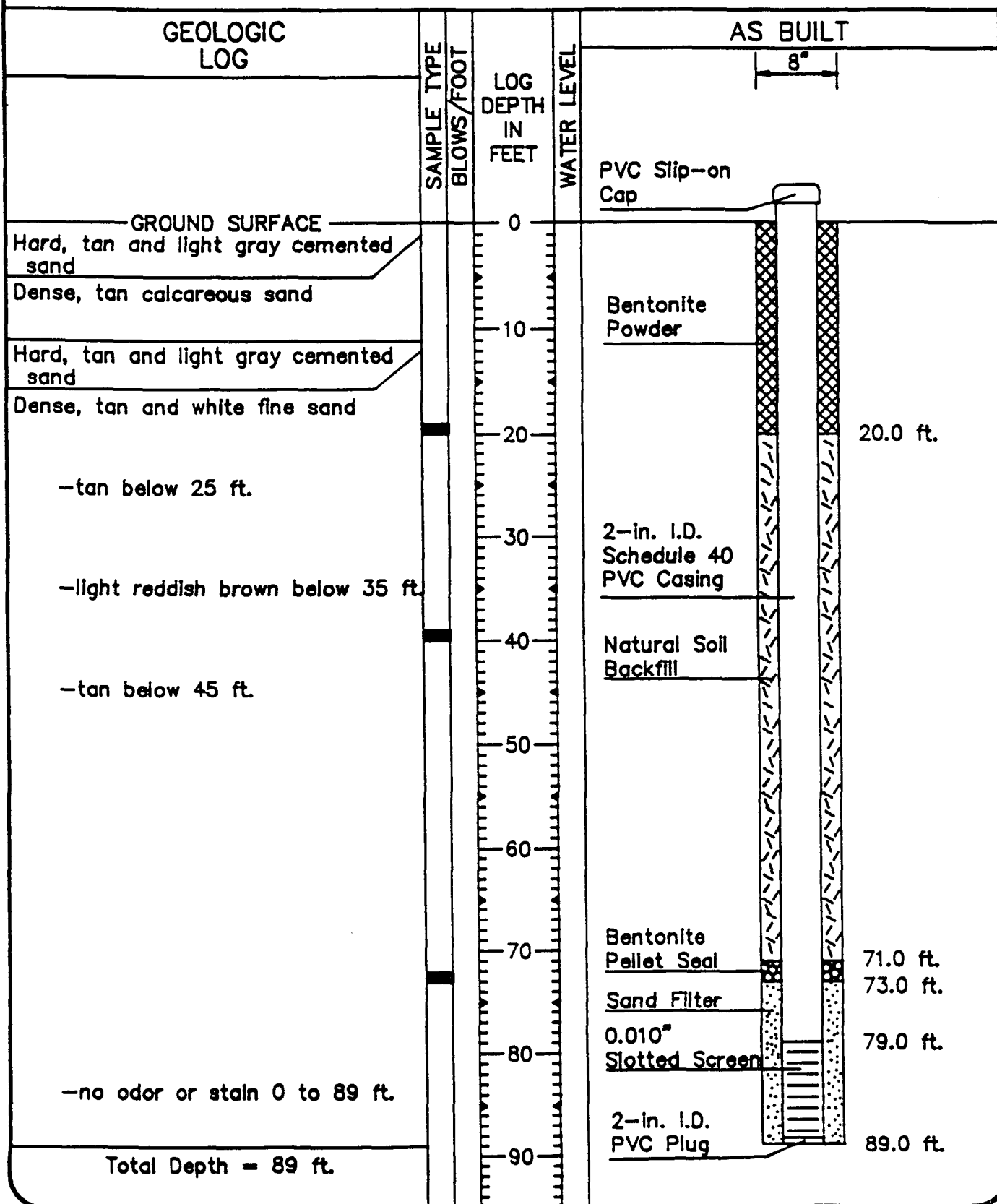
DRILLER: Southwest Engineering

DRILLING METHOD: Hollowstem Auger

COMPLETION DATE: 1-21-89

TOP OF CASING ELEV.: 113.88'

GROUND SURFACE ELEV.: Not Determined



LOG & AS-BUILT DIAGRAM

GEOLOGIST: Darryl Carlson

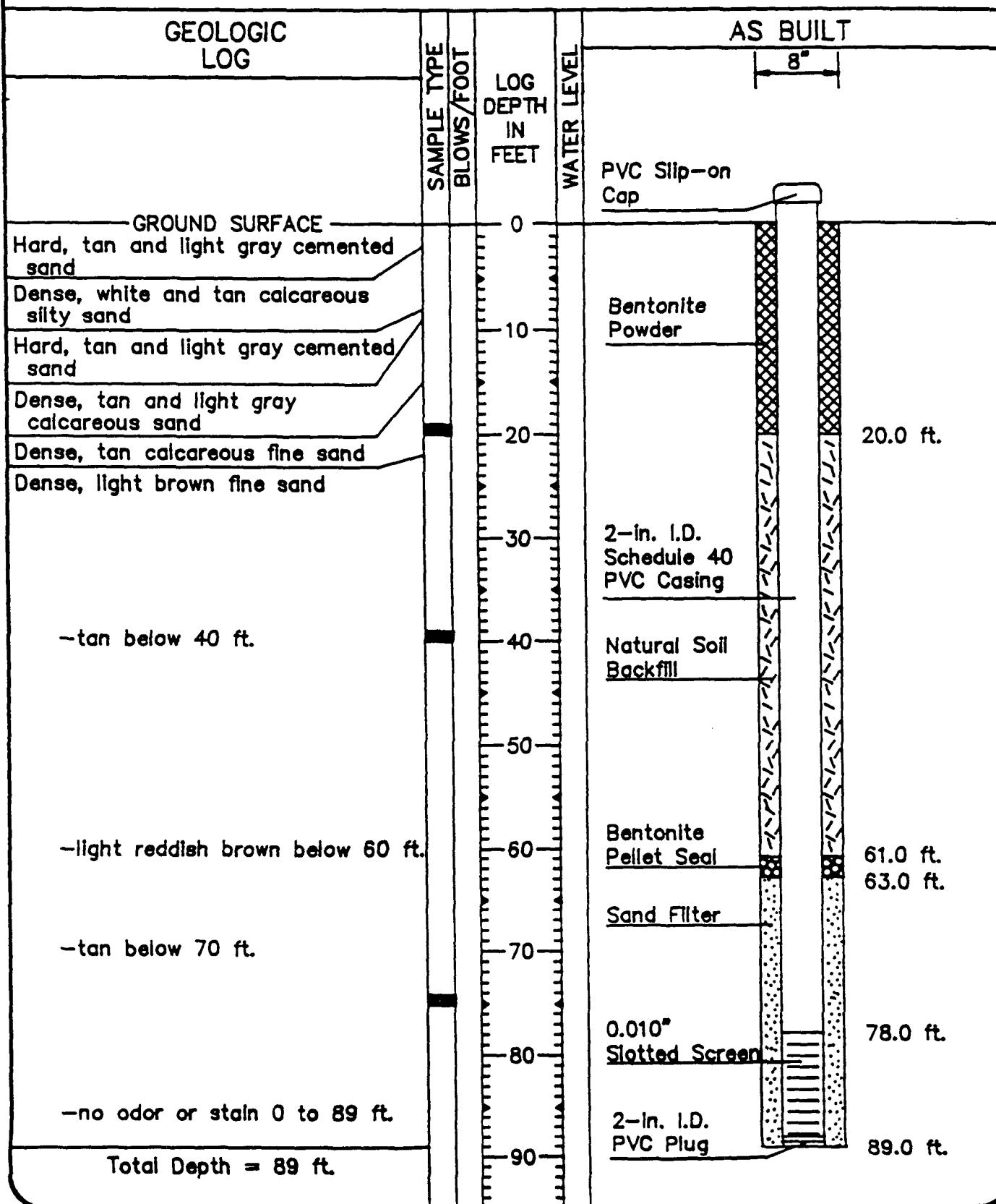
DRILLER: Southwest Engineering

DRILLING METHOD: Hollowstem Auger

COMPLETION DATE: 1-21-89

TOP OF CASING ELEV.: 111.48'

GROUND SURFACE ELEV.: Not Determined



LOG & AS-BUILT DIAGRAM

GEOLOGIST: Darryl Carlson

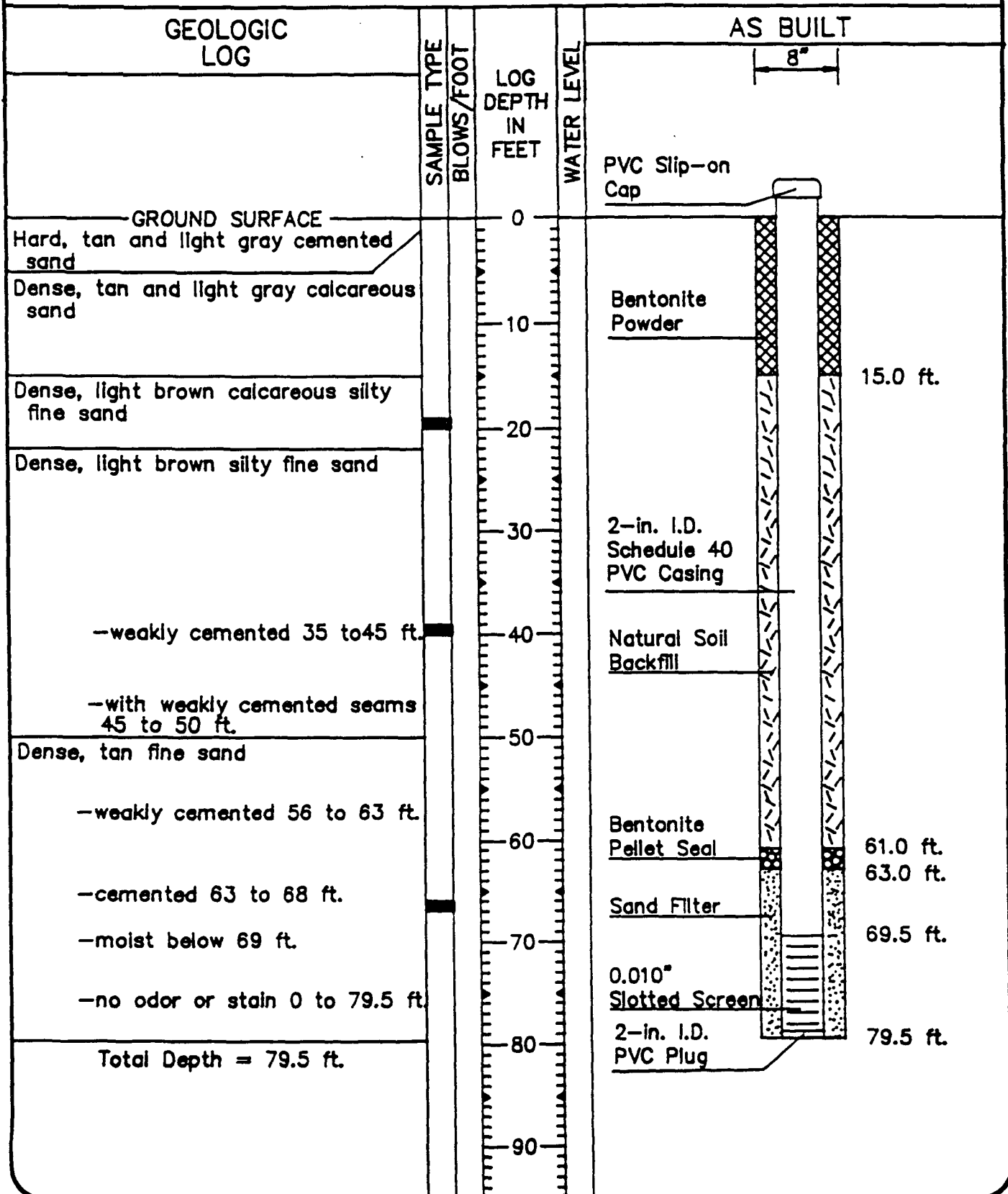
DRILLER: Southwest Engineering

DRILLING METHOD: Hollowstem Auger

COMPLETION DATE: 1-21-89

TOP OF CASING ELEV.: 103.88'

GROUND SURFACE ELEV.: Not Determined



LOG & AS-BUILT DIAGRAM

GEOLOGIST: Darryl Carlson

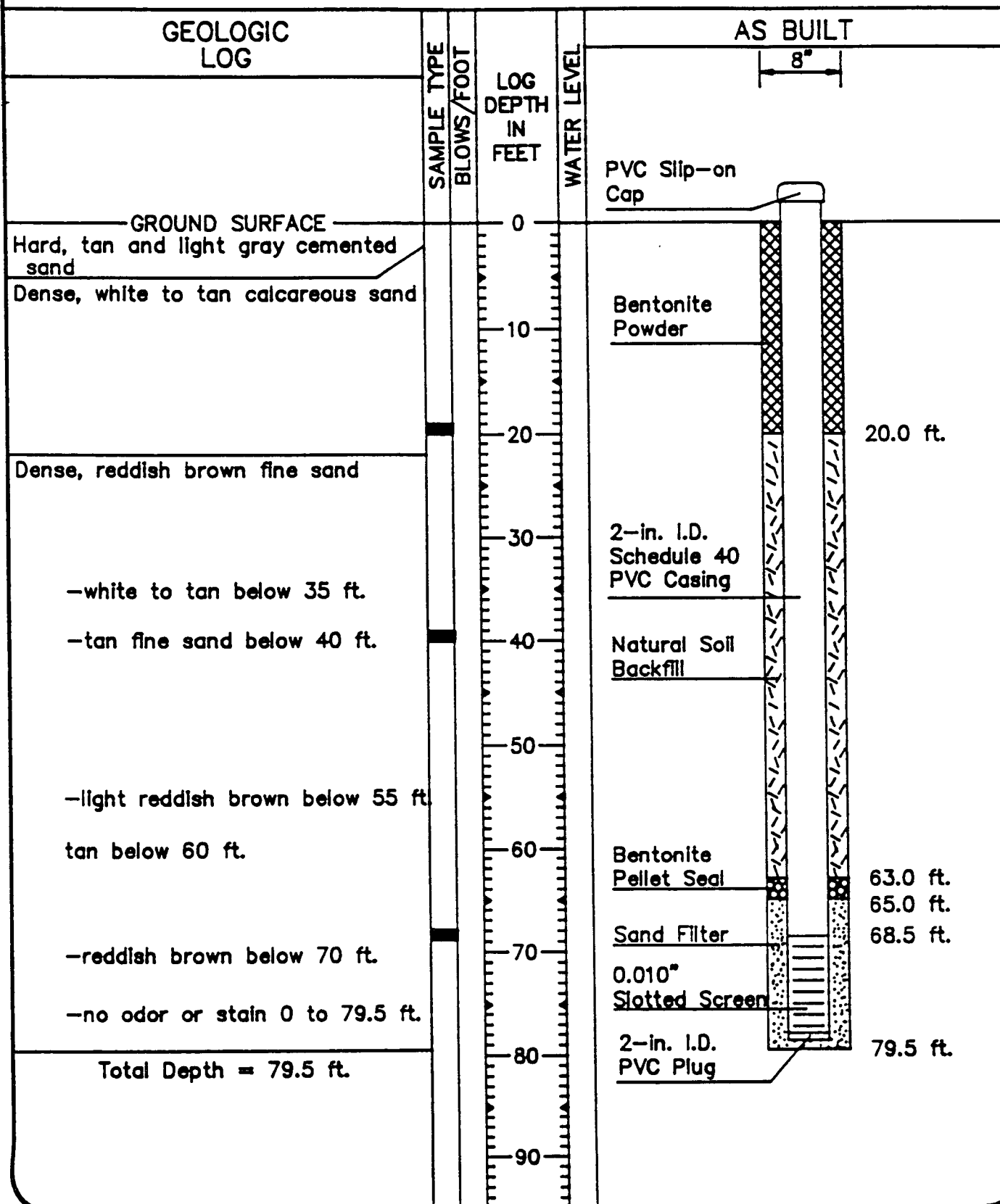
DRILLER: Southwest Engineering

DRILLING METHOD: Hollowstem Auger

COMPLETION DATE: 1-19-89

TOP OF CASING ELEV.: 104.01'

GROUND SURFACE ELEV.: Not Determined



LOG & AS-BUILT DIAGRAM

GEOLOGIST: John Buchanan

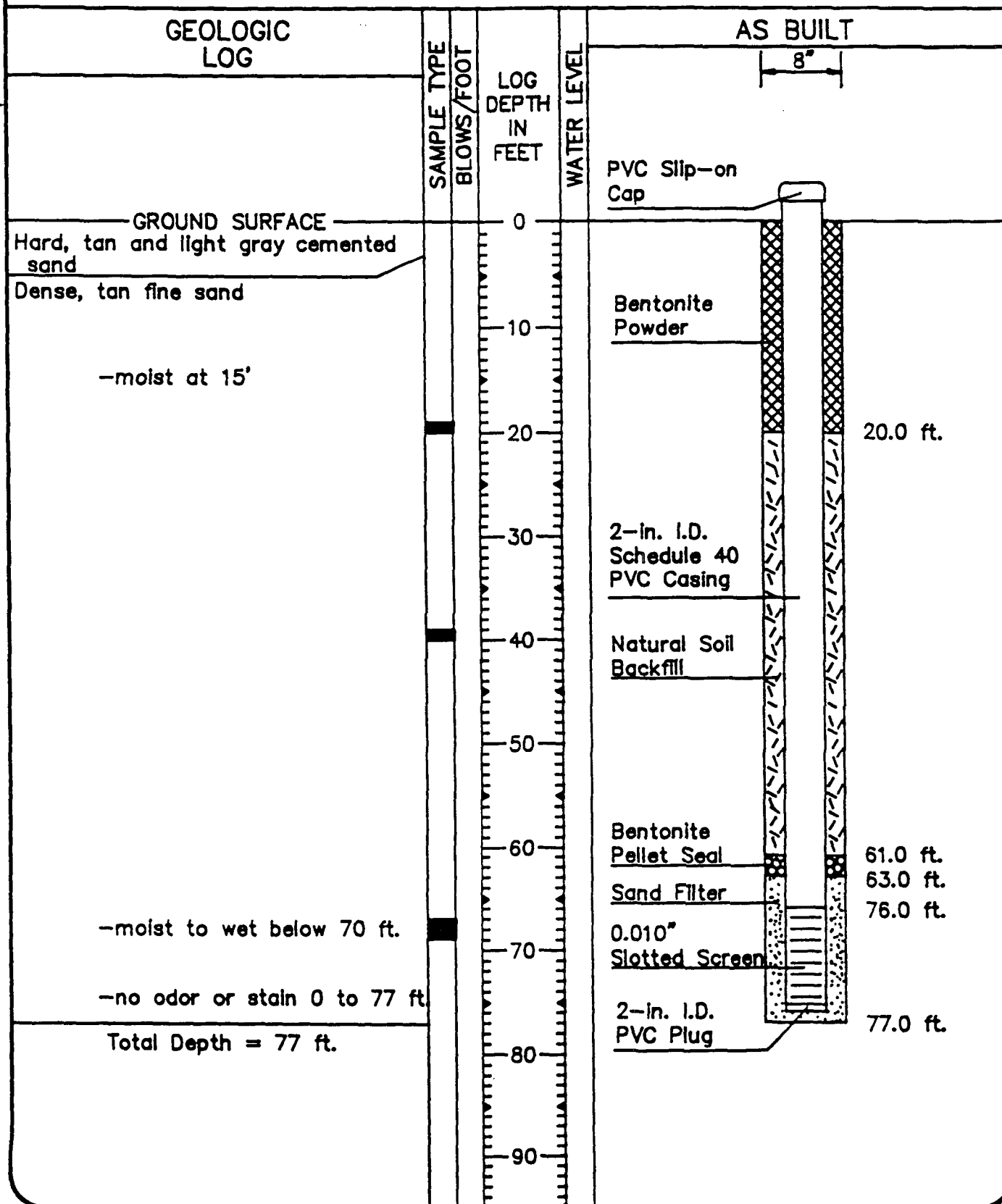
COMPLETION DATE: 1-17-89

DRILLER: Southwest Engineering

TOP OF CASING ELEV.: 99.30'

DRILLING METHOD: Hollowstem Auger

GROUND SURFACE ELEV.: Not Determined



LOG & AS-BUILT DIAGRAM

GEOLOGIST: Darryl Carlson

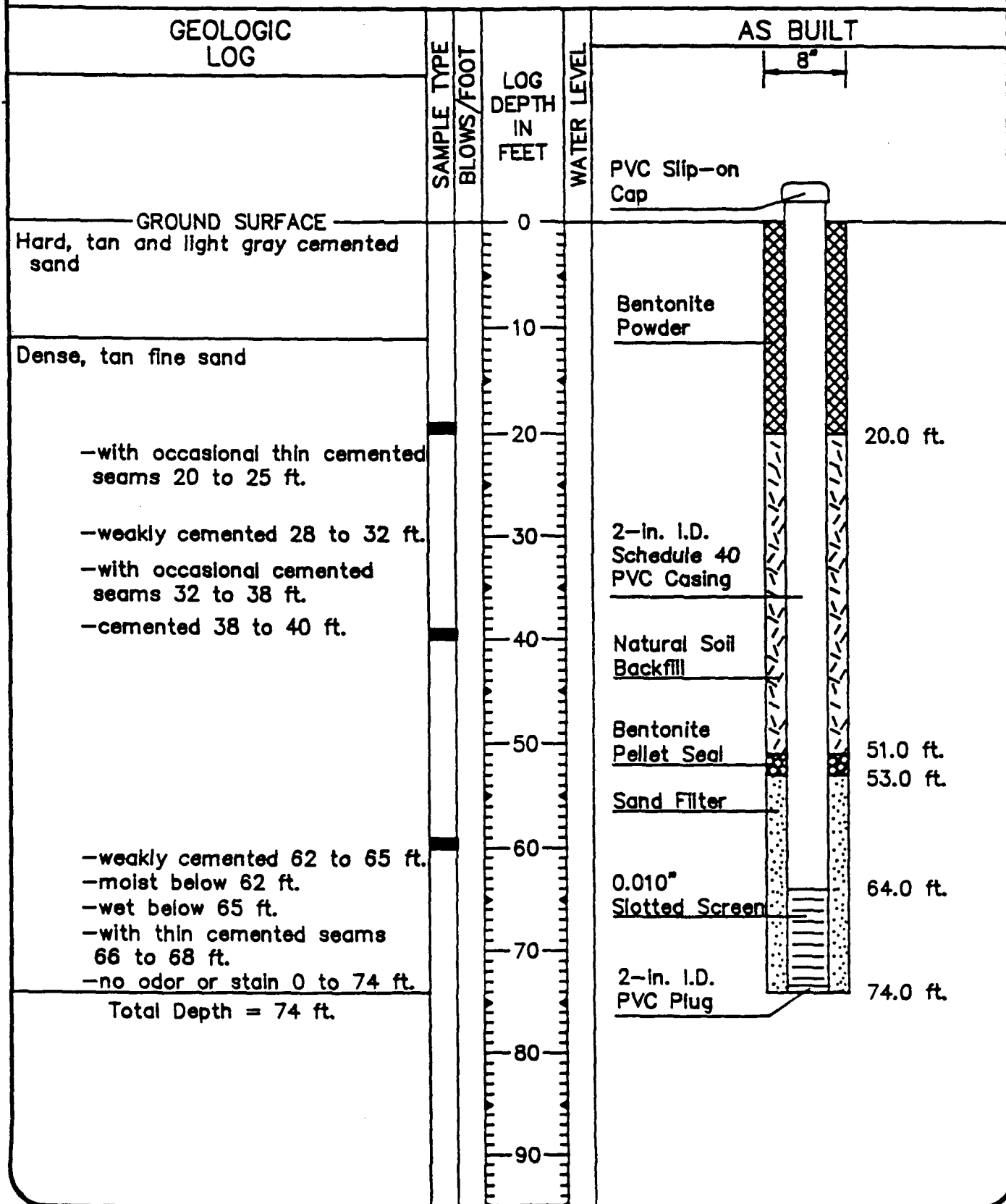
COMPLETION DATE: 1-16-89

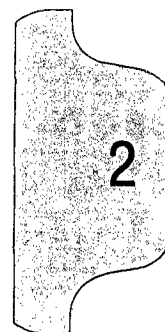
DRILLER: Southwest Engineering

TOP OF CASING ELEV.: 96.00'

DRILLING METHOD: Hollowstem Auger

GROUND SURFACE ELEV.: Not Determined





ATTACHMENT 2
SURVEY ELEVATIONS



JOHN WEST
ENGINEERING
COMPANY

412 North Cal Paso
Hood, New Mexico 88240

January 27, 1989

Mr. Darryl E. Carlson
Pilko & Associates, Inc.
2707 North Loop West, Suite 960
Houston, Texas 77008

RE: MONITOR WELLS - SOUTHERN UNION PLANT

Dear Sir:

On January 25 and 27, 1989 a survey was run to the remaining monitor wells in the Southern Union plant site. The elevations shown are the top of the tubing:

No. 1 - 114.40	No. 8 - 113.64
2 - 100.00	9 - 113.88
3 - 115.85	10 - 111.48
4 - 109.76	11 - 103.33
5 - 98.73	12 - 104.01
6 - 115.90	13 - 99.30
7 - 121.98	14 - 96.00

The bench mark for this is the assumed elevation of 100.00 for top of tubing on Well No. 2. There were several loops of levels run and checked back each time with maximum error of 0.02 feet.

On January 15, 1989 a survey was run to No. 1, 2 and 7. You will note there is quite a difference in the elevation reported on 7 between the two surveys. The reason being that the well was abandoned and redrilled. The elevation shown on this report is the elevation of the new well.

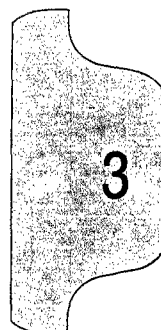
The small map attached was furnished by Southern Union that shows the approximate locations of the wells checked.

Yours very truly,

JOHN WEST ENGINEERING


By John W. West, P.E.

JWW/pn



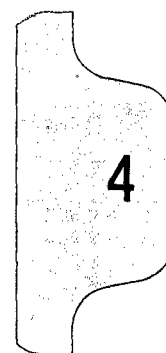
ATTACHMENT 3
WATER LEVEL MEASUREMENTS
AND ELEVATIONS

ATTACHMENT 3
WATER LEVEL MEASUREMENTS
AND ELEVATIONS

ATTACHMENT 3
WATER LEVEL MEASUREMENTS AND ELEVATIONS
JANUARY 1989

<u>Location</u>	<u>Elevation (Top of Casing)</u>	<u>Depth to Water (Top of Casing)</u>	<u>Elevation of Water</u>
TW-1	114.4	78.94	35.46
TW-2	100.0	68.34	31.66
TW-3	115.85	78.92	36.93
TW-4	109.76	74.54	35.22
TW-5	98.73	67.37	31.36
TW-6	115.90	79.68	36.22
TW-7	121.98	82.33	39.65
TW-8	113.64	77.73	35.91
TW-9	113.88	78.60	35.28
TW-10	111.48	77.58	33.90
TW-11	103.88	70.37	33.51
TW-12	104.01	70.83	33.18
TW-13	99.30	67.89*	31.41
TW-14	96.00	65.25	30.75

*Note: This depth reading was re-checked and found to be in error by five feet.



ATTACHMENT 4

**LABORATORY RESULTS - SOILS
(NEAR-SURFACE - NOVEMBER, 1988)
BOREHOLES 2, 3, AND 5**

Results Method # Performed by

Sample ID: Hole #2, Boring #1, 5'-5'6", Back Filled Separator
 Pond

Total Metals: Dry weight

Antimony, mg/kg	0.68	304	SM 11/9/88, 0930
Arsenic, mg/kg	<0.50	304	SM 11/9/88, 1655
Beryllium, mg/kg	<0.50	305	SM 11/8/88, 1532
Cadmium, mg/kg	3.83	305	SM 11/8/88, 1532
Chromium, mg/kg	33.7	305	SM 11/8/88, 1532
Copper, mg/kg	11.2	305	SM 11/8/88, 1532
Lead, mg/kg	<0.50	304	TS 11/10/88, 1445
Mercury, mg/kg	<0.10	303	TS 11/10/88, 0900
Nickel, mg/kg	7.48	305	SM 11/8/88, 1532
Selenium, mg/kg	0.86	305	SM 11/10/88, 1000
Silver, mg/kg	<0.50	305	SM 11/9/88, 0942
Thallium, mg/kg	<0.50	304	SM 11/9/88, 1300
Zinc, mg/kg	46.3	305	SM 11/8/88, 1532
Sulfides, mg/kg	8.00	427 F	CD 11/7/88, 0900

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Sample ID: Hole #2, Sample #1,5 - 5'6", back Filled Separator
Pond

SW 8240 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Chloromethane	BRL	0.3
Bromomethane	BRL	0.3
Vinyl chloride	BRL	0.3
Chloroethane	BRL	0.3
Dichloromethane	BRL	0.3
Acetone	BRL	3.0
Carbon disulfide	BRL	0.3
1,1-Dichloroethene	BRL	0.3
1,1-Dichloroethane	BRL	0.3
2-Butanone	BRL	0.3
Trans-1,2-dichloroethene	BRL	0.3
Chloroform	BRL	0.3
1,2-Dichloroethane	BRL	0.3
1,1,1-Trichloroethane	BRL	0.3
Carbon tetrachloride	BRL	0.3
Bromodichloromethane	BRL	0.3
1,2-Dichloropropane	BRL	0.3
Vinyl acetate	BRL	0.3
Cis-1,3-dichloropropene	BRL	0.3
Trichloroethene	BRL	0.3
Dibromochloromethane	BRL	0.3
1,1,2-Trichloroethane	BRL	0.3
Benzene	1.2	0.3
Trans-1,3-dichloropropane	BRL	0.3
2-Chloroethylvinylether	BRL	0.3
Bromoform	BRL	0.3
2-Hexanone	BRL	0.3
4-Methyl-2-pentanone	BRL	0.3
Tetrachloroethene	BRL	0.3
1,1,2,2-Tetrachloroethane	BRL	0.3
Toluene	8	0.3
Chlorobenzene	BRL	0.3
Ethylbenzene	21	0.3
Styrene	BRL	0.3
Total xylenes	43	0.3
1,2-Dichlorobenzene	BRL	0.3
1,3-Dichlorobenzene	BRL	0.3
1,4-Dichlorobenzene	BRL	0.3

BDL = Below Reporting Limit

Surrogate recoveries, %

1,2-Dichloroethane-d4	119.0
Toluene-d8	107.0
Bromofluorobenzene	102.0

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Sample ID: Hole #2, Sample #1, 5' - 5'6", Back Filled Separator Pond

SW 8270 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Phenol	BRL	0.66
Bis(2-chloroethyl)ether	BRL	0.66
2-Chlorophenol	BRL	0.66
1,3-Dichlorobenzene	BRL	0.66
1,4-Dichlorobenzene	BRL	0.66
Benzyl alcohol	BRL	1.30
1,2-Dichlorobenzene	BRL	0.66
2-Methylphenol	BRL	0.66
Bis(2-chloroisopropyl)ether	BRL	0.66
4-Methylphenol	BRL	0.66
N-Nitrosodi-N-propylamine	BRL	0.66
Hexachloroethane	BRL	0.66
Nitrobenzene	1.6	0.66
Isophorone	BRL	0.66
2-Nitrophenol	BRL	0.66
2,4-Dimethylphenol	BRL	0.66
Benzoic acid	BRL	3.30
Bis(2-chloroethoxy)methane	BRL	0.66
2,4-Dichlorophenol	BRL	0.66
1,2,4-Trichlorobenzene	BRL	0.66
Naphthalene	3.3	0.66
4-Chloroaniline	BRL	1.30
Hexachlorobutadiene	BRL	0.66
4-Chloro-3-methylphenol	BRL	0.66
2-Methylnaphthalene	BRL	0.66
Hexachlorocyclopentadiene	BRL	0.66
2,4,6-Trichlorophenol	BRL	0.66
2,4,5-Trichlorophenol	BRL	0.66
2-Chloronaphthalene	BRL	0.66
2-Nitroaniline	BRL	3.30
Dimethylphthalate	BRL	0.66
Acenaphthylene	**	0.66
3-Nitroaniline	BRL	3.30
Acenaphthene	BRL	0.66
2,4-Dinitrophenol	**	3.30
4-Nitrophenol	BRL	0.66
Dibenzofuran	1.7	0.66
2,4-Dinitrotoluene	BRL	0.66
2,6-Dinitrotoluene	BRL	0.66
Diethylphthalate	BRL	0.66

-Continued-

SW 8270 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
4-Chlorophenyl-phenylether	BRL	0.66
Fluorene	1.2	0.66
4-Nitroaniline	BRL	3.30
4,6-Dinitro-2-methylphenol	BRL	3.30
N-Nitrosodiphenylamine	BRL	0.66
4-Bromophenyl-phenylether	BRL	0.66
Hexachlorobenzene	BRL	0.66
Pentachlorophenol	BRL	3.30
Phenanthrene	BRL	0.66
Anthracene	1.1	0.66
Di-n-butylphthalate	BRL	0.66
Fluoroanthene	BRL	0.66
Pyrene	BRL	0.66
Benzylbutylphthalate	BRL	0.66
3,3'-Dichlorobenzidine	**	1.30
Benzo(a)anthracene	BRL	0.66
Bis(2-ethylhexyl)phthalate	BRL	0.66
Chrysene	BRL	0.66
Di-n-octylphthalate	BRL	0.66
Benzo(b)fluoranthene	BRL	0.66
Benzo(k)fluroanthene	BRL	0.66
Benzo(a)pyrene	BRL	0.66
Indeno(1,2,3-cd)pyrene	BRL	0.66
Dibenzo(a,h)anthracene	BRL	0.66
Benzo(g,h,i)perylene	BRL	0.66

BRL = Below Reporting Limit

** = Detected but below reporting limit

Surrogate recoveries, %

Nitrobenzene-d5	20.0
2-Fluorobiphenyl	26.5
Terphenyl-d14	62.3

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

Results Method # Performed by

Sample ID: Hole #3, Truck Rack API, Sample #1, 5'3"

Total Metals: Dry weight

Antimony, mg/kg	1.93	304	SM 11/9/88, 0930
Arsenic, mg/kg	3.96	304	SM 11/9/88, 1655
Beryllium, mg/kg	<0.50	305	SM 11/8/88, 1532
Cadmium, mg/kg	0.61	305	SM 11/8/88, 1532
Chromium, mg/kg	2.76	305	SM 11/8/88, 1532
Copper, mg/kg	<0.50	305	SM 11/8/88, 1532
Lead, mg/kg	<0.50	304	TS 11/10/88, 1445
Mercury, mg/kg	<0.10	303	TS 11/10/88, 0900
Nickel, mg/kg	2.18	305	SM 11/8/88, 1532
Selenium, mg/kg	<0.50	305	SM 11/10/88, 1000
Silver, mg/kg	<0.50	305	SM 11/9/88, 0942
Thallium, mg/kg	2.47	304	SM 11/9/88, 1300
Zinc, mg/kg	7.16	305	SM 11/8/88, 1532
Sulfides, mg/kg	3.20	427 F	CD 11/7/88, 0900

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Sample ID: Hole #3, Truck Rack API, Sample #1, 5'3"

SW 8240 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Chloromethane	BRL	0.3
Bromomethane	BRL	0.3
Vinyl chloride	BRL	0.3
Chloroethane	BRL	0.3
Dichloromethane	BRL	0.3
Acetone	BRL	3.0
Carbon disulfide	BRL	0.3
1,1-Dichloroethene	BRL	0.3
1,1-Dichloroethane	BRL	0.3
2-Butanone	13	0.3
Trans-1,2-dichloroethene	BRL	0.3
Chloroform	BRL	0.3
1,2-Dichloroethane	BRL	0.3
1,1,1-Trichloroethane	0.48	0.3
Carbon tetrachloride	BRL	0.3
Bromodichloromethane	BRL	0.3
1,2-Dichloropropane	BRL	0.3
Vinyl acetate	BRL	0.3
Cis-1,3-dichloropropene	BRL	0.3
Trichloroethene	BRL	0.3
Dibromochloromethane	BRL	0.3
1,1,2-Trichloroethane	0.99	0.3
Benzene	1.8	0.3
Trans-1,3-dichloropropane	BRL	0.3
2-Chloroethylvinylether	BRL	0.3
Bromoform	BRL	0.3
2-Hexanone	BRL	0.3
4-Methyl-2-pentanone	BRL	0.3
Tetrachloroethene	BRL	0.3
1,1,2,2-Tetrachloroethane	BRL	0.3
Toluene	BRL	0.3
Chlorobenzene	BRL	0.3
Ethylbenzene	15	0.3
Styrene	BRL	0.3
Total xylenes	32	0.3
1,2-Dichlorobenzene	BRL	0.3
1,3-Dichlorobenzene	BRL	0.3
1,4-Dichlorobenzene	BRL	0.3

BDL = Below Reporting Limit

Surrogate recoveries, %

1,2-Dichloroethane-d4	Matrix Interference
Toluene-d8	87.0
Bromofluorobenzene	Matrix Interference

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Sample ID: Hole #3, Truck Rack API, Sample #1, 5'3"

SW 8270 Base-Neutal and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Phenol	BRL	0.66
Bis(2-chloroethyl)ether	BRL	0.66
2-Chlorophenol	BRL	0.66
1,3-Dichlorobenzene	BRL	0.66
1,4-Dichlorobenzene	BRL	0.66
Benzyl alcohol	BRL	1.30
1,2-Dichlorobenzene	BRL	0.66
2-Methylphenol	BRL	0.66
Bis(2-chloroisopropyl)ether	BRL	0.66
4-Methylphenol	BRL	0.66
N-Nitrosodi-N-propylamine	BRL	0.66
Hexachloroethane	BRL	0.66
Nitrobenzene	1.5	0.66
Isophorone	BRL	0.66
2-Nitrophenol	BRL	0.66
2,4-Dimethylphenol	BRL	0.66
Benzoic acid	BRL	3.30
Bis(2-chloroethoxy)methane	BRL	0.66
2,4-Dichlorophenol	BRL	0.66
1,2,4-Trichlorobenzene	BRL	0.66
Naphthalene	6.3	0.66
4-Chloroaniline	BRL	1.30
Hexachlorobutadiene	BRL	0.66
4-Chloro-3-methylphenol	BRL	0.66
2-Methylnaphthalene	BRL	0.66
Hexachlorocyclopentadiene	BRL	0.66
2,4,6-Trichlorophenol	BRL	0.66
2,4,5-Trichlorophenol	BRL	0.66
2-Chloronaphthalene	BRL	0.66
2-Nitroaniline	BRL	3.30
Dimethylphthalate	BRL	0.66
Acenaphthylene	BRL	0.66
3-Nitroaniline	BRL	3.30
Acenaphthene	BRL	0.66
2,4-Dinitrophenol	BRL	3.30
4-Nitrophenol	BRL	0.66
Dibenzofuran	2.2	0.66
2,4-Dinitrotoluene	BRL	0.66
2,6-Dinitrotoluene	BRL	0.66
Diethylphthalate	BRL	0.66

-Continued-

SW 8270 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
4-Chlorophenyl-phenylether	BRL	0.66
Fluorene	BRL	0.66
4-Nitroaniline	BRL	3.30
4,6-Dinitro-2-methylphenol	BRL	3.30
N-Nitrosodiphenylamine	BRL	0.66
4-Bromophenyl-phenylether	BRL	0.66
Hexachlorobenzene	BRL	0.66
Pentachlorophenol	BRL	3.30
Phenanthrene	3.1	0.66
Anthracene	2.6	0.66
Di-n-butylphthalate	BRL	0.66
Fluoroanthene	BRL	0.66
Pyrene	BRL	0.66
Benzylbutylphthalate	BRL	0.66
3,3'-Dichlorobenzidine	BRL	1.30
Benzo(a)anthracene	BRL	0.66
Bis(2-ethylhexyl)phthalate	BRL	0.66
Chrysene	BRL	0.66
Di-n-octylphthalate	BRL	0.66
Benzo(b)fluoranthene	BRL	0.66
Benzo(k)fluoroanthene	BRL	0.66
Benzo(a)pyrene	BRL	0.66
Indeno(1,2,3-cd)pyrene	BRL	0.66
Dibenzo(a,h)anthracene	BRL	0.66
Benzo(g,h,i)perylene	BRL	0.66

BRL = Below Reporting Limit

Surrogate recoveries, %

Nitrobenzene-d5	77.0
2-Fluorobiphenyl	49.0
Terphenyl-d14	90.0

Results Method # Performed by

Sample ID: Site #4, Drum Storage Area 20' South from NW Fence
Center

Total Metals: Dry weight

Antimony, mg/kg	1.91	304	SM 11/9/88, 0930
Arsenic, mg/kg	10.1	304	SM 11/9/88, 1655
Beryllium, mg/kg	<0.50	305	SM 11/8/88, 1532
Cadmium, mg/kg	2.19	305	SM 11/8/88, 1532
Chromium, mg/kg	11.7	305	SM 11/8/88, 1532
Copper, mg/kg	8.14	305	SM 11/8/88, 1532
Lead, mg/kg	<0.50	304	TS 11/10/88, 1445
Mercury, mg/kg	<0.10	303	TS 11/10/88, 0900
Nickel, mg/kg	2.34	305	SM 11/8/88, 1532
Selenium, mg/kg	<0.50	305	SM 11/10/88, 1000
Silver, mg/kg	<0.50	305	SM 11/9/88, 0942
Thallium, mg/kg	0.99	304	SM 11/9/88, 1300
Zinc, mg/kg	36.2	305	SM 11/8/88, 1532
Sulfides, mg/kg	3.20	427 F	CD 11/7/88, 0900

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Sample ID: Site #4, Drum Storage Area 20' South from NW Fence
Corner

SW 8240 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Chloromethane	BRL	0.3
Bromomethane	BRL	0.3
Vinyl chloride	BRL	0.3
Chloroethane	BRL	0.3
Dichloromethane	BRL	0.3
Acetone	BRL	3.0
Carbon disulfide	BRL	0.3
1,1-Dichloroethene	BRL	0.3
1,1-Dichloroethane	BRL	0.3
2-Butanone	BRL	0.3
Trans-1,2-dichloroethene	BRL	0.3
Chloroform	BRL	0.3
1,2-Dichloroethane	BRL	0.3
1,1,1-Trichloroethane	BRL	0.3
Carbon tetrachloride	BRL	0.3
Bromodichloromethane	BRL	0.3
1,2-Dichloropropane	BRL	0.3
Vinyl acetate	BRL	0.3
Cis-1,3-dichloropropene	BRL	0.3
Trichloroethene	BRL	0.3
Dibromochloromethane	BRL	0.3
1,1,2-Trichloroethane	BRL	0.3
Benzene	BRL	0.3
Trans-1,3-dichloropropane	BRL	0.3
2-Chloroethylvinylether	BRL	0.3
Bromoform	BRL	0.3
2-Hexanone	BRL	0.3
4-Methyl-2-pentanone	BRL	0.3
Tetrachloroethene	BRL	0.3
1,1,2,2-Tetrachloroethane	BRL	0.3
Toluene	BRL	0.3
Chlorobenzene	BRL	0.3
Ethylbenzene	BRL	0.3
Styrene	BRL	0.3
Total xylenes	BRL	0.3
1,2-Dichlorobenzene	BRL	0.3
1,3-Dichlorobenzene	BRL	0.3
1,4-Dichlorobenzene	BRL	0.3

BDL = Below Reporting Limit

Surrogate recoveries, %

1,2-Dichloroethane-d4	136.0
Toluene-d8	102.0
Bromofluorobenzene	102.0

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Sample ID: Site #4, Drum Storage Area 20' From NW Fence
Corner

SW 8270 Base-Neutal and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Phenol	BRL	0.66
Bis(2-chloroethyl)ether	BRL	0.66
2-Chlorophenol	BRL	0.66
1,3-Dichlorobenzene	BRL	0.66
1,4-Dichlorobenzene	BRL	0.66
Benzyl alcohol	BRL	1.30
1,2-Dichlorobenzene	BRL	0.66
2-Methylphenol	BRL	0.66
Bis(2-chloroisopropyl)ether	BRL	0.66
4-Methylphenol	BRL	0.66
N-Nitrosodi-N-propylamine	BRL	0.66
Hexachloroethane	BRL	0.66
Nitrobenzene	BRL	0.66
Isophorone	BRL	0.66
2-Nitrophenol	BRL	0.66
2,4-Dimethylphenol	BRL	0.66
Benzoic acid	BRL	3.30
Bis(2-chloroethoxy)methane	BRL	0.66
2,4-Dichlorophenol	BRL	0.66
1,2,4-Trichlorobenzene	BRL	0.66
Naphthalene	BRL	0.66
4-Chloroaniline	BRL	1.30
Hexachlorobutadiene	BRL	0.66
4-Chloro-3-methylphenol	BRL	0.66
2-Methylnaphthalene	BRL	0.66
Hexachlorocyclopentadiene	BRL	0.66
2,4,6-Trichlorophenol	BRL	0.66
2,4,5-Trichlorophenol	BRL	0.66
2-Chloronaphthalene	BRL	0.66
2-Nitroaniline	BRL	3.30
Dimethylphthalate	BRL	0.66
Acenaphthylene	BRL	0.66
3-Nitroaniline	BRL	3.30
Acenaphthene	BRL	0.66
2,4-Dinitrophenol	BRL	3.30
4-Nitrophenol	BRL	0.66
Dibenzofuran	BRL	0.66
2,4-Dinitrotoluene	BRL	0.66
2,6-Dinitrotoluene	BRL	0.66
Diethylphthalate	BRL	0.66

-Continued-

SW 8270 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
4-Chlorophenyl-phenylether	BRL	0.66
Fluorene	BRL	0.66
4-Nitroaniline	BRL	3.30
4,6-Dinitro-2-methylphenol	BRL	3.30
N-Nitrosodiphenylamine	BRL	0.66
4-Bromophenyl-phenylether	BRL	0.66
Hexachlorobenzene	BRL	0.66
Pentachlorophenol	BRL	3.30
Phenanthrene	BRL	0.66
Anthracene	BRL	0.66
Di-n-butylphthalate	BRL	0.66
Fluoroanthene	BRL	0.66
Pyrene	BRL	0.66
Benzylbutylphthalate	BRL	0.66
3,3'-Dichlorobenzidine	BRL	1.30
Benzo(a)anthracene	BRL	0.66
Bis(2-ethylhexyl)phthalate	BRL	0.66
Chrysene	BRL	0.66
Di-n-octylphthalate	BRL	0.66
Benzo(b)fluoranthene	BRL	0.66
Benzo(k)fluroanthene	BRL	0.66
Benzo(a)pyrene	BRL	0.66
Indeno(1,2,3-cd)pyrene	BRL	0.66
Dibenzo(a,h)anthracene	BRL	0.66
Benzo(g,h,i)perylene	BRL	0.66

BRL = Below Reporting Limit

Surrogate recoveries, %

Nitrobenzene-d5	72.9	
2-Fluorobiphenyl	79.5	
Terphenyl-d14	207.5	Matrix

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: Site #5, Cooling Tower, Surface			
Total Metals: Dry weight			
Antimony, mg/kg	2.33	304	SM 11/9/88, 0930
Arsenic, mg/kg	19.6	304	SM 11/9/88, 1655
Beryllium, mg/kg	<0.50	305	SM 11/8/88, 1532
Cadmium, mg/kg	4.83	305	SM 11/8/88, 1532
Chromium, mg/kg	5,440	305	SM 11/8/88, 1532
Copper, mg/kg	26.8	305	SM 11/8/88, 1532
Lead, mg/kg	8.20	304	TS 11/10/88, 1445
Mercury, mg/kg	<0.10	303	TS 11/10/88, 0900
Nickel, mg/kg	5.41	305	SM 11/8/88, 1532
Selenium, mg/kg	<0.50	305	SM 11/10/88, 1000
Silver, mg/kg	<0.50	305	SM 11/9/88, 0942
Thallium, mg/kg	1.45	304	SM 11/9/88, 1300
Zinc, mg/kg	10,100	305	SM 11/8/88, 1532
Sulfides, mg/kg	4.00	427 F	CD 11/7/88, 0900

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Sample ID: Site #5, Cooling Tower, Surface

SW 8240 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Chloromethane	BRL	0.3
Bromomethane	BRL	0.3
Vinyl chloride	BRL	0.3
Chloroethane	BRL	0.3
Dichloromethane	BRL	0.3
Acetone	BRL	3.0
Carbon disulfide	BRL	0.3
1,1-Dichloroethene	BRL	0.3
1,1-Dichloroethane	BRL	0.3
2-Butanone	BRL	0.3
Trans-1,2-dichloroethene	BRL	0.3
Chloroform	BRL	0.3
1,2-Dichloroethane	BRL	0.3
1,1,1-Trichloroethane	BRL	0.3
Carbon tetrachloride	BRL	0.3
Bromodichloromethane	BRL	0.3
1,2-Dichloropropane	BRL	0.3
Vinyl acetate	BRL	0.3
Cis-1,3-dichloropropene	BRL	0.3
Trichloroethene	BRL	0.3
Dibromochloromethane	BRL	0.3
1,1,2-Trichloroethane	BRL	0.3
Benzene	BRL	0.3
Trans-1,3-dichloropropane	BRL	0.3
2-Chloroethylvinylether	BRL	0.3
Bromoform	BRL	0.3
2-Hexanone	BRL	0.3
4-Methyl-2-pentanone	BRL	0.3
Tetrachloroethene	BRL	0.3
1,1,2,2-Tetrachloroethane	BRL	0.3
Toluene	BRL	0.3
Chlorobenzene	BRL	0.3
Ethylbenzene	BRL	0.3
Styrene	BRL	0.3
Total xylenes	BRL	0.3
1,2-Dichlorobenzene	BRL	0.3
1,3-Dichlorobenzene	BRL	0.3
1,4-Dichlorobenzene	BRL	0.3

BDL = Below Reporting Limit

Surrogate recoveries, %

1,2-Dichloroethane-d4	138.0
Toluene-d8	104.0
Bromofluorobenzene	105.0

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Sample ID: Site #5, Cooling Tower, Surface

SW 8270 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Phenol	BRL	0.66
Bis(2-chloroethyl)ether	BRL	0.66
2-Chlorophenol	BRL	0.66
1,3-Dichlorobenzene	BRL	0.66
1,4-Dichlorobenzene	BRL	0.66
Benzyl alcohol	BRL	1.30
1,2-Dichlorobenzene	BRL	0.66
2-Methylphenol	BRL	0.66
Bis(2-chloroisopropyl)ether	BRL	0.66
4-Methylphenol	BRL	0.66
N-Nitrosodi-N-propylamine	BRL	0.66
Hexachloroethane	BRL	0.66
Nitrobenzene	BRL	0.66
Isophorone	BRL	0.66
2-Nitrophenol	BRL	0.66
2,4-Dimethylphenol	BRL	0.66
Benzoic acid	BRL	3.30
Bis(2-chloroethoxy)methane	BRL	0.66
2,4-Dichlorophenol	BRL	0.66
1,2,4-Trichlorobenzene	BRL	0.66
Naphthalene	BRL	0.66
4-Chloroaniline	BRL	1.30
Hexachlorobutadiene	BRL	0.66
4-Chloro-3-methylphenol	BRL	0.66
2-Methylnaphthalene	BRL	0.66
Hexachlorocyclopentadiene	BRL	0.66
2,4,6-Trichlorophenol	BRL	0.66
2,4,5-Trichlorophenol	BRL	0.66
2-Chloronaphthalene	BRL	0.66
2-Nitroaniline	BRL	3.30
Dimethylphthalate	BRL	0.66
Acenaphthylene	BRL	0.66
3-Nitroaniline	BRL	3.30
Acenaphthene	BRL	0.66
2,4-Dinitrophenol	BRL	3.30
4-Nitrophenol	BRL	0.66
Dibenzofuran	BRL	0.66
2,4-Dinitrotoluene	BRL	0.66
2,6-Dinitrotoluene	BRL	0.66
Diethylphthalate	BRL	0.66

-Continued-

SW 8270 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
4-Chlorophenyl-phenylether	BRL	0.66
Fluorene	BRL	0.66
4-Nitroaniline	BRL	3.30
4,6-Dinitro-2-methylphenol	BRL	3.30
N-Nitrosodiphenylamine	BRL	0.66
4-Bromophenyl-phenylether	BRL	0.66
Hexachlorobenzene	BRL	0.66
Pentachlorophenol	BRL	3.30
Phenanthrene	BRL	0.66
Anthracene	BRL	0.66
Di-n-butylphthalate	BRL	0.66
Fluoroanthene	BRL	0.66
Pyrene	BRL	0.66
Benzylbutylphthalate	BRL	0.66
3,3'-Dichlorobenzidine	BRL	1.30
Benzo(a)anthracene	BRL	0.66
Bis(2-ethylhexyl)phthalate	BRL	0.66
Chrysene	BRL	0.66
Di-n-octylphthalate	BRL	0.66
Benzo(b)fluoranthene	BRL	0.66
Benzo(k)fluroanthene	BRL	0.66
Benzo(a)pyrene	BRL	0.66
Indeno(1,2,3-cd)pyrene	BRL	0.66
Dibenzo(a,h)anthracene	BRL	0.66
Benzo(g,h,i)perylene	BRL	0.66

BRL = Below Reporting Limit



Professional Service Industries, Inc.

ANALYTICAL REPORT

TESTED FOR: **PILKO & ASSOCIATES**
2707 N. Loop West, Suite 960
Houston, TX 77008

PROJECT Chemical Analysis

ATTN: Jim Tapp

DATE: November 25, 1988

OUR REPORT NO 14-80202-01

REMARKS: Date Received: November 4, 1988

Sample Identification: Seven soil samples labeled below.

Methodology Employed: SW 846/Standard Methods, 16th Edition

TEST RESULTS:

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: Site #6, Sample #2, Process API, 8'			
Total Metals: Dry weight			
Antimony, mg/kg	1.39	304	SM 11/9/88, 0930
Arsenic, mg/kg	2.98	304	SM 11/9/88, 1655
Beryllium, mg/kg	<0.50	305	SM 11/8/88, 1532
Cadmium, mg/kg	<0.50	305	SM 11/8/88, 1532
Chromium, mg/kg	3.25	305	SM 11/8/88, 1532
Copper, mg/kg	<0.50	305	SM 11/8/88, 1532
Lead, mg/kg	1.33	304	TS 11/10/88, 1445
Mercury, mg/kg	<0.10	303	TS 11/10/88, 0900
Nickel, mg/kg	1.59	305	SM 11/8/88, 1532
Selenium, mg/kg	<0.50	305	SM 11/10/88, 1000
Silver, mg/kg	<0.50	305	SM 11/9/88, 0942
Thallium, mg/kg	0.71	304	SM 11/9/88, 1300
Zinc, mg/kg	7.09	305	SM 11/8/88, 1532
Sulfides, mg/kg	3.20	427 F	CD 11/7/88, 0900

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Sample ID: Site #6, Sample #2, Process API, 8'

SW 8240 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Chloromethane	BRL	0.3
Bromomethane	BRL	0.3
Vinyl chloride	BRL	0.3
Chloroethane	BRL	0.3
Dichloromethane	BRL	0.3
Acetone	3.4	3.0
Carbon disulfide	BRL	0.3
1,1-Dichloroethene	BRL	0.3
1,1-Dichloroethane	BRL	0.3
2-Butanone	6.4	0.3
Trans-1,2-dichloroethene	BRL	0.3
Chloroform	BRL	0.3
1,2-Dichloroethane	BRL	0.3
1,1,1-Trichloroethane	BRL	0.3
Carbon tetrachloride	BRL	0.3
Bromodichloromethane	BRL	0.3
1,2-Dichloropropane	BRL	0.3
Vinyl acetate	BRL	0.3
Cis-1,3-dichloropropene	BRL	0.3
Trichloroethene	BRL	0.3
Dibromochloromethane	BRL	0.3
1,1,2-Trichloroethane	7.4	0.3
Benzene	3.1	0.3
Trans-1,3-dichloropropane	BRL	0.3
2-Chloroethylvinylether	BRL	0.3
Bromoform	BRL	0.3
2-Hexanone	BRL	0.3
4-Methyl-2-pentanone	BRL	0.3
Tetrachloroethene	BRL	0.3
1,1,2,2-Tetrachloroethane	BRL	0.3
Toluene	1.4	0.3
Chlorobenzene	BRL	0.3
Ethylbenzene	7.7	0.3
Styrene	BRL	0.3
Total xylenes	47	0.3
1,2-Dichlorobenzene	BRL	0.3
1,3-Dichlorobenzene	BRL	0.3
1,4-Dichlorobenzene	BRL	0.3

BDL = Below Reporting Limit

Surrogate recoveries, %

1,2-Dichloroethane-d4

70.6

Toluene-d8

Matrix Interference

Bromofluorobenzene

81.0

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Sample ID: Site #6, Sample #2, Process API, 8'

SW 8270 Base-Neutal and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Phenol	BRL	0.66
Bis(2-chloroethyl)ether	BRL	0.66
2-Chlorophenol	BRL	0.66
1,3-Dichlorobenzene	BRL	0.66
1,4-Dichlorobenzene	BRL	0.66
Benzyl alcohol	BRL	1.30
1,2-Dichlorobenzene	BRL	0.66
2-Methylphenol	BRL	0.66
Bis(2-chloroisopropyl)ether	BRL	0.66
4-Methylphenol	BRL	0.66
N-Nitrosodi-N-propylamine	BRL	0.66
Hexachloroethane	BRL	0.66
Nitrobenzene	**	0.66
Isophorone	BRL	0.66
2-Nitrophenol	BRL	0.66
2,4-Dimethylphenol	BRL	0.66
Benzoic acid	BRL	3.30
Bis(2-chloroethoxy)methane	BRL	0.66
2,4-Dichlorophenol	BRL	0.66
1,2,4-Trichlorobenzene	BRL	0.66
Naphthalene	1.1	0.66
4-Chloroaniline	BRL	1.30
Hexachlorobutadiene	BRL	0.66
4-Chloro-3-methylphenol	BRL	0.66
2-Methylnaphthalene	BRL	0.66
Hexachlorocyclopentadiene	BRL	0.66
2,4,6-Trichlorophenol	BRL	0.66
2,4,5-Trichlorophenol	BRL	0.66
2-Chloronaphthalene	BRL	0.66
2-Nitroaniline	BRL	3.30
Dimethylphthalate	BRL	0.66
Acenaphthylene	**	0.66
3-Nitroaniline	BRL	3.30
Acenaphthene	BRL	0.66
2,4-Dinitrophenol	**	3.30
4-Nitrophenol	BRL	0.66
Dibenzofuran	**	0.66
2,4-Dinitrotoluene	BRL	0.66
2,6-Dinitrotoluene	BRL	0.66
Diethylphthalate	BRL	0.66

-Continued-

SW 8270 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
4-Chlorophenyl-phenylether	BRL	0.66
Fluorene	**	0.66
4-Nitroaniline	BRL	3.30
4,6-Dinitro-2-methylphenol	BRL	3.30
N-Nitrosodiphenylamine	BRL	0.66
4-Bromophenyl-phenylether	BRL	0.66
Hexachlorobenzene	BRL	0.66
Pentachlorophenol	BRL	3.30
Phenanthrene	BRL	0.66
Anthracene	**	0.66
Di-n-butylphthalate	BRL	0.66
Fluoroanthene	BRL	0.66
Pyrene	BRL	0.66
Benzylbutylphthalate	BRL	0.66
3,3'-Dichlorobenzidine	BRL	1.30
Benzo(a)anthracene	BRL	0.66
Bis(2-ethylhexyl)phthalate	BRL	0.66
Chrysene	BRL	0.66
Di-n-octylphthalate	BRL	0.66
Benzo(b)fluoranthene	BRL	0.66
Benzo(k)fluoroanthene	BRL	0.66
Benzo(a)pyrene	BRL	0.66
Indeno(1,2,3-cd)pyrene	BRL	0.66
Dibenzo(a,h)anthracene	BRL	0.66
Benzo(g,h,i)perylene	BRL	0.66

BRL = Below Reporting Limit

** = Detected but below reporting limits

Surrogate recoveries, %

Nitrobenzene-d5	71.4
2-Fluorobiphenyl	69.0
Terphenyl-d14	79.2

Results Method # Performed by

Sample ID: Site #7, Lab Septic Tank Sample #2, 12'

Total Metals: Dry weight

Antimony, mg/kg	2.30	304	SM 11/9/88, 0930
Arsenic, mg/kg	2.37	304	SM 11/9/88, 1655
Beryllium, mg/kg	<0.50	305	SM 11/8/88, 1532
Cadmium, mg/kg	1.13	305	SM 11/8/88, 1532
Chromium, mg/kg	4.12	305	SM 11/8/88, 1532
Copper, mg/kg	<0.50	305	SM 11/8/88, 1532
Lead, mg/kg	<0.50	304	TS 11/10/88, 1445
Mercury, mg/kg	<0.10	303	TS 11/10/88, 0900
Nickel, mg/kg	1.74	305	SM 11/8/88, 1532
Selenium, mg/kg	0.95	305	SM 11/10/88, 1000
Silver, mg/kg	<0.50	305	SM 11/9/88, 0942
Thallium, mg/kg	1.35	304	SM 11/9/88, 1300
Zinc, mg/kg	7.14	305	SM 11/8/88, 1532
Sulfides, mg/kg	4.00	427 F	CD 11/7/88, 0900

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Sample ID: Site #7, Lab Septic Tank Sample #2, 12'

SW 8240 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Chloromethane	BRL	0.3
Bromomethane	BRL	0.3
Vinyl chloride	BRL	0.3
Chloroethane	BRL	0.3
Dichloromethane	BRL	0.3
Acetone	BRL	3.0
Carbon disulfide	BRL	0.3
1,1-Dichloroethene	BRL	0.3
1,1-Dichloroethane	BRL	0.3
2-Butanone	BRL	0.3
Trans-1,2-dichloroethene	BRL	0.3
Chloroform	BRL	0.3
1,2-Dichloroethane	BRL	0.3
1,1,1-Trichloroethane	BRL	0.3
Carbon tetrachloride	BRL	0.3
Bromodichloromethane	BRL	0.3
1,2-Dichloropropane	BRL	0.3
Vinyl acetate	BRL	0.3
Cis-1,3-dichloropropene	BRL	0.3
Trichloroethene	BRL	0.3
Dibromochloromethane	BRL	0.3
1,1,2-Trichloroethane	BRL	0.3
Benzene	BRL	0.3
Trans-1,3-dichloropropane	BRL	0.3
2-Chloroethylvinylether	BRL	0.3
Bromoform	BRL	0.3
2-Hexanone	BRL	0.3
4-Methyl-2-pentanone	BRL	0.3
Tetrachloroethene	BRL	0.3
1,1,2,2-Tetrachloroethane	BRL	0.3
Toluene	BRL	0.3
Chlorobenzene	BRL	0.3
Ethylbenzene	BRL	0.3
Styrene	BRL	0.3
Total xylenes	BRL	0.3
1,2-Dichlorobenzene	BRL	0.3
1,3-Dichlorobenzene	BRL	0.3
1,4-Dichlorobenzene	BRL	0.3

BDL = Below Reporting Limit

Surrogate recoveries, %

1,2-Dichloroethane-d4	122.0
Toluene-d8	93.0
Bromofluorobenzene	98.0

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Sample ID: Site #7, Lab Septic tank Sample #2, 12'

SW 8270 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Phenol	BRL	0.66
Bis(2-chloroethyl)ether	BRL	0.66
2-Chlorophenol	BRL	0.66
1,3-Dichlorobenzene	BRL	0.66
1,4-Dichlorobenzene	BRL	0.66
Benzyl alcohol	BRL	1.30
1,2-Dichlorobenzene	BRL	0.66
2-Methylphenol	BRL	0.66
Bis(2-chloroisopropyl)ether	BRL	0.66
4-Methylphenol	BRL	0.66
N-Nitrosodi-N-propylamine	BRL	0.66
Hexachloroethane	BRL	0.66
Nitrobenzene	BRL	0.66
Isophorone	BRL	0.66
2-Nitrophenol	BRL	0.66
2,4-Dimethylphenol	BRL	0.66
Benzoic acid	BRL	3.30
Bis(2-chloroethoxy)methane	BRL	0.66
2,4-Dichlorophenol	BRL	0.66
1,2,4-Trichlorobenzene	BRL	0.66
Naphthalene	BRL	0.66
4-Chloroaniline	BRL	1.30
Hexachlorobutadiene	BRL	0.66
4-Chloro-3-methylphenol	BRL	0.66
2-Methylnaphthalene	BRL	0.66
Hexachlorocyclopentadiene	BRL	0.66
2,4,6-Trichlorophenol	BRL	0.66
2,4,5-Trichlorophenol	BRL	0.66
2-Chloronaphthalene	BRL	0.66
2-Nitroaniline	BRL	3.30
Dimethylphthalate	BRL	0.66
Acenaphthylene	BRL	0.66
3-Nitroaniline	BRL	3.30
Acenaphthene	BRL	0.66
2,4-Dinitrophenol	BRL	3.30
4-Nitrophenol	BRL	0.66
Dibenzofuran	BRL	0.66
2,4-Dinitrotoluene	BRL	0.66
2,6-Dinitrotoluene	BRL	0.66
Diethylphthalate	BRL	0.66

-Continued-

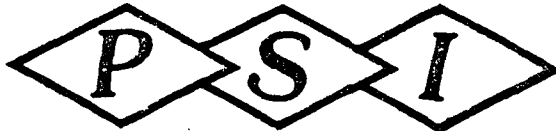
SW 8270 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
4-Chlorophenyl-phenylether	BRL	0.66
Fluorene	BRL	0.66
4-Nitroaniline	BRL	3.30
4,6-Dinitro-2-methylphenol	BRL	3.30
N-Nitrosodiphenylamine	BRL	0.66
4-Bromophenyl-phenylether	BRL	0.66
Hexachlorobenzene	BRL	0.66
Pentachlorophenol	BRL	3.30
Phenanthrene	BRL	0.66
Anthracene	BRL	0.66
Di-n-butylphthalate	BRL	0.66
Fluoroanthene	BRL	0.66
Pyrene	BRL	0.66
Benzylbutylphthalate	BRL	0.66
3,3'-Dichlorobenzidine	BRL	1.30
Benzo(a)anthracene	BRL	0.66
Bis(2-ethylhexyl)phthalate	BRL	0.66
Chrysene	BRL	0.66
Di-n-octylphthalate	BRL	0.66
Benzo(b)fluoranthene	BRL	0.66
Benzo(k)fluroanthene	BRL	0.66
Benzo(a)pyrene	BRL	0.66
Indeno(1,2,3-cd)pyrene	BRL	0.66
Dibenzo(a,h)anthracene	BRL	0.66
Benzo(g,h,i)perylene	BRL	0.66

BRL = Below Reporting Limit

Surrogate recoveries, %

Nitrobenzene-d5	13.8
2-Fluorobiphenyl	32.8
Terphenyl-d14	100.8
Phenol-d5	18.6
2-Fluorophenol	17.3
2,4,6-Tribromophenol	61.6



ENVIRONMENTAL SERVICES

201 West Wall, Suite 401 East
Midland, Texas 79701 - 4513
915 - 682-8597

November 3, 1988

Jim TAPP
861-6210

PROFESSIONAL SERVICES INDUSTRIES, INC.
6913 Hwy. 225
Deer Park, TX 77536

Gentlemen:

We have shipped you, via Federal Express Next Day Air, six ice chest containing nineteen samples that you are to receive your instructions for testing from Arthur Penny of Pilko & Associates, Inc. His phone number is 713/861-1417, should you have any problems. The samples are as follows:

Box 1 of 6 11299 Hole #3, Truck Rack API, Sample #2, 8'
 300 Hole #3, Truck Rack API, Sample #2A, 8'
 10 Site #6, Sample #2, Process API, 3'

Box 2 of 6 2 Sump Site #1, Boring #3, Sample #3, 7'6"
 3 Sump Site #1, Boring #1, Sample #1, 6"
 4 Sump Site #1, Boring #1, Sample #2, 2'*

Box 3 of 6 5 Fiberglass Liner, Hole #3, API Separator Sludge Overflow Pond
 6 Truck Rack, Wash Basin, 5'6"
 7 API Separator Overflow Pond, Hole #2, Sample #3, 15'4"

Box 4 of 6 8 API Separator Overflow Pond, Hole #2, Sample #2, 9'10" - 10'4"
 9 Truck Rack, Wash Basin, 3"

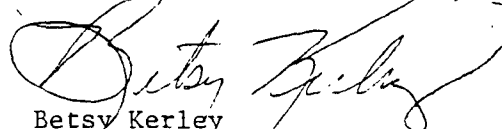
Box 5 of 6 10 Hole #3, Truck Rack API, Sample #1, 5'3"
 11 Truck Rack, Wash Basin, Surface
 12 Site #5, Cooling Tower, Surface
 13 Site #4, Drum Storage Area 20' South from NW Fence Corner

Box 6 of 6 14 Site #7, Lab Septic Tank Sample #1, 5'7" (Biological precautions
 15 Site #7, Lab Septic Tank Sample #2, 12' should be taken)
 16 Site #6, Process API, Sample #5
 17 Hole #2, Sample #1, 5' - 5'6", Back Filled Separator Pond*

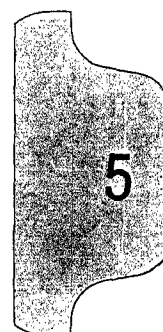
Thank you for your assistance in this matter.

Yours truly,

PSI ENVIRONMENTAL SERVICES, INC.


Betsy Kerley
Secretary

BK/s



ATTACHMENT 5

**LABORATORY RESULTS - SOILS
(SUBSURFACE - DECEMBER, 1988)
TW-1 AND TW-2**



Professional Service Industries, Inc.

ANALYTICAL REPORT

TESTED FOR: **PILKO & ASSOCIATES**
2707 N. Loop West, Suite 960
Houston, TX 77008

PROJECT: **Lovington**

ATTN: **Darryl Carlson**

DATE: **December 9, 1988**

OUR REPORT NO.: **213-80202-03**

REMARKS:

Date Received: **December 2, 1988**

Sample Identification: **Six soil samples labeled below.**

Methodology Employed: **SW 846/Standard Methods, 16th Edition**

TEST RESULTS:

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID:	TW1-20'		
Priority Pollutant Metals:	Dry weight basis		
Antimony, mg/kg	0.74	304	TS 12/9/88, 0845
Arsenic, mg/kg	10.5	304	TS 12/6/88, 1800
Beryllium, mg/kg	<0.50	305	SM 12/6/88, 1515
Cadmium, mg/kg	0.60	305	SM 12/6/88, 1515
Chromium, mg/kg	1.89	305	SM 12/6/88, 1515
Copper, mg/kg	0.94	305	SM 12/6/88, 1515
Lead, mg/kg	1.45	304	TS 12/8/88, 1330
Mercury, mg/kg	<0.05	303	RS 12/6/88, 1600
Nickel, mg/kg	5.07	305	SM 12/6/88, 1515
Selenium, mg/kg	<0.50	304	SM 12/7/88, 1200
Silver, mg/kg	<0.50	305	SM 12/6/88, 1719
Thallium, mg/kg	<0.50	304	TS 12/6/88, 1300
Zinc, mg/kg	6.11	305	SM 12/6/88, 1515
Cyanide, mg/kg	<0.05	412 B	RC 12/6/88, 1000
Sulfides, mg/kg	4.80	427 F	CD 12/5/88, 0900

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
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Sample ID: TW1-40'

Priority Pollutant Metals: Dry weight basis

Antimony, mg/kg	0.82	304	TS 12/9/88, 0845
Arsenic, mg/kg	7.80	304	TS 12/6/88, 1800
Beryllium, mg/kg	<0.50	305	SM 12/6/88, 1515
Cadmium, mg/kg	0.71	305	SM 12/6/88, 1515
Chromium, mg/kg	1.50	305	SM 12/6/88, 1515
Copper, mg/kg	<0.50	305	SM 12/6/88, 1515
Lead, mg/kg	0.97	304	TS 12/8/88, 1330
Mercury, mg/kg	<0.05	303	RS 12/6/88, 1600
Nickel, mg/kg	11.4	305	SM 12/6/88, 1515
Selenium, mg/kg	1.30	304	SM 12/7/88, 1200
Silver, mg/kg	<0.50	305	SM 12/6/88, 1719
Thallium, mg/kg	<0.50	304	TS 12/6/88, 1300
Zinc, mg/kg	5.24	305	SM 12/6/88, 1515
Cyanide, mg/kg	<0.05	412 B	RC 12/6/88, 1000
Sulfides, mg/kg	4.80	427 F	CD 12/5/88, 0900

Sample ID: TW1-70'

Priority Pollutant Metals: Dry weight basis

Antimony, mg/kg	0.88	304	TS 12/9/88, 0845
Arsenic, mg/kg	7.80	304	TS 12/6/88, 1800
Beryllium, mg/kg	<0.50	305	SM 12/6/88, 1515
Cadmium, mg/kg	1.00	305	SM 12/6/88, 1515
Chromium, mg/kg	1.80	305	SM 12/6/88, 1515
Copper, mg/kg	<0.50	305	SM 12/6/88, 1515
Lead, mg/kg	0.95	304	TS 12/8/88, 1330
Mercury, mg/kg	<0.05	303	RS 12/6/88, 1600
Nickel, mg/kg	2.07	305	SM 12/6/88, 1515
Selenium, mg/kg	<0.50	304	SM 12/7/88, 1200
Silver, mg/kg	<0.50	305	SM 12/6/88, 1719
Thallium, mg/kg	<0.50	304	TS 12/6/88, 1300
Zinc, mg/kg	5.32	305	SM 12/6/88, 1515
Cyanide, mg/kg	<0.05	412 B	RC 12/6/88, 1000
Sulfides, mg/kg	4.00	427 F	CD 12/5/88, 0900

<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
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Sample ID: TW2-20'

Priority Pollutant Metals: Dry weight basis

Antimony, mg/kg	2.69	304	TS 12/9/88, 0845
Arsenic, mg/kg	9.40	304	TS 12/6/88, 1800
Beryllium, mg/kg	<0.50	305	SM 12/6/88, 1515
Cadmium, mg/kg	0.94	305	SM 12/6/88, 1515
Chromium, mg/kg	1.19	305	SM 12/6/88, 1515
Copper, mg/kg	1.15	305	SM 12/6/88, 1515
Lead, mg/kg	0.61	304	TS 12/8/88, 1330
Mercury, mg/kg	<0.05	303	RS 12/6/88, 1600
Nickel, mg/kg	4.61	305	SM 12/6/88, 1515
Selenium, mg/kg	1.08	304	SM 12/7/88, 1200
Silver, mg/kg	<0.50	305	SM 12/6/88, 1719
Thallium, mg/kg	<0.50	304	TS 12/6/88, 1300
Zinc, mg/kg	5.80	305	SM 12/6/88, 1515
Cyanide, mg/kg	<0.05	412 B	RC 12/6/88, 1000
Sulfides, mg/kg	3.20	427 F	CD 12/5/88, 0900

Sample ID: TW2-30'

Priority Pollutant Metals: Dry weight basis

Antimony, mg/kg	2.66	304	TS 12/9/88, 0845
Arsenic, mg/kg	7.70	304	TS 12/6/88, 1800
Beryllium, mg/kg	<0.50	305	SM 12/6/88, 1515
Cadmium, mg/kg	0.74	305	SM 12/6/88, 1515
Chromium, mg/kg	1.15	305	SM 12/6/88, 1515
Copper, mg/kg	<0.50	305	SM 12/6/88, 1515
Lead, mg/kg	0.85	304	TS 12/8/88, 1330
Mercury, mg/kg	<0.05	303	RS 12/6/88, 1600
Nickel, mg/kg	4.11	305	SM 12/6/88, 1515
Selenium, mg/kg	1.55	304	SM 12/7/88, 1200
Silver, mg/kg	1.11	305	SM 12/6/88, 1719
Thallium, mg/kg	<0.50	304	TS 12/6/88, 1300
Zinc, mg/kg	4.66	305	SM 12/6/88, 1515
Cyanide, mg/kg	<0.05	412 B	RC 12/6/88, 1000
Sulfides, mg/kg	6.40	427 F	CD 12/5/88, 0900

<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
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Sample ID: TW2-60'

Priority Pollutant Metals: Dry weight basis

Antimony, mg/kg	1.94	304	TS 12/9/88, 0845
Arsenic, mg/kg	6.10	304	TS 12/6/88, 1800
Beryllium, mg/kg	<0.50	305	SM 12/6/88, 1515
Cadmium, mg/kg	0.75	305	SM 12/6/88, 1515
Chromium, mg/kg	1.39	305	SM 12/6/88, 1515
Copper, mg/kg	<0.50	305	SM 12/6/88, 1515
Lead, mg/kg	0.44	304	TS 12/8/88, 1330
Mercury, mg/kg	<0.05	303	RS 12/6/88, 1600
Nickel, mg/kg	19.8	305	SM 12/6/88, 1515
Selenium, mg/kg	0.85	304	SM 12/7/88, 1200
Silver, mg/kg	<0.50	305	SM 12/6/88, 1719
Thallium, mg/kg	<0.50	304	TS 12/6/88, 1300
Zinc, mg/kg	4.59	305	SM 12/6/88, 1515
Cyanide, mg/kg	<0.05	412 B	RC 12/6/88, 1000
Sulfides, mg/kg	4.80	427 F	CD 12/5/88, 0900

Q.A. DATA

	<u>Sb</u>	<u>As</u>	<u>Be</u>	<u>Cd</u>	<u>Cr</u>	<u>Cu</u>
Mdl	0.01	0.01	0.01	0.01	0.01	0.01
Blank	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Original	0.82	7.00	<0.50	0.78	1.65	<0.50
Duplicate	1.33	8.60	<0.50	0.63	1.34	<0.50
Rpd, %	47	21	0	21.1	20.7	0
Amount Spiked	---	0.05	20.2	20.2	20.2	20.2
Spike Rec., %	---	120	79	80	79	77
	<u>Pb</u>	<u>Hg</u>	<u>Ni</u>	<u>Se</u>	<u>Ag</u>	<u>Tl</u>
Mdl	0.01	0.001	0.01	0.01	0.01	<0.50
Blank	<0.01	<0.001	<0.01	<0.01	<0.01	<0.50
Original	<0.01	<0.001	12.9	1.35	<0.50	<0.01
Duplicate	<0.01	<0.001	9.87	1.45	<0.50	<0.01
Rpd, %	0	0	26.6	7.14	0	0
Amount Spiked	0.05	0.010	20.2	4.05	8.67	0.025
Spike Rec., %	92	100	42	44	24	91
	<u>Zn</u>	<u>Cn</u>	<u>Sulfide</u>			
Mdl	0.01	<0.05	1			
Blank	<0.01	<0.05	---			
Original	5.60	0.29	4.80			
Duplicate	4.87	0.29	4.80			
Rpd, %	13.9	0	0			
Amount Spiked	20.2	0.25	---			
Spike Rec., %	82	94	---			

Pilko & Associates
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Sample ID: TW1-20'

Date analyzed: 12/9/88

SW 8240 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Chloromethane	BRL	0.3
Bromomethane	BRL	0.3
Vinyl chloride	BRL	0.3
Chloroethane	BRL	0.3
Dichloromethane	BRL	0.3
Acetone	BRL	3.0
Carbon disulfide	BRL	0.3
1,1-Dichloroethene	BRL	0.3
1,1-Dichloroethane	BRL	0.3
2-Butanone	BRL	0.3
Trans-1,2-dichloroethene	BRL	0.3
Chloroform	BRL	0.3
1,2-Dichloroethane	BRL	0.3
1,1,1-Trichloroethane	BRL	0.3
Carbon tetrachloride	BRL	0.3
Bromodichloromethane	BRL	0.3
1,2-Dichloropropane	BRL	0.3
Vinyl acetate	BRL	0.3
Cis-1,3-dichloropropene	BRL	0.3
Trichloroethene	BRL	0.3
Dibromochloromethane	BRL	0.3
1,1,2-Trichloroethane	BRL	0.3
Benzene	BRL	0.3
Trans-1,3-dichloropropane	BRL	0.3
2-Chloroethylvinylether	BRL	0.3
Bromoform	BRL	0.3
2-Hexanone	BRL	0.3
4-Methyl-2-pentanone	BRL	0.3
Tetrachloroethene	BRL	0.3
1,1,2,2-Tetrachloroethane	BRL	0.3
Toluene	BRL	0.3
Chlorobenzene	BRL	0.3
Ethylbenzene	BRL	0.3
Styrene	BRL	0.3
Total xylenes	BRL	0.3
1,2-Dichlorobenzene	BRL	0.3
1,3-Dichlorobenzene	BRL	0.3
1,4-Dichlorobenzene	BRL	0.3

BDL = Below Reporting Limit

Surrogate recoveries, %

1,2-Dichloroethane-d4	79.6
Toluene-d8	100.0
Bromofluorobenzene	86.4

Date analyzed: 12/9/88

SW 8270 Base-Neutal and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Phenol	BRL	0.66
Bis(2-chloroethyl)ether	BRL	0.66
2-Chlorophenol	BRL	0.66
1,3-Dichlorobenzene	BRL	0.66
1,4-Dichlorobenzene	BRL	0.66
Benzyl alcohol	BRL	1.30
1,2-Dichlorobenzene	BRL	0.66
2-Methylphenol	BRL	0.66
Bis(2-chloroisopropyl)ether	BRL	0.66
4-Methylphenol	BRL	0.66
N-Nitrosodi-N-propylamine	BRL	0.66
Hexachloroethane	BRL	0.66
Nitrobenzene	BRL	0.66
Isophorone	BRL	0.66
2-Nitrophenol	BRL	0.66
2,4-Dimethylphenol	BRL	0.66
Benzoic acid	BRL	3.30
Bis(2-chloroethoxy)methane	BRL	0.66
2,4-Dichlorophenol	BRL	0.66
1,2,4-Trichlorobenzene	BRL	0.66
Naphthalene	BRL	0.66
4-Chloroaniline	BRL	1.30
Hexachlorobutadiene	BRL	0.66
4-Chloro-3-methylphenol	BRL	0.66
2-Methylnaphthalene	BRL	0.66
Hexachlorocyclopentadiene	BRL	0.66
2,4,6-Trichlorophenol	BRL	0.66
2,4,5-Trichlorophenol	BRL	0.66
2-Chloronaphthalene	BRL	0.66
2-Nitroaniline	BRL	3.30
Dimethylphthalate	BRL	0.66
Acenaphthylene	BRL	0.66
3-Nitroaniline	BRL	3.30
Acenaphthene	BRL	0.66
2,4-Dinitrophenol	BRL	3.30
4-Nitrophenol	BRL	0.66
Dibenzofuran	BRL	0.66
2,4-Dinitrotoluene	BRL	0.66
2,6-Dinitrotoluene	BRL	0.66
Diethylphthalate	BRL	0.66

-Continued-

SW 8270 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
4-Chlorophenyl-phenylether	BRL	0.66
Fluorene	BRL	0.66
4-Nitroaniline	BRL	3.30
4,6-Dinitro-2-methylphenol	BRL	3.30
N-Nitrosodiphenylamine	BRL	0.66
4-Bromophenyl-phenylether	BRL	0.66
Hexachlorobenzene	BRL	0.66
Pentachlorophenol	BRL	3.30
Phenanthrene	BRL	0.66
Anthracene	BRL	0.66
Di-n-butylphthalate	BRL	0.66
Fluoroanthene	BRL	0.66
Pyrene	BRL	0.66
Benzylbutylphthalate	BRL	0.66
3,3'-Dichlorobenzidine	BRL	1.30
Benzo(a)anthracene	BRL	0.66
Bis(2-ethylhexyl)phthalate	BRL	0.66
Chrysene	BRL	0.66
Di-n-octylphthalate	BRL	0.66
Benzo(b)fluoranthene	BRL	0.66
Benzo(k)fluoroanthene	BRL	0.66
Benzo(a)pyrene	BRL	0.66
Indeno(1,2,3-cd)pyrene	BRL	0.66
Dibenzo(a,h)anthracene	BRL	0.66
Benzo(g,h,i)perylene	BRL	0.66

BRL = Below Reporting Limit

Surrogate recoveries, %

Nitrobenzene-d5	44.4
2-Fluorobiphenyl	127.2
Terphenyl-d14	144.6

Date analyzed: 12/9/88

SW 8240 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Chloromethane	BRL	0.3
Bromomethane	BRL	0.3
Vinyl chloride	BRL	0.3
Chloroethane	BRL	0.3
Dichloromethane	BRL	0.3
Acetone	BRL	3.0
Carbon disulfide	BRL	0.3
1,1-Dichloroethene	BRL	0.3
1,1-Dichloroethane	BRL	0.3
2-Butanone	**	0.3
Trans-1,2-dichloroethene	BRL	0.3
Chloroform	BRL	0.3
1,2-Dichloroethane	BRL	0.3
1,1,1-Trichloroethane	BRL	0.3
Carbon tetrachloride	BRL	0.3
Bromodichloromethane	BRL	0.3
1,2-Dichloropropane	BRL	0.3
Vinyl acetate	BRL	0.3
Cis-1,3-dichloropropene	BRL	0.3
Trichloroethene	BRL	0.3
Dibromochloromethane	BRL	0.3
1,1,2-Trichloroethane	BRL	0.3
Benzene	BRL	0.3
Trans-1,3-dichloropropane	BRL	0.3
2-Chloroethylvinylether	BRL	0.3
Bromoform	BRL	0.3
2-Hexanone	BRL	0.3
4-Methyl-2-pentanone	BRL	0.3
Tetrachloroethene	BRL	0.3
1,1,2,2-Tetrachloroethane	BRL	0.3
Toluene	BRL	0.3
Chlorobenzene	BRL	0.3
Ethylbenzene	BRL	0.3
Styrene	BRL	0.3
Total xylenes	BRL	0.3
1,2-Dichlorobenzene	BRL	0.3
1,3-Dichlorobenzene	BRL	0.3
1,4-Dichlorobenzene	BRL	0.3

BDL = Below Reporting Limit

** = Detected but below reporting limit

Surrogate recoveries, %

1,2-Dichloroethane-d4	81.6
Toluene-d8	100.0
Bromofluorobenzene	81.6

Date analyzed: 12/8/88

SW 8270 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Phenol	BRL	0.66
Bis(2-chloroethyl)ether	BRL	0.66
2-Chlorophenol	BRL	0.66
1,3-Dichlorobenzene	BRL	0.66
1,4-Dichlorobenzene	BRL	0.66
Benzyl alcohol	BRL	1.30
1,2-Dichlorobenzene	BRL	0.66
2-Methylphenol	BRL	0.66
Bis(2-chloroisopropyl)ether	BRL	0.66
4-Methylphenol	BRL	0.66
N-Nitrosodi-N-propylamine	BRL	0.66
Hexachloroethane	BRL	0.66
Nitrobenzene	BRL	0.66
Isophorone	BRL	0.66
2-Nitrophenol	BRL	0.66
2,4-Dimethylphenol	BRL	0.66
Benzoic acid	BRL	3.30
Bis(2-chloroethoxy)methane	BRL	0.66
2,4-Dichlorophenol	BRL	0.66
1,2,4-Trichlorobenzene	BRL	0.66
Naphthalene	BRL	0.66
4-Chloroaniline	BRL	1.30
Hexachlorobutadiene	BRL	0.66
4-Chloro-3-methylphenol	BRL	0.66
2-Methylnaphthalene	BRL	0.66
Hexachlorocyclopentadiene	BRL	0.66
2,4,6-Trichlorophenol	BRL	0.66
2,4,5-Trichlorophenol	BRL	0.66
2-Chloronaphthalene	BRL	0.66
2-Nitroaniline	BRL	3.30
Dimethylphthalate	BRL	0.66
Acenaphthylene	BRL	0.66
3-Nitroaniline	BRL	3.30
Acenaphthene	BRL	0.66
2,4-Dinitrophenol	BRL	3.30
4-Nitrophenol	BRL	0.66
Dibenzofuran	BRL	0.66
2,4-Dinitrotoluene	BRL	0.66
2,6-Dinitrotoluene	BRL	0.66
Diethylphthalate	BRL	0.66

-Continued-

SW 8270 Base-Neutral and Acid Extractable Compounds
 (Continued)

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
4-Chlorophenyl-phenylether	BRL	0.66
Fluorene	BRL	0.66
4-Nitroaniline	BRL	3.30
4,6-Dinitro-2-methylphenol	BRL	3.30
N-Nitrosodiphenylamine	BRL	0.66
4-Bromophenyl-phenylether	BRL	0.66
Hexachlorobenzene	BRL	0.66
Pentachlorophenol	BRL	3.30
Phenanthrene	BRL	0.66
Anthracene	BRL	0.66
Di-n-butylphthalate	BRL	0.66
Fluoroanthene	BRL	0.66
Pyrene	BRL	0.66
Benzylbutylphthalate	BRL	0.66
3,3'-Dichlorobenzidine	BRL	1.30
Benzo(a)anthracene	BRL	0.66
Bis(2-ethylhexyl)phthalate	BRL	0.66
Chrysene	BRL	0.66
Di-n-octylphthalate	BRL	0.66
Benzo(b)fluoranthene	BRL	0.66
Benzo(k)fluoroanthene	BRL	0.66
Benzo(a)pyrene	BRL	0.66
Indeno(1,2,3-cd)pyrene	BRL	0.66
Dibenzo(a,h)anthracene	BRL	0.66
Benzo(g,h,i)perylene	BRL	0.66

BRL = Below Reporting Limit

Surrogate recoveries, %

Nitrobenzene-d5	44.0
2-Fluorobiphenyl	131.4
Terphenyl-d14	153.6

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Sample ID: TW1-70'

Date analyzed: 12/9/88

SW 8240 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Chloromethane	BRL	0.3
Bromomethane	BRL	0.3
Vinyl chloride	BRL	0.3
Chloroethane	BRL	0.3
Dichloromethane	BRL	0.3
Acetone	BRL	3.0
Carbon disulfide	BRL	0.3
1,1-Dichloroethene	BRL	0.3
1,1-Dichloroethane	BRL	0.3
2-Butanone	3.4	0.3
Trans-1,2-dichloroethene	BRL	0.3
Chloroform	BRL	0.3
1,2-Dichloroethane	BRL	0.3
1,1,1-Trichloroethane	BRL	0.3
Carbon tetrachloride	BRL	0.3
Bromodichloromethane	BRL	0.3
1,2-Dichloropropane	BRL	0.3
Vinyl acetate	BRL	0.3
Cis-1,3-dichloropropene	BRL	0.3
Trichloroethene	BRL	0.3
Dibromochloromethane	BRL	0.3
1,1,2-Trichloroethane	BRL	0.3
Benzene	BRL	0.3
Trans-1,3-dichloropropane	BRL	0.3
2-Chloroethylvinylether	BRL	0.3
Bromoform	BRL	0.3
2-Hexanone	BRL	0.3
4-Methyl-2-pentanone	BRL	0.3
Tetrachloroethene	BRL	0.3
1,1,2,2-Tetrachloroethane	BRL	0.3
Toluene	BRL	0.3
Chlorobenzene	BRL	0.3
Ethylbenzene	BRL	0.3
Styrene	BRL	0.3
Total xylenes	BRL	0.3
1,2-Dichlorobenzene	BRL	0.3
1,3-Dichlorobenzene	BRL	0.3
1,4-Dichlorobenzene	BRL	0.3

BDL = Below Reporting Limit

Surrogate recoveries, %

1,2-Dichloroethane-d4	84.8
Toluene-d8	101.2
Bromofluorobenzene	85.6

Date analyzed: 12/9/88

SW 8270 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Phenol	BRL	0.66
Bis(2-chloroethyl)ether	BRL	0.66
2-Chlorophenol	BRL	0.66
1,3-Dichlorobenzene	BRL	0.66
1,4-Dichlorobenzene	BRL	0.66
Benzyl alcohol	BRL	1.30
1,2-Dichlorobenzene	BRL	0.66
2-Methylphenol	BRL	0.66
Bis(2-chloroisopropyl)ether	BRL	0.66
4-Methylphenol	BRL	0.66
N-Nitrosodi-N-propylamine	BRL	0.66
Hexachloroethane	BRL	0.66
Nitrobenzene	BRL	0.66
Isophorone	BRL	0.66
2-Nitrophenol	BRL	0.66
2,4-Dimethylphenol	BRL	0.66
Benzoic acid	BRL	3.30
Bis(2-chloroethoxy)methane	BRL	0.66
2,4-Dichlorophenol	BRL	0.66
1,2,4-Trichlorobenzene	BRL	0.66
Naphthalene	BRL	0.66
4-Chloroaniline	BRL	1.30
Hexachlorobutadiene	BRL	0.66
4-Chloro-3-methylphenol	BRL	0.66
2-Methylnaphthalene	BRL	0.66
Hexachlorocyclopentadiene	BRL	0.66
2,4,6-Trichlorophenol	BRL	0.66
2,4,5-Trichlorophenol	BRL	0.66
2-Chloronaphthalene	BRL	0.66
2-Nitroaniline	BRL	3.30
Dimethylphthalate	BRL	0.66
Acenaphthylene	BRL	0.66
3-Nitroaniline	BRL	3.30
Acenaphthene	BRL	0.66
2,4-Dinitrophenol	BRL	3.30
4-Nitrophenol	BRL	0.66
Dibenzofuran	BRL	0.66
2,4-Dinitrotoluene	BRL	0.66
2,6-Dinitrotoluene	BRL	0.66
Diethylphthalate	BRL	0.66

-Continued-

SW 8270 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
4-Chlorophenyl-phenylether	BRL	0.66
Fluorene	BRL	0.66
4-Nitroaniline	BRL	3.30
4,6-Dinitro-2-methylphenol	BRL	3.30
N-Nitrosodiphenylamine	BRL	0.66
4-Bromophenyl-phenylether	BRL	0.66
Hexachlorobenzene	BRL	0.66
Pentachlorophenol	BRL	3.30
Phenanthrene	BRL	0.66
Anthracene	BRL	0.66
Di-n-butylphthalate	BRL	0.66
Fluoroanthene	BRL	0.66
Pyrene	BRL	0.66
Benzylbutylphthalate	BRL	0.66
3,3'-Dichlorobenzidine	BRL	1.30
Benzo(a)anthracene	BRL	0.66
Bis(2-ethylhexyl)phthalate	BRL	0.66
Chrysene	BRL	0.66
Di-n-octylphthalate	BRL	0.66
Benzo(b)fluoranthene	BRL	0.66
Benzo(k)fluoroanthene	BRL	0.66
Benzo(a)pyrene	BRL	0.66
Indeno(1,2,3-cd)pyrene	BRL	0.66
Dibenzo(a,h)anthracene	BRL	0.66
Benzo(g,h,i)perylene	BRL	0.66
BRL = Below Reporting Limit		

Surrogate recoveries, %

Nitrobenzene-d5	49.2
2-Fluorobiphenyl	41.4
Terphenyl-d14	142.4

Date analyzed: 12/9/88

SW 8240 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Chloromethane	BRL	0.3
Bromomethane	BRL	0.3
Vinyl chloride	BRL	0.3
Chloroethane	BRL	0.3
Dichloromethane	BRL	0.3
Acetone	BRL	3.0
Carbon disulfide	BRL	0.3
1,1-Dichloroethene	BRL	0.3
1,1-Dichloroethane	BRL	0.3
2-Butanone	BRL	0.3
Trans-1,2-dichloroethene	BRL	0.3
Chloroform	BRL	0.3
1,2-Dichloroethane	BRL	0.3
1,1,1-Trichloroethane	4	0.3
Carbon tetrachloride	BRL	0.3
Bromodichloromethane	BRL	0.3
1,2-Dichloropropane	BRL	0.3
Vinyl acetate	BRL	0.3
Cis-1,3-dichloropropene	BRL	0.3
Trichloroethene	BRL	0.3
Dibromochloromethane	BRL	0.3
1,1,2-Trichloroethane	BRL	0.3
Benzene	BRL	0.3
Trans-1,3-dichloropropane	BRL	0.3
2-Chloroethylvinylether	BRL	0.3
Bromoform	BRL	0.3
2-Hexanone	BRL	0.3
4-Methyl-2-pentanone	BRL	0.3
Tetrachloroethene	BRL	0.3
1,1,2,2-Tetrachloroethane	40	0.3
Toluene	0.3	0.3
Chlorobenzene	BRL	0.3
Ethylbenzene	6	0.3
Styrene	BRL	0.3
Total xylenes	20	0.3
1,2-Dichlorobenzene	BRL	0.3
1,3-Dichlorobenzene	BRL	0.3
1,4-Dichlorobenzene	BRL	0.3

BDL = Below Reporting Limit

Surrogate recoveries, %

1,2-Dichloroethane-d4	81.2
Toluene-d8	104.0
Bromofluorobenzene	97.6

Date analyzed: 12/9/88

SW 8270 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Phenol	BRL	0.66
Bis(2-chloroethyl)ether	BRL	0.66
2-Chlorophenol	BRL	0.66
1,3-Dichlorobenzene	BRL	0.66
1,4-Dichlorobenzene	BRL	0.66
Benzyl alcohol	BRL	1.30
1,2-Dichlorobenzene	BRL	0.66
2-Methylphenol	BRL	0.66
Bis(2-chloroisopropyl)ether	BRL	0.66
4-Methylphenol	BRL	0.66
N-Nitrosodi-N-propylamine	BRL	0.66
Hexachloroethane	BRL	0.66
Nitrobenzene	5.6	0.66
Isophorone	BRL	0.66
2-Nitrophenol	BRL	0.66
2,4-Dimethylphenol	BRL	0.66
Benzoic acid	BRL	3.30
Bis(2-chloroethoxy)methane	BRL	0.66
2,4-Dichlorophenol	BRL	0.66
1,2,4-Trichlorobenzene	BRL	0.66
Naphthalene	16	0.66
4-Chloroaniline	BRL	1.30
Hexachlorobutadiene	BRL	0.66
4-Chloro-3-methylphenol	BRL	0.66
2-Methylnaphthalene	20.9	0.66
Hexachlorocyclopentadiene	BRL	0.66
2,4,6-Trichlorophenol	BRL	0.66
2,4,5-Trichlorophenol	BRL	0.66
2-Chloronaphthalene	BRL	0.66
2-Nitroaniline	BRL	3.30
Dimethylphthalate	BRL	0.66
Acenaphthylene	**	0.66
3-Nitroaniline	BRL	3.30
Acenaphthene	BRL	0.66
2,4-Dinitrophenol	**	3.30
4-Nitrophenol	**	0.66
Dibenzofuran	1.6	0.66
2,4-Dinitrotoluene	2.9	0.66
2,6-Dinitrotoluene	2.9	0.66
Diethylphthalate	BRL	0.66

-Continued-

SW 8270 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
4-Chlorophenyl-phenylether	BRL	0.66
Fluorene	1.2	0.66
4-Nitroaniline	BRL	3.30
4,6-Dinitro-2-methylphenol	**	3.30
N-Nitrosodiphenylamine	BRL	0.66
4-Bromophenyl-phenylether	BRL	0.66
Hexachlorobenzene	BRL	0.66
Pentachlorophenol	BRL	3.30
Phenanthrene	1.4	0.66
Anthracene	BRL	0.66
Di-n-butylphthalate	BRL	0.66
Fluoroanthene	BRL	0.66
Pyrene	BRL	0.66
Benzylbutylphthalate	BRL	0.66
3,3'-Dichlorobenzidine	BRL	1.30
Benzo(a)anthracene	BRL	0.66
Bis(2-ethylhexyl)phthalate	BRL	0.66
Chrysene	BRL	0.66
Di-n-octylphthalate	BRL	0.66
Benzo(b)fluoranthene	BRL	0.66
Benzo(k)fluoroanthene	BRL	0.66
Benzo(a)pyrene	BRL	0.66
Indeno(1,2,3-cd)pyrene	BRL	0.66
Dibenzo(a,h)anthracene	BRL	0.66
Benzo(g,h,i)perylene	BRL	0.66

BRL = Below Reporting Limit

** = Detected but below reporting limit

Surrogate recoveries, %

Nitrobenzene-d5	53.1
2-Fluorobiphenyl	71.4
Terphenyl-d14	65.7

Date analyzed: 12/9/88

SW 8240 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Chloromethane	BRL	0.3
Bromomethane	BRL	0.3
Vinyl chloride	BRL	0.3
Chloroethane	BRL	0.3
Dichloromethane	BRL	0.3
Acetone	BRL	3.0
Carbon disulfide	BRL	0.3
1,1-Dichloroethene	BRL	0.3
1,1-Dichloroethane	BRL	0.3
2-Butanone	4	0.3
Trans-1,2-dichloroethene	BRL	0.3
Chloroform	BRL	0.3
1,2-Dichloroethane	BRL	0.3
1,1,1-Trichloroethane	BRL	0.3
Carbon tetrachloride	BRL	0.3
Bromodichloromethane	BRL	0.3
1,2-Dichloropropane	BRL	0.3
Vinyl acetate	BRL	0.3
Cis-1,3-dichloropropene	BRL	0.3
Trichloroethene	BRL	0.3
Dibromochloromethane	BRL	0.3
1,1,2-Trichloroethane	**	0.3
Benzene	BRL	0.3
Trans-1,3-dichloropropane	BRL	0.3
2-Chloroethylvinylether	BRL	0.3
Bromoform	BRL	0.3
2-Hexanone	BRL	0.3
4-Methyl-2-pentanone	BRL	0.3
Tetrachloroethene	BRL	0.3
1,1,2,2-Tetrachloroethane	4	0.3
Toluene	BRL	0.3
Chlorobenzene	BRL	0.3
Ethylbenzene	1	0.3
Styrene	BRL	0.3
Total xylenes	8	0.3
1,2-Dichlorobenzene	BRL	0.3
1,3-Dichlorobenzene	BRL	0.3
1,4-Dichlorobenzene	BRL	0.3

BDL = Below Reporting Limit

** = Detected but below reporting limit

Surrogate recoveries, %

1,2-Dichloroethane-d4	88.8
Toluene-d8	92.4
Bromofluorobenzene	89.6

Date analyzed: 12/9/88

SW 8270 Base-Neutal and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Phenol	BRL	0.66
Bis(2-chloroethyl)ether	BRL	0.66
2-Chlorophenol	BRL	0.66
1,3-Dichlorobenzene	BRL	0.66
1,4-Dichlorobenzene	BRL	0.66
Benzyl alcohol	BRL	1.30
1,2-Dichlorobenzene	BRL	0.66
2-Methylphenol	BRL	0.66
Bis(2-chloroisopropyl)ether	BRL	0.66
4-Methylphenol	BRL	0.66
N-Nitrosodi-N-propylamine	BRL	0.66
Hexachloroethane	BRL	0.66
Nitrobenzene	**	0.66
Isophorone	BRL	0.66
2-Nitrophenol	1.8	0.66
2,4-Dimethylphenol	BRL	0.66
Benzoic acid	BRL	3.30
Bis(2-chloroethoxy)methane	BRL	0.66
2,4-Dichlorophenol	BRL	0.66
1,2,4-Trichlorobenzene	BRL	0.66
Naphthalene	9.4	0.66
4-Chloroaniline	BRL	1.30
Hexachlorobutadiene	BRL	0.66
4-Chloro-3-methylphenol	BRL	0.66
2-Methylnaphthalene	15	0.66
Hexachlorocyclopentadiene	BRL	0.66
2,4,6-Trichlorophenol	BRL	0.66
2,4,5-Trichlorophenol	BRL	0.66
2-Chloronaphthalene	BRL	0.66
2-Nitroaniline	BRL	3.30
Dimethylphthalate	BRL	0.66
Acenaphthylene	**	0.66
3-Nitroaniline	BRL	3.30
Acenaphthene	BRL	0.66
2,4-Dinitrophenol	BRL	3.30
4-Nitrophenol	BRL	0.66
Dibenzofuran	0.91	0.66
2,4-Dinitrotoluene	**	0.66
2,6-Dinitrotoluene	**	0.66
Diethylphthalate	BRL	0.66

-Continued-

SW 8270 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
4-Chlorophenyl-phenylether	BRL	0.66
Fluorene	0.69	0.66
4-Nitroaniline	BRL	3.30
4,6-Dinitro-2-methylphenol	**	3.30
N-Nitrosodiphenylamine	BRL	0.66
4-Bromophenyl-phenylether	BRL	0.66
Hexachlorobenzene	BRL	0.66
Pentachlorophenol	BRL	3.30
Phenanthrene	0.98	0.66
Anthracene	BRL	0.66
Di-n-butylphthalate	BRL	0.66
Fluoroanthene	BRL	0.66
Pyrene	BRL	0.66
Benzylbutylphthalate	BRL	0.66
3,3'-Dichlorobenzidine	BRL	1.30
Benzo(a)anthracene	BRL	0.66
Bis(2-ethylhexyl)phthalate	BRL	0.66
Chrysene	BRL	0.66
Di-n-octylphthalate	BRL	0.66
Benzo(b)fluoranthene	BRL	0.66
Benzo(k)fluoroanthene	BRL	0.66
Benzo(a)pyrene	BRL	0.66
Indeno(1,2,3-cd)pyrene	BRL	0.66
Dibenzo(a,h)anthracene	BRL	0.66
Benzo(g,h,i)perylene	BRL	0.66

BRL = Below Reporting Limit

Surrogate recoveries, %

Nitrobenzene-d5	33.9
2-Fluorobiphenyl	81.3
Terphenyl-d14	73.2

Date analyzed: 12/9/88

SW 8240 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Chloromethane	BRL	0.3
Bromomethane	BRL	0.3
Vinyl chloride	BRL	0.3
Chloroethane	BRL	0.3
Dichloromethane	BRL	0.3
Acetone	BRL	3.0
Carbon disulfide	BRL	0.3
1,1-Dichloroethene	BRL	0.3
1,1-Dichloroethane	BRL	0.3
2-Butanone	**	0.3
Trans-1,2-dichloroethene	BRL	0.3
Chloroform	BRL	0.3
1,2-Dichloroethane	BRL	0.3
1,1,1-Trichloroethane	BRL	0.3
Carbon tetrachloride	BRL	0.3
Bromodichloromethane	BRL	0.3
1,2-Dichloropropane	BRL	0.3
Vinyl acetate	BRL	0.3
Cis-1,3-dichloropropene	BRL	0.3
Trichloroethene	BRL	0.3
Dibromochloromethane	BRL	0.3
1,1,2-Trichloroethane	BRL	0.3
Benzene	BRL	0.3
Trans-1,3-dichloropropane	BRL	0.3
2-Chloroethylvinylether	BRL	0.3
Bromoform	BRL	0.3
2-Hexanone	BRL	0.3
4-Methyl-2-pentanone	BRL	0.3
Tetrachloroethene	BRL	0.3
1,1,2,2-Tetrachloroethane	BRL	0.3
Toluene	BRL	0.3
Chlorobenzene	BRL	0.3
Ethylbenzene	BRL	0.3
Styrene	BRL	0.3
Total xylenes	BRL	0.3
1,2-Dichlorobenzene	BRL	0.3
1,3-Dichlorobenzene	BRL	0.3
1,4-Dichlorobenzene	BRL	0.3

BDL = Below Reporting Limit

Surrogate recoveries, %

1,2-Dichloroethane-d4	100.8
Toluene-d8	95.6
Bromofluorobenzene	90.8

Date analyzed: 12/9/88

SW 8270 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Phenol	BRL	0.66
Bis(2-chloroethyl)ether	BRL	0.66
2-Chlorophenol	BRL	0.66
1,3-Dichlorobenzene	BRL	0.66
1,4-Dichlorobenzene	BRL	0.66
Benzyl alcohol	BRL	1.30
1,2-Dichlorobenzene	BRL	0.66
2-Methylphenol	BRL	0.66
Bis(2-chloroisopropyl)ether	BRL	0.66
4-Methylphenol	BRL	0.66
N-Nitrosodi-N-propylamine	BRL	0.66
Hexachloroethane	BRL	0.66
Nitrobenzene	BRL	0.66
Isophorone	BRL	0.66
2-Nitrophenol	BRL	0.66
2,4-Dimethylphenol	BRL	0.66
Benzoic acid	BRL	3.30
Bis(2-chloroethoxy)methane	BRL	0.66
2,4-Dichlorophenol	BRL	0.66
1,2,4-Trichlorobenzene	BRL	0.66
Naphthalene	BRL	0.66
4-Chloroaniline	BRL	1.30
Hexachlorobutadiene	BRL	0.66
4-Chloro-3-methylphenol	BRL	0.66
2-Methylnaphthalene	BRL	0.66
Hexachlorocyclopentadiene	BRL	0.66
2,4,6-Trichlorophenol	BRL	0.66
2,4,5-Trichlorophenol	BRL	0.66
2-Chloronaphthalene	BRL	0.66
2-Nitroaniline	BRL	3.30
Dimethylphthalate	BRL	0.66
Acenaphthylene	BRL	0.66
3-Nitroaniline	BRL	3.30
Acenaphthene	BRL	0.66
2,4-Dinitrophenol	BRL	3.30
4-Nitrophenol	BRL	0.66
Dibenzofuran	BRL	0.66
2,4-Dinitrotoluene	BRL	0.66
2,6-Dinitrotoluene	BRL	0.66
Diethylphthalate	BRL	0.66

-Continued-

SW 8270 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
4-Chlorophenyl-phenylether	BRL	0.66
Fluorene	BRL	0.66
4-Nitroaniline	BRL	3.30
4,6-Dinitro-2-methylphenol	BRL	3.30
N-Nitrosodiphenylamine	BRL	0.66
4-Bromophenyl-phenylether	BRL	0.66
Hexachlorobenzene	BRL	0.66
Pentachlorophenol	BRL	3.30
Phenanthrene	BRL	0.66
Anthracene	BRL	0.66
Di-n-butylphthalate	BRL	0.66
Fluoroanthene	BRL	0.66
Pyrene	BRL	0.66
Benzylbutylphthalate	BRL	0.66
3,3'-Dichlorobenzidine	BRL	1.30
Benzo(a)anthracene	BRL	0.66
Bis(2-ethylhexyl)phthalate	BRL	0.66
Chrysene	BRL	0.66
Di-n-octylphthalate	BRL	0.66
Benzo(b)fluoranthene	BRL	0.66
Benzo(k)fluroanthene	BRL	0.66
Benzo(a)pyrene	BRL	0.66
Indeno(1,2,3-cd)pyrene	BRL	0.66
Dibenzo(a,h)anthracene	BRL	0.66
Benzo(g,h,i)perylene	BRL	0.66
BRL = Below Reporting Limit		

Surrogate recoveries, %

Nitrobenzene-d5	88.9
2-Fluorobiphenyl	119.5
Terphenyl-d14	112.9

Empty Shuttle Lab Seal No. 2621 Shuttle Opened in field by DEC Shuttle Resealed by DEC
 sealed by C. Thompson Date 11/8/88 Seal no. 2621 Date 11-9-88 Seal no. 2618 Date 11-11-88

CHAIN OF CUSTODY RECORD

PAGE 1 OF 2

PROJECT NO.: <u>293</u> <u>P.1120</u>				LOCATION: <u>Longfryn R/H</u>		ANALYSIS REQUIRED						
TIME	SAMPLER	CONTAINERS	SAMPLE TYPE		DATE: <u>11-9-88</u>	SAMPLE DUE DATE:	SAMPLE I.D..	Hold until is completed	G	W	Testing	SPLIT (Y) (N)
			GRAB	COMPOSITE								
9:30		1	✓			<u>12-1</u>	<u>20</u>					<u>N</u>
		1				<u>25</u>						
		1				<u>30</u>						
		1				<u>35</u>						
		1				<u>40</u>						
		1				<u>45</u>						
		1				<u>50</u>						
RELINQUISHED BY	DATE		TIME	RECEIVED BY	DATE	TIME	SAMPLE CONDITIONS					
							Samples received in poor condition. Sample jars were not tightly sealed water contaminated in 10 of 26 jars					

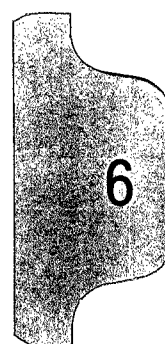
Shuttle Lab Seal No. _____ Shuttle Opened in field by _____ Shuttle Resealed by _____
 sealed by _____ Date _____ Seal no. _____ Date _____ Seal no. _____ Date _____

CHAIN OF CUSTODY RECORD

PAGE 2 OF 2

PROJECT NO.:				LOCATION: Lovington, NM				ANALYSIS REQUIRED				SPLIT (Y) (N)
TIME	SAMPLER	CONTAINERS	SAMPLE TYPE	DATE: 11-10-88	SAMPLE DUE DATE:	SAMPLE I.D.	HOLD UNTIL	G.W.	TESTING			
										GRAB	COMPOSITE	SOIL
9:06	PC	1				TW-2	55					N
		1				20	60					
		1				25	65					
		1				30	70					
		1				35	75					
		1				40						
		1				45						
2:30		1				50						
RELINQUISHED BY				DATE	TIME	RECEIVED BY		DATE	TIME	SAMPLE CONDITIONS		

HOLD UNTIL G.W. TESTING
is completed



ATTACHMENT 6

**LABORATORY RESULTS - GROUNDWATER
(MONITORING WELLS - DECEMBER 1, 1988)
TW-1 AND TW-2**



Professional Service Industries, Inc.

ANALYTICAL REPORT

TESTED FOR: **PILKO & ASSOCIATES**
2707 N. Loop West, Suite 960
Houston, TX 77008

PROJECT: **Lovington**

ATTN: **Darryl Carlson**

DATE: **December 1, 1988**

OUR REPORT NO.: **213-80202-02**

REMARKS: **Date Received: November 14, 1988**

Sample Identification: Two water samples labeled below.

Methodology Employed: SW 846/Standard Methods, 16th Edition

TEST RESULTS:

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW-1 Groundwater, 10:30 am			
Priority Pollutant Metals:			
Antimony, mg/L	0.11	304	SM 11/17/88, 0900
Arsenic, mg/L	0.38	304	TS 11/17/88, 1400
Beryllium, mg/L	0.01	305	SM 11/17/88, 0956
Cadmium, mg/L	0.12	305	SM 11/17/88, 0956
Chromium, mg/L	0.20	305	SM 11/17/88, 0956
Copper, mg/L	0.07	305	SM 11/17/88, 0956
Lead, mg/L	0.08	304	SM 11/18/88, 1430
Mercury, mg/L	<0.002	303	RS 11/18/88, 1500
Nickel, mg/L	0.08	305	SM 11/17/88, 0956
Selenium, mg/L	0.07	304	SM 11/18/88, 1130
Silver, mg/L	0.05	303	SM 11/18/88, 1213
Thallium, mg/L	<0.01	304	SM 11/18/88, 0830
Zinc, mg/L	0.24	305	SM 11/17/88, 0956
Cyanide, mg/L	<0.05	412 B	RC 11/18/88, 0700
Sulfides, mg/L	4.0	427 F	CD 11/17/88, 1500

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppb, (ug/l)</u>	<u>Reporting Limit ppb, (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	44	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

Pilko & Associates

213-80202-02

Page 3

Sample ID: TW-1 Groundwater, 10:30 am

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppb, (ug/l)</u>	<u>Reporting Limit ppb, (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

Pilko & Associates

213-80202-02

Page 4

Sample ID: TW-1 Groundwater, 10:30 am

HSL EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppb, (ug/l)</u>	<u>Reporting Limit ppb, (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	5
Acetone	BRL	10
Carbon disulfide	BRL	5
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	5
1,1-Dichloroethane	BRL	5
Trans-1,2-dichloroethene	BRL	5
Chloroform	BRL	5
1,2-Dichloroethane	BRL	3
2-Butanone	BRL	5
1,1,1-Trichloroethane	BRL	5
Carbon tetrachloride	BRL	3
Vinyl acetate	BRL	10
Bromodichloromethane	BRL	5
1,2-Dichloropropane	BRL	5
Cis-1,3-dichloropropene	BRL	5
Trichloroethene	BRL	3
Dibromochloromethane	BRL	5
1,1,2-Trichloroethane	BRL	5
Benzene	30	1
Trans-1,3-dichloropropene	BRL	5
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	5
2-Hexanone	BRL	10
4-Methyl-2-pentanone	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	9	5
Chlorobenzene	BRL	5
Ethylbenzene	BRL	5
Styrene	BRL	5
Total Xylenes	**	5
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

** = Detected but below Reporting Limit

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
--	----------------	-----------------	---------------------

Sample ID: TW-2 Groundwater, 11:30 am

Priority Pollutant Metals:

Antimony, mg/L	0.09	304	SM 11/17/88, 0900
Arsenic, mg/L	0.26	304	TS 11/17/88, 1400
Beryllium, mg/L	<0.01	305	SM 11/17/88, 0956
Cadmium, mg/L	0.09	305	SM 11/17/88, 0956
Chromium, mg/L	0.08	305	SM 11/17/88, 0956
Copper, mg/L	0.04	305	SM 11/17/88, 0956
Lead, mg/L	0.05	304	SM 11/18/88, 1430
Mercury, mg/L	<0.002	303	RS 11/18/88, 1500
Nickel, mg/L	0.07	305	SM 11/17/88, 0956
Selenium, mg/L	0.05	304	SM 11/18/88, 1130
Silver, mg/L	0.01	303	SM 11/18/88, 1213
Thallium, mg/L	<0.01	304	SM 11/18/88, 0830
Zinc, mg/L	0.19	305	SM 11/17/88, 0956
Cyanide, mg/L	<0.05	412 B	RC 11/18/88, 0700
Sulfides, mg/L	4.0	427 F	CD 11/17/88, 1500

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppb, (ug/l)</u>	<u>Reporting Limit ppb, (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	19	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	**	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	**	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	**	10
Dibenzofuran	**	10
2,4-Dinitrotoluene	**	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

Pilko & Associates

213-80202-02

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Sample ID: TW-2 Groundwater, 11:30 am

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppb, (ug/l)</u>	<u>Reporting Limit ppb, (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	**	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	**	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

** = Detected but below Reporting Limit

Pilko & Associates

213-80202-02

Page 8

Sample ID: TW-2 Groundwater, 11:30 am

HSL EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppb, (ug/l)</u>	<u>Reporting Limit ppb, (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	5
Acetone	90	10
Carbon disulfide	BRL	5
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	5
1,1-Dichloroethane	BRL	5
Trans-1,2-dichloroethene	BRL	5
Chloroform	BRL	5
1,2-Dichloroethane	BRL	3
2-Butanone	30	5
1,1,1-Trichloroethane	7	5
Carbon tetrachloride	BRL	3
Vinyl acetate	BRL	10
Bromodichloromethane	BRL	5
1,2-Dichloropropane	BRL	5
Cis-1,3-dichloropropene	BRL	5
Trichloroethene	4	3
Dibromochloromethane	BRL	5
1,1,2-Trichloroethane	BRL	5
Benzene	200	1
Trans-1,3-dichloropropene	BRL	5
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	5
2-Hexanone	BRL	10
4-Methyl-2-pentanone	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	20	5
Chlorobenzene	BRL	5
Ethylbenzene	7	5
Styrene	BRL	5
Total Xylenes	10	5
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

** = Detected but below Reporting Limit

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

Chain of Custody Record

Form No.: _____

Sample Location: Southern Union Refining Co. - Lovington, N.M.

Sample Type: Water Samples

Amount Collected: _____

Date Sampled: 12/1/88

Time Sampled: _____

Collector's Name: David Griffin

Field Information / Special Instructions: These samples are part of a

Pilko project - PSI Report No. 214-80202-01

Chain of Possession

Contact Jim Tapp at Pilko Associates

1. David Griffin SVRCB 12/1/88
Signature Company Inclusive Dates

2. _____
Signature Company Inclusive Dates

3. _____
Signature Company Inclusive Dates

Shipped By: _____

Signature

Company

Date

Shipped via: _____

mail

air freight

UPS

Other

Sample Received By: _____

Signature

Company

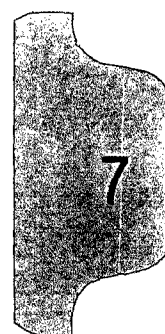
Date

Shuttle Resealed by

Seal no. 2619 Date 11-11-88

PAGE — OF —

[illegible]



ATTACHMENT 7

**LABORATORY RESULTS - GROUNDWATER
(MONITORING WELLS - DECEMBER 28, 1988)
TW-1 AND TW-2**

**Professional Service Industries, Inc.****ANALYTICAL REPORT**

TESTED FOR: **NAVAJO REFINING COMPANY**
Post Office Drawer 159
Artesia, NM 88210

PROJECT: Chemical Analysis

ATTN: Zeke Sherman

DATE: December 28, 1988

OUR REPORT NO.: 213-83106-01

REMARKS: Date Received: December 20, 1988
Sample Identification: Two water samples labeled below.
Methodology Employed: SW 846/Standard Methods, 16th Edition

TEST RESULTS:

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: Groundwater TW-1 12/19/88 at 1500			
Priority Pollutants:			
Antimony, mg/L	0.02	304	TS 12/27/88, 1330
Arsenic, mg/L	0.04	304	TS 12/28/88, 1330
Beryllium, mg/L	<0.01	305	SM 12/28/88, 0853
Cadmium, mg/L	0.81	305	SM 12/28/88, 0853
Chromium, mg/L	<0.01	305	SM 12/28/88, 0853
Copper, mg/L	0.75	305	SM 12/28/88, 0853
Lead, mg/L	<0.01	304	SM 12/22/88, 0900
Mercury, mg/L	<0.001	303	TS 12/27/88, 1230
Nickel, mg/L	0.53	305	SM 12/28/88, 0853
Selenium, mg/L	0.02	304	RS 12/23/88, 0930
Silver, mg/L	0.02	305	SM 12/22/88, 1011
Thallium, mg/L	<0.01	304	TS 12/27/88, 1530
Zinc, mg/L	0.07	305	SM 12/28/88, 0853
Cyanide, mg/L	<0.05	412 B	RC 12/22/88, 1800

Continued

Navajo Refining Company

213-83106-01

Page 2 of 8

Sample ID: Groundwater TW-1 12/19/88 at 1500

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppb, (ug/l)</u>	<u>Reporting Limit ppb, (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BDL = Below Reporting Limit

Navajo Refining Company

213-83106-01

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Sample ID: Groundwater TW-1 12/19/88 at 1500

SW 8270 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Phenol	BRL	0.66
Bis(2-chloroethyl)ether	BRL	0.66
2-Chlorophenol	BRL	0.66
1,3-Dichlorobenzene	BRL	0.66
1,4-Dichlorobenzene	BRL	0.66
Benzyl alcohol	BRL	1.30
1,2-Dichlorobenzene	BRL	0.66
2-Methylphenol	BRL	0.66
Bis(2-chloroisopropyl)ether	BRL	0.66
4-Methylphenol	BRL	0.66
N-Nitrosodi-N-propylamine	BRL	0.66
Hexachloroethane	BRL	0.66
Nitrobenzene	BRL	0.66
Isophorone	BRL	0.66
2-Nitrophenol	BRL	0.66
2,4-Dimethylphenol	BRL	0.66
Benzoic acid	BRL	3.30
Bis(2-chloroethoxy)methane	BRL	0.66
2,4-Dichlorophenol	BRL	0.66
1,2,4-Trichlorobenzene	BRL	0.66
Naphthalene	BRL	0.66
4-Chloroaniline	BRL	1.30
Hexachlorobutadiene	BRL	0.66
4-Chloro-3-methylphenol	BRL	0.66
2-Methylnaphthalene	BRL	0.66
Hexachlorocyclopentadiene	BRL	0.66
2,4,6-Trichlorophenol	BRL	0.66
2,4,5-Trichlorophenol	BRL	0.66
2-Chloronaphthalene	BRL	0.66
2-Nitroaniline	BRL	3.30
Dimethylphthalate	BRL	0.66
Acenaphthylene	BRL	0.66
3-Nitroaniline	BRL	3.30
Acenaphthene	BRL	0.66
2,4-Dinitrophenol	BRL	3.30
4-Nitrophenol	BRL	0.66
Dibenzofuran	BRL	0.66
2,4-Dinitrotoluene	BRL	0.66
2,6-Dinitrotoluene	BRL	0.66
Diethylphthalate	BRL	0.66

-Continued-

Navajo Refining Company
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SW 8270 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
4-Chlorophenyl-phenylether	BRL	0.66
Fluorene	BRL	0.66
4-Nitroaniline	BRL	3.30
4,6-Dinitro-2-methylphenol	BRL	3.30
N-Nitrosodiphenylamine	BRL	0.66
4-Bromophenyl-phenylether	BRL	0.66
Hexachlorobenzene	BRL	0.66
Pentachlorophenol	BRL	3.30
Phenanthrene	BRL	0.66
Anthracene	BRL	0.66
Di-n-butylphthalate	BRL	0.66
Fluoroanthene	BRL	0.66
Pyrene	BRL	0.66
Benzylbutylphthalate	BRL	0.66
3,3'-Dichlorobenzidine	BRL	1.30
Benzo(a)anthracene	BRL	0.66
Bis(2-ethylhexyl)phthalate	BRL	0.66
Chrysene	BRL	0.66
Di-n-octylphthalate	BRL	0.66
Benzo(b)fluoranthene	BRL	0.66
Benzo(k)fluoroanthene	BRL	0.66
Benzo(a)pyrene	BRL	0.66
Indeno(1,2,3-cd)pyrene	BRL	0.66
Dibenzo(a,h)anthracene	BRL	0.66
Benzo(g,h,i)perylene	BRL	0.66

BRL = Below Reporting Limit

Navajo Refining Company
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	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: Groundwater TW-2 12/19/88 at 1145			
Priority Pollutants:			
Antimony, mg/L	0.01	304	TS 12/27/88, 1330
Arsenic, mg/L	0.03	304	TS 12/28/88, 1330
Beryllium, mg/L	<0.01	305	SM 12/28/88, 0853
Cadmium, mg/L	0.35	305	SM 12/28/88, 0853
Chromium, mg/L	<0.01	305	SM 12/28/88, 0853
Copper, mg/L	<0.01	305	SM 12/28/88, 0853
Lead, mg/L	<0.01	304	SM 12/22/88, 0900
Mercury, mg/L	<0.001	303	TS 12/27/88, 1230
Nickel, mg/L	0.55	305	SM 12/28/88, 0853
Selenium, mg/L	<0.01	304	RS 12/23/88, 0930
Silver, mg/L	0.02	305	SM 12/22/88, 1011
Thallium, mg/L	<0.01	304	TS 12/27/88, 1530
Zinc, mg/L	0.05	305	SM 12/28/88, 0853
Cyanide, mg/L	<0.05	412 B	RC 12/22/88, 1800

Continued

Navajo Refining Company

213-83106-01

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Sample ID: Groundwater TW-2 12/19/88 at 1145

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppb, (ug/l)</u>	<u>Reporting Limit ppb, (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BDL = Below Reporting Limit

Navajo Refining Company

213-83106-01

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Sample ID: Groundwater TW-2 12/19/88 at 1145

SW 8270 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
Phenol	BRL	0.66
Bis(2-chloroethyl)ether	BRL	0.66
2-Chlorophenol	BRL	0.66
1,3-Dichlorobenzene	BRL	0.66
1,4-Dichlorobenzene	BRL	0.66
Benzyl alcohol	BRL	1.30
1,2-Dichlorobenzene	BRL	0.66
2-Methylphenol	BRL	0.66
Bis(2-chloroisopropyl)ether	BRL	0.66
4-Methylphenol	BRL	0.66
N-Nitrosodi-N-propylamine	BRL	0.66
Hexachloroethane	BRL	0.66
Nitrobenzene	BRL	0.66
Isophorone	BRL	0.66
2-Nitrophenol	BRL	0.66
2,4-Dimethylphenol	BRL	0.66
Benzoic acid	BRL	3.30
Bis(2-chloroethoxy)methane	BRL	0.66
2,4-Dichlorophenol	BRL	0.66
1,2,4-Trichlorobenzene	BRL	0.66
Naphthalene	BRL	0.66
4-Chloroaniline	BRL	1.30
Hexachlorobutadiene	BRL	0.66
4-Chloro-3-methylphenol	BRL	0.66
2-Methylnaphthalene	BRL	0.66
Hexachlorocyclopentadiene	BRL	0.66
2,4,6-Trichlorophenol	BRL	0.66
2,4,5-Trichlorophenol	BRL	0.66
2-Chloronaphthalene	BRL	0.66
2-Nitroaniline	BRL	3.30
Dimethylphthalate	BRL	0.66
Acenaphthylene	BRL	0.66
3-Nitroaniline	BRL	3.30
Acenaphthene	BRL	0.66
2,4-Dinitrophenol	BRL	3.30
4-Nitrophenol	BRL	0.66
Dibenzofuran	BRL	0.66
2,4-Dinitrotoluene	BRL	0.66
2,6-Dinitrotoluene	BRL	0.66
Diethylphthalate	BRL	0.66

-Continued-

Navajo Refining Company
213-83106-01
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SW 8270 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppm, (mg/kg)</u>	<u>Reporting Limit ppm, (mg/kg)</u>
4-Chlorophenyl-phenylether	BRL	0.66
Fluorene	BRL	0.66
4-Nitroaniline	BRL	3.30
4,6-Dinitro-2-methylphenol	BRL	3.30
N-Nitrosodiphenylamine	BRL	0.66
4-Bromophenyl-phenylether	BRL	0.66
Hexachlorobenzene	BRL	0.66
Pentachlorophenol	BRL	3.30
Phenanthrene	BRL	0.66
Anthracene	BRL	0.66
Di-n-butylphthalate	BRL	0.66
Fluoroanthene	BRL	0.66
Pyrene	BRL	0.66
Benzylbutylphthalate	BRL	0.66
3,3'-Dichlorobenzidine	BRL	1.30
Benzo(a)anthracene	BRL	0.66
Bis(2-ethylhexyl)phthalate	BRL	0.66
Chrysene	BRL	0.66
Di-n-octylphthalate	BRL	0.66
Benzo(b)fluoranthene	BRL	0.66
Benzo(k)fluoroanthene	BRL	0.66
Benzo(a)pyrene	BRL	0.66
Indeno(1,2,3-cd)pyrene	BRL	0.66
Dibenzo(a,h)anthracene	BRL	0.66
Benzo(g,h,i)perylene	BRL	0.66

BRL = Below Reporting Limit

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

**CRL Environmental - South Coast**

7440 Lincoln Way • Garden Grove, CA 92641
(213) 598-0458 • (714) 898-6370 • (800) LAB-1-CRL
FAX: (714) 891-5917

LABORATORY REPORT

NAVAJO REFINING COMPANY
501 E. Main Street
Artesia, NM 88210
ATTN: Zeke Sherman

ANALYSIS NO.: 835510-001/012
ANALYSES: Miscellaneous
DATE SAMPLED: 12/19/88
DATE SAMPLE REC'D: 12/20/88
SAMPLE TYPE: Liquid
PROJECT: Lovington Refinery

QA/QC SUMMARY

Date	Parameter (method)	Average Spike Recovery%	Acceptable Range%	Relative Percent Difference	Acceptable Range%
12/22/88	Antimony (EPA 6010)	91	68-137	2	30
12/28/88	Arsenic (EPA 7061)	92	78-118	4	25
12/22/88	Beryllium (EPA 6010)	85	66-130	2	30
12/29/88	Cadmium (EPA 6010)	103	72-141	1	25
12/22/88	Chromium (EPA 6010)	93	69-148	2	30
12/22/88	Copper (EPA 6010)	89	68-129	4	25
12/22/88	Lead (EPA 6010)	98	65-144	4	25
12/21/88	Mercury (EPA 7471)	95	41-137	23	37
12/22/88	Nickel (EPA 6010)	86	65-146	0	25
12/27/88	Selenium (EPA 7741)	91	41-137	2	25
12/22/88	Silver (EPA 6010)	98	25-147	4	52
12/27/88	Thallium (EPA 7840)	87	75-109	7	25
12/22/88	Zinc (EPA 6010)	95	73-138	0	25

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LABORATORY REPORT

NAVAJO REFINING COMPANY
501 E. Main Street
Artesia, NM 88210
ATTN: Zeke Sherman

ANALYSIS NO.: 835510-001/012
ANALYSES: Miscellaneous
DATE SAMPLED: 12/19/88
DATE SAMPLE REC'D: 12/20/88
SAMPLE TYPE: Liquid
PROJECT: Lovington Refinery

QA/QC SUMMARY

<u>Date</u>	<u>Parameter(method)</u>	<u>Average Spike Recovery%</u>	<u>Acceptable Range%</u>	<u>Relative Percent Difference</u>	<u>Acceptable Range%</u>
12/21/88	1,1-Dichloroethene (EPA 624)	87	61-145	6	14
12/21/88	Chlorobenzene (EPA 624)	100	75-130	11	13
12/22/88	2-Chlorophenol (EPA 625)	37	4-72	40	50
12/22/88	4-Chloro-3-methylPhenol (EPA 625)	40	11-115	24	50
12/22/88	1,2,4-Trichlorobenzene (EPA 625)	37	4-91	14	46
12/22/88	1,4-Dichlorobenzene (EPA 625)	35	5-86	18	42
12/21/88	1,1-Dichloroethene (EPA 624)	88	61-145	1	14
12/21/88	Chlorobenzene (EPA 624)	102	75-130	1	13

The Report Cover Letter is an integral part of this report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client and is not to be distributed outside the client's organization.

CRL Environmental - South Coast

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December 29, 1988

NAVAJO REFINING COMPANY
501 E. Main Street
Artesia, NM 88210
ATTN: Zeke Sherman

ANALYSIS NO.: 835510-001/012
ANALYSES: Miscellaneous
DATE SAMPLED: 12/19/88
DATE SAMPLE REC'D: 12/20/88
PROJECT: Lovington Refinery

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 835510-001/012 shown above.

The samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached.

Verbals for Chromium and Lead (EPA Method 6010) were given December 28, 1988 at 11:35 A.M. to Mr. Zeke Sherman. Verbals for EPA Method 624 were given December 27, 1988 at 8:30 A.M. to Mr. Zeke Sherman.

Please note that ND() means not detected at the detection limit expressed within the parentheses.



REVIEWED



APPROVED

**CRL Environmental - South Coast**

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LABORATORY REPORT

NAVAJO REFINING COMPANY
501 E. Main Street
Artesia, NM 88210
ATTN: Zeke Sherman

SAMPLE ID.: TW-1 1219881500

ANALYSIS NO.: 835510-001
ANALYSES: EPA Method 624
DATE SAMPLED: 12/19/88
DATE SAMPLE REC'D: 12/20/88
DATE ANALYZED: 12/21/88
SAMPLE TYPE: Liquid
PROJECT: Lovington Refinery

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	ND(5.)
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

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LABORATORY REPORT**NAVAJO REFINING COMPANY**

501 E. Main Street
Artesia, NM 88210
ATTN: Zeke Sherman

SAMPLE ID.: TW-2 1219881145

ANALYSIS NO.: 835510-002

ANALYSES: EPA Method 624

DATE SAMPLED: 12/19/88

DATE SAMPLE REC'D: 12/20/88

DATE ANALYZED: 12/21/88

SAMPLE TYPE: Liquid

PROJECT: Lovington Refinery

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	ND(5.)
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)


CRL Environmental - South Coast

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LABORATORY REPORT
NAVAJO REFINING COMPANY

501 E. Main Street
 Artesia, NM 88210
 ATTN: Zeke Sherman

SAMPLE ID.: TW-2 1219881145
 Matrix Spike

ANALYSIS NO.: 835510-003
 ANALYSES: EPA Method 624
 DATE SAMPLED: 12/19/88
 DATE SAMPLE REC'D: 12/20/88
 DATE ANALYZED: 12/21/88
 SAMPLE TYPE: Liquid
 PROJECT: Lovington Refinery

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	ND(5.)
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)

**CRL Environmental - South Coast**

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LABORATORY REPORT**NAVAJO REFINING COMPANY**

501 E. Main Street

Artesia, NM 88210

ATTN: Zeke Sherman

SAMPLE ID.: TW-2 1219881145

Matrix Spike Duplicate

ANALYSIS NO.: 835510-004

ANALYSES: EPA Method 624

DATE SAMPLED: 12/19/88

DATE SAMPLE REC'D: 12/20/88

DATE ANALYZED: 12/21/88

SAMPLE TYPE: Liquid

PROJECT: Lovington Refinery

EPA METHODS 624/8240 VOLATILE ORGANICS

	<u>(ug/L)</u>		<u>(ug/L)</u>
Chloromethane	ND(10.)	1,2-Dichloropropane	ND(5.)
Bromomethane	ND(10.)	Trans-1,3-Dichloropropene	ND(5.)
Vinyl Chloride	ND(10.)	Trichloroethene	ND(5.)
Chloroethane	ND(10.)	Dibromochloromethane	ND(5.)
Methylene Chloride	ND(5.)	1,1,2-Trichloroethane	ND(5.)
Acetone	ND(10.)	Benzene	ND(5.)
Carbon Disulfide	ND(5.)	cis-1,3-Dichloropropene	ND(5.)
1,1-Dichloroethene	ND(5.)	2-Chloroethylvinyl ether	ND(10.)
1,1-Dichloroethane	ND(5.)	Bromoform	ND(5.)
Trans-1,2-Dichloroethene	ND(5.)	4-Methyl-2-Pentanone	ND(10.)
Chloroform	ND(5.)	2-Hexanone	ND(10.)
1,2-Dichloroethane	ND(5.)	Tetrachloroethene	ND(5.)
2-Butanone	ND(10.)	1,1,2,2-Tetrachloroethane	ND(5.)
1,1,1-Trichloroethane	ND(5.)	Toluene	ND(5.)
Carbon Tetrachloride	ND(5.)	Chlorobenzene	ND(5.)
Vinyl Acetate	ND(10.)	Ethylbenzene	ND(5.)
Bromodichloromethane	ND(5.)	Styrene	ND(5.)
		Total Xylenes	ND(5.)


CRL Environmental - South Coast

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 FAX: (714) 891-5917

LABORATORY REPORT

NAVAJO REFINING COMPANY
 501 E. Main Street
 Artesia, NM 88210
 ATTN: Zeke Sherman

SAMPLE ID.: TW-1 1219881500

ANALYSIS NO.: 835510-005
 ANALYSES: EPA Method 625
 DATE SAMPLED: 12/19/88
 DATE SAMPLE REC'D: 12/20/88
 DATE EXTRACTED: 12/22/88
 DATE ANALYZED: 12/28/88
 SAMPLE TYPE: Liquid
 PROJECT: Lovington Refinery

EPA METHODS 625/8270 SEMI-VOLATILE ORGANICS

	(ug/L)		(ug/L)
Phenol	ND(10.)	Acenaphthene	ND(10.)
bis(2-Chloroethyl) ether	ND(10.)	2,4-Dinitrophenol	ND(50.)
2-Chlorophenol	ND(10.)	4-Nitrophenol	ND(50.)
1,3-Dichlorobenzene	ND(10.)	Dibenzofuran	ND(10.)
1,4-Dichlorobenzene	ND(10.)	2,4-Dinitrotoluene	ND(10.)
Benzyl Alcohol	ND(10.)	2,6 Dinitrotoluene	ND(10.)
1,2-Dichlorobenzene	ND(10.)	Diethylphthalate	ND(10.)
2-Methylphenol	ND(10.)	4-Chlorophenyl-phenylether	ND(10.)
bis(2-chloroisopropyl) ether	ND(10.)	Fluorene	ND(10.)
4-Methylphenol	ND(10.)	4-Nitroaniline	ND(50.)
N-Nitroso-Di-n-Propylamine	ND(10.)	4,6-Dinitro-2-Methylphenol	ND(50.)
Hexachloroethane	ND(10.)	N-Nitrosodiphenylamine (1)	ND(10.)
Nitrobenzene	ND(10.)	4-Bromophenyl-phenylether	ND(10.)
Isophorone	ND(10.)	Hexachlorobenzene	ND(10.)
2-Nitrophenol	ND(10.)	Pentachlorophenol	ND(50.)
2,4-Dimethylphenol	ND(10.)	Phenanthrene	ND(10.)
Benzoic Acid	ND(50.)	Anthracene	ND(10.)
bis-(2-Chloroethoxy)methane	ND(10.)	Di-n-Butylphthalate	ND(10.)
2,4-Dichlorophenol	ND(10.)	Fluoranthene	ND(10.)
1,2,4-Trichlorobenzene	ND(10.)	Pyrene	ND(10.)
Naphthalene	ND(10.)	Butylbenzylphthalate	ND(10.)
4-Chloroaniline	ND(10.)	3,3'-Dichlorobenzidine	ND(20.)
Hexachlorobutadiene	ND(10.)	Benzo(a)Anthracene	ND(10.)
4-Chloro-3-Methylphenol	ND(10.)	bis(2-Ethylhexyl)Phthalate	ND(10.)
2-Methylnaphthalene	ND(10.)	Chrysene	ND(10.)
Hexachlorocyclopentadiene	ND(10.)	Di-n-Octyl Phthalate	ND(10.)
2,4,6-Trichlorophenol	ND(10.)	Benzo(b) Fluoranthene	ND(10.)
2,4,5-Trichlorophenol	ND(50.)	Benzo(k) Fluoranthene	ND(10.)
2-Chloronaphthalene	ND(10.)	Benzo(a) Pyrene	ND(10.)
2-Nitroaniline	ND(50.)	Indeno(1,2,3-cd) Pyrene	ND(10.)
Dimethyl Phthalate	ND(10.)	Dibenz(a,h)Anthracene	ND(10.)
Acenaphthylene	ND(10.)	Benzo(g,h,i) Perylene	ND(10.)
3-Nitroaniline	ND(50.)		


CRL Environmental - South Coast

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LABORATORY REPORT

NAVAJO REFINING COMPANY
 501 E. Main Street
 Artesia, NM 88210
 ATTN: Zeke Sherman

SAMPLE ID.: TW-2 1219881145

ANALYSIS NO.: 835510-006
 ANALYSES: EPA Method 625
 DATE SAMPLED: 12/19/88
 DATE SAMPLE REC'D: 12/20/88
 DATE EXTRACTED: 12/22/88
 DATE ANALYZED: 12/28/88
 SAMPLE TYPE: Liquid
 PROJECT: Lovington Refinery

EPA METHODS 625/8270 SEMI-VOLATILE ORGANICS

	(ug/L)		(ug/L)
Phenol	ND(10.)	Acenaphthene	ND(10.)
bis(2-Chloroethyl) ether	ND(10.)	2,4-Dinitrophenol	ND(50.)
2-Chlorophenol	ND(10.)	4-Nitrophenol	ND(50.)
1,3-Dichlorobenzene	ND(10.)	Dibenzofuran	ND(10.)
1,4-Dichlorobenzene	ND(10.)	2,4-Dinitrotoluene	ND(10.)
Benzyl Alcohol	ND(10.)	2,6 Dinitrotoluene	ND(10.)
1,2-Dichlorobenzene	ND(10.)	Diethylphthalate	ND(10.)
2-Methylphenol	ND(10.)	4-Chlorophenyl-phenylether	ND(10.)
bis(2-chloroisopropyl) ether	ND(10.)	Fluorene	ND(10.)
4-Methylphenol	ND(10.)	4-Nitroaniline	ND(50.)
N-Nitroso-Di-n-Propylamine	ND(10.)	4,6-Dinitro-2-Methylphenol	ND(50.)
Hexachloroethane	ND(10.)	N-Nitrosodiphenylamine (1)	ND(10.)
Nitrobenzene	ND(10.)	4-Bromophenyl-phenylether	ND(10.)
Isophorone	ND(10.)	Hexachlorobenzene	ND(10.)
2-Nitrophenol	ND(10.)	Pentachlorophenol	ND(50.)
2,4-Dimethylphenol	ND(10.)	Phenanthrene	ND(10.)
Benzoic Acid	ND(50.)	Anthracene	ND(10.)
bis-(2-Chloroethoxy) methane	ND(10.)	Di-n-Butylphthalate	ND(10.)
2,4-Dichlorophenol	ND(10.)	Fluoranthene	ND(10.)
1,2,4-Trichlorobenzene	ND(10.)	Pyrene	ND(10.)
Naphthalene	ND(10.)	Butylbenzylphthalate	ND(10.)
4-Chloroaniline	ND(10.)	3,3'-Dichlorobenzidine	ND(20.)
Hexachlorobutadiene	ND(10.)	Benzo(a) Anthracene	ND(10.)
4-Chloro-3-Methylphenol	ND(10.)	bis(2-Ethylhexyl) Phthalate	ND(10.)
2-Methylnaphthalene	ND(10.)	Chrysene	ND(10.)
Hexachlorocyclopentadiene	ND(10.)	Di-n-Octyl Phthalate	ND(10.)
2,4,6-Trichlorophenol	ND(10.)	Benzo(b) Fluoranthene	ND(10.)
2,4,5-Trichlorophenol	ND(50.)	Benzo(k) Fluoranthene	ND(10.)
2-Chloronaphthalene	ND(10.)	Benzo(a) Pyrene	ND(10.)
2-Nitroaniline	ND(50.)	Indeno(1,2,3-cd) Pyrene	ND(10.)
Dimethyl Phthalate	ND(10.)	Dibenz(a,h) Anthracene	ND(10.)
Acenaphthylene	ND(10.)	Benzo(g,h,i) Perylene	ND(10.)
3-Nitroaniline	ND(50.)		

The Report Cover Letter is an integral part of this report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client.


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LABORATORY REPORT

NAVAJO REFINING COMPANY
 501 E. Main Street
 Artesia, NM 88210
 ATTN: Zeke Sherman

ANALYSIS NO.: 835510-007
 ANALYSES: EPA Method 625
 DATE SAMPLED: 12/19/88
 DATE SAMPLE REC'D: 12/20/88
 DATE EXTRACTED: 12/22/88
 DATE ANALYZED: 12/29/88
 SAMPLE TYPE: Liquid
 PROJECT: Lovington Refinery

SAMPLE ID.: TW-2 1219881145
 Matrix Spike

EPA METHODS 625/8270 SEMI-VOLATILE ORGANICS

	(ug/L)		(ug/L)
Phenol	ND(10.)	Acenaphthene	ND(10.)
bis(2-Chloroethyl) ether	ND(10.)	2,4-Dinitrophenol	ND(50.)
2-Chlorophenol	ND(10.)	4-Nitrophenol	ND(50.)
1,3-Dichlorobenzene	ND(10.)	Dibenzofuran	ND(10.)
1,4-Dichlorobenzene	ND(10.)	2,4-Dinitrotoluene	ND(10.)
Benzyl Alcohol	ND(10.)	2,6 Dinitrotoluene	ND(10.)
1,2-Dichlorobenzene	ND(10.)	Diethylphthalate	ND(10.)
2-Methylphenol	ND(10.)	4-Chlorophenyl-phenylether	ND(10.)
bis(2-chloroisopropyl) ether	ND(10.)	Fluorene	ND(10.)
4-Methylphenol	ND(10.)	4-Nitroaniline	ND(50.)
N-Nitroso-Di-n-Propylamine	ND(10.)	4,6-Dinitro-2-Methylphenol	ND(50.)
Hexachloroethane	ND(10.)	N-Nitrosodiphenylamine (1)	ND(10.)
Nitrobenzene	ND(10.)	4-Bromophenyl-phenylether	ND(10.)
Isophorone	ND(10.)	Hexachlorobenzene	ND(10.)
2-Nitrophenol	ND(10.)	Pentachlorophenol	ND(50.)
2,4-Dimethylphenol	ND(10.)	Phenanthrene	ND(10.)
Benzoic Acid	ND(50.)	Anthracene	ND(10.)
bis-(2-Chloroethoxy) methane	ND(10.)	Di-n-Butylphthalate	ND(10.)
2,4-Dichlorophenol	ND(10.)	Fluoranthene	ND(10.)
1,2,4-Trichlorobenzene	ND(10.)	Pyrene	ND(10.)
Naphthalene	ND(10.)	Butylbenzylphthalate	ND(10.)
4-Chloroaniline	ND(10.)	3,3'-Dichlorobenzidine	ND(20.)
Hexachlorobutadiene	ND(10.)	Benzo(a) Anthracene	ND(10.)
4-Chloro-3-Methylphenol	ND(10.)	bis(2-Ethylhexyl) Phthalate	ND(10.)
2-Methylnaphthalene	ND(10.)	Chrysene	ND(10.)
Hexachlorocyclopentadiene	ND(10.)	Di-n-Octyl Phthalate	ND(10.)
2,4,6-Trichlorophenol	ND(10.)	Benzo(b) Fluoranthene	ND(10.)
2,4,5-Trichlorophenol	ND(50.)	Benzo(k) Fluoranthene	ND(10.)
2-Chloronaphthalene	ND(10.)	Benzo(a) Pyrene	ND(10.)
2-Nitroaniline	ND(50.)	Indeno(1,2,3-cd) Pyrene	ND(10.)
Dimethyl Phthalate	ND(10.)	Dibenz(a,h) Anthracene	ND(10.)
Acenaphthylene	ND(10.)	Benzo(g,h,i) Perylene	ND(10.)
3-Nitroaniline	ND(50.)		



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LABORATORY REPORT

NAVAJO REFINING COMPANY
501 E. Main Street
Artesia, NM 88210
ATTN: Zeke Sherman

ANALYSIS NO.: 835510-008
ANALYSES: EPA Method 625
DATE SAMPLED: 12/19/88
DATE SAMPLE REC'D: 12/20/88
DATE EXTRACTED: 12/22/88
DATE ANALYZED: 12/29/88
SAMPLE TYPE: Liquid
PROJECT: Lovington Refinery

SAMPLE ID.: TW-1 1219881145
Matrix Spike Duplicate

EPA METHODS 625/8270 SEMI-VOLATILE ORGANICS

	(ug/L)		(ug/L)
Phenol	ND(10.)	Acenaphthene	ND(10.)
bis(2-Chloroethyl) ether	ND(10.)	2,4-Dinitrophenol	ND(50.)
2-Chlorophenol	ND(10.)	4-Nitrophenol	ND(50.)
1,3-Dichlorobenzene	ND(10.)	Dibenzofuran	ND(10.)
1,4-Dichlorobenzene	ND(10.)	2,4-Dinitrotoluene	ND(10.)
Benzyl Alcohol	ND(10.)	2,6 Dinitrotoluene	ND(10.)
1,2-Dichlorobenzene	ND(10.)	Diethylphthalate	ND(10.)
2-Methylphenol	ND(10.)	4-Chlorophenyl-phenylether	ND(10.)
bis(2-chloroisopropyl) ether	ND(10.)	Fluorene	ND(10.)
4-Methylphenol	ND(10.)	4-Nitroaniline	ND(50.)
N-Nitroso-Di-n-Propylamine	ND(10.)	4,6-Dinitro-2-Methylphenol	ND(50.)
Hexachloroethane	ND(10.)	N-Nitrosodiphenylamine (1)	ND(10.)
Nitrobenzene	ND(10.)	4-Bromophenyl-phenylether	ND(10.)
Isophorone	ND(10.)	Hexachlorobenzene	ND(10.)
2-Nitrophenol	ND(10.)	Pentachlorophenol	ND(50.)
2,4-Dimethylphenol	ND(10.)	Phenanthrene	ND(10.)
Benzoic Acid	ND(50.)	Anthracene	ND(10.)
bis-(2-Chloroethoxy) methane	ND(10.)	Di-n-Butylphthalate	ND(10.)
2,4-Dichlorophenol	ND(10.)	Fluoranthene	ND(10.)
1,2,4-Trichlorobenzene	ND(10.)	Pyrene	ND(10.)
Naphthalene	ND(10.)	Butylbenzylphthalate	ND(10.)
4-Chloroaniline	ND(10.)	3,3'-Dichlorobenzidine	ND(20.)
Hexachlorobutadiene	ND(10.)	Benzo(a) Anthracene	ND(10.)
4-Chloro-3-Methylphenol	ND(10.)	bis(2-Ethylhexyl) Phthalate	ND(10.)
2-Methylnaphthalene	ND(10.)	Chrysene	ND(10.)
Hexachlorocyclopentadiene	ND(10.)	Di-n-Octyl Phthalate	ND(10.)
2,4,6-Trichlorophenol	ND(10.)	Benzo(b) Fluoranthene	ND(10.)
2,4,5-Trichlorophenol	ND(50.)	Benzo(k) Fluoranthene	ND(10.)
2-Chloronaphthalene	ND(10.)	Benzo(a) Pyrene	ND(10.)
2-Nitroaniline	ND(50.)	Indeno(1,2,3-cd) Pyrene	ND(10.)
Dimethyl Phthalate	ND(10.)	Dibenz(a,h) Anthracene	ND(10.)
Acenaphthylene	ND(10.)	Benzo(g,h,i) Perylene	ND(10.)
3-Nitroaniline	ND(50.)		

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LABORATORY REPORT**NAVAJO REFINING COMPANY**

501 E. Main Street
Artesia, NM 88210
ATTN: Zeke Sherman

SAMPLE ID.: TW-1 1219881500

ANALYSIS NO.: 835510-009

ANALYSES: Priority Pollutant Metals

DATE SAMPLED: 12/19/88

DATE SAMPLE REC'D: 12/20/88

DATE ANALYZED: 12/21-28/88

SAMPLE TYPE: Liquid

PROJECT: Lovington Refinery

PRIORITY POLLUTANT METALS

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u> <u>in (mg/L)</u>
Antimony	(EPA 6010)	ND(0.1)
Arsenic	(EPA 7061)	ND(0.005)
Beryllium	(EPA 6010)	ND(0.02) <i>4</i>
Cadmium	(EPA 6010)	0.92 <i>4</i>
Chromium	(EPA 6010)	0.10
Copper	(EPA 6010)	1.0
Lead	(EPA 6010)	ND(0.02)
Mercury	(EPA 7471)	ND(0.001)
Nickel	(EPA 6010)	0.03
Selenium	(EPA 7741)	ND(0.01)
Silver	(EPA 6010)	ND(0.02)
Thallium	(EPA 7840)	ND(0.1)
Zinc	(EPA 6010)	ND(0.02)

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LABORATORY REPORT**NAVAJO REFINING COMPANY**

501 E. Main Street
Artesia, NM 88210
ATTN: Zeke Sherman

SAMPLE ID.: TW-2 1219881145

ANALYSIS NO.: 835510-010

ANALYSES: Priority Pollutant Metals

DATE SAMPLED: 12/19/88

DATE SAMPLE REC'D: 12/20/88

DATE ANALYZED: 12/22-29/88

SAMPLE TYPE: Liquid

PROJECT: Lovington Refinery

PRIORITY POLLUTANT METALS

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u> <u>in (mg/L)</u>
Antimony	(EPA 6010)	ND(0.1)
Arsenic	(EPA 7061)	ND(0.005)
Beryllium	(EPA 6010)	ND(0.01)
Cadmium	(EPA 6010)	0.28
Chromium	(EPA 6010)	0.03
Copper	(EPA 6010)	0.04
Lead	(EPA 6010)	ND(0.02)
Mercury	(EPA 7471)	ND(0.001)
Nickel	(EPA 6010)	ND(0.02)
Selenium	(EPA 7741)	ND(0.01)
Silver	(EPA 6010)	ND(0.01)
Thallium	(EPA 7840)	ND(0.1)
Zinc	(EPA 6010)	0.03

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LABORATORY REPORT**NAVAJO REFINING COMPANY**

501 E. Main Street
Artesia, NM 88210
ATTN: Zeke Sherman

SAMPLE ID.: TW-2 1219881145
Matrix Spike

ANALYSIS NO.: 835510-011

ANALYSES: Priority Pollutant Metals

DATE SAMPLED: 12/19/88

DATE SAMPLE REC'D: 12/20/88

DATE ANALYZED: 12/22-29/88

SAMPLE TYPE: Liquid

PROJECT: Lovington Refinery

PRIORITY POLLUTANT METALS

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u> <u>in (mg/L)</u>
Antimony	(EPA 6010)	0.45
Arsenic	(EPA 7061)	0.47
Beryllium	(EPA 6010)	0.43
Cadmium	(EPA 6010)	0.60*
Chromium	(EPA 6010)	0.50
Copper	(EPA 6010)	0.49
Lead	(EPA 6010)	0.52
Mercury	(EPA 7471)	0.0017
Nickel	(EPA 6010)	0.44
Selenium	(EPA 7741)	0.45
Silver	(EPA 6010)	0.50
Thallium	(EPA 7840)	0.42
Zinc	(EPA 6010)	0.50

NOTE: Sample spike for Mercury was 0.002 mg/L and for all other metals was 0.5 mg/L.

*Unspiked sample had a concentration of 0.1 mg/L of Cadmium.

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LABORATORY REPORT**NAVAJO REFINING COMPANY**

501 E. Main Street

Artesia, NM 88210

ATTN: Zeke Sherman

SAMPLE ID.: TW-2 1219881145

Matrix Spike Duplicate

ANALYSIS NO.: 835510-012

ANALYSES: Priority Pollutant Metals

DATE SAMPLED: 12/19/88

DATE SAMPLE REC'D: 12/20/88

DATE ANALYZED: 12/22-29/88

SAMPLE TYPE: Liquid

PROJECT: Lovington Refinery

PRIORITY POLLUTANT METALS

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u> <u>in (mg/L)</u>
Antimony	(EPA 6010)	0.44
Arsenic	(EPA 7061)	0.43
Beryllium	(EPA 6010)	0.42
Cadmium	(EPA 6010)	0.96
Chromium	(EPA 6010)	0.48
Copper	(EPA 6010)	0.46
Lead	(EPA 6010)	0.50
Mercury	(EPA 7471)	0.0021
Nickel	(EPA 6010)	0.44
Selenium	(EPA 7741)	0.46
Silver	(EPA 6010)	0.48
Thallium	(EPA 7840)	0.45
Zinc	(EPA 6010)	0.50

NOTE: Sample spike for Mercury was 0.002 mg/L and for all other metals was 0.5 mg/L.

*Unspiked sample had a concentration of 0.5 mg/L of Cadmium.

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LABORATORY REPORT

NAVAJO REFINING COMPANY
501 E. Main Street
Artesia, NM 88210
ATTN: Zake Sherman

ANALYSIS NO.: 835510-001/012
ANALYSES: Miscellaneous
DATE SAMPLED: 12/19/88
DATE SAMPLE REC'D: 12/20/88
SAMPLE TYPE: Liquid
PROJECT: Lovington Refinery

QA/QC SUMMARY

Date	Parameter(method)	Average Spike Recovery%	Acceptable Range%	Relative Percent Difference	Acceptable Range%
12/22/88	Antimony (EPA 6010)	91	68-137	2	30
12/28/88	Arsenic (EPA 7061)	92	78-118	4	25
12/22/88	Beryllium (EPA 6010)	85	66-130	2	30
12/29/88	Cadmium (EPA 6010)	103	72-141	1	25
12/22/88	Chromium (EPA 6010)	93	69-148	2	30
12/22/88	Copper (EPA 6010)	89	68-129	4	25
12/22/88	Lead (EPA 6010)	98	65-144	4	25
12/21/88	Mercury (EPA 7471)	95	41-137	23	37
12/22/88	Nickel (EPA 6010)	86	65-146	0	25
12/27/88	Selenium (EPA 7741)	91	41-137	2	25
12/22/88	Silver (EPA 6010)	98	25-147	4	52
12/27/88	Thallium (EPA 7840)	87	75-109	7	25
12/22/88	Zinc (EPA 6010)	95	73-138	0	25

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LABORATORY REPORT

NAVAJO REFINING COMPANY
501 E. Main Street
Artesia, NM 88210
ATTN: Zeke Sherman

ANALYSIS NO.: 835510-001/012
ANALYSES: Miscellaneous
DATE SAMPLED: 12/19/88
DATE SAMPLE REC'D: 12/20/88
SAMPLE TYPE: Liquid
PROJECT: Lovington Refinery

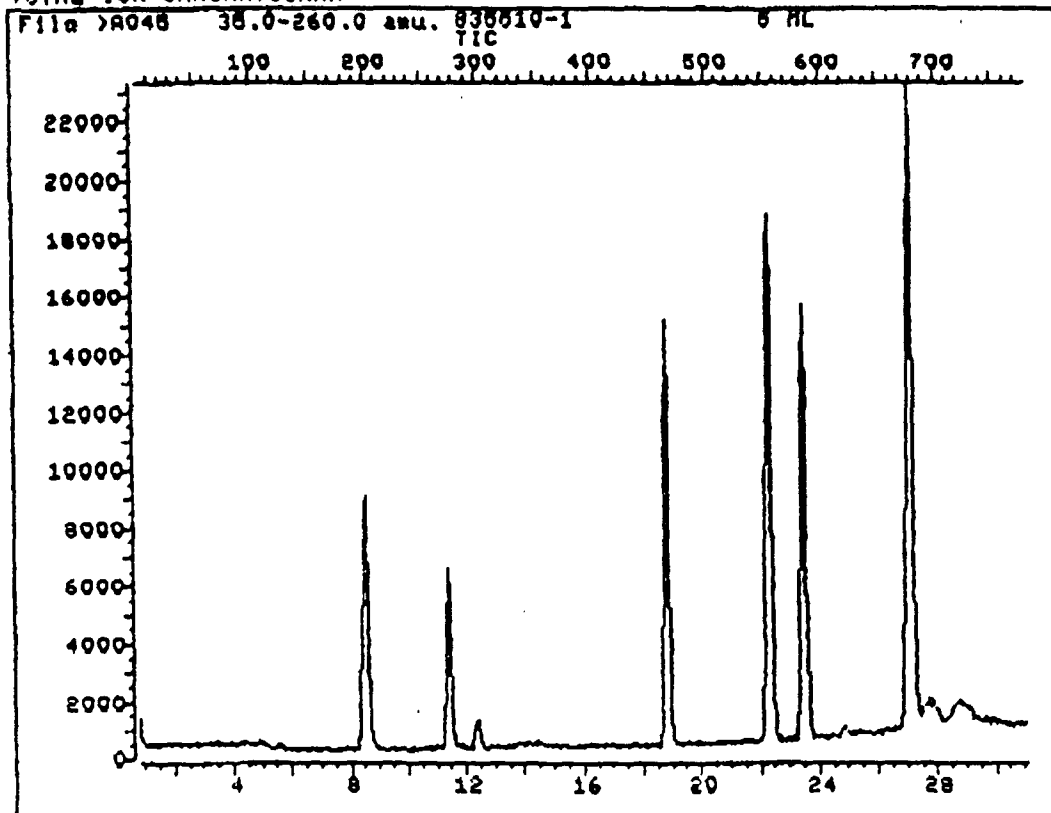
QA/QC SUMMARY

<u>Date</u>	<u>Parameter (method)</u>	<u>Average Spike Recovery†</u>	<u>Acceptable Range†</u>	<u>Relative Percent Difference</u>	<u>Acceptable Range†</u>
12/21/88	1,1-Dichloroethene (EPA 624)	87	61-145	6	14
12/21/88	Chlorobenzene (EPA 624)	100	75-130	11	13
12/22/88	2-Chlorophenol (EPA 625)	37	4-72	40	50
12/22/88	4-Chloro-3-methyl Phenol (EPA 625)	40	11-115	24	50
12/22/88	1,2,4-Trichlorobenzene (EPA 625)	37	4-91	14	46
12/22/88	1,4-Dichlorobenzene (EPA 625)	35	5-86	18	42
12/21/88	1,1-Dichloroethene (EPA 624)	88	61-145	1	14
12/21/88	Chlorobenzene (EPA 624)	102	75-130	1	13

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TOTAL ION CHROMATOGRAM



Data File: >A045:02

Quant Output File: ^A045:04

Name: 835510-1

Misc: 5 ML

Id File: IDV0A1:04

Title: VOA ID FILE

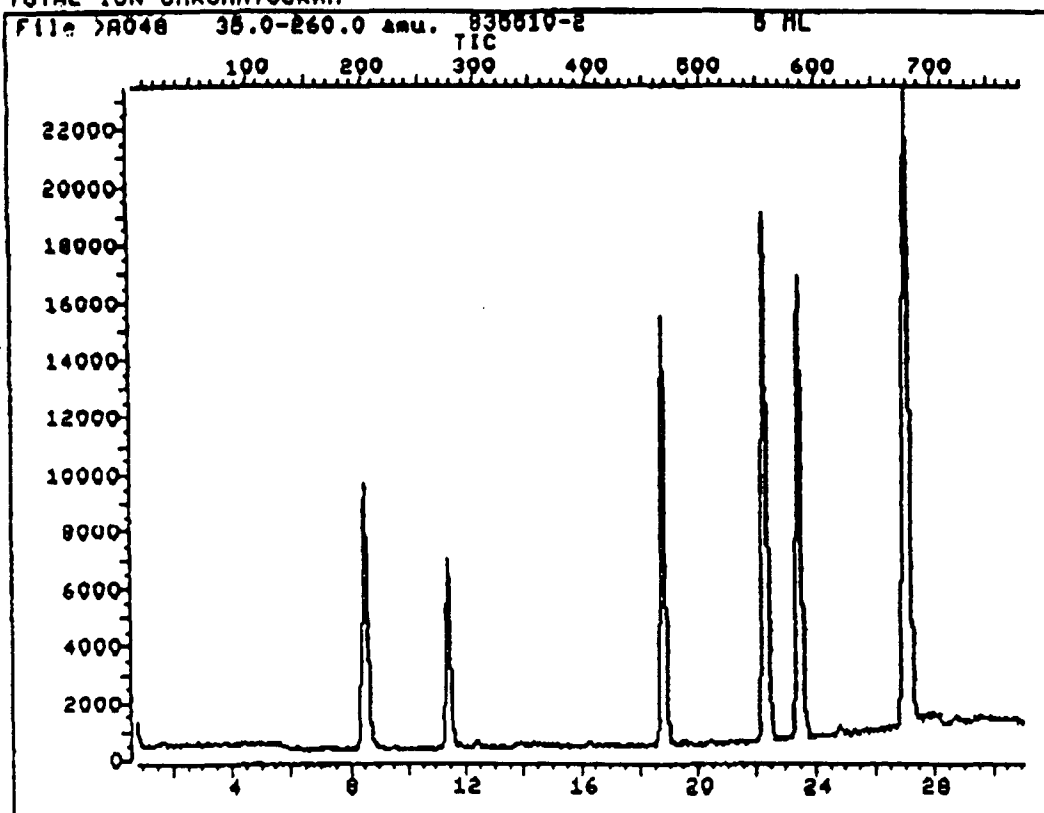
Last Calibration: 881220 23:25

Operator ID: JOE

Quant Time: 881221 13:06

Injected at: 881221 12:35

TOTAL ION CHROMATOGRAM



Data File: >A048::D2

Quant Output File: ^A048::D4

Name: 835510-2

Misc: 5 ML

Id File: IDUOA1::D4

Title: UOA ID FILE

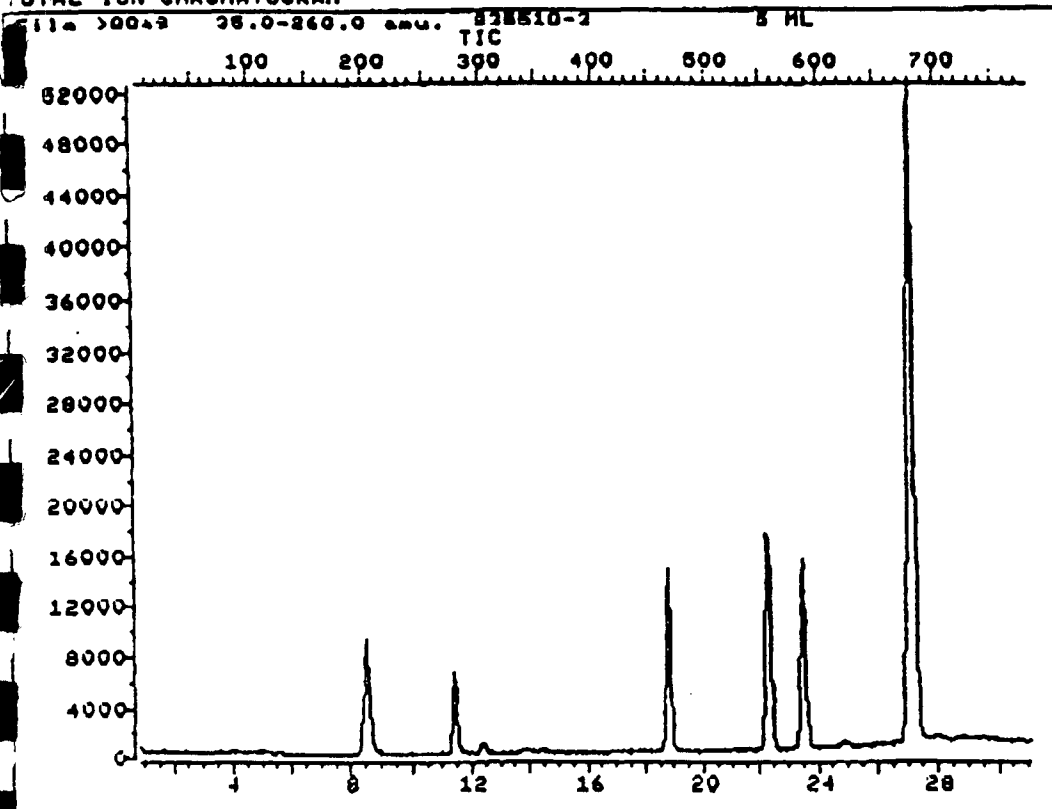
Last Calibration: 881220 23:25

Operator ID: ERIC

Quant Time: 881221 15:38

Injected at: 881221 15:06

TOTAL ION CHROMATOGRAM



Data File: >A049:02

Quant Output File: ^A049:04

Name: 835510-3

Misc: 5 ML

Id File: IDV0A1:04

Title: VOA ID FILE

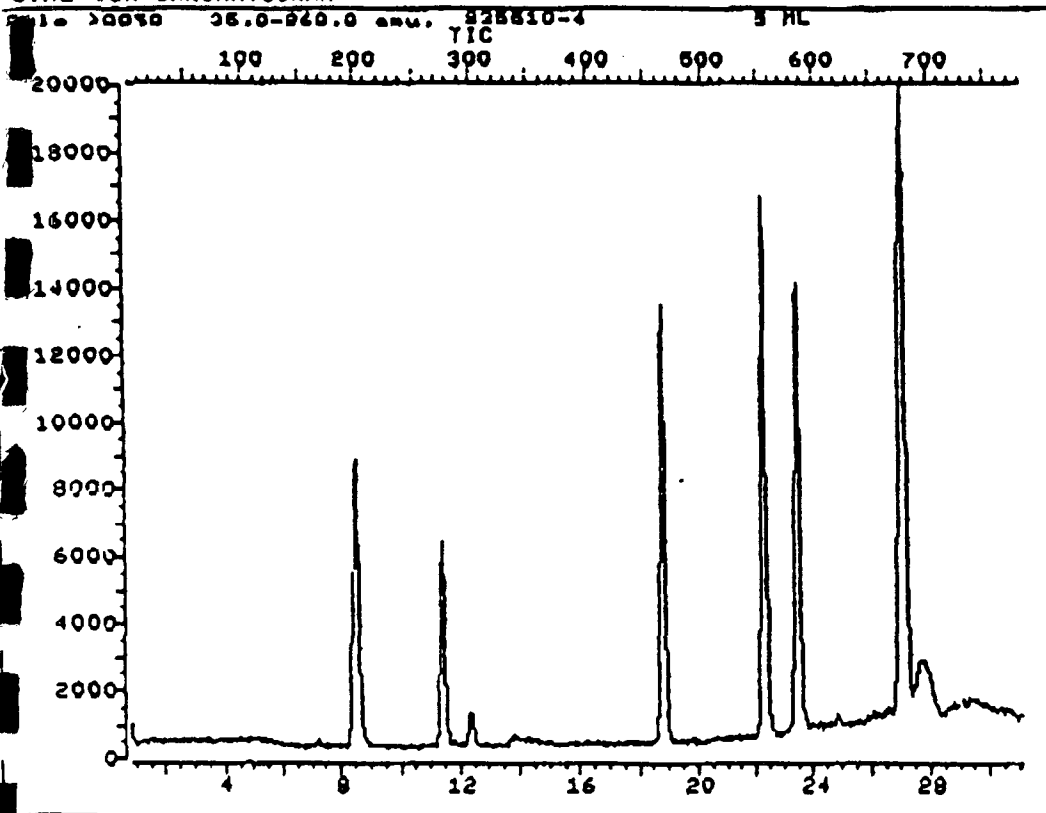
Last Calibration: 881220 23:25

Operator ID: ERIC

Quant Time: 881221 16:22

Injected at: 881221 15:50

TOTAL ION CHROMATOGRAM



Data File: >A050::D2

Quant Output File: ^A050::D4

Name: 835510-4

Misc: 5 ML

Id File: IDVOR1::D4

Title: VOA ID FILE

Last Calibration: 881220 23:25

Operator ID: ERIC

Quant Time: 881221 17:06

Injected at: 881221 16:34

12/30/88

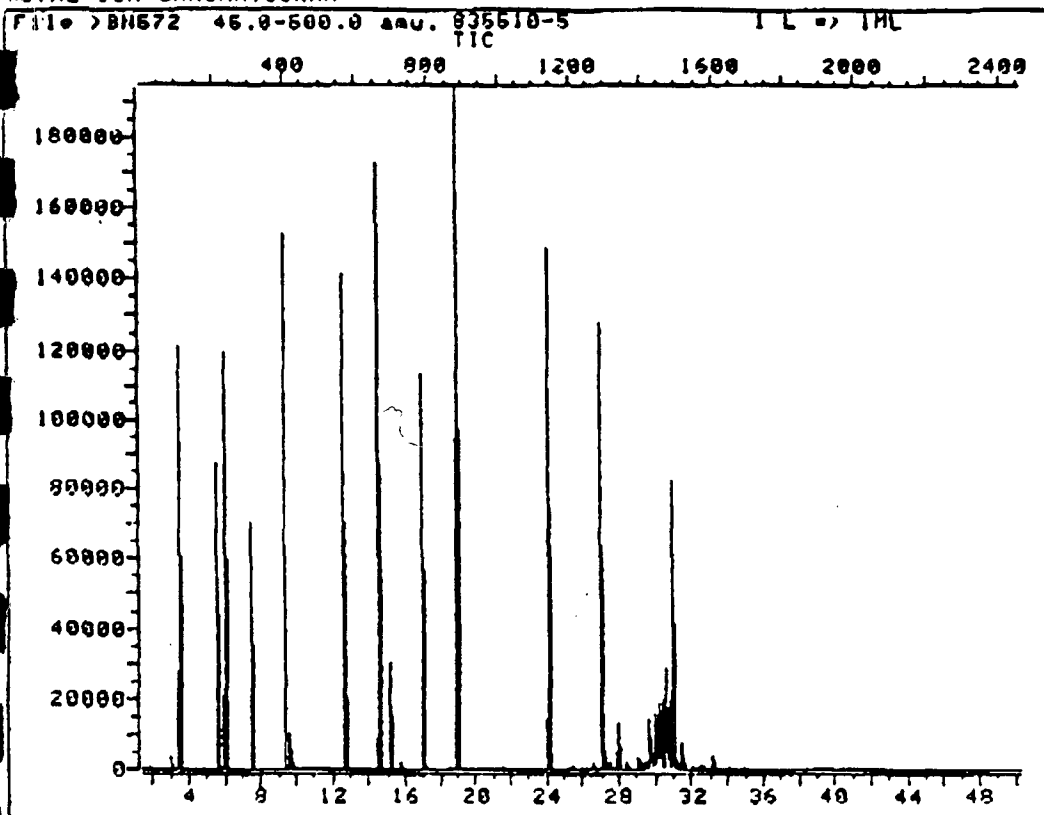
12:47

NAVAJO ARTESIA

NO. 016

030

TOTAL ION CHROMATOGRAM



Data File: >BN572::01

Quant Output File: ^BN572::QT

Name: 835510-5

Misc: 1 L => IML

BTL# 6

Id File: IBNA::SC

Title:

Last Calibration: 881227 17:05

Operator ID: DAVE

Quant Time: 881228 22:58

Injected at: 881228 22:04

12/30/88

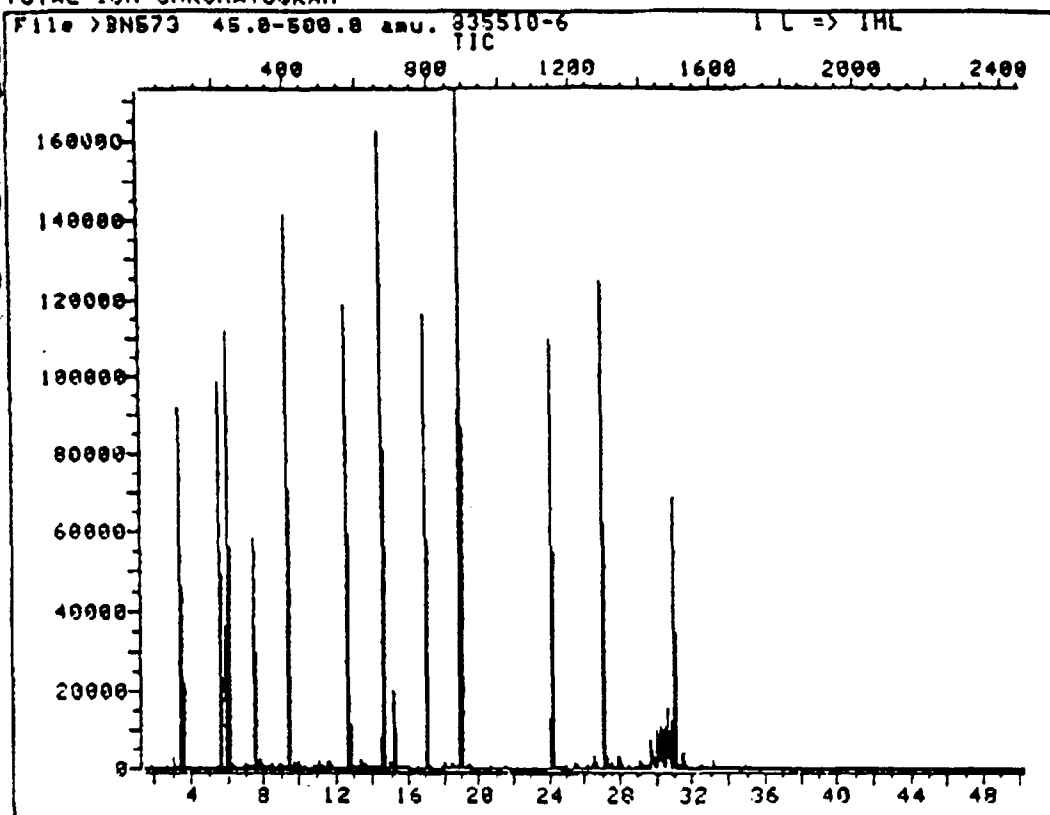
12:47

NAVAJO ARTESIA

NO. 016

031

TOTAL ION CHROMATOGRAM



Data File: >BN573::D1

Quant Output File: ^BN573::QT

Name: 835510-6

Misc: 1 L => 1ML

BTL# 7

Id File: IBNA::SC

Title:

Last Calibration: 881227 17:05

Operator ID: DAUE

Quant Time: 881228 23:58

Injected at: 881228 23:04

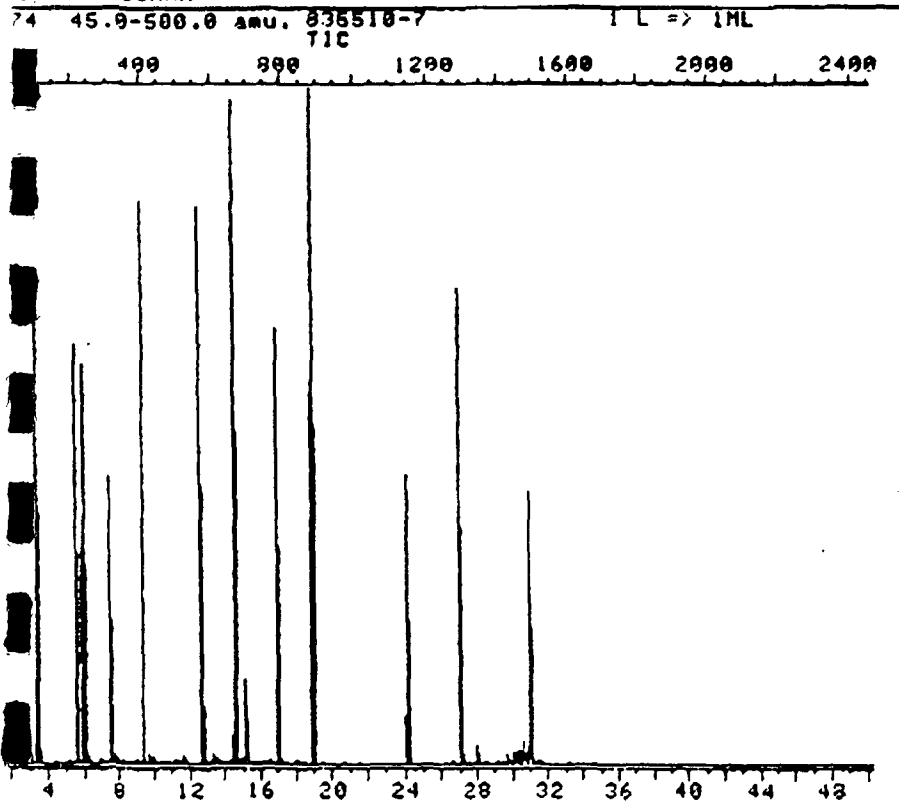
12:48

NAVAJO ARTESIA

NO. 016

032

CHROMATOGRAM



File: >BN574::D1

Quant Output File: ^BN574::QT

: 835510-7

1 L => 1ML

BTL# 8

File: IBNA::SC

Calibration: 881227 17:05

Operator ID: DAVE

Time: 881229 00:59

Started at: 881229 00:05

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171
Attn: FEROL KIMBLE

Enseco Client NAVJO REFINING COMPANY (505) 748-3311
Project LOVINGTON REFINERY
Sampling Co. N/A
Sampling Site TW-1, TW-2
Team Leader ZRS

1. Packed by: ZRS Seal # 1377
2. Seal Intact Upon Receipt by Sampling Co.: Y Yes No
3. Condition of Contents: WET
4. Sealed for Shipping by: ZRS Seal # 1377
5. Initial Contents Temp.: 4 °C Seal # 1377
6. Sampling Status: Done Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: DK

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
12/19/88		TW-2, Groundwater, #1219881145	Groundwater	3 - 40ml vials	HSL-Volatiles	
12/19/88		TW-2, #1219881145	Groundwater	3 - 40ml vials	HSL-Volatiles Matrix Spike	
12/19/88		TW-2, #1219881145	Groundwater	3 - 40ml vials	HSL-Volatiles Matrix Spike Duplicate	
12/19/88		TW-2, #1219881145	Groundwater	2 - 1 Liter bottles	HSL-Semi Volatiles	
12/19/88		TW-2, #1219881145	Groundwater	2 - 1 Liter bottles	HSL-Semi Volatiles Matrix Spike	
12/19/88		TW-2, #1219881145	Groundwater	2 - 1 Liter bottles	HSL-Semi Volatiles Matrix Spike Duplicate	
12/19/88		TW-2, #1219881145	Groundwater	1 - 500 ml poly	Priority Pollutants + Metals (unfilled)	
12/19/88		TW-2, #1219881145	Groundwater	1 - 500 ml poly	Priority Pollutants + Metals Matrix Spike	
12/19/88		TW-2, #1219881145	Groundwater	1 - 500 ml poly	Priority Pollutants + Metals Matrix Spike Duplicate	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 12/19/88 Time 1:00

Received by: (signed) [Signature] Date 12/19/88 Time 1:00

Enseco Project No. _____

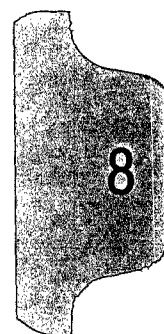
SHIPPING DETAILS

Delivered to Shipper by: ZRS

Method of Shipment: FED EXPRESS Airbill # _____

Received for Lab: _____ Signed: _____ Date/Time: _____

Enseco Project No. _____



ATTACHMENT 8

**LABORATORY RESULTS - GROUNDWATER
(MONITORING WELLS - FEBRUARY, 1989)
TW-1 THROUGH TW-14**

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 1			
Priority Pollutant Metals:			
Antimony, mg/L	0.03	304	RS 2/2/89, 1230
Arsenic, mg/L	0.01	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.02	305	SM 1/31/89, 1159
Chromium, mg/L	0.06	305	SM 1/31/89, 1159
Copper, mg/L	0.02	305	SM 1/31/89, 1159
Lead, mg/L	0.03	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.03	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	0.01	303	RS 1/30/89, 1400
Thallium, mg/L	0.01	304	RS 2/1/89, 0830
Zinc, mg/L	0.09	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300
Sample ID: TW 1, filtered in laboratory			
Cadmium, mg/L	<0.005	305	SM 2/4/89, 1130

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Sample ID: TW 1

Date extracted: NA
Date analyzed: 1/29/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	**	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	4	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	**	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	3	3
Dibromochloromethane	**	10
1,1,2-Trichloroethane	**	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	**	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	3	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	**	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

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Sample ID: TW 1

Date extracted: NA
Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

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Sample ID: TW 1

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluoroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

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	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 1 Duplicate Sample			
Priority Pollutant Metals:			
Antimony, mg/L	0.01	304	RS 2/2/89, 1230
Arsenic, mg/L	<0.01	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.01	305	SM 1/31/89, 1159
Chromium, mg/L	0.04	305	SM 1/31/89, 1159
Copper, mg/L	<0.01	305	SM 1/31/89, 1159
Lead, mg/L	0.02	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	<0.01	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	0.01	304	RS 2/1/89, 0830
Zinc, mg/L	0.06	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

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Sample ID: TW 1 Duplicate Sample

Date extracted: NA

Date analyzed: 1/29/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	**	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	**	10
Carbon tetrachloride	**	3
Bromodichloromethane	**	10
1,2-Dichloropropane	**	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	11	3
Dibromochloromethane	**	10
1,1,2-Trichloroethane	**	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	**	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	12	3
Toluene	**	10
Chlorobenzene	**	10
Ethylbenzene	30	10
1,2-Dichlorobenzene	**	10
1,3-Dichlorobenzene	**	10
1,4-Dichlorobenzene	**	10

BRL = Below Reporting Limit

** = Detected but below reporting limit

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Sample ID: TW 1 Duplicate Sample

Date extracted: NA

Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

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Sample ID: TW 1 Duplicate Sample

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 1 Field Dilution			
Priority Pollutant Metals:			
Antimony, mg/L	<0.01	304	RS 2/2/89, 1230
Arsenic, mg/L	<0.01	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.01	305	SM 1/31/89, 1159
Chromium, mg/L	0.03	305	SM 1/31/89, 1159
Copper, mg/L	<0.01	305	SM 1/31/89, 1159
Lead, mg/L	<0.01	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	<0.01	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	<0.01	304	RS 2/1/89, 0830
Zinc, mg/L	0.07	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

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Sample ID: TW 1 Field Dilution

Date extracted: NA

Date analyzed: 1/30/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	**	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

** = Detected but below reporting limit

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Sample ID: TW 1 Field Dilution

Date extracted: NA

Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

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Sample ID: TW 1 Field Dilution

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 1 Field Blank			
Priority Pollutant Metals:			
Antimony, mg/L	<0.01	304	RS 2/2/89, 1230
Arsenic, mg/L	<0.01	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.01	305	SM 1/31/89, 1159
Chromium, mg/L	0.03	305	SM 1/31/89, 1159
Copper, mg/L	<0.01	305	SM 1/31/89, 1159
Lead, mg/L	<0.01	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.01	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	0.01	303	RS 1/30/89, 1400
Thallium, mg/L	<0.01	304	RS 2/1/89, 0830
Zinc, mg/L	<0.01	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

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Sample ID: TW 1 Field Blank

Date extracted: NA

Date analyzed: 2/30/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

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Sample ID: TW 1 Field Blank

Date extracted: NA

Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

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Sample ID: TW 1 Field Blank

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluoroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 1 Filtered			
Priority Pollutant Metals:			
Antimony, mg/L	<0.01	304	RS 2/2/89, 1230
Arsenic, mg/L	<0.01	304	TS 1/30/89, 0900
Beryllium, mg/L	0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.01	305	SM 1/31/89, 1159
Chromium, mg/L	0.03	305	SM 1/31/89, 1159
Copper, mg/L	<0.01	305	SM 1/31/89, 1159
Lead, mg/L	<0.01	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.01	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	<0.01	304	RS 2/1/89, 0830
Zinc, mg/L	0.01	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

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	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 2			
Priority Pollutant Metals:			
Antimony, mg/L	<0.01	304	RS 2/2/89, 1230
Arsenic, mg/L	0.01	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.01	305	SM 1/31/89, 1159
Chromium, mg/L	0.02	305	SM 1/31/89, 1159
Copper, mg/L	<0.01	305	SM 1/31/89, 1159
Lead, mg/L	<0.01	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.01	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	0.01	303	RS 1/30/89, 1400
Thallium, mg/L	<0.01	304	RS 2/1/89, 0830
Zinc, mg/L	<0.04	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

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Sample ID: TW 2

Date extracted: NA
Date analyzed: 1/29/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	** ✓	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	** ✓	10
1,2-Dichloroethane	4 ✓	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	** ✓	10
1,2-Dichloropropane	** ✓	10
Cis-1,3-dichloropropene	BRL ✓	10
Trichloroethene	** ✓	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	** ✓	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	** ✓	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	**	10
1,3-Dichlorobenzene	**	10
1,4-Dichlorobenzene	**	10

BRL = Below Reporting Limit

** = Detected but below reporting limit

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Sample ID: TW 2

Date extracted: NA
Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

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Sample ID: TW 2

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

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	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 2 Duplicate Sample			
Priority Pollutant Metals:			
Antimony, mg/L	<0.01	304	RS 2/2/89, 1230
Arsenic, mg/L	0.01	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.01	305	SM 1/31/89, 1159
Chromium, mg/L	0.03	305	SM 1/31/89, 1159
Copper, mg/L	<0.01	305	SM 1/31/89, 1159
Lead, mg/L	<0.01	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	<0.01	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	<0.01	304	RS 2/1/89, 0830
Zinc, mg/L	0.05	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

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Sample ID: TW 2 Duplicate Sample

Date extracted: NA

Date analyzed: 1/30/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	**	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

** = Detected but below reporting limit

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Sample ID: TW 2 Duplicate Sample

Date extracted: NA

Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

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Sample ID: TW 2 Duplicate Sample

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

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	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 2 Field Filtered			
Priority Pollutant Metals:			
Antimony, mg/L	<0.01	304	RS 2/2/89, 1230
Arsenic, mg/L	0.01	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.02	305	SM 1/31/89, 1159
Chromium, mg/L	0.03	305	SM 1/31/89, 1159
Copper, mg/L	<0.01	305	SM 1/31/89, 1159
Lead, mg/L	<0.01	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	<0.01	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	<0.01	304	RS 2/1/89, 0830
Zinc, mg/L	<0.01	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

Sample ID: TW 2, Field Filtered, filtered in laboratory

Cadmium, mg/L	0.012	305	SM 2/4/89, 1130
Chromium, mg/L	0.021	305	SM 2/4/89, 1215

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 2 Field Dilution			
Priority Pollutant Metals:			
Antimony, mg/L	<0.01	304	RS 2/2/89, 1230
Arsenic, mg/L	<0.01	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.02	305	SM 1/31/89, 1159
Chromium, mg/L	0.03	305	SM 1/31/89, 1159
Copper, mg/L	<0.01	305	SM 1/31/89, 1159
Lead, mg/L	<0.01	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	<0.01	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	<0.01	304	RS 2/1/89, 0830
Zinc, mg/L	0.01	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300
Sample ID: TW 2 Field Dilution, filtered in laboratory			
Cadmium, mg/L	0.014	305	SM 2/4/89, 1130
Chromium, mg/L	0.016	305	SM 2/4/89, 1215

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Sample ID: TW 2 Field Dilution

Date extracted: NA

Date analyzed: 1/31/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	**	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

** = Detected but below reporting limit

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Sample ID: TW 2 Field Dilution

Date extracted: NA

Date analyzed: 2/3/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

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Sample ID: TW 2 Field Dilution

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration</u> <u>ppb, (ug/l)</u>	<u>Reporting Limit</u> <u>ppb, (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

Metals Q.A. Data

<u>Parameter</u>	<u>Mdl</u>	<u>Blank</u>	<u>Orig</u>	<u>Dup</u>	<u>Rpd %</u>	<u>Amount Spiked</u>	<u>Spike Recovery %</u>
Antimony	0.01	<0.01	<0.01	<0.01	0	0.20	75
Antimony	0.01	<0.01	<0.01	<0.01	0	0.10	83
Arsenic	0.01	<0.01	<0.01	<0.01	0	0.05	126
Arsenic	0.01	<0.01	<0.01	<0.01	0	0.05	127
Beryllium	0.01	<0.01	<0.01	<0.01	0	1.00	91
Beryllium	0.01	<0.01	<0.01	<0.01	0	1.00	91
Cadmium	0.01	<0.01	0.01	0.01	0	1.0	81
Cadmium	0.01	<0.01	0.02	0.02	0	1.0	77
Chromium	0.01	<0.01	0.03	0.03	0	1.0	88
Chromium	0.01	<0.01	0.04	0.04	0	1.0	84
Copper	0.01	<0.01	0.01	<0.01	0	1.0	85
Copper	0.01	<0.01	0.01	<0.01	0	1.0	88
Lead	0.01	<0.01	<0.01	<0.01	0	0.05	98
Lead	0.01	<0.01	<0.01	<0.01	0	0.05	102
Mercury	0.001	<0.001	<0.001	<0.001	0	0.010	80
Mercury	0.001	<0.001	<0.001	<0.001	0	0.010	80
Nickel	0.01	<0.01	<0.01	<0.01	0	0.50	96
Nickel	0.01	<0.01	<0.01	<0.01	0	1.0	84
Selenium	<0.01	<0.01	<0.01	<0.01	0	0.05	88
Selenium	<0.01	<0.01	<0.01	<0.01	0	0.05	88
Silver	0.01	<0.01	<0.01	<0.01	0	0.40	103
Silver	0.01	<0.01	<0.01	<0.01	0	0.40	100
Thallium	0.01	<0.01	0.01	0.01	0	0.05	80
Thallium	0.01	<0.01	0.01	0.01	0	0.20	93
Zinc	0.01	<0.01	0.05	0.07	33.3	1.0	80
Zinc	0.01	<0.01	0.06	0.04	40	1.0	77
Cyanide	0.05	<0.05	<0.05	<0.05	0	0.25	104
Cyanide	0.05	<0.05	<0.05	<0.05	0	0.25	101

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

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	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 3			
Priority Pollutant Metals:			
Antimony, mg/L	<0.01	304	RS 2/2/89, 1230
Arsenic, mg/L	<0.01	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.02	305	SM 1/31/89, 1159
Chromium, mg/L	0.04	305	SM 1/31/89, 1159
Copper, mg/L	<0.01	305	SM 1/31/89, 1159
Lead, mg/L	0.02	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	<0.01	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	0.01	304	RS 2/1/89, 0830
Zinc, mg/L	0.05	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

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Sample ID: TW 3

Date extracted: NA
Date analyzed: 1/30/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

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Sample ID: TW 3

Date extracted: NA
Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

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Sample ID: TW 3

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit



Professional Service Industries, Inc.

ANALYTICAL REPORT

PILKO & ASSOCIATES
2707 North Loop West
Suite 960
Houston, TX 77008

Lovington (7598)

Attn: Darryl Carlson

February 4, 1989

213-80202-05

Date Received: January 25, 1989
Sample Identification: Fifteen water samples labeled below.
Methodology Employed: Standard Methods, 16th Edition

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 4			
Priority Pollutant Metals:			
Antimony, mg/L	0.11	304	RS 2/2/89, 1230
Arsenic, mg/L	0.02	304	TS 1/30/89, 0900
Beryllium, mg/L	0.02	305	SM 1/31/89, 1159
Cadmium, mg/L	0.03	305	SM 1/31/89, 1159
Chromium, mg/L	0.24	305	SM 1/31/89, 1159
Copper, mg/L	0.03	305	SM 1/31/89, 1159
Lead, mg/L	0.07	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.04	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	0.03	304	RS 2/1/89, 0830
Zinc, mg/L	0.10	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

Sample ID: TW 4, filtered in laboratory

Cadmium, mg/L	<0.005	305	SM 2/4/89, 1130
Chromium, mg/L	<0.005	305	SM 2/4/89, 1215
Lead, mg/L	<0.005	304	TS 2/4/89, 1315

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Sample ID: TW 4

Date extracted: NA
Date analyzed: 1/29/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	**	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	**	3
Toluene	**	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	**	10
1,3-Dichlorobenzene	**	10
1,4-Dichlorobenzene	**	10

BRL = Below Reporting Limit

** = Detected but below reporting limit

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Sample ID: TW 4

Date extracted: NA
Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

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Sample ID: TW 4

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluoroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 5			
Priority Pollutant Metals:			
Antimony, mg/L	0.03	304	RS 2/2/89, 1230
Arsenic, mg/L	0.01	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	<0.01	305	SM 1/31/89, 1159
Chromium, mg/L	0.04	305	SM 1/31/89, 1159
Copper, mg/L	0.01	305	SM 1/31/89, 1159
Lead, mg/L	0.02	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.02	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	0.01	303	RS 1/30/89, 1400
Thallium, mg/L	0.01	304	RS 2/1/89, 0830
Zinc, mg/L	0.07	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

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Sample ID: TW 5

Date extracted: NA
Date analyzed: 1/29/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

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Sample ID: TW 5

Date extracted: NA
Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

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Sample ID: TW 5

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

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	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 6			
Priority Pollutant Metals:			
Antimony, mg/L	0.01	304	RS 2/2/89, 1230
Arsenic, mg/L	0.01	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	<0.01	305	SM 1/31/89, 1159
Chromium, mg/L	0.04	305	SM 1/31/89, 1159
Copper, mg/L	0.01	305	SM 1/31/89, 1159
Lead, mg/L	0.01	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.02	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	<0.01	304	RS 2/1/89, 0830
Zinc, mg/L	0.05	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

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Sample ID: TW 6

Date extracted: NA
Date analyzed: 1/29/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

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Sample ID: TW 6

Date extracted: NA
Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

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Sample ID: TW 6

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluoroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

Empty Shuttle Lab Seal No. 2495 Shuttle Opened in field by DEC
sealed by C Thompson Date 1/20/88 Seal no. 2495 Date 1-21
Shuttle Resealed by DEC
Seal no. 2500 Date 1-24

CHAIN OF CUSTODY RECORD

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[illegible]

Empty Shuttle Lab seal no. 2476 Shuttle Opened in field by DFC
Sealed by JC Date 1-20-89 Seal no. 2476 Date 1-21
Shuttle Resealed by DEC
Seal no. 2479 Date 1-22

CHAIN OF CUSTODY RECORD

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[illegible]

Seal no. 2460 Date 1-24

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[illegible]

Shuttle Resealed by DIC

Seal no. 2489 Date 1-24

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[illegible]

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[illegible]

Sealed by C. Sharma Date 1/12/89 Seal no. 24662 Date 1-14-89

Seal no. None Date 1-24

CHAIN OF CUSTODY RECORD

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[illegible]

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 7			
Priority Pollutant Metals:			
Antimony, mg/L	<0.01	304	RS 2/2/89, 1230
Arsenic, mg/L	0.020	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.09	305	SM 1/31/89, 1159
Chromium, mg/L	0.14	305	SM 1/31/89, 1159
Copper, mg/L	0.03	305	SM 1/31/89, 1159
Lead, mg/L	0.05	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.03	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	0.02	304	RS 2/1/89, 0830
Zinc, mg/L	0.15	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

Sample ID: TW 7, filtered

Cadmium, mg/L	0.012	305	SM 2/4/89, 1130
Chromium, mg/L	0.010	305	SM 2/4/89, 1215

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Sample ID: TW 7

Date extracted: NA
Date analyzed: 1/29/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

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Sample ID: TW 7

Date extracted: NA
Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 8			
Priority Pollutant Metals:			
Antimony, mg/L	<0.01	304	RS 2/2/89, 1230
Arsenic, mg/L	0.01	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.04	305	SM 1/31/89, 1159
Chromium, mg/L	0.08	305	SM 1/31/89, 1159
Copper, mg/L	0.01	305	SM 1/31/89, 1159
Lead, mg/L	0.01	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.03	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	0.02	304	RS 2/1/89, 0830
Zinc, mg/L	0.11	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300
Sample ID: TW 8, filtered			
Cadmium, mg/L	0.018	305	SM 2/4/89, 1130
Chromium, mg/L	0.024	305	SM 2/4/89, 1215

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Sample ID: TW 8

Date extracted: NA
Date analyzed: 1/29/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

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Sample ID: TW 8

Date extracted: NA
Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

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Sample ID: TW 8

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 9			
Priority Pollutant Metals:			
Antimony, mg/L	0.10	304	RS 2/2/89, 1230
Arsenic, mg/L	0.04	304	TS 1/30/89, 0900
Beryllium, mg/L	0.02	305	SM 1/31/89, 1159
Cadmium, mg/L	0.02	305	SM 1/31/89, 1159
Chromium, mg/L	0.19	305	SM 1/31/89, 1159
Copper, mg/L	0.04	305	SM 1/31/89, 1159
Lead, mg/L	0.06	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.06	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	0.02	304	RS 2/1/89, 0830
Zinc, mg/L	0.14	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

Sample ID: TW 9, filtered

Cadmium, mg/L	<0.005	305	SM 2/4/89, 1130
Chromium, mg/L	<0.005	305	SM 2/4/89, 1215
Lead, mg/L	<0.005	304	TS 2/4/89, 1315

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Sample ID: TW 9

Date extracted: NA
Date analyzed: 1/29/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	**	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

** = Detected but below reporting limit

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Sample ID: TW 9

Date extracted: NA
Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 10			
Priority Pollutant Metals:			
Antimony, mg/L	0.04	304	RS 2/2/89, 1230
Arsenic, mg/L	0.02	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.01	305	SM 1/31/89, 1159
Chromium, mg/L	0.06	305	SM 1/31/89, 1159
Copper, mg/L	0.02	305	SM 1/31/89, 1159
Lead, mg/L	<0.02	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.02	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	0.01	304	RS 2/1/89, 0830
Zinc, mg/L	0.05	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

Sample ID: TW 10, filtered

Cadmium, mg/L	<0.005	305	SM 2/4/89, 1130
Chromium, mg/L	<0.005	305	SM 2/4/89, 1215

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Sample ID: TW 10

Date extracted: NA
Date analyzed: 1/29/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Chloromethane	21	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

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Sample ID: TW 10

Date extracted: NA
Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 11			
Priority Pollutant Metals:			
Antimony, mg/L	0.03	304	RS 2/2/89, 1230
Arsenic, mg/L	0.01	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.02	305	SM 1/31/89, 1159
Chromium, mg/L	0.05	305	SM 1/31/89, 1159
Copper, mg/L	0.02	305	SM 1/31/89, 1159
Lead, mg/L	0.01	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.01	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	0.01	304	RS 2/1/89, 0830
Zinc, mg/L	0.04	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

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Sample ID: TW 11

Date extracted:
Date analyzed:

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	**	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

** = Detected but below reporting limit

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Sample ID: TW 11

Date extracted: NA
Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

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Sample ID: TW 11

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluoroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit



Professional Service Industries, Inc.

ANALYTICAL REPORT

PILKO & ASSOCIATES
2707 North Loop West
Suite 960
Houston, TX 77008

Lovington (7599)

Attn: Darryl Carlson

February 3, 1989

213-80202-06

Date Received: January 25, 1989
Sample Identification: Eight water samples labeled below.
Methodology Employed: Standard Methods, 16th Edition

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 12			
Priority Pollutant Metals:			
Antimony, mg/L	0.16	304	RS 2/2/89, 1230
Arsenic, mg/L	0.049	304	TS 1/30/89, 0900
Beryllium, mg/L	0.04	305	SM 1/31/89, 1159
Cadmium, mg/L	0.05	305	SM 1/31/89, 1159
Chromium, mg/L	0.40	305	SM 1/31/89, 1159
Copper, mg/L	0.08	305	SM 1/31/89, 1159
Lead, mg/L	0.13	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.14	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	0.03	304	RS 2/1/89, 0830
Zinc, mg/L	0.29	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300

Sample ID: TW 12, filtered

Cadmium, mg/L	<0.005	305	SM 2/4/89, 1130
Chromium, mg/L	<0.005	305	SM 2/4/89, 1215
Lead, mg/L	<0.005	304	SM 2/4/89, 1315

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Sample ID: TW 12

Date extracted: NA
Date analyzed: 1/29/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

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Sample ID: TW 12

Date extracted: NA
Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb, (ug/l)</u>	<u>Reporting Limit</u> <u>ppb, (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Napthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnapthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronapthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

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Sample ID: TW 12

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluoroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 13			
Priority Pollutant Metals:			
Antimony, mg/L	0.21	304	RS 2/2/89, 1230
Arsenic, mg/L	0.063	304	TS 1/30/89, 0900
Beryllium, mg/L	0.04	305	SM 1/31/89, 1159
Cadmium, mg/L	0.08	305	SM 1/31/89, 1159
Chromium, mg/L	0.61	305	SM 1/31/89, 1159
Copper, mg/L	0.09	305	SM 1/31/89, 1159
Lead, mg/L	0.15	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.14	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	<0.01	303	RS 1/30/89, 1400
Thallium, mg/L	0.05	304	RS 2/1/89, 0830
Zinc, mg/L	0.36	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300
Sample ID: TW 13, filtered			
Cadmium, mg/L	<0.005	305	SM 2/4/89, 1130
Chromium, mg/L	<0.005	305	SM 2/4/89, 1215

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Sample ID: TW 13

Date extracted: NA
Date analyzed: 1/29/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

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Sample ID: TW 13

Date extracted: NA
Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isophorone	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylphthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

-Continued-

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

	<u>Results</u>	<u>Method #</u>	<u>Performed by</u>
Sample ID: TW 14			
Priority Pollutant Metals:			
Antimony, mg/L	0.09	304	RS 2/2/89, 1230
Arsenic, mg/L	0.02	304	TS 1/30/89, 0900
Beryllium, mg/L	<0.01	305	SM 1/31/89, 1159
Cadmium, mg/L	0.15	305	SM 1/31/89, 1159
Chromium, mg/L	0.08	305	SM 1/31/89, 1159
Copper, mg/L	0.22	305	SM 1/31/89, 1159
Lead, mg/L	0.06	304	TS 1/30/89, 1430
Mercury, mg/L	<0.001	303	RS 1/25/89, 1230
Nickel, mg/L	0.04	305	SM 2/1/89, 0924
Selenium, mg/L	<0.01	304	TS 1/27/89, 1400
Silver, mg/L	0.01	303	RS 1/30/89, 1400
Thallium, mg/L	0.02	304	RS 2/1/89, 0830
Zinc, mg/L	0.10	305	SM 1/31/89, 1159
Cyanide, mg/L	<0.05	412 B	RC 1/30/89, 1300
Sample ID: TW 14, filtered			
Cadmium, mg/L	<0.005	305	SM 2/4/89, 1130
Chromium, mg/L	0.011	305	SM 2/4/89, 1215
Lead, mg/L	<0.005	304	TS 2/4/89, 1315

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Sample ID: TW 14

Date extracted: NA
Date analyzed: 1/29/89

EPA 624 VOLATILE COMPOUNDS

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
Chloromethane	BRL	10
Bromomethane	BRL	10
Vinyl chloride	BRL	1
Chloroethane	BRL	10
Dichloromethane	BRL	10
Trichlorofluoromethane	BRL	10
1,1-Dichloroethene	BRL	10
1,1-Dichloroethane	BRL	10
Trans-1,2-dichloroethene	BRL	10
Chloroform	BRL	10
1,2-Dichloroethane	BRL	3
1,1,1-Trichloroethane	BRL	10
Carbon tetrachloride	BRL	3
Bromodichloromethane	BRL	10
1,2-Dichloropropane	BRL	10
Cis-1,3-dichloropropene	BRL	10
Trichloroethene	BRL	3
Dibromochloromethane	BRL	10
1,1,2-Trichloroethane	BRL	10
Benzene	BRL	1
Trans-1,3-dichloropropene	BRL	10
2-Chloroethylvinylether	BRL	10
Bromoform	BRL	10
Tetrachloroethene	BRL	3
1,1,2,2-Tetrachloroethane	BRL	3
Toluene	BRL	10
Chlorobenzene	BRL	10
Ethylbenzene	BRL	10
1,2-Dichlorobenzene	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10

BRL = Below Reporting Limit

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Sample ID: TW 14

Date extracted: NA
Date analyzed: 2/2/89

EPA 625 Base-Neutral and Acid Extractable Compounds

<u>Compound Name</u>	<u>Concentration</u> <u>ppb. (ug/l)</u>	<u>Reporting Limit</u> <u>ppb. (ug/l)</u>
Phenol	BRL	10
Bis(2-chloroethyl)ether	BRL	10
2-Chlorophenol	BRL	10
1,3-Dichlorobenzene	BRL	10
1,4-Dichlorobenzene	BRL	10
Benzyl alcohol	BRL	10
1,2-Dichlorobenzene	BRL	10
2-Methylphenol	BRL	10
Bis(2-chloroisopropyl)ether	BRL	10
4-Methylphenol	BRL	10
N-Nitrosodi-n-propylamine	BRL	10
Hexachloroethane	BRL	10
Nitrobenzene	BRL	10
Isopnorne	BRL	10
2-Nitrophenol	BRL	10
2,4-Dimethylphenol	BRL	10
Benzoic acid	BRL	10
Bis(2-chloroethoxy)methane	BRL	10
2,4-Dichlorophenol	BRL	10
1,2,4-Trichlorobenzene	BRL	10
Naphthalene	BRL	10
4-Chloroaniline	BRL	10
Hexachlorobutadiene	BRL	10
4-Chloro-3-methylphenol	BRL	10
2-Methylnaphthalene	BRL	10
Hexachlorocyclopentadiene	BRL	10
2,4,6-Trichlorophenol	BRL	10
2,4,5-Trichlorophenol	BRL	10
2-Chloronaphthalene	BRL	10
2-Nitroaniline	BRL	10
Dimethylnthalate	BRL	10
Acenaphthylene	BRL	10
3-Nitroaniline	BRL	10
Acenaphthene	BRL	10
2,4-Dinitrophenol	BRL	10
4-Nitrophenol	BRL	10
Dibenzofuran	BRL	10
2,4-Dinitrotoluene	BRL	10
2,6-Dinitrotoluene	BRL	10
Diethylphthalate	BRL	10

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Sample ID: TW 14

EPA 625 Base-Neutral and Acid Extractable Compounds
(Continued)

<u>Compound Name</u>	<u>Concentration ppb. (ug/l)</u>	<u>Reporting Limit ppb. (ug/l)</u>
4-Chlorophenyl-phenylether	BRL	10
Fluorene	BRL	10
4-Nitroaniline	BRL	10
4,6-Dinitro-2-methylphenol	BRL	10
N-Nitrosodiphenylamine	BRL	10
4-Bromophenyl-phenylether	BRL	10
Hexachlorobenzene	BRL	10
Pentachlorophenol	BRL	10
Phenanthrene	BRL	10
Anthracene	BRL	10
Di-n-butylphthalate	BRL	10
Fluoroanthene	BRL	10
Pyrene	BRL	10
Benzylbutylphthalate	BRL	10
3,3'-Dichlorobenzidine	BRL	10
Benzo(a)anthracene	BRL	10
Bis(2-ethylhexyl)phthalate	BRL	10
Chrysene	BRL	10
Di-n-octylphthalate	BRL	10
Benzo(b)fluoranthene	BRL	10
Benzo(k)fluroanthene	BRL	10
Benzo(a)pyrene	BRL	10
Indeno(1,2,3-cd)pyrene	BRL	10
Dibenzo(a,h)anthracene	BRL	10
Benzo(g,h,i)perylene	BRL	10

BRL = Below Reporting Limit

Metals Q.A. Data

<u>Parameter</u>	<u>Mdl</u>	<u>Blank</u>	<u>Orig</u>	<u>Dup</u>	<u>Rpd %</u>	<u>Amount Spiked</u>	<u>Spike Recovery %</u>
Antimony	0.01	<0.01	<0.01	<0.01	0	0.20	75
Antimony	0.01	<0.01	<0.01	<0.01	0	0.10	83
Arsenic	0.01	<0.01	<0.01	<0.01	0	0.05	126
Arsenic	0.01	<0.01	<0.01	<0.01	0	0.05	127
Beryllium	0.01	<0.01	<0.01	<0.01	0	1.00	91
Beryllium	0.01	<0.01	<0.01	<0.01	0	1.00	91
Cadmium	0.01	<0.01	0.01	0.01	0	1.0	81
Cadmium	0.01	<0.01	0.02	0.02	0	1.0	77
Chromium	0.01	<0.01	0.03	0.03	0	1.0	88
Chromium	0.01	<0.01	0.04	0.04	0	1.0	84
Copper	0.01	<0.01	0.01	<0.01	0	1.0	85
Copper	0.01	<0.01	0.01	<0.01	0	1.0	88
Lead	0.01	<0.01	<0.01	<0.01	0	0.05	98
Lead	0.01	<0.01	<0.01	<0.01	0	0.05	102
Mercury	0.001	<0.001	<0.001	<0.001	0	0.010	80
Mercury	0.001	<0.001	<0.001	<0.001	0	0.010	80
Nickel	0.01	<0.01	<0.01	<0.01	0	0.50	96
Nickel	0.01	<0.01	<0.01	<0.01	0	1.0	84
Selenium	<0.01	<0.01	<0.01	<0.01	0	0.05	88
Selenium	<0.01	<0.01	<0.01	<0.01	0	0.05	88
Silver	0.01	<0.01	<0.01	<0.01	0	0.40	103
Silver	0.01	<0.01	<0.01	<0.01	0	0.40	100
Thallium	0.01	<0.01	0.01	0.01	0	0.05	80
Thallium	0.01	<0.01	0.01	0.01	0	0.20	93
Zinc	0.01	<0.01	0.05	0.07	33.3	1.0	80
Zinc	0.01	<0.01	0.06	0.04	40	1.0	77
Cyanide	0.05	<0.05	<0.05	<0.05	0	0.25	104
Cyanide	0.05	<0.05	<0.05	<0.05	0	0.25	101

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

CHAIN OF CUSTODY RECORD

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