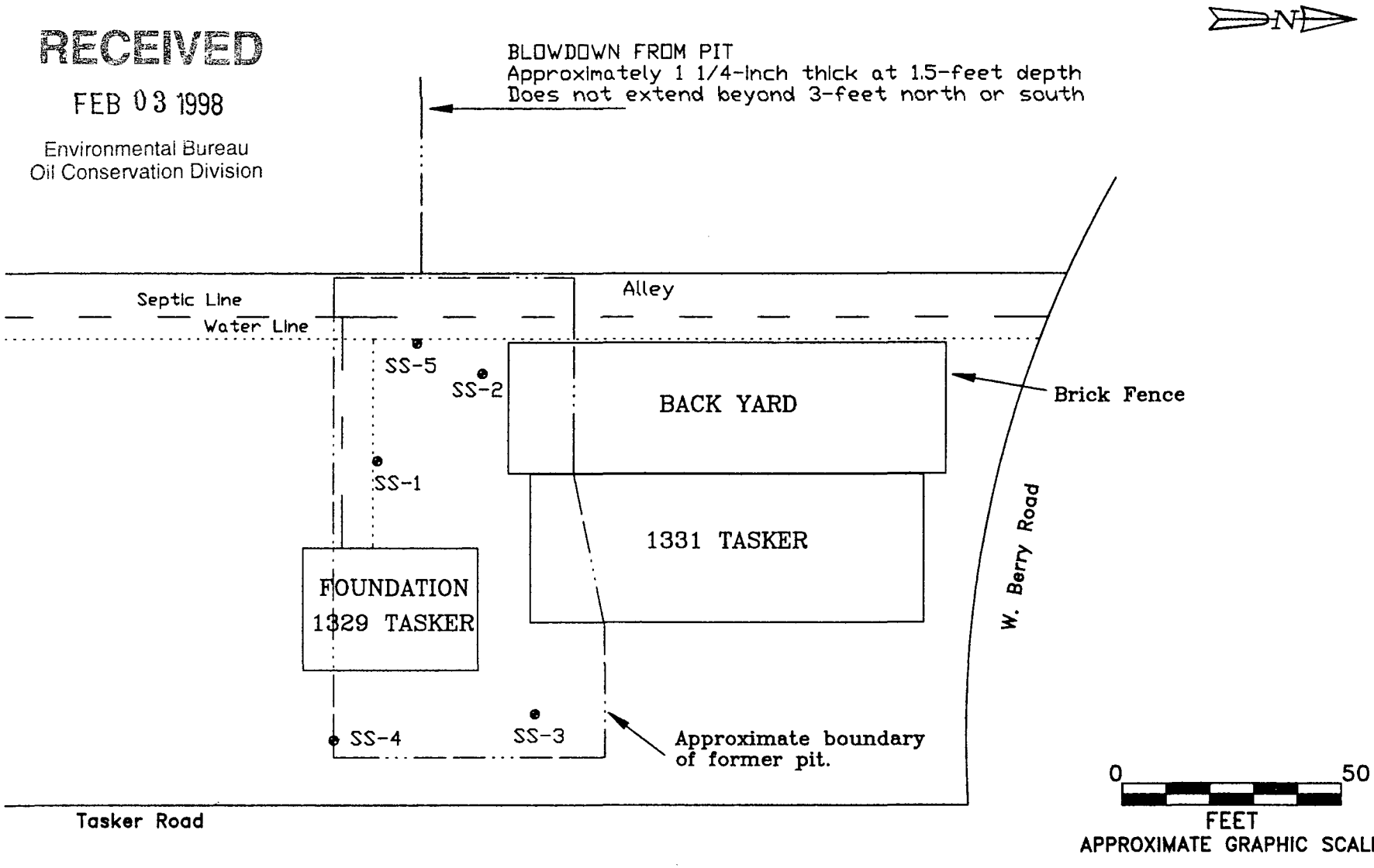
AP - 002

ANNUAL MONITORING REPORT

YEAR(S):
1998



PHILIP SERVICES CORP

TITLE:
SEPTCO HOBBS TASKER ROAD
Hobbs, New Mexico
Sample Locations

DWN: koa	DES.: jwk
CHKD: seh	APPD:
DATE: Jan 1998	REV.: 1

PROJECT NO.: 18906
SEPTCO TASKER ROAD
Hobbs, NM

FIGURE

C:\PROJECTS\18906\18906-5.DWG
ko

PAHs: total naphthalene plus monomethylnaphthalenes	0.03 mg/l
benzo-a-pyrene	0.0007 mg/l

[2-18-77, 1-29-82, 3-3-86, 12-1-95]

B. Other Standards for Domestic Water Supply

Chloride (Cl)	250.0 mg/l
Copper (Cu)	1.0 mg/l
Iron (Fe)	1.0 mg/l
Manganese (Mn)	0.2 mg/l
Phenols	0.005 mg/l
Sulfate (SO_4)	600.0 mg/l
Total Dissolved Solids (TDS)	1000.0 mg/l
Zinc (Zn)	10.0 mg/l
pH	between 6 and 9

[2-18-77]

C. Standards for Irrigation Use - Ground water shall meet the standards of Subsection A, B, and C unless otherwise provided.

Aluminum (Al)	5.0 mg/l
Boron (B)	0.75 mg/l
Cobalt (Co)	0.05 mg/l
Molybdenum (Mo)	1.0 mg/l
Nickel (Ni)	0.2 mg/l

[2-18-77]

3104. **DISCHARGE PLAN REQUIRED.**

Unless otherwise provided by this Part, no person shall cause or allow effluent or leachate to discharge so that it may move directly of indirectly into ground water unless he is discharging pursuant to a discharge plan approved by the secretary. When a plan has been approved, discharges must be consistent with the terms and conditions of the plan. In the event of a transfer of the ownership, control, or possession of a facility for which an approved discharge plan is in effect, the transferee shall have authority to discharge under such plan, provided that the transferee has complied with Section 3111 of this Part, regarding transfers. [2-18-77, 12-24-87, 12-1-95]

3105. **EXEMPTIONS FROM DISCHARGE PLAN REQUIREMENT.**

Sections 3104 and 3106 of this Part do not apply to the following: [2-18-77]

A. Effluent or leachate which conforms to all the listed numerical standards of Section 3103 and has a total nitrogen concentration of 10 mg/l or less, and does not contain any toxic pollutant. To determine conformance, samples may be taken by the

contaminants specified with a definition of dissolved being that given in the publication "Methods for Chemical Analysis of Water and Waste of the U.S. Environmental Protection Agency," with the exception that standards for mercury, organic compounds and non-aqueous phase liquids shall apply to the total unfiltered concentrations of the contaminants. [2-18-77, 11-17-83, 3-3-86, 12-1-95]

A. Human Health Standards-Ground water shall meet the standards of Subsection A and B unless otherwise provided. If more than one water contaminant affecting human health is present, the toxic pollutant criteria as set forth in the definition of toxic pollutant in Section 1101 for the combination of contaminants, or the Human Health Standard of Section 3103.A. for each contaminant shall apply, whichever is more stringent.

Non-aqueous phase liquid shall not be present floating atop of or immersed within ground water, as can be reasonably measured.

15 Arsenic (As)	0.1 mg/l
15 Barium (Ba)	1.0 mg/l
15 Cadmium (Cd)	0.01 mg/l
15 Chromium (Cr)	0.05 mg/l
50 Cyanide (CN)	0.2 mg/l
20 Fluoride (F)	1.6 mg/l
15 Lead (Pb)	0.05 mg/l
15 Total Mercury (Hg)	0.002 mg/l
15 Nitrate (NO_3 as N)	10.0 mg/l
15 Selenium (Se)	0.05 mg/l
15 Silver (Ag)	0.05 mg/l
15 Uranium (U)	5.0 mg/l
200 Radioactivity: Combined Radium-226 & Radium-228	30.0 pCi/l
Benzene	0.01 mg/l
Polychlorinated biphenyls (PCB's)	0.001 mg/l
Toluene	0.75 mg/l
Carbon Tetrachloride	0.01 mg/l
1,2-dichloroethane (EDC)	0.01 mg/l
1,1-dichloroethylene (1,1-DCE)	0.005 mg/l
1,1,2,2-tetrachloroethylene (PCE)	0.02 mg/l
1,1,2-trichloroethylene (TCE)	0.1 mg/l
ethylbenzene	0.75 mg/l
total xylenes	0.62 mg/l
methylene chloride	0.1 mg/l
chloroform	0.1 mg/l
1,1-dichloroethane	0.025 mg/l
ethylene dibromide (EDB)	0.0001 mg/l
1,1,1-trichloroethane	0.06 mg/l
1,1,2-trichloroethane	0.01 mg/l
1,1,2,2-tetrachloroethane	0.01 mg/l
vinyl chloride	0.001 mg/l

abatement plan" means a change in the abatement technology used excluding design and operational parameters, or re-location of 25% or more of the compliance sampling stations, for any single medium, as designated pursuant to Section 4106.E.4 of this Part; [12-1-95]

RR. "subsurface water" means ground water and water in the vadose zone that may become ground water or surface water in the reasonably foreseeable future or may be utilized by vegetation; [12-1-95]

SS. "TDS" means total dissolved solids as determined by the "calculation method" (sum of constituents), by the "residue on evaporation method at 180°" of the "U.S. Geological Survey Techniques of Water Resource Investigations," or by conductivity, as the secretary may determine; [2-18-77, 12-1-95]

TT. "toxic pollutant" means a water contaminant or combination of water contaminants in concentration(s) which, upon exposure, ingestion, or assimilation either directly from the environment or indirectly by ingestion through food chains, will unreasonably threaten to injure human health, or the health of animals or plants which are commonly hatched, bred, cultivated or protected for use by man for food or economic benefit. As used in this definition injuries to health include death, histopathologic change, clinical symptoms of disease, behavioral abnormalities, genetic mutation, physiological malfunctions or physical deformations in such organisms or their offspring. In order to be considered a toxic pollutant a contaminant must be one or a combination of the potential toxic pollutants listed below and be at a concentration shown by scientific information currently available to the public to have potential for causing one or more of the effects listed above.

Any water contaminant or combination of the water contaminants in the list below creating a lifetime risk of more than one cancer per 100,000 exposed persons is a toxic pollutant.

- acrolein
- acrylonitrile
- aldrin
- benzene
- benzidine
- carbon tetrachloride
- chlordane
- chlorinated benzenes
  - monochlorobenzene
  - hexachlorobenzene
  - pentachlorobenzene
  - 1,2,4,5-tetrachlorobenzene
- chlorinated ethanes
  - 1,2-dichloroethane

pentachlorophenol
phenol
phthalate esters
dibutyl phthalate
di-2-ethylhexyl phthalate
diethyl phthalate
dimethyl phthalate
polychlorinated biphenyls (PCB's)
polynuclear aromatic hydrocarbons (PAH)
anthracene
3,4-benzofluoranthene
benzo (k) fluoranthene
fluoranthene
fluorene
phenanthrene
pyrene
tetrachloroethylene
toluene
toxaphene
trichloroethylene
vinyl chloride
xylenes
o-xylene
m-xylene
p-xylene

1,1-dichloroethane
ethylene dibromide (EDB)
cis-1,2-dichloroethylene
trans-1,2-dichloroethylene
naphthalene
1-methylnaphthalene
2-methylnaphthalene
benzo-a-pyrene
[2-18-77, 6-26-80, 7-2-81, 1-29-82, 3-3-86]

UU. "vadose zone" means earth material below the land surface and above ground water, or in between bodies of ground water; [12-1-95]

VV. "wastes" means sewage, industrial wastes, or any other liquid, gaseous or solid substance which will pollute any waters of the state; [1-4-68]

WW. "water" means all water including water situated wholly or partly within or bordering upon the state, whether surface or subsurface, public or private, except private waters that do not combine with other surface or subsurface water; [9-3-72]

XX. "water contaminant" means any substance that could

hexachloroethane
1,1,2,2-tetrachloroethane
1,1,1-trichloroethane
1,1,2-trichloroethane
chlorinated phenols
2,4-dichlorophenol
2,4,5-trichlorophenol
2,4,6-trichlorophenol
chloroalkyl ethers
bis (2-chloroethyl) ether
bis (2-chloroisopropyl) ether
bis (chloromethyl) ether
chloroform
DDT
dichlorobenzene
dichlorobenzidine
1,1-dichloroethylene
dichloropropenes
dieldrin
2,4-dinitrotoluene
diphenylhydrazine
endosulfan
endrin
ethylbenzene
halomethanes
bromodichloromethane
bromomethane
chloromethane
dichlorodifluoromethane
dichloromethane
tribromomethane
trichlorofluoromethane
heptachlor
hexachlorobutadiene
hexachlorocyclohexane (HCH)
alpha-HCH
beta-HCH
gamma-HCH
technical HCH
hexachlorocyclopentadiene
isophorone
nitrobenzene
nitrophenols
2,4-dinitro-o-cresol
dinitrophenols
nitrosamines
N-nitrosodiethylamine
N-nitrosodimethylamine
N-nitrosodibutylamine
N-nitrosodiphenylamine
N-nitrosopyrrolidine

PHILIP SERVICES CORP.

RECEIVED
FEB 03 1998
Environmental Bureau
Oil Conservation Division

DATE: 1/9/98 **PAGES (including cover):** 6

TO: Blair

COMPANY:

FAX #: 806 794-1298 **PHONE #:**

FROM:

SHARON HALL, OPERATIONS MANAGER
7904 INTERSTATE 20 WEST, MIDLAND, TX 79706
TELEPHONE:(915) 563-0118 FAX (915) 563-9526

MESSAGE:

Blair, the analytes listed in the following pages are what I need a price for. Also, if you could give me an estimate of time it would take to run 56 soil samples. I'll need turn-around as fast as I can get it. Thanks!

Sharon

162
75
15
420
350
350

Est. 1372/sample

PHILIP ENVIRONMENTAL

Chain of Custody Record — Nonchemical Samples

210 West Sand Bank Road
P.O. Box 230
Columbia, IL 62236-0230

(618) 281-7173 Phone
(618) 281-5120 FAX

COC Serial No. G 3559

Project Name Shell Hobbs
Project Number 18906 Phase . Task 1001 . 77
Samplers Kindley

Lab Name Trace Analysis
Location Lubbock

418.1 TPH | * | Analysis Type

Sample Number	Date	Time	Matrix	TPH	*				Comments
SS-1 2-3'	1/20/98	10:45	Soil	✓	✓	89559			1 liter & 1 4 oz *
SS-1 5'	1/20/98	11:13	Soil	✓	✓		60		
SS-2 2-3'	1/20/98	11:49	Soil	✓	✓		61		*
SS-2 6'	1/20/98	12:00	Soil	✓	✓		62		
SS-3 2-3'	1/20/98	12:22	Soil	✓	✓		63		*
SS-3 5.5'	1/20/98	12:35	Soil	✓	✓		64		
SS-4 1'	1/20/98	13:48	Soil	✓	✓		65		
SS-4 5'	1/20/98	13:54	Soil	✓	✓		66		
SS-5 2'	1/20/98	14:35	Soil	✓	✓		67		*
SS-5 5'	1/20/98	14:42	Soil	✓	✓		68		

* Black, tarry, high TPH

Relinquished by:

Signature	Date	Time
Jeffrey Kindley	01/20/98	1545

Received By:

Signature	Date	Time
Vicki Windham	1-21-98	

Carrier: UPS
Airbill No. UPS N141 1279 04 9

Shipping and Lab Notes:
* See attached list of analytes for analysis | Rush!! Must have organics & metals by 1/23

PE-211 (4/95)

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT Phillip Environmental
210 West Sand Bank Rd.
P.O. Box 230
Columbia, IL 62236-0230

SAMPLE NO.: 89559
INVOICE NO.: 22101555
REPORT DATE: 01-30-98
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : SS-1 2-3'
SAMPLE TYPE .....: Soil
SAMPLED BY .....: J. Kindley
SUBMITTED BY ....: V. Windham
SAMPLE SOURCE ...: 18906
ANALYST .....: K. Costa

AUTHORIZED BY : J. Kindley
CLIENT P.O. : --
SAMPLE DATE ...: 01-20-98
SUBMITTAL DATE : 01-22-98
EXTRACTION DATE: 01-23-98
ANALYSIS DATE .: 01-23-98

REMARKS -

Detection limits raised because sample was analyzed diluted in order to minimize matrix interferences.
No surrogate recoveries due to dilutions.

Method 8081A- Pesticides

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
4,4'-DDD	<165.	ug/Kg	165.
4,4'-DDE	<170.	ug/Kg	170.
4,4'-DDT	<220.	ug/Kg	220.
Aldrin	<355.	ug/Kg	355.
alpha-BHC	<180.	ug/Kg	180.
beta-BHC	<270.	ug/Kg	270.
delta-BHC	<200.	ug/Kg	200.
Chlordane	<3830.	ug/Kg	3830.
Dieldrin	<95.	ug/Kg	95.
Endosulfan I	<200.	ug/Kg	200.
Endosulfan II	<210.	ug/Kg	210.
Endosulfan sulfate	<280.	ug/Kg	280.
Endrin	<120.	ug/Kg	120.
Endrin aldehyde	<380.	ug/Kg	380.
Heptachlor	<260.	ug/Kg	260.
Heptachlor Epoxide	<190.	ug/Kg	190.
Lindane	<170.	ug/Kg	170.
Methoxychlor	<1720.	ug/Kg	1720.
Toxaphene	<3010.	ug/Kg	3010.

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ANALYTICAL REPORT

CLIENT Phillip Environmental
210 West Sand Bank Rd.
P.O. Box 230
Columbia, IL 62236-0230

SAMPLE NO. : 89560
INVOICE NO.: 22101555
REPORT DATE: 01-30-98
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : SS-1 5'
SAMPLE TYPE .....: Soil
SAMPLED BY .....: J. Kindley
SUBMITTED BY ....: V. Windham
SAMPLE SOURCE ...: 18906
ANALYST .....: K. Costa

AUTHORIZED BY : J. Kindley
CLIENT P.O. : --
SAMPLE DATE ...: 01-20-98
SUBMITTAL DATE : 01-22-98
EXTRACTION DATE: 01-23-98
ANALYSIS DATE .: 01-26-98

REMARKS -

Detection limits raised because sample was analyzed diluted in order to minimize matrix interferences.
No surrogate recoveries due to dilutions.

Method 8081A- Pesticides

DATA TABLE

Parameter	Result	Unit	Detection Limit
4,4'-DDD	<140.	ug/Kg	140.
4,4'-DDE	<140.	ug/Kg	140.
4,4'-DDT	<185.	ug/Kg	185.
Aldrin	<300.	ug/Kg	300.
alpha-BHC	<150.	ug/Kg	150.
beta-BHC	<225.	ug/Kg	225.
delta-BHC	<165.	ug/Kg	165.
Chlordane	<3180.	ug/Kg	3180.
Dieldrin	<80.	ug/Kg	80.
Endosulfan I	<165.	ug/Kg	165.
Endosulfan II	<175.	ug/Kg	175.
Endosulfan sulfate	<230.	ug/Kg	230.
Endrin	<100.	ug/Kg	100.
Endrin aldehyde	<315.	ug/Kg	315.
Heptachlor	<220.	ug/Kg	220.
Heptachlor Epoxide	<160.	ug/Kg	160.
Lindane	<140.	ug/Kg	140.
Methoxychlor	<1430.	ug/Kg	1430.
Toxaphene	<2510.	ug/Kg	2510.

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ANALYTICAL REPORT

CLIENT Phillip Environmental
210 West Sand Bank Rd.
P.O. Box 230
Columbia, IL 62236-0230

SAMPLE NO. : 89561
INVOICE NO.: 22101555
REPORT DATE: 01-30-98
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : SS-2 2-3'
SAMPLE TYPE .....: Soil
SAMPLED BY .....: J. Kindley
SUBMITTED BY ....: V. Windham
SAMPLE SOURCE ...: 18906
ANALYST .....: K. Costa

AUTHORIZED BY : J. Kindley
CLIENT P.O. : --
SAMPLE DATE ...: 01-20-98
SUBMITTAL DATE : 01-22-98
EXTRACTION DATE: 01-23-98
ANALYSIS DATE .: 01-26-98

REMARKS -

Detection limits raised because sample was analyzed diluted in order to minimize matrix interferences.
No surrogate recoveries due to dilutions.

Method 8081A- Pesticides

DATA TABLE

Parameter	Result	Unit	Detection Limit
4,4'-DDD	<165.	ug/Kg	165.
4,4'-DDE	<170.	ug/Kg	170.
4,4'-DDT	<220.	ug/Kg	220.
Aldrin	<355.	ug/Kg	355.
alpha-BHC	<180.	ug/Kg	180.
beta-BHC	<270.	ug/Kg	270.
delta-BHC	<200.	ug/Kg	200.
Chlordane	<3830.	ug/Kg	3830.
Dieldrin	<95.	ug/Kg	95.
Endosulfan I	<200.	ug/Kg	200.
Endosulfan II	<210.	ug/Kg	210.
Endosulfan sulfate	<280.	ug/Kg	280.
Endrin	<120.	ug/Kg	120.
Endrin aldehyde	<380.	ug/Kg	380.
Heptachlor	<260.	ug/Kg	260.
Heptachlor Epoxide	<190.	ug/Kg	190.
Lindane	<170.	ug/Kg	170.
Methoxychlor	<1720.	ug/Kg	1720.
Toxaphene	<3010.	ug/Kg	3010.

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E-Mail: lab@traceanalysis.com

CLIENT Phillip Environmental
210 West Sand Bank Rd.
P.O. Box 230
Columbia, IL 62236-0230

SAMPLE NO. : 89562
INVOICE NO.: 22101555
REPORT DATE: 01-30-98
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : SS-2 6'
SAMPLE TYPE .....: Soil
SAMPLED BY .....: J. Kindley
SUBMITTED BY ....: V. Windham
SAMPLE SOURCE ...: 18906
ANALYST .....: K. Costa

AUTHORIZED BY : J. Kindley
CLIENT P.O. : --
SAMPLE DATE ...: 01-20-98
SUBMITTAL DATE : 01-22-98
EXTRACTION DATE: 01-23-98
ANALYSIS DATE .: 01-26-98

REMARKS -

Detection limits raised because sample was analyzed diluted in order to minimize matrix interferneces.
No surrogate recoveries due to dilutions.

Method 8081A- Pesticides

DATA TABLE

Parameter	Result	Unit	Detection Limit
4,4'-DDD	<140.	ug/Kg	140.
4,4'-DDE	<140.	ug/Kg	140.
4,4'-DDT	<185.	ug/Kg	185.
Aldrin	<300.	ug/Kg	300.
alpha-BHC	<150.	ug/Kg	150.
beta-BHC	<225.	ug/Kg	225.
delta-BHC	<165.	ug/Kg	165.
Chlordane	<3180.	ug/Kg	3180.
Dieldrin	<80.	ug/Kg	80.
Endosulfan I	<165.	ug/Kg	165.
Endosulfan II	<175.	ug/Kg	175.
Endosulfan sulfate	<230.	ug/Kg	230.
Endrin	<100.	ug/Kg	100.
Endrin aldehyde	<315.	ug/Kg	315.
Heptachlor	<220.	ug/Kg	220.
Heptachlor Epoxide	<160.	ug/Kg	160.
Lindane	<140.	ug/Kg	140.
Methoxychlor	<1430.	ug/Kg	1430.
Toxaphene	<2510.	ug/Kg	2510.

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT Philip Environmental
210 West Sand Bank Rd.
P.O. Box 230
Columbia, IL 62236-0230

SAMPLE NO. : 89563
INVOICE NO.: 22101555
REPORT DATE: 01-30-98
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : SS-3 2-3'
SAMPLE TYPE .....: Soil
SAMPLED BY .....: J. Kindley
SUBMITTED BY ....: V. Windham
SAMPLE SOURCE ...: 18906
ANALYST .....: K. Costa

AUTHORIZED BY : J. Kindley
CLIENT P.O. : --
SAMPLE DATE ...: 01-20-98
SUBMITTAL DATE : 01-22-98
EXTRACTION DATE: 01-23-98
ANALYSIS DATE .: 01-26-98

REMARKS -

Detection limits raised because sample was analyzed diluted in order to minimize matrix interferences.
No surrogate recoveries due to dilutions.

Method 8081A- Pesticides

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
4,4'-DDD	<205.	ug/Kg	205.
4,4'-DDE	<210.	ug/Kg	210.
4,4'-DDT	<275.	ug/Kg	275.
Aldrin	<440.	ug/Kg	440.
alpha-BHC	<220.	ug/Kg	220.
beta-BHC	<335.	ug/Kg	335.
delta-BHC	<245.	ug/Kg	245.
Chlordane	<4780.	ug/Kg	4780.
Dieldrin	<115.	ug/Kg	115.
Endosulfan I	<245.	ug/Kg	245.
Endosulfan II	<260.	ug/Kg	260.
Endosulfan sulfate	<345.	ug/Kg	345.
Endrin	<150.	ug/Kg	150.
Endrin aldehyde	<470.	ug/Kg	470.
Heptachlor	<325.	ug/Kg	325.
Heptachlor Epoxide	<235.	ug/Kg	235.
Lindane	<210.	ug/Kg	210.
Methoxychlor	<2140.	ug/Kg	2140.
Toxaphene	<3765.	ug/Kg	3765.

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TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT Philip Environmental
210 West Sand Bank Rd.
P.O. Box 230
Columbia, IL 62236-0230

SAMPLE NO. : 89564
INVOICE NO.: 22101555
REPORT DATE: 01-30-98
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : SS-3 5.5'
SAMPLE TYPE .....: Soil
SAMPLED BY .....: J. Kindley
SUBMITTED BY ....: V. Windham
SAMPLE SOURCE ...: 18906
ANALYST .....: K. Costa

AUTHORIZED BY : J. Kindley
CLIENT P.O. : --
SAMPLE DATE ...: 01-20-98
SUBMITTAL DATE : 01-22-98
EXTRACTION DATE: 01-23-98
ANALYSIS DATE .: 01-26-98

REMARKS -

Detection limits raised because sample was analyzed diluted in order to minimize matrix interferences.
No surrogate recoveries due to dilutions.

Method 8081A- Pesticides

DATA TABLE

Parameter	Result	Unit	Detection Limit
4,4'-DDD	<140.	ug/Kg	140.
4,4'-DDE	<140.	ug/Kg	140.
4,4'-DDT	<185.	ug/Kg	185.
Aldrin	<300.	ug/Kg	300.
alpha-BHC	<150.	ug/Kg	150.
beta-BHC	<225.	ug/Kg	225.
delta-BHC	<165.	ug/Kg	165.
Chlordane	<3180.	ug/Kg	3180.
Dieldrin	<80.	ug/Kg	80.
Endosulfan I	<165.	ug/Kg	165.
Endosulfan II	<175.	ug/Kg	175.
Endosulfan sulfate	<230.	ug/Kg	230.
Endrin	<100.	ug/Kg	100.
Endrin aldehyde	<315.	ug/Kg	315.
Heptachlor	<220.	ug/Kg	220.
Heptachlor Epoxide	<160.	ug/Kg	160.
Lindane	<140.	ug/Kg	140.
Methoxychlor	<1430.	ug/Kg	1430.
Toxaphene	<2510.	ug/Kg	2510.

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MANAGING DIRECTOR

TRACE ANALYSIS, INC.

ANALYTICAL REPORT

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

CLIENT Philip Envirnmental
210 West Sand Bank Rd.
P.O. Box 230
Columbia, IL 62236-0230

SAMPLE NO. : 89565
INVOICE NO.: 22101555
REPORT DATE: 01-30-98
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : SS-4 1'
SAMPLE TYPE .....: Soil
SAMPLED BY .....: J. Kindley
SUBMITTED BY ....: V. Windham
SAMPLE SOURCE ...: 18906
ANALYST .....: K. Costa

AUTHORIZED BY : J. Kindley
CLIENT P.O. : --
SAMPLE DATE ...: 01-20-98
SUBMITTAL DATE : 01-22-98
EXTRACTION DATE: 01-23-98
ANALYSIS DATE .: 01-26-98

REMARKS -

Detection limits raised because sample was analyzed diluted in order to minimize matrix interferences.
No surrogate recoveries due to dilutions.

Method 8081A- Pesticides

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
4,4'-DDD	<205.	ug/Kg	205.
4,4'-DDE	<210.	ug/Kg	210.
4,4'-DDT	<275.	ug/Kg	275.
Aldrin	<440.	ug/Kg	440.
alpha-BHC	<220.	ug/Kg	220.
beta-BHC	<335.	ug/Kg	335.
delta-BHC	<245.	ug/Kg	245.
Chlordane	<4780.	ug/Kg	4780.
Dieldrin	<115.	ug/Kg	115.
Endosulfan I	<245.	ug/Kg	245.
Endosulfan II	<260.	ug/Kg	260.
Endosulfan sulfate	<345.	ug/Kg	345.
Endrin	<150.	ug/Kg	150.
Endrin aldehyde	<470.	ug/Kg	470.
Heptachlor	<325.	ug/Kg	325.
Heptachlor Epoxide	<235.	ug/Kg	235.
Lindane	<210.	ug/Kg	210.
Methoxychlor	<2140.	ug/Kg	2140.
Toxaphene	<3765.	ug/Kg	3765.

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT Philip Environmental
210 West Sand Bank Rd.
P.O. Box 230
Columbia, IL 62236-0230

SAMPLE NO. : 89566
INVOICE NO.: 22101555
REPORT DATE: 01-30-98
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : SS-4 5'
SAMPLE TYPE .....: Soil
SAMPLED BY .....: J. Kindley
SUBMITTED BY ....: V. Windham
SAMPLE SOURCE ...: 18906
ANALYST .....: K. Costa

AUTHORIZED BY : J. Kindley
CLIENT P.O. : --
SAMPLE DATE ...: 01-20-98
SUBMITTAL DATE : 01-22-98
EXTRACTION DATE: 01-23-98
ANALYSIS DATE .: 01-26-98

REMARKS -

Detection limits raised because sample was analyzed diluted in order to minimize matrix interferences.
No surrogate or spike recoveries due to dilutions.

Method 8081A- Pesticides

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
4,4'-DDD	<205.	ug/Kg	205.
4,4'-DDE	<210.	ug/Kg	210.
4,4'-DDT	<275.	ug/Kg	275.
Aldrin	<440.	ug/Kg	440.
alpha-BHC	<220.	ug/Kg	220.
beta-BHC	<335.	ug/Kg	335.
delta-BHC	<245.	ug/Kg	245.
Chlordane	<4780.	ug/Kg	4780.
Dieldrin	<115.	ug/Kg	115.
Endosulfan I	<245.	ug/Kg	245.
Endosulfan II	<260.	ug/Kg	260.
Endosulfan sulfate	<345.	ug/Kg	345.
Endrin	<150.	ug/Kg	150.
Endrin aldehyde	<470.	ug/Kg	470.
Heptachlor	<325.	ug/Kg	325.
Heptachlor Epoxide	<235.	ug/Kg	235.
Lindane	<210.	ug/Kg	210.
Methoxychlor	<2140.	ug/Kg	2140.
Toxaphene	<11400.	ug/Kg	11400.

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT Philip Envirnmental
210 West Sand Bank Rd.
P.O. Box 230
Columbia, IL 62236-0230

SAMPLE NO. : 89567
INVOICE NO.: 22101555
REPORT DATE: 01-30-98
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : SS-5 2'
SAMPLE TYPE .....: Soil
SAMPLED BY .....: J. Kindley
SUBMITTED BY ....: V. Windham
SAMPLE SOURCE ...: 18906
ANALYST .....: K. Costa

AUTHORIZED BY : J. Kindley
CLIENT P.O. : --
SAMPLE DATE ...: 01-20-98
SUBMITTAL DATE : 01-22-98
EXTRACTION DATE: 01-23-98
ANALYSIS DATE .: 01-26-98

REMARKS -

Detection limits raised because sample was analyzed diluted in order to minimize matrix interferences.
No surrogate recoveries due to dilutions.

Method 8081A- Pesticides

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
4,4'-DDD	<165.	ug/Kg	165.
4,4'-DDE	<170.	ug/Kg	170.
4,4'-DDT	<220.	ug/Kg	220.
Aldrin	<355.	ug/Kg	355.
alpha-BHC	<180.	ug/Kg	180.
beta-BHC	<270.	ug/Kg	270.
delta-BHC	<200.	ug/Kg	200.
Chlordane	<3830.	ug/Kg	3830.
Dieldrin	<95.	ug/Kg	95.
Endosulfan I	<200.	ug/Kg	200.
Endosulfan II	<210.	ug/Kg	210.
Endosulfan sulfate	<280.	ug/Kg	280.
Endrin	<120.	ug/Kg	120.
Endrin aldehyde	<380.	ug/Kg	380.
Heptachlor	<260.	ug/Kg	260.
Heptachlor Epoxide	<190.	ug/Kg	190.
Lindane	<170.	ug/Kg	170.
Methoxychlor	<1720.	ug/Kg	1720.
Toxaphene	<3010.	ug/Kg	3010.

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT Philip Environmental
210 West Sand Bank Rd.
P.O. Box 230
Columbia, IL 62236-0230

SAMPLE NO. : 89568
INVOICE NO.: 22101555
REPORT DATE: 01-30-98
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : SS-5 5'
SAMPLE TYPE .....: Soil
SAMPLED BY .....: J. Kindley
SUBMITTED BY ....: V. Windham
SAMPLE SOURCE ...: 18906
ANALYST .....: K. Costa

AUTHORIZED BY : J. Kindley
CLIENT P.O. : --
SAMPLE DATE ...: 01-20-98
SUBMITTAL DATE : 01-22-98
EXTRACTION DATE: 01-23-98
ANALYSIS DATE .: 01-26-98

REMARKS -

Detection limits raised because sample was analyzed diluted in order to minimize matrix interferences.
No surrogate recoveries due to dilutions.

Method 8081A- Pesticides

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
4,4'-DDD	<140.	ug/Kg	140.
4,4'-DDE	<140.	ug/Kg	140.
4,4'-DDT	<185.	ug/Kg	185.
Aldrin	<300.	ug/Kg	300.
alpha-BHC	<150.	ug/Kg	150.
beta-BHC	<225.	ug/Kg	225.
delta-BHC	<165.	ug/Kg	165.
Chlordane	<3180.	ug/Kg	3180.
Dieldrin	<80.	ug/Kg	80.
Endosulfan I	<165.	ug/Kg	165.
Endosulfan II	<175.	ug/Kg	175.
Endosulfan sulfate	<230.	ug/Kg	230.
Endrin	<100.	ug/Kg	100.
Endrin aldehyde	<315.	ug/Kg	315.
Heptachlor	<220.	ug/Kg	220.
Heptachlor Epoxide	<160.	ug/Kg	160.
Lindane	<140.	ug/Kg	140.
Methoxychlor	<1430.	ug/Kg	1430.
Toxaphene	<2510.	ug/Kg	2510.

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
PHILIP SERVICES CORPORATION
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

January 27, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906-1001.77
Project Location: Shell Hobbs
COC# G 3559

Prep Date: 01/21/98
Analysis Date: 01/22/98
Sampling Date: 01/20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Shell Hobbs

TA#	FIELD CODE	TOTAL U (mg/kg)	TOTAL Hg (mg/kg)
T89559	SS-1 2-3'	<2.0	<0.25
T89560	SS-1 5'	<2.0	<0.25
T89561	SS-2 2-3'	<2.0	<0.25
T89562	SS-2 6'	<2.0	<0.25
T89563	SS-3 2-3'	<2.0	<0.25
T89564	SS-3 5.5'	<2.0	<0.25
T89565	SS-4 1'	<2.0	<0.25
T89566	SS-4 5'	<2.0	<0.25
T89567	SS-5 2'	<2.0	<0.25
T89568	SS-5 5'	<2.0	<0.25
ICV		4.7	5.1
CCV		5.1	4.9
REPORTING LIMIT		2.0	0.25
RPD		9	13
% Extraction Accuracy		99	90
% Instrument Accuracy		98	100

METHODS: EPA SW 846-3051, 6010B, 7471.
CHEMIST: TOTAL U: RR TOTAL Hg: HC
TOTAL U SPIKE: 200 mg/kg TOTAL U.
TOTAL U CV: 5.0 mg/L TOTAL U.
TOTAL Hg SPIKE: 2.5 mg/kg TOTAL Hg
TOTAL Hg CV: 5.0 mg/L TOTAL Hg

Director, Dr. Blair Leftwich

1-27-98
DATE

TRACE ANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
PHILIP SERVICES CORPORATION
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

January 26, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906-1001.77
Project Location: Shell Hobbs
COC# G 3559

Prep Date: 01/23/98
Analysis Date: 01/23/98
Sampling Date: 01/20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Shell Hobbs

TA#	FIELD CODE	TOTAL PCB (mg/kg)
T89561	SS-2 2-3'	<2.5
T89567	SS-5 2'	<2.5
QC	Quality Control	0.37
REPORTING LIMIT		2.5
RPD		1
% Extraction Accuracy		88
% Instrument Accuracy		93

METHODS: EPA SW 846-3550, 8080
CHEMIST: MB
TOTAL PCB SPIKE: 0.5 mg/kg TOTAL PCB.
TOTAL PCB QC: 0.5 mg/L TOTAL PCB.

Director, Dr. Blair Leftwich

1-26-98
DATE

TRACE ANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
PHILIP SERVICES CORPORATION
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

January 26, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906-1001.77
Project Location: Shell Hobbs
COC# G 3559

Prep Date: 01/23/98
Analysis Date: 01/23/98
Sampling Date: 01/20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Shell Hobbs

TA#	FIELD CODE	TOTAL PCB (mg/kg)
T89559	SS-1 2-3'	<5.5
T89563	SS-3 2-3'	<5.5
QC	Quality Control	0.37
REPORTING LIMIT		5.5
RPD		1
% Extraction Accuracy		88
% Instrument Accuracy		93

METHODS: EPA SW 846-3550, 8080
CHEMIST: MB
TOTAL PCB SPIKE: 0.5 mg/kg TOTAL PCB.
TOTAL PCB QC: 0.5 mg/L TOTAL PCB.

BL

Director, Dr. Blair Leftwich

1-26-98

DATE

TRACE ANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
PHILIP SERVICES CORPORATION
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

January 26, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906-1001.77
Project Location: Shell Hobbs
COC# G 3559

Prep Date: 01/23/98
Analysis Date: 01/23/98
Sampling Date: 01/20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Shell Hobbs

TA#	FIELD CODE	TOTAL PCB (mg/kg)
T89560	SS-1 5'	<0.25
T89562	SS-2 6'	<0.25
T89564	SS-3 5.5'	<0.25
T89565	SS-4 1'	<0.25
T89566	SS-4 5'	<0.25
T89568	SS-5 5'	<0.25
QC	Quality Control	0.37
REPORTING LIMIT		0.25
RPD		1
% Extraction Accuracy		88
% Instrument Accuracy		93

METHODS: EPA SW 846-3550, 8080
CHEMIST: MB
TOTAL PCB SPIKE: 0.5 mg/kg TOTAL PCB.
TOTAL PCB QC: 0.5 mg/L TOTAL PCB.

Director, Dr. Blair Leftwich

1-26-98
DATE

TRACE ANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
Philip Environmental
Attention Jeff Kindley
7904 I-20 West
Midland TX 79706

Date: Jan 24, 1998
Date Rec: 1/21/98
Project: 18906
Proj Name: Shell
Proj Loc: Hobbs, New Mexico

Lab Receiving # : 9801000308
Sampling Date: 1/20/98
Sample Condition: Intact and Cool
Sample Received By: VW

TA#	Field Code	MATRIX	TRPHC (mg/Kg)
T 89559	SS-1 2-3'	Soil	24,800
T 89560	SS-1 5'	Soil	14,100
T 89561	SS-2 2-3'	Soil	200,000
T 89562	SS-2 6'	Soil	30,900
T 89563	SS-3 2-3'	Soil	134,000
T 89564	SS-3 5.5'	Soil	21,900
T 89565	SS-4 1'	Soil	2,930
T 89566	SS-4 5'	Soil	1,800
T 89567	SS-5 2'	Soil	68,200
T 89568	SS-5 5'	Soil	50,200
Method Blank			<10.0
Reporting Limit			10
QC			104
RPD			0
% Extraction Accuracy			89
% Instrument Accuracy			104

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/Kg)
TRPHC	EPA 3550	1/22/98	EPA 418.1	1/22/98	MS	100	250

BL

Director, Dr. Blair Leftwich

1-24-98

Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

January 23, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906-1001.77
Project Location: Shell Hobbs

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

Prep Date: 01/22/98
Analysis Date: 01/23/98
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs

TOTAL METALS

TA# FIELD CODE	As (mg/kg)	Se (mg/kg)	Cr (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Ag (mg/kg)	Ba (mg/kg)	Ni (mg/kg)	Mo (mg/kg)	Zn (mg/kg)
T89559 SS-1 2-3'	<0.50	<1.0	<10	<0.05	<10	<0.50	87	11	<2.0	21
ICV	4.9	5.5	5.1	4.9	5.1	1.0	4.8	5.2	5.2	4.9
CCV	4.8	4.8	5.0	5.0	4.7	1.0	5.0	5.0	4.8	5.0
REPORTING LIMIT	0.50	1.0	10	0.05	10	0.50	0.50	0.50	2.0	0.30
RPD	1	2	1	0	1	7	9	1	1	0
% Extraction Accuracy	85	82	93	88	86	97	92	87	94	84
% Instrument Accuracy	98	104	102	100	98	100	98	102	100	100

	Al (mg/kg)	Fe (mg/kg)	Co (mg/kg)	B (mg/kg)	Mn (mg/kg)	Cu (mg/kg)
T89559 SS-1 2-3'	4,900	7,300	<10	<10	91	13
ICV	5.0	5.0	5.3	4.9	5.0	4.7
CCV	4.8	4.8	5.0	5.0	5.1	5.0
REPORTING LIMIT	20	10	10	10	0.30	2.0
RPD	15	2	0	1	5	2
% Extraction Accuracy	104	120	97	95	91	93
% Instrument Accuracy	98	98	104	100	102	98

METHODS: EPA 200.7, 245.1.
CHEMIST: RR
TOTAL METALS SPIKE: 200 mg/kg for all metals
TOTAL METALS CV: 5.0 mg/L all metals except Ag; 1.0 mg/L Ag.

Director, Dr. Blair Leftwich

1-23-98
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

January 23, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906-1001.77
Project Location: Shell Hobbs

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

Prep Date: 01/22/98
Analysis Date: 01/23/98
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs

TOTAL METALS

TA#	FIELD CODE	As (mg/kg)	Se (mg/kg)	Cr (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Ag (mg/kg)	Ba (mg/kg)	Ni (mg/kg)	Mo (mg/kg)	Zn (mg/kg)
T89560	SS-1 5'	<0.50	<1.0	<10	<0.05	<10	<0.50	320	6.1	<2.0	9.5
ICV		4.9	5.5	5.1	4.9	5.1	1.0	4.8	5.2	5.2	4.9
CCV		4.8	4.8	5.0	5.0	4.7	1.0	5.0	5.0	4.8	5.0
REPORTING LIMIT		0.50	1.0	10	0.05	10	0.50	0.50	0.50	2.0	0.30
RPD		1	2	1	0	1	7	9	1	1	0
% Extraction Accuracy		85	82	93	88	86	97	92	87	94	84
% Instrument Accuracy		98	104	102	100	98	100	98	102	100	100

		Al (mg/kg)	Fe (mg/kg)	Co (mg/kg)	B (mg/kg)	Mn (mg/kg)	Cu (mg/kg)
T89560	SS-1 5'	4,700	3,300	<10	<10	38	<10
ICV		5.0	5.0	5.3	4.9	5.0	4.7
CCV		4.8	4.8	5.0	5.0	5.1	5.0
REPORTING LIMIT		20	10	10	10	0.30	10
RPD		15	2	0	1	5	2
% Extraction Accuracy		104	120	97	95	91	93
% Instrument Accuracy		98	98	104	100	102	98

METHODS: EPA 200.7, 245.1.
CHEMIST: RR
TOTAL METALS SPIKE: 200 mg/kg for all metals
TOTAL METALS CV: 5.0 mg/L all metals except Ag; 1.0 mg/L Ag.

Director, Dr. Blair Leftwich

1-23-98
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

January 23, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906-1001.77
Project Location: Shell Hobbs

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

Prep Date: 01/22/98
Analysis Date: 01/23/98
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs

TOTAL METALS

TA#	FIELD CODE	As (mg/kg)	Se (mg/kg)	Cr (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Ag (mg/kg)	Ba (mg/kg)	Ni (mg/kg)	Mo (mg/kg)	Zn (mg/kg)
T89561	SS-2 2-3'	<0.50	<1.0	<10	<0.05	<10	<0.50	37	7.6	<2.0	6.7
ICV		4.9	5.5	5.1	4.9	5.1	1.0	4.8	5.2	5.2	4.9
CCV		4.8	4.8	5.0	5.0	4.7	1.0	5.0	5.0	4.8	5.0
REPORTING LIMIT		0.50	1.0	10	0.05	10	0.50	0.50	0.50	2.0	0.30
RPD		1	2	1	0	1	7	9	1	1	0
% Extraction Accuracy		85	82	93	88	86	97	92	87	94	84
% Instrument Accuracy		98	104	102	100	98	100	98	102	100	100

		Al (mg/kg)	Fe (mg/kg)	Co (mg/kg)	B (mg/kg)	Mn (mg/kg)	Cu (mg/kg)
T89561	SS-2 2-3'	1,900	1,800	<10	<10	47	<10
ICV		5.0	5.0	5.3	4.9	5.0	4.7
CCV		4.8	4.8	5.0	5.0	5.1	5.0
REPORTING LIMIT		20	10	10	10	0.30	10
RPD		15	2	0	1	5	2
% Extraction Accuracy		104	120	97	95	91	93
% Instrument Accuracy		98	98	104	100	102	98

METHODS: EPA 200.7, 245.1.
CHEMIST: RR
TOTAL METALS SPIKE: 200 mg/kg for all metals
TOTAL METALS CV: 5.0 mg/L all metals except Ag; 1.0 mg/L Ag.

Director, Dr. Blair Leftwich

1-23-98
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

January 23, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906-1001.77
Project Location: Shell Hobbs

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

Prep Date: 01/22/98
Analysis Date: 01/23/98
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs

TOTAL METALS

TA# FIELD CODE	As (mg/kg)	Se (mg/kg)	Cr (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Ag (mg/kg)	Ba (mg/kg)	Ni (mg/kg)	Mo (mg/kg)	Zn (mg/kg)
T89562 SS-2 6'	<0.50	<1.0	<10	<0.05	<10	<0.50	650	8.1	<2.0	6.6
ICV	4.9	5.5	5.1	4.9	5.1	1.0	4.8	5.2	5.2	4.9
CCV	4.8	4.8	5.0	5.0	4.7	1.0	5.0	5.0	4.8	5.0
REPORTING LIMIT	0.50	1.0	10	0.05	10	0.50	0.50	0.50	2.0	0.30
RPD	1	2	1	0	1	7	9	1	1	0
% Extraction Accuracy	85	82	93	88	86	97	92	87	94	84
% Instrument Accuracy	98	104	102	100	98	100	98	102	100	100

	Al (mg/kg)	Fe (mg/kg)	Co (mg/kg)	B (mg/kg)	Mn (mg/kg)	Cu (mg/kg)
T89562 SS-2 6'	4,100	2,400	<10	<10	20	<10
ICV	5.0	5.0	5.3	4.9	5.0	4.7
CCV	4.8	4.8	5.0	5.0	5.1	5.0
REPORTING LIMIT	20	10	10	10	0.30	10
RPD	15	2	0	1	5	2
% Extraction Accuracy	104	120	97	95	91	93
% Instrument Accuracy	98	98	104	100	102	98

METHODS: EPA 200.7, 245.1.
CHEMIST: RR
TOTAL METALS SPIKE: 200 mg/kg for all metals
TOTAL METALS CV: 5.0 mg/L all metals except Ag; 1.0 mg/L Ag.

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January 23, 1998
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Prep Date: 01/22/98
Analysis Date: 01/23/98
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs

TOTAL METALS

TA#	FIELD CODE	As (mg/kg)	Se (mg/kg)	Cr (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Ag (mg/kg)	Ba (mg/kg)	Ni (mg/kg)	Mo (mg/kg)	Zn (mg/kg)
T89563	SS-3 2-3'	<0.50	<1.0	<10	<0.05	<10	<0.50	130	8.9	<2.0	17
ICV		4.9	5.5	5.1	4.9	5.1	1.0	4.8	5.2	5.2	4.9
CCV		4.8	4.8	5.0	5.0	4.7	1.0	5.0	5.0	4.8	5.0
REPORTING LIMIT		0.50	1.0	10	0.05	10	0.50	0.50	0.50	2.0	0.30
RPD		1	2	1	0	1	7	9	1	1	0
% Extraction Accuracy		85	82	93	88	86	97	92	87	94	84
% Instrument Accuracy		98	104	102	100	98	100	98	102	100	100

		Al (mg/kg)	Fe (mg/kg)	Co (mg/kg)	B (mg/kg)	Mn (mg/kg)	Cu (mg/kg)
T89563	SS-3 2-3'	5,800	5,900	<10	<10	93	<10
ICV		5.0	5.0	5.3	4.9	5.0	4.7
CCV		4.8	4.8	5.0	5.0	5.1	5.0
REPORTING LIMIT		20	10	10	10	0.30	10
RPD		15	2	0	1	5	2
% Extraction Accuracy		104	120	97	95	91	93
% Instrument Accuracy		98	98	104	100	102	98

METHODS: EPA 200.7, 245.1.
CHEMIST: RR
TOTAL METALS SPIKE: 200 mg/kg for all metals
TOTAL METALS CV: 5.0 mg/L all metals except Ag; 1.0 mg/L Ag.

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January 23, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906-1001.77
Project Location: Shell Hobbs

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

Prep Date: 01/22/98
Analysis Date: 01/23/98
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs

TOTAL METALS

TA# FIELD CODE	As (mg/kg)	Se (mg/kg)	Cr (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Ag (mg/kg)	Ba (mg/kg)	Ni (mg/kg)	Mo (mg/kg)	Zn (mg/kg)
T89564 SS-3 5.5'	3.8	1.8	<10	<0.05	<10	<0.50	170	6.0	<2.0	14
ICV	4.9	5.5	5.1	4.9	5.1	1.0	4.8	5.2	5.2	4.9
CCV	4.8	4.8	5.0	5.0	4.7	1.0	5.0	5.0	4.8	5.0
REPORTING LIMIT	0.50	1.0	10	0.05	10	0.50	0.50	0.50	2.0	0.30
RPD	1	2	1	0	1	7	9	1	1	0
% Extraction Accuracy	85	82	93	88	86	97	92	87	94	84
% Instrument Accuracy	98	104	102	100	98	100	98	102	100	100

	Al (mg/kg)	Fe (mg/kg)	Co (mg/kg)	B (mg/kg)	Mn (mg/kg)	Cu (mg/kg)
T89564 SS-3 5.5'	5,700	4,300	<10	<10	51	<10
ICV	5.0	5.0	5.3	4.9	5.0	4.7
CCV	4.8	4.8	5.0	5.0	5.1	5.0
REPORTING LIMIT	20	10	10	10	0.30	10
RPD	15	2	0	1	5	2
% Extraction Accuracy	104	120	97	95	91	93
% Instrument Accuracy	98	98	104	100	102	98

METHODS: EPA 200.7, 245.1.
CHEMIST: RR
TOTAL METALS SPIKE: 200 mg/kg for all metals
TOTAL METALS CV: 5.0 mg/L all metals except Ag; 1.0 mg/L Ag.

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January 23, 1998
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Project No: 18906-1001.77
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Midland, TX 79706

Prep Date: 01/22/98
Analysis Date: 01/23/98
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs

TOTAL METALS

TA#	FIELD CODE	As (mg/kg)	Se (mg/kg)	Cr (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Ag (mg/kg)	Ba (mg/kg)	Ni (mg/kg)	Mo (mg/kg)	Zn (mg/kg)
T89565	SS-4 1'	<0.50	<1.0	<10	0.06	<10	<0.50	95	9.0	<2.0	22
ICV		4.9	5.5	5.1	4.9	5.1	1.0	4.8	5.2	5.2	4.9
CCV		4.8	4.8	5.0	5.0	4.7	1.0	5.0	5.0	4.8	5.0
REPORTING LIMIT		0.50	1.0	10	0.05	10	0.50	0.50	0.50	2.0	0.30
RPD		1	2	1	0	1	7	9	1	1	0
% Extraction Accuracy		85	82	93	88	86	97	92	87	94	84
% Instrument Accuracy		98	104	102	100	98	100	98	102	100	100

		Al (mg/kg)	Fe (mg/kg)	Co (mg/kg)	B (mg/kg)	Mn (mg/kg)	Cu (mg/kg)
T89565	SS-4 1'	9,200	7,600	<10	<10	120	<10
ICV		5.0	5.0	5.3	4.9	5.0	4.7
CCV		4.8	4.8	5.0	5.0	5.1	5.0
REPORTING LIMIT		20	10	10	10	0.30	10
RPD		15	2	0	1	5	2
% Extraction Accuracy		104	120	97	95	91	93
% Instrument Accuracy		98	98	104	100	102	98

METHODS: EPA 200.7, 245.1.
CHEMIST: RR
TOTAL METALS SPIKE: 200 mg/kg for all metals
TOTAL METALS CV: 5.0 mg/L all metals except Ag; 1.0 mg/L Ag.

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January 23, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906-1001.77
Project Location: Shell Hobbs

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

Prep Date: 01/22/98
Analysis Date: 01/23/98
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs

TOTAL METALS

TA#	FIELD CODE	As (mg/kg)	Se (mg/kg)	Cr (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Ag (mg/kg)	Ba (mg/kg)	Ni (mg/kg)	Mo (mg/kg)	Zn (mg/kg)
T89566	SS-4 5'	<0.50	<1.0	<10	0.21	<10	<0.50	310	7.7	<2.0	15
ICV		4.9	5.5	5.1	4.9	5.1	1.0	4.8	5.2	5.2	4.9
CCV		4.8	4.8	5.0	5.0	4.7	1.0	5.0	5.0	4.8	5.0
REPORTING LIMIT		0.50	1.0	10	0.05	10	0.50	0.50	0.50	2.0	0.30
RPD		1	2	1	0	1	7	9	1	1	0
% Extraction Accuracy		85	82	93	88	86	97	92	87	94	84
% Instrument Accuracy		98	104	102	100	98	100	98	102	100	100

TA#	FIELD CODE	Al (mg/kg)	Fe (mg/kg)	Co (mg/kg)	B (mg/kg)	Mn (mg/kg)	Cu (mg/kg)
T89566	SS-4 5'	7,500	5,500	<10	<10	60	<10
ICV		5.0	5.0	5.3	4.9	5.0	4.7
CCV		4.8	4.8	5.0	5.0	5.1	5.0
REPORTING LIMIT		20	10	10	10	0.30	10
RPD		15	2	0	1	5	2
% Extraction Accuracy		104	120	97	95	91	93
% Instrument Accuracy		98	98	104	100	102	98

METHODS: EPA 200.7, 245.1
CHEMIST: RR
TOTAL METALS SPIKE: 200 mg/kg for all metals
TOTAL METALS CV: 5.0 mg/L all metals except Ag; 1.0 mg/L Ag.

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January 23, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906-1001.77
Project Location: Shell Hobbs

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

Prep Date: 01/22/98
Analysis Date: 01/23/98
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs

TOTAL METALS

TA#	FIELD CODE	As (mg/kg)	Se (mg/kg)	Cr (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Ag (mg/kg)	Ba (mg/kg)	Ni (mg/kg)	Mo (mg/kg)	Zn (mg/kg)
T89567	SS-5 2'	<0.50	<1.0	<10	0.06	<10	<0.50	73	7.1	<2.0	17
ICV		4.9	5.5	5.1	4.9	5.1	1.0	4.8	5.2	5.2	4.9
CCV		4.8	4.8	5.0	5.0	4.7	1.0	5.0	5.0	4.8	5.0
REPORTING LIMIT		0.50	1.0	10	0.05	10	0.50	0.50	0.50	2.0	0.30
RPD		1	2	1	0	1	7	9	1	1	0
% Extraction Accuracy		85	82	93	88	86	97	92	87	94	84
% Instrument Accuracy		98	104	102	100	98	100	98	102	100	100

		Al (mg/kg)	Fe (mg/kg)	Co (mg/kg)	B (mg/kg)	Mn (mg/kg)	Cu (mg/kg)
T89567	SS-5 2'	7,800	5,800	<10	<10	81	<10
ICV		5.0	5.0	5.3	4.9	5.0	4.7
CCV		4.8	4.8	5.0	5.0	5.1	5.0
REPORTING LIMIT		20	10	10	10	0.30	10
RPD		15	2	0	1	5	2
% Extraction Accuracy		104	120	97	95	91	93
% Instrument Accuracy		98	98	104	100	102	98

METHODS: EPA 200.7, 245.1.
CHEMIST: RR
TOTAL METALS SPIKE: 200 mg/kg for all metals
TOTAL METALS CV: 5.0 mg/L all metals except Ag; 1.0 mg/L Ag.

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1-23-98
DATE

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January 23, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906-1001.77
Project Location: Shell Hobbs

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

Prep Date: 01/22/98
Analysis Date: 01/23/98
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs

TOTAL METALS

TA# FIELD CODE	As (mg/kg)	Se (mg/kg)	Cr (mg/kg)	Cd (mg/kg)	Pb (mg/kg)	Ag (mg/kg)	Ba (mg/kg)	Ni (mg/kg)	Mo (mg/kg)	Zn (mg/kg)
T89568 SS-5 5'	<0.50	<1.0	<10	<0.05	<10	<0.50	73	6.1	<2.0	6.9
ICV	4.9	5.5	5.1	4.9	5.1	1.0	4.8	5.2	5.2	4.9
CCV	4.8	4.8	5.0	5.0	4.7	1.0	5.0	5.0	4.8	5.0
REPORTING LIMIT	0.50	1.0	10	0.05	10	0.50	0.50	0.50	2.0	0.30
RPD	1	2	1	0	1	7	9	1	1	0
% Extraction Accuracy	85	82	93	88	86	97	92	87	94	84
% Instrument Accuracy	98	104	102	100	98	100	98	102	100	100

	Al (mg/kg)	Fe (mg/kg)	Co (mg/kg)	B (mg/kg)	Mn (mg/kg)	Cu (mg/kg)
T89568 SS-5 5'	4,200	2,800	<10	<10	19	<10
ICV	5.0	5.0	5.3	4.9	5.0	4.7
CCV	4.8	4.8	5.0	5.0	5.1	5.0
REPORTING LIMIT	20	10	10	10	0.30	10
RPD	15	2	0	1	5	2
% Extraction Accuracy	104	120	97	95	91	93
% Instrument Accuracy	98	98	104	100	102	98

METHODS: EPA 200.7, 245.1.
CHEMIST: RR
TOTAL METALS SPIKE: 200 mg/kg for all metals
TOTAL METALS CV: 5.0 mg/L all metals except Ag; 1.0 mg/L Ag.

Director, Dr. Blair Leftwich

1-23-98
DATE

TRACE ANALYSIS, INC.

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4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

January 30, 1998

Receiving Date: 01/21/98
Sample Type: Soil
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs
Project No: 18906 Phase 1001.77
Project Location: Hobbs
Extraction Date: 01/21/98
Analysis Date: 01/22/98

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

TA # T89563
Field Code: SS-3 @ 2-3'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	125	ND				
2-Picoline	125	ND				
Methyl methanesulfonate	125	ND				
Ethyl methanesulfonate	125	ND				
Phenol	125	ND	75	1	66	94
Aniline	625	ND				
bis(2-Chloroethyl)ether	625	ND				
2-Chlorophenol	625	ND		2	65	
1,3-Dichlorobenzene	125	ND				
1,4-Dichlorobenzene	125	ND	81	7	66	101
Benzyl alcohol	625	ND				
1,2-Dichlorobenzene	125	ND				
2-Methylphenol	125	ND				
bis(2-chloroisopropyl)ether	625	ND				
4-Methylphenol/3-Methylphenol	125	ND				
Acetophenone	625	ND				
n-Nitrosodi-n-propylamine	125	ND		0	68	
Hexachloroethane	125	ND				
Nitrobenzene	125	ND				
N-Nitrosopiperidine	625	ND				
Isophorone	625	ND				
2-Nitrophenol	625	ND		73		91
2,4-Dimethylphenol	625	ND				
bis(2-Chloroethoxy)methane	125	ND				
Benzoic acid	1,250	ND				
2,4-Dichlorophenol	625	ND	74			92
1,2,4-Trichlorobenzene	125	ND		3	76	
a,a-Dimethylphenethylamine	1,250	ND				
Naphthalene	125	ND				

TA# T89563
FIELD CODE: SS-3 @ 2-3'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Chloroaniline	625	ND				
2,6-Dichlorophenol	625	ND				
Hexachlorobutadiene	125	ND	73			91
N-Nitroso-di-n-butylamine	625	ND				
4-Chloro-3-methylphenol	625	ND	74	0	79	92
2-Methylnaphthalene	125	ND				
1,2,4,5-Tetrachlorobenzene	125	ND				
Hexachlorocyclopentadiene	125	ND				
2,4,6-Trichlorophenol	625	ND	71			88
2,4,5-Trichlorophenol	625	ND				
2-Chloronaphthalene	125	ND				
1-Chloronaphthalene	125	ND				
2-Nitroaniline	625	ND				
Dimethylphthalate	125	ND				
Acenaphthylene	125	ND				
2,6-Dinitrotoluene	125	ND				
3-Nitroaniline	625	ND				
Acenaphthene	125	ND	73	1	89	91
2,4-Dinitrophenol	625	ND				
Dibenzofuran	625	ND				
Pentachlorobenzene	125	ND				
4-Nitrophenol	625	ND		6	43	
1-Napthylamine	625	ND				
2,4-Dinitrotoluene	125	ND		1	85	
2-Napthylamine	625	ND				
2,3,4,6-Tetrachlorophenol	625	ND				
Fluorene	125	ND				
Diethylphthalate	125	ND				
4-Chlorophenyl-phenylether	125	ND				
4-Nitroaniline	625	ND				
4,6-Dinitro-2-methylphenol	625	ND				
n-Nitrosodiphenylamine & Diphenylamine	125	ND	76			
Diphenylhydrazine	625	ND				

TA# T89563
FIELD CODE: SS-3 @ 2-3'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	125	ND				
Phenacetin	625	ND				
Hexachlorobenzene	125	ND				
4-Aminobiphenyl	625	ND				
Pentachlorophenol	625	ND	71	12	49	
Pentachloronitrobenzene	625	ND				
Pronamide	125	ND				
Phenanthrene	125	ND				
Anthracene	125	ND				
Di-n-butylphthalate	125	ND				
Fluoranthene	125	ND	72			
Benzidine	1,250	ND				
Pyrene	125	ND		3	118	
p-Dimethylaminoazobenzene	125	ND				
Butylbenzylphthalate	125	ND				
Benzo[a]anthracene	125	ND				
3,3-Dichlorobenzidine	625	ND				
Chrysene	125	ND				
bis(2-Ethylhexyl)phthalate	125	ND				
Di-n-octlphthalate	125	ND	69			
Benzo[b]fluoranthene	125	ND				
7,12-Dimethylbenz(a)anthracene	125	ND				
Benzo[k]fluoranthene	125	ND				
Benzo[a]pyrene	125	ND	77			
3-Methylcholanthrene	125	ND				
Dibenzo(a,j)acridine	125	ND				
Indeno[1,2,3-cd]pyrene	125	ND				
Dibenz[a,h]anthracene	125	ND				
Benzo[g,h,i]perylene	125	ND				

PHILIP ENVIRONMENTAL
Project Name: Shell Hobbs

TA #T89563
Field Code: SS-3 @ 2-3'

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	64
Phenol-d6 SURR	88
Nitrobenzene-d5 SURR	96
2-Fluorobiphenyl SURR	0**
2,4,6-Tribromophenol SURR	0**
Terphenyl-d14 SURR	0**

*NOTE: Elevated reporting limits due to sample matrix interference.
**NOTE: Surrogate recovery over standard range due to matrix effect.

METHODS: EPA SW 846-8270, 3550.
CHEMIST: MB

BJ

Director, Dr. Blair Leftwich

1-30-98

Date

TRACE ANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

January 30, 1998

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

Receiving Date: 01/21/98
Sample Type: Soil
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs
Project No: 18906 Phase 1001.77
Project Location: Hobbs
Extraction Date: 01/21/98
Analysis Date: 01/22/98

TA # T89564
Field Code: SS-3 @ 5.5'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	125	ND				
2-Picoline	125	ND				
Methyl methanesulfonate	125	ND				
Ethyl methanesulfonate	125	ND				
Phenol	125	ND	75	1	66	94
Aniline	625	ND				
bis(2-Chloroethyl)ether	625	ND				
2-Chlorophenol	625	ND		2	65	
1,3-Dichlorobenzene	125	ND				
1,4-Dichlorobenzene	125	ND	81	7	66	101
Benzyl alcohol	625	ND				
1,2-Dichlorobenzene	125	ND				
2-Methylphenol	125	ND				
bis(2-chloroisopropyl)ether	625	ND				
4-Methylphenol/3-Methylphenol	125	ND				
Acetophenone	625	ND				
n-Nitrosodi-n-propylamine	125	ND		0	68	
Hexachloroethane	125	ND				
Nitrobenzene	125	ND				
N-Nitrosopiperidine	625	ND				
Isophorone	625	ND				
2-Nitrophenol	625	ND		73		91
2,4-Dimethylphenol	625	ND				
bis(2-Chloroethoxy)methane	125	ND				
Benzoic acid	1,250	ND				
2,4-Dichlorophenol	625	ND	74			92
1,2,4-Trichlorobenzene	125	ND		3	76	
a,a-Dimethylphenethylamine	1,250	ND				
Naphthalene	125	ND				

TA# T89564
FIELD CODE: SS-3 @ 5.5'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Chloroaniline	625	ND				
2,6-Dichlorophenol	625	ND				
Hexachlorobutadiene	125	ND	73			91
N-Nitroso-di-n-butylamine	625	ND				
4-Chloro-3-methylphenol	625	ND	74	0	79	92
2-Methylnaphthalene	125	ND				
1,2,4,5-Tetrachlorobenzene	125	ND				
Hexachlorocyclopentadiene	125	ND				
2,4,6-Trichlorophenol	625	ND	71			88
2,4,5-Trichlorophenol	625	ND				
2-Chloronaphthalene	125	ND				
1-Chloronaphthalene	125	ND				
2-Nitroaniline	625	ND				
Dimethylphthalate	125	ND				
Acenaphthylene	125	ND				
2,6-Dinitrotoluene	125	ND				
3-Nitroaniline	625	ND				
Acenaphthene	125	ND	73	1	89	91
2,4-Dinitrophenol	625	ND				
Dibenzofuran	625	ND				
Pentachlorobenzene	125	ND				
4-Nitrophenol	625	ND		6	43	
1-Napthylamine	625	ND				
2,4-Dinitrotoluene	125	ND		1	85	
2-Napthylamine	625	ND				
2,3,4,6-Tetrachlorophenol	625	ND				
Fluorene	125	ND				
Diethylphthalate	125	ND				
4-Chlorophenyl-phenylether	125	ND				
4-Nitroaniline	625	ND				
4,6-Dinitro-2-methylphenol	625	ND				
n-Nitrosodiphenylamine & Diphenylamine	125	ND	76			
Diphenylhydrazine	625	ND				

TA# T89564
FIELD CODE: SS-3 @ 5.5'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	125	ND				
Phenacetin	625	ND				
Hexachlorobenzene	125	ND				
4-Aminobiphenyl	625	ND				
Pentachlorophenol	625	ND	71	12	49	
Pentachloronitrobenzene	625	ND				
Pronamide	125	ND				
Phenanthrene	125	ND				
Anthracene	125	ND				
Di-n-butylphthalate	125	ND				
Fluoranthene	125	ND	72			
Benzidine	1,250	ND				
Pyrene	125	ND		3	118	
p-Dimethylaminoazobenzene	125	ND				
Butylbenzylphthalate	125	ND				
Benzo[a]anthracene	125	ND				
3,3-Dichlorobenzidine	625	ND				
Chrysene	125	ND				
bis(2-Ethylhexyl)phthalate	125	ND				
Di-n-octlphthalate	125	ND	69			
Benzo[b]fluoranthene	125	ND				
7,12-Dimethylbenz(a)anthracene	125	ND				
Benzo[k]fluoranthene	125	ND				
Benzo[a]pyrene	125	ND	77			
3-Methylcholanthrene	125	ND				
Dibenzo(a,j)acridine	125	ND				
Indeno[1,2,3-cd]pyrene	125	ND				
Dibenz[a,h]anthracene	125	ND				
Benzo[g,h,i]perylene	125	ND				

PHILIP ENVIRONMENTAL
Project Name: Shell Hobbs

TA #T89564
Field Code: SS-3 @ 5.5'

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	37
Phenol-d6 SURR	42
Nitrobenzene-d5 SURR	51
2-Fluorobiphenyl SURR	65
2,4,6-Tribromophenol SURR	0**
Terphenyl-d14 SURR	93

*NOTE: Elevated reporting limits due to sample matrix interference.

**NOTE: Surrogate recovery over standard range due to matrix effect.

METHODS: EPA SW 846-8270, 3550.
CHEMIST: MB

BB

Director, Dr. Blair Leftwich

1-30-98

Date

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January 30, 1998

Receiving Date: 01/21/98
Sample Type: Soil
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs
Project No: 18906 Phase 1001.77
Project Location: Hobbs
Extraction Date: 01/21/98
Analysis Date: 01/22/98

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

TA # T89565
Field Code: SS-4 @ 1'

EPA 8270	Reporting Limit	Concentration (mg/kg)	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	25	ND				
2-Picoline	25	ND				
Methyl methanesulfonate	25	ND				
Ethyl methanesulfonate	25	ND				
Phenol	25	ND	75	1	66	94
Aniline	125	ND				
bis(2-Chloroethyl)ether	125	ND				
2-Chlorophenol	125	ND		2	65	
1,3-Dichlorobenzene	25	ND				
1,4-Dichlorobenzene	25	ND	81	7	66	101
Benzyl alcohol	125	ND				
1,2-Dichlorobenzene	25	ND				
2-Methylphenol	25	ND				
bis(2-chloroisopropyl)ether	125	ND				
4-Methylphenol/3-Methylphenol	25	ND				
Acetophenone	125	ND				
n-Nitrosodi-n-propylamine	25	ND		0	68	
Hexachloroethane	25	ND				
Nitrobenzene	25	ND				
N-Nitrosopiperidine	125	ND				
Isophorone	125	ND				
2-Nitrophenol	125	ND		73		91
2,4-Dimethylphenol	125	ND				
bis(2-Chloroethoxy)methane	25	ND				
Benzoic acid	250	ND				
2,4-Dichlorophenol	125	ND	74			92
1,2,4-Trichlorobenzene	25	ND		3	76	
a,a-Dimethylphenethylamine	250	ND				
Naphthalene	25	ND				

TA# T89565
FIELD CODE: SS-4 @ 1'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Chloroaniline	125	ND				
2,6-Dichlorophenol	125	ND				
Hexachlorobutadiene	25	ND	73			91
N-Nitroso-di-n-butylamine	125	ND				
4-Chloro-3-methylphenol	125	ND	74	0	79	92
2-Methylnaphthalene	25	ND				
1,2,4,5-Tetrachlorobenzene	25	ND				
Hexachlorocyclopentadiene	25	ND				
2,4,6-Trichlorophenol	125	ND	71			88
2,4,5-Trichlorophenol	125	ND				
2-Chloronaphthalene	25	ND				
1-Chloronaphthalene	25	ND				
2-Nitroaniline	125	ND				
Dimethylphthalate	25	ND				
Acenaphthylene	25	ND				
2,6-Dinitrotoluene	25	ND				
3-Nitroaniline	125	ND				
Acenaphthene	25	ND	73	1	89	91
2,4-Dinitrophenol	125	ND				
Dibenzofuran	125	ND				
Pentachlorobenzene	25	ND				
4-Nitrophenol	125	ND		6	43	
1-Napthylamine	125	ND				
2,4-Dinitrotoluene	25	ND		1	85	
2-Napthylamine	125	ND				
2,3,4,6-Tetrachlorophenol	125	ND				
Fluorene	25	ND				
Diethylphthalate	25	ND				
4-Chlorophenyl-phenylether	25	ND				
4-Nitroaniline	125	ND				
4,6-Dinitro-2-methylphenol	125	ND				
n-Nitrosodiphenylamine & Diphenylamine	25	ND	76			
Diphenylhydrazine	125	ND				

TA# T89565
FIELD CODE: SS-4 @ 1'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	25	ND				
Phenacetin	125	ND				
Hexachlorobenzene	25	ND				
4-Aminobiphenyl	125	ND				
Pentachlorophenol	125	ND	71	12	49	
Pentachloronitrobenzene	125	ND				
Pronamide	25	ND				
Phenanthrene	25	ND				
Anthracene	25	ND				
Di-n-butylphthalate	25	ND				
Fluoranthene	25	ND	72			
Benzidine	250	ND				
Pyrene	25	ND		3	118	
p-Dimethylaminoazobenzene	25	ND				
Butylbenzylphthalate	25	ND				
Benzo[a]anthracene	25	ND				
3,3-Dichlorobenzidine	125	ND				
Chrysene	25	ND				
bis(2-Ethylhexyl)phthalate	25	ND				
Di-n-octlphthalate	25	ND	69			
Benzo[b]fluoranthene	25	ND				
7,12-Dimethylbenz(a)anthracene	25	ND				
Benzo[k]fluoranthene	25	ND				
Benzo[a]pyrene	25	ND	77			
3-Methylcholanthrene	25	ND				
Dibenzo(a,j)acridine	25	ND				
Indeno[1,2,3-cd]pyrene	25	ND				
Dibenz[a,h]anthracene	25	ND				
Benzo[g,h,i]perylene	25	ND				

TA #T89565
Field Code: SS-4 @ 1'

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	50
Phenol-d6 SURR	69
Nitrobenzene-d5 SURR	61
2-Fluorobiphenyl SURR	72
2,4,6-Tribromophenol SURR	43
Terphenyl-d14 SURR	117

*NOTE: Elevated reporting limits due to sample matrix interference.

METHODS: EPA SW 846-8270, 3550.
CHEMIST: MB

Director, Dr. Blair Leftwich

1-30-98
Date

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January 30, 1998

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

Receiving Date: 01/21/98
Sample Type: Soil
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs
Project No: 18906 Phase 1001.77
Project Location: Hobbs
Extraction Date: 01/21/98
Analysis Date: 01/22/98

TA # T89566
Field Code: SS-4 @ 5'

EPA 8270	Reporting Limit	Concentration (mg/kg)	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	25	ND				
2-Picoline	25	ND				
Methyl methanesulfonate	25	ND				
Ethyl methanesulfonate	25	ND				
Phenol	25	ND	75	1	66	94
Aniline	125	ND				
bis(2-Chloroethyl)ether	125	ND				
2-Chlorophenol	125	ND		2	65	
1,3-Dichlorobenzene	25	ND				
1,4-Dichlorobenzene	25	ND	81	7	66	101
Benzyl alcohol	125	ND				
1,2-Dichlorobenzene	25	ND				
2-Methylphenol	25	ND				
bis(2-chloroisopropyl)ether	125	ND				
4-Methylphenol/3-Methylphenol	25	ND				
Acetophenone	125	ND				
n-Nitrosodi-n-propylamine	25	ND		0	68	
Hexachloroethane	25	ND				
Nitrobenzene	25	ND				
N-Nitrosopiperidine	125	ND				
Isophorone	125	ND				
2-Nitrophenol	125	ND		73		91
2,4-Dimethylphenol	125	ND				
bis(2-Chloroethoxy)methane	25	ND				
Benzoic acid	250	ND				
2,4-Dichlorophenol	125	ND	74			92
1,2,4-Trichlorobenzene	25	ND		3	76	
a,a-Dimethylphenethylamine	250	ND				
Naphthalene	25	ND				

TA# T89566
FIELD CODE: SS-4 @ 5'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Chloroaniline	125	ND				
2,6-Dichlorophenol	125	ND				
Hexachlorobutadiene	25	ND	73			91
N-Nitroso-di-n-butylamine	125	ND				
4-Chloro-3-methylphenol	125	ND	74	0	79	92
2-Methylnaphthalene	25	ND				
1,2,4,5-Tetrachlorobenzene	25	ND				
Hexachlorocyclopentadiene	25	ND				
2,4,6-Trichlorophenol	125	ND	71			88
2,4,5-Trichlorophenol	125	ND				
2-Chloronaphthalene	25	ND				
1-Chloronaphthalene	25	ND				
2-Nitroaniline	125	ND				
Dimethylphthalate	25	ND				
Acenaphthylene	25	ND				
2,6-Dinitrotoluene	25	ND				
3-Nitroaniline	125	ND				
Acenaphthene	25	ND	73	1	89	91
2,4-Dinitrophenol	125	ND				
Dibenzofuran	125	ND				
Pentachlorobenzene	25	ND				
4-Nitrophenol	125	ND		6	43	
1-Napthylamine	125	ND				
2,4-Dinitrotoluene	25	ND		1	85	
2-Napthylamine	125	ND				
2,3,4,6-Tetrachlorophenol	125	ND				
Fluorene	25	ND				
Diethylphthalate	25	ND				
4-Chlorophenyl-phenylether	25	ND				
4-Nitroaniline	125	ND				
4,6-Dinitro-2-methylphenol	125	ND				
n-Nitrosodiphenylamine & Diphenylamine	25	ND	76			
Diphenylhydrazine	125	ND				

TA# T89566
FIELD CODE: SS-4 @ 5'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	25	ND				
Phenacetin	125	ND				
Hexachlorobenzene	25	ND				
4-Aminobiphenyl	125	ND				
Pentachlorophenol	125	ND	71	12	49	
Pentachloronitrobenzene	125	ND				
Pronamide	25	ND				
Phenanthrene	25	ND				
Anthracene	25	ND				
Di-n-butylphthalate	25	ND				
Fluoranthene	25	ND	72			
Benzidine	250	ND				
Pyrene	25	ND		3	118	
p-Dimethylaminoazobenzene	25	ND				
Butylbenzylphthalate	25	ND				
Benzo[a]anthracene	25	ND				
3,3-Dichlorobenzidine	125	ND				
Chrysene	25	ND				
bis(2-Ethylhexyl)phthalate	25	ND				
Di-n-octlphthalate	25	ND	69			
Benzo[b]fluoranthene	25	ND				
7,12-Dimethylbenz(a)anthracene	25	ND				
Benzo[k]fluoranthene	25	ND				
Benzo[a]pyrene	25	ND	77			
3-Methylcholanthrene	25	ND				
Dibenzo(a,j)acridine	25	ND				
Indeno[1,2,3-cd]pyrene	25	ND				
Dibenz[a,h]anthracene	25	ND				
Benzo[g,h,i]perylene	25	ND				

TA #T89566
Field Code: SS-4 @ 5'

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	46
Phenol-d6 SURR	63
Nitrobenzene-d5 SURR	55
2-Fluorobiphenyl SURR	65
2,4,6-Tribromophenol SURR	37
Terphenyl-d14 SURR	135

*NOTE: Elevated reporting limits due to sample matrix interference.

METHODS: EPA SW 846-8270, 3550.
CHEMIST: MB

BS

Director, Dr. Blair Leftwich

1-30-98

Date

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January 30, 1998

Receiving Date: 01/21/98
Sample Type: Soil
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs
Project No: 18906 Phase 1001.77
Project Location: Hobbs
Extraction Date: 01/21/98
Analysis Date: 01/22/98

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

TA # T89567
Field Code: SS-5 @ 2'

EPA 8270	Reporting Limit	Concentration (mg/kg)	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	25	ND				
2-Picoline	25	ND				
Methyl methanesulfonate	25	ND				
Ethyl methanesulfonate	25	ND				
Phenol	25	ND	75	1	66	94
Aniline	125	ND				
bis(2-Chloroethyl)ether	125	ND				
2-Chlorophenol	125	ND		2	65	
1,3-Dichlorobenzene	25	ND				
1,4-Dichlorobenzene	25	ND	81	7	66	101
Benzyl alcohol	125	ND				
1,2-Dichlorobenzene	25	ND				
2-Methylphenol	25	ND				
bis(2-chloroisopropyl)ether	125	ND				
4-Methylphenol/3-Methylphenol	25	ND				
Acetophenone	125	ND				
n-Nitrosodi-n-propylamine	25	ND		0	68	
Hexachloroethane	25	ND				
Nitrobenzene	25	ND				
N-Nitrosopiperidine	125	ND				
Isophorone	125	ND				
2-Nitrophenol	125	ND		73		91
2,4-Dimethylphenol	125	ND				
bis(2-Chloroethoxy)methane	25	ND				
Benzoic acid	250	ND				
2,4-Dichlorophenol	125	ND	74			92
1,2,4-Trichlorobenzene	25	ND		3	76	
a,a-Dimethylphenethylamine	250	ND				
Naphthalene	25	ND				

TA# T89567
FIELD CODE: SS-5 @ 2'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Chloroaniline	125	ND				
2,6-Dichlorophenol	125	ND				
Hexachlorobutadiene	25	ND	73			91
N-Nitroso-di-n-butylamine	125	ND				
4-Chloro-3-methylphenol	125	ND	74	0	79	92
2-Methylnaphthalene	25	ND				
1,2,4,5-Tetrachlorobenzene	25	ND				
Hexachlorocyclopentadiene	25	ND				
2,4,6-Trichlorophenol	125	ND	71			88
2,4,5-Trichlorophenol	125	ND				
2-Chloronaphthalene	25	ND				
1-Chloronaphthalene	25	ND				
2-Nitroaniline	125	ND				
Dimethylphthalate	25	ND				
Acenaphthylene	25	ND				
2,6-Dinitrotoluene	25	ND				
3-Nitroaniline	125	ND				
Acenaphthene	25	ND	73	1	89	91
2,4-Dinitrophenol	125	ND				
Dibenzofuran	125	ND				
Pentachlorobenzene	25	ND				
4-Nitrophenol	125	ND		6	43	
1-Napthylamine	125	ND				
2,4-Dinitrotoluene	25	ND		1	85	
2-Napthylamine	125	ND				
2,3,4,6-Tetrachlorophenol	125	ND				
Fluorene	25	ND				
Diethylphthalate	25	ND				
4-Chlorophenyl-phenylether	25	ND				
4-Nitroaniline	125	ND				
4,6-Dinitro-2-methylphenol	125	ND				
n-Nitrosodiphenylamine & Diphenylamine	25	ND	76			
Diphenylhydrazine	125	ND				

TA# T89567
FIELD CODE: SS-5 @ 2'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	25	ND				
Phenacetin	125	ND				
Hexachlorobenzene	25	ND				
4-Aminobiphenyl	125	ND				
Pentachlorophenol	125	ND	71	12	49	
Pentachloronitrobenzene	125	ND				
Pronamide	25	ND				
Phenanthrene	25	ND				
Anthracene	25	ND				
Di-n-butylphthalate	25	ND				
Fluoranthene	25	ND	72			
Benzidine	250	ND				
Pyrene	25	ND		3	118	
p-Dimethylaminoazobenzene	25	ND				
Butylbenzylphthalate	25	ND				
Benzo[a]anthracene	25	ND				
3,3-Dichlorobenzidine	125	ND				
Chrysene	25	ND				
bis(2-Ethylhexyl)phthalate	25	ND				
Di-n-octlphthalate	25	ND	69			
Benzo[b]fluoranthene	25	ND				
7,12-Dimethylbenz(a)anthracene	25	ND				
Benzo[k]fluoranthene	25	ND				
Benzo[a]pyrene	25	ND	77			
3-Methylcholanthrene	25	ND				
Dibenzo(a,j)acridine	25	ND				
Indeno[1,2,3-cd]pyrene	25	ND				
Dibenz[a,h]anthracene	25	ND				
Benzo[g,h,i]perylene	25	ND				

Project Name: Shell Hobbs

TA #T89567

Field Code: SS-5 @ 2'

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	44
Phenol-d6 SURR	64
Nitrobenzene-d5 SURR	66
2-Fluorobiphenyl SURR	72
2,4,6-Tribromophenol SURR	49
Terphenyl-d14 SURR	119

*NOTE: Elevated reporting limits due to sample matrix interference.

METHODS: EPA SW 846-8270, 3550.

CHEMIST: MB

Director, Dr. Blair Leftwich

1-30-98

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January 30, 1998

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

Receiving Date: 01/21/98
Sample Type: Soil
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs
Project No: 18906 Phase 1001.77
Project Location: Hobbs
Extraction Date: 01/21/98
Analysis Date: 01/22/98

TA # T89559
Field Code: SS-1 @ 2-3'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	125	ND				
2-Picoline	125	ND				
Methyl methanesulfonate	125	ND				
Ethyl methanesulfonate	125	ND				
Phenol	125	ND	75	1	66	94
Aniline	625	ND				
bis(2-Chloroethyl)ether	625	ND				
2-Chlorophenol	625	ND		2	65	
1,3-Dichlorobenzene	125	ND				
1,4-Dichlorobenzene	125	ND	81	7	66	101
Benzyl alcohol	625	ND				
1,2-Dichlorobenzene	125	ND				
2-Methylphenol	125	ND				
bis(2-chloroisopropyl)ether	625	ND				
4-Methylphenol/3-Methylphenol	125	ND				
Acetophenone	625	ND				
n-Nitrosodi-n-propylamine	125	ND		0	68	
Hexachloroethane	125	ND				
Nitrobenzene	125	ND				
N-Nitrosopiperidine	625	ND				
Isophorone	625	ND				
2-Nitrophenol	625	ND		73		91
2,4-Dimethylphenol	625	ND				
bis(2-Chloroethoxy)methane	125	ND				
Benzoic acid	1,250	ND				
2,4-Dichlorophenol	625	ND	74			92
1,2,4-Trichlorobenzene	125	ND		3	76	
a,a-Dimethylphenethylamine	1,250	ND				
Naphthalene	125	ND				

TA# T89559
FIELD CODE: SS-1 @ 2-3'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Chloroaniline	625	ND				
2,6-Dichlorophenol	625	ND				
Hexachlorobutadiene	125	ND	73			91
N-Nitroso-di-n-butylamine	625	ND				
4-Chloro-3-methylphenol	625	ND	74	0	79	92
2-Methylnaphthalene	125	ND				
1,2,4,5-Tetrachlorobenzene	125	ND				
Hexachlorocyclopentadiene	125	ND				
2,4,6-Trichlorophenol	625	ND	71			88
2,4,5-Trichlorophenol	625	ND				
2-Chloronaphthalene	125	ND				
1-Chloronaphthalene	125	ND				
2-Nitroaniline	625	ND				
Dimethylphthalate	125	ND				
Acenaphthylene	125	ND				
2,6-Dinitrotoluene	125	ND				
3-Nitroaniline	625	ND				
Acenaphthene	125	ND	73	1	89	91
2,4-Dinitrophenol	625	ND				
Dibenzofuran	625	ND				
Pentachlorobenzene	125	ND				
4-Nitrophenol	625	ND		6	43	
1-Napthylamine	625	ND				
2,4-Dinitrotoluene	125	ND		1	85	
2-Napthylamine	625	ND				
2,3,4,6-Tetrachlorophenol	625	ND				
Fluorene	125	ND				
Diethylphthalate	125	ND				
4-Chlorophenyl-phenylether	125	ND				
4-Nitroaniline	625	ND				
4,6-Dinitro-2-methylphenol	625	ND				
n-Nitrosodiphenylamine & Diphenylamine	125	ND	76			
Diphenylhydrazine	625	ND				

TA# T89559
FIELD CODE: SS-1 @ 2-3'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	125	ND				
Phenacetin	625	ND				
Hexachlorobenzene	125	ND				
4-Aminobiphenyl	625	ND				
Pentachlorophenol	625	ND	71	12	49	
Pentachloronitrobenzene	625	ND				
Pronamide	125	ND				
Phenanthrene	125	ND				
Anthracene	125	ND				
Di-n-butylphthalate	125	ND				
Fluoranthene	125	ND	72			
Benzidine	1,250	ND				
Pyrene	125	ND		3	118	
p-Dimethylaminoazobenzene	125	ND				
Butylbenzylphthalate	125	ND				
Benzo[a]anthracene	125	ND				
3,3-Dichlorobenzidine	625	ND				
Chrysene	125	ND				
bis(2-Ethylhexyl)phthalate	125	ND				
Di-n-octlphthalate	125	ND	69			
Benzo[b]fluoranthene	125	ND				
7,12-Dimethylbenz(a)anthracene	125	ND				
Benzo[k]fluoranthene	125	ND				
Benzo[a]pyrene	125	ND	77			
3-Methylcholanthrene	125	ND				
Dibenzo(a,j)acridine	125	ND				
Indeno[1,2,3-cd]pyrene	125	ND				
Dibenz[a,h]anthracene	125	ND				
Benzo[g,h,i]perylene	125	ND				

Project Name: Shell Hobbs

TA #T89559
Field Code: SS-1 @ 2-3'

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	2**
Phenol-d6 SURR	18**
Nitrobenzene-d5 SURR	10**
2-Fluorobiphenyl SURR	10**
2,4,6-Tribromophenol SURR	0**
Terphenyl-d14 SURR	17**

*NOTE: Elevated reporting limits due to sample matrix interference.

**NOTE: Surrogate recovery over standard range due to matrix effect.

METHODS: EPA SW 846-8270, 3550.
CHEMIST: MB

Director, Dr. Blair Leftwich

1-30-98
Date

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E-Mail: lab@traceanalysis.com

January 30, 1998

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

Receiving Date: 01/21/98
Sample Type: Soil
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs
Project No: 18906 Phase 1001.77
Project Location: Hobbs
Extraction Date: 01/21/98
Analysis Date: 01/22/98

TA # T89560
Field Code: SS-1 @ 5'

EPA 8270	Reporting Limit	Concentration (mg/kg)	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	25	ND				
2-Picoline	25	ND				
Methyl methanesulfonate	25	ND				
Ethyl methanesulfonate	25	ND				
Phenol	25	ND	75	1	66	94
Aniline	125	ND				
bis(2-Chloroethyl)ether	125	ND				
2-Chlorophenol	125	ND		2	65	
1,3-Dichlorobenzene	25	ND				
1,4-Dichlorobenzene	25	ND	81	7	66	101
Benzyl alcohol	125	ND				
1,2-Dichlorobenzene	25	ND				
2-Methylphenol	25	ND				
bis(2-chloroisopropyl)ether	125	ND				
4-Methylphenol/3-Methylphenol	25	ND				
Acetophenone	125	ND				
n-Nitrosodi-n-propylamine	25	ND		0	68	
Hexachloroethane	25	ND				
Nitrobenzene	25	ND				
N-Nitrosopiperidine	125	ND				
Isophorone	125	ND				
2-Nitrophenol	125	ND		73		91
2,4-Dimethylphenol	125	ND				
bis(2-Chloroethoxy)methane	25	ND				
Benzoic acid	250	ND				
2,4-Dichlorophenol	125	ND	74			92
1,2,4-Trichlorobenzene	25	ND		3	76	
a,a-Dimethylphenethylamine	250	ND				
Naphthalene	25	ND				

TA# T89560
FIELD CODE: SS-1 @ 5'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Chloroaniline	125	ND				
2,6-Dichlorophenol	125	ND				
Hexachlorobutadiene	25	ND	73			91
N-Nitroso-di-n-butylamine	125	ND				
4-Chloro-3-methylphenol	125	ND	74	0	79	92
2-Methylnaphthalene	25	ND				
1,2,4,5-Tetrachlorobenzene	25	ND				
Hexachlorocyclopentadiene	25	ND				
2,4,6-Trichlorophenol	125	ND	71			88
2,4,5-Trichlorophenol	125	ND				
2-Chloronaphthalene	25	ND				
1-Chloronaphthalene	25	ND				
2-Nitroaniline	125	ND				
Dimethylphthalate	25	ND				
Acenaphthylene	25	ND				
2,6-Dinitrotoluene	25	ND				
3-Nitroaniline	125	ND				
Acenaphthene	25	ND	73	1	89	91
2,4-Dinitrophenol	125	ND				
Dibenzofuran	125	ND				
Pentachlorobenzene	25	ND				
4-Nitrophenol	125	ND		6	43	
1-Napthylamine	125	ND				
2,4-Dinitrotoluene	25	ND		1	85	
2-Napthylamine	125	ND				
2,3,4,6-Tetrachlorophenol	125	ND				
Fluorene	25	ND				
Diethylphthalate	25	ND				
4-Chlorophenyl-phenylether	25	ND				
4-Nitroaniline	125	ND				
4,6-Dinitro-2-methylphenol	125	ND				
n-Nitrosodiphenylamine & Diphenylamine	25	ND	76			
Diphenylhydrazine	125	ND				

TA# T89560
FIELD CODE: SS-1 @ 5'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	25	ND				
Phenacetin	125	ND				
Hexachlorobenzene	25	ND				
4-Aminobiphenyl	125	ND				
Pentachlorophenol	125	ND	71	12	49	
Pentachloronitrobenzene	125	ND				
Pronamide	25	ND				
Phenanthrene	25	ND				
Anthracene	25	ND				
Di-n-butylphthalate	25	ND				
Fluoranthene	25	ND	72			
Benzidine	250	ND				
Pyrene	25	ND		3	118	
p-Dimethylaminoazobenzene	25	ND				
Butylbenzylphthalate	25	ND				
Benzo[a]anthracene	25	ND				
3,3-Dichlorobenzidine	125	ND				
Chrysene	25	ND				
bis(2-Ethylhexyl)phthalate	25	ND				
Di-n-octlphthalate	25	ND	69			
Benzo[b]fluoranthene	25	ND				
7,12-Dimethylbenz(a)anthracene	25	ND				
Benzo[k]fluoranthene	25	ND				
Benzo[a]pyrene	25	ND	77			
3-Methylcholanthrene	25	ND				
Dibenzo(a,j)acridine	25	ND				
Indeno[1,2,3-cd]pyrene	25	ND				
Dibenz[a,h]anthracene	25	ND				
Benzo[g,h,i]perylene	25	ND				

TA #T89560
Field Code: SS-1 @ 5'

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	47
Phenol-d6 SURR	58
Nitrobenzene-d5 SURR	55
2-Fluorobiphenyl SURR	64
2,4,6-Tribromophenol SURR	38
Terphenyl-d14 SURR	109

*NOTE: Elevated reporting limits due to sample matrix interference.

METHODS: EPA SW 846-8270, 3550.
CHEMIST: MB

BS

Director, Dr. Blair Leftwich

1-30-98

Date

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E-Mail: lab@traceanalysis.com

January 30, 1998

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

Receiving Date: 01/21/98
Sample Type: Soil
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs
Project No: 18906 Phase 1001.77
Project Location: Hobbs
Extraction Date: 01/21/98
Analysis Date: 01/22/98

TA # T89561
Field Code: SS-2 @ 2-3'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	125	ND				
2-Picoline	125	ND				
Methyl methanesulfonate	125	ND				
Ethyl methanesulfonate	125	ND				
Phenol	125	ND	75	1	66	94
Aniline	625	ND				
bis(2-Chloroethyl)ether	625	ND				
2-Chlorophenol	625	ND		2	65	
1,3-Dichlorobenzene	125	ND				
1,4-Dichlorobenzene	125	ND	81	7	66	101
Benzyl alcohol	625	ND				
1,2-Dichlorobenzene	125	ND				
2-Methylphenol	125	ND				
bis(2-chloroisopropyl)ether	625	ND				
4-Methylphenol/3-Methylphenol	125	ND				
Acetophenone	625	ND				
n-Nitrosodi-n-propylamine	125	ND		0	68	
Hexachloroethane	125	ND				
Nitrobenzene	125	ND				
N-Nitrosopiperidine	625	ND				
Isophorone	625	ND				
2-Nitrophenol	625	ND		73		91
2,4-Dimethylphenol	625	ND				
bis(2-Chloroethoxy)methane	125	ND				
Benzoic acid	1,250	ND				
2,4-Dichlorophenol	625	ND	74			92
1,2,4-Trichlorobenzene	125	ND		3	76	
a,a-Dimethylphenethylamine	1,250	ND				
Naphthalene	125	ND				

Project Name: Shell Hobbs

TA# T89561
FIELD CODE: SS-2 @ 2-3'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Chloroaniline	625	ND				
2,6-Dichlorophenol	625	ND				
Hexachlorobutadiene	125	ND	73			91
N-Nitroso-di-n-butylamine	625	ND				
4-Chloro-3-methylphenol	625	ND	74	0	79	92
2-Methylnaphthalene	125	ND				
1,2,4,5-Tetrachlorobenzene	125	ND				
Hexachlorocyclopentadiene	125	ND				
2,4,6-Trichlorophenol	625	ND	71			88
2,4,5-Trichlorophenol	625	ND				
2-Chloronaphthalene	125	ND				
1-Chloronaphthalene	125	ND				
2-Nitroaniline	625	ND				
Dimethylphthalate	125	ND				
Acenaphthylene	125	ND				
2,6-Dinitrotoluene	125	ND				
3-Nitroaniline	625	ND				
Acenaphthene	125	ND	73	1	89	91
2,4-Dinitrophenol	625	ND				
Dibenzofuran	625	ND				
Pentachlorobenzene	125	ND				
4-Nitrophenol	625	ND		6	43	
1-Napthylamine	625	ND				
2,4-Dinitrotoluene	125	ND		1	85	
2-Napthylamine	625	ND				
2,3,4,6-Tetrachlorophenol	625	ND				
Fluorene	125	ND				
Diethylphthalate	125	ND				
4-Chlorophenyl-phenylether	125	ND				
4-Nitroaniline	625	ND				
4,6-Dinitro-2-methylphenol	625	ND				
n-Nitrosodiphenylamine & Diphenylamine	125	ND	76			
Diphenylhydrazine	625	ND				

TA# T89561
FIELD CODE: SS-2 @ 2-3'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	125	ND				
Phenacetin	625	ND				
Hexachlorobenzene	125	ND				
4-Aminobiphenyl	625	ND				
Pentachlorophenol	625	ND	71	12	49	
Pentachloronitrobenzene	625	ND				
Pronamide	125	ND				
Phenanthrene	125	ND				
Anthracene	125	ND				
Di-n-butylphthalate	125	ND				
Fluoranthene	125	ND	72			
Benzidine	1,250	ND				
Pyrene	125	ND		3	118	
p-Dimethylaminoazobenzene	125	ND				
Butylbenzylphthalate	125	ND				
Benzo[a]anthracene	125	ND				
3,3-Dichlorobenzidine	625	ND				
Chrysene	125	ND				
bis(2-Ethylhexyl)phthalate	125	ND				
Di-n-octlphthalate	125	ND	69			
Benzo[b]fluoranthene	125	ND				
7,12-Dimethylbenz(a)anthracene	125	ND				
Benzo[k]fluoranthene	125	ND				
Benzo[a]pyrene	125	ND	77			
3-Methylcholanthrene	125	ND				
Dibenzo(a,j)acridine	125	ND				
Indeno[1,2,3-cd]pyrene	125	ND				
Dibenz[a,h]anthracene	125	ND				
Benzo[g,h,i]perylene	125	ND				

Project Name: Shell Hobbs

TA #T89561
Field Code: SS-2 @ 2-3'

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	4**
Phenol-d6 SURR	7**
Nitrobenzene-d5 SURR	15**
2-Fluorobiphenyl SURR	13**
2,4,6-Tribromophenol SURR	0**
Terphenyl-d14 SURR	22**

*NOTE: Elevated reporting limits due to sample matrix interference.
**NOTE: Surrogate recovery over standard range due to matrix effect.

METHODS: EPA SW 846-8270, 3550.
CHEMIST: MB

Director, Dr. Blair Leftwich

1-30-98
Date

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E-Mail: lab@traceanalysis.com

January 30, 1998

Receiving Date: 01/21/98
Sample Type: Soil
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs
Project No: 18906 Phase 1001.77
Project Location: Hobbs
Extraction Date: 01/21/98
Analysis Date: 01/22/98

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

TA # T89562
Field Code: SS-2 @ 6'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	50	ND				
2-Picoline	50	ND				
Methyl methanesulfonate	50	ND				
Ethyl methanesulfonate	50	ND				
Phenol	50	ND	75	1	66	94
Aniline	250	ND				
bis(2-Chloroethyl)ether	250	ND				
2-Chlorophenol	250	ND		2	65	
1,3-Dichlorobenzene	50	ND				
1,4-Dichlorobenzene	50	ND	81	7	66	101
Benzyl alcohol	250	ND				
1,2-Dichlorobenzene	50	ND				
2-Methylphenol	50	ND				
bis(2-chloroisopropyl)ether	250	ND				
4-Methylphenol/3-Methylphenol	50	ND				
Acetophenone	250	ND				
n-Nitrosodi-n-propylamine	50	ND		0	68	
Hexachloroethane	50	ND				
Nitrobenzene	50	ND				
N-Nitrosopiperidine	250	ND				
Isophorone	250	ND				
2-Nitrophenol	250	ND		73		91
2,4-Dimethylphenol	250	ND				
bis(2-Chloroethoxy)methane	50	ND				
Benzoic acid	500	ND				
2,4-Dichlorophenol	250	ND	74			92
1,2,4-Trichlorobenzene	50	ND		3	76	
a,a-Dimethylphenethylamine	500	ND				
Naphthalene	50	ND				

Project Name: Shell Hobbs

TA# T89562
FIELD CODE: SS-2 @ 6'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Chloroaniline	250	ND				
2,6-Dichlorophenol	250	ND				
Hexachlorobutadiene	50	ND	73			91
N-Nitroso-di-n-butylamine	250	ND				
4-Chloro-3-methylphenol	250	ND	74	0	79	92
2-Methylnaphthalene	50	ND				
1,2,4,5-Tetrachlorobenzene	50	ND				
Hexachlorocyclopentadiene	50	ND				
2,4,6-Trichlorophenol	250	ND	71			88
2,4,5-Trichlorophenol	250	ND				
2-Chloronaphthalene	50	ND				
1-Chloronaphthalene	50	ND				
2-Nitroaniline	250	ND				
Dimethylphthalate	50	ND				
Acenaphthylene	50	ND				
2,6-Dinitrotoluene	50	ND				
3-Nitroaniline	250	ND				
Acenaphthene	50	ND	73	1	89	91
2,4-Dinitrophenol	250	ND				
Dibenzofuran	250	ND				
Pentachlorobenzene	50	ND				
4-Nitrophenol	250	ND		6	43	
1-Napthylamine	250	ND				
2,4-Dinitrotoluene	50	ND		1	85	
2-Napthylamine	250	ND				
2,3,4,6-Tetrachlorophenol	250	ND				
Fluorene	50	ND				
Diethylphthalate	50	ND				
4-Chlorophenyl-phenylether	50	ND				
4-Nitroaniline	250	ND				
4,6-Dinitro-2-methylphenol	250	ND				
n-Nitrosodiphenylamine & Diphenylamine	50	ND	76			
Diphenylhydrazine	250	ND				

TA# T89562
FIELD CODE: SS-2 @ 6'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	50	ND				
Phenacetin	250	ND				
Hexachlorobenzene	50	ND				
4-Aminobiphenyl	250	ND				
Pentachlorophenol	250	ND	71	12	49	
Pentachloronitrobenzene	250	ND				
Pronamide	50	ND				
Phenanthrene	50	ND				
Anthracene	50	ND				
Di-n-butylphthalate	50	ND				
Fluoranthene	50	ND	72			
Benzidine	500	ND				
Pyrene	50	ND		3	118	
p-Dimethylaminoazobenzene	50	ND				
Butylbenzylphthalate	50	ND				
Benzo[a]anthracene	50	ND				
3,3-Dichlorobenzidine	250	ND				
Chrysene	50	ND				
bis(2-Ethylhexyl)phthalate	50	ND				
Di-n-octlphthalate	50	ND	69			
Benzo[b]fluoranthene	50	ND				
7,12-Dimethylbenz(a)anthracene	50	ND				
Benzo[k]fluoranthene	50	ND				
Benzo[a]pyrene	50	ND	77			
3-Methylcholanthrene	50	ND				
Dibenzo(a,j)acridine	50	ND				
Indeno[1,2,3-cd]pyrene	50	ND				
Dibenz[a,h]anthracene	50	ND				
Benzo[g,h,i]perylene	50	ND				

Project Name: Shell Hobbs

TA #T89562
Field Code: SS-2 @ 6'

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	23**
Phenol-d6 SURR	30
Nitrobenzene-d5 SURR	37
2-Fluorobiphenyl SURR	41
2,4,6-Tribromophenol SURR	0**
Terphenyl-d14 SURR	53

*NOTE: Elevated reporting limits due to sample matrix interference.

**NOTE: Surrogate recovery over standard range due to matrix effect.

METHODS: EPA SW 846-8270, 3550.
CHEMIST: MB

Director, Dr. Blair Leftwich

1-30-98
Date

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January 30, 1998

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

Receiving Date: 01/21/98
Sample Type: Soil
Sampling Date: 01/20/98
Sample Condition: I & C
Sample Received by: VW
Project Name: Shell Hobbs
Project No: 18906 Phase 1001.77
Project Location: Hobbs
Extraction Date: 01/21/98
Analysis Date: 01/22/98

TA # T89568
Field Code: SS-5 @ 5'

EPA 8270	Reporting Limit	Concentration (mg/kg)	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	25	ND				
2-Picoline	25	ND				
Methyl methanesulfonate	25	ND				
Ethyl methanesulfonate	25	ND				
Phenol	25	ND	75	1	66	94
Aniline	125	ND				
bis(2-Chloroethyl)ether	125	ND				
2-Chlorophenol	125	ND		2	65	
1,3-Dichlorobenzene	25	ND				
1,4-Dichlorobenzene	25	ND	81	7	66	101
Benzyl alcohol	125	ND				
1,2-Dichlorobenzene	25	ND				
2-Methylphenol	25	ND				
bis(2-chloroisopropyl)ether	125	ND				
4-Methylphenol/3-Methylphenol	25	ND				
Acetophenone	125	ND				
n-Nitrosodi-n-propylamine	25	ND		0	68	
Hexachloroethane	25	ND				
Nitrobenzene	25	ND				
N-Nitrosopiperidine	125	ND				
Isophorone	125	ND				
2-Nitrophenol	125	ND		73		91
2,4-Dimethylphenol	125	ND				
bis(2-Chloroethoxy)methane	25	ND				
Benzoic acid	250	ND				
2,4-Dichlorophenol	125	ND	74			92
1,2,4-Trichlorobenzene	25	ND		3	76	
a,a-Dimethylphenethylamine	250	ND				
Naphthalene	25	ND				

Project Name: Shell Hobbs

TA# T89568
FIELD CODE: SS-5 @ 5'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Chloroaniline	125	ND				
2,6-Dichlorophenol	125	ND				
Hexachlorobutadiene	25	ND	73			91
N-Nitroso-di-n-butylamine	125	ND				
4-Chloro-3-methylphenol	125	ND	74	0	79	92
2-Methylnaphthalene	25	ND				
1,2,4,5-Tetrachlorobenzene	25	ND				
Hexachlorocyclopentadiene	25	ND				
2,4,6-Trichlorophenol	125	ND	71			88
2,4,5-Trichlorophenol	125	ND				
2-Chloronaphthalene	25	ND				
1-Chloronaphthalene	25	ND				
2-Nitroaniline	125	ND				
Dimethylphthalate	25	ND				
Acenaphthylene	25	ND				
2,6-Dinitrotoluene	25	ND				
3-Nitroaniline	125	ND				
Acenaphthene	25	ND	73	1	89	91
2,4-Dinitrophenol	125	ND				
Dibenzofuran	125	ND				
Pentachlorobenzene	25	ND				
4-Nitrophenol	125	ND		6	43	
1-Napthylamine	125	ND				
2,4-Dinitrotoluene	25	ND		1	85	
2-Napthylamine	125	ND				
2,3,4,6-Tetrachlorophenol	125	ND				
Fluorene	25	ND				
Diethylphthalate	25	ND				
4-Chlorophenyl-phenylether	25	ND				
4-Nitroaniline	125	ND				
4,6-Dinitro-2-methylphenol	125	ND				
n-Nitrosodiphenylamine & Diphenylamine	25	ND	76			
Diphenylhydrazine	125	ND				

TA# T89568
FIELD CODE: SS-5 @ 5'

EPA 8270	Reporting Limit*	Concentration (mg/kg)	QC	RPD	%EA	%IA
4-Bromophenyl-phenylether	25	ND				
Phenacetin	125	ND				
Hexachlorobenzene	25	ND				
4-Aminobiphenyl	125	ND				
Pentachlorophenol	125	ND	71	12	49	
Pentachloronitrobenzene	125	ND				
Pronamide	25	ND				
Phenanthrene	25	ND				
Anthracene	25	ND				
Di-n-butylphthalate	25	ND				
Fluoranthene	25	ND	72			
Benzidine	250	ND				
Pyrene	25	ND		3	118	
p-Dimethylaminoazobenzene	25	ND				
Butylbenzylphthalate	25	ND				
Benzo[a]anthracene	25	ND				
3,3-Dichlorobenzidine	125	ND				
Chrysene	25	ND				
bis(2-Ethylhexyl)phthalate	25	ND				
Di-n-octlphthalate	25	ND	69			
Benzo[b]fluoranthene	25	ND				
7,12-Dimethylbenz(a)anthracene	25	ND				
Benzo[k]fluoranthene	25	ND				
Benzo[a]pyrene	25	ND	77			
3-Methylcholanthrene	25	ND				
Dibenzo(a,j)acridine	25	ND				
Indeno[1,2,3-cd]pyrene	25	ND				
Dibenz[a,h]anthracene	25	ND				
Benzo[g,h,i]perylene	25	ND				

Project Name: Shell Hobbs

TA #T89568
Field Code: SS-5 @ 5'

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	39
Phenol-d6 SURR	46
Nitrobenzene-d5 SURR	68
2-Fluorobiphenyl SURR	69
2,4,6-Tribromophenol SURR	41
Terphenyl-d14 SURR	128

***NOTE: Elevated reporting limits due to sample matrix interference.**

METHODS: EPA SW 846-8270, 3550.
CHEMIST: MB

Director, Dr. Blair Leftwich

1-30-98

Date

TRACEANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

January 29, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906 Phase 1001.77
Project Location: Hobbs

Prep Date: 01/22/98
Analysis Date: 01/22/98
Sampling Date: 01/20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Shell Hobbs

TA #: T89559
FIELD CODE: SS-1 @ 2-3'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dichlorodifluoromethane	50	ND				
Chloromethane	50	ND				
Vinyl chloride	100	ND	107			107
Bromomethane	250	ND				
Chloroethane	50	ND				
Trichlorofluoromethane	50	ND				
1,1-Dichloroethene	50	ND	84	2	107	84
Methylene chloride	250	ND				
trans-1,2-Dichloroethene	50	ND				
1,1-Dichloroethane	50	ND				
cis-1,2-Dichloroethene	50	ND				
Chloroform	50	ND	101			101
2,2-Dichloropropane	50	ND				
Bromochloromethane	50	ND				
1,2-Dichloroethane	50	ND				
1,1,1-Trichloroethane	50	ND				
Carbon Tetrachloride	50	ND				
1,1-Dichloropropene	50	ND				
Benzene	50	ND		1	115	
1,2-Dichloropropane	50	ND	104			104
Trichloroethene	50	ND		0	113	
Dibromomethane	50	ND				
Bromodichloromethane	50	ND				
cis-1,3-Dichloropropene	50	ND				
trans-1,3-Dichloropropene	50	ND				
Toluene	50	ND	103	1	112	103
1,1,2-Trichloroethane	50	ND				
1,3-Dichloropropane	50	ND				

TA #: T89559

Field Code: SS-1 @ 2-3'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dibromochloromethane	50	ND				
1,2-Dibromoethane	50	ND				
Tetrachloroethene	50	ND				
Chlorobenzene	50	ND	104	1	114	104
1,1,1,2-Tertachloroethane	50	ND	106			106
Ethylbenzene	50	ND				
m & p-Xylene	50	ND				
Bromoform	50	ND				
Styrene	50	ND				
o-Xylene	50	ND				
1,1,2,2-Tetrachloroethane	50	ND				
1,2,3-Trichloropropane	50	ND				
Isopropylbenzene	50	ND				
Bromobenzene	50	ND				
2-Chlorotoluene	50	ND				
n-Propylbenzene	50	ND				
4-Chlorotoluene	50	ND				
1,3,5-Trimethylbenzene	50	ND				
tert-Butylbenzene	50	ND				
1,2,4-Trimethylbenzene	50	ND				
1,4-Dichlorobenzene	100	ND				
sec-Butylbenzene	50	ND				
1,3-Dichlorobenzene	100	ND				
4-Isopropyltoluene	50	ND				
1,2-Dichlorobenzene	100	ND				
n-Butylbenzene	50	ND				
1,2-Dibromo-3-chloropropane	250	ND				
1,2,3-Trichlorobenzene	250	ND				
Naphthalene	50	ND				
1,2,4-Trichlorobenzene	250	ND				
Hexachlorobutadiene	250	ND				

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/kg)

	RT	CONC.
(1) ethyl-cyclohexane	16.64	1,100
(2) 1,1,3-trimethylCyclohexane	16.72	1,700
(3) 2,6-drimethyl-2-Octane	19.82	2,100
(4) 1-ethyl-2,2,6-trimethylcyclohexane	22.05	1,100
(5) trans-decahydro-napthalene	22.54	2,200
(6) decahydro-2-methyl-Napthalene	24.54	960

	% Recovery
Dibromofluoromethane	100
Toluene-d8	100
4-Bromofluorobenzene	106

ND = Not Detected
Methods: EPA SW 846-5030, 8260.
CHEMIST: AG/MB

Director, Dr. Blair Leftwich

1-29-98
Date

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

January 29, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906 Phase 1001.77
Project Location: Hobbs

Prep Date: 01/22/98
Analysis Date: 01/22/98
Sampling Date: 01/20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Shell Hobbs

TA #: T89560
FIELD CODE: SS-1 @ 5'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dichlorodifluoromethane	50	ND				
Chloromethane	50	ND				
Vinyl chloride	100	ND	107			107
Bromomethane	250	ND				
Chloroethane	50	ND				
Trichlorofluoromethane	50	ND				
1,1-Dichloroethene	50	ND	84	2	107	84
Methylene chloride	250	ND				
trans-1,2-Dichloroethene	50	ND				
1,1-Dichloroethane	50	ND				
cis-1,2-Dichloroethene	50	ND				
Chloroform	50	ND	101			101
2,2-Dichloropropane	50	ND				
Bromochloromethane	50	ND				
1,2-Dichloroethane	50	ND				
1,1,1-Trichloroethane	50	ND				
Carbon Tetrachloride	50	ND				
1,1-Dichloropropene	50	ND				
Benzene	50	ND		1	115	
1,2-Dichloropropane	50	ND	104			104
Trichloroethene	50	ND		0	113	
Dibromomethane	50	ND				
Bromodichloromethane	50	ND				
cis-1,3-Dichloropropene	50	ND				
trans-1,3-Dichloropropene	50	ND				
Toluene	50	ND	103	1	112	103
1,1,2-Trichloroethane	50	ND				
1,3-Dichloropropane	50	ND				

TA #: T89560

Field Code: SS-1 @ 5'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dibromochloromethane	50	ND				
1,2-Dibromoethane	50	ND				
Tetrachloroethene	50	ND				
Chlorobenzene	50	ND	104	1	114	104
1,1,1,2-Tertachloroethane	50	ND	106			106
Ethylbenzene	50	ND				
m & p-Xylene	50	ND				
Bromoform	50	ND				
Styrene	50	ND				
o-Xylene	50	ND				
1,1,2,2-Tetrachloroethane	50	ND				
1,2,3-Trichloropropane	50	ND				
Isopropylbenzene	50	ND				
Bromobenzene	50	ND				
2-Chlorotoluene	50	ND				
n-Propylbenzene	50	ND				
4-Chlorotoluene	50	ND				
1,3,5-Trimethylbenzene	50	ND				
tert-Butylbenzene	50	ND				
1,2,4-Trimethylbenzene	50	ND				
1,4-Dichlorobenzene	100	ND				
sec-Butylbenzene	50	ND				
1,3-Dichlorobenzene	100	ND				
4-Isopropyltoluene	50	ND				
1,2-Dichlorobenzene	100	ND				
n-Butylbenzene	50	ND				
1,2-Dibromo-3-chloropropane	250	ND				
1,2,3-Trichlorobenzene	250	ND				
Naphthalene	50	ND				
1,2,4-Trichlorobenzene	250	ND				
Hexachlorobutadiene	250	ND				

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/kg)

	RT	CONC.
(1) 1,1-dimethyl-2-propyl-cyclohexane	22.05	690
(2) decahydro-Napthalene	22.55	2,000
(3) decahydro-2-methyl-napthalene	23.99	1,100
(4) 1-ethyl-3,5-dimethyl Benzene	24.17	690
(5) decahydro-2-methyl-napthalene	24.54	1,400
(6) 1,2,4,5-tetramethylbenzene	25.36	890

	% Recovery
Dibromofluoromethane	97
Toluene-d8	97
4-Bromofluorobenzene	102

ND = Not Detected
Methods: EPA SW 846-5030, 8260.
CHEMIST: AG/MB

BS

Director, Dr. Blair Leftwich

1-29-98

Date

TRACE ANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

January 29, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906 Phase 1001.77
Project Location: Hobbs

Prep Date: 01/22/98
Analysis Date: 01/22/98
Sampling Date: 01/20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Shell Hobbs

TA #: T89561
FIELD CODE: SS-2 @ 2-3'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dichlorodifluoromethane	500	ND				
Chloromethane	500	ND				
Vinyl chloride	1,000	ND	107			107
Bromomethane	2,500	ND				
Chloroethane	500	ND				
Trichlorofluoromethane	500	ND				
1,1-Dichloroethene	500	ND	84	2	107	84
Methylene chloride	2,500	ND				
trans-1,2-Dichloroethene	500	ND				
1,1-Dichloroethane	500	ND				
cis-1,2-Dichloroethene	500	ND				
Chloroform	500	ND	101			101
2,2-Dichloropropane	500	ND				
Bromochloromethane	500	ND				
1,2-Dichloroethane	500	ND				
1,1,1-Trichloroethane	500	ND				
Carbon Tetrachloride	500	ND				
1,1-Dichloropropene	500	ND				
Benzene	500	ND		1	115	
1,2-Dichloropropane	500	ND	104			104
Trichloroethene	500	ND		0	113	
Dibromomethane	500	ND				
Bromodichloromethane	500	ND				
cis-1,3-Dichloropropene	500	ND				
trans-1,3-Dichloropropene	500	ND				
Toluene	500	ND	103	1	112	103
1,1,2-Trichloroethane	500	ND				
1,3-Dichloropropane	500	ND				

TA #: T89561

Field Code: SS-2 @ 2-3'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dibromochloromethane	500	ND				
1,2-Dibromoethane	500	ND				
Tetrachloroethene	500	ND				
Chlorobenzene	500	ND	104	1	114	104
1,1,1,2-Tertachloroethane	500	ND	106			106
Ethylbenzene	500	7,000				
m & p-Xylene	500	31,000				
Bromoform	500	ND				
Styrene	500	ND				
o-Xylene	500	ND				
1,1,2,2-Tetrachloroethane	500	ND				
1,2,3-Trichloropropane	500	ND				
Isopropylbenzene	500	ND				
Bromobenzene	500	ND				
2-Chlorotoluene	500	ND				
n-Propylbenzene	500	ND				
4-Chlorotoluene	500	ND				
1,3,5-Trimethylbenzene	500	ND				
tert-Butylbenzene	500	ND				
1,2,4-Trimethylbenzene	500	ND				
1,4-Dichlorobenzene	1,000	ND				
sec-Butylbenzene	500	ND				
1,3-Dichlorobenzene	1,000	ND				
4-Isopropyltoluene	500	ND				
1,2-Dichlorobenzene	1,000	ND				
n-Butylbenzene	500	ND				
1,2-Dibromo-3-chloropropane	2,500	ND				
1,2,3-Trichlorobenzene	2,500	ND				
Naphthalene	500	ND				
1,2,4-Trichlorobenzene	2,500	ND				
Hexachlorobutadiene	2,500	ND				

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/kg)

	RT	CONC.
(1) Cyclohexane	12.02	31,000
(2) ethyl-cyclohexane	16.64	33,000
(3) 2,6-dimetyl Octane	18.53	21,000
(4) 1,3,5-trimethyl-benzene	20.10	20,000

	% Recovery
Dibromofluoromethane	97
Toluene-d8	103
4-Bromofluorobenzene	102

ND = Not Detected
Methods: EPA SW 846-5030, 8260.
CHEMIST: AG/MB

Director, Dr. Blair Leftwich

1-29-98
Date

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

January 29, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906 Phase 1001.77
Project Location: Hobbs

Prep Date: 01/22/98
Analysis Date: 01/22/98
Sampling Date: 01/20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Shell Hobbs

TA #: T89562
FIELD CODE: SS-2 @ 6'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dichlorodifluoromethane	500	ND				
Chloromethane	500	ND				
Vinyl chloride	1,000	ND	107			107
Bromomethane	2,500	ND				
Chloroethane	500	ND				
Trichlorofluoromethane	500	ND				
1,1-Dichloroethene	500	ND	84	2	107	84
Methylene chloride	2,500	ND				
trans-1,2-Dichloroethene	500	ND				
1,1-Dichloroethane	500	ND				
cis-1,2-Dichloroethene	500	ND				
Chloroform	500	ND	101			101
2,2-Dichloropropane	500	ND				
Bromochloromethane	500	ND				
1,2-Dichloroethane	500	ND				
1,1,1-Trichloroethane	500	ND				
Carbon Tetrachloride	500	ND				
1,1-Dichloropropene	500	ND				
Benzene	500	ND		1	115	
1,2-Dichloropropane	500	ND	104			104
Trichloroethene	500	ND		0	113	
Dibromomethane	500	ND				
Bromodichloromethane	500	ND				
cis-1,3-Dichloropropene	500	ND				
trans-1,3-Dichloropropene	500	ND				
Toluene	500	ND	103	1	112	103
1,1,2-Trichloroethane	500	ND				
1,3-Dichloropropane	500	ND				

PHILIP ENVIRONMENTAL
Shell Hobbs

TA #: T89562
Field Code: SS-2 @ 6'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dibromochloromethane	500	ND				
1,2-Dibromoethane	500	ND				
Tetrachloroethene	500	ND				
Chlorobenzene	500	ND	104	1	114	104
1,1,1,2-Tertachloroethane	500	ND	106			106
Ethylbenzene	500	9,700				
m & p-Xylene	500	37,000				
Bromoform	500	ND				
Styrene	500	ND				
o-Xylene	500	ND				
1,1,2,2-Tetrachloroethane	500	ND				
1,2,3-Trichloropropane	500	ND				
Isopropylbenzene	500	ND				
Bromobenzene	500	ND				
2-Chlorotoluene	500	ND				
n-Propylbenzene	500	ND				
4-Chlorotoluene	500	ND				
1,3,5-Trimethylbenzene	500	ND				
tert-Butylbenzene	500	ND				
1,2,4-Trimethylbenzene	500	ND				
1,4-Dichlorobenzene	1,000	ND				
sec-Butylbenzene	500	ND				
1,3-Dichlorobenzene	1,000	ND				
4-Isopropyltoluene	500	ND				
1,2-Dichlorobenzene	1,000	ND				
n-Butylbenzene	500	ND				
1,2-Dibromo-3-chloropropane	2,500	ND				
1,2,3-Trichlorobenzene	2,500	ND				
Naphthalene	500	ND				
1,2,4-Trichlorobenzene	2,500	ND				
Hexachlorobutadiene	2,500	ND				

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/kg)

	RT	CONC.
(1) Methyl-cyclohexane	13.71	22,000
(2) Ethyl-cyclohexane	16.64	20,000
(3) (1-methylethyl)-benzene	19.11	21,000
(4) 1,3,5-trimethyl-benzene	20.11	14,000
(5) 1,2,3-trimethyl-benzene	21.74	12,000
(6) 1-methyl-3-propyl-benzene	22.08	14,000

	% Recovery
Dibromofluoromethane	98
Toluene-d8	100
4-Bromofluorobenzene	99

ND = Not Detected
Methods: EPA SW 846-5030, 8260.
CHEMIST: AG/MB

Director, Dr. Blair Leftwich

1-29-98
Date

TRACE ANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

January 29, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906 Phase 1001.77
Project Location: Hobbs

Prep Date: 01/22/98
Analysis Date: 01/22/98
Sampling Date: 01/20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Shell Hobbs

TA #: T89563
FIELD CODE: SS-3 @ 2-3'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dichlorodifluoromethane	500	ND				
Chloromethane	500	ND				
Vinyl chloride	1,000	ND	107			107
Bromomethane	2,500	ND				
Chloroethane	500	ND				
Trichlorofluoromethane	500	ND				
1,1-Dichloroethene	500	ND	84	2	107	84
Methylene chloride	2,500	ND				
trans-1,2-Dichloroethene	500	ND				
1,1-Dichloroethane	500	ND				
cis-1,2-Dichloroethene	500	ND				
Chloroform	500	ND	101			101
2,2-Dichloropropane	500	ND				
Bromochloromethane	500	ND				
1,2-Dichloroethane	500	ND				
1,1,1-Trichloroethane	500	ND				
Carbon Tetrachloride	500	ND				
1,1-Dichloropropene	500	ND				
Benzene	500	ND		1	115	
1,2-Dichloropropane	500	ND	104			104
Trichloroethene	500	ND		0	113	
Dibromomethane	500	ND				
Bromodichloromethane	500	ND				
cis-1,3-Dichloropropene	500	ND				
trans-1,3-Dichloropropene	500	ND				
Toluene	500	ND	103	1	112	103
1,1,2-Trichloroethane	500	ND				
1,3-Dichloropropane	500	ND				

TA #: T89563

Field Code: SS-3 @ 2-3'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dibromochloromethane	500	ND				
1,2-Dibromoethane	500	ND				
Tetrachloroethene	500	ND				
Chlorobenzene	500	ND	104	1	114	104
1,1,1,2-Tertachloroethane	500	ND	106			106
Ethylbenzene	500	1,400				
m & p-Xylene	500	4,900				
Bromoform	500	ND				
Styrene	500	ND				
o-Xylene	500	ND				
1,1,2,2-Tetrachloroethane	500	ND				
1,2,3-Trichloropropane	500	ND				
Isopropylbenzene	500	ND				
Bromobenzene	500	ND				
2-Chlorotoluene	500	ND				
n-Propylbenzene	500	ND				
4-Chlorotoluene	500	ND				
1,3,5-Trimethylbenzene	500	ND				
tert-Butylbenzene	500	ND				
1,2,4-Trimethylbenzene	500	ND				
1,4-Dichlorobenzene	1,000	ND				
sec-Butylbenzene	500	ND				
1,3-Dichlorobenzene	1,000	ND				
4-Isopropyltoluene	500	ND				
1,2-Dichlorobenzene	1,000	ND				
n-Butylbenzene	500	ND				
1,2-Dibromo-3-chloropropane	2,500	ND				
1,2,3-Trichlorobenzene	2,500	ND				
Naphthalene	500	ND				
1,2,4-Trichlorobenzene	2,500	ND				
Hexachlorobutadiene	2,500	ND				

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/kg)

	RT	CONC.
(1) ethyl-cyclohexane	16.64	5,300
(2) 1-ethyl-2-methyl-benzene	19.96	7,100
(3) 1,3,5-trimethyl-benzene	20.85	7,400
(4) 1-methyl-3-propyl-benzene	22.07	4,400
(5) 1,4-diethyl-benzene	22.20	4,700

	% Recovery
Dibromofluoromethane	97
Toluene-d8	99
4-Bromofluorobenzene	97

ND = Not Detected
Methods: EPA SW 846-5030, 8260.
CHEMIST: AG/MB

Director, Dr. Blair Leftwich

1-29-98
Date

TRACE ANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

January 29, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906 Phase 1001.77
Project Location: Hobbs

Prep Date: 01/22/98
Analysis Date: 01/22/98
Sampling Date: 01/20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Shell Hobbs

TA #: T89564
FIELD CODE: SS-3 @ 5.5'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dichlorodifluoromethane	100	ND				
Chloromethane	100	ND				
Vinyl chloride	200	ND	107			107
Bromomethane	500	ND				
Chloroethane	100	ND				
Trichlorofluoromethane	100	ND				
1,1-Dichloroethene	100	ND	84	2	107	84
Methylene chloride	500	ND				
trans-1,2-Dichloroethene	100	ND				
1,1-Dichloroethane	100	ND				
cis-1,2-Dichloroethene	100	ND				
Chloroform	100	ND	101			101
2,2-Dichloropropane	100	ND				
Bromochloromethane	100	ND				
1,2-Dichloroethane	100	ND				
1,1,1-Trichloroethane	100	ND				
Carbon Tetrachloride	100	ND				
1,1-Dichloropropene	100	ND				
Benzene	100	ND		1	115	
1,2-Dichloropropane	100	ND	104			104
Trichloroethene	100	ND		0	113	
Dibromomethane	100	ND				
Bromodichloromethane	100	ND				
cis-1,3-Dichloropropene	100	ND				
trans-1,3-Dichloropropene	100	ND				
Toluene	100	ND	103	1	112	103
1,1,2-Trichloroethane	100	ND				
1,3-Dichloropropane	100	ND				

TA #: T89564

Field Code: SS-3 @ 5.5'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dibromochloromethane	100	ND				
1,2-Dibromoethane	100	ND				
Tetrachloroethene	100	540				
Chlorobenzene	100	ND	104	1	114	104
1,1,1,2-Tertachloroethane	100	ND	106			106
Ethylbenzene	100	660				
m & p-Xylene	100	2,000				
Bromoform	100	ND				
Styrene	100	ND				
o-Xylene	100	ND				
1,1,2,2-Tetrachloroethane	100	ND				
1,2,3-Trichloropropane	100	ND				
Isopropylbenzene	100	ND				
Bromobenzene	100	ND				
2-Chlorotoluene	100	ND				
n-Propylbenzene	100	ND				
4-Chlorotoluene	100	ND				
1,3,5-Trimethylbenzene	100	ND				
tert-Butylbenzene	100	ND				
1,2,4-Trimethylbenzene	100	ND				
1,4-Dichlorobenzene	200	ND				
sec-Butylbenzene	100	ND				
1,3-Dichlorobenzene	200	ND				
4-Isopropyltoluene	100	ND				
1,2-Dichlorobenzene	200	ND				
n-Butylbenzene	100	ND				
1,2-Dibromo-3-chloropropane	500	ND				
1,2,3-Trichlorobenzene	500	ND				
Naphthalene	100	ND				
1,2,4-Trichlorobenzene	500	ND				
Hexachlorobutadiene	500	ND				

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/kg)

	RT	CONC.
(1) ethyl-cyclohexane	16.65	3,200
(2) 3,6-dimethyl-octane	18.52	4,200
(3) 1,3,5-trimethyl-benzene	20.10	3,900
(4) 4-methyl-decane	20.50	4,300
(5) 1,2,4-trimethyl-benzene	20.85	5,600
(6) 1-methyl-3-propyl-benzene	22.08	3,800

	% Recovery
Dibromofluoromethane	98
Toluene-d8	100
4-Bromofluorobenzene	103

ND = Not Detected
Methods: EPA SW 846-5030, 8260.
CHEMIST: AG/MB

BL

Director, Dr. Blair Leftwich

1-29-98

Date

TRACE ANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

January 29, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906 Phase 1001.77
Project Location: Hobbs

Prep Date: 01/22/98
Analysis Date: 01/22/98
Sampling Date: 01/20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Shell Hobbs

TA #: T89565
FIELD CODE: SS-4 @ 1'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dichlorodifluoromethane	25	ND				
Chloromethane	25	ND				
Vinyl chloride	50	ND	107			107
Bromomethane	125	ND				
Chloroethane	25	ND				
Trichlorofluoromethane	25	ND				
1,1-Dichloroethene	25	ND	84	2	107	84
Methylene chloride	125	ND				
trans-1,2-Dichloroethene	25	ND				
1,1-Dichloroethane	25	ND				
cis-1,2-Dichloroethene	25	ND				
Chloroform	25	ND	101			101
2,2-Dichloropropane	25	ND				
Bromochloromethane	25	ND				
1,2-Dichloroethane	25	ND				
1,1,1-Trichloroethane	25	ND				
Carbon Tetrachloride	25	ND				
1,1-Dichloropropene	25	ND				
Benzene	25	ND		1	115	
1,2-Dichloropropane	25	ND	104			104
Trichloroethene	25	ND		0	113	
Dibromomethane	25	ND				
Bromodichloromethane	25	ND				
cis-1,3-Dichloropropene	25	ND				
trans-1,3-Dichloropropene	25	ND				
Toluene	25	ND	103	1	112	103
1,1,2-Trichloroethane	25	ND				
1,3-Dichloropropane	25	ND				

TA #: T89565

Field Code: SS-4 @ 1'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dibromochloromethane	25	ND				
1,2-Dibromoethane	25	ND				
Tetrachloroethene	25	ND				
Chlorobenzene	25	ND	104	1	114	104
1,1,1,2-Tertachloroethane	25	ND	106			106
Ethylbenzene	25	ND				
m & p-Xylene	25	ND				
Bromoform	25	ND				
Styrene	25	ND				
o-Xylene	25	ND				
1,1,2,2-Tetrachloroethane	25	ND				
1,2,3-Trichloropropane	25	ND				
Isopropylbenzene	25	ND				
Bromobenzene	25	ND				
2-Chlorotoluene	25	ND				
n-Propylbenzene	25	ND				
4-Chlorotoluene	25	ND				
1,3,5-Trimethylbenzene	25	ND				
tert-Butylbenzene	25	ND				
1,2,4-Trimethylbenzene	25	ND				
1,4-Dichlorobenzene	50	ND				
sec-Butylbenzene	25	ND				
1,3-Dichlorobenzene	50	ND				
4-Isopropyltoluene	25	ND				
1,2-Dichlorobenzene	50	ND				
n-Butylbenzene	25	ND				
1,2-Dibromo-3-chloropropane	125	ND				
1,2,3-Trichlorobenzene	125	ND				
Naphthalene	25	ND				
1,2,4-Trichlorobenzene	125	ND				
Hexachlorobutadiene	125	ND				

	% Recovery
Dibromofluoromethane	99
Toluene-d8	96
4-Bromofluorobenzene	97

ND = Not Detected
Methods: EPA SW 846-5030, 8260.
CHEMIST: AG/MB

BL

Director, Dr. Blair Leftwich

1-29-98

Date

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

January 29, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906 Phase 1001.77
Project Location: Hobbs

Prep Date: 01/22/98
Analysis Date: 01/22/98
Sampling Date: 01/20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Shell Hobbs

TA #: T89566
FIELD CODE: SS-4 @ 5'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dichlorodifluoromethane	25	ND				
Chloromethane	25	ND				
Vinyl chloride	50	ND	107			107
Bromomethane	125	ND				
Chloroethane	25	ND				
Trichlorofluoromethane	25	ND				
1,1-Dichloroethene	25	ND	84	2	107	84
Methylene chloride	125	ND				
trans-1,2-Dichloroethene	25	ND				
1,1-Dichloroethane	25	ND				
cis-1,2-Dichloroethene	25	ND				
Chloroform	25	ND	101			101
2,2-Dichloropropane	25	ND				
Bromochloromethane	25	ND				
1,2-Dichloroethane	25	ND				
1,1,1-Trichloroethane	25	ND				
Carbon Tetrachloride	25	ND				
1,1-Dichloropropene	25	ND				
Benzene	25	ND		1	115	
1,2-Dichloropropane	25	ND	104			104
Trichloroethene	25	ND		0	113	
Dibromomethane	25	ND				
Bromodichloromethane	25	ND				
cis-1,3-Dichloropropene	25	ND				
trans-1,3-Dichloropropene	25	ND				
Toluene	25	ND	103	1	112	103
1,1,2-Trichloroethane	25	ND				
1,3-Dichloropropane	25	ND				

PHILIP ENVIRONMENTAL
Shell Hobbs

TA #: T89566
Field Code: SS-4 @ 5'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dibromochloromethane	25	ND				
1,2-Dibromoethane	25	ND				
Tetrachloroethene	25	ND				
Chlorobenzene	25	ND	104	1	114	104
1,1,1,2-Tertachloroethane	25	ND	106			106
Ethylbenzene	25	ND				
m & p-Xylene	25	ND				
Bromoform	25	ND				
Styrene	25	ND				
o-Xylene	25	ND				
1,1,2,2-Tetrachloroethane	25	ND				
1,2,3-Trichloropropane	25	ND				
Isopropylbenzene	25	ND				
Bromobenzene	25	ND				
2-Chlorotoluene	25	ND				
n-Propylbenzene	25	ND				
4-Chlorotoluene	25	ND				
1,3,5-Trimethylbenzene	25	ND				
tert-Butylbenzene	25	ND				
1,2,4-Trimethylbenzene	25	ND				
1,4-Dichlorobenzene	50	ND				
sec-Butylbenzene	25	ND				
1,3-Dichlorobenzene	50	ND				
4-Isopropyltoluene	25	ND				
1,2-Dichlorobenzene	50	ND				
n-Butylbenzene	25	ND				
1,2-Dibromo-3-chloropropane	125	ND				
1,2,3-Trichlorobenzene	125	ND				
Naphthalene	25	ND				
1,2,4-Trichlorobenzene	125	ND				
Hexachlorobutadiene	125	ND				

	% Recovery
Dibromofluoromethane	98
Toluene-d8	98
4-Bromofluorobenzene	96

ND = Not Detected
Methods: EPA SW 846-5030, 8260.
CHEMIST: AG/MB

Director, Dr. Blair Leftwich

1-29-98
Date

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

January 29, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906 Phase 1001.77
Project Location: Hobbs

Prep Date: 01/22/98
Analysis Date: 01/22/98
Sampling Date: 01/20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Shell Hobbs

TA #: T89567
FIELD CODE: SS-5 @ 2'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dichlorodifluoromethane	50	ND				
Chloromethane	50	ND				
Vinyl chloride	100	ND	107			107
Bromomethane	250	ND				
Chloroethane	50	ND				
Trichlorofluoromethane	50	ND				
1,1-Dichloroethene	50	ND	84	2	107	84
Methylene chloride	250	ND				
trans-1,2-Dichloroethene	50	ND				
1,1-Dichloroethane	50	ND				
cis-1,2-Dichloroethene	50	ND				
Chloroform	50	ND	101			101
2,2-Dichloropropane	50	ND				
Bromochloromethane	50	ND				
1,2-Dichloroethane	50	ND				
1,1,1-Trichloroethane	50	ND				
Carbon Tetrachloride	50	ND				
1,1-Dichloropropene	50	ND				
Benzene	50	ND		1	115	
1,2-Dichloropropane	50	ND	104			104
Trichloroethene	50	ND		0	113	
Dibromomethane	50	ND				
Bromodichloromethane	50	ND				
cis-1,3-Dichloropropene	50	ND				
trans-1,3-Dichloropropene	50	ND				
Toluene	50	ND	103	1	112	103
1,1,2-Trichloroethane	50	ND				
1,3-Dichloropropane	50	ND				

TA #: T89567

Field Code: SS-5 @ 2'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dibromochloromethane	50	ND				
1,2-Dibromoethane	50	ND				
Tetrachloroethene	50	ND				
Chlorobenzene	50	ND	104	1	114	104
1,1,1,2-Tertachloroethane	50	ND	106			106
Ethylbenzene	50	100				
m & p-Xylene	50	130				
Bromoform	50	ND				
Styrene	50	ND				
o-Xylene	50	ND				
1,1,2,2-Tetrachloroethane	50	ND				
1,2,3-Trichloropropane	50	ND				
Isopropylbenzene	50	ND				
Bromobenzene	50	ND				
2-Chlorotoluene	50	ND				
n-Propylbenzene	50	ND				
4-Chlorotoluene	50	ND				
1,3,5-Trimethylbenzene	50	ND				
tert-Butylbenzene	50	ND				
1,2,4-Trimethylbenzene	50	ND				
1,4-Dichlorobenzene	100	ND				
sec-Butylbenzene	50	ND				
1,3-Dichlorobenzene	100	ND				
4-Isopropyltoluene	50	ND				
1,2-Dichlorobenzene	100	ND				
n-Butylbenzene	50	ND				
1,2-Dibromo-3-chloropropane	250	ND				
1,2,3-Trichlorobenzene	250	ND				
Naphthalene	50	ND				
1,2,4-Trichlorobenzene	250	ND				
Hexachlorobutadiene	250	ND				

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/kg)

	RT	CONC.
(1) 1,3,5-trimethyl-cyclohexane	16.72	2,400
(2) cis-1-ethyl-4-methyl-cyclohexane	18.46	2,200
(3) 1,2,3-trimethyl Benzene	20.85	2,000
(4) 1-methyl-3-propyl-benzene	22.06	2,300
(5) 1-ethyl-2,3-dimethyl benzene	22.19	3,000
(6) trans-decahydro-napthalene	22.54	3,600
(7) 1-ethyl-2,4-dimethyl-benzene	25.35	2,800

	% Recovery
Dibromofluoromethane	97
Toluene-d8	98
4-Bromofluorobenzene	112

ND = Not Detected
Methods: EPA SW 846-5030, 8260.
CHEMIST: AG/MB

BL

Director, Dr. Blair Leftwich

1-29-98

Date

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E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR
PHILIP ENVIRONMENTAL
Attention: Jeff Kindley
7904 I-20 West
Midland, TX 79706

January 29, 1998
Receiving Date: 01/21/98
Sample Type: Soil
Project No: 18906 Phase 1001.77
Project Location: Hobbs

Prep Date: 01/22/98
Analysis Date: 01/22/98
Sampling Date: 01/20/98
Sample Condition: Intact & Cool
Sample Received by: VW
Project Name: Shell Hobbs

TA #: T89568
FIELD CODE: SS-5 @ 5'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dichlorodifluoromethane	500	ND				
Chloromethane	500	ND				
Vinyl chloride	100	ND	107			107
Bromomethane	2,500	ND				
Chloroethane	500	ND				
Trichlorofluoromethane	500	ND				
1,1-Dichloroethene	500	ND	84	2	107	84
Methylene chloride	2,500	ND				
trans-1,2-Dichloroethene	500	ND				
1,1-Dichloroethane	500	ND				
cis-1,2-Dichloroethene	500	ND				
Chloroform	500	ND	101			101
2,2-Dichloropropane	500	ND				
Bromochloromethane	500	ND				
1,2-Dichloroethane	500	ND				
1,1,1-Trichloroethane	500	ND				
Carbon Tetrachloride	500	ND				
1,1-Dichloropropene	500	ND				
Benzene	500	ND		1	115	
1,2-Dichloropropane	500	ND	104			104
Trichloroethene	500	ND		0	113	
Dibromomethane	500	ND				
Bromodichloromethane	500	ND				
cis-1,3-Dichloropropene	500	ND				
trans-1,3-Dichloropropene	500	ND				
Toluene	500	ND	103	1	112	103
1,1,2-Trichloroethane	500	ND				
1,3-Dichloropropane	500	ND				

TA #: T89568

Field Code: SS-5 @ 5'

8260 Compounds	Reporting Limit	Concentration (ug/kg)	QC	RPD	EA	IA
Dibromochloromethane	500	ND				
1,2-Dibromoethane	500	ND				
Tetrachloroethene	500	ND				
Chlorobenzene	500	ND	104	1	114	104
1,1,1,2-Tertachloroethane	500	ND	106			106
Ethylbenzene	500	9,200				
m & p-Xylene	500	39,000				
Bromoform	500	ND				
Styrene	500	ND				
o-Xylene	500	ND				
1,1,2,2-Tetrachloroethane	500	ND				
1,2,3-Trichloropropane	500	ND				
Isopropylbenzene	500	ND				
Bromobenzene	500	ND				
2-Chlorotoluene	500	ND				
n-Propylbenzene	500	ND				
4-Chlorotoluene	500	ND				
1,3,5-Trimethylbenzene	500	ND				
tert-Butylbenzene	500	ND				
1,2,4-Trimethylbenzene	500	ND				
1,4-Dichlorobenzene	1,000	ND				
sec-Butylbenzene	500	ND				
1,3-Dichlorobenzene	1,000	ND				
4-Isopropyltoluene	500	ND				
1,2-Dichlorobenzene	1,000	ND				
n-Butylbenzene	500	ND				
1,2-Dibromo-3-chloropropane	2,500	ND				
1,2,3-Trichlorobenzene	2,500	ND				
Naphthalene	500	ND				
1,2,4-Trichlorobenzene	2,500	ND				
Hexachlorobutadiene	2,500	ND				

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (ug/kg)

	RT	CONC.
(1) Ethyl-cyclohexane	16.64	30,000
(2) 3,6-dimethyl-octane	18.53	25,000
(3) (1-methylethyl)-benzene	19.11	37,000
(4) 1,2,4-trimethyl-benzene	20.11	22,000
(5) 4-methyl-Decane	20.51	21,000
(6) 1,2,4-trimethyl-benzene	20.85	41,000

	% Recovery
Dibromofluoromethane	95
Toluene-d8	101
4-Bromofluorobenzene	99

ND = Not Detected
Methods: EPA SW 846-5030, 8260.
CHEMIST: AG/MB

Director, Dr. Blair Leftwich

1-29-98
Date