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ORNL/TM-11235

Pittsburgh Energy Technology Center

Sampling and Analysis Data Document

This document contains uninterpreted sampling and analytical data. The data will be interpreted by the DOE Environmental Survey Team and used to modify, as appropriate, the tentative Survey findings contained in the Environmental Survey Preliminary Report. Final Survey findings will be presented in the Environmental Survey Summary Report.

DRAFT

July 1989

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DEPARTMENT OF ENERGY

ENVIRONMENTAL SURVEY

ORNL/TM-11235

PITTSBURGH ENERGY TECHNOLOGY CENTER SAMPLING AND ANALYSIS DATA DOCUMENT (DRAFT)

July 1989

Prepared by:
DOE Environmental Survey and
Oak Ridge National Laboratory

Operated by
Martin Marietta Energy Systems, Inc.

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LIST OF ABBREVIATIONS

AA	Atomic absorption
ACD	Analytical Chemistry Division
ACK	Analytical Chemistry Division - K25
AE	Flame atomic emission photometry
AFAN	Ammonium fluoride - ammonium nitrate solution
Ag	Silver
AgCl	Silver chloride
A_i	Percent relative atom abundance
Al	Aluminum
ARRF	Average relative retention factor
As	Arsenic
ASTM	American Society for Testing Materials
A-WMG	Wide-mouth glass (I-Chem cleaning protocol A)
BCD	Battelle-Columbus Division
Be	Beryllium
BFB	Bromofluorobenzene
BHC	Benzene hexachloride
BOD	Biochemical oxygen demand
BOM	Bureau of Mines
Br^-	Bromide
B-WMG	Wide-mouth glass (I-Chem cleaning protocol B)
C	Centigrade
C	Carbon
Ca	Calcium
Ca^{+2}	Calcium ions
CB	Circuit Breaker
CAPA	Chemical and Physical Analysis
CAS Number	Chemical Abstract System Number
CCC	Calibration check compounds
CCD	Chlorinated di-benzo-p-dioxin
CCF	Chlorinated dibenzofuran
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CF4	Tetra fluromethane
CH_4	Methane
Cl^-	Chloride
Cl_2	Chlorine
CLP	Contract Laboratory Program
cm	Centimeter
CN	Cyanide
CNCl	Cyanogen chloride
CO_2	Carbon dioxide
COC	Chain of custody
cpm	Counts per minute
Cr	Chromium

Cr6+	Hexavalent chromium
CRDL	Contract required detection limit
CRREL	U.S. Army Cold Regions Research and Engineering Laboratory
Cu	Copper
CV	Calibration verification
CVFAA	Cold vapor flameless atomic absorption
C-WMHDPE	Wide-mouth high density polyethylene (I-Chem cleaning protocol C)
D&D	Decontamination and decommissioning
DBBP	Dibutyl butyl phosphonate
DBC	Dibutylchlorendate
DDD	Dichloro diphenyl dichloroethane
DDE	Dichloro diphenyl chloroethane
DDT	Dichloro diphenyl trichloroethane
DEL	Deleted
DFTPP	Decafluorotriphenylphosphine
DMF	Dimethyl formamide
DMS	Data Management System
DOD	Department of Defense
DOE	Department of Energy
DOE-ES	Department of Energy Environmental Survey
DOE-HQ	Department of Energy Headquarters
DOT	Department of Transportation
dpm	Disintegrations per minute
DW	Drinking water
EAL	Environmental Analysis Laboratory
ECH	Environmental Compliance and Health Protection Division
EHP	Environmental and Health Protection Division
EICP	Extracted ion current profile
EMSL-LV	Environmental Monitoring and Systems Laboratory, Las Vegas
EP	Extraction Procedure
EPA	Environmental Protection Agency
EPTOX	Extraction procedure toxicity
ESD	Environmental Sciences Division
ESM	Environmental Survey Manual
Eu	Europium
EVAL	Pesticide evaluation standard mixture
F^-	Fluoride
FES	Flame emission photometry
FID	Flame ionization detector
FQC	Field quality control
FSCC	Fused silica capillary column
ft	Foot
FW	Formula weight
g	Grams
GA	Gross alpha

GB	Gross beta
GC	Gas chromatography
GC-ECD	Gas chromatography - electron capture detector
GC-FID	Gas chromatography - flame ionization detection
GC-MS	Gas chromatography-mass spectrometry or gas chromatograph-mass spectrometer
GFAA	Graphite furnace atomic absorption
GPC	Gel permeation chromatography
GW	Groundwater
H	Hydrogen
HCl	Hydrochloric acid
HCN	Hydrocyanic acid
HD	High dispersion
HDPE(B)	High density polyethylene bottles (I-Chem cleaning protocol B)
HDPE(C)	High density polyethylene bottles (I-Chem cleaning protocol C)
He	Helium
HE	High explosive
Hg	Mercury
HMX	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
HNS	Dipicrylethane
HNO_3	Nitric acid
HP	Health Physics
HPLC	High performance liquid chromatography
HRGC/HRMS	High resolution gas chromatography/high resolution mass spectrometry
HSC	Health and Safety Coordinator
H_2SO_4	Sulfuric acid
H_3	Tritium
IC	Internal standard compounds
ICP	Inductively coupled plasma
ICP-AES	Inductively coupled plasma - atomic emission spectrometry
ID	Identification
I.D.	Inside diameter
in.	Inch
IDL	Instrument detection limit
IND	Pesticide individual standard
IS1 (BCM)	Volatile organic internal standard compound (Bromochloromethane)
IS1 (DCB)	Semivolatile internal standard compound (1,4 -Dichlorobenzene-d4)
IS2 (DFB)	Volatile organic internal standard compound (1,4 -Difluorobenzene)
IS2 (NPT)	Semivolatile internal standard compound (Naphthalene-d8)
IS3 (ANT)	Semivolatile internal standard compound (Acenaphthene-d8)
IS3 (CBZ)	Volatile organic internal standard compound (Chlorobenzene)

IS4 (PHN)	Semivolatile internal standard compound (Phenanthrene-d10)
IS5 (CRY)	Semivolatile internal standard compound (Chrysene-d12)
IS6 (PRY)	Semivolatile internal standard compound (Perylene-d12)
JMC	Soil hand-core sampling device
K	Potassium
K^+	Potassium ion
KCl	Potassium chloride
kg	Kilogram
km^2	Square kilometers
L	Liter
LCS	Laboratory control samples
LLRA	Low-level Radiochemical Analysis
LLRAG	Low-level Radiochemical Analysis Group
LLW	Low-level waste
LWCS	Laboratory wastewater collection system
m	Meter
M	Molar
MCL	Maximum concentration level
MCLG	Maximum contaminant level goal
MDL	Method detection limit
$MeCl_2$	Methylene chloride
MEK	Methyl ethyl ketone
Mg	Magnesium
Mg^{+2}	Magnesium ion
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
Mg_2SO_4	Magnesium sulfate
MIBK	Methyl isobutyl ketone (4-methyl-2-pentanone)
min	Minute(s)
mL	Milliliter
mm	Millimeter
MMES	Martin Marietta Energy Systems, Inc.
mR/hr	MilliRad per hour
m/s	Meters per second
mS/cm	milliSiemens per centimeter
MSA	Method of standard additions
MS%Rec	Matrix spike percent recovery
MSD%Rec	Matrix spike duplicate percent recovery
MW	Monitoring well
N	Normal
Na	Sodium
Na^+	Sodium ion
NA	Not applicable, not available, not analyzed
NaOH	Sodium hydroxide
Na_2SO_3	Sodium sulfate
NBC	National Bureau of Calibrations
NBS	National Bureau of Standards

ND	Not Determined
NEIC	National Enforcement Investigation Center
ng	Nanograms
Ni	Nickel
NIOSH	National Institute for Occupational Safety and Health
nm	Nanometers
NO_3^-	Nitrate
NPDES	National Pollution Discharge Elimination System
NR	Not required
NTS	Nevada Test Site
NUS	NUS Corporation
ODS	Octadecylsilane
O & G	Oil and grease
ORGDP	Oak Ridge Gaseous Diffusion Plant
ORNL	Oak Ridge National Laboratory
OSHA	Occupational Safety and Health Administration
OVA	Organic vapor analysis
P/P	Pesticide/PCB
PADER	Pennsylvania Department of Environmental Resources
Pb	Lead
PBLK	Pesticide method blank
PCB	Polychlorinated biphenyl
pCi	PicoCuries
pCi/g	PicoCuries per gram
pCi/kg	PicoCuries per kilogram
pCi/L	PicoCuries per liter
pCi/mL	PicoCuries per milliliter
P.E.	Performance evaluation
PETC	Pittsburgh Energy Technology Center
PETN	Pentaerythritol tetranitrate
PID	Photoionization detector
PKS	Peter Kewitt Sons
PNA	Polynuclear aromatics
PNL	Battelle Pacific Northwest Laboratories
PO_4^{-3}	Phosphate
POTW	Pubically owned treatment works
ppb	Parts per billion
ppm	Parts per million
ppt	Parts per trillion
PVC	Polyvinyl chloride
QA	Quality assurance
QA/QC	Quality assurance/quality control
QB	Quarterly blind
QC	Quality control
QD	Quality Department
r	Correlation coefficient
Rad. or RAD	Radionuclides, radioactivity, or radiological
RCRA	Resource Conservation and Recovery Act

RDX	Hexahydro-1,3,5-trinitro-1,3,5-triazine or cyclonite
RE	Reanalysis
RMCL	Recommended maximum contaminant level
RPD	Relative percent difference
RRF	Relative response factor
RSD	Relative standard difference
RT	Retention time
S&A	Sampling and analysis
S1(DCB)	Pesticide surrogate compound (Dibutylchlorendate)
S1(NBZ)	Semivolatile surrogate compound (Nitrobenzene-d5)
S1(TOL)	Volatile organic surrogate compound (Toluene-d8)
S2(BFB)	Volatile organic surrogate compound (Bromofluorobenzene)
S2(FBP)	Semivolatile surrogate compound (2-Fluorobiphenyl)
S3(DCE)	Volatile organic surrogate compound (1,2 Dichloroethane-d4)
S3(TPH)	Semivolatile surrogate compound (Terphenyl-d14)
S4(PHL)	Semivolatile surrogate compound (Phenol-d5)
S5(ZFP)	Semivolatile surrogate compound (2-Fluorophenol)
S6(TBP)	Semivolatile surrogate compound (2,4,6-Tribromophenol)
SAIC	Science Applications International Corporation
Sb	Antimony
SBLK	Semivolatile method blank
SCBA	Self contained breathing Apparatus
SD	Standard deviation
SDG	Sample delivery group
Se	Selenium
SIUs	International System of Units
SO_4^{-2}	Sulfate
SOP	Standard operating procedure
SOW	Statement of work
SPCC	System performance check compounds
SRC	Solvent refined coal
SS	Suspended soils
SSTD	Semivolatile standard
STD	Standard
STP	Sewage Treatment Plant
SV	Semivolatile organic compound
SW	Surface water
SepF (Extraction)	Separatory funnel extraction
Sonc (Extraction)	Sonication extraction
TATB	Triamino-trinitro-benzene
TBP	Semivolatiles organics protocol
TC	Target compounds
TCB	Trichlorobenzene
TCDD	2,3,7,8-Tetrachloro-Dibenlo (p) Dioxin
TCDF	Dibenzofuran
TCE	Trichloroethylene
TCL	Target compound list

TCLP	Toxic characteristic leaching procedure
TCTNB	Trichloro-trinitro-benzene
TDS	Total dissolved solids
Tetryl	N-methyl-N-2,4,6-tetranitroanaline
TIC	Tentatively identified compounds
TICH	Total identifiable chlorinated hydrocarbons
TICP	Total ion current profile
TIMS	Thermal ionization mass spectrometry
TIP	PhotoVac OVA instrument
Tl	Thallium
TNT	2,4,6-trinitrotoluene
TOC	Total organic carbon
TOPO	Trioctylphosphine oxide
TRU	Transuranic
TSCA	Toxic Substance Control Act
TSS	Total suspended solids
TTA	Thenoylfrifluoroacetone
2,4D	2,4-Dichlorophenoxy acetic acid
2,4-DNT	2,4-dinitrotoluene
2,6-DNT	2,6-dinitrotoluene
2,4,5-T	2,4,5-Trichlorophenoxy
2,4,5-TP	Propionic acid (Silvex)
2NZN	2 N (Normal) Zinc acetate
U	Uranium
µg	Micrograms
µg/g	Micrograms per gram
µg/kg	Micrograms per kilogram
µg/L	Micrograms per liter
UST	Underground storage tank
V&V	Verification and validation
VBLK	Volatile organic method blank
VOA	Volatile organic analysis
VOC	Volatile organic compound
vol	Volume
VSTD	Volatile organic standard
W	Tungsten
W_i	Percent relative weight abundance
WWTF	Wastewater Treatment Facility
Y	Yttrium
Zn	Zinc

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INORGANIC ANALYSIS DATA FLAGS

Concentration Qualifiers

B	Value less than the CRDL but greater than IDL
U	Analyte analyzed for but not detected

QA/QC Qualifiers

E	Value estimated or not reported because of the presence of interference
M	Duplicate injection results exceed control limits
N	Spiked sample recovery not within control limits
S	Value determined by the Method of Standard Additions (MSA)
*	Duplicate analysis not within control limits
+	Correlation coefficient for the MSA is less than 0.995

Method Qualifiers

A	Flame AA
AE	Atomic emission - ICP
AS	Semiautomated spectrophotometric
AV	Automated cold vapor AA
C	Manual spectrophotometric
CV	Manual cold vapor AA
F	Furnace AA
NR	Analyte is not required to be analyzed
P	ICP
T	Titrimetric

ORGANIC ANALYSIS DATA FLAGS

A	TIC is a suspected aldol-condensation product
B	Analyte found in associated blank as well as in the sample
C	Pesticide identification confirmed by GC-MS
D	Compounds identified in an analysis at a secondary solution factor
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
U	Compound analyzed for but not detected
X,Y,Z	Wildcard flags (see explanation in section 4.2.2.2)

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1.0 INTRODUCTION

This document presents the Department of Energy's (DOE's) Environmental Survey with field and analytical data collected by the Oak Ridge National Laboratory (ORNL) Sampling and Analysis Team at the Pittsburgh Energy Technology Center (PETC). The sampling for this site was done in August 1988 and the majority of sample analyses were completed by January 1989.

NOTE

> It should be noted that this document contains uninterpreted sampling and analysis data. The data will be interpreted by the DOE Environmental Survey Team and used with the tentative Survey findings contained in the Environmental Survey Preliminary Reports. Final Survey findings will be contained in the Environmental Survey Summary Report.

This PETC Sampling and Analysis Data Document includes information from the DOE Environmental Survey Sampling and Analysis Plan for the PETC Site (Ref. 1-1) and field and analytical data. Please refer to the August 1987 DOE Environmental Survey Manual (Ref. 1-2) for additional detailed descriptions of field and analytical procedures. For an overview of the DOE Environmental Survey Sampling and Analysis Program and for background information on the PETC environmental setting, please refer to the PETC Preliminary Report for the DOE Environmental Survey (Ref. 1-3) and the DOE Environmental Survey Sampling and Analysis Plan for the site.

This document contains six chapters. Chapter 1.0 provides background information on site sampling and analysis efforts. Chapter 2.0 was deemed to be redundant and unnecessary and is retained only in title. Chapter 3.0 provides a brief description of field and analytical procedures. Chapter 4.0 describes how to evaluate the sampling and analysis data and presents the main data on each environmental problem. Quality assurance (QA) data are presented and discussed in Chapter 5.0. References and bibliographic information are included in Chapter 6.0.

This document also contains Appendices A through D. Appendix A contains a listing of sampling and analytical requests. Appendix B presents a discussion and listing of background concentrations of analytes. Appendix C includes audit findings. Appendix D contains a summary of analytical quality assurance/quality control (QA/QC) information.

1.1 Site Sampling and Analysis

Oak Ridge National Laboratory was designated by DOE to provide a Sampling Team for the PETC Site and was responsible for the performance of the laboratory analytical services. The requests for sampling and analysis were developed by the DOE Environmental Survey Team after careful consideration of the needs of the PETC Site to identify both actual and potential environmental problems. The team based its requests on detailed and lengthy considerations of local environmental characteristics, historical environmental monitoring data, and an understanding of the production and research and development operations performed at the site.

The technical specialists of the Survey Team compared notes, reviewed objectives, and determined which actual or potential environmental problems required sampling and analysis in order to be completely and accurately evaluated. In some cases, a group of sample and analytical requests from different technical disciplines in the Survey Team supported the investigative needs for evaluating a single actual or potential environmental problem.

The purpose of the Sampling and Analysis Plan was to outline a plan for environmental field sampling and laboratory analysis in support of the DOE Environmental Survey at the PETC Site (see Figure 1.1) located near Pittsburgh, Pennsylvania. The Sampling and Analysis Plan was intended to be a guide that incorporated the standard procedures, analytical protocols, field sampling protocols, and other laboratory guidance from the DOE Environmental Survey Manual.

The PETC Sampling and Analysis Team involved personnel from many organizations. ORNL managed the project and was responsible for all sampling, laboratory analyses, field analyses, data management, and report preparation. Figure 1.2 shows the DOE and ORNL organizational structure for PETC sampling personnel.

This PETC Sampling and Analysis Data Document has been prepared by ORNL and subsequently reviewed by the Environmental Protection Agency's (EPA's) Environmental Monitoring Systems Laboratory in Las Vegas (EMSL-LV) and the DOE Survey Team. All comments were addressed or considered before the final draft was issued.

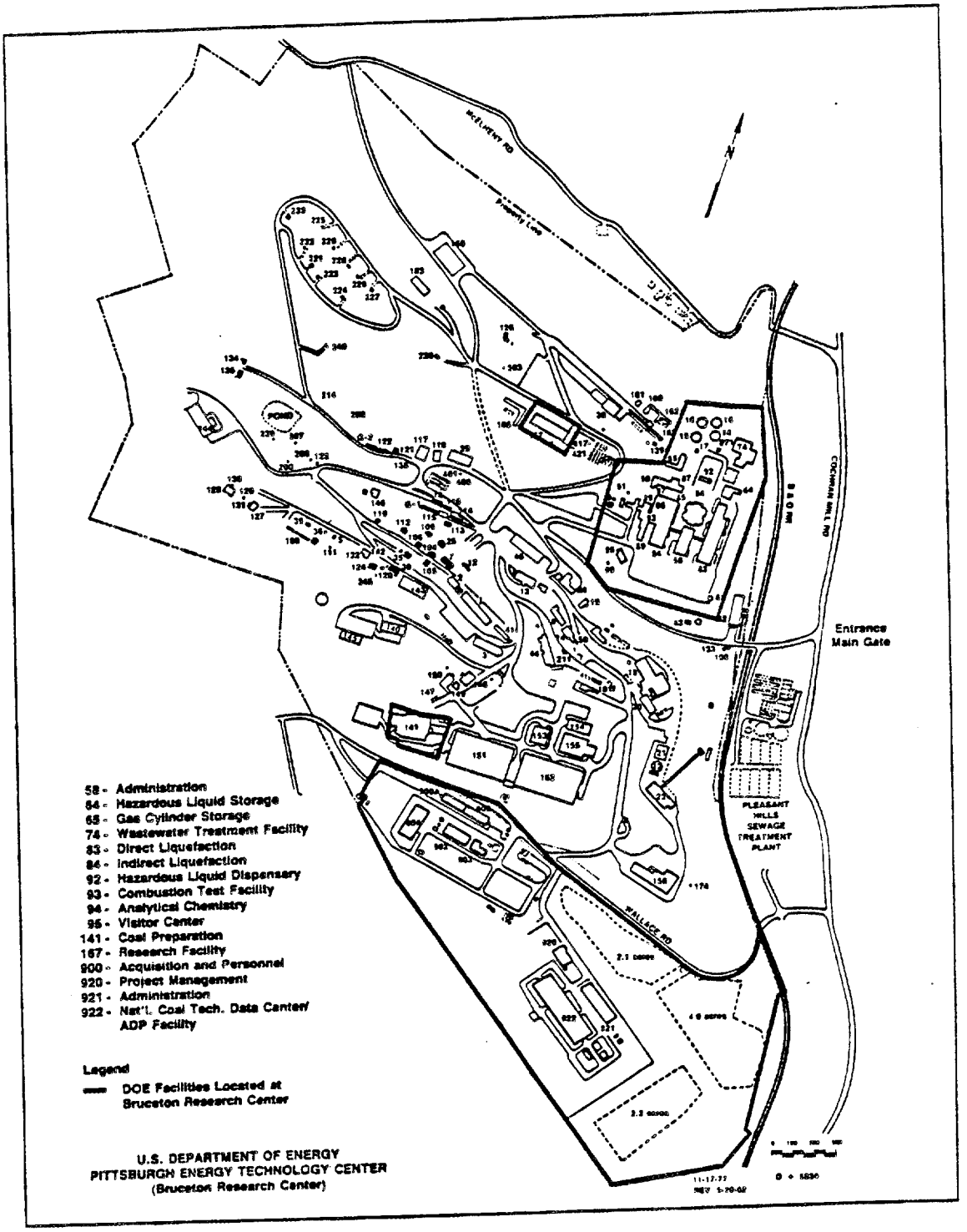
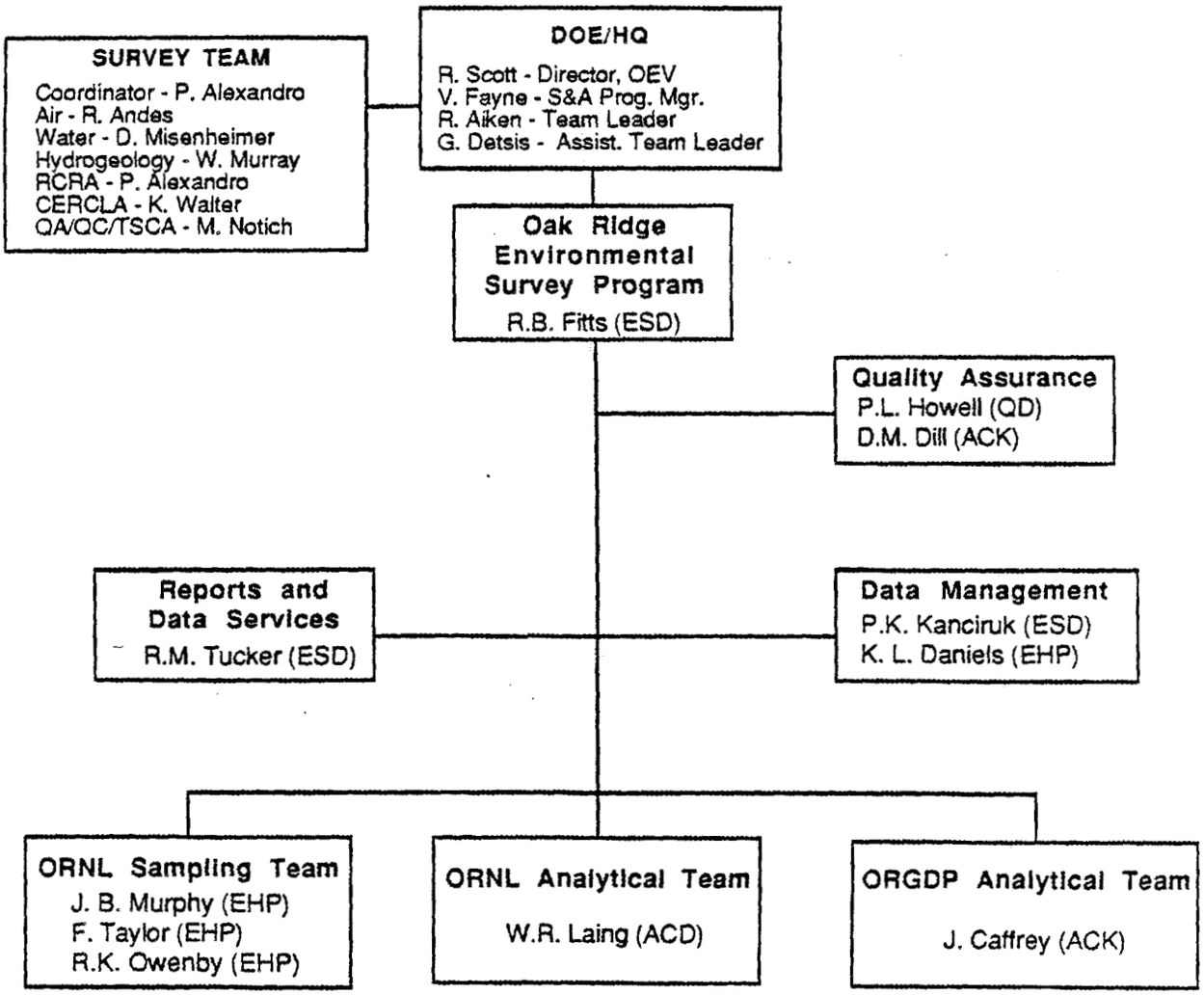


Figure 1.1. Pittsburgh Energy Technology Center Site Map



Legend:

ACD - Analytical Chemistry Division - ORNL
ACK - Analytical Chemistry Department - ORGDP
EHP - Environmental and Health Protection Division
ESD - Environmental Sciences Division
QD - Quality Department

Figure 1.2. DOE Leaders, and Sampling and Analysis Teams for PETC

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2.0 SUMMARY OF SAMPLING AND ANALYSIS

Chapter 2.0 was originally reserved for a summary of the scope and data resulting from the sampling and analysis effort. After further consideration, it was decided that the Survey Team could just as effectively accomplish its objective of modifying the findings contained in the Environmental Survey Preliminary Report by reviewing the data appearing in Chapter 4.0 (Data Presentation). Consequently, Chapter 2.0 was deemed redundant and unnecessary and is retained only in title so as to avoid inconsistencies with references in the Survey Manual and other sections within the Data Document.

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3.0 METHODS

Standard methods and procedures for sampling and analysis provide results which are representative of the site, of known analytical quality, and comparable with other survey data. Field sampling protocols and analytical methods have been developed and documented in the DOE Environmental Survey Manual (Ref. 1-2). Appendices D and E of the DOE Environmental Survey Manual provide detailed technical descriptions of the sampling and analytical methods described in the following sections.

Sampling and analytical teams used sampling and analysis protocols developed by the American Society for Testing Materials (ASTM), The National Bureau of Standards (NBS), and the U.S. Environmental Protection Agency (EPA); EPA inorganic and organic laboratory analysis methods; and DOE radiological assessment procedures.

Standard practices to ensure sample integrity were in place for each field sampling method. Samples were handled with latex gloves, surface contamination was wiped or rinsed off, and samples were then labeled. Each sample was bagged in a zip-top bag and placed in an insulated ice chest. The samples were then logged in field books and chain-of-custody documents. Chain-of-custody documents were initiated at the time of sample collection and accompanied the samples until they arrived at the analytical laboratories.

For additional details on methods, please refer to the DOE Environmental Survey Manual in effect at the time of sampling and/or analysis. For brevity, references to this manual will be called by out section only (i.e., Reference E4.2.1 refers to Section E4.2.1, "Sample Container Immersion," of Appendix E of the DOE Environmental Survey Manual).

Section 6.0 of this data document contains a bibliography of sources and references used to develop and perform analyses.

3.1 Field Sampling Methods

3.1.1 Surface Water Sampling Methods

3.1.1.1 Immersion Method

The immersion method was the preferred method for collection of grab samples from shallow streams, ponds, and effluent streams. The sample bottle was submerged below the water surface with the opening oriented upstream. The sample was collected, preserved, capped, and the container rinsed with deionized water (Reference E4.2.1, "Sample Container Immersion").

3.1.1.2 Time Composite Sampling

An automated sampler was used to determine mass per unit time concentrations and identify sporadically discharged contaminants from outfalls or streams. Composite samplers were located near the sample point and set to collect a selected volume at the desired frequency, e.g., 320 mL collected at the same time each hr. The sample was pumped through a tube to a 2-1/2 gal. refrigerated collection jar. Samples were then dispersed from the collection jar to appropriate sample containers (Reference E4.2.2, "Automated Composite Sampler").

3.1.1.3 Volatile Organic Compounds by Vial

A grab sample for volatile organics was collected in a 40-mL vial with a Teflon-coated septum. The vial was slowly submerged, upside down, in the water. The sample was then collected by righting the vial. The vial was removed from the water, capped, and inverted to check for air bubbles. A lack of bubbles verified an intact sample. It was then rinsed, wiped, labeled, and packed (Reference E4.2.3A, "Volatile Organic Compounds by Vial").

3.1.1.4 Volatile Organic Compounds by Dipper

A grab sample for volatile organics was obtained by slowly submerging a stainless steel dipper in water. The dipper was retrieved and a sample decanted into a 40-mL sample vial that was slightly tipped against the dipper. The vial was filled, capped, checked for air bubbles, and packaged (Reference E4.2.3B, "Volatile Organic Compounds by Dipper").

3.1.1.5 Field Measurements

Horiba or Yellow Springs instruments were used to monitor the quality of water samples for pH, temperature, and conductivity. The presence of VOCs was determined with either a photoionization detector (PID) or a flame ionization detector (FID). A Sybron/Barnstead conductivity bridge was used to determine resistivity. The reduction-oxidation potential of samples was determined with a standard millivolt meter using an Ag-AgCl-platinum or calomel-platinum electrode system (Reference E4.5, "Field Measurements").

3.1.2 Groundwater Sampling Methods

3.1.2.1 Groundwater Sample Collection

Samples were collected from springs and seep areas using a stainless steel dipper, then transferred to the sample containers to prevent unnecessary contamination of the outer surface of the sample bottles. The dipper was decontaminated before each use (Reference E4.2.4, "Dipper and Other Transfer Devices").

3.1.2.2 Field Measurements

Horiba or Yellow Springs instruments were used to monitor the quality of water samples for pH, temperature, conductivity, and, in most cases, turbidity and dissolved oxygen. The presence of VOCs was determined with either a photoionization detector

(PID) or a flame ionization detector (FID). A Sybron/Barnstead conductivity bridge was used to determine resistivity. The reduction-oxidation potential of samples was determined with a standard millivolt meter using an Ag-AgCl-platinum or calomel-platinum electrode system (Reference E4.5, "Field Measurements").

3.1.3 Solids

The method used for solid sampling (soils, sludge, and sediments) was designed to account for the heterogeneous composition of such solids. Several aliquots from systematically selected points were collected, pooled, homogenized in an aluminum pan using a stainless steel spoon, and bottled. A minimum of three pooled samples were collected from each sample location (Reference E5.0, "Solids"). In instances where the material to be collected was limited in quanity (e.g., sediment), grab samples were collected until a suitable volume was obtained.

3.1.3.1 Surface Soils

The top 3 in. of soil (with stones and vegetation removed) were collected using stainless steel spoons, spatulas, etc.; pooled; and placed in sample bottles. Volatile samples were collected without homogenization or pooling. Nonvolatile samples were collected in an aluminum pan, mixed, and placed in sample bottles.

For trenches and ditches, samples were systematically collected at random along the centerline of the trench. For spill areas, the samples were obtained from heavily stained areas; for large surface areas, a simple random grid was used to ensure representative sampling (Reference E5.1, "Surface Soils").

3.1.3.2 Subsurface Soils

Subsurface soil samples (less than 50 ft in depth) were collected using a variety of techniques. Augers, core samplers, and drive tubes with split-spoon samplers were used

as soil conditions dictated. Soil cores were preferable to augered samples, but were useful only in areas where gravel/cobble was not abundant and where there were no high hazard wastes (Reference E5.2, "Subsurface Soils").

3.1.3.2.1 Auger and Thin-Wall Tube Sampling

Samples were collected, following augering to a desired sample depth by removing the auger and replacing it with a tube corer. The corer was lowered into position at the sample depth and forced into the soil. The corer was then withdrawn and the sample collected. Sometimes the sample was collected directly from the auger. This latter method was used when the soil contained cobble which precluded use of the corer. Continuous flight augers were used in some cases. Although samples from specific depths were difficult to collect directly off the auger, satisfactory composite samples were collected (Reference E5.2.1, "Subsurface Solid Sampling with Auger and Thin-Wall Tube Sampler").

3.1.3.2.2 Core Sampling

The core tube was driven into the ground to a desired depth, withdrawn, and the sample placed in an aluminum tray. The core was then examined with field survey instruments for radioactivity or organic vapor concentrations. A new core was then taken nearby and the core positions corresponding to the highest concentration of organic vapor was resampled to obtain an undisturbed sample for volatile organic analysis. Three additional cores from the same sample location were collected, pooled, and placed in sample bottles. This procedure was completed three additional times to collect a total of three composite samples (Reference E5.2.2, "Core Sample"). When sampling boreholes that penetrated the soil 10 ft or more, split-spoon samples were taken. The contents of the split-spoon were screened for volatile organic compounds (VOCs) and radioactivity. Immediately following screening, the VOC samples were taken. Following collection of the VOC samples, the split-spoon sample was emptied into a stainless steel pan and homogenized. The remaining samples were then taken from this composite.

3.1.3.3 Sludge and Sediments

Sludge is a semidry material ranging from dewatered solids to high viscosity liquids. Sediments are the deposited materials underlying a body of water. When sediments are exposed by evaporation, stream rerouting, or other means, they are collected by soil or sludge collection methods.

Sludge and sediment were usually sampled using a scoop if the liquid layer over the material was shallow (Reference E5.3, "Sludges and Sediments").

3.1.3.3.1 Scoop Sampling

Although sample collection with a scoop may disturb the liquid-solid interface and alter the sample integrity, sample integrity can be maintained by using extreme care.

The scoop method was used to collect a composite sample by inserting the scoop and removing a sample. For sludge exposed to air, the first 1 to 2 cm of material were removed prior to collecting the sample. The sample was placed in an aluminum tray, mixed, and transferred to an appropriate bottle (Reference E5.3.1, "Scoop").

3.1.3.4 Field Measurements

3.1.3.4.1 Photoionization Detector (PID) and Flame Ionization Detector (FID)

When used, the PID was calibrated with benzene using the headspace method. A specified volume of vapor was removed from the headspace in a benzene reagent bottle and injected into a known volume Tedlar air bag containing zero air. The benzene atmosphere in the bag was calculated from the atmospheric pressure and the vapor pressure of the benzene at the ambient temperature. The PID was spanned to the resultant concentration and periodically checked throughout the sampling procedure. In sampling, the soil core was removed from the bore hole and a portion placed into a container to prevent loss of volatiles. The remaining portion was placed into a

container fitted with a gas-tight sampling port. After 10 to 20 min, the PID sampling tube was inserted into the container through the port and the vapor concentrations measured. The results were recorded as "ppm benzene equivalent." The depth with the highest PID measurement was selected for sample submission and the portion previously placed in the container to prevent loss of volatiles constituted the sample.

When used, the FID was calibrated using a methane/air mixture. A gas chromatograph mass spectrometer (GC-MS) was used to determine the methane concentration (usually 93 ppm) in the cylinder containing the compressed methane/air mixture. Daily calibrations of the FID were performed by filling a Tedlar air bag with the calibration gas, making the necessary adjustments to the FID, and then "locking" the instrument dials. This ensured that the readings on the FID were correct.

3.2 Analytical Methods

3.2.1 Organic Analysis Methods

3.2.1.1 Volatile Organics

Volatile organic contaminants in water, soil, or sediment are determined using the 7/87 Contract Laboratory Program Statement of Work for low- and medium-level samples and Appendix D of the U.S. DOE Environmental Survey Manual. The protocol stated in these methods is appropriate for the determination of volatile organics in typical environmental matrices, using purge and trap sample introduction into a gas chromatograph-mass spectrometer (GC-MS). Thirty-four volatile target compounds can be identified and quantitated with the technique. Table 3.1 summarizes these analytes and their respective quantitation limits, as specified in the U.S. DOE Environmental Survey Manual.

Volatile organics are purged from an aqueous sample at ambient temperature using an inert gas. A mixture of soil and distilled water is purged from a specially designed purging chamber at elevated temperatures. The vapor is swept through a sorbent

Table 3.1. Analytes Determined by CLP Volatiles Analysis Method

	Analyte	CAS Number	Contract Required Detection Limits[a] Water (µg/L)	Low Soil/Sediment[b,c] (µg/kg)
1.	Chloromethane	74-87-3	10	10
2.	Bromomethane	74-83-9	10	10
3.	Vinyl Chloride	75-00-4	10	10
4.	Chloroethane	75-00-3	10	10
5.	Methylene chloride	75-09-2	5	5
6.	Acetone	67-64-1	10	10
7.	Carbon disulfide	75-15-0	5	5
8.	1,1-Dichloroethene	75-35-4	5	5
9.	1,1-Dichloroethane	75-35-3	5	5
10.	1,2-Dichloroethene (total)	540-59-0	5	5
11.	Chloroform	67-66-3	5	5
12.	1,2-Dichloroethane	107-06-2	5	5
13.	2-Butanone	78-93-3	10	10
14.	1,1,1-Trichloroethane	71-55-6	5	5
15.	Carbon Tetrachloride	56-23-5	5	5
16.	Vinyl acetate	108-05-4	10	10
17.	Bromodichloromethane	75-27-4	5	5
18.	1,1.2,2-Tetrachloroethane	79-34-5	5	5
19.	1,2-Dichloropropane	78-87-5	5	5
20.	cis-1,3-Dichloropropene	10061-01-5	5	5
21.	Trichloroethene	79-01-6	5	5
22.	Dibromochloromethane	124-48-1	5	5
23.	1,1,2-Trichloroethane	79-00-5	5	5
24.	Benzene	71-43-2	4	6
25.	trans-1,3-Dichloropropene	10061-02-6	5	5
26.	Bromoform	75-25-2	5	5
27.	2-Hexanone	591-78-6	10	10
28.	4-Methyl-2-pentanone	108-10-1	10	10
29.	Tetrachloroethene	127-18-4	5	5
30.	Toluene	108-88-3	5	5
31.	Chlorobenzene	108-90-7	5	5
32.	Ethyl benzene	100-41-4	5	5
33.	Styrene	100-42-5	5	5
34.	Xylenes (total)	133-02-7	5	5

Table 3.1. Analytes Determined by CLP Volatiles Analysis Method (Continued)

a. Specific detection limits are highly matrix dependent. The detection limits listed herein are provided for guidance and may not always be achievable.
b. Detection limits listed for soil/sediment are based on wet weight. The detection limits calculated by the laboratory for soil/sediment, calculated on dry weight basis as required by the contract, will be higher.
c. Contract required detection limits (CRDL) for volatiles at medium levels in soil/sediment are 100 times the listed CRDL for volatiles at low levels in soil/sediment.

column where the volatiles are trapped. After purging is completed, the sorbent column is heated and backflushed with the inert gas to desorb the volatiles onto a gas chromatographic column. The gas chromatograph is temperature programmed to separate the volatiles, which are then detected with a mass spectrometer. Target compounds are identified by: (1) elution of the sample component at the same GC relative retention time as the standard component, and (2) correspondence of the sample component and standard component mass spectra. A combined search of the National Bureau of Standards (NBS) and Wiley Mass Spectral Library and interpretation by a mass spectrometer specialist are used to tentatively identify up to ten nontarget analytes of greatest concentration in the chromatogram.

Method interferences may be caused by contaminants in solvents, reagents, glassware, and other sample processing hardware that could lead to artifacts and/or elevated presence of such interferences. Interferences introduced by the sample matrix are monitored by the use of internal standards and matrix and surrogate spike recoveries.

Interpretation of volatiles data requires an assessment of the impact of holding times on data quality. The Survey protocol requires that the analysis be conducted within 14 days of sample collection. Samples which may exceed this holding time can still provide useful information, as long as the data are interpreted with caution.

3.2.1.2 Semivolatile Organics

Semivolatile organic contaminants in water, soil, or sediment samples are determined using the 7/87 Contract Laboratory Program Statement of Work and Appendix D of the DOE Environmental Survey Manual for low- and medium-level samples. The protocol is appropriate for the determination of a number of organic compounds that are partitioned into an organic solvent and are amenable to gas chromatography. The target compound list (TCL) and required limits specified in the U.S. DOE Environmental Survey Manual are listed in Table 3.2.

Table 3.2. Analytes Determined by CLP Semivolatiles Analysis Method

	Analyte	CAS Number	Contract Required Detection Limits[a] Water (µg/L)	Low Soil/Sediment[b,c] (µg/kg)
35.	Phenol	108-95-2	10	330
36.	bis(2-Chloroethyl) ether	111-44-4	10	330
37.	2-Chlorophenol	95-57-8	10	330
38.	1,3-Dichlorobenzene	541-73-1	10	330
39.	1,4-Dichlorobenzene	106-46-7	10	330
40.	Benzyl alcohol	100-51-6	10	330
41.	1,2-Dichlorobenzene	95-50-1	10	330
42.	2-Methylphenol	95-48-7	10	330
43.	bis(2-Chloroisopropyl) ether	39638-32-9	10	330
44.	4-Methylphenol	106-44-5	10	330
45.	N-Nitroso-di-n-propylamine	621-64-7	10	330
46.	Hexachloroethane	67-72-1	10	330
47.	Nitrobenzene	98-95-3	10	330
48.	Isophorone	78-59-1	10	330
49.	2-Nitrophenol	88-75-5	10	330
50.	2,4-Dimethylphenol	105-67-9	10	330
51.	Benzoic acid	65-85-0	50	1600
52.	bis(2-Chlorethoxy) methane	111-91-1	10	330
53.	2,4-Dichlorophenol	120-83-2	10	330
54.	1,2,4-Trichlorobenzene	120-82-1	10	330
55.	Naphthalene	91-20-3	10	330
56.	4-Chloroaniline	106-47-8	10	330
57.	Hexachlorobutadiene	87-68-3	10	330
58.	4-Chloro-3-methylphenol (para-chloro-meta-cresol)	59-50-7	10	330
59.	2-Methylnaphthalene	91-57-6	10	330
60.	Hexachlorocyclopentadiene	77-47-4	10	330
61.	2,4,6-Trichlorophenol	88-06-2	10	330
62.	2,4,5-Trichlorophenol	95-95-4	50	1600
63.	2-Chloronaphthalene	91-58-7	10	330
64.	2-Nitroaniline	88-74-4	50	1600
65.	Dimethyl phthalate	131-11-3	10	330
66.	Acenaphthylene	208-96-8	10	330
67.	2,6-Dinitrotoluene	606-20-2	10	330
68.	3-Nitroaniline	99-09-2	50	1600
69.	Acenaphthene	83-32-9	10	330

Table 3.2. Analytes Determined by CLP Semivolatiles Analysis Method (Continued)

	Analyte	CAS Number	Contract Required Detection Limits[a] Water (µg/L)	Low Soil/Sediment[b,c] (µg/kg)
70.	2,4-Dinitrophenol	51-28-5	50	1600
71.	4-Nitrophenol	100-02-7	50	1600
72.	Dibenzofuran	132-64-9	10	330
73.	2,1-Dinitrotoluene	121-14-2	10	330
74.	Diethylphthalate	84-66-2	10	330
75.	4-Chlorophenyl phenyl ether	7005-72-3	10	330
76.	Fluorene	86-73-7	10	330
77.	4-Nitroaniline	100-01-6	50	1600
78.	4,6-Dinitro-2-methylphenol	534-52-1	50	1600
79.	N-nitrosodiphenylamine	86-30-6	10	330
80.	4-Bromophenyl phenyl ether	101-55-3	10	330
81.	Hexachlorobenzene	118-74-1	10	330
82.	Pentachlorophenol	87-86-5	50	1600
83.	Phenanthrene	85-01-8	10	330
84.	Anthracene	120-12-7	10	330
85.	Di-n-butylphthalate	84-74-2	10	330
86.	Fluoranthene	206-44-0	10	330
87.	Pyrene	129-00-0	10	330
88.	Butylbenzylphthalate	85-68-7	10	330
89.	3,3'-Dichlorobenzidine	91-94-1	20	660
90.	Benzo(a)anthracene	56-55-3	10	330
91.	Chrysene	218-01-9	10	330
92.	bis(2-ethylhexyl)phthalate	117-81-7	10	330
93.	Di-n-octyl phthalate	117-84-0	10	330
94.	Benzo(b)fluoranthene	205-99-2	10	330
95.	Benzo(k)fluoranthene	207-08-9	10	330
96.	Benzo(a)pyrene	50-32-8	10	330
97.	Indeno(1,2,3-cd)Pyrene	193-39-5	10	330
98.	Dibenz(a,h)anthracene	53-70-3	10	330
99.	Benzo(g,h,i)perylene	191-24-2	10	330

a. Specific detection limits are highly matrix dependent. The detection limits listed herein are provided for guidance and may not always be achievable.

b. Detection limits listed for soil/sediment are based on wet weight. The detection limits calculated by the laboratory for soil/sediment, calculated on dry weight basis as required by the contract, will be higher.

c. Contract required detection limits (CRDL) for semivolatiles at medium levels in soil/sediment are 60 times the listed CRDL for semivolatiles at low levels in soil/sediment.

Semivolatile organics are serially extracted from aqueous samples with methylene chloride at a pH greater than 11, and again at a pH less than 2. The methylene chloride extracts are dried and concentrated separately. Low level soil samples are mixed with anhydrous powdered sodium sulfate and serially extracted with 1:1 methylene chloride/acetone using an ultrasonic probe. The methylene chloride and extracted semivolatile organics are then collected by decanting and concentrated. All extracts are stored at 4°C in the dark until they are analyzed using GC-MS. If extracts are to be held for greater than 40 days, they are stored at -20°C. Target compounds are identified on a cross-correlation basis of: (1) relative retention times (compound elution times) compared to internal standard retention times, and (2) correspondence of the sample component and standard component mass spectra. A combined search of the NBS and Wiley Mass Spectral Libraries and interpretation by a mass spectrometer specialist are used to provide tentative identification for up to 20 nontargeted compounds meeting U.S. EPA concentration criteria.

Method interferences may be caused by contaminants in solvents, reagents, glassware, and other sample processing hardware, that lead to artifacts or elevated baselines in the total ion profiles. Laboratory reagent blanks are used to monitor the presence of such interferences. Matrix interferences may be caused by soil acting as a sorbent for semivolatile organics, or by contaminants that are co-extracted with the sample. Sample matrix effects are monitored by internal standards, as well as surrogate and matrix spike recoveries.

Interpretation of semivolatile organics data requires an assessment of the impact of holding times on data quality. The Survey protocol requires that aqueous samples must be extracted within seven days of sample collection; soil samples must be extracted within 14 days. Samples that have exceeded this holding time can still provide useful information as long as the data is interpreted with caution.

3.2.1.3 Pesticides/PCBs in Water, Soil, and Sediment

Pesticides and polychlorinated biphenyls (PCBs) in water, soil, or sediment are determined using the 10/86 Contract Laboratory Program Statement of Work for low- and medium-level samples and the U.S. DOE Environmental Survey Manual. The analytical method involves extraction of the chlorinated hydrocarbon contaminants from the environmental matrices with methylene chloride, concentration of the extracts, and the analysis of the extracts on a gas chromatograph/electron capture detector (GC/EC). If pesticides or PCBs are tentatively identified, a second GC/EC analysis is performed using an alternate chromatographic column for positive identification. Confirmation by GC-MS is seldom done due to insufficient concentration of the pesticides and PCBs in the samples.

The U.S. DOE protocol requires the identification of 27 target compounds at the Contract Required Detection Limits (CRDL) listed in Table 3.3.

Method interferences may be caused by contaminants in solvents, reagents, glassware, and other sample processing hardware. The presence of these artifacts is determined by running a laboratory method blank under the same conditions as the samples. Poor extraction efficiency due to sample matrix effects is monitored by the use of surrogate and matrix spike recoveries.

Interpretation of pesticide/PCB data requires an assessment of the impact of holding times on data quality. The Survey protocol requires that aqueous samples be extracted within seven days of sample collection and soil samples extracted within 14 days. Samples that have exceeded these holding times can still provide useful information as long as the data are interpreted with caution. Extracts are stored at less than 0°C between the time of extraction and analysis to ensure that the sample quality is not compromised.

Table 3.3. Analytes Determined by CLP Pesticide/PCB Analysis Method

Analyte	CAS Number	Contract Required Detection Limits[a] Water (µg/L)	Low Soil/Sediment[b,c] (µg/kg)
100. alpha-BHC	319-84-6	0.05	8.0
101. beta-BHC	319-85-7	0.05	8.0
102. delta-BHC	319-86-8	0.05	8.0
103. gamma-BHC (Lindane)	58-89-9	0.05	8.0
104. Heptachlor	76-44-8	0.05	8.0
105. Aldrin	309-00-2	0.05	8.0
106. Heptachlor epoxide	1024-57-3	0.05	8.0
107. Endosulfan I	959-98-8	0.05	8.0
108. Dieldrin	60-57-1	0.10	16.0
109. 4,4'-DDE	72-55-9	0.10	16.0
110. Endrin	72-20-8	0.10	16.0
111. Endosulfan II	33213-65-9	0.10	16.0
112. 4,4'-DDD	72-54-8	0.10	16.0
113. Endosulfan sulfate	1031-07-8	0.10	16.0
114. 4,4'-DDT	50-29-3	0.10	16.0
115. Endrin ketone	53494-70-5	0.10	16.0
116. Methoxychlor	72-43-5	0.5	80.0
117. alpha-chlordane	5103-71-9	0.5	80.0
118. gamma-chlordane	5103-74-2	0.5	80.0
119. Toxaphene	8001-35-2	1.0	160.0
120. Aroclor-1016	12674-11-2	0.5	80.0
121. Aroclor-1221	11104-28-2	0.5	80.0
122. Aroclor-1232	11141-16-5	0.5	80.0
123. Aroclor-1242	53469-21-9	0.5	80.0
124. Aroclor-1248	12672-29-6	0.5	80.0
125. Aroclor-1254	11097-69-1	1.0	160.0
126. Aroclor-1260	11096-82-5	1.0	160.0

a. Specific detection limits are highly matrix dependent. The detection limits listed herein are provided for guidance and may not always be achievable.

b. Detection limits listed for soil/sediment are based on wet weight. The detection limits calculated by the laboratory for soil/sediment, calculated on dry weight basis as required by the contract, will be higher.

c. Contract Required Detection Limits (CRDL) for pesticides/PCBs at medium levels in soil/sediment are 15 times the listed CRDL for pesticides/PCBs at low levels in soil/sediment.

3.2.2 Inorganic Analysis Methods

3.2.2.1 CLP Metals Determination by Atomic Emission or Absorption Techniques

The determination of low levels of metal contaminants was accomplished using a protocol based on the U.S. EPA Contract Laboratory Program (CLP) Statement of Work (SOW) No. 7/87 for Inorganic Analysis Multi-media, Multi-concentration and the U.S. DOE Environmental Survey Manual. Table 3.4 summarizes the analytical method and the required quantitation limit for a total of 23 specific metal contaminants. The metals determined by the inductively coupled plasma (ICP) technique according to the full CLP technical criteria include all those specified by the DOE protocol, with the exception of mercury and thallium. Graphite furnace atomic absorption (GFAA) was used to determine and report the concentrations of three elements (arsenic, lead, and thallium) in PETC samples. GFAA, rather than ICP, was used when a sample request was made for only arsenic and lead. Mercury was determined by cold vapor flameless AA (CVFAA).

CLP protocol was used to monitor the precision and accuracy of the individual elemental results. Calibration data were verified during the course of an analytical run. Interference check samples were used to determine the effectiveness of interelement corrections for the ICP metals. The precision of the measurements was estimated using sample duplicates. Sample digestion efficiency was assessed by including laboratory control samples with each preparation batch. Matrix spikes, analytical spikes (for GFAA only), and serial dilutions of samples (for ICP only) were made to assess the accuracy and to determine the presence of analytical interferences attributable to the sample matrix or to preparation procedures.

3.2.2.1.1 ICP-Atomic Emission Spectrometry

The basis of this method is the simultaneous multi-element measurement of atomic emission by an optical spectroscopic technique. Samples are nebulized and the aerosol that is produced is transported to a high temperature plasma where excitation occurs. Characteristic atomic-line emission spectra are produced by the radio-frequency inductively coupled plasma and are dispersed by a grating spectrometer. The line

Table 3.4. Elements Determined by Atomic Emission or Absorption Techniques

Element	Contract Required Detection Limit (µg/L)	DOE Method Detection Limit for ICP (µg/L)	Analytical Method
Aluminum	200	200	ICP
Antimony	60	150	ICP
Arsenic	10	250	ICP, GFAA
Barium	200	200	ICP
Beryllium	5	5	ICP
Cadmium	5	20	ICP
Calcium	5000	5000	ICP
Chromium	10	10	ICP
Cobalt	50	50	ICP
Copper	25	25	ICP
Iron	100	100	ICP
Lead	5	200	ICP, GFAA
Magnesium	5000	5000	ICP
Manganese	15	15	ICP
Mercury	0.2	---	CVFAA
Nickel	40	40	ICP
Potassium	5000	5000	ICP
Selenium	5	400	ICP
Silver	10	30	ICP
Sodium	5000	5000	ICP
Thallium	10	100	GFAA
Vanadium	50	50	ICP
Zinc	20	20	ICP

ICP = Inductively coupled plasma emission spectrometry.
GFAA = Graphite furnace atomic absorption spectrometry.
CVFAA = Cold vapor flameless atomic absorption spectrometry.

intensities, which are a measurement of elemental concentrations, are monitored by photomultiplier tubes. The photocurrents from the photomultiplier tubes are processed and controlled by a computer system.

A background correction technique is required to compensate for variable background contributions to the determination of trace elements. Background is measured adjacent to analyte lines on samples during analysis. The position selected for the background intensity measurement, on either or both sides of the analytical line, is determined by the complexity of the spectrum adjacent to the analyte line. The position used should be free of spectral interference and reflect the same change in background intensity that occurs as the analyte wavelength is measured. Background correction is not required in cases of line broadening where a background correction measurement would actually degrade the analytical result. Additional interferences, i.e., spectral, physical, and/or chemical, are also possible. Appropriate corrections are made when required and are documented in the ICP case narrative.

Acid digestion of water, soil, sediment, and sludge samples is performed according to the CLP SOW No. 7/87 protocol prior to trace metal analysis by ICP. A 100-mL aliquot of an aqueous sample is digested with a mixture of nitric and hydrochloric acids. The acidified sample is heated below boiling for approximately 2 hrs or until the sample volume is reduced to half of its initial volume. The sample is then cooled, filtered, and diluted volumetrically. For solid samples, a representative 1-g (wet weight) sample is digested with nitric acid and hydrogen peroxide. The digestate is then refluxed with nitric and hydrochloric acid, then allowed to cool prior to filtration and dilution. Elemental sample concentrations are reported on a dry weight basis.

3.2.2.1.2 Atomic Absorption, Furnace Technique

Graphite furnace atomic absorption (GFAA) is used to determine the concentration of arsenic, lead, and thallium in PETC samples. When using the furnace technique in conjunction with an atomic absorption spectrophotometer, a representative aliquot of a sample is placed in the graphite tube of the furnace, evaporated to dryness, charred, and atomized. Analyte atoms are vaporized and dissociated for light absorption in the

tube. Radiation from a light source, hollow cathode, or electrodeless discharge lamp of the element being determined is passed through the vapor containing ground-state atoms of that element. The intensity of the transmitted radiation decreases in proportion to the amount of the ground state element in the vapor. A grating monochromator isolates the characteristic radiation from the hollow cathode lamp and a photosensitive device measures the attenuated transmitted radiation.

Aqueous samples are prepared by digesting 100-mL aliquots with a mixture of nitric acid and hydrogen peroxide. The acidified sample is then heated below boiling for approximately 2 hrs, or until the sample volume is reduced to half of its initial volume. The sample is then cooled, diluted volumetrically, and allowed to settle overnight to remove insoluble material. Representative 1-g solid samples are prepared by digesting them in nitric acid and hydrogen peroxide. The digestate is refluxed with nitric acid, cooled, diluted volumetrically, and allowed to settle overnight.

3.2.2.1.3 Mercury

Mercury is determined by cold vapor flameless atomic absorption (CVFAA). The flameless AA procedure is a physical method based on the absorption of radiation at 253.7 nm by mercury vapor. Organic mercury compounds are converted to inorganic forms by the oxidative digestion of the sample. An aliquot of the diluted digestate is transferred to a 50-mL closed reaction chamber where stannous chloride is used to reduce the mercury to the elemental form. The mercury vapor is then purged from the solution into a 90-cm absorption cell positioned in the light path of an atomic absorption spectrophotometer. Absorbance (peak height) is measured as a function of mercury concentration.

The method is capable of determining two nanograms (ng) of mercury. A perchloric acid/nitric acid wet-ashing procedure is used to convert the organic mercury to an inorganic form. Samples are digested in a 250-mL borosilicate volumetric flask equipped with supplemental air condensers to prevent the loss of mercury. After digestion the sample volume is adjusted to 50 mL. An aliquot of this solution is

introduced into the instrument reaction chamber for the subsequent determination of mercury.

3.2.2.2 Percent Solids

To determine the percent solids in a sample, a portion of the material is placed on a weighed dish; the difference in weight represents the wet sample weight. The sample is dried at 103° to 105°C overnight, cooled, and reweighed. The difference between the dried sample and the dish represents the dry weight. The ratio of dry weight to wet weight is multiplied by 100 to obtain the percent solids contained in a solid sample. A single determination of percent solids was performed for a sample at ORGPD.

4.0 DATA PRESENTATION

4.1 Introduction

This section presents the data collected as part of the DOE Environmental Survey of the PETC Site. Findings generated by the Survey Team were divided into units called environmental problems. This chapter presents the environmental problem sampling and analysis data. Sections 4.2 through 4.4 describe the format and content of data tables, data qualifiers, and the criteria for reporting values.

NOTE: The lists of acronyms and data flags at the end of the Table of Contents can be removed from their location and referenced as data for each environmental problem are examined.

Data are presented in order by environmental problem. Sample request numbers and the name of the Survey Team member who requested the sample collection and analysis are presented for each problem. The reason for examination of a certain site or sites is given in the Finding and Basis section. The Sampling and Analysis Objectives define the Survey's goal for that environmental problem. The Sampling and Analysis Design section describes the sampling design and methods, the analytes of interest and in some cases specific testing methods for each sample, and changes from the design and methods reported in the PETC Sampling and Analysis Plan (Ref. 1-1). Sampling methods addressed in the individual environmental problems refer to the DOE Environmental Survey Manual. For brevity, only the section in this manual is called out (i.e. Reference E4.2.1 refers to Section E4.2.1, "Sampling Container Immersion" of Appendix E of the DOE Environmental Survey Manual). The field and analytical data are then presented in text and tabular form with statements of the level of data quality. Italicized text indicates a summary of sampling and analytical data for the environmental problem.

The data tables present samples by analysis type. The analysis type is further divided into specific analytes. Analytes are presented only if a positive determination has been reported for the specific analyte in the specific set of samples. A complete listing of

data is available in Appendix D in the form of a Quality Control (QC) presentation. A description of the QA/QC program can be found in Chapter 5.0.

Other appendices include an updated listing of sampling and analytical requests (Appendix A); background concentrations (Appendix B); and results of field, analytical chemistry, documentation, and data management audits (Appendix C).

4.2 Data Tables, Data Flags, and Restrictions on Data Reporting

This section presents descriptions of the structure and contents of the four basic types of data tables that may appear in Chapter 4. Explanations for the types of data flags that appear in the tables are given. The basis for inclusion/exclusion of entries to tables is discussed.

4.2.1 Sampling and Analytical Data Tables

Table 4.1 summarizes field and analytical completion data for sampling and analysis requests for the PETC Site. The summary is organized by request number. For each request number, the status, date collected, location, type of location, media, number of samples planned and collected, the type of sample, and the number of samples planned and analyzed for each parameter are given. In each section presenting an environmental problem, a table with a similar format is provided if samples were requested. Table 4.1 can be used as a guide to the level of activity that appears in the environmental problem-specific 4.2 series of tables.

NOTE: When data are formatted into problem-specific tables, the last digit in the three-digit table number specifies the applicability of that data to a specific environmental problem. For example, Table 4.3.4 is the analytical data summary by sample medium table that applies specifically to Environmental Problem 4. Problem-specific tables are located in the appropriate environmental problem section of this chapter. The problem-specific data series tables are:

TABLE 4.1 PETC SITE ENVIRONMENTAL SURVEY S&A REQUESTS
WITH FIELD AND ANALYTICAL COMPLETION DATA

REQUEST NUMBER	STAT	DATE COLL. DD/MM/YY	LOCATION	TYPE LOCATION	MEDIA	NUMB SAMP ACT COLL	NUMB SAMP PLAN COLL	TYPE	METALS ACT ANAL	METALS PLAN ANAL	PES/H/PCB ACT ANAL	PES/H/PCB PLAN ANAL	SEMIVOLS ACT ANAL	SEMIVOLS PLAN ANAL	VOLS ACT ANAL	VOLS PLAN ANAL
PE300		17/08/88	LICK RUN	STORM SEWER	SEDIMENT	3	3	GRAB	3	3	0	0	3	3	0	0
PE301		19/08/88	LICK RUN	STORM SEWER	SUR WATER	1	1	GRAB	1	1	0	0	1	1	1	1
PE301		20/08/88	LICK RUN	STORM SEWER	SUR WATER	1	1	QC FL	1	1	0	0	0	0	0	0
PE301		20/08/88	LICK RUN	STORM SEWER	SUR WATER	2	2	GRAB	2	2	0	0	2	2	2	2
PE302		19/08/88	LICK RUN	STORM SEWER	SUR WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE302		20/08/88	LICK RUN	STORM SEWER	SUR WATER	2	2	GRAB	2	2	0	0	2	2	0	0
PE303		20/08/88	LICK RUN	STORM SEWER	SEDIMENT	3	3	GRAB	3	3	0	0	3	3	0	0
PE303		20/08/88	LICK RUN	STORM SEWER	SUR WATER	1	1	QC RN	1	1	0	0	1	1	0	0
PE304		17/08/88	LICK RUN	STORM SEWER	SEDIMENT	3	3	GRAB	3	3	0	0	3	3	0	0
PE305		17/08/88	B. B-141	UNDGR TANK	UNSEAL CO	1	1	GRAB	1	1	0	0	1	1	1	1
PE305		18/08/88	B. B-141	UNDGR TANK	UNSEAL CO	1	1	GRAB	1	1	0	0	1	1	1	1
PE305		19/08/88	B. B-141	UNDGR TANK	SUR WATER	1	1	QC RN	1	1	0	0	1	1	1	1
PE305		19/08/88	B. B-141	UNDGR TANK	UNSEAL CO	1	1	GRAB	1	1	0	0	1	1	1	1
PE306	DELETED		B. B-141	UNDGR TANK	SUR WATER	0	3	GRAB	0	3	0	0	0	3	0	0
PE307		20/08/88	B. B-141	UNDGR TANK	SUR WATER	3	3	T COM	3	3	0	0	3	3	0	0
PE308		17/08/88	B. B-141	UNDGR TANK	SUR WATER	1	1	T COM	1	1	0	0	1	1	0	0
PE308		18/08/88	B. B-141	UNDGR TANK	SUR WATER	1	1	T COM	1	1	0	0	1	1	0	0
PE308		19/08/88	B. B-141	UNDGR TANK	SUR WATER	1	1	QC RN	1	1	0	0	1	1	0	0
PE308		19/08/88	B. B-141	UNDGR TANK	SUR WATER	1	1	T COM	1	1	0	0	1	1	0	0
PE309		19/08/88	LICK RUN	STORM SEWER	SUR WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE309		20/08/88	LICK RUN	STORM SEWER	SUR WATER	2	2	GRAB	2	2	0	0	2	2	0	0
PE310		19/08/88	LICK RUN	STORM SEWER	SEDIMENT	3	3	GRAB	3	3	0	0	3	3	0	0
PE400		16/08/88	B. 62	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE400		17/08/88	B. 62	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE400		18/08/88	B. 62	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE401		16/08/88	B. 62	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE401		17/08/88	B. 62	SPRING	SUR WATER	1	1	QC FL	1	1	0	0	0	0	0	0
PE401		17/08/88	B. 62	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE401		18/08/88	B. 62	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE402	DELETED		2.1 FIELD	SPRING	GRN WATER	0	2	GRAB	0	2	0	0	0	2	0	0
PE402		16/08/88	2.1 FIELD	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE403		16/08/88	2.1 FIELD	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE403		17/08/88	2.1 FIELD	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE403		18/08/88	2.1 FIELD	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE800		16/08/88	2.2 FIELD	WASTE ACCUM	SOIL	15	15	GRAB	15	15	15	15	15	15	15	15
PE800		16/08/88	2.2 FIELD	WASTE ACCUM	SUR WATER	1	1	QC RN	1	1	0	1	1	1	1	1
PE801		16/08/88	2.2 FIELD	WASTE ACCUM	SOIL	10	10	GRAB	10	10	10	10	10	10	10	10
PE802		19/08/88	2.2 FIELD	WASTE ACCUM	SOIL	6	6	GRAB	6	6	6	6	6	6	6	6
PE802		19/08/88	2.2 FIELD	WASTE ACCUM	SUR WATER	1	1	QC RN	1	1	0	1	1	1	1	1
PE803		19/08/88	2.2 FIELD	WASTE ACCUM	SOIL	3	3	GRAB	3	3	3	3	3	3	3	3
PE804		18/08/88	2.2 FIELD	WASTE ACCUM	SOIL	8	8	GRAB	8	8	8	8	8	8	8	8
					TOTAL	89	94		89	94	42	44	87	92	51	51

4.2.1-4.2.5 Sampling and Analysis Data Summary

4.3.1-4.3.5 Analytical Data Summary by Medium for Environmental Problem

The Table 4.2 series displays sampling and analytical activities and the level of activity for each type of analysis for each environmental problem. On a problem-specific basis, the Table 4.2 series presents a consistent grouping by medium, location, and sampling and analysis request number. In all cases, the problem-specific 4.2 series tables will include a pair of numbers for each analysis type in which at least one analyte was requested. The numbers represent the number of samples analyzed and the number of samples with analytes detected, respectively. As shown in Table 4.1, each table will also include descriptive sampling and analytical information on a sample-specific basis. More detailed sample-analyte data are presented in the problem-specific Table 4.2 series. Table 4.1 can be used as a guide to the level of activity that appears in the Table 4.2 series.

Tables 4.3.1 through 4.3.5 illustrate sample-specific analyte data, using analytical chemistry methods, for each environmental problem. Tables 4.3.1 through 4.3.5 provide a consistent grouping by sampling and analysis request number, location, medium, and type of analysis on a problem-specific basis. Although the basic format is constant, the exact manner in which the data are displayed is determined by first having sampling and analytical personnel identify the logical groupings of the data then having data management determine an easily readable form for the data presentation. Field measurements in the 4.3 series tables show only the highest reading for a particular sample.

The headings on Tables 4.3.1 through 4.3.5 include a row designated "SDG Number." Sample delivery group (SDG) is a term that evolved out of EPA-CLP terminology. An SDG number is used to uniquely identify an analytical batch of samples within a given type of analysis. This is important because the QA/QC data qualifiers appearing in Tables 4.3.1 through 4.3.5 are specific to an SDG (analytical batch) and not necessarily to a particular environmental problem. QA/QC data presented in Appendix D are

grouped by SDG within analysis type. For each analysis type listed in the 4.3 series tables, a directory for sample numbers and SDGs is provided (Tables D.n.1). The directories include a list of sample numbers grouped by environmental problem, each sample number's corresponding SDG number (QA/QC table), and the table and page number of the QA/QC table in Appendix D on which that sample number's data are located. The SDG number provides the link between the concentration data in Tables 4.3.1 through 4.3.5 and the applicable QA/QC data in Appendix D. For a given sample, look up the Appendix D table number for the SDG in the directory for QA/QC tables.

4.2.2 Data Flags

In many of the data tables, the reported value is accompanied by a flag that represents a qualifying condition for a reported result, e.g., a problem with the analytical instrument or control value was encountered, or a specific method or dilution factor was used to obtain the result. This section offers a detailed explanation of the qualifying data flags listed in the data flag reference guide found at the end of the Table of Contents.

4.2.2.1 Data Flags: Inorganic Analysis

Inorganic analysis data tables have concentrations reported in milligrams per kilogram (mg/kg) for solid samples and micrograms per liter (ug/L) for multiphasic (liquids and solids) or aqueous samples.

For each reported concentration, the types of qualifiers and the designated groups are as follows:

Concentration Qualifiers: Relate the data to detection limits and to the detection or lack of detection of analytes.

B This qualifier indicates that the reported value is less than the contract required detection limit (CRDL) but greater than the instrument detection limit (IDL).

U This qualifier indicates the analyte was analyzed for but not detected.

QA/QC Qualifiers: Relate to specific QA/QC problems. They are presented in Volume II, Appendix D, QC tables.

E Value estimated or not reported because of the presence of interference.

M Duplicate injection results exceed control limits.

N Spiked sample recovery not within control limits.

S The reported value was determined by the Method of Standard Additions (MSA).

• Duplicate analysis not within control limits.

+ Correlation coefficient for the MSA is less than 0.995.

The use of **S** or + is mutually exclusive. No combination of these qualifiers can accompany a single reported analyte combination.

Method Qualifiers: Analytical method used for determination of analyte concentration.

P ICP

A Flame AA

F Graphite furnace AA

CV Manual cold vapor AA

AV Automated cold vapor AA

AS Semiautomated spectrophotometric

C Manual spectrophotometric

T Titrimetric

NR If analyte is not required to be analyzed.

AE Atomic emission - ICP

4.2.2.2 Data Flags: Organic Analysis

In data tables, organic analysis analyte concentrations are reported in ug/L for liquid or multiphasic samples or micrograms per kilogram (ug/kg) for solid samples.

Four notations are used to qualify the results from organic analysis. The qualifiers are as follows:

U Indicates the compound was analyzed for but not detected. The sample detection limit must be corrected for dilution and for percent moisture.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds (TIC) where a 1:1 response is assumed, or when the mass spectral data indicate the presence

of a compound that meets the identification criteria but the result is less than the sample detection limit (CRDL), but greater than zero. For example, if the sample detection limit is 10 ug/L but a concentration of 3 ug/L is calculated, it is reported as 3 **J**. The sample detection limit is adjusted for both dilution and percent moisture as discussed for the **U** flag. If a sample with 24% moisture and a 1:10 dilution factor has a calculated concentration of 300 ug/L and a sample detection limit of 430 ug/kg, the concentration is reported as 300 **J**.

C This flag applies to pesticide results where the identification has been confirmed by GC-MS. Single component pesticides $\geq$ 10 ng/ul in the final extract shall be confirmed by GC-MS.

B This flag is used when the analyte is found in the associated analytical blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag is used for a TIC and a positively identified TCL compound.

E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

D This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is reanalyzed at a higher dilution factor, as in the **E** flag above, the **DL** suffix is appended to the sample number on the Form 1 for the diluted sample, and <u>all</u> concentration values reported on that Form 1 are flagged with the **D** flag.

A This flag indicates that TIC is a suspected aldol-condensation product.

X,Y,Z Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. If more than

one is required, use **Y** and **Z**, as needed. If more than five qualifiers are required for a a sample result, use the **X** flag to combine several flags, as needed. For instance, the **X** flag might combine the **A**, **B**, and **D** flags for some sample.

The combination of flags **BU** or **UB** is expressly prohibited. Blank contaminants are flagged **B** only when they are also detected in the sample.

4.2.3 Restrictions on Data Reporting

The general rule for data appearing in Tables 4.3.1 through 4.3.5 is that analyte-specific results are presented in the table for all analytes for which at least one sample's detected concentration was not accompanied by any QC data flag or the analyst determined that the flagged data should be included. A consistent, partially subjective method was employed in determining which analytical data would appear in the tables.

Data are not presented in the summary data when an analyte has been conclusively attributed to external contamination. For example, detection of acetone in a laboratory method blank, at levels corresponding to those found in applicable field samples, indicates that the acetone should be attributed to a laboratory contamination problem. As a result, the value would not be reported in the problem-specific summary data table.
The complete data set, with QC data included, is found in Appendix D. The types of contamination which require an analyst to make a determination as to whether or not an analyte can be attributed to external contamination include: travel blank cross contamination, decontamination procedure contamination, method blank contamination, preparation blank contamination, and reagent contamination. Investigation of these possible sources of contamination is an integral part of the data quality assessment process conducted by the analytical chemist.

Exceptions to the above rule can occur when the analyst determines that additional data should be reported. For example, a specific analyte is detected in a blank (e.g., method

blank) and in field samples, yet the relative magnitude of the levels makes it impossible to conclusively attribute the presence of the analyte to contamination. In this case, the appropriately flagged data are included in data summary tables, and an assessment of the impact on data quality is provided in the accompanying text. For example, if acetone is detected in a method blank at 20 ug/L, and in a field sample at 350 ug/L, the value of 350 ug/L flagged with a **B** to indicate method blank contamination would be provided in the data table. In addition, the data quality assessment would provide an explanation of the fact that despite acetone being detected in the method blank, it is likely that the elevated levels detected in field samples are representative of the actual field samples. The guidelines discussed above for reporting data apply to the following types of analysis: organics, inorganics, anions, and cations. Additional restrictions on what data appear in the table for each type of analysis are presented below.

4.2.4 Radiological Data Tables

Radiological (RAD) analysis of samples was not performed for any environmental problems at PETC.

4.3 Analytical Data Quality Evaluation

Each problem-specific table is accompanied by a discussion of its contents, significant data points, and the reasons data have been interpreted as such.

An assessment of the quality level for the field and analytical data is made at the end of the discussion of each environmental problem. The assessments are made relative to the three Data Utility Levels developed as part of the DOE Environmental Survey. The three levels are designated as Quality Level I, II, and III and are in descending order regarding their usefulness in making either quantitative or qualitative (judgmental) decisions regarding an environmental problem. A rating of Quality Level I signifies the highest standard of documentation and reliability of results. Level II includes a wide range of quality, but indicates that the information is usable. A rating of Quality Level III implies serious deficiencies requiring further evaluation of the results or the problem

as defined. The three levels are discussed in detail in Appendix A of the DOE Environmental Survey Manual (Ref.1-2).

4.4 Background Values

A discussion of information on background levels of contaminants for environmental media in the PETC site area, derived directly from the PETC site environmental reports, are presented in Appendix B.

4.5 Data Tables for Additional Analysis Types

All analysis types are presented in the Table 4.3 series.

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4.6 Environmental Problem 1: Storm Sewer System Discharges

Request Numbers: 300, 301, 302, 303, and 304. (Requests 309 and 310 were added as suggested by NUS and were not addressed in the Sampling and Analysis Plan.)
Requester: D. Misenheimer.
Finding and Basis: Past and present on-site storm sewer discharges containing polynuclear aromatics (PNAs), heavy metals, semivolatiles, acids, and bases were potentially contaminating surface water and sediment in Lick Run. Oily wastewater, coal fines, and laboratory wastewater were probably being discharged untreated through the storm sewer system, which may result in potential water contamination in Lick Run.

Prior to July 1986, laboratory wastewaters were discharged directly into the storm sewer system. The storm sewers discharge to Lick Run via the north outfall.

Since July 1986, laboratory wastewaters have been discharged into a laboratory wastewater collection system (LWCS) consisting of gravity sewers, forced mains, and collection sumps. However, the collection sump pumps are turned off periodically, thereby resulting in sump overflows to the storm sewer system. Although laboratory research efforts sometimes continued on weekends and holidays, the collection sump pumps were turned off because the Wastewater Treatment Facility (WWTF) was not operated during these time frames.

Laboratory wastewater was potentially discharged to the storm sewer system from Building B-58. Oily wastewater and coal fines were potentially discharged to the storm sewer system via floor drains in Buildings B-59, B-85, B-86, and B-97.

Steam condensate from the floating roof tanks was suspected to discharge to an outfall located north of Building B-74. The outfall discharged into a tributary of Lick Run (McElheny Creek).

4.6.1 Sampling and Analysis Objectives

Statements: Water samples were collected and analyzed to determine if the surface water concentrations of semivolatiles, PNAs, acidity (pH), and heavy metals in Lick Run exceeded the Pennsylvania Department of Environmental Resources (PADER) water quality standards (Appendix A of the Sampling and Analysis Plan) as a result of PETC storm sewer discharges. Sediment samples were collected and analyzed to determine if the concentrations of PNAs and heavy metals in the sediments of Lick Run exceeded normal values for the region as a result of PETC storm sewer discharges.

Supporting Information: Prior to July 1986, all sanitary wastewater from PETC facilities located in the plateau area and laboratory wastewater from Building B-94 discharged into the sanitary sewer system. The sanitary sewer system discharged into the Pleasant Hills Sewage Treatment Plant (STP). Stormwater runoff, laboratory wastewater, cooling tower blowdown, noncontact cooling water, and boiler blowdown from the remainder of the plateau area discharged into the storm sewer system. The storm sewer system discharged into Lick Run via the north storm sewer. The north storm sewer collected discharges from both the Bureau of Mines (BOM) facilities and PETC facilities.

Storm sewer discharges at PETC were sampled and analyzed in 1979 and 1980 as part of the Peter F. Loftus study. In 1982, as part of the Chester Engineers study, laboratory wastewaters as well as storm sewer discharges were sampled and analyzed. The results of these two sampling and analysis surveys were summarized in the 1983 report prepared by Chester Engineers entitled, "Wastewater Treatment Facilities Volume I - Technical Conceptual Report" (Appendix B, Tables 1 and 4 of the Sampling and Analysis Plan). The Chester Engineers report (Appendix B, pages B-5, B-6, and B-7 of the Sampling and Analysis Plan) summarized sample results for the north outfall, the DOE lab complex outfall (manhole 4), and Lick Run, respectively.

Chester Engineers reported that the wastewater pH ranged from 1.1 to 11.2 standard units and that periodic high concentrations of total suspended solids and halogenated

organics were observed. Based on their analyses, Chester Engineers identified the following contaminants as potential pollutants: acidity (pH), zinc, copper, mercury, phenols, total organic halides, and suspended solids. During this time frame, it was likely that PNAs and heavy metals were deposited in the sediments of Lick Run as well as in the sediments within the storm sewers. Consequently, these sediments may be a potential ongoing source of surface water contamination.

Since July 1986, WWTFs consisting of a LWCS and a pretreatment plant were constructed. The LWCS consisted of five sumps; namely, Building B-83 sump, Building B-84 sump, Building B-85 sump, Building B-93 sump, and Building B-94 (east) sump. The LWCS received laboratory wastewaters from Buildings B-83, B-84, and B-94. In addition, clarified coal-water, boiler blowdown, and water softener backwash were collected in the Building B-93 sump and discharged into the LWCS. The LWCS discharged to the pretreatment plant (Building B-74). The pretreatment plant was capable of providing oil separation, equalization, precipitation of heavy metals, coagulation, and sedimentation prior to discharging to the sanitary sewer system.

After February 3, 1987, the pretreatment plant had been "cycled" or operated intermittently to exercise equipment as a preventive maintenance measure. When the LWCS was operating, wastewater was discharged to the pretreatment plant equalization tank. The LWCS typically operates from 0800 Monday through 1500 Friday.

The pretreatment plant typically cycled for a period of approximately 6 hrs per day (0800 through 1400), depending upon the volume of wastewater collected in the equalization tank. Wastewater influent bypassed the oil separation unit and discharged into the equalization tank where it was mixed by aeration. Wastewater from the equalization tank was pumped to the neutralization tank. Plant design allowed chemical addition to adjust the pH. However, no chemicals were added since none were available. Following the neutralization tank, the essentially untreated wastewater entered the flash mix and flocculation tanks that were part of the inclined plate separator unit (liquid/solids separator). The plant design required the addition of chemicals to enhance solids settling. Although some solids settled in the plate separator unit, no chemicals

were added since none were available. Following passage through the plate separator unit, the wastewater entered a post neutralization tank. The plant design required the addition of chemicals to adjust pH. However, no chemicals were added since none were available. From the post neutralization tank, wastewater entered the effluent weir box and was discharged to the sanitary sewer system.

When the WWTF was not operating, the collection sump pumps were turned off. The Building B-83 sump, Building B-84 sump, Building B-85 sump, and Building B-93 sump automatically overflowed into the storm sewer system. The Building B-94 (east) sump was bypassed and wastewaters were discharged directly into a limestone pit that discharges into the sanitary sewer system.

At the time of the Survey, the Building B-94 sump was under repair and the Building B-93 sump was inoperable due to a design problem. Consequently, wastewaters were bypassing the Building B-94 sump and the Building B-93 sump was overflowing into the storm sewer system.

The remaining laboratory sink drains, floor drains, overflow drains, and yard drains in or near Buildings B-58, B-59, B-71, B-85, B-86, B-87, B-89, B-90, and B-97 remained connected to the storm sewer system.

Building B-58 contained some laboratories. The drains of these laboratories and noncontact cooling waters discharged directly into the storm sewer system.

Building B-59 was a garage where motor oils were handled. Oil was observed on the floor of the building. Building floor drains were connected directly to the storm sewer system.

Building B-71 was the site of two cooling towers. Both systems were closed-loop systems. One tower provided cooling water for Building B-94 while the other tower provided cooling water for the rest of the plateau. The Building B-94 cooling tower had a bleed line that discharged into the sanitary sewer system and an overflow sump that

was pumped out and discharged into the sanitary sewer system. [Bond Organo Phosphonate, Algen No. 2-2322, and Bondicide 2-2320 were added to the cooling water - Bond Chemicals, Cleveland, Ohio (216) 742-6935]. The plateau cooling tower had an overflow line that discharged into the stormwater sewer system. Chemicals were added to the cooling tower water (Appendix C of the Sampling and Analysis Plan).

Building B-85 housed compressors. Oily material and absorbent were prevalent on the floor of the building. However, it did not appear that the oily material was entering the floor drains. Coal fines were observed in the yard drain south of Building B-85.

Building B-86 was the area where dry pulverized coal, coal water slurries, and lime slurries were handled while experiments were being conducted. These materials were normally contained in a process unit or in 55-gal. drums. However, the materials were handled in areas that have floor drains that were probably connected directly to the storm sewer system. In addition, cooling water was used to cool hot gases in the slag combustor and was discharged to a yard drain that was connected to the storm sewer system. Sulfite and phosphate chemicals were added to the previously softened cooling water.

Building B-87 had no floor drains. However, oily wastewater was observed in the yard drain located south of Building B-87.

Building B-89 was the MHD compressor test facility.

Building B-90 housed compressors. Cooling water used in the compressors was discharged to the Building B-93 sump which discharged into the storm sewer system. Compressor condensate was discharged into floor drains that were suspected to discharge into the storm sewer system. No evidence of any contaminants entering the floor drains was observed during the on-site environmental survey. However, it appeared that waste materials were stored in an area north of Building B-90. It was suspected that the waste materials were spilled in the area and that the soils were contaminated.

Consequently, potentially contaminated stormwater runoff from the area may have entered yard drains that discharged into the storm sewer system.

Building B-97 was a small scale coal preparation area. Coal dust was observed on the floor of the building. Building floor drains were suspected to be connected directly to the storm sewer system.

4.6.2 Sampling and Analytical Design

4.6.2.1 Sampling Design

Request 300: Lick Run Approximately 50 to 75 Feet Prior to the Confluence with McElheny Creek (Fig. 4.1a). Three grab sediment samples were to be collected at a depth of 0 to 8 in. at three locations in Lick Run, approximately 50 to 75 ft upstream of the confluence with McElheny Creek (Sampling Method: Reference E5.3.1). The area, beginning 30 ft above the confluence, was to be divided into a grid of sixty 1-ft segments, and samples were to be taken from three randomly selected segments. Samples were to be collected in a downstream to upstream sequence. No field measurements were required.

The Sampling Team arrived on-site on 17AUG88 at 1238 under a clear sky, with winds at 0 to 5 mph, temperatures between 85° and 90°F, and a normal flow in Lick Run. (During flood stage, Lick Run may experience reverse flow in this area. Normal flow for at least 3 days prior to sampling was necessary.) PE300010 (grid 16) was collected at 1241, PE300021 (grid 56) was collected at 1243, and PE300032 (grid 57) was collected at 1300. The sediment at all three sample locations was composed of sandy loam with fine gravel. As specified by the Sampling and Analysis Plan, samples for Request 304 were collected before those for Request 300.

Request 301: Stormwater Manhole 4 (Fig. 4.1b). A total of three grab water samples were to be collected from the storm drain outfall, which leaves the PETC site adjacent to the entry road (manhole 4) (Sampling Method: Reference E4.2.1). Specific conductance, pH, and temperature readings were to be taken (Field Method: Reference

E.4.5). The WWTF typically operates between 0800 and 1400 Monday through Friday. Since it was most desirable to collect samples for Request 301 when the sump pumps were turned off and the laboratory wastewater was being discharged into the storm sewers, these samples were collected at three different times over the weekend. The Sampling Team arrived on Friday, 19AUG88 at 1823 to collect PE301011. The sky was overcast, humidity was high, winds were calm, and the temperature was 86°F. On Saturday, 20AUG88 at 0853 the Sampling Team collected PE301022. The sky was overcast, humidity was slight, the temperature was 70°F, and water flow was steady. Samples were taken from midstream of the flow except for the volatile samples, which were taken from the side stream of the flow to prevent getting air bubbles in the sample. On Saturday, 20AUG88 at 1353, PE301033 was collected. The sky was partly cloudy, humidity was slight, winds were 2 to 5 mph, the temperature was 85°F, and the water flow was good. Samples were taken midstream of flow except for the volatile samples, which were taken from the side stream of the flow to prevent getting air bubbles in the sample. QC blank PE301044 was taken at 1346. A copy of the operating log for the laboratory wastewater collection system was not provided as requested in the Sampling and Analysis Plan. This log was requested to show the operational status of the treatment plant and the collection sump pumps during the sampling period.

Request 302: North Outfall (Fig. 4.1c). Three grab water samples were to be collected from the north outfall of PETC's north storm sewer before it discharged into Lick Run (Sampling Method: Reference E4.2.1). Specific conductance, pH, and temperature were to be taken (Field Method: Reference E.4.5). North outfall was located adjacent to Entry Road and east of the railroad tracks. The WWTF typically operates between 0800 and 1400 Monday through Friday. Since it was most desirable to collect samples for Request 302 when the sump pumps were turned off and the laboratory wastewater was being discharged into the storm sewers, these samples were collected at three different times over the weekend. On Friday, 19AUG88 at 1813, the Sampling Team collected PE302012. The sky was overcast, humidity was very high, winds were calm, and the temperature was 86°F. On Saturday, 20AUG88 at 0853, the Sampling Team collected PE302023. The sky was overcast, humidity was slight, winds were calm, and the temperature was 70°F. The water was clear, odorless, about 4 in. deep, and had a slight suds covering the surface. On Saturday, 20AUG88 at 1327, PE302034 was

collected. The sky was partly cloudy, humidity was slight, winds were 2 to 5 mph, and the temperature was 84°F. The water was approximately 3 in. deep, contained floating clover leaves on the surface, and had decreased its flow since morning by approximately 25%. All samples were collected by immersing a glass sample jar, then filling it to the top. A copy of the operating log for the laboratory wastewater collection system was not provided as requested in the Sampling and Analysis Plan. This log was requested to show the operational status of the treatment plant and collection sump pumps during the sampling period.

Request 303: North Outfall (Fig. 4.1d). Three grab sediment samples were collected at a depth of 0 to 8 in. at three locations behind the grating in the oil skimmer box at the north outfall (Sampling Method: Reference PETC Sampling and Analysis Plan, Appendix K). This outfall was located adjacent to Entry Road and approximately 30 to 50 ft east of the railroad tracks. No field measurements were required.

The Sampling Team arrived on-site 20AUG88 at 1540 under a partly cloudy sky, with low humidity, calm winds (2 to 5 mph), and a temperature of 80°F. The oil skimmer box was divided into a 6 x 10 grid of equal segments, and three segments were randomly chosen for sampling. At 1556, sample PE303013 (grid 46) was collected from the east (or creek) side of the baffle. The sample sediment was fine gravel and sludge mixed with some leaves and organic matter. The sludge was black and had a foul odor. Sample PE303024 (grid 51) was collected at 1630 from the west side of the baffle. This sediment contained black sludge mixed with organics and covered with an oily film. All of these sample containers were wiped with a paper towel before capping. At 1642, sample PE303035 (grid 32) was collected. This sample was mostly fine gravel and sand, but it also contained a black sludge with organics. The sample had a foul odor. (Originally, the third sample was to come from grid 57, which contained a brown-colored sediment. However, due to a solid grating in that grid, a sample could not be taken. Instead, the sample was collected at grid 32.) QC rinsate PE303046 was taken at 1653.

Request 304: Lick Run Downstream Of the North Outfall (Fig. 4.1e). Three grab sediment samples were to be collected to the depth of sediment from Lick Run

approximately 50 to 100 ft downstream of the north outfall (Sampling Method: Reference E5.3.1). No field measurements were required.

The Sampling Team arrived on-site on 17AUG88 at 1030. The weather conditions were a clear to partly cloudy sky, light winds (0 to 5 mph), and temperatures between 85° and 90°F. Beginning 30 ft downstream of the north outfall, Lick Run was divided into a grid of sixty 1-ft segments. Three segments were chosen randomly and grab sediment samples were taken from each. The samples were collected downstream to upstream and taken prior to those of Request 300 in order to keep the sample areas clear. Sample PE304036 (grid 43) was collected at 1039 at a depth of 0 to 8 in. The sample was sandy with small rocks and had a slight foul odor. Samples PE304025 (grid 37) and PE304014 (grid 17) were collected at 1048 and 1056, respectively. Both were collected at a depth of 0 to 12 in. and had a similar composition to PE303036.

Request 309: South Outfall Storm Drain (Fig. 4.1f).

> **NOTE:** This request was suggested by NUS and is not addressed in the Sampling and Analysis Plan.

The Sampling Team arrived on-site at 1715 on 19AUG88. The sky was overcast with a drizzling rain and the temperature was 78°F. The site was heavily foliaged. The water was slow flowing, odorless, and fairly clear, except for some foam bubbles on the surface. Sample PE309019 was taken at 1801 from the waterfall at the concrete slab.

At 0827 on 20AUG88 sample PE309020 was collected. The sky was overcast, with slight humidity, and a temperature of approximately 70°F. The sample was collected by immersion while standing on the iron catwalk crossing the pond.

At 1311 on that same day, the Sampling Team returned to collect PE309031. The temperature had risen to 84°F, it was humid, and the sky cloudy. The flow had

decreased, and what appeared to be a layer of soap suds covered the water surface. The sample was collected at the lip of the concrete slab.

Field measurements were taken with the Horiba and recorded for each sample.

Request 310: South Outfall Storm Drain (Fig. 4.1g).

> **NOTE:** This request was suggested by NUS and is not addressed in the Sampling and Analysis Plan.

The Sampling Team arrived on-site at 1653 on 19AUG88 in a drizzling rain with an ambient temperature of 75°F. The pond area was divided into a 60 segment grid with each segment approximately 18 ft x 30 ft, and grab sediment samples were collected from grids 46, 51, and 57. Sample PE310012 (grid 46) was collected at 1657 from a depth of 0 to 2 in. The sediment was very gritty with multicolored pebbles. It was rockier towards the base of the sample area.

Sample PE310023 (grid 51) was collected at 1728 from a depth of 0 to 2 in. Its composition was similar to that of PE310012. The rocks ranged from 1 to 2 cm in size.

Sample PE310034 (grid 57) was collected at 1740 from a depth of 0 to 2 in. It was a combination of clay and brown soil.

Field measurements were taken with the Horiba and recorded for each sample.

4.6.2.2 Analytical Design

The parameters analyzed and/or measured for Environmental Problem 1 were as follows:

Request 300: The parameters analyzed were semivolatiles, total PNAs, ICP-metals, AA-arsenic, AA-lead, and AA-mercury. No field measurements were required.

Request 301: The parameters analyzed were volatiles, semivolatiles, total PNAs, ICP-metals, AA-arsenic, AA-lead, and AA-mercury. The field measurements taken were sample temperature, pH, and specific conductance.

Request 302: The parameters analyzed were semivolatiles, total PNAs, ICP-metals, AA-arsenic, AA-lead, and AA-mercury. The field measurements taken were sample temperature, pH, and specific conductance.

Request 303: The parameters analyzed were semivolatiles, total PNAs, ICP-metals, AA-arsenic, AA-lead, and AA-mercury. No field measurements were required.

Request 304: The parameters analyzed were semivolatiles, total PNAs, ICP-metals, AA-arsenic, AA-lead, and AA-mercury. No field measurements were required.

Request 309: The parameters analyzed were semivolatiles, ICP-metals, AA-arsenic, AA-lead, and AA-mercury. The field measurements taken were sample temperature, pH, and specific conductance.

Request 310: The parameters analyzed were semivolatiles, ICP-metals, AA-arsenic, AA-lead, and AA-mercury. The field measurements taken were sample temperature, pH, and specific conductance.

4.6.3 Field and Analytical Data

Field Data:

Request 300:
No field measurements were required.

Request 301:
Field data for Environmental Problem 1 are shown in Table 4.3.1. Temperature for the three samples taken form the Manhole 4 storm drain at three different times ranged

from 30° to 33° C. The water samples were near neutral or basic, with pH values ranging from 7.9 to 8.4. Conductivity values ranged from 0.82 to 0.87 mS/cm.

Request 302:

Field data for Environmental Problem 1 are shown in Table 4.3.1. Temperature for the three samples taken from the North Outfall of the north storm sewer at three different times ranged from 27° to 28° C. The water samples were near neutral or basic, with pH values ranging from 1.3 to 1.5 mS/cm.

Request 303:

No field measurements were required.

Request 304:

No field measurements were required.

Request 309:

Field data for Environmental Problem 1 are shown in Table 4.3.1. Temperature for the three samples taken from different locations in the South Outfall Storm Drain at different times ranged from 18° to 20° C. The water samples were near neutral or basic, with pH values ranging from 7.6 to 8.2. Conductivity values ranged from 2.7 to 2.9 mS/cm.

Request 310:

Field data for Environmental Problem 1 are shown in Table 4.3.1. Temperature for the three samples taken from different locations in the South Outfall Storm Drain within one hour of each other ranged from 20° to 21°C. The sediment samples were near neutral, with pH values ranging from 6.8 to 7.9. Conductivity values ranged from 0.02 to 0.28 mS/cm.

Field Data Evaluation:

Request 300:

No field measurements were required.

Request 301:

Field data are consistent for the three samples taken at different times.

Request 302:

Field data are consistent for the three samples taken at different times.

Request 303:

No field measurements were required.

Request 304:

No field measurements were required.

Request 309:

Field data are consistent for the three samples taken from different locations in the South Outfall Storm Drain at different times.

Request 310:

Field data are consistent for the three samples taken from different locations in the South Outfall Storm Drain within one hour of each other.

Analytical Data:

Request 300:

Metals.

Analytical data for metals in sediment are presented in table 4.3.1. Of the 20 metals detected, the following four were below either the CRDL or the IDL in all three samples: antimony, cadmium, selenium, and sodium. Of the remaining metals detected, arsenic ranged between 13 and 32 mg/kg, barium 188 to 308 mg/kg, beryllium 2.4 to 2.5 mg/kg, chromium 32 to 50 mg/kg, copper 37 to 41 mg/kg, lead 58 to 77 mg/kg, nickel 56 to 62 mg/kg, and zinc 226 to 588 mg/kg. Other metals detected were aluminum, copper, cobalt, iron, magnesium, manganese, potassium, and vanadium. No TCLP analyses were requested.

Extractable organics.

Analytical results for semivolatile organic compounds are presented in Table 4.3.1. Twenty-two positively identified extractable organics were detected in samples collected in Lick Run, with eleven compounds detected at levels exceeding the CRDL. The Sample PE300010 has two compounds above the CRDL (460 µg/kg), with concentrations at 680 µg/kg and 700 µg/kg. In Sample PE300021, six compounds were found at levels exceeding the CRDL (410 µg/kg), with results ranging from 500 µg/kg to 1300 µg/kg. In Sample PE300032, ten compounds exceeded the CRDL (400 µg/kg), with results ranging from 440 µg/kg to 3000 µg/kg.

Twenty-six tentatively identified compounds are reported. The three Diacetone Alcohols (3,400 to 93,000 µg/kg) had the highest concentrations. The majority of the rest of the TIC's are below 300 µg/kg, the maximum being 2400 µg/kg.

Total PNA's.

These compounds, which include Naphthalene, Phenanthrene, Anthracene, and their substituents, were analyzed as part of the Extractable Organics (Semivolatiles). Results are included in the Extractable Organics section.

Request 301:

Metals.

Analytical data for metals in surface water are presented in table 4.3.1. Of the 13 metals detected, the following seven were below either the CRDL or the IDL in all three samples: aluminum, barium, beryllium, copper, manganese, potassium, and thallium. Of the remaining metals detected, lead ranged between 4.2 and 7.8 µg/L, iron was 107 µg/L, and zinc 192 to 224 µg/L. Other metals detected were calcium, magnesium, and sodium.

Extractable organics.

Analytical results for semivolatile organic compounds are presented in Table 4.3.1. Eleven positively identified extractable organics were detected in Sample PE301022, with

six compounds (maximum concentration of 16 µg/L) detected at levels above the CRDL (10 µg/L).

Nineteen tentatively identified compounds are reported. An Alkene/Ether/Alcohol compound (640 to 1700 µg/L) had the highest concentrations in all three samples. The rest of the TIC's are all below 37 µg/L.

Total PNA's.
These compounds, which include Naphthalene, Phenanthrene, Anthracene, and their substituents, were analyzed as part of the Extractable Organics (Semivolatiles). Results are included in the Extractable Organics section.

Volatile organics.
Analytical results for volatile organic compounds are presented in Table 4.3.1. Bromodichloromethane (5 to 6 µg/L), Chloroform (8 to 10 µg/L), and Dibromochloromethane (5 to 6 µg/L) were detected in all three samples.

Request 302:

Metals.
Analytical data for metals in surface water are presented in table 4.3.1. Of the 16 metals detected, the following six were below either the CRDL or the IDL in all three samples: antimony, barium, beryllium, cobalt, copper, and silver. Of the remaining metals detected, chromium was 12 µg/L, lead was 9.3 µg/l, and zinc was between 156 and 187 µg/L. Other metals detected were aluminum, calcium, iron, magnesium, manganese, and sodium.

Extractable organics.
Analytical results for semivolatile organic compounds are presented in Table 4.3.1. Benzo(g,h,i)perylene (11 µg/L) was detected in Sample PE302012. Bis(2-ethylhexyl)phthalate (550 µg/L) exceeded the calibration range of the instrument in Sample PE302034; blank contamination of 9 µg/L indicates that this value may be slightly lower. Ten semivolatile organic compounds were detected at levels below the

CRDL (10 µg/L) in Sample PE302012 and four semivolatiles were detected below the CRDL in Sample PE302023.

Sixteen tentatively identified compounds are reported. An Alkene/Ether/Alcohol (1100 µg/L) in Sample PE302023 had the highest concentration for the TIC's. The rest of the TIC's are all below 43 µg/L.

Total PNA's.
These compounds, which include Naphthalene, Phenanthrene, Anthracene, and their substituents, were analyzed as part of the Extractable Organics (Semivolatiles). Results are included in the Extractable Organics section.

Request 303:

Metals.
Analytical data for metals in sediment are presented in table 4.3.1. Of the 22 metals detected, the following five were below either the CRDL or the IDL in all three samples: antimony, cobalt, selenium, silver, and sodium. Of the remaining metals detected, arsenic ranged from 8.9 to 12 mg/kg, barium 216 to 586 mg/kg, beryllium 1.5 to 2.4 mg/kg, cadmium 6.1 to 6.3 mg/kg, chromium 31 to 72 mg/kg, copper 35 to 51 mg/kg, lead 32 to 93 mg/kg, mercury 0.29 to 1.8 mg/kg, nickel 16 to 20 mg/kg, and zinc 261 to 404 mg/kg. Other metals detected were aluminum, calcium, iron, magnesium, manganese, potassium, and vanadium.

Extractable organics.
Analytical results for semivolatile organic compounds are presented in Table 4.3.1, along with a single rinsate sample taken at the North Outfall Storm Drain. Twenty-eight positively identified extractable organics were detected in samples collected at the North Outfall Storm Drain, with twelve compounds detected at levels exceeding the CRDL. The Sample PE303013 had ten compounds above the CRDL (1700 µg/kg), with concentrations from 3500 to 5800 µg/kg. In Sample PE304024, twelve compounds were found at levels exceeding the CRDL (450 µg/kg), with results ranging from 670 µg/kg to

4600 µg/kg. In Sample PE303035, eleven compounds exceeded the CRDL (420 µg/kg), with results ranging from 690 to 2700 µg/kg.

Forty-one tentatively identified compounds are reported. Highest TIC concentrations were found in the three Diacetone Alcohols (2,100 to 35,000 µg/kg), the Hydrocarbon fractions (340,000 µg/kg), and the four sulfur compounds (2,800 to 22,000 µg/kg). The rest of the TIC's range in concentration from 550 to 8,500 µg/kg.

Total PNA's.
These compounds, which include Naphthalene, Phenanthrene, Anthracene, and their substituents, were analyzed as part of the Extractable Organics (Semivolatiles). Results are included in the Extractable Organics section.

Request 304:

Metals.
Analytical data for metals in sediment are presented in table 4.3.1. Of the 21 metals detected, the following four were below either the CRDL or the IDL in all three samples: antimony, cadmium, selenium, and sodium. Of the remaining metals detected, arsenic ranged from 17 to 25 mg/kg, barium 216 to 364 mg/kg, beryllium 2.1 to 2.6 mg/kg, chromium 38 to 44 mg/kg, copper 42 to 47 mg/kg, lead 43 to 77 mg/kg, mercury was 0.11 mg/kg, nickel 55 to 80 mg/kg, and zinc 197 to 252 mg/kg. Other metals detected were aluminum, calcium, cobalt, iron, magnesium, manganese, potassium, and vanadium.

Extractable organics.
Analytical results for semivolatile organic compounds are presented in Table 4.3.1. Twenty-four positively identified extractable organics were detected in samples collected in Lick Run downstream of the North Outfall, with twelve compounds detected at levels exceeding the CRDL. The Sample PE304014 has eleven compounds above the CRDL (490

µg/kg), with concentrations ranging from 870 to 1600 µg/kg. In Sample PE304025, eleven compounds were found at levels exceeding the CRDL (480 µg/kg), with results ranging from 780 to 5700 µg/kg. In Sample PE304036, ten compounds were found at levels exceeding the CRDL (440 µg/kg), with results ranging from 520 to 2200 µg/kg.

Thirty tentatively identified compounds are reported. The three Diacetone Alcohols (71,000 to 140,000 µg/kg) had the highest concentrations. The rest of the TIC's ranged in concentration from 170 to 4500 µg/kg.

Total PNA's.
These compounds, which include Naphthalene, Phenanthrene, Anthracene, and their substituents, were analyzed as part of the Extractable Organics (Semivolatiles). Results are included in the Extractable Organics section.

Request 309:

Metals.
Analytical data for metals in surface water are presented in table 4.3.1. Of the 16 metals detected, the following six were below either the CRDL or the IDL in all three samples: antimony, barium, beryllium, cobalt, copper, and nickel. Of the remaining metals detected, chromium was 13 µg/L, lead was 10 µg/L, and zinc ranged from 162 to 839 µg/L. Other metals detected were aluminum, calcium, iron, magnesium, manganese, potassium, and sodium.

Extractable organics.
Analytical results for semivolatile organic compounds are presented in Table 4.3.1. Bis(2-ethylhexyl)phthalate (23 to 47 µg/L) and Di-n-octylphthalate (0.7 to 4 µg/L) were detected in all three samples; blank contamination of 9 and 0.4 µg/L, respectively, indicates that these values may be slightly lower.

Ten tentatively identified compounds are reported in concentrations of 300 µg/L and below.

Request 310:

Metals.

Analytical data for metals in sediment are presented in table 4.3.1. Of the 21 metals detected, the following four were below either the CRDL or the IDL in all three samples: antimony, selenium, silver, and sodium. Of the remaining metals detected, arsenic ranged from 9.2 to 12 mg/kg, barium 256 to 384 mg/kg, beryllium 1.8 to 3 mg/kg, cadmium 6.5 to 8.7 mg/kg, chromium 32 to 81 mg/kg, copper 21 to 42 mg/kg, lead 18 to 126 mg/kg, nickel 18 to 45 mg/kg, and zinc 120 to 221 mg/kg. Other metals detected were aluminum, calcium, cobalt, iron, magnesium, manganese, potassium, and vanadium.

Extractable organics.

Analytical results for semivolatile organic compounds are presented in Table 4.3.1. Twenty-four positively identified extractable organics were detected in samples collected from the South Outfall Storm Drain, with eleven compounds detected at levels exceeding the CRDL. The Sample PE310012 has eleven compounds above the CRDL (400 µg/kg), with concentrations ranging from 740 to 2800 µg/kg. In Sample PE310023, eleven compounds were found at levels exceeding the CRDL (420 µg/kg), with results ranging from 430 to 1800 µg/kg. In Sample PE310034, only Bis(2-ethylhexyl)phthalate (50,000 µg/kg - estimated) was detected; blank contamination of 170 µg/kg indicates that this value may be slightly lower.

Fifty-three tentatively identified compounds are reported. The three Diacetone Alcohols (28,000 to 51,000 µg/kg) had the highest concentrations. The rest of the TIC's ranged in concentration from 290 to 4500 µg/kg.

Analytical Data Evaluation:

Request 300:

Metals.
Eight metals of interest (arsenic, barium, beryllium, chromium, copper, lead, nickel, and zinc) were detected above either the CRDL or the IDL for this request.

Extractable organics.
Sample PE300032 (Grid 57) had the most semivolatile compounds detected (10) above the CRDL and the highest concentration levels for each of the compounds (up to 3000 µg/kg). Sample PE300010 (Grid 16) had the least semivolatile compounds detected (2) above the CRDL and the lowest concentration levels for each compound. Twenty-two semivolatile organics were detected or estimated at levels below the CRDL in one or more of the three samples. Little blank contamination is associated with these samples. Twenty-six tentatively identified compounds were detected in one or more of the three samples.

Total PNA's.
See Extractable Organics section.

Request 301:

Metals.
Two metals of interest (lead and zinc) were detected above either the CRDL or the IDL for this request.

Extractable organics.
Six semivolatile compounds were detected above the CRDL in Sample PE301022 at concentrations up to 16 µg/L. Five other semivolatile compounds were detected at

levels below the CRDL in Sample PE301022. One compound was detected at levels below the CRDL in the other two samples. No blank contamination is associated with these samples. Nineteen tentatively identified compounds were detected in one or more of these samples.

Total PNA's.
See Extractable Organics section.

Volatile organics.
Three volatile organic compounds were detected above the CRDL in all three samples at concentrations between 5 and 10 µg/L. No blank contamination is associated with these samples.

Request 302:

Metals.
Three metals of interest (chromium, lead and zinc) were detected above either the CRDL or the IDL for this request.

Extractable organics.
Only Benzo(g,h,i)perylene (11 µg/L in Sample PE302012) and Bis(2-ethylhexyl)phthalate (550 µg/L, with blank contamination of 9 µg/L, in Sample PE302034) were detected above the CRDL in these samples. Ten other semivolatile compounds were detected below the CRDL in Sample PE302012 and four semivolatiles were detected below the CRDL in Sample PE302023. Little blank contamination is associated with these samples. Sixteen tentatively identified compounds were detected in one or more of these samples.

Total PNA's.
See Extractable Organics section.

Request 303:

Metals.
Ten metals of interest (arsenic, barium, beryllium, cadmium, chromium, copper, lead, mercury, nickel, and zinc) were detected above either the CRDL or the IDL for this request.

Extractable organics.
Twelve semivolatile compounds were detected above the CRDL among the three samples. In every instance, the highest concentration for an individual semivolatile compound was detected in Sample PE303013 (Grid 46) while the lowest concentration was detected in Sample PE303034 (Grid 32). Nine to fourteen semivolatile compounds were detected at levels below the CRDL in each of the three samples. Little blank contamination is associated with these samples. Forty-one tentatively identified compounds were detected in one or more of the three samples.

Total PNA's.
See Extractable Organics section.

Request 304:

Metals.
Nine metals of interest (arsenic, barium, beryllium, chromium, copper, lead, mercury, nickel, and zinc) were detected above either the CRDL or the IDL for this request.

Extractable organics.
Ten of the 12 detected semivolatile organic compounds were detected above the CRDL in all three samples. Generally, the lowest concentrations were detected in downstream Sample PE304036 (Grid 43) while the highest concentrations were fairly equally divided between samples PE304025 (Grid 37) and PE304014 (Grid 17). Nine to eleven semivolatile compounds were detected at levels below the CRDL in each of the three samples. Little blank contamination is associated with these samples. Thirty tentatively identified compounds were detected in one or more of the three samples.

Total PNA's.
See Extractable Organics section.

Request 309:

Metals.
Three metals of interest (chromium, lead, and zinc) were detected above either the CRDL or the IDL for this request.

Extractable organics.
Two phthalates were detected above the CRDL in all three of these samples. Since phthalates are common field and laboratory contaminants and since a low level of blank contamination is associated with these measurements, the detection of these compounds is suspect. Ten tentatively identified compounds were detected in one or more of the three samples.

Request 310:

Metals.
Nine metals of interest (arsenic, barium, beryllium, cadmium, chromium, copper, lead, nickel, and zinc) were detected above either the CRDL or the IDL for this request.

Extractable organics.
Ten semivolatile compounds were detected above the CRDL in both Samples PE310012 (Grid 46) and PE310023 (Grid 51). In every instance, the highest concentration was detected in Sample PE310012. Bis(2-ethylhexyl)phthalate was detected in all three samples (50,000 µg/kg in Sample PE310034 - Grid 57). Nine to eleven semivolatile compounds were detected at levels below the CRDL in each of the three samples. Blank contamination is associated only with the phthalates. Fifty-three tentatively identified compounds were detected in one or more of the three samples.

4.6.4 Limitations and Qualifications

Data Quality Level:

Request 300:
The sampling plan is rated Quality Level I; the field sampling is rated Quality Level I. The overall analytical rating is Quality Level I.

Request 301:
The sampling plan is rated Quality Level I; the field sampling is rated Quality Level II because the operating log for the laboratory wastewater collection system was not provided. The overall analytical rating is Quality Level I.

Request 302:
The sampling plan is rated Quality Level I; the field sampling is rated Quality Level II because the operating log for the laboratory wastewater collection system was not provided. The overall analytical rating is Quality Level I.

Request 303:
The sampling plan is rated Quality Level I; the field sampling is rated Quality Level I. The overall analytical rating is Quality Level I.

Request 304:
The sampling plan is rated Quality Level I; the field sampling is rated Quality Level I. The overall analytical rating is Quality Level II.

Request 309:
The sampling plan is not rated since this request was not in the Sampling and Analysis Plan; the field sampling is rated Quality Level I. The overall analytical rating is Quality Level II.

Request 310:

The sampling plan is not rated since this request was not in the Sampling and Analysis Plan; the field sampling is rated Quality Level I. The overall analytical rating is Quality Level I.

Field Data:

Request 300:

No field measurements were required.

Request 301:

The Quality Level rating is I.

Request 302:

The Quality Level rating is I.

Request 303:

No field measurements were required.

Request 304:

No field measurements were required.

Request 309:

The Quality Level rating is I.

Request 310:

The Quality Level rating is I.

Analytical Data:

Request 300:

Metals.
Analytical data was Quality Level I.

Extractable organics.
The TCL data are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total PNA's.
The data are Quality Level I.

Request 301:

Metals.
Analytical data was Quality Level I for this request.

Extractable organics.
The TCL data are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total PNA's.
The data are Quality Level I.

Volatile organics.
The TCL data are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Request 302:

Metals.
Analytical data was Quality Level I for this request.

Extractable organics.
The TCL data for Sample PE302023 are Quality Level I. The TCL data for Samples PE302012 and PE302034 are Quality Level II, due to missed holding times on certain samples in SDG PE302012. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total PNA's.
The data for Sample PE302023 are Quality Level I. The data for Samples PE302012 and PE302034 are Quality Level II, due to missed holding times on certain samples in SDG PE302012.

Request 303:

Metals.
Analytical data was Quality Level I for ICP-metals and Quality Level II for AA-metals.
AA- metals were down graded because arsenic, lead and thallium results did not fall within control limits for the calibration verification standard. Lead exceeded the control limit for spike recovery.

Extractable organics.
The TCL data are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total PNA's.
The data are Quality Level I.

Request 304:

Metals.
Analytical data was Quality Level II for ICP-metals and Quality Level I for AA-metals.
No duplicate, spike, or serial dilution samples were analyzed for the ICP sample set.

Extractable organics.
The TCL data are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total PNA's.
The data are Quality Level I.

Request 309:

Metals.
Analytical data was Quality Level I for this request.

Extractable organics.
The TCL data are Quality Level II, due to missed holding times on certain samples in SDG PE302012. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Request 310:

Metals.
Analytical data was Quality Level I for this request.

Extractable organics.
The TCL data are Quality Level 1. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Environmental Problem: 1
Request Number: 300

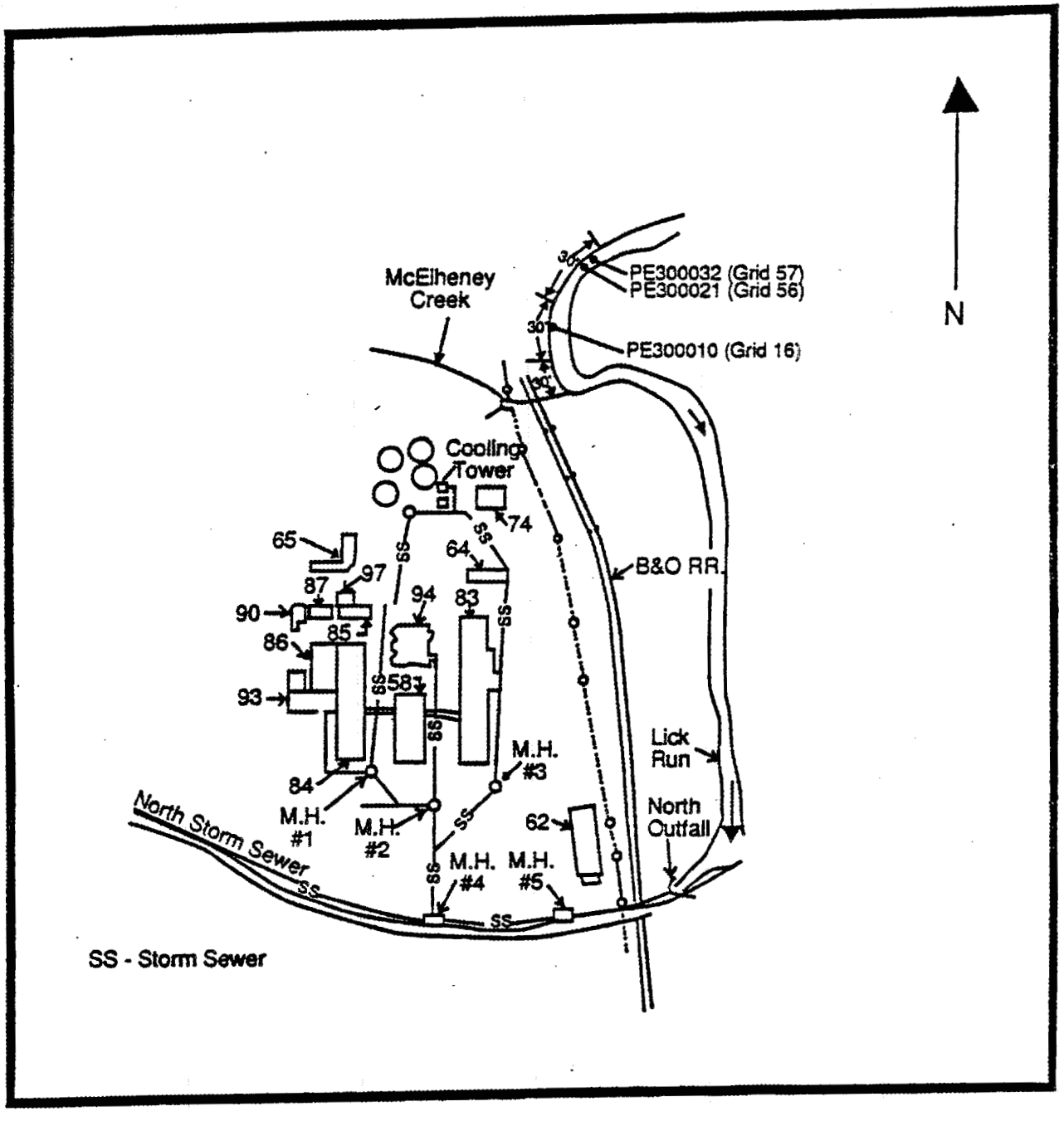

Figure 4.1a. Lick Run Approximately 50 to 75 Feet Prior to the Confluence with McElheny Creek (Request 300)

Environmental Problem: 1
Request Number: 301

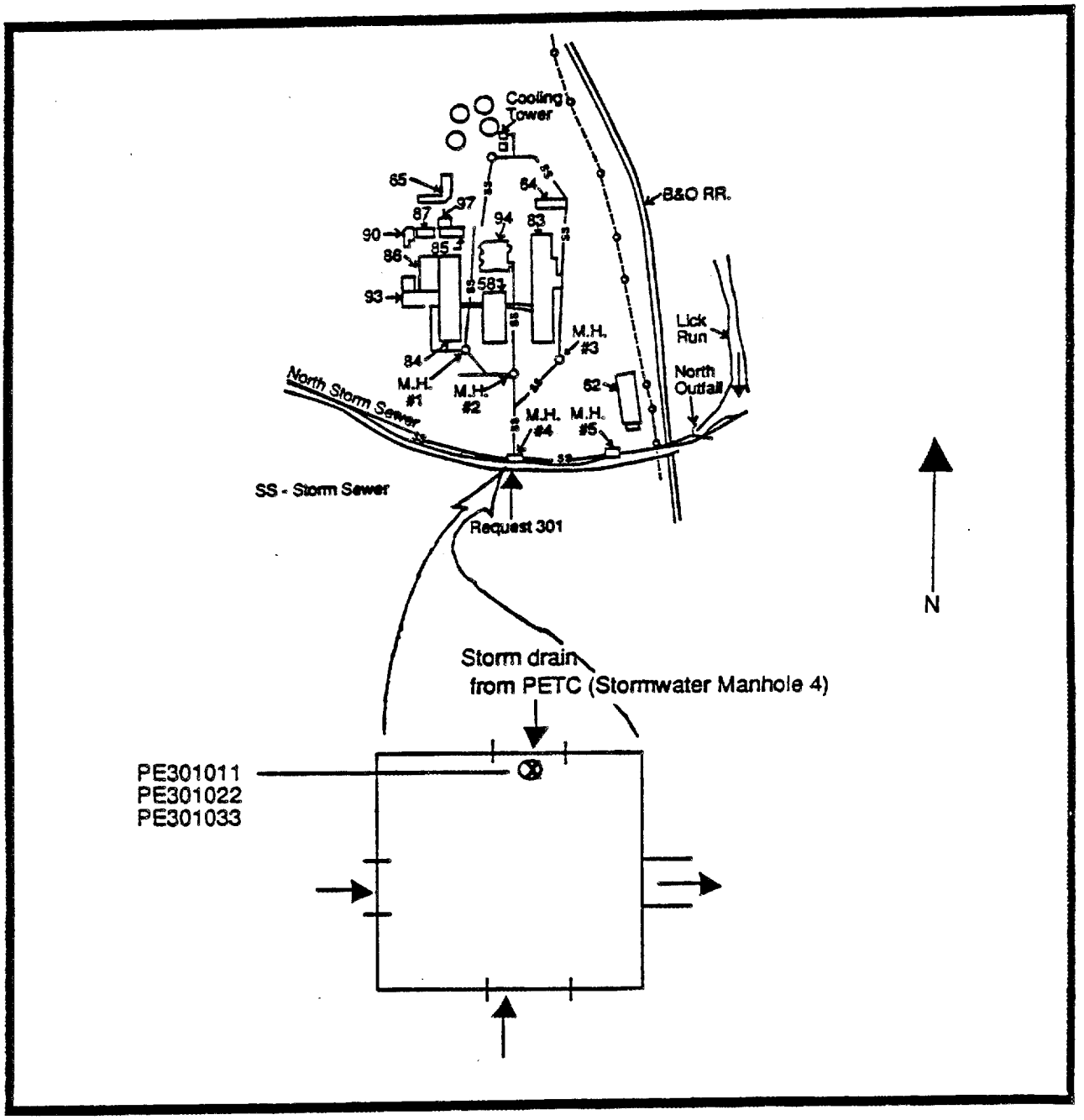

Figure 4.1b Stormwater Manhole 4 (Request 301)

Environmental Problem: 1
Request Number: 302

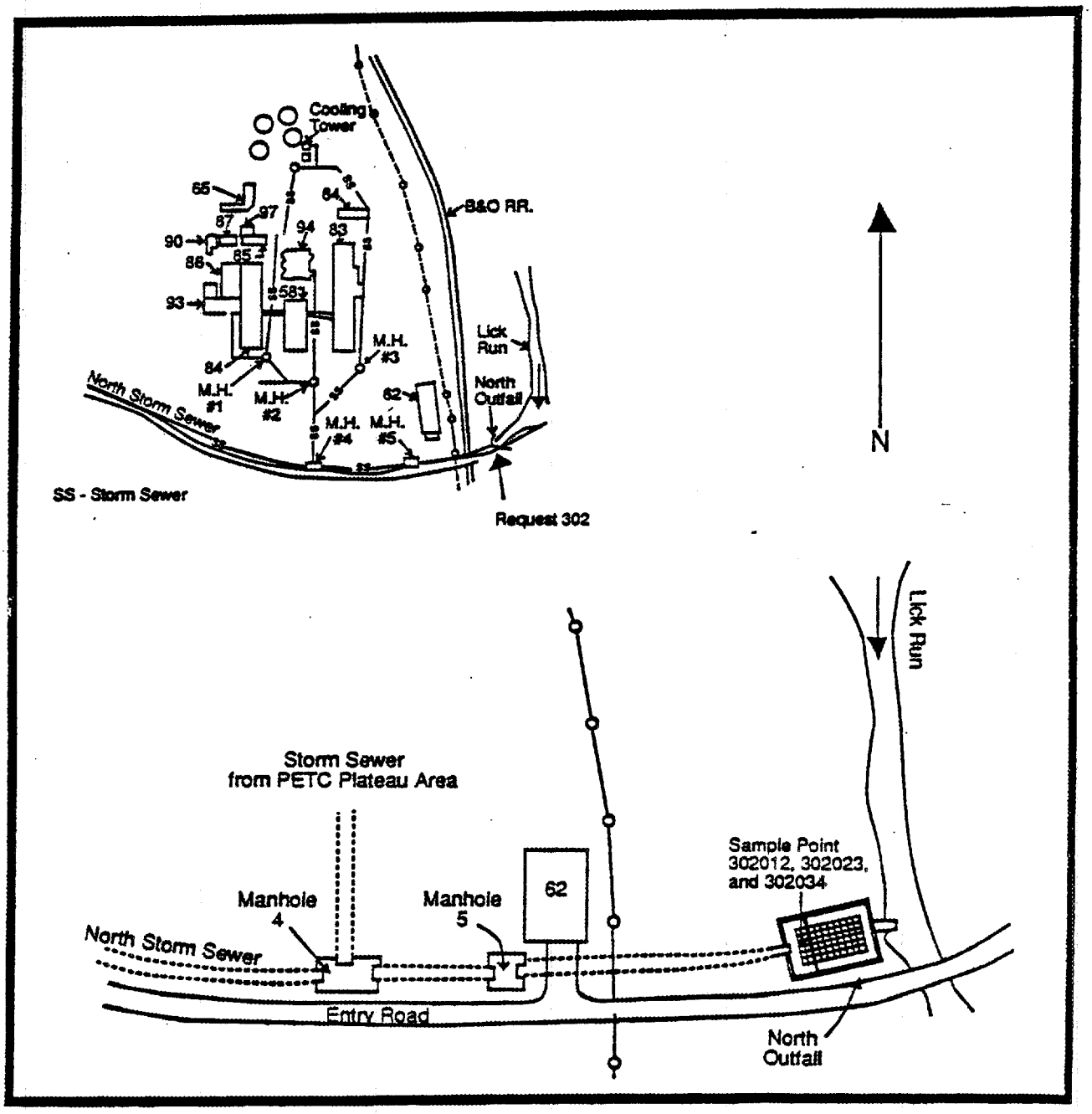

Figure 4.1c. North Outfall - Water (Request 302)

Environmental Problem: 1
Request Number: 303

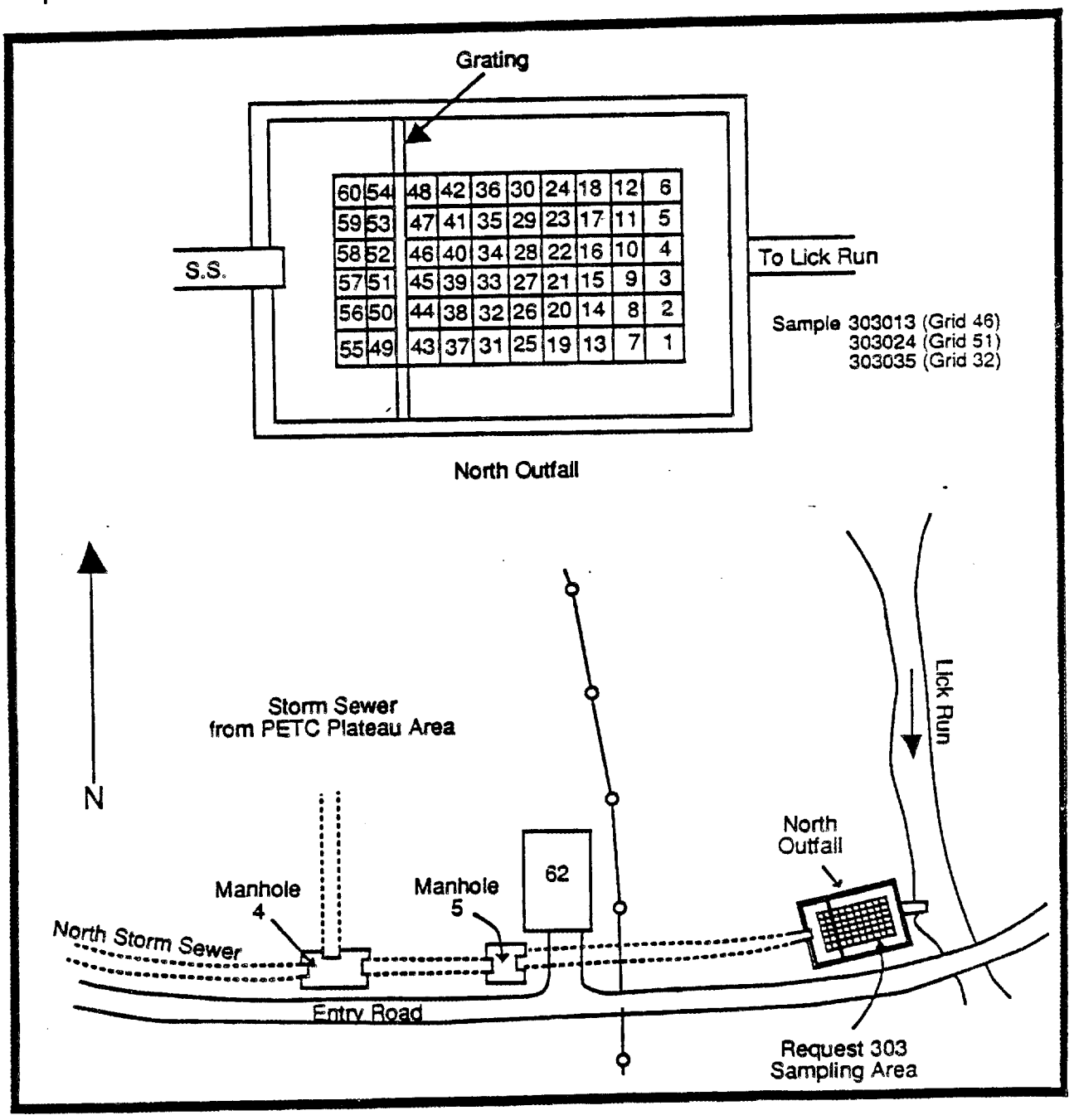

Figure 4.1d. North Outfall - Sediment (Request 303)

Environmental Problem: 1
Request Number: 304

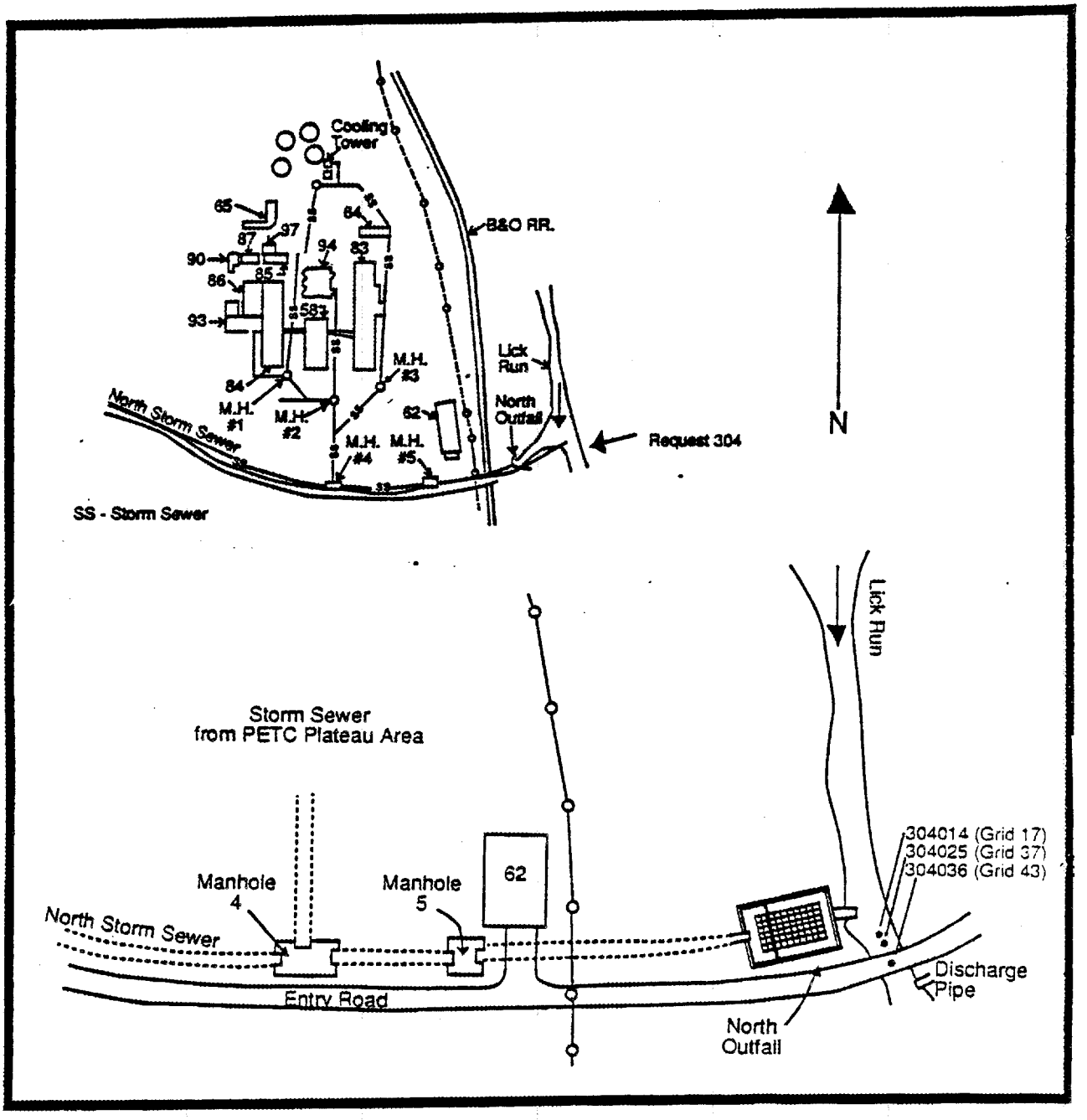

Figure 4.1e. Lick Run Downstream of the North Outfall (Request 304)

Environmental Problem: 1
Request Number: 309

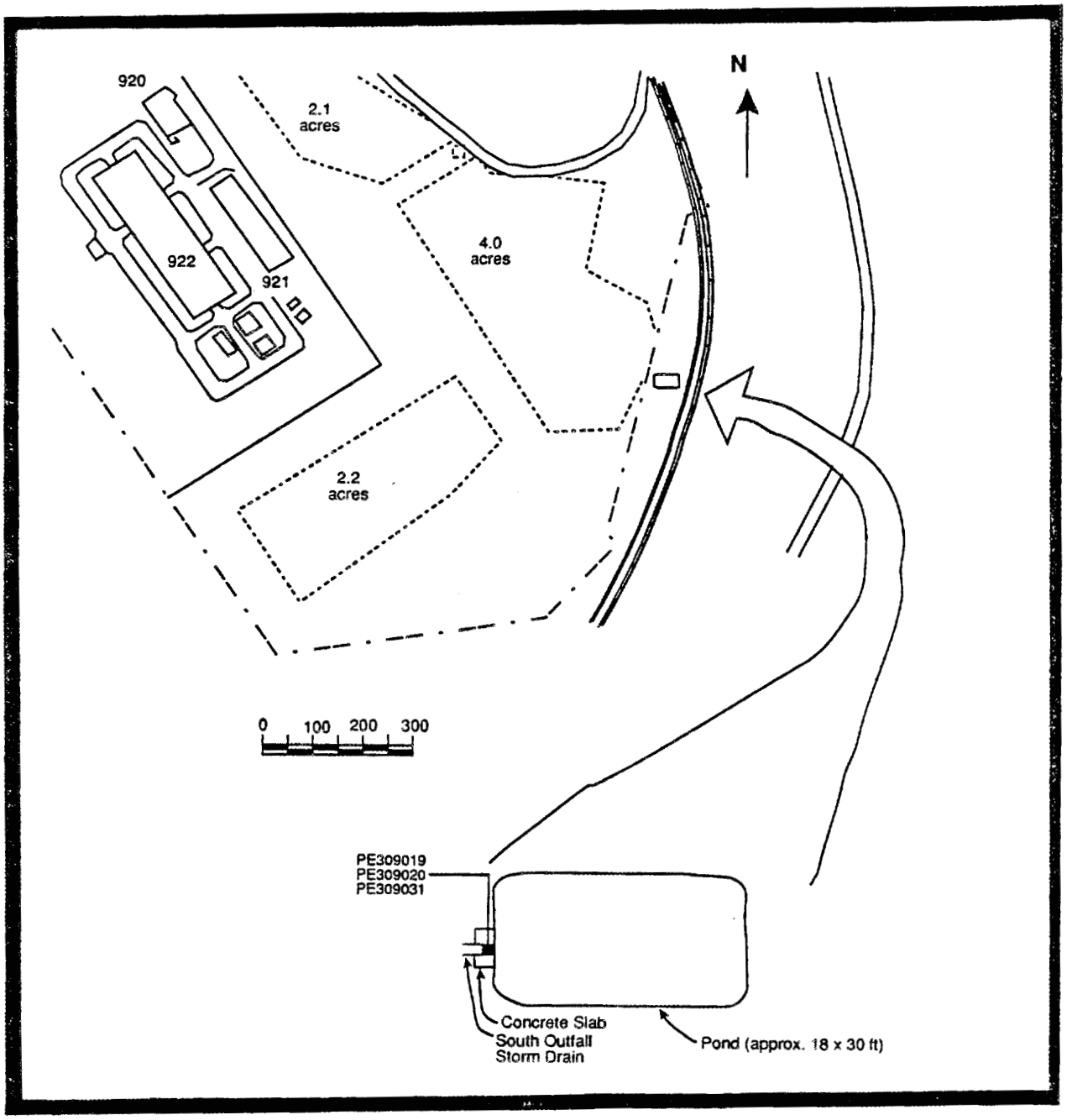

Figure 4.1f. South Outfall Storm Drain - Water (Request 309)

Environmental Problem: 1
Request Number: 310

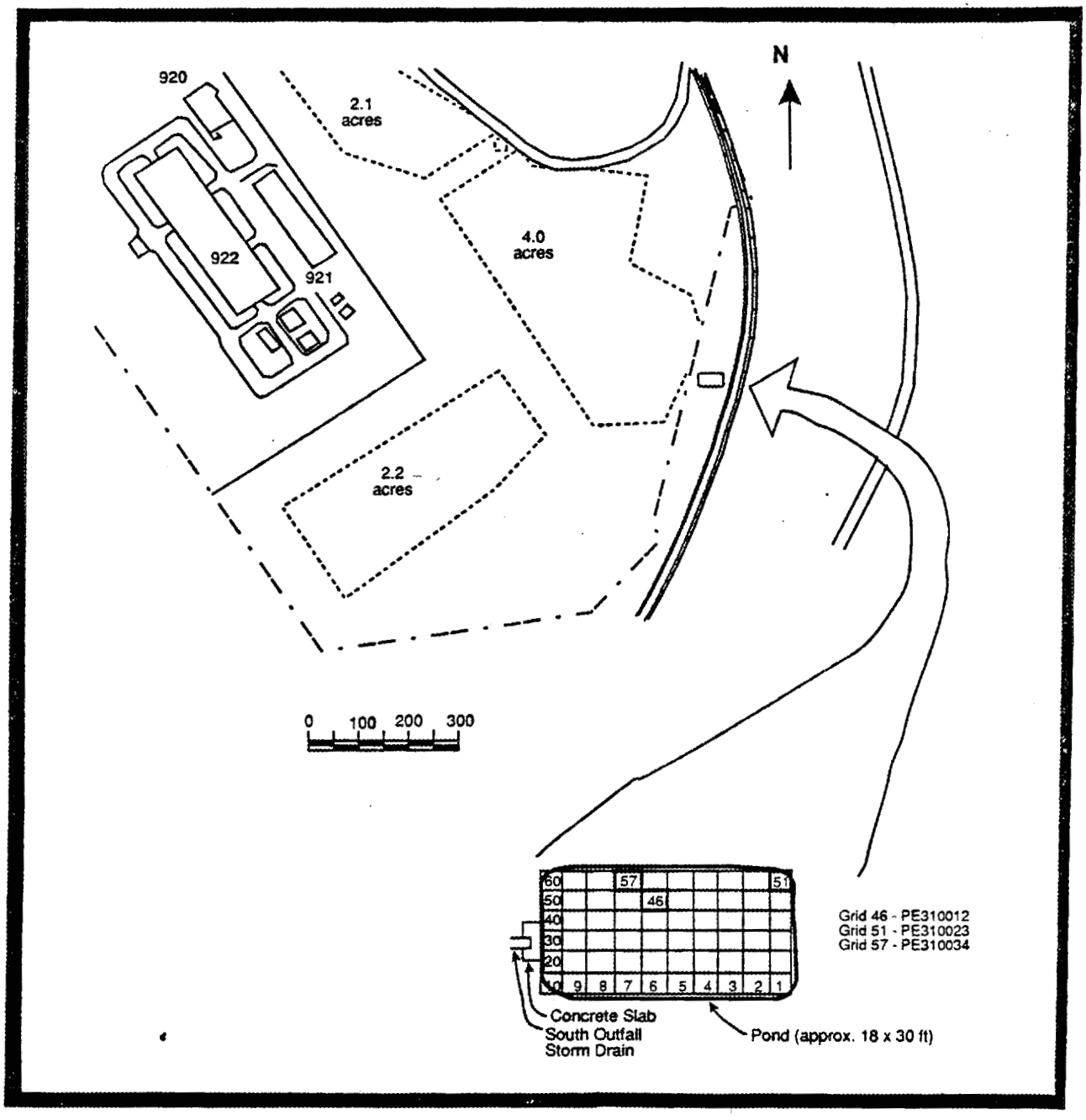

Figure 4.1g. South Outfall Storm Drain - Sediment (Request 310)

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TABLE 4.2.1 SAMPLING AND ANALYSIS DATA SUMMARY
ENVIRONMENTAL PROBLEM - 1

REQUEST NUMBER	LOCATION	TYPE LOCATION	MEDIA	NUMB REQ	NUMB COLL	TYPE	METALS NUMB HITS	METALS NUMB ANAL	PES/H/PCB NUMB HITS	PES/H/PCB NUMB ANAL	SEMIVOLS NUMB HITS	SEMIVOLS NUMB ANAL	VOLS NUMB HITS	VOLS NUMB ANAL
PE300	LICK RUN	STORM SEWER	SEDIMENT	3	3	GRAB	3	3	0	0	3	3	0	0
PE303	LICK RUN	STORM SEWER	SEDIMENT	3	3	GRAB	3	3	0	0	3	3	0	0
PE304	LICK RUN	STORM SEWER	SEDIMENT	3	3	GRAB	3	3	0	0	3	3	0	0
PE310	LICK RUN	STORM SEWER	SEDIMENT	3	3	GRAB	3	3	0	0	3	3	0	0
		MED TOTAL		12	12		12	12	0	0	12	12	0	0
PE301	LICK RUN	STORM SEWER	SUR WATER	1	1	QC FL	1	1	0	0	0	0	0	0
PE301	LICK RUN	STORM SEWER	SUR WATER	3	3	GRAB	3	3	0	0	3	3	3	3
PE302	LICK RUN	STORM SEWER	SUR WATER	3	3	GRAB	3	3	0	0	3	3	0	0
PE303	LICK RUN	STORM SEWER	SUR WATER	1	1	QC RN	1	1	0	0	1	1	0	0
PE309	LICK RUN	STORM SEWER	SUR WATER	3	3	GRAB	3	3	0	0	3	3	0	0
		MED TOTAL		11	11		11	11	0	0	10	10	3	3
		EP TOTAL		23	23		23	23	0	0	22	22	3	3

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 300
LOCATION: LICK RUN APPROXIMATELY 50 - 75 FEET PRIOR TO CONFLUENCE WITH MCELHENY CREEK
MEDIUM: SEDIMENT

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE300010B	PE300010C	PE300021B	PE300021C	PE300032B	PE300032C
	SDG NO:	PE300010B	PE300010C	PE300010B	PE300010C	PE300010B	PE300010C
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ALUMINUM			27000		25700		27300
ANTIMONY			6.5 U		6.7 B		7.3 B
ARSENIC		32 S		14		13	
BARIUM			188		206		308
BERYLLIUM			2.5		2.4		2.4
CADMIUM			3.6 B		3 B		3.1 B
CALCIUM			27100		32800		34200
CHROMIUM			50		47		32
COBALT			40		45		37
COPPER			41		46		37
IRON			47500		44300		36200
LEAD		77		64		58	
MAGNESIUM			7230		7390		7800
MANGANESE			2290		2870		2800
NICKEL			62		71		56
POTASSIUM			4850		4190		4230
SELENIUM			30 B		22 U		20 U
SODIUM			458 B		460 B		464 B
VANADIUM			37		38		29
ZINC			251		226		588

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE300010A	PE300021A	PE300032A			
	SDG NO:	PE300010A	PE300010A	PE300010A			
	TYPE:	GRAB	GRAB	GRAB			
ACENAPHTHENE		460 U	410 U	170 J			
ANTHRACENE		460 U	210 J	600			
BENZO(A)ANTHRACENE		340 J	640	1200			
BENZO(A)PYRENE		210 J	400 J	670			
BENZO(B)FLUORANTHENE		240 J	500	930			
BENZO(G,H,I)PERYLENE		460 U	260 J	440			
BENZO(K)FLUORANTHENE		220 J	230 J	340 J			
BIS(2-ETHYLHEXYL)PHTHALATE		200 J	220 J	130 J			
BUTYLBENZYLPHTHALATE		180 J	410 U	400 U			
CHRYSENE		430 J	690	1200			
DI-N-BUTYLPHTHALATE		130 JB	360 JB	160 JB			
DI-N-OCTYL PHTHALATE		23 J	28 J	19 J			
DIBENZO(A,H)ANTHRACENE		460 U	410 U	140 J			
DIBENZOFURAN		53 J	94 J	160 J			
DIETHYLPHTHALATE		30 J	29 J	400 U			
FLUORANTHENE		700	1300	3000			

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 300
LOCATION: LICK RUN APPROXIMATELY 50 - 75 FEET PRIOR TO CONFLUENCE WITH MCELHENY CREEK
MEDIUM: SEDIMENT

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE300010A	PE300021A	PE300032A			
	SDG NO:	PE300010A	PE300010A	PE300010A			
	TYPE:	GRAB	GRAB	GRAB			
FLUORENE		460 U	410 U	210 J			
INDENO(1,2,3-CD)PYRENE		170 J	290 J	500			
NAPHTHALENE		60 J	75 J	200 J			
PHENANTHRENE		430 J	920	2000			
PYRENE		680	1200	2400			
2-METHYLNAPHTHALENE		58 J	99 J	300 J			
* ALKYLHYDROCARBON(10.80)		52 JB		190 JB			
* ALKYLHYDROCARBON(10.90)				62 JB			
* ALKYLHYDROCARBON(11.00)		55 JB		210 JB			
* ALKYLHYDROCARBON(11.40)		36 JB		180 JB			
* ALKYLHYDROCARBON(11.70)		45 JB		180 JB			
* ALKYLHYDROCARBON(12.20)				71 JB			
* ALKYLHYDROCARBON(21.30)				280 J			
* ALKYLHYDROCARBON(25.50)				260 J			
* DIACETONEALCOHOL(6.33)			93000 JAB				
* DIACETONEALCOHOL*(6.28)				8700 JAB			
* DIACETONEALCOHOL*(6.34)		3400 JAB					
* DIOCTYLADIPATE(31.20)				200 JB			
* PHTHALATE ESTER(25.00)		500 JB					
* PHTHALATEESTER(25.00)				790 JB			
* PROPANOATEESTER(17.30)		490 JB		430 JB			
* PROPANOATEESTER(17.70)		700 JB		740 JB			
* SULFUR(27.10)		780 J		1600 J			
* UNKNOWN(5.44)				88 JB			
* UNKNOWN(5.52)		40 J					
* UNKNOWN(8.00)				88 JB			
* UNKNOWN(8.04)		35 JB					
* UNKNOWN(9.47)				110 JB			
* UNKNOWN(9.49)		50 JB					
* UNKNOWN(27.50)		210 JB					
* UNKNOWN(27.60)				2400 JB			
* UNKNOWNKETONE(6.54)				140 JB			
* UNKNOWNKETONE(6.56)		57 JB					

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 301
LOCATION: STORMWATER MANHOLE 4 ADJACENT TO ENTRY ROAD
MEDIUM: SURFACE WATER

FIELD MEASUREMENTS	SAMP NO:	PE301011	PE301022	PE301033			
CONDUCTIVITY (MS/CM)		0.82	0.83	0.87			
PH (UNITS)		8	7.9	8.4			
TEMPERATURE (DEG C)		32	30	33			

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE301011H	PE301011I	PE301022H	PE301022I	PE301033H	PE301033I
	SDG NO:	PE301011H	PE301011I	PE301011H	PE301011I	PE301011H	PE301011I
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ALUMINUM			74 B		40 B		37 B
BARIUM			46 B		46 B		46 B
BERYLLIUM			0.2 U		0.2 U		0.2 U
CALCIUM			44800 E		46400 E		46900 E
COPPER			6.4 B		3 B		2 U
IRON			95 B		107		50 B
LEAD		4.2 S		7.8 S		4.1 BW	
MAGNESIUM			15100		15600		16300
MANGANESE			10 B		3.9 B		3.9 B
POTASSIUM			3040 B		3310 B		3490 B
SODIUM			52400		54100		56800
THALLIUM		3 U		3 U		3 U	
ZINC			224 E		192 E		214 E

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE301044A	PE301044B
	SDG NO:	PE301011H	PE301011I
	TYPE:	FIELD BLANK	FIELD BLANK
ALUMINUM			71 B
BARIUM			6.2 B
BERYLLIUM			0.48 B
CALCIUM			5120 E
COPPER			68
IRON			12 B
LEAD		3.6 S	
MAGNESIUM			1660 B
MANGANESE			7.6 B
POTASSIUM			841 U
SODIUM			6480
THALLIUM		3.6 B	
ZINC			344 E

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 301
LOCATION: STORMWATER MANHOLE 4 ADJACENT TO ENTRY ROAD
MEDIUM: SURFACE WATER

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE301011E	PE301022E	PE301033E			
	SDG NO:	PE301011E	PE301011E	PE301011E			
	TYPE:	GRAB	GRAB	GRAB			
BENZO(A)ANTHRACENE		10 U	7 J	10 U			
BENZO(A)PYRENE		10 U	16	10 U			
BENZO(B)FLUORANTHENE		10 U	14	10 U			
BENZO(G,H,I)PERYLENE		10 U	14	10 U			
BENZO(K)FLUORANTHENE		10 U	14	10 U			
BIS(2-ETHYLHEXYL)PHTHALATE		10 U	5 J	10 U			
BUTYLBENZYLPHTHALATE		10 U	4 J	10 U			
CHRYSENE		10 U	7 J	10 U			
DI-N-OCTYL PHTHALATE		1 J	5 J	1 J			
DIBENZO(A,H)ANTHRACENE		10 U	15	10 U			
INDENO(1,2,3-CD)PYRENE		10 U	14	10 U			
* ALKENE/ETHER/ALCOHOL(25.00)			9 J	6 J			
* ALKENE/ETHER/ALCOHOL*(27.50)		1700 JB	640 JB	1100 JB			
* ETHER/ALCOHOL(30.80)				13 J			
* ETHER/ALCOHOL(30.90)		34 J					
* PROPANOATEESTER(17.60)		4 JB					
* PROPANOATEESTER(17.70)				4 JB			
* UNKNOWN(6.28)				12 J			
* UNKNOWN(6.31)		5 J					
* UNKNOWN(6.32)			6 J				
* UNKNOWN(9.73)				7 J			
* UNKNOWN(10.50)		16 J					
* UNKNOWN(10.60)			16 J	37 J			
* UNKNOWN(11.40)				12 J			
* UNKNOWN(11.50)				9 J			
* UNKNOWN(14.40)				11 J			
* UNKNOWN(17.60)			3 JB				
* UNKNOWN(37.80)			12 J				
* UNKNOWNSILOXANE(16.90)			5 J				
* UNKNOWNSILOXANE(19.80)			3 J				

VOLATILE ORGANICS (UG/L)	SAMP NO:	PE301011A	PE301022A	PE301033A			
	SDG NO:	PE301011A	PE301011A	PE301011A			
	TYPE:	GRAB	GRAB	GRAB			
BROMODICHLOROMETHANE		6	5	6			
CHLOROFORM		10	8	8			
DIBROMOCHLOROMETHANE		5	5	6			

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 302
LOCATION: NORTH OUTFALL STORM DRAIN
MEDIUM: SURFACE WATER

FIELD MEASUREMENTS	SAMP NO:	PE302012	PE302023	PE302034			
CONDUCTIVITY (MS/CM)		1.3	1.4	1.5			
PH (UNITS)		7.7	8	8.2			
TEMPERATURE (DEG C)		27	27	28			

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE302012D	PE302012E	PE302023D	PE302023E	PE302034D	PE302034E
	SDG NO:	PE301011H	PE301011I	PE302023D	PE301011I	PE302023D	PE301011I
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ALUMINUM			185 B		260		220
ANTIMONY			26 U		26 U		37 B
BARIUM			50 B		51 B		48 B
BERYLLIUM			0.48 B		0.72 B		0.48 B
CALCIUM			76000 E		86600 E		86600 E
CHROMIUM			12		7.5 U		7.5 U
COBALT			3.2 B		3.2 U		3.2 U
COPPER			6 B		6.4 B		5.5 B
IRON			426		523		499
LEAD		4.1 BW		9.3 NE		4.9 BNW	
MAGNESIUM			18600		20900		18500
MANGANESE			105		120		114
POTASSIUM			3470 B		4880 B		6630
SILVER			3.8 U		4.5 B		3.8 U
SODIUM			85800		95100		96000
ZINC			187 E		176 E		156 E

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE302012A	PE302023A	PE302034A			
	SDG NO:	PE302012A	PE301011E	PE302012A			
	TYPE:	GRAB	GRAB	GRAB			
BENZO(A)PYRENE		14 J	10 U	10 U			
BENZO(B)FLUORANTHENE		11 J	10 U	10 U			
BENZO(G,H,I)PERYLENE		11	10 U	10 U			
BENZO(K)FLUORANTHENE		13 J	1 J	10 U			
BIS(2-ETHYLHEXYL)PHTHALATE		8 JB	12 J	550 BE			
DI-N-BUTYLPHTHALATE		2 J	10 U	10 U			
DI-N-OCTYL PHTHALATE		4 JB	3 J	10 U			
DIBENZO(A,H)ANTHRACENE		9 J	10 U	10 U			
FLUORANTHENE		1 J	10 U	10 U			
INDENO(1,2,3-CD)PYRENE		10 J	4 J	10 U			
PHENANTHRENE		0.7 J	10 U	10 U			
* ALKENE/ETHER/ALCOHOL(25.00)			9 J				
* ALKENE/ETHER/ALCOHOL*(27.50)			1100 JB				

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 302
LOCATION: NORTH OUTFALL STORM DRAIN
MEDIUM: SURFACE WATER

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE302012A	PE302023A	PE302034A			
	SDG NO:	PE302012A	PE301011E	PE302012A			
	TYPE:	GRAB	GRAB	GRAB			
* ETHER/ALCOHOL(30.80)			24 J				
* HYDROCARBON(27.50)		17 J					
* HYDROCARBON(27.62)				39 JB			
* PHTHALATE ESTER(30.94)				8 J			
* PHTHALATE ESTER(31.58)				17 J			
* PHTHALATE ESTER(31.67)				21 J			
* PROPANOATEESTER(17.60)			4 JB				
* UNKNOWN(6.32)			7 J				
* UNKNOWN(10.60)			21 J				
* UNKNOWN(11.50)			7 J				
* UNKNOWN(12.30)			2 J				
* UNKNOWN(16.10)			5 J				
* UNKNOWN(34.90)			22 J				
* 2-BUTOXY-ETHANOL(7.78)		43 J					

S&A REQUEST: 303
LOCATION: NORTH OUTFALL STORM DRAIN
MEDIUM: SEDIMENT

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE303013B	PE303013C	PE303024B	PE303024C	PE303035B	PE303035C
	SDG NO:	PE303013B	PE310012C	PE303013B	PE310012C	PE303013B	PE310012C
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ALUMINUM			23100		22400		17200
ANTIMONY			7.1 U		9.3 B		11 B
ARSENIC		0.27 U		12 S		8.9 S	
BARIUM			311		586		216
BERYLLIUM			2.3 E		2.4 E		1.5 E
CADMIUM			6.1		6.3		4.6 B
CALCIUM			72200		76700		56600
CHROMIUM			72		54		31
COBALT			13 B		9.3 B		8.6 B
COPPER			38 E		51 E		35 E
IRON			46500		41800		25900
LEAD		32 E		93		46 S	
MAGNESIUM			13000		13000		9400
MANGANESE			4100		3330		1990
MERCURY		0.29		1.8		0.1 UN	

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 303
LOCATION: NORTH OUTFALL STORM DRAIN
MEDIUM: SEDIMENT

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE303013B	PE303013C	PE303024B	PE303024C	PE303035B	PE303035C
	SDG NO:	PE303013B	PE310012C	PE303013B	PE310012C	PE303013B	PE310012C
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
NICKEL			20 E		18 E		16 E
POTASSIUM			3660 E		3160 E		2590 E
SELENIUM			47 B		41 B		21 U
SILVER			2.6 B		5.6 B		2.4 B
SODIUM			751 BE		865 BE		720 BE
VANADIUM			45		23		19
ZINC			404		395		261

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE303013A	PE303024A	PE303035A			
	SDG NO:	PE303013A	PE303013A	PE303013A			
	TYPE:	GRAB	GRAB	GRAB			
ACENAPHTHENE		220 J	340 J	110 J			
ACENAPHTHYLENE		1700 U	17 J	420 U			
ANTHRACENE		1700 U	670	270 J			
BENZO(A)ANTHRACENE		4200	1800	1000			
BENZO(A)PYRENE		4700	1700	1300			
BENZO(B)FLUORANTHENE		4100	2300	1500			
BENZO(G,H,I)PERYLENE		1700 U	1000	690			
BENZO(K)FLUORANTHENE		3500	1300	1000			
BIS(-2-CHLOROETHOXY)METHANE		1700 U	450 U	29 J			
BIS(2-ETHYLHEXYL)PHTHALATE		1700 U	1400 B	1700 B			
BUTYLBENZYLPHTHALATE		760 J	220 J	200 J			
CHRYSENE		5600	2200	1400			
DI-N-BUTYLPHTHALATE		1700 U	240 JB	230 JB			
DI-N-OCTYL PHTHALATE		780 J	350 JB	420 JB			
DIBENZO(A,H)ANTHRACENE		4600	370 J	420 U			
DIBENZOFURAN		170 J	280 J	120 J			
DIETHYLPHTHALATE		1700 U	41 J	37 JB			
FLUORANTHENE		5800	4600	2700			
FLUORENE		390 J	430 J	190 J			
INDENO(1,2,3-CD)PYRENE		5700	1200	710			
ISOPHORONE		36 JB	450 U	420 U			
NAPHTHALENE		1700 U	260 J	94 J			
PHENANTHRENE		4000	3500	2000			
PYRENE		5400	4000	2500			
2-METHYLNAPHTHALENE		74 J	260 J	110 J			
2-NITROANILINE		8600 U	2200 U	39 J			
2,4-DIMETHYLPHENOL		1700 U	75 J	36 J			
4-METHYLPHENOL		1700 U	140 J	27 J			
* DIACETONE ALCOHOL(5.99)		2100 JAB					

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 303
LOCATION: NORTH OUTFALL STORM DRAIN
MEDIUM: SEDIMENT

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE303013A	PE303024A	PE303035A
	SDG NO:	PE303013A	PE303013A	PE303013A
	TYPE:	GRAB	GRAB	GRAB
* DIACETONE ALCOHOL(6.29)			32000 JBA	
* DIACETONE ALCOHOL(6.46)				35000 JBA
* DIOCTYL ADIPATE(31.27)				1500 J
* HYDROCARBON FRACTION(29.90)			340000 J	
* HYDROCARBON(7.02)			1000 J	1400 J
* HYDROCARBON(9.99)		850 J		
* HYDROCARBON(11.42)				600 J
* HYDROCARBON(11.51)				550 J
* HYDROCARBON(21.38)				730 J
* HYDROCARBON(22.82)		1700 J		
* HYDROCARBON(22.86)				840 J
* HYDROCARBON(22.95)				1800 J
* HYDROCARBON(24.24)				850 J
* HYDROCARBON(24.25)		1000 J		
* HYDROCARBON(24.37)				950 J
* HYDROCARBON(24.92)		1100 J		
* HYDROCARBON(25.56)				740 J
* HYDROCARBON(26.69)		1100 J		
* HYDROCARBON(27.81)				1700 J
* HYDROCARBON(27.88)		2600 J		
* PHENOLIC(14.59)			950 J	
* PHENOLIC(23.64)			1000 J	
* PHENOLIC(30.44)		8500 J		
* PHTHALATE ESTER(25.13)				1300 J
* PHTHALATE ESTER(32.63)		3000 J		
* SULFUR(19.55)		2800 J		
* SULFUR(27.10)		21000 J		
* SULFUR(27.37)				22000 J
* SULFUR(27.38)			12000 J	
* UNKNOWN(4.93)		2700 J		
* UNKNOWN(5.83)		2200 J		
* UNKNOWN(5.98)			1700 JB	
* UNKNOWN(8.20)			1100 J	
* UNKNOWN(8.22)				1600 J
* UNKNOWN(8.56)				820 J
* UNKNOWN(8.88)		770 JB		
* UNKNOWN(9.30)				630 J
* UNKNOWN(25.15)		1300 J		
* UNKNOWN(28.93)		2500 J		
* 3-HEXEN-2-ONE(4.81)		760 JAB		

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 303
LOCATION: NORTH OUTFALL STORM DRAIN
MEDIUM: SURFACE WATER

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE303046B	PE303046C
	SDG NO:	PE302023D	PE301011I
	TYPE:	RINSATE	RINSATE
BARIUM			5 B
BERYLLIUM			0.24 B
CALCIUM			4950 BE
COPPER			55
IRON			22 B
LEAD		7.3 NE	
MAGNESIUM			1540 B
MANGANESE			14 B
SILVER			3.9 B
SODIUM			5750
ZINC			299 E

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE303046A
	SDG NO:	PE302012A
	TYPE:	RINSATE
BENZO(A)ANTHRACENE		7 J
BENZO(A)PYRENE		20
BENZO(B)FLUORANTHENE		19
BENZO(G,H,I)PERYLENE		16
BENZO(K)FLUORANTHENE		20
BUTYLBENZYLPHTHALATE		4 J
CHRYSENE		10
DI-N-BUTYLPHTHALATE		4 J
DI-N-OCTYL PHTHALATE		5 JB
DIBENZO(A,H)ANTHRACENE		16
FLUORANTHENE		1 J
INDENO(1,2,3-CD)PYRENE		24
PYRENE		2 J
* ESTER(17.62)		9 JB
* HYDROCARBON(24.93)		16 J
* HYDROCARBON(27.61)		21 JB
* PHTHALATE ESTER(32.79)		14 J
* PHTHALATE ESTER(36.35)		9 J

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 304
LOCATION: LICK RUN DOWNSTREAM OF THE NORTH OUTFALL
MEDIUM: SEDIMENT

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO: SDG NO: TYPE:	PE304014B PE300010B GRAB	PE304014C PE300010C GRAB	PE304025B PE300010B GRAB	PE304025C PE300010C GRAB	PE304036B PE300010B GRAB	PE304036C PE300010C GRAB
ALUMINUM			28400		21200		26500
ANTIMONY			11 B		11 B		12 B
ARSENIC		17		28 S		18	
BARIUM			364		279		216
BERYLLIUM			2.6		2.1		2.6
CADMIUM			4 B		2.9 B		4.1 B
CALCIUM			31500		25500		35800
CHROMIUM			44		42		38
COBALT			42		31		45
COPPER			47		44		42
IRON			53400		40900		51800
LEAD		49		77		43 S	
MAGNESIUM			8220		6210		8640
MANGANESE			2940		2150		2950
MERCURY		0.1 U		0.11		0.1 U	
NICKEL			80		55		70
POTASSIUM			4750		3680		3960
SELENIUM			37 B		24 U		31 B
SODIUM			548 B		469 B		491 B
VANADIUM			41		35		36
ZINC			252		197		233

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO: SDG NO: TYPE:	PE304014A PE300010A GRAB	PE304025A PE300010A GRAB	PE304036A PE300010A GRAB			
ACENAPHTHENE		67 J	260 J	69 J			
ACENAPHTHYLENE		490 U	22 J	440 U			
ANTHRACENE		270 J	990	310 J			
BENZO(A)ANTHRACENE		960	2100	960			
BENZO(A)PYRENE		1200	1100	720			
BENZO(B)FLUORANTHENE		1200	1100	760			
BENZO(G,H,I)PERYLENE		980	960	550			
BENZO(K)FLUORANTHENE		870	780	520			
BIS(2-ETHYLHEXYL)PHTHALATE		470 J	360 J	440 U			
BUTYLBENZYLPHTHALATE		180 J	480 U	440 U			
CHRYSENE		1100	2100	1000			
DI-N-BUTYLPHTHALATE		450 JB	190 JB	390 JB			
DI-N-OCTYL PHTHALATE		220 J	30 J	37 J			
DIBENZO(A,H)ANTHRACENE		950	280 J	220 J			
DIBENZOFURAN		130 J	280 J	100 J			

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 304
LOCATION: LICK RUN DOWNSTREAM OF THE NORTH OUTFALL
MEDIUM: SEDIMENT

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE304014A	PE304025A	PE304036A
	SDG NO:	PE300010A	PE300010A	PE300010A
	TYPE:	GRAB	GRAB	GRAB
DIETHYLPHTHALATE		120 J	480 U	36 J
FLUORANTHENE		1500	5700	2200
FLUORENE		89 J	310 J	440 U
INDENO(1,2,3-CD)PYRENE		1100	960	600
NAPHTHALENE		110 J	210 J	70 J
PHENANTHRENE		1100	3700	1500
PHENOL		490 U	89 J	440 U
PYRENE		1600	4800	2100
2-METHYLNAPHTHALENE		150 J	260 J	82 J
* ALKYLHYDROCARBON(10.80)		1800 JB		590 JB
* ALKYLHYDROCARBON(10.90)		2000 JB		
* ALKYLHYDROCARBON(11.00)				620 JB
* ALKYLHYDROCARBON(11.40)		1700 JB		710 JB
* ALKYLHYDROCARBON(11.60)		1800 JB		620 JB
* ALKYLHYDROCARBON(12.10)		680 JB		
* ALKYLHYDROCARBON(12.20)				270 JB
* ALKYLHYDROCARBON(12.40)		570 JB		
* ALKYLHYDROCARBON(21.30)		670 J		170 J
* ALKYLHYDROCARBON(25.40)		720 J		160 J
* DIACETONEALCOHOL(6.34)			140000 JAB	
* DIACETONEALCOHOL*(6.36)		100000 JAB		
* DIACETONEALCOHOL*(6.37)				71000 JAB
* DIOCTYLADIPATE(31.10)		2400 JB		340 JB
* PHTHALATEESTER(25.00)		1300 JB		370 JB
* PROPANOATEESTER(17.30)		2400 JB		680 JB
* PROPANOATEESTER(17.60)		3200 JB		860 JB
* SULFUR(27.10)		3600 J		820 J
* UNKNOWN(3.88)				310 J
* UNKNOWN(3.92)		730 J		
* UNKNOWN(5.53)				490 J
* UNKNOWN(5.55)		960 J		
* UNKNOWN(8.00)				710 JB
* UNKNOWN(8.02)		1100 JB		
* UNKNOWN(9.46)				780 JB
* UNKNOWN(9.47)		1300 JB		
* UNKNOWN(13.00)				250 J
* UNKNOWN(27.50)		4500 JB		840 JB
* UNKNOWNKETONE(6.55)				970 JB
* UNKNOWNKETONE(6.57)		1500 JB		

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 309
LOCATION: SOUTH OUTFALL STORM DRAIN
MEDIUM: SURFACE WATER

FIELD MEASUREMENTS	SAMP NO:	PE309019	PE309020	PE309031			
CONDUCTIVITY (MS/CM)		2.7	2.8	2.9			
PH (UNITS)		7.8	7.6	8.2			
TEMPERATURE (DEG C)		18	18	20			

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE309019D	PE309019E	PE309020D	PE309020E	PE309031D	PE309031E
	SDG NO:	PE302023D	PE301011I	PE302023D	PE301011I	PE302023D	PE301011I
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ALUMINUM			1510		1820		1740
ANTIMONY			28 B		26 U		26 U
BARIUM			23 B		21 B		18 B
BERYLLIUM			0.24 B		0.48 B		0.24 B
CALCIUM			183000 E		219000 E		230000 E
CHROMIUM			8.3 B		13		8 B
COBALT			7.8 B		12 B		12 B
COPPER			5.1 B		2.2 B		8.5 B
IRON			540		488		493
LEAD		10 NS		3.2 BNW		3.1 BNE	
MAGNESIUM			29300		37100		39400
MANGANESE			359		484		456
NICKEL			12 B		25 B		31 B
POTASSIUM			11100		12200		12100
SODIUM			211000		213000		213000
ZINC			839 E		305 E		162 E

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE309019A	PE309020A	PE309031A			
	SDG NO:	PE302012A	PE302012A	PE302012A			
	TYPE:	GRAB	GRAB	GRAB			
BIS(2-ETHYLHEXYL)PHTHALATE		47 B	24 B	23 B			
DI-N-OCTYL PHTHALATE		4 JB	2 JB	0.7 JB			
* DIOCTYL ADIPATE(31.15)			83 JB				
* DIOCTYL ADIPATE(31.16)		300 JB					
* DIOCTYL ADIPATE(31.17)				98 JB			
* HYDROCARBON(27.41)		14 JB					
* HYDROCARBON(27.56)		32 J					
* HYDROCARBON(27.75)			160 JB				
* PHTHALATE ESTER(36.17)		9 J					
* SILOXANE(47.00)			12 J				
* UNKNOWN(38.64)			9 J				
* UNKNOWN(42.11)			11 J				

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 310
LOCATION: SOUTH OUTFALL STORM DRAIN
MEDIUM: SEDIMENT

FIELD MEASUREMENTS	SAMP NO:	PE310012	PE310023	PE310034			
CONDUCTIVITY (MS/CM)		0.02	0.12	0.28			
PH (UNITS)		7.7	6.8	7.9			
TEMPERATURE (DEG C)		20	21	20			

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE310012B	PE310012C	PE310023B	PE310023C	PE310034B	PE310034C
	SDG NO:	PE300010B	PE310012C	PE300010B	PE310012C	PE300010B	PE310012C
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ALUMINUM			27400		27100		26000
ANTIMONY			15 B		6.7 B		13 B
ARSENIC		9.2		10 E		12	
BARIUM			384		256		343
BERYLLIUM			3 E		2.7 E		1.8 E
CADMIUM			6.9		8.7		6.5
CALCIUM			75600		117000		4100
CHROMIUM			46		81		32
COBALT			13		45		23
COPPER			42 E		21 E		34 E
IRON			46600		66900		62900
LEAD		18		126 E		19 S	
MAGNESIUM			14700		21000		4040
MANGANESE			3470		4620		2040
NICKEL			22 E		18 E		45 E
POTASSIUM			4040 E		3820 E		3930 E
SELENIUM			22 U		22 U		23 B
SILVER			0.94 U		1.5 B		0.86 U
SODIUM			922 BE		805 BE		484 BE
VANADIUM			36		54		45
ZINC			184		221		120

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE310012A	PE310023A	PE310034A			
	SDG NO:	PE303013A	PE303013A	PE303013A			
	TYPE:	GRAB	GRAB	GRAB			
ACENAPHTHENE		68 J	59 J	460 U			
ACENAPHTHYLENE		400 U	12 J	460 U			
ANTHRACENE		180 J	140 J	460 U			
BENZO(A)ANTHRACENE		1100	720	460 U			
BENZO(A)PYRENE		1300	950	460 U			
BENZO(B)FLUORANTHENE		1300	970	460 U			
BENZO(G,H,I)PERYLENE		740	430	460 U			
BENZO(K)FLUORANTHENE		1500	1000	460 U			

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 310
LOCATION: SOUTH OUTFALL STORM DRAIN
MEDIUM: SEDIMENT

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE310012A	PE310023A	PE310034A
	SDG NO:	PE303013A	PE303013A	PE303013A
	TYPE:	GRAB	GRAB	GRAB
BIS(2-ETHYLHEXYL)PHTHALATE		2500 B	460 B	50000 BE
CHRYSENE		1400	980	460 U
DI-N-BUTYLPHTHALATE		160 JB	170 JB	320 JB
DI-N-OCTYL PHTHALATE		130 JB	79 JB	93 JB
DIBENZO(A,H)ANTHRACENE		250 J	420 U	460 U
DIBENZOFURAN		50 J	52 J	28 J
DIETHYLPHTHALATE		29 JB	34 J	46 JB
FLUORANTHENE		2800	1800	48 J
FLUORENE		65 J	420 U	460 U
INDENO(1,2,3-CD)PYRENE		760	450	460 U
N-NITROSO-DI-N-PROPYLAMINE		400 U	420 U	370 J
NAPHTHALENE		400 U	82 J	26 J
PHENANTHRENE		1200	1000	70 J
PHENOL		400 U	22 J	35 J
PYRENE		2100	1400	44 J
2-METHYLNAPHTHALENE		20 J	36 J	33 J
* DIACETONE ALCOHOL(6.28)				28000 JBA
* DIACETONE ALCOHOL(6.38)			40000 JBA	
* DIACETONE ALCOHOL(6.41)		51000 JBA		
* DIOCTYL ADIPATE(31.25)				1100 J
* DIOCTYL ADIPATE(31.26)			910 JB	
* DIOCTYL ADIPATE(31.29)		840 JB		
* ESTER(21.37)				420 J
* FLUOROPHENOL(11.43)				1200 J
* HYDROCARBON(6.84)		680 J		
* HYDROCARBON(6.98)			290 J	
* HYDROCARBON(7.00)				1400 JB
* HYDROCARBON(7.03)		1100 J	910 JB	
* HYDROCARBON(10.87)				380 J
* HYDROCARBON(10.88)			480 J	
* HYDROCARBON(11.06)				390 J
* HYDROCARBON(11.07)			490 J	
* HYDROCARBON(11.52)			460 J	
* HYDROCARBON(11.75)			390 J	340 J
* HYDROCARBON(12.53)				270 J
* HYDROCARBON(21.37)			500 J	
* HYDROCARBON(25.54)			360 J	
* HYDROCARBON(27.74)		4500 J		
* HYDROCARBON(27.83)			2800 J	
* HYDROCARBON(27.98)			800 J	
* HYDROCARBON(28.01)		780 J		
* KETONE(6.77)		860 J		

TABLE 4.3.1 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 1 DRAFT DO NOT CITE
STORM SEWER SYSTEM DISCHARGES

S&A REQUEST: 310
LOCATION: SOUTH OUTFALL STORM DRAIN
MEDIUM: SEDIMENT

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO: SDG NO: TYPE:	PE310012A PE303013A GRAB	PE310023A PE303013A GRAB	PE310034A PE303013A GRAB			
* PHTHALATE ESTER(25.11)				1700 J			
* PHTHALATE ESTER(25.12)			1200 J				
* PHTHALATE ESTER(25.16)		1100 J					
* PHTHALATE ESTER(31.05)				930 J			
* PHTHALATE ESTER(31.70)				2000 J			
* PHTHALATE ESTER(31.78)				2200 J			
* PHTHALATE ESTER(32.29)				890 J			
* PNA(25.57)		340 J					
* PNA(25.79)		350 J					
* PNA(28.29)		460 J					
* SULFUR(27.25)			3100 J				
* SULFUR(27.28)		2500 J					
* UNKNOWN(5.51)		350 JB					
* UNKNOWN(5.87)		1400 JB					
* UNKNOWN(5.99)			1200 JB				
* UNKNOWN(8.19)			1000 J				
* UNKNOWN(8.20)		970 J					
* UNKNOWN(8.25)				1600 J			
* UNKNOWN(8.55)		400 J	430 J				
* UNKNOWN(9.32)				1100 J			
* UNKNOWN(10.13)				340 J			
* UNKNOWN(10.18)		410 J					
* UNKNOWN(11.41)			510 J				
* UNKNOWN(21.41)		340 J					
* 3-HEXEN-2-ONE(4.92)		350 JB					
* 3-HEXEN-2-ONE(4.93)				660 JB			
* 4-METHYL-2-HEXANONE(6.79)			1900 JB				

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4.7 Environmental Problem 2: Laboratory Wastewater Discharges

Request Numbers: 305, 306, 307, and 308.

Requestor: D. Misenheimer.

Finding and Basis: Untreated laboratory wastewaters consisting of acid slugs and potentially base slugs, PNAs, heavy metals, and phenols were being discharged from the plateau area to the Pleasant Hills Sewage Treatment Plant (STP). In addition, laboratory wastewaters from Building B-141 potentially consisting of PNAs, heavy metals, and phenols were being discharged to the Pleasant Hills STP. These contaminants may have passed through the STP, interfered with operations of the STP, or caused contamination of the STP sludge.

Laboratory wastewaters were discharged into the sanitary sewer system from Buildings B-74, B-94, and B-141. The sanitary sewer system discharged into the Pleasant Hills STP.

Acid slugs had been received at the laboratory wastewater pretreatment plant (Building B-74) on three occasions. Acid slugs were received at the plant in December 1986 and January 1987 during performance testing and in April 1987. During the April 1987 event the initial influent was less than pH 2.0. Chemicals were unavailable to adjust the pH. Consequently, the wastewater was recycled and diluted with fresh incoming wastewater over a period of 3 days to raise the pH above 6.0. In its mode of operation at the time of the Survey, the plant was potentially incapable of treating such slugs.

Building B-94 periodically discharged laboratory wastewater from the east side of the building to a limestone pit that discharged into the sanitary sewer system. The limestone pit was designed to adjust the pH of acidic wastewater. It was doubtful that any appreciable treatment actually took place in the limestone pit.

Laboratory wastewaters from Building B-141 were collected in a holding tank and discharged to the sanitary sewer system. Although the pH was checked to verify a pH of between 6.0 and 9.0, no treatment of the discharge nor analyses for other contaminants occurred prior to discharge.

4.6.1 Sampling and Analysis Objectives

Statement: For the laboratory wastewaters that are discharged to the Pleasant Hills STP from Buildings B-74, B-94, and B-141, water samples were collected and analyzed to determine if the concentrations of PNAs, heavy metals, and phenols exceeded the pretreatment requirements established by the Pleasant Hills Authority (Appendix D of the Sampling and Analysis Plan), and if other organics were present at measurable levels in the discharge wastewater. For the laboratory wastewaters that were being discharged to the Pleasant Hills STP from Buildings B-74, B-94, and B-141, sampling and analysis was also done to determine if the pH exceeded the pretreatment requirements established by the Pleasant Hills Authority.

Supporting Information: Prior to July 1986, all sanitary wastewater from PETC facilities located in the plateau area and laboratory wastewater from Building B-94 discharged into the sanitary sewer system. The sanitary sewer system discharged into the Pleasant Hills STP. Stormwater runoff, laboratory wastewater, cooling tower blowdown, noncontact cooling water, and boiler blowdown from the remainder of the plateau area discharged into the storm sewer system. The storm sewer system discharged into Lick Run via the north storm sewer. The north storm sewer collected discharges from both the Bureau of Mines (BOM) facilities and PETC facilities.

Storm sewer discharges at PETC were sampled and analyzed in 1979 and 1980 as part of the Peter F. Loftus study. In 1982, as part of the Chester Engineers study, laboratory wastewaters, as well as storm sewer discharges, were sampled and analyzed. The results of both sampling and analysis surveys were summarized in the 1983 report prepared by

Chester Engineers entitled, "Wastewater Treatment Facilities Volume I - Technical Conceptual Report" (Appendix B, Tables 1 and 4 of the Sampling and Analysis Plan). Chester Engineers report (Appendix B, pages B-5, B-6, and B-7 of the Sampling and Analysis Plan) summarized sample results for the north outfall, the DOE lab complex outfall (manhole 4), and Lick Run, respectively.

Chester Engineers reported that the wastewater pH ranged from 1.1 to 11.2 standard units and that periodic high concentrations of total suspected solids and halogenated organics were observed. Based on their analyses, Chester Engineers identified the following contaminants as potential pollutants: acidity (pH), zinc, copper, mercury, phenols, total organic halogens, and suspended solids. Chester Engineers recommended that wastewater treatment facilities (WWTFs) be constructed to collect and pretreat laboratory wastewaters, water softener backwash, coal dust washdown, and contaminated stormwater from Building B-93, prior to discharge to the Pleasant Hills STP.

Since July 1986, WWTFs consisting of a laboratory wastewater collection system (LWCS) and pretreatment plant (Building B-74) were constructed. The pretreatment plant discharged to the Pleasant Hills STP. The Pleasant Hills Authority established informal pretreatment requirements for laboratory wastewater discharges from PETC facilities. These requirements are summarized in Appendix D of the Sampling and Analysis Plan.

The LWCS consisted of five sumps: Building B-83 sump, Building B-84 sump, Building B-85 sump, Building B-93 sump, and Building B-94 (east) sump. The LWCS received laboratory wastewaters from Buildings B-83, B-84, and B-94. In addition, clarified coal-water, boiler blowdown, and water softener backwash were collected in the Building B-93 sump and discharged into the LWCS. The LWCS discharged to the pretreatment plant (Building B-74).

When the WWTF was not operated, the collection sump pumps were turned off. The Building B-83 sump, Building B-84 sump, Building B-85 sump, and Building B-93 sump automatically overflowed into the storm sewer system. The Building B-94 (east) sump was bypassed and wastewaters were discharged directly into a limestone pit that discharged into the sanitary sewer system.

The pretreatment plant was capable of providing oil separation, equalization, precipitation of heavy metals, coagulation, and sedimentation prior to discharging to the sanitary sewer system. Pretreatment plant performance testing was performed from July 1986 to February 1987. Performance testing involved operating the plant as designed to determine treatment efficiency. On February 3, 1987, the supply of chemicals used to treat the wastewater was depleted and had not been replaced as of the Pre-Survey Site Visit on November 12-13, 1987.

Since February 3, 1987, the pretreatment plant had been "cycled" or operated intermittently to exercise equipment as a preventive maintenance measure. When the LWCS was operating, wastewater was discharged to the pretreatment plant equalization tank. The LWCS typically operated from 0800 Monday through 1500 Friday.

The pretreatment plant typically cycled for a period of approximately 6 hr per day (0800 through 1500), depending upon the volume of wastewater collected in the equalization tank. Wastewater influent bypassed the oil separation unit and discharged into the equalization tank where it was mixed by aeration. Wastewater from the equalization tank was pumped to the neutralization tank. Plant design required chemical addition to adjust the pH. However, no chemicals were added since none were available. Following the neutralization tank, the wastewater entered the flash mix and flocculation tanks that were part of the inclined plate separator unit (liquid/solids separator). The plant design required the addition of chemicals to enhance solids settling. Although some solids settle out in the plate separator unit, no chemicals were added since none were available. Following passage through the plate separator unit, the wastewater entered a post neutralization tank. Plant design required chemical addition to adjust pH. However, no chemicals were added because none were available. From the post neutralization tank, wastewater entered the effluent weir box and was discharged to the sanitary sewer system.

Normally, laboratory wastewater from the east side of Building B-94 was discharged into the limestone pit on weekends, holidays, and any other periods when the collection sump pump was turned off. During the onsite survey, the laboratory

wastewater from the east side of the building was being diverted to the limestone pit because a valve on the collection sump discharge pipe was being replaced. An inspection of the limestone pit revealed that there did not appear to be any limestone in the pit. It was reported that limestone has not been added to the pit during the last 5 years.

Laboratory wastewaters from the east side of Building B-94 were sampled and analyzed by Chester Engineers in 1982. Summaries of flow and analysis results were presented in Tables 5 and 6 of the 1983 Chester Engineers report entitled, "Wastewater Treatment Facilities Volume I - Technical Conceptual Report." Chester Engineers report (Appendix B, pages B-6, B-7, and B-13 of the Sampling and Analysis Plan) provides laboratory analysis reports for samples taken on five dates.

At the time of the on-site DOE Environmental Survey, the Building B-93 sump was inoperable due to a design problem. Consequently, the sump was overflowing into the storm sewer system.

Although laboratory research efforts sometimes continued during weekends and holidays, the WWTF was not operated during these time frames. Consequently, laboratory wastewater from the east side of Building B-94 discharged into the sanitary sewer system during these periods.

Due to WWTF operating practices at the time of the DOE Environmental Survey, it was likely that slugs of PNAs, heavy metals, phenols, acids, and bases were being discharged to the Pleasant Hills STP.

Laboratory wastewater from Building B-141 was discharged into a 6000-gal. fiberglass holding tank. The tank had a water level monitor, a pH monitor, and an aeration system for mixing wastes. When the pH dropped below 6.0 or rose above 9.0, the pH was adjusted by mixing the tank contents and adding potable water or caustic soda. The tank contents were discharged to the sanitary sewer system when the water level approached 80% and the pH was between 6.0 and 9.0 units. No additional analyses of

the tank contents were performed, although it was likely that PNAs, heavy metals, and solvents were present. Analysis results of samples taken from the tank and analyzed by the Envirite Corporation were provided in Appendix E of the Sampling and Analysis Plan.

4.7.2 Sampling and Analytical Design

4.7.2.1 Sampling Design

Request 305: Underground Tank Southeast of Building B-141 (Fig. 4.2a). Three grab water samples were to be collected on three different days from the 6000 gal. capacity fiberglass underground tank southeast of Building B-141 (Sampling Method: Reference E4.2.4). The tank contained a water level monitor, a pH monitor, and an aeration sytem for mixing the waste. The Sampling and Analysis Plan stated that the tank should be at least 40% full before sampling. When below 6.0 or above 9.0, the tank contents were pH adjusted and were normally discharged when the water level approached 80%. Each time samples were collected, the Team was to obtain a copy of the site logbook, which covered the number and type of pH adjustments and the number of times the contents of the tank had been mixed since last discharged. Also, the fullness of the tank was to be recorded. This log was to be included as part of the permanent record for the site sampling effort. The Sampling and Analysis Plan specified that the tank contents be mixed by aerating the system for five minutes before sampling. It was preferable to sample for volatiles before the tank contents were mixed in order to determine the concentration of volatile organics in the tank. However, since the tank contents were routinely mixed before discharge, the concentration of volatiles was to be determined based on the mixed sample which was more representative of actual discharge. Specific conductance, pH, and temperature were to be measured (Field Method: Reference E4.5).

The Sampling Team arrived to collect the first sample (PE305015) on the afternoon of 17AUG88 at 1519. The contents of the tank were mixed by aeration for 6 min before sampling. The tank level was 71% of capacity and a RAD scan showed 30 cpm. With a modified dipper, the samples were collected as follows: the first dip provided water for

the volatiles; the second dip provided the first semivolatile and 80% of the second semivolatile sample; the third dip provided the remainder of the second and all of the third semivolatile in addition to the AA-metals samples; the fourth dip was for the Horiba readings and the ICP-metals sample.

The Sampling Team arrived to collect the second sample (PE305026) on the afternoon of 18AUG88 at 1540. The tank was at 76% capacity. Its contents were aerated for 5 min prior to sampling. With a modified dipper, samples were collected as follows: the first dip provided the volatile samples; the second dip provided the first and second semivolatiles; the third dip provided the third semivolatile; the fourth provided the AA- and ICP-metal samples; Horiba readings were taken from the fifth dip.

The Sampling Team arrived to collect the third sample (PE305037) on 19AUG88 at 1010. The sky was overcast with sprinkling rain, and the temperature was approximately 70°F. The tank was at 78% of its capacity. Its contents were mixed for 5 min before sampling. The QC rinsate samples (four volatiles, one semivolatile, and two metals) were collected with a modified dipper. These were samples for PE305048. Next, the third set of samples (PE305037) was collected as follows: the volatile samples were collected from the first dip; the second dip provided the first semivolatile and 75% of the second; the third dip provided the remainder of the second and all of the third semivolatile plus the AA-metals; the fourth dip provided the ICP-metals sample and the Horiba readings.

All Request 305 samples contained a black sediment. The metal samples were acidified at the lab. Copies of the site logbook were obtained to show records of the PH adjustments, mixings, and tank levels. Entries in the site logbook were insufficient for this use. Although it was stated in the Sampling and Analysis Plan that the tank's contents were generally discharged when the water level approached 80%, the logbook for the previous month showed the tank to be emptied only after reaching in excess of 98% capacity.

Request 306: Limestone Pit East of Building B-94 (Fig. 4.2b). Three grab water samples were to be collected consecutively from the limestone pit east of Building B-94 (Sampling Method: Reference E4.2.4). Temperature, pH, and specific conductance measurements were also to be read (Field Method: Reference E.4.5). This building periodically discharged laboratory wastewater from the east side of the building to the limestone pit. The wastewater was then discharged into the sanitary sewer system. The pit had been designed to adjust the pH of the acidic waste, but it was doubted that any appreciable treatment had taken place in the pit. To approximate site conditions, the Sampling and Analysis Plan requested sampling of water in the pit during discharge or shortly thereafter. Water that might have stood in the pit for several days was not to be sampled. Wastewater was discharged to the pit only when the sump pumps for the laboratory wastewater system were shut down. Therefore, discharge was most likely to occur on the weekend or after 1600 hr on Friday afternoon.

Samples PE306016, PE306027, and PE306038 were not taken because no wastewater was discharged to the pit during the on-site sampling period.

Request 307: Sanitary Sewer Manhole South of Building B-58 (Fig. 4.2c). Three 6-hr time composite samples were to be taken from the outfall at the sanitary sewer manhole south of Building B-58 (Sampling Method: Reference E4.2.2). This manhole was the last point of access to the sanitary sewer discharges from the main PETC plant area prior to joining with sanitary sewer lines from the rest of the Bruceton Research Center. At that time, laboratory wastewater were being discharged to the sewer from at least three known sources. Temperature and pH readings were to be taken on the composite samples and in situ readings from the manhole at the beginning and end of each compositing period each day (Field Method: Reference E4.5). One set of samples was to be collected after 1600 hr on a Friday afternoon and two sets of samples were to be collected at two separate times on Saturday, provided there was flow at these times. The composite sampler was to be set to collect a 150 to 200 mL sample every 10 min. The Sampling Team was to obtain an operating log of the laboratory wastewater collection system. This log was to show the operational status of the treatment plant

and the collection sump pumps. This log was to be included as part of the permanent record for the site sampling effort.

The Sampling Team arrived on-site at 1600 on Friday 19AUG88 under an overcast sky with a temperature of 70°F. Rain had fallen occasionally throughout the day. The team blocked the drain to allow water to accumulate. An abundance of suds was observed on the water surface. The mannings were set to receive a 150 mL sample every 10 min for a 6-hr period. The first composite sample (PE307017) was taken from approximately 1800 to 2400 on 19AUG88, the second (PE307028) from approximately 0800 to 1400 on 20AUG88, and the third (PE307039) from approximately 1400 to 2000 on 20AUG88. In situ samples were collected, and Horiba readings were taken at the beginning and end of each compositing period. (A possible exception may be the readings for sample PE307051, which were taken approximately 8 hours after the first composite sample.) All samples were a clear, light-brown fluid and had a foul odor. No copies of the laboratory wastewater collection system operating log were obtained. The purpose for obtaining the log was to show the operational status of the treatment plant and the collection sump pumps.

Request 308: Wastewater Treatment Plant Effluent (Fig. 4.2d). Three 6-hr time composite water samples were to be collected from the Wastewater Treatment Plant effuent weir box located in Building B-74 (Sampling Method: Reference E4.2.2). Because no chemicals for treatment had been used since February 1987, the plant was believed to be incapable of adquately treating certain wastes. The samples were to be collected on three separate days from approximately 0800 to 1400 hr each day. Temperature, pH, and conductivity measurements were to be read on the composite samples and in situ from the effluent weir box at the beginning and end of the compositing period each day (Field Method: Reference E.4.5). The composite sampler was to be set to collect a 200 to 300 mL sample every 10 min (approximately 36 aliquots over a 6-hr period). The Team was to obtain a daily operating log of the wastewater treatment plant for the days on which the composite samples were collected.

This log was to be included as part of the permanent record for the site sampling effort.

The Sampling Team arrived on-site at the Wastewater Treatment Plant at 0800 on 17AUG88. The automated composite sampler was set up in the basement of Building B-74 below the weir flow. It was set to take 150-mL samples every 10 min for a 6-hr period; then the sampler was padlocked and left. At the beginning and end of each compositing period, in situ Horiba readings from the weir box effluent were taken and recorded. A total of three 6-hr composite samples were taken between 0800 and 1400 on three consecutive days. Samples PE308018, PE308029, PE308030 were collected on 17, 18, and 19AUG88, respectively. QC rinsate PE308109 was taken at 0815 on 19AUG88. All samples were clear. A copy of the daily operating log for the Wastewater Treatment Plant was obtained for the 3-day sampling period as part of the permanent record for the site sampling effort.

4.7.2.2 Analytical Design

The parameters analyzed and/or measured for Environmental Problem 2 were as follows:

Request 305: The parameters analyzed were volatiles, semivolatiles, total PNAs, ICP-metals, AA-arsenic, AA-lead, and AA-mercury. Field measurements taken were sample temperature, pH, and specific conductance.

Request 306: Samples were not collected because no wastewater was discharged to the limestone pit during the on-site sampling period.

Request 307: The parameters analyzed were semivolatiles, total PNAs, ICP-metals, AA-arsenic, AA-lead, and AA-mercury. Field measurements taken were sample temperature, pH, and specific conductance.

Request 308: The parameters analyzed were semivolatiles, total PNAs, ICP-metals, AA-arsenic, AA-lead, and AA-mercury. Field measurements taken were sample temperature, pH, and specific conductance.

4.7.3 Field and Analytical Data

Field Data:

Request 305:
Field data for Environmental Problem 2 are shown in Table 4.3.2. Temperature for the three samples taken from the underground tank on three consecutive days ranged from 22° to 29° C. The water samples were near neutral, with pH values ranging from 7.6 to 7.9. Conductivity values ranged from 0.65 to 0.83 mS/cm. FID/PID measurements ranged from 0.12 to 0.8 ppm.

Request 306:
Samples were not collected because no wastewater was discharged to the limestone pit during the on-site sampling period.

Request 307:
Field data for Environmental Problem 2 are shown in Table 4.3.2. Temperature for the nine sampling events ranged from 21° to 31° C. The water samples were near neutral to basic, with pH values ranging from 7.4 to 8.6. Conductivity values ranged from 0.96 to 1.3 mS/cm.

Request 308:
Field data for Environmental Problem 2 are shown in Table 4.3.2. Temperature for the nine sampling events ranged from 23° to 33° C. The water samples were near neutral to slightly basic, with pH values ranging from 7.5 to 9.3. Conductivity values ranged from 0.88 to 1.4 mS/cm. Dissolved oxygen in Sample PE308041 was 6 ppm.

Field Data Evaluation:

Request 305:
Field data are consistent for the three samples taken on consecutive days.

Request 306:
Samples were not collected because no wastewater was discharged to the limestone pit during the on-site sampling period.

Request 307:
Temperature of the surface water varied 10° C over the 26 hours in which samples were taken. Conductivity (0.4 mS/cm range) and pH (1.2 pH unit range) were fairly consistent for the nine samples.

Request 308:
Temperature of the surface water varied 10°C for the samples which were taken between 0800 and 1400 on three consecutive days. Conductivity (0.52 mS/cm range) and pH (1.8 pH unit range) were fairly consistent for the nine samples.

Analytical Data:

Request 305:

Metals.
Analytical data for metals in liquid in an unsealed tank are presented in table 4.3.2. Of the 20 metals detected, the following eight were below either the CRDL or the IDL in all three samples: arsenic, barium, beryllium, cadmium, cobalt, nickel, potassium, and silver. Of the remaining metals detected, chromium ranged from 76 to 95 µg/L, copper 134 to 151 µg/L, lead 61 to 71 µg/L, mercury 0.48 to 1.2 µg/L, and zinc 193 to 210 µg/L. Other metals detected were aluminum, calcium, iron, magnesium, manganese, sodium, and vanadium.

Extractable organics.

Analytical results for semivolatile organic compounds are presented in Table 4.3.2, along with a single rinsate sample taken at an underground tank southeast of Building B-141. Five positively identified extractable organics were detected in samples collected in the underground tank southeast of Building B-141, with one compound (Bis(2-ethylhexyl)phthalate at 18 µg/L in Sample PE305015) exceeding the CRDL.

Nineteen tentatively identified compounds are reported. Highest TIC concentrations were found in the six Alkene/Ether/Alcohol compounds (up to 2100 µg/L). The rest of the TIC's range in concentrations from 0.7 to 19 µg/L.

Total PNA's.

Total PNA's were analyzed for but not detected.

Volatile organics.

Analytical results for volatile organic compounds are presented in Table 4.3.2., along with a single rinsate sample. Acetone (estimated at 17,000 to 22,000 µg/L) and chloroform (5 to 6 µg/L) were detected above the CRDL in all three samples. One to four other volatile organic compounds were detected at levels below the CRDL in the three samples.

Request 306:

Samples were not collected because no wastewater was discharged to the limestone pit during the on-site sampling period.

Request 307:

Metals.

Analytical data for metals in surface water are presented in table 4.3.2. Of the 16 metals detected, the following four were below either the CRDL or the IDL in all three samples: antimony, barium, beryllium, and silver. Of the remaining metals detected,

chromium was 11 µg/L, copper ranged from 34 to 39 µg/L, lead 6.6 to 14 µg/L, mercury 0.27 to 0.56 µg/L, and zinc 186 to 620 µg/L. Other metals detected were aluminum, calcium, iron, magnesium, manganese, potassium, and sodium.

Extractable organics.

Analytical results for semivolatile organic compounds are presented in Table 4.3.2. Fifteen positively identified extractable organics were detected in samples collected in the sanitary sewer manhole south of Building B-58, with six compounds detected at levels exceeding the CRDL. The Sample PE307017 has only Bis(2-ethylhexyl)phthalate (150 µg/L) above the CRDL (10 µg/L). In Sample PE307028, six compounds were found at levels exceeding the CRDL (10 µg/L), with results ranging from 22 to 48 µg/L. In Sample PE307039, only Bis(2-ethylhexyl)phthalate (23 µg/L) was detected above the CRDL.

Fifty-four tentatively identified compounds are reported. The majority of the TIC's were detected at concentrations below 300 µg/L, the maximum concentration detected was an acid at 1100 µg/L.

Total PNA's.

These Compounds, which include Naphthalene, Phenanthrene, Anthracene, and their substituents, were analyzed as part of the Extractable Organics (Semivolatiles). Results are included in the Extractable Organics section.

Request 308:

Metals.

Analytical data for metals in surface water are presented in table 4.3.2. Of the 15 metals detected, the following eight were below either the CRDL or the IDL in all three samples: aluminum, antimony, barium, beryllium, chromium, copper, lead, and potassium. Of the remaining metals detected, mercury was 0.22 µg/L, and zinc ranged from 22 to 73 µg/L. Other metals detected were calcium, iron, magnesium, manganese, and sodium.

Extractable organics.

Analytical results for semivolatile organic compounds are presented in Table 4.3.2, along with a single rinsate sample taken at the wastewater treatment plant effluent weir box. Four positively identified extractable organics were detected in samples taken at the wastewater plant effluent weir box. Only Bis(2ethylhexyl)phthalate (48 to 1200 µg/L) was detected above the CRDL in all three samples, blank contamination of 9 µg/L suggests that these values may be slightly lower.

Twelve tentatively identified compounds are reported at concentrations ranging from 8 to 120 µg/L.

Total PNA's.

Total PNA's were analyzed for, but not detected.

Analytical Data Evaluation:

Request 305:

Metals.

Five metals of interest (chromium, copper, lead, mercury, and zinc) were detected either above the CRDL or the IDL for this request.

Extractable organics.

Bis(2-ethylhexyl)phthalate (18 µg/L in Sample PE305015) was the only semivolatile organic detected above the CRDL in the three samples. Four other semivolatile organic compounds were detected below the CRDL among the three samples. No blank contamination is associated with these samples. Nineteen tentatively identified compounds were detected in one or more of the three samples.

Total PNA's.

Total PNA's were analyzed for, but not detected.

Volatile organics.

Acetone (17,000 to 22,000 µg/L) and Chloroform (5 to 6 µg/L) were detected above the CRDL in all three samples. Four other volatile organic compounds were detected below the CRDL among these samples. Little or no blank contamination is associated with these samples.

Request 306:

Samples were not collected because no wastewater was discharged to the limestone pit during the on-site sampling period.

Request 307:

Metals.

Five metals of interest (chromium, copper, lead, mercury, and zinc) were detected either above the CRDL or the IDL for this request.

Extractable organics.

Bis(2-ethylhexyl)phthalate was detected above the CRDL in all three samples. Five semivolatile organics were detected above the CRDL in Sample PE307028 which also had eight additional semivolatiles detected at levels below the CRDL. Little or no blank contamination is associated with these samples. Fifty-four tentatively identified compounds were detected in one or more of the three samples.

Total PNA's.

See Extractable Organics section.

Request 308:

Metals.

Two metals of interest (mercury, and zinc) were detected above either the CRDL or the IDL for this request.

Extractable organics.

Bis(2-ethylhexyl)phthalate was detected above the CRDL in all three samples. Three other semivolatiles were detected at levels below the CRDL among the three samples. Some blank contamination is associated with the phthalates. Twelve tentatively identified compounds were detected in one or more of the three samples.

4.7.4 Limitations and Qualifications

Data Quality Level:

Request 305:

The sampling plan is rated Quality Level I; the field sampling is rated Quality Level I. The overall analytical rating is Quality Level I.

Request 306:

Samples were not collected because no wastewater was discharged to the limestone pit during the on-site sampling period.

Request 307:

The sampling plan is rated Quality Level I; the field sampling is rated Quality Level II because the operating log for the laboratory wastewater collection system was not provided. The overall analytical rating is Quality Level II.

Request 308:

The sampling plan is rated Quality Level I; the field sampling is rated Quality Level II because 150 mL samples were collected every 10 minutes instead of 200 to 300 mL as requested in the sampling plan. The overall analytical rating is Quality Level II.

Field Data:

Request 305:

The Quality Level rating is I.

Request 306:

Samples were not collected because no wastewater was discharged to the limestone pit during the on-site sampling period.

Request 307:

The Quality Level rating is I.

Request 308:

The Quality Level rating is I.

Analytical Data:

Request 305:

Metals.

Analytical data was Quality Level I for this request.

Extractable organics.

The TCL data are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total PNA's.

The data are Quality Level I.

Request 306:

Samples were not collected because no wastewater was discharged to the limestone pit during the on-site sampling period.

Request 307:

Metals.

Analytical data was Quality Level I for this request.

Extractable organics.

The TCL data are Quality Level II, due to missed holding times on certain samples in SDG PE302012. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total PNA's.

The data are Quality Level II, due to missed holding times on certain samples in SDG PE302012.

Request 308:

Metals.

Analytical data was Quality Level I for this request.

Extractable organics.

The TCL data are Quality Level II, due to missed holding times on certain samples in SDG PE302012. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total PNA's.

The data are Quality Level II, due to missed holding times on certain samples in SDG PE302012.

Environmental Problem: 2
Request Number: 305

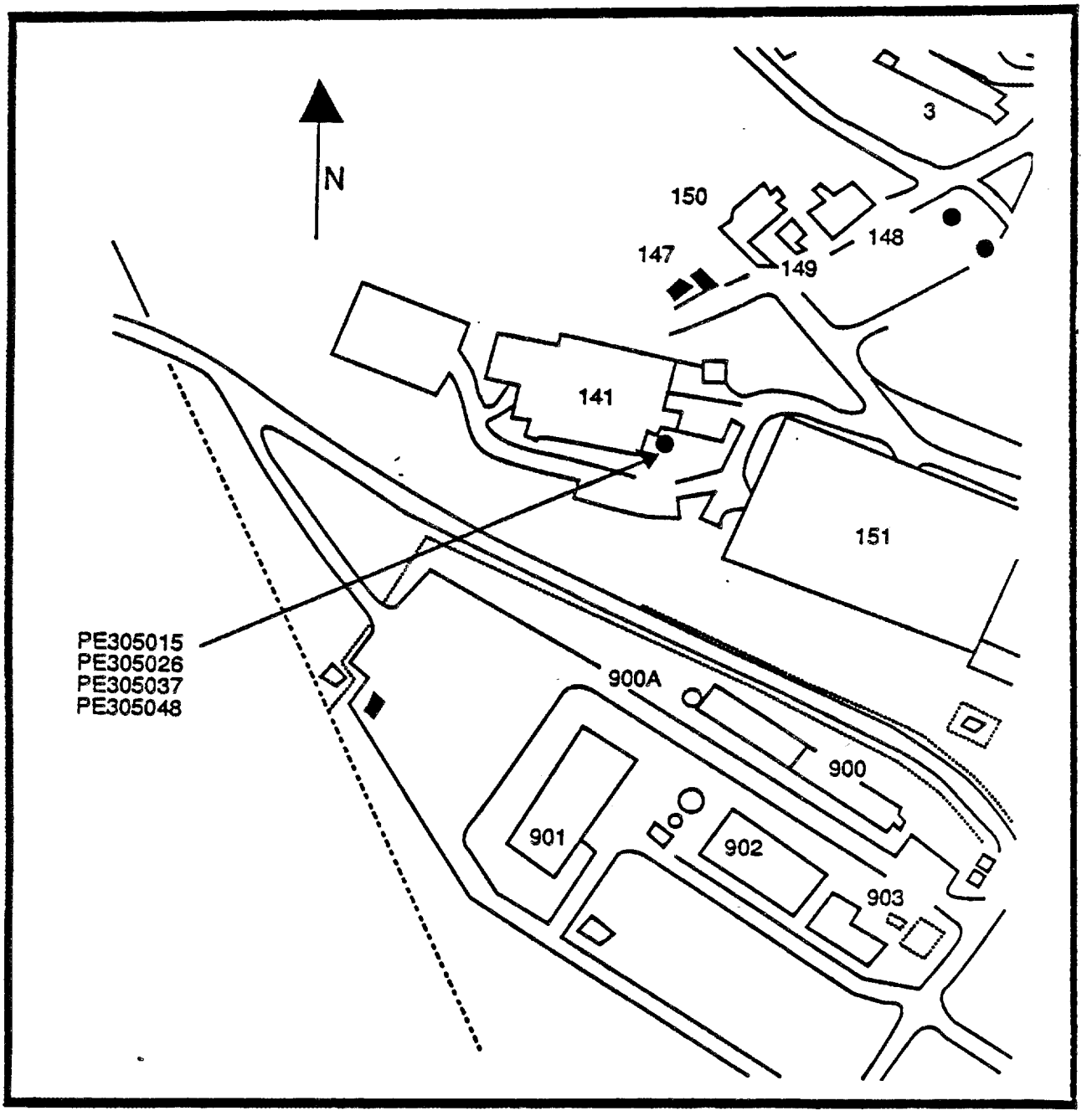

Figure 4.2a. Underground Tank Southeast of Building B-141 (Request 305)

Environmental Problem: 2
Request Number: 306

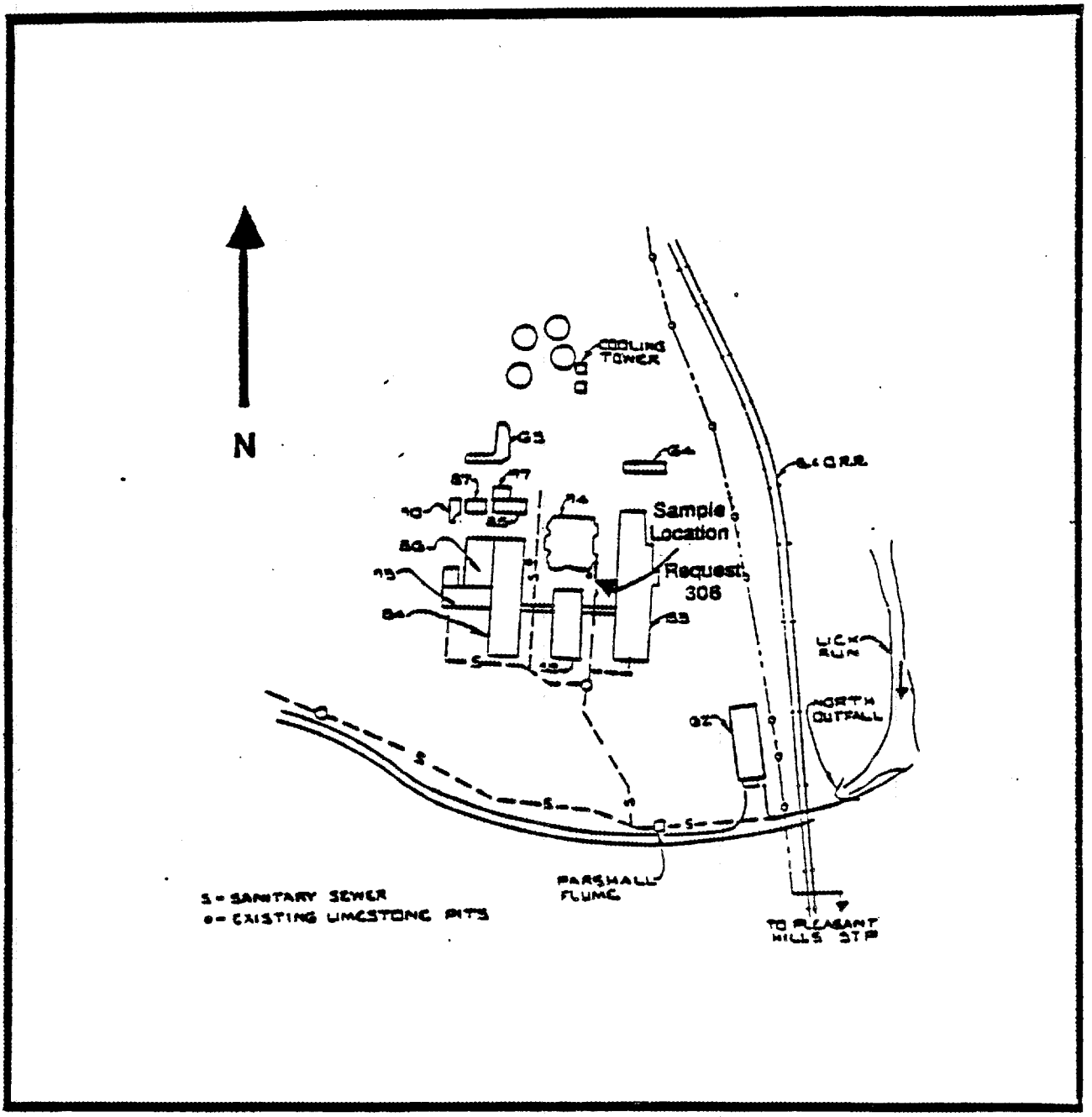

Figure 4.2b. Limestone Pit East of Building B-94 (Request 306 was deleted)

Environmental Problem: 2
Request Number: 307

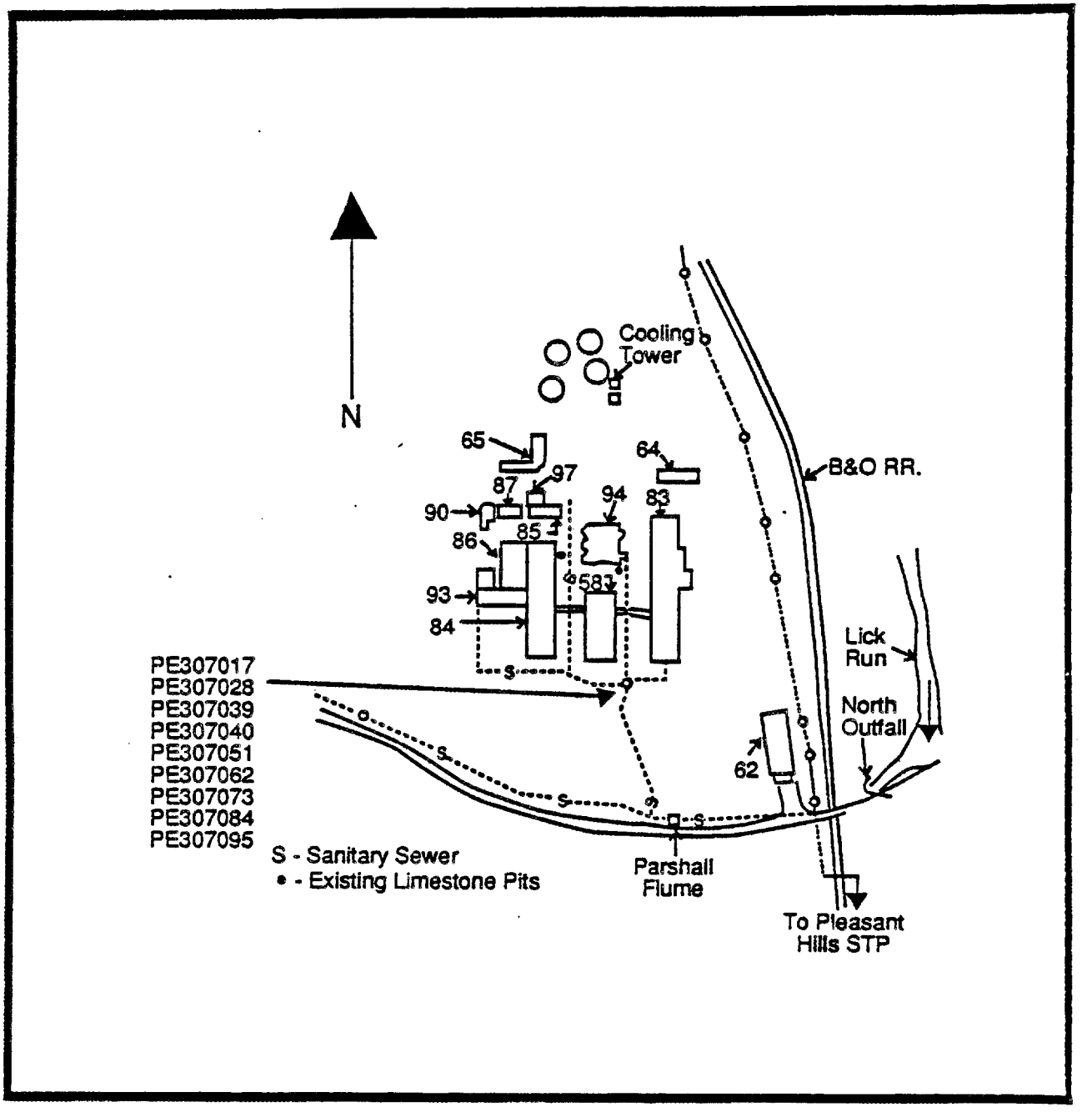

Figure 4.2c. Sanitary Sewer Manhole South of Building B-58 (Request 307)

Environmental Problem: 2
Request Number: 308

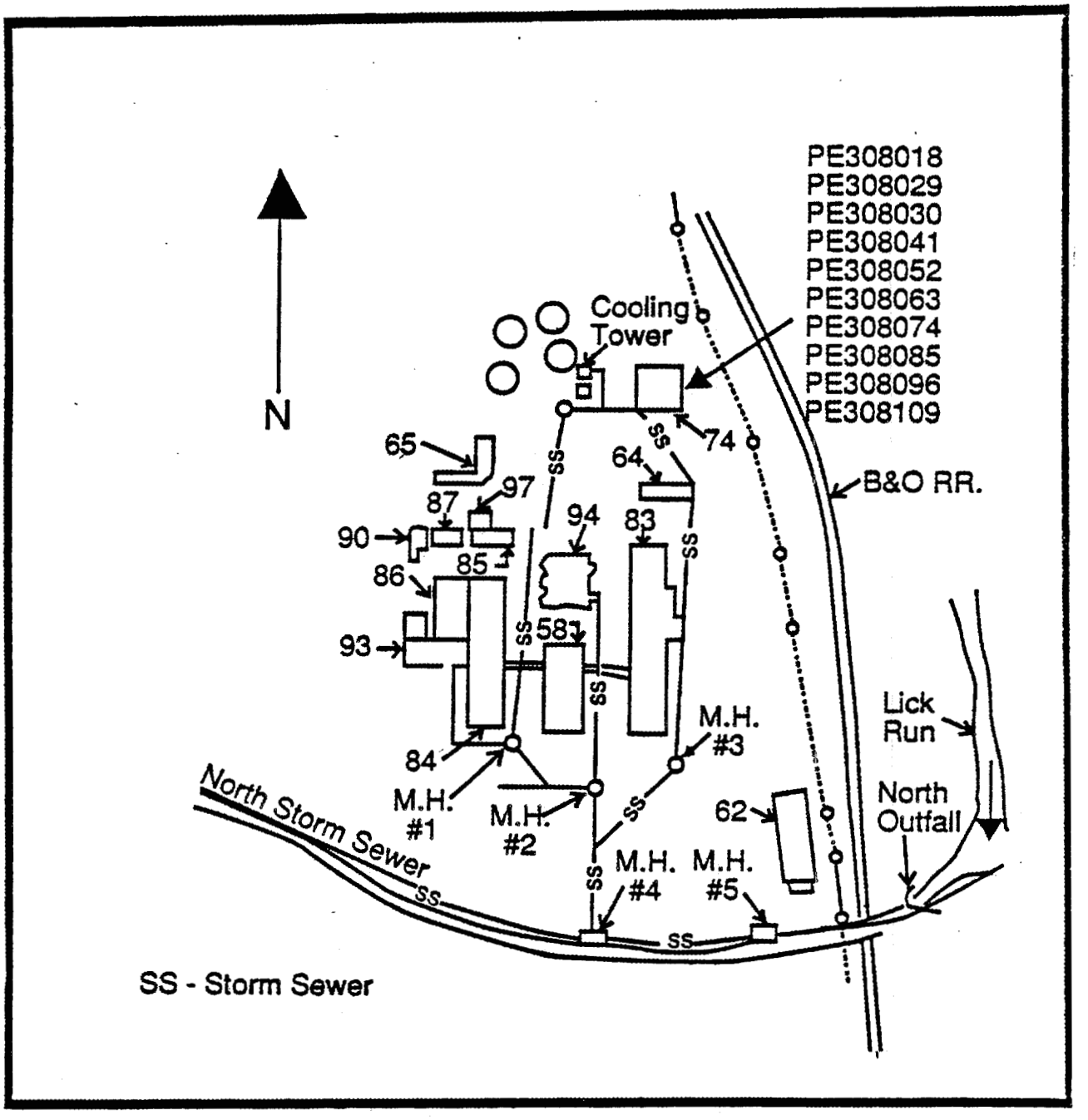

Figure 4.2d. Wastewater Treatment Plant Effluent (Request 308)

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TABLE 4.2.2 SAMPLING AND ANALYSIS DATA SUMMARY
ENVIRONMENTAL PROBLEM - 2

REQUEST NUMBER	LOCATION	TYPE LOCATION	MEDIA	NUMB REQ	NUMB COLL	TYPE	METALS NUMB HITS	METALS NUMB ANAL	PES/H/PCB NUMB HITS	PES/H/PCB NUMB ANAL	SEMIVOLS NUMB HITS	SEMIVOLS NUMB ANAL	VOLS NUMB HITS	VOLS NUMB ANAL
PE305	B. B-141	UNDGR TANK	SUR WATER	1	1	QC RN	1	1	0	0	1	1	1	1
PE306	B. B-141	UNDGR TANK	SUR WATER	3	0	GRAB	0	0	0	0	0	0	0	0
PE307	B. B-141	UNDGR TANK	SUR WATER	3	3	T COM	3	3	0	0	3	3	0	0
PE308	B. B-141	UNDGR TANK	SUR WATER	1	1	QC RN	1	1	0	0	1	1	0	0
PE308	B. B-141	UNDGR TANK	SUR WATER	3	3	T COM	3	3	0	0	3	3	0	0
		MED TOTAL		11	8		8	8	0	0	8	8	1	1
PE305	B. B-141	UNDGR TANK	UNSEAL CO	3	3	GRAB	3	3	0	0	3	3	3	3
		MED TOTAL		3	3		3	3	0	0	3	3	3	3
		EP TOTAL		14	11		11	11	0	0	11	11	4	4

TABLE 4.3.2 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 2 DRAFT DO NOT CITE
LABORATORY WASTEWATER DISCHARGES

S&A REQUEST: 305
LOCATION: UNDERGROUND TANK SOUTHEAST OF BUILDING B-141
MEDIUM: SURFACE WATER

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE305048F	PE305048G
	SDG NO:	PE301011H	PE305015I
	TYPE:	RINSATE	RINSATE
BERYLLIUM			0.48 B
CALCIUM			99 BE
IRON			36 B
LEAD		27 S	
MAGNESIUM			25 B
SODIUM			483 B
ZINC			22

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE305048E
	SDG NO:	PE301011E
	TYPE:	RINSATE
* ALKENE/ETHER/ALCOHOL(25.00)		5 J
* ALKENE/ETHER/ALCOHOL*(27.50)		1700 JB
* PROPANOATEESTER(17.70)		13 JB

VOLATILE ORGANICS (UG/L)	SAMP NO:	PE305048A
	SDG NO:	PE305026A
	TYPE:	RINSATE
TOLUENE		2 JB

S&A REQUEST: 305
LOCATION: UNDERGROUND TANK SOUTHEAST OF BUILDING B-141
MEDIUM: UNSEALED CONTAINER

FIELD MEASUREMENTS	SAMP NO:	PE305015	PE305026	PE305037
CONDUCTIVITY (MS/CM)		0.72	0.65	0.83
FID/PID (PPM)		0.18	0.8	0.12
PH (UNITS)		7.9	7.6	7.6
TEMPERATURE (DEG C)		29	25	22

TABLE 4.3.2 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 2 DRAFT DO NOT CITE
LABORATORY WASTEWATER DISCHARGES

S&A REQUEST: 305
LOCATION: UNDERGROUND TANK SOUTHEAST OF BUILDING B-141
MEDIUM: UNSEALED CONTAINER

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE305015H	PE305015I	PE305026H	PE305026I	PE305037H	PE305037I
	SDG NO:	PE301011H	PE305015I	PE301011H	PE301011I	PE301011H	PE301011I
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ALUMINUM			2290		2520		2430
ARSENIC		1.7 U		1.7 B		1.7 B	
BARIUM			142 B		132 B		123 B
BERYLLIUM			1.2 B		0.96 B		1.2 B
CADMIUM			3.8 U		4.4 B		3.8 U
CALCIUM			43300 E		43700 E		43200 E
CHROMIUM			76		95		76
COBALT			6.5 B		5.4 B		3.9 B
COPPER			145		151		134
IRON			20500		23300		21200
LEAD		61 S		71		63 S	
MAGNESIUM			12600		12800		12700
MANGANESE			231		230		224
MERCURY		0.48 N		1.2 N		0.57 N	
NICKEL			19 B		22 B		12 B
POTASSIUM			3620 B		3290 B		3000 B
SILVER			3.8 B		9.6 B		6.3 B
SODIUM			61300		60300		60000
VANADIUM			128		146		132
ZINC			201		210 E		193 E

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE305015F	PE305026G	PE305037G
	SDG NO:	PE301011E	PE301011E	PE301011E
	TYPE:	GRAB	GRAB	GRAB
BIS(2-ETHYLHEXYL)PHTHALATE		18	13 J	4 J
DI-N-BUTYLPHTHALATE		0.8 J	10 U	10 U
DI-N-OCTYL PHTHALATE		10 U	10 U	0.6 J
DIETHYLPHTHALATE		2 J	1 J	1 J
PHENOL		10 U	10 U	2 J
* ALKENE/ETHER/ALCOHOL(24.30)				3 J
* ALKENE/ETHER/ALCOHOL(25.00)				4 J
* ALKENE/ETHER/ALCOHOL(26.60)				2 J
* ALKENE/ETHER/ALCOHOL*(27.50)				1100 JB
* ALKENE/ETHER/ALCOHOL*(27.60)		2100 JB		
* ALKENE/ETHER/ALCOHOL*(27.70)			140 JB	
* DIOCTYLADIPATE(31.20)				4 J
* ETHER/ALCOHOL(31.20)		13 J	0.7 J	
* HEXAMETHYLCYCLOTRISILOX(5.82)				2 J
* PROPANOATEESTER(17.60)			11 JB	
* PROPANOATEESTER(17.70)				3 JB

TABLE 4.3.2 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 2 DRAFT DO NOT CITE
LABORATORY WASTEWATER DISCHARGES

S&A REQUEST: 305
LOCATION: UNDERGROUND TANK SOUTHEAST OF BUILDING B-141
MEDIUM: UNSEALED CONTAINER

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE305015F	PE305026G	PE305037G			
	SDG NO:	PE301011E	PE301011E	PE301011E			
	TYPE:	GRAB	GRAB	GRAB			
* SULFUR(27.20)		10 J					
* UNKNOWN(3.81)				3 J			
* UNKNOWN(10.80)		7 J					
* UNKNOWN(25.20)				4 J			
* UNKNOWN(26.90)				3 J			
* UNKNOWN(30.90)				7 J			
* UNKNOWN(35.20)		9 J					
* UNKNOWN(35.30)				19 J			

VOLATILE ORGANICS (UG/L)	SAMP NO:	PE305015B	PE305026A	PE305037A			
	SDG NO:	PE305026A	PE305026A	PE305026A			
	TYPE:	GRAB	GRAB	GRAB			
ACETONE		22000 E	19000 E	17000 E			
BROMODICHLOROMETHANE		5 U	2 J	2 J			
CHLOROFORM		6	5	5			
METHYLENE CHLORIDE		3 J	3 J	5 U			
TETRACHLOROETHENE		5 U	4 J	3 J			
TOLUENE		5 U	0.6 JB	5 U			

S&A REQUEST: 307
LOCATION: SANITARY SEWER MANHOLE SOUTH OF BUILDING B-58
MEDIUM: SURFACE WATER

FIELD MEASUREMENTS	SAMP NO:	PE307017	PE307028	PE307039	PE307040	PE307051	PE307062
CONDUCTIVITY (MS/CM)			1.2	1.2	1.3	1	0.96
PH (UNITS)		8.1	7.9	7.9	8.6	7.6	7.8
TEMPERATURE (DEG C)		22	31	28	28	24	21

FIELD MEASUREMENTS	SAMP NO:	PE307073	PE307084	PE307095			
CONDUCTIVITY (MS/CM)		1	0.98	1			
PH (UNITS)		7.9	7.4	7.7			
TEMPERATURE (DEG C)		27	26	25			

TABLE 4.3.2 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 2 DRAFT DO NOT CITE
LABORATORY WASTEWATER DISCHARGES

S&A REQUEST: 307
LOCATION: SANITARY SEWER MANHOLE SOUTH OF BUILDING B-58
MEDIUM: SURFACE WATER

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE307017D	PE307017E	PE307028D	PE307028E	PE307039D	PE307039E
	SDG NO:	PE301011H	PE301011I	PE302023D	PE301011I	PE302023D	PE301011I
	TYPE:	I. COMPOSITE	I. COMPOSITE	I. COMPOSITE	I. COMPOSITE	I. COMPOSITE	I. COMPOSITE
ALUMINUM			209		248		206
ANTIMONY			26 U		26 U		28 B
BARIUM			45 B		49 B		31 B
BERYLLIUM			0.48 B		0.2 U		0.2 U
CALCIUM			50900 E		52400 E		46400 E
CHROMIUM			7.5 U		11		7.5 U
COPPER			39		34		20 B
IRON			417		332		243
LEAD		14		1.1 BN		6.6 NE	
MAGNESIUM			18200		18600		15700
MANGANESE			31		54		32
MERCURY		0.56 N		0.28		0.27	
POTASSIUM			12700		15900		10300
SILVER			9.9 B		11 B		3.8 U
SODIUM			70900		67500		78800
ZINC			620 E		299 E		186 E

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE307017B	PE307028B	PE307039B			
	SDG NO:	PE302012A	PE302012A	PE302012A			
	TYPE:	I. COMPOSITE	I. COMPOSITE	I. COMPOSITE			
BENZO(A)ANTHRACENE		10 U	8 J	10 U			
BENZO(A)PYRENE		10 U	22	10 U			
BENZO(B)FLUORANTHENE		10 U	19 J	10 U			
BENZO(G,H,I)PERYLENE		10 U	37	10 U			
BENZO(K)FLUORANTHENE		10 U	19 J	10 U			
BIS(2-ETHYLHEXYL)PHTHALATE		150	25	23 B			
BUTYLBENZYLPHTHALATE		13 J	5 J	10 U			
DI-N-BUTYLPHTHALATE		10 U	10 U	0.7 J			
DI-N-OCTYL PHTHALATE		12 J	5 J	1 JB			
DIBENZO(A,H)ANTHRACENE		10 U	31	10 U			
DIETHYLPHTHALATE		3 J	2 J	10 U			
FLUORANTHENE		10 U	3 J	10 U			
INDENO(1,2,3-CD)PYRENE		10 U	34	10 U			
PYRENE		10 U	3 J	10 U			
4-METHYLPHENOL		10 U	48	10 U			
* ACID(23.65)			31 J				
* ACID(23.79)				23 J			
* ACID(24.98)			26 J	11 J			
* ACID(26.38)				230 J			
* ACID(26.39)			390 J				

TABLE 4.3.2 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 2 DRAFT DO NOT CITE
LABORATORY WASTEWATER DISCHARGES

S&A REQUEST: 307
LOCATION: SANITARY SEWER MANHOLE SOUTH OF BUILDING B-58
MEDIUM: SURFACE WATER

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE307017B	PE307028B	PE307039B
	SDG NO:	PE302012A	PE302012A	PE302012A
	TYPE:	T. COMPOSITE	T. COMPOSITE	T. COMPOSITE
* ACID(26.43)		500 J		110 J
* ACID(26.46)				8 J
* ACID(27.49)				10 J
* ACID(27.51)		35 J		
* ACID(28.43)				240 J
* ACID(28.54)		270 J		
* ACID(28.55)				270 J
* ACID(28.75)			650 J	
* ACID(28.79)		1100 J		
* ACID(28.82)				1000 J
* ACID/ESTER(28.52)			190 J	
* ALCOHOL(10.68)		52 J		
* AROMATIC HYDROCARBON(22.84)		64 J		
* BENZENEACETIC ACID(15.63)			31 J	
* HYDROCARBON(10.79)			17 J	
* HYDROCARBON(21.34)			17 J	
* HYDROCARBON(22.79)			24 J	
* HYDROCARBON(22.89)			16 J	
* HYDROCARBON(24.18)			22 J	
* HYDROCARBON(24.38)			26 J	
* HYDROCARBON(24.41)				22 J
* HYDROCARBON(26.22)				11 J
* HYDROCARBON(26.69)			16 J	
* HYDROCARBON(26.71)				18 J
* HYDROCARBON(26.74)		50 J		
* HYDROCARBON(26.75)			15 J	
* HYDROCARBON(27.00)				10 J
* HYDROCARBON(28.40)			79 J	
* HYDROCARBON(28.42)		420 J		
* HYDROCARBON(31.36)			45 J	
* HYDROCARBON(31.38)				25 J
* HYDROCARBON(31.45)		800 J		
* HYDROCARBON(37.88)			78 J	170 J
* HYDROCARBON(37.92)		160 J		
* HYDROCARBON(38.03)				90 J
* HYDROCARBON(38.13)			190 J	
* HYDROCARBON(39.87)				30 J
* HYROCARBON(25.49)			18 J	
* PHENOLIC(22.34)		35 J		
* PHENOLIC(22.96)		160 J		
* PHENOLIC(23.09)		290 J		
* PHENOLIC(23.23)		220 J		

TABLE 4.3.2 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 2 DRAFT DO NOT CITE
LABORATORY WASTEWATER DISCHARGES

S&A REQUEST: 307
LOCATION: SANITARY SEWER MANHOLE SOUTH OF BUILDING B-58
MEDIUM: SURFACE WATER

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE307017B	PE307028B	PE307039B			
	SDG NO:	PE302012A	PE302012A	PE302012A			
	TYPE:	I. COMPOSITE	I. COMPOSITE	I. COMPOSITE			
* PHENOLIC(23.39)		110 J					
* PHENOLIC(23.51)		72 J					
* PHENOLIC(23.63)		210 J					
* PHENOLIC(23.74)		90 J					
* SULFUR COMPOUND(27.15)			20 J				
* SULFUR COMPOUND(27.20)		22 J					
* UNKNOWN(29.05)				13 J			

S&A REQUEST: 308
LOCATION: WASTEWATER TREATMENT PLANT EFFLUENT WEIR BOX
MEDIUM: SURFACE WATER

FIELD MEASUREMENTS	SAMP NO:	PE308018	PE308029	PE308030	PE308041	PE308052	PE308063
CONDUCTIVITY (MS/CM)		1.4	0.88	0.89	1.1	1.1	0.98
DO (PPM)					6		
PH (UNITS)		9.3	7.9	8.1	7.7	8.8	7.7
TEMPERATURE (DEG C)		32	25	23	28	33	31

FIELD MEASUREMENTS	SAMP NO:	PE308074	PE308085	PE308096			
CONDUCTIVITY (MS/CM)		1	0.89	1.2			
DO (PPM)							
PH (UNITS)		7.5	7.5	8.1			
TEMPERATURE (DEG C)		31	31	30			

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE308018D	PE308018E	PE308029C	PE308029D	PE308030D	PE308030E
	SDG NO:	PE301011H	PE305015I	PE305015I	PE301011H	PE301011H	PE301011I
	TYPE:	I. COMPOSITE	I. COMPOSITE	I. COMPOSITE	I. COMPOSITE	I. COMPOSITE	I. COMPOSITE
ALUMINUM			28 U	28 U			42 B
ANTIMONY			26 U	28 B			26 U
BARIUM			35 B	50 B			59 B
BERYLLIUM			0.72 B	0.2 U			0.24 B
CALCIUM			39300 E	41500 E			42500 E
CHROMIUM			7.5 U	8.9 B			7.5 U

TABLE 4.3.2 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 2 DRAFT DO NOT CITE
LABORATORY WASTEWATER DISCHARGES

S&A REQUEST: 308
LOCATION: WASTEWATER TREATMENT PLANT EFFLUENT WEIR BOX
MEDIUM: SURFACE WATER

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE308018D	PE308018E	PE308029C	PE308029D	PE308030D	PE308030E
	SDG NO:	PE301011H	PE305015I	PE305015I	PE301011H	PE301011H	PE301011I
	TYPE:	T. COMPOSITE	T. COMPOSITE	T. COMPOSITE	T. COMPOSITE	T. COMPOSITE	T. COMPOSITE
COPPER			7.7 B	3.1 B			2.6 B
IRON			1310	1150			965
LEAD		4 B			4.2 B	2.7 BW	
MAGNESIUM			13000	13900			14500
MANGANESE			26	50			48
MERCURY		0.22 N			0.2 UN	0.2 UN	
POTASSIUM			3810 B	2680 B			2100 B
SODIUM			95600	82100			80800
ZINC			22	40			73 E

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE308109B	PE308109C
	SDG NO:	PE301011H	PE305015I
	TYPE:	RINSATE	RINSATE
ALUMINUM			28 U
ANTIMONY			26 U
BARIUM			0.6 U
BERYLLIUM			0.36 B
CALCIUM			192 BE
CHROMIUM			7.5 U
COPPER			2 U
IRON			11 U
LEAD		1.7 B	
MAGNESIUM			34 B
MANGANESE			3.8 U
MERCURY		0.2 UN	
POTASSIUM			841 U
SODIUM			593 B
ZINC			4.3 B

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE308018A	PE308029C	PE308030A	PE308109A
	SDG NO:	PE302012A	PE302012A	PE302012A	PE302012A
	TYPE:	T. COMPOSITE	T. COMPOSITE	T. COMPOSITE	RINSATE
BIS(2-ETHYLHEXYL)PHTHALATE		48 B	71 B	1200 BE	13 B
BUTYLBENZYLPHTHALATE		10 U	10 U	2 J	10 U
DI-N-OCTYL PHTHALATE		10 U	10 U	0.8 JB	0.5 JB
NITROBENZENE		10 U	3 J	10 U	10 U
* DIOCTYL ADIPATE(31.15)					50 JB
* DIOCTYL ADIPATE(31.16)				8 JB	

TABLE 4.3.2 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 2 DRAFT DO NOT CITE
LABORATORY WASTEWATER DISCHARGES

S&A REQUEST: 308
LOCATION: WASTEWATER TREATMENT PLANT EFFLUENT WEIR BOX
MEDIUM: SURFACE WATER

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE308018A	PE308029C	PE308030A	PE308109A		
	SDG NO:	PE302012A	PE302012A	PE302012A	PE302012A		
	TYPE:	T. COMPOSITE	T. COMPOSITE	T. COMPOSITE	RINSATE		
* ESTER(17.63)			10 JB				
* ESTER(17.64)					9 JB		
* HYDROCARBON(27.42)					120 JB		
* HYDROCARBON(27.43)				69 JB			
* HYDROCARBON(27.64)			13 JB				
* PHTHALATE ESTER(30.96)				24 J			
* PHTHALATE ESTER(31.03)				12 J			
* PHTHALATE ESTER(31.61)				52 J			
* PHTHALATE ESTER(31.69)				51 J			
* PHTHALATE ESTER(32.19)				11 J			

4.8 Environmental Problem 3: Main Plateau Area Spring and Seep Discharges

Request Numbers: 400 and 401.

Requestor: W. Murray.

Finding and Basis: Groundwater beneath the "main plateau" was potentially contaminated with phenols, PNAs, and heavy metals as a result of poor handling of materials during storage. Contaminants in the groundwater could contribute to contamination in Lick Run by discharging to surface waters at springs and seeps along the hillsides.

Historical evidence (aerial photos and personnel interviews) indicated that several areas on the "main plateau" were used for storage of research materials such as coal, coal products, and wastewaters. Personnel remember numerous small spills and generally poor handling.

4.8.1 Sampling and Analysis Objectives

Statement: Water samples were collected and analyzed to determine if semivolatiles, PNAs, organics, and heavy metals were present at or above the method detection limits in the groundwater discharging from the springs in the "main plateau" area of PETC.

Supporting Information: Former drum storage sites were seen in historical aerial photographs at several locations on the "main plateau" at PETC. Site personnel familiar with the areas remembered numerous small spills and generally poor material handling practices. Materials stored in these areas at the time of the DOE Environmental Survey included coal, coal products, process wastewaters, etc. The areas included: south and east of Building B-64, the area now occupied by Substation 6, and between Building B-65 and B-87.

Sample locations were selected based on: the presence of springs, groundwater flow directions, and the age of the facility (sufficient time for contamination to migrate to the springs).

4.8.2 Sampling and Analysis Design

4.8.2.1 Sampling Design

Request 400: Springs on Hillside Above Building B-62 (Fig. 4.3a). Three grab water samples were to be collected on three separate days from the springs on the hillside below Building B-83 and above (north) Building B-62, the power house (Sampling Method: Reference E4.2.4). Because the request was to determine groundwater concentrations, the samples were to be collected and filtered for metal analyses prior to chemical preservation. The organic samples were not to be filtered in the field. Specific conductance, pH, and temperature measurements were also to be read (Field Method: Reference E.4.5).

The Sampling Team arrived on-site the morning of 16AUG88 to collect sample PE400011. It was a clear sunny day with a light breeze blowing and temperatures of approximately 85°F. The immediate area was heavily vegetated and the ground was very wet due to the occurrence of a heavy thunderstorm the previous day. Using stainless implements, the team members dug out a pool in which the spring water was collected. The pool filled and the sediment settled rapidly. Field measurements of temperature, pH, and specific conductance were taken and a grab water sample (three semivolatiles and two metals) was collected at 0930. All equipment was decontaminated upon the Team's returning to the van. The metal samples were filtered and acidified at the lab.

The Sampling Team arrived on-site at 0920 on 17AUG88 to collect sample PE400022. The water was clear and there was a slight sheen on the pool. The weather was hot (over 85°F) and humid, and the sky was partly cloudy with no winds. The samples were collected at 0930 in the same manner as on the previous day. The outside of each

sample bottle was cleaned with distilled water, wiped dry, double bagged, and placed in the cooler. The metal samples were filtered and acidified at the lab.

The Sampling Team arrived at the spring on 18AUG88 at 0910 and collected sample PE400033 in the same manner as on the previous two days. The sky was overcast and threatening rain. The temperature was a cooler 75°F. The area around the spring was very damp. The pool was allowed to drain and refill prior to taking this last sample.

Request 401: Spring North of Main Plateau Area (Fig. 4.3b). Three grab water samples were to be collected on three separate days from the spring on the hillside north of the main plateau and down the hill from Tanks 14, 15, 16, and 18 (Sampling Method: Reference E4.2.4). Because the request was to determine groundwater concentrations, the samples were to be collected and filtered for metal analysis prior to sample preservation. The organic samples were not to filtered in the field.

The Sampling Team arrived on-site at 1020 on 16AUG88 to collect grab water sample PE401012. The day was clear and sunny with a slight breeze and a temperature of 85°F. The soil was wet (due to a thunderstorm the previous day) and rocky. One team member dug a small pool to collect water for the sampling. Pressure from the team members walking around the area caused a black seepage to enter the pool. Field measurements of pH, temperature, and specific conductance were taken with the Horiba. (Field Method: Reference E4.5). Three semivolatiles and two metal samples were collected with a stainless steel dipper. The samples were murky and chalky in appearance and had an odor of sewage. Equipment was decontaminated after use. The metal samples were filtered and acidified at the lab.

The Sampling Team arrived on-site at 1235 on 17AUG88 to collect sample PE401023. The day was hazy and humid with a temperature of over 90°F. Seepage was slow to refill the pool that had been dug the previous day and samples contained a large amount of sediment. Sampling was performed between 1235 and 1312 in the same manner as on the previous day. It was noted that the pH was somewhat high (9.3). A RAD scan showed 30 cpm. QC Field Blank PE401045 was collected at 1300.

On 18AUG88 at 1015, the Sampling Team returned to collect sample PE401034. Two members of the team used a posthole digger to widen the pool. As they waited for the disturbed area to settle, they noticed a dark gray seepage that continued to enter the pool. At 1045 it began to rain and the team took shelter. When the weather improved, sampling began at 1235. The light rain did not adversely affect the sampling area. Sampling was performed as it had been the previous 2 days.

4.8.2.2 Analytical Design

The parameters analyzed and/or measured for Environmental Problem 3 were as follows:

Request 400: The parameters analyzed were semivolatiles, total PNAs, ICP-metals, AA-arsenic, AA-lead, and AA-mercury. The field measurements taken were sample temperature, pH, and specific conductance.

Request 401: The parameters analyzed were semivolatiles, total PNAs, ICP-metals, AA-arsenic, AA-lead, and AA-mercury. The field measurements taken were sample temperature, pH, and specific conductance.

4.8.3 Field and Analytical Data

Field Data:

Request 400:
Field data for Environmental Problem 3 are shown in Table 4.3.3. Temperature for the three samples taken from the spring on three consecutive days ranged from 22° to 23° C. The water samples were neutral, with pH ranging from 7.2 to 7.3. Conductivity values ranged from 2.5 to 3 mS/cm.

Request 401:

Field data for Environmental Problem 3 are shown in Table 4.3.3. Temperature for the three samples taken from the spring on three consecutive days ranged from 22° to 31°C. The water samples were slightly basic, with pH ranging from .4 to 9.3. Conductivity values ranged from 2.5 to 3.4 mS/cm.

Field Data Evaluation:

Request 400:

Field data are consistent for the three samples taken on three consecutive days.

Request 401:

Temperature for the three samples varied 9°C over the 3 days samples were collected. The temperatures may have been impacted by rain which could have cooled the water prior to the collection of Samples PE401012 and PE401034. Conductivity (0.9 mS/cm range) and pH (0.9 pH unit range) were fairly consistent for the three samples.

Analytical Data:

Request 400:

Metals.

Analytical data for metals in groundwater are presented in table 4.3.3. Of the 14 metals detected, the following seven were below either the CRDL or the IDI in all three samples: antimony, arsenic, barium, beryllium, copper, iron, and silver. Of the remaining metals detected, lead was 5.4 µg/L, and zinc was 39 µg/L. Other metals detected were calcium, magnesium, manganese, potassium, and sodium.

Extractable organics.

Analytical results for semivolatile organic compounds are presented in Table 4.3.3. No semivolatile organic compounds were detected above the CRDL. Two phthalates were detected at levels below the CRDL among the three samples.

Eleven tentatively identified compounds are reported. The highest concentrations were detected in two of the three Alkene/Ether/Alcohol compounds (1700 to 1900 µg/L). The rest of the TIC's were detected in concentrations ranging from 5 to 42 µg/L.

Total PNA's.

Total PNA's were analyzed for, but not detected.

Request 401:

Metals.

Analytical data for metals in groundwater are presented in table 4.3.3. Of the 11 metals detected, the following six were below either the CRDL or the IDL in all three samples: chromium, copper, iron, lead, silver, and zinc. Other metals detected were calcium, magnesium, manganese, potassium, and sodium.

Extractable organics.

Analytical results for semivolatile organic compounds are presented in Table 4.3.3. No semivolatile organic compounds were detected above the CRDL. Four semivolatiles were detected at levels below the CRDL among the three samples.

Twenty-six tentatively identified compounds are reported. The highest concentrations were detected in the Alkene/Ether/Alcohol (up to 2200 µg/L) and the sulfur (up to 320 µg/L) compounds. The rest of the TIC's ranged in concentration from 3 to 52 µg/L.

Total PNA's.

Total PNA's were analyzed for, but not detected.

Analytical Data Evaluation:

Request 400:

Metals.
Two metals of interest (lead and zinc) were detected above either the CRDL or the IDL for this request.

Extractable organics.
No semivolatile organic compounds were detected above the CRDL. Two phthalates were detected below the CRDL among the three samples. No blank contamination is associated with these samples. Eleven tentatively identified compounds were detected in one or more of the three samples.

Total PNA's.
Total PNA's were analyzed for, but not detected.

Request 401:

Metals.
No metals of interest were detected above either the CRDL or the IDL for this request.

Extractable organics.
No semivolatile organic compounds were detected above the CRDL. Four semivolatiles were detected below the CRDL among the three samples. No blank contamination is associated with these samples. Twenty-six tentatively identified compounds were detected in one or more of the three samples.

Total PNA's.
Total PNA's were analyzed for, but not detected.

4.8.4 Limitations and Qualifications

Data Quality Level:

Request 400:
The sampling plan is rated Quality Level I; the field sampling is rated Quality Level I. The overall analytical rating is Quality Level I.

Request 401:
The sampling plan is rated Quality Level I; the field sampling is rated Quality Level I. The overall analytical rating is Quality Level I.

Field Data:

Request 400:
The Quality Level rating is I.

Request 401:
The Quality Level rating is I.

Analytical Data:

Request 400:

Metals.
Analytical data was Quality Level I for this request.

Extractable organics.
The TCL Quality Level rating is I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total PNA's.
The Quality Level rating is I.

Request 401:

Metals.
Analytical data was Quality Level I for this request.

Extractable organics.
Data TCL are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total PNA's.
Data are Quality Level I.

Environmental Problem: 3
Request Number: 400

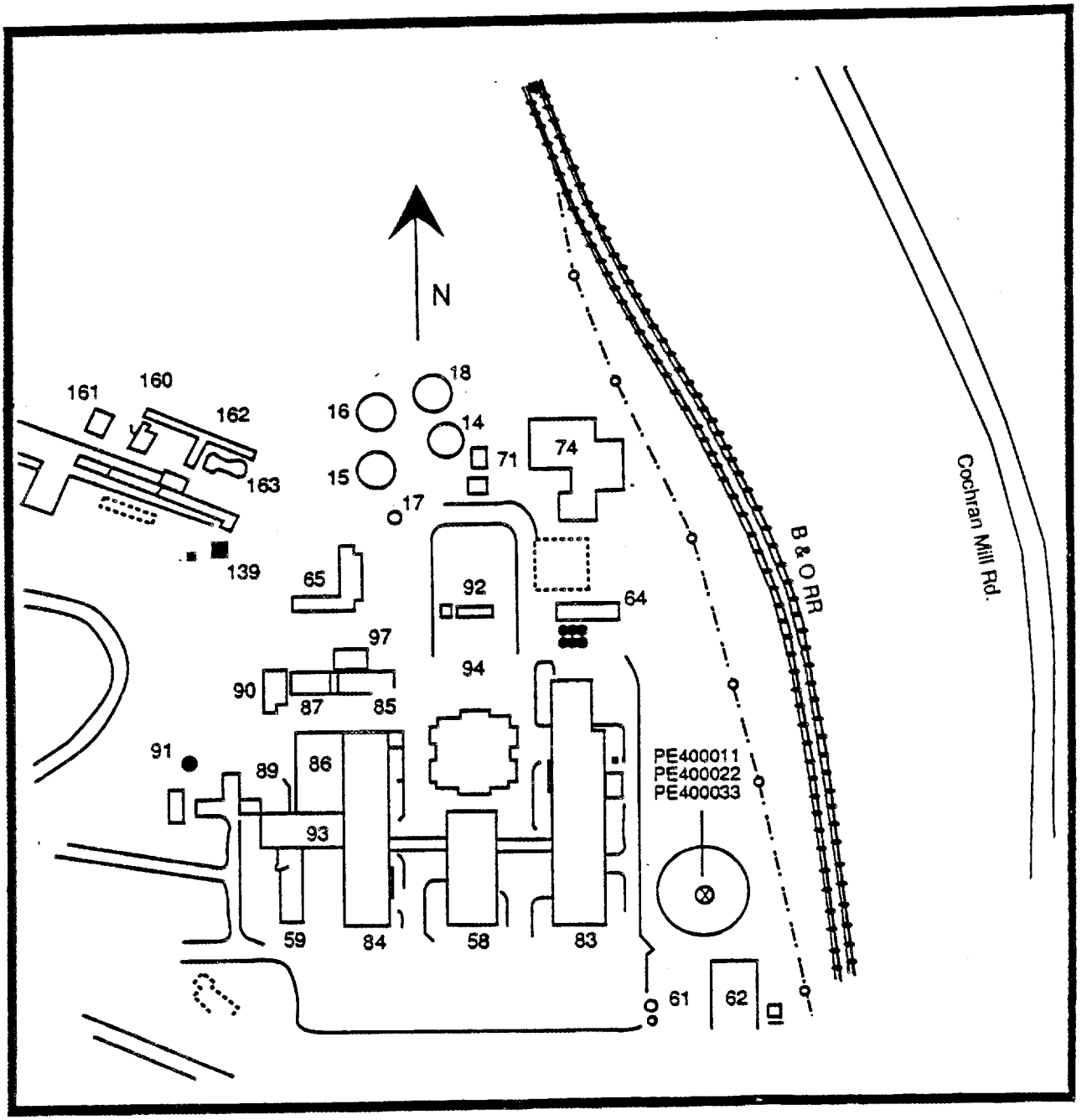

Figure 4.3a. Springs on Hillside Above Building B-62 (Request 400)

Environmental Problem: 3
Request Number: 401

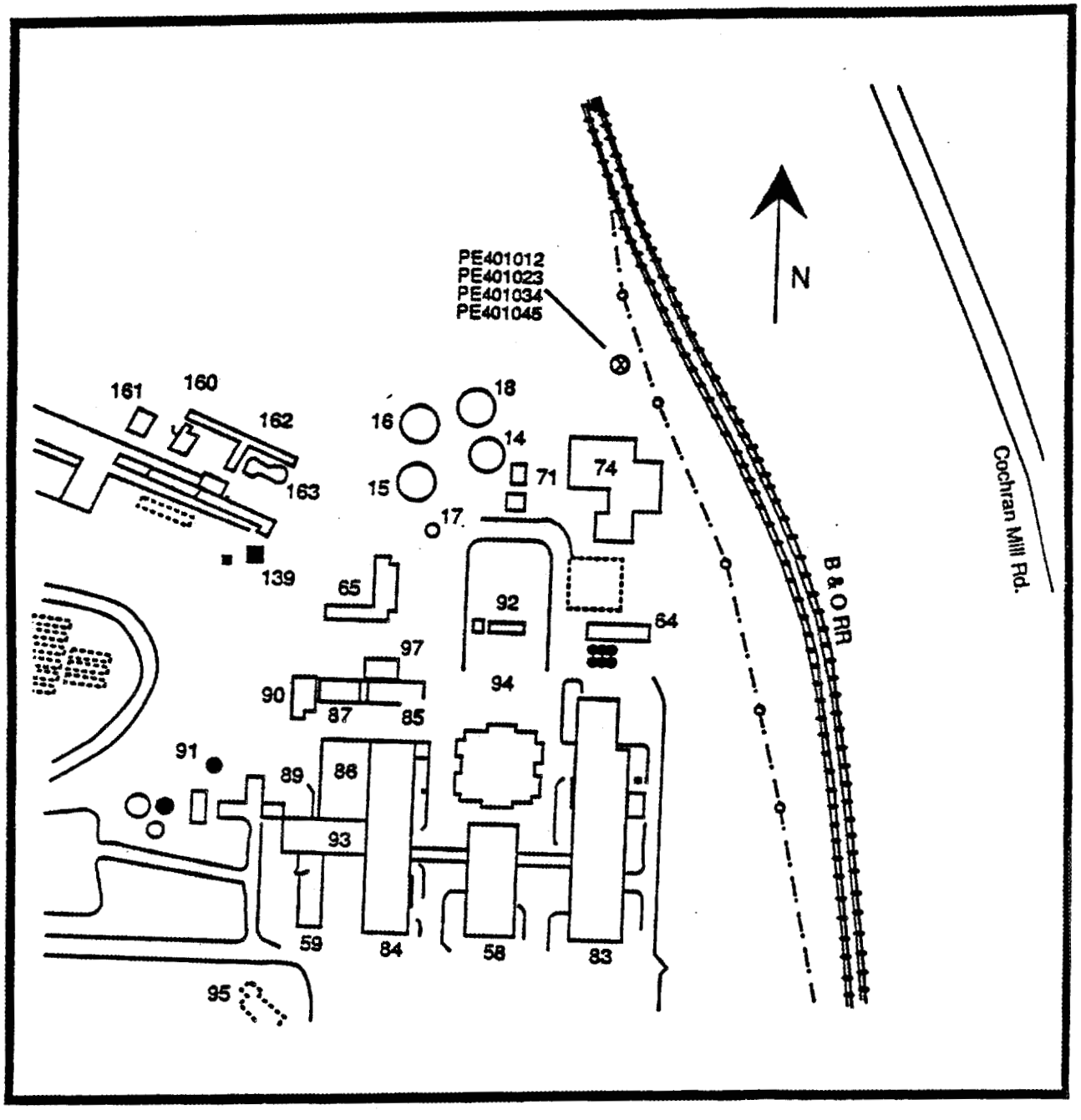

Figure 4.3b. Spring North of Main Plateau Area (Request 401)

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TABLE 4.2.3 SAMPLING AND ANALYSIS DATA SUMMARY
ENVIRONMENTAL PROBLEM - 3

REQUEST NUMBER	LOCATION	TYPE LOCATION	MEDIA	NUMB REQ	NUMB COLL	TYPE	METALS NUMB HITS	METALS NUMB ANAL	PES/H/PCB NUMB HITS	PES/H/PCB NUMB ANAL	SEMIVOLS NUMB HITS	SEMIVOLS NUMB ANAL	VOLS NUMB HITS	VOLS NUMB ANAL
PE401	B. 62	SPRING	SUR WATER	1	1	QC FL	1	1	0	0	0	0	0	0
			MED TOTAL	1	1		1	1	0	0	0	0	0	0
PE400	B. 62	SPRING	GRN WATER	3	3	GRAB	3	3	0	0	3	3	0	0
PE401	B. 62	SPRING	GRN WATER	3	3	GRAB	3	3	0	0	3	3	0	0
			MED TOTAL	6	6		6	6	0	0	6	6	0	0
			EP TOTAL	7	7		7	7	0	0	6	6	0	0

TABLE 4.3.3 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 3 DRAFT DO NOT CITE
MAIN PLATEAU AREA SPRING AND SEEP DISCHARGES

S&A REQUEST: 400
LOCATION: SPRINGS ON HILLSIDE ABOVE BUILDING 62 (POWER HOUSE)
MEDIUM: GROUND WATER

FIELD MEASUREMENTS	SAMP NO:	PE400011	PE400022	PE400033			
CONDUCTIVITY (MS/CM)		2.5	2.7	3			
PH (UNITS)		7.3	7.2	7.3			
TEMPERATURE (DEG C)		23	22	22			

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE400011D	PE400011E	PE400022D	PE400022E	PE400033D	PE400033E
	SDG NO:	PE400011D	PE305015I	PE400011D	PE305015I	PE400011D	PE305015I
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ANTIMONY			38 B		26 U		26 U
ARSENIC		1.7 U		3.7 B		1.7 U	
BARIUM			147 B		96 B		97 B
BERYLLIUM			1.4 B		0.48 B		0.72 B
CALCIUM			182000 E		208000 E		231000 E
COPPER			3.8 B		2 U		6.4 B
IRON			37 B		11 U		17 B
LEAD		5.4 S		2.8 BW		2.8 B	
MAGNESIUM			26300		31900		38000
MANGANESE			504		288		363
POTASSIUM			25300		7580		9320
SILVER			9.3 B		3.8 U		3.8 U
SODIUM			199000		180000		166000
ZINC			15 B		39		13 B

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE400011A	PE400022A	PE400033A
	SDG NO:	PE301011E	PE301011E	PE301011E
	TYPE:	GRAB	GRAB	GRAB
DI-N-OCTYL PHTHALATE		10 U	11 U	0.9 J
DIETHYLPHTHALATE		3 J	11 U	12 U
* ALKENE/ETHER/ALCOHOL(25.00)			5 J	5 J
* ALKENE/ETHER/ALCOHOL*(27.50)		1800 JB	1900 JB	
* ALKENE/ETHER/ALCOHOL*(27.60)				1700 JB
* ALKYLHYDROCARBON(11.00)		5 J		
* ETHER/ALCOHOL(30.90)		24 J	42 J	
* PROPANOATEESTER(17.60)		15 JB		17 JB
* PROPANOATEESTER(17.70)			14 JB	
* UNKNOWN(17.30)			5 JB	5 JB
* UNKNOWN(24.90)		5 J		
* UNKNOWN(34.80)		10 J		
* UNKNOWN(35.30)				11 J

TABLE 4.3.3 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 3 DRAFT DO NOT CITE
MAIN PLATEAU AREA SPRING AND SEEP DISCHARGES

S&A REQUEST: 401
LOCATION: SPRING NORTH OF MAIN PLATEAU AREA
MEDIUM: SURFACE WATER

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE401045B	PE401045D				
	SDG NO:	PE305015I	PE400011D				
	TYPE:	FIELD BLANK	FIELD BLANK				
BERYLLIUM		0.72 B					
CALCIUM		2310 BE					
CHROMIUM		11					
COPPER		3 B					
IRON		36 B					
LEAD			5.4				
MAGNESIUM		135 B					
SODIUM		1440 B					
ZINC		11 B					

S&A REQUEST: 401
LOCATION: SPRING NORTH OF MAIN PLATEAU AREA
MEDIUM: GROUND WATER

FIELD MEASUREMENTS	SAMP NO:	PE401012	PE401023	PE401034			
CONDUCTIVITY (MS/CM)		2.9	2.5	3.4			
PH (UNITS)		8.9	9.3	8.4			
TEMPERATURE (DEG C)		22	31	27			

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE401012D	PE401012E	PE401023D	PE401023E	PE401034D	PE401034E
	SDG NO:	PE400011D	PE305015I	PE400011D	PE305015I	PE400011D	PE305015I
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
CALCIUM			546000 E		569000 E		574000 E
CHROMIUM			7.5 U		7.5 U		7.6 B
COPPER			4.7 B		2 U		3 B
IRON			49 B		18 B		11 U
LEAD		4.5 BW		1.8 BW		1.8 B	
MAGNESIUM			10700		8520		12100
MANGANESE			1340		234		1580
POTASSIUM			132000		140000		140000
SILVER			7.8 B		3.8 U		6 B
SODIUM			43500		50500		44400
ZINC			16 B		8.2 B		3.8 B

TABLE 4.3.3 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 3 DRAFT DO NOT CITE
MAIN PLATEAU AREA SPRING AND SEEP DISCHARGES

S&A REQUEST: 401
LOCATION: SPRING NORTH OF MAIN PLATEAU AREA
MEDIUM: GROUND WATER

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE401012A	PE401023A	PE401034C			
	SDG NO:	PE301011E	PE301011E	PE301011E			
	TYPE:	GRAB	GRAB	GRAB			
DI-N-OCTYL PHTHALATE		1 J	10 U	10 U			
DIETHYLPHTHALATE		11 U	10 U	0.9 J			
PHENOL		11 U	10 U	6 J			
4-METHYLPHENOL		11 U	10 U	3 J			
* ALKENE/ETHER/ALCOHOL(30.20)		9 J					
* ALKENE/ETHER/ALCOHOL*(27.50)		2200 JB		2100 JB			
* ALKENE/ETHER/ALCOHOL*(27.60)			1400 JB				
* ALKYLHYDROCARBON(10.80)		4 J	3 J				
* ALKYLHYDROCARBON(10.90)			4 J				
* ALKYLHYDROCARBON(11.00)		5 J					
* ALKYLHYDROCARBON(11.40)		4 J					
* ALKYLHYDROCARBON(11.60)		4 J					
* ETHER/ALCOHOL(30.80)				25 J			
* ETHER/ALCOHOL(30.90)		52 J					
* ETHER/ALCOHOL(31.20)			46 J				
* ETHER/ALCOHOL(33.60)				7 J			
* PHENYLHYDROCARBON(13.80)		7 J					
* PHENYLHYDROCARBON(13.90)				19 J			
* PROPANOATEESTER(17.60)		11 JB	16 JB				
* SULFUR(27.10)		280 J					
* SULFUR(27.20)			10 J	320 J			
* UNKNOWN(6.31)			3 J				
* UNKNOWN(12.90)		9 J					
* UNKNOWN(13.00)				9 J			
* UNKNOWN(25.00)		6 J	7 J				
* UNKNOWN(25.50)				15 J			
* UNKNOWN(26.80)			5 J				
* UNKNOWN(30.20)				7 J			
* UNKNOWN(30.50)			9 J				
* UNKNOWN(34.80)				8 J			

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4.9 Environmental Problem 4: Valley Fill Area Spring and Seep Discharges

Request Numbers: 402 and 403.

Requestor: W. Murray.

Finding and Basis: Groundwater beneath the "valley fill" area was potentially contaminated with phenols, PNAs, and heavy metals as a result of spills and leaks associated with operation of the synthane plant and with poor materials handling practices. Contaminants in the groundwater may have contributed to contamination in Lick Run by discharging to surface waters at springs and seeps at the lower end of fill areas.

Historical records, aerial photographs, and personnel interviews indicated that releases of wastewater occurred at the Synthane Plant. Drums of liquid wastes were stored in an unprotected manner at the Synthoil Plant and in the open fields to the southeast of the plant.

4.9.1 Sampling and Analysis Objectives

Statement: Water samples were collected and analyzed to determine if semivolatile organics and heavy metals were present at or above the method detection limits in the groundwater discharging from the seeps and springs in the "valley fill" area at PETC.

Supporting Information: Several spills and releases of varying magnitude occurred at the synthane plant and associated areas during operations. These releases included approximately 50,000 gal. from the "Char Pond." This release occurred in the early 1980s southeast of the plant. The material released was process wastewater with high concentrations of phenolics and total organic carbon (TOC).

Releases associated with poor materials handling practices of drums containing liquid and solid process wastes potentially contributed to inorganic and organic contamination of the groundwater under the valley fill. The bottom ash or solidified bottoms contain most of the inorganic material, such as heavy metals, that was present in the feed

stock. A release of this type of solid waste could enable inorganics to leach into the groundwater.

Any contaminants which entered the groundwater in the valley fill would be expected to migrate along the axis of the old valley. Discharges would be expected at springs and seeps at the toe of the fill.

4.9.2 Sampling and Analytical Design

4.9.2.1 Sampling Design

Request 402: Spring at the Northwest End of the 2.1 Acre Field (Fig. 4.4a). Three grab water samples were to be collected on three separate days from the spring at the northwest end of the 2.1 acre field adjacent to the 920 Area (Sampling Method: Reference 4.2.4). If surface flow were not present, a pipe was to be placed in the ground up to 6 ft in depth. Placed at the deep hole nearest the spring drilled for Request 801 (2.1 acre property soil), the pipe was to collect groundwater. Because the request was to determine groundwater concentrations, the samples were to be filtered for metal analysis prior to chemical preservation. The samples were not to be filtered for organic analysis in the field. Temperature, pH, and specific conductance measurements were also to be read (Field Method: Reference E4.5).

The Sampling Team arrived on-site at 1445 on 16AUG88. The day was partly cloudy and breezy, and the temperature was approximately 85°F. Although the ground was damp, very little water was observed in the area. After digging a small pool to try to accumulate water, the Team went to the next sampling site. At 1600, they returned to find about 1/2 in. of water accumulated in the pool. At this time two holes were drilled to depths of 4 ft and 6 ft. Both holes were dry. On 17AUG88 at 1000, the team rechecked the area. The two drilled holes were still dry, but the shallow pool appeared to be collecting water. With a posthole digger, two more holes were dug. The site was rechecked approximately 2 1/2 hr later. The shallow pool was still the only hole in which any water had accumulated. Field measurements were taken and one

complete water grab sample (three semivolatiles and two metals) was collected at 1605. This sample was labeled PE402013. The metal samples were filtered and acidified at the lab. On the morning of 18AUG88, the site was reinspected. On 19AUG88, it was decided that the remainder of this request (samples PE402024 and PE402035) would be abandoned due to lack of sample material.

Request 403: Stream/Seep Area Southeast of 920 Area (Fig. 4.4b). Three grab water samples were to be collected on three separate days from the stream/seep located at the southeast end of the valley fill southeast of the 920 Area (Sampling Method: Reference E4.2.1). Specific conductance, pH, and temperature measurements were also to be read (Field Method: Reference E4.5). The area beginning 20 ft below the head of the stream and extending 60 ft downstream was to be divided into a 1- x 20-segment grid. One segment was to be randomly selected for sampling. Because the objective of this sample was to determine groundwater concentrations, the samples were to be filtered for metal analyses prior to chemical preservation. The samples were not to be filtered for organic analyses in the field.

The Sampling Team arrived on-site at 1500 on 16AUG88 to collect sample PE403014. The day was partly cloudy, with winds less than 10 mph, and a temperature around 85°F. The area was somewhat difficult to reach because of the abundance of undergrowth in the heavily wooded area. After clearing the sampling area of debris, field measurements were taken with the Horiba. A grab water sample (three semivolatiles and two metals) was taken at 1528 with a stainless steel dipper. Sampling implements were decontaminated upon the Team's return to the van. The metal samples were filtered and acidified at the lab.

At 1530 on 17AUG88, the Sampling Team repeated the same procedures to collect PE403025. The sample was basically clear with some sediment and floating solids. The weather was hot (95°F) and very humid. Insects, especially mosquitos and spiders, were prevalent.

At 1300 on 18AUG88, the Sampling Team once more repeated the methods used in the previous 2 days to collect PE403036. The sample was clear with little sediment. The weather was partly sunny and 85°F. A bad storm was approaching from the north as sampling was completed.

4.9.2.2 Analytical Design

The parameters analyzed and/or measured for Environmental Problem 4 were as follows:

Request 402: The parameters analyzed were semivolatiles, total PNAs, ICP-metals, AA-arsenic, AA-lead, and AA-mercury. Field measurements taken were sample temperature, pH, and specific conductance.

Request 403: The parameters analyzed were semivolatiles, total PNAs, ICP-metals, AA-arsenic, AA-lead, and AA-mercury. Field measurements taken were sample temperature, pH, and specific conductance.

4.9.3 Field and Analytical Data

Field Data:

Request 402:
Field data for Environmental Problem 4 are shown in Table 4.3.4. Temperature for the one water sample collected was 32° C, pH was 7.3, and conductivity was 6.3 mS/cm.

Request 403:
Field data for Environmental Problem 4 are shown in Table 4.3.4. Temperature for the three samples taken on consecutive days ranged from 20° to 23° C. The water samples were acidic to slightly basic, with pH values ranging from 4.2 to 7.8. Conductivity values ranged from 0.99 to 1.6 mS/cm.

Field Data Evaluation:

Request 402:

Only one sample was taken, so no comparison of data from this site can be made. Generally, the temperature and conductivity values appear to be higher than other ground and surface water samples taken at PETC.

Request 403:

The pH value for Sample PE403014 (4.2 pH units) is the lowest for any of the water samples taken at PETC. All other field data are consistent for the three samples taken on consecutive days.

Analytical Data:

Request 402:

Metals.

Analytical data for metals in groundwater are presented in table 4.3.4. Of the eight metals detected, the following four were below either the CRDL or the IDL in the sample collected: antimony, copper, lead, and zinc. Other metals detected were calcium, magnesium, manganese, and potassium.

Extractable Organics.

Analytical results for semivolatile organic compounds are presented in Table 4.3.4. No semivolatile organic compounds were detected above the CRDL. One phthalate was detected at a level below the CRDL.

Four tentatively identified compounds are reported at concentrations from 0.6 to 140 µg/L.

Total PNA's.

Total PNA's were analyzed for, but not detected.

Request 403:

Metals.

Analytical data for metals in groundwater are presented in table 4.3.4. Of the 12 metals detected, the following six were below either the CRDL or the IDL in all three samples: barium, beryllium, copper, iron, silver, and zinc. Of the remaining metals detected, lead was 5.3 μg/L. Other metals detected were calcium, magnesium, manganese, potasium, and sodium.

Extractable Organics.

Analytical results for semivolatile organic compounds are presented in Table 4.3.4. Benzo(a)pyrene (17 μg/L), Benzo(b)fluoranthene (16 μg/L), Benzo(k)fluoranthene (18 μg/L), and Di-n-octylphthalate (13 μg/L) were all detected above the CRDL in Sample PE403014. One to five other semivolatiles were detected at levels below the CRDL in each of the three samples.

Eleven tentatively identified compounds are reported. The four Alkene/Ether/Alcohol compounds had the highest concentrations of the TIC's, ranging from 26 to 1700 μg/L. The rest of the TIC's are all below 25 μg/L.

Total PNA's.

These compounds, which include Naphthalene, Phenanthrene, Anthracene, and their substituents, were analyzed as part of the Extractable Organics (semivolatiles). Results are included in the Extractable Organics section.

Analytical Data Evaluation:

Request 402:

Metals.

No metals of interest were detected above either the CRDL or the IDL for this request.

Extractable Organics.

No semivolatile organic compounds were detected above the CRDL in the single sample taken. One phthalate was detected at a level below the CRDL. No blank contamination is associated with this sample. Four tentatively identified compounds were detected in the sample.

Total PNA's.

Total PNA's were analyzed for, but not detected.

Request 403:

Metals.

No metals of interest were detected above either the CRDL or the IDL for this request.

Extractable Organics.

Four semivolatile organic compounds were detected above the CRDL in Sample PE403014 which also had five other semivolatiles detected below the CRDL. No blank contamination is associated with these samples. Eleven tentatively identified compounds were detected among the three samples.

Total PNA's.

See Extractable Organics section.

4.9.4 Limitations and Qualifications

Data Quality Level:

Request 402:

The sampling plan is rated Quality Level I; the field sampling is rated Quality Level II since only one of three requested samples were obtained. The overall analytical rating is Quality Level I.

Request 403:

The sampling plan is rated Quality Level I; the field sampling is rated Quality Level II since no grid was laid out as requested in the Sampling and Analysis Plan. The overall analytical rating is Quality Level I.

Field Data:

Request 402:

The Quality Level rating is I.

Request 403:

The Quality Level rating is I.

Analytical Data:

Request 402:

Metals.

Analytical data was Quality Level I for the samples in this request.

Extractable Organics.

The TCL Quality Level rating is I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total PNA's.

The Quality Level rating is I.

Request 403:

Metals.

Analytical data was Quality Level I for the samples in this request.

Extractable Organics.

The TCL Quality Level rating is I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total PNA's.

The Quality Level rating is I.

Environmental Problem: 4
Request Number: 402

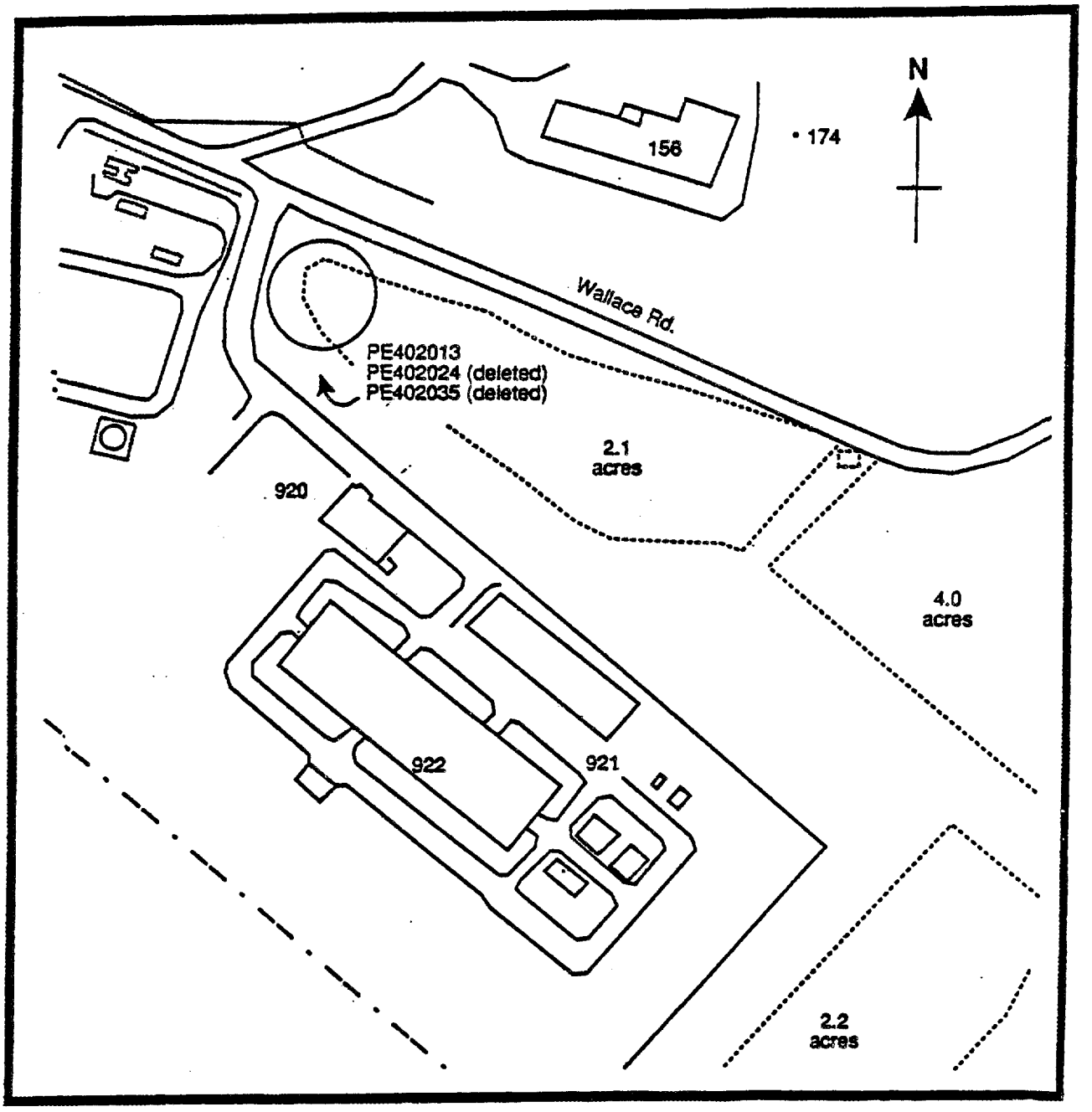

Figure 4.4a. Spring at the Northwest End of the 2.1 Acre Field (Request 402)

Environmental Problem: 4
Request Number: 403

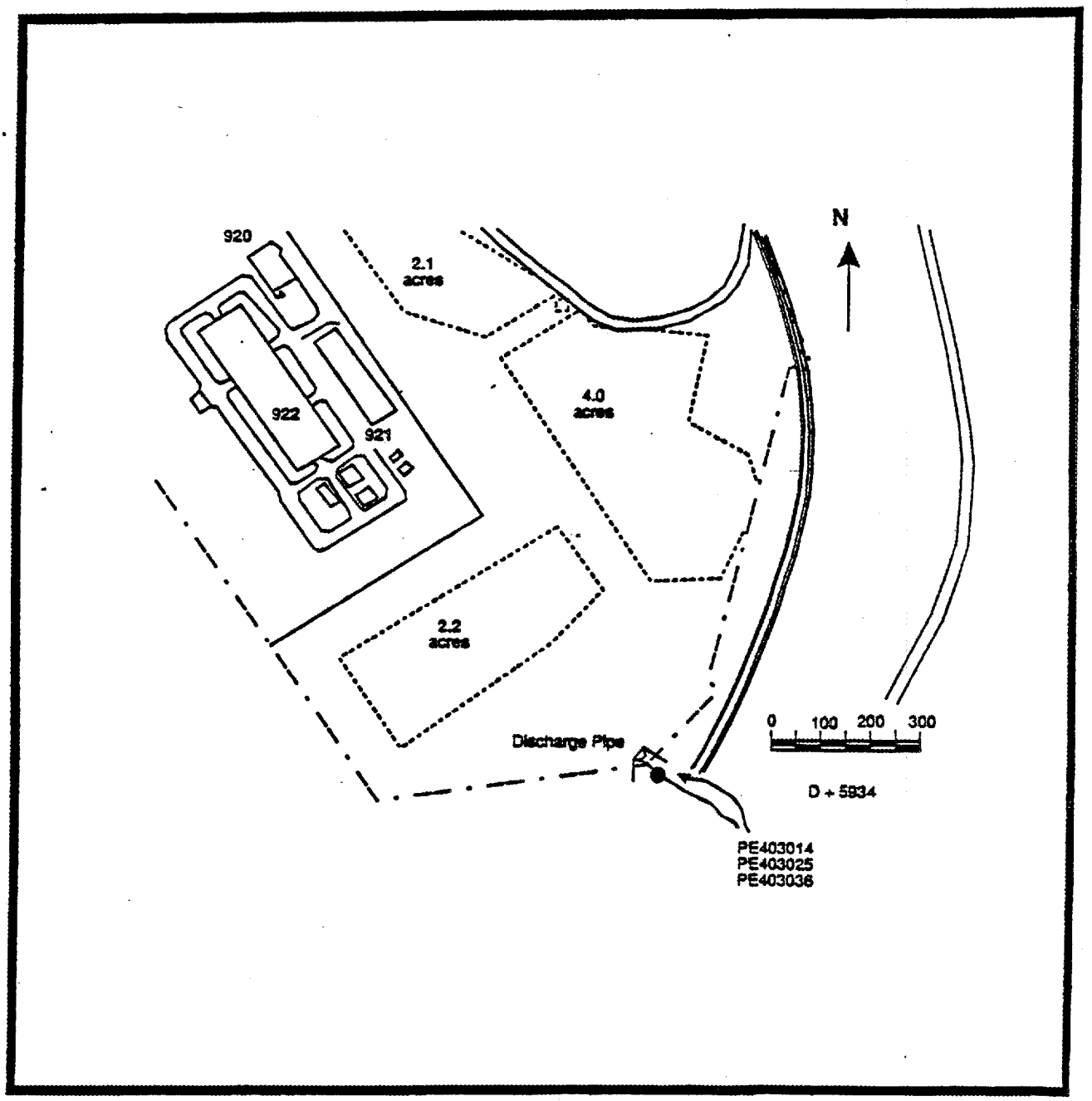

Figure 4.4b. Stream/Seep Area Southeast of 920 Area (Request 403)

Draft - Do Not Cite

TABLE 4.2.4 SAMPLING AND ANALYSIS DATA SUMMARY
ENVIRONMENTAL PROBLEM - 4

REQUEST NUMBER	LOCATION	TYPE LOCATION	MEDIA	NUMB REQ	NUMB COLL	TYPE	METALS NUMB HITS	METALS NUMB ANAL	PES/H/PCB NUMB HITS	PES/H/PCB NUMB ANAL	SEMIVOLS NUMB HITS	SEMIVOLS NUMB ANAL	VOLS NUMB HITS	VOLS NUMB ANAL
PE402	2.1 FIELD	SPRING	GRN WATER	3	1	GRAB	1	1	0	0	1	1	0	0
PE403	2.1 FIELD	SPRING	GRN WATER	3	3	GRAB	3	3	0	0	3	3	0	0
		MED TOTAL		6	4		4	4	0	0	4	4	0	0
		EP TOTAL		6	4		4	4	0	0	4	4	0	0

TABLE 4.3.4 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 4 DRAFT DO NOT CITE
VALLEY FILL AREA SPRING AND SEEP DISCHARGES

S&A REQUEST: 402
LOCATION: SPRING AT THE NORTHWEST END OF THE 2.1 ACRE FIELD
MEDIUM: GROUND WATER

FIELD MEASUREMENTS	SAMP NO:	PE402013
CONDUCTIVITY (MS/CM)		6.5
PH (UNITS)		7.5
TEMPERATURE (DEG C)		32

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE402013D	PE402013E
	SDG NO:	PE400011D	PE305015I
	TYPE:	GRAB	GRAB
ANTIMONY			79 B
CALCIUM			456000 E
COPPER			6.4 B
LEAD		1.8 BW	
MAGNESIUM			77800
MANGANESE			437
POTASSIUM			39500
ZINC			8.1 B

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE402013A
	SDG NO:	PE301011E
	TYPE:	GRAB
DI-N-OCTYL PHTHALATE		3 J
* ALKENE/ETHER/ALCOHOL*(27.60)		140 JB
* ETHER/ALCOHOL(31.20)		1 J
* PROPANOATEESTER(17.60)		9 JB
* UNKNOWN(30.50)		0.6 J

S&A REQUEST: 403
LOCATION: STREAM/SEEP AREA SOUTHEAST OF THE 920 AREA
MEDIUM: GROUND WATER

FIELD MEASUREMENTS	SAMP NO:	PE403014	PE403025	PE403036
CONDUCTIVITY (MS/CM)		1	1.6	0.99
PH (UNITS)		4.2	7.1	7.8
TEMPERATURE (DEG C)		23	20	21

TABLE 4.3.4 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 4 DRAFT DO NOT CITE
VALLEY FILL AREA SPRING AND SEEP DISCHARGES

S&A REQUEST: 403
LOCATION: STREAM/SEEP AREA SOUTHEAST OF THE 920 AREA
MEDIUM: GROUND WATER

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE403014D	PE403014E	PE403025D	PE403025E	PE403036D	PE403036E
	SDG NO:	PE400011D	PE305015I	PE400011D	PE305015I	PE400011D	PE305015I
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
BARIUM			45 B		42 B		40 B
BERYLLIUM			0.96 B		0.96 B		0.96 B
CALCIUM			135000 E		123000 E		119000 E
COPPER			5.5 B		2 U		3.8 B
IRON			37 B		14 B		11 U
LEAD		5.3 S		2.4 BW		4.1 B	
MAGNESIUM			29000		27200		26800
MANGANESE			17		7.9 B		3.8 U
POTASSIUM			5480		5230		5830
SILVER			7.2 B		3.8 U		3.8 U
SODIUM			12600		11500		11900
ZINC			17 B		14 B		11 B

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE403014A	PE403025A	PE403036A
	SDG NO:	PE301011E	PE301011E	PE301011E
	TYPE:	GRAB	GRAB	GRAB
BENZO(A)ANTHRACENE		9 J	11 U	10 U
BENZO(A)PYRENE		17	11 U	10 U
BENZO(B)FLUORANTHENE		16	11 U	10 U
BENZO(K)FLUORANTHENE		18	11 U	10 U
BIS(2-ETHYLHEXYL)PHTHALATE		4 J	11 U	10 U
BUTYLBENZYLPHTHALATE		4 J	11 U	10 U
CHRYSENE		8 J	11 U	10 U
DI-N-OCTYL PHTHALATE		6 J	0.8 J	10 U
DIBENZO(A,H)ANTHRACENE		13	11 U	10 U
PHENOL		10 U	11 U	2 J
* ALKENE/ETHER/ALCOHOL(25.00)		33 J		5 J
* ALKENE/ETHER/ALCOHOL(27.70)		26 J		
* ALKENE/ETHER/ALCOHOL*(27.50)				1300 JB
* ALKENE/ETHER/ALCOHOL*(27.60)		1300 JB	1700 JB	
* ETHER/ALCOHOL(31.20)			25 J	
* PROPANOATEESTER(17.60)		13 JB		11 JB
* UNKNOWN(17.30)				3 JB
* UNKNOWN(17.70)			5 J	
* UNKNOWN(30.50)			13 J	
* UNKNOWN(30.80)				16 J
* UNKNOWNSILOXANE(19.80)		4 J		

4.10 Environmental Problem 5: Historic Waste Accumulation Areas

Request Numbers: 800, 801, 802, 803, and 804.
Requestor: K. Walter.
Finding and Basis: Potential soil contamination and also possible surface water runoff contamination may have been caused by past leaks and spills of hazardous materials at seven historic accumulation areas for liquid and solid materials. Many of the materials were stored in deteriorating drums and other small containers which were left exposed to the weather, often for periods of months or years, with no protection and on bare ground in most cases. The materials stored included: solvents such as benzene, trichloroethylene, tetrachloroethylene, xylene, and freon; petroleum solvents; bromoform; coal gasification wastewaters containing phenolics, cyanides, polynuclear aromatics, and other petroleum products; coal tars; various ashes from coal research; and miscellaneous laboratory waste chemicals possibly including mercury.

4.10.1 Sampling and Analysis Objectives

Statement: Soil samples were collected and analyzed to determine if soil contamination was present, the range and types of constituents, and the general magnitude of concentrations in those areas where spills and leaks occurred in order to assess whether contamination above normal levels exists to cause continuing potential for surface water runoff contamination.

Supporting Information: The seven accumulation areas were the 2.2 acre property area, the 2.1 acre property area, the 920 area drum storage area, the 900 area Synthane Plant, the drum storage area south of Building B-64, Substation 6, and the area south of Building B-65. Approximately 1600 drums of hazardous materials were stored in the northern half of the 2.2 acre property between the late 1970s and early 1980s. There were employee allegations that spills occurred. The site may have been covered with 1 to 2 ft of clean fill and slag gravel.

Possibly several dozen drums of solvent refined coal (SRC) wastes were dumped for a period of a few weeks in the northern portion of the 2.1 acre property. The area may have been filled in with 2 to 4 ft of soil. There is a marshy area on top of this location now where surface runoff collects.

At the 920 area drum storage area, drums were stored at the southern edge of the paved area for the Synthoil area (top of the slope above the 2.2 acre property). This took place along an area possibly 20 ft wide and 600 ft long as seen from aerial photos. At the Synthane Plant (900 area), the coal storage bin area was used for storage of an unknown quantity of SRC wastes in drums. The area also received a spill of thousands of gallons of "char water" containing phenolics and PNAs, some of which possibly soaked into the ground (although most is believed to have gone to the storm sewer).

The drum storage area south of Building B-64 was used historically to store waste materials in drums. Substation 6, immediately north of Building B-64, was previously used as a drum storage area. The area south of Building B-64 (cylinder storage area) was used, at the time of the DOE Environmental Survey, as a storage area for coal product and waste materials in drums.

4.10.2 Sampling and Analytical Design

4.10.2.1 Sampling Design

Request 800: 2.2 Acre Property (Figure 4.5a and 4.5b). Fifteen grab soil samples were to be collected from the northern half of the 2.2 acre property located southeast of the 920 acre Area (Sampling Method: Reference E5.2.3). No field measurements were required. It is supposed that spills from drums stored in the area might have occurred. The Team was to stratify the area into the marshy area along the west edge extending to the bottom of the slope and the remainder of the northern half of the site, with the southeastern boundary extending to the current fence line. Samples were to be collected from two cores at three depths (six samples total) from the marshy area and

from three cores at three depths (nine samples total) from the remainder of the area. The area of interest was greater than 3000 m^2. The marshy area was to be divided into a 40-segment grid and two segments randomly selected for sampling. The remainder of the area was to be divided into a 60-segment grid and three segments selected for sampling. Soil cores were to be collected at 0 to 2, 2 to 4, and 4 to 6 ft intervals at each location. A TIP detector was to be used for monitoring purposes during the augering.

The Sampling Team arrived on-site at 0845 on 16AUG88 under a clear sky, with light winds (0 to 5 mph), and with warm temperatures (75° to 80°F). The site was divided into two sections, the first being a marshy area measuring 6 ft by 220 ft along the north end and the second being the remaining northern half of the 2.2 acre property from the marsh area to the fence line measuring approximately 80 ft by 220 ft. The first section was divided into a 2 x 20 grid with each segment approximately 3 ft by 11 ft. The second section was divided into a 4 x 15 grid with each segment approximately 14.7 ft by 20 ft. The segments in both sections were numbered and samples were taken from grids 3 and 24 of the first section and from grids 1, 14, and 40 of the second section. These grids were randomly selected. Three grab soil samples were collected from soil cores at 0 to 2 ft, 2 to 4 ft, and 4 to 6 ft intervals at each location for a total of 15 samples. A RAD scan of the area showed 50 cpm.

Sampling began at 0930 in grid 1 (a rocky area) of section 2. Samples PE800071, PE800082, and PE800093 were collected at 0930, 0949, and 1010, respectively. Sample PE800071 (0 to 2 ft) was wet for the first 2 to 3 in., then dry and powdery. Samples PE800082 (2 to 4 ft) and PE800093 (4 to 6 ft) were dry, powdery, and light in color.

At 1020 sampling began in grid 3 (in the ditch) of section 1. Samples PE800015, PE800026, and PE800037 were collected at 1020, 1035, and 1046, respectively. Sample PE800015 (0 to 2 ft) was moist and dark in color for the first 3 in., then a light, powdery slate. Samples PE800026 (2 to 4 ft) and PE800037 (4 to 6 ft) were powdery and light in color.

At 1230, sampling began at grid 14 in section 2. By this time, temperatures had risen above 90°F. Samples PE800106, PE800117, and PE800128 were collected at 1245, 1255, and 1310, respectively. Sample PE800106 (0 to 2 ft) was a dark material for the first 3 in., then a very fine, light-brown powder. Sample PE800117 (2 to 4 ft) was a very fine, light-brown powder. Sample PE800128 (4 to 6 ft) began as a very fine, light-brown powder turning to gray as the depth increased.

Sampling began at 1325 in grid 40 of section 2. Samples PE800139 (0 to 2 ft), PE800140 (2 to 4 ft), and PE800151 (4 to 6 ft) were collected at 1331, 1340, and 1352, respectively. Sample PE800139 was wet the first 2 to 3 in., then a light-brown powder after that. Samples PE800140 and PE800151 were a very fine, light-brown powder.

At 1400, sampling began at grid 24 of section 1. Samples PE800048 (0 to 2 ft), PE800059 (2 to 4 ft), and PE800060 (4 to 6 ft) were collected at 1400, 1410, and 1427, respectively. Sample PE800048 was moist for the first 3 in., then a fine, dry powder afterwards. Samples PE800059 and PE800060 were a fine dry powder.

A TIP (photoionization detector) was used for monitoring purposes during all augering. Readings were recorded for all samples. QC Rinsate PE800162 was collected at 1450 after sampling grid 24 in the marsh area of section 2.

Request 801: 2.1 Acre Property (Fig. 4.5a and 4.5c). Ten grab soil samples were to be collected from the northwestern portion of the 2.1 acre site located northwest of Building B-920 (Sampling Method: Reference E5.2.3). No field measurements were required. The area was to be stratified into the marshy area at the northwest tip of the property, including the wet ditch line, and a second area consisting of the remainder of the northwest portion. Samples were to be collected from two cores at two depths (total of four samples) from the ditch/marshy area. Samples were also to be collected from three cores at two depths (total of six samples) from the remainder of the area. The area of interest was less than 1000 m^2. The ditch/marhsy area was to be divided into a 40-segment grid and two segments randomly selected for sampling. The remainder of the area was to be divided into a 60-segment grid and three segments

randomly selected for sampling. Soil cores were to be collected at 0 to 3 and 3 to 6 ft intervals at each location. A TIP detector was to be used for monitoring purposes during the augering.

The Sampling Team arrived on-site at 1500 on 16AUG88 under a clear sky, with light winds (5 to 10 mph), and hot temperatures (90° to 95°F). The site was divided into two sections. The first section consisted of the marshy area measuring approximately 20 ft by 20 ft at the northwest tip of the property plus the ditch measuring approximately 6 ft by 100 ft running southeast from the marshy area. The second section consisted of the remainder of the area measuring approximately 200 ft by 80 ft. In the first section, the marshy area was divided into 4 x 4 grid with sixteen 5 ft by 5 ft segments and the ditch area was divided into a 2 x 12 grid having twenty-four 8.3 ft by 3 ft segments for a total of 40 segments approximately 25 ft^2 each. The second section was divided into a 4 x 15 grid with each segment measuring 13.3 ft by 20 ft each. The segments of both sections were numbered and samples were taken from grids 16 and 19 in section 1 and from grids 20, 33, and 59 in section 2. These grids were selected randomly. Two grab soil samples were collected from soil cores at 0 to 3 ft and 3 to 6 ft intervals at each location for a total of ten samples. A RAD scan of the area showed 45 cpm.

Sampling began at 1511 in grid 59 of section 2. Sample PE801094 was collected a 1511 from a depth of 0 to 3 ft. Sample PE801107 was collected at 1521 from a depth of 3 to 6 ft. Both samples were a moist, dark-brown material.

At grid 16 in the marshy area of section 1, sampling began at 1540. Sample PE801016 was collected at 1540 from a depth of 0 to 3 ft. Sample PE801027 was collected at 1553 from a depth of 3 to 6 ft. Both samples were wet, light-brown soil with a high-slate composition.

Next, sampling was done at grid 19 in the ditch of section 1. Samples PE801038 (0 to 3 ft) and PE801049 (3 to 6 ft) were collected at 1620 and 1635, respectively. Both samples were wet, light-brown soil with a high-slate composition.

Sampling began at grid 20 of section 2 at 1650. Samples PE801050 (0 to 3 ft) and PE801061 (3 to 6 ft) were collected at 1659 and 1710, respectively. Sample PE801050 turned into a very fine powder resembling concrete at 2 1/2 ft. This powder continued through sample PE801061 to the 5 ft depth, at which time it turned to a black soil.

Sampling began in grid 33 of section 2 at 1725. Samples PE801072 (0 to 3 ft) and PE801083 (3 to 6 ft) were collected at 1730 and 1745, respectively. Both samples were a dry, brown material.

A TIP (photoionization detector) was used to monitor all augering. Readings were recorded for all samples taken.

Request 802: Synthane Plant Area (Fig. 4.5a and 4.5d). Six 0- to 2-ft grab soil samples were to be collected from unpaved areas at the Synthane Plant in the 900 Area (Sampling Method: Reference E5.2.3). No field measurements were required. The Synthane Plant Area had been used to store drummed coal. Much of the area was paved; however, the soil in the area had not been covered or significantly disturbed since the site had been used for solvent refined coal waste storage. The area was known to have received at least one significant spill. The area of interest was approximately 1300 m^2. Although much of the area was paved, unpaved areas totaled less than 1000 m^2. Samples were to be collected only from unpaved areas where the surface soil was exposed. The area was to be divided into 120 segments; there a segment from 1 to 20 was to be randomly selected and designated as the first segment. Each new segment was to be selected by adding 20 to the previous segment until a total of six segments were selected. If a segment to be sampled were completely paved, the next highest segment containing an unpaved area was to be sampled. The Team was to collect 0- to 2-ft interval cores at each selected segment. A TIP detector was to used for monitoring purposes during the augering.

The Sampling Team arrived on-site at 1030 on 19AUG88. The sky was overcast with light rain falling and temperatures between 70° and 75°F. The total area of about 36,000 ft^2 was divided into a 10 x 12 grid with the segments approximately 15 ft by 20

ft each. A systematic selection was done by randomly selecting segment 10, then adding 20 to each new segment until a total of six segments were selected. The six sample segments were 10, 30, 50, 70, 90, and 110. (If a segment selected was found to be completely paved, as was segment 70, the sample was to be taken from the next higher segment with an unpaved area. Segment 80 replaced segment 70 for this reason.) A grab soil core of 0 to 2 ft was taken from each selected segment. A TIP (photoionization detector) was used to monitor all augering. Readings were recorded for each sample taken. A RAD scan showed 30 cpm.

Sample PE802017 was collected from grid 10 at 1037. This segment was located in a drainage ditch along the road. The soil was dry and light brown.

Sample PE802040 was collected from grid 30 at 1101. This segment was also located in a drainage ditch. The soil was light gray and very moist.

Sample PE802062 was collected from grid 110 at 1305. Several inches of gravel were removed before reaching the soil. The soil ranged from black and moist to brown and dry.

Sample PE802039 was collected at grid 50 at 1331 after removing gravel from the surface. The soil was sandy, semi-moist, and contained bits of coal.

Sample PE802028 was collected from grid 80 at 1510. The soil was light brown and very moist.

Sample PE802051 was collected from grid 90 at 1540. It was light brown and very dry.

QC rinsate PE802073 was taken at 1555.

Request 803: Substation 6 Area (Fig. 4.5a and 4.5e). Three 0- to 2-ft grab soil samples were to be collected from the former drum storage area north of Building B-64, which was the site of Substation 6 (Sampling Method: Reference E5.2.3). No field

measurements were required. The area of interest was bounded to the west by the road between Buildings B-64 and B-92 and to the east by the eastern edges of Buildings B-64 and B-71. The area was bounded to the north and south by Buildings B-71 and B-64, respectively. The area of interest was 400 to 500 m^2 and was covered by several inches of gravel which had to be removed before sampling. The area was to be divided into a 60-segment grid and three segments randomly selected for sampling. Because much of the sampling area was covered by Substation 6, the Team was to exercise much caution toward potential electrical hazards. If any of the randomly selected segments were less than 10 ft from a potential electrical hazard, another segment was to be selected. No samples from the 20-ft wide fenced section containing the high voltage transformers were to be collected. Sampling personnel were not to enter that area. Cores of 0 to 2 ft were to be collected from each selected segment. A TIP detector was to be used for monitoring purposed during the drive tube/augering.

The Sampling Team arrived on-site at 0830 on 19AUG88 to an overcast sky with a light rain, winds at 0 to 5 mph, and a temperature between 70° and 75°F. A West Penn Power employee surveyed the area for grid placement. The area (approximately 70 ft by 70 ft) was divided into a 6 x 10 grid, with segments of approximately 7 ft by 11.7 ft each. Three segments (17, 26, and 54) were randomly selected. All gravel was removed from the immediate areas to be sampled. Using a TMC drive tube and a stainless steel posthole digger, a 0- to 2-ft core sample was collected from each of the segments. A TIP (photoionization detector) was used to monitor all drive tube operations. Readings were recorded for each sample taken. An area RAD scan showed 35 cpm. Samples PE803018 (grid 17), PE803029 (grid 26), and PE803030 (grid 54) were collected at 0925, 0931, and 0950, respectively. Samples were a light-brown, claylike matter, which was very moist due to the heavy rainfall the night before.

Request 804: Building B-65 Cylinder Storage Area (Fig. 4.5a and 4.5f). Four surface and four 3-in. to 2-ft grab soil samples were to be collected from the Cylinder Storage Area south of Building B-65 and in the area between Buidlings B-65 and B-87 (Sampling Method: Reference E5.1 and E5.2.3). Four corings (for a total of eight samples) and additional cores from any visibly observed stained areas were to be collected. A

PID/FID was also to be taken (Field Method: Reference PETC Sampling and Analysis Plan, Appendix J). The site was still being used as a storage area for coal product and waste materials. The area of interest was greater than 100 m^2 and contained compacted gravel that had to be removed before sampling. The area was to be divided into an 80-segment grid and four segments randomly selected for sampling. Surface and 3-in. to 2-ft interval soil samples were to be collected from each selected segment. A TIP detector was to be used during the sampling at this site.

The Sampling Team arrived on-site at 0900 on 18AUG88 under an overcast sky with a light sprinkling rain, calm winds, and a temperature of 80°F. An area RAD scan showed 30 cpm. The area was divided into an 8 x 10 grid and four of these segments (6, 17, 29, and 73) were sampled. Gravel was removed prior to sampling. One surface and one 3-in. to 2-ft grab soil sample were taken at each location. A TIP (photoionization detector) was used to monitor the augering. Readings were recorded for each sample.

At grid 17, sample PE804020 (surface) was collected at 0956. It was black and had the texture of slate. At 1010, the 3-in. to 2-ft sample (PE804064) was collected. It had a fine texture and was light gray.

Sample PE804019 (surface) was collected from grid 6 at 1051. A delay due to a rock lodged in the split spoon required that a second TIP reading be taken. The 3-in. to 2-ft sample (PE804053) was collected at 1105. It was a light gray, slatelike matter.

At grid 29, sample PE804031 (surface) was collected at 1128. It was a wet, claylike material. The 3-in. to 2-ft sample (PE804075) collected at 1140 was black and contained small gravel.

Drilling at grid 73 had to be restarted three times in order to get a sufficient amount for the volatile samples. The equipment was moved ahead 1 ft for the third try.

Samples PE804042 (surface) and PE804086 (3 in. to 2 ft) were collected at 1350 and 1400, respectively. They were a light gray, claylike material.

4.10.2.2 Analytical Design

The parameters analyzed and/or measured for Environmental Problem 5 were as follows:

Request 800: The parameters analyzed were volatiles, semivolatiles, PCBs, pesticides, total PNAs, and ICP-metals. Field measurements for OVAs were taken using the photoionization detector "TIP".

Request 801: The parameters analyzed were volatiles, semivolatiles, PCBs, pesticides, total PNAs, and ICP-metals. Field measurements for OVAs were taken using the photoionization detector "TIP".

Request 802: The parameters analyzed were volatiles, semivolatiles, PCBs, pesticides, total PNAs, and ICP-metals. Field measurements for OVAs were taken using the photoionization detector "TIP".

Request 803: The parameters analyzed were volatiles, semivolatiles, PCBs, pesticides, total PNAs, and ICP-metals. Field measurements for OVAs were taken using the photoionization detector "TIP".

Request 804: The parameters analyzed were volatiles, semivolatiles, PCBs, pesticides, total PNAs, and ICP-metals. Field measurements for OVAs were taken using the photoionization detector "TIP".

4.10.3 Field and Analytical Data

Field Data:

Request 800:

Field measurements for Environmental Problem 5 were limited to organic-vapor analyses using the photoionization detector "TIP". Readings were 0.01 ppm or below at all locations.

Request 801:

Field measurements for Environmental Problem 5 were limited to organic-vapor analyses using the photoionization detector "TIP". Readings were 0.01 ppm or below at all locations.

Request 802:

Field measurements for Environmental Problem 5 were limited to organic-vapor analyses using the photoionization detector "TIP". Readings at all sample sites were 0.1 ppm.

Request 803:

Field measurements for Environmental Problem 5 were limited to organic-vapor analyses using the photoionization detector "TIP". Readings were 0.1 ppm or below at all locations.

Request 804:

Field measurements for Environmental Problem 5 were limited to organic-vapor analyses using the photoionization detector "TIP". Readings were 0.1 ppm at all locations except sample PE804031, which yielded a reading of 0.2 ppm.

Field Data Evaluation:

Request 800:
Organic-vapor analyses for Environmental Problem 5 were reported at all sampling locations. Results were consistently low, with a maximum reading of 0.01 ppm reported.

Request 801:
Organic-vapor analyses for Environmental Problem 5 were reported at all sampling locations. Results were consistently low, with a maximum reading of 0.01 ppm reported.

Request 802:
Organic-vapor analyses for Environmental Problem 5 were reported at all sampling locations. Results were consistently low, with a maximum reading of 0.1 ppm reported.

Request 803:
Organic-vapor analyses for Environmental Problem 5 were reported at all sampling locations. Results were consistently low, with a maximum reading of 0.1 ppm reported.

Request 804:
Organic-vapor analyses for Environmental Problem 5 were reported at all sampling locations. Results were consistently low, with a maximum reading of 0.2 ppm reported.

Analytical Data:

Request 800:

Metals.
(Northern half-Marshy Area) - Analytical data for metals in soil are presented in table 4.3.5. Of the 22 metals detected, the following six were below either the CRDL or the IDL in all six samples: antimony, arsenic, lead, selenium, sodium, and thallium. Of the remaining metals detected, barium ranged from 100 to 176 mg/kg, beryllium 1 to 2 mg/kg, cadmium 2.9 to 5.6 mg/kg, chromium 28 to 37 mg/kg, copper 24 to 29 mg/kg,

nickel 36 to 46 mg/kg, silver was 8.4 mg/kg, and zinc 90 to 107 mg/kg. Other metals detected were aluminum, calcium, cobalt, iron, magnesium, manganese, potassium, and vanadium.

(Northern half - remainder of the area) - Analytical data for metals in soil are presented in table 4.3.5. Of the 22 metals detected, the following seven were below either the CRDL or the IDL in all nine samples: antimony, arsenic, lead, selenium, silver, sodium, and thallium. Of the remaining metals detected, barium ranged from 69 to 143 mg/kg, beryllium 1 to 1.8 mg/kg, cadmium 4.4 to 6.1 mg/kg, chromium 29 to 41 mg/kg, copper 23 to 37 mg/kg, nickel 35 to 61 mg/kg, and zinc 81 to 132 mg/kg. Other metals detected were aluminum, calcium, cobalt, iron, magnesium, manganese, and potassium.

PCB's and other extractables.

PCB's and Pesticides were analyzed for, but not detected.

Extractable organics.

Analytical data for semivolatiles in soil samples are presented in Table 4.3.5, with results segregated into those for samples in the marshy area and those for samples from the remainder of the 2.2-acre area. Sixteen positively identified extractable organics were reported in samples collected from the northern half of the 2.2-acre area, but only the common laboratory contaminant bis(2-ethylhexyl)phthalate was detected at levels above the CRDL. Bis(2-ethylhexyl)phthalate was reported in 13 of 15 samples, with eight of the 13 results exceeding the CRDL. Concentrations range from 390 to 2300 μg/kg.

Fifty-five tentatively identified compounds were reported. By far, the highest concentrations in the group belonged to the 11 diacetone-alcohol species, with results ranging from 2000 to 85000 μg/kg. A single hydrocarbon-fraction compound with an estimated concentration of 23000 μg/kg was reported in sample PE800140B. Concentrations for the remaining species range from 43 to 1400 μg/kg.

Total Polynuclear Aromatics (PNAs).

These compounds, which include napthalene, phenanthrene, anthracene, and their substituents, were analyzed as part of the Extractable organics. Results are included in the Extractable organics section.

Volatile Organics.

Analytical data for volatiles in soil samples are presented in Table 4.3.5, with results segregated into those for samples in the marshy area and those for samples from the remainder of the 2.2-acre area. Acetone and 2-butanone were the only volatiles positively identified at levels above the CRDL. Acetone was detected in 11 of 15 samples, with 8 samples showing levels above the CRDL once laboratory contamination is considered. Concentrations range from 16 to 83 µg/kg. The common laboratory contaminant 2-butanone was detected in 11 of 15 samples, but no samples have results above the CRDL once laboratory contamination is considered. Concentrations are in the 16 to 38 µg/kg range.

Twenty-four tentatively identified compounds were reported. Estimated concentrations ranged from 5 to 32 µg/kg, with almost all values above 20 µg/kg being all or partly the result of blank contamination.

Request 801:

Metals.

(Northwest corner - Marshy Area) - Analytical data for metals in soil are presented in table 4.3.5. Of the 21 metals detected, the following six were below either the CRDL or the IDL in all four samples: antimony, lead, selenium, silver, sodium, and thallium. Of the remaining metals detected, barium ranged from 178 to 242 mg/kg, beryllium 1.3 to 1.7 mg/kg, cadmium 4.9 to 5.4 mg/kg, chromium 31 to 34 mg/kg, copper 32 to 41 mg/kg, nickel 39 to 46 mg/kg, and zinc 92 to 114 mg/kg. Other metals detected were aluminum, calcium, cobalt, iron, magnesium, manganese, potassium, and vanadium.

Request 801 (Northwest corner - Remainder of Area) - Analytical data for metals in soil are presented in table 4.3.5. Of the 21 metals detected, the following six were below either the CRDL or the IDL in all six samples: antimony, arsenic, lead, selenium, silver, and sodium. Of the remaining metals detected, barium ranged from 62 to 135 mg/kg, beryllium 1.1 to 1.7 mg/kg, cadmium 4.7 to 6.5 mg/kg, chromium 27 to 39 mg/kg, copper 30 to 36 mg/kg, nickel 33 to 40 mg/kg, and zinc 87 to 101 mg/kg. Other metals detected were aluminum, calcium, cobalt, iron, magnesium, manganese, potassium, and vanadium.

PCB's and other extractables.
PCB's and Pesticides were analyzed for, but not detected.

Extractable organics.
Analytical data for semivolatiles in soil samples are presented in Table 4.3.5, with results segregated into those for samples in the ditch/marshy area and those for samples from the remainder of the 2.1-acre area. Nineteen positively identified extractible organics were reported in samples taken from the northwest corner of the 2.1-acre property, but only the samples PE801027B and PE801061B yielded results at levels above the CRDL. Sample PE801027B had seven compounds above the CRDL (390 µg/kg in this sample), with concentrations ranging from 420 µg/kg (butylbenzylphthalate) to 770 µg/kg (bis(2-ethylhexyl)phthalate). Sample PE801061B had three compounds above the CRDL (370 µg/kg), naphthalene at 660 µg/kg, phenanthrene at 690 µg/kg, and 2-methylnaphthalene at 760.

Fifty tentatively identified compounds were reported, with the highest concentrations noted in the seven diacetone alcohols (4800 to 56000 µg/kg). Subtracting sulphur results (520 to 3800 µg/kg), analyses range from 9 to 1600 µg/kg, with the majority less than 300 µg/kg. Concentrations are highest in samples PE801049B, PE801061B, and PE801107B.

Total Polynuclear Aromatics (PNAs).

These compounds, which include napthalene, phenanthrene, anthracene, and their substituents, were analyzed as part of the Extractable organics. Results are included in the Extractable organics section.

Volatile organics.

Analytical data for volatiles in soil samples are presented in Table 4.3.5, with results segregated into those for samples in the ditch/marshy area and those for samples from the remainder of the 2.1-acre area. As in the northern half of the 2.2-acre area, only the volatiles acetone and 2-butanone were positively identified. Acetone was detected in nine of ten samples, with reported concentrations ranging from 84 to 240 µg/kg. Blank contamination indicates that acetone levels in all nine samples are actually somewhat lower than the reported results, with five of the analyses near the CRDL once contamination is considered. The compound 2-butanone was reported at levels above the CRDL in four of ten samples, at levels of 44 to 76 µg/kg. The 44 µg/kg and 76 µg/kg analyses are considered maximum values only because of a likely contribution from laboratory contamination.

Eighteen tentatively identified compounds were reported. Estimated concentrations range from 9 to 110 µg/kg, with most results in the 15 to 30 µg/kg range.

Request 802:

Metals.

Analytical data for metals in soil are presented in table 4.3.5. Of the 22 metals detected, the following six were below either the CRDL or the IDL in all six samples: antimony, arsenic, selenium, silver, sodium, and thallium. Of the remaining metals detected, barium ranged from 153 to 487 mg/kg, beryllium 1.3 to 2.2 mg/kg, cadmium 4.8 to 7.6 mg/kg, chromium 15 to 35 mg/kg, copper 19 to 48 mg/kg, lead 63 to 165 mg/kg, nickel 16 to 45 mg/kg, and zinc 54 to 135 mg/kg. Other metals detected were aluminum, calcium, cobalt, iron, magnesium, manganese, potassium, and vanadium.

PCB's and other extractables.

PCB's and Pesticides were analyzed for, but not detected.

Extractable organics.

Analytical data for semivolatiles in soil samples are presented in Table 4.3.5, along with the single rinsate sample. Twenty-eight positively identified extractible organics were detected in samples collected from the Synthane plant area, with 12 compounds detected at levels exceeding the CRDL. The sample PE802017B has seven compounds above the CRDL (380 µg/kg), with concentrations in the seven analyses ranging from 410 to 650 µg/kg. In sample PE802039B, five compounds were found at levels exceeding the CRDL, with results ranging from 440 µg/kg to approximately 15000 µg/kg, with most around 650 µg/kg. In sample PE802040B, the compounds benzo(a)pyrene (450 µg/kg), benzo(b)fluoranthene (440 µg/kg), benzo(k)fluoranthene (490 µg/kg), and bis(2-ethylhexyl)phthalate (960 µg/kg with blank contamination of approximately 170 µg/kg) were detected at levels slightly exceeding the CRDL (430 µg/kg).

Seventy-three tentatively identified compounds are reported, with the highest concentrations noted in the five diacetone alcohols (23000 to 43000 µg/kg), the one hydrocarbon fraction (300,000 µg/kg), and the one phthalate-ester fraction (53000 µg/kg). Concentrations for the remaining TICs range from 140 to 8400 µg/kg, with most results in the 400 to 800 µg/kg range.

Total Polynuclear Aromatics (PNAs).

These compounds, which include napthalene, phenanthrene, anthracene, and their substituents, were analyzed as part of the Extractable organics. Results are included in the Extractable organics section.

Volatile organics.

Analytical data for volatiles in soil samples are presented in Table 4.3.5, along with a single rinsate sample taken at the Synthane Plant. The volatile organics acetone and 2-butanone were each detected at levels above the CRDL in one or more samples from the Synthane Plant in the 900 Area. Acetone was detected in four of seven samples, with

concentrations ranging from 70 to 85 µg/kg. When factoring in laboratory contamination, acetone levels in all four samples are reduced significantly, but are still above the CRDL. Two of seven samples yield 2-butanone results (26 and 32 µg/kg) slightly above the CRDL (25 µg/kg).

Methylene chloride, toluene, and 20 tentatively identified compounds were also reported. Methylene chloride was detected below the CRDL in two of seven samples, while toluene was detected below the CRDL in only one sample. Estimated concentrations in the tentatively identified compounds range from 11 to 78 µg/kg, with only three results above 40 µg/kg.

Request 803:

Metals.

Analytical data for metals in soil are presented in table 4.3.5. Of the 21 metals detected, the following six were below either the CRDL or the IDL in all three samples: antimony, arsenic, lead, selenium, silver, and sodium. Of the remaining metals detected, barium ranged from 112 to 160 mg/kg, beryllium 1.1 to 1.5 mg/kg, cadmium 3.8 to 4.7 mg/kg, chromium 20 to 26 mg/kg, copper 24 to 29 mg/kg, nickel 32 to 44 mg/kg, and zinc 59 to 97 mg/kg. Other metals detected were aluminum, calcium, cobalt, iron, magnesium, manganese, potassium, and vanadium.

PCB's and other extractables.

PCB's and pesticides were analyzed for, but not detected.

Extractable organics.

Semivolatiles results for the three soil samples are presented in Table 4.3.5. Twenty-three positively identified extractible organics were detected in the three samples collected from the Substation 6 Area, with 14 reported at levels above the CRDL. The sample PE803018B has 13 compounds at levels above the CRDL (410 µg/kg); concentrations range from 510 to 3800 µg/kg. Blank contamination in the di-n-

octylphthalate result appears to be minimal. The sample PE803029B yielded three compounds slightly above the CRDL (370 µg/kg), while the sample PE803030B has only bis(2-ethylhexyl)phthalate (2700 µg/kg) at levels above the CRDL.

Twenty-eight tentatively identified compounds are reported. The three diacetone alcohols (14000 to 22000 µg/kg) and two dioctyl adipates (1600 and 20000 µg/kg) are the only TICs with concentrations above 1000 µg/kg. The majority of results are below 300 µg/kg.

Total Polynuclear Aromatics (PNAs).
These compounds, which include napthalene, phenanthrene, anthracene, and their substituents, were analyzed as part of the Extractable organics. Results are included in the Extractable organics section.

Volatile organics.
Volatile-organics analytical data for the three soil samples are presented in Table 4.3.5. Xylene (41 µg/kg) and 2-butanone (60 µg/kg) in sample PE803018A and acetone (56 µg/kg) in sample PE803029A were the only volatile organics detected above the CRDL in samples from the Substation 6 Area. Due to acetone in the laboratory blank at 41 µg/kg, the acetone detected in sample PE803029A is suspect.

Twelve tentatively identified compounds were reported, nine of which were detected only in sample PE803018A. The nine tentatively identified compounds in sample PE803018A range in concentration from 39 to 200 µg/kg. The three other TICs have concentrations of 16 to 22 µg/kg.

Request 804:

Metals.
Analytical data for metals in soil are presented in table 4.3.5. Of the 21 metals detected, the following five were below either the CRDL or the IDL in all eight samples: antimony, arsenic, selenium, silver, and sodium. Of the remaining metals

detected, barium ranged from 193 to 1210 mg/kg, beryllium 1.7 to 4.5 mg/kg, cadmium 5.3 to 6.7 mg/kg, chromium 28 to 82 mg/kg, copper 26 to 468 mg/kg, lead was 77 mg/kg, nickel 16 to 45 mg/kg, and zinc 43 to 194 mg/kg. Other metals detected were aluminum, calcium, cobalt, iron, magnesium, manganese, potassium, and vanadium.

PCB's and other extractables.
PCB's and pesticides were analyzed for, but not detected.

Extractable Organics.
Analytical data for semivolatiles in soil samples are presented in Table 4.3.5. Twenty-six positively identified extractible organics were detected in samples from the Building 65 Cylinder Storage Area, but only five were detected at levels above the CRDL. Of the five compounds detected at levels above the CRDL, only phenanthrene in PE804031B (900 μg/kg) and bis(2-ethylhexyl)phthalate in PE804075B (1000 μg/kg) exceed the CRDL by more than a factor of two.

One-hundred and two tentatively identified compounds are reported. The seven diacetone alcohols (7300 to 62000 μg/kg), six dioctyl adipates (1500 to 26000 μg/kg), and seven sulfurs (360 to 17000 μg/kg) have the highest concentrations. The remaining compounds range in concentration from 50 to 9000 μg/kg, with the highest values reported in the hydrocarbons for sample PE804020B and the phosphate esters in sample PE804042B.

Total Polynuclear Aromatics (PNAs).
These compounds, which include napthalene, phenanthrene, anthracene, and their substituents, were analyzed as part of the Extractable organics. Results are included in the Extractable organics section.

Volatile organics.
Analytical data for volatiles in soil samples are presented in Table 4.3.5. Acetone and 2-butanone were detected at levels greater than the CRDL in one or more samples from the Building 65 cylinder storage area, while benzene, carbon disulfide, and

chloromethane were detected at levels below the CRDL. Acetone was detected in six of eight samples, with laboratory blank contamination the likely source in all samples except possibly PE804020A. Concentrations range from 53 to 85 µg/kg. The compound 2-butanone was detected in four of eight samples, with one result below the CRDL. Concentrations range from 19 to 41 µg/kg.

Seventeen tentatively identified compounds were reported, with concentrations ranging from 10 to 30 µg/kg. Most results were in the 13 to 16 µg/kg range.

Analytical Data Evaluation:

Request 800:

Metals.
(Northern half - Marshy Area) - Eight metals of interest (barium, beryllium, cadmium, chromium, copper, nickel, silver, and zinc) were detected above either the CRDL or the IDL for this request.

(Northern half - Remainder of Area) - Seven metals of interest (barium, beryllium, cadmium, chromium, copper, nickel, and zinc) were detected above either the CRDL or the IDL for this request.

PCB's and other extractables.
PCB's and Pesticides were analyzed for, but not detected.

Extractable organics.
Only the common laboratory contaminant bis(2-ethylhexyl)phthalate was confirmed at levels above the CRDL. The compound appears to be randomly distributed, as there is no correlation between concentration and either location or depth of sample.

A number of tentatively identified compounds were reported, some at levels in excess of 10 mg/kg. There appears to be no correlation between elevated levels and either sample location or depth.

Total Polynuclear Aromatics (PNAs).
See Extractable Organics section.

Volatile organics.
Only acetone was measured at levels above the CRDL, once laboratory contamination is considered. There is no trend observed in acetone levels, with only the Section 2, Grid 1 samples yielding results consistently above the CRDL. The tentatively identified compounds were detected at levels below 35 µg/kg and appear to be randomly distributed.

Request 801:

Metals.
(Northwest Corner - Marshy Area) - Seven metals of interest (barium, beryllium, cadmium, chromium, copper, nickel, and zinc) were detected above either the CRDL or the IDL for this request.

(Northwest Corner - Remainder of Area) - Seven metals of interest (barium, beryllium, cadmium, chromium, copper, nickel, and zinc) were detected above either the CRDL or the IDL for this request.

PCB's and other extractables.
PCB's and pesticides were analyzed for, but not detected.

Extractable organics.
Extractable organics reported at levels above the CRDL were limited to two samples, PE801027B and PE801061A. Both samples are the deeper of two samples from the two

northernmost sampling sites at the northwest corner of the 2.1-acre property. These same two samples also yielded the highest levels of the volatile organic acetone.

Tentatively identified compounds were detected in all samples at levels as high as 1500 µg/mg, with diacetone-alcohol results as high as 11 mg/kg (PE801061B), 54 mg/kg (PE801107B), and 56 mg/kg (PE801049B). There appears to be no correlation between location and either the number or concentration of the tentatively identified compounds.

Total Polynuclear Aromatics (PNAs).
See Extractable organics section.

Volatile organics.
Of the two positively identified volatiles detected at levels above the CRDL, 2-butanone was found in only two samples each from a separate location. Acetone, detected in the laboratory blank and hence suspect, generally is highest in the deeper of the sample pairs. There appears to be no correlation between location and either the number or concentration of the tentatively identified compounds.

Request 802:

Metals.
Eight metals of interest (barium, beryllium, cadmium, chromium, copper, lead, nickel, and zinc) were detected above either the CRDL or the IDL for this request.

PCB's and other extractables.
PCB's and pesticides were analyzed for, but not detected.

Extractable organics.
Positively identified compounds at levels above the CRDL were found only in the samples PE802017B, PE802039B, and PE802040B, the three southernmost sampling sites near the Synthane Plant. Tentatively identified compounds at levels in excess of 10

mg/kg were reported for all samples. There appears to be no correlation between location and either the number or concentration of the TICs.

Total Polynuclear Aromatics (PNAs).
See Extractable Organics section.

Volatile organics.
The two positively identified compounds at levels above the CRDL, acetone and 2-butanone, appear to be randomly distributed, although the 2-butanone results slightly above the CRDL are from the two southernmost sampling locations. The tentatively identified compounds, all below 80 µg/kg, are most prevalent in samples PE802039A and PE802040A. All samples analyzed for volatile organics were reported on a wet weight basis and their values may, therefore, be underestimated.

Request 803:

Metals.
Seven metals of interest (barium, beryllium, cadmium, chromium, copper, nickel, and zinc) were detected above either the CRDL or the IDL for this request.

PCB's and other extractables.
PCB's and pesticides were analyzed for, but not detected.

Extractable organics.
The sample PE803018A yielded 13 compounds at levels above the CRDL, with the highest concentration being benzo(a)anthracene at 3800 µg/kg. Three compounds found in sample PE803018A were also detected in the nearby sample PE803029B, but at levels only slightly above the CRDL. Only the common laboratory contaminant bis(2-ethylhexyl)phthalate was detected in sample PE803030B.

Total Polynuclear Aromatics (PNAs).
See Extractable Organics section.

Volatile organics.
Only xylene and 2-butanone in sample PE803018A were reported at levels above the CRDL, after factoring out laboratory contamination. The same sample also contained the majority of the tentatively identified compounds, with results reported as high as 200 µg/kg. Values for sample PE803018 were reported on a wet weight basis and may, therefore, be underestimated.

Request 804:

Metals.
Eight metals of interest (barium, beryllium, cadmium, chromium, copper, lead, nickel, and zinc) were detected above either the CRDL or the IDL for this request.

PCB's and other extractables.
PCB's and pesticides were analyzed for, but not detected.

Extractable organics.
The compounds bis(2-ethylhexyl)phthalate, fluoranthene, phenanthrene, and pyrene were detected at levels above the CRDL in both samples from Grid 29, northwest of the drums. There is no correlation with other samples, although these same compounds were reported at levels near the CRDL in several samples.

Total Polynuclear Aromatics (PNAs).
See Extractable organics section.

Volatile organics.
Only acetone (56 to 85 µg/kg) and 2-butanone (33 to 41 µg/kg) were detected at levels above the CRDL, with only PE804020A above the CRDL once laboratory contamination is considered (85 µg/kg with blank contamination reported at 59 µg/kg). The three 2-

butanone results slightly above the CRDL were from the two samples collected northwest of the drums (Grid 6) and the deeper of the two samples collected northeast of the drums (Grid 29). All volatile analytes, with the exception of PE804020 and PE804086, were reported on a wet weight basis and may, therefore, be underestimated.

4.10.4 Limitations and Qualifications

Data Quality Level:

Request 800:
The sampling plan is rated Quality Level I; the field sampling is rated Quality Level I. The overall analytical rating is Quality Level II.

Request 801:
The sampling plan is rated Quality Level I; the field sampling is rated Quality Level I. The overall analytical rating is Quality Level II.

Request 802:
The sampling plan is rated Quality Level I; the field sampling is rated Quality Level I. The overall analytical rating is Quality Level II.

Request 803:
The sampling plan is rated Quality Level I; the field sampling is rated Quality Level I. The overall analytical rating is Quality Level II.

Request 804:
The sampling plan is rated Quality Level I; the field sampling is rated Quality Level I. The overall analytical rating is Quality Level II.

Field Data:

Request 800:
The Quality Level rating is I.

Request 801:
The Quality Level rating is I.

Request 802:
The Quality Level rating is I.

Request 803:
The Quality Level rating is I.

Request 804:
The Quality Level rating is I.

Analytical Data:

Request 800:

Metals.
Analytical data was Quality Level I for all samples in this request.

PCB's and other extractables.
The data are Quality Level II because of poor recovery of analytes from the spiked sample.

Extractable organics.
The TCL data are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total Polynuclear Aromatics (PNAs).
The data are Quality Level I.

Volatile organics.
The TCL data are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Request 801:

Metals.
Analytical data was Quality Level I for all samples in this request.

PCB's and other extractables.
The data are Quality Level II because of poor recovery of analytes from the spiked sample.

Extractable organics.
The TCL data are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total Polynuclear Aromatics (PNAs).
The data are Quality Level I.

Volatile organics.
The TCL data are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Request 802:

Metals.
Analytical data was Quality Level I for all samples in this request.

PCB's and other extractables.

The data are Quality Level II because of poor recovery of analytes from the spiked sample.

Extractable organics.

The TCL data are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total Polynuclear Aromatics (PNAs).

The data are Quality Level I.

Volatile Organics.

The TCL data are Quality Level III because results were reported on a wet weight basis. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Request 803:

Metals.

Analytical data was Quality Level I for all samples in this request.

PCB's and other extractables.

The data are Quality Level II because of poor recovery of analytes from the spiked sample.

Extractable organics.

The TCL data are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total Polynuclear Aromatics (PNAs).

The data are Quality Level I.

Volatile Organics.
The TCL data are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Request 804:

Metals.
Analytical data was Quality Level I for all samples in this request.

PCB's and other extractables.
The data are Quality Level II because of poor recovery of analytes from the spiked sample.

Extractable organics.
The TCL data are Quality Level I. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Total Polynuclear Aromatics (PNAs).
The data are Quality Level I.

Volatile organics.
The TCL data are Quality Level II, except for sample PE804086 which is Quality Level I. The judgment for Quality Level II was based on the fact that samples were reported on a wet weight basis. Normal procedure is to assume that identified TICP are Quality Level II and unidentified TICP are Quality Level III.

Environmental Problem: 5
Request Numbers: 800, 801, 802, 803, and 804

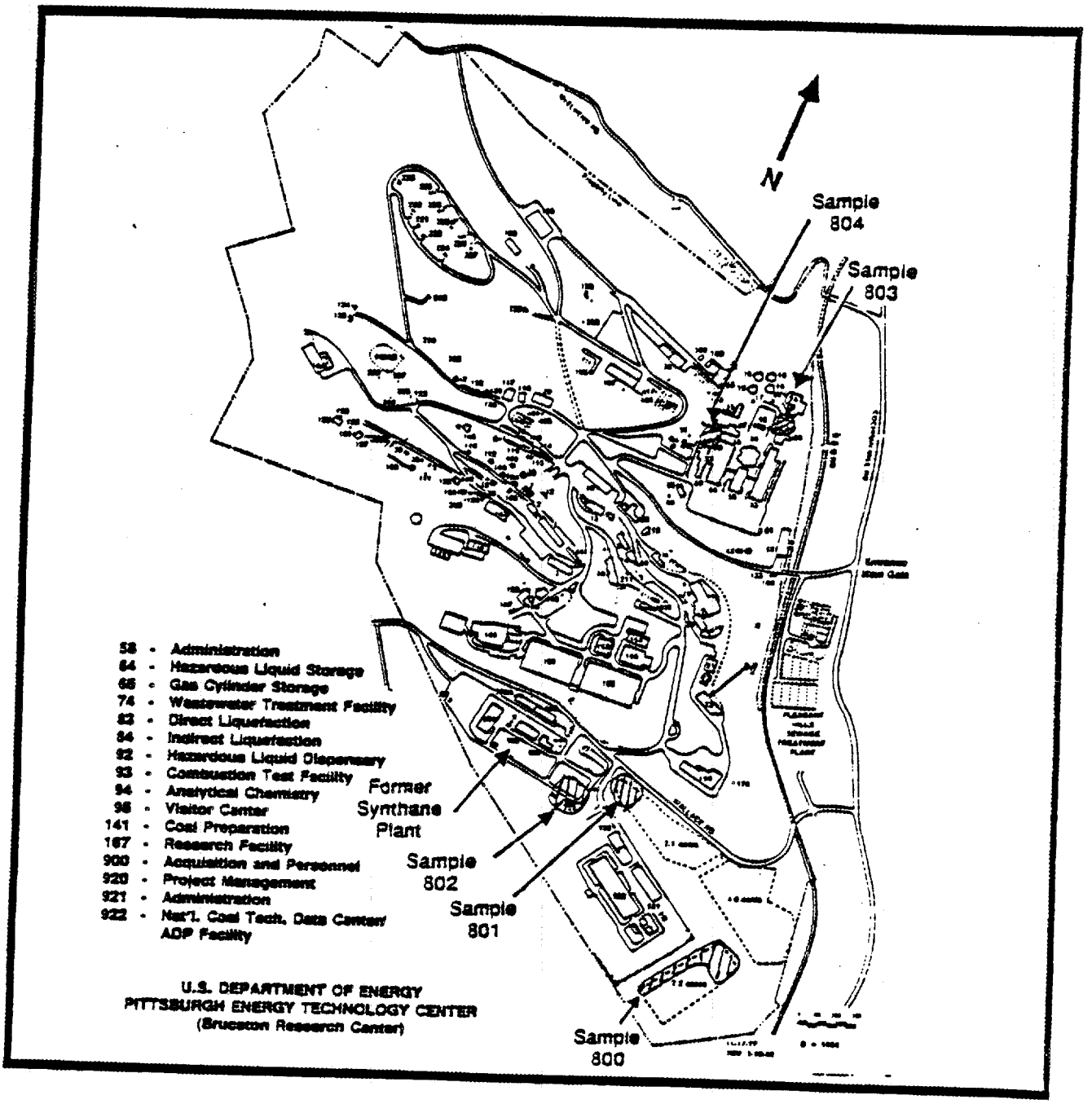

Figure 4.5a. PETC Site Plan (Requests 800, 801, 802, 803, and 804)

Environmental Problem: 5
Request Number: 800

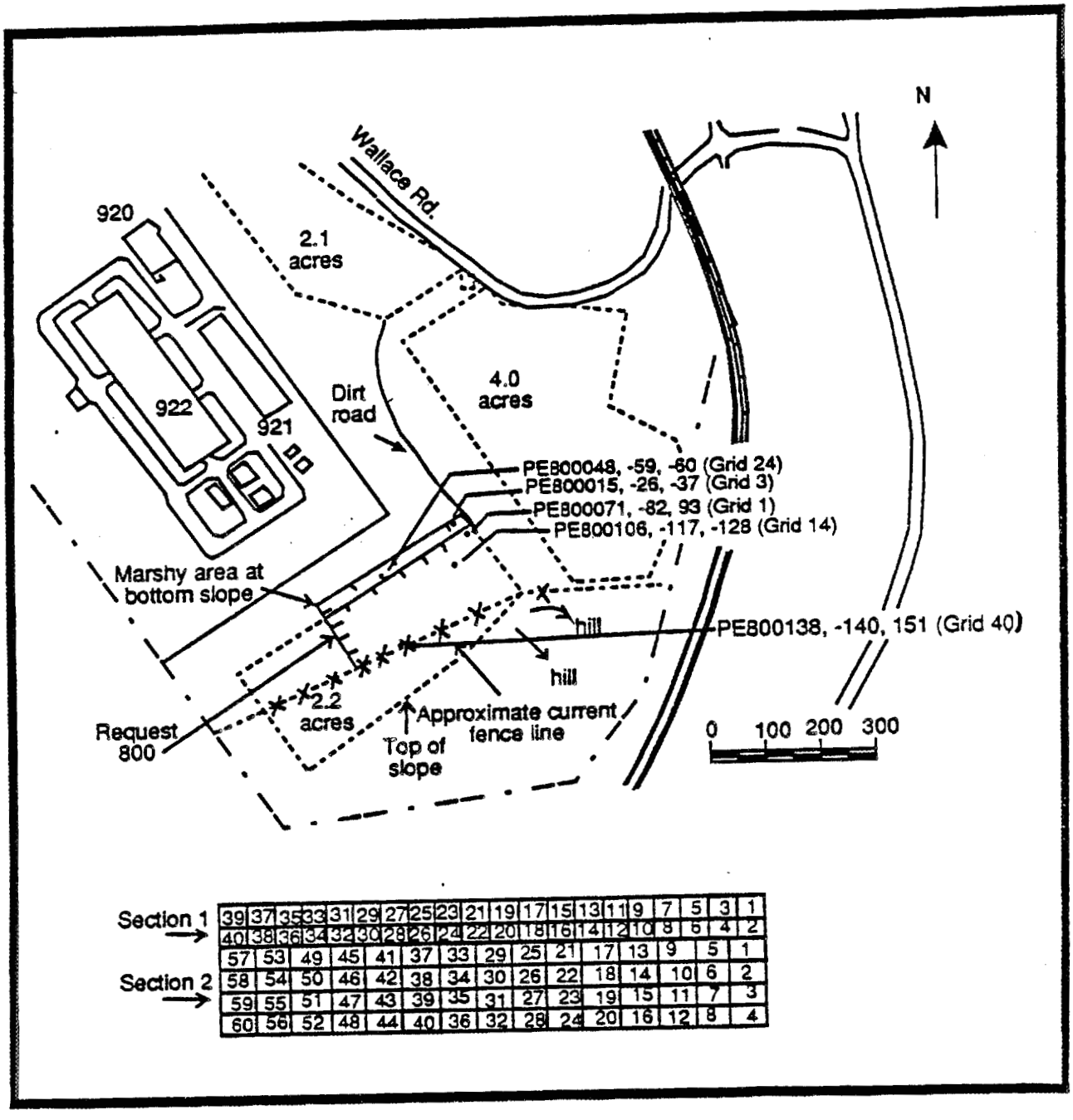

Figure 4.5b. 2.2 Acre Property (Request 800)

Environmental Problem: 5
Request Number: 801

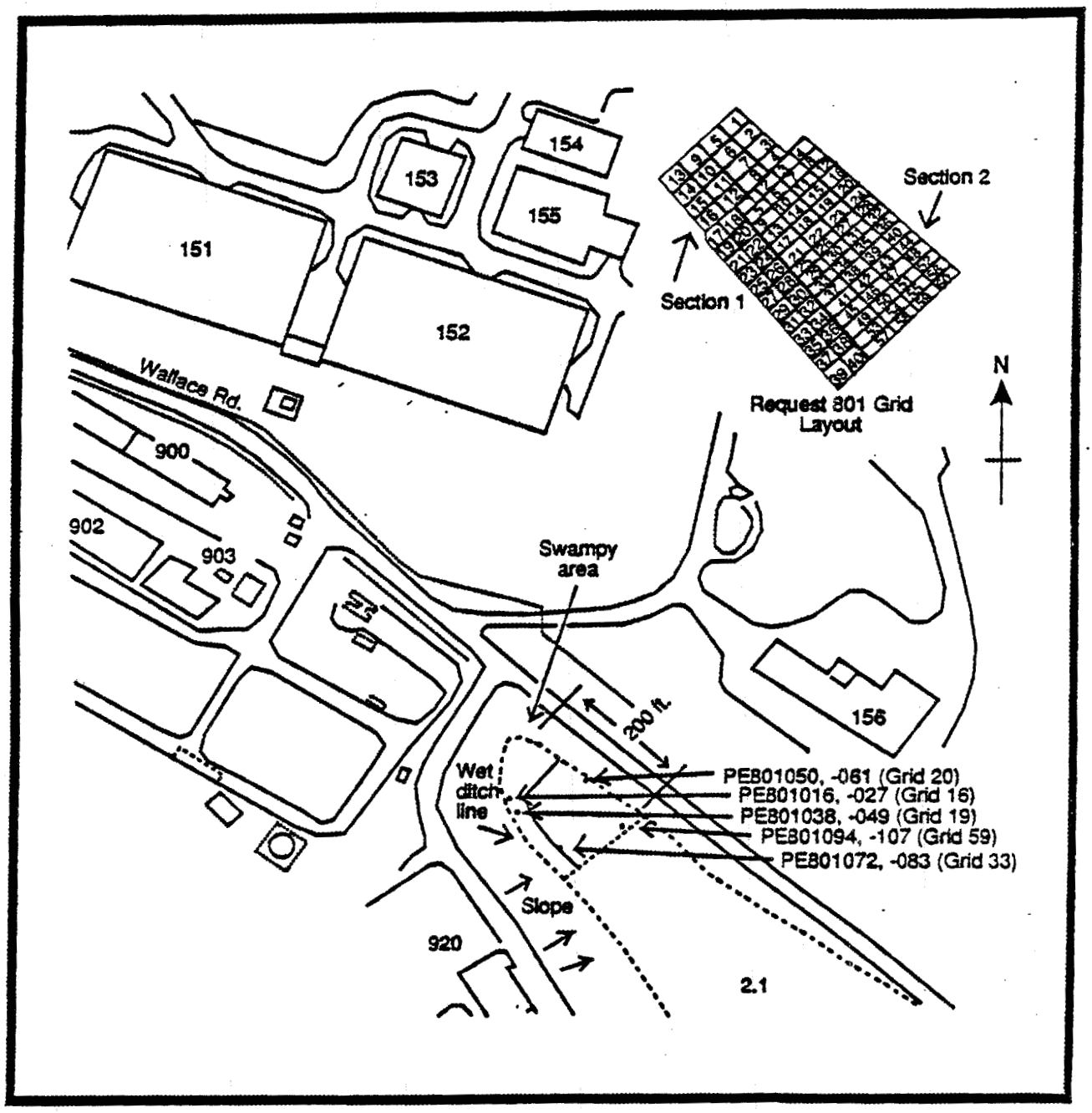

Figure 4.5c. 2.1 Acre Property (Request 801)

Environmental Problem: 5
Request Number: 802

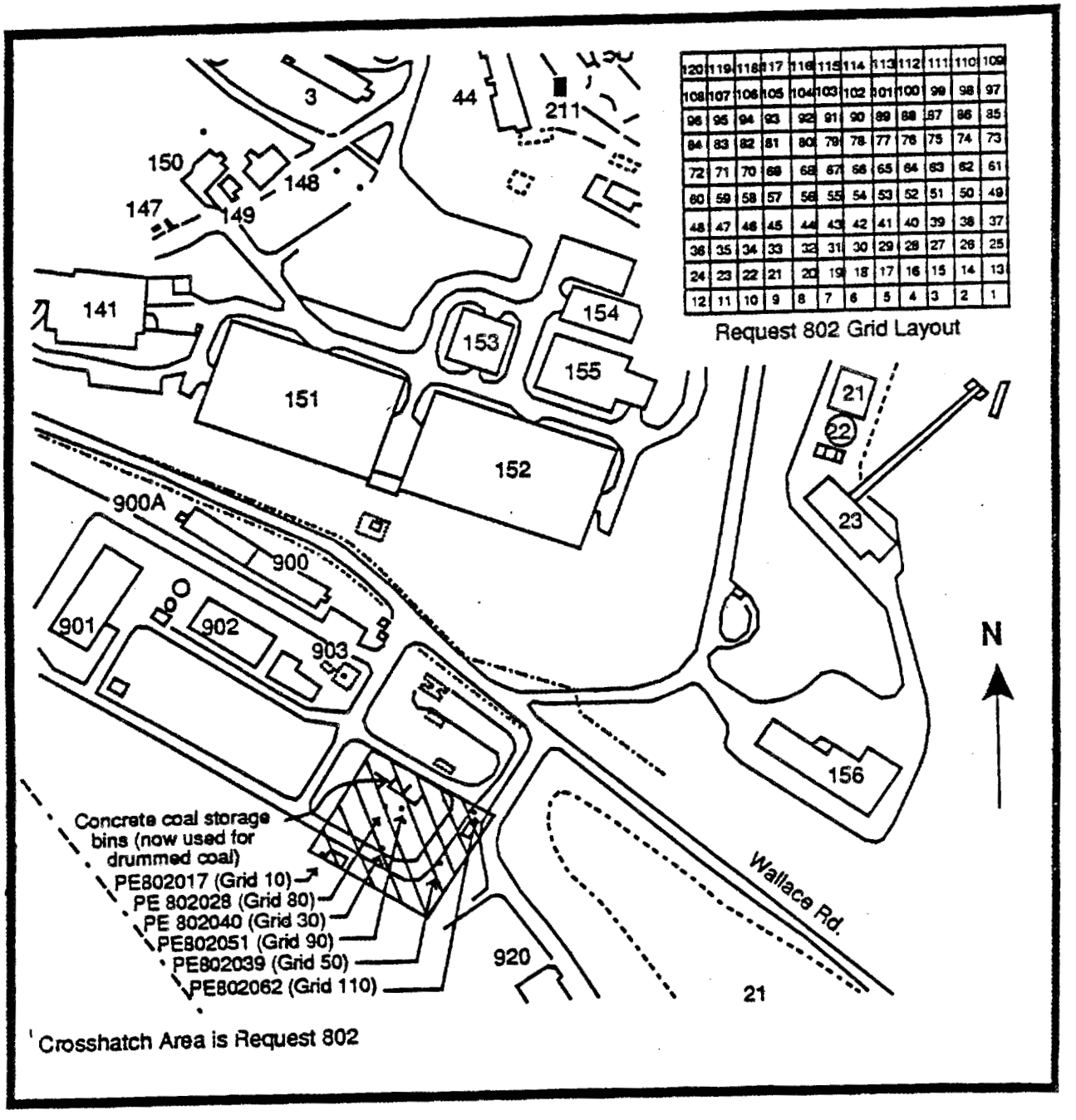

Figure 4.5d. Synthane Plant Area (Request 802)

Environmental Problem: 5
Request Number: 803

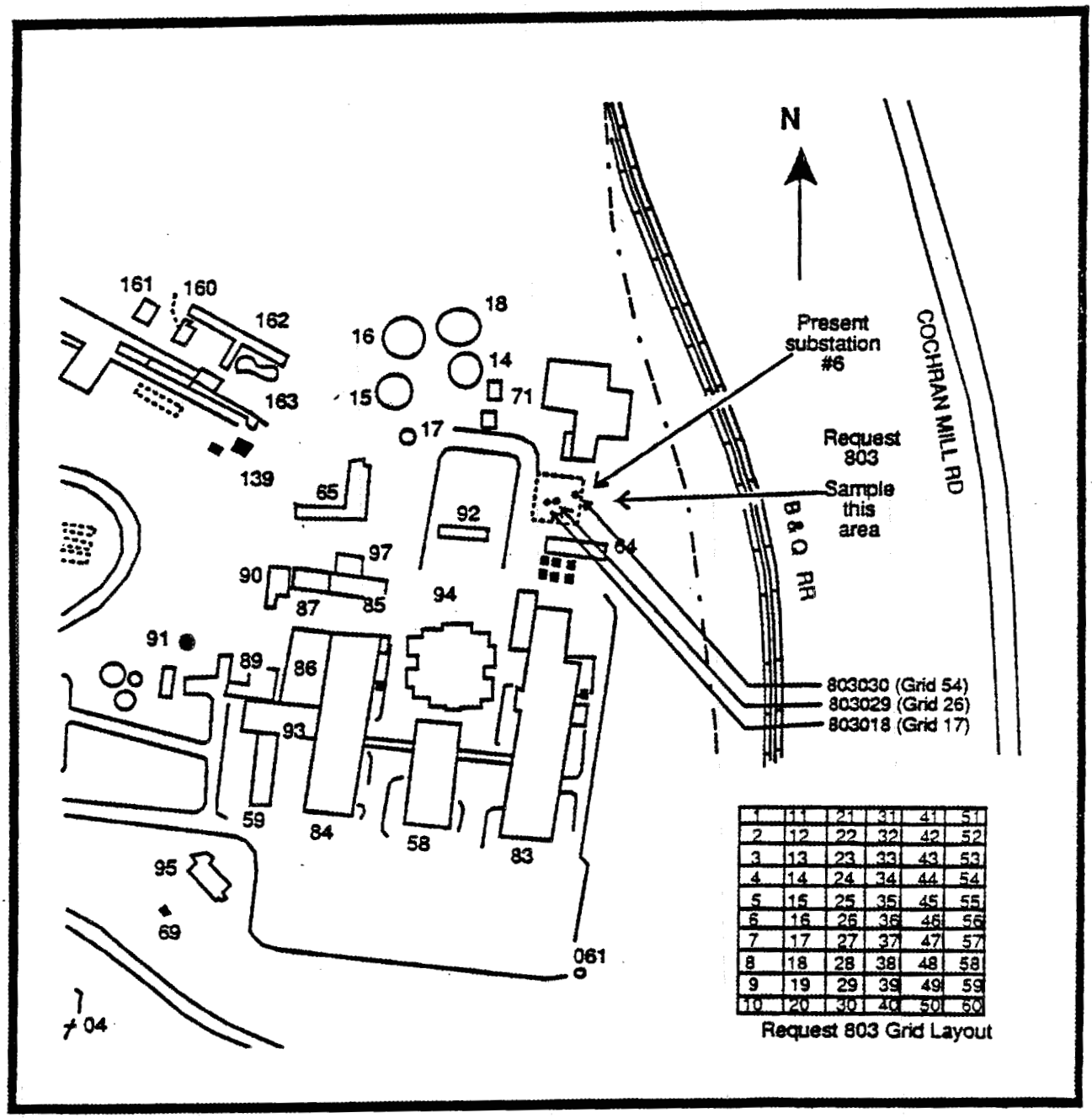

Figure 4.5e. Substation 6 Area (Request 803)

Environmental Problem: 5
Request Number: 804

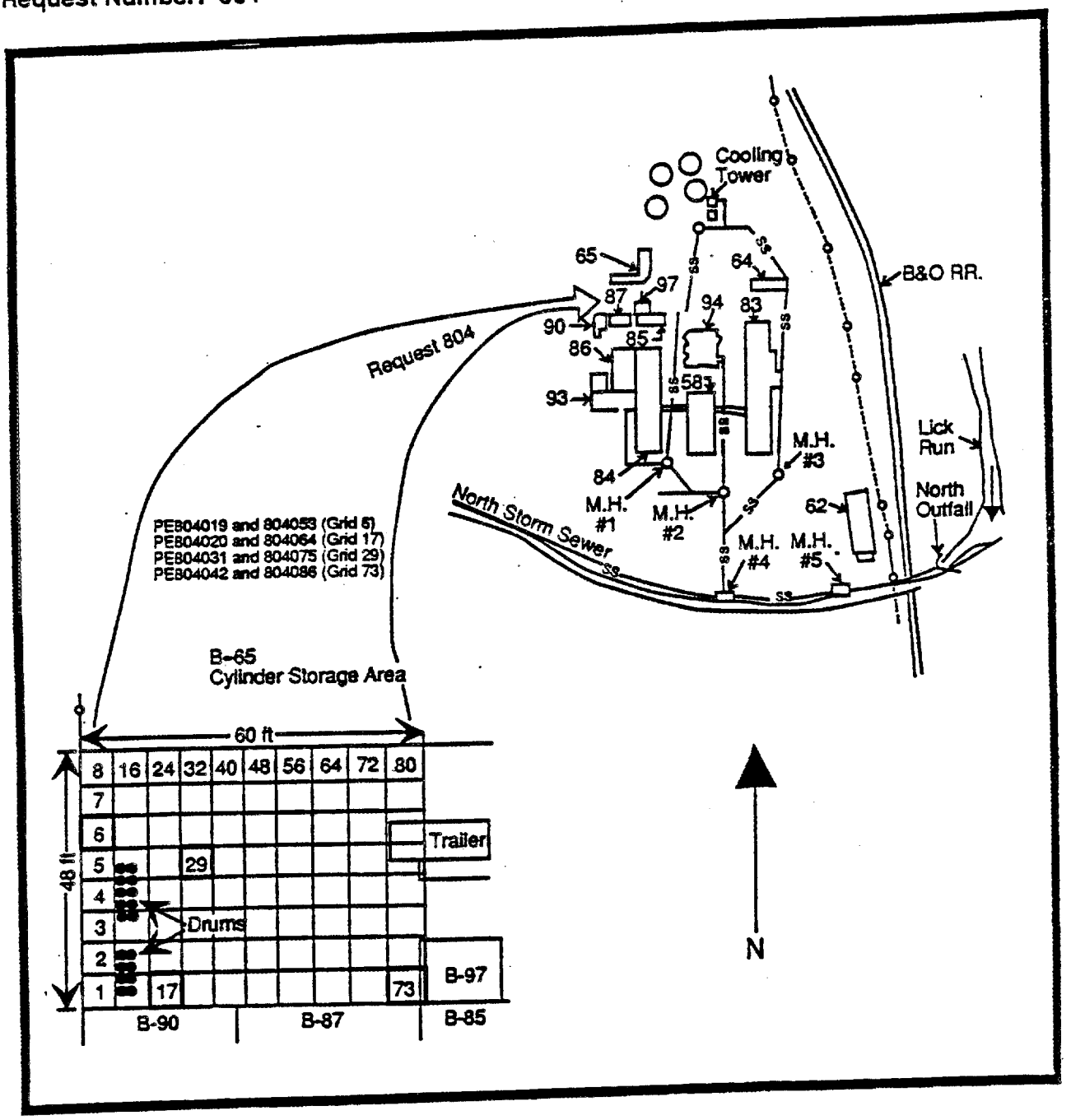

Figure 4.5f. Building B-65 Cylinder Storage Area (Request 804)

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TABLE 4.2.5 SAMPLING AND ANALYSIS DATA SUMMARY
ENVIRONMENTAL PROBLEM - 5

REQUEST NUMBER	LOCATION	TYPE LOCATION	MEDIA	NUMB REQ	NUMB COLL	TYPE	METALS NUMB HITS	METALS NUMB ANAL	PES/H/PCB NUMB HITS	PES/H/PCB NUMB ANAL	SEMIVOLS NUMB HITS	SEMIVOLS NUMB ANAL	VOLS NUMB HITS	VOLS NUMB ANAL
PE800	2.2 FIELD	WASTE ACCUM	SOIL	15	15	GRAB	15	15	0	15	15	15	15	15
PE801	2.2 FIELD	WASTE ACCUM	SOIL	10	10	GRAB	10	10	0	10	10	10	10	10
PE802	2.2 FIELD	WASTE ACCUM	SOIL	6	6	GRAB	6	6	0	6	6	6	6	6
PE803	2.2 FIELD	WASTE ACCUM	SOIL	3	3	GRAB	3	3	0	3	3	3	3	3
PE804	2.2 FIELD	WASTE ACCUM	SOIL	8	8	GRAB	8	8	0	8	8	8	8	8
		MED TOTAL		42	42		42	42	0	42	42	42	42	42
PE800	2.2 FIELD	WASTE ACCUM	SUR WATER	1	1	QC RN	1	1	0	0	1	1	1	1
PE802	2.2 FIELD	WASTE ACCUM	SUR WATER	1	1	QC RN	1	1	0	0	1	1	1	1
		MED TOTAL		2	2		2	2	0	0	2	2	2	2
		EP TOTAL		44	44		44	44	0	42	44	44	44	44
		TOTAL		94	89		89	89	0	42	87	87	51	51

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 800
LOCATION: NORTHERN HALF OF 2.2 ACRE PROPERTY MARSHY AREA
MEDIUM: SOIL

FIELD MEASUREMENTS	SAMP NO:	PE800015	PE800026	PE800037	PE800048	PE800059	PE800060
FID/PID (PPM)		0.01	0	0.01	0.01	0	0.01

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE800015C	PE800026C	PE800037C	PE800048C	PE800059C	PE800060C
	SDG NO:	PE800015C	PE800015C	PE800015C	PE800015C	PE800015C	PE800015C
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ALUMINUM		19200	19100	18000	23700	23900	17000
ANTIMONY		5.8 B	9.9 B	16 B	9.3 B	17 B	6.7 B
ARSENIC		24 U	24 U	30 B	24 U	23 U	24 U
BARIUM		100	119	105	112	115	176
BERYLLIUM		1.2 E	1.2 E	1.2 E	2 E	1.5 E	1 BE
CADMIUM		2.9 B	4.6	5.4	4 B	5.6	4.7
CALCIUM		3850 E	2430 E	17600 E	28800 E	10800 E	9050 E
CHROMIUM		35 E	31 E	28 E	32 E	37 E	32 E
COBALT		17	20	19	18	20	18
COPPER		29 E	28 E	27 E	27 E	35 E	24 E
IRON		35200	47000	42000	37600	53800	40900
LEAD		7.4 U	7.2 U	7.2 U	7.6 B	7.1 U	7.2 U
MAGNESIUM		6970	6740	6520	11300	8380	6300
MANGANESE		455	691	658	744	700	1380
NICKEL		46 E	44 E	41 E	36 E	51 E	38 E
POTASSIUM		2870 E	2720 E	2890 E	3850 E	3540 E	2680 E
SELENIUM		19 U	19 U	25 B	19 U	25 B	19 U
SILVER		8.4	2.8 B	1.9 B	1.4 B	1.1 B	0.83 B
SODIUM		169 BE	173 BE	223 BE	376 BE	221 BE	189 BE
THALLIUM		0.61 U	0.6 B	0.63 U	0.6 U	0.59 B	0.62 U
VANADIUM		30	30	31	30	36	28
ZINC		100 E	96 E	94 E	90 E	107 E	90 E

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE800015B	PE800026B	PE800037B	PE800048B	PE800059B	PE800060B
	SDG NO:	PE300010A	PE300010A	PE300010A	PE300010A	PE300010A	PE300010A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
BENZO(A)ANTHRACENE		350 U	340 U	340 U	360 U	72 J	350 U
BENZO(A)PYRENE		350 U	340 U	340 U	360 U	130 J	350 U
BENZO(B)FLUORANTHENE		350 U	340 U	340 U	360 U	120 J	350 U
BENZO(G,H,I)PERYLENE		350 U	340 U	340 U	360 U	110 J	350 U
BENZO(K)FLUORANTHENE		350 U	340 U	340 U	360 U	120 J	350 U
BIS(2-ETHYLHEXYL)PHTHALATE		2300	290 J	790	170 J	180 J	470
CHRYSENE		350 U	340 U	340 U	360 U	70 J	350 U
DI-N-BUTYLPHTHALATE		140 JB	75 JB	86 JB	310 JB	84 JB	75 JB
DI-N-OCTYL PHTHALATE		350 U	340 U	340 U	9 J	110 J	15 J

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 800
LOCATION: NORTHERN HALF OF 2.2 ACRE PROPERTY MARSHY AREA
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE800015B	PE800026B	PE800037B	PE800048B	PE800059B	PE800060B
	SDG NO:	PE300010A	PE300010A	PE300010A	PE300010A	PE300010A	PE300010A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
DIBENZO(A,H)ANTHRACENE		350 U	340 U	340 U	360 U	140 J	350 U
DIETHYLPHTHALATE		350 U	12 J	340 U	360 U	340 U	350 U
PHENANTHRENE		350 U	340 U	340 U	8 J	340 U	350 U
PHENOL		350 U	340 U	340 U	360 U	340 U	10 J
* ALKYLHYDROCARBON(6.65)			140 J				
* ALKYLHYDROCARBON(6.84)			180 J				
* DIACETONEALCOHOL*(6.28)			62000 JAB				
* DIACETONEALCOHOL*(6.29)		6800 JAB		41000 JAB			
* DIACETONEALCOHOL*(6.31)						10000 JAB	
* DIACETONEALCOHOL*(6.33)					11000 JAB		56000 JAB
* DIOCTYLADIPATE(31.20)							600 JB
* DIOCTYLADIPATE(31.50)		1400 JB	1400 JB	1400 JB			
* DIOCTYLADIPATE(31.60)						1300 JB	
* PHTHALATEESTER(25.00)		170 JB					490 JB
* PROPANOATEESTER(17.20)		210 JB	190 JB				
* PROPANOATEESTER(17.30)							440 JB
* PROPANOATEESTER(17.60)		350 JB	280 JB		140 JB		
* PROPANOATEESTER(17.70)							760 JB
* SULFUR(27.20)					280 J		
* UNKNOWN(3.57)			260 JB				
* UNKNOWN(4.82)			270 J				
* UNKNOWN(5.44)				390 JB			370 JB
* UNKNOWN(5.45)		100 JB			210 JB		
* UNKNOWN(5.46)			890 JB				
* UNKNOWN(7.96)		62 JB	520 JB				
* UNKNOWN(7.97)				430 JB			
* UNKNOWN(8.00)							420 JB
* UNKNOWN(9.38)						94 JB	
* UNKNOWN(9.41)			510 JB				
* UNKNOWN(9.42)		58 JB		430 JB			
* UNKNOWN(9.47)							430 JB
* UNKNOWN(9.71)			160 J				
* UNKNOWNKETONE(4.81)							280 JB
* UNKNOWNKETONE(6.48)						140 JB	
* UNKNOWNKETONE(6.50)			740 JB				
* UNKNOWNKETONE(6.51)		86 JB		600 JB			
* UNKNOWNKETONE(6.56)							660 JB

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 800
LOCATION: NORTHERN HALF OF 2.2 ACRE PROPERTY MARSHY AREA
MEDIUM: SOIL

VOLATILE ORGANICS (UG/KG)	SAMP NO:	PE800015A	PE800026A	PE800037A	PE800048A	PE800059A	PE800060A
	SDG NO:	PE800015A	PE800015A	PE800037A	PE800048A	PE800037A	PE800037A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ACETONE		16 B	35 B	46	76 B	26 U	28 U
2-BUTANONE		16 B	19 B	26 U	33 B	33 B	34 B
* PROBABLE HYDROCARBON(8.78)		5 J					
* PROBABLE HYDROCARBON(17.34)					32 JB		
* PROBABLE HYDROCARBON(17.35)			6 J			20 JB	
* PROBABLE HYDROCARBON(17.36)		10 J		22 JB			
* PROBABLE HYDROCARBON(17.38)							21 JB
* PROBABLE HYDROCARBON(20.14)					23 JB		
* PROBABLE HYDROCARBON(20.15)		7 J		20 JB			
* PROBABLE HYDROCARBON(20.16)						16 JB	
* PROBABLE HYDROCARBON(20.19)							20 JB
* PROBABLE HYDROCARBON(21.41)			7 J				
* PROBABLE HYDROCARBON(21.44)					19 J		
* PROBABLE HYDROCARBON(23.99)			11 J				
* PROBABLE HYDROCARBON(24.00)		6 J			29 J		16 JB

S&A REQUEST: 800
LOCATION: NORTHERN HALF OF 2.2 ACRE PROPERTY REMAINDER OF THE AREA
MEDIUM: SOIL

FIELD MEASUREMENTS	SAMP NO:	PE800071	PE800082	PE800093	PE800106	PE800117	PE800128
FID/PID (PPM)		0	0	0	0.01	0.01	0.01

FIELD MEASUREMENTS	SAMP NO:	PE800139	PE800140	PE800151			
FID/PID (PPM)		0.01	0.01	0.01			

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE800071C	PE800082C	PE800093C	PE800106C	PE800117C	PE800128C
	SDG NO:	PE800015C	PE800015C	PE800015C	PE800015C	PE800117C	PE800117C
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ALUMINUM		24500	19000	16200	19400	25500	21800
ANTIMONY		13 B	14 B	7.8 B	17 B	8.5 B	15 B
ARSENIC		33 U	39 B	23 U	24 U	23 U	37 B
BARIUM		143	108	131	132	137	98

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 800
LOCATION: NORTHERN HALF OF 2.2 ACRE PROPERTY REMAINDER OF THE AREA
MEDIUM: SOIL

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE800071C	PE800082C	PE800093C	PE800106C	PE800117C	PE800128C
	SDG NO:	PE800015C	PE800015C	PE800015C	PE800015C	PE800117C	PE800117C
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
BERYLLIUM		1.8 E	1.1 E	1 BE	1.5 E	1.5 E	1.5 E
CADMIUM		6.1	3.5 B	4.8	5.2	3.7 B	4.4
CALCIUM		14400 E	4850 E	18200 E	8060 E	2830	6330
CHROMIUM		41 E	38 E	39 E	29 E	39	32
COBALT		27	19	18	19	19 E	19 E
COPPER		37 E	28 E	26 E	30 E	32 E	29 E
IRON		57000	33700	35600	50800	38500	42100
LEAD		12 B	7.1 U	7 U	7.1 U	7 U	7 U
MAGNESIUM		9330	6770	6140	7180	7370	7560
MANGANESE		1090	479	1190	741	486	624
NICKEL		61 E	44 E	40 E	42 E	45	42
POTASSIUM		3710 E	2540 E	2390 E	3000 E	4500 E	3870 E
SELENIUM		26 U	19 U	29 B	19 U	23 B	24 B
SILVER		1.4 B	1.7 B	1.4 B	0.8 U	0.79 U	0.78 U
SODIUM		216 BE	160 BE	209 BE	190 BE	241 BE	260 BE
THALLIUM		0.85 U	0.6 UW	0.75 B	0.59 U	0.61 UW	0.55 U
VANADIUM		44	26	26	31	38	34
ZINC		132 E	100 E	92 E	96 E	102	95

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE800139C	PE800140C	PE800151C
	SDG NO:	PE800117C	PE800117C	PE800117C
	TYPE:	GRAB	GRAB	GRAB
ALUMINUM		22000	23800	19700
ANTIMONY		8.7 B	12 B	6.5 B
ARSENIC		24 U	36 B	23 U
BARIUM		95	75	69
BERYLLIUM		1.4 E	1.3 E	1.1 E
CADMIUM		3.7 B	5	4 B
CALCIUM		19800	7880	5710
CHROMIUM		40	36	31
COBALT		18 E	19 E	17 E
COPPER		33 E	33 E	23 E
IRON		36400	45600	37100
LEAD		9.2 B	7 U	7 U
MAGNESIUM		7450	7370	6180
MANGANESE		826	652	563
NICKEL		42	47	35
POTASSIUM		4470 E	4540 E	3840 E
SELENIUM		19 U	18 U	18 U
SILVER		0.8 U	0.78 U	0.78 U

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 800
LOCATION: NORTHERN HALF OF 2.2 ACRE PROPERTY REMAINDER OF THE AREA
MEDIUM: SOIL

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE800139C	PE800140C	PE800151C			
	SDG NO:	PE800117C	PE800117C	PE800117C			
	TYPE:	GRAB	GRAB	GRAB			
SODIUM		250 BE	242 BE	261 BE			
THALLIUM		0.61 U	0.61 U	0.58 U			
VANADIUM		28	36	32			
ZINC		95	100	81			

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE800071B	PE800082B	PE800093B	PE800106B	PE800117B	PE800128B
	SDG NO:	PE300010A	PE300010A	PE300010A	PE300010A	PE300010A	PE300010A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
BENZO(A)ANTHRACENE		350 U	350 U	340 U	350 U	110 J	340 U
BENZO(A)PYRENE		88 J	350 U	340 U	350 U	74 J	340 U
BENZO(B)FLUORANTHENE		350 U	23 J	340 U	350 U	69 J	340 U
BENZO(G,H,I)PERYLENE		350 U	350 U	340 U	350 U	49 J	340 U
BENZO(K)FLUORANTHENE		350 U	17 J	340 U	350 U	78 J	340 U
BIS(2-ETHYLHEXYL)PHTHALATE		350 U	390	1100	2600	150 J	190 J
BUTYLBENZYLPHTHALATE		350 U	350 U	50 J	350 U	330 U	340 U
CHRYSENE		350 U	350 U	340 U	350 U	120 J	340 U
DI-N-BUTYLPHTHALATE		130 JB	250 JB	330 JB	140 JB	150 JB	140 JB
DI-N-OCTYL PHTHALATE		350 U	350 U	12 J	350 U	27 J	310 J
DIBENZO(A,H)ANTHRACENE		350 U	350 U	340 U	350 U	60 J	340 U
DIETHYLPHTHALATE		350 U	350 U	41 J	350 U	72 J	340 U
INDENO(1,2,3-CD)PYRENE		110 J	45 J	340 U	350 U	54 J	340 U
PYRENE		34 J	350 U	340 U	350 U	42 J	340 U
* DIACETONEALCOHOL(6.36)							
* DIACETONEALCOHOL*(6.25)		56000 JAB					
* DIACETONEALCOHOL*(6.30)							
* DIACETONEALCOHOL*(6.31)					62000 JAB		
* DIACETONEALCOHOL*(6.32)							75000 JAB
* DIACETONEALCOHOL*(6.33)						43000 JAB	
* DIACETONEALCOHOL*(6.37)			85000 JAB	11000 JAB			
* DIOCTYLADIPATE(31.10)		410 JB					
* DIOCTYLADIPATE(31.50)						260 JB	200 JB
* HYDROCARBONFRACTION*(30.10)							
* PHTHALATEESTER(25.00)		1100 JB					
* PHTHALATEESTER(25.10)						510 JB	
* PROPANOATEESTER(17.20)						410 JB	
* PROPANOATEESTER(17.30)		870 JB					
* PROPANOATEESTER(17.60)		1400 JB		140 JB		610 JB	
* SULFUR(27.20)							
* UNKNOWN(5.41)		500 JB					
* UNKNOWN(5.45)							

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 800
LOCATION: NORTHERN HALF OF 2.2 ACRE PROPERTY REMAINDER OF THE AREA
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE800071B	PE800082B	PE800093B	PE800106B	PE800117B	PE800128B
	SDG NO:	PE300010A	PE300010A	PE300010A	PE300010A	PE300010A	PE300010A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
* UNKNOWN(5.48)							
* UNKNOWN(5.49)						300 JB	
* UNKNOWN(7.96)							
* UNKNOWN(7.97)		500 JB					
* UNKNOWN(7.98)						380 JB	
* UNKNOWN(9.43)							
* UNKNOWN(9.44)		490 JB				400 JB	
* UNKNOWN(9.71)							
* UNKNOWN(9.74)		140 J					
* UNKNOWN(21.20)							
* UNKNOWN(21.30)		100 J					
* UNKNOWN(27.80)							
* UNKNOWN(36.80)							
* UNKNOWNKETONE(6.50)		780 JB					
* UNKNOWNKETONE(6.51)							150 JB
* UNKNOWNKETONE(6.54)						610 JB	

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE800139B	PE800140B	PE800151B			
	SDG NO:	PE300010A	PE300010A	PE300010A			
	TYPE:	GRAB	GRAB	GRAB			
BENZO(A)ANTHRACENE		340 U	330 U	330 U			
BENZO(A)PYRENE		340 U	330 U	330 U			
BENZO(B)FLUORANTHENE		340 U	330 U	330 U			
BENZO(G,H,I)PERYLENE		340 U	330 U	330 U			
BENZO(K)FLUORANTHENE		340 U	330 U	330 U			
BIS(2-ETHYLHEXYL)PHTHALATE		340 U	1600	530			
BUTYLBENZYLPHTHALATE		340 U	330 U	330 U			
CHRYSENE		340 U	330 U	330 U			
DI-N-BUTYLPHTHALATE		130 JB	140 JB	380 B			
DI-N-OCTYL PHTHALATE		340 U	37 J	21 J			
DIBENZO(A,H)ANTHRACENE		340 U	330 U	330 U			
DIETHYLPHTHALATE		340 U	330 U	330 U			
INDENO(1,2,3-CD)PYRENE		340 U	330 U	330 U			
PYRENE		340 U	41 J	330 U			
* DIACETONEALCOHOL(6.36)				72000 JAB			
* DIACETONEALCOHOL*(6.25)							
* DIACETONEALCOHOL*(6.30)		70000 JAB					
* DIACETONEALCOHOL*(6.31)							
* DIACETONEALCOHOL*(6.32)							
* DIACETONEALCOHOL*(6.33)			2000 JAB				

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 800
LOCATION: NORTHERN HALF OF 2.2 ACRE PROPERTY REMAINDER OF THE AREA
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE800139B	PE800140B	PE800151B			
	SDG NO:	PE300010A	PE300010A	PE300010A			
	TYPE:	GRAB	GRAB	GRAB			
* DIACETONEALCOHOL*(6.37)							
* DIOCTYLADIPATE(31.10)		1400 JB	1300 JB				
* DIOCTYLADIPATE(31.50)			23000 J				
* HYDROCARBONFRACTION*(30.10)		760 JB					
* PHTHALATEESTER(25.00)							
* PHTHALATEESTER(25.10)		330 JB					
* PROPANOATEESTER(17.20)							
* PROPANOATEESTER(17.30)		430 JB					
* PROPANOATEESTER(17.60)		880 J					
* SULFUR(27.20)							
* UNKNOWN(5.41)		710 JB					
* UNKNOWN(5.45)			43 JB				
* UNKNOWN(5.48)							
* UNKNOWN(5.49)		680 J					
* UNKNOWN(7.96)							
* UNKNOWN(7.97)							
* UNKNOWN(7.98)		710 JB					
* UNKNOWN(9.43)							
* UNKNOWN(9.44)		150 J					
* UNKNOWN(9.71)							
* UNKNOWN(9.74)		140 J					
* UNKNOWN(21.20)							
* UNKNOWN(21.30)		160 J					
* UNKNOWN(27.80)			220 J				
* UNKNOWN(36.80)							
* UNKNOWNKETONE(6.50)		1000 JB					
* UNKNOWNKETONE(6.51)							
* UNKNOWNKETONE(6.54)							

VOLATILE ORGANICS (UG/KG)	SAMP NO:	PE800071A	PE800082A	PE800093A	PE800106A	PE800117A	PE800128A
	SDG NO:	PE800037A	PE800037A	PE800037A	PE800037A	PE800048A	PE800048A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ACETONE		83	75	83	26 U	36 B	77 B
2-BUTANONE		26 U	26 U	26 U	27 B	26 B	30 B
* PROBABLE FREON 113					23 J		
* PROBABLE HYDROCARBON(8.77)						15 J	
* PROBABLE HYDROCARBON(17.35)					21 JB		
* PROBABLE HYDROCARBON(17.36)		14 JB		21 JB			
* PROBABLE HYDROCARBON(17.37)			22 JB			20 JB	23 JB
* PROBABLE HYDROCARBON(17.38)							

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 800
LOCATION: NORTHERN HALF OF 2.2 ACRE PROPERTY REMAINDER OF THE AREA
MEDIUM: SOIL

VOLATILE ORGANICS (UG/KG)	SAMP NO:	PE800071A	PE800082A	PE800093A	PE800106A	PE800117A	PE800128A
	SDG NO:	PE800037A	PE800037A	PE800037A	PE800037A	PE800048A	PE800048A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
* PROBABLE HYDROCARBON(17.39)							
* PROBABLE HYDROCARBON(20.15)		11 JB					
* PROBABLE HYDROCARBON(20.16)			19 JB		22 JB	20 JB	20 JB
* PROBABLE HYDROCARBON(20.17)				22 JB			
* PROBABLE HYDROCARBON(20.18)							
* PROBABLE HYDROCARBON(21.41)			13 JB		10 JB		12 J
* PROBABLE HYDROCARBON(21.42)							
* PROBABLE HYDROCARBON(21.43)							
* PROBABLE HYDROCARBON(23.98)					12 JB		
* PROBABLE HYDROCARBON(23.99)			22 JB				
* PROBABLE HYDROCARBON(24.00)				20 JB			
* PROBABLE HYDROCARBON(24.01)							17 J
* PROBABLE HYDROCARBON(24.02)		14 JB					

VOLATILE ORGANICS (UG/KG)	SAMP NO:	PE800139A	PE800140A	PE800151A
	SDG NO:	PE800048A	PE800048A	PE800048A
	TYPE:	GRAB	GRAB	GRAB
ACETONE		47 B	26 U	60 B
2-BUTANONE		34 B	34 B	38 B
* PROBABLE FREON 113				
* PROBABLE HYDROCARBON(8.77)				
* PROBABLE HYDROCARBON(17.35)				
* PROBABLE HYDROCARBON(17.36)				
* PROBABLE HYDROCARBON(17.37)		21 JB		
* PROBABLE HYDROCARBON(17.38)				21 JB
* PROBABLE HYDROCARBON(17.39)			17 JB	
* PROBABLE HYDROCARBON(20.15)				
* PROBABLE HYDROCARBON(20.16)				
* PROBABLE HYDROCARBON(20.17)		16 JB		20 JB
* PROBABLE HYDROCARBON(20.18)			12 JB	
* PROBABLE HYDROCARBON(21.41)				
* PROBABLE HYDROCARBON(21.42)				12 J
* PROBABLE HYDROCARBON(21.43)			11 J	
* PROBABLE HYDROCARBON(23.98)				
* PROBABLE HYDROCARBON(23.99)				
* PROBABLE HYDROCARBON(24.00)				
* PROBABLE HYDROCARBON(24.01)		21 JB		
* PROBABLE HYDROCARBON(24.02)			22 JB	20 JB

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 800
LOCATION: NORTHERN HALF OF 2.2 ACRE PROPERTY REMAINDER OF THE AREA
MEDIUM: SURFACE WATER

METALS, INCLUDING CR+6 (UG/L)	SAMP NO: PE800162F SDG NO: PE305015I TYPE: RINSATE
ALUMINUM	28 B
BARIUM	11 B
BERYLLIUM	0.48 B
CALCIUM	11900 E
CHROMIUM	10
COPPER	6 B
IRON	106
MAGNESIUM	3670 B
MANGANESE	15
NICKEL	37 B
SILVER	5.4 B
SODIUM	14800
ZINC	173

EXTRACTABLE ORGANICS (UG/L)	SAMP NO: PE800162E SDG NO: PE301011E TYPE: RINSATE
BIS(2-ETHYLHEXYL)PHTHALATE	7 J
DI-N-OCTYL PHTHALATE	2 J
* ALKENE/ETHER/ALCOHOL(25.00)	4 J
* ALKENE/ETHER/ALCOHOL*(27.60)	1000 JB
* PROPANOATEESTER(17.60)	7 JB
* UNKNOWN(6.31)	3 J
* UNKNOWN(17.30)	3 JB
* UNKNOWN(18.10)	4 J
* UNKNOWN(35.20)	10 J

VOLATILE ORGANICS (UG/L)	SAMP NO: PE800162A SDG NO: PE305026A TYPE: RINSATE
ACETONE	43
BENZENE	2 J
CHLOROFORM	5
TOLUENE	7 B
XYLENE (TOTAL)	6

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 801
LOCATION: NORTHWEST CORNER OF THE 2.1 ACRE PROPERTY DITCH/MARSHY AREA
MEDIUM: SOIL

FIELD MEASUREMENTS	SAMP NO:	PE801016	PE801027	PE801038	PE801049		
FID/PID (PPM)		0.01	0.01	0.01	0.01		

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE801016C	PE801027C	PE801038C	PE801049C		
	SDG NO:	PE800015C	PE800015C	PE800015C	PE800015C		
	TYPE:	GRAB	GRAB	GRAB	GRAB		
ALUMINUM		22200	23700	21800	24700		
ANTIMONY		5.8 U	8.9 B	18 B	6 B		
BARIUM		242	218	238	178		
BERYLLIUM		1.4 E	1.7 E	1.3 E	1.6 E		
CADMIUM		5.4	5.4	4.9	4 B		
CALCIUM		4390 E	2280 E	3530 E	1810 E		
CHROMIUM		33 E	32 E	31 E	34 E		
COBALT		19	22	27	25		
COPPER		33 E	38 E	32 E	41 E		
IRON		40200	51900	44600	40600		
LEAD		7.7 B	17 B	17 B	7.7 U		
MAGNESIUM		5160	4480	5280	4730		
MANGANESE		925	1200	1360	952		
NICKEL		42 E	46 E	39 E	44 E		
POTASSIUM		3560 E	4090 E	3080 E	4810 E		
SELENIUM		20 U	29 B	20 U	34 B		
SILVER		1.7 B	1.5 B	1.7 B	0.86 U		
SODIUM		814 BE	278 BE	585 BE	241 BE		
THALLIUM		1.2 B	0.66 U	0.8 B	0.63 U		
VANADIUM		34	38	37	37		
ZINC		96 E	114 E	92 E	105 E		

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE801016B	PE801027B	PE801038B	PE801049B		
	SDG NO:	PE300010A	PE300010A	PE300010A	PE300010A		
	TYPE:	GRAB	GRAB	GRAB	GRAB		
ANTHRACENE		380 U	55 J	380 U	370 U		
BENZO(A)ANTHRACENE		380 U	580	380 U	370 U		
BENZO(A)PYRENE		380 U	560	380 U	370 U		
BENZO(B)FLUORANTHENE		380 U	580	380 U	370 U		
BENZO(K)FLUORANTHENE		380 U	580	380 U	370 U		
BIS(2-ETHYLHEXYL)PHTHALATE		380 U	770	380 U	370 U		
BUTYLBENZYLPHTHALATE		380 U	420	380 U	370 U		
CHRYSENE		29 J	620	380 U	370 U		
DI-N-BUTYLPHTHALATE		380 U	160 JB	86 JB	86 JB		
DI-N-OCTYL PHTHALATE		380 U	320 J	380 U	370 U		

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 801
LOCATION: NORTHWEST CORNER OF THE 2.1 ACRE PROPERTY DITCH/MARSHY AREA
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE801016B	PE801027B	PE801038B	PE801049B
	SDG NO:	PE300010A	PE300010A	PE300010A	PE300010A
	TYPE:	GRAB	GRAB	GRAB	GRAB
DIBENZOFURAN		380 U	390 U	20 J	370 U
DIETHYLPHTHALATE		380 U	48 J	380 U	370 U
FLUORANTHENE		25 J	390 U	380 U	370 U
INDENO(1,2,3-CD)PYRENE		380 U	340 J	380 U	370 U
NAPHTHALENE		29 J	390 U	36 J	370 U
PHENANTHRENE		66 J	390 U	54 J	370 U
PYRENE		27 J	300 J	380 U	370 U
2-METHYLNAPHTHALENE		33 J	390 U	42 J	370 U
* ALKYLHYDROCARBON(19.70)		160 J			
* ALKYLHYDROCARBON(21.20)		190 J			
* ALKYLHYDROCARBON(22.70)		210 J			
* ALKYLHYDROCARBON(24.10)		190 J			
* ALKYLHYDROCARBON(25.50)		210 J			
* ALKYLHYDROCARBON(26.80)		200 J			
* ALKYLHYDROCARBON(28.10)		230 J			
* ALKYLHYDROCARBON(29.30)		220 J			
* ALKYLHYDROCARBON(30.40)		220 J			
* ALKYLHYDROCARBON(32.50)		170 J			
* DIACETONEALCOHOL(6.23)				1500 JAB	
* DIACETONEALCOHOL*(6.25)			3800 JAB		56000 JAB
* DIACETONEALCOHOL*(6.26)		2200 JAB			
* DIOCTYLADIPATE(31.10)			1600 JB		
* DIOCTYLADIPATE(31.30)					1500 JB
* DIOCTYLADIPATE(31.40)				1500 JB	
* DIOCTYLADIPATE(31.50)		1500 JB			
* PROPANOATEESTER(17.60)					150 JB
* SULFUR(27.00)			1600 J		1500 J
* SULFUR(27.10)				1500 J	
* SULFUR(27.20)		520 J			
* UNKNOWN(4.68)		9 J			
* UNKNOWN(5.39)			43 JB		
* UNKNOWN(5.41)					400 JB
* UNKNOWN(5.42)		17 JB			
* UNKNOWN(7.90)		17 JB			
* UNKNOWN(7.91)			38 JB		440 JB
* UNKNOWN(9.37)			46 JB		
* UNKNOWN(9.38)				18 JB	640 JB
* UNKNOWNKETONE(4.68)					470 J
* UNKNOWNKETONE(6.45)				25 JB	
* UNKNOWNKETONE(6.46)		36 JB			920 JB
* UNKNOWNKETONE(6.47)			69 JB		

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 801
LOCATION: NORTHWEST CORNER OF THE 2.1 ACRE PROPERTY DITCH/MARSHY AREA
MEDIUM: SOIL

VOLATILE ORGANICS (UG/KG)	SAMP NO:	PE801016A	PE801027A	PE801038A	PE801049A		
	SDG NO:	PE800048A	PE800048A	PE800048A	PE800048A		
	TYPE:	GRAB	GRAB	GRAB	GRAB		
ACETONE		110 B	240 B	97 B	28 U		
2-BUTANONE		53 JB	76 B	30 U	44 B		
* PROBABLE HYDROCARBON(17.35)		35 JB					
* PROBABLE HYDROCARBON(17.36)			64 JB		20 JB		
* PROBABLE HYDROCARBON(17.37)				24 JB			
* PROBABLE HYDROCARBON(20.15)			58 JB				
* PROBABLE HYDROCARBON(20.16)				24 JB			
* PROBABLE HYDROCARBON(20.17)		26 JB			17 JB		
* PROBABLE HYDROCARBON(21.42)			34 J				
* PROBABLE HYDROCARBON(24.00)			50 J				
* PROBABLE HYDROCARBON(24.01)		28 JB					
* PROBABLE HYDROCARBON(24.02)					20 JB		

S&A REQUEST: 801
LOCATION: NORTHWEST CORNER OF THE 2.1 ACRE PROPERTY REMAINDER OF THE AREA
MEDIUM: SOIL

FIELD MEASUREMENTS	SAMP NO:	PE801050	PE801061	PE801072	PE801083	PE801094	PE801107
FID/PID (PPM)		0	0	0	0	0	0

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE801050C	PE801061C	PE801072C	PE801083C	PE801094C	PE801107C
	SDG NO:	PE800015C	PE800015C	PE800015C	PE800117C	PE800117C	PE800117C
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ALUMINUM		20700	18500	25500	25600	26700	26300
ANTIMONY		16 B	19 B	12 B	12 B	13 B	14 B
ARSENIC		23 U	31 B	24 U	25 U		25 U
BARIUM		62	127	104	135	110	128
BERYLLIUM		1.1 E	1.4 E	1.4 E	1.4 E	1.4 E	1.7 E
CADMIUM		5	4.7	4.9	5.7	6.5	5.5
CALCIUM		2520 E	4130 E	3490 E	4240	6540	5360
CHROMIUM		33 E	27 E	36 E	38	34	39
COBALT		20	19	21	19 E	21 E	24 E
COPPER		30 E	36 E	30 E	33 E	32 E	34 E
IRON		43800	46300	44900	43900	48000	52800
LEAD		7.1 U	13 B	14 B	23 B		7.7 U

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 801
LOCATION: NORTHWEST CORNER OF THE 2.1 ACRE PROPERTY REMAINDER OF THE AREA
MEDIUM: SOIL

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE801050C	PE801061C	PE801072C	PE801083C	PE801094C	PE801107C
	SDG NO:	PE800015C	PE800015C	PE800015C	PE800117C	PE800117C	PE800117C
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
MAGNESIUM		8440	3420	6300	5760	7140	4900
MANGANESE		873	811	989	1050	1270	1220
NICKEL		36 E	33 E	38 E	38	39	40
POTASSIUM		2710 E	3110 E	3710 E	3840 E	4140 E	4170 E
SELENIUM		19 U	20 U	32 B	22 B	20 U	30 B
SILVER		1.5 B	1 B	1 B	0.85 U	0.84 U	1.1 B
SODIUM		178 BE	187 BE	221 BE	259 BE	245 BE	227 BE
VANADIUM		33	34	40	41	40	44
ZINC		101 E	87 E	100 E	91	101	92

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE801050B	PE801061B	PE801072B	PE801083B	PE801094B	PE801107B
	SDG NO:	PE300010A	PE300010A	PE300010A	PE300010A	PE300010A	PE300010A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ANTHRACENE		340 U	370 U	350 U	17 J	360 U	360 U
BENZO(A)ANTHRACENE		340 U	50 J	350 U	360 U	360 U	360 U
BENZO(A)PYRENE		340 U	30 J	350 U	360 U	360 U	360 U
BENZO(B)FLUORANTHENE		340 U	72 J	350 U	28 J	360 U	360 U
BENZO(K)FLUORANTHENE		340 U	370 U	350 U	18 J	360 U	360 U
BIS(2-ETHYLHEXYL)PHTHALATE		140 J	370 U	350 J	320 J	220 J	220 J
CHRYSENE		340 U	190 J	350 U	40 J	360 U	28 J
DI-N-BUTYLPHTHALATE		79 JB	88 JB	350 U	93 JB	51 JB	360 U
DI-N-OCTYL PHTHALATE		120 J	25 J	17 J	17 J	11 J	360 U
DIBENZOFURAN		340 U	350 J	12 J	24 J	38 J	32 J
FLUORANTHENE		340 U	71 J	16 J	66 J	21 J	360 U
NAPHTHALENE		340 U	660	350 U	39 J	58 J	49 J
PHENANTHRENE		14 J	690	40 J	88 J	88 J	94 J
PHENOL		15 J	370 U	350 U	360 U	360 U	360 U
PYRENE		340 U	120 J	18 J	58 J	29 J	30 J
2-METHYLNAPHTHALENE		340 U	760	23 J	40 J	59 J	45 J
* ALKYLHYDROCARBON(18.10)			230 J				
* ALKYLHYDROCARBON(19.70)			220 J				210 J
* ALKYLHYDROCARBON(21.20)			210 J				240 J
* ALKYLHYDROCARBON(22.70)			210 J				140 J
* ALKYLHYDROCARBON(22.80)			200 J				140 J
* ALKYLHYDROCARBON(24.10)			190 J				140 J
* ALKYLHYDROCARBON(25.40)			220 J				
* ALKYLHYDROCARBON(25.50)							170 J
* ALKYLHYDROCARBON(26.70)			190 J				
* ALKYLHYDROCARBON(26.80)							160 J
* ALKYLHYDROCARBON(27.90)			220 J				

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 801
LOCATION: NORTHWEST CORNER OF THE 2.1 ACRE PROPERTY REMAINDER OF THE AREA
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE801050B	PE801061B	PE801072B	PE801083B	PE801094B	PE801107B
	SDG NO:	PE300010A	PE300010A	PE300010A	PE300010A	PE300010A	PE300010A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
* ALKYLHYDROCARBON(28.10)							160 J
* ALKYLHYDROCARBON(29.10)			200 J				
* ALKYLHYDROCARBON(29.30)							130 J
* ALKYLHYDROCARBON(30.20)			200 J				
* ALKYLHYDROCARBON(30.40)							130 J
* ALKYLHYDROCARBON(32.40)			150 J				
* DIACETONEALCOHOL(6.27)						1400 JAB	
* DIACETONEALCOHOL*(6.24)		2400 JAB		2000 JAB			
* DIACETONEALCOHOL*(6.25)							54000 JAB
* DIACETONEALCOHOL*(6.29)					1900 JAB		
* DIACETONEALCOHOL*(6.36)			11000 JAB				
* DIOCTYLADIPATE(31.30)		1400 JB					
* DIOCTYLADIPATE(31.40)			1500 JB				
* DIOCTYLADIPATE(31.50)				1400 JB	1400 JB	1400 JB	790 JB
* PROPANOATEESTER(16.30)			130 JB				
* SULFUR(27.30)							1500 J
* SULFUR*(27.30)			3800 J				
* UNKNOWN(4.67)							260 J
* UNKNOWN(5.39)							500 JB
* UNKNOWN(7.91)							380 JB
* UNKNOWN(9.38)							580 JB
* UNKNOWNKETONE(6.45)							820 JB
* UNKNOWNKETONE(6.49)			120 JB				

VOLATILE ORGANICS (UG/KG)	SAMP NO:	PE801050A	PE801061A	PE801072A	PE801083A	PE801094A	PE801107A
	SDG NO:	PE800048A	PE800048A	PE800048A	PE801083A	PE801083A	PE801083A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ACETONE		84 B	200 B	76 B	72 B	87 B	170 B
2-BUTANONE		26 U	56 U	27 U	50	54	56 U
* PROBABLE HYDROCARBON(17.32)						27 J	
* PROBABLE HYDROCARBON(17.37)				21 JB			
* PROBABLE HYDROCARBON(17.38)		13 JB	28 JB		19 J		
* PROBABLE HYDROCARBON(17.39)							38 J
* PROBABLE HYDROCARBON(18.65)			24 J				
* PROBABLE HYDROCARBON(20.17)		9 JB				20 J	
* PROBABLE HYDROCARBON(20.18)							27 J
* PROBABLE HYDROCARBON(20.19)				14 JB	15 J		
* PROBABLE HYDROCARBON(21.42)		12 J	53 J				
* PROBABLE HYDROCARBON(21.43)				13 J			27 J
* PROBABLE HYDROCARBON(23.99)		19 J					

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 801
LOCATION: NORTHWEST CORNER OF THE 2.1 ACRE PROPERTY REMAINDER OF THE AREA
MEDIUM: SOIL

VOLATILE ORGANICS (UG/KG)	SAMP NO:	PE801050A	PE801061A	PE801072A	PE801083A	PE801094A	PE801107A
	SDG NO:	PE800048A	PE800048A	PE800048A	PE801083A	PE801083A	PE801083A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
* PROBABLE HYDROCARBON(24.00)			110 J				52 J
* PROBABLE HYDROCARBON(24.01)				22 J	12 J	29 J	

S&A REQUEST: 802
LOCATION: SYNTHANE PLANT IN THE 900 AREA (UNPAVED AREA)
MEDIUM: SOIL

FIELD MEASUREMENTS	SAMP NO:	PE802017	PE802028	PE802039	PE802040	PE802051	PE802062
FID/PID (PPM)		0.1	0.1	0.1	0.1	0.1	0.1

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE802017C	PE802028C	PE802039C	PE802040C	PE802051C	PE802062C
	SDG NO:	PE310012C	PE310012C	PE310012C	PE310012C	PE310012C	PE310012C
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ALUMINUM		20500	32700	14100	27200	34200	38000
ANTIMONY		15 B	14 B	5.3 U	7 U	8.8 B	13 B
ARSENIC		28 B	24 U	23 U	30 U		42 B
BARIUM		194	179	487	185	153	234
BERYLLIUM		1.5 E	1.5 E	1.5 E	1.9 E	1.3 E	2.2 E
CADMIUM		6.7	6.7	2.6 B	4.8 B	4.8	7.6
CALCIUM		15100	4420	32600	50200	5540	35700
CHROMIUM		30	32	15	32	35	33
COBALT		17	21	8 B	17	20	18
COPPER		48 E	34 E	19 E	43 E	36 E	37 E
IRON		64800	59500	30100	45000	42500	55400
LEAD		165	25 B	10 B	63		20 B
MAGNESIUM		5060	5820	6130	9270	6890	10400
MANGANESE		1270	1230	781	1180	905	1840
NICKEL		45 E	43 E	16 E	38 E	42 E	34 E
POTASSIUM		2930 E	5400 E	2520 E	4520 E	5910 E	6210 E
SELENIUM		43 B	60 B	34 B	31 B	36 B	40 B
SILVER		0.89 U	0.81 U	0.86 B	1 U	0.86 B	1.4 B
SODIUM		420 BE	323 BE	476 BE	639 BE	328 BE	590 BE
THALLIUM		0.63 U	0.65 U	0.62 U	0.62 B	0.65 U	0.65 UW
VANADIUM		44	45	18	38	36	43
ZINC		121	116	54	135	118	101

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 802
LOCATION: SYNTHANE PLANT IN THE 900 AREA (UNPAVED AREA)
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE802017B	PE802028B	PE802039B	PE802040B	PE802051B	PE802062B
	SDG NO:	PE303013A	PE303013A	PE303013A	PE303013A	PE303013A	PE303013A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ACENAPHTHENE		380 U	400 U	240 J	430 U	360 U	460 U
ACENAPHTHYLENE		380 U	400 U	25 J	430 U	360 U	460 U
ANTHRACENE		53 J	400 U	85 J	30 J	360 U	460 U
BENZO(A)ANTHRACENE		410	400 U	120 J	230 J	360 U	460 U
BENZO(A)PYRENE		380 J	400 U	360 U	450	360 U	460 U
BENZO(B)FLUORANTHENE		510	400 U	170 J	440	360 U	460 U
BENZO(K)FLUORANTHENE		490	400 U	160 J	490	360 U	460 U
BENZOIC ACID		37 J	2000 U	1800 U	2100 U	1800 U	2300 U
BIS(2-ETHYLHEXYL)PHTHALATE		220 JB	420 B	880 B	960 B	450 B	400 JB
BUTYLBENZYLPHTHALATE		26 JB	400 U	360 U	430 U	360 U	460 U
CHRYSENE		460	63 J	180 J	290 J	360 U	460 U
DI-N-BUTYLPHTHALATE		290 JB	250 JB	220 JB	270 JB	250 JB	280 JB
DI-N-OCTYL PHTHALATE		67 JB	70 JB	15000 BE	190 JB	68 JB	66 JB
DIBENZO(A,H)ANTHRACENE		380 U	400 U	360 U	420 J	360 U	460 U
DIBENZOFURAN		130 J	33 J	150 J	47 J	9 J	12 J
DIETHYLPHTHALATE		41 JB	400 U	34 JB	170 J	36 J	47 JB
DIMETHYLPHTHALATE		380 U	400 U	14 J	430 U	360 U	460 U
FLUORANTHENE		540	87 J	290 J	120 J	360 U	44 J
FLUORENE		18 J	400 U	130 J	430 U	360 U	460 U
INDENO(1,2,3-CD)PYRENE		300 J	400 U	360 U	430 U	360 U	460 U
NAPHTHALENE		180 J	50 J	640	51 J	22 J	460 U
NITROBENZENE		380 U	400 U	48 J	430 U	360 U	460 U
PHENANTHRENE		470	140 J	650	170 J	48 J	66 J
PHENOL		380 U	400 U	37 J	430 U	360 U	460 U
PYRENE		650	100 J	350 J	150 J	18 J	37 J
2-METHYLNAPHTHALENE		240 J	22 J	440	110 J	14 J	12 J
4-CHLOROANILINE		380 U	400 U	50 J	430 U	360 U	460 U
4-METHYLPHENOL		380 U	400 U	23 J	430 U	360 U	460 U
* DIACETONE ALCOHOL(6.30)							23000 JBA
* DIACETONE ALCOHOL(6.34)					31000 JBA	27000 JBA	
* DIACETONE ALCOHOL(6.45)				43000 JAB			
* DIACETONE ALCOHOL(6.71)		39000 BJA					
* DIACETONE ALCOHOL(6.72)			23000 JAB				
* DIOCTYL ADIPATE(31.24)			1200 JB		1200 JB		
* DIOCTYL ADIPATE(31.25)		1900 JB					1500 JB
* DIOCTYL ADIPATE(31.26)						1500 JB	
* ESTER(21.38)							280 J
* HEXADECANOIC ACID(27.08)			140 JB			360 JB	
* HYDROCARBON FRACTION(21.00)				300000 J			
* HYDROCARBON(6.82)		750 BJ				710 JB	
* HYDROCARBON(6.83)			680 JB				
* HYDROCARBON(6.84)							1100 JB

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 802
LOCATION: SYNTHANE PLANT IN THE 900 AREA (UNPAVED AREA)
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE802017B	PE802028B	PE802039B	PE802040B	PE802051B	PE802062B
	SDG NO:	PE303013A	PE303013A	PE303013A	PE303013A	PE303013A	PE303013A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
* HYDROCARBON(6.88)					980 JB		
* HYDROCARBON(7.01)						980 JB	
* HYDROCARBON(7.02)		1000 BJ					
* HYDROCARBON(7.03)			1100 JB				1400 J
* HYDROCARBON(7.05)					1400 JB		
* HYDROCARBON(10.18)							540 J
* HYDROCARBON(10.50)							250 J
* HYDROCARBON(11.36)							350 J
* HYDROCARBON(16.46)					370 J		
* HYDROCARBON(17.83)		460 J					
* HYDROCARBON(18.22)					890 J		
* HYDROCARBON(18.23)		520 J					
* HYDROCARBON(19.84)					760 J		
* HYDROCARBON(19.85)		550 J					
* HYDROCARBON(21.38)					960 J	210 J	
* HYDROCARBON(21.39)		530 J					
* HYDROCARBON(22.84)					750 J		
* HYDROCARBON(22.85)		590 J					
* HYDROCARBON(22.93)					580 J		
* HYDROCARBON(22.96)		770 J					
* HYDROCARBON(24.21)					600 J		
* HYDROCARBON(24.23)		610 J					
* HYDROCARBON(25.53)					600 J		
* HYDROCARBON(25.54)		750 J					
* HYDROCARBON(26.79)		570 J			420 J		
* HYDROCARBON(27.98)		1600 J				460 J	1400 J
* PHTHALATE ESTER FRACTIO(35.00)				53000 J			
* PHTHALATE ESTER(25.12)			1100 J			1100 J	
* PHTHALATE ESTER(25.13)		1000 J					1100 J
* PHTHALATE ESTER(25.21)					750 J		
* SULFUR(19.72)							470 J
* SULFUR(27.23)					2000 J		
* SULFUR(27.26)				2800 J			
* SULFUR(27.29)		4400 J					
* SULFUR(27.33)							8400 J
* UNKNOWN KETONE(9.27)			230 J				
* UNKNOWN KETONE(9.29)		960 AJ					
* UNKNOWN(4.92)							310 JB
* UNKNOWN(5.51)						190 J	
* UNKNOWN(5.87)					3500 J		
* UNKNOWN(5.88)						2200 J	3900 JB
* UNKNOWN(5.95)		3300 BJ					

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 802
LOCATION: SYNTHANE PLANT IN THE 900 AREA (UNPAVED AREA)
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE802017B	PE802028B	PE802039B	PE802040B	PE802051B	PE802062B
	SDG NO:	PE303013A	PE303013A	PE303013A	PE303013A	PE303013A	PE303013A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
* UNKNOWN(5.98)			2500 JB				
* UNKNOWN(8.15)						610 JB	
* UNKNOWN(8.17)		710 BJ			830 JB		950 J
* UNKNOWN(8.18)			720 JB				
* UNKNOWN(8.53)							270 J
* UNKNOWN(9.26)						250 JB	
* UNKNOWN(9.28)							320 J
* UNKNOWN(10.15)					650 J		
* UNKNOWN(10.49)			580 J				
* UNKNOWN(10.50)						470 J	
* UNKNOWN(11.41)			300 J				
* UNKNOWN(21.37)			180 J				
* 3-HEXEN-2-ONE(4.92)						320 JB	
* 3-HEXEN-2-ONE(4.97)					810 JB		
* 4-METHYL-2-HEXANONE(6.73)						1300 J	
* 4-METHYL-2-HEXANONE(6.78)			410 JAB				

VOLATILE ORGANICS (UG/KG)	SAMP NO:	PE802017A	PE802028A	PE802039A	PE802040A	PE802051A	PE802062A
	SDG NO:	PE802017A	PE802017A	PE802017A	PE802017A	PE802017A	PE802017A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ACETONE		25 U	85 B	81 B	70 B	15 U	84 B
METHYLENE CHLORIDE		13 U	13 U	13 U	13 U	15 U	6 J
TOLUENE		4 J	13 U	13 U	13 U	13 U	13 U
2-BUTANONE		26	25 U	25 U	32	25 U	25 U
* PROB. SUBSTITUTED NAPHT(25.74)				22 J			
* PROB. SUBSTITUTED NAPHT(26.29)				59 J			
* PROBABLE AROMATIC HYDRO(20.17)				36 J			
* PROBABLE AROMATIC HYDRO(22.24)				32 J			
* PROBABLE AROMATIC HYDRO(23.10)				33 J			
* PROBABLE AROMATIC HYDRO(23.36)				27 J			
* PROBABLE AROMATIC HYDRO(26.99)					12 J		
* PROBABLE DIMETHYLNAPHTH(28.68)					37 J		
* PROBABLE DIMETHYLNAPHTH(28.70)				40 J			
* PROBABLE DIMETHYLNAPHTH(29.03)				78 J	59 J		
* PROBABLE HYDROCARBON(17.36)						20 JB	
* PROBABLE HYDROCARBON(17.37)			19 JB		19 JB		
* PROBABLE HYDROCARBON(17.38)		18 JB					21 JB
* PROBABLE HYDROCARBON(20.16)					18 JB	17 JB	
* PROBABLE HYDROCARBON(20.17)		15 JB	18 JB				19 JB
* PROBABLE HYDROCARBON(23.10)				33 J			

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 802
LOCATION: SYNTHANE PLANT IN THE 900 AREA (UNPAVED AREA)
MEDIUM: SOIL

VOLATILE ORGANICS (UG/KG)	SAMP NO:	PE802017A	PE802028A	PE802039A	PE802040A	PE802051A	PE802062A
	SDG NO:	PE802017A	PE802017A	PE802017A	PE802017A	PE802017A	PE802017A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
* PROBABLE HYDROCARBON(23.99)			14 J		15 J		
* PROBABLE HYDROCARBON(25.77)					11 J		
* PROBABLE HYDROCARBON(27.49)					18 J		
* PROBABLE HYDROCARBON(27.50)				25 J			

S&A REQUEST: 802
LOCATION: SYNTHANE PLANT IN THE 900 AREA (UNPAVED AREA)
MEDIUM: SURFACE WATER

METALS, INCLUDING CR+6 (UG/L)	SAMP NO:	PE802073F
	SDG NO:	PE301011I
	TYPE:	RINSATE
ALUMINUM		275
ANTIMONY		27 B
BARIUM		10 B
BERYLLIUM		0.48 B
CALCIUM		8300 E
CHROMIUM		8.4 B
COPPER		14 B
IRON		759
LEAD		35 B
MAGNESIUM		2650 B
MANGANESE		26
SODIUM		9960
ZINC		954 E

EXTRACTABLE ORGANICS (UG/L)	SAMP NO:	PE802073E
	SDG NO:	PE301011E
	TYPE:	RINSATE
BIS(2-ETHYLHEXYL)PHTHALATE		7 J
DI-N-BUTYLPHTHALATE		2 J
DI-N-OCTYL PHTHALATE		1 J
* ALKENE/ETHER/ALCOHOL*(27.50)		1500 JB
* ETHER/ALCOHOL(30.80)		12 J

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 802
LOCATION: SYNTHANE PLANT IN THE 900 AREA (UNPAVED AREA)
MEDIUM: SURFACE WATER

VOLATILE ORGANICS (UG/L)	SAMP NO:	PE802073A
	SDG NO:	PE305026A
	TYPE:	RINSATE
CHLOROFORM		10
METHYLENE CHLORIDE		3 J

S&A REQUEST: 803
LOCATION: SUBSTATION 6 AREA NORTH OF BUILDING 64
MEDIUM: SOIL

FIELD MEASUREMENTS	SAMP NO:	PE803018	PE803029	PE803030
FID/PID (PPM)		0.1	0	0

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE803018C	PE803029C	PE803030C
	SDG NO:	PE800117C	PE800117C	PE800117C
	TYPE:	GRAB	GRAB	GRAB
ALUMINUM		18800	16700	9230
ANTIMONY		5.7 B	8.5 B	6.1 B
ARSENIC		38 B	36 B	
BARIUM		143	112	160
BERYLLIUM		1.5 E	1.1 E	0.95 BE
CADMIUM		4.7	3.8	2.5 B
CALCIUM		47100	32500	115000
CHROMIUM		26	25	20
COBALT		15 E	14 E	9.7 BE
COPPER		29 E	24 E	29 E
IRON		29500	29000	18500
LEAD		38 B	10 B	
MAGNESIUM		5370	3250	3530
MANGANESE		1430	633	732
NICKEL		44	42	32
POTASSIUM		4200 E	3960 E	4350 E
SELENIUM		26 B	16 U	20 U
SILVER		0.97 B	0.69 U	0.87 U
SODIUM		278 BE	197 BE	151 BE
VANADIUM		29	31	18
ZINC		97	84	59

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 803
LOCATION: SUBSTATION 6 AREA NORTH OF BUILDING 64
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE803018B	PE803029B	PE803030B
	SDG NO:	PE803018B	PE803018B	PE803018B
	TYPE:	GRAB	GRAB	GRAB
ACENAPHTHENE		1200	370 U	23 J
ANTHRACENE		2300	42 J	49 J
BENZO(A)ANTHRACENE		3800	230 J	110 J
BENZO(A)PYRENE		2600	260 J	390 U
BENZO(B)FLUORANTHENE		3200	210 J	58 J
BENZO(G,H,I)PERYLENE		2200	440	58 J
BENZO(K)FLUORANTHENE		2900	200 J	46 J
BIS(2-ETHYLHEXYL)PHTHALATE		410 U	210 J	2700
BUTYLBENZYLPHTHALATE		410 U	46 J	390 U
CHRYSENE		3600	210 J	88 J
DI-N-BUTYLPHTHALATE		92 J	54 J	51 J
DI-N-OCTYL PHTHALATE		960 B	42 JB	390 U
DIBENZO(A,H)ANTHRACENE		510	420	390 U
DIBENZOFURAN		770	9 J	8 J
DIETHYLPHTHALATE		43 J	370 U	390 U
FLUORANTHENE		86 J	200 J	260 J
FLUORENE		1300	370 U	19 J
INDENO(1,2,3-CD)PYRENE		2000	420	390 U
NAPHTHALENE		46 J	370 U	390 U
PHENANTHRENE		7200 J	130 J	210 J
PYRENE		61 J	170 J	200 J
2-CHLOROPHENOL		410 U	20 J	390 U
2-METHYLNAPHTHALENE		63 J	370 U	390 U
* ALKYL KETONE(5.67)			340 JB	
* ALKYL KETONE(6.45)		240 JB		
* ALKYL KETONE(6.66)				550 JB
* ALKYL KETONE(6.73)			730 JB	
* AMIDE(9.36)		180 JB		
* AMIDE(9.58)				620 J
* AROMATIC HYDROCARBON(17.99)		810 J		
* DIACETONE ALCOHOL(6.16)		22000 JBA		
* DIACETONE ALCOHOL(6.32)				14000 JBA
* DIACETONE ALCOHOL(6.38)			40000 JBA	
* DIOCTYL ADIPATE(31.10)		1600 JB		
* DIOCTYL ADIPATE(31.28)				20000 JBA
* HYDROCARBON(21.18)		240 J		
* HYDROCARBON(22.66)		210 J		
* HYDROCARBON(22.75)		190 J		
* HYDROCARBON(25.07)			160 J	
* HYDROCARBON(25.08)				190 J
* HYDROCARBON(31.71)				200 J
* HYDROCARBON(38.02)		130 J		

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 803
LOCATION: SUBSTATION 6 AREA NORTH OF BUILDING 64
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE803018B	PE803029B	PE803030B			
	SDG NO:	PE803018B	PE803018B	PE803018B			
	TYPE:	GRAB	GRAB	GRAB			
* KETONE(7.91)		200 JB					
* KETONE(8.12)				350 J			
* KETONE(8.18)			460 J				
* PHTHALATE ESTER(36.13)		150 J					
* PNA(25.32)		270 J					
* PNA(25.53)		210 J					
* PNA(26.23)		210 J					
* PNA(28.05)		130 J					
* SULFUR(27.00)		1000 J					

VOLATILE ORGANICS (UG/KG)	SAMP NO:	PE803018A	PE803029A	PE803030A			
	SDG NO:	PE803018A	PE802017A	PE802017A			
	TYPE:	GRAB	GRAB	GRAB			
ACETONE		50 U	56 B	13 U			
XYLENE (TOTAL)		41	13 U	13 U			
2-BUTANONE		60	26 U	25 U			
* PROBABLE AROMATIC HYDRO(17.02)		200 J					
* PROBABLE AROMATIC HYDRO(17.38)		55 J					
* PROBABLE AROMATIC HYDRO(17.81)		150 J					
* PROBABLE AROMATIC HYDRO(19.02)		160 J					
* PROBABLE AROMATIC HYDRO(19.58)		56 J					
* PROBABLE AROMATIC HYDRO(20.15)		39 J					
* PROBABLE AROMATIC HYDRO(20.38)		53 J					
* PROBABLE AROMATIC HYDRO(21.38)		86 J					
* PROBABLE AROMATIC HYDRO(28.49)		110 J					
* PROBABLE HYDROCARBON(17.36)			21 JB	19 JB			
* PROBABLE HYDROCARBON(20.15)			22 JB				
* PROBABLE HYDROCARBON(20.16)				16 JB			

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 804
LOCATION: BUILDING 65 CYLINDER STORAGE AREA
MEDIUM: SOIL

FIELD MEASUREMENTS	SAMP NO:	PE804019	PE804020	PE804031	PE804042	PE804053	PE804064
FID/PID (PPM)		0.1	0.1	0.2	0.1	0.1	0.1

FIELD MEASUREMENTS	SAMP NO:	PE804075	PE804086				
FID/PID (PPM)		0.1	0.1				

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE804019C	PE804020C	PE804031C	PE804042C	PE804053C	PE804064C
	SDG NO:	PE800117C	PE800117C	PE800117C	PE800117C	PE800117C	PE800117C
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ALUMINUM		22400	33900	23600	22300	25000	25500
ANTIMONY		7.5 B	5.6 U	14 B	5.9 U	12 B	5.8 U
ARSENIC		30 B		22 U	26 B	25 B	53 B
BARIUM		563	378	193	232	1210	236
BERYLLIUM		1.8 E	4.4 E	4.1 E	3.1 E	1.7 E	2.2 E
CADMIUM		3.2 B	5.3	5.4	5.4	6.7	5.3
CALCIUM		81300	163000	140000	126000	84100	86400
CHROMIUM		30	38	36	42	82	29
COBALT		12 E	7.2 BE	5.9 BE	8.3 BE	14 E	10 BE
COPPER		37 E	468 E	45 E	75 E	64 E	41 E
IRON		24400	36100	26600	33700	51500	34200
LEAD		9.2 B		34 B	77	17 B	13 B
MAGNESIUM		10000	33800	25100	18400	11900	18500
MANGANESE		905	2530	1950	1570	1180	1290
NICKEL		28	18	21	23	45	25
POTASSIUM		8510 E	6730 E	5290 E	6120 E	8640 E	7140 E
SELENIUM		19 U	19 U	22 B	38 B	21 B	20 B
SILVER		0.83 U	1.4 B	1.1 B	0.86 U	0.82 U	0.86 B
SODIUM		360 BE	1020 BE	1000 E	768 BE	397 BE	520 BE
VANADIUM		34	19	16	23	34	30
ZINC		70	79	149	121	78	74

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE804075C	PE804086C
	SDG NO:	PE310012C	PE310012C
	TYPE:	GRAB	GRAB
ALUMINUM		30700	37600
ANTIMONY		5.9 B	10 B
ARSENIC		43 B	32 B
BARIUM		296	256
BERYLLIUM		3.5 E	4.5 E

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 804
LOCATION: BUILDING 65 CYLINDER STORAGE AREA
MEDIUM: SOIL

METALS, INCLUDING CR+6 (MG/KG)	SAMP NO:	PE804075C	PE804086C				
	SDG NO:	PE310012C	PE310012C				
	TYPE:	GRAB	GRAB				
CADMIUM		3.3 B	3.4 B				
CALCIUM		117000	174000				
CHROMIUM		36	28				
COBALT		7.6 B	6.8 B				
COPPER		51 E	26 E				
IRON		26900	17000				
LEAD		18 B	16 B				
MAGNESIUM		20400	29400				
MANGANESE		1720	1790				
NICKEL		42 E	16 E				
POTASSIUM		6300 E	6160 E				
SELENIUM		20 U	20 U				
SILVER		0.89 B	1.8 B				
SODIUM		811 BE	1100 BE				
VANADIUM		30	26				
ZINC		194	43				

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE804019B	PE804020B	PE804031B	PE804042B	PE804053B	PE804064B
	SDG NO:	PE803018B	PE803018B	PE803018B	PE803018B	PE803018B	PE803018B
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ACENAPHTHENE		360 U	64 J	400 U	43 J	380 U	360 U
ANTHRACENE		360 U	66 J	63 J	53 J	380 U	360 U
BENZO(A)ANTHRACENE		290 J	190 J	270 J	190 J	380 U	140 J
BENZO(A)PYRENE		220 J	290 J	320 J	200 J	380 U	360 U
BENZO(B)FLUORANTHENE		140 J	280 J	330 J	210 J	380 U	200 J
BENZO(G,H,I)PERYLENE		360 U	260 J	400 U	380 U	380 U	360 U
BENZO(K)FLUORANTHENE		130 J	270 J	400 U	160 J	380 U	180 J
BIS(2-ETHYLHEXYL)PHTHALATE		360 U	310 J	640	380 U	380 U	330 J
BUTYLBENZYLPHTHALATE		360 U	160 J	210 J	92 J	380 U	360 U
CHRYSENE		290 J	220 J	400 J	240 J	380 U	170 J
DI-N-BUTYLPHTHALATE		360 U	58 J	90 J	89 J	61 J	360 U
DI-N-OCTYL PHTHALATE		56 JB	98 JB	130 JB	200 JB	390 B	100 JB
DIBENZOFURAN		19 J	120 J	230 J	89 J	29 J	360 U
DIETHYLPHTHALATE		360 U	13 J	400 U	26 J	380 U	360 U
FLUORANTHENE		360 U	290 J	470	320 J	37 J	360 U
FLUORENE		360 U	56 J	400 U	31 J	380 U	360 U
INDENO(1,2,3-CD)PYRENE		360 U	260 J	240 J	130 J	380 U	140 J
N-NITROSODIPHENYLAMINE		360 U	360 U	400 U	23 J	380 U	360 U
NAPHTHALENE		35 J	200 J	390 J	140 J	43 J	360 U
PHENANTHRENE		150 J	460	900	480	85 J	81 J

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 804
LOCATION: BUILDING 65 CYLINDER STORAGE AREA
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE804019B	PE804020B	PE804031B	PE804042B	PE804053B	PE804064B
	SDG NO:	PE803018B	PE803018B	PE803018B	PE803018B	PE803018B	PE803018B
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
PYRENE		520	360	620	370 J	54 J	360 U
1,2,4-TRICHLOROBENZENE		360 U	38 J	140 J	29 J	380 U	360 U
2-CHLOROPHENOL		360 U	14 J	400 U	380 U	380 U	360 U
2-METHYLNAPHTHALENE		43 J	590	610	160 J	59 J	37 J
4-CHLOROANILINE		360 U	360 U	400 U	380 U	15 J	360 U
4-METHYLPHENOL		360 U	360 U	20 J	380 U	380 U	360 U
* ALKYL KETONE(5.38)		190 JB					
* ALKYL KETONE(5.44)							50 JB
* ALKYL KETONE(5.69)						460 JB	
* ALKYL KETONE(5.73)				2000 JB			
* ALKYL KETONE(5.74)					1100 JB		
* ALKYL KETONE(5.77)							
* ALKYL KETONE(5.80)			970 JB				
* ALKYL KETONE(6.46)		99 J					
* ALKYL KETONE(6.48)							130 JB
* ALKYL KETONE(6.77)						1000 JB	
* ALKYL KETONE(6.79)					600 JB		
* ALKYL KETONE(6.81)							
* AMIDE(9.38)							82 JB
* AMIDE(9.71)					680 JB	870 JB	
* AROMATIC HYDROCARBON(18.33)							
* AROMATIC HYDROCARBON(18.34)					310 J		
* DIACETONE ALCOHOL(6.16)		8000 JBA					
* DIACETONE ALCOHOL(6.22)							7300 JBA
* DIACETONE ALCOHOL(6.34)					14000 JBA		
* DIACETONE ALCOHOL(6.38)							
* DIACETONE ALCOHOL(6.53)						56000 JBA	
* DIACETONE ALCOHOL(6.54)			47000 JBA	62000 JBA			
* DIACETONE ALCOHOL(6.56)							
* DIMETHYLNAPHTHALENE(18.62)				780 J			
* DIOCTYL ADIPATE(31.10)		1500 JB					1500 JB
* DIOCTYL ADIPATE(31.40)						20000 JB	
* DIOCTYL ADIPATE(31.41)				26000 JB			
* DIOCTYL ADIPATE(31.42)					17000 JB		
* DIOCTYL ADIPATE(31.43)			25000 JB				
* DIOCTYL ADIPATE(31.44)							
* HYDROCARBON(17.97)							
* HYDROCARBON(18.34)				1000 J			
* HYDROCARBON(18.36)			1500 J				
* HYDROCARBON(18.37)							
* HYDROCARBON(19.36)				660 J			
* HYDROCARBON(19.40)			1300 J				

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 804
LOCATION: BUILDING 65 CYLINDER STORAGE AREA
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE804019B	PE804020B	PE804031B	PE804042B	PE804053B	PE804064B
	SDG NO:	PE803018B	PE803018B	PE803018B	PE803018B	PE803018B	PE803018B
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
* HYDROCARBON(19.95)							
* HYDROCARBON(19.96)				600 J			
* HYDROCARBON(19.97)					340 J		
* HYDROCARBON(20.00)							
* HYDROCARBON(20.81)			1900 J				
* HYDROCARBON(20.74)			830 J				
* HYDROCARBON(21.50)				690 J			
* HYDROCARBON(21.54)							
* HYDROCARBON(21.57)			1300 J				
* HYDROCARBON(22.30)			4400 J				
* HYDROCARBON(22.50)							
* HYDROCARBON(22.95)							
* HYDROCARBON(22.97)				870 J	360 J		
* HYDROCARBON(22.98)							
* HYDROCARBON(23.04)							
* HYDROCARBON(23.05)			3000 J			230 J	
* HYDROCARBON(23.06)				2400 J	1200 J		
* HYDROCARBON(23.09)							
* HYDROCARBON(23.15)			8300 J				
* HYDROCARBON(24.35)				1600 J			
* HYDROCARBON(24.43)			2100 J				
* HYDROCARBON(24.47)							
* HYDROCARBON(24.58)			6200 J				
* HYDROCARBON(25.21)							
* HYDROCARBON(25.24)							
* HYDROCARBON(25.64)			1300 J				
* HYDROCARBON(25.65)						170 J	
* HYDROCARBON(25.67)				1100 J			
* HYDROCARBON(25.68)					510 J		
* HYDROCARBON(25.69)							
* HYDROCARBON(25.73)			2200 J				
* HYDROCARBON(26.91)				630 J			
* HYDROCARBON(26.94)							
* HYDROCARBON(26.99)			1700 J				
* HYDROCARBON(28.09)						310 J	
* HYDROCARBON(28.10)				1800 J			
* HYDROCARBON(28.17)			4200 J				
* KETONE(7.49)							78 J
* KETONE(8.23)				830 J		580 J	
* KETONE(8.25)					680 J		
* KETONE(8.27)							
* KETONE(9.70)				670 J			

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 804
LOCATION: BUILDING 65 CYLINDER STORAGE AREA
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE804019B	PE804020B	PE804031B	PE804042B	PE804053B	PE804064B
	SDG NO:	PE803018B	PE803018B	PE803018B	PE803018B	PE803018B	PE803018B
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
* METHYLNAPHTHALENE(16.70)				660 J			
* PHOSPHATE ESTER(24.38)					9000 J		
* PHOSPHATE ESTER(24.39)							
* PHOSPHATE ESTER(24.45)					6800 J		
* PHOSPHATE ESTER(24.56)							
* PHOSPHATE ESTER(24.63)					2500 J		
* PHOSPHATE ESTER(24.71)					590 J		
* PHOSPHATE ESTER(24.78)					1800 J		
* PHOSPHATE ESTER(24.88)						310 J	
* PHOSPHATE ESTER(30.75)						310 J	
* PHTHALATE ESTER(25.22)							
* PHTHALATE ESTER(32.87)		360 J					1500 J
* SULFUR(26.99)						3300 J	
* SULFUR(27.06)							
* SULFUR(27.39)				7200 J			
* SULFUR(27.43)			5000 J		11000 J		
* SULFUR(27.48)							
* SULFUR(27.49)					370 J		
* SULFUR(27.50)							
* TOLUENE(4.07)				570 J			
* TRIMETHYLNAPHTHALENE(20.94)				530 J			
* TRIMETHYLNAPHTHALENE(21.31)							
* UNKNOWN(24.28)					340 J		
* XYLENE(6.93)							

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE804075B	PE804086B
	SDG NO:	PE803018B	PE803018B
	TYPE:	GRAB	GRAB
ACENAPHTHENE		34 J	370 U
ANTHRACENE		90 J	17 J
BENZO(A)ANTHRACENE		220 J	60 J
BENZO(A)PYRENE		190 J	370 U
BENZO(B)FLUORANTHENE		240 J	370 U
BENZO(G,H,I)PERYLENE		370 U	370 U
BENZO(K)FLUORANTHENE		100 J	370 U
BIS(2-ETHYLHEXYL)PHTHALATE		1000	200 J
BUTYLBENZYLPHTHALATE		370 U	370 U
CHRYSENE		220 J	79 J
DI-N-BUTYLPHTHALATE		370 U	59 J
DI-N-OCTYL PHTHALATE		97 JB	44 JB

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 804
LOCATION: BUILDING 65 CYLINDER STORAGE AREA
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE804075B	PE804086B				
	SDG NO:	PE803018B	PE803018B				
	TYPE:	GRAB	GRAB				
DIBENZOFURAN		69 J	33 J				
DIETHYLPHTHALATE		370 U	370 U				
FLUORANTHENE		400	110 J				
FLUORENE		39 J	370 U				
INDENO(1,2,3-CD)PYRENE		370 U	370 U				
N-NITROSODIPHENYLAMINE		370 U	370 U				
NAPHTHALENE		94 J	55 J				
PHENANTHRENE		410	140 J				
PYRENE		420	130 J				
1,2,4-TRICHLOROBENZENE		370 U	370 U				
2-CHLOROPHENOL		26 J	25 J				
2-METHYLNAPHTHALENE		130 J	48 J				
4-CHLOROANILINE		370 U	370 U				
4-METHYLPHENOL		370 U	370 U				
* ALKYL KETONE(5.38)							
* ALKYL KETONE(5.44)							
* ALKYL KETONE(5.69)			570 JB				
* ALKYL KETONE(5.73)							
* ALKYL KETONE(5.74)							
* ALKYL KETONE(5.77)		480 JB					
* ALKYL KETONE(5.80)							
* ALKYL KETONE(6.46)							
* ALKYL KETONE(6.48)							
* ALKYL KETONE(6.77)			970 JB				
* ALKYL KETONE(6.79)							
* ALKYL KETONE(6.81)		810 JB					
* AMIDE(9.38)							
* AMIDE(9.71)							
* AROMATIC HYDROCARBON(18.33)			480 J				
* AROMATIC HYDROCARBON(18.34)							
* DIACETONE ALCOHOL(6.16)							
* DIACETONE ALCOHOL(6.22)							
* DIACETONE ALCOHOL(6.34)							
* DIACETONE ALCOHOL(6.38)			50000 JBA				
* DIACETONE ALCOHOL(6.53)							
* DIACETONE ALCOHOL(6.54)							
* DIACETONE ALCOHOL(6.56)		42000 JBA					
* DIMETHYLNAPHTHALENE(18.62)							
* DIOCTYL ADIPATE(31.10)							
* DIOCTYL ADIPATE(31.40)			24000 JB				
* DIOCTYL ADIPATE(31.41)							
* DIOCTYL ADIPATE(31.42)							

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 804
LOCATION: BUILDING 65 CYLINDER STORAGE AREA
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE804075B	PE804086B				
	SDG NO:	PE803018B	PE803018B				
	TYPE:	GRAB	GRAB				
* DIOCTYL ADIPATE(31.43)		22000 JB					
* DIOCTYL ADIPATE(31.44)		180 J					
* HYDROCARBON(17.97)							
* HYDROCARBON(18.34)							
* HYDROCARBON(18.36)		270 J					
* HYDROCARBON(18.37)							
* HYDROCARBON(19.36)							
* HYDROCARBON(19.40)			360 J				
* HYDROCARBON(19.95)							
* HYDROCARBON(19.96)							
* HYDROCARBON(19.97)		240 J					
* HYDROCARBON(20.00)							
* HYDROCARBON(20.01)							
* HYDROCARBON(20.74)							
* HYDROCARBON(21.50)		220 J					
* HYDROCARBON(21.54)							
* HYDROCARBON(21.57)							
* HYDROCARBON(22.30)			280 J				
* HYDROCARBON(22.50)			340 J				
* HYDROCARBON(22.95)							
* HYDROCARBON(22.97)		300 J					
* HYDROCARBON(22.98)			500 J				
* HYDROCARBON(23.04)							
* HYDROCARBON(23.05)							
* HYDROCARBON(23.06)		490 J					
* HYDROCARBON(23.09)							
* HYDROCARBON(23.15)							
* HYDROCARBON(24.35)							
* HYDROCARBON(24.43)			560 J				
* HYDROCARBON(24.47)							
* HYDROCARBON(24.58)			320 J				
* HYDROCARBON(25.21)		270 J					
* HYDROCARBON(25.24)							
* HYDROCARBON(25.64)							
* HYDROCARBON(25.65)							
* HYDROCARBON(25.67)							
* HYDROCARBON(25.68)		310 J					
* HYDROCARBON(25.69)							
* HYDROCARBON(25.73)							
* HYDROCARBON(26.91)			330 J				
* HYDROCARBON(26.94)							
* HYDROCARBON(26.99)							

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 804
LOCATION: BUILDING 65 CYLINDER STORAGE AREA
MEDIUM: SOIL

EXTRACTABLE ORGANICS (UG/KG)	SAMP NO:	PE804075B	PE804086B				
	SDG NO:	PE803018B	PE803018B				
	TYPE:	GRAB	GRAB				
* HYDROCARBON(28.09)							
* HYDROCARBON(28.10)							
* HYDROCARBON(28.17)							
* KETONE(7.49)							
* KETONE(8.23)			660 J				
* KETONE(8.25)							
* KETONE(8.27)		590 J					
* KETONE(9.70)							
* METHYLNAPHTHALENE(16.70)							
* PHOSPHATE ESTER(24.38)			3400 J				
* PHOSPHATE ESTER(24.39)		440 J					
* PHOSPHATE ESTER(24.45)							
* PHOSPHATE ESTER(24.56)			2000 J				
* PHOSPHATE ESTER(24.63)							
* PHOSPHATE ESTER(24.71)			720 J				
* PHOSPHATE ESTER(24.78)							
* PHOSPHATE ESTER(24.88)							
* PHOSPHATE ESTER(30.75)							
* PHTHALATE ESTER(25.22)							
* PHTHALATE ESTER(32.87)							
* SULFUR(26.99)							
* SULFUR(27.06)							
* SULFUR(27.39)							
* SULFUR(27.43)							
* SULFUR(27.48)		7200 J					
* SULFUR(27.49)							
* SULFUR(27.50)			17000 J				
* TOLUENE(4.07)							
* TRIMETHYLNAPHTHALENE(20.94)							
* TRIMETHYLNAPHTHALENE(21.31)							
* UNKNOWN(24.28)			330 J				
* XYLENE(6.93)							

VOLATILE ORGANICS (UG/KG)	SAMP NO:	PE804019A	PE804020A	PE804031A	PE804042A	PE804053A	PE804064A
	SDG NO:	PE803018A	PE801083A	PE803018A	PE803018A	PE803018A	PE803018A
	TYPE:	GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
ACETONE		53 B	85 B	25 U	63 B	73 B	56 B
BENZENE		13 U	15 U	13 U	13 U	13 U	13 U
CARBON DISULFIDE		13 U	15 U	13 U	13 U	13 U	13 U
CHLOROMETHANE		25 U	30 U	25 U	25 U	5 J	25 U

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 804
LOCATION: BUILDING 65 CYLINDER STORAGE AREA
MEDIUM: SOIL

VOLATILE ORGANICS (UG/KG)	SAMP NO: PE804019A	PE804020A	PE804031A	PE804042A	PE804053A	PE804064A
	SDG NO: PE803018A	PE801083A	PE803018A	PE803018A	PE803018A	PE803018A
	TYPE: GRAB	GRAB	GRAB	GRAB	GRAB	GRAB
2-BUTANONE	41	30 U	25 U	19 J	33	25 U
* PROBABLE HYDROCARBON(17.25)	24 JB					
* PROBABLE HYDROCARBON(17.36)		13 J		13 JB		
* PROBABLE HYDROCARBON(17.37)			16 JB			
* PROBABLE HYDROCARBON(17.38)					14 JB	
* PROBABLE HYDROCARBON(17.39)						
* PROBABLE HYDROCARBON(20.10)	21 JB			10 JB		
* PROBABLE HYDROCARBON(20.16)					13 JB	
* PROBABLE HYDROCARBON(20.17)			11 JB			
* PROBABLE HYDROCARBON(20.19)						
* PROBABLE HYDROCARBON(20.20)						
* PROBABLE HYDROCARBON(21.42)		14 J				
* PROBABLE HYDROCARBON(21.43)						
* PROBABLE HYDROCARBON(21.47)			16 JB			
* PROBABLE HYDROCARBON(24.00)		30 J		13 JB	16 JB	14 JB
* PROBABLE HYDROCARBON(24.01)						
* PROBABLE HYDROCARBON(24.02)						
* PROBABLE HYDROCARBON(24.03)						

VOLATILE ORGANICS (UG/KG)	SAMP NO: PE804075A	PE804086A
	SDG NO: PE803018A	PE802017A
	TYPE: GRAB	GRAB
ACETONE	67 B	28 U
BENZENE	13 U	6 J
CARBON DISULFIDE	13 U	3 J
CHLOROMETHANE	25 U	28 U
2-BUTANONE	34	28 U
* PROBABLE HYDROCARBON(17.25)		
* PROBABLE HYDROCARBON(17.36)	13 JB	
* PROBABLE HYDROCARBON(17.37)		
* PROBABLE HYDROCARBON(17.38)		19 JB
* PROBABLE HYDROCARBON(17.39)		
* PROBABLE HYDROCARBON(20.10)		
* PROBABLE HYDROCARBON(20.16)		
* PROBABLE HYDROCARBON(20.17)		
* PROBABLE HYDROCARBON(20.19)		15 JB
* PROBABLE HYDROCARBON(20.20)		
* PROBABLE HYDROCARBON(21.42)	12 JB	
* PROBABLE HYDROCARBON(21.43)		15 J
* PROBABLE HYDROCARBON(21.47)		

TABLE 4.3.5 ANALYTICAL DATA SUMMARY BY MEDIUM FOR ENVIRONMENTAL PROBLEM 5 DRAFT DO NOT CITE
HISTORIC WASTE ACCUMULATION AREAS

S&A REQUEST: 804
LOCATION: BUILDING 65 CYLINDER STORAGE AREA
MEDIUM: SOIL

VOLATILE ORGANICS (UG/KG)	SAMP NO:	PE804075A	PE804086A				
	SDG NO:	PE803018A	PE802017A				
	TYPE:	GRAB	GRAB				
* PROBABLE HYDROCARBON(24.00)							
* PROBABLE HYDROCARBON(24.01)							
* PROBABLE HYDROCARBON(24.02)		19 JB					
* PROBABLE HYDROCARBON(24.03)			24 J				

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5.0 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

This section covers quality assurance and quality control requirements addressed by QA/QC plans for the PETC Site. Section 5.1 reviews the QA/QC plan for the PETC Site and provides a summary of the quality control samples generated and collected in the field. An analysis of results and a discussion of audits conducted by the EPA and others are also provided. (Please refer to specific environmental problems in Section 4.0 for data limitations.) Section 5.2 addresses stable chemistry, as well as audits conducted by the EPA and others.

Table 5.1 provides a cross-reference for correlating and locating QA/QC information in the PETC Sampling and Analysis Data Document, the PETC Sampling and Analysis Plans, and the DOE Environmental Survey Manual (8/87).

5.1 Field QA/QC

The PETC Sampling and Analysis Plans were reviewed by EMSL-LV and approved by DOE. Items 5, 8, 11, and 12 from the QA/QC plan (see Table 5.1) are addressed in the paragraphs that follow.

Item 5. QA Objectives for Completeness. The goal for completeness of field measurements was 100%, although 90% was acceptable. The objective for sampling completeness for effluent and groundwater samples was 95%.

Table 5.2 summarizes the sampling completeness for the PETC effort. The overall completeness for this sampling effort was 95% before correcting for deletions and 100% after deletion correction. Ground and surface water sample collection efforts were 83% and 91% respectively before correction for deletions. Both efforts were 100% after deletion corrections.

Table 5.1. Quality Assurance/Quality Control Project Plan Locator

	Essential Elements**	Data Document	ORNL PETC S&A Plan	Survey Manual*
1.	TITLE PAGE WITH APPROVAL SIGNATURES	COVER PAGE	COVER PAGE	COVER PAGE
2.	TABLE OF CONTENTS	iii		APPEND F
3.	PROJECT DESCRIPTION	1.0	1.2.1	
4.	PROJECT ORGANIZATION AND RESPONSIBILITIES	1.1	6.2	Sect. 2
5.	QA OBJECTIVES FOR MEASUREMENT DATA (Precision, accuracy, completeness, representativeness, and comparability)	5.0	6.3	APPEND F
6.	SAMPLING PROCEDURES	3.1	4.0	APPEND E
7.	SAMPLING CUSTODY	3.0, 5.2	5.8, 5.11	APPEND I
8.	CALIBRATION PROCEDURES AND FREQUENCY	5.1	6.6.4	APPEND E
9.	ANALYTICAL PROCEDURES	3.2	6.6.5	APPEND D
10.	DATA REDUCTION, VALIDATION, AND REPORTING	4.0	6.6.6	APPEND H
11.	INTERNAL QC CHECKS AND FREQUENCY	5.1	6.10	APPEND F
12.	PERFORMANCE AND SYSTEM AUDITS AND FREQUENCY	5.1 and APPEND C	6.11, 6.15	APPEND F
13.	PREVENTIVE MAINTENANCE PROCEDURE AND SCHEDULE		6.6.4	
14.	ROUTINE PROCEDURES FOR DATA ASSESSMENT (Precision, accuracy, and completeness of measurement parameters involved)	5.0 APPEND D	6.6.6	APPEND H
15.	CORRECTIVE ACTION	5.1	6.12	APPEND F
16.	QUALITY ASSURANCE REPORTS TO MANAGEMENT	5.0	6.14	APPEND F

* Please refer to the August 1987 DOE Environmental Survey Manual.

** Reference EPA's "Interim Guidelines and Specifications for Preparing Quality Assurance Plans" (EPA 1983).

Table 5.2. Field Sampling Completeness for the PETC Site Number of Samples [a]

Media Type	Planned	Collected	Deleted	Not Collected
Ground Water	12	10	2[e]	0
Surface Water[b][c]	34	31[g]	3[f]	0
Sediment[d]	12	12	0	0
Sub-Surface Soil	19	19	0	0
Surface Soil	23	23	0	0
Total	100	95	5	0

(a) The samples in this table do not represent blank or rinsate samples for QC purposes.
(b) Includes effluent in tanks, sumps and pools.
(c) Three samples added per NUS request. Refer to E.P.1 - Request 310.
(d) Three samples added per NUS request. Refer to E.P.1 - Request 309.
(e) Refer to E.P.4 - Request 402.
(f) Refer to E.P.2 - Request 306
(g) Thirteen samples collected for field measurements only. Refer to E.P.2-Requests 307 and 308.

Item 8. Calibration Procedures and Frequency. An important factor in the collection of accurate field data is instrument calibration. The guidance provided in Table 6.1 of the PETC Sampling and Analysis Plan was followed; dates, standards, and problems were recorded in the field logbooks. In some cases, there were instrument stabilization problems, and where data are suspect, it is noted in the tables or text associated with each environmental problem (see Chapter 4.0).

Item 11. Internal Quality Control Checks. The PETC QA/QC plan called for the collection of trip blanks for volatile organic samples and rinsate samples to check on equipment decontamination. The frequency of use for each of these types of QC samples is shown in Table 5.3. However, the guidance in the final version of the DOE Environmental Survey Manual was changed. Table 5.4 lists the field QC samples collected at PETC. Analytical results are presented in Section 4.2.1. In cases where multiple bottles were indicated for a given analysis only a single bottle was analyzed.

Item 12. Performance and System Audits. An EPA audit team conducted an on-site inspection to evaluate the sampling effort at the PETC Site to document the extent to which procedures identified in the PETC Sampling and Analysis Plans were being followed with respect to implementing specified field tests, field calibration, chain-of-custody, record keeping, quality assurance, sample handling, sample shipment, and sample collection techniques. The field sampling effort and sample management facility were the focus of the inspection.

The EPA audit did not find any serious deficiencies in the sampling effort for the PETC Environmental Survey.

5.2 Analytical QA/QC

Analytical QA/QC is divided into three major sections: analytical chemistry (5.2.1), data management QA/QC (5.2.2), and the analytical QC summary (Appendix D).

Table 5.3. Field QC Samples Planned for the PETC Site

Type QC Sample	Analysis	Solids	Water	Air
Field Preservation Blanks[a]	Organics	NA	NA	NA
	Metals	NA	1/20	NA
	Radionuclides	NA	NA	NA
Rinsate Samples[a]	Organics	1/20	1/20	1/20
	Metals	1/20	1/20	1/20
	Radionuclides	NR	NR	NR
Trip Blanks[a]	Organics	NR	1/20	1/20
	Metals	NR	NR	NR
	Radionuclides	NR	NR	NR

NA = Not available or not applicable.
NR = Not required or not recommended.
1/20 = One QC sample for 1 to 20 samples, 2 for 20 to 40, 3 for 40 to 60, etc.

(a) All samples checked with hand-held instruments to detect radioactive contamination.

TABLE 5.4 PETC SITE ENVIRONMENTAL SURVEY FIELD QC SAMPLES

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SAMPLE NUMBER	SAMPLE TYPE	TYPE LOCATION	MEDIUM	NUMBER ANALYSES REQUESTED	ANIONS	EXOTC	HAZ WAS	HE	METALS	O&G	PCBS& OTHER EXTRA	PET HYDRO	RADS	SEMI-VOLS	SOIL GAS	VOLS
PEN03014A	TRIP BLANK	TRIP BLANK	WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PEN10013A	TRIP BLANK	TRIP BLANK	WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PEN13016A	TRIP BLANK	TRIP BLANK	WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PE301044A	FIELD BLNK	STORM SEWE	SURF WATER	1	0	0	0	0	1	0	0	0	0	0	0	0
PE301044B	FIELD BLNK	STORM SEWE	SURF WATER	1	0	0	0	0	1	0	0	0	0	0	0	0
PE303046A	QC RINSATE	STORM SEWE	SURF WATER	1	0	0	0	0	0	0	0	0	0	1	0	0
PE303046B	QC RINSATE	STORM SEWE	SURF WATER	1	0	0	0	0	1	0	0	0	0	0	0	0
PE303046C	QC RINSATE	STORM SEWE	SURF WATER	1	0	0	0	0	1	0	0	0	0	0	0	0
PE305048A	QC RINSATE	UNDGR TANK	SURF WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PE305048B	QC RINSATE	UNDGR TANK	SURF WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PE305048C	QC RINSATE	UNDGR TANK	SURF WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PE305048D	QC RINSATE	UNDGR TANK	SURF WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PE305048E	QC RINSATE	UNDGR TANK	SURF WATER	1	0	0	0	0	0	0	0	0	0	1	0	0
PE305048F	QC RINSATE	UNDGR TANK	SURF WATER	1	0	0	0	0	1	0	0	0	0	0	0	0
PE305048G	QC RINSATE	UNDGR TANK	SURF WATER	1	0	0	0	0	1	0	0	0	0	0	0	0
PE308109A	QC RINSATE	UNDGR TANK	SURF WATER	1	0	0	0	0	0	0	0	0	0	1	0	0
PE308109B	QC RINSATE	UNDGR TANK	SURF WATER	1	0	0	0	0	1	0	0	0	0	0	0	0
PE308109C	QC RINSATE	UNDGR TANK	SURF WATER	1	0	0	0	0	1	0	0	0	0	0	0	0
PE401045A	FIELD BLNK	SPRING	SURF WATER	1	0	0	0	0	1	0	0	0	0	0	0	0
PE401045B	FIELD BLNK	SPRING	SURF WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PE800162A	QC RINSATE	WASTE ACCU	SURF WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PE800162B	QC RINSATE	WASTE ACCU	SURF WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PE800162C	QC RINSATE	WASTE ACCU	SURF WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PE800162D	QC RINSATE	WASTE ACCU	SURF WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PE800162E	QC RINSATE	WASTE ACCU	SURF WATER	2	0	0	0	0	0	0	1	0	0	1	0	0
PE800162F	QC RINSATE	WASTE ACCU	SURF WATER	1	0	0	0	0	1	0	0	0	0	0	0	1
PE802073A	QC RINSATE	WASTE ACCU	SURF WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PE802073B	QC RINSATE	WASTE ACCU	SURF WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PE802073C	QC RINSATE	WASTE ACCU	SURF WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PE802073D	QC RINSATE	WASTE ACCU	SURF WATER	1	0	0	0	0	0	0	0	0	0	0	0	1
PE802073E	QC RINSATE	WASTE ACCU	SURF WATER	2	0	0	0	0	0	0	1	0	0	1	0	0
PE802073F	QC RINSATE	WASTE ACCU	SURF WATER	1	0	0	0	0	1	0	0	0	0	0	0	0

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Design and implementation of analytical QA plans for the DOE Environmental Survey have been based on the fundamental principle of "data of known quality". Although a survey program such as this can effectively use data of varying quality levels, it is important that data users be provided with a data quality assessment for any given sample set. In this way, the Survey Team can interpret the analytical data from a programmatic perspective, while considering the analytical limitations imposed on the data. Data quality assessments require that all phases of laboratory support be designed to address the fundamental principals of precision, representativeness, accuracy, comparability, and completeness. The analytical QA program plan has accomplished this through the use of standard procedures, quality control practices, data reporting requirements, and data quality evaluations. A brief summary of some of the major analytical QA components follows.

Sampling and analysis support to the DOE Environmental Survey is a very large scale effort, requiring the contributions of a number of laboratories. From an analytical perspective, data comparability is ensured by adopting a program-wide set of standard analytical procedures, quality control practices, and reporting requirements. These procedures, which are documented in Appendix D of the DOE Environmental Survey Manual, are based on a number of well-documented, EPA-approved methods. In cases where a standard EPA method has not been developed for a given analyte, procedures that have been fully tested and documented were selected. All analytical procedures used for the laboratory analysis of PETC samples are described in Chapter 3.0 and cited in Chapter 6.0 of this report. The analytical determinations for this program use the EPA Contract Laboratory Program protocols. A summary of data quality objectives as described in the defined EPA method is presented in Table 5.5 for PETC samples.

All participating laboratories have developed a series of Standard Operating Procedures (SOPs) which establish policies and practices for all phases of laboratory operations. The SOPs provide the basis for day-to-day operation of the laboratory, and serve as the foundation for a technical systems audit.

Table 5.5. Data Quality Objectives

Analyte(s)	Method	Precision	Accuracy
Volatile organics	7/87 CLP SOW	As specified in protocol	As specified in protocol
Semivolatile organics	7/87 CLP SOW	As specified in protocol	As specified in protocol
Pesticides/PCBs	10/86 CLP SOW	As specified in protocol	As specified in protocol
Inorganic metals	7/87 CLP SOW	As specified in protocol	As specified in protocol

At a minimum, quality control practices adopted by the individual laboratories must include items mandated by the analytical protocols. In the case of inorganic determinations, these include the use of preparation blanks, calibration blanks. laboratory duplicate samples, laboratory control samples, matrix spikes, analytical spikes, interference check samples, and calibration verification solutions. For organic determinations, these include rigorous tuning criteria, matrix spike samples, matrix spike duplicate samples, method blanks, internal standards, and surrogates. In addition to these requirements, which are imposed by the analytical protocols, the laboratory is required to monitor method performance over time.

Data reporting procedures for the DOE Environmental Survey program were established with the objective of providing a technically defensible, legally admissible data set. Deliverables include CLP reporting forms for organics and inorganics. Data comparability is provided by the adoption of a program-wide set of defined deliverables. ORNL will be responsible for a comprehensive case file purge for the PETC Site. These case files include all of the raw data and documentation associated with a site in an auditable structure.

Evaluations of the quality of an analytical support effort to the DOE Environmental Survey were made externally to provide an independent assessment of performance and technical systems. These external assessments of analytical performance include participation in EPA round robins. Organic and inorganic laboratories received regular sets of performance evaluation samples from the EPA during the time PETC samples were being analyzed. These include quarterly blinds (CLP analytes) and water pollution series samples (classical analytes) from EMSL-LV. A summary of performance results pertinent to the PETC sampling and analysis time period appears in the "Results of Inorganic and Organic Performance Evaluation Studies" in Appendix C. A related but distinctly different function is served by the technical systems audits performed by EPA (and NEIC). In this case, on-site evaluation of the laboratory operation is performed

during and following the sampling and analysis period. These audits are a qualitative evaluation of the overall laboratory operation, including facilities, equipment, documentation, data validation, and quality control procedures.

5.2.1 Analytical Chemistry QA

Detailed data quality assessments are presented for the samples associated with a given PETC environmental problem/location in Chapter 4.0. Data quality assessment/data usability determination for all analytical methods was made using a modification of a checklist developed by the Idaho National Engineering Laboratory and documented in the Hanford Site Sampling and Analysis Data Document, Volume 1, April 1988. The checklist used to evaluate the quality of PETC results is entitled "Analysis Quality Level Evaluation" and can also be found in Appendix D. The checklist addresses the same QC areas as the above described assessments but in a less rigorous manner. The checklist was used to verify that the components essential to sampling analysis, and quality control were integrated into the environmental problem evaluation. Data were evaluated on an SDG basis. The exception to this was when an analyte did not conform to the majority of analytes in a given analytical method. Data quality of this analyte was assessed separately and entered in the exception portion of the checklist.

To perform the evaluation, the pertinent information was attached to the checklist and referenced, or simply included in the allowed space. The level of quality for a given determination was assessed according to compliance of sample results to six performance criteria specified in the checklist. These performance criteria include determination of compliance to CLP requirements in the following categories:

1. Holding Time
2. Duplicates
3. Blanks
4. Laboratory Control Standards
5. Calibration Verification

6. Spike Recovery
7. ICP Serial Dilution and AA Standard Addition

Holding time compliance is calculated from the date of sample collection. Data in compliance with all sex performance criteria were assigned a Quality Level of I. Data Quality Level II was assigned to SDGs in which the numerical average of non-compliance results for the six performance criteria was less than or equal to 20% of the required limits. Quality Level III was assigned to any data in which the average deviation from compliance was greater than 20%. Data quality results associated with the overall PETC data set are located in Appendix D of this data document.

In subsequent discussion, overall data quality for the PETC data set is presented in two formats:

1. Accomplishment of data quality objectives
2. Data quality by type of analysis.

5.2.1.1 Accomplishment of Data Quality Objectives

Objectives for the overall data quality for the PETC data set were established in five data quality categories. The categories are completeness, representativeness, comparability, precision, and accuracy. Evaluations of the program's accomplishments within each category follow.

5.2.1.1.1 Completeness

The Characteristic of completeness measures the amount of data obtained compared to the amount expected or planned. The program objective was to obtain data for 90% of all samples planned for collection and not deleted. Analytical data were generated for 100% of all samples planned for collection. As per instructions received from the DOE Office of Environmental Audit and Compliance, all requests for the analysis of

polynuclear aromatic compounds (PNA) were deleted from the PETC Sampling and Analysis plan. PNA results were determined from semivolatile analyses.

5.2.1.1.2 Representativeness

Sampling and measurements were carefully conducted so that results are as representative as possible of the media (e.g., air, soil, and water) and conditions being measured. Sampling protocols were selected and developed where necessary to meet those objectives. Sample handling protocols (e.g., splitting into aliquots, field and travel blanks, preservation, storage, and transportation) were selected to evaluate and protect the representativeness of collected samples.

Recording procedures were utilized to document adherence to proper protocols for sampling, identifying samples, and maintaining sample integrity. PETC coolers containing samples to be analyzed by ORGDP were shipped by Federal Express and delivered to the ORGDP receiving department. The air bills were removed by the receiving department and retained. Coolers were delivered to the Analytical Chemistry Department sample receiving room. Coolers were opened and inventoried in the secure specimen storage area. Two sets of forms filled out by the sampling team were received with each sample cooler: "The DOE Environmental Survey Chain of Custody for Inorganics/Organics" (COC), and the "Request for Analytical Services, Department of Environmental Management. A "Shipping container Log-in Form" was completed listing the contents of the cooler, noting PETC identification numbers, sample tag numbers, and discrepancies, if any. Internal sample ID labels were attached to all samples. A "cooler folder" was created to permanently file the packing lists, chains of custody, log-in sheets, and sample tags. An internal sample chain of custody record form was used when transferring samples outside of the custody of the sample log-in room. Samples designated for specific chemical analyses were delivered on the same or following day to the appropriate analyses groups where they were retained under appropriate storage conditions.

No irregularities in sample identification were noted in case narratives supplied by the individual analysis groups at ORGDP.

Field and travel blank results indicate contamination of target analytes during sampling or sample transportation was minor. For all analytes, field and transportation contamination occurred in less than 14.6% of the individual batches of samples collected and shipped to the laboratories. The levels of contamination that did infrequently occur were low and did not require rejection of analytical data.

Analytical program objectives for representativeness were established for each analysis type. The quality control requirements monitored to evaluate representativeness were analyte specific holding times. Table 5.6 shows the actual adherence to required extraction and analysis holding times and program objectives as percentages of samples analyzed. Holding times are calculated from the date of sample collection; holding time requirements are those listed in Test Methods for Evaluating Solid Waste, USEPA SW-846, 3rd ed., November 1986. Values appearing within the parentheses denote the actual number of samples in compliance compared to the total number of samples analyzed. Objective for adherence to requirements were met for all holding times.

5.2.1.1.3 Comparability

The characteristic of comparability reflects both internal consistency of measurements and expression of results in units consistent with other organizations reporting similar data. Generating comparable data requires utilizing methodologies which produce comparable results (e.g., metals data obtained by total dissolution of soil is not comparable to data obtained by incomplete dissolution of soil such as the normally used acid leaching methods) and conducting analyses with calibrated analytical instruments within the proper calibration ranges. To ensure comparability of analytical results, all program laboratories utilized only analytical methods specified in the experimental plan. Additionally, appropriate standard units were utilized for each measurement system, which yielded internally and externally comparable results assuming other comparability criteria were met.

Table 5.6. Adherence to Holding Time Requirements

	Analyses Within Holding Time Requirements (%)			
	Extraction Time		Analysis Time	
Analysis Type	Analyses	Objective	Analyses	Objective
Volatiles	NA		100 (54 of 54)	90
Semivolatiles	95 (83 of 87)	85	NA	
Pesticide/PCB	100 (42 of 42)	85	NA	
Inorganic Metals+	100 (174 of 174)	98	NA	
Mercury	NA		100 (45 of 45)	90

+ Calculation based on total results of ICP, GFAA, and CVAA analytes.

NA - Not applicable.

To monitor the ability of the laboratories to generate comparable data, quarterly blind (QB) performance samples from the EPA (EMSL-LV) were analyzed for CLP analytes during the PETC analytical program. Additionally, water pollution (WP) samples also distributed by EPA (EMSL-LV) were analyzed. The analytical program objective for comparability was to generate acceptable results for the CLP QB and WP samples. Scores for inorganic QB samples pertinent to the PETC time frame were 96.8, 96.6, and 94.3 for QB3FY88, QB4FY88, and QB1FY89, respectively. Available scores for the pertinent organic QB samples were 68.8, 95.6, and 47.3 for QB3FY88, QB4FY88, and QB1FY89, respectively. It should be noted that only volatile and pesticide/PCB analytes in the QB4FY88 aqueous organic sample were submitted for grading. The performance objective was satisfactorily accomplished for all inorganic WP analytes. A table summarizing the ORGDP performance scores, copies of the respective EPA evaluation reports, and ORGDP remedial action responses are provided in Appendix C.

5.2.1.1.4 Precision

Precision, the ability to replicate an analytical value, was evaluated through duplicate analysis of 5% to 10% of the samples analyzed. The program objectives for the precision of analytical measurements were to satisfy CLP precision control limits for 80% of all aqueous analyses and 70% of all soil analyses. The reported data meet CLP precision criteria [relative percentage difference (RPD)] for 92% of all aqueous measurements and for 88% of all soil measurements. The adherence to precision requirements are summarized for each analysis method according to sample matrix in Table 5.7. The values appearing within the parentheses denote the actual number of analytes in compliance with CLP requirements in comparison to the total number of analytes measured. The data quality objective was not met for pesticide/PCB analyses in soil samples, indicating a difficulty in reproducing pesticide/PCB results in solid samples.

Table 5.7 Adherence to Precision Requirements

	Analyses Within CLP Precision Requirements (%)			
	Water Samples		Soil Samples	
Analysis Type	Analyses	Objective	Analyses	Objective
Volatiles	100 (10 of 10)	80	97	70
Semivolatiles	95 (21 of 22)	80	97 (32 of 33)	70
Pesticide/PCB	*		67 (12 of 18)	70
Inorganic Metals+	90 (52 of 58)	80	86 (68 of 79)	70

* No sample of this matrix type analyzed.
+ Calculation based on total results of ICP, GFAA, and CVAA analytes.

Note: All calculations are based on the number of analytes in compliance for a given analytical method.

5.2.1.1.5 Accuracy

Accuracy, the ability to obtain a true value, is optimized and evaluated for an analytical system through specific quality control (QC) procedures and measurements. The exact QC procedures and measurements required to ensure acceptable accuracy depend on the method, but all chemical methods generally require instrument calibration, method blank analysis, check standard or laboratory control sample analysis (i.e., analysis of sample of known analyte concentration), and matrix spike. Organic analyses usually incorporate additional QC procedures to optimize accuracy; the additional procedures referred to are internal standards and surrogate compounds added to every sample. Analytical determinations based on CLP protocol incorporated the required QC samples to assess the accuracy of analytical results.

Evaluation of tuning criteria for volatiles and semivolatiles was performed by using the CLP Form V (GC-MS Tuning and Mass Calibration Form) for both the volatile and semivolatile fractions. Instrument tuning criteria were met for 100% of volatile and semivolatile organic data.

The remaining results of accuracy of QC measurements associated with the PETC data are summarized in the categories of calibration (Table 5.8), blanks (Table 5.9), control samples (Table 5.10), and matrix spikes (Table 5.11). Also listed in the summaries for comparison are program objectives, where objectives are established.

Entries for percentage compliance for initial and continuing calibration results are summarized in Table 5.8. Percentage compliance for pesticide/PCB analysis is based on results tabulated from Form 8D (Check for Linearity), Form 8E [Retention Time Shift of dibutylchloreneate (DBC)], and Form 9 (Standards Summary). All calibration data for the PETC site met the program objective.

Table 5.8. Adherence to Calibration Requirements

	Analyses With Acceptable Calibrations (%)			
	Water Samples		Soil Samples	
Analysis Type	Analyses	Objective	Analyses	Objective
Volatiles	100 (30 of 30)	90	100 (90 of 90)	90
Semivolatiles	100 (204 of 204)	90	100 (204 of 204)	90
Pesticides/PCB	*		93 (490 of 525)	90
Inorganic Metals+	99 (360 of 364)	90	99 (585 of 588)	90

+ Calculations based on total of ICP, GFAA, and CVAA analytes.
* No samples of this matrix type were analyzed.

Note: All calculations are based on the number of analytes in compliance for a given analytical method.

Table 5.9. Adherence to Method Blank Requirements

	Analyses With Method Blanks Below CRDL (%)			
	Water Samples		Soil Samples	
Analysis Type	Analyses	Objective	Analyses	Objective
Volatiles	93 (63 of 64)	95	96 (233 of 242)	95
Semivolatiles	100 (195 of 195)	95	100 (260 of 260)	95
Pesticides/PCB	*		100 (81 of 81)	95
Inorganic Metals+	99 (489 of 494)	95	94 (621 of 736)	95

+ Calculations based on total of ICP, GFAA, and CVAA analytes.
* No samples of this matrix submitted for analysis.

Note: All calculations are based on the number of analytes in compliance for a given analytical method.

Table 5.10. Adherence to Control Sample Requirements

	Analyses With Acceptable Control Sample Analyses (%)			
	Water Samples		Soil Samples	
Analysis Type	Analyses	Objective	Analyses	Objective
Volatiles	*	80	*	80
Semivolatiles	*	80	*	80
Pesticide/PCB	*	80	*	80
Inorganic Metals+	100 (84 of 84)	80	87 (109 of 125)	80

+ Calculations based on total of ICP, GFAA, and CVAA analytes.
* Not applicable.

Note: All calculations are based on the number of analytes in compliance for a given analytical method.

Table 5.11. Adherence to Matrix Spike Requirements

	Analyses With Acceptable Matrix Spike Analysis (%)			
	Water Samples		Soil Samples	
Analysis Type	Analyses	Objective	Analyses	Objective
Volatiles (TC)	100 (20 of 20)	80	100 (60 of 60)	70
Volatiles (IS)	100 (54 of 54)	90	100 (204 of 204)	80
Volatiles (SC)	100 (54 of 54)	90	100 (186 of 186)	80
Semivolatiles (TC)	95 (42 of 44)	80	90 (59 of 66)	70
Semivolatiles (IS)	100 (60 of 60)	90	97 (70 of 72)	80
Semivolatiles (SC)	96 (233 of 242)	90	99 (383 of 384)	80
Pesticide/PCB (TC)	NS		64 (23 of 26)	70
Pesticide/PCB (SC)	NS		46 (13 of 28)	80
Inorganic Metals+	92 (48 of 52)	80	93 (65 of 70)	70

+Calculations based on total of ICP,GFAA, and CVAA analytes.
NS = No samples of this matrix submitted for analysis.
TC = Calculations based on the results of target compound recovery.
IS = Calculations based on the results of internal standard compound recovery.
SC = Calculations based on the results of surrogate compound recovery.

Note: All calculations are bases on the number of analytes in compliance for a given analytical method.

The results in Table 5.9 demonstrate that all organic and inorganic blank measurements satisfied the program objectives and imply relatively contamination free organic analyses. Sample carry over may have attributed to instances where non-compliance was noted in ICP calibration and preparation blanks.

Laboratory control sample analyses were not conducted for most types of analyses. Results presented in Table 5.10 indicate excellent accuracy for inorganic metal analytical methods.

The performance of matrix spike organic samples was based on the recovery of target compounds (TC), internal standard compounds (IS), and surrogate compounds (SC). The performance objective for matrix spike samples was realized for all analytical procedures in which matrix spike compounds were analyzed in aqueous samples. Target and surrogate compound recoveries did not meet data quality objectives in samples in which pesticide/PCB analytes were determined. Elevated recovery of these compounds is probably due to the interference of high gas chromatography (GC) background levels exhibited in the soil samples.

5.2.1.2 Data Quality by Type of Analysis

General observations and facts that should be considered when interpreting data from the PETC Site are provided in this section. The discussions are presented by general type of analysis in the following order: volatiles, semivolatiles, pesticides/PCBs, and inorganic metals.

5.2.1.2.1 Volatile Organic Compounds

A number of analytes and tentatively identified compounds (TICs) are often introduced to the samples rather than originating from the samples themselves. However, no TICs or TCLs above the CLP limit were found in any of the blanks analyzed. Acetone was present in all soil blanks at less than 61 ug/Kg. 2-Butanone and unidentified hydrocarbons were also present at trace levels in these blanks.

True soil blanks were not analyzed. Instead, a water blank was analyzed with each SDG containing soil samples. If cross contamination occurred during chemical processing of soil samples, it is possible such contamination was not indicated by the aqueous method blank.

The 7/87 EPA CLP protocol for low level soil analysis requires the extraction be performed at 40°C. However, soil samples were extracted at 60°C; there should be no impact on sample results due to this deviation in protocol.

Deviation from CLP QA/QC protocol included a single instance in which 1,1-dichloroethene results failed a continuing calibration check; all other calibration checks met QC criteria. Since 1,1-dichloroethene was not found in any samples of the affected SDG, the noncompliance should have no impact on the data.

The following seven samples of Environmental Problem 5 were reported on a wet weight basis since no percent moisture determination were made: PE802017A, PE802028A, PE802039A, PE802040A, PE802051A, PE802062A, and PE803030A. The following seven samples of the same environmental problem were also reported on a wet weight basis: PE803018A, PE804019A, PE804031A, PE804042A, PE804053A, PE804064A, and PE804075A. The reported values for these samples may therefore be underestimated. All other samples were reported on a dry weight basis.

5.2.1.2.2 Semivolatile Organic Compounds

Semivolatile organic compound analyses are prone to their own unique set of contamination problems. Phthalates are a very common contaminant in semivolatile analyses. These compounds are used as plasticizers and are easily extracted with organic solvents and often introduced to samples or their associated extracts at numerous points in the sample analysis process. However, no compounds were observed above CLP limits in any of the semivolatile blanks prepared for PETC samples.

Several samples were reextracted and reanalyzed because of analytical failures. They have been designated on all forms with a "RE" suffix. Those samples failing QC requirements upon reanalysis are PE307028BRE and PE303013ARE. A single sample (PE800162E) was not reanalyzed because insufficient sample was available for reextraction.

Results from matrix spike analysis indicates that semivolatile results for samples collected under Request 308 and 800 may be influenced by matrix effects.

5.2.1.2.3 Pesticides and Polychlorinated Biphenyls

All sample preparations were carried out according to the EPA CLP Statement of Work for Organic Analysis, 10/86 revision. All but two soil samples were diluted due to matrix and/or GC background interferences. The retention time shift and percent recovery of the surrogate compound, DBC, were poor on both the detection and confirmation columns due to a sample-derived interfering peak in the chromatograms of Request 800 and 801 samples. The RPD and recovery requirements for matrix spike and matrix spike duplicate samples were poor, also indicating the presence of matrix interferences in all of the soil samples analyzed. Lindane in samples from Requests 802 and 804 could not be resolved from the interfering matrix spike compounds. Heptachlor and aldrin also could not be quantitated because of matrix effects.

Four samples (PE802039, PE802040, and two blanks) were not analyzed properly on the 3% SP-2100 column due to faulty performance of the autosampler. (These samples are flagged on Form 8E of the SDG PE804064-MS data package.) Therefore, the percent recovery of the surrogate on this column was not reported for these samples.

5.2.1.2.7 Inorganic Metals

Arsenic and lead were determined by either ICP or by GFAA, depending upon whether the analytical request was made for all metals or for just the two individual metals. To avoid confusion caused by the need for two analytical techniques, the samples were

divided into two sets of data which were reported as two distinct cases (PE001 and PE002) in the data packages. For all samples requesting analysis by ICP, all elements except thallium and mercury were obtained using this technique. Thallium results for all samples were obtained using GFAA, as per the analysis request. Data for mercury was obtained using CVFAA.

ICP Analyses. Case PE001 data packages contain ICP results. All elements except thallium and mercury are included on the ICP forms. A single SDG package (PE300010C) does not include Forms 5A (Spike Recovery), 6 (Duplicate results), and 9 (ICP Serial Dilution).

Most QC sample data met CLP control limits. Exceptions to this include one ICP initial calibration was slightly outside the 90-110% control limit range for elements potassium and selenium. Two continuing calibration verifications were above the control limit by 0.4% for potassium. These deviations were so slight that there should be no significant impact on the quality of the associated sample data.

The ICP data packages do not contain blank 'U' or 'B' flags for blank data that have values greater than -IDL or -CRDL, respectively. ICP calibration blanks that definitely were outside allowable negative deviation limits occurred in the following cases. Chromium values may have a slight negative bias for samples contained in Requests 303, 310, 802, and 804. Potassium values may have a slight negative bias in soil samples for Request 301, 302, 305, 309, and 802.

Two preparation blanks were found to be above the contract required detection limit for silver. In both cases, an interference check sample containing a substantial concentration of silver had been analyzed just prior to the analysis of the blanks. The high silver blank values are probably due to insufficient rinsing between the check samples and is not indicative of sample contamination occurring during sample digestion procedures.

Soil samples collected for Requests 800 and 801 of Environmental Problem 5 were associated with Laboratory Control Sample results in which potassium, selenium, and aluminum recoveries were above control limits. This may suggest sample data for these elements is biased in the above samples. A number of ICP analytes did not meet CLP criteria for serial dilution analysis in these same samples, implying that interferants present in the soil samples may further bias sample results.

GFAA Analyses. Case PE002 data packages contain GFAA results for arsenic, lead, and thallium. All calibration and blank data met CLP requirements. The results for all determinations performed by the method of standard additions (MSA) were substituted for the original, non-MSA values on forms I, V, and VI to conform to requirements as stated in Revision 7/87 of the CLP protocol.

The spike recovery and duplicate results for arsenic in soil samples for Requests 800, 802, and 880 did not meet CLP requirements, indicating that sample results may be influenced by matrix effects for these samples. Lead results are similarly affected in Request 802 samples.

CVAA Analyses. Mercury was quantified using cold vapor atomic absorption spectrometry (CVAA). All calibration and blank data met CLP control requirements. Spike recovery of mercury from both soil and water matrices were 0-30%. Laboratory control sample results met CLP requirements, suggesting that matrix effects may be the cause of poor recoveries of mercury from the samples.

5.2.2 Data Management QA/QC

All analytical data entered into the Data Management System (DMS) goes through a series of verification and validation (V&V) routines to ensure that the data are of the highest quality possible. These V&V routines are designed to capture two potential types of data errors: transcription and consistency.

Data transcription problems (i.e., data entry errors) can be eliminated through the use of electronic data transfer techniques.

For PETC Site data, all ICP data and most organic data were manually entered data. Hard copy of sample data was initially reviewed for legibility, entered, and then 100% visually checked for accuracy. All transcription errors are corrected at the time of discovery and are not documented.

Data consistency problems consist of miscoded information, missing data, incomplete data, and conflicting sample identification codes. After the information has been entered into the data base and all transcription problems corrected, the data is then printed and returned to the field team supervisor or analytical chemist for review. During this review, any missing or incomplete data is corrected and sent back for addition to the data base. Miscoded information is corrected and documented. Conflicting sample identification codes are reviewed and resolved by data management personnel working with field and analytical staff.

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6.0 REFERENCES

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1-2. The Environment Survey Manual, U.S. Department of Energy, Office of the Assistant Secretary Environment, Safety, and Health. Office of Environmental Audit. National Technical Information Service, U.S. Department of Commerce: Springfield, VA, August 1987; DOE/EH-0053, Vol. 1-4.

1-3. Environmental Survey Preliminary Report - Pittsburgh Energy Technology Center, U.S. Department of Energy, Office of Environmental Audit, Pittsburgh, Pennsylvania, September 1988.

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ICP-Atomic Emission Spectrometry

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Percent Solids

USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis Multi-Media, Multi-Concentration SOW No. 785, Method 335.2 (Sed.).

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Method 160.3.

Appendix A

UPDATED LIST OF SAMPLING AND ANALYTICAL REQUESTS

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TABLE A.1
PETC SITE ENVIRONMENTAL SAMPLES
WITH FIELD QC SAMPLES
SORTED BY ENVIRONMENTAL PROBLEM AND REQUEST NUMBER

REQ NUMB	PROB NUMB	ST	DATE COLL. DD/MM/YY	LOCATION	TYPE LOCATION	MEDIA	NUMB SAMP ACTUAL	NUMB SAMP PLANNED	TYPE	METALS ACTUAL	METALS PLANNED	PES/H/PCB ACTUAL	PES/H/PCB PLANNED	SEMIVOLS ACTUAL	SEMIVOLS PLANNED	VOLS ACTUAL	VOLS PLANNED
PE300	1		17/08/88	LICK RUN	STORM SEWER	SEDIMENT	3	3	GRAB	3	3	0	0	3	3	0	0
PE301	1		19/08/88	LICK RUN	STORM SEWER	SUR WATER	1	1	GRAB	1	1	0	0	1	1	1	1
PE301	1		20/08/88	LICK RUN	STORM SEWER	SUR WATER	1	1	QC FL	1	1	0	0	0	0	0	0
PE301	1		20/08/88	LICK RUN	STORM SEWER	SUR WATER	2	2	GRAB	2	2	0	0	2	2	2	2
PE302	1		19/08/88	LICK RUN	STORM SEWER	SUR WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE302	1		20/08/88	LICK RUN	STORM SEWER	SUR WATER	2	2	GRAB	2	2	0	0	2	2	0	0
PE303	1		20/08/88	LICK RUN	STORM SEWER	SEDIMENT	3	3	GRAB	3	3	0	0	2	3	0	0
PE303	1		20/08/88	LICK RUN	STORM SEWER	SUR WATER	1	1	QC RN	1	1	0	0	1	1	0	0
PE304	1		17/08/88	LICK RUN	STORM SEWER	SEDIMENT	3	3	GRAB	3	3	0	0	3	3	0	0
PE309	1		19/08/88	LICK RUN	STORM SEWER	SUR WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE309	1		20/08/88	LICK RUN	STORM SEWER	SUR WATER	2	2	GRAB	2	2	0	0	2	2	0	0
PE310	1		19/08/88	LICK RUN	STORM SEWER	SEDIMENT	3	3	GRAB	3	3	0	0	3	3	0	0
PE305	2		17/08/88	B. B-141	UNDGR TANK	UNSEAL CO	1	1	GRAB	1	1	0	0	1	1	1	1
PE305	2		18/08/88	B. B-141	UNDGR TANK	UNSEAL CO	1	1	GRAB	1	1	0	0	1	1	1	1
PE305	2		19/08/88	B. B-141	UNDGR TANK	SUR WATER	1	1	QC RN	1	1	0	0	1	1	1	1
PE305	2		19/08/88	B. B-141	UNDGR TANK	UNSEAL CO	1	1	GRAB	1	1	0	0	1	1	1	1
PE306	2	DELETED		B. B-141	UNDGR TANK	SUR WATER	0	3	GRAB	0	3	0	0	0	3	0	0
PE307	2		20/08/88	B. B-141	UNDGR TANK	SUR WATER	3	3	T COM	3	3	0	0	0	3	0	0
PE308	2		17/08/88	B. B-141	UNDGR TANK	SUR WATER	1	1	T COM	1	1	0	0	1	1	0	0
PE308	2		18/08/88	B. B-141	UNDGR TANK	SUR WATER	1	1	T COM	1	1	0	0	1	1	0	0
PE308	2		19/08/88	B. B-141	UNDGR TANK	SUR WATER	1	1	QC RN	1	1	0	0	1	1	0	0
PE308	2		19/08/88	B. B-141	UNDGR TANK	SUR WATER	1	1	T COM	1	1	0	0	1	1	0	0
PE400	3		16/08/88	B. 62	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE400	3		17/08/88	B. 62	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE400	3		18/08/88	B. 62	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE401	3		16/08/88	B. 62	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE401	3		17/08/88	B. 62	SPRING	SUR WATER	1	1	QC FL	1	1	0	0	0	0	0	0
PE401	3		17/08/88	B. 62	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE401	3		18/08/88	B. 62	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE402	4	DELETED		2.1 FIELD	SPRING	GRN WATER	0	2	GRAB	0	2	0	0	0	2	0	0
PE402	4		16/08/88	2.1 FIELD	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE403	4		16/08/88	2.1 FIELD	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE403	4		17/08/88	2.1 FIELD	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE403	4		18/08/88	2.1 FIELD	SPRING	GRN WATER	1	1	GRAB	1	1	0	0	1	1	0	0
PE800	5		16/08/88	2.2 FIELD	WASTE ACCUM	SOIL	15	15	GRAB	15	15	15	15	14	15	15	15
PE800	5		16/08/88	2.2 FIELD	WASTE ACCUM	SUR WATER	1	1	QC RN	1	1	0	1	1	1	1	1
PE801	5		16/08/88	2.2 FIELD	WASTE ACCUM	SOIL	10	10	GRAB	10	10	10	10	10	10	10	10
PE802	5		19/08/88	2.2 FIELD	WASTE ACCUM	SOIL	6	6	GRAB	6	6	6	6	6	6	6	6
PE802	5		19/08/88	2.2 FIELD	WASTE ACCUM	SUR WATER	1	1	QC RN	1	1	0	1	1	1	1	1
PE803	5		19/08/88	2.2 FIELD	WASTE ACCUM	SOIL	3	3	GRAB	3	3	3	3	3	3	3	3
PE804	5		18/08/88	2.2 FIELD	WASTE ACCUM	SOIL	8	8	GRAB	8	8	8	8	8	8	8	8
PEN03	99		17/08/88	TRIP BLANK	TRIP BLANK	WATER	1	1	QC BL	0	0	0	0	0	0	1	1
PEN10	99		20/08/88	TRIP BLANK	TRIP BLANK	WATER	1	1	QC BL	0	0	0	0	0	0	1	1

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TABLE A.1
PETC SITE ENVIRONMENTAL SAMPLES
WITH FIELD QC SAMPLES
SORTED BY ENVIRONMENTAL PROBLEM AND REQUEST NUMBER

REQ NUMB	PROB NUMB	ST	DATE COLL. DD/MM/YY	LOCATION	TYPE LOCATION	MEDIA	NUMB SAMP ACTUAL	NUMB SAMP PLANNED	TYPE	METALS ACTUAL	METALS PLANNED	PES/H/PCB ACTUAL	PES/H/PCB PLANNED	SEMIVOLS ACTUAL	SEMIVOLS PLANNED	VOLS ACTUAL	VOLS PLANNED
PEN13	99		22/08/88	TRIP BLANK	TRIP BLANK	WATER	1	1	QC BL	0	0	0	0	0	0	1	1
						TOTAL	92	97		89	94	42	44	82	92	54	54

Appendix B
BACKGROUND CONCENTRATION LEVELS OF ANALYTES

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APPENDIX B
BACKGROUND CONCENTRATION LEVELS OF ANALYTES

No data on background levels on contaminants are available for this site. The following statements are taken from the Pittsburgh Energy Technology Center (PETC) Annual Site Environmental Report (April 1988) covering the period January - December 1987.

> Due to the nature of the research and development activities conducted at the site, PETC is not required to perform air emission or water effluent monitoring.
>
> PETC maintains an operating permit (granted by the Allegheny County, Pennsylvania Health Department - Bureau of Air Pollution Control) for one research boiler whose air emissions are intermittent and do not require monitoring.
>
> Since no hazardous wastes are disposed of on site, no groundwater monitoring program has been implemented to date.
>
> PETC does not hold or maintain a National Pollutant Discharge Elimination System (NPDES) Permit for discharge of point-source aqueous effluents.
>
> There is no waste disposal on the PETC site. General office waste is collected and placed in on-site dumpsters which are removed by an approved contractor.

For the reasons given in the above statements, little monitoring for contaminants is carried out and there is little, if any need for background information. Therefore, none appears to be available for the PETC site.

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Appendix C
AUDITS

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- Letter dated February 19, 1988, from Harold A. Vincent to D. Karen Knight. Subject: Final report of LEMSCo for an on-site radiation measurement evaluation and final report for an on-site evidentiary audit carried out at ORNL on August 25, 1987. C-3
- NEIC - August 25, 1987. C-5
- Response to the On-Site Evaluation and Evidentiary Audit carried out at ORNL on August 25, 1987. C-19
- DOE Environmental Survey Field Sampling Activity Audit of ORNL Personnel at Pittsburgh Energy Technology Center C-21

ORGDP Results of Organic Performance Evaluation Studies C-87

- Performance Evaluation Scores for ORGDP. C-89
- EMSL-LV first quarter Inorganic Performance Evaluation Study (QB1, FY89). C-90a
- EMSL-LV fourth quarter Inorganic Performance Evaluation Study (QB4, FY88)/with corrective actions. C-91
- EMSL-LV third quarter Inorganic Performance Evaluation Study (QB3, FY88). C-95
- EMSL-LV first quarter Organic Performance Evaluation Study (QB1, FY89). C-96a
- EMSL-LV fourth quarter Organic Performance Evaluation Study (QB4, FY88)/with corrective actions. C-97
- EMSL-LV third quarter Organic Performance Evaluation Study (QB3, FY88)/with corrective actions. C-103
- Results of the analyses for Water Pollution Sample WP-018 C-107
- Results of the analyses for Water Pollution Sample WP-019 C-119

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- Results of the analyses for Water Pollution Sample WP-020 C-129
- Results of the analyses for Water Pollution Sample WP-021 C-143

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PETC Data Document
Issue Date: July 1989
Revision: 00

EPA Technical and Laboratory Evidence Audit Reports

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RESEARCH AND DEVELOPMENT
ENVIRONMENTAL MONITORING SYSTEMS LABORATORY-LAS VEGAS
P.O. BOX 93478
LAS VEGAS, NEVADA 89193-3478
(702/798-2100 · FTS 545-2100)

FEB 19 1988

FEB 22 1988

D. Karen Knight
DOE Environmental Survey Sampling
and Analysis Manager
U.S. Department of Energy
Forrestal Bldg., EH-24
1000 Independence Avenue
Washington, DC 20585

Dear Ms. Knight:

Enclosed is the final report by Jesse Gerard of LEMSCo for an on-site radiation measurement evaluation and the final report by Cynthia Miller, Jeffrey Worthington, and Betty Malone of Techlaw for an on-site evidentiary audit carried out at the Oak Ridge National Laboratory on August 25, 1987.

J. Gerard's report includes a completed copy of the new checklist for radiation measurement quality assurance support patterned after those established for the inorganic and organic technical areas under the Contract Laboratory Program (CLP) of the EPA. He outlined during the visit and the debriefing the data items required for a full data package for the sample designated group(s) that will get the full audit. ORNL will cooperate in furnishing this material.

The evidentiary audit covered all areas of the laboratory involved with the DOE environmental survey even though no technical evaluation was made during this visit for the organic and inorganic laboratory areas.

Of the four items noted in the Techlaw report as being repeated from the previous audit of June 10, 1987, the one of rewriting SOPs to may be the most extensive in effort but once done, will be the easiest to maintain or adapt in the future. The most difficult item of the four to keep from reappearing is the one involved with accounting for errors and error correction in the data documents. Training is important and supervisors have to vigilantly watch that proper correction is applied when bad data is to be identified as such. The other recommendations, both previous and from this audit can easily be addressed by following the procedures in the SOPs when they have been revised.

Sincerely,

Harold A. Vincent

Harold A. Vincent
Chemist
Quality Assurance Research Branch
Quality Assurance and Methods Development Division

Enclosures

cc:
William Laing, ORNL
Pamela Howell, ORNL
Jeff Wade, ORNL

NEIC Audit

FEB 22 1988

LABORATORY EVIDENCE AUDIT REPORT

OAK RIDGE NATIONAL LABORATORY
ANALYTICAL CHEMISTRY DIVISION
MARTIN MARIETTA ENERGY SYSTEMS, INC.

OAK RIDGE, TENNESSEE

AUGUST 25, 1987

Martin Marietta Energy Systems, Inc. (MMES)
Analytical Chemistry Division
Oak Ridge National Laboratory
Oak Ridge, TN 37830
(615) 574-4898

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Julian Hackney	- Analyst[2]
Julia Thompson	- Analyst[2]
Sophie Bobrowski	- Analyst[2]
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Amelia Herndon	- Analyst[2]
W. Rogers	- Analyst[2]
Jeff Wade	- Group Leader, Low-Level Radiochemical Analysis[1,2,3]
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Sandra Glover	- Analyst[2]
B. Tomkins	- Analyst[2]
N. Ferguson	- Analyst[2]
J. Hayden	- Analyst[2]

[1]Present during pre-audit debriefing.
[2]Contacted during audit.
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Elizabeth Malone - Associate Consultant

This work was conducted on behalf of the Environmental Protection Agency's (EPA) National Enforcement Investigations Center (NEIC) under EPA Contract #68-01-7369.

INTRODUCTION

The National Enforcement Investigations Center (NEIC) assigned the Contract Evidence Audit Team (CEAT) to perform an evidence audit on Martin Marietta Energy Systems (MMES) Analytical Chemistry Division Laboratory located at Oak Ridge National Laboratory in Oak Ridge, Tennessee. The laboratory is receiving, preparing, and analyzing samples using USEPA Contract Laboratory Program (CLP) protocols for the Department of Energy's (DOE) Environmental Survey.

The purpose of this audit was to determine if laboratory policies and procedures are in place to satisfy evidence handling requirements. The report specifies the corrective action needed to meet EPA Evidence Audit Requirements.

The audit was conducted on August 25, 1987 in conjunction with a technical audit performed by representatives from the USEPA Environmental Monitoring Systems Laboratory (EMSL) at Las Vegas, Nevada.

The following operations, accompanying documentation, and written standard operating procedures (SOPs) were reviewed: sample receiving, sample storage, sample tracking (from receipt to completion of analysis), and analytical project file organization and assembly.

EXECUTIVE SUMMARY

This was the third audit of MMES conducted by USEPA representatives in support of the DOE Environmental Survey Program. The previous audit was conducted on June 8-9, 1987 and resulted in nine recommendations. Four of the nine recommendations have not been addressed or corrected. The recommendations from the previous audit still requiring corrective action are:

1. The laboratory's written SOPs should be revised to include accurate descriptions of the actual laboratory procedures in the following areas:

   a. Sample Receiving
   b. Sample Storage
   c. Sample Identification
   d. Sample Security
   e. Sample Tracking
   f. Analytical Project File Organization and Assembly

2. Corrections to documents should be made by drawing a single line through the error and initialing and dating the correction. Correction fluid should not be used on Environmental Survey project-related documents.

3. Laboratory personnel should record the appropriate information on the Organic Sample Control and Chain-of-Custody Sheet or indicate that the activity was not performed.

4. Airbills should be routinely placed in the receiving document files.

The following six findings (non-conformances to Evidence Audit Requirements) were identified during the present audit and are discussed in this report:

Findings

1. Written SOPs did not contain accurate descriptions of the actual laboratory procedures used for the following:

   a. Sample Receiving
   b. Sample Storage
   c. Sample Identification
   d. Sample Security
   e. Sample Tracking

2. Information was obliterated or rendered unreadable.

3. Error corrections were not consistently signed and dated by the analysts.

4. Entries in the explosives laboratory logbook are not consistently signed and dated.

5. Sample receiving information on the Organic Sample Control and Chain-of-Custody Sheet is not recorded in the space provided.

6. Airbills are not always placed in the receiving document file.

As a result of these findings, the following recommendations were made:

Recommendations

1. The laboratory's written SOPs should be revised to include accurate descriptions of the actual laboratory procedures in the following areas:

a. Sample Receiving
b. Sample Storage
c. Sample Identification
d. Sample Security
e. Sample Tracking

2. Corrections to supporting documents and raw data should be made by drawing a single line through the error and entering the correct information.

3. Corrections and additions to supporting documents and raw data should be dated and initialed.

4. Logbook entries should be dated and signed by the analyst or individual performing the activity at the time the activity was performed.

5. Laboratory personnel should record the appropriate information on the Organic Sample Control and Chain-of-Custody Sheet or indicate that the activity was not performed.

6. Airbills should be routinely placed in the receiving document files.

The audit was concluded August 25, 1987. Audit participants are listed on the cover page of this report.

PROCEDURAL AUDIT

The procedural audit consisted of review and examination of actual and written SOPs and accompanying documentation for the following laboratory operations: sample receiving, sample storage, sample identification, sample security, sample tracking (from receipt to completion of analysis), and analytical project file organization and assembly.

Sample Receiving

Samples are received at the shipping/receiving area of the laboratory which is located approximately one mile from the laboratory building. A receiving clerk signs the airbills, and the sample containers are delivered to Building 4500S by the facility's delivery service. The Federal Express couriers may deliver the sample containers directly to Building 4500S on Saturdays.

Barry Grant, the designated sample custodian, takes possession of the containers. B. Grant inspects the custody seals and open the containers in the sample receiving area of Building 4500S. The custodian signs and dates the chain-of-custody records, checks for the presence/absence of receiving documents, and verifies the agreement/non-agreement among information recorded on the sample shipping documents. The sample custodian records the receiving information on the Shipping Container Sample Log-In Form.

According to Bruce Clark, problems associated with sample condition or documentation and their resolution are noted in the "Comments" column of the Shipping Container Sample Log-In Form and the "Remarks" column of the Field Chain-of-Custody Record. Also, according to Bruce Clark, tag numbers not referenced on shipping documents are recorded on the Field Chain-of-Custody Record.

A Request for Analytical Services Form is also received with the samples. This form contains information regarding sample identification and requested analyses.

An internal chain-of-custody receipt record is completed for each batch of samples received at the facility. This document is sent with the sample when delivered to the analyst. A unique laboratory identification number is assigned to each sample when the sample arrives at the laboratory where the analysis is to be performed. Each laboratory (inorganic, organic, radiochemistry) has the same method for assigning identification numbers. The

year is the first two (2) digits, the month is the second two (2) digits, the day is the third two (2) digits, and the sequence order representing the order in which the sample was checked in for that day is the last two (2) digits.

Inorganic Sample Receiving

The sample custodian makes a copy of the Request for Analytical Services Form and writes a request number on the original form. A sample identification number is then assigned to each inorganic sample, and the numbers are recorded on the original request and on the Sample Log-In Sheet.

Copies of the Request for Analytical Services Form are sent to each inorganic laboratory to serve as notification of sample arrival. The samples are placed in a storage area located adjacent to the sample receiving area.

Organic Sample Receiving

The sample custodian sends a Request for Analytical Services form to the organic analysis department to inform the department of the arrival of samples. The organic laboratory assigns identification numbers to each sample and places them in storage.

Radiochemistry Sample Receiving

A copy of the Request for Analytical Services Form is also sent to the radiochemistry laboratory. The radiochemistry laboratory assigns identification numbers to each sample and places them in storage.

Written SOPs for sample receiving have been developed and implemented. The auditor read these SOPs, and they did not accurately describe the procedures in use for sample receiving. These SOPs are documented in <u>Quality Assurance/Quality Control Standard Operating Procedure and Sample Receipt and Handling</u>.

<u>Sample Storage, Identification, and Security</u>

Storage, identification, and security procedures are described in the four sections below.

Inorganic Sample Storage and Identification

Inorganic samples are stored in the Building 4500S storage room located immediately adjacent to the sample receiving room. Samples designated for Inductively Coupled Plasma (ICP) analysis may also be stored in the same storage room. If samples are delivered on Saturday, all samples could be stored here.

Inorganic samples are identified with the field identification number and the assigned laboratory number. Sample preparation containers are identified with the laboratory number, percent acid, and sample weight or volume.

In Building 1505, samples are stored in a locked three-door refrigerator located in the hallway near the entrance to the atomic absorption (AA) laboratory. Prepared AA metals samples are stored in locked cabinets in the AA laboratory. Samples and digestates for AA and mercury analysis are also stored in locked cabinets in Building 2026 Annex.

Samples prepared for AA and mercury analysis (digestates) are identified with the field identification number and the laboratory number. Sample preparation containers are identified with the laboratory number.

Organic Sample Storage and Identification

Organic samples are stored in the sample preparation laboratory located in Building 4500S. Extracts are stored in a refrigerator located adjacent to the analysis area.

Organic samples are identified with the field number and the assigned laboratory number. Sample extract vials are marked with a marking pen or sticker indicating the assigned laboratory number.

Radiochemistry Sample Storage and Identification

Samples requiring radiochemistry analysis are stored in the locked custody room located in the radiochemistry department in Building 4500S. These samples are identified with the field identification number and the assigned laboratory number.

Security

The refrigerators and sample storage areas are locked at night. The facility is surrounded by a fence. Visitors must enter through a visitor screening center, obtain an identification tag, and sign in before they are allowed to enter the facility. The visitors are not escorted when entering the facility. This was discussed during the post-audit debriefing. The AA preparation and analysis laboratories in Building 1505 are locked at night.

Written SOPs for sample storage, identification, and sample security have been developed and implemented. The auditors read these SOPs, and they described the procedures in the laboratory; however, they did not accurately describe the storage areas in

the laboratory that will be used for Environmental Survey samples. The SOPs are documented in the laboratory SOPs Quality Assurance/Quality Control Standard Operating Procedures and Sample Receipt and Handling.

Sample Tracking

All samples are currently received at the "inorganic receiving area" of Building 4500S. Metals samples requiring ICP analysis are also prepared and analyzed in Building 4500S.

Cyanide, oil and grease, ion chromatography, and radiochemistry tests are performed in Building 4500S. Asbestos analyses are performed in Building 4500N.

Metal samples for AA analysis are delivered to Building 1505. These samples are then taken to the Building 2026 Annex where they are prepared (digested). The mercury fraction is analyzed by cold vapor AA in Building 2026 Annex. The AA metals digestates are returned to Building 1505 where they are analyzed by Furnace AA.

The preparation and analysis of "explosives" samples are performed in Building 2026 Annex.

Samples may be tracked through the laboratory from recaipt to completion of analysis by using the following documents:

1. Shipping Container Sample Log-In Forms
2. Request for Analytical Services (Several Copies)
3. Receipt Record/Chain-of-Custody Forms
4. ICP Preparation Logs
5. ICP Preparation Control Worksheets
6. ICP Analysis Logbooks (ICP EPA/CLP Program Log)
7. Log-In Books (AA and Hg Samples)
8. Contract Laboratory Samples - Flame AA and Furnace AA Analyses Building 1505 Logbook
9. Contract Laboratory Samples Preparation and Mercury Analysis Building 2026 Annex Log (AA and Hg Preparation, Hg Analysis)
10. AA Analysis Control Worksheets
11. CLP Logbooks (Cyanide Preparation and Analyses)
12. Phenol Analysis Logbooks
13. Ion Chromatography Analysis Control Worksheets
14. Asbestos Samples Pantex (Asbestos Determinations)
15. CLP Logbooks (Oil and Grease Determinations)
16. Oil and Grease Analysis Control Worksheets
17. Uranium Analysis Control Worksheets

18. CLP Logbooks (Explosives Weight and Identification Number)
19. HPLC Sample Logbooks (Explosive Analyses)
20. Sample Preparation Logsheets (Organic Preparation)
21. GC/MS Instrument Operations Logsheets
22. GC Instrument Operations Logsheets
23. Chain-of-Custody Record Low-Level Radiochemical Analysis Group
24. Alpha/Beta Worksheets
25. Gamma Scan Worksheets

The procedures and documentation used to track inorganic and organic samples and radiochemistry samples are described in the following three sections.

Inorganic Sample Tracking

Copies of the Request for Analytical Services Forms (with the assigned inorganic batch number) are sent to the appropriate inorganic laboratories by B. Grant to serve as notification of the arrival of samples. Preparation of samples for ICP analysis are documented in the ICP preparation logbook entitled Logbook for P.E. and EPA Sample J. H. Hackney, 4500 SR-147. ICP preparation information is also recorded on an ICP Preparation Control Worksheet. The ICP analyses are recorded in the logbook entitled ICP EPA/CLP Program Log.

Metals samples for AA analysis are brought to Building 1505 after the laboratory personnel signs the Receipt Record/Chain-of-Custody Record.

The samples are then delivered to Building 2026 where mercury and inorganic sample digestions are recorded in a logbook entitled Contract Laboratory Samples Preparation and Mercury Analysis Building 2026 Annex Log. The mercury analyses are performed in Building 2026 and recorded in the same logbook as well as a Mercury Control Worksheet. The transfer of samples to Building 2026 and back to Building 1505 is recorded in the Log-In Book.

The prepared metal digestates are returned to Building 1505 for analysis and are accompanied by the logbook (Contract Laboratory Samples - Flame AA and Furnace AA Analyses Building 1505 Logbook). The AA analyses are recorded in the previously described logbook and on AA Control Worksheets.

Cyanide analyses are performed in Building 4500S and are recorded in a logbook entitled CLP. Ion chromatography analysis is performed in Building 4500S. The analyses are recorded on Ion Chromatography Control Worksheets. The instrument produces a strip chart.

Asbestos determinations are performed in Building 4500N. This analysis is recorded in a logbook entitled Asbestos Samples Pantex. The laboratory has not analyzed any samples for phenols. According to J. Stewart, a logbook for phenols analysis will be initiated when samples arrive with a request for phenols analysis. Oil and grease determinations are recorded in a logbook entitled CLP and the Oil and Grease Analysis Control Worksheets.

Organic Sample Tracking

Organic samples are brought to the organic sample preparation area with a Request for Analytical Services Form and an Analytical Chain-of-Custody Form/Receipt Record that had been initiated by the sample receiving department. This record was previously described in the inorganic sample tracking section.

The preparation chemist signs the custody form and initiates the Record Receipt/Chain-of-Custody. The auditors observed that the receiving information was not consistently recorded on this form.

The preparation chemist assigns a batch number to the Request for Analytical Services Form, copies the request form, and then tapes the copy into a logbook entitled No. 4 Sample Log.

Extraction data is recorded on the Sample Preparation Logsheet. Copies of this logsheet are also taped into the No. 4 Sample Log.

The analysis of the volatile fraction is recorded on the GC/MS Instrument Operations Logsheet (GC/MS Logbook). The analysis of the base/neutral/acid fraction is recorded in a separate GC/MS logbook.

The pesticides analysis is recorded on the GC Instrument Operations Logsheet (Logbook).

The explosive analysis is recorded in the HPLC Sample Log. The weight of each sample is recorded in a CLP logbook. The auditors observed that the information in both logbooks were not consistently dated and signed.

Radiochemistry Sample Tracking

The transfer of samples to the radiochemistry laboratory is recorded on the Chain-of-Custody Record Low-Level Radiochemical Analysis Group (LLRAG) Form in addition to the previously mentioned Receipt Record/Chain-of-Custody. This form is also used to track the sample through the radiochemistry laboratory.

Summaries of preparation and analyses radiochemistry are recorded in the untitled radiochemistry logbook. Alpha and beta counts are recorded on the Alpha/Beta Worksheet. Gamma scans are recorded on the Gamma Scan Worksheet.

The uranium analysis is recorded on the Uranium Analysis Control Worksheet.

Written SOPs for sample tracking have been developed and implemented. The auditor read these SOPs, and they did not accurately describe the documents used to track samples and the analytical paths of the various sample fractions. The written SOPs are documented in Quality Assurance/Quality Control Standard Operating Procedures and Sample Receipt and Handling.

Analytical Project File Organization and Assembly

Receiving documents are currently filed in the laboratory receiving room. Preparation logbooks remain in the possession of the analysts. Analysis logbooks are kept in the analytical area of the laboratory. The Organic Chain-of-Custody Forms are kept in files in the organics laboratory office. Airbills are retained by the receiving clerk.

The laboratory has not developed actual or written procedures for the organization and assembly of laboratory documents related to the receipt, storage transfer, preparation, and analysis of Environmental Survey samples. (Technical direction has not been received from DOE in this area.)

EVIDENCE AUDIT

The evidence audit consisted of review and examination of analytical project file documentation. Completed analytical project files have not been assembled, numbered, or inventoried. Thus, the auditors could make no observations concerning the completeness and consistency of analytical project files.

AUDIT FINDINGS

The following six findings (non-conformances to Evidence Audit Requirements) are based on the results of the procedural and evidence audits.

Findings

1. Written SOPs did not contain accurate descriptions of the actual laboratory procedures used for the following:

a. Sample Receiving
b. Sample Storage
c. Sample Identification
d. Sample Security
e. Sample Tracking

2. Information was obliterated or rendered unreadable.

3. Error corrections were not consistently signed and dated by the analysts.

4. Entries in the explosives laboratory logbook are not consistently signed and dated.

5. Sample receiving information on the Organic Sample Control and Chain-of-Custody Sheet is not recorded in the space provided.

6. Airbills are not always placed in the receiving document file.

SUMMARY

A debriefing session was held on August 25, 1987 with MMES personnel. During this debriefing, the evidence auditors made the following recommendations based on the findings discussed in this report:

1. The laboratory's written SOPs should be revised to include accurate descriptions of the actual laboratory procedures in the following areas:

   a. Sample Receiving
   b. Sample Storage
   c. Sample Identification
   d. Sample Security
   e. Sample Tracking

2. Corrections to supporting documents and raw data should be made by drawing a single line through the error and entering the correct information.

3. Corrections and additions to supporting documents and raw data should be dated and initialed.

4. Logbook entries should be dated and signed by the analyst or individual performing the activity at the time the activity was performed.

5. Laboratory personnel should record the appropriate information on the Organic Sample Control and Chain-of-Custody Sheet or indicate that the activity was not performed.

6. Airbills should be routinely placed in the receiving document files.

nternal Correspondence

MARTIN MARIETTA ENERGY SYSTEMS, INC

November 3, 1987

Robert B. Fitts

Response to the On-Site Evaluation and Evidentiary Audit Carried out at the Oak Ridge National Laboratory on 8/25/87

Item #1 - Notebooks are now reviewed once a week by the laboratory supervisor, notebook/logbook changes are made by drawing a line through the entry and then initialed by the technician making the change.

Item #2 - We have been keeping a logbook (containing QA/QC data) for each instrument, we are now keeping a logbook that contains instrument settings, etc.

Item #3 - We process a standard or standard spike and a duplicate with every tenth sample. The computer generated data/results are checked by such QA/QC measures. All instruments are monitored on a daily basis by counting known standards before the day's counting begins. The recommendation that we perform manual data reduction on gamma spectra is unfounded.

Item #4 - We are now storing all gamma spectra for the survey indefinitely on floppy disks. Previously, the data was held for thirty days.

Item #5 - We have a written SOP for sample receiving, login, and chain-of-custody. The SOP is and has been available to everyone.

Item #6 - This recommendation should be addressed by the RAD Committee, not our laboratory.

Item #7 - All of our procedures should be in the survey manual, they were submitted months ago.

Item #8 - We are heavily involved in the EPA-Las Vegas PE/IC samples. The data from past work is available from me or from EPA-LV.

We measure radionuclides in water and air filters and these analyses cover all parameters required in a water matrix for the survey. As of 11/1/87, soil samples were not available from EPA-LV.

Sincerely,

J. W. Wade

J. W. Wade
Analytical Chemistry Division

JWW:sdc

cc: B. R. Clark
D. L. Dihel
P. L. Howell
W. R. Laing
J. R. Stokely

DOE Environmental Survey Field Sampling Activity Audit of ORNL Personnel at Pittsburgh Energy Technology Center

NOTE: The PETC and METC sites were sampled consecutively by the same ORNL Sampling Team. Per conversation with the ORNL Field Team Leader for the PETC and METC sites, Keith Owenby, the PETC audit information is applicable to the METC site as well.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RESEARCH AND DEVELOPMENT
ENVIRONMENTAL MONITORING SYSTEMS LABORATORY-LAS VEGAS
P.O. BOX 93478
LAS VEGAS, NEVADA 89193-3478
(702/798-2100 - FTS 545-2100)

OCT 11 1988

Mr Keith Owenby
Oak Ridge National Laboratory
P. O. Box 2008, 4500S, MS-102
Oak Ridge, TN 37831-6102

Dear Mr. Owenby,

Final reports describing the on-site evaluation audit for the field sampling at the PITTSBURGH ENERGY TECHNOLOGY CENTER (PETC) are enclosed. Included are the completed check list and comments by Kevin Cabble of Lockheed Engineering and Sciences Company, (LESC), and the field evidence report from CEAT-Techlaw by Betty Malone. The items of comment should be identical to those items used for comments during the August 18th debriefing by the EPA audit team Techlaw team members. Some change in the text from the preliminary field notes to final draft may have been introduced for clarity.

The consensus of the audit team was that the sampling effort was technically a good effort. Most of the comments were minor and only a few were with regard to actions which might compromise sample quality and integrity. Several comments regarded safety issues. The actions drawing those comments may have been caused by the discomfort of the high heat and humidity during the sampling period.

The sampling audit reports and the response by the ORNL sampling team, with reports of corrective actions instituted as a result of the audit, will become part of the quality assurance record for the DOE environmental survey for the PETC site. In order that we may meet scheduling requirements, please respond to the comments by the auditing team within 30 days of your receipt of these reports. We can then review and assemble a package to be included in the data document report for the PETC site. The response should be addressed to this office (Attn: H. A. Vincent) with copies to Randy Scott at DOE headquarters, Alan Crockett at the INEL, Acting Sampling and Analysis Manager for the DOE environmental survey, and to the ORNL program manager, R. B. Fitts).

If you have any questions regarding this matter, you can call me at FTS 545-2129 or (702)798-2129.

Sincerely,

Harold A. Vincent
Analytical Chemist
Quality Assurance Research Branch
Quality Assurance Methods and Development Division

Enclosures

cc:
Vince Fayne, DOE HQ
Alan Crockett, INEL
Robert B. Fitts, ORNL

cc: (w/o enclosures)
Kevin Cabble, LESC
Betty Malone, Techlaw

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U.S. DEPARTMENT OF ENERGY
Environmental Survey

FIELD EVIDENCE AUDIT REPORT

PITTSBURGH ENERGY TECHNOLOGY CENTER
Pittsburgh, Pennsylvania

August 17-18, 1988

National Environmental Survey Coordination Center
Contractor Audit Team
[illegible] Avenue, Suite [illegible]
Lakewood, Colorado 80215

[illegible] Environmental Protection Agency [illegible] Department [illegible] Energy Research Center under EPA Contract No. [illegible]

FIELD EVIDENCE AUDIT REPORT

U.S. Department of Energy
Office of Environmental Audit & Compliance

Pittsburgh Energy Technology Center
Pittsburgh, Pennsylvania

August 17-18, 1988

Oak Ridge National Laboratory
Martin Marietta Energy Systems
Building 4500-S, M/S 6102
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Oak Ridge, TN 37831-6102
(615) 576-5256

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Wayne Parsons - Team 1 Leader
Betty Hensley - Team 1 Sampler
J. B. Watson - Team 1 Sampler
Leslie Barker - Team 2 Leader
Peggy Tiner - Team 2 Sampler
Cindy Wear - Data Management, Document Control
Donna Pickel - Sample Control

Martin Marietta Energy Systems
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(303) 242-8621

Dean Herrera - Team 2 Sampler

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(303) 233-1248

Betty Malone - Technical Specialist

1. INTRODUCTION

On August 17-18, 1988, NEIC's Contract Evidence Audit Team (CEAT-Technical) personnel conducted a field audit of the document control, chain-of-custody, and sample handling procedures followed by the Oak Ridge National Laboratory (ORNL) during sampling conducted at the Pittsburgh Energy Technology Center (PETC) located in Pittsburgh, Pennsylvania. Present were those personnel listed on the cover page of this report.

The PETC Sampling and Analysis Plan was provided to the CEAT personnel by ORNL prior to the audit. Field sampling activities were reviewed for conformance to the Sampling and Analysis Plan and NEIC's Policies and Procedures Manual.

This field evidence audit report contains a description of the audit activities conducted by the CEAT during the August 17-18, 1988 sampling episode. The report of these activities is arranged into the following sections: Sampling Plan, Audit Sequence, Accountable Field Documents, Field Observations, and Summary.

2. SAMPLING PLAN

A Sampling and Analysis Plan was prepared for the sample collection effort by the Department of Energy (DOE) Environmental Survey and ORNL. The Sampling and Analysis Plan was reviewed and approved by the DOE, ORNL, and EPA/EMSL-LV.

The sampling plan included the following:

- o Introduction describing purpose and goals of the DOE Environmental Survey
- o PETC site background information
- o Sampling and analysis strategy
- o Field sampling guidelines and sample control
- o Quality Assurance/Quality Control
- o Data management and analysis
- o Conduct of [illegible] and control
- o Health, safety, and security

Applicable sections of the Sampling and Analysis Plan were used by the auditor as part of the basis for the field evidence audit.

AUDIT SEQUENCE

On August 17-18, 1988, sampling of sediment, soil, and [illegible] took place. Sampling [illegible] documents were examined by the auditor in the field during sampling activities and at the Environmental Survey [illegible] Office. On the morning of the [illegible] 18, 1988, the CEAT auditor observed packing of samples for shipment.

A debriefing was held at the conclusion of the audit [illegible] August 18, 1988. Recommendations and comments concerning [illegible] overall performance of the sampling teams were made at this [illegible] by the EMSL and CEAT auditors.

ACCOUNTABLE DOCUMENTS

An accountable document system was used. As specified [illegible] the Sampling and Analysis Plan, field logbooks, custody records and sample tags contained document control numbers. Custody [illegible] the documents was maintained by C. Wear. Control numbers [illegible] disposition of the documents were recorded in a Document Control Logbook, which remained in the on-site survey office.

Project Logbook

A Project Logbook was maintained by K. Owenby, the first sampling team leader. The following information was recorded [illegible] this logbook:

- Signature [illegible] of Sampling Team Members
- Sampling Team Member Assignments
- Record of Activities of Sampling Team Members
- Sample [illegible] Shipping Records

The logbook was [illegible] to contain all required information, with the following exceptions:

- Blank areas of logbook pages were not lined through [illegible] crossed out.

The CEAT auditor [illegible] pages be lined through to [illegible] portions of [illegible]

Field Logbook

General [illegible] logbook [illegible] used [illegible] record [illegible] sediment [illegible] and water [illegible] logbooks com[illegible] numbers. The information [illegible] recorded [illegible] the following [illegible]

- Table of Contents
- Task Team Activity Log Sheet
- Sample Log Sheet

Forms for each day's sampling activities were stapled and inserted into report folders, with separate binders for each media team. The forms in each folder were numbered, beginning with page 1, prior to the sampling team entering the field.

Following sample collection, data was entered into the computer from the logbook forms. The forms were then grouped by media (water, soil, air, etc.) into "three-ring" binders.

Field sampling observations were recorded in the General Field Logbooks and appeared to contain all required information, with the following exceptions:

- Blank sections of pages containing narrative entries and field measurements were not lined through.
- Page numbers were often used as references for sketches. Since page numbers were not unique, it was suggested that a more detailed reference should be given, such as "See Page 3 (Request No. 200)."
- One detailed sketch was not signed or dated, although the previous page referring to the sketch was signed.

(The auditor made the following recommendations:

- Blank portions of logbook entries and unused lines or data should be lined through.
- If logbook pages are not uniquely numbered, references to sketches and other information should contain more detailed identification.
- Each logbook page should be signed and dated.)

Instrument Calibration/Quality Assurance Logbooks

A separate instrument calibration logbook was used to record unique instrument identification numbers and calibration [illegible] the logbook [illegible] calibration/standardization log sheets for temperature and conductivity measurement.

[illegible] logbook data was [illegible] and appeared to contain required information. All items were completed. Two [illegible] recommendations were made concerning this logbook.

Document Control Logbook

A Document Control Logbook maintained by C. Wear was used to record control numbers and disposition of the documents. The Document Control Logbook contained information pertaining to the assignment and [illegible] of chain of custody records, sample tags, field logbook [illegible] and Request for Analytical Services forms [illegible] calculation of [illegible] dosimeter readings [illegible].

The logbook was well organized and neatly written. No recommendations were made concerning this logbook.

Shipping Logbook

A Shipping Logbook maintained by D. Pickel was also examined by the auditor. The logbook contained shipping addresses and laboratory contacts, cooler, sample request, and airbill numbers, shipment dates, and dates received, cooler temperatures before and after shipment, and comments concerning the condition of the samples.

Entries in the logbook were legible and organized. The auditor had no recommendations concerning this logbook.

Sample Tags/Labels

Sample tags were affixed to each sample container. [illegible] were examined by the [illegible] auditor during field collection activities and prior to the packaging of samples into coolers.

Sample tags were pre-printed with sequential document control numbers to uniquely identify each sample. The tags included the following information:

- Sample identification number
- Date and time of sample collection
- [illegible]
- Radiation/Screening Results
- Sampler Name

[illegible] were compared by the [illegible] sample tags contained the following information:

- [illegible]
- [illegible] sample collection
- [illegible]
- [illegible]

The [illegible] examined by the auditor were found correct. [illegible] no recommendations were made.

Chain-of-Custody (COC) Records

EPA-type COC records were used during the sampling episode. All sample numbers were listed on the COC records. Samples were arranged on the records according to organic or inorganic analysis parameters.

FIELD OBSERVATIONS

Collection of samples by Team 1 and Team 2 was observed by the CEAT auditor on August 17-18, 1988.

Sediment, soil, and water samples were obtained by Sampling Team 1 on August 17-18, 1988. Samples were collected by M. Parsons and U. B. Watson. B. Hensley and U. B. Watson completed documentation associated with sample collection.

The CEAT auditor observed that the automated Manning sampler used to obtain water samples was locked only on one side, so that the top portion of the sampling device could still be raised, exposing the sample container.

(It was recommended by the auditor that both sides of the sampling device be locked, or that a custody seal be placed on the unlocked side.)

Sampling Team 2 collected water samples from seeps during the two-day audit. D. Harrera, D. Barber, and P. Tiner alternated tasks for the collection of samples and completion of associated documentation.

Sample Shipment Procedures

Procedures for preparing samples for shipment were observed by the CEAT auditor. Samples were prepared by personnel. Labels, tags, and COC records accompanying several coolers were examined for completeness and were compared to ensure that tag numbers and sample information were consistent.

Samples were prepared for shipment according to specifications in the sampling plan. No recommendations were made by the CEAT auditor concerning sample shipment.

SUMMARY

A debriefing was held on August 18, 1988 at the on-site office. Present were all personnel listed on the cover of this report.

The following comments and recommendations were made regarding logbooks, sample tags/labels, COC records, and shipping procedures:

Project Logbook

- Blank portions of logbook entries should be lined through to prevent unauthorized entries and to eliminate confusion of whether data was omitted.

Field Logbooks

- Because logbook pages are not uniquely numbered, references to sketches and other information should contain unique identification.
- Blank portions of logbook entries and unused data fields should be lined through to prevent unauthorized entries and to eliminate confusion of whether data was omitted.
- Each logbook page should be signed as well as dated.

Sample Security

- Automated sampling devices, such as Manning samplers, should be locked securely or custody sealed.

The field evidence audit of ORNL's sampling team at the Pittsburgh Energy Technology Center site was concluded on August 18, 1988.

Lockheed

Environmental Programs Office
1050 E. Flamingo Road, Suite 120, Las Vegas, Nevada 89119

September 1, 1988

U.S. Environmental Protection Agency
P.O. Box 3478
Las Vegas, Nevada 89193-3478

Attention: Mr. W.L. Kinney

Via: R.D. Flotard R.D. Flotard

Subject: Field Sampling Audit of Oak Ridge National Laboratory (ORNL) Personnel at the Pittsburgh Energy Technology Center

Dear Mr. Kinney,

On August 17-18, 1988 a field sampling audit of Oak Ridge National Laboratory (ORNL) personnel was conducted at the Pittsburgh Energy Technology Center in Pittsburgh, Pennsylvania. The audit was conducted in support of the DOE Environmental Survey by Kevin Cabble (Lockheed-LESC), Betty Malone (Techlaw), and Harold Vincent (USEPA).

Attached comments and checklist are those of Kevin Cabble only. Comments from Betty Malone will be sent under separate cover.

If you have any questions, I can be contacted at 734-3268.

Very truly yours,

Kevin J. Cabble

Kevin J. Cabble
Senior Scientist
DOE Environmental Survey

cc: H.A. Vincent
J.T. Gerard
D.W. Bottrell
R.D. Flotard
J.O. 70.23
QA-9-1

Comments for the ORNL Field Sampling Activity at the Pittsburgh Energy Technology Center on August 17-18, 1988

Soil/Sediment

1. PID not used while augering holes. Only used previous to augering hole at request 804. Recommend PID for all subsurface soil sampling.

2. Field Log Book - Put TIP information next to PID/FID description instead of next to other.

3. Decontamination procedure not correct. Methanol was used prior to final rinse instead of after final rinse. HCL was not used. This was corrected after Request #304.

4. Gloves not changed between samples in one case at request #304.

5. Safety goggles or glasses not worn by team members.

Water

1. When pouring modified dipper, use pan to catch spilled sample.

2. Goggles or safety glasses not worn by team members.

3. Funnel placed on plastic instead of aluminum foil between aliquots.

4. Put two locks on Manning sampler instead of one to prevent removal of cover.

5. Place blue ice packs around sample container inside the Manning sampler for all time composites.

6. Samples requiring preservation and filtration should be taken back to preparation area after each request.

General

1. In hot weather use sweat bands or hats to prevent sweat from being wiped from face with gloved hands while sampling.

2. Sampling plan requires that dosimeters be worn by all sampling personnel. This should be deleted.

3. Error in calibration log book on page 104. Horiba unit was 9.8 instead of 10.0. This should have been adjusted to 10.0.

4. Most comments are minor. The sampling effort at this site was rated good.

ON-SITE SAMPLING EVALUATION FOR
Pittsburgh Energy Technology Center
Pittsburgh, Pennsylvania

This checklist was compiled utilizing the
Sampling Plan for the Pittsburgh Energy Technology Center
Dated July 15, 1988

by

Kevin J. Cabble
Lockheed Engineering and Sciences Company
Las Vegas, Nevada 89119

ENVIRONMENTAL MONITORING SYSTEMS LABORATORY
OFFICE OF RESEARCH AND DEVELOPMENT
U.S. ENVIRONMENTAL PROTECTION AGENCY
LAS VEGAS, NEVADA 89193-3478

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SAMPLING FIELD AUDIT

I. GENERAL INFORMATION

Purpose: The purpose of this sampling evaluation is to document the extent to which procedures identified in the sampling protocol and/or quality assurance plan are being followed with respect to implementing specified field tests, chain-of-custody, record keeping, quality assurance, and sampling procedures and techniques, and sample handling methods.

Audit Dates: 8/17/88 to 8/18/88

Facility/Site Information

Facility/Site Name: Pittsburgh Energy Technology Center

Facility/Site Address or Location: U.S. DOE, Pittsburgh Energy Technology Center, Cochran Mill Rd., Pittsburgh, PA 15236-0940

Facility/Site Telephone No.: (412) 892-4497 [ ] N/A

Facility Contact (Name/Title): Jerry Hebb

[ ] N/A

Function/Description of Facility/Site: Basic and applied research and development coal science, coal preparation, coal conversion and direct utilization is conducted at PETC

Media Being Sampled:

[X] Soil

[X] Sediment

[X] Surface Water

Sampling Team Information

Team Contact (Name/Title/Affiliation): Keith Owenby, Field Team Leader, ORNL-Oak Ridge

Team Members (Name/Title/Affiliation):

1. Wayne Parsons, Team 1 Leader, ORNL-Oak Ridge
2. Betty Hensley, Sampler, ORNL-Oak Ridge
3. Donna Pickel, Sample Control, ORNL-Oak Ridge
4. J.B. Watson, Sampler and Health and Safety, ORNL-Oak Ridge
5. Leslie Barker, Team 2 Leader and Health and Safety, ORNL-Oak Ridge
6. Cindy Wear, Data Management, ORNL-Oak Ridge
7. Dean Herrera, Sampler, ORNL-Grand Junction
8. Peggy Tiner, Sampler, ORNL-Oak Ridge
9.
10.
11.
12.
13.
14.
15.

Permanent Contact Telephone No.: (615) 576 - 5256 FTS 626 - 5256.

Permanent Contact Address: Oak Ridge National Laboratory
Building 4500-S MS 6102
P.O. Box 2008, Oak Ridge, TN 37831-6102

Audit Team Information

Team Leader (Name/Title/Affiliation): Kevin Cabble, Senior Scientist, Lockheed-ESC

Team Members (Name/Title/Affiliation):

1. Harold Vincent, Project Manager, U.S. EPA
2. Betty Malone, Technical Specialist, TechLaw
3. George Detsis, Assistant Team Leader, DOE Headquarters
4. Mark Notich, Senior Chemist, NUS
5.
6.
7.
8.
9.
10.

Team Contact Telephone No.: (702) 798 - 2129 FTS 545 - 2129.

Team Contact Address: U.S. EPA c/o Harold Vincent
944 E. Harmon Avenue
Las Vegas, NV 89114

Debriefing

A debriefing will be conducted onsite with sampling personnel.

Date/time and location of debriefing: August 18, 1988 at 1700 hours.

Debriefing took place in the ORNL Data Management room at PETC

Names of those attending debriefing:

1. Keith Owenby
2. Wayne Parsons
3. Betty Hensley
4. Donna Pickel
5. J.B. Watson
6. Leslie Barker
7. Cindy Wear
8. Dean Herrera
9. Peggy Tiner
10. Harold Vincent
11. Kevin Cabble
12. Betty Malone
13.
14.
15.
16.
17.
18.
19.
20.

II. ORGANIZATION AND PERSONNEL - MANAGEMENT STRUCTURE

Project Manager: Bob Fitts

Sample Team Leaders: Keith Owenby

QA Officer: Keith Owenby, J. B. Watson

Data Management: Cindy Wear

Sediment Sampling: Wayne Parsons

Surface Water Sampling: Leslie Barker

Soil Sampling: Wayne Parsons

Sample Control Officer: Donna Pickel

Health and Safety Officer: J. B. Watson, Leslie Barker

1. Sample Preparation: (Individual(s) responsible for preparing samples for analysis). Name, Media, and Experience.

   Donna Pickel - Shipping

   Dean Herrera - Filtering + Preservation

   Both have previous DOE site experience

2. Do personnel assigned to this project have the appropriate education and/or experience to successfully accomplish the objectives of this program?

   [X] Yes [ ] No Comments:

3. Are resumes available for all sampling personnel?

[ ] Yes [X] No Comments: _____

4. Is the sampling organization adequately staffed to meet project commitments in a timely manner?

[X] Yes [ ] No Comments: _____

5. Was the Project Director and/or Manager available during the evaluation?

[X] Yes [ ] No Comments: George Detsis acting for Karen Knight

6. Are the same personnel performing on-site sampling procedures as those described in the Sampling Plan and/or QA plan?

[X] Yes [ ] No Comments: _____

III. GENERAL FACILITIES

The sampling field work is headquartered at the Pittsburgh Energy Technology Center, Pittsburgh, Pennsylvania. Sample team personnel and the on-scene manager work out of this facility.

1. Do the sampling and/or sample preparation facilities have adequate workspace?

   |X| Yes |_| No Comments: Separate rooms for sample preparation, equipment storage, data management

2. Is the sampling and/or sample preparation facility maintained in a clean and organized manner?

   |X| Yes |_| No Comments: _____

3. Are hoods provided for work with dusty, volatile or radioactive materials?

   |X| Yes |_| No Comments: _____

4. Are adequate facilities (including cold storage) provided for storage of samples?

   |X| Yes |_| No Comments: Refrigerator truck for samples
   Freezer in preparation room

5. Are the temperatures of the cold storage units recorded daily in logbooks?

   |X| Yes |_| No Comments: _____

6. Are contingency plans available if freezers malfunction?

|X| Yes |_| No Comments: Site freezers

7a. ASTM Type II water is produced by distillation or deionization so that its conductivity is less than 1 mho/cm. Is the sampling facility utilizing ASTM Type II water?

|X| Yes |_| No Comments:

7b. If yes, is the conductivity of the ASTM Type II water routinely checked and recorded?

|X| Yes |_| No Comments:

7c. Can the sampling supervisor document that ASTM Type II water is available for preparation of standards and blanks?

|X| Yes |_| No Comments:

7d. What is the source of the ASTM Type II water? Millipore System

Comments:

8. Are waste disposal policies/procedures adequate?

|X| Yes |_| No Comments: Site will dispose (PETC)

9. Is the sampling and/or sample preparation facility secure?

|X| Yes |_| No Comments: Locked doors when unoccupied

IV. QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PLAN-SAMPLING PROTOCOLS

1. Is a QA/QC Plan available for review?

|X| Yes |_| No Comments: ORNL S & A Plan Revision 02 dated 7/15/88 for PETC

2. Does the QA/QC Plan and/or sampling protocol discuss the objectives of the sampling program and how the sampling approach(es) will satisfy program requirements?

|X| Yes |_| No Comments: Section 1 of ORNL S & A Plan

3. Are levels of precision and confidence levels identified in the QA/QC Plan?

|X| Yes |_| No Comments: Section 1 of ORNL S & A Plan

4. Does the QA/QC Plan and/or sampling protocol describe documentation and sample control procedures, i.e. the system to be used for chain-of-custody identifying, logging and tracking all samples?

|X| Yes |_| No Comments: Sections 5 and 6 of ORNL S & A Plan

5. Are sampling methods, and sampling equipment discussed in the QA/QC Plan and/or sampling protocol?

|X| Yes |_| No Comments: Sections 3 and 4 of ORNL S & A Plan

6. Does the QA/QC Plan and/or sampling protocol identify criteria used for selecting the media (e.g., soil, etc.) to be sampled?

|X| Yes |_| No Comments: Section 3 of ORNL S & A Plan

7. Does the sampling protocol identify criteria for selecting sampling sites for each media?

|X| Yes |_| No Comments: Section 3 of ORNL S & A Plan

8. Does the QA/QC Plan and/or sampling protocol identify the size, number, locations, and types of samples to be collected?

|X| Yes |_| No Comments: Sections 3 and 4 of ORNL S & A Plan

9. Does the QA/QC Plan and/or the sampling protocol describe procedures, for compositing or other sample reduction methods?

[X] Yes [ ] No Comments: Section 3 of ORNL S & A Plan

10. Are the type of sample containers identified in the sampling plan?

[X] Yes [ ] No Comments: Section 4 of ORNL S & A Plan

11. Are methods and materials used to clean sample containers identified in the sampling plan?

[X] Yes [ ] No Comments: Containers cleaned by I-Chem

12. Are procedures and materials for field decontamination of sampling equipment discussed in the sampling plan?

[X] Yes [ ] No Comments: Section 4.3 of ORNL S & A Plan

13. Has a Health and Safety Project Plan been prepared?

[X] Yes [ ] No Comments: Section 9 of ORNL S & A Plan

14a. For all instruments, is the date of each calibration or inspection recorded in the instrument's logbook?

[X] Yes [ ] No Comments: _____

14b. If yes, does the information include date, person performing the activity, type of inspection, and a list of any discovered defects?

[X] Yes [ ] No Comments: _____

15. Are the results of routine calibration checks recorded in the field sampling logbook?

[X] Yes [ ] No Comments: Calibration logbook page referenced

16. Are the date, time, standards used, and the name of the person conducting the calibration recorded in the field sampling logbook?

[ ] Yes [X] No Comments: This is recorded in the calibration log book

17. Are direct radiation instruments only used by personnel trained in their use?

[ ] Yes [ ] No Comments: N/A

18. Are blanks prepared and packaged by the appropriate personnel, at the appropriate time?

[X] Yes [ ] No Comments: On-site in preparation room by Keith Owenby

V. SAMPLING PROCEDURES

1. Have any changes (additions or deletions) to the above listed media been made?

|X| Yes |_| No Comments: Request #306 will not be collected

Are these changes noted in the program's logbook?

|X| Yes |_| No Comments: _____

2. The number of subsamples collected for a composite should be recorded in the field logbook; is this being done?

|X| Yes |_| No Comments: _____

3. Are sampling depths being documented?

|X| Yes |_| No Comments: _____

4. Are samples being preserved and stored in ice chests?

|X| Yes |_| No Comments: _____

Table V-1. The following soil samples will be collected during the period of August 15 to 20 at the Pittsburgh Energy Technology Center, Pittsburgh, Pennsylvania.

Env. Prob.	Req #	Location	Sampling Method	Sample Type	Other
5	800	2.2 acre property	Auger or drive tube	15 grab (5 locations/ 3 depths	TIP
5	801	2.1 acre property	Auger or drive tube	10 grab (5 locations/ 2 depths	TIP
5	802	Synthane plant areas	Auger or drive tube	6 grab at 0-2 ft from 120 segment grid	TIP
5	803	Substation 6 area	Auger or drive tube	3 grab at 0-2 ft from 60 segment grid	TIP
5	804	Bldg B-65, cylinder storage area	Surface soil and auger or drive tube	4 grab at surface 4 grab at 3 in. to 2 ft	TIP

V.1 Soils

1. For 800:

1a. Are two segments sampled from a 60 segment grid in the marshy area?

[ ] Yes [ ] No Comments: Not Observed

1b. Are three segments sampled from a 60 segment grid in the rest of the area?

[ ] Yes [ ] No Comments: Not Observed

1c. Are soil cores collected at depths of 0-2, 2-4, and 4-6 ft?

[ ] Yes [ ] No Comments: Not Observed

2. For 801:

2a. Are two segments sampled from a 40 segment grid in the ditch/marshy area?

[ ] Yes [ ] No Comments: Not Observed

2b. Are three segments sampled from a 60 segment grid in the rest of the area?

[ ] Yes [ ] No Comments: Not Observed

2c. Are soil cores collected at depths of 0-3 and 3-6 ft?

[ ] Yes [ ] No Comments: Not Observed

3. For 802:

3a. Are six segments sampled from a 120 segment grid?

[ ] Yes [ ] No Comments: Not Observed

3b. If the segment to be sampled is paved, is the next highest unpaved segment sampled?

[ ] Yes [ ] No Comments: Not Observed

3c. Are soil cores collected at a depth of 0-2 ft?

[ ] Yes [ ] No Comments: Not Observed

4. For 803:

4a. Are three segments sampled from a 60 segment grid?

[ ] Yes [ ] No Comments: Not Observed

4b. Are the several inches of gravel above the soil removed prior to sampling?

[ ] Yes [ ] No Comments: Not Observed

4c. Are samples collected at a depth of 0-2 ft?

[ ] Yes [ ] No Comments: Not Observed

5. For 804:

5a. Are four segments sampled from an 80 segment grid?

[X] Yes [ ] No Comments:

5b. Is all compacted gravel removed prior to sampling?

[X] Yes [ ] No Comments:

5c. Are additional soil cores collected from visibly stained areas?

[ ] Yes [X] No Comments:

5d. Are samples collected at depths of surface to three inches and three inches to two feet?

|X| Yes |_| No Comments: _____

_____

_____

6. Is a photoionization detector (TIP) used during all subsurface sampling?

|_| Yes |X| No Comments: Ground was surveyed prior to drilling with a PID at Request #804. PID not used during augering.

_____

7. If an auger is used:

7a. Is the exhaust of the auger motor vented away from the sampling area?

|X| Yes |_| No Comments: _____

_____

_____

7b. Is care taken to prevent cross contamination between soil cores?

|X| Yes |_| No Comments: Drive tube decontaminated between holes

_____

7c. Are accumulated soils periodically removed to prevent loose materials from falling back into the bore hole?

|X| Yes |_| No Comments: _____

_____

_____

7d. After reaching the desired depth, is the auger removed slowly and carefully?

[X] Yes [ ] No Comments: _____

_____

_____

7e. Is the surface area cleared of debris?

[X] Yes [ ] No Comments: _____

_____

_____

8. Are the sample containers wiped clean using disposable towels?

[X] Yes [ ] No Comments: _____

_____

_____

9. Are the sample jar threads also cleaned prior to screwing on the cap?

[X] Yes [ ] No Comments: _____

_____

_____

10. Are QA, rinsate samples collected after the final methanol rinse?

[X] Yes [ ] No Comments: _____

_____

_____

11. Are sample containers placed in individual plastic bags before being placed in ice chest?

|X| Yes |_| No Comments: _____

12. Do sample labels include date, time of collection, and the preservative?

|X| Yes |_| No Comments: _____

13. Are samples requiring refrigeration immediately placed in a 4°C environment?

|X| Yes |_| No Comments: _____

14. Are the sample jar lids retightened after initial cool down or immediately prior to shipping?

|X| Yes |_| No Comments: At the preparation area

15. For volatile organic samples:

15a. Are the volatile organic samples collected first?

|X| Yes |X| No Comments: Volatile collected last at end of 2 foot depth with drive tube after augering to 1'6". Volatile for surface sample collected first.

15b. Is the headspace in the sample container minimized?

|X| Yes |_| No Comments: _____

_____

_____

16. Is the sampling equipment decontaminated as described?

|X| Yes |_| No Comments: _____

_____

_____

17. Are the decontamination liquids contained for disposal?

|X| Yes |_| No Comments: _____

_____

_____

18. Is the decontamination procedures performed at or near the sampling location?

|X| Yes |_| No Comments: _____

_____

_____

Table V-2. The following sediment samples will be collected during the period of August 15 to 20 at the Pittsburgh Energy Technology Center, Pittsburgh, Pennsylvania.

Env. Prob.	Req #	Location	Sampling Method	Sample Type	Other
1	300	Lick Run approx. 50 ft from McElheny Creek	scoop	3 grab 60 1-ft segments	
1	303	North Outfall	TURCO	3 grab 60 1-ft segments	
1	304	Lick Run (downstream of North Outfall)	scoop	3 grab 60 1-ft segments	

V.1 Sediment

1. For 300:

1a. Are samples for 304 collected prior to collection of samples for 300?

[ ] Yes [ ] No Comments: Not Observed

1b. Are three segments sampled from a 60 segment grid starting 30 ft from the confluence of Lick Run and McElheny Creek?

[ ] Yes [ ] No Comments: Not Observed

2. For 303:

2a. Are samples for 303 collected after samples for 304?

[ ] Yes [ ] No Comments: Not Observed

2b. Are three segments sampled from a 60 segment grid behind the grating in the oil skimmer box?

[ ] Yes [ ] No Comments: Not Observed

3. For 304:

3a. Are three segments sampled from 60 1-ft segments beginning 30 ft downstream of the North Outfall and ending 30 ft prior to the point of entry of the pipe originating on the east side of Lick Run?

[X] Yes [ ] No Comments:

3b. Are samples collected on the same day and prior to collection of samples for 300?

[X] Yes [ ] No Comments: _____

4. TURCO method for sediment sampling:

4a. Was the sampler lowered slowly, allowing a very slow contact with the bottom?

[ ] Yes [ ] No Comments: TURCO not used

4b. Was there a sufficient sediment layer to collect a sample?

[ ] Yes [ ] No Comments: N/A

4c. Was the depth of sample recorded in the field logbook?

[ ] Yes [ ] No Comments: N/A

4d. Is the sampler placed in a stainless steel or Teflon® tray for extraction of sample?

[ ] Yes [ ] No Comments: N/A

4e. Is the sample transfer accomplished using a stainless steel or Teflon® spoon?

[ ] Yes [ ] No Comments: N/A

5. Are all sampling tools non-plated stainless steel?

[X] Yes [ ] No Comments:

6. Do sample labels include date, time of collection, and preservative?

[X] Yes [ ] No Comments:

7. For volatile organic samples:

7a. Are volatile organic samples collected first?

[ ] Yes [ ] No Comments: No volatiles collected

7b. Is the headspace in the sample containers minimized?

[ ] Yes [ ] No Comments: N/A

7c. Are the samples immediately placed in a 4°C environment?

[ ] Yes [ ] No Comments: N/A

8. Are sample jar lids retightened after initial cool down or immediately prior to shipping?

|X| Yes |_| No Comments: At sample preparation area

9. Is the sample equipment decontaminated as described?

|_| Yes |X| No Comments: At 304 methanol rinse was used before deionized water rinse. This was corrected for future sampling.

10. Are the decontamination liquids contained for disposal?

|X| Yes |_| No Comments:

11. Is the decontamination procedures performed at or near the sampling location?

|X| Yes |_| No Comments:

Table V-3. The following water samples will be collected during the period of August 15 to 20 at the Pittsburgh Energy Technology Center, Pittsburgh, Pennsylvania.

Env. Prob.	Req #	Location	Sampling Method	Sample Type	Other
1	301	Storm water manhole 4 adjacent to entry road	Sample container immersion	3 grab	pH, conductivity temp.
1	302	North Outfall	Sample container immersion	3 grab	pH, conductivity temp.
2	305	Underground tank SE of Bldg. B-141	Dipper	3 grab	pH, conductivity temp.
2	306	Limestone Pit east of Bldg. B-94	Dipper	3 gram 60 segments	pH, conductivity temp.
2	307	Sanitary sewer manhole south of Bldg. B-58	Automated composite sampler	3 6-hr time composites	pH, temp.
2	308	Wastewater treatment plant effluent	Automated composite sampler	3 6-hr time composites	pH, conductivity temp.
3	400	Springs on hillside above Bldg B-62	Dipper	3 grab	pH, conductivity temp.

Table V-3. (Continued)

Env. Prob.	Req #	Location	Sampling Method	Sample Type	Other
3	401	Spring north of main plateau area	Dipper	3 grab	pH, conductivity temp.
4	402	Spring at NW end of 2.1 acre field	Dipper	3 grab	pH, conductivity temp.
4	403	Stream/ seep area SE of 920 area	Sample container immersion	3 grab 20 segment grid	pH, conductivity temp.

V.3 Water

1. For 301 and 302:

1a. Are samples collected as follows: one set Friday afternoon after 4:00 p.m. and two sets of samples at different times on Saturday?

[ ] Yes [ ] No Comments: Not Observed

1b. Is an operating log of the laboratory wastewater collection system included as permanent record of the site sampling effort?

[ ] Yes [ ] No Comments: Not Observed

2. For 305:

2a. Is the tank aerated for five minutes prior to collection of the sample?

[X] Yes [ ] No Comments:

2b. Is a copy of the site logbook included as part of the permanent record for the site sampling effort covering the number and type of pH adjustments and the number of times the tank was mixed since last being discharged?

[X] Yes [ ] No Comments:

2c. Is the fullness of the tank recorded in the field logbook (preferably at least 40% full)?

[X] Yes [ ] No Comments: Approximately 70% full

2d. Are samples collected at three separate times (preferably three separate days)?

[X] Yes [ ] No Comments: Three separate days

3. For 306:

3a. Are the samples collected during discharge or shortly thereafter?

[ ] Yes [ ] No Comments: No discharge, sample not collected

3b. Are the three samples collected consecutively (not at separate times)?

[ ] Yes [ ] No Comments: N/A

3c. Are samples collected from three segments of a 60 segment grid?

[ ] Yes [ ] No Comments: N/A

4. For 307:

4a. Is one set of samples collected after 4:00 p.m. on Friday and the other two sets at different times on Saturday?

[ ] Yes [ ] No Comments: Not Observed

4b. Are the three sets of samples 6-hr time composites?

[ ] Yes [ ] No Comments: Not Observed

4c. Are pH and temperature readings taken on the composite samples and in situ readings from the manhole at the beginning and end of each 6-hour sample?

[ ] Yes [ ] No Comments: Not Observed

5. For 308:

5a. Are samples collected on three separate days from approximately 8:00 a.m. to 2:00 p.m. each day?

[X] Yes [ ] No Comments: 0800 - 1400 hrs

5b. Are pH, conductivity and temperature measurements taken on the composite samples and in situ from the effluent weir box at the beginning and end of each compositing period?

[X] Yes [ ] No Comments:

5c. Is the composite sampler set to collect 200 to 300 mL each 10 minutes?

[X] Yes [ ] No Comments:

5d. Is a copy of the daily operating log of the wastewater treatment plant obtained on the days the samples are collected for permanent record of the site sampling effort?

|X| Yes |_| No Comments: _____

6. For 400, 401, 402, and 403:

6a. Are samples collected on three separate days?

|X| Yes |_| No Comments: Tuesday, Wednesday, Thursday

6b. Are the samples for metal analyses filtered prior to preservation?

|X| Yes |_| No Comments: _____

6c. Are pH, conductivity and temperature measurements taken?

|X| Yes |_| No Comments: _____

6d. For 402; if surface flow is not present, is a pipe placed in the ground up to 6-ft deep at the deep hole nearest the spring that is drilled for 801 (2.1 acre property) in order to collect ground water?

|_| Yes |_| No Comments: Not Observed

6e. For 403; is one segment selected for sampling from a 20 segment grid?

|_| Yes |X| No Comments: There was only one spot deep enough to collect water

7. If an automated composite sampler was used:

7a. Is clean medical grade silicone tubing used?

|X| Yes |_| No Comments:

7b. Was the sample line purged prior to collection of the sample?

|X| Yes |_| No Comments:

7c. Was the purged volume returned to its source?

|X| Yes |_| No Comments:

8. If container immersion used:

8a. Is the container tilted properly to fill the container with the least amount of disturbance?

|X| Yes |_| No Comments:

9. If a dipper was used:

9a. Was the dipper allowed to fill slowly and continuously?

|X| Yes |_| No Comments: _____

_____

_____

9b. Does the dipper have a volume of at least 500 ml?

|X| Yes |_| No Comments: _____

_____

_____

9c. Was the dipper emptied slowly to minimize entry disturbance?

|X| Yes |_| No Comments: _____

_____

_____

9d. Was the sample container tilted slightly to fill with the least amount of disturbance?

|X| Yes |_| No Comments: _____

_____

_____

10. For volatile organic samples:

10a. Are volatile organic samples collected first?

|X| Yes |_| No Comments: _____

_____

_____

10b. Is the headspace in the sample containers minimized?

|X| Yes |_| No Comments: No headspace

10c. Are samples immediately placed in a 4°C environment?

|X| Yes |_| No Comments:

11. Are sample jar lids retightened after initial cool down or immediately prior to sampling?

|X| Yes |_| No Comments: At sample preparation area

12. Is the sample equipment decontaminated as described?

|X| Yes |_| No Comments:

13. Are the decontamination liquids contained for disposal?

|X| Yes |_| No Comments:

14. Are the decontamination procedures performed at or near the sampling location?

|X| Yes |_| No Comments:

15. Are samples preserved immediately after collection?

[ ] Yes [X] No Comments: At base site (approximately 30 minutes to preservation)

16. Did sample labels include date, time of collection and the preservation?

[X] Yes [ ] No Comments:

VI. SAMPLE PREPARATION FIELD PROCEDURES

1. Sample size, container, preservatives, holding times and other comments are identified in the Sampling Plan. Are these procedures being followed?

   |X| Yes |_| No Comments: _____

2. If no, are different procedures identified and documented?

   |_| Yes |_| No Comments: N/A

3. Are all solid volatiles stored in 125 ml glass jars?

   |X| Yes |_| No Comments: _____

4. Are all liquid volatiles stored in 40 ml septum capped glass bottles?

   |X| Yes |_| No Comments: _____

5. Are aqueous Total PNAs samples collected in 1000 ml amber glass containers?

   |_| Yes |X| No Comments: Total PNAs not collected at site to cut costs

6. Are solid Total PNAs collected in 125 ml wide mouth glass jars?

   |_| Yes |X| No Comments: Total PNAs not collected at site to cut costs

7. Are ICP metals aqueous samples collected in 500 ml HDPE bottles?

|X| Yes |_| No Comments: _____

8. Are ICP metals solid sample collected in 250 ml HDPE wide mouth bottles?

|X| Yes |_| No Comments: _____

9. Are semivolatiles aqueous samples collected in glass 1000 ml amber bottles?

|X| Yes |_| No Comments: _____

10. Are solid semivolatile/PCB samples collected in 125 ml glass wide mouth jars?

|X| Yes |_| No Comments: _____

11. Are anion aqueous samples stored in 500 ml wide mouth HDPE bottles?

|_| Yes |_| No Comments: N/A

12. Are anion solid samples stored in 250 ml wide mouth HDPE bottles?

|_| Yes |_| No Comments: N/A

13. If a sample requires refrigeration, is a sufficient quantity of freezer packs being used to maintain the sample at 4°C?

|X| Yes |_| No Comments: _____

14. Are all samples sealed in plastic bags?

|X| Yes |_| No Comments: _____

15. Are all samples placed in a plastic bag lined ice chest and packed in vermiculite?

|X| Yes |_| No Comments: _____

16. Are all sample preparation procedures filled out and up-to-date in the sample logbook?

|X| Yes |_| No Comments: Calibration logbook pg 104 calibration check for pH buffer 10.0 not adjusted

17. Are sample preparation equipment being stored in a secure, non-contaminatory environment?

|X| Yes |_| No Comments: _____

18. Are all disposable sample preparation equipment being properly disposed of?

|X| Yes |_| No Comments: Site will accept it (PETC)

19. Are swipes being conducted to check for contaminated equipment in the sample preparation area?

|_| Yes |_| No Comments: N/A

20. Are all concentrated acids used for preserving the samples stored in a vented storage cabinet?

|X| Yes |_| No Comments: _____

21. Are any food, drink, tobacco or lotions being used in the sample preparation area?

|_| Yes |X| No Comments: _____

22. Are volatile organic samples shielded from light?

|X| Yes |_| No Comments: _____

23. Are the appropriate number of shipping blanks packed in each cooler?

|X| Yes |_| No Comments: _____

VII. HEALTH AND SAFETY

1. Is a Health and Safety Coordinator (HSC) on site during the entire Survey?

|X| Yes |_| No Comments: J. B. Watson (Team 1), Leslie Barker (Team 2)

2. Is appropriate protective clothing and equipment made available to the sampling teams by the site contractor or ORNL?

|X| Yes |_| No Comments: By ORNL

3. Are all members of the sampling team formally trained in appropriate health and safety considerations?

|X| Yes |_| No Comments: INEL Health and Safety (16 hour), Most had 40 hr. SARA, Some have First Aid and CPR

4. For sampling sites where routine operations do not occur and there is no established protocol, are the principal hazards and the protective measures taken determined by document review by the team leader, and the contractor H&S representative?

|X| Yes |_| No Comments:

5. Are acid/base spill kits and eye wash kits available in each sampling vehicle?

|X| Yes |_| No Comments:

6. Are all normal on-site field sampling activities conducted in at least Level-D-protection? (Coveralls, steel toed boots, latex surgical gloves, safety glasses, and hard hats where required).

[ ] Yes [X] No Comments: Safety glasses not worn at many locations

7. Are any food, drink, tobacco or lotions being used during sampling activities?

[ ] Yes [X] No Comments:

8. Are sampling personnel fit-tested, and trained in the use of respiratory protection?

[X] Yes [ ] No Comments:

9. Are any members of the sampling team trained in First Aid/CPR?

[X] Yes [ ] No Comments: At least one member of each team

10. Have all sampling personnel undergone medical examination?

[X] Yes [ ] No Comments: Medical surveillance at least once per year

11. Do all sampling personnel have their radiation exposure histories completed prior to beginning sampling?

|X| Yes |_| No Comments: Radiation history documented

No whole body counts

12. Is the HSC a professional Industrial Hygienist?

|_| Yes |X| No Comments:

13. Are Material Safety Data Sheets available at all times for inspection by the Field Sampling Team?

|X| Yes |_| No Comments:

14. Are sample locations surveyed for radiation and vapor hazards using portable instruments?

|X| Yes |_| No Comments: As indicated in Sampling Plan (ORNL)

15. When augering, is the sample media surveyed for radiation and vapor hazards?

|_| Yes |X| No Comments: While augering, a PID was not used to

monitor vapor hazards

16. If any of the following instruments is used (Portable Oxygen Monitor, Portable Combustible Gas Indicator, Portable Flame Ionization Detector, Photoionization Detector):

16a. Is the instrument clean and serviceable?

|X| Yes |_| No Comments: _____

16b. Is the battery checked and sufficiently charged?

|X| Yes |_| No Comments: PID was charged. The battery on the Horiba used for temp, pH, conductivity was not charged. Both teams had to share the other unit.

16c. Has the instrument been properly calibrated?

|X| Yes |_| No Comments: Calibrated prior to survey at ORNL

16d. Has the instrument been allowed to warm up properly before measurement begins?

|X| Yes |_| No Comments: _____

16e. Is the operator fully trained and knowledgeable in the use of the instrument?

|X| Yes |_| No Comments: Wayne Parsons, Betty Hensley

16f. Is the intake positioned close to the area in question?

|X| Yes |_| No Comments: _____

_____

_____

16g. Is the intake moved with slow, sweeping motions?

|X| Yes |_| No Comments: _____

_____

_____

VIII. ON-SITE WORK PERFORMANCE

1. Indicate sampling team performance in the following areas observed during the on-site audit. (NOTE: Identify poor work practices and violations of protocol under comments.)

Work Practice	Good	Fair	Poor
Sampling technique	[X]	[ ]	[ ]
Safety procedures	[X]	[ ]	[ ]
Forbidden personal practices (e.g., smoking, eating in forbidden areas)	[X]	[ ]	[ ]
Equipment use/maintenance/calibration	[X]	[ ]	[ ]

Comments: All team members are complimented on a conscious effort to maintain the integrity of the samples during collection. Most Sampling comments were considered minor. Note: a PID should be used continuously during all augering. Samplers should wear safety glasses in hazard situations. All categories were rated good.

2. Indicate sample preparation performance in the following area observed during the on-site audit. (NOTE: Identify poor work practices and violations of protocol under comments.)

Work Practice	Good	Fair	Poor
Preparation technique	[X]	[ ]	[ ]
Safety procedures	[X]	[ ]	[ ]
Forbidden personal practices (e.g., smoking, eating in forbidden areas)	[X]	[ ]	[ ]
Equipment use/maintenance/calibration	[X]	[ ]	[ ]

Comments: Attention to detail was observed during all phases of sample preparation. All preparation categories were rated good.

ORGDP Results of Inorganic and Organic Performance Evaluation Studies

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PERFORMANCE EVALUATION SCORES FOR ORGDP

Code	Score
QB1FY89 Inorganic	94.3
QB4FY88 Inorganic	96.6
QB3FY88 Inorganic	96.8
QBIFY89 Organic	47.3
QB4FY88 Organic	95.6
QB3FY88 Organic	68.8
WP-018	Satisfactory
WP-019	Satisfactory
WP-020	Satisfactory
WP-021	Satisfactory

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(Results for QB1, FY89 Inorganic
will be forwarded upon receipt)

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INORGANIC PERFORMANCE EVALUATION SAMPLE
INDIVIDUAL LABORATORY SUMMARY REPORT
FOR QB 4 FY 88

LABORATORY NAME: Martin Marietta ORGDP (TN) (M3)
PERFORMANCE LEVEL: ACCEPTABLE
LABORATORY RANK: Above = 5 Same = 0 Below = 32

% Score: 96.6
REPORT DATE: 9/26/1988
MATRIX: WATER

ELEMENT NAME	95 % CI LOWER	95 % CI UPPER	LAB RESULTS REPORTED VALUE	LAB RESULTS QUALIFIER CODE	#LABS NOT-ID	#LABS MIS-QUANT	PROGRAM DATA #LABS FALSE POS	#LABS MSPK OUT	#LABS DUP OUT	TOTAL #LABS
ALUMINUM	725	930	819		0	6	0	0	0	38
ANTIMONY	60.0	90	47	B	0	3	0	4	0	38
ARSENIC	26	39	34		0	1	0	2	1	38
BARIUM	2790	3260	2950		0	2	0	0	0	38
BERYLLIUM	30	40	32		0	0	0	0	0	38
CADMIUM	6.9	13	9.3		0	4	0	1	0	38
CALCIUM	5190	6270	5570		0	2	0	0	0	38
CHROMIUM	31	49	43		0	4	0	0	0	38
COBALT	72	96	84		0	1	0	0	0	38
COPPER	60	100	75	E	0	2	0	0	0	38
IRON	1600	1890	1700		0	2	0	2	0	38
LEAD	54	77	71		0	8	0	2	2	38
MAGNESIUM	7840	9040	8350		0	1	0	0	0	38
MANGANESE	46	57	52		0	2	0	0	0	38
MERCURY	6.3	10	8.1		0	5	0	0	0	38
NICKEL	113	163	139	E	0	3	0	0	1	38
POTASSIUM	8380	10700	10300	E	0	2	0	0	0	38
SELENIUM	11	19	16		0	0	0	5	1	38
SILVER	10.0	15	3.4	U	15	1	0	2	1	38
SODIUM	17100	22100	19500		0	3	0	0	0	38
THALLIUM	29	50	47		1	4	0	5	3	38
VANADIUM	54	69	62		0	6	0	0	0	38
ZINC	30	59	37	E	0	6	0	0	1	38

OF ELEMENTS NOT-IDENTIFIED: 0
OF ELEMENTS MIS-QUANTIFIED: 0
OF FALSE POSITIVES: 0

OF MATRIX SPIKES OUT: 0
TER :

OF DUPLICATES OUT: 0
TER :

INORGANIC PERFORMANCE EVALUATION SAMPLE
INDIVIDUAL LABORATORY SUMMARY REPORT
FOR QB 4 FY 88

LABORATORY NAME: Martin Marietta ORGDP (TN) (M3)
PERFORMANCE LEVEL: ACCEPTABLE
LABORATORY RANK: Above = 5 Same = 0 Below = 32

% Score: 96.6
REPORT DATE: 9/26/1988
MATRIX: SOIL

ELEMENT NAME	95 % CI LOWER	95 % CI UPPER	LAB RESULTS REPORTED VALUE	LAB RESULTS QUALIFIER CODE	#LABS NOT-ID	#LABS MIS-QUANT	PROGRAM DATA #LABS FALSE POS	#LABS MSPK OUT	#LABS DUP OUT	TOTA #LAB
ALUMINUM	4630	17500	15300		0	1	0	0	1	38
ANTIMONY	12.0	58	13		3	2	0	27	0	38
ARSENIC	242	378	263		0	6	0	2	2	38
BARIUM	94	146	124		0	3	0	1	0	38
BERYLLIUM	4.4	7.7	5.6		1	2	0	2	0	38
CADMIUM	13	20	14	E	0	7	0	2	0	38
CALCIUM	49000	61300	52800		0	4	0	0	0	38
CHROMIUM	42	63	52	E	0	2	0	1	0	38
COBALT	35	58	46	E	0	4	0	1	0	38
COPPER	1710	2100	1850		0	4	0	0	0	38
IRON	13500	26000	20000	E	0	4	0	0	0	38
LEAD	302	412	359		0	5	0	2	1	38
MAGNESIUM	29900	37900	33100		0	3	0	0	0	38
MANGANESE	4310	5660	4700		0	4	0	1	0	38
MERCURY	1.9	4.4	3.5		0	2	0	0	1	38
NICKEL	20	50	39	E	0	2	0	1	0	38
POTASSIUM	1000.0	1440	2800	E X	0	5	0	0	0	38
SELENIUM	4.8	16	13	S	1	3	0	4	2	38
SILVER	3.8	10	7.3	E	0	4	0	5	2	38
SODIUM	d	d	330	B	0	0	1	0	0	38
THALLIUM	6.5	14	11		1	3	0	6	0	38
VANADIUM	24	58	45		0	2	0	1	0	38
ZINC	206	338	272	E	0	3	0	5	0	38

0 OF ELEMENTS NOT-IDENTIFIED: 0
0 OF ELEMENTS MIS-QUANTIFIED: 1
0 OF FALSE POSITIVES: 0

) OF MATRIX SPIKES OUT: 0
SOIL :

OF DUPLICATES OUT: 0
OIL :

MARTIN MARIETTA

MARTIN MARIETTA ENERGY SYSTEMS, INC.

POST OFFICE BOX 2003
OAK RIDGE, TENNESSEE 37831

November 17, 1988

Dr. Harold Vincent
Quality Assurance Division, EMSL-LV
U.S. Environmental Protection Agency
P.O. Box 93478
Las Vegas, Nevada 89193-3478

Dear Dr. Vincent:

QB4-FY88 Inorganic PE Sample, Case No. 10017, K-25 Laboratory

The evaluation of our reported data for the referenced PE sample showed that our score was 96.6 and that potassium was mis-quantified with our value being 2800. The 95% CI limits were 1000 for the lower and 1440 for the upper.

Dr. N. P. Buddin, supervisor of the metals analyses, has reviewed the raw data file associated with the analysis and reports that the potassium result appears to be biased high due to unresolved spectral interferences between potassium and one or more matrix elements present in this soil sample. For this sample, calcium, iron, and magnesium were all found at high levels compared to the water PE sample. The interference check samples provided by EPA do not include true values for potassium, and this lack of information resulted in our improper evaluation of some interferences.

All the QA-QC associated with the analysis was in control. We will endeavor to determine if spectral interferences are occurring in future samples of this matrix type and take needed actions.

Sincerely,

Marlin S. Dill

Marlin S. Dill
Methodology & QA Manager

MSD:pte

cc: J. T. Bradbury
A. B. Crockett - INEL
R. B. Farrar
V. Fayne - DOE, Washington
R. B. Fitts - ORNL
R. W. Morrow
File - MSD - NoRC

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INORGANIC PERFORMANCE EVALUATION SAMPLE
INDIVIDUAL LABORATORY SUMMARY REPORT
FOR QB 3 FY 88

ABORATORY NAME: Martin Marietta ORGDP (TN) (S2)
ERFORMANCE LEVEL: ACCEPTABLE
ABORATORY RANK: Above = 3 Same = 2 Below = 12

% Score: 96.8
REPORT DATE: 6/15/1988
MATRIX: WATER

LEMENT NAME	95 % CI LOWER	95 % CI UPPER	LAB RESULTS REPORTED VALUE	LAB RESULTS QUALIFIER CODE	#LABS NOT-ID	#LABS MIS-QUANT	PROGRAM DATA #LABS FALSE POS	#LABS MSPK OUT	#LABS DUP OUT	TOTAL #LABS
.UMINUM	1790	2190	2050		0	3	0	0	0	38
ITIMONY	86	156	100		2	3	0	3	0	38
SENIC	40	58	40	*	0	1	0	5	3	38
RIUM	265	331	288	E	0	3	0	1	0	38
RYLLIUM	5.0	6.7	4.6	[]	2	1	0	0	0	38
DMIUM	65	82	69		0	2	0	1	0	38
LCIUM	8970	11000	10000		0	3	0	0	0	38
ROMIUM	90	117	95	E	0	2	0	0	0	38
BALT	61	87	72	E	0	1	0	0	0	38
PPER	126	170	149	E	0	3	0	1	0	38
	492	621	544		0	1	0	0	1	38
D	5.0	7.5	5.2		3	0	0	4	2	38
NESIUM	5740	6770	5990		0	4	0	0	0	38
GANESE	35	50	43		0	2	0	0	0	38
CURY	2.8	5.2	4.1		0	0	0	4	1	38
KEL	48	85	62		0	4	0	1	0	38
ASSIUM	6700	8220	9890	E X	0	4	0	0	0	38
ENIUM	39	62	48		0	1	0	0	2	38
VER	10.0	15	8.2	[]	13	2	0	4	3	38
IUM	8970	10900	10300		0	4	0	0	0	38
LIUM	17	31	27		1	4	0	7	0	38
ADIUM	64	93	77		0	1	0	0	0	38
	124	178	145		0	2	0	0	0	38

ELEMENTS NOT-IDENTIFIED: 0
ELEMENTS MIS-QUANTIFIED: 1
FALSE POSITIVES: 0

MATRIX SPIKES OUT: 0
:

UPLICATES OUT: 0
:

INORGANIC PERFORMANCE EVALUATION SAMPLE
INDIVIDUAL LABORATORY SUMMARY REPORT
FOR QB 3 FY 88

ORATORY NAME: Martin Marietta ORGDP (TN) (S2)
FORMANCE LEVEL: ACCEPTABLE
ORATORY RANK: Above = 3 Same = 2 Below = 32

% Score: 96.8
REPORT DATE: 6/15/1988
MATRIX: SOIL

MENT NAME	95 % CI LOWER	95 % CI UPPER	LAB RESULTS REPORTED VALUE	LAB RESULTS QUALIFIER CODE	PROGRAM DATA #LABS NOT-ID	#LABS MIS-QUANT	#LABS FALSE POS	#LABS MSPK OUT	#LABS DUP OUT	TOTAL #LABS
MINUM	8310	16200	15500		0	3	0	0	0	38
IMONY	c	c	6.2	U	0	0	0	27	1	38
ENIC	2.0	2.3	1.2	[]	7	7	0	4	2	38
IUM	40.0	57	53		0	0	0	3	0	38
ILLIUM	c	c	0.3	[]	0	0	1	1	0	38
IUM	c	c	2.2		0	0	1	0	1	38
IUM	1000.0	4150	4000	E *	0	0	0	0	0	38
MIUM	13	34	25		0	1	0	2	0	38
LT	d	d	9.2	[]	0	0	0	0	0	38
ER	8.9	22	18	E	0	1	0	1	0	38
	8720	19000	15600		0	1	0	0	0	38
	3.2	7.1	5		1	3	0	8	5	38
ESIUM	3340	5550	4660	E	0	3	0	0	0	38
ANESE	171	282	257		0	3	0	3	1	38
URY	c	c	0.1	U	0	0	2	2	2	38
EL	24	45	37		0	2	0	1	0	38
SSIUM	d	d	762	[]	0	0	1	0	0	38
NIUM	c	c	0.19	U	0	0	0	12	0	38
ER	c	c	0.68	U	0	0	1	9	1	38
UM	d	d	229	[]E	0	0	0	0	0	38
LIUM	c	c	0.54	U	0	0	1	3	1	38
DIUM	17	53	45		0	3	0	0	0	38
	31	59	50		0	0	0	1	3	38

ELEMENTS NOT-IDENTIFIED: 0
ELEMENTS MIS-QUANTIFIED: 0
FALSE POSITIVES: 0

MATRIX SPIKES OUT: 0

PLICATES OUT: 0

(Results for QB1, FY89 Organic
will be forwarded upon receipt)

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ORGANIC PERFORMANCE EVALUATION SAMPLE
INDIVIDUAL LABORATORY SUMMARY REPORT
FOR QB 4 FY 88

LABORATORY: Martin Marietta ORGDP (TN)
PERFORMANCE: ACCEPTABLE - No Response Required
RANK: Above = 5 Same = 0 Below = 65

% SCORE: 95.6
REPORT DATE: 12/28/88
MATRIX: WATER

COMPOUND	CONFIDENCE INTERVALS WARNING LOWER	WARNING UPPER	ACTION LOWER	ACTION UPPER	LABORATORY DATA CONC	Q	#LABS MIS-ONT	PROGRAM DATA #LABS NOT-ID	#LABS ID-CPD	TOTAL #LABS
TCL VOLATILE										
METHYLENE CHLORIDE	NU	NU	NU	NU	130		0	0	14	14
ACETONE	NU	NU	NU	NU	60		0	1	13	14
CARBON DISULFIDE	93	160	83	170	99		0	0	14	14
1,1-DICHLOROETHENE	110	170	99	170	130		3	0	14	14
1,1-DICHLOROETHANE	120	170	120	180	140		2	0	14	14
1,2-DICHLOROETHENE (TOTAL)	110	160	99	160	120		1	0	14	14
CHLOROFORM	120	160	110	170	120		1	0	14	14
1,2-DICHLOROETHANE	130	170	120	180	140		1	0	14	14
2-BUTANONE	16	120	10	170	71		0	3	11	14
1,1,1-TRICHLOROETHANE	110	170	100	180	130		0	0	14	14
CARBON TETRACHLORIDE	57	110	49	140	83		0	0	14	14
VINYL ACETATE	NU	NU	NU	NU	10	U	0	11	3	14
BROMODICHLOROMETHANE	130	170	120	180	140		0	0	14	14
1,2-DICHLOROPROPANE	140	190	130	190	150		1	0	14	14
CIS-1,3-DICHLOROPROPENE	23	45	20	57	38		2	1	13	14
TRICHLOROETHENE	120	170	110	180	130		1	0	14	14
DIBROMOCHLOROMETHANE	130	180	120	190	140		0	0	14	14
1,1,2-TRICHLOROETHANE	130	170	120	180	140		1	0	14	14
BENZENE	120	160	110	170	130		0	0	14	14
BROMOFORM	120	180	110	190	150		0	0	14	14
2-PENTANONE,4-METHYL-	61	150	40	160	100		1	0	14	14
2-HEXANONE	20	90	10	140	74		0	2	12	14
TETRACHLOROETHENE	92	130	87	150	100		0	0	14	14
TOLUENE	120	150	110	160	130		0	0	14	14
1,1,2,2-TETRACHLOROETHANE	110	160	100	170	130		1	0	14	14
CHLOROBENZENE	120	160	120	170	140		0	0	14	14
ETHYL BENZENE	84	140	75	150	110		0	0	14	14
STYRENE	77	130	69	160	140	S	1	0	14	14
XYLENES (TOTAL)	110	150	100	160	120		0	0	14	14
TCL SEMIVOLATILE										
PHENOL	15	72	10	100	0	NR	0	1	13	14
BIS(2-CHLOROETHYL)ETHER	23	38	21	45	0	NR	2	0	14	14
1,4-DICHLOROBENZENE	22	37	20	45	0	NR	1	0	14	14
1,2-DICHLOROBENZENE	23	38	21	45	0	NR	1	0	14	14
2-METHYLPHENOL	32	87	25	120	0	NR	0	1	13	14
BIS(2-CHLOROISOPROPYL)ETHER	42	72	38	88	0	NR	1	0	14	14
N-NITROSO-DI-N-PROPYLAMINE	28	45	26	54	0	NR	0	0	14	14
HEXACHLOROETHANE	17	32	15	40	0	NR	1	0	14	14
NITROBENZENE	13	22	12	23	0	NR	2	0	14	14
ISOPHORONE	11	18	10	22	0	NR	0	0	14	14
2-NITROPHENOL	85	140	77	160	0	NR	1	0	14	14
BENZOIC ACID	NU	NU	NU	NU	0	NR	0	10	4	14
BIS(2-CHLOROETHOXY)METHANE	37	57	34	60	0	NR	2	0	14	14
1,2,4-TRICHLOROBENZENE	10	16	10	19	0	NR	1	0	14	14
NAPHTHALENE	11	19	10	23	0	NR	0	0	14	14
4-CHLOROANILINE	97	230	78	250	0	NR	2	0	14	14
2-METHYLNAPHTHALENE	49	87	44	110	0	NR	0	0	14	14
2,4,6-TRICHLOROPHENOL	44	72	39	76	0	NR	1	0	14	14
2-NITROANILINE	130	210	120	230	0	NR	1	1	13	14
DIMETHYL PHTHALATE	NU	NU	NU	NU	0	NR	0	1	13	14
3-NITROANILINE	110	250	71	280	0	NR	1	0	14	14
2,4-DINITROPHENOL	100	250	82	270	0	NR	1	0	14	14
4-NITROPHENOL	50	190	50	210	0	NR	1	1	13	14
DIBENZOFURAN	120	180	110	220	0	NR	0	0	14	14
2,4-DINITROTOLUENE	17	64	10	69	0	NR	0	5	9	14

ORGANIC PERFORMANCE EVALUATION SAMPLE
INDIVIDUAL LABORATORY SUMMARY REPORT
FOR QB 4 FY 88

LABORATORY: Martin Marietta ORGDP (TN)
PERFORMANCE: ACCEPTABLE - No Response Required
RANK: Above = 5 Same = 0 Below = 65

% SCORE: 95.6
REPORT DATE: 12/28/88
MATRIX: WATER

COMPOUND	CONFIDENCE INTERVALS WARNING LOWER	WARNING UPPER	ACTION LOWER	ACTION UPPER	LABORATORY DATA CONC	Q	#LABS MIS-QNT	PROGRAM DATA #LABS NOT-ID	#LABS ID-CPD	TOTAL #LABS
DIETHYLPHTHALATE	15	83	10	120	0	NR	0	0	14	14
4-CHLOROPHENYL PHENYL ETHER	65	99	60	100	0	NR	0	0	14	14
FLUORENE	68	96	64	110	0	NR	1	0	14	14
4-NITROANILINE	62	140	51	140	0	NR	2	0	14	14
4,6-DINITRO-2-METHYLPHENOL	54	110	50	120	0	NR	0	0	14	14
4-BROMOPHENYL PHENYL ETHER	31	46	29	54	0	NR	1	0	14	14
HEXACHLOROBENZENE	25	46	22	56	0	NR	1	0	14	14
DI-N-BUTYLPHTHALATE	12	80	10	120	0	NR	0	2	12	14
FLUORANTHENE	31	51	28	54	0	NR	1	0	14	14
PYRENE	28	48	25	51	0	NR	0	0	14	14
BUTYL BENZYL PHTHALATE	NU	NU	NU	NU	0	NR	0	6	8	14
BENZO(A)ANTHRACENE	52	110	44	120	0	NR	0	0	14	14
CHRYSENE	14	33	11	35	0	NR	1	0	14	14
BIS(2-ETHYLHEXYL)PHTHALATE	18	91	10	100	0	NR	1	0	14	14
DI-N-OCTYL PHTHALATE	22	92	12	100	0	NR	1	0	14	14
BENZO(K)FLUORANTHENE	37	100	27	110	0	NR	1	2	12	14
DIBENZ(A,H)ANTHRACENE	36	120	24	130	0	NR	0	0	14	14
BENZO(G,H,I)PERYLENE	38	120	26	130	0	NR	1	0	14	14
TCL PESTICIDES										
ALPHA-BHC	NU	NU	NU	NU	0.5	U	0	6	8	14
BETA-BHC	NU	NU	NU	NU	0.37		0	3	11	14
DELTA-BHC	NU	NU	NU	NU	0.5	U	0	4	10	14
GAMMA-BHC (LINDANE)	NU	NU	NU	NU	0.09		0	1	13	14
HEPTACHLOR	0.068	0.25	0.05	0.35	0.2		1	0	14	14
ALDRIN	0.16	0.51	0.11	0.57	0.53	S	1	0	14	14
HEPTACHLOR EPOXIDE	0.12	0.37	0.087	0.40	0.31		1	0	14	14
ENDOSULFAN I	NU	NU	NU	NU	0.05	U	0	10	4	14
DIELDRIN	0.30	0.70	0.24	0.76	0.4		1	0	14	14
ENDRIN	0.21	0.45	0.17	0.49	0.14	X	1	1	13	14
4,4'-DDD	2.8	5.5	2.5	5.9	3.9		1	0	14	14
ENDOSULFAN SULFATE	NU	NU	NU	NU	0.28		0	3	11	14
4,4'-DDT	1.2	3.4	0.85	3.8	1.5		2	0	14	14
METHOXYCHLOR	NU	NU	NU	NU	0.68		0	2	12	14
GAMMA-CHLORDANE	0.80	2.1	0.62	2.2	1.2		1	0	14	14
NON-TCL VOLATILE										
ETHER,2-CHLORO-ETHYL-VINYL					46			5	9	14
METHANE,TRICHLORO-FLUORO-					90			4	10	14
NON-TCL SEMIVOLATILE										
MALATHION					0			14	0	14
BENZOPHENONE					0			4	10	14
BENZIDINE					0			6	8	14
NON-TCL VOLATILE (Contaminants)										
ETHER,ETHYL-					110			11	3	14

OF TCL COMPOUNDS NOT-IDENTIFIED: 0
OF TCL COMPOUNDS MIS-QUANTIFIED: 1
OF TCL CONTAMINANTS: 0

OF NON-TCL COMPOUNDS NOT-IDENTIFIED: 0
OF NON-TCL CONTAMINANTS: 0

ORGANIC PERFORMANCE EVALUATION SAMPLE
INDIVIDUAL LABORATORY SUMMARY REPORT
FOR QB 4 FY 88

LABORATORY: Martin Marietta ORGDP (TN)
PERFORMANCE:
RANK: Above = 69 Same = 0 Below = 0

% SCORE: NONE
REPORT DATE: 12/28/88
MATRIX: SOIL

COMPOUND	CONFIDENCE INTERVALS WARNING LOWER	WARNING UPPER	ACTION LOWER	ACTION UPPER	LABORATORY DATA CONC	Q	#LABS MIS-QNT	PROGRAM DATA #LABS NOT-ID	#LABS ID-CPD	TOTAL #LABS
TCL VOLATILE										
ETHYL BENZENE	NU	NU	NU	NU	1		0	4	7	11
TCL SEMIVOLATILE										
1,2-DICHLOROBENZENE	NU	NU	NU	NU	0	NR	0	10	1	11
2,4-DICHLOROPHENOL	870	2800	700	2600	0	NR	0	0	11	11
2,4,6-TRICHLOROPHENOL	1300	2700	1100	3400	0	NR	0	0	11	11
2-CHLORONAPHTHALENE	1000	2800	740	3800	0	NR	0	0	11	11
ACENAPHTHYLENE	350	780	330	1000	0	NR	0	0	11	11
ACENAPHTHENE	1200	2600	960	3300	0	NR	0	0	11	11
FLUORENE	2000	4100	1700	5200	0	NR	0	0	11	11
4-BROMOPHENYL PHENYL ETHER	2300	4400	2000	5400	0	NR	0	0	11	11
3,3'-DICHLOROBENZIDINE	NU	NU	NU	NU	0	NR	0	8	3	11
BENZO(B)FLUORANTHENE	930	1700	810	2200	0	NR	0	0	11	11
TCL VOLATILE (Contaminants)										
METHYLENE CHLORIDE					13			3	8	11

OF TCL COMPOUNDS NOT-IDENTIFIED: 0
OF TCL COMPOUNDS MIS-QUANTIFIED: 0
OF TCL CONTAMINANTS: 0

OF NON-TCL COMPOUNDS NOT-IDENTIFIED: 0
OF NON-TCL CONTAMINANTS: 0

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MARTIN MARIETTA

MSI

ARTIN MARIETTA ENERGY SYSTEMS, INC.

POST OFFICE BOX 2003
OAK RIDGE, TENNESSEE 37831

September 14, 1988

Dr. Harold Vincent
United States Environmental Protection Agency
Office of Research and Development
Environmental Monitoring Systems Laboratory
P.O. Box 15027
Las Vegas, Nevada 89114-5026

Dear Dr. Vincent:

Reference: Q34-88 CLP Organic Sample Data

The ORGDP Laboratory will not submit data on the Q34-88 organic analyses. We had a series of quality failures during the period these samples were prepared and have taken steps to prevent future problems. My evaluation of our data package for the Q34-88 samples indicates that our score should be in the minus column. The failures were as follows:

1. The BNA extract was placed in a vial with a missing cap liner and all of the methylene chloride evaporated before the GC/MS analysis was begun. The residue was redissolved in 1 mL of methylene chloride and analyzed. The surrogate recoveries were within EPA criteria but there is no assurance that all of the compounds remained in the residue. There were also contaminants from extraction glassware.

2. The extraction glassware was not properly cleaned, and 10 TIC compounds were detected in the BNA fraction from all extractions processed during this preparation day. These TICs appear to be from detergents used to clean the glassware. Inspection of the glassware washer showed that it was not working as designed and neither the wash water nor the water rinse was being directed into the extraction funnels. I believe that the improper cleaning added contaminants to the samples and blanks and appeared as the TIC compounds noted above.

3. The soil sample had a worse failure. The lab analyst added the matrix spike to the entire line of extraction funnels - sample, method blank, and the extraction blank. Instructions were that the matrix spike was to be specifically eliminated due to the limited amount of soil sample; therefore this is a failure of the lab analyst to follow instructions. The surrogate spike was also present in all samples, thus it was not a mix-up of solutions. This action added 11 target compounds to the sample which, if initially present, would exceed the quantitation limits.

There were no problems encountered in the VOA analysis. The data package has been assembled and reviewed and will remain on file for reference purposes.

Sincerely,

Marlin S. Dill

Marlin S. Dill

MSD:pte

cc: J. T. Bradbury
R. W. Morrow
File-MSD-NoRC

ORGANIC PERFORMANCE EVALUATION SAMPLE
INDIVIDUAL LABORATORY SUMMARY REPORT
FOR QB 3 FY 88

LABORATORY: Martin Marietta ORGDP (TN)
PERFORMANCE: UNACCEPTABLE - Response Explaining Deficiency(ies) Required
RANK: Above = 51 Same = 0 Below = 15

% SCORE: 68.8
REPORT DATE: 07/07/88
MATRIX: WATER

COMPOUND	CONFIDENCE INTERVALS WARNING LOWER	WARNING UPPER	ACTION LOWER	ACTION UPPER	LABORATORY DATA CONC	Q	#LABS NOT-ID	PROGRAM DATA #LABS MIS-QUANT	#LABS CONTAM	TOTAL #LABS
TCL VOLATILE										
METHYLENE CHLORIDE	NU	NU	NU	NU	130	CB	0	0	0	66
ACETONE	78	190	62	200	90		1	9	0	66
CARBON DISULFIDE	110	200	100	210	120		0	13	0	66
1,1-DICHLOROETHENE	110	130	100	180	140		0	7	0	66
1,1-DICHLOROETHANE	130	170	120	180	140		1	6	0	66
1,2-DICHLOROETHENE (TOTAL)	110	170	100	180	140		1	3	0	66
CHLOROFORM	120	160	120	170	130		0	7	0	66
1,2-DICHLOROETHANE	130	170	120	170	140		0	4	0	66
2-BUTANONE	85	190	70	200	100		4	5	0	66
1,1,1-TRICHLOROETHANE	120	170	120	180	130		0	7	0	66
CARBON TETRACHLORIDE	110	170	90	180	140		0	5	0	66
VINYL ACETATE	NU	NU	NU	NU	10	U	0	0	0	66
BROMODICHLOROMETHANE	130	170	120	180	140		0	2	0	66
1,2-DICHLOROPROPANE	140	130	140	180	150		0	9	0	66
CIS-1,3-DICHLOROPROPENE	76	140	67	170	100		12	5	0	66
TRICHLOROETHENE	120	170	120	170	140		0	8	0	66
DIBROMOCHLOROMETHANE	140	120	130	190	150		0	9	0	66
1,1,2-TRICHLOROETHANE	130	170	120	170	140		0	5	0	66
BENZENE	120	160	120	160	140		0	6	0	66
TRANS-1,3-DICHLOROPROPENE	NU	NU	NU	NU	5	U	0	0	1	66
BROMOFORM	130	190	120	200	160		0	5	0	66
2-PENTANONE,4-METHYL-	92	160	82	170	110		1	7	0	66
2-HEXANONE	63	140	52	150	99		1	6	0	66
TETRACHLOROETHENE	100	140	94	160	120		1	5	0	66
TOLUENE	120	160	120	160	130		0	7	0	66
1,1,2,2-TETRACHLOROETHANE	110	160	110	170	140		1	5	0	66
CHLOROBENZENE	130	160	120	170	140		0	3	0	66
ETHYL BENZENE	100	140	97	160	120		0	3	0	66
STYRENE	86	150	77	150	140		0	4	0	66
XYLENES (TOTAL)	120	160	110	170	120		1	6	0	66
TCL SEMIVOLATILE										
PHENOL	10	42	10	61	5		0	0	0	66
2-CHLOROPHENOL	24	45	21	56	22	$	0	6	0	66
BENZYL ALCOHOL	NU	NU	NU	NU	10	U	0	0	0	66
2-METHYLPHENOL	22	40	19	50	12	X	1	6	0	66
4-METHYLPHENOL	20	42	17	53	8	X	3	4	0	66
2-NITROPHENOL	22	45	19	58	21	$	0	6	0	66
2,4-DIMETHYLPHENOL	16	38	13	50	10	U&	0	3	0	66
2,4-DICHLOROPHENOL	26	48	23	51	17	X	1	5	0	66
4-CHLORO-3-METHYL PHENOL	27	48	24	52	24	$	1	6	0	66
2,4,5-TRICHLOROPHENOL	100	200	89	210	50	X	1	5	0	66
2-CHLORONAPHTHALENE	25	45	22	55	18	X	0	4	0	66
3-NITROANILINE	50	120	50	130	9		0	4	0	66
4-NITROPHENOL	NU	NU	NU	NU	50	U	0	0	0	66
4,6-DINITRO-2-METHYLPHENOL	81	160	69	180	72	$	3	7	0	66
N-NITROSODIPHENYLAMINE	52	120	42	140	45	$	0	5	0	66
HEXACHLOROBENZENE	22	46	18	52	24		2	9	0	66
PENTACHLOROPHENOL	NU	NU	NU	NU	16		0	0	0	66
DI-N-BUTYLPHTHALATE	NU	NU	NU	NU	10	U	0	0	0	66
FLUORANTHENE	NU	NU	NU	NU	5		0	0	0	66
BENZO(A)ANTHRACENE	NU	NU	NU	NU	5		0	0	0	66
BENZO(B)FLUORANTHENE	34	110	24	150	64		0	2	0	66
BENZO(K)FLUORANTHENE	40	110	30	120	62		2	3	0	66
BENZO(A)PYRENE	40	110	30	150	56		0	1	0	66
INDENO(1,2,3-CD)PYRENE	28	100	18	140	71		1	0	0	66

ORGANIC PERFORMANCE EVALUATION SAMPLE
INDIVIDUAL LABORATORY SUMMARY REPORT
FOR QB 3 FY 88

LABORATORY: Martin Marietta ORGDP (TN)
PERFORMANCE: UNACCEPTABLE - Response Explaining Deficiency(ies) Required
RANK: Above = 51 Same = 0 Below = 15

% SCORE: 66.8
REPORT DATE: 07/07/8
MATRIX: WATER

COMPOUND	CONFIDENCE INTERVALS WARNING LOWER	WARNING UPPER	ACTION LOWER	ACTION UPPER	LABORATORY DATA CONC	Q	#LABS NOT-ID	PROGRAM DATA #LABS MIS-QUANT	#LABS CONTAM	TOTAL #LABS
DIBENZ(A,H)ANTHRACENE	NU	NU	NU	NU	0		0	0	0	66
BENZO(G,H,I)PERYLENE	NU	NU	NU	NU	0		0	0	0	66
TCL PESTICIDES										
ALPHA-BHC	NU	NU	NU	NU	25	U	0	0	1	66
DELTA-BHC	NU	NU	NU	NU	25	U	0	0	1	66
HEPTACHLOR EPOXIDE	0.100	0.29	0.071	0.32	0.13		10	4	0	66
4,4'-DDE	NU	NU	NU	NU	0.1	U	0	0	2	66
ENDOSULFAN II	NU	NU	NU	NU	0.1	U	0	0	0	66
METHOXYCHLOR	NU	NU	NU	NU	0.5	U	0	0	0	66
ALPHA-CHLORDANE	0.02	2.8	0.54	3.1	0.5	U&	7	2	0	66
GAMMA-CHLORDANE	0.53	1.5	0.5	1.7	0.5	U*	1	6	0	66
AROCLOR-1016	NU	NU	NU	NU	5	U	0	0	0	66
AROCLOR-1260	NU	NU	NU	NU	0.94		0	0	1	66
NON-TCL VOLATILE										
ETHER,2-CHLORO-ETHYL-VINYL					32		15	0	0	66
METHANE,TRICHLORO-FLUORO-					65		13	0	0	66
NON-TCL SEMIVOLATILE										
BENZOPHENONE					28		9	0	0	66
AZINPHOSETHYL					68		1	0	0	66
META-PICOLINE					13		0	0	0	66
TCL SEMIVOLATILE (Contaminants)										
NITROBENZENE					14	C	0	0	0	66
BIS(2-ETHYLHEXYL)PHTHALATE					210	C0	0	0	1	66
DI-N-OCTYL PHTHALATE					10	C0	0	0	0	66
NON-TCL SEMIVOLATILE (Contaminants)										
ADIPATE,DIOCTYL-					1500	C0	0	0	0	66
NON-TCL SEMIVOLATILE (Contaminants)										
UNKNOWN					0		0	0	12	66

OF TCL COMPOUNDS NOT-IDENTIFIED: 2
OF TCL COMPOUNDS MIS-QUANTIFIED: 5
OF TCL CONTAMINANTS: 1

OF NON-TCL COMPOUNDS NOT-IDENTIFIED: 0
OF NON-TCL CONTAMINANTS: 0

bc: M. R. Turner
D. C. Canada

MARTIN MARIETTA

MARTIN MARIETTA ENERGY SYSTEMS, INC.

POST OFFICE BOX 2003
OAK RIDGE, TENNESSEE 37831

July 25, 1988

Dr. Harold A. Vincent
U.S. Environmental Protection Agency
Office of Research and Development
P.O. Box 93478
Las Vegas, Nevada 89193-3478

Dear Dr. Vincent:

I received from Karen Knight a copy of our results of participation in the EMSL-LV third quarter organic performance evaluation study (QB3, FY88), and our data was unacceptable.

I have reviewed the reported data with the responsible chemists to determine the cause of the failure to produce our normal high quality data. Most of the points were deducted because of the low recovery of acid extractables (i.e., phenols) which indicates that the sample did not have the proper acid concentration during extraction.

We are revising our SOP which we believe will strengthen our QA for the organic analyses and prevent future failures.

Our SOP is to check for the proper acidity using pH paper after mixing and prior to extraction, but these steps are not recorded in the analyst workbook. It is possible for a buffering action to occur for some type samples during processing resulting in the lack of acid for a complete extraction. To ensure the proper pH, the SOP has been changed to require the rechecking of the sample after the first extraction and recording this fact in the analyst workbook. Adjustment to the pH, if required, will be made.

As noted on our Form 7B and 7C, all continuing calibration criteria were acceptable which shows that the analytical instruments were performing as expected for both the acid extractables and base/neutrals. The base/neutrals were found at acceptable concentrations which indicates that the problem was related to the proper acid concentration at time of extraction. The matrix spike data for the semivolatiles indicates that no major matrix problems existed within the sample matrix since all criteria were acceptable. All of the surrogate standard criteria were acceptable, but the acid extractables were on the low side of the acceptance range which further indicates some problems with the acid extraction compounds. The fact that the recovery was low and not missed entirely indicates that acid was added but that an insufficient amount was present to retain the proper pH during extraction.

I perused a copy of Karen Knights' organic PE data from the DOE laboratories and as I recall, we were the only lab having major problems with the acid extractable compounds. Since I did not make a copy of all her data, this observation may not be correct.

As noted in our case narrative submitted with the data, a second set of organic PE samples was received about a week later than the first set. This second set was re-iced and returned to the originator since the first set was in the process of being analyzed.

Sincerely,

Marlin S. Dill

Marlin S. Dill

MSD:pte

cc: D. K. Knight, DOE Washington
R. W. Morrow
File - MSD - NoRC

Recd. 7/21 Jim

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RESEARCH AND DEVELOPMENT
ENVIRONMENTAL MONITORING SYSTEMS LABORATORY-LAS VEGAS
P.O. BOX 15027, LAS VEGAS, NEVADA 89114-5027 • 702/798-2100 (FTS 545-2100)

JUL 2 1987

Copy MS D-11

Jim

Ms. D. Karen Knight
U. S. Department of Energy
Office of Environmental Audit
and Compliance
1000 Independence Avenue
Washington, DC 20585

Dear Ms. Knight:

The enclosed reports describe the analytical performances on the water pollution sample WP018 for four of the DOE Laboratories participating in the DOE Environmental Survey. Battelle-Columbus laboratories did not participate apparently because of some misunderstanding of the instructions.

Enclosure 2 lists values reported earlier before evaluation limits had been calculated (Bottrell to Knight, 4-28-87). Enclosure 3 describes how performance evaluation limits are determined.

Enclosure 4 has reports on the statistics of the responses for this sample from 376 laboratories other than the EPA and State laboratories that are used in establishing accepted values.

For a few values where a misprint is obvious, QA/QC has failed. For other determinations, such and Fluoride and chloride, an analytical laboratory problem exists.

Sincerely,

Harold A. Vincent

Harold A. Vincent
Analytical Chemist
Quality Assurance Research Branch
Quality Assurance Methods and Development Division

4 Enclosures

Wayne: FYI. Karen Knight would like any "outside the limits" issues addressed in the monthly report. Looks pretty good — Ed

ENCLOSURE 1

52
3

LABORATORY: IDAHO NATIONAL ENGINEERING LABORATORY
SUMMARY OF DOE SURVEY - LABORATORY SUPPORT (WP018)

Parameter	Sample Number	True Value	Reported Value	Acceptance Limits	Warning Limits
pH Units	3	5.20	5.14	5.06 - 5.30	5.09 - 5.27
	4	8.50	7.29**	8.04 - 8.89	8.15 - 8.79
Spec. Cond.	1	752	737	677 - 864	701 - 841
	2	448	440	421 - 508	431 - 497
Total Diss. Sol.	1	460	370	326 - 574	357 - 543
	2	257	200**	203 - 315	217 - 301
Total Hardness	1	229	237	217 - 247	221 - 243
	2	103	106	94.2 - 112	96.4 - 110
Total Alkalinity	1	110	107	99.2 - 117	101 - 115
	2	15.0	14.2	11.4 - 19.0	12.4 - 18.1
Chloride	1	162	163	152 - 179	155 - 175
	2	73.1	70.6	65.7 - 80.2	67.5 - 78.4
Flouride	1	2.65	2.7	2.29 - 2.93	2.37 - 2.85
	2	0.412	0.304*	0.338 - 0.487	0.357 - 0.468
Sulfate	1	10.0	10.0	6.96 - 12.6	7.67 - 11.9
	2	80	78.5	67.4 - 90.7	70.3 - 87.8
Ammonia -N	1	12.5	13.1	9.93 - 14.8	10.5 - 14.2
	2	5.10	5.16	4.09 - 6.01	4.32 - 5.78
Nitrate -N	1	4.00	4.06	3.26 - 4.69	3.43 - 4.52
	2	7.50	7.11	6.33 - 8.78	6.63 - 8.49
Ortho -P	1	0.858	0.725*	0.739 - 0.976	0.768 - 0.947
	2	0.349	0.359	0.310 - 0.441	0.325 - 0.425
TOC	1	21.5	20.5	16.6 - 25.9	17.9 - 24.7
	2	58.4	00.2*	45.2 - 70.3	48.4 - 67.1
Total CN	1	0.070	69.6*	0.0278 - 0.0976	0.0366 - 0.0888
	2	0.225	200*	0.110 - 0.298	0.134 - 0.274
Non-Filt. Res.	1	80.9	77.8	62.1 - 87.0	65.2 - 84.0
	2	25.1	23.7	16.4 - 28.0	17.8 - 26.6
Oil and Grease	1	8.00	7.3	1.34 - 12.8	2.77 - 11.4
	2	25.0	22.0	13.6 - 31.6	15.8 - 29.4

*Outside warning limits.
**Outside acceptance limits.

52
4

LABORATORY: ARGONNE NATIONAL LABORATORY
SUMMARY OF DOE SURVEY - LABORATORY SUPPORT (WP018)

Parameter	Sample Number	True Value	Reported Value	Acceptance Limits	Warning Limits
pH Units	3	5.19 5.20	NR	5.06 - 5.30	5.09 - 5.27
	4	8.40 8.50		8.04 - 8.89	8.15 - 8.79
Spec. Cond.	1	752	NR	677 - 864	701 - 841
	2	448		421 - 508	431 - 497
Total Diss. Sol.	1	460	NR	326 - 574	357 - 543
	2	257		203 - 315	217 - 301
Total Hardness	1	229	NR	217 - 247	221 - 243
	2	103		94.2 - 112	96.4 - 110
Total Alkalinity	1	110	NR	99.2 - 117	101 - 115
	2	15.0		11.4 - 19.0	12.4 - 18.1
Chloride	1	162	195***	152 - 179	155 - 175
	2	73.1	72.5	65.7 - 80.2	67.5 - 78.4
Flouride	1	2.65	2.92**	2.29 - 2.93	2.37 - 2.85
	2	0.412	0.499***	0.338 - 0.487	0.357 - 0.468
Sulfate	1	10.0	10.7	6.96 - 12.6	7.67 - 11.9
	2	80	79.3	67.4 - 90.7	70.3 - 87.8
Ammonia ^{-}N	1	12.5	NR	9.93 - 14.8	10.5 - 14.2
	2	5.10		4.09 - 6.01	4.32 - 5.78
Nitrate ^{-}N	1	4.00	4.01	3.26 - 4.69	3.43 - 4.52
	2	7.50	7.44	6.33 - 8.78	6.63 - 8.49
Ortho ^{-}P	1	0.858	0.855	0.739 - 0.976	0.768 - 0.947
	2	0.349	0.407	0.310 - 0.441	0.325 - 0.425
TOC	1	21.5	NR	16.6 - 25.9	17.9 - 24.7
	2	58.4		45.2 - 70.3	48.4 - 67.1
Total CN	1	0.070	0.0639	0.0278 - 0.0976	0.0366 - 0.0888
	2	0.225	0.210	0.110 - 0.298	0.134 - 0.274
Non-Filt. Res.	1	80.9		62.1 - 87.0	65.2 - 84.0
	2	25.1		16.4 - 28.0	17.8 - 26.6
Oil and Grease	1	8.00	5.85	1.34 - 12.8	2.77 - 11.4
	2	25.0	23.9	13.6 - 31.6	15.8 - 29.4

*NR - Not Reported.
**Outside warning limits.
***Outside acceptance limits.

LABORATORY: OAK RIDGE GASEOUS DIFFUSION PLANT
SUMMARY OF DOE SURVEY - LABORATORY SUPPORT (WP018)

Parameter	Sample Number	True Value	Reported Value	Acceptance Limits	Warning Limits
pH Units	3	5.20	5.19	5.06 - 5.30	5.09 - 5.27
	4	8.50	8.40	8.04 - 8.89	8.15 - 8.79
Spec. Cond.	1	752	727	677 - 864	701 - 841
	2	448	437	421 - 508	431 - 497
Total Diss. Sol.	1	460	455	326 - 574	357 - 543
	2	257	278	203 - 315	217 - 301
Total Hardness	1	229	231	217 - 247	221 - 243
	2	103	104	94.2 - 112	96.4 - 110
Total Alkalinity	1	110	118*	99.2 - 117	101 - 115
	2	15.0	0.18	11.4 - 19.0	12.4 - 18.1
Chloride	1	162	170	152 - 179	155 - 175
	2	73.1	173.7	65.7 - 80.2	67.5 - 78.4
Flouride	1	2.65	3.2*	2.29 - 2.93	2.37 - 2.85
	2	0.412	2.3*	0.338 - 0.487	0.357 - 0.468
Sulfate	1	10.0	9.5	6.96 - 12.6	7.67 - 11.9
	2	80	76.8	67.4 - 90.7	70.3 - 87.8
Ammonia -N	1	12.5	14.2	9.93 - 14.8	10.5 - 14.2
	2	5.10	5.28	4.09 - 6.01	4.32 - 5.78
Nitrate -N	1	4.00	4.10	3.26 - 4.69	3.43 - 4.52
	2	7.50	7.41	6.33 - 8.78	6.63 - 8.49
Ortho -P	1	0.858	0.85	0.739 - 0.976	0.768 - 0.947
	2	0.349	0.26	0.310 - 0.441	0.325 - 0.425
TOC	1	21.5	23	16.6 - 25.9	17.9 - 24.7
	2	58.4	23*	45.2 - 70.3	48.4 - 67.1
Total CN	1	0.070	0.90*	0.0278 - 0.0976	0.0366 - 0.0888
	2	0.225	0.27	0.110 - 0.298	0.134 - 0.274
Non-Filt. Res.	1	80.9	72	62.1 - 87.0	65.2 - 84.0
	2	25.1	24	16.4 - 28.0	17.8 - 26.6
Oil and Grease	1	8.00	6	1.34 - 12.8	2.77 - 11.4
	2	25.0	21	13.6 - 31.6	15.8 - 29.4

*Outside warning limits.
**Outside acceptance limits.

ENCLOSURE 2

SUMMARY OF DOE SURVEY - LABORATORY SUPPORT (WP018)

Parameter	ORGDP (K-25) Sample 1-3	ORGDP (K-25) Sample 2-4	ANL Sample 1-3	ANL Sample 2-4	INEL Sample 1-3	INEL Sample 2-4	ORNL Sample 1-3	ORNL Sample 2-4
l Units	5.19	8.40	-	-	5.14	7.29	51.9	8.52
ec. Cond.	727	437	-	-	737	440	787	474
tal Diss. Sol.	455	278	-	-	370	200	-	-
tal Hardness	231	104	-	-	237	106	232	103
lcium	89.9	7.39	-	-	-	-	84.5	6.85
gnesium	4.25	20.0	-	-	-	-	4.55	21.1
dium	61.9	31.1	-	-	-	-	56.6	28.9
tassium	1.81	29.9	-	-	-	-	1.76	27.9
tal Alkalinity	118	18	-	-	107	14.2	109	15.0
loride	170	73.7	195	72.5	163	70.6	165	71.0
luoride	3.2	0.3	2.92	0.499	2.70	0.304	2.45	0.33
lfate	9.5	76.8	10.7	79.3	10.0	78.5	9.85	80.0
monia -N	14.2	5.28	-	-	13.1	5.16	11.2	4.71
trate -N	4.10	7.41	4.01	7.44	4.06	7.11	4.02	7.76
tho -P	0.85	0.36	0.855	0.407	0.725	0.359	0.87	0.39
jeld. -N	12.0	23.1	-	-	-	-	14.7	27.3
tal -P	4.88	0.88	-	-	-	-	5.33	0.73
D	49	42	-	-	-	-	-	-
C	23	23	-	-	20.5	00.2	19.6	54.6
-day BOD	24	32	-	-	-	-	46.0	164
tal CN	0.90	0.27	0.0639	0.210	69.6	200	-	-
on-Filt. Res.	72	24	-	-	77.8	23.7	74.5	23.0
il and Grease	6	21	5.85	23.9	7.30	22.0	92.0	261
otal Phenolics	0.348	0.099	-	-	-	-	-	-
otal Res. Chlorine	0.75	0.23	-	-	-	-	1.24	1.16

ADDN Parameters	ORNL Sample 1-3	ORNL Sample 2-4
Al	232	1380
As	134	18.6
Be	730	335
Cd	55.0	450
Co	145	608
Cr	514	195
Cu	959	488
Fe	1060	1820
Hg	0.84	4.27
Mn	378	990
Ni	778	325
Pb	693	370
Se	20.5	41.8
V	1110	904
Zn	1090	1720
Sb	76.7	44.9
Ag	12.0	8.90
Te	70.0	9.00
Mo	28.8	7.76
Sr	71.8	9.71
Ti	136	111

ENCLOSURE 3

US ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY-CINCINNATI

EVALUATION TERMS USED FOR PERFORMANCE EVALUATION STUDIES

TRUE VALUES: A THEORETICALLY CALCULATED VALUE BASED UPON CAREFUL WEIGHING OF CONSTITUENTS. PLEASE NOTE THAT, FOR SOME ANALYTES, THIS VALUE IS QUITE DIFFERENT FROM THE RESULT THAT CAN BE EXPECTED WHEN THE STUDY SAMPLE IS ANALYZED. WHEN UNAVOIDABLE, THIS MAY BE A REFERENCE VALUE THAT REPRESENTS ACHIEVABLE RESULTS.

ACCEPTANCE LIMITS: A 99% CONFIDENCE INTERVAL CALCULATED FROM AVAILABLE PERFORMANCE EVALUATION DATA OF EPA AND STATE LABORATORIES.

BY DEFINITION THE ANALYTIC RESULTS FROM A LABORATORY PRODUCING VALID DATA SHOULD FALL WITHIN ACCEPTANCE LIMITS 99 TIMES OUT OF 100.

WARNING LIMITS: A 95% CONFIDENCE INTERVAL PRODUCED IN THE SAME WAY AS THE ACCEPTANCE LIMITS.

DATA FALLING OUTSIDE THESE LIMITS BUT INSIDE THE ACCEPTANCE LIMITS SHOULD BE REVIEWED FOR POSSIBLE PROBLEMS, BUT SUCH DATA SHOULD NOT NECESSARILY BE CONSIDERED UNACCEPTABLE.

MEANING OF THE PERFORMANCE EVALUATION COMMENTS:

ACCEPTABLE: THE REPORTED VALUE WAS WITHIN ALL LIMITS.

CHECK FOR ERROR: THE REPORTED VALUE WAS WITHIN THE ACCEPTANCE LIMITS, I.E., TECHNICALLY ACCEPTABLE, BUT SINCE THE VALUE WAS OUTSIDE OF THE WARNING LIMITS A MARGINAL PROBLEM MAY EXIST.

NOT ACCEPTABLE: THE REPORTED VALUE WAS BEYOND THE ACCEPTANCE LIMITS.

UNUSABLE DATA: THE VALUE WAS REPORTED AS A "LESS THAN" OR "GREATER THAN" VALUE AND COULD NOT BE QUANTITATIVELY JUDGED.

ANY PERFORMANCE EVALUATION OTHER THAN ACCEPTABLE REQUIRES A REVIEW BY THE LABORATORY TO IDENTIFY POSSIBLE DEFICIENCIES OR ERRORS THAT NEED CORRECTING.

ENCLOSURE 4

9

OTHER LABORATORIES SUMMARY REPORT: WP STUDY 018 DATE: 05/19/87

376 LABS REPORTING WITH CODES: CN CA CT ME MA NH RI VT DE DC MD PA
VA GA KY SC TN WV IL IN LA MI MN NY
OH WI AR NM NC OK TX IA KS MO NE CO
SD UT AZ NV ID OR WA

	SAMPLE 1				SAMPLE 2			
	DATA REPORTED		BEYOND LIMITS		DATA REPORTED		BEYOND LIMITS	
	TOTAL	USABLE	ACCEPT	WARN	TOTAL	USABLE	ACCEPT	WARN
TRACE METALS								
ALUMINUM	213	211	40	15	215	214	35	8
ARSENIC	213	213	51	14	213	211	51	14
BERYLLIUM	170	170	21	10	170	170	27	4
CADMIUM	260	259	39	19	259	259	31	23
COBALT	185	184	35	14	185	185	26	8
CHROMIUM	263	263	28	13	262	262	44	18
COPPER	273	273	38	15	270	270	36	13
IRON	288	288	43	14	289	289	42	13
MERCURY	206	201	62	8	206	205	55	14
MANGANESE	277	277	46	18	278	278	46	12
NICKEL	256	256	33	12	255	255	41	13
LEAD	260	260	35	18	259	259	45	17
SELENIUM	202	199	47	21	204	201	52	19
VANADIUM	147	146	20	11	147	146	25	5
ZINC	268	268	38	18	267	267	44	12
ANTIMONY	159	158	31	6	160	156	32	6
SILVER	227	222	49	17	227	221	51	11
THALLIUM	134	132	23	9	132	124	27	9
MOLYBDENUM	127	120	21	11	128	117	28	9
STRONTIUM	102	102	26	6	103	97	34	6
TITANIUM	109	108	26	4	110	109	19	6
SUBTOTAL	4339	4310	752	273	4339	4295	791	240
MINERALS								
PH-UNITS	317	317	25	14	322	322	19	21
SPEC. COND.	270	270	34	21	269	269	61	27
TDS AT 180 C	257	257	26	17	259	259	30	15
TOTAL HARDNESS	240	240	52	28	240	240	43	13
CALCIUM	243	243	42	14	244	244	47	15
MAGNESIUM	233	232	33	15	234	234	36	14
SODIUM	226	226	42	27	225	225	43	15
POTASSIUM	216	215	17	17	216	216	27	18
TOTAL ALKALINITY	268	268	43	15	267	267	39	14
CHLORIDE	259	259	47	12	259	259	38	17
FLUORIDE	227	227	57	11	226	226	76	25
SULFATE	267	266	47	17	268	268	50	1
SUBTOTAL	3023	3020	465	208	3029	3029	509	20

NOTE: TABLE ENTRIES ARE TOTAL NUMBER OF VALUES WITH THE STATED CHARACTERISTICS.

OTHER LABORATORIES SUMMARY REPORT: WP STUDY 018 DATE: 05/19/87

376 LABS REPORTING WITH CODES: CN CA CT ME MA NH RI VT DE DC MD PA
VA GA KY SC TN WV IL IN LA MI MN NY
OH WI AR NM NC OK TX IA KS MO NE CO.
SD UT AZ NV ID OR WA

	SAMPLE 1				SAMPLE 2			
	DATA REPORTED		BEYOND LIMITS		DATA REPORTED		BEYOND LIMITS	
	TOTAL	USABLE	ACCEPT	WARN	TOTAL	USABLE	ACCEPT	WARN
NUTRIENTS								
AMMONIA-NITROGEN	250	250	37	15	249	249	39	12
NITRATE-NITROGEN	237	237	35	12	239	239	31	12
ORTHOPHOSPHATE	219	219	38	11	219	219	37	12
KJELDAHL-NITROGEN	182	182	29	12	182	182	35	11
TOTAL PHOSPHORUS	207	207	55	15	204	204	40	8
SUBTOTAL	1095	1095	194	65	1093	1093	182	55
DEMANDS								
COD	205	205	38	17	205	205	34	8
TOC	129	129	16	7	128	128	16	4
5-DAY BOD	219	219	27	11	218	218	22	16
SUBTOTAL	553	553	81	35	551	551	72	28
PCB'S								
PCB-AROCLOR 1016/1242	4	4	4	0	35	35	35	0
PCB-AROCLOR 1232	5	5	5	0	115	113	22	8
PCB-AROCLOR 1248	2	2	2	0	4	4	4	0
PCB-AROCLOR 1254	3	3	3	0	3	3	3	0
PCB-AROCLOR 1260	145	144	28	12	5	5	5	0
PCB-AROCLOR 1262	2	2	2	0	1	1	1	0
SUBTOTAL	161	160	44	12	163	161	70	8
PESTICIDES								
ALDRIN	134	134	5	8	132	132	12	6
DIELDRIN	129	127	18	10	128	128	16	[illegible]
DDD	131	131	15	9	130	130	15	[illegible]
DDE	131	131	13	12	130	130	13	9
DDT	130	130	18	7	129	129	14	10
HEPTACHLOR	133	133	15	7	131	131	9	[illegible]
HEPTACHLOR EPOXIDE	132	132	16	3	132	132	14	6
CHLORDANE	137	137	14	10	136	136	18	11
SUBTOTAL	1057	1055	114	66	1048	1048	111	6[illegible]

NOTE: TABLE ENTRIES ARE TOTAL NUMBER OF VALUES WITH THE STATED CHARACTERISTICS.

OTHER LABORATORIES SUMMARY REPORT: WP STUDY 018 DATE: 05/19/87

376 LABS REPORTING WITH CODES: CN CA CT ME MA NH RI VT DE DC MD PA
VA GA KY SC TN WV IL IN LA MI MN NY
OH WI AR NM NC OK TX IA KS MO NE CO
SD UT AZ NV ID OR WA

	SAMPLE 1				SAMPLE 2			
	DATA REPORTED		BEYOND LIMITS		DATA REPORTED		BEYOND LIMITS	
	TOTAL	USABLE	ACCEPT	WARN	TOTAL	USABLE	ACCEPT	WARN
VOLATILE HALOCARBONS								
1,2 DICHLOROETHANE	149	146	15	12	150	150	15	7
CHLOROFORM	152	152	19	14	152	140	12	7
1,1,1 TRICHLOROETHANE	150	147	20	14	151	151	11	2
TRICHLOROETHENE	150	149	11	11	150	150	14	5
CARBONTETRACHLORIDE	150	147	7	7	150	150	10	11
TETRACHLOROETHENE	150	147	15	16	150	150	24	8
BROMODICHLOROMETHANE	148	146	18	9	149	149	19	8
DIBROMOCHLOROMETHANE	147	145	22	15	147	147	22	11
BROMOFORM	147	145	36	12	149	149	23	7
METHYLENE CHLORIDE	146	145	27	10	146	146	24	14
CHLOROBENZENE	146	144	25	14	147	147	21	16
SUBTOTAL	1635	1613	215	134	1641	1629	195	96
VOLATILE AROMATICS								
BENZENE	150	150	13	6	149	146	18	10
ETHYLBENZENE	149	149	14	9	148	145	16	8
TOLUENE	150	150	13	7	149	148	17	4
1,2-DICHLOROBENZENE	124	124	15	5	123	119	11	5
1,3-DICHLOROBENZENE	126	126	10	3	125	123	10	4
1,4-DICHLOROBENZENE	122	122	23	7	121	119	14	7
SUBTOTAL	821	821	88	37	815	800	86	38
MISCELLANEOUS PARAMETERS								
TOTAL CYANIDE	181	179	33	7	179	179	38	8
NON-FILTERABLE RESIDUE	280	280	22	8	281	281	24	7
OIL AND GREASE	209	208	29	16	213	213	29	11
TOTAL PHENOLICS	172	172	14	7	170	170	31	9
TOTAL RESIDUAL CHLORINE	167	167	20	7	166	166	14	8
SUBTOTAL	1009	1006	118	45	1009	1009	136	43
TOTAL	13693	13633	2071	875	13688	13615	2152	770

NOTE: TABLE ENTRIES ARE TOTAL NUMBER OF VALUES WITH THE STATED CHARACTERISTICS.

LABORATORY: OAK RIDGE NATIONAL LABORATORY
SUMMARY OF DOE SURVEY - LABORATORY SUPPORT (WP018)

Parameter	Sample Number	True Value	Reported Value	Acceptance Limits	Warning Limits
pH Units	3	5.20	51.9*	5.06 - 5.30	5.09 - 5.27
	4	8.50	8.52	8.04 - 8.89	8.15 - 8.79
Spec. Cond.	1	752	787	677 - 864	701 - 841
	2	448	474	421 - 508	431 - 497
Total Diss. Sol.	1	460		326 - 574	357 - 543
	2	257		203 - 315	217 - 301
Total Hardness	1	229	232	217 - 247	221 - 243
	2	103	103	94.2 - 112	96.4 - 110
Total Alkalinity	1	110	109	99.2 - 117	101 - 115
	2	15.0	15.0	11.4 - 19.0	12.4 - 18.1
Chloride	1	162	165	152 - 179	155 - 175
	2	73.1	71.0	65.7 - 80.2	67.5 - 78.4
Flouride	1	2.65	2.45	2.29 - 2.93	2.37 - 2.85
	2	0.412	0.33*	0.338 - 0.487	0.357 - 0.468
Sulfate	1	10.0	9.85	6.96 - 12.6	7.67 - 11.9
	2	80	80.0	67.4 - 90.7	70.3 - 87.8
Ammonia -N	1	12.5	11.2	9.93 - 14.8	10.5 - 14.2
	2	5.10	4.71	4.09 - 6.01	4.32 - 5.78
Nitrate -N	1	4.00	4.02	3.26 - 4.69	3.43 - 4.52
	2	7.50	7.76	6.33 - 8.78	6.63 - 8.49
Ortho -P	1	0.858	0.87	0.739 - 0.976	0.768 - 0.947
	2	0.349	0.39	0.310 - 0.441	0.325 - 0.425
TOC	1	21.5	19.6	16.6 - 25.9	17.9 - 24.7
	2	58.4	54.6	45.2 - 70.3	48.4 - 67.1
Total CN	1	0.070		0.0278 - 0.0976	0.0366 - 0.0888
	2	0.225		0.110 - 0.298	0.134 - 0.274
Non-Filt. Res.	1	80.9	74.5	62.1 - 87.0	65.2 - 84.0
	2	25.1	23.0	16.4 - 28.0	17.8 - 26.6
Oil and Grease	1	8.00	92.0*	1.34 - 12.8	2.77 - 11.4
	2	25.0	261*	13.6 - 31.6	15.8 - 29.4

*Outside warning limits.
**Outside acceptance limits.

DOE F 1325.7

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U.S. DEPARTMENT OF ENERGY

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PLS COORDINATE RESULTS OF WP018 WITH YOUR LAB & QA COORDINATOR. PROVIDE EXPLANATION IN YOUR MONTHLY REPORT.
Karen

BE BRIEF - ELIMINATE UNNECESSARY WORDS

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D. K. Knight
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RESEARCH AND DEVELOPMENT
ENVIRONMENTAL MONITORING SYSTEMS LABORATORY-LAS VEGAS
P.O. BOX 93478
LAS VEGAS, NEVADA 89193-3478
(702/798-2100 - FTS 545-2100)

DEC 16 1987

Mr. Marlin Dill
Oak Ridge Gaseous Diffusion Plant
Martin Marietta Energy Systems, Inc.
Highway 58, Drop Point A-20
Oak Ridge, TN 37831

Dear Marlin:

The results of the analyses for the water pollution sample, WP-019, are complete. Comparison sheets are enclosed showing the true values, acceptance limit ranges, warning limit ranges and the values your laboratory obtained. Values for analytes present in the samples in determined quantities, but not generally determined in this DOE exercise, are also included. These latter values may be ignored or used for whatever purpose your laboratory can find.

Most of the analytical determinations done by the participating DOE laboratories were good. Your laboratory did well, showing difficulty only with one fluoride measurement and one ammonia-nitrogen measurement. These values were not far off the true value, but should be examined. I do not feel that any serious problem exists in your laboratory for these kinds of analytical determinations.

I congratulate you and your laboratory on doing a fine job in this exercise and hope we can continue to rely on your laboratory furnishing the DOE environmental survey with high-quality analytical information.

Sincerely,

Harold A. Vincent

Harold A. Vincent
Chemist, Quality Assurance Research Branch
Quality Assurance and Methods Development Division

Enclosure

cc:(w/o enclosure)
D. Karen Knight, DOE HQ

we analyzed only the required Parameters for the WP
Data from WS is used for remainder of required Parameters
m Bill

LABORATORY: ORGDP
SUMMARY OF DOE SURVEY - LABORATORY SUPPORT (WP019)

Parameter	Sample Number	True Value	Reported Value	Acceptance Limits	Warning Limits
pH Units	3	4.00	4.01	3.93 - 4.09	3.95 - 4.07
	4	9.19	9.20	8.86 - 9.40	8.93 - 9.33
Spec. Cond.	1	659	611	592. - 732.	610. - 714.
	2	272	254	245. - 302.	252. - 295.
Total Diss. Sol.	1	399	433	325. - 482.	344. - 462.
	2	158	177	95.9 - 217.	111. - 202.
Total Hardness	1	159.5	165	151. - 174.	154. - 172.
	2	73.5	76	65.1 - 82.9	67.3 - 80.7
Total Alkalinity	1	55.0	58	49.0 - 60.4	50.4 - 59.0
	2	7.49	9	4.71 - 11.6	5.57 - 10.8
Chloride	1	113	118	106. - 128.	108. - 125.
	2	52.1	51.7	47.1 - 57.1	48.3 - 55.9
Fluoride	1	2.01	1.7**	1.74 - 2.23	1.80 - 2.17
	2	0.247	0.2	.155 - .337	.178 - .314
Sulfate	1	74.0	71.1	60.7 - 85.5	63.8 - 82.4
	2	33.0	31.2	24.5 - 39.4	26.3 - 37.5
Ammonia ^{-}N	1	0.800	0.83	.538 - 1.09	.605 - 1.03
	2	3.00	3.47*	2.33 - 3.58	2.48 - 3.43
Nitrate ^{-}N	1	0.500	0.51	.383 - .614	.411 - .586
	2	2.00	1.95	1.59 - 2.38	1.68 - 2.28
Ortho ^{-}P	1	0.080	0.08	.0454- .108	.0529- .100
	2	0.800	0.77	.682 - .904	.708 - .877
TOC	1	59.2	NR	46.8 - 74.3	50.4 - 70.7
	2	109		86.8 - 128.	92.2 - 122.
Total CN	1	0.124	0.13	.0687- .161	.0805 - .149
	2	0.300	0.35	.174 - .388	.201 - .361
Non-Filt. Res.	1	69.4	70	61.1 - 73.6	62.6 - 72.0
	2	24.7	25	20.5 - 27.2	21.3 - 26.4
Oil and Grease	1	35.3	31	20.9 - 43.0	23.7 - 40.3
	2	12.8	11	3.99 - 18.1	5.74 - 16.3

NR - Not reported.
*Outside warning limits.
**Outside acceptance limits.

PERFORMANCE EVALUATION REPORT DATE: 11/16/87

WATER POLLUTION STUDY NUMBER WP019

LABORATORY:

ANALYTES	SAMPLE NUMBER	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
TRACE METALS IN MICROGRAMS PER LITER:						
ALUMINUM	1		78.0	49.5- 148.	62.0- 136.	
	2		858	658.-1050.	707.- 997.	
ARSENIC	1		26.0	17.3- 34.1	19.4- 32.0	
	2		130	95.3- 161.	104.- 153.	
BERYLLIUM	1		89.9	75.7- 103.	79.2- 99.6	
	2		270	231.- 306.	241.- 296.	
CADMIUM	1		10.0	7.22- 12.8	7.92- 12.1	
	2		150	128.- 170.	133.- 165.	
COBALT	1		47.5	37.0- 57.4	39.6- 54.8	
	2		594	506.- 694.	530.- 670.	
CHROMIUM	1		15.0	8.74- 20.2	10.2- 18.8	
	2		240	181.- 287.	194.- 274.	
COPPER	1		40.0	31.6- 47.6	33.6- 45.6	
	2		176	152.- 195.	157.- 190.	
IRON	1		50.4	30.4- 70.0	35.3- 65.1	
	2		420	357.- 471.	371.- 457.	
MERCURY	1		2.40	1.52- 3.21	1.73- 3.00	
	2		15.6	11.6- 20.1	12.7- 19.0	
MANGANESE	1		37.8	27.8- 46.1	30.1- 43.8	
	2		147	127.- 164.	132.- 159.	
NICKEL	1		63.0	46.9- 78.8	50.9- 74.8	
	2		280	237.- 322.	248.- 311.	
LEAD	1		50.4	37.2- 64.4	40.6- 61.0	
	2		168	140.- 197.	147.- 190.	

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

PERFORMANCE EVALUATION REPORT DATE: 11/16/87

WATER POLLUTION STUDY NUMBER WP019

LABORATORY:

ANALYTES	SAMPLE NUMBER	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
TRACE METALS IN MICROGRAMS PER LITER:						
SELENIUM	1		20.0	12.4- 25.8	14.0- 24.1	
	2		120	84.2- 150.	92.4- 141.	
VANADIUM	1		62.0	46.1- 78.4	50.5- 74.0	
	2		620	520.- 720.	547.- 693.	
ZINC	1		30.4	22.7- 38.8	24.7- 36.8	
	2		114	90.7- 134.	96.1- 129.	
ANTIMONY	3		13.8	6.04- 22.6	8.22- 20.4	
	4		37.3	21.6- 54.7	25.9- 50.4	
SILVER	3		17.5	13.4- 21.5	14.4- 20.4	
	4		3.43	2.13- 4.95	2.49- 4.60	
THALLIUM	3		3.20	1.58- 4.82	2.01- 4.39	
	4		32.0	21.1- 43.2	24.1- 40.2	
MOLYBDENUM	3		4.40	.352- 8.85	1.52- 7.68	
	4		37.0	19.3- 49.3	23.2- 45.4	
STRONTIUM	3		91.5	73.7- 107.	78.3- 102.	
	4		18.3	14.3- 22.2	15.4- 21.1	
TITANIUM	3		37.1	19.0- 52.2	23.6- 47.6	
	4		156	113.- 205.	125.- 192.	

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

PAGE 2

PERFORMANCE EVALUATION REPORT DATE: 11/16/87

WATER POLLUTION STUDY NUMBER WP019

LABORATORY:

ANALYTES	SAMPLE NUMBER	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
MINERALS IN MILLIGRAMS PER LITER: (EXCEPT AS NOTED)						
PH-UNITS	3		4.00	3.93- 4.09	3.95- 4.07	
	4		9.19	8.86- 9.40	8.93- 9.33	
SPEC. COND. (UMHOS/CM AT 25 C)	1		659	592.- 732.	610.- 714.	
	2		272	245.- 302.	252.- 295.	
TDS AT 180 C	1		399	325.- 482.	344.- 462.	
	2		158	95.9- 217.	111.- 202.	
TOTAL HARDNESS (AS CACO3)	1		159.5	151.- 174.	154.- 172.	
	2		73.5	65.1- 82.9	67.3- 80.7	
CALCIUM	1		63.0	54.7- 74.0	57.1- 71.6	
	2		0.905	.700- 1.78	.835- 1.65	
MAGNESIUM	1		0.520	.424- .635	.451- .608	
	2		17.3	14.8- 19.8	15.4- 19.2	
SODIUM	1		52.6	46.0- 58.4	47.5- 56.8	
	2		13.7	10.8- 16.2	11.4- 15.6	
POTASSIUM	1		18.0	14.9- 21.0	15.6- 20.2	
	2		10.0	8.29- 11.5	8.68- 11.1	
TOTAL ALKALINITY (AS CACO3)	1		55.0	49.0- 60.4	50.4- 59.0	
	2		7.49	4.71- 11.6	5.57- 10.8	
CHLORIDE	1		113	106.- 128.	108.- 125.	
	2		52.1	47.1- 57.1	48.3- 55.9	
FLUORIDE	1		2.01	1.74- 2.23	1.80- 2.17	
	2		0.247	.155- .337	.178- .314	
SULFATE	1		74.0	60.7- 85.5	63.8- 82.4	
	2		33.0	24.5- 39.4	26.3- 37.5	

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

PERFORMANCE EVALUATION REPORT DATE: 11/16/87

WATER POLLUTION STUDY NUMBER WP019

LABORATORY:

ANALYTES	SAMPLE NUMBER	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
NUTRIENTS IN MILLIGRAMS PER LITER:						
AMMONIA-NITROGEN	1		0.800	.538- 1.09	.605- 1.03	
	2		3.00	2.33- 3.58	2.48- 3.43	
NITRATE-NITROGEN	1		0.500	.383- .614	.411- .586	
	2		2.00	1.59- 2.38	1.68- 2.28	
ORTHOPHOSPHATE	1		0.080	.0454- .108	.0529- .100	
	2		0.800	.682- .904	.708- .877	
KJELDAHL-NITROGEN	3		0.500	.0635- 1.02	.179- .903	
	4		4.00	2.78- 5.16	3.07- 4.87	
TOTAL PHOSPHORUS	3		0.300	.226- .394	.246- .373	
	4		2.00	1.63- 2.43	1.73- 2.34	
DEMANDS IN MILLIGRAMS PER LITER:						
COD	1		150	118.- 168.	124.- 162.	
	2		275	213.- 307.	225.- 295.	
TOC	1		59.2	46.8- 74.3	50.4- 70.7	
	2		109	86.8- 128.	92.2- 122.	
5-DAY BOD	1		97.8	61.6- 134.	70.5- 125.	
	2		175	108.- 242.	125.- 225.	
PCB'S IN MICROGRAMS PER LITER:						
PCB-AROCLOR 1016/1242	1		4.57	2.01- 6.61	2.60- 6.02	
PCB-AROCLOR 1260	2		1.86	.733- 2.54	.996- 2.28	
PCB-AROCLOR 1262	2		1.86	1.18- 2.25	1.32- 2.11	

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

PERFORMANCE EVALUATION REPORT DATE: 11/16/87

WATER POLLUTION STUDY NUMBER WP019

LABORATORY:

ANALYTES	SAMPLE NUMBER	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
PESTICIDES IN MICROGRAMS PER LITER:						
ALDRIN	1		0.851	.225- 1.16	.344- 1.04	
	2		0.334	.0833- .460	.131- .412	
DIELDRIN	1		0.829	.453- 1.12	.538- 1.03	
	2		0.290	.134- .405	.168- .370	
DDD	1		0.390	.135- .565	.189- .511	
	2		0.975	.419- 1.31	.533- 1.20	
DDE	1		0.676	.285- .920	.365- .840	
	2		0.169	.0926- .255	.113- .234	
DDT	1		0.297	.0879- .477	.137- .428	
	2		0.742	.330- 1.07	.424- .973	
HEPTACHLOR	1		0.540	.203- .745	.272- .676	
	2		0.166	.0595- .239	.0824- .216	
HEPTACHLOR EPOXIDE	1		0.105	.0550- .144	.0664- .132	
	2		0.456	.262- .603	.305- .560	
CHLORDANE	3		7.73	3.56- 9.39	4.31- 8.65	
	4		0.620	.240- .919	.327- .833	

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

PAGE 5

PERFORMANCE EVALUATION REPORT DATE: 11/16/87

WATER POLLUTION STUDY NUMBER WP019

LABORATORY:

ANALYTES	SAMPLE NUMBER	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
VOLATILE HALOCARBONS IN MICROGRAMS PER LITER:						
1,2 DICHLOROETHANE	1		54.8	37.3- 72.9	41.9- 68.3	
	2		3.65	.694- 7.74	1.60- 6.83	
CHLOROFORM	1		92.9	52.8- 129.	62.6- 120.	
	2		14.7	8.21- 21.7	9.93- 20.0	
1,1,1 TRICHLOROETHANE	1		32.6	18.4- 52.7	22.8- 48.3	
	2		9.38	4.84- 15.5	6.20- 14.1	
TRICHLOROETHENE	1		48.2	30.3- 67.6	35.0- 62.8	
	2		2.41	1.02- 3.74	1.37- 3.39	
CARBONTETRACHLORIDE	1		27.2	16.7- 38.7	19.5- 35.9	
	2		6.81	3.31- 11.0	4.29- 9.99	
TETRACHLOROETHENE	1		28.9	15.7- 42.0	19.0- 38.6	
	2		5.36	1.65- 9.06	2.59- 8.11	
BROMODICHLOROMETHANE	1		32.2	24.5- 45.4	27.1- 42.7	
	2		7.24	4.11- 11.5	5.05- 10.5	
DIBROMOCHLOROMETHANE	1		67.7	37.7- 108.	46.6- 98.7	
	2		2.26	.643- 4.15	1.09- 3.70	
BROMOFORM	1		32.9	21.8- 48.8	25.2- 45.3	
	2		4.93	2.23- 7.22	2.87- 6.58	
METHYLENE CHLORIDE	1		42.6	25.8- 67.3	31.1- 62.0	
	2		2.13	D.L.- 5.51	.608- 4.79	
CHLOROBENZENE	1		30.8	18.7- 43.8	21.9- 40.6	
	2		3.85	1.48- 6.07	2.07- 5.48	

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.
D.L. STANDS FOR DETECTION LIMIT

PERFORMANCE EVALUATION REPORT DATE: 11/16/87

WATER POLLUTION STUDY NUMBER WP019

LABORATORY:

ANALYTES	SAMPLE NUMBER	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
VOLATILE AROMATICS IN MICROGRAMS PER LITER:						
BENZENE	1		9.89	6.29- 14.0	7.29- 13.0	
	2		42.9	29.4- 57.7	33.0- 54.0	
ETHYLBENZENE	1		8.47	4.52- 11.6	5.44- 10.7	
	2		26.1	16.3- 35.5	18.8- 33.1	
TOLUENE	1		5.95	3.24- 8.80	3.97- 8.07	
	2		29.7	20.8- 39.4	23.2- 37.0	
1,2-DICHLOROBENZENE	1		5.42	1.20- 9.58	2.37- 8.41	
	2		61.4	36.0- 89.4	43.0- 82.4	
1,3-DICHLOROBENZENE	1		3.46	.773- 5.89	1.44- 5.22	
	2		26.0	10.7- 38.1	14.5- 34.3	
1,4-DICHLOROBENZENE	1		4.47	1.15- 8.26	2.13- 7.28	
	2		35.8	18.8- 55.0	23.6- 50.2	
MISCELLANEOUS PARAMETERS:						
TOTAL CYANIDE	1		0.124	.0687- .161	.0805- .149	
(IN MG/L)	2		0.300	.174- .388	.201- .361	
NON-FILTERABLE RESIDUE	1		69.4	61.1- 73.6	62.6- 72.0	
(IN MG/L)	2		24.7	20.5- 27.2	21.3- 26.4	
OIL AND GREASE	1		35.3	20.9- 43.0	23.7- 40.3	
(IN MG/L)	2		12.8	3.99- 18.1	5.74- 16.3	
TOTAL PHENOLICS	1		0.505	.229- .775	.298- .706	
(IN MG/L)	2		1.29	.588- 1.96	.762- 1.79	
TOTAL RESIDUAL CHLORINE	1		0.654	.401- .848	.459- .790	
(IN MG/L)	2		1.31	.920- 1.56	1.0- 1.48	

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RESEARCH AND DEVELOPMENT
ENVIRONMENTAL MONITORING SYSTEMS LABORATORY-LAS VEGAS
P.O. BOX 93478
LAS VEGAS, NEVADA 89193-3478
(702/798-2100 - FTS 545-2100)

JUN 20 1988

Mr. Marlin Dill
Oak Ridge Gaseous Diffusion Plant
Martin Marietta Energy Systems, Inc.
Highway 58, Drop Point A-20
Oak Ridge, TN 37831

Dear Marlin:

The multi-laboratory study of the analyses for the water pollution sample, WP-020, is complete. Comparison sheets are enclosed showing the true values, acceptance limit ranges, and warning limit ranges. Values for some analytes present in the samples in determined quantities, but not generally determined in this DOE exercise, are also provided. These latter values may be ignored or used for whatever purpose your laboratory can find.

Comparison of the results from your laboratory with the true values for the short list of analytes designated for the DOE survey, shows excellent agreement. None of the values deviate beyond acceptance or warning limits. A cursory look at the optional analyses shows excellent agreement also.

I congratulate you and your laboratory on doing a fine job in this exercise and hope we can continue to rely on your laboratory furnishing the DOE environmental survey with high-quality analytical information. We will be glad to furnish any further information regarding this exercise. Thank you for your participation.

Sincerely,

Harold A. Vincent
Chemist, Quality Assurance Research Branch
Quality Assurance and Methods Development Division

Enclosure

cc:(w/ enclosure)
D. Karen Knight, DOE HQ
Joseph Caffrey, ORGDP

DOE [illegible] RESULTS ; [illegible]

Analyte	DPHH	DRUGDP	HCPT LMTS	HDRN LMTS
Chloride	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]
Fluoride	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]
Sulfate	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]
Ammonia N	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]
Nitrate N	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]
Ortho-P	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]
Total P	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]
Total-P	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]
Cyanide	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]
Non F Phos	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]
Oil Grease	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]

** EXCEEDS RECEPTANCE LIMITS * EXCEEDS WARNING LIMITS

US ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY-CINCINNATI

EVALUATION TERMS USED FOR PERFORMANCE EVALUATION STUDIES

TRUE VALUES: A THEORETICALLY CALCULATED VALUE BASED UPON CAREFUL WEIGHING OF CONSTITUENTS. PLEASE NOTE THAT, FOR SOME ANALYTES, THIS VALUE IS QUITE DIFFERENT FROM THE RESULT THAT CAN BE EXPECTED WHEN THE STUDY SAMPLE IS ANALYZED. WHEN UNAVOIDABLE, THIS MAY BE A REFERENCE VALUE THAT REPRESENTS ACHIEVABLE RESULTS.

ACCEPTANCE LIMITS: A 99% CONFIDENCE INTERVAL CALCULATED FROM AVAILABLE PERFORMANCE EVALUATION DATA OF EPA AND STATE LABORATORIES.

BY DEFINITION THE ANALYTIC RESULTS FROM A LABORATORY PRODUCING VALID DATA SHOULD FALL WITHIN ACCEPTANCE LIMITS 99 TIMES OUT OF 100.

WARNING LIMITS: A 95% CONFIDENCE INTERVAL PRODUCED IN THE SAME WAY AS THE ACCEPTANCE LIMITS.

DATA FALLING OUTSIDE THESE LIMITS BUT INSIDE THE ACCEPTANCE LIMITS SHOULD BE REVIEWED FOR POSSIBLE PROBLEMS, BUT SUCH DATA SHOULD NOT NECESSARILY BE CONSIDERED UNACCEPTABLE.

MEANING OF THE PERFORMANCE EVALUATION COMMENTS:

ACCEPTABLE: THE REPORTED VALUE WAS WITHIN ALL LIMITS.

CHECK FOR ERROR: THE REPORTED VALUE WAS WITHIN THE ACCEPTANCE LIMITS, I.E., TECHNICALLY ACCEPTABLE, BUT SINCE THE VALUE WAS OUTSIDE OF THE WARNING LIMITS A MARGINAL PROBLEM MAY EXIST.

NOT ACCEPTABLE: THE REPORTED VALUE WAS BEYOND THE ACCEPTANCE LIMITS.

UNUSABLE DATA: THE VALUE WAS REPORTED AS A "LESS THAN" OR "GREATER THAN" VALUE AND COULD NOT BE QUANTITATIVELY JUDGED.

ANY PERFORMANCE EVALUATION OTHER THAN ACCEPTABLE REQUIRES A REVIEW BY THE LABORATORY TO IDENTIFY POSSIBLE DEFICIENCIES OR ERRORS THAT NEED CORRECTING.

OTHER LABORATORIES SUMMARY REPORT: WP STUDY 020 DATE: 5/26/88

806 LABS REPORTING WITH CODES: CA CT ME MA NH PA RI VT NY VI DE DC
MD OH VA WV AL FL GA KY LA MN MO NJ
NC SC TN CO IL IN MI OK WA WI AR NM
TX IA KS NE MT ND SD UT WY AZ NV AK
CN ID OR

	SAMPLE 1				SAMPLE 2			
	DATA REPORTED		BEYOND LIMITS		DATA REPORTED		BEYOND LIMITS	
	TOTAL	USABLE	ACCEPT	WARN	TOTAL	USABLE	ACCEPT	WARN
TRACE METALS								
ALUMINUM	390	385	40	8	391	390	69	17
ARSENIC	415	415	72	28	414	413	71	16
BERYLLIUM	312	312	42	24	312	312	36	21
CADMIUM	493	493	50	28	493	493	51	29
COBALT	324	324	50	23	324	324	33	16
CHROMIUM	501	501	74	26	500	500	74	21
COPPER	519	519	84	28	519	519	83	49
IRON	547	547	90	29	545	545	98	45
MERCURY	398	393	80	35	397	390	102	17
MANGANESE	510	510	89	36	507	507	86	29
NICKEL	474	474	54	25	474	474	76	23
LEAD	498	497	78	31	500	500	59	29
SELENIUM	396	393	67	25	396	395	74	44
VANADIUM	269	268	40	14	269	267	47	13
ZINC	507	507	60	25	503	503	74	26
ANTIMONY	286	281	42	16	285	279	45	22
SILVER	422	418	83	13	421	408	112	22
THALLIUM	255	241	41	8	257	252	27	15
MOLYBDENUM	246	241	35	18	246	236	43	10
STRONTIUM	200	197	42	10	199	188	37	11
TITANIUM	203	197	28	8	204	202	27	11
SUBTOTAL	8165	8113	1241	458	8156	8097	1324	486
MINERALS								
PH-UNITS	708	707	26	15	706	705	37	9
SPEC. COND.	517	517	59	33	513	513	73	44
TDS AT 180 C	513	513	124	40	511	511	93	42
TOTAL HARDNESS	458	458	79	34	456	456	96	26
CALCIUM	456	456	67	28	452	452	75	29
MAGNESIUM	436	436	45	21	434	434	57	25
SODIUM	434	434	83	35	433	433	69	29
POTASSIUM	407	398	51	14	410	410	53	26
TOTAL ALKALINITY	535	535	65	32	532	528	59	46
CHLORIDE	524	524	96	44	520	520	107	32
FLUORIDE	431	431	66	27	431	425	128	12
SULFATE	509	499	94	27	508	508	96	22
SUBTOTAL	5928	5908	855	350	5906	5895	943	342

NOTE: TABLE ENTRIES ARE TOTAL NUMBER OF VALUES WITH THE STATED CHARACTERISTICS.

OTHER LABORATORIES SUMMARY REPORT: WP STUDY 020 DATE: 5/26/88

806 LABS REPORTING WITH CODES: CA CT ME MA NH PA RI VT NY VI DE DC
MD OH VA WV AL FL GA KY LA MN MO NJ
NC SC TN CO IL IN MI OK WA WI AR NM
TX IA KS NE MT ND SD UT WY AZ NV AK
CN ID OR

	SAMPLE 1				SAMPLE 2			
	DATA REPORTED		BEYOND LIMITS		DATA REPORTED		BEYOND LIMITS	
	TOTAL	USABLE	ACCEPT	WARN	TOTAL	USABLE	ACCEPT	WARN
NUTRIENTS								
AMMONIA-NITROGEN	505	505	63	28	506	506	68	30
NITRATE-NITROGEN	468	468	68	17	466	466	74	27
ORTHOPHOSPHATE	430	430	60	13	427	426	70	18
KJELDAHL-NITROGEN	385	385	76	16	383	383	71	14
TOTAL PHOSPHORUS	420	420	84	17	420	420	86	22
SUBTOTAL	2208	2208	351	91	2202	2201	369	111
DEMANDS								
COD	421	418	67	38	419	419	49	24
TOC	232	232	44	22	233	233	25	19
5-DAY BOD	503	503	55	25	506	506	40	31
SUBTOTAL	1156	1153	166	85	1158	1158	114	74
PCB'S								
PCB-AROCLOR 1016/1242	272	271	44	22	4	4	4	0
PCB-AROCLOR 1232	9	9	9	0	0	0	0	0
PCB-AROCLOR 1248	1	1	1	0	3	3	3	0
PCB-AROCLOR 1254	6	6	6	0	264	259	47	20
PCB-AROCLOR 1260	2	2	2	0	9	9	9	0
SUBTOTAL	290	289	62	22	280	275	63	20
PESTICIDES								
ALDRIN	267	266	40	12	268	267	33	11
DIELDRIN	264	264	42	17	264	263	53	13
DDD	268	268	32	21	264	263	42	17
DDE	266	265	38	20	265	264	37	25
DDT	267	263	44	16	267	266	45	25
HEPTACHLOR	268	268	21	18	267	266	30	14
HEPTACHLOR EPOXIDE	265	264	39	21	262	261	43	18
CHLORDANE	265	265	41	17	265	265	51	11
SUBTOTAL	2130	2123	297	142	2122	2115	334	134

NOTE: TABLE ENTRIES ARE TOTAL NUMBER OF VALUES WITH THE STATED CHARACTERISTICS.

OTHER LABORATORIES SUMMARY REPORT: WP STUDY 020 DATE: 5/26/88

806 LABS REPORTING WITH CODES: CA CT ME MA NH PA RI VT NY VI DE DC
MD OH VA WV AL FL GA KY LA MN MO NJ
NC SC TN CO IL IN MI OK WA WI AR NM
TX IA KS NE MT NO SD UT WY AZ NV AK
CN ID OR

	SAMPLE 1				SAMPLE 2			
	DATA REPORTED		BEYOND LIMITS		DATA REPORTED		BEYOND LIMITS	
	TOTAL	USABLE	ACCEPT	WARN	TOTAL	USABLE	ACCEPT	WARN
VOLATILE HALOCARBONS								
1,2 DICHLOROETHANE	273	261	12	2	275	274	26	13
CHLOROFORM	278	276	17	11	277	277	23	9
1,1,1 TRICHLOROETHANE	278	269	20	9	278	277	25	10
TRICHLOROETHENE	276	275	19	8	277	277	16	12
CARBONTETRACHLORIDE	277	270	14	5	277	276	21	9
TETRACHLOROETHENE	274	268	15	8	274	274	19	10
BROMODICHLOROMETHANE	278	274	17	4	277	277	29	17
DIBROMOCHLOROMETHANE	275	272	26	16	274	273	26	15
BROMOFORM	276	273	31	15	275	275	29	21
METHYLENE CHLORIDE	274	271	25	13	273	273	24	10
CHLOROBENZENE	278	274	21	5	277	277	24	13
SUBTOTAL	3037	2983	217	96	3034	3030	262	139
VOLATILE AROMATICS								
BENZENE	278	277	23	10	277	277	38	14
ETHYLBENZENE	280	280	20	8	280	280	27	20
TOLUENE	280	280	26	6	279	279	38	18
1,2-DICHLOROBENZENE	257	240	32	13	257	257	28	14
1,3-DICHLOROBENZENE	257	257	26	9	256	256	27	13
1,4-DICHLOROBENZENE	257	256	33	11	255	255	38	15
SUBTOTAL	1609	1590	160	57	1604	1604	196	94
MISCELLANEOUS PARAMETERS								
TOTAL CYANIDE	341	341	81	24	338	338	61	21
NON-FILTERABLE RESIDUE	630	630	36	24	631	631	31	15
OIL AND GREASE	437	437	65	28	436	436	54	21
TOTAL PHENOLICS	316	316	34	15	314	314	31	10
TOTAL RESIDUAL CHLORINE	367	362	53	28	366	366	31	14
SUBTOTAL	2091	2086	269	119	2085	2085	208	81
TOTAL	26614	26453	3618	1420	26547	26460	3813	1481

NOTE: TABLE ENTRIES ARE TOTAL NUMBER OF VALUES WITH THE STATED CHARACTERISTICS.

PERFORMANCE EVALUATION REPORT DATE: 5/25/88

WATER POLLUTION STUDY NUMBER WP020

LABORATORY:

ANALYTES	SAMPLE NUMBER	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
TRACE METALS IN MICROGRAMS PER LITER:						
ALUMINUM	1		115	45.3- 225.	67.7- 203.	
	2		626	499.- 744.	530.- 713.	
ARSENIC	1		391	293.- 479.	316.- 455.	
	2		111	81.6- 137.	88.6- 130.	
BERYLLIUM	1		70.4	59.9- 80.9	62.6- 78.2	
	2		591	515.- 661.	534.- 643.	
CADMIUM	1		180	158.- 208.	164.- 202.	
	2		270	240.- 311.	249.- 302.	
COBALT	1		75.3	63.7- 89.5	66.9- 86.2	
	2		382	330.- 433.	343.- 420.	
CHROMIUM	1		832	673.- 967.	709.- 930.	
	2		89.2	64.6- 109.	70.1- 104.	
COPPER	1		291	263.- 319.	270.- 312.	
	2		100	86.7- 112.	89.8- 108.	
IRON	1		1410	1250.-1570.	1290.-1530.	
	2		763	684.- 854.	705.- 833.	
MERCURY	1		2.24	1.43- 3.05	1.63- 2.84	
	2		0.936	.478- 1.39	.594- 1.28	
MANGANESE	1		211	186.- 233.	192.- 227.	
	2		860	769.- 941.	790.- 920.	
NICKEL	1		571	492.- 646.	511.- 627.	
	2		171	146.- 196.	152.- 190.	
LEAD	1		171	143.- 200.	150.- 193.	
	2		914	781.-1050.	815.-1020.	

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

PAGE 1

PERFORMANCE EVALUATION REPORT DATE: 5/25/88

WATER POLLUTION STUDY NUMBER WP020

LABORATORY:

ANALYTES	SAMPLE NUMBER	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
TRACE METALS IN MICROGRAMS PER LITER:						
SELENIUM	1		32.0	19.3- 40.7	21.9- 38.0	
	2		82.1	56.6- 97.6	61.7- 92.5	
VANADIUM	1		1310	1100.-1510.	1150.-1450.	
	2		360	304.- 413.	319.- 399.	
ZINC	1		650	552.- 734.	574.- 712.	
	2		1270	1090.-1430.	1140.-1390.	
ANTIMONY	3		82.8	58.5- 112.	65.6- 105.	
	4		124	89.4- 159.	98.2- 150.	
SILVER	3		14.6	11.2- 18.0	12.0- 17.2	
	4		5.48	4.06- 6.96	4.42- 6.59	
THALLIUM	3		5.76	3.35- 8.11	3.96- 7.50	
	4		54.4	38.6- 73.3	43.3- 68.6	
MOLYBDENUM	3		61.6	39.6- 79.8	45.1- 74.3	
	4		26.4	16.0- 35.6	18.5- 33.1	
STRONTIUM	3		61.0	50.8- 70.7	53.3- 68.1	
	4		15.3	10.9- 20.3	12.1- 19.1	
TITANIUM	3		48.2	29.4- 65.8	34.4- 60.8	
	4		278	209.- 355.	229.- 335.	

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

PAGE 2

PERFORMANCE EVALUATION REPORT DATE: 5/25/88

WATER POLLUTION STUDY NUMBER WP020

LABORATORY:

ANALYTES	SAMPLE NUMBER	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
MINERALS IN MILLIGRAMS PER LITER: (EXCEPT AS NOTED)						
PH-UNITS	3		7.50	7.28- 7.66	7.33- 7.61	
	4		6.30	6.13- 6.43	6.17- 6.40	
SPEC. COND. (UMHOS/CM AT 25 C)	1		332	288.- 370.	298.- 360.	
	2		993	876.-1100.	903.-1070.	
TDS AT 180 C	1		204	140.- 230.	151.- 219.	
	2		610	476.- 751.	510.- 717.	
TOTAL HARDNESS (AS CACO3)	1		98.3	91.3- 109.	93.5- 107.	
	2		308	291.- 334.	296.- 329.	
CALCIUM	1		26.0	23.7- 31.3	24.6- 30.3	
	2		103	90.7- 121.	94.5- 117.	
MAGNESIUM	1		8.10	6.69- 9.76	7.07- 9.38	
	2		12.4	10.7- 14.4	11.2- 14.0	
SODIUM	1		20.3	17.6- 22.8	18.3- 22.2	
	2		40.5	35.4- 46.0	36.7- 44.7	
POTASSIUM	1		0.863	.461- 1.42	.582- 1.30	
	2		33.0	26.3- 38.0	27.8- 36.5	
TOTAL ALKALINITY (AS CACO3)	1		37.0	32.2- 41.3	33.3- 40.1	
	2		4.97	2.24- 8.79	3.05- 7.98	
CHLORIDE	1		69.6	67.1- 77.0	68.3- 75.7	
	2		218	209.- 237.	212.- 234.	
FLUORIDE	1		1.11	.953- 1.25	.990- 1.21	
	2		0.123	.0601- .198	.0775- .181	
SULFATE	1		5.01	2.61- 7.11	3.17- 6.55	
	2		120	101.- 137.	105.- 132.	

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

PERFORMANCE EVALUATION REPORT DATE: 5/25/88

WATER POLLUTION STUDY NUMBER WP020

LABORATORY:

ANALYTES	SAMPLE NUMBER	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
NUTRIENTS IN MILLIGRAMS PER LITER:						
AMMONIA-NITROGEN	1		2.10	1.59- 2.63	1.71- 2.50	
	2		10.3	8.42- 12.0	8.84- 11.6	
NITRATE-NITROGEN	1		5.50	4.50- 6.48	4.74- 6.24	
	2		0.950	.750- 1.16	.799- 1.11	
ORTHOPHOSPHATE	1		1.10	.919- 1.27	.961- 1.23	
	2		4.80	4.14- 5.46	4.30- 5.30	
KJELDAHL-NITROGEN	3		8.10	5.98- 10.0	6.47- 9.53	
	4		14.5	11.0- 17.6	11.8- 16.8	
TOTAL PHOSPHORUS	3		9.50	7.45- 11.0	7.87- 10.6	
	4		4.40	3.52- 5.11	3.71- 4.92	
DEMANDS IN MILLIGRAMS PER LITER:						
COD	1		25.0	13.7- 34.4	16.3- 31.8	
	2		105	79.6- 120.	84.7- 115.	
TOC	1		9.82	7.74- 11.5	8.24- 11.0	
	2		41.1	32.6- 49.1	34.8- 46.9	
5-DAY BOD	1		16.0	7.54- 24.4	9.63- 22.3	
	2		66.4	36.5- 90.6	43.2- 83.9	
PCB'S IN MICROGRAMS PER LITER:						
PCB-AROCLOR 1016/1242	1		4.74	2.33- 6.56	2.87- 6.02	
PCB-AROCLOR 1254	2		1.77	.984- 2.32	1.15- 2.16	

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

PERFORMANCE EVALUATION REPORT DATE: 5/25/88

WATER POLLUTION STUDY NUMBER WP020

LABORATORY:

ANALYTES	SAMPLE NUMBER	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
PESTICIDES IN MICROGRAMS PER LITER:						
ALDRIN	1	0.104	.0329- .153		.0479- .138	
	2	0.609	.226- .798		.297- .726	
DIELDRIN	1	0.667	.361- .888		.429- .820	
	2	0.145	.0751- .208		.0917- .191	
DDD	1	0.776	.362- 1.08		.453- .989	
	2	0.310	.145- .439		.183- .402	
DDE	1	0.914	.471- 1.24		.567- 1.14	
	2	0.304	.141- .432		.177- .395	
DDT	1	0.161	.0556- .269		.0823- .242	
	2	0.452	.216- .660		.272- .605	
HEPTACHLOR	1	0.760	.278- 1.04		.375- .940	
	2	0.271	.0986- .376		.134- .341	
HEPTACHLOR EPOXIDE	1	0.594	.344- .775		.399- .720	
	2	0.248	.140- .331		.164- .307	
CHLORDANE	3	11.1	5.22- 14.6		6.41- 13.4	
	4	3.71	1.91- 4.86		2.28- 4.49	

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

PAGE 5

PERFORMANCE EVALUATION REPORT DATE: 5/25/88

WATER POLLUTION STUDY NUMBER WP020

LABORATORY:

ANALYTES	SAMPLE NUMBER	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
VOLATILE HALOCARBONS IN MICROGRAMS PER LITER:						
1,2 DICHLOROETHANE	1		2.28	.261- 4.72	.836- 4.15	
	2		41.1	27.0- 56.9	30.7- 53.1	
CHLOROFORM	1		7.34	3.90- 11.5	4.87- 10.5	
	2		48.9	27.8- 69.8	33.0- 64.6	
1,1,1 TRICHLOROETHANE	1		2.04	.827- 4.05	1.24- 3.63	
	2		48.9	29.5- 71.4	34.9- 66.1	
TRICHLOROETHENE	1		10.0	5.39- 14.4	6.51- 13.2	
	2		32.2	18.6- 44.9	21.9- 41.6	
CARBONTETRACHLORIDE	1		2.72	.625- 5.12	1.20- 4.55	
	2		40.9	22.0- 62.8	27.1- 57.7	
TETRACHLOROETHENE	1		2.48	.908- 4.44	1.36- 3.99	
	2		41.3	22.2- 58.4	26.8- 53.9	
BROMODICHLOROMETHANE	1		5.63	3.12- 8.94	3.86- 8.19	
	2		44.2	30.7- 60.8	34.4- 57.0	
DIBROMOCHLOROMETHANE	1		6.77	3.48- 9.42	4.22- 8.68	
	2		36.1	21.7- 51.3	25.4- 47.6	
BROMOFORM	1		7.40	3.81- 10.8	4.71- 9.87	
	2		61.7	36.3- 92.2	43.5- 85.1	
METHYLENE CHLORIDE	1		10.7	5.00- 17.5	6.61- 15.9	
	2		56.8	26.8- 88.6	34.6- 80.9	
CHLOROBENZENE	1		5.78	3.03- 8.42	3.72- 7.72	
	2		57.8	36.1- 80.7	41.7- 75.1	

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

PERFORMANCE EVALUATION REPORT DATE: 5/25/88

WATER POLLUTION STUDY NUMBER WP020

LABORATORY:

ANALYTES	SAMPLE NUMBER	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANCE EVALUATION
VOLATILE AROMATICS IN MICROGRAMS PER LITER:						
BENZENE	1	6.59		3.98- 9.70	4.69- 8.98	
	2	29.7		21.0- 39.9	23.4- 37.6	
ETHYLBENZENE	1	6.52		3.64- 9.43	4.40- 8.68	
	2	52.1		35.0- 68.2	39.3- 63.9	
TOLUENE	1	3.27		1.46- 5.25	1.95- 4.76	
	2	41.6		29.5- 53.7	32.6- 50.5	
1,2-DICHLOROBENZENE	1	2.89		.521- 5.38	1.18- 4.72	
	2	36.1		18.7- 51.9	23.2- 47.5	
1,3-DICHLOROBENZENE	1	8.66		4.44- 12.7	5.49- 11.7	
	2	57.7		30.1- 79.3	36.7- 72.7	
1,4-DICHLOROBENZENE	1	7.45		3.40- 11.8	4.54- 10.7	
	2	26.8		14.7- 39.7	18.1- 36.3	
MISCELLANEOUS PARAMETERS:						
TOTAL CYANIDE	1	0.460		.308- .587	.343- .552	
(IN MG/L)	2	0.155		.0845- .207	.0999- .192	
NON-FILTERABLE RESIDUE	1	56.3		44.9- 67.7	47.7- 64.9	
(IN MG/L)	2	34.8		24.7- 45.0	27.2- 42.5	
OIL AND GREASE	1	14.0		6.52- 18.7	8.04- 17.2	
(IN MG/L)	2	21.0		10.1- 27.4	12.3- 25.2	
TOTAL PHENOLICS	1	0.134		.0538- .214	.0740- .194	
(IN MG/L)	2	0.895		.422- 1.37	.541- 1.25	
TOTAL RESIDUAL CHLORINE	1	4.14		2.97- 4.88	3.22- 4.63	
(IN MG/L)	2	0.399		.189- .615	.250- .554	

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

PAGE 7 (LAST PAGE)

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MARTIN MARIETTA

MARTIN MARIETTA ENERGY SYSTEMS, INC.

POST OFFICE BOX 2003
OAK RIDGE, TENNESSEE 37831

September 26, 1988

Dr. Harold Vincent
Quality Assurance Division, EMSL-LV
U.S. Environmental Protection Agency
P.O. Box 93478
Las Vegas, Nevada 89193-3478

Dear Dr. Vincent:

WP-021 Control Sample Results

The results of our participation in WP-021 are enclosed.

Our lab participates in all the DRM-QA and Water Supply studies and therefore did not analyze for the metals on this WP series due to the current backlog of samples for the ICP and AA instruments.

Method Code 99 appears on nitrate-N, chloride, and sulfate. These are analyzed using ion-chromatography, EPA Method 300.0.

Method Code 99 for Total Residual Chlorine: this is Standards Method 408F.

Sincerely,

Marlin S. Dill
Methodology & QA Manager

MSD:pte

Enclosure: Results

cc: R. W. Morrow
File-MSD-NoRC

U.S. ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY - CINCINNATI

OMB #2080-0021
(Exp. 6/91)
REPORT FORM PAGE 1

WATER POLLUTION PERFORMANCE EVALUATION

STUDY NO. WP 021 (1-3)

EPA LAB I.D. TM043 (4-8)

01 (9-10)

TYPE OF LAB - PLACE AN "X" IN THE MOST APPROPRIATE BOX

EPA	OTHER FEDERAL	STATE EPA OR EQUIVALENT	OTHER STATE	LOCAL GOV'T	INSTITUTIONAL (NON-PROFIT)	COMMERCIAL	INDUSTRIAL	OTHER
☐	☒	☐	☐	☐	☐	☐	☐	☐
13	14	15	16	17	18	19	20	21

IF OTHER, SPECIFY DOE - OAK RIDGE

IF INDUSTRIAL, SPECIFY SIC CODE FOR PRIMARY SOURCE OF NORMAL SAMPLES ☐☐☐☐☐ (25-29)

LAB NAME: OAK RIDGE GASEOUS DIFFUSION PLANT

STREET ADDRESS: P.O. Box 2003

CITY: OAK RIDGE

STATE: TN

ZIP: 37831-7440

REPORT APPROVED BY:

NAME (Print): M.S. DILL

SIGNATURE: M. S. Dill

TITLE: QA Manager

TELEPHONE: FTS 624-9768

DATE: Sept 26, 1988

INTERNAL REVIEW RECORD:

	NAME (Print)	SIGNATURE	DATE
LOCAL COORDINATOR			
STATE COORDINATOR			
REGIONAL COORDINATOR			
EMSL COORDINATOR			

This report is authorized by law (Public Law 92-500). While you are not required to respond, your cooperation is needed to make the results of this study comprehensive, accurate and timely.

U.S. ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY - CINCINNATI

REPORT FORM PAGE 2

WATER POLLUTION PERFORMANCE EVALUATION

STUDY NO. WP 0 2 7 (1-3)

EPA LAB I.D. T N O Y 3 (4-8)

TRACE METALS - RECOVERY IN MICROGRAMS PER LITER

DUPLICATE 1 - 8: 0 2 (9-10)

ALUMINUM

MC (16-17)	</> (18)	SAMPLE 1 (19-23)	</> (24)	SAMPLE 2 (25-29)

BERYLLIUM

MC (50-51)	</> (52)	SAMPLE 1 (53-57)	</> (58)	SAMPLE 2 (59-63)

DUPLICATE 1 - 8: 0 3 (9-10)

COBALT

MC (16-17)	</> (18)	SAMPLE 1 (19-23)	</> (24)	SAMPLE 2 (25-29)

COPPER

MC (50-51)	</> (52)	SAMPLE 1 (53-57)	</> (58)	SAMPLE 2 (59-63)

DUPLICATE 1 - 8: 0 4 (9-10)

MERCURY

MC (16-17)	</> (18)	SAMPLE 1 (19-23)	</> (24)	SAMPLE 2 (25-29)

NICKEL

MC (50-51)	</> (52)	SAMPLE 1 (53-57)	</> (58)	SAMPLE 2 (59-63)

DUPLICATE 1 - 8: 0 5 (9-10)

SELENIUM

MC (16-17)	</> (18)	SAMPLE 1 (19-23)	</> (24)	SAMPLE 2 (25-29)

ZINC

MC (50-51)	</> (52)	SAMPLE 1 (53-57)	</> (58)	SAMPLE 2 (59-63)

ARSENIC

MC (33-34)	</> (35)	SAMPLE 1 (36-40)	</> (41)	SAMPLE 2 (42-46)

CADMIUM

MC (67-68)	</> (69)	SAMPLE 1 (70-74)	</> (75)	SAMPLE 2 (76-80)

CHROMIUM

MC (33-34)	</> (35)	SAMPLE 1 (36-40)	</> (41)	SAMPLE 2 (42-46)

IRON

MC (67-68)	</> (69)	SAMPLE 1 (70-74)	</> (75)	SAMPLE 2 (76-80)

MANGANESE

MC (33-34)	</> (35)	SAMPLE 1 (36-40)	</> (41)	SAMPLE 2 (42-46)

LEAD

MC (67-68)	</> (69)	SAMPLE 1 (70-74)	</> (75)	SAMPLE 2 (76-80)

VANADIUM

MC (33-34)	</> (35)	SAMPLE 1 (36-40)	</> (41)	SAMPLE 2 (42-46)

ANTIMONY

MC (67-68)	</> (69)	SAMPLE 3 (70-74)	</> (75)	SAMPLE 4 (76-80)

U.S. ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY - CINCINNATI

REPORT FORM PAGE 3

WATER POLLUTION PERFORMANCE EVALUATION

TRACE METALS - RECOVERY IN MICROGRAMS PER LITER

STUDY NO. WP 021 (1-3)

EPA LAB I.D. TN043 (4-8)

DUPLICATE 1 - 8: 06 (9-10)

	MC	</>	SAMPLE 3	</>	SAMPLE 4
SILVER	(16-17)	(18)	(19-23)	(24)	(25-29)
MOLYBDENUM	(50-51)	(52)	(53-57)	(58)	(59-63)
THALLIUM	(33-34)	(35)	(36-40)	(41)	(42-46)
STRONTIUM	(67-68)	(69)	(70-74)	(75)	(76-80)

DUPLICATE 1 - 8: 07 (9-10)

	MC	</>	SAMPLE 3	</>	SAMPLE 4
TITANIUM	(16-17)	(18)	(19-23)	(24)	(25-29)

U.S. ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY - CINCINNATI

REPORT FORM PAGE 4

WATER POLLUTION PERFORMANCE EVALUATION

MINERALS - RECOVERY IN MG/L, EXCEPT AS NOTED

STUDY NO. WP 021 (1-3)

EPA LAB I.D. TN04 3 (4-8)

DUPLICATE 1 - 8 (9-10): 08

pH-UNITS

MC (16-17)	</> (18)	SAMPLE 3 (19-23)	</> (24)	SAMPLE 4 (25-29)
12		5.61		8.30

SPEC. COND.-UMHOS/CM AT 25 C

MC (33-34)	</> (35)	SAMPLE 1 (36-40)	</> (41)	SAMPLE 2 (42-46)
12		702		243

TDS AT 180 C

MC (50-51)	</> (52)	SAMPLE 1 (53-57)	</> (58)	SAMPLE 2 (59-63)
12		559		380

TOTAL HARDNESS*

MC (67-68)	</> (69)	SAMPLE 1 (70-74)	</> (75)	SAMPLE 2 (76-80)
22		232		93.0

DUPLICATE 1 - 8 (9-10): 09

CALCIUM

MC (16-17)	</> (18)	SAMPLE 1 (19-23)	</> (24)	SAMPLE 2 (25-29)

MAGNESIUM

MC (33-34)	</> (35)	SAMPLE 1 (36-40)	</> (41)	SAMPLE 2 (42-46)

SODIUM

MC (50-51)	</> (52)	SAMPLE 1 (53-57)	</> (58)	SAMPLE 2 (59-63)

POTASSIUM

MC (67-68)	</> (69)	SAMPLE 1 (70-74)	</> (75)	SAMPLE 2 (76-80)

DUPLICATE 1 - 8 (9-10): 10

TOTAL ALKALINITY*

MC (16-17)	</> (18)	SAMPLE 1 (19-23)	</> (24)	SAMPLE 2 (25-29)
13		130		890

CHLORIDE

MC (33-34)	</> (35)	SAMPLE 1 (36-40)	</> (41)	SAMPLE 2 (42-46)
99		162		67.0

EPA 300.0

FLUORIDE

MC (50-51)	</> (52)	SAMPLE 1 (53-57)	</> (58)	SAMPLE 2 (59-63)
15 → 15		0.30		3.70

mg/dil

SULFATE

MC (67-68)	</> (69)	SAMPLE 1 (70-74)	</> (75)	SAMPLE 2 (76-80)
99		16.0		112

EPA 300.0

* - EXPRESSED AS MG/L CALCIUM CARBONATE

~~EPA 300.0~~

U.S. ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY-- CINCINNATI

REPORT FORM PAGE 5

WATER POLLUTION PERFORMANCE EVALUATION

STUDY NO. WP 021 (1-3)

EPA LAB I.D. TN493 (4-8)

NUTRIENTS - RECOVERY IN MG/L

DUPLICATE 1 - 8

AMMONIA-NITROGEN, as N

	MC	</>	SAMPLE 1	</>	SAMPLE 2
11 (9-10)	15 (16-17)	(18)	0.31 (19-23)	(24)	1.26 (25-29)

NITRATE-NITROGEN, as N

MC	</>	SAMPLE 1	</>	SAMPLE 2
99 (33-34)	(35)	0.27 (36-40)	(41)	1.93 (42-46)

EPA 300.0

ORTHOPHOSPHATE, as P

MC	</>	SAMPLE 1	</>	SAMPLE 2
24 (50-51)	(52)	0.06 (53-57)	(58)	0.85 (59-63)

KJELDAHL-NITROGEN, as N

MC	</>	SAMPLE 3	</>	SAMPLE 4
17 (67-68)	(69)	0.48 (70-74)	(75)	5.63 (76-80)

TOTAL PHOSPHORUS, as P

DUPLICATE 1 - 8

	MC	</>	SAMPLE 3	</>	SAMPLE 4
12 (9-10)	24 (16-17)	(18)	0.15 (19-23)	(24)	3.49 (25-29)

DEMAND ANALYSES - RECOVERY IN MG/L

COD

MC	</>	SAMPLE 1	</>	SAMPLE 2
15 (33-34)	(35)	42 (36-40)	(41)	220 (42-46)

15 → mSD

TOC

MC	</>	SAMPLE 1	</>	SAMPLE 2
12 (50-51)	(52)	17 (53-57)	(58)	83 (59-63)

5 DAY BOD

MC	</>	SAMPLE 1	</>	SAMPLE 2
11 (67-68)	(69)	34 (70-74)	(75)	175 (76-80)

U.S. ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY - CINCINNATI

WATER POLLUTION PERFORMANCE EVALUATION

STUDY NO. 321 (1-3) EPA LAB I.D. TN043 (4-8)

REPORT ALL VALUES IN MICROGRAMS PER LITER, EXCEPT AS NOTED.

PCB'S IN WATER:

DUPLICATE 1 - 8 13 (9-10)

PCB IN WATER-AROCLOR 1016/1242
MC (11-17) / (18) SAMPLE 1 (19-23) / (24) SAMPLE 2 (25-29)

PCB IN WATER-AROCLOR 1232
MC (33-34) / (35) SAMPLE 1 (36-40) / (41) SAMPLE 2 (42-46)

PCB IN WATER-AROCLOR 1248
MC (50-51) / (52) SAMPLE 1 (53-57) / (58) SAMPLE 2 (59-63)

PCB IN WATER-AROCLOR 1254
MC (67-68) / (69) SAMPLE 1 (70-74) / (75) SAMPLE 2 (76-80)

PCB IN WATER-AROCLOR 1260
MC (11-17) / (18) SAMPLE 1 (19-23) / (24) SAMPLE 2 (25-29)

DUPLICATE 1 - 8 14 (9-10)

PCB IN OIL-AROCLOR 1016/1242
MC (33-34) / (35) SAMPLE 1 (36-40) / (41) SAMPLE 2 (42-46)

PCB'S IN TRANSFORMER OIL:
(IN MILLIGRAMS PER KILOGRAM)

PCB IN OIL-AROCLOR 1254
MC (50-51) / (52) SAMPLE 1 (53-57) / (58) SAMPLE 2 (59-63)

PCB IN OIL-AROCLOR 1260
MC (67-68) / (69) SAMPLE 1 (70-74) / (75) SAMPLE 2 (76-80)

PESTICIDES:

DUPLICATE 1 - 8 15 (9-10)

CHLORDANE
MC (11-17) / (18) SAMPLE 3 (19-23) / (24) SAMPLE 4 (25-29)

ALDRIN
MC (33-34) / (35) SAMPLE 1 (36-40) / (41) SAMPLE 2 (42-46)

DIELDRIN
MC (50-51) / (52) SAMPLE 1 (53-57) / (58) SAMPLE 2 (59-63)

DDD
MC (67-68) / (69) SAMPLE 1 (70-74) / (75) SAMPLE 2 (76-80)

DUPLICATE 1 - 8 16 (9-10)

DDE
MC (11-17) / (18) SAMPLE 1 (19-23) / (24) SAMPLE 2 (25-29)

DDT
MC (33-34) / (35) SAMPLE 1 (36-40) / (41) SAMPLE 2 (42-46)

HEPTACHLOR
MC (50-51) / (52) SAMPLE 1 (53-57) / (58) SAMPLE 2 (59-63)

HEPTACHLOR EPOXIDE
MC (67-68) / (69) SAMPLE 3 (70-74) / (75) SAMPLE 4 (76-80)

U.S. ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY - CINCINNATI

WATER POLLUTION PERFORMANCE EVALUATION

STUDY NO. WP 0 2 1 (1-3)

EPA LAB I.D. 7 N 0 4 3 (4-8)

REPORT ALL VALUES IN MICROGRAMS PER LITER, EXCEPT AS NOTED

DUPLICATE 1 - 8 2 0 (9-10)

1,2 DICHLOROETHANE

MC (16-17) | </> (18) | SAMPLE 1 (19-23) | </> (24) | SAMPLE 2 (25-29)

CHLOROFORM

MC (33-34) | </> (35) | SAMPLE 1 (36-40) | </> (41) | SAMPLE 2 (42-46)

1,1,1 TRICHLOROETHANE

MC (50-51) | </> (52) | SAMPLE 1 (53-57) | </> (58) | SAMPLE 2 (59-63)

TRICHLOROETHENE

MC (67-68) | </> (69) | SAMPLE 1 (70-74) | </> (75) | SAMPLE 2 (76-80)

DUPLICATE 1 - 8 2 1 (9-10)

CARBONTETRACHLORIDE

MC (16-17) | </> (18) | SAMPLE 1 (19-23) | </> (24) | SAMPLE 2 (25-29)

TETRACHLOROETHENE

MC (33-34) | </> (35) | SAMPLE 1 (36-40) | </> (41) | SAMPLE 2 (42-46)

BROMODICHLOROMETHANE

MC (50-51) | </> (52) | SAMPLE 1 (53-57) | </> (58) | SAMPLE 2 (59-63)

DIBROMOCHLOROMETHANE

MC (67-68) | </> (69) | SAMPLE 1 (70-74) | </> (75) | SAMPLE 2 (76-80)

DUPLICATE 1 - 8 2 2 (9-10)

BROMOFORM

MC (16-17) | </> (18) | SAMPLE 1 (19-23) | </> (24) | SAMPLE 2 (25-29)

METHYLENE CHLORIDE

MC (33-34) | </> (35) | SAMPLE 1 (36-40) | </> (41) | SAMPLE 2 (42-46)

CHLOROBENZENE

MC (50-51) | </> (52) | SAMPLE 1 (53-57) | </> (58) | SAMPLE 2 (59-63)

BENZENE

MC (67-68) | </> (69) | SAMPLE 1 (70-74) | </> (75) | SAMPLE 2 (76-80)

U.S. ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY - CINCINNATI

WATER POLLUTION PERFORMANCE EVALUATION

STUDY NO. 021 (1-3) EPA LAB I.D. TN043 (4-8)

REPORT ALL VALUES IN MICROGRAMS PER LITER, EXCEPT AS NOTED

DUPLICATE 1-8: 23

ETHYLBENZENE — MC (16-17): ; SAMPLE 1 (18-23): ; SAMPLE 2 (25-29): ; TOLUENE — MC (33-34): ; SAMPLE 1 (36-40): ; SAMPLE 2 (42-46):

DUPLICATE 1-8: 25 (9-10)

1,2-DICHLOROBENZENE — MC (50-51): ; SAMPLE 1 (53-57): ; SAMPLE 2 (59-63): ; 1,3-DICHLOROBENZENE — MC (67-68): ; SAMPLE 1 (70-74): ; SAMPLE 2 (76-80):

DUPLICATE 1-8: 26 (9-10)

1,4-DICHLOROBENZENE — MC (16-17): ; SAMPLE 1 (18-23): ; SAMPLE 2 (25-29): ; TOTAL CYANIDE (in mg/l) — MC (33-34): 13; SAMPLE 1 (36-40): 0.15; SAMPLE 2 (42-46): 0.24

NON-FILTERABLE RESIDUE (in mg/l) — MC (50-51): 12; SAMPLE 1 (53-57): 80; SAMPLE 2 (59-63): 42; OIL AND GREASE (in mg/l) — MC (67-68): 12; SAMPLE 1 (70-74): 4.40; SAMPLE 2 (76-80): 29.1

DUPLICATE 1-8: 27 (9-10)

TOTAL PHENOLICS (in mg/L) — MC (16-17): 11; SAMPLE 1 (18-23): 0.40; SAMPLE 2 (25-29): 1.32; TOTAL RESIDUAL CHLORINE (in mg/L) — MC (33-34): 99; SAMPLE 1 (36-40): 0.80; SAMPLE 2 (42-46): 2.20

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Appendix D
ANALYTICAL CHEMISTRY QC SUMMARY

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Title: DETERMINATION OF OAK RIDGE DATA USABILITY

Background:

A Data Usability Team (DUT) composed of representatives from Department of Energy (DOE), Environmental Protection Agency Environmental Monitoring Services Laboratory - Las Vegas, Nevada (EPA EMSL-LV), and Martin Marietta Energy Systems will determine the usability of organic data generated by ORNL for four DOE ENVIRONMENTAL SURVEY SITES. The four sites are 1) Pantex Site, 2) Lawrence Livermore National Laboratory (LLNL), 3) Sandia National Laboratory (SNLL), and 4) Argonne National Laboratory (ANL).

Purpose:

This standard operating procedure (SOP) describes the review procedure for determining the usability of "validated" organic data for the above sites. Organic data was validated by a Data Quality Assessment Team from EPA EMSL-LV team, which performed the validation process in accordance with the SOP FOR OAK RIDGE DATA VALIDATION (Attachment A).

Applicability:

The Data Usability Team will review files containing "validated" organic data organized by environmental problem for each of the four DOE ENVIRONMENTAL SURVEY SITES. The contents of each environmental problem file is as follows:

1) a list of analytes with data quality summaries described on a form entitled "Organic Data Quality Level Task Volatile Organic Compounds", and

2) a list of trip blank information per sample delivery group (SDG) described on a form entitled "Organic Data Quality Level Task Volatile Organic Compounds".

To assist the team, a master sheet (Attachment B) summarizing the data usability screening products for each specific type of organic class (i.e. Volatiles, Semivolatiles, Pesticides/PCBs) will be used. The master sheet and the contents of the environmental problem file represent the products produced by the Data Quality Assessment Team performing the data validation process described in Attachment B.

The review procedure to be used by the Data Usabilty Team will involve the following steps:

1. review of each environmental problem from the Sampling and Analysis Plan for each site,

2. review of the master sheet (Attachment B),

3. review of the contents of the individual files for each environmental problem,

4. performance of an evaluation for usability, and

5. production of a summary table which outlines the conclusions.

Attachment C contains an example file for one environmental problem at the Pantex Site. Attachment D contains the guidelines for the evaluation for usability. Attachment E contains an example of the type of summary table which outlines the conclusions from the review procedure.

ATTACHMENT A

SOP FOR OAK RIDGE DATA VALIDATION

(WITH ATTACHMENT 1.0)

ATTACHMENT A

SOP FOR OAK RIDGE DATA VALIDATION

EMSL-LV will be qualifying all data associated with four data packages produced by Oak Ridge National Laboratory (ORNL). The four data packages are from the following sampling sites: 1) Pantex; 2) LINL; 3) SNLL; and 4) ANL.

This SOP is designed to aid the evaluator in organizing and performing the validation procedure. This procedure involves qualifying all data according to Contract Laboratory Program Equivalency (CLPE). CLPE is based on the CLP Organics Statement of Work, 7/87

The validation procedure will involve review of ten data quality areas. These areas are as follows and are listed in the order in which evaluators may proceed.

1. Holding Times
2. Initial Calibrations
3. Continuing Calibrations
4. Blanks
5. Tunes
6. Surrogate
7. Internal Standards
8. Tentatively Identified Compounds
9. Pesticide Retention standard
10. Analyte Retention Time (Pest. fraction)

Due to the large number of samples and limited auditing time, the order of the validation procedure above has been set up to qualify as many samples, as quickly as possible. Proceeding with the validation in the order listed above may permit the auditor to validate batches of samples as a unit, thus saving time.

The auditors will be evaluating only the data submitted in the Case Narrative and on Forms I through VIII for the volatile and semi-volatile fractions and Forms I through X for the pesticide fraction. The auditors will be under a rigid time constraint and will not have sufficient time to search through the raw data to check for errors (transcription, rounding, etc.) found on these forms. The evaluators will examine raw data as needed.

There are two types of auditing forms that the evaluators will use for the Organic Data Quality Level Task. The first form (Attachment II) is a Data Usability Screening form for each fraction. On this form, 10 samples can be summarized according to the ~~eight~~ QC areas listed above. This form has also been provided with space enough for any pertinent comments and an overall data quality rating (to be discussed later). The second type of auditing form, Organic Data Quality Level Task (Attachment III), breaks the sample down into its specific compounds and will qualify each compound individually for blank contamination, initial and continuing calibration conformance, and internal standard area and retention time conformance. This form is also provided for each fraction and requires each compound listed to receive an overall data quality level to be used later for determining data usability by the Survey Team.

All spaces on the auditing forms are to be filled in with a number corresponding to level 1, 2, or 3. Any blank spaces left, for any reason, are to be filled in with a dash (-). Arrows may be used to indicate repeat entries.

Oak Ridge will provide a listing of all samples to be audited. During the validation, the auditor will check off all samples completed. These sample identifications will then be run against a master list (provided and performed by Oak Ridge) to monitor EMSL-LV's progress.

HOLDING TIMES

Expedient extraction and analysis of samples is necessary in order to ensure valid results. Any sample outside the established holding time criteria will automatically be qualified level 3, as exceeding the holding time criteria compromises the data quality. Holding times will be evaluated through the use of the laboratory's sample receipt logs, extraction logs, and from the analysis date located on the Form I (run logs will be used if the analysis date is not listed on the Form I). Addressing holding times first insures that affected samples are qualified level 3 before further validation is performed. If holding times are exceeded, all negative analyte values will be assigned level 3. Positive analyte values may be level 2. All samples will continue through the validation process.

See Attachment I, Holding Time sections.

INITIAL CALIBRATION

The initial calibration documents the linearity of the instrument within the calibaration range of the method, establishes the relative response factors on which the continuing calibration criteria is based, and verifies the performance of the column before samples are analyzed. The initial calibration reflects the conditions of analysis and designates the quality of all the samples analyzed until the next initial calibration. Any samples not run under an initial calibration are considered suspect and qualified level 3. A continuing calibration found within criteria does not alter the quality level established by the preceeding initial calibration found outside criteria. All assignment of quality levels based on the calibrations will be on an analyte-specific basis.

The evaluators will use the data [percent relative standard deviation (%RSD) and average relative response factors (AV-RRF)] listed on the Form VI, Organics Initial Calibration Data Form for the determination of criteria compliance of volatiles and semi-volitiles. Form VIIIs, Pesticide Evaluation Standards Summary, will be used for the pesticide fraction where Evals A, B, C, and Individual A and B will be evaluated for correct sequencing. The Form VIIIs will also be used to evaluate the linearity of the analytical system and the breakdown of 4,4'-DDT and Endrin. Data Quality levels will be assigned as described in Attachment I.

See Attachment I, Initial Calibration sections.

CONTINUING CALIBRATION

The continuing calibration determines if an instrument is still within the linear calibration range established by the preceeding initial calibration. The continuing calibration affects all those samples run until the next calibration. Any samples run under a continuing calibration outside criteria, or not run under any calibration, are questionable and will be qualified level 3. All samples will be carried through the established validation process. All assignment of quality levels based on the continuing calibrations will be on an analyte-specific basis.

The validation of the continuing calibration data [percent deviations (%D) and response factors (RF)] will be done using the Form VIIs, Continuing Calibration Check Form, for both the volatile and semi-volatile fractions. The Form VIIIs will be used to evaluate the Individual A/B run and the breakdown of 4,4'-DDT and Endrin for the pesticide fraction. Data Quality levels will be assigned as described in Attachment I.

See Attachment I, Continuing Calibration sections.

METHOD BLANK ANALYSIS

Method blanks are carried through the entire sample analysis and are instrumental in evaluating the type and magnitude of laboratory contamination. Blank contamination is found in two forms; Common Laboratory Contaminants and other TCL compounds at contamination levels. The Common Laboratory Contaminants are: VOLATILE FRACTION- Methylene Chloride, Acetone, Toluene, and 3-Butanone; SEMI-VOLATILE FRACTION- Phthalate esters; PESTICIDE FRACTION-None. Blanks are to run at least once per day of extraction for semi-volatiles and pesticides and once per day of analysis for volatiles.

The validation of the method blank analysis will be done utilizing the information given on the Form Is, Organics Analysis Data Sheet, of the blank and the Form IVs, Method Blank Summary, which summarizes all samples associated with that blank. Data Quality levels will be assigned as described in Attachment I.

See Attachment I, Method Blank sections.

TUNING

Tuning establishes that a GC/MS system meets the established mass spectral criteria before beginning calibrations or sample analysis. The compounds used for tuning are 50ng p-Bromofluorobenzene (BFB) for the volatile fraction and 50ng Decafluorotriphenylphosphine (DFTPP) for the semi-volatile fraction.

Tuning evaluation will be performed by use of the Form V, GC/MS Tuning and Mass Calibration Form, for both the volatile and semi-volatile fractions. The Form V lists all samples associated with the tune, as well as showing ion percent relative abundance. Data Quality levels will be assigned as described in Attachment I.

See Attachment I, Tuning Criteria sections.

SURROGATES

Surrogates are necessary in monitoring the preparation and analysis of all samples and blanks. Surrogate recovery may be affected due to sample interference, high concentrations of analytes, and poor extraction techniques. Surrogate recovery acceptance limits are as follows:

FRACTION	SURR. CMPD	% RECOVERY LIMITS WATER	LOW/MED SOIL
VOLATILE	Toluene-d8	88-110	81-117
	4-Bromofluorobenzene	86-115	74-121
	1,2-Dichloroethane-d4	76-114	70-121
SEMI-VOLATILE	Nitrobenzene-d5	35-114	23-120
	2-Fluorobiphenyl	43-116	30-115
	p-Terphenyl-d14	33-141	18-137
	Phenol-d5	10-94	24-113
	2-Fluorophenol	21-100	25-121
	2,4,6-Tribromophenol	10-123	19-122
PESTICIDE	Dibutylchlorendate	Advisory limits 24-154	20-150

Surrogate recoveries will be validated through use of the Form II, Surrogate Recovery Form. Data Quality levels will be assigned as described in Attachment I.

See Attachment I, Surrogate Sections.

INTERNAL STANDARDS

Internal standards and retention times are used to check system performance for quantitative purposes of the volatile and semi-volatile fractions. Internal standard responses and retention times in all standards must be evaluated during or immediately after data aquisition. For the purposes at Oak Ridge, there will only be two levels of qualification (levels 1 and 3). The data will either be level 1 - within criteria or level 3 - outside criteria. The auditors will use the volatile and semi-volatile Form VIIIs, Internal Standard Summary, for validation of the internal standards associated with that fraction.

See Attachment I, Internal Standards sections.

PESTICIDE RETENTION STANDARD

The retention time shift for Dibutylchlorendate (DBC) or Mirex must be verified for each sample due to the fact that excessive shift in RT indicates instability of the system (ie. carrier gas leaks, uncontrolled oven temperature).

Data which uses only Mirex as a retention time standard is not considered comparable to that which uses DBC as a retention time standard. Therefore, data using only Mirex will be classified no better than level 2.

Pesticide Form VIII will be used by the evaluators to determine criteria conformance. Data Quality levels will be assigned as described in Attachment I

See Attachment I, Pesticide Retention Standard section.

ANALYTE RETENTION TIME

According to the Organic Statement of Work, the analyte retention time windows are set by calculating the standard deviation of the three absolute retention times for each single component pesticide. For multiresponse pesticides or PCBs, choose one major peak from the envelope and calculate the standard deviation of the three retention times for that peak.

The standard deviations determined above shall be used to determine the retention time windows for a particular 72-hour sequence. Apply plus or minus three times the standard deviations above to the retention time of each pesticide/PCB determined for the first analysis of the pesticide/PCB standard in a given 72-hour sequence. This range of retention times defines the retention time window for the compound of interest for that 72-hour sequence.

If a peak is found within a retention time window for a primary column, a tentative hit is established for that analyte. A true pesticide hit must be confirmed on a dissimilar column using the same procedure followed for the primary column.

If the analyte was quantitated on a narrow-bore capillary column, the data can be assigned a quality level no better than level 2.

Data Quality levels will be assigned as described in Attachment I.

See Attachment I, Analyte Retention Time section.

TENTATIVELY IDENTIFIED COMPOUNDS (TICs)

Non-target compounds (TICs) will begin the validation proceedure at level 2 due to their estimated nature. They will be examined further for blank contamination and mass spectral interpretation. Blank contamination will be assessed by the same criteria as TCL compounds.

The mass spectra of the TIC hits will be examined by the evaluators for goodness of fit as compared to the reported NBS library spectra. If a compound has been reported by the laboratory as unknown and the evaluator feels, in his or her professional judgement, that one of the library hits is more appropriate, the corrected identification will be reported, and the comment "TIC Mis-id", will be written in the comment section of the summary form.

Data Quality levels will be assigned as described in Attachment I.

See Attachment I, Tentatively Identified Compounds section.

OVERALL QUALITY LEVEL

The overall quality level of a sample is determined by the lowest degree of usability found over the course of that sample's validation. The overall data quality level of a sample is determined by the lowest degree of quality found over the course of that sample's evaluation. Overall data quality levels are not assigned to samples for which individual analyte qualifiers were used. In this case, the overall quality level column on the summary data form will contain the 'A' flag.

The summary data qualifier on the individual analyte form may also include qualifiers from the summary form. The value in the summary column on the individual analyte form is the overall qualifier for that analyte in that sample. If the summary data qualifier is level 3, there may still be usable data reported on the individual analyte form.

All analytes with reported values which exceed the initial calibration range will be assigned a quality level no better than level 2. All analytes with reported values lower than the CLP quantitation limits will be assigned a quality level no better than level 2.

FLAGS and ABBREVIATIONS

The following flags and abbreviations are used by the data evaluation team.

A - Analyte specific. Refer to the analyte specific form for the quality levels assigned to the sample. Quality levels are assigned on an analyte-by-analyte basis for this sample.

C - See comments. Alerts the user to a comment on the summary form which must be used when interpreting usability for this sample.

E - Analyte result exceeds the method initial calibration range.

HA- Holding time from extraction to analysis exceeded.

HE- Holding time from receipt of sample to extraction exceeded.

M - Mirex used for retention time standard. The data is assigned a level no better than 2.

Q - Quantitation limit was not adjusted for sample percent moisture and/or sample amount. The data is assigned a level no better than 2. The sample percent moisture and amount follow this flag.

Q1- Sample result was not adjusted for sample percent moisture and/or sample amount. The data is assigned a level no better than 2. The sample percent moisture and amount follow this flag.

TIC ID - Usable qualitative TIC information is on the individual analyte form.

TIC MIS-ID - The original laboratory identification on TIC is in error. Usable qualitative TIC information is on the individual analyte form.

UNK- Unknown. Used on the individual analyte form when reporting TICs.

HC - Hydrocarbon. Used on the individual analyte form when reporting unknown Hydrocarbon TICs.

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MATRIX ABBREVIATIONS

S - Soil. The sample matrix was soil or sediment.

W - Water. The sample matrix was water.

O - Other. The sample matrix was not soil/sediment or water. The matrix may be biota, vegetation, or drum samples.

RE- The reported results are a reanalysis of the indicated sample. The original results may or may not have been reported.

ATTACHMENT I

Volatile Analysis
Sample Group Defects

Initial Calibration - Affects all samples run until the next Init. Cal.
Affects quantitative results.
Does not affect qualitative results.

1.	Initial calibration not performed before running samples.	Entire sample, + or - results	Level 3
2.	%RSD	30% or less	Level 1
	%RSD	30 to 70 %	Level 2
	%RSD	above 70 %	Level 3
	AV-RRF	0.300 or greater (0.250 for Bromoform)	Level 1
	AV-RRF	0.10 to 0.299 (0.10 to 0.249 for bromoform)	Level 2
	AV RRF	Less than 0.10 (may increase chances for false negative results)	Level 3

Continuing Calibration - Affects all samples until the next calibration.
Affects quantitative results.
Does not affect qualitative results.

%D	25% or less	Level 1
%D	25 to 70 %	Level 2
%D	Above 70 %	Level 3
RRF	0.300 or greater (0.250 for Bromoform)	Level 1
RRF	0.10 to 0.299 (0.10 to 0.249 for Bromoform)	Level 2
RRF	Less than 0.10 (may increase chances of false negative results)	Level 3

1. Instrument calibrated at beginning of 12 hour sequence. Level 1
2. Instrument calibrated between 12 and 24 hours before analysis of sample. Level 2
3. Instrument calibrated more than 24 hours before analysis of sample. Level 3

Tuning Criteria - May affect qualitative identifications.
Does not affect quantitative results.

1. Instrument tuned at beginning of 12 hour sequence; all ions in compliance with expanded criteria (see list). Level 1

2. Tune performed at beginning of 12 hour sequence, any critical ion out of criteria for expanded criteria list
OR
Instrument tuned between 12 and 24 hours of sample analysis Level 2

3. Tune not performed or tuned more than 24 hours before sample analysis Level 3

BFB Expanded Criteria List

m/z	ION ABUNDANCE CRITERIA
50	11.0 - 50.0% of base peak
75	22.0 - 75.0% of base peak
95*	base peak, 100% relative abundance
96*	5.0 - 9.0% of base peak
173	less than 1% of base peak
174*	greater than 50% of base peak
175*	5.0 -9.0% of m/z 174
176*	greater than 95% but less than 101% of m/z 174
177*	5.0 -9.0% of m/z 176

* denotes critical ions or ratios

Method Blank Analysis - Affects quantitative and qualitative results.
False positive results may be indicated.

1. Method performed as required, blank uncontaminated Level 1

2. If a method blank is not performed for a group of samples
All positive hits are Level 3
(May cause false positive results)
All negative results are acceptable Level 1

3. Blank Contamination encountered in the method blank

Common laboratory contaminants

Sample result greater than or equal to 10x amount in the blank	Level 1
Sample result between 5x and 10x amount in the blank	Level 2
Sample result less than 5x the amount in the blank	Level 3

Other TCL compounds

Sample result greater than or equal to 5x amount in the blank	Level 1
Sample result between 2.5x and 5x the amount in the blank	Level 2
Sample result less than 2.5x the amount in the blank	Level 3

Volatile Sample Analysis
Individual Sample Defects

Holding Times- May affect quantitative results.
Does not affect qualitative results.

1.	Within 10 days	Level 1
2.	11-28 days	Level 2
3.	Greater than 28 days (May increase chances of false negative and false positive results)	Level 3

Surrogate Recovery - Affects quantitative results.
Does not affect qualitative results.

1.	All surrogates within criteria	Level 1
2.	One surrogate outside SOW limits or less than 10% recovery for one surrogate (but greater than zero recovery)	Level 2
3.	Any surrogate not recovered at all, or 2 or more surrogates outside of limits in SOW (May increase chances of false negative results)	Level 3

Internal Standards - Affects quantitative results.
Does not affect qualitative results.

1.	Change in absolute area less than -50% to +100% RT of IS-sample within +/- 30 sec of IS-calibration std	Level 1
2.	Outside of criteria above (May increase chances of false negative results)	Level 3

Tentatively Identified Compounds (TICs)- Qualitative identification affected.

1.	All TICs can have a quality level no better than	Level 2
2.	All TICs without a complete identification, i.e., Unknown.	Level 3
3.	In special cases, i.e. PCBs, Identification of compound without specific isomer ID.	Level 2

4. Blanks are assessed using the same criteria as TCL compounds.

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Semi-Volatile Analysis
Sample Group Defects

Initial Calibration - Affects all samples run until the next Init. Cal.
Affects quantitative results.
Does not affect qualitative results.

1.	Initial calibration not performed before running samples.	Entire sample, + or - results	Level 3
2.	%RSD	30% or less	Level 1
	%RSD	30 to 70 %	Level 2
	%RSD	Above 70 %	Level 3
	AV-RRF	0.05 or greater	Level 1
	AV-RRF	Less than 0.05 all + hits become	Level 2
	AV RRF	Less than 0.05 all - hits become	Level 3
		(May increase chances for false negative results)	

Continuing Calibration - Affects all samples until the next calibration.
Affects quantitative results.
Does not affect qualitative results.

%D	25% or less	Level 1
%D	25 to ~~50 %~~ 70%	Level 2
%D	Above ~~50 %~~ 70%	Level 3
RRF	0.05 or greater	Level 1
RRF	Less than 0.05 all + hits become	Level 2
RRF	Less than 0.05 all - hits become	Level 3
	(May increase chances for false negative results)	

1. Instrument calibrated at beginning of 12 hour sequence. Level 1

2. Instrument calibrated between 12 and 24 hours before analysis of sample. Level 2

3. Instrument calibrated more than 24 hours before analysis of sample. Level 3

Tuning Criteria - May affect qualitative identifications.
Does not affect quantitative results.

1. Instrument tuned at beginning of 12 hour sequence; all ions in compliance with expanded criteria (see list). — Level 1

2. Tune performed at beginning of 12 hour sequence, any critical ion out of criteria for expanded criteria list
   OR
   Instrument tuned between 12 and 24 hours of sample analysis — Level 2

3. Tune not performed or tuned more than 24 hours before sample analysis — Level 3

DFTPP Expanded Criteria List

m/z	ION ABUNDANCE CRITERIA
51	22.0% - 75.0% of m/z 198
68*	less than 2.0% of m/z 69
70*	less than 2.0% of m/z 69
127	30.0 - 70.0% of m/z 198
197*	less than 1.0% of m/z 198
198*	base peak, 100% relative abundance
199*	5.0 - 9.0% of m/z 198
275	7.0 - 37.0% of m/z 198
365	greater than 0.75% of m/z 198
441*	present but less than m/z 443
442*	greater than 30.0% of m/z 198
443*	17.0% - 23.0% of m/z 198

* denotes critical ions or ratios

Method Blank Analysis - Affects quantitative and qualitative results.
False positive results may be indicated.

1. Method performed as required, blank uncontaminated — Level 1

2. Method blank not performed for a group of samples
   Common lab contaminants (phthalates)
   - (+) results — Level 3
   - (-) results — Level 1

   Other TCL compounds
   - (+) results — Level 2
   - (-) results — Level 1

3. Blank Contamination encountered in the method blank

Common laboratory contaminants (phthalates)

Sample result greater than or equal to 10X amount in the blank	Level 1
Sample result between 5x and 10x amount in the blank	Level 2
Sample result less than 5x the amount in the blank	Level 3

Other TCL compounds

Sample result greater than or equal to 5x amount in blank	Level 1
Sample result between 2.5x and 5x amount in the blank	Level 2
Sample result less than 2.5x the amount in the blank	Level 3

Semi-Volatile Sample Analysis
Individual Sample Defects

Holding Times- May affect quantitative results.
Does not affect qualitative results.

Holding Times (Extractions)

1. Within 5 days for water or 10 days for soil	Level 1
2. 6-20 days for water, 11-20 days for soil	Level 2
3. Greater than 20 days (water and soil) (May increase chances for false negative results)	Level 3

Holding times until analysis

1. 40 days or less	Level 1
2. 41 to 60 days	Level 2
3. More than 60 days (May increase chances for false negative results)	Level 3

Surrogate Recovery - By Acid or Base/Neutral fractions
Affects quantitative results.
Does not affect qualitative results.

1. All surrogates within criteria	Level 1
2. Two surrogates within either fraction outside SOW limits or less than 10% recovery for one surrogate (but greater than zero recovery)	Level 2
3. Any surrogate not recovered at all, or 3 or more surrogates from either fraction outside of limits in SOW (May increase chances of false negative results)	Level 3

Internal Standards - Affects quantitative results.
Does not affect qualitative results.

1. Change in absolute area less than -50% to +100% RT of IS-sample within +/- 30 sec of IS-calibration std	Level 1
2. Outside of criteria above (May increase chances of false negative results)	Level 3

Rev. 7/26/88

Tentatively Identified Compounds (TICs)- Qualitative identification affected:

1.	All TICs can have a quality level no better than	Level 2
2.	All TICs without a complete identification, i.e., Unknown.	Level 3
3.	In special cases, i.e. PCBs, Identification of compound without specific isomer ID.	Level 2
4.	Blanks are assessed using the same criteria as TCL compounds.	

Pesticides Analysis
Sample Group Defects

Initial and Continuing Calibrations - Affects all samples run during the 72 hour sequence, on packed and capillary columns, evaluated separately.

1. Initial calibration using Eval. A, B, C and Ind. A, B not run as required. Entire sample, + or - results. — Level 3

2. Failure to run the evaluation mixes A and B as required during the 72 hour sequence. Affected sub-group only. — Level 2

3. Calibration sequences run as required. — Level 1

4. Linearity (Initial Calibration):

   Linearity will be Analyte-Specific and Column-Specific.

Aldrin - Analytes	100 - 105
Endrin - Analytes	106 - 113
DDT - Analytes	114 - 126

<10% RSD	Level 1
10 - 20% RSD	Level 2
>20% RSD	Level 3

5. Continuing Calibration Stability:
   Quality level for %D is determined by the %D of the IND AB which follows a sample group. Analyte-Specific and Column-Specific for all analytes - 114. DDT used for analytes 115 - 126.

<15 %D	Level 1
15 - 25%D	Level 2
>25% D	Level 3

6. Analytes quantitated on capillary column will be judged for IC and CC on capillary column, but will be Q2 or Q3. — Level 2

   4,4'-DDT and Endrin Breakdown Requirement (Column-Specific):
   Quality level for % Breakdown is determined by % Breakdown of the Eval B preceeding the sample group.

1. % Breakdown for Endrin and DDT is less than 20%.	Level 1
2. % Breakdown for Endrin and DDT is between 20 and 30%.	Level 2
3. % Breakdown for either DDT or Endrin exceeds 30%.	Level 3

DDT Retention Time - Affects all subsequent samples, all analytes (Column-Specific):

1.	DDT RT is greater than or equal to 12 minutes.	Level 1
2.	DDT RT is less than 12 minutes and visual examination of the chromatogram indicates adequate separation of individual analytes has been achieved.	Level 2
3.	DDT retention time less than 12 minutes. Visual examination indicates inadequate separation.	Level 3

Method Blank Analysis:

1.	Method performed as required, blank uncontaminated.	Level 1
2.	If a method blank is not performed for a group of samples all positive hits are All negative results are acceptable.	Level 3
3.	Blank Contamination encountered in the method blank:	
	+ Results greater than 5x contamination level	Level 1
	+ Results less than 5x contamination level	Level 3
	- Results	Level 1

Pesticide Sample Analysis
Individual Sample Defect

Holding Times:

Holding times until extraction:

1.	Within 5 days for water or 10 days for soil	Level 1
2.	6 to 10 days for water samples; 11 - 20 days for soil	Level 2
3.	Greater than 10 days for water; 20 days for soil samples	Level 3

Holding times until analysis:

1.	40 days or less	Level 1
2.	41 to 60 days	Level 2
3.	More than 60 days	Level 3
4.	Q3 hits may be considered Q2	

Surrogate Retention Time (Column-Specific):

1.	%D for DBC retention time of the sample compared to the initial evaluation mix standard is less than 2% for packed column and 0.3% for capillary column.	Level 1
2.	%D for DBC or Mirex retention time RT sample - RT initial eval mix is greater than 2% for packed column and 0.3% for capillary column.	Level 3
3.	DBC not used as surrogate.	Level 2
4.	No surrogate analyzed.	Level 3

Surrogate Recovery:

Due to the problems with loss of DBC, surrogate recovery is not considered to be a factor in assigning data quality levels. However, if no surrogate is recovered, data may be considered non-usable for all compounds except multi-component analytes, where pattern recognition is possible.

Pesticide Sample Analysis
Individual Sample Defect

Analyte Retention Time:

Retention Time Windows - Affects the individual analyte in that sample only.

1.	Retention time windows met as required by SOW and confirmation performed.	Level 1
2.	Retention time window met, confirmation not performed.	Level 3

ATTACHMENT B

EXAMPLE OF 1 PAGE

MASTER SHEET

EXAMPLE

ATTACHMENT!

Data Usability Screening for Volatile Organics

Site _____ Page __ of __ Auditor _____

SAMPLE NUMBER	SDG	MATRIX	DATE RECEIVED	DATE ANALYZED	ASSOC TUNE	DATE BLANK	CALIB INIT	RATE CONT	INT STD OUT	VOA SURR OUT	COMMENTS		OVER-ALL LEVEL	ENV PRB NUM
PX037030	PIV24	7	15JUN87	18JUN87	1	A	A	A	A	3	2 SURR OUTSD CRIT(BFB&DCE) 2 INT.ST. OUTSD CRIT(BCM&CBZ).Q-28% MOIST,	5 G. 5&6 BLANK 13-RRF 30-EXCEEDING CAL. RANGE	A	8
		18	05JUN87	05JUN87										11
		1	12JUN87	15JUN87	1	A	A	A	1	1	5-ID, RANGE EXCEEDED 13-RRF Q-7% MOIST, 5.2 G.		A	11
		1	12JUN87	15JUN87	1	A	A	A	1	2	5-ID, RANGE EXCEEDED 13-BLANK/RRF 6-BLANK S1 OUT Q-12% MOIST, 5.2 G.		A	11
		1	12JUN87	15JUN87	1	A	A	A	1	1	5-ID, RANGE EXCEEDED 13-BLANK/RRF Q-7% MOIST, 5.2 G.		A	11
		1	12JUN87	16JUN87	1	A	A	A	1	1	5-ID 13-RRF Q-11% MOIST, 5 G.		A	11
		1	12JUN87	16JUN87	1	A	A	A	1	1	5-ID, RANGE EXCEEDED 13-BLANK/RRF Q-14% MOIST, 5 G.		A	11
		1	12JUN87	16JUN87	1	A	A	A	1	1	5-ID, RANGE EXCEEDED 13-RRF Q-17% MOIST, 4.9 G.		A	11
		1	12JUN87	16JUN87	1	A	A	A	1	1	5-BLANK 6-BLANK 13-RRF Q-15% MOIST, 5 G.		A	11
		1	12JUN87	16JUN87	1	A	A	A	1	1	5&6-BLANK 13-RRF Q-20% MOIST, 5.4 G.		A	11
		1	12JUN87	16JUN87	1	A	A	A	1	1	5&6-BLANK 13-RRF Q-17% MOIST, 5.1 G.		A	11
		1	12JUN87	16JUN87	1	A	A	A	1	1	5-BLANK 13-RRF Q-16% MOIST, 5.1 G.		A	11
		1	12JUN87	16JUN87	1	A	A	A	1	1	5-BLANK 13-RRF Q-19%, 5.1 G.		A	11
		1	15JUN87	18JUN87	1	A	A	A	1	1	Q-14% MOIST, 5 G. 13-RRF 6-BLANK		A	11
		1	15JUN87	18JUN87	1	A	A	A	1	1	Q-17% MOIST, 5 G. 13-RRF 5&6-BLANK		A	11
		1	05JUN87	05JUN87	1	A	A	A	3	3	ALL INTNL STNDS OUT OF CRIT 13-BLANK/RRF Q-6%MOIST,5.3 G.	TWO SURROGATES OUTSIDE CRITERIA	3	11
		1	05JUN87	05JUN87	1	A	A	A	3	2	ALL INTNL STNDS OUT OF CRIT 13-RRF Q-9%MOIST,5.3 G. 1 SURR OUTSD CRIT		3	11
		1	05JUN87	05JUN87	1	A	A	A	1	2	Q-5% MOIST,4.8 G. 13-RRF 1 SURR OUTSD CRIT		A	11
		1	05JUN87	06JUN87	1	A	A	A	1	1	6-BLANK 13-BLANK/RRF Q-5% MOIST, 4.90 G.		A	11
		1	05JUN87	05JUN87	1	A	A	A	1	1	13-RRF Q-7% MOIST, 5.10 G.		A	11
		1	06JUN87	06JUN87	1	A	A	A	A	2	5-BLANK 6-BLANK IS3 OUT Q-3% MOIST, 5 G.		A	11
		1	06JUN87	07JUN87	1	A	A	A	1	1	6-BLANK Q-9% MOIST, 5 G.		A	11
		1	06JUN87	06JUN87	1	A	A	A	1	1	5-BLANK 6-BLANK 13-BLANK Q-3% MOIST, 4.89 G.		A	11
		1	06JUN87	06JUN87	1	A	A	A	1	1	5-BLANK 6-BLANK 13-BLANK Q-6% MOIST, 4.9 G.		A	11
		1	05JUN87	06JUN87	2	A	A	A	A	2	IS2 & IS3 LOW, BFB SENSITIVITY TIME OUT, S1 HIGH Q-11% MOIST, 5.2 G.		A	11
		1	06JUN87	06JUN87	1	A	A	A	1	1	5-BLANK 6-BLANK 13-BLANK Q-9% MOIST, 5 G.		A	11

ATTACHMENT C

ENV. PROBLEM FILE

(EXAMPLE)

EPNo 26, 27

ORGANIC DATA ~~QUALITY~~ LEVEL
VOLATILE ORGANIC COMPOUNDS

99

SAMPLE IDENTIFICATION TRIP BLANK

SITE CODE

DATA AUDITOR: TAMMY CHRI:

DATA ~~USABILITY~~ Quality LEVEL

	CAS NO	IS#	TARGET COMPOUND NAME	BL	IC	CC	IS	OU
1.	74-87-3	1	CHLOROMETHANE	1	1	1	1	1
2.	74-83-9	1	BROMOMETHANE	1	2	1		2
3.	75-01-4	1	VINYL CHLORIDE		2	1		2
4.	75-00-3	1	CHLOROETHANE		1	2		2
5.	75-09-2	1	METHYLENE CHLORIDE 6		1	2		2
6.	67-64-1	1	ACETONE			2		2
7.	75-15-0	1	CARBON DISULFIDE			1		1
8.	75-35-4	1	1,1-DICHLOROETHENE			1		1
9.	75-34-3	1	1,1-DICHLOROETHANE			1		1
10.	540-59-0	1	1,2-DICHLOROETHENE (TOTAL)			1		1
11.	67-66-3	1	CHLOROFORM			1		1
12.	107-06-2	1	1,2-DICHLOROETHANE			1		1
13.	78-93-3	2	2-BUTANONE 11		3	3		3
14.	71-55-6	2	1,1,1-TRICHLOROETHANE			1		1
15.	56-23-5	2	CARBON TETRACHLORIDE			1		1
16.	108-05-4	2	VINYL ACETATE			1		1
17.	75-27-4	2	BROMODICHLOROMETHANE			1		1
18.	78-87-5	2	1,2-DICHLOROPROPANE			1		1
19.	10061-01-5	2	cis-1,3-DICHLOROPROPENE			1		1
20.	79-01-6	2	TRICHLOROETHENE			1		1
21.	124-48-1	2	DIBROMOCHLOROMETHANE			1		1
22.	79-00-5	2	1,1,2-TRICHLOROETHANE			1		1
23.	71-43-2	2	BENZENE			1		1
24.	10061-02-6	2	trans-1,3-DICHLOROPROPENE			1		1
25.	75-25-2	2	BROMOFORM			1		1
26.	108-10-1	3	4-METHYL-2-PENTANONE			1		1
27.	591-78-6	3	2-HEXANONE			1		1
28.	127-18-4	3	TETRACHLOROETHENE			1		1
29.	79-34-5	3	1,1,2,2-TETRACHLOROETHANE			1		1
30.	108-88-3	3	TOLUENE			1		1
31.	108-90-7	3	CHLOROBENZENE			1		1
32.	100-41-4	3	ETHYLBENZENE			1		1
33.	100-42-5	3	STYRENE			1		1
34.	1330-20-7	3	XYLENE (TOTAL)			1		1

CAS NO	NON-TARGET COMPOUND NAME	BL	IC	CC	MS	OU

BL = Blank Contamination
IC = Initial Calibration
CC = Continuing Calibration
IS = Internal Standard Area/RT
OU = Overall ~~Usability~~ Quality Level

MS = Mass Spectral Identification

Christian Reddy 7/21/88
AUDITOR'S SIGNATURE/DATE

ORGANIC DATA ~~USABILITY TABLES~~
VOLATILE ORGANIC COMPOUNDS

SAMPLE IDENTIFICATION 3 SITE CODE

DATA AUDITOR: GARY L. ROBERTSON

CAS NO	IS#	TARGET COMPOUND NAME	BL	IC	CC	IS	OU
74-87-3	1	CHLOROMETHANE		1	2	1	2
74-83-9	1	BROMOMETHANE		2	2		2
75-01-4	1	VINYL CHLORIDE		2	2		2
75-00-3	1	CHLOROETHANE		1	2		2
75-09-2	1	METHYLENE CHLORIDE 6	3		1		3
67-64-1	1	ACETONE					1
75-15-0	1	CARBON DISULFIDE					
75-35-4	1	1,1-DICHLOROETHENE					
75-34-3	1	1,1-DICHLOROETHANE					
540-59-0	1	1,2-DICHLOROETHENE (TOTAL)					
67-66-3	1	CHLOROFORM					
107-06-2	1	1,2-DICHLOROETHANE					
78-93-3	2	2-BUTANONE 11	3	3	3		3
71-55-6	2	1,1,1-TRICHLOROETHANE		1			
56-23-5	2	CARBON TETRACHLORIDE					
108-05-4	2	VINYL ACETATE					
75-27-4	2	BROMODICHLOROMETHANE					
78-87-5	2	1,2-DICHLOROPROPANE					
10061-01-5	2	cis-1,3-DICHLOROPROPENE					
79-01-6	2	TRICHLOROETHENE					
124-48-1	2	DIBROMOCHLOROMETHANE					
79-00-5	2	1,1,2-TRICHLOROETHANE					
71-43-2	2	BENZENE					
10061-02-6	2	trans-1,3-DICHLOROPROPENE					
75-25-2	2	BROMOFORM					
108-10-1	3	4-METHYL-2-PENTANONE					
591-78-6	3	2-HEXANONE					
127-18-4	3	TETRACHLOROETHENE					
79-34-5	3	1,1,2,2-TETRACHLOROETHANE					
108-88-3	3	TOLUENE					
108-90-7	3	CHLOROBENZENE					
100-41-4	3	ETHYLBENZENE					
100-42-5	3	STYRENE					
1330-20-7	3	XYLENE (TOTAL)					

CAS NO	NON-TARGET COMPOUND NAME	BL	IC	CC	MS	OU

DFL

BL = Blank Contamination
IC = Initial Calibration
CC = Continuing Calibration
IS = Internal Standard Area/RT
OU = Overall Usability Level

MS = Mass Spectral Identification

D-xxx

D.L. Robertson 7/20/89
AUDITOR'S SIGNATURE

ORGANIC DATA ~~USABILITY TABLES~~
VOLATILE ORGANIC COMPOUNDS

SAMPLE IDENTIFICATIO

SITE CODE [illegible]

DATA AUDITOR: GARY L. ROBERTSON

	CAS NO	IS#	TARGET COMPOUND NAME	DATA ~~USABILITY~~ QUALITY LEVEL BL	IC	CC	IS	OU
1.	74-87-3	1	CHLOROMETHANE	1	1	2	1	2
2.	74-83-9	1	BROMOMETHANE		2	2		2
3.	75-01-4	1	VINYL CHLORIDE		2	2		2
4.	75-00-3	1	CHLOROETHANE		1	2		2
5.	75-09-2	1	METHYLENE CHLORIDE	3		1		3
6.	67-64-1	1	ACETONE	1				1
7.	75-15-0	1	CARBON DISULFIDE					
8.	75-35-4	1	1,1-DICHLOROETHENE					
9.	75-34-3	1	1,1-DICHLOROETHANE					
10.	540-59-0	1	1,2-DICHLOROETHENE (TOTAL)					
11.	67-66-3	1	CHLOROFORM					
12.	107-06-2	1	1,2-DICHLOROETHANE					
13.	78-93-3	2	2-BUTANONE	3	3	3		3
14.	71-55-6	2	1,1,1-TRICHLOROETHANE	1	1	1		1
15.	56-23-5	2	CARBON TETRACHLORIDE					
16.	108-05-4	2	VINYL ACETATE					
17.	75-27-4	2	BROMODICHLOROMETHANE					
18.	78-87-5	2	1,2-DICHLOROPROPANE					
19.	10061-01-5	2	cis-1,3-DICHLOROPROPENE					
20.	79-01-6	2	TRICHLOROETHENE					
21.	124-48-1	2	DIBROMOCHLOROMETHANE					
22.	79-00-5	2	1,1,2-TRICHLOROETHANE					
23.	71-43-2	2	BENZENE					
24.	10061-02-6	2	trans-1,3-DICHLOROPROPENE					
25.	75-25-2	2	BROMOFORM					
26.	108-10-1	3	4-METHYL-2-PENTANONE					
27.	591-78-6	3	2-HEXANONE					
28.	127-18-4	3	TETRACHLOROETHENE					
29.	79-34-5	3	1,1,2,2-TETRACHLOROETHANE					
30.	108-88-3	3	TOLUENE					
31.	108-90-7	3	CHLOROBENZENE					
32.	100-41-4	3	ETHYLBENZENE					
33.	100-42-5	3	STYRENE					
34.	1330-20-7	3	XYLENE (TOTAL)					

CAS NO		NON-TARGET COMPOUND NAME	BL	IC	CC	MS	OU

BL = Blank Contamination
IC = Initial Calibration
CC = Continuing Calibration
IS = Internal Standard Area/RT
OU = Overall Usability Level

MS = Mass Spectral Identification

G. L. Robertson 7/21/94
Auditor's signature/date

ORGANIC DATA ~~QUALITY CHECKS~~
VOLATILE ORGANIC COMPOUNDS

SAMPLE IDENTIFICATION SITE CODE ___ 5

DATA AUDITOR: GARY L. ROBERTSON

	CAS NO	IS#	TARGET COMPOUND NAME	BL	IC	CC	IS	OU
				DATA ~~USABILITY~~ QUALITY LEVEL				
1.	74-87-3	1	CHLOROMETHANE	1	1	2	1	2
2.	74-83-9	1	BROMOMETHANE		2	2		2
3.	75-01-4	1	VINYL CHLORIDE		2	2		2
4.	75-00-3	1	CHLOROETHANE		1	2		2
5.	75-09-2	1	METHYLENE CHLORIDE	3		1		3
6.	67-64-1	1	ACETONE	1				1
7.	75-15-0	1	CARBON DISULFIDE					
8.	75-35-4	1	1,1-DICHLOROETHENE					
9.	75-34-3	1	1,1-DICHLOROETHANE					
10.	540-59-0	1	1,2-DICHLOROETHENE (TOTAL)					
11.	67-66-3	1	CHLOROFORM					
12.	107-06-2	1	1,2-DICHLOROETHANE					
13.	78-93-3	2	2-BUTANONE	3	3	3		3
14.	71-55-6	2	1,1,1-TRICHLOROETHANE	1	1	1		1
15.	56-23-5	2	CARBON TETRACHLORIDE					
16.	108-05-4	2	VINYL ACETATE					
17.	75-27-4	2	BROMODICHLOROMETHANE					
18.	78-87-5	2	1,2-DICHLOROPROPANE					
19.	10061-01-5	2	cis-1,3-DICHLOROPROPENE					
20.	79-01-6	2	TRICHLOROETHENE					
21.	124-48-1	2	DIBROMOCHLOROMETHANE					
22.	79-00-5	2	1,1,2-TRICHLOROETHANE					
23.	71-43-2	2	BENZENE					
24.	10061-02-6	2	trans-1,3-DICHLOROPROPENE					
25.	75-25-2	2	BROMOFORM					
26.	108-10-1	3	4-METHYL-2-PENTANONE					
27.	591-78-6	3	2-HEXANONE					
28.	127-18-4	3	TETRACHLOROETHENE					
29.	79-34-5	3	1,1,2,2-TETRACHLOROETHANE					
30.	108-88-3	3	TOLUENE					
31.	108-90-7	3	CHLOROBENZENE					
32.	100-41-4	3	ETHYLBENZENE					
33.	100-42-5	3	STYRENE					
34.	1330-20-7	3	XYLENE (TOTAL)					

CAS NO		NON-TARGET COMPOUND NAME	BL	IC	CC	MS	OU

BL = Blank Contamination
IC = Initial Calibration
CC = Continuing Calibration
IS = Internal Standard Area/RT
OU = Overall Usability Level

MS = Mass Spectral Identification

D. L. Robertson 7/10/89
Auditor's signature/date

ATTACHMENT D

GUIDELINES

Title: GUIDELINES FOR EVALUATING USABILITY

The following are guidelines for evaluating usability of volatile and semivolatile organic data:

1. For volatile organic analysis data, both the blanks and the samples can contain common laboratory contaminants such as methylene chloride, acetone, and 2-butanone. These common laboratory contaminants are not considered "hits" under the following criteria:

   a. if their concentrations are less than 10X the concentration of the method blank (which will be noted just to the left of the "BL" column), or less than 10X the concentration in the associated trip blank; or

   b. if these contaminants are not in the method or trip blanks and their concentration is less than 10X the CRQL. Even if the quality level = 1, these contaminants must be at least 10X the contract required quantitation limit (CRQL) before the values are considered actual "hits".

   The CRQL levels for these contaminants in both water and soil matrices are:

methylene chloride	5 ppb
acetone	10 ppb
2-butanone	10 ppb

2. In general, for those data where the quality level is 3, hits above the CRQL can be considered real. However, it must be noted that this type of data is qualitative but not quanitative. For example, a hit at 10 ppb toluene with quality level 3 could actually have a toluene concentration of 1 to 25 ppb.

3. All tenatively identified compounds (TIC) data should be evaluated relative to compounds known to be used at the DOE sites. Mass spectra libraries may be limited and not contain the spectrum of analytes characteristic at the DOE sites. All TIC data will be reported to the Survey Team regardless of the data quality level. For this evaluation, all TIC-unknown data are classified Q3 based on the limitations of the mass spectrum interpretation.

4. Examples of increased probability of false negatives are:

   - 2 or more surrogates are out-of-limits for volatiles
   - internal standard is out-of-limits or has a low percent recovery (%R)
   - holding times exceeded

5. Examples of increased probability of false positive are:

   - no method blank was run with the SDG
   - no trip blank was run with the VOA SDG
   - holding times exceeded along with no trip blank analysis for the VOA SDGs

6. When quality level 3 data is accepted for usability, a footnote which explains why the data is accepted should be noted and included in the summary table (Appendix E).

7. Analyte values which are below the CRQL are reported, but will not be classified as Q1 data. These data will generally be classified as Q3 data because they are semi-quantitative.

8. Semivolatile analysis data for both blanks and the samples can contain common laboratory contaminants such as bis(2-ethylhexyl) phthalate, diethylphthalate, and di-n-octylphthalate. These common laboratory contaminants are not considered "hits" under the following criteria:

   a. if their concentrations are less than 10X the concentration of the method blank or 10X the CRQL, and/or

   b. if the quality level = 1, these contaminants must be at least 10X the CRQL before the values are considered actual "hits".

   The CRQL level for these contaminants are:

Organic compound	Water matrix	Soil matrix
bis(2-ethylhexyl) phthalate	10 ppb	330 ppb
di-n-octyl phthalate	10 ppb	330 ppb
diethylphthalate	10 ppb	330 ppb

ATTACHMENT E

SUMMARY TABLE

ATTACHMENT E

ENV PROBLEM # - 3 SAMPLES (No analysis data available)

ENV PROBLEM # - 9 SAMPLES

o	Toluene	21ppb	Q3 (IS)(SU) No Trip Blank
	TIC-Trifluorochloromethane	8ppb	Q3 (MS)(SU) No Trip Blank
	TIC-Unknown	11ppb	Q3 (MS)(SU) No Trip Blank
o	No analysis data		

NOTE: 2 of the 8 samples, analyzed have no hits but the overall quality level is QL-3; hence the potential for false negatives exists.

ENV PROBLEM # - 3 SAMPLES

o	Toluene	7ppb	Q2
o	Toluene	64ppb	Q2
o	Toluene	7ppb	Q2

NOTE: No toluene in trip blank.

ENV PROBLEM # - 9 SAMPLES

o	Chloroform	6ppb	Q2
o	TIC-Methane(bis)thio	226ppb	Q2
o	Toluene	101ppb	Q2
o	Toluene	9ppb	Q2

NOTE: Trip blank and samples contained the normal laboratory contaminants, methylene chloride, acetone, and 2-butanone. Neither chloroform nor toluene was detected in the trip blank.

Oak Ridge National Laboratory
Analytical Chemistry Division

ANALYSIS QUALITY LEVEL EVALUATION

	Method:
	SDG No.:
SITE NAME:	Date(s) Received:
	Date(s) prepared:
QC Request:	Date(s) analyzed:

Completed	Description	

DOCUMENTATION COMPLETENESS

Case Narrative Review

Preparer: _____

Reviewer: _____

Method Description _____

Reporting Forms Review

Preparer: _____

Reviewer: _____

Analyst Worksheets/Notebook Review _____

ANALYSIS QUALITY

Representativeness

Samples Preserved and Stored Properly _____

Appropriate Percentages of Holding Times Met (as listed in Table 1) _____

_____ Actual % Compliance _____ Deviation From Holding Times Requirements

Oak Ridge National Laboratory
Analytical Chemistry Division

ANALYSIS QUALITY LEVEL EVALUATION

Method:

SDG No.:

SITE NAME:

Completed	Description
	ANALYSIS QUALITY (continued)
	Comparability
_____	Participation in EPA quarterly Performance Evaluation _____
	Precision
_____	80% of duplicate results for aqueous samples in compliance with requirements _____
	_____ Actual % Compliance _____ Deviation from 80% Compliance
_____	70% of duplicate results for soil samples in compliance with requirements _____
	_____ Actual % Compliance _____ Deviation from 70% Compliance
_____	Other matrix: _____
	70% of precision control limits met _____
	_____ Actual % Compliance _____ Deviation From 70% Compliance
	COMMENTS _____

Oak Ridge National Laboratory
Analytical Chemistry Division

ANALYSIS QUALITY LEVEL EVALUATION

Method:

SDG No.:

SITE NAME:

Completed	Description
	ANALYSIS QUALITY (continued) Accuracy
_____	95% of preparation blank results in compliance with requirements _____ Actual % Compliance _____ Deviation From 95% Compliance
_____	80% of laboratory control samples in compliance with requirements _____ Actual % Compliance _____ Deviation From 80% Compliance
_____	Appropriate percentage (see Table 2) of calibration verification data in compliance with requirements _____ Actual % Compliance _____ Deviation from Required Compliance
_____	90% of ICP interference check standards in compliance with requirements _____ Actual % Compliance _____ Deviation From 90% Compliance
_____	80% of spike and serial dilution results for aqueous samples in compliance with requirements _____ Actual % Compliance _____ Deviation From 80% Compliance
_____	70% of spike and serial dilution results for soil samples in compliance with requirements _____ Actual % Compliance _____ Deviation from 70% Compliance

****

Average Deviation from Compliance _____

*** ANALYSIS QUALITY LEVEL _____ (1, 2, 3)

EXCEPTIONS:	Analyte	Quality Level
	_____	_____
	_____	_____
	_____	_____

TABLES

Table 1. Criteria for Holding Times

Method	% Criteria
CVAA	90
ICP, GFAA, Total U	98
Anions	50
Cyanide	75
Other analytes	90

Table 2. % Criteria for Continuing Calibration Verification Data

Method	% Criteria
ICP, GFAA, CVAA	90
Rads	75
Inorganic Exotics	75
Anions	90
Other	90

Table 3. Summary of Levels

Level 1: Percent Criteria for Compliance met

Level 2: $\leq$ 20% deviation from above conditions

Level 3: > 20% deviation from above conditions

Comments

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TABLE D.1.1 DIRECTORY FOR METALS, INCLUDING CR+6 QA/QC DATA

PROBLEM NUMBER	SAMPLE NUMBER	QA/QC ANALYTICAL SDG NUMBER	QA/QC TABLE NUMBER(PG)
1	PE300010B	PE300010B	D.1.2 (D-6)
1	PE300010C	PE300010C	D.1.3 (D-9)
1	PE300021B	PE300010B	D.1.2 (D-7)
1	PE300021C	PE300010C	D.1.3 (D-10)
1	PE300032B	PE300010B	D.1.2 (D-7)
1	PE300032C	PE300010C	D.1.3 (D-10)
1	PE301011H	PE301011H	D.1.4 (D-14)
1	PE301011I	PE301011I	D.1.5 (D-19)
1	PE301022H	PE301011H	D.1.4 (D-14)
1	PE301022I	PE301011I	D.1.5 (D-19)
1	PE301033H	PE301011H	D.1.4 (D-14)
1	PE301033I	PE301011I	D.1.5 (D-21)
1	PE301044A	PE301011H	D.1.4 (D-14)
1	PE301044B	PE301011I	D.1.5 (D-21)
1	PE302012D	PE301011H	D.1.4 (D-15)
1	PE302012E	PE301011I	D.1.5 (D-21)
1	PE302023D	PE302023D	D.1.6 (D-26)
1	PE302023E	PE301011I	D.1.5 (D-21)
1	PE302034D	PE302023D	D.1.6 (D-26)
1	PE302034E	PE301011I	D.1.5 (D-22)
1	PE303013B	PE303013B	D.1.8 (D-30)
1	PE303013C	PE310012C	D.1.10 (D-47)
1	PE303024B	PE303013B	D.1.8 (D-30)
1	PE303024C	PE310012C	D.1.10 (D-48)
1	PE303035B	PE303013B	D.1.8 (D-30)
1	PE303035C	PE310012C	D.1.10 (D-48)
1	PE303046B	PE302023D	D.1.6 (D-26)
1	PE303046C	PE301011I	D.1.5 (D-22)
1	PE304014B	PE300010B	D.1.2 (D-6)
1	PE304014C	PE300010C	D.1.3 (D-9)
1	PE304025B	PE300010B	D.1.2 (D-6)
1	PE304025C	PE300010C	D.1.3 (D-9)
1	PE304036B	PE300010B	D.1.2 (D-6)
1	PE304036C	PE300010C	D.1.3 (D-9)
1	PE309019D	PE302023D	D.1.6 (D-27)
1	PE309019E	PE301011I	D.1.5 (D-23)
1	PE309020D	PE302023D	D.1.6 (D-27)
1	PE309020E	PE301011I	D.1.5 (D-23)
1	PE309031D	PE302023D	D.1.6 (D-27)
1	PE309031E	PE301011I	D.1.5 (D-23)
1	PE310012B	PE300010B	D.1.2 (D-7)
1	PE310012C	PE310012C	D.1.10 (D-42)
1	PE310023B	PE300010B	D.1.2 (D-7)
1	PE310023C	PE310012C	D.1.10 (D-42)
1	PE310034B	PE300010B	D.1.2 (D-7)
1	PE310034C	PE310012C	D.1.10 (D-43)
2	PE305015H	PE301011H	D.1.4 (D-13)
2	PE305015I	PE305015I	D.1.9 (D-39)
2	PE305026H	PE301011H	D.1.4 (D-13)
2	PE305026I	PE301011I	D.1.5 (D-17)
2	PE305037H	PE301011H	D.1.4 (D-14)

TABLE D.1.1 DIRECTORY FOR METALS, INCLUDING CR+6 QA/QC DATA

PROBLEM NUMBER	SAMPLE NUMBER	QA/QC ANALYTICAL SDG NUMBER	QA/QC TABLE NUMBER(PG)
2	PE305037I	PE301011I	D.1.5 (D-17)
2	PE305048F	PE301011H	D.1.4 (D-13)
2	PE305048G	PE305015I	D.1.9 (D-39)
2	PE307017D	PE301011H	D.1.4 (D-14)
2	PE307017E	PE301011I	D.1.5 (D-18)
2	PE307028D	PE302023D	D.1.6 (D-26)
2	PE307028E	PE301011I	D.1.5 (D-22)
2	PE307039D	PE302023D	D.1.6 (D-27)
2	PE307039E	PE301011I	D.1.5 (D-22)
2	PE308018D	PE301011H	D.1.4 (D-13)
2	PE308018E	PE305015I	D.1.9 (D-36)
2	PE308029C	PE305015I	D.1.9 (D-38)
2	PE308029D	PE301011H	D.1.4 (D-13)
2	PE308030D	PE301011H	D.1.4 (D-14)
2	PE308030E	PE301011I	D.1.5 (D-18)
2	PE308109B	PE301011H	D.1.4 (D-13)
2	PE308109C	PE305015I	D.1.9 (D-37)
3	PE400011D	PE400011D	D.1.11 (D-52)
3	PE400011E	PE305015I	D.1.9 (D-32)
3	PE400022D	PE400011D	D.1.11 (D-52)
3	PE400022E	PE305015I	D.1.9 (D-32)
3	PE400033D	PE400011D	D.1.11 (D-53)
3	PE400033E	PE305015I	D.1.9 (D-36)
3	PE401012D	PE400011D	D.1.11 (D-52)
3	PE401012E	PE305015I	D.1.9 (D-32)
3	PE401023D	PE400011D	D.1.11 (D-53)
3	PE401023E	PE305015I	D.1.9 (D-35)
3	PE401034D	PE400011D	D.1.11 (D-53)
3	PE401034E	PE305015I	D.1.9 (D-36)
3	PE401045B	PE305015I	D.1.9 (D-35)
3	PE401045D	PE400011D	D.1.11 (D-53)
4	PE402013D	PE400011D	D.1.11 (D-53)
4	PE402013E	PE305015I	D.1.9 (D-34)
4	PE403014D	PE400011D	D.1.11 (D-52)
4	PE403014E	PE305015I	D.1.9 (D-32)
4	PE403025D	PE400011D	D.1.11 (D-53)
4	PE403025E	PE305015I	D.1.9 (D-34)
4	PE403036D	PE400011D	D.1.11 (D-53)
4	PE403036E	PE305015I	D.1.9 (D-36)
5	PE800015C	PE800015C	D.1.12 (D-56)
5	PE800026C	PE800015C	D.1.12 (D-57)
5	PE800037C	PE800015C	D.1.12 (D-58)
5	PE800048C	PE800015C	D.1.12 (D-58)
5	PE800059C	PE800015C	D.1.12 (D-58)
5	PE800060C	PE800015C	D.1.12 (D-59)
5	PE800071C	PE800015C	D.1.12 (D-60)
5	PE800082C	PE800015C	D.1.12 (D-60)
5	PE800093C	PE800015C	D.1.12 (D-60)
5	PE800106C	PE800015C	D.1.12 (D-60)
5	PE800117C	PE800117C	D.1.13 (D-69)
5	PE800128C	PE800117C	D.1.13 (D-71)
5	PE800139C	PE800117C	D.1.13 (D-71)

TABLE D.1.1 DIRECTORY FOR METALS, INCLUDING CR+6 QA/QC DATA

PROBLEM NUMBER	SAMPLE NUMBER	QA/QC ANALYTICAL SDG NUMBER	QA/QC TABLE NUMBER(PG)
5	PE800140C	PE800117C	D.1.13 (D-71)
5	PE800151C	PE800117C	D.1.13 (D-72)
5	PE800162F	PE305015I	D.1.9 (D-33)
5	PE801016C	PE800015C	D.1.12 (D-60)
5	PE801027C	PE800015C	D.1.12 (D-60)
5	PE801038C	PE800015C	D.1.12 (D-60)
5	PE801049C	PE800015C	D.1.12 (D-61)
5	PE801050C	PE800015C	D.1.12 (D-62)
5	PE801061C	PE800015C	D.1.12 (D-62)
5	PE801072C	PE800015C	D.1.12 (D-62)
5	PE801083C	PE800117C	D.1.13 (D-67)
5	PE801094C	PE800117C	D.1.13 (D-67)
5	PE801107C	PE800117C	D.1.13 (D-68)
5	PE802017C	PE310012C	D.1.10 (D-43)
5	PE802028C	PE310012C	D.1.10 (D-43)
5	PE802039C	PE310012C	D.1.10 (D-44)
5	PE802040C	PE310012C	D.1.10 (D-45)
5	PE802051C	PE310012C	D.1.10 (D-45)
5	PE802062C	PE310012C	D.1.10 (D-47)
5	PE802073F	PE301011I	D.1.5 (D-19)
5	PE803018C	PE800117C	D.1.13 (D-72)
5	PE803029C	PE800117C	D.1.13 (D-72)
5	PE803030C	PE800117C	D.1.13 (D-72)
5	PE804019C	PE800117C	D.1.13 (D-73)
5	PE804020C	PE800117C	D.1.13 (D-73)
5	PE804031C	PE800117C	D.1.13 (D-74)
5	PE804042C	PE800117C	D.1.13 (D-74)
5	PE804053C	PE800117C	D.1.13 (D-75)
5	PE804064C	PE800117C	D.1.13 (D-75)
5	PE804075C	PE310012C	D.1.10 (D-42)
5	PE804086C	PE310012C	D.1.10 (D-42)

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TABLE D.1.2 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE300010B

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AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INITIAL CAL	INITIAL CAL	INITIAL CAL	INITIAL CAL	INITIAL CAL	PREP	PREP
TYPE OF LOCATION		TRUE A	TRUE A	FOUND A	FOUND A	BLANK 1	BLANK	BLANK 2
SAMPLE NUMBER		PE2AE1001	PE2AA1001	PE2AE2001	PE2AA2001	PE03A0001	PE03A0001	PE03B0001
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ARSENIC	F		47		46	1.7 U	0.34 U	
LEAD	F		98		103	0.3 U	0.06 U	-0.22
MERCURY	CV	5.2		4.6		0.2 U	0.02	0.02 U
THALLIUM	F		97		103	3 U	0.6 U	
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		CONTINUING	CONTINUING	CONTINUING	CONTINUING	LAB CONTROL	LAB CONTROL	LAB CONTROL
TYPE OF LOCATION		CAL TRUE	CAL FOUND	CAL FOUND	CAL BLANK	SAMPLE TRUE	SAMPLE	SAMPLE TRUE
SAMPLE NUMBER		PE2AA3001	PE2AA4001	PE2AE4001	PE03A1001	PE0710001	PE0710001	PE0720001
MATRIX		WATER	WATER	WATER	WATER	SOIL	SOIL	SOIL
UNITS		UG/L	UG/L	UG/L	UG/L	MG/KG	MG/KG	MG/KG
ENV PROBLEM NO								
ARSENIC	F	100	95		1.7 U	917	1090	
LEAD	F	100	95		0.3 U	236	261	236
MERCURY	CV			5	0.2 U	13	10	13
THALLIUM	F	20	20		3 U	39	40	
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		LAB CONTROL	CONTINUING	CONTINUING	CONTINUING	CRDL STAND	CONTINUING	CONTINUING
TYPE OF LOCATION		SAMPLE	CAL FOUND	CAL BLANK	CAL FOUND	TRUE	CAL FOUND	CAL BLANK
SAMPLE NUMBER		PE0720001	PE2AA5001	PE03A2001	PE2AE5001	PE2B10001	PE2AB4001	PE03A3001
MATRIX		SOIL	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		MG/KG	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ARSENIC	F		97	1.7 U		10	100	1.7 U
LEAD	F	243	93	0.3 U		5	94	-0.6
MERCURY	CV	12		0.2 U	4.5			0.2 U
THALLIUM	F		21	3 U		10	21	3 U
% SOLIDS								

TABLE D.1.2 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE300010B

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AREA	METHOD	QA	QA	QA	QA		QA	
LOCATION		CRDL STAND	CONTINUING	CONTINUING	CONTINUING	LICK RUN	DUPLICATE	LICK RUN
TYPE OF LOCATION		TRUE	CAL FOUND	CAL FOUND	CAL FOUND	STORM SEWER		STORM SEWER
SAMPLE NUMBER		PE2B20001	PE2AB5001	PE2AC4001	PE2AF4001	PE304014B	PE304014B	PE304025B
MATRIX		WATER	WATER	WATER	WATER	SOIL	SOIL	SOIL
UNITS		UG/L	UG/L	UG/L	UG/L	MG/KG	MG/KG	MG/KG
ENV PROBLEM NO						1	1	1
ARSENIC	F		100	96		17		28 S
LEAD	F	5	92	92		49		77
MERCURY	CV				4.6	0.1 U	0.1 U	0.11
THALLIUM	F	10				0.56 U		0.6 U
% SOLIDS						70.8	70.8	65.4

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INITIAL CAL	INITIAL CAL	INITIAL CAL	MATRIX	MS %	DUPLICATE	DUPLICATE
TYPE OF LOCATION		FOUND A	FOUND A	BLANK 2	SPIKE	RECOVERY		RPD
SAMPLE NUMBER		PE2AD2001	PE2AG2001	PE03B0001	PE303035B	PE303035B	PE803030C	PE803030C
MATRIX		WATER	WATER	WATER	SOIL		SOIL	
UNITS		UG/L	UG/L	UG/L	MG/KG	%	MG/KG	%
ENV PROBLEM NO					1	1	5	5
ARSENIC	F						5.1	4
LEAD	F	99					22	9.7
MERCURY	CV		4.8	0.2 U	0.1 UN	0.4		
THALLIUM	F						0.6 U	
% SOLIDS					70.8		86.3	

AREA	METHOD	QA	QA		QA	QA	QA	
LOCATION		MATRIX	MS %	LICK RUN	CONTINUING	CONTINUING	CONTINUING	LICK RUN
TYPE OF LOCATION		SPIKE	RECOVERY	STORM SEWER	CAL FOUND	CAL BLANK	CAL FOUND	STORM SEWER
SAMPLE NUMBER		PE804020C	PE804020C	PE304036B	PE2AD4001	PE03B4001	PE2AG4001	PE300010B
MATRIX		SOIL		SOIL	WATER	WATER	WATER	SOIL
UNITS		MG/KG	%	MG/KG	UG/L	UG/L	UG/L	MG/KG
ENV PROBLEM NO		5	5	1				1
ARSENIC	F	18	79	18		1.7 U		32 S
LEAD	F	76	103	43 S	101	-0.4		77
MERCURY	CV			0.1 U		0.2 U	4.7	0.1 U
THALLIUM	F	10	110	0.7 U				0.72 UW
% SOLIDS				72.1				66.9

TABLE D.1.2 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE300010B

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AREA	METHOD			QA	QA	QA	QA	
LOCATION		LICK RUN	LICK RUN	CONTINUING	INITIAL CAL	CONTINUING	INITIAL CAL	LICK RUN
TYPE OF LOCATION		STORM SEWER	STORM SEWER	CAL FOUND	FOUND A	CAL BLANK	BLANK 3	STORM SEWER
SAMPLE NUMBER		PE300021B	PE300032B	PE2AD5001	PE2AH2001	PE03B5001	PE03C0001	PE310012B
MATRIX		SOIL	SOIL	WATER	WATER	WATER	WATER	SOIL
UNITS		MG/KG	MG/KG	UG/L	UG/L	UG/L	UG/L	MG/KG
ENV PROBLEM NO		1	1					1
ARSENIC	F	14	13			1.7 U		9.2
LEAD	F	64	58	102		-0.6	0.3 U	18
MERCURY	CV	0.1 U	0.1 U					0.1 U
THALLIUM	F	0.6 U	0.6 U		97		3 U	0.45 U
% SOLIDS		74.1	82.1					78

AREA	METHOD		QA	QA		QA	QA	QA
LOCATION		LICK RUN	CONTINUING	CONTINUING	LICK RUN	CONTINUING	CONTINUING	CRDL STAND
TYPE OF LOCATION		STORM SEWER	CAL FOUND	CAL BLANK	STORM SEWER	CAL FOUND	CAL BLANK	FINAL
SAMPLE NUMBER		PE310023B	PE2AH4001	PE03C7001	PE310034B	PE2AH5001	PE03C8001	PE2B10001
MATRIX		SOIL	WATER	WATER	SOIL	WATER	WATER	WATER
UNITS		MG/KG	UG/L	UG/L	MG/KG	UG/L	UG/L	UG/L
ENV PROBLEM NO		1			1			
ARSENIC	F	10 E			12			10
LEAD	F	126 E		0.3 U	19 S		0.3 U	5
MERCURY	CV	0.1 U			0.1 U			
THALLIUM	F	0.65 U	18	3 U	0.72 U	19	3 U	10
% SOLIDS		77.6			67			

AREA	METHOD	QA
LOCATION		CRDL STAND
TYPE OF LOCATION		FINAL
SAMPLE NUMBER		PE2B20001
MATRIX		WATER
UNITS		UG/L
ENV PROBLEM NO		
ARSENIC	F	
LEAD	F	4.8
MERCURY	CV	
THALLIUM	F	12
% SOLIDS		

TABLE D.1.3 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE300010C DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INITIAL CAL	INITIAL CAL	INITIAL CAL	PREP	CRDL STAND	CRDL STAND	INTER CHK
TYPE OF LOCATION		TRUE A	FOUND A	BLANK 1	BLANK	TRUE	INITIAL	SOL. A TRUE
SAMPLE NUMBER		PE2AA1001	PE2AA2001	PE03A0001	PE03A0001	PE2B10001	PE2B10001	PE0400011
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P	1980	2030	28 U	5.6 U			500000
ANTIMONY	P	1010	985	26 U	5.2 U	300 U	102 U	
ARSENIC	P	494	487	112 U	22 U	500 B	595 B	
BARIUM	P	1980	1920	0.6 U	0.12 U			
BERYLLIUM	P	481	474	0.2 U	0.16 B	10	10	
CADMIUM	P	489	500	3.8 U	0.76 U	40 B	10 B	
CALCIUM	P	49800	45000	11 U	5.3 B			500000
CHROMIUM	P	506	480	7.5 U	1.5 U	20	20	
COBALT	P	474	497	3.2 U	0.64 U	100	100	
COPPER	P	542	525	2 U	0.4 U	50	52	
IRON	P	1990	2000	11 U	2.2 U			200000
LEAD	P	4510	4530	34 U	6.8 U	400	467	
MAGNESIUM	P	25000	25400	4.4 U	3.8 B			500000
MANGANESE	P	513	518	3.8 U	0.76 U	30	30	
NICKEL	P	496	493	10 U	2 U	80	90	
POTASSIUM	P	50200	50300	841 U	-545			
SELENIUM	P	982	978	89 U	18 U	800 B	796 B	
SILVER	P	509	485	3.8 U	0.76 U	60 U	19 U	
SODIUM	P	50700	49600	17 U	-4.6			
THALLIUM	F	97	104	3 U	0.6 U	10		
VANADIUM	P	511	509	7.6 U	1.5 U	100	102	
ZINC	P	3100	3020	3.5 U	0.7 U	40	44	
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INTER CHK	LAB CONTROL	LAB CONTROL	LAB CONTROL	LAB CONTROL	INTER CHK	INTER CHK
TYPE OF LOCATION		SOL. A INIT	SAMPLE TRUE	SAMPLE TRUE	SAMPLE	SAMPLE	SOL. AB TRUE	SOL. AB INIT
SAMPLE NUMBER		PE0400011	PE0710001	PE0710002	PE0710001	PE0710002	PE0400011	PE0400011
MATRIX		WATER	SOIL	SOIL	SOIL	SOIL	WATER	WATER
UNITS		UG/L	MG/KG	MG/KG	MG/KG	MG/KG	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P	494000		325		350	508000	504000
ANTIMONY	P	51		211		170		68
ARSENIC	P	-1		917		941		140
BARIUM	P	-46		4.8		-16	483	413
BERYLLIUM	P			19		18	474	456

TABLE D.1.3 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE300010C

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INTER CHK	LAB CONTROL	LAB CONTROL	LAB CONTROL	LAB CONTROL	INTER CHK	INTER CHK
TYPE OF LOCATION		SOL. A INIT	SAMPLE TRUE	SAMPLE TRUE	SAMPLE	SAMPLE	SOL. AB TRUE	SOL. AB INIT
SAMPLE NUMBER		PE0400011	PE0710001	PE0710002	PE0710001	PE0710002	PE0400011	PE0400011
MATRIX		WATER	SOIL	SOIL	SOIL	SOIL	WATER	WATER
UNITS		UG/L	MG/KG	MG/KG	MG/KG	MG/KG	UG/L	UG/L
ENV PROBLEM NO								
CADMIUM	P	21		45		40	909	894
CALCIUM	P	486000		196000		195000	570000	500000
CHROMIUM	P	-3		100		90	513	427
COBALT	P	-1		144		137	478	437
COPPER	P	12		6910		6640	534	519
IRON	P	175000		22400		20500	211000	178000
LEAD	P	-8		236		218		4560
MAGNESIUM	P	484000		118000		114000	513000	492000
MANGANESE	P	-21		208		187	470	433
NICKEL	P	-7		61		54	916	845
POTASSIUM	P	6020		50		1680		5860
SELENIUM	P	73		39		42 B		20
SILVER	P	1		22		18	993	886
SODIUM	P	-23		50		23 B		-10
THALLIUM	F		39		40			
VANADIUM	P	-8		66		62	475	452
ZINC	P	14		187		190	973	904
% SOLIDS								

AREA	METHOD				QA	QA	QA	
LOCATION		LICK RUN	LICK RUN	LICK RUN	CONTINUING	CONTINUING	CONTINUING	LICK RUN
TYPE OF LOCATION		STORM SEWER	STORM SEWER	STORM SEWER	CAL TRUE	CAL FOUND	CAL BLANK	STORM SEWER
SAMPLE NUMBER		PE304014C	PE304025C	PE304036C	PE2AA3001	PE2AA4001	PE03A1001	PE300010C
MATRIX		SOIL	SOIL	SOIL	WATER	WATER	WATER	SOIL
UNITS		MG/KG	MG/KG	MG/KG	UG/L	UG/L	UG/L	MG/KG
ENV PROBLEM NO		1	1	1				1
ALUMINUM	P	28400	21200	26500	1980	2040	28 U	27000
ANTIMONY	P	11 B	11 B	12 B	1010	995	26 U	6.5 U
ARSENIC	P	28 U	30 U	27 U	494	519	112 U	29 B
BARIUM	P	364	279	216	1980	1900	0.6 U	188
BERYLLIUM	P	2.6	2.1	2.6	481	474	0.2 U	2.5
CADMIUM	P	4 B	2.9 B	4.1 B	489	494	3.8 U	3.6 B
CALCIUM	P	31500	25500	35800	49800	49000	11 U	27100
CHROMIUM	P	44	42	38	506	475	7.5 U	50
COBALT	P	42	31	45	474	494	3.2 U	40
COPPER	P	47	44	42	542	523	2 U	41

TABLE D.1.3 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE300010C

DRAFT DO NOT CITE

AREA	METHOD				QA	QA	QA	
LOCATION		LICK RUN	LICK RUN	LICK RUN	CONTINUING	CONTINUING	CONTINUING	LICK RUN
TYPE OF LOCATION		STORM SEWER	STORM SEWER	STORM SEWER	CAL TRUE	CAL FOUND	CAL BLANK	STORM SEWER
SAMPLE NUMBER		PE304014C	PE304025C	PE304036C	PE2AA3001	PE2AA4001	PE03A1001	PE300010C
MATRIX		SOIL	SOIL	SOIL	WATER	WATER	WATER	SOIL
UNITS		MG/KG	MG/KG	MG/KG	UG/L	UG/L	UG/L	MG/KG
ENV PROBLEM NO		1	1	1				1
IRON	P	53400	40900	51800	1990	2040	11 U	47500
LEAD	P	202	72	47 B	4510	4490	34 U	66
MAGNESIUM	P	8220	6210	8640	25000	25100	4.4 U	7230
MANGANESE	P	2940	2150	2950	513	513	3.8 U	2290
NICKEL	P	80	55	70	496	485	10 U	62
POTASSIUM	P	4750	3680	3960	50200	49000	841 U	4850
SELENIUM	P	37 B	24 U	31 B	982	985	89 U	30 B
SILVER	P	0.95 U	1 U	0.91 U	509	479	3.8 U	0.94 U
SODIUM	P	548 B	469 B	491 B	50700	48600	17 U	458 B
THALLIUM	F				20	19	3 U	
VANADIUM	P	41	35	36	511	506	7.6 U	37
ZINC	P	252	197	233	3100	2990	3.5 U	251
% SOLIDS		67.9	66.5	65.8				66

AREA	METHOD			QA	QA	QA	QA	QA
LOCATION		LICK RUN	LICK RUN	DUPLICATE	MATRIX	MS %	CONTINUING	CONTINUING
TYPE OF LOCATION		STORM SEWER	STORM SEWER		SPIKE	RECOVERY	CAL FOUND	CAL BLANK
SAMPLE NUMBER		PE300021C	PE300032C	PE300032C	PE300032C	PE300032C	PE2AA5001	PE03A2001
MATRIX		SOIL	SOIL	SOIL	SOIL		WATER	WATER
UNITS		MG/KG	MG/KG	MG/KG	MG/KG	%	UG/L	UG/L
ENV PROBLEM NO		1	1	1	1	1		
ALUMINUM	P	25700	27300				2000	28 U
ANTIMONY	P	6.7 B	7.3 B				975	-26
ARSENIC	P	27 U	26 U				518	112 U
BARIUM	P	206	308				1900	0.6 U
BERYLLIUM	P	2.4	2.4				472	0.2 U
CADMIUM	P	3 B	3.1 B				488	3.8 U
CALCIUM	P	32800	34200				47500	11 U
CHROMIUM	P	47	32				466	7.5 U
COBALT	P	45	37				487	3.2 U
COPPER	P	46	37				527	5.2 B
IRON	P	44300	36200				1990	11 U
LEAD	P	67	53				4340	34 U
MAGNESIUM	P	7390	7800				24300	5.3 B
MANGANESE	P	2870	2800				499	3.8 U
NICKEL	P	71	56				488	10 U

TABLE D.1.3 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE300010C

DRAFT DO NOT CITE

AREA	METHOD			QA	QA	QA	QA	QA
LOCATION		LICK RUN	LICK RUN	DUPLICATE	MATRIX	MS %	CONTINUING	CONTINUING
TYPE OF LOCATION		STORM SEWER	STORM SEWER		SPIKE	RECOVERY	CAL FOUND	CAL BLANK
SAMPLE NUMBER		PE300021C	PE300032C	PE300032C	PE300032C	PE300032C	PE2AA5001	PE03A2001
MATRIX		SOIL	SOIL	SOIL	SOIL		WATER	WATER
UNITS		MG/KG	MG/KG	MG/KG	MG/KG	%	UG/L	UG/L
ENV PROBLEM NO		1	1	1	1	1		
POTASSIUM	P	4190	4230				53500	841 U
SELENIUM	P	22 U	20 U				953	89 U
SILVER	P	0.93 U	0.87 U				467	3.8 U
SODIUM	P	460 B	464 B				50900	-18
THALLIUM	F		0.68 U	0.7 U	11	99		
VANADIUM	P	38	29				496	7.6 U
ZINC	P	226	588				2880	3.5 U
% SOLIDS		81.2	85.8	85.8				

AREA	METHOD	QA	QA	QA
LOCATION		CRDL STAND	INTER CHK	INTER CHK
TYPE OF LOCATION		FINAL	SOL. A FINAL	SOL. AB FINA
SAMPLE NUMBER		PE2B10001	PE0400011	PE0400011
MATRIX		WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L
ENV PROBLEM NO				
ALUMINUM	P		496000	496000
ANTIMONY	P	87 U	65	32
ARSENIC	P	534 B	-2	-23
BARIUM	P		-46	410
BERYLLIUM	P	10		451
CADMIUM	P	7.4 B	18	882
CALCIUM	P		486000	490000
CHROMIUM	P	18	5	419
COBALT	P	101		434
COPPER	P	71	26	528
IRON	P		177000	176000
LEAD	P	461	42	4540
MAGNESIUM	P		486000	485000
MANGANESE	P	31	-20	424
NICKEL	P	88	-8	834
POTASSIUM	P		6740	6610
SELENIUM	P	833 B	160	52
SILVER	P	20 U		874
SODIUM	P		-32	-2
THALLIUM	F	9.3		

TABLE D.1.3 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE300010C

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA
LOCATION		CRDL STAND	INTER CHK	INTER CHK
TYPE OF LOCATION		FINAL	SOL. A FINAL	SOL. AB FINA
SAMPLE NUMBER		PE2B10001	PE0400011	PE0400011
MATRIX		WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L
ENV PROBLEM NO				
VANADIUM	P	105	-8	448
ZINC	P	46	13	882
% SOLIDS				

TABLE D.1.4 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE301011H

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INITIAL CAL	INITIAL CAL	INITIAL CAL	PREP	PREP	CRDL STAND	CRDL STAND
TYPE OF LOCATION		TRUE A	FOUND A	BLANK 1	BLANK	BLANK 2	TRUE	TRUE
SAMPLE NUMBER		PE2AA1003	PE2AA2003	PE03A0003	PE03A0003	PE03B0002	PE2B10003	PE2B20002
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ARSENIC	F	47	45	1.7 U	1.7 U		10	10
LEAD	F	98	98	0.3 U	0.3 U		5	5
MERCURY	CV	5.2	4.6	0.2 U	0.1 U	0.1 U		
THALLIUM	F	97	101	3 U	3 U		10	10
% SOLIDS								

AREA	METHOD	QA	QA				QA	QA
LOCATION		LAB CONTROL	LAB CONTROL	B. B-141	B. B-141	B. B-141	MATRIX	MS %
TYPE OF LOCATION		SAMPLE TRUE	SAMPLE	UNDGR TANK	UNDGR TANK	UNDGR TANK	SPIKE	RECOVERY
SAMPLE NUMBER		PE0710003	PE0710003	PE308018D	PE308109B	PE308029D	PE305026H	PE305026H
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	%
ENV PROBLEM NO				2	2	2	2	2
ARSENIC	F	47	47	1.7 U	1.7 U	1.7 U		
LEAD	F	98	101	4 B	1.7 B	4.2 B		
MERCURY	CV			0.22 N	0.2 UN	0.2 UN	1.5 N	30
THALLIUM	F	97	103	3 U	3 U	3 U		
% SOLIDS								

AREA	METHOD	QA	QA	QA				QA
LOCATION		CONTINUING	CONTINUING	CONTINUING	B. B-141	B. B-141	B. B-141	CONTINUING
TYPE OF LOCATION		CAL TRUE	CAL FOUND	CAL BLANK	UNDGR TANK	UNDGR TANK	UNDGR TANK	CAL FOUND
SAMPLE NUMBER		PE2AA3003	PE2AA4003	PE03A1003	PE305015H	PE305048F	PE305026H	PE2AA5003
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO					2	2	2	
ARSENIC	F	100	101	1.7 U	1.7 U	1.7 U	1.7 B	101
LEAD	F	100	90	0.3 U	61 S	27 S	71	101
MERCURY	CV	5.2	4.6	0.2 U	0.48 N	0.2 UN	1.2 N	4.8
THALLIUM	F	20	21	3 U	3 U	3 U	3 U	19
% SOLIDS								

TABLE D.1.4 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE301011H

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA		QA	QA	
LOCATION		CONTINUING CAL BLANK	CONTINUING CAL FOUND	CONTINUING CAL BLANK	B. B-141 UNDGR TANK	DUPLICATE	DUPLICATE RPD	B. B-141 UNDGR TANK
TYPE OF LOCATION								
SAMPLE NUMBER		PE03A2003	PE2AB4002	PE03A3003	PE305037H	PE305037H	PE305037H	PE307017D
MATRIX		WATER	WATER	WATER	WATER	WATER		WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	%	UG/L
ENV PROBLEM NO					2	2	2	2
ARSENIC	F	1.7 U	97	1.7 U	1.7 B			1.7 U
LEAD	F	0.3 U	104	0.3 U	63 S			14
MERCURY	CV	0.2 U	4.4	0.2 U	0.57 N	0.6	0	0.56 N
THALLIUM	F	3 U	20	3 U	3 U			3 U
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA			
LOCATION		MATRIX SPIKE	MS % RECOVERY	CONTINUING CAL FOUND	CONTINUING CAL BLANK	B. B-141 UNDGR TANK	LICK RUN STORM SEWER	LICK RUN STORM SEWER
TYPE OF LOCATION								
SAMPLE NUMBER		PE309031D	PE309031D	PE2AB5002	PE03B4002	PE308030D	PE301011H	PE301022H
MATRIX		WATER		WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	%	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		1	1			2	1	1
ARSENIC	F			99	1.7 U	1.7 U	1.7 U	1.7 U
LEAD	F			105	0.3 U	2.7 BW	4.2 S	7.8 S
MERCURY	CV	1	100	5	0.2 U	0.2 UN	0.2 UN	0.2 UN
THALLIUM	F			20	3 U	3 U	3 U	3 U
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA		
LOCATION		INITIAL CAL FOUND A	DUPLICATE	CONTINUING CAL BLANK	INITIAL CAL BLANK 3	CONTINUING CAL FOUND	LICK RUN STORM SEWER	LICK RUN STORM SEWER
TYPE OF LOCATION								
SAMPLE NUMBER		PE2AC2002	PE400011D	PE03B5002	PE03C0002	PE2AC4002	PE301033H	PE301044A
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO			3				1	1
ARSENIC	F	51			1.7 U	104	1.7 U	1.7 U
LEAD	F	96		0.3 U		107	4.1 BW	3.6 S
MERCURY	CV		0.2 U				0.2 UN	0.2 UN
THALLIUM	F	98		3 U	3 U	21	3 U	3.6 B
% SOLIDS								

TABLE D.1.4 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE301011H

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA		QA	QA
LOCATION		DUPLICATE	DUPLICATE	CONTINUING	CONTINUING	LICK RUN	MATRIX	MS %
TYPE OF LOCATION			RPD	CAL FOUND	CAL BLANK	STORM SEWER	SPIKE	RECOVERY
SAMPLE NUMBER		PE301044A	PE301044A	PE2AC5002	PE03C7002	PE302012D	PE302012D	PE302012D
MATRIX		WATER		WATER	WATER	WATER	WATER	
UNITS		UG/L	%	UG/L	UG/L	UG/L	UG/L	%
ENV PROBLEM NO		1	1			1	1	1
ARSENIC	F	1.7 U			1.7 U	1.7 U	38	96
LEAD	F	4.4	20			4.1 BW	24	98
MERCURY	CV					0.2 UN		
THALLIUM	F	3 U	200	22	3.5 B	3 U	54	109
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA			
LOCATION		CONTINUING	CONTINUING	CRDL STAND	CRDL STAND			
TYPE OF LOCATION		CAL FOUND	CAL BLANK	FINAL	FINAL			
SAMPLE NUMBER		PE2AD4002	PE03C8002	PE2B10003	PE2B20002			
MATRIX		WATER	WATER	WATER	WATER			
UNITS		UG/L	UG/L	UG/L	UG/L			
ENV PROBLEM NO								
ARSENIC	F			11	11			
LEAD	F			5.1	5.3			
MERCURY	CV							
THALLIUM	F	18	3 U	10	13			
% SOLIDS								

TABLE D.1.5 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE301011I

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INITIAL CAL	INITIAL CAL	INITIAL CAL	PREP	PREP	LAB CONTROL	LAB CONTROL
TYPE OF LOCATION		TRUE A	FOUND A	BLANK 1	BLANK	BLANK 2	SAMPLE TRUE	SAMPLE
SAMPLE NUMBER		PE2AA1002	PE2AA2002	PE03A0002	PE03A0002	PE03B0002	PE0710002	PE0710002
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P	1980	2170	28 U	-40	-46	1980	2050
ANTIMONY	P	1010	953	26 U	26 U	26 U	1010	938
ARSENIC	P	494	463	112 U	112 U	112 U	494	
BARIUM	P	1980	2010	0.6 U	-0.9	-1.5	1980	2020
BERYLLIUM	P	481	442	0.2 U	0.7 B	0.2 U	481	467
CADMIUM	P	489	494	3.8 U	3.8 U	3.8 U	489	513
CALCIUM	P	49800	50900	11 U	-20	-18	49800	48100
CHROMIUM	P	506	489	7.5 U	7.5 U	7.5 U	506	498
COBALT	P	474	496	3.2 U	3.2 U	-3.5	474	511
COPPER	P	542	543	2.4 B	2 U	2 U	542	553
IRON	P	1990	2050	11 U	11 U	11 U	1990	2030
LEAD	P	4510	4540	34 U	34 U	34 U	4510	
MAGNESIUM	P	25000	26200	4.4 U	-12	-12	25000	26200
MANGANESE	P	513	534	3.8 U	3.8 U	3.8 U	513	527
NICKEL	P	496	487	11 B	10 U	10 U	496	512
POTASSIUM	P	50200	45800	841 U	841 U	841 U	50200	53700
SELENIUM	P	982	883	89 U	89 U	89 U	982	
SILVER	P	509	464	3.8 U	73	3.8 U	509	505
SODIUM	P	50700	52600	17 U	-36	-43	50700	52400
THALLIUM	F	97	101	3 U	3 U		97	103
VANADIUM	P	511	507	7.6 U	7.6 U	7.6 U	511	521
ZINC	P	3100	3000	3.5 U	3.5 U	3.5 U	3100	3060
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INTER CHK	INTER CHK	INTER CHK	CONTINUING	INTER CHK	LAB CONTROL	LAB CONTROL
TYPE OF LOCATION		SOL. A TRUE	SOL. A INIT	SOL. AB TRUE	CAL FOUND	SOL. AB INIT	SAMPLE TRUE	SAMPLE
SAMPLE NUMBER		PE0400011	PE0400011	PE0400011	PE2AB4001	PE0400011	PE0720002	PE0720002
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P	500000	512000	508000		525000	1980	2070
ANTIMONY	P	0	106	0		-38	1010	1090
ARSENIC	P	0	326	0		88	494	
BARIUM	P	0	-44	483		448	1980	2010
BERYLLIUM	P	0	1	474		434	481	463

TABLE D.1.5 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE301011I

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INTER CHK	INTER CHK	INTER CHK	CONTINUING	INTER CHK	LAB CONTROL	LAB CONTROL
TYPE OF LOCATION		SOL. A TRUE	SOL. A INIT	SOL. AB TRUE	CAL FOUND	SOL. AB INIT	SAMPLE TRUE	SAMPLE
SAMPLE NUMBER		PE0400011	PE0400011	PE0400011	PE2AB4001	PE0400011	PE0720002	PE0720002
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
CADMIUM	P	0	34	909		940	489	510
CALCIUM	P	500000	485000	570000		501000	49800	47600
CHROMIUM	P	0	-1	513		448	506	486
COBALT	P	0	1	478		451	474	506
COPPER	P	0	12	534		529	542	548
IRON	P	200000	184000	211000		188000	1990	2010
LEAD	P	0	-19	0		4770	4510	
MAGNESIUM	P	500000	494000	513000		506000	25000	26000
MANGANESE	P	0	-24	470		447	513	526
NICKEL	P	0	-1	916		880	496	492
POTASSIUM	P	0	9040	0		9000	50200	53100
SELENIUM	P	0	233	0		134	982	
SILVER	P	0	1	993		1010	509	494
SODIUM	P	0	-32	0		-12	50700	52200
THALLIUM	F				20			
VANADIUM	P	0	-4	475		474	511	515
ZINC	P	0	12	973		902	3100	3030
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA		QA	
LOCATION		CRDL STAND	CRDL STAND	CRDL STAND	CONTINUING	B. B-141	CONTINUING	B. B-141
TYPE OF LOCATION		TRUE	TRUE	INITIAL	CAL FOUND	UNDGR TANK	CAL BLANK	UNDGR TANK
SAMPLE NUMBER		PE2B20001	PE2B10002	PE2B10002	PE2AB5001	PE305026I	PE03B4001	PE305037I
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO						2		2
ALUMINUM	P					2520		2430
ANTIMONY	P		300			26 U		26 U
ARSENIC	P		500	578		112 U		112 U
BARIUM	P					132 B		123 B
BERYLLIUM	P		10	8.9		0.96 B		1.2 B
CADMIUM	P		40	12		4.4 B		3.8 U
CALCIUM	P					43700 E		43200 E
CHROMIUM	P		20	16		95		76
COBALT	P		100	92		5.4 B		3.9 B
COPPER	P		50	50		151		134

TABLE D.1.5 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE301011I

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA		QA	
LOCATION		CRDL STAND	CRDL STAND	CRDL STAND	CONTINUING	B. B-141	CONTINUING	B. B-141
TYPE OF LOCATION		TRUE	TRUE	INITIAL	CAL FOUND	UNDGR TANK	CAL BLANK	UNDGR TANK
SAMPLE NUMBER		PE2B20001	PE2B10002	PE2B10002	PE2AB5001	PE305026I	PE03B4001	PE305037I
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO						2		2
IRON	P					23300		21200
LEAD	P		400	368		65 B		74 B
MAGNESIUM	P					12800		12700
MANGANESE	P		30	23		230		224
NICKEL	P		80	94		22 B		12 B
POTASSIUM	P					3290 B		3000 B
SELENIUM	P		800	672		89 U		89 U
SILVER	P		60	21		9.6 B		6.3 B
SODIUM	P					60300		60000
THALLIUM	F	10	10		20		3 U	
VANADIUM	P		100	94		146		132
ZINC	P		40	39		210 E		193 E
x SOLIDS								

AREA	METHOD	QA		QA		QA	QA	QA
LOCATION		CONTINUING	B. B-141	CONTINUING	B. B-141	CONTINUING	INITIAL CAL	INITIAL CAL
TYPE OF LOCATION		CAL FOUND	UNDGR TANK	CAL BLANK	UNDGR TANK	CAL TRUE	FOUND A	BLANK 3
SAMPLE NUMBER		PE2AC4001	PE307017E	PE03B5001	PE308030E	PE2AA3002	PE2AD2001	PE03C0001
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO			2		2			
ALUMINUM	P		209		42 B	1980		
ANTIMONY	P		26 U		26 U	1010		
ARSENIC	P		112 U		112 U	494		
BARIUM	P		45 B		59 B	1980		
BERYLLIUM	P		0.48 B		0.24 B	481		
CADMIUM	P		3.8 U		3.8 U	489		
CALCIUM	P		50900 E		42500 E	49800		
CHROMIUM	P		7.5 U		7.5 U	506		
COBALT	P		3.2 U		3.2 U	474		
COPPER	P		39		2.6 B	542		
IRON	P		417		965	1990		
LEAD	P		41 B		34 U	4510		
MAGNESIUM	P		18200		14500	25000		
MANGANESE	P		31		48	513		
NICKEL	P		10 U		10 U	496		

TABLE D.1.5 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE301011I DRAFT DO NOT CITE

AREA	METHOD	QA		QA		QA	QA	QA
LOCATION		CONTINUING CAL FOUND	B. B-141 UNDGR TANK	CONTINUING CAL BLANK	B. B-141 UNDGR TANK	CONTINUING CAL TRUE	INITIAL CAL FOUND A	INITIAL CAL BLANK 3
TYPE OF LOCATION								
SAMPLE NUMBER		PE2AC4001	PE307017E	PE03B5001	PE308030E	PE2AA3002	PE2AD2001	PE03C0001
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO			2		2			
POTASSIUM	P		12700		2100 B	50200		
SELENIUM	P		89 U		89 U	982		
SILVER	P		9.9 B		3.8 U	509		
SODIUM	P		70900		80800	50700		
THALLIUM	F	18		3 U		20	98	3 U
VANADIUM	P		7.6 U		7.6 U	511		
ZINC	P		620 E		73 E	3100		
% SOLIDS								

AREA	METHOD	QA	QA	QA		QA		
LOCATION		CONTINUING CAL FOUND	CONTINUING CAL BLANK	CONTINUING CAL FOUND	2.2 FIELD WASTE ACCUM	CONTINUING CAL BLANK	LICK RUN STORM SEWER	LICK RUN STORM SEWER
TYPE OF LOCATION								
SAMPLE NUMBER		PE2AA4002	PE03A1002	PE2AD4001	PE802073F	PE03C7001	PE301011I	PE301022I
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO					5		1	1
ALUMINUM	P	2120	28 U		275		74 B	40 B
ANTIMONY	P	955	26 U		27 B		26 U	26 U
ARSENIC	P	465	112 U		112 U		112 U	112 U
BARIUM	P	2040	0.6 U		10 B		46 B	46 B
BERYLLIUM	P	467	1 B		0.48 B		0.2 U	0.2 U
CADMIUM	P	515	3.8 U		3.8 U		3.8 U	3.8 U
CALCIUM	P	48400	11 U		8300 E		44800 E	46400 E
CHROMIUM	P	499	8.3 B		8.4 B		7.5 U	7.5 U
COBALT	P	512	3.2 U		3.2 U		3.2 U	3.2 U
COPPER	P	551	2.6 B		14 B		6.4 B	3 B
IRON	P	2060	11 U		759		95 B	107
LEAD	P	4590	34 U		35 B		41 B	34 U
MAGNESIUM	P	26300	-9.7		2650 B		15100	15600
MANGANESE	P	535	3.8 U		26		10 B	3.9 B
NICKEL	P	497	10 U		10 U		10 U	10 U
POTASSIUM	P	55100	841 U		841 U		3040 B	3310 B
SELENIUM	P	1040	89 U		89 U		89 U	89 U
SILVER	P	553	3.8 U		3.8 U		3.8 U	3.8 U
SODIUM	P	52900	17 U		9960		52400	54100
THALLIUM	F	21	3 U	21	3 U	3.5 B		

TABLE D.1.5 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE301011I

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA		QA		
LOCATION		CONTINUING	CONTINUING	CONTINUING	2.2 FIELD	CONTINUING	LICK RUN	LICK RUN
TYPE OF LOCATION		CAL FOUND	CAL BLANK	CAL FOUND	WASTE ACCUM	CAL BLANK	STORM SEWER	STORM SEWER
SAMPLE NUMBER		PE2AA4002	PE03A1002	PE2AD4001	PE802073F	PE03C7001	PE301011I	PE301022I
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO					5		1	1
VANADIUM	P	522	7.6 U		7.6 U		7.6 U	7.6 U
ZINC	P	3080	3.5 U		954 E		224 E	192 E
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		DUPLICATE	DUPLICATE	CONTINUING	MATRIX	MS %	CONTINUING	CONTINUING
TYPE OF LOCATION			RPD	CAL FOUND	SPIKE	RECOVERY	CAL BLANK	CAL FOUND
SAMPLE NUMBER		PE301044A	PE301044A	PE2AA5002	PE302012D	PE302012D	PE03A2002	PE2AD5001
MATRIX		WATER		WATER	WATER		WATER	WATER
UNITS		UG/L	%	UG/L	UG/L	%	UG/L	UG/L
ENV PROBLEM NO		1	1		1	1		
ALUMINUM	P			2010			-46	
ANTIMONY	P			917			26 U	
ARSENIC	P			521			112 U	
BARIUM	P			1950			-0.9	
BERYLLIUM	P			448			0.2 U	
CADMIUM	P			493			3.8 U	
CALCIUM	P			46300			11 U	
CHROMIUM	P			478			7.5 U	
COBALT	P			487			3.2 U	
COPPER	P			532			2 U	
IRON	P			1960			11 U	
LEAD	P			4440			34 U	
MAGNESIUM	P			25300			-9.9	
MANGANESE	P			504			3.8 U	
NICKEL	P			4890			10 U	
POTASSIUM	P			53400			841 U	
SELENIUM	P			939			89 U	
SILVER	P			486			3.8 U	
SODIUM	P			50800			17 U	
THALLIUM	F	3 U	200	19	54	109	3 U	22
VANADIUM	P			502			7.6 U	
ZINC	P			2960			3.5 U	
% SOLIDS								

TABLE D.1.5 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE301011I

DRAFT DO NOT CITE

AREA	METHOD	QA		QA	QA	QA	QA	QA
LOCATION		CONTINUING CAL BLANK	LICK RUN STORM SEWER	DUPLICATE	DUPLICATE RPD	MATRIX SPIKE	MS % RECOVERY	CRDL STAND FINAL
TYPE OF LOCATION								
SAMPLE NUMBER		PE03C8001	PE301033I	PE301033I	PE301033I	PE301033I	PE301033I	PE2B20001
MATRIX		WATER	WATER	WATER		WATER		WATER
UNITS		UG/L	UG/L	UG/L	%	UG/L	%	UG/L
ENV PROBLEM NO			1	1	1	1	1	
ALUMINUM	P		37 B	29 B	24	2050	101	
ANTIMONY	P		26 U	26 U		540	108	
ARSENIC	P		112 U	112 U		2210	110	
BARIUM	P		46 B	44 B	3.8	2150	105	
BERYLLIUM	P		0.2 U	0.6 B	200	54	109	
CADMIUM	P		3.8 U	3.8 U		54	108	
CALCIUM	P		46900 E	45200	3.7			
CHROMIUM	P		7.5 U	9.1 U	200	210	105	
COBALT	P		3.2 U	3.2 U		536	107	
COPPER	P		2 U	2 U		259	104	
IRON	P		50 B	55 B	10	1080	103	
LEAD	P		34 U	34 U		562	112	
MAGNESIUM	P		16300	15600	3.9			
MANGANESE	P		3.9 B	3.8 U	200	542	108	
NICKEL	P		10 U	10 U		533	107	
POTASSIUM	P		3490 B	3700 B	5.6			
SELENIUM	P		89 U	89 U		2060	103	
SILVER	P		3.8 U	3.8 U		51	102	
SODIUM	P		56800	54300	4.4			
THALLIUM	F	3 U						13
VANADIUM	P		7.6 U	7.6 U		557	112	
ZINC	P		214 E	206	3.6	741	105	
% SOLIDS								

AREA	METHOD	QA	QA		QA	QA		
LOCATION		SERIAL DILUTION	SD % DIFFERENCE	LICK RUN STORM SEWER	CONTINUING CAL FOUND	CONTINUING CAL BLANK	LICK RUN STORM SEWER	LICK RUN STORM SEWER
TYPE OF LOCATION								
SAMPLE NUMBER		PE301033I	PE301033I	PE301044B	PE2AB4002	PE03A3002	PE302012E	PE302023E
MATRIX		WATER		WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	%	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		1	1	1			1	1
ALUMINUM	P	140 B		71 B	2030	-53	185 B	260
ANTIMONY	P	130 U		26 U	1010	33 B	26 U	26 U
ARSENIC	P	560 U		112 U	518	112 U	112 U	112 U
BARIUM	P	42 B	8.6	6.2 B	1960	0.6 U	50 B	51 B
BERYLLIUM	P	1 U		0.48 B	449	1 B	0.48 B	0.72 B

TABLE D.1.5 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE3010111 DRAFT DO NOT CITE

AREA	METHOD	QA	QA		QA	QA		
LOCATION		SERIAL DILUTION	SD % DIFFERENCE	LICK RUN STORM SEWER	CONTINUING CAL FOUND	CONTINUING CAL BLANK	LICK RUN STORM SEWER	LICK RUN STORM SEWER
TYPE OF LOCATION		PE301033I	PE301033I	PE301044B	PE2AB4002	PE03A3002	PE302012E	PE302023E
SAMPLE NUMBER		WATER		WATER	WATER	WATER	WATER	WATER
MATRIX		UG/L	%	UG/L	UG/L	UG/L	UG/L	UG/L
UNITS								
ENV PROBLEM NO		1	1	1			1	1
CADMIUM	P	19 U		3.8 U	500	3.8 U	3.8 U	3.8 U
CALCIUM	P	51700 E	10	5120 E	46900	11 U	76000 E	86600 E
CHROMIUM	P	38 U		7.5 U	476	7.5 U	12	7.5 U
COBALT	P	16 U		3.2 U	497	3.2 U	3.2 B	3.2 U
COPPER	P	21 B		68	532	2 U	6 B	6.4 B
IRON	P	55 U		12 B	1980	11 U	426	523
LEAD	P	170 U		34 U	4450	34 U	34 U	34 U
MAGNESIUM	P	16900 B	3.7	1660 B	25600	-9.1	18600	20900
MANGANESE	P	19 U		7.6 B	515	3.8 U	105	120
NICKEL	P	50 U		10 U	477	10 U	10 U	10 U
POTASSIUM	P	4200 U		841 U	53600	841 U	3470 B	4880 B
SELENIUM	P	445 U		89 U	1010	89 U	89 U	89 U
SILVER	P	19 U		3.8 U	503	3.8 U	3.8 U	4.5 B
SODIUM	P	59200	4.4	6480	51300	17 U	85800	95100
THALLIUM	F					3 U		
VANADIUM	P	38 U		7.6 U	505	7.6 U	7.6 U	7.6 U
ZINC	P	252 E	18	344 E	3000	3.5 U	187 E	176 E
% SOLIDS								

AREA	METHOD		QA	QA				QA
LOCATION		LICK RUN STORM SEWER	CONTINUING CAL FOUND	CONTINUING CAL BLANK	LICK RUN STORM SEWER	B. B-141 UNDGR TANK	B. B-141 UNDGR TANK	CONTINUING CAL FOUND
TYPE OF LOCATION		PE302034E	PE2AB5002	PE03B4002	PE303046C	PE307028E	PE307039E	PE2AC4002
SAMPLE NUMBER		WATER	WATER	WATER	WATER	WATER	WATER	WATER
MATRIX		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
UNITS								
ENV PROBLEM NO		1			1	2	2	
ALUMINUM	P	220	2020	28 U	28 U	248	206	2030
ANTIMONY	P	37 B	958	26 U	26 U	26 U	28 B	963
ARSENIC	P	112 U	461	112 U	112 U	112 U	112 U	518
BARIUM	P	48 B	1990	0.6 U	5 B	49 B	31 B	1980
BERYLLIUM	P	0.48 B	456	0.5 B	0.24 B	0.2 U	0.2 U	455
CADMIUM	P	3.8 U	504	3.8 U	3.8 U	3.8 U	3.8 U	503
CALCIUM	P	86600 E	47400	11 U	4950 BE	52400 E	46400 E	47300
CHROMIUM	P	7.5 U	480	7.5 U	7.5 U	11	7.5 U	478
COBALT	P	3.2 U	498	3.2 U	3.2 U	3.2 U	3.2 U	500
COPPER	P	5.5 B	541	2 U	55	34	20 B	541

TABLE D.1.5 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE3010111

DRAFT DO NOT CITE

AREA	METHOD		QA	QA				QA
LOCATION		LICK RUN	CONTINUING	CONTINUING	LICK RUN	B. B-141	B. B-141	CONTINUING
TYPE OF LOCATION		STORM SEWER	CAL FOUND	CAL BLANK	STORM SEWER	UNDGR TANK	UNDGR TANK	CAL FOUND
SAMPLE NUMBER		PE302034E	PE2AB5002	PE03B4002	PE303046C	PE307028E	PE307039E	PE2AC4002
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		1			1	2	2	
IRON	P	499	2000	11 U	22 B	332	243	1980
LEAD	P	34 U	4570	34 U	34 U	34 U	34 U	4510
MAGNESIUM	P	18500	25800	-7.2	1540 B	18600	15700	25700
MANGANESE	P	114	521	3.8 U	14 B	54	32	518
NICKEL	P	10 U	489	-13	10 U	10 U	10 U	498
POTASSIUM	P	6630	52500	841 U	841 U	15900	10300	53100
SELENIUM	P	89 U	918	89 U	89 U	89 U	89 U	959
SILVER	P	3.8 U	495	3.8 U	3.9 B	11 B	3.8 U	497
SODIUM	P	96000	51700	17 U	5750	67500	78800	51400
THALLIUM	F							
VANADIUM	P	7.6 U	506	7.6 U	7.6 U	7.6 U	7.6 U	511
ZINC	P	156 E	3030	3.5 U	299 E	299 E	186 E	3010
% SOLIDS								

AREA	METHOD	QA				QA	QA	QA
LOCATION		CONTINUING	LICK RUN	LICK RUN	LICK RUN	CONTINUING	CONTINUING	CRDL STAND
TYPE OF LOCATION		CAL BLANK	STORM SEWER	STORM SEWER	STORM SEWER	CAL FOUND	CAL BLANK	FINAL
SAMPLE NUMBER		PE03B5002	PE309019E	PE309020E	PE309031E	PE2AC5002	PE03B6002	PE2B10002
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO			1	1	1			
ALUMINUM	P	28 U	1510	1820	1740	2080	28 U	
ANTIMONY	P	26 U	28 B	26 U	26 U	1080	26 U	112
ARSENIC	P	112 U	139 B	112 U	139 B	518	112 U	662
BARIUM	P	-1.8	23 B	21 B	18 B	2060	0.6 U	
BERYLLIUM	P	0.2 U	0.24 B	0.48 B	0.24 B	476	0.5 B	11
CADMIUM	P	3.8 U	3.8 U	3.8 U	3.8 U	525	3.8 U	13
CALCIUM	P	11 U	183000 E	219000 E	230000 E	48200	11 U	
CHROMIUM	P	7.5 U	8.3 B	13	8 B	486	7.5 U	21
COBALT	P	-3.5	7.8 B	12 B	12 B	512	3.2 U	105
COPPER	P	2 U	5.1 B	2.2 B	8.5 B	562	2 U	57
IRON	P	11 U	540	488	493	2050	11 U	
LEAD	P	34 U	34 U	34 U	34 U	4590	34 U	463
MAGNESIUM	P	-8.1	29300	37100	39400	26300	4.4 U	
MANGANESE	P	3.8 U	359	484	456	533	3.8 U	28
NICKEL	P	10 U	12 B	25 B	31 B	491	10 U	79

TABLE D.1.5 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE301011I

DRAFT DO NOT CITE

AREA	METHOD	QA				QA	QA	QA
LOCATION		CONTINUING	LICK RUN	LICK RUN	LICK RUN	CONTINUING	CONTINUING	CRDL STAND
TYPE OF LOCATION		CAL BLANK	STORM SEWER	STORM SEWER	STORM SEWER	CAL FOUND	CAL BLANK	FINAL
SAMPLE NUMBER		PE03B5002	PE309019E	PE309020E	PE309031E	PE2AC5002	PE03B6002	PE2B10002
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO			1	1	1			
POTASSIUM	P	841 U	11100	12200	12100	53700	-8810	
SELENIUM	P	89 U	89 U	89 U	89 U	1080	89 U	783
SILVER	P	3.8 U	3.8 U	3.8 U	3.8 U	508	3.8 U	20
SODIUM	P	17 U	211000	213000	213000	53600	17 U	
THALLIUM	F							10
VANADIUM	P	7.6 U	7.6 U	7.6 U	7.6 U	526	7.6 U	105
ZINC	P	3.5 U	839 E	305 E	162 E	3080	3.5 U	47
% SOLIDS								

AREA	METHOD	QA	QA
LOCATION		INTER CHK	INTER CHK
TYPE OF LOCATION		SOL. A FINAL	SOL. AB FINA
SAMPLE NUMBER		PE0400011	PE0400011
MATRIX		WATER	WATER
UNITS		UG/L	UG/L
ENV PROBLEM NO			
ALUMINUM	P	540000	542000
ANTIMONY	P	53	189
ARSENIC	P	383	319
BARIUM	P	-45	469
BERYLLIUM	P	0	471
CADMIUM	P	31	1020
CALCIUM	P	487000	495000
CHROMIUM	P	-11	453
COBALT	P	-1	479
COPPER	P	17	555
IRON	P	195000	195000
LEAD	P	-25	5020
MAGNESIUM	P	491000	492000
MANGANESE	P	-22	470
NICKEL	P	-6	911
POTASSIUM	P	7990	7090
SELENIUM	P	118	78
SILVER	P	3	984
SODIUM	P	-64	-46
THALLIUM	F		

TABLE D.1.5 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE301011I

DRAFT DO NOT CITE

	METHOD							
AREA	M	QA	QA					
LOCATION	E	INTER CHK	INTER CHK					
TYPE OF LOCATION	T	SOL. A FINAL	SOL. AB FINA					
SAMPLE NUMBER	H	PE0400011	PE0400011					
MATRIX	O	WATER	WATER					
UNITS	D	UG/L	UG/L					
ENV PROBLEM NO								
VANADIUM	P	-4	497					
ZINC	P	16	960					
% SOLIDS								

TABLE D.1.6 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE302023D

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INITIAL CAL	INITIAL CAL	INITIAL CAL	INITIAL CAL	PREP	PREP	MATRIX
TYPE OF LOCATION		TRUE A	FOUND A	BLANK 1	BLANK 2	BLANK	BLANK 2	SPIKE
SAMPLE NUMBER		PE2AA1004	PE2AA2004	PE03A0004	PE03B0003	PE03A0004	PE03B0003	PE305026H
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								2
ARSENIC	F	47	50	1.7 U		1.7 U		
LEAD	F	98	102	0.3 U		0.3 U		
MERCURY	CV	5.2	4.6		0.2 U		0.1 U	1.5 N
THALLIUM	F	97	101	3 U		3 U		
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		DUPLICATE	DUPLICATE	DUPLICATE	LAB CONTROL	LAB CONTROL	CRDL STAND	CONTINUING
TYPE OF LOCATION				RPD	SAMPLE TRUE	SAMPLE	TRUE	CAL TRUE
SAMPLE NUMBER		PE400011D	PE305037H	PE305037H	PE0710004	PE0710004	PE2B10004	PE2AA3004
MATRIX		WATER	WATER		WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	%	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		3	2	2				
ARSENIC	F				47	52	10	100
LEAD	F				98	112	5	100
MERCURY	CV	0.2 U	0.6	0				5.2
THALLIUM	F				97	104	10	20
% SOLIDS								

AREA	METHOD	QA	QA				QA	
LOCATION		CONTINUING	CONTINUING	LICK RUN	LICK RUN	LICK RUN	CONTINUING	B. B-141
TYPE OF LOCATION		CAL FOUND	CAL BLANK	STORM SEWER	STORM SEWER	STORM SEWER	CAL BLANK	UNDGR TANK
SAMPLE NUMBER		PE2AA4004	PE03A1004	PE302023D	PE302034D	PE303046B	PE03B5003	PE307028D
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO				1	1	1		2
ARSENIC	F	106	1.7 U	1.7 U	1.7 U	1.7 U		1.7 U
LEAD	F	102	0.3 U	9.3 NE	4.9 BNW	7.3 NE		1.1 BN
MERCURY	CV	4.6		0.2 U	0.2 U	0.2 U	0.2 U	0.28
THALLIUM	F	20	3 U	3 U	3 U	3 UW		3 U
% SOLIDS								

TABLE D.1.6 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE302023D DRAFT DO NOT CITE

AREA	METHOD		QA	QA	QA			QA
LOCATION		B. B-141	CONTINUING	CONTINUING	CONTINUING	LICK RUN	LICK RUN	DUPLICATE
TYPE OF LOCATION		UNDGR TANK	CAL FOUND	CAL BLANK	CAL BLANK	STORM SEWER	STORM SEWER	
SAMPLE NUMBER		PE307039D	PE2AA5004	PE03A2004	PE03B6003	PE309019D	PE309020D	PE309020D
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		2				1	1	1
ARSENIC	F	1.7 UW	107	1.7 U		1.7 U	1.7 U	1.7 U
LEAD	F	6.6 NE	100	0.3 U		10 NS	3.2 BNW	4.5 B
MERCURY	CV	0.27	4.8		0.2 U	0.2 U	0.2 U	
THALLIUM	F	3 UW	21	3 U		3 UW	3 U	3 U
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA		QA	QA
LOCATION		DUPLICATE	CONTINUING	CONTINUING	CONTINUING	LICK RUN	MATRIX	MS %
TYPE OF LOCATION		RPD	CAL FOUND	CAL BLANK	CAL BLANK	STORM SEWER	SPIKE	RECOVERY
SAMPLE NUMBER		PE309020D	PE2AB4003	PE03A3004	PE03C7003	PE309031D	PE309031D	PE309031D
MATRIX			WATER	WATER	WATER	WATER	WATER	
UNITS		%	UG/L	UG/L	UG/L	UG/L	UG/L	%
ENV PROBLEM NO		1				1	1	1
ARSENIC	F		106	1.7 U		1.7 U	39	96
LEAD	F	34	102	0.3 U		3.1 BNE	44 N	206
MERCURY	CV		4.4		0.2 U	0.2 U	1	100
THALLIUM	F		19	3 U		3 U	48	95
% SOLIDS								

AREA	METHOD	QA	QA	QA
LOCATION		CONTINUING	CONTINUING	CRDL STAND
TYPE OF LOCATION		CAL FOUND	CAL BLANK	FINAL
SAMPLE NUMBER		PE2AB5003	PE03B4003	PE2B10004
MATRIX		WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L
ENV PROBLEM NO				
ARSENIC	F	105	1.7 U	9.6
LEAD	F			5.1
MERCURY	CV	5	0.2 U	
THALLIUM	F	19	3 U	10
% SOLIDS				

TABLE D.1.7 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE302032D

DRAFT DO NOT CITE

	METHOD	
AREA		QA
LOCATION		MS %
TYPE OF LOCATION		RECOVERY
SAMPLE NUMBER		PE305026H
MATRIX		
UNITS		%
ENV PROBLEM NO		2
MERCURY	CV	30

TABLE D.1.8 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE303013B

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INITIAL CAL TRUE A	INITIAL CAL FOUND A	INITIAL CAL BLANK 1	PREP BLANK	PREP BLANK 3	CONTINUING CAL TRUE	CONTINUING CAL FOUND
TYPE OF LOCATION								
SAMPLE NUMBER		PE2AA1005	PE2AA2005	PE03A0005	PE03A0005	PE03C0004	PE2AA3005	PE2AA4005
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ARSENIC	F	47	43	1.7 U	0.34 U		100	90
LEAD	F	98	99	0.3 U	0.46 B		100	101
MERCURY	CV	5.2	4.6	0.2 U	0.02	0.2 U	5.2	5
THALLIUM	F	97	98	3 U	0.6 U		20	18
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		CONTINUING CAL BLANK	LAB CONTROL SAMPLE TRUE	LAB CONTROL SAMPLE	CRDL STAND TRUE	CRDL STAND TRUE	CRDL STAND TRUE	CRDL STAND TRUE
TYPE OF LOCATION								
SAMPLE NUMBER		PE03A1005	PE0710005	PE0710005	PE2B10005	PE2B20003	PE2B30001	PE2B40001
MATRIX		WATER	SOIL	SOIL	WATER	WATER	WATER	WATER
UNITS		UG/L	MG/KG	MG/KG	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ARSENIC	F	1.7 U	917	942	10			
LEAD	F	0.3 U	236	233		5		
MERCURY	CV	0.2 U	13	10				
THALLIUM	F	3 U	39	38			10	10
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		CONTINUING CAL FOUND	CONTINUING CAL BLANK	INITIAL CAL FOUND A	INITIAL CAL BLANK 3	CONTINUING CAL FOUND	CONTINUING CAL BLANK	DUPLICATE
TYPE OF LOCATION								
SAMPLE NUMBER		PE2AA5005	PE03A2005	PE2AC2003	PE03C0004	PE2AB4004	PE03A3005	PE304014C
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	SOIL
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	MG/KG
ENV PROBLEM NO								1
ARSENIC	F	93	1.7 U			91	1.7 U	
LEAD	F	105	0.4 B			104	0.3 U	
MERCURY	CV	4.5	0.2 U	4.8	0.2 U	4.6	0.2 U	
THALLIUM	F	19	3 U	90		20	3 U	0.6 U
% SOLIDS								

TABLE D.1.8 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE303013B

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		CONTINUING	DUPLICATE	DUPLICATE	CONTINUING	MATRIX	MS %	CONTINUING
TYPE OF LOCATION		CAL FOUND		RPD	CAL BLANK	SPIKE	RECOVERY	CAL FOUND
SAMPLE NUMBER		PE2AC4003	PE801094C	PE801094C	PE03C7004	PE802051C	PE802051C	PE2AB5004
MATRIX		WATER	SOIL		WATER	SOIL		WATER
UNITS		UG/L	MG/KG	%	UG/L	MG/KG	%	UG/L
ENV PROBLEM NO			5	5		5	5	
ARSENIC	F		4.4	26		9.4 N	65	
LEAD	F		15	18		31		
MERCURY	CV	4.7			0.2 U			
THALLIUM	F	22				10	95	19
% SOLIDS			90					

AREA	METHOD	QA		QA			QA	QA
LOCATION		INITIAL CAL	LICK RUN	CONTINUING	LICK RUN	LICK RUN	MATRIX	MS %
TYPE OF LOCATION		BLANK 2	STORM SEWER	CAL BLANK	STORM SEWER	STORM SEWER	SPIKE	RECOVERY
SAMPLE NUMBER		PE03B0004	PE303013B	PE03B4004	PE303024B	PE303035B	PE303035B	PE303035B
MATRIX		WATER	SOIL	WATER	SOIL	SOIL	SOIL	
UNITS		UG/L	MG/KG	UG/L	MG/KG	MG/KG	MG/KG	%
ENV PROBLEM NO			1		1	1	1	1
ARSENIC	F		0.27 U		12 S	8.9 S		
LEAD	F		32 E		93	46 S		
MERCURY	CV		0.29		1.8	0.1 UN	0.1 UN	0.4
THALLIUM	F	3 U	0.55 U	3 U	0.55 U	0.59 UW		
% SOLIDS			87.7		88.6	95.6		

AREA	METHOD	QA	QA	QA	QA	QA	QA
LOCATION		CONTINUING	CONTINUING	CRDL STAND	CRDL STAND	CRDL STAND	CRDL STAND
TYPE OF LOCATION		CAL FOUND	CAL BLANK	FINAL	FINAL	FINAL	FINAL
SAMPLE NUMBER		PE2AC5003	PE03B5004	PE2B10005	PE2B20003	PE2B30001	PE2B40001
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO							
ARSENIC	F			9			
LEAD	F				5.5		
MERCURY	CV						
THALLIUM	F	22	3 U			10	10
% SOLIDS							

TABLE D.1.9 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE305015I DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INITIAL CAL	INITIAL CAL	INITIAL CAL	PREP	PREP	LAB CONTROL	LAB CONTROL
TYPE OF LOCATION		TRUE A	FOUND A	BLANK 1	BLANK	BLANK 2	SAMPLE TRUE	SAMPLE
SAMPLE NUMBER		PE2AA1006	PE2AA2006	PE03A0006	PE03A0006	PE03B0005	PE0710006	PE0710006
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P	1980	2170	28 U	-40	-46	1980	2050
ANTIMONY	P	1010	953	26 U	26 U	26 U	1010	938
ARSENIC	P	494	463	112 U	112 U	112 U	494	
BARIUM	P	1980	2010	-0.9 U	-0.9	-1.5	1980	2020
BERYLLIUM	P	481	442	0.2 U	0.7 B	0.2 U	481	467
CADMIUM	P	489	494	3.8 U	3.8 U	3.8 U	489	513
CALCIUM	P	49800	50900	11 U	-20	-18	49800	48100
CHROMIUM	P	506	489	7.5 U	7.5 U	7.5 U	506	498
COBALT	P	474	496	3.2 U	3.2 U	-3.5	474	511
COPPER	P	542	543	2.4 B	2 U	2 U	542	553
IRON	P	1990	2050	11 U	11 U	11 U	1990	2030
LEAD	P	4510	4540	34 U	34 U	34 U	4510	
MAGNESIUM	P	25000	26200	4.4 U	-12	-12	25000	26200
MANGANESE	P	513	534	3.8 U	3.8 U	3.8 U	513	527
NICKEL	P	496	487	11 B	10 U	10 U	496	512
POTASSIUM	P	50200	45800	841 U	841 U	841 U	50200	53700
SELENIUM	P	982	883	89 U	89 U	89 U	982	
SILVER	P	509	464	3.8 U	73	3.8 U	509	505
SODIUM	P	50700	52600	17 U	-36	-43	50700	52400
THALLIUM	F	97	101	3 U	3 U	3 U	97	101
VANADIUM	P	511	507	7.6 U	7.6 U	7.6 U	511	521
ZINC	P	3100	3000	3.5 U	3.5 U	3.5 U	3100	3060
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		CRDL STAND	CRDL STAND	CRDL STAND	INTER CHK	CRDL STAND	INTER CHK	INTER CHK
TYPE OF LOCATION		TRUE	INITIAL	TRUE	SOL. A TRUE	TRUE	SOL. A INIT	SOL. AB TRUE
SAMPLE NUMBER		PE2B10006	PE2B10006	PE2B20004	PE0400011	PE2B30002	PE0400011	PE0400011
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P				500000		512000	508000
ANTIMONY	P	300			0		106	0
ARSENIC	P	500	578		0		326	0
BARIUM	P				0		-44	483
BERYLLIUM	P	10	8.9		0		1	474

TABLE D.1.9 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE305015I

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		CRDL STAND	CRDL STAND	CRDL STAND	INTER CHK	CRDL STAND	INTER CHK	INTER CHK
TYPE OF LOCATION		TRUE	INITIAL	TRUE	SOL. A TRUE	TRUE	SOL. A INIT	SOL. AB TRUE
SAMPLE NUMBER		PE2B10006	PE2B10006	PE2B20004	PE0400011	PE2B30002	PE0400011	PE0400011
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
CADMIUM	P	40	12		0		34	909
CALCIUM	P				500000		485000	570000
CHROMIUM	P	20	16		0		-4	513
COBALT	P	100	92		0		1	478
COPPER	P	50	50		0		12	534
IRON	P				200000		184000	211000
LEAD	P	400	368		0		-19	0
MAGNESIUM	P				500000		494000	513000
MANGANESE	P	30	23		0		-24	470
NICKEL	P	80	94		0		-1	916
POTASSIUM	P				0		9040	0
SELENIUM	P	800	672		0		233	0
SILVER	P	60	21		0		1	993
SODIUM	P				0		-32	0
THALLIUM	F	10		10		10		
VANADIUM	P	100	94		0		-4	475
ZINC	P	40	39		0		12	973
% SOLIDS								

AREA	METHOD	QA				QA		QA
LOCATION		INTER CHK	B. 62	B. 62	2.1 FIELD	INITIAL CAL	B. 62	INITIAL CAL
TYPE OF LOCATION		SOL. AB INIT	SPRING	SPRING	SPRING	FOUND A	SPRING	BLANK 3
SAMPLE NUMBER		PE0400011	PE400011E	PE401012E	PE403014E	PE2AC2004	PE400022E	PE03C0005
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO			3	3	4		3	
ALUMINUM	P	525000	28 U	28 U	28 U		28 U	
ANTIMONY	P	-38	38 B	26 U	26 U		26 U	
ARSENIC	P	88	123 B	112 U	122 B		112 U	
BARIUM	P	448	147 B	0.6 U	45 B		96 B	
BERYLLIUM	P	434	1.4 B	0.2 U	0.96 B		0.48 B	
CADMIUM	P	940	3.8 U	3.8 U	3.8 U		3.8 U	
CALCIUM	P	501000	182000 E	546000 E	135000 E		208000 E	
CHROMIUM	P	448	7.5 U	7.5 U	7.5 U		7.5 U	
COBALT	P	451	3.2 U	3.2 U	3.2 U		3.2 U	
COPPER	P	529	3.8 B	4.7 B	5.5 B		2 U	

TABLE D.1.9 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE305015I

DRAFT DO NOT CITE

AREA	METHOD	QA				QA		QA
LOCATION		INTER CHK	B. 62	B. 62	2.1 FIELD	INITIAL CAL	B. 62	INITIAL CAL
TYPE OF LOCATION		SOL. AB INIT	SPRING	SPRING	SPRING	FOUND A	SPRING	BLANK 3
SAMPLE NUMBER		PE0400011	PE400011E	PE401012E	PE403014E	PE2AC2004	PE400022E	PE03C0005
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO			3	3	4		3	
IRON	P	188000	37 B	49 B	57 B		11 U	
LEAD	P	4770	34 U	34 U	44 B		34 U	
MAGNESIUM	P	506000	26300	10700	29000		31900	
MANGANESE	P	447	504	1340	17		288	
NICKEL	P	880	10 U	10 U	10 U		10 U	
POTASSIUM	P	9080	25300	132000	5480		7580	
SELENIUM	P	134	89 U	89 U	89 U		89 U	
SILVER	P	1010	9.3 B	7.8 B	7.2 B		3.8 U	
SODIUM	P	-12	199000	43500	12600		180000	
THALLIUM	F					101		3 U
VANADIUM	P	474	7.6 U	7.6 U	7.6 U		7.6 U	
ZINC	P	902	15 B	16 B	17 B		39	
% SOLIDS								

AREA	METHOD		QA	QA	QA	QA	QA	QA
LOCATION		2.2 FIELD	CONTINUING	CONTINUING	DUPLICATE	DUPLICATE	DUPLICATE	MATRIX
TYPE OF LOCATION		WASTE ACCUM	CAL TRUE	CAL FOUND			RPD	SPIKE
SAMPLE NUMBER		PE800162F	PE2AA3006	PE2AA4006	PE401034D	PE301044A	PE301044A	PE403036D
MATRIX		WATER	WATER	WATER	WATER	WATER		WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	%	UG/L
ENV PROBLEM NO		5			3	1	1	4
ALUMINUM	P	28 B	1980	2120				
ANTIMONY	P	26 U	1010	955				
ARSENIC	P	112 U	494	465				
BARIUM	P	11 B	1980	2040				
BERYLLIUM	P	0.48 B	481	467				
CADMIUM	P	3.8 U	489	515				
CALCIUM	P	11900 E	49800	48400				
CHROMIUM	P	10	506	499				
COBALT	P	3.2 U	474	512				
COPPER	P	6 B	542	551				
IRON	P	106	1990	2060				
LEAD	P	34 U	4510	4590				
MAGNESIUM	P	3670 B	25000	26300				
MANGANESE	P	15	513	535				
NICKEL	P	37 B	496	497				

TABLE D.1.9 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE305015I

DRAFT DO NOT CITE

AREA	METHOD		QA	QA	QA	QA	QA	QA
LOCATION		2.2 FIELD	CONTINUING	CONTINUING	DUPLICATE	DUPLICATE	DUPLICATE	MATRIX
TYPE OF LOCATION		WASTE ACCUM	CAL TRUE	CAL FOUND			RPD	SPIKE
SAMPLE NUMBER		PE800162F	PE2AA3006	PE2AA4006	PE401034D	PE301044A	PE301044A	PE403036D
MATRIX		WATER	WATER	WATER	WATER	WATER		WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	%	UG/L
ENV PROBLEM NO		5			3	1	1	4
POTASSIUM	P	841 U	50200	55100				
SELENIUM	P	89 U	982	1040				
SILVER	P	5.4 B	509	553				
SODIUM	P	14800	50700	52900				
THALLIUM	F	3 U	20	19	3 U	3.6 B	200	52
VANADIUM	P	7.6 U	511	522				
ZINC	P	173	3100	3080				
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA		
LOCATION		MS %	MATRIX	MS %	CONTINUING	CONTINUING	2.1 FIELD	2.1 FIELD
TYPE OF LOCATION		RECOVERY	SPIKE	RECOVERY	CAL BLANK	CAL BLANK	SPRING	SPRING
SAMPLE NUMBER		PE403036D	PE302012D	PE302012D	PE03A1006	PE03C7005	PE403025E	PE402013E
MATRIX			WATER		WATER	WATER	WATER	WATER
UNITS		%	UG/L	%	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		4	1	1			4	4
ALUMINUM	P				28 U		28 U	28 U
ANTIMONY	P				26 U		26 U	79 B
ARSENIC	P				112 U		112 U	181 B
BARIUM	P				0.6 U		42 B	0.6 U
BERYLLIUM	P				1 B		0.96 B	0.2 U
CADMIUM	P				3.8 U		3.8 U	3.8 U
CALCIUM	P				11 U		123000 E	456000 E
CHROMIUM	P				8.3 B		7.5 U	7.5 U
COBALT	P				3.2 U		3.2 U	3.2 U
COPPER	P				2.6 B		2 U	6.4 B
IRON	P				11 U		14 B	11 U
LEAD	P				34 U		34 U	39 B
MAGNESIUM	P				-9.7		27200	77800
MANGANESE	P				3.8 U		7.9 B	437
NICKEL	P				10 U		10 U	10 U
POTASSIUM	P				841 U		5230	39500
SELENIUM	P				89 U		89 U	89 U
SILVER	P				3.8 U		3.8 U	3.8 U
SODIUM	P				17 U		11500	17 U
THALLIUM	F	104	54	109	3 U	3 U		

TABLE D.1.9 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE305015I

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA		
LOCATION		MS % RECOVERY	MATRIX SPIKE	MS % RECOVERY	CONTINUING CAL BLANK	CONTINUING CAL BLANK	2.1 FIELD SPRING	2.1 FIELD SPRING
TYPE OF LOCATION								
SAMPLE NUMBER		PE403036D	PE302012D	PE302012D	PE03A1006	PE03C7005	PE403025E	PE402013E
MATRIX			WATER		WATER	WATER	WATER	WATER
UNITS		%	UG/L	%	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		4	1	1			4	4
VANADIUM	P				7.6 U		7.6 U	7.6 U
ZINC	P				3.5 U		14 B	8.1 B
% SOLIDS								

AREA	METHOD	QA		QA		QA	QA	QA
LOCATION		CONTINUING CAL BLANK	B. 62 SPRING	CONTINUING CAL FOUND	B. 62 SPRING	CONTINUING CAL BLANK	CONTINUING CAL FOUND	CONTINUING CAL BLANK
TYPE OF LOCATION								
SAMPLE NUMBER		PE03C8005	PE401023E	PE2AD4003	PE401045B	PE03C9005	PE2AA5006	PE03A2006
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO			3		3			
ALUMINUM	P		28 U		28 U		2010	-46
ANTIMONY	P		26 U		26 U		917	26 U
ARSENIC	P		112 U		112 U		521	112 U
BARIUM	P		0.6 U		0.6 U		1950	-0.9
BERYLLIUM	P		0.2 U		0.72 B		448	0.2 U
CADMIUM	P		3.8 U		3.8 U		493	3.8 U
CALCIUM	P		569000 E		2310 BE		46300	11 U
CHROMIUM	P		7.5 U		11		478	7.5 U
COBALT	P		3.2 U		3.2 U		487	3.2 U
COPPER	P		2 U		3 B		532	2 U
IRON	P		18 B		36 B		1960	11 U
LEAD	P		34 U		34 U		4440	34 U
MAGNESIUM	P		8520		135 B		25300	-9.9
MANGANESE	P		234		3.8 U		504	3.8 U
NICKEL	P		10 U		10 U		489	10 U
POTASSIUM	P		140000		841 U		53400	841 U
SELENIUM	P		89 U		89 U		939	89 U
SILVER	P		3.8 U		3.8 U		486	3.8 U
SODIUM	P		50500		1440 B		50800	17 U
THALLIUM	F	3 U		20		3 U	21	3 U
VANADIUM	P		7.6 U		7.6 U		502	7.6 U
ZINC	P		8.2 B		11 B		2960	3.5 U
% SOLIDS								

TABLE D.1.9 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE305015I

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA			QA	QA
LOCATION		CONTINUING	CONTINUING	CONTINUING	B. 62	B. 62	CONTINUING	CONTINUING
TYPE OF LOCATION		CAL FOUND	CAL BLANK	CAL BLANK	SPRING	SPRING	CAL FOUND	CAL FOUND
SAMPLE NUMBER		PE2AD5003	PE03A3006	PE03D1001	PE400033E	PE401034E	PE2AB4005	PE2AE4001
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO					3	3		
ALUMINUM	P		-53		28 U	28 U	2030	
ANTIMONY	P		33 B		26 U	26 U	1010	
ARSENIC	P		112 U		112 U	112 U	518	
BARIUM	P		0.6 U		97 B	0.6 U	1960	
BERYLLIUM	P		1 B		0.72 B	0.2 U	449	
CADMIUM	P		3.8 U		3.8 U	3.8 U	500	
CALCIUM	P		11 U		231000 E	574000 E	46900	
CHROMIUM	P		7.5 U		7.5 U	7.6 B	476	
COBALT	P		3.2 U		3.2 U	3.2 U	497	
COPPER	P		2 U		6.4 B	3 B	532	
IRON	P		11 U		17 B	11 U	1980	
LEAD	P		34 U		34 U	34 U	4450	
MAGNESIUM	P		-9.1		38000	12100	25600	
MANGANESE	P		3.8 U		363	1580	515	
NICKEL	P		10 U		10 U	10 U	477	
POTASSIUM	P		841 U		9320	140000	53600	
SELENIUM	P		89 U		89 U	89 U	1010	
SILVER	P		3.8 U		3.8 U	6 B	503	
SODIUM	P		17 U		166000	44400	51300	
THALLIUM	F	20	3 U	3 U			22	18
VANADIUM	P		7.6 U		7.6 U	7.6 U	505	
ZINC	P		3.5 U		13 B	3.8 B	3000	
% SOLIDS								

AREA	METHOD	QA	QA	QA		QA		QA
LOCATION		CONTINUING	CONTINUING	INITIAL CAL	2.1 FIELD	INITIAL CAL	B. B-141	CONTINUING
TYPE OF LOCATION		CAL BLANK	CAL BLANK	FOUND A	SPRING	BLANK 5	UNDGR TANK	CAL FOUND
SAMPLE NUMBER		PE03B4005	PE03D1101	PE2AF2001	PE403036E	PE03E0001	PE308018E	PE2AB5005
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO					4		2	
ALUMINUM	P	28 U			28 U		28 U	2020
ANTIMONY	P	26 U			26 U		26 U	958
ARSENIC	P	112 U			112 U		112 U	461
BARIUM	P	0.6 U			40 B		35 B	1990
BERYLLIUM	P	0.5 B			0.96 B		0.72 B	456

TABLE D.1.9 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE305015I

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA		QA		QA
LOCATION		CONTINUING CAL BLANK	CONTINUING CAL BLANK	INITIAL CAL FOUND A	2.1 FIELD SPRING	INITIAL CAL BLANK 5	B. B-141 UNDGR TANK	CONTINUING CAL FOUND
TYPE OF LOCATION								
SAMPLE NUMBER		PE03B4005	PE03D1101	PE2AF2001	PE403036E	PE03E0001	PE308018E	PE2AB5005
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO					4		2	
CADMIUM	P	3.8 U			3.8 U		3.8 U	504
CALCIUM	P	11 U			119000 E		39300 E	47400
CHROMIUM	P	7.5 U			7.5 U		7.5 U	480
COBALT	P	3.2 U			3.2 U		3.2 U	498
COPPER	P	2 U			3.8 B		7.7 B	541
IRON	P	11 U			11 U		1310	2000
LEAD	P	34 U			34 U		34 U	4570
MAGNESIUM	P	-7.2			26800		13000	25800
MANGANESE	P	3.8 U			3.8 U		26	521
NICKEL	P	-13			10 U		10 U	489
POTASSIUM	P	841 U			5830		3810 B	52500
SELENIUM	P	89 U			89 U		89 U	918
SILVER	P	3.8 U			3.8 U		3.8 U	495
SODIUM	P	17 U			11900		95600	51700
THALLIUM	F	3.7 B	3 U	98		3 U		21
VANADIUM	P	7.6 U			7.6 U		7.6 U	506
ZINC	P	3.5 U			11 B		22	3030
% SOLIDS								

AREA	METHOD	QA	QA		QA	QA	QA	QA
LOCATION		CONTINUING CAL FOUND	CONTINUING CAL BLANK	B. B-141 UNDGR TANK	DUPLICATE	DUPLICATE RPD	CONTINUING CAL FOUND	MATRIX SPIKE
TYPE OF LOCATION								
SAMPLE NUMBER		PE2AF4001	PE03E1301	PE308109C	PE308109C	PE308109C	PE2AF5001	PE308109C
MATRIX		WATER	WATER	WATER	WATER		WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	%	UG/L	UG/L
ENV PROBLEM NO				2	2	2		2
ALUMINUM	P			28 U	28 U			2000
ANTIMONY	P			26 U	26 U			417
ARSENIC	P			112 U	112 U			2030
BARIUM	P			0.6 U	0.6 U			1970
BERYLLIUM	P			0.36 B	0.3 B	29		51
CADMIUM	P			3.8 U	3.8 U			52
CALCIUM	P			192 BE	60 B	104		
CHROMIUM	P			7.5 U	7.5 U			208
COBALT	P			3.2 U	3.2 U			527
COPPER	P			2 U	2 U			249

TABLE D.1.9 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE305015I

DRAFT DO NOT CITE

AREA	METHOD	QA	QA		QA	QA	QA	QA
LOCATION		CONTINUING	CONTINUING	B. B-141	DUPLICATE	DUPLICATE	CONTINUING	MATRIX
TYPE OF LOCATION		CAL FOUND	CAL BLANK	UNDGR TANK		RPD	CAL FOUND	SPIKE
SAMPLE NUMBER		PE2AF4001	PE03E1301	PE308109C	PE308109C	PE308109C	PE2AF5001	PE308109C
MATRIX		WATER	WATER	WATER	WATER		WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	%	UG/L	UG/L
ENV PROBLEM NO				2	2	2		2
IRON	P			11 U	11 U			999
LEAD	P			34 U	34 U			570
MAGNESIUM	P			34 B	7 B	132		
MANGANESE	P			3.8 U	3.8 U			530
NICKEL	P			10 U	10 U			512
POTASSIUM	P			841 U	841 U			
SELENIUM	P			89 U	89 U			1960
SILVER	P			3.8 U	3.8 U			47
SODIUM	P			593 B	444 B	29		
THALLIUM	F	21	3.5 B				22	
VANADIUM	P			7.6 U	7.6 U			543
ZINC	P			4.3 B	4.4 B	2.3		512
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA		QA	QA
LOCATION		MS %	CONTINUING	SERIAL	SD %	B. B-141	CONTINUING	CRDL STAND
TYPE OF LOCATION		RECOVERY	CAL BLANK	DILUTION	DIFFERENCE	UNDGR TANK	CAL FOUND	FINAL
SAMPLE NUMBER		PE308109C	PE03E1401	PE308109C	PE308109C	PE308029C	PE2AC4004	PE2B20004
MATRIX			WATER	WATER		WATER	WATER	WATER
UNITS		%	UG/L	UG/L	%	UG/L	UG/L	UG/L
ENV PROBLEM NO		2		2	2	2		
ALUMINUM	P	100		140 U		28 U	2030	
ANTIMONY	P	83		130 U		28 B	963	
ARSENIC	P	102		560 U		112 U	518	
BARIUM	P	99		3 U		50 B	1980	
BERYLLIUM	P	102		1.2 B		0.2 U	455	
CADMIUM	P	104		19 U		3.8 U	503	
CALCIUM	P			55 UE	71	41500 E	47300	
CHROMIUM	P	104		38 U		8.9 B	478	
COBALT	P	105		16 U		3.2 U	500	
COPPER	P	100		10 U		3.1 B	541	
IRON	P	100		55 U		1150	1980	
LEAD	P	114		170 U		34 U	4510	
MAGNESIUM	P			22 U		13900	25700	
MANGANESE	P	106		19 U		50	518	
NICKEL	P	102		50 U		10 U	498	

TABLE D.1.9 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE305015I

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA		QA	QA
LOCATION		MS % RECOVERY	CONTINUING CAL BLANK	SERIAL DILUTION	SD % DIFFERENCE	B. B-141 UNDGR TANK	CONTINUING CAL FOUND	CRDL STAND FINAL
TYPE OF LOCATION								
SAMPLE NUMBER		PE308109C	PE03E1401	PE308109C	PE308109C	PE308029C	PE2AC4004	PE2B20004
MATRIX			WATER	WATER		WATER	WATER	WATER
UNITS		%	UG/L	UG/L	%	UG/L	UG/L	UG/L
ENV PROBLEM NO		2		2	2	2		
POTASSIUM	P			4200 U		2680 B	53100	
SELENIUM	P	98		445 U		89 U	959	
SILVER	P	94		19 U		3.8 U	497	
SODIUM	P			562 B	5.3	82100	51400	
THALLIUM	F		3.0			3 U	21	10
VANADIUM	P	109		38 U		7.6 U	511	
ZINC	P	102		37 B		40	3010	

% SOLIDS

AREA	METHOD	QA	QA			QA	QA	QA
LOCATION		CONTINUING CAL BLANK	CRDL STAND FINAL	B. B-141 UNDGR TANK	B. B-141 UNDGR TANK	CONTINUING CAL FOUND	CONTINUING CAL BLANK	CRDL STAND FINAL
TYPE OF LOCATION								
SAMPLE NUMBER		PE03B5005	PE2B30002	PE305015I	PE305048G	PE2AC5004	PE03B6005	PE2B10006
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO				2	2			
ALUMINUM	P	28 U		2290	28 U	2080	28 U	
ANTIMONY	P	26 U		26 U	26 U	1080	26 U	112
ARSENIC	P	112 U		112 U	112 U	518	112 U	662
BARIUM	P	-1.8		142 B	0.6 U	2060	0.6 U	
BERYLLIUM	P	0.2 U		1.2 B	0.48 B	476	0.5 B	11
CADMIUM	P	3.8 U		3.8 U	3.8 U	525	3.8 U	13
CALCIUM	P	11 U		43300 E	99 BE	48200	11 U	
CHROMIUM	P	7.5 U		76	7.5 U	486	7.5 U	21
COBALT	P	-3.5		6.5 B	3.2 U	512	3.2 U	105
COPPER	P	2 U		145	2 U	562	2 U	57
IRON	P	11 U		20500	36 B	2050	11 U	
LEAD	P	34 U		96 B	34 U	4590	34 U	463
MAGNESIUM	P	-8.1		12600	25 B	26300	4.4 U	
MANGANESE	P	3.8 U		231	3.8 U	533	3.8 U	28
NICKEL	P	10 U		19 B	10 U	491	10 U	79
POTASSIUM	P	841 U		3620 B	841 U	53700	-8810	
SELENIUM	P	89 U		89 U	89 U	1080	89 U	783
SILVER	P	3.8 U		3.8 B	3.8 U	508	3.8 U	20
SODIUM	P	17 U		61300	483 B	53600	17 U	
THALLIUM	F		13			19		11

TABLE D.1.9 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE305015I

DRAFT DO NOT CITE

AREA	METHOD	QA	QA			QA	QA	QA
LOCATION		CONTINUING	CRDL STAND	B. B-141	B. B-141	CONTINUING	CONTINUING	CRDL STAND
TYPE OF LOCATION		CAL BLANK	FINAL	UNDGR TANK	UNDGR TANK	CAL FOUND	CAL BLANK	FINAL
SAMPLE NUMBER		PE03B5005	PE2B30002	PE305015I	PE305048G	PE2AC5004	PE03B6005	PE2B10006
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO				2	2			
VANADIUM	P	7.6 U		128	7.6 U	526	7.6 U	105
ZINC	P	3.5 U		201	22	3080	3.5 U	47
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA
LOCATION		LAB CONTROL	LAB CONTROL	INTER CHK	INTER CHK
TYPE OF LOCATION		SAMPLE TRUE	SAMPLE	SOL. A FINAL	SOL. AB FINA
SAMPLE NUMBER		PE0720001	PE0720001	PE0400011	PE0400011
MATRIX		WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO					
ALUMINUM	P	1980	2070	540000	542000
ANTIMONY	P	1010	1090	53	189
ARSENIC	P	494		383	319
BARIUM	P	1980	2010	-45	469
BERYLLIUM	P	481	463	0	471
CADMIUM	P	489	510	31	1020
CALCIUM	P	49800	47600	487000	495000
CHROMIUM	P	506	486	-11	453
COBALT	P	474	506	-1	479
COPPER	P	542	548	17	555
IRON	P	1990	2010	195000	195000
LEAD	P	4510		-25	5020
MAGNESIUM	P	25000	26000	491000	492000
MANGANESE	P	513	526	-22	470
NICKEL	P	496	492	-6	911
POTASSIUM	P	50200	53100	7990	7090
SELENIUM	P	982		118	78
SILVER	P	509	494	3	984
SODIUM	P	50700	52200	-64	-46
THALLIUM	F	97	103		
VANADIUM	P	511	515	-4	497
ZINC	P	3100	3030	16	960
% SOLIDS					

TABLE D.1.10 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE310012C

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INITIAL CAL	INITIAL CAL	INITIAL CAL	PREP	PREP	PREP	CRDL STAND
TYPE OF LOCATION		TRUE A	FOUND A	BLANK 1	BLANK	BLANK 2	BLANK 4	TRUE
SAMPLE NUMBER		PE2AA1007	PE2AA2007	PE03A0007	PE03A0007	PE03B0006	PE03D0002	PE2B10007
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P	1980	2180	28 U	5.6 U			
ANTIMONY	P	1010	937	26 U	5.2 U			300
ARSENIC	F	47	43			0.34 U		10
ARSENIC	P	494	497	112 U	22 U			500
BARIUM	P	1980	2080	0.6 U	0.12 U			
BERYLLIUM	P	481	478	0.2 U	0.12 B			10
CADMIUM	P	489	524	3.8 U	0.76 U			40
CALCIUM	P	49800	52000	11 U	4.4 B			
CHROMIUM	P	506	494	7.5 U	1.5 U			20
COBALT	P	474	509	3.2 U	0.64 U			100
COPPER	P	542	557	2 U	0.4 U			50
IRON	P	1990	2100	11 U	2.9 B			
LEAD	F	98	99			0.46 B		5
LEAD	P	4510	4650	35 B	6.8 U			400
MAGNESIUM	P	25000	26700	4.4 U	0.88 U			
MANGANESE	P	513	542	3.8 U	0.76 U			30
NICKEL	P	496	493	-17	-2.6			80
POTASSIUM	P	50200	45100	841 U	168 U			
SELENIUM	P	982	916	89 U	18 U			800
SILVER	P	509	511	3.8 U	0.76 U			60
SODIUM	P	50700	54300	17 U	-4.1			
THALLIUM	F	97	103	3 U			0.6 U	10
VANADIUM	P	511	533	7.6 U	1.5 U			100
ZINC	P	3100	3060	3.5 U	0.7 U			40
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		PREP	CRDL STAND	LAB CONTROL	LAB CONTROL	INTER CHK	INTER CHK	INTER CHK
TYPE OF LOCATION		BLANK 5	INITIAL	SAMPLE	SAMPLE TRUE	SOL. A TRUE	SOL. A INIT	SOL. AB TRUE
SAMPLE NUMBER		PE03E0002	PE2B10007	PE0710007	PE0710007	PE0400022	PE0400022	PE0400022
MATRIX		WATER	WATER	SOIL	SOIL	WATER	WATER	WATER
UNITS		UG/L	UG/L	MG/KG	MG/KG	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P			400	325	500000	513000	508000
ANTIMONY	P		49	172	211	0	87	0
ARSENIC	F			942	917			

TABLE D.1.10 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE310012C

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		PREP BLANK 5	CRDL STAND INITIAL	LAB CONTROL SAMPLE	LAB CONTROL SAMPLE TRUE	INTER CHK SOL. A TRUE	INTER CHK SOL. A INIT	INTER CHK SOL. AB TRUE
TYPE OF LOCATION								
SAMPLE NUMBER		PE03E0002	PE2B10007	PE0710007	PE0710007	PE0400022	PE0400022	PE0400022
MATRIX		WATER	WATER	SOIL	SOIL	WATER	WATER	WATER
UNITS		UG/L	UG/L	MG/KG	MG/KG	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ARSENIC	P		467	1020	917	0	467	0
BARIUM	P			-16	4.8	0	-45	483
BERYLLIUM	P		10	18	19	0	0	474
CADMIUM	P		9.1	44	45	0	22	909
CALCIUM	P			196000	196000	500000	491000	570000
CHROMIUM	P		20	93	100	0	-17	513
COBALT	P		97	146	144	0	3	478
COPPER	P		52	6770	6910	0	16	534
IRON	P			21900	22400	200000	184000	211000
LEAD	F			233	236			
LEAD	P		468	227	236	0	56	0
MAGNESIUM	P			118000	118000	500000	492000	513000
MANGANESE	P		29	200	208	0	-22	470
NICKEL	P		78	57	61	0	-20	916
POTASSIUM	P			2020	50	0	8430	0
SELENIUM	P		712	55 B	39	0	138	0
SILVER	P		16	18	22	0	2	993
SODIUM	P			29 B	50	0	-19	0
THALLIUM	F	0.6 U		40	39			
VANADIUM	P		100	66	66	0	-3	475
ZINC	P		41	197	187	0	13	973
% SOLIDS								

AREA	METHOD	QA				QA		QA
LOCATION		INTER CHK SOL. AB INIT	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	LICK RUN STORM SEWER	CRDL STAND TRUE	LICK RUN STORM SEWER	INITIAL CAL FOUND A
TYPE OF LOCATION								
SAMPLE NUMBER		PE0400022	PE804075C	PE804086C	PE310012C	PE2B20005	PE310023C	PE2AC2005
MATRIX		WATER	SOIL	SOIL	SOIL	WATER	SOIL	WATER
UNITS		UG/L	MG/KG	MG/KG	MG/KG	UG/L	MG/KG	UG/L
ENV PROBLEM NO			5	5	1		1	
ALUMINUM	P	531000	30700	37600	27400		27100	
ANTIMONY	P	117	5.9 B	10 B	15 B		6.7 B	
ARSENIC	F							
ARSENIC	P	506	43 B	32 B	58 B		73	
BARIUM	P	448	296	256	384		256	
BERYLLIUM	P	455	3.5 E	4.5 E	3 E		2.7 E	

TABLE D.1.10 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE310012C DRAFT DO NOT CITE

AREA	METHOD	QA				QA		QA
LOCATION		INTER CHK	2.2 FIELD	2.2 FIELD	LICK RUN	CRDL STAND	LICK RUN	INITIAL CAL
TYPE OF LOCATION		SOL. AB INIT	WASTE ACCUM	WASTE ACCUM	STORM SEWER	TRUE	STORM SEWER	FOUND A
SAMPLE NUMBER		PE0400022	PE804075C	PE804086C	PE310012C	PE2B20005	PE310023C	PE2AC2005
MATRIX		WATER	SOIL	SOIL	SOIL	WATER	SOIL	WATER
UNITS		UG/L	MG/KG	MG/KG	MG/KG	UG/L	MG/KG	UG/L
ENV PROBLEM NO			5	5	1		1	
CADMIUM	P	951	3.3 B	3.4 B	6.9		8.7	
CALCIUM	P	514000	117000	174000	75600		117000	
CHROMIUM	P	454	36	28	46		81	
COBALT	P	457	7.6 B	6.8 B	13		45	
COPPER	P	526	51 E	26 E	42 E		21 E	
IRON	P	191000	26900	17000	46600		66900	
LEAD	F							
LEAD	P	4850	18 B	16 B	28 B		25 B	
MAGNESIUM	P	509000	20400	29400	14700		21000	
MANGANESE	P	459	1720	1790	3470		4620	
NICKEL	P	881	42 E	16 E	22 E		18 E	
POTASSIUM	P	8170	6300 E	6160 E	4040 E		3820 E	
SELENIUM	P	110	20 U	20 U	22 U		22 U	
SILVER	P	934	0.89 B	1.8 B	0.94 U		1.5 B	
SODIUM	P	0	811 BE	1100 BE	922 BE		805 BE	
THALLIUM	F		0.62 U	0.67 U		10		97
VANADIUM	P	480	30	26	36		54	
ZINC	P	926	194	43	184		221	
% SOLIDS			90.1	87.5	78.3		79.6	

AREA	METHOD		QA		QA		QA	QA
LOCATION		LICK RUN	INITIAL CAL	2.2 FIELD	LAB CONTROL	2.2 FIELD	LAB CONTROL	CONTINUING
TYPE OF LOCATION		STORM SEWER	BLANK 2	WASTE ACCUM	SAMPLE TRUE	WASTE ACCUM	SAMPLE	CAL TRUE
SAMPLE NUMBER		PE310034C	PE03B0006	PE802017C	PE0720002	PE802028C	PE0720002	PE2AA3007
MATRIX		SOIL	WATER	SOIL	SOIL	SOIL	SOIL	WATER
UNITS		MG/KG	UG/L	MG/KG	MG/KG	MG/KG	MG/KG	UG/L
ENV PROBLEM NO		1		5		5		
ALUMINUM	P	26000		20500		32700		1980
ANTIMONY	P	13 B		15 B		14 B		1010
ARSENIC	F		1.7 U					100
ARSENIC	P	25 U		28 B		24 U		494
BARIUM	P	343		194		179		1980
BERYLLIUM	P	1.8 E		1.5 E		1.5 E		481
CADMIUM	P	6.5		6.7		6.7		489
CALCIUM	P	4100		15100		4420		49800
CHROMIUM	P	32		30		32		506

TABLE D.1.10 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE310012C

DRAFT DO NOT CITE

AREA	METHOD		QA		QA		QA	QA
LOCATION		LICK RUN	INITIAL CAL	2.2 FIELD	LAB CONTROL	2.2 FIELD	LAB CONTROL	CONTINUING
TYPE OF LOCATION		STORM SEWER	BLANK 2	WASTE ACCUM	SAMPLE TRUE	WASTE ACCUM	SAMPLE	CAL TRUE
SAMPLE NUMBER		PE310034C	PE03B0006	PE802017C	PE0720002	PE802028C	PE0720002	PE2AA3007
MATRIX		SOIL	WATER	SOIL	SOIL	SOIL	SOIL	WATER
UNITS		MG/KG	UG/L	MG/KG	MG/KG	MG/KG	MG/KG	UG/L
ENV PROBLEM NO		1		5		5		
COBALT	P	23		17		21		474
COPPER	P	34 E		48 E		34 E		542
IRON	P	62900		64800		59500		1990
LEAD	F		0.3 U					100
LEAD	P	38 B		165		25 B		4510
MAGNESIUM	P	4040		5060		5820		25000
MANGANESE	P	2040		1270		1230		513
NICKEL	P	45 E		45 E		43 E		496
POTASSIUM	P	3930 E		2930 E		5400 E		50200
SELENIUM	P	23 B		43 B		60 B		982
SILVER	P	0.86 U		0.89 U		0.81 U		509
SODIUM	P	484 BE		420 BE		323 BE		50700
THALLIUM	F		3 U	0.63 U	39	0.65 U	38	20
VANADIUM	P	45		44		45		511
ZINC	P	120		121		116		3100
% SOLIDS		71.5		85.3		80.2		

AREA	METHOD	QA	QA	QA	QA	QA		QA
LOCATION		CONTINUING	CRDL STAND	CONTINUING	CONTINUING	CONTINUING	2.2 FIELD	CONTINUING
TYPE OF LOCATION		CAL FOUND	TRUE	CAL BLANK	CAL FOUND	CAL BLANK	WASTE ACCUM	CAL FOUND
SAMPLE NUMBER		PE2AA4007	PE2B30003	PE03A1007	PE2AC4005	PE03B4006	PE802039C	PE2AC5005
MATRIX		WATER	WATER	WATER	WATER	WATER	SOIL	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	MG/KG	UG/L
ENV PROBLEM NO							5	
ALUMINUM	P	2150		28 U			14100	
ANTIMONY	P	1060		26 U			5.3 U	
ARSENIC	F	90				1.7 U		
ARSENIC	P	466		112 U			23 U	
BARIUM	P	2060		1.5 B			487	
BERYLLIUM	P	468		0.2 U			1.5 E	
CADMIUM	P	513		3.8 U			2.6 B	
CALCIUM	P	52500		11 U			32600	
CHROMIUM	P	507		7.5 U			15	
COBALT	P	510		3.2 U			8 B	
COPPER	P	560		6.8 B			19 E	
IRON	P	2100		11 U			30100	

TABLE D.1.10 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE310012C DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA		QA
LOCATION		CONTINUING	CRDL STAND	CONTINUING	CONTINUING	CONTINUING	2.2 FIELD	CONTINUING
TYPE OF LOCATION		CAL FOUND	TRUE	CAL BLANK	CAL FOUND	CAL BLANK	WASTE ACCUM	CAL FOUND
SAMPLE NUMBER		PE2AA4007	PE2B30003	PE03A1007	PE2AC4005	PE03B4006	PE802039C	PE2AC5005
MATRIX		WATER	WATER	WATER	WATER	WATER	SOIL	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	MG/KG	UG/L
ENV PROBLEM NO							5	
LEAD	F	101				0.3 U		
LEAD	P	4660		34 U			10 B	
MAGNESIUM	P	26500		4.4 U			6130	
MANGANESE	P	540		3.8 U			781	
NICKEL	P	490		10 U			16 E	
POTASSIUM	P	47000		1370 B			2520 E	
SELENIUM	P	1010		90 B			34 B	
SILVER	P	502		3.8 U			0.86 B	
SODIUM	P	53800		17 U			476 BE	
THALLIUM	F	20	10	3 U	18	3 U	0.62 U	19
VANADIUM	P	527		7.6 U			18	
ZINC	P	3070		3.5 U			54	
% SOLIDS							90.4	

AREA	METHOD		QA	QA	QA		QA	QA
LOCATION		2.2 FIELD	CONTINUING	CONTINUING	INITIAL CAL	2.2 FIELD	CONTINUING	DUPLICATE
TYPE OF LOCATION		WASTE ACCUM	CAL BLANK	CAL FOUND	FOUND A	WASTE ACCUM	CAL BLANK	
SAMPLE NUMBER		PE802040C	PE03B5006	PE2AA5007	PE2AD2004	PE802051C	PE03B6006	PE802051C
MATRIX		SOIL	WATER	WATER	WATER	SOIL	WATER	SOIL
UNITS		MG/KG	UG/L	UG/L	UG/L	MG/KG	UG/L	MG/KG
ENV PROBLEM NO		5				5		5
ALUMINUM	P	27200		2090		34200		34300
ANTIMONY	P	7 U		1040		8.8 B		5.8 U
ARSENIC	F		1.7 U	93		3.8 N	1.7 U	
ARSENIC	P	30 U		499		25 U		25 U
BARIUM	P	185		1980		153		153
BERYLLIUM	P	1.9 E		454		1.3 E		1.4
CADMIUM	P	4.8 B		501		4.8		5.4
CALCIUM	P	50200		50700		5540		5550
CHROMIUM	P	32		479		35		35
COBALT	P	17		489		20		20
COPPER	P	43 E		545		36 E		36
IRON	P	45000		2050		42500		42600
LEAD	F		0.4 B	105		32 S	0.3 U	
LEAD	P	63		4470		17 B		20 B
MAGNESIUM	P	9270		25900		6890		6900

TABLE D.1.10 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE310012C

DRAFT DO NOT CITE

AREA	METHOD		QA	QA	QA		QA	QA
LOCATION		2.2 FIELD WASTE ACCUM	CONTINUING CAL BLANK	CONTINUING CAL FOUND	INITIAL CAL FOUND A	2.2 FIELD WASTE ACCUM	CONTINUING CAL BLANK	DUPLICATE
TYPE OF LOCATION								
SAMPLE NUMBER		PE802040C	PE03B5006	PE2AA5007	PE2AD2004	PE802051C	PE03B6006	PE802051C
MATRIX		SOIL	WATER	WATER	WATER	SOIL	WATER	SOIL
UNITS		MG/KG	UG/L	UG/L	UG/L	MG/KG	UG/L	MG/KG
ENV PROBLEM NO		5				5		5
MANGANESE	P	1180		524		905		906
NICKEL	P	38 E		491		42 E		43
POTASSIUM	P	4520 E		49000		5910 E		5840
SELENIUM	P	31 B		992		36 B		42 B
SILVER	P	1 U		497		0.86 B		1.3 B
SODIUM	P	639 BE		52000		328 BE		327 B
THALLIUM	F	0.62 B	3 U	21	98	0.65 U	3 U	
VANADIUM	P	38		510		36		36
ZINC	P	135		2970		118		117
% SOLIDS		73.8				89.9		89.9

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		DUPLICATE RPD	CONTINUING CAL FOUND	MATRIX SPIKE	MS % RECOVERY	CONTINUING CAL BLANK	SERIAL DILUTION	SD % DIFFERENCE
TYPE OF LOCATION								
SAMPLE NUMBER		PE802051C	PE2AD4004	PE802051C	PE802051C	PE03C7006	PE802051C	PE802051C
MATRIX			WATER	SOIL		WATER	SOIL	
UNITS		%	UG/L	MG/KG	%	UG/L	MG/KG	%
ENV PROBLEM NO		5		5	5		5	5
ALUMINUM	P	0.2					162000	4.5
ANTIMONY	P	200		112	93		130 U	
ARSENIC	F			9.4 N	65			
ARSENIC	P			441	100		560 U	
BARIUM	P	0.3		583	97		727 B	4.6
BERYLLIUM	P	7.4		12	101		5 BE	17
CADMIUM	P	12		15	96		33 B	
CALCIUM	P	0.1					26800	6.5
CHROMIUM	P	0.3		77	96		160	1.3
COBALT	P	1		128	98		95 B	5
COPPER	P	0.3		87	92		179 E	11
IRON	P	0.1					205000	6.3
LEAD	F			31				
LEAD	P	15		130	102		170 U	
MAGNESIUM	P	0.2					33200	6.1
MANGANESE	P	0.1		958			4360	5.9
NICKEL	P	2.4		149	97		170 BE	10
POTASSIUM	P	1.2					35300 E	32

TABLE D.1.10 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE310012C

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		DUPLICATE	CONTINUING	MATRIX	MS %	CONTINUING	SERIAL	SD %
TYPE OF LOCATION		RPD	CAL FOUND	SPIKE	RECOVERY	CAL BLANK	DILUTION	DIFFERENCE
SAMPLE NUMBER		PE802051C	PE2AD4004	PE802051C	PE802051C	PE03C7006	PE802051C	PE802051C
MATRIX			WATER	SOIL		WATER	SOIL	
UNITS		%	UG/L	MG/KG	%	UG/L	MG/KG	%
ENV PROBLEM NO		5		5	5		5	5
SELENIUM	P	15		459	95		445 U	
SILVER	P	36		11	87		32 B	
SODIUM	P	0.5					1670 BE	12
THALLIUM	F		18	10	95	3 U		
VANADIUM	P	0.3		144	98		151 B	6.7
ZINC	P	0.3		222	95		581	8.9
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA		QA	
LOCATION		CONTINUING	CONTINUING	INITIAL CAL	INITIAL CAL	2.2 FIELD	CONTINUING	LICK RUN
TYPE OF LOCATION		CAL FOUND	CAL BLANK	BLANK 4	FOUND A	WASTE ACCUM	CAL BLANK	STORM SEWER
SAMPLE NUMBER		PE2AD5004	PE03A2007	PE03D0002	PE2AE2002	PE802062C	PE03D1002	PE303013C
MATRIX		WATER	WATER	WATER	WATER	SOIL	WATER	SOIL
UNITS		UG/L	UG/L	UG/L	UG/L	MG/KG	UG/L	MG/KG
ENV PROBLEM NO						5		1
ALUMINUM	P		28 U			38000		23100
ANTIMONY	P		26 U			13 B		7.1 U
ARSENIC	F							
ARSENIC	P		112 U			42 B		53 B
BARIUM	P		0.6 U			234		311
BERYLLIUM	P		0.2 U			2.2 E		2.3 E
CADMIUM	P		3.8 U			7.6		6.1
CALCIUM	P		11 B			35700		72200
CHROMIUM	P		-13			33		72
COBALT	P		3.2 U			18		13 B
COPPER	P		-3			37 E		38 E
IRON	P		20 B			55400		46500
LEAD	F							
LEAD	P		34 U			20 B		27 B
MAGNESIUM	P		4.4 U			10400		13000
MANGANESE	P		3.8 U			1840		4100
NICKEL	P		-10			34 E		20 E
POTASSIUM	P		841 U			6210 E		3660 E
SELENIUM	P		101 B			40 B		47 B
SILVER	P		3.8 U			1.4 B		2.6 B
SODIUM	P		17 U			590 BE		751 BE

TABLE D.1.10 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE310012C

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA		QA	
LOCATION		CONTINUING	CONTINUING	INITIAL CAL	INITIAL CAL	2.2 FIELD	CONTINUING	LICK RUN
TYPE OF LOCATION		CAL FOUND	CAL BLANK	BLANK 4	FOUND A	WASTE ACCUM	CAL BLANK	STORM SEWER
SAMPLE NUMBER		PE2AD5004	PE03A2007	PE03D0002	PE2AE2002	PE802062C	PE03D1002	PE303013C
MATRIX		WATER	WATER	WATER	WATER	SOIL	WATER	SOIL
UNITS		UG/L	UG/L	UG/L	UG/L	MG/KG	UG/L	MG/KG
ENV PROBLEM NO						5		1
THALLIUM	F	19	3 U	3 U	90	0.65 UW	3 U	
VANADIUM	P		7.6 U			43		45
ZINC	P		3.5 U			101		404
% SOLIDS						86.6		73.5

AREA	METHOD		QA	QA	QA		QA	QA
LOCATION		LICK RUN	DUPLICATE	DUPLICATE	CONTINUING	LICK RUN	CONTINUING	CONTINUING
TYPE OF LOCATION		STORM SEWER		RPD	CAL FOUND	STORM SEWER	CAL BLANK	CAL FOUND
SAMPLE NUMBER		PE303024C	PE801094C	PE801094C	PE2AE4002	PE303035C	PE03D1102	PE2AB4006
MATRIX		SOIL	SOIL		WATER	SOIL	WATER	WATER
UNITS		MG/KG	MG/KG	%	UG/L	MG/KG	UG/L	UG/L
ENV PROBLEM NO		1	5	5		1		
ALUMINUM	P	22400				17200		2140
ANTIMONY	P	9.3 B				11 B		1010
ARSENIC	F		4.4	26				91
ARSENIC	P	32 B				48 B		494
BARIUM	P	586				216		1980
BERYLLIUM	P	2.4 E				1.5 E		455
CADMIUM	P	6.3				4.6 B		497
CALCIUM	P	76700				56600		50300
CHROMIUM	P	54				31		479
COBALT	P	9.3 B				8.6 B		490
COPPER	P	51 E				35 E		559
IRON	P	41800				25900		2060
LEAD	F		15	18				104
LEAD	P	88				55		4480
MAGNESIUM	P	13000				9400		25600
MANGANESE	P	3330				1990		521
NICKEL	P	18 E				16 E		476
POTASSIUM	P	3160 E				2590 E		47100
SELENIUM	P	41 B				21 U		1020
SILVER	P	5.6 B				2.4 B		487
SODIUM	P	865 BE				720 BE		51800
THALLIUM	F		0.6 U		22		3 U	21
VANADIUM	P	23				19		507
ZINC	P	395				261		2940

TABLE D.1.10 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE310012C DRAFT DO NOT CITE

AREA	METHOD		QA	QA	QA		QA	QA
LOCATION		LICK RUN	DUPLICATE	DUPLICATE	CONTINUING	LICK RUN	CONTINUING	CONTINUING
TYPE OF LOCATION		STORM SEWER		RPD	CAL FOUND	STORM SEWER	CAL BLANK	CAL FOUND
SAMPLE NUMBER		PE303024C	PE801094C	PE801094C	PE2AE4002	PE303035C	PE03D1102	PE2AB4006
MATRIX		SOIL	SOIL		WATER	SOIL	WATER	WATER
UNITS		MG/KG	MG/KG	%	UG/L	MG/KG	UG/L	UG/L
ENV PROBLEM NO		1	5	5		1		
% SOLIDS		77.1	90			79.4		

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		CONTINUING	CRDL STAND	INTER CHK	MATRIX	MS %	INTER CHK	CONTINUING
TYPE OF LOCATION		CAL BLANK	FINAL	SOL. A FINAL	SPIKE	RECOVERY	SOL. AB FINA	CAL FOUND
SAMPLE NUMBER		PE03A3007	PE2B10007	PE0400022	PE804020C	PE804020C	PE0400022	PE2AE5002
MATRIX		WATER	WATER	WATER	SOIL		WATER	WATER
UNITS		UG/L	UG/L	UG/L	MG/KG	%	UG/L	UG/L
ENV PROBLEM NO					5	5		
ALUMINUM	P	28 U		512000			540000	
ANTIMONY	P	26 U	51	65			135	
ARSENIC	F		9					
ARSENIC	P	112 U	589	300			643	
BARIUM	P	0.6 U		-46			456	
BERYLLIUM	P	-0.3	9.5	0			464	
CADMIUM	P	3.8 U	11	33			995	
CALCIUM	P	11 U		496000			528000	
CHROMIUM	P	7.5 U	20	-18			451	
COBALT	P	5.2 U	102	-3			463	
COPPER	P	9.8 B	114	43			567	
IRON	P	11 U		185000			195000	
LEAD	F		5.5					
LEAD	P	34 U	442	-24			5050	
MAGNESIUM	P	4.8 B		493000			518000	
MANGANESE	P	3.8 U	33	-18			465	
NICKEL	P	-10	90	-26			894	
POTASSIUM	P	3400 B		8300			8020	
SELENIUM	P	104 B	723	147			31	
SILVER	P	5.1 B	18	4			940	
SODIUM	P	17 U		-26			-7	
THALLIUM	F		10		10	110		22
VANADIUM	P	7.6 U	104	-12			486	
ZINC	P	3.5 U	47	11			933	
% SOLIDS								

TABLE D.1.10 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE310012C

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		CONTINUING	DUPLICATE	CONTINUING	INITIAL CAL	CONTINUING	CONTINUING	CONTINUING
TYPE OF LOCATION		CAL BLANK		CAL FOUND	BLANK 5	CAL BLANK	CAL FOUND	CAL BLANK
SAMPLE NUMBER		PE03D1202	PE803030C	PE2AF4002	PE03E0002	PE03E1302	PE2AF5002	PE03E1402
MATRIX		WATER	SOIL	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	MG/KG	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO			5					
ALUMINUM	P							
ANTIMONY	P							
ARSENIC	F							
ARSENIC	P							
BARIUM	P							
BERYLLIUM	P							
CADMIUM	P							
CALCIUM	P							
CHROMIUM	P							
COBALT	P							
COPPER	P							
IRON	P							
LEAD	F							
LEAD	P							
MAGNESIUM	P							
MANGANESE	P							
NICKEL	P							
POTASSIUM	P							
SELENIUM	P							
SILVER	P							
SODIUM	P							
THALLIUM	F	3 U	0.6 U	20	3 U	3 U	19	3 U
VANADIUM	P							
ZINC	P							
% SOLIDS			90.1					

AREA	METHOD	QA	QA
LOCATION		CRDL STAND	CRDL STAND
TYPE OF LOCATION		FINAL	FINAL
SAMPLE NUMBER		PE2B20005	PE2B30003
MATRIX		WATER	WATER
UNITS		UG/L	UG/L
ENV PROBLEM NO			
ALUMINUM	P		
ANTIMONY	P		
ARSENIC	F		

TABLE D.1.10 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE310012C

DRAFT DO NOT CITE

AREA	METHOD	QA	QA
LOCATION		CRDL STAND	CRDL STAND
TYPE OF LOCATION		FINAL	FINAL
SAMPLE NUMBER		PE2B20005	PE2B30003
MATRIX		WATER	WATER
UNITS		UG/L	UG/L
ENV PROBLEM NO			
ARSENIC	P		
BARIUM	P		
BERYLLIUM	P		
CADMIUM	P		
CALCIUM	P		
CHROMIUM	P		
COBALT	P		
COPPER	P		
IRON	P		
LEAD	F		
LEAD	P		
MAGNESIUM	P		
MANGANESE	P		
NICKEL	P		
POTASSIUM	P		
SELENIUM	P		
SILVER	P		
SODIUM	P		
THALLIUM	F	12	10
VANADIUM	P		
ZINC	P		
% SOLIDS			

TABLE D.1.11 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE400011D

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INITIAL CAL	INITIAL CAL	INITIAL CAL	PREP	PREP	CRDL STAND	CRDL STAND
TYPE OF LOCATION		TRUE A	FOUND A	BLANK 1	BLANK	BLANK 2	TRUE	TRUE
SAMPLE NUMBER		PE2AA1008	PE2AA2008	PE03A0008	PE03A0008	PE03B0007	PE2B10008	PE2B20006
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ARSENIC	F	47	48	1.7 U	1.7 U		10	
LEAD	F	98	105	0.3 U	3.7 B		5	5
MERCURY	CV	5.2	4.6	0.2 U	0.1 U	0.1 U		
THALLIUM	F	97	101	3 U	3 U		10	
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA		QA	
LOCATION		LAB CONTROL	LAB CONTROL	CONTINUING	CONTINUING	B. 62	DUPLICATE	B. 62
TYPE OF LOCATION		SAMPLE TRUE	SAMPLE	CAL TRUE	CAL FOUND	SPRING		SPRING
SAMPLE NUMBER		PE0710008	PE0710008	PE2AA3008	PE2AA4008	PE400011D	PE400011D	PE401012D
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO						3	3	3
ARSENIC	F	47	45	100	97	1.7 U		1.7 U
LEAD	F	98	112	100	104	5.4 S		4.5 BW
MERCURY	CV			5.2	4.6	0.2 U	0.2 U	0.2 U
THALLIUM	F	97	101	20	19	3 U		3 U
% SOLIDS								

AREA	METHOD		QA	QA		QA	QA	QA
LOCATION		2.1 FIELD	MATRIX	MS %	B. 62	MATRIX	MS %	CONTINUING
TYPE OF LOCATION		SPRING	SPIKE	RECOVERY	SPRING	SPIKE	RECOVERY	CAL FOUND
SAMPLE NUMBER		PE403014D	PE305026H	PE305026H	PE400022D	PE309031D	PE309031D	PE2AA5008
MATRIX		WATER	WATER		WATER	WATER		WATER
UNITS		UG/L	UG/L	%	UG/L	UG/L	%	UG/L
ENV PROBLEM NO		4	2	2	3	1	1	
ARSENIC	F	1.7 U			3.7 B			94
LEAD	F	5.3 S			2.8 BW			106
MERCURY	CV	0.2 U	1.5 N	30	0.2 U	1	100	4.8
THALLIUM	F	3 U			3 U			21
% SOLIDS								

TABLE D.1.11 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE400011D

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA				QA
LOCATION		DUPLICATE	DUPLICATE RPD	CONTINUING CAL BLANK	2.1 FIELD SPRING	2.1 FIELD SPRING	B. 62 SPRING	CONTINUING CAL FOUND
TYPE OF LOCATION								
SAMPLE NUMBER		PE305037H	PE305037H	PE03A1008	PE403025D	PE402013D	PE401023D	PE2AB4007
MATRIX		WATER		WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	%	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		2	2		4	4	3	
ARSENIC	F			1.7 U	1.7 U	1.7 U	1.7 UW	98
LEAD	F			0.3 U	2.4 BW	1.8 BW	1.8 BW	104
MERCURY	CV	0.6	0	0.2 U	0.2 U	0.2 U	0.2 U	4.4
THALLIUM	F			3 U	3 U	3 U	3 U	22
% SOLIDS								

AREA	METHOD	QA			QA	QA		QA
LOCATION		CONTINUING CAL BLANK	B. 62 SPRING	B. 62 SPRING	CONTINUING CAL FOUND	CONTINUING CAL BLANK	B. 62 SPRING	DUPLICATE
TYPE OF LOCATION								
SAMPLE NUMBER		PE03A2008	PE401045D	PE400033D	PE2AB5007	PE03A3008	PE401034D	PE401034D
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO			3	3			3	3
ARSENIC	F	1.7 U	1.7 U	1.7 U	103	1.7 U	1.7 U	1.7 U
LEAD	F	0.3 U	5.4	2.8 B		0.3 U	1.8 B	4.2 B
MERCURY	CV	0.2 U	0.2 U	0.2 U	5	0.2 U	0.2 U	
THALLIUM	F	3 U	3 U	3 U	21	3 U	3 U	3 U
% SOLIDS								

AREA	METHOD	QA	QA	QA		QA	QA	QA
LOCATION		DUPLICATE RPD	INITIAL CAL FOUND A	INITIAL CAL BLANK 2	2.1 FIELD SPRING	MATRIX SPIKE	MS % RECOVERY	CONTINUING CAL FOUND
TYPE OF LOCATION								
SAMPLE NUMBER		PE401034D	PE2AC2006	PE03B0007	PE403036D	PE403036D	PE403036D	PE2AC4006
MATRIX			WATER	WATER	WATER	WATER		WATER
UNITS		%	UG/L	UG/L	UG/L	UG/L	%	UG/L
ENV PROBLEM NO		3			4	4	4	
ARSENIC	F				1.7 U	39	96	
LEAD	F	80	98	0.3 U	4.1 B	22	88	98
MERCURY	CV				0.2 U			
THALLIUM	F				3 U	52	104	
% SOLIDS								

TABLE D.1.11 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE400011D

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA
LOCATION		CONTINUING	CRDL STAND	CRDL STAND
TYPE OF LOCATION		CAL BLANK	FINAL	FINAL
SAMPLE NUMBER		PE03B4007	PE2B10008	PE2B20006
MATRIX		WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L
ENV PROBLEM NO				
ARSENIC	F	1.7 U	11	
LEAD	F	0.3 U	5.3	4.6
MERCURY	CV	0.2 U		
THALLIUM	F	3.7 B	11	
% SOLIDS				

TABLE D.1.12 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800015C DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INITIAL CAL	INITIAL CAL	INITIAL CAL	PREP	PREP	INTER CHK	INTER CHK
TYPE OF LOCATION		TRUE A	FOUND A	BLANK 1	BLANK	BLANK 2	SOL. A TRUE	SOL. A INIT
SAMPLE NUMBER		PE2AA1009	PE2AA2009	PE03A0009	PE03A0009	PE03B0008	PE0400033	PE0400033
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P	1980	2040	28 U	8.2 B	5.4 U	500000	507000
ANTIMONY	P	1010	923	26 U	7.4 B	5.2 U	0	74
ARSENIC	P	494	518	112 U	22 U	22 U	0	705
BARIUM	P	1980	1970	0.6 U	0.12 U	0.12 U	0	-46
BERYLLIUM	P	481	452	0.3 B	0.1 B	0.05 B	0	0
CADMIUM	P	489	510	3.8 U	0.76 U	1.1 B	0	35
CALCIUM	P	49800	50600	11 U	2.2 U	2.2 U	500000	491000
CHROMIUM	P	506	489	7.5 U	1.5 U	1.5 U	0	-9
COBALT	P	474	497	3.2 U	0.64 U	-0.68	0	2
COPPER	P	542	537	2 U	0.52 B	1.9 B	0	16
IRON	P	1990	2040	11 U	2.2 U	2.2 U	200000	186000
LEAD	P	4510	4600	34 U	-9	-9.6	0	32
MAGNESIUM	P	25000	25800	4.4 U	-1.3	-0.92	500000	486000
MANGANESE	P	513	524	3.8 U	0.76 U	0.76 U	0	-20
NICKEL	P	496	493	18 U	2 U	2.7 B	0	-1
POTASSIUM	P	50200	50400	841 U	168 U	168 U	0	7470
SELENIUM	P	982	939	89 U	18 U	18 U	0	59
SILVER	P	509	499	3.8 U	28	0.76 U	0	3
SODIUM	P	50700	51100	17 U	3.4 U	3.4 U	0	-14
THALLIUM	F	97	105	3 U	0.6 U	0.6 U		
VANADIUM	P	511	505	7.6 U	1.5 U	1.5 U	0	-7
ZINC	P	3100	3040	3.5 U	0.7 U	0.7 U	0	13
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INTER CHK	INTER CHK	CRDL STAND	CRDL STAND	LAB CONTROL	LAB CONTROL	CONTINUING
TYPE OF LOCATION		SOL. AB TRUE	SOL. AB INIT	TRUE	INITIAL	SAMPLE TRUE	SAMPLE	CAL TRUE
SAMPLE NUMBER		PE0400033	PE0400033	PE2B10009	PE2B10009	PE0710009	PE0710009	PE2AA3009
MATRIX		WATER	WATER	WATER	WATER	SOIL	SOIL	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	MG/KG	MG/KG	UG/L
ENV PROBLEM NO								
ALUMINUM	P	508000	531000			325	379	1980
ANTIMONY	P	0	133	300	86	211	187	1010
ARSENIC	P	0	964	500	521	917	1060	494
BARIUM	P	483	448			4.8	-16	1980
BERYLLIUM	P	474	460	10	12	19	18	481

TABLE D.1.12 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800015C DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INTER CHK	INTER CHK	CRDL STAND	CRDL STAND	LAB CONTROL	LAB CONTROL	CONTINUING
TYPE OF LOCATION		SOL. AB TRUE	SOL. AB INIT	TRUE	INITIAL	SAMPLE TRUE	SAMPLE	CAL TRUE
SAMPLE NUMBER		PE0400033	PE0400033	PE2B10009	PE2B10009	PE0710009	PE0710009	PE2AA3009
MATRIX		WATER	WATER	WATER	WATER	SOIL	SOIL	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	MG/KG	MG/KG	UG/L
ENV PROBLEM NO								
CADMIUM	P	909	993	40	9.4	45	44	489
CALCIUM	P	570000	519000			196000	194000	49800
CHROMIUM	P	513	451	20	27	100	95	506
COBALT	P	478	464	100	110	144	146	474
COPPER	P	534	535	50	64	6910	6720	542
IRON	P	211000	194000			22400	22400	1990
LEAD	P	0	4980	400	448	236	223	4510
MAGNESIUM	P	513000	508000			118000	116000	25000
MANGANESE	P	470	471	30	32	208	204	513
NICKEL	P	916	891	80	97	61	59	496
POTASSIUM	P	0	7670			50	2820	50200
SELENIUM	P	0	163	800	809	39	39 B	982
SILVER	P	993	958	60	18	22	19	509
SODIUM	P	0	3.8			50	29 B	50700
THALLIUM	F			10		39	35	20
VANADIUM	P	475	484	100	117	66	65	511
ZINC	P	973	953	40	48	187	200	3100
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	
LOCATION		CONTINUING	CONTINUING	CRDL STAND	LAB CONTROL	LAB CONTROL	CRDL STAND	2.2 FIELD
TYPE OF LOCATION		CAL FOUND	CAL BLANK	TRUE	SAMPLE TRUE	SAMPLE	TRUE	WASTE ACCUM
SAMPLE NUMBER		PE2AA4009	PE03A1009	PE2B20007	PE0720003	PE0720003	PE2B30004	PE800015C
MATRIX		WATER	WATER	WATER	SOIL	SOIL	WATER	SOIL
UNITS		UG/L	UG/L	UG/L	MG/KG	MG/KG	UG/L	MG/KG
ENV PROBLEM NO								5
ALUMINUM	P	2040	28 U		325	403		19200
ANTIMONY	P	926	26 U		211	177		5.8 B
ARSENIC	P	530	112 U		917	1080		24 U
BARIUM	P	1950	0.6 U		4.8	-16		100
BERYLLIUM	P	453	0.8 B		19	18		1.2 E
CADMIUM	P	486	3.8 U		45	45		2.9 B
CALCIUM	P	50100	11 U		196000	198000		3850 E
CHROMIUM	P	488	7.5 U		100	95		35 E
COBALT	P	489	3.2 U		144	145		17
COPPER	P	532	2 U		6910	6730		29 E

TABLE D.1.12 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800015C

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AREA	METHOD	QA	QA	QA	QA	QA	QA	
LOCATION		CONTINUING CAL FOUND	CONTINUING CAL BLANK	CRDL STAND TRUE	LAB CONTROL SAMPLE TRUE	LAB CONTROL SAMPLE	CRDL STAND TRUE	2.2 FIELD WASTE ACCUM
TYPE OF LOCATION								
SAMPLE NUMBER		PE2AA4009	PE03A1009	PE2B20007	PE0720003	PE0720003	PE2B30004	PE800015C
MATRIX		WATER	WATER	WATER	SOIL	SOIL	WATER	SOIL
UNITS		UG/L	UG/L	UG/L	MG/KG	MG/KG	UG/L	MG/KG
ENV PROBLEM NO								5
IRON	P	2110	11 U		22400	21700		35200
LEAD	P	4430	34 U		236	228		7.4 U
MAGNESIUM	P	25500	-4.7		118000	117000		6970
MANGANESE	P	522	3.8 U		208	201		455
NICKEL	P	489	10 U		61	59		46 E
POTASSIUM	P	53800	841 U		50	3260		2870 E
SELENIUM	P	971	89 U		39	48 B		19 U
SILVER	P	485	3.8 U		22	18		8.4
SODIUM	P	50400	17 U		50	29 B		169 BE
THALLIUM	F	18	3.3 B	10	39	38	10	0.61 U
VANADIUM	P	499	7.6 U		66	64		30
ZINC	P	2960	3.5 U		187	199		100 E
% SOLIDS								91.5

AREA	METHOD	QA		QA	QA	QA	QA	QA
LOCATION		CRDL STAND TRUE	2.2 FIELD WASTE ACCUM	DUPLICATE	DUPLICATE RPD	MATRIX SPIKE	MS % RECOVERY	SERIAL DILUTION
TYPE OF LOCATION								
SAMPLE NUMBER		PE2B40002	PE800026C	PE800026C	PE800026C	PE800026C	PE800026C	PE800026C
MATRIX		WATER	SOIL	SOIL		SOIL		SOIL
UNITS		UG/L	MG/KG	MG/KG	%	MG/KG	%	MG/KG
ENV PROBLEM NO			5	5	5	5	5	5
ALUMINUM	P		19100	19200	0.5			96400
ANTIMONY	P		9.9 B	14 B	36	110	95	130 U
ARSENIC	P		24 U	24 U		423	100	560 U
BARIUM	P		119	120	0.8	527	96	594 B
BERYLLIUM	P		1.2 E	1.2	0	12	102	7.9 BE
CADMIUM	P		4.6	5.2	12	16	110	26 B
CALCIUM	P		2430 E	2450	0.5			12800 BE
CHROMIUM	P		31 E	30	1	71	96	168 E
COBALT	P		20	21	6.9	121	96	89 B
COPPER	P		28 E	29	1.4	78	94	234 E
IRON	P		47000	47300	0.5			242000
LEAD	P		7.2 U	7.2 U		108	103	170 U
MAGNESIUM	P		6740	6780	0.6			34500
MANGANESE	P		691	695	0.6	680		3540
NICKEL	P		44 E	44	1.1	147	98	238 E

TABLE D.1.12 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800015C

DRAFT DO NOT CITE

AREA	METHOD	QA		QA	QA	QA	QA	QA
LOCATION		CRDL STAND	2.2 FIELD	DUPLICATE	DUPLICATE	MATRIX	MS %	SERIAL
TYPE OF LOCATION		TRUE	WASTE ACCUM		RPD	SPIKE	RECOVERY	DILUTION
SAMPLE NUMBER		PE2B40002	PE800026C	PE800026C	PE800026C	PE800026C	PE800026C	PE800026C
MATRIX		WATER	SOIL	SOIL		SOIL		SOIL
UNITS		UG/L	MG/KG	MG/KG	%	MG/KG	%	MG/KG
ENV PROBLEM NO			5	5	5	5	5	5
POTASSIUM	P		2720 E	2720	0			24900 BE
SELENIUM	P		19 U	19 U		431	102	445 U
SILVER	P		2.8 B	1.9 B	38	11	81	19 U
SODIUM	P		173 BE	174 B	0.6			1720 BE
THALLIUM	F	10	0.6 B	0.6 U	200			
VANADIUM	P		30	30	0.3	136	101	135 B
ZINC	P		96 E	97	1.1	198	96	568 E
% SOLIDS			94.6	91.5				

AREA	METHOD	QA	QA	QA				QA
LOCATION		SD %	CONTINUING	CONTINUING	2.2 FIELD	2.2 FIELD	2.2 FIELD	MATRIX
TYPE OF LOCATION		DIFFERENCE	CAL FOUND	CAL BLANK	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	SPIKE
SAMPLE NUMBER		PE800026C	PE2AA5009	PE03A2009	PE800037C	PE800048C	PE800059C	PE800059C
MATRIX			WATER	WATER	SOIL	SOIL	SOIL	SOIL
UNITS		%	UG/L	UG/L	MG/KG	MG/KG	MG/KG	MG/KG
ENV PROBLEM NO		5			5	5	5	5
ALUMINUM	P	6.7	2140	34 B	18000	23700	23900	
ANTIMONY	P		1020	26 U	16 B	9.3 B	17 B	
ARSENIC	P		532	112 U	30 B	24 U	23 U	
BARIUM	P	5.2	2020	0.6 U	105	112	115	
BERYLLIUM	P	36	471	0.8 B	1.2 E	2 E	1.5 E	
CADMIUM	P		505	3.8 U	5.4	4 B	5.6	
CALCIUM	P	11	52000	11 U	17600 E	28800 E	10800 E	
CHROMIUM	P	16	499	7.5 U	28 E	32 E	37 E	
COBALT	P	3.7	509	3.2 U	19	18	20	
COPPER	P	76	553	2.2 B	27 E	27 E	35 E	
IRON	P	8.8	2130	11 U	42000	37600	53800	
LEAD	P		4600	-48	7.2 U	7.6 B	7.1 U	
MAGNESIUM	P	8.4	26600	-5.4	6520	11300	8380	
MANGANESE	P	8.2	544	3.8 U	658	744	700	
NICKEL	P	14	514	10 U	41 E	36 E	51 E	
POTASSIUM	P	94	54300	841 U	2890 E	3850 E	3540 E	
SELENIUM	P		900	89 U	25 B	19 U	25 B	
SILVER	P		508	3.8 U	1.9 B	1.4 B	1.1 B	
SODIUM	P	110	52700	17 U	223 BE	376 BE	221 BE	
THALLIUM	F		18	3 U	0.63 U	0.6 U	0.59 B	10

TABLE D.1.12 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800015C

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA				QA
LOCATION		SD x	CONTINUING	CONTINUING	2.2 FIELD	2.2 FIELD	2.2 FIELD	MATRIX
TYPE OF LOCATION		DIFFERENCE	CAL FOUND	CAL BLANK	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	SPIKE
SAMPLE NUMBER		PE800026C	PE2AA5009	PE03A2009	PE800037C	PE800048C	PE800059C	PE800059C
MATRIX			WATER	WATER	SOIL	SOIL	SOIL	SOIL
UNITS		x	UG/L	UG/L	MG/KG	MG/KG	MG/KG	MG/KG
ENV PROBLEM NO		5			5	5	5	5
VANADIUM	P	3.9	518	7.6 U	31	30	36	
ZINC	P	24	3070	3.5 U	94 E	90 E	107 E	
% SOLIDS					93.6	92.6	95.8	

AREA	METHOD	QA		QA	QA	QA	QA	QA
LOCATION		MS x	2.2 FIELD	CONTINUING	INITIAL CAL	CONTINUING	INITIAL CAL	INITIAL CAL
TYPE OF LOCATION		RECOVERY	WASTE ACCUM	CAL FOUND	BLANK 2	CAL BLANK	FOUND A	BLANK 3
SAMPLE NUMBER		PE800059C	PE800060C	PE2AB4008	PE03B0007	PE03A3009	PE2AD2005	PE03C0007
MATRIX			SOIL	WATER	WATER	WATER	WATER	WATER
UNITS		x	MG/KG	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		5	5					
ALUMINUM	P		17000	2000		28 U		
ANTIMONY	P		6.7 B	924		26 U		
ARSENIC	P		24 U	496		112 U		
BARIUM	P		176	1960		0.6 U		
BERYLLIUM	P		1 BE	451		1 B		
CADMIUM	P		4.7	493		3.8 U		
CALCIUM	P		9050 E	50800		11 U		
CHROMIUM	P		32 E	489		7.5 U		
COBALT	P		18	490		3.2 U		
COPPER	P		24 E	544		8.7 B		
IRON	P		40900	2020		11 U		
LEAD	P		7.2 U	4500		34 U		
MAGNESIUM	P		6300	25200		-4.6		
MANGANESE	P		1380	517		3.8 U		
NICKEL	P		38 E	504		11 B		
POTASSIUM	P		2680 E	55400		841 U		
SELENIUM	P		19 U	908		89 U		
SILVER	P		0.83 B	477		3.8 U		
SODIUM	P		189 BE	50000		17 U		
THALLIUM	F	95	0.62 U	20	3 U	3 U	103	3 U
VANADIUM	P		28	498		7.6 U		
ZINC	P		90 E	2960		3.5 U		
% SOLIDS			93.8					

TABLE D.1.12 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800015C

DRAFT DO NOT CITE

AREA	METHOD		QA		QA		QA	QA
LOCATION		2.2 FIELD	CONTINUING	2.2 FIELD	CONTINUING	2.2 FIELD	CONTINUING	CONTINUING
TYPE OF LOCATION		WASTE ACCUM	CAL FOUND	WASTE ACCUM	CAL BLANK	WASTE ACCUM	CAL FOUND	CAL BLANK
SAMPLE NUMBER		PE800071C	PE2AD4005	PE800082C	PE03C7007	PE800093C	PE2AB5008	PE03B4008
MATRIX		SOIL	WATER	SOIL	WATER	SOIL	WATER	WATER
UNITS		MG/KG	UG/L	MG/KG	UG/L	MG/KG	UG/L	UG/L
ENV PROBLEM NO		5		5		5		
ALUMINUM	P	24500		19000		16200	1970	28 U
ANTIMONY	P	13 B		14 B		7.8 B	928	26 U
ARSENIC	P	33 U		39 B		23 U	495	112 U
BARIUM	P	143		108		131	1940	0.6 U
BERYLLIUM	P	1.8 E		1.1 E		1 BE	446	0.8 B
CADMIUM	P	6.1		3.5 B		4.8	491	3.8 U
CALCIUM	P	14400 E		4850 E		18200 E	50100	11 U
CHROMIUM	P	41 E		38 E		39 E	487	7.5 U
COBALT	P	27		19		18	484	3.2 U
COPPER	P	37 E		28 E		26 E	539	6.5 B
IRON	P	57000		33700		35600	1990	11 U
LEAD	P	12 B		7.1 U		7 U	4400	-69
MAGNESIUM	P	9330		6770		6140	25000	4.4 U
MANGANESE	P	1090		479		1190	509	3.8 U
NICKEL	P	61 E		44 E		40 E	494	10 U
POTASSIUM	P	3710 E		2540 E		2390 E	55400	841 U
SELENIUM	P	26 U		19 U		29 B	999	89 U
SILVER	P	1.4 B		1.7 B		1.4 B	466	3.8 U
SODIUM	P	216 BE		160 BE		209 BE	49400	17 U
THALLIUM	F	0.85 U	20	0.6 UW	3 U	0.75 B	18	3 U
VANADIUM	P	44		26		26	495	7.6 U
ZINC	P	132 E		100 E		92 E	2910	3.5 U
% SOLIDS		67.7		94.5		96.7		

AREA	METHOD	QA		QA				QA
LOCATION		CONTINUING	2.2 FIELD	CONTINUING	2.2 FIELD	2.2 FIELD	2.2 FIELD	MATRIX
TYPE OF LOCATION		CAL FOUND	WASTE ACCUM	CAL BLANK	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	SPIKE
SAMPLE NUMBER		PE2AD5005	PE800106C	PE03C8007	PE801016C	PE801027C	PE801038C	PE802051C
MATRIX		WATER	SOIL	WATER	SOIL	SOIL	SOIL	SOIL
UNITS		UG/L	MG/KG	UG/L	MG/KG	MG/KG	MG/KG	MG/KG
ENV PROBLEM NO			5		5	5	5	5
ALUMINUM	P		19400		22200	23700	21800	
ANTIMONY	P		17 B		5.8 U	8.9 B	18 B	
ARSENIC	P		24 U		25 U	26 U	26 U	
BARIUM	P		132		242	218	238	
BERYLLIUM	P		1.3 E		1.4 E	1.7 E	1.3 E	

TABLE D.1.12 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800015C

DRAFT DO NOT CITE

AREA	METHOD	QA		QA				QA
LOCATION		CONTINUING	2.2 FIELD	CONTINUING	2.2 FIELD	2.2 FIELD	2.2 FIELD	MATRIX
TYPE OF LOCATION		CAL FOUND	WASTE ACCUM	CAL BLANK	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	SPIKE
SAMPLE NUMBER		PE2AD5005	PE800106C	PE03C8007	PE801016C	PE801027C	PE801038C	PE802051C
MATRIX		WATER	SOIL	WATER	SOIL	SOIL	SOIL	SOIL
UNITS		UG/L	MG/KG	UG/L	MG/KG	MG/KG	MG/KG	MG/KG
ENV PROBLEM NO			5		5	5	5	5
CADMIUM	P		5.2		5.4	5.4	4.9	
CALCIUM	P		8060 E		4390 E	2280 E	3530 E	
CHROMIUM	P		29 E		33 E	32 E	31 E	
COBALT	P		19		19	22	27	
COPPER	P		30 E		33 E	38 E	32 E	
IRON	P		50800		40200	51900	44600	
LEAD	P		7.1 U		7.7 B	17 B	17 B	
MAGNESIUM	P		7180		5160	4480	5280	
MANGANESE	P		741		925	1200	1360	
NICKEL	P		42 E		42 E	46 E	39 E	
POTASSIUM	P		3000 E		3560 E	4090 E	3080 E	
SELENIUM	P		19 U		20 U	29 B	20 U	
SILVER	P		0.8 U		1.7 B	1.5 B	1.7 B	
SODIUM	P		190 BE		814 BE	278 BE	585 BE	
THALLIUM	F	21	0.59 U	3 U	1.2 B	0.66 U	0.8 B	10
VANADIUM	P		31		34	38	37	
ZINC	P		96 E		96 E	114 E	92 E	
% SOLIDS			94.7		89	85.9	87.7	91.5

AREA	METHOD	QA		QA	QA	QA	QA	QA
LOCATION		MS %	2.2 FIELD	CONTINUING	INITIAL CAL	CONTINUING	INITIAL CAL	CONTINUING
TYPE OF LOCATION		RECOVERY	WASTE ACCUM	CAL FOUND	FOUND A	CAL BLANK	BLANK 4	CAL FOUND
SAMPLE NUMBER		PE802051C	PE801049C	PE2AC4007	PE2AE2003	PE03B5008	PE03D0003	PE2AE4003
MATRIX			SOIL	WATER	WATER	WATER	WATER	WATER
UNITS		%	MG/KG	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		5	5					
ALUMINUM	P		24700	1990		28 U		
ANTIMONY	P		6 B	997		31 B		
ARSENIC	P		25 U	463		112 U		
BARIUM	P		178	1950		-1.2		
BERYLLIUM	P		1.6 E	451		0.3 B		
CADMIUM	P		4 B	492		3.8 U		
CALCIUM	P		1810 E	50500		11 U		
CHROMIUM	P		34 E	484		7.5 U		
COBALT	P		25	490		5.2 B		
COPPER	P		41 E	548		7.9 B		

TABLE D.1.12 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800015C DRAFT DO NOT CITE

AREA	METHOD	QA		QA	QA	QA	QA	QA
LOCATION		MS % RECOVERY	2.2 FIELD WASTE ACCUM	CONTINUING CAL FOUND	INITIAL CAL FOUND A	CONTINUING CAL BLANK	INITIAL CAL BLANK 4	CONTINUING CAL FOUND
TYPE OF LOCATION								
SAMPLE NUMBER		PE802051C	PE801049C	PE2AC4007	PE2AE2003	PE03B5008	PE03D0003	PE2AE4003
MATRIX			SOIL	WATER	WATER	WATER	WATER	WATER
UNITS		%	MG/KG	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		5	5					
IRON	P		40600	2000		11 U		
LEAD	P		7.7 U	4470		34 U		
MAGNESIUM	P		4730	25200		4.4 U		
MANGANESE	P		952	515		3.8 U		
NICKEL	P		44 E	511		10 U		
POTASSIUM	P		4810 E	54300		841 U		
SELENIUM	P		34 B	924		89 U		
SILVER	P		0.86 U	477		4.7 B		
SODIUM	P		241 BE	49700		17 U		
THALLIUM	F	95	0.63 U	21	98	3 U	3 U	18
VANADIUM	P		37	501		7.6 U		
ZINC	P		105 E	2950		3.5 U		
% SOLIDS			88.6					

AREA	METHOD				QA	QA	QA	QA
LOCATION		2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	CONTINUING CAL FOUND	CONTINUING CAL FOUND	CONTINUING CAL BLANK	CONTINUING CAL FOUND
TYPE OF LOCATION								
SAMPLE NUMBER		PE801050C	PE801061C	PE801072C	PE2AC5007	PE2AE5003	PE03B6008	PE2AF4003
MATRIX		SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER
UNITS		MG/KG	MG/KG	MG/KG	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		5	5	5				
ALUMINUM	P	20700	18500	25500	1920		28 U	
ANTIMONY	P	16 B	19 B	12 B	927		26 U	
ARSENIC	P	23 U	31 B	24 U	496		112 U	
BARIUM	P	62	127	104	1910		0.6 U	
BERYLLIUM	P	1.1 E	1.4 E	1.4 E	440		1 B	
CADMIUM	P	5	4.7	4.9	484		3.9 B	
CALCIUM	P	2520 E	4130 E	3490 E	49200		11 U	
CHROMIUM	P	33 E	27 E	36 E	472		7.5 U	
COBALT	P	20	19	21	475		3.2 U	
COPPER	P	30 E	36 E	30 E	527		7.4 B	
IRON	P	43800	46300	44900	1950		11 U	
LEAD	P	7.1 U	13 B	14 B	4290		34 U	
MAGNESIUM	P	8440	3420	6300	24500		4.4 U	
MANGANESE	P	873	811	989	500		3.8 U	
NICKEL	P	36 E	33 E	38 E	483		13 B	

TABLE D.1.12 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800015C

DRAFT DO NOT CITE

AREA	METHOD				QA	QA	QA	QA
LOCATION		2.2 FIELD	2.2 FIELD	2.2 FIELD	CONTINUING	CONTINUING	CONTINUING	CONTINUING
TYPE OF LOCATION		WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CAL FOUND	CAL FOUND	CAL BLANK	CAL FOUND
SAMPLE NUMBER		PE801050C	PE801061C	PE801072C	PE2AC5007	PE2AE5003	PE03B6008	PE2AF4003
MATRIX		SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER
UNITS		MG/KG	MG/KG	MG/KG	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		5	5	5				
POTASSIUM	P	2710 E	3110 E	3710 E	55200		841 U	
SELENIUM	P	19 U	20 U	32 B	963		89 U	
SILVER	P	1.5 B	1 B	1 B	462		3.8 U	
SODIUM	P	178 BE	187 BE	221 BE	48200		17 U	
THALLIUM	F	0.61 U	0.65 U	0.58 U		19	3 U	20
VANADIUM	P	33	34	40	484		7.6 U	
ZINC	P	101 E	87 E	100 E	2840		3.5 U	
% SOLIDS		95.6	88.1	92.3				

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		CRDL STAND	CONTINUING	INTER CHK	INTER CHK	CONTINUING	INITIAL CAL	CONTINUING
TYPE OF LOCATION		FINAL	CAL BLANK	SOL. A FINAL	SOL. AB FINA	CAL FOUND	FOUND A	CAL BLANK
SAMPLE NUMBER		PE2BI0009	PE03D1003	PE0400033	PE0400033	PE2AF5003	PE2AG2001	PE03D1103
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P			503000	511000			
ANTIMONY	P	83		136	106			
ARSENIC	P	562		591	521			
BARIUM	P			-49	436			
BERYLLIUM	P	11		0	448			
CADMIUM	P	9.3		30	969			
CALCIUM	P			585000	520000			
CHROMIUM	P	9.8		19	452			
COBALT	P	107		-1	457			
COPPER	P	126		29	537			
IRON	P			186000	188000			
LEAD	P	417		29	4880			
MAGNESIUM	P			491000	498000			
MANGANESE	P	31		-21	455			
NICKEL	P	100		16	872			
POTASSIUM	P			12400	13200			
SELENIUM	P	743		421	-115			
SILVER	P	16		-2	927			
SODIUM	P			-37	-13			
THALLIUM	F	13	3 U			19	90	3 U

TABLE D.1.12 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800015C DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		CRDL STAND	CONTINUING	INTER CHK	INTER CHK	CONTINUING	INITIAL CAL	CONTINUING
TYPE OF LOCATION		FINAL	CAL BLANK	SOL. A FINAL	SOL. AB FINA	CAL FOUND	FOUND A	CAL BLANK
SAMPLE NUMBER		PE2B10009	PE03D1003	PE0400033	PE0400033	PE2AF5003	PE2AG2001	PE03D1103
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
VANADIUM	P	104		-2	459			
ZINC	P	48		10	921			
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		CONTINUING	CONTINUING	CONTINUING	CONTINUING	CONTINUING	CRDL STAND	CRDL STAND
TYPE OF LOCATION		CAL FOUND	CAL BLANK	CAL FOUND	CAL BLANK	CAL BLANK	FINAL	FINAL
SAMPLE NUMBER		PE2AG4001	PE03D1203	PE2AG5001	PE03E1303	PE03E1304	PE2B20007	PE2B30004
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P							
ANTIMONY	P							
ARSENIC	P							
BARIUM	P							
BERYLLIUM	P							
CADMIUM	P							
CALCIUM	P							
CHROMIUM	P							
COBALT	P							
COPPER	P							
IRON	P							
LEAD	P							
MAGNESIUM	P							
MANGANESE	P							
NICKEL	P							
POTASSIUM	P							
SELENIUM	P							
SILVER	P							
SODIUM	P							
THALLIUM	F	22	3 U	22	3 U	3 U	11	10
VANADIUM	P							
ZINC	P							
% SOLIDS								

TABLE D.1.12 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800015C

DRAFT DO NOT CITE

AREA	METHOD	QA
LOCATION		CRDL STAND
TYPE OF LOCATION		FINAL
SAMPLE NUMBER		PE2B40002
MATRIX		WATER
UNITS		UG/L
ENV PROBLEM NO		
ALUMINUM	P	
ANTIMONY	P	
ARSENIC	P	
BARIUM	P	
BERYLLIUM	P	
CADMIUM	P	
CALCIUM	P	
CHROMIUM	P	
COBALT	P	
COPPER	P	
IRON	P	
LEAD	P	
MAGNESIUM	P	
MANGANESE	P	
NICKEL	P	
POTASSIUM	P	
SELENIUM	P	
SILVER	P	
SODIUM	P	
THALLIUM	F	10
VANADIUM	P	
ZINC	P	
% SOLIDS		

TABLE D.1.13 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800117C

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INITIAL CAL	INITIAL CAL	INITIAL CAL	PREP	PREP	PREP	PREP
TYPE OF LOCATION		TRUE A	FOUND A	BLANK 1	BLANK	BLANK 2	BLANK 3	BLANK 4
SAMPLE NUMBER		PE2AA1010	PE2AA2010	PE03A0010	PE03A0010	PE03B0009	PE03C0008	PE03D0004
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P	1980	2040	28 U	8.2 B	5.6 U		
ANTIMONY	P	1010	923	26 U	7.4 B	5.2 U		
ARSENIC	F	47	46				0.34 U	
ARSENIC	P	494	518	112 U	22 U	22 U		
BARIUM	P	1980	1970	0.6 U	0.12 U	0.12 U		
BERYLLIUM	P	481	452	0.3 B	0.1 B	0.05 B		
CADMIUM	P	489	510	3.8 U	0.76 U	1.1 B		
CALCIUM	P	49800	50600	11 U	2.2 U	2.2 U		
CHROMIUM	P	506	489	7.5 U	1.5 U	1.5 U		
COBALT	P	474	497	3.2 U	0.64 U	-0.68		
COPPER	P	542	537	2 U	0.52 B	1.9 B		
IRON	P	1990	2040	11 U	2.2 U	2.2 U		
LEAD	F	98	103	0.3 U			0.46 B	-0.22
LEAD	P	4510	4600	34 U	-9	-9.6		
MAGNESIUM	P	25000	25800	4.4 U	-1.3	-0.92		
MANGANESE	P	513	524	3.8 U	0.76 U	0.76 U		
NICKEL	P	497	493	10 U	2 U	2.7 B		
POTASSIUM	P	50200	50400	841 U	168 U	168 U		
SELENIUM	P	982	939	89 U	18 U	18 U		
SILVER	P	509	499	3.8 U	28	0.76 U		
SODIUM	P	50700	51100	17 U	3.4 U	3.4 U		
THALLIUM	F	97	103	3 U	0.6 U			
VANADIUM	P	511	505	7.6 U	1.5 U	1.5 U		
ZINC	P	3100	3040	3.5 U	0.7 U	0.7 U		
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		LAB CONTROL	LAB CONTROL	PREP	INTER CHK	INTER CHK	INTER CHK	INTER CHK
TYPE OF LOCATION		SAMPLE TRUE	SAMPLE	BLANK 5	SOL. A TRUE	SOL. A INIT	SOL. AB TRUE	SOL. AB INIT
SAMPLE NUMBER		PE0710010	PE0710010	PE03E0004	PE0400044	PE0400044	PE0400044	PE0400044
MATRIX		SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
UNITS		MG/KG	MG/KG	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P	325	379		50000	56800	50800	531000
ANTIMONY	P	211	187		0	74	0	133
ARSENIC	F	917	1090	0.34 U				

TABLE D.1.13 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800117C

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		LAB CONTROL	LAB CONTROL	PREP	INTER CHK	INTER CHK	INTER CHK	INTER CHK
TYPE OF LOCATION		SAMPLE TRUE	SAMPLE	BLANK 5	SOL. A TRUE	SOL. A INIT	SOL. AB TRUE	SOL. AB INIT
SAMPLE NUMBER		PE0710010	PE0710010	PE03E0004	PE0400044	PE0400044	PE0400044	PE0400044
MATRIX		SOIL	SOIL	WATER	WATER	WATER	WATER	WATER
UNITS		MG/KG	MG/KG	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ARSENIC	P	917	1060		0	705	0	964
BARIUM	P	4.8	-16		0	-46	483	448
BERYLLIUM	P	19	18		0	0	474	460
CADMIUM	P	45	44		0	35	989	993
CALCIUM	P	196000	194000		500000	491000	570000	519000
CHROMIUM	P	100	95		0	-9	513	451
COBALT	P	144	146		0	2	478	464
COPPER	P	6910	6720		0	16	534	535
IRON	P	22400	22400		200000	186000	211000	194000
LEAD	F	236	261	0.06 U				
LEAD	P	236	223		0	32	0	4980
MAGNESIUM	P	118000	116000		500000	486000	513000	508000
MANGANESE	P	208	204		0	-20	470	471
NICKEL	P	61	59		0	-1	916	891
POTASSIUM	P	50	2820		0	7470	0	7670
SELENIUM	P	39	39 B		0	59	0	163
SILVER	P	22	19		0	3	993	958
SODIUM	P	50	29 B		0	-14	0	3.8
THALLIUM	F	39	40	0.6 U				
VANADIUM	P	66	65		0	-7	475	484
ZINC	P	187	200		0	13	973	953
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA		
LOCATION		LAB CONTROL	LAB CONTROL	CRDL STAND	CRDL STAND	CRDL STAND	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION		SAMPLE TRUE	SAMPLE	TRUE	INITIAL	TRUE	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER		PE0720004	PE0720004	PE2B10010	PE2B10010	PE2B20008	PE801083C	PE801094C
MATRIX		SOIL	SOIL	WATER	WATER	WATER	SOIL	SOIL
UNITS		MG/KG	MG/KG	UG/L	UG/L	UG/L	MG/KG	MG/KG
ENV PROBLEM NO							5	5
ALUMINUM	P	325	403				25600	26700
ANTIMONY	P	211	177	300	86		12 B	13 B
ARSENIC	F	917	942	10		10		3.4
ARSENIC	P	917	1080	500	521		25 U	25 U
BARIUM	P	4.8	-16				135	110
BERYLLIUM	P	19	18	10	12		1.4 E	1.4 E

TABLE D.1.13 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800117C

AREA	METHOD	QA	QA	QA	QA	QA	2.2 FIELD	2.2 FIELD
LOCATION		LAB CONTROL SAMPLE TRUE	LAB CONTROL SAMPLE	CRDL STAND TRUE	CRDL STAND INITIAL	CRDL STAND TRUE	WASTE ACCUM	WASTE ACCUM
TYPE OF LOCATION								
SAMPLE NUMBER		PE0720004	PE0720004	PE2B10010	PE2B10010	PE2B20008	PE801083C	PE801094C
MATRIX		SOIL	SOIL	WATER	WATER	WATER	SOIL	SOIL
UNITS		MG/KG	MG/KG	UG/L	UG/L	UG/L	MG/KG	MG/KG
ENV PROBLEM NO							5	5
CADMIUM	P	45	45	40	9.4		5.7	6.5
CALCIUM	P	196000	198000				4240	6540
CHROMIUM	P	100	95	20	27		38	34
COBALT	P	144	145	100	110		19 E	21 E
COPPER	P	6910	6730	50	64		33 E	32 E
IRON	P	22400	21700				43900	48000
LEAD	F	236	233	5		5		18 S
LEAD	P	236	228	408	448		23 B	7.5 U
MAGNESIUM	P	118000	117000				5760	7140
MANGANESE	P	208	201	30	32		1050	1270
NICKEL	P	61	59	80	97		38	39
POTASSIUM	P	50	3260				3840 E	4140 E
SELENIUM	P	39	48 B	800	809		22 B	20 U
SILVER	P	22	18	60	18		0.85 U	0.84 U
SODIUM	P	50	29 B				259 BE	245 BE
THALLIUM	F	39	38	10		10	0.6 U	0.56 U
VANADIUM	P	66	64	100	117		41	40
ZINC	P	187	199	40	48		91	101
% SOLIDS							88.9	90

AREA	METHOD	QA	QA	QA	QA	QA	QA	2.2 FIELD
LOCATION		DUPLICATE	DUPLICATE RPD	CONTINUING CAL TRUE	CONTINUING CAL FOUND	CONTINUING CAL BLANK	CRDL STAND TRUE	WASTE ACCUM
TYPE OF LOCATION								
SAMPLE NUMBER		PE801094C	PE801094C	PE2AA3010	PE2AA4010	PE03A1010	PE2B30005	PE801107C
MATRIX		SOIL		WATER	WATER	WATER	WATER	SOIL
UNITS		MG/KG	%	UG/L	UG/L	UG/L	UG/L	MG/KG
ENV PROBLEM NO		5	5					5
ALUMINUM	P			1980	2040	28 U		26300
ANTIMONY	P			1010	926	26 U		14 B
ARSENIC	F	4.4	26	100	95			
ARSENIC	P			494	530	112 U		25 U
BARIUM	P			1980	147	0.6 U		128
BERYLLIUM	P			481	453	0.8 B		1.7 E
CADMIUM	P			489	486	3.8 U		5.5
CALCIUM	P			49800	50100	11 U		5360
CHROMIUM	P			506	488	7.5 U		39

TABLE D.1.13 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800117C

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AREA	METHOD	QA	QA	QA	QA	QA	QA	
LOCATION		DUPLICATE	DUPLICATE RPD	CONTINUING CAL TRUE	CONTINUING CAL FOUND	CONTINUING CAL BLANK	CRDL STAND TRUE	2.2 FIELD WASTE ACCUM
TYPE OF LOCATION								
SAMPLE NUMBER		PE801094C	PE801094C	PE2AA3010	PE2AA4010	PE03A1010	PE2B30005	PE801107C
MATRIX		SOIL		WATER	WATER	WATER	WATER	SOIL
UNITS		MG/KG	%	UG/L	UG/L	UG/L	UG/L	MG/KG
ENV PROBLEM NO		5	5					5
COBALT	P			474	489	3.2 U		24 E
COPPER	P			542	532	2 U		34 E
IRON	P			1990	2110	11 U		52800
LEAD	F	15	18	100	95	0.3 U	5	
LEAD	P			4510	4430	34 U		7.7 U
MAGNESIUM	P			25000	25500	-4.7		4900
MANGANESE	P			513	522	3.8 U		1220
NICKEL	P			496	489	10 U		40
POTASSIUM	P			50200	53800	841 U		4170 E
SELENIUM	P			982	971	89 U		30 B
SILVER	P			509	485	3.8 U		1.1 B
SODIUM	P			50700	50400	17 U		227 BE
THALLIUM	F	0.6 U		20	20	3 U	10	0.58 U
VANADIUM	P			511	49900	7.6 U		44
ZINC	P			3100	2960	3.5 U		92
% SOLIDS		90						88.6

AREA	METHOD		QA	QA	QA	QA	QA	QA
LOCATION		2.2 FIELD WASTE ACCUM	INITIAL CAL BLANK 3	DUPLICATE	DUPLICATE RPD	MATRIX SPIKE	MS % RECOVERY	CRDL STAND TRUE
TYPE OF LOCATION								
SAMPLE NUMBER		PE800117C	PE03C0008	PE800117C	PE800117C	PE800117C	PE800117C	PE2B40003
MATRIX		SOIL	WATER	SOIL		SOIL		WATER
UNITS		MG/KG	UG/L	MG/KG	%	MG/KG	%	UG/L
ENV PROBLEM NO		5		5	5	5	5	
ALUMINUM	P	25500		25400	0.2			
ANTIMONY	P	8.5 B		11 B	26	114	102	
ARSENIC	F							
ARSENIC	P	23 U		23 U		447	108	
BARIUM	P	137		137	0.1	563	103	
BERYLLIUM	P	1.3 E		1.3	0	11	92	
CADMIUM	P	3.7 B		3.4 B	8.5	14	104	
CALCIUM	P	2830		2820	0.2			
CHROMIUM	P	39		38	2.9	80	99	
COBALT	P	19 E		19	2.1	122	100	
COPPER	P	32 E		32	0	85	103	
IRON	P	38500		38400	0.3			

TABLE D.1.13 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800117C

DRAFT DO NOT CITE

AREA	METHOD		QA	QA	QA	QA	QA	QA
LOCATION		2.2 FIELD	INITIAL CAL	DUPLICATE	DUPLICATE	MATRIX	MS %	CRDL STAND
TYPE OF LOCATION		WASTE ACCUM	BLANK 3		RPD	SPIKE	RECOVERY	TRUE
SAMPLE NUMBER		PE800117C	PE03C0008	PE800117C	PE800117C	PE800117C	PE800117C	PE2B40003
MATRIX		SOIL	WATER	SOIL		SOIL		WATER
UNITS		MG/KG	UG/L	MG/KG	%	MG/KG	%	UG/L
ENV PROBLEM NO		5		5	5	5	5	
LEAD	F							
LEAD	P	7 U		8 B	200	113	109	
MAGNESIUM	P	7370		7360	0.1			
MANGANESE	P	486		485	0.2	629		
NICKEL	P	45		45	0.7	150	102	
POTASSIUM	P	4500 E		4500	0.1			
SELENIUM	P	23 B		23 B	2.2	426	98	
SILVER	P	0.79 U		0.8 U		10	99	
SODIUM	P	241 BE		243 B	0.6			
THALLIUM	F	0.61 UW	3 U					10
VANADIUM	P	38		39	2.1	144	102	
ZINC	P	102		102	0.2	204	99	
% SOLIDS		96.5		96.5				

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		SERIAL	SD %	LAB CONTROL	CONTINUING	CONTINUING	LAB CONTROL	INITIAL CAL
TYPE OF LOCATION		DILUTION	DIFFERENCE	SAMPLE TRUE	CAL FOUND	CAL BLANK	SAMPLE	FOUND A
SAMPLE NUMBER		PE800117C	PE800117C	PE0730001	PE2AA5010	PE03A2010	PE0730001	PE2AD2006
MATRIX		SOIL		SOIL	WATER	WATER	SOIL	WATER
UNITS		MG/KG	%	MG/KG	UG/L	UG/L	MG/KG	UG/L
ENV PROBLEM NO		5	5					
ALUMINUM	P	128000	3.7		2140	34 B		
ANTIMONY	P	130 U			1020	26 U		
ARSENIC	F				97			43
ARSENIC	P	560 U			532	112 U		
BARIUM	P	673 B	1.5		2020	0.6 U		
BERYLLIUM	P	7.9 BE	25		471	0.8 B		
CADMIUM	P	19 U			505	3.8 U		
CALCIUM	P	14100 B	3.2		52000	11 U		
CHROMIUM	P	177	4.9		499	7.5 U		
COBALT	P	104 BE	13		509	3.2 U		
COPPER	P	182 E	19		553	2.2 B		
IRON	P	194000	4.5		2130	11 U		
LEAD	F			236	93	0.3 U	243	99
LEAD	P	170 U			4600	-48		
MAGNESIUM	P	37300	4.5		26600	-5.4		

TABLE D.1.13 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800117C DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		SERIAL	SD %	LAB CONTROL	CONTINUING	CONTINUING	LAB CONTROL	INITIAL CAL
TYPE OF LOCATION		DILUTION	DIFFERENCE	SAMPLE TRUE	CAL FOUND	CAL BLANK	SAMPLE	FOUND A
SAMPLE NUMBER		PE800117C	PE800117C	PE0730001	PE2AA5010	PE03A2010	PE0730001	PE2AD2006
MATRIX		SOIL		SOIL	WATER	WATER	SOIL	WATER
UNITS		MG/KG	%	MG/KG	UG/L	UG/L	MG/KG	UG/L
ENV PROBLEM NO		5	5					
MANGANESE	P	2450	4.3		544	3.8 U		
NICKEL	P	234	7.1		514	10 U		
POTASSIUM	P	44400 E	104		54300	841 U		
SELENIUM	P	445 U			900	89 U		
SILVER	P	19 U			508	3.8 U		
SODIUM	P	1280 BE	10		52700	17 U		
THALLIUM	F				21	3 U		97
VANADIUM	P	184 B	0.1		518	7.6 U		
ZINC	P	528	7.4		3070	3.5 U		
% SOLIDS								

AREA	METHOD				QA	QA	QA	QA
LOCATION		2.2 FIELD	2.2 FIELD	2.2 FIELD	CONTINUING	CONTINUING	CONTINUING	CONTINUING
TYPE OF LOCATION		WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CAL FOUND	CAL BLANK	CAL FOUND	CAL BLANK
SAMPLE NUMBER		PE800128C	PE800139C	PE800140C	PE2AB4009	PE03A3010	PE2AD4006	PE03C7008
MATRIX		SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER
UNITS		MG/KG	MG/KG	MG/KG	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		5	5	5				
ALUMINUM	P	21800	22000	23800	2000	28 U		
ANTIMONY	P	15 B	8.7 B	12 B	924	26 U		
ARSENIC	F				100		90	1.7 U
ARSENIC	P	37 B	24 U	36 B	496	112 U		
BARIUM	P	98	95	75	1960	0.6 U		
BERYLLIUM	P	1.3 E	1.4 E	1.3 E	451	1 B		
CADMIUM	P	4.4	3.7 B	5	493	3.8 U		
CALCIUM	P	6330	19800	7880	50300	11 U		
CHROMIUM	P	32	40	36	489	7.5 U		
COBALT	P	19 E	18 E	19 E	490	3.2 U		
COPPER	P	29 E	33 E	33 E	544	8.7 B		
IRON	P	42100	36400	45600	2020	11 U		
LEAD	F				94		101	-0.4
LEAD	P	7 U	9.2 B	7 U	4500	34 U		
MAGNESIUM	P	7560	7450	7370	25200	-4.6		
MANGANESE	P	624	826	652	517	3.8 U		
NICKEL	P	42	42	47	504	11 B		
POTASSIUM	P	3870 E	4470 E	4540 E	55400	841 U		

TABLE D.1.13 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800117C

DRAFT DO NOT CITE

AREA	METHOD				QA	QA	QA	QA
LOCATION		2.2 FIELD	2.2 FIELD	2.2 FIELD	CONTINUING	CONTINUING	CONTINUING	CONTINUING
TYPE OF LOCATION		WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CAL FOUND	CAL BLANK	CAL FOUND	CAL BLANK
SAMPLE NUMBER		PE800128C	PE800139C	PE800140C	PE2AB4009	PE03A3010	PE2AD4006	PE03C7008
MATRIX		SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER
UNITS		MG/KG	MG/KG	MG/KG	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO		5	5	5				
SELENIUM	P	24 B	19 U	18 U	908	89 U		
SILVER	P	0.78 U	0.8 U	0.78 U	477	3.8 U		
SODIUM	P	260 BE	250 BE	242 BE	50000	17 U		
THALLIUM	F	0.55 U	0.61 U	0.61 U	21		18	3 U
VANADIUM	P	34	28	36	498	7.6 U		
ZINC	P	95	95	100	2960	3.5 U		
% SOLIDS		96.7	95.2	96.8				

AREA	METHOD				QA		QA	QA
LOCATION		2.2 FIELD	2.2 FIELD	2.2 FIELD	CONTINUING	2.2 FIELD	DUPLICATE	DUPLICATE
TYPE OF LOCATION		WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CAL FOUND	WASTE ACCUM		RPD
SAMPLE NUMBER		PE800151C	PE803018C	PE803029C	PE2AD5006	PE803030C	PE803030C	PE803030C
MATRIX		SOIL	SOIL	SOIL	WATER	SOIL	SOIL	
UNITS		MG/KG	MG/KG	MG/KG	UG/L	MG/KG	MG/KG	%
ENV PROBLEM NO		5	5	5		5	5	5
ALUMINUM	P	19700	18800	16700		9230		
ANTIMONY	P	6.5 B	5.7 B	8.5 B		6.1 B		
ARSENIC	F				93	4.9	5.1	4
ARSENIC	P	23 U	38 B	36 B		38 B		
BARIUM	P	69	143	112		160		
BERYLLIUM	P	1.1 E	1.5 E	1.1 E		0.95 BE		
CADMIUM	P	4 B	4.7	3.8		2.5 B		
CALCIUM	P	5710	47100	32500		115000		
CHROMIUM	P	31	26	25		20		
COBALT	P	17 E	15 E	14 E		9.7 BE		
COPPER	P	23 E	29 E	24 E		29 E		
IRON	P	37100	29500	29000		18500		
LEAD	F				105	20 S	22	9.7
LEAD	P	7 U	38 B	10 B		29 B		
MAGNESIUM	P	6180	5370	3250		3530		
MANGANESE	P	563	1430	633		732		
NICKEL	P	35	44	42		32		
POTASSIUM	P	3840 E	4200 E	3960 E		4350 E		
SELENIUM	P	18 U	26 B	16 U		20 U		
SILVER	P	0.78 U	0.97 B	0.69 U		0.87 U		
SODIUM	P	261 BE	278 BE	197 BE		151 BE		

TABLE D.1.13 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800117C DRAFT DO NOT CITE

AREA	METHOD				QA		QA	QA
LOCATION		2.2 FIELD	2.2 FIELD	2.2 FIELD	CONTINUING	2.2 FIELD	DUPLICATE	DUPLICATE
TYPE OF LOCATION		WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CAL FOUND	WASTE ACCUM		RPD
SAMPLE NUMBER		PE800151C	PE803018C	PE803029C	PE2AD5006	PE803030C	PE803030C	PE803030C
MATRIX		SOIL	SOIL	SOIL	WATER	SOIL	SOIL	
UNITS		MG/KG	MG/KG	MG/KG	UG/L	MG/KG	MG/KG	%
ENV PROBLEM NO		5	5	5		5	5	5
THALLIUM	F	0.58 U	0.61 U	0.6 U	19	0.62 U	0.6 U	
VANADIUM	P	32	29	31		18		
ZINC	P	81	97	84		59		
% SOLIDS		97.2	80.9	86.7		86.3	86.3	

AREA	METHOD	QA	QA	QA			QA	QA
LOCATION		CONTINUING	CONTINUING	CONTINUING	2.2 FIELD	2.2 FIELD	MATRIX	MS %
TYPE OF LOCATION		CAL BLANK	CAL FOUND	CAL BLANK	WASTE ACCUM	WASTE ACCUM	SPIKE	RECOVERY
SAMPLE NUMBER		PE03C8008	PE2AB5009	PE03B4009	PE804019C	PE804020C	PE804020C	PE804020C
MATRIX		WATER	WATER	WATER	SOIL	SOIL	SOIL	
UNITS		UG/L	UG/L	UG/L	MG/KG	MG/KG	MG/KG	%
ENV PROBLEM NO					5	5	5	5
ALUMINUM	P		1970	28 U	22400	33900		
ANTIMONY	P		928	26 U	7.5 B	5.6 U		
ARSENIC	F	1.7 U	108			12	18	79
ARSENIC	P		495	112 U	30 B	39 B		
BARIUM	P		1940	0.6 U	563	378		
BERYLLIUM	P		446	0.8 B	1.8 E	4.4 E		
CADMIUM	P		491	3.8 U	3.2 B	5.3		
CALCIUM	P		50100	11 U	81300	163000		
CHROMIUM	P		487	7.5 U	30	38		
COBALT	P		484	3.2 U	12 E	7.2 BE		
COPPER	P		539	6.5 B	37 E	468 E		
IRON	P		1990	11 U	24400	36100		
LEAD	F	-0.6	92			37	76	103
LEAD	P		4400	-69	9.2 B	43		
MAGNESIUM	P		25000	4.4 U	10000	33800		
MANGANESE	P		509	3.8 U	905	2530		
NICKEL	P		494	10 U	28	18		
POTASSIUM	P		55400	841 U	8510 E	6730 E		
SELENIUM	P		999	89 U	19 U	19 U		
SILVER	P		466	3.8 U	0.83 U	1.4 B		
SODIUM	P		49400	17 U	360 BE	1020 BE		
THALLIUM	F	3 U		3 U	0.58 U	0.56 U	10	110
VANADIUM	P		495	7.6 U	34	19		
ZINC	P		2910	3.5 U	70	79		

TABLE D.1.13 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800117C

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA			QA	QA
LOCATION		CONTINUING	CONTINUING	CONTINUING	2.2 FIELD	2.2 FIELD	MATRIX	MS %
TYPE OF LOCATION		CAL BLANK	CAL FOUND	CAL BLANK	WASTE ACCUM	WASTE ACCUM	SPIKE	RECOVERY
SAMPLE NUMBER		PE03C8008	PE2AB5009	PE03B4009	PE804019C	PE804020C	PE804020C	PE804020C
MATRIX		WATER	WATER	WATER	SOIL	SOIL	SOIL	
UNITS		UG/L	UG/L	UG/L	MG/KG	MG/KG	MG/KG	%
ENV PROBLEM NO					5	5	5	5
% SOLIDS					89	90.2		

AREA	METHOD	QA		QA	QA	QA	QA	
LOCATION		CONTINUING	2.2 FIELD	INITIAL CAL	CONTINUING	CONTINUING	INITIAL CAL	2.2 FIELD
TYPE OF LOCATION		CAL FOUND	WASTE ACCUM	BLANK 4	CAL FOUND	CAL BLANK	FOUND A	WASTE ACCUM
SAMPLE NUMBER		PE2AE4004	PE804031C	PE03D0004	PE2AC4008	PE03B5009	PE2AF2004	PE804042C
MATRIX		WATER	SOIL	WATER	WATER	WATER	WATER	SOIL
UNITS		UG/L	MG/KG	UG/L	UG/L	UG/L	UG/L	MG/KG
ENV PROBLEM NO			5					5
ALUMINUM	P		23600		1990	28 U		22300
ANTIMONY	P		14 B		997	31 B		5.9 U
ARSENIC	F	91		1.7 U	96			
ARSENIC	P		22 U		463	112 U		26 B
BARIUM	P		193		1950	-1.2 U		232
BERYLLIUM	P		4.1 E		451	0.3 B		3.1 E
CADMIUM	P		5.4		492	3.8 U		5.4
CALCIUM	P		140000		50500	11 U		126000
CHROMIUM	P		36		484	7.5 U		42
COBALT	P		5.9 BE		490	5.2 B		8.3 BE
COPPER	P		45 E		548	7.9 B		75 E
IRON	P		26600		2000	11 U		33700
LEAD	F	104		0.3 U	92		99	
LEAD	P		34 B		4470	34 U		77
MAGNESIUM	P		25100		25200	4.4 U		18400
MANGANESE	P		1950		515	3.8 U		1570
NICKEL	P		21		511	10 U		23
POTASSIUM	P		5290 E		54300	841 U		6120 E
SELENIUM	P		22 B		924	89 U		38 B
SILVER	P		1.1 B		477	4.7 B		0.86 U
SODIUM	P		1000 E		49700	17 U		768 BE
THALLIUM	F		0.52 U	3 U			98	0.67 U
VANADIUM	P		16		501	7.6 U		23
ZINC	P		149		2950	3.5 U		121
% SOLIDS			88.6					87.2

TABLE D.1.13 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800117C

DRAFT DO NOT CITE

AREA	METHOD	QA			QA	QA	QA	QA
LOCATION		CONTINUING	2.2 FIELD	2.2 FIELD	CONTINUING	CONTINUING	CRDL STAND	INTER CHK
TYPE OF LOCATION		CAL BLANK	WASTE ACCUM	WASTE ACCUM	CAL FOUND	CAL BLANK	FINAL	SOL. A FINAL
SAMPLE NUMBER		PE03D1004	PE804053C	PE804064C	PE2AC5008	PE03B6009	PE2B10010	PE0400044
MATRIX		WATER	SOIL	SOIL	WATER	WATER	WATER	WATER
UNITS		UG/L	MG/KG	MG/KG	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO			5	5				
ALUMINUM	P		25000	25500	1920	28 U		503000
ANTIMONY	P		12 B	5.8 U	927	26 U	83	136
ARSENIC	F	1.7 U					10	
ARSENIC	P		25 B	53 B	496	112 U	562	591
BARIUM	P		1210	236	1910	0.6 U		-49
BERYLLIUM	P		1.7 E	2.2 E	440	1 B	11	0
CADMIUM	P		6.7	5.3	484	3.9 B	9.3	30
CALCIUM	P		84100	86400	49200	11 U		505000
CHROMIUM	P		82	29	472	7.5 U	9.8	19
COBALT	P		14 E	10 BE	175	3.2 U	107	-1
COPPER	P		64 E	41 E	527	7.4 B	126	29
IRON	P		51500	34200	1950	11 U		186000
LEAD	F	0.3 U					5	
LEAD	P		17 B	13 B	4290	34 U	417	29
MAGNESIUM	P		11900	18500	24500	4.4 U		491000
MANGANESE	P		1180	1290	500	3.8 U	31	-21
NICKEL	P		45	25	483	13 B	100	16
POTASSIUM	P		8640 E	7140 E	55200	841 U		12400
SELENIUM	P		21 B	20 B	963	89 U	743	421
SILVER	P		0.82 U	0.86 B	462	3.8 U	16	-2
SODIUM	P		397 BE	520 BE	48200	17 U		-37
THALLIUM	F	3 U	0.65 U	0.63 U			10	
VANADIUM	P		34	30	484	7.6 U	104	-2
ZINC	P		78	74	2840	3.5 U	48	10
% SOLIDS			91.1	89.9				

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		CONTINUING	CONTINUING	INTER CHK	CONTINUING	CONTINUING	CONTINUING	CONTINUING
TYPE OF LOCATION		CAL FOUND	CAL BLANK	SOL. AB FINA	CAL FOUND	CAL BLANK	CAL FOUND	CAL FOUND
SAMPLE NUMBER		PE2AF4004	PE03D1104	PE0400044	PE2AF5004	PE03D1204	PE2AG4002	PE2AG5002
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P			511000				
ANTIMONY	P			106				
ARSENIC	F		1.7 U			1.7 U		

TABLE D.1.13 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800117C

DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		CONTINUING	CONTINUING	INTER CHK	CONTINUING	CONTINUING	CONTINUING	CONTINUING
TYPE OF LOCATION		CAL FOUND	CAL BLANK	SOL. AB FINA	CAL FOUND	CAL BLANK	CAL FOUND	CAL FOUND
SAMPLE NUMBER		PE2AF4004	PE03D1104	PE0400044	PE2AF5004	PE03D1204	PE2AG4002	PE2AG5002
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ARSENIC	P			521				
BARIUM	P			436				
BERYLLIUM	P			448				
CADMIUM	P			969				
CALCIUM	P			520000				
CHROMIUM	P			452				
COBALT	P			457				
COPPER	P			537				
IRON	P			188000				
LEAD	F	101	0.4 B		102	0.3 U		
LEAD	P			4880				
MAGNESIUM	P			498000				
MANGANESE	P			455				
NICKEL	P			872				
POTASSIUM	P			13200				
SELENIUM	P			-115				
SILVER	P			927				
SODIUM	P			-13				
THALLIUM	F	18	3 U		19	3 U	20	19
VANADIUM	P			459				
ZINC	P			921				
% SOLIDS								

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INITIAL CAL	INITIAL CAL	CONTINUING	CONTINUING	CONTINUING	CONTINUING	CONTINUING
TYPE OF LOCATION		FOUND A	BLANK 5	CAL FOUND	CAL BLANK	CAL BLANK	CAL FOUND	CAL BLANK
SAMPLE NUMBER		PE2AH2001	PE03E0004	PE2AH4001	PE03E1304	PE03E1404	PE2AH5001	PE03E1504
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
ALUMINUM	P							
ANTIMONY	P							
ARSENIC	F		1.7 U		1.7 U	1.7 U		1.7 U
ARSENIC	P							
BARIUM	P							
BERYLLIUM	P							

TABLE D.1.13 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800117C DRAFT DO NOT CITE

AREA	METHOD	QA	QA	QA	QA	QA	QA	QA
LOCATION		INITIAL CAL	INITIAL CAL	CONTINUING	CONTINUING	CONTINUING	CONTINUING	CONTINUING
TYPE OF LOCATION		FOUND A	BLANK 5	CAL FOUND	CAL BLANK	CAL BLANK	CAL FOUND	CAL BLANK
SAMPLE NUMBER		PE2AH2001	PE03E0004	PE2AH4001	PE03E1304	PE03E1404	PE2AH5001	PE03E1504
MATRIX		WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO								
CADMIUM	P							
CALCIUM	P							
CHROMIUM	P							
COBALT	P							
COPPER	P							
IRON	P							
LEAD	F		0.3 U		0.3 U	0.3 U		-0.6 U
LEAD	P							
MAGNESIUM	P							
MANGANESE	P							
NICKEL	P							
POTASSIUM	P							
SELENIUM	P							
SILVER	P							
SODIUM	P							
THALLIUM	F	98	3 U	22	3 U	3 U	22	3 U
VANADIUM	P							
ZINC	P							
% SOLIDS								

AREA	METHOD	QA	QA	QA
LOCATION		CRDL STAND	CRDL STAND	CRDL STAND
TYPE OF LOCATION		FINAL	FINAL	FINAL
SAMPLE NUMBER		PE2B20008	PE2B30005	PE2B40003
MATRIX		WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L
ENV PROBLEM NO				
ALUMINUM	P			
ANTIMONY	P			
ARSENIC	F	9		
ARSENIC	P			
BARIUM	P			
BERYLLIUM	P			
CADMIUM	P			
CALCIUM	P			
CHROMIUM	P			

TABLE D.1.13 PETC METALS, INCLUDING CR+6 - SDG NUMBER: PE800117C

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AREA	METHOD	QA	QA	QA
LOCATION		CRDL STAND	CRDL STAND	CRDL STAND
TYPE OF LOCATION		FINAL	FINAL	FINAL
SAMPLE NUMBER		PE2B20008	PE2B30005	PE2B40003
MATRIX		WATER	WATER	WATER
UNITS		UG/L	UG/L	UG/L
ENV PROBLEM NO				
COBALT	P			
COPPER	P			
IRON	P			
LEAD	F	5.5	4.8	
LEAD	P			
MAGNESIUM	P			
MANGANESE	P			
NICKEL	P			
POTASSIUM	P			
SELENIUM	P			
SILVER	P			
SODIUM	P			
THALLIUM	F	12	10	10
VANADIUM	P			
ZINC	P			
% SOLIDS				

Table D.1.14. PETC Metals QC Data Interelement Correction Factors

SDGs using these Interelement Correction Factors: PE300010C, PE301011I, PE305015I, PE310012C, PE800015C, PE800117C

ANALYTE	INTERELEMENT CORRECTION FACTORS FOR:												
	AL	CA	FE	MG	BA	NA	K	CR	CU	MN	NI	TI	P
Aluminum		.00009	.00005	.00001		-.00001	.00006				.00010		
Antimony	-.00003		.00017					.00995			-.00105		
Arsenic	.00514	.00033	.00021			-.00002	-.00002	.00154			.00079		
Barium		.00010											
Beryllium													
Cadmium	.00001		.00018					-.00001			-.00022		
Calcium	.00001		.00001	.00011		.00004	.00002	.00002			-.00001		
Chromium			-.00009	-.00003									
Cobalt								.00023			-.00020		
Copper			.00004					.00006					
Iron	.00007						-.00002	.00004					
Lead	-.00071	-.00001	.00019	.00001			-.00004	-.00183			.00045		
Magnesium	.00007	.00012				.00003							
Manganese	.00002		-.00006										
Mercury													
Nickel			-.00003				-.00001						
Potassium	.00017	.00048	-.00072	-.00052		-.00020		-.00045			-.00010		
Selenium	-.00001	-.00004	-.00034	-.00003		.00003	.00003	-.00023					
Silver			-.00003					.00002					
Sodium	.00006	.00025	.00001	.00012			-.00001	.00006			-.00003		
Thallium													
Vanadium	.00007		-.00003					-.00229			.00002		
Zinc	.00004		.00010	.00004				.00002			.00316		

Table D.1.15. PETC Metals QC Data — Linear Range

SDGs: PE300010C, PE301011I, PE305015I, PE310012C, PE800015C, PE800117C

ANALYTE	CONCENTRATION µG/L
Aluminum	5,000,000
Antimony	200,000
Arsenic	100,000
Barium	50,000
Beryllium	50,000
Cadmium	20,000
Calcium	1,000,000
Chromium	4,000,000
Cobalt	225,000
Copper	200,000
Iron	5,000,000
Lead	150,000
Magnesium	1,000,000
Manganese	100,000
Mercury	
Nickel	3,000,000
Potassium	500,000
Selenium	200,000
Silver	150,000
Sodium	5,000,000
Thallium	
Vanadium	250,000
Zinc	150,000

TABLE D.2.1 DIRECTORY FOR PCBS & OTHER EXTRACTABLES QA/QC DATA

PROBLEM NUMBER	SAMPLE NUMBER	QA/QC ANALYTICAL SDG NUMBER	QA/QC TABLE NUMBER(PG)
5	PE800015B	PE800015B	D.2.2 (D-86)
5	PE800026B	PE800015B	D.2.2 (D-86)
5	PE800037B	PE800015B	D.2.2 (D-86)
5	PE800048B	PE800015B	D.2.2 (D-86)
5	PE800059B	PE800015B	D.2.2 (D-87)
5	PE800060B	PE800015B	D.2.2 (D-84)
5	PE800071B	PE800015B	D.2.2 (D-84)
5	PE800082B	PE800015B	D.2.2 (D-85)
5	PE800093B	PE800015B	D.2.2 (D-85)
5	PE800106B	PE800015B	D.2.2 (D-85)
5	PE800117B	PE800015B	D.2.2 (D-85)
5	PE800128B	PE800015B	D.2.2 (D-85)
5	PE800139B	PE800015B	D.2.2 (D-85)
5	PE800140B	PE800015B	D.2.2 (D-86)
5	PE800151B	PE800015B	D.2.2 (D-86)
5	PE801016B	PE800015B	D.2.2 (D-88)
5	PE801027B	PE800015B	D.2.2 (D-88)
5	PE801038B	PE800015B	D.2.2 (D-87)
5	PE801049B	PE800015B	D.2.2 (D-87)
5	PE801050B	PE800015B	D.2.2 (D-87)
5	PE801061B	PE800015B	D.2.2 (D-87)
5	PE801072B	PE800015B	D.2.2 (D-87)
5	PE801083B	PE800015B	D.2.2 (D-88)
5	PE801094B	PE800015B	D.2.2 (D-88)
5	PE801107B	PE800015B	D.2.2 (D-88)
5	PE802017B	PE804064B	D.2.3 (D-93)
5	PE802028B	PE804064B	D.2.3 (D-93)
5	PE802039B	PE804064B	D.2.3 (D-93)
5	PE802040B	PE804064B	D.2.3 (D-94)
5	PE802051B	PE804064B	D.2.3 (D-94)
5	PE802062B	PE804064B	D.2.3 (D-94)
5	PE803018B	PE804064B	D.2.3 (D-90)
5	PE803029B	PE804064B	D.2.3 (D-92)
5	PE803030B	PE804064B	D.2.3 (D-92)
5	PE804019B	PE804064B	D.2.3 (D-90)
5	PE804020B	PE804064B	D.2.3 (D-91)
5	PE804031B	PE804064B	D.2.3 (D-91)
5	PE804042B	PE804064B	D.2.3 (D-91)
5	PE804053B	PE804064B	D.2.3 (D-91)
5	PE804064B	PE804064B	D.2.3 (D-91)
5	PE804075B	PE804064B	D.2.3 (D-91)
5	PE804086B	PE804064B	D.2.3 (D-92)

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TABLE D.2.2 PETC PCBS & OTHER EXTRACTABLES - SDG NUMBER: PE800015B DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	EVAL A TUNED	EVAL B TUNED	EVAL B TUNED	RSD	EVAL C TUNED	METHOD	MATRIX
TYPE OF LOCATION	CALIBRATION	CALIBRATION	CALIBRATION		CALIBRATION	BLANK	SPIKE
SAMPLE NUMBER	PE092188	PE092188	PE092188	PE092188	PE092188	PBKPE800	PE800060B
MATRIX						SOIL	SOIL
UNITS	CF	%	CF	%	CF	UG/KG	UG/KG
ENV PROBLEM NO							5
ALDRIN	3700000		3300000	6.5	3320000	80 U	81
ALPHA CHLORDANE						800 U	800 U
ALPHA-BHC						80 U	80 U
AROCLOR-1016						800 U	800 U
AROCLOR-1221						800 U	800 U
AROCLOR-1232						800 U	800 U
AROCLOR-1242						800 U	800 U
AROCLOR-1248						800 U	800 U
AROCLOR-1254						1600 U	1600 U
AROCLOR-1260						1600 U	1600 U
BETA-BHC						80 U	80 U
COMBINED		12					
DBC	1710000		1510000	7.3	1510000		
DELTA-BHC						80 U	80 U
DIELDRIN						160 U	39 J
ENDOSULFAN I						80 U	80 U
ENDOSULFAN II						160 U	160 U
ENDOSULFAN SULFATE						160 U	160 U
ENDRIN	1690000	0	1840000	4.3	1810000	160 U	49 J
ENDRIN KETONE						160 U	160 U
GAMMA CHLORDANE						800 U	800 U
GAMMA-BHC (LINDANE)						80 U	11 J
HEPTACHLOR						80 U	23 J
HEPTACHLOR EPOXIDE						80 U	80 U
METHOXYCHLOR						800 U	800 U
MIREX	0		0	0	0		
TOXAPHENE						1600 U	1600 U
4,4'-DDD						160 U	160 U
4,4'-DDE						160 U	160 U
4,4'-DDT	2370000	0	2060000	8	2070000	160 U	47 J
SURR 1(DBC) %RECOVERY						100	81
ACTUAL(ALLOWED) EXTRACT TIME							4(14 D)

TABLE D.2.2 PETC PCBS & OTHER EXTRACTABLES - SDG NUMBER: PE800015B DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA		
LOCATION	MS % RECOVERY	RPD	CONT. CAL % BREAKDOWN	MATRIX SPIKE DUPLICATE	MSD % RECOVERY	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM
TYPE OF LOCATION							
SAMPLE NUMBER	PE800060B	PE800060B	PE092188	PE800060B	PE800060B	PE800060B	PE800071B
MATRIX	SOIL	SOIL		SOIL	SOIL	SOIL	SOIL
UNITS	%	%	%	UG/KG	%	UG/KG	UG/KG
ENV PROBLEM NO	5	5		5	5	5	5
ALDRIN	286 *	20		99	348 *	80 U	80 U
ALPHA CHLORDANE				800 U		800 U	800 U
ALPHA-BHC				80 U		80 U	80 U
AROCLOR-1016				800 U		800 U	800 U
AROCLOR-1221				800 U		800 U	800 U
AROCLOR-1232				800 U		800 U	800 U
AROCLOR-1242				800 U		800 U	800 U
AROCLOR-1248				800 U		800 U	800 U
AROCLOR-1254				1600 U		1600 U	1600 U
AROCLOR-1260				1600 U		1600 U	1600 U
BETA-BHC				80 U		80 U	80 U
COMBINED DBC			13				
DELTA-BHC				80 U		80 U	80 U
DIELDRIN	55	25		51 J	71	160 U	160 U
ENDOSULFAN I				80 U		80 U	80 U
ENDOSULFAN II				160 U		160 U	160 U
ENDOSULFAN SULFATE				160 U		160 U	160 U
ENDRIN	69	26	0	64 J	90	160 U	160 U
ENDRIN KETONE				160 U		160 U	160 U
GAMMA CHLORDANE				800 U		800 U	800 U
GAMMA-BHC (LINDANE)	40 *	7		13 J	46	80 U	80 U
HEPTACHLOR	81	70 *		48 J	168 *	80 U	80 U
HEPTACHLOR EPOXIDE				80 U		80 U	80 U
METHOXYCHLOR				800 U		800 U	800 U
MIREX							
TOXAPHENE				1600 U		1600 U	1600 U
4,4'-DDD				160 U		160 U	160 U
4,4'-DDE				160 U		160 U	160 U
4,4'-DDT	67	27	0	62 J	88	160 U	160 U
SURR 1(DBC) %RECOVERY				86		217 *	112
ACTUAL(ALLOWED) EXTRACT TIME				4(14 D)		5(14 D)	5(14 D)

TABLE D.2.2 PETC PCBS & OTHER EXTRACTABLES - SDG NUMBER: PE800015B DRAFT DO NOT CITE

AREA			QA				
LOCATION	2.2 FIELD	2.2 FIELD	CONT. CAL	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	% BREAKDOWN	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE800082B	PE800093B	PE092188	PE800106B	PE800117B	PE800128B	PE800139B
MATRIX	SOIL	SOIL		SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	%	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5		5	5	5	5
ALDRIN	80 U	80 U		80 U	80 U	80 U	80 U
ALPHA CHLORDANE	800 U	800 U		800 U	800 U	800 U	800 U
ALPHA-BHC	80 U	80 U		80 U	80 U	80 U	80 U
AROCLOR-1016	800 U	800 U		800 U	800 U	800 U	800 U
AROCLOR-1221	800 U	800 U		800 U	800 U	800 U	800 U
AROCLOR-1232	800 U	800 U		800 U	800 U	800 U	800 U
AROCLOR-1242	800 U	800 U		800 U	800 U	800 U	800 U
AROCLOR-1248	800 U	800 U		800 U	800 U	800 U	800 U
AROCLOR-1254	1600 U	1600 U		1600 U	1600 U	1600 U	1600 U
AROCLOR-1260	1600 U	1600 U		1600 U	1600 U	1600 U	1600 U
BETA-BHC	80 U	80 U		80 U	80 U	80 U	80 U
COMBINED DBC			9.7				
DELTA-BHC	80 U	80 U		80 U	80 U	80 U	80 U
DIELDRIN	160 U	160 U		160 U	160 U	160 U	160 U
ENDOSULFAN I	80 U	80 U		80 U	80 U	80 U	80 U
ENDOSULFAN II	160 U	160 U		160 U	160 U	160 U	160 U
ENDOSULFAN SULFATE	160 U	160 U		160 U	160 U	160 U	160 U
ENDRIN	160 U	160 U	0	160 U	160 U	160 U	160 U
ENDRIN KETONE	160 U	160 U		160 U	160 U	160 U	160 U
GAMMA CHLORDANE	800 U	800 U		800 U	800 U	800 U	800 U
GAMMA-BHC (LINDANE)	80 U	80 U		80 U	80 U	80 U	80 U
HEPTACHLOR	80 U	80 U		80 U	80 U	80 U	80 U
HEPTACHLOR EPOXIDE	80 U	80 U		80 U	80 U	80 U	80 U
METHOXYCHLOR	800 U	800 U		800 U	800 U	800 U	800 U
MIREX							
TOXAPHENE	1600 U	1600 U		1600 U	1600 U	1600 U	1600 U
4,4'-DDD	160 U	160 U		160 U	160 U	160 U	160 U
4,4'-DDE	160 U	160 U		160 U	160 U	160 U	160 U
4,4'-DDT	160 U	160 U	0	160 U	160 U	160 U	160 U
SURR 1(DBC) %RECOVERY	151 *	196 *		200 *	110	144	117
ACTUAL(ALLOWED) EXTRACT TIME	5(14 D)	5(14 D)		5(14 D)	5(14 D)	5(14 D)	5(14 D)

TABLE D.2.2 PETC PCBS & OTHER EXTRACTABLES - SDG NUMBER: PE800015B

DRAFT DO NOT CITE

AREA			QA				
LOCATION	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	CONT. CAL % BREAKDOWN	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM
TYPE OF LOCATION							
SAMPLE NUMBER	PE800140B	PE800151B	PE092288	PE800015B	PE800026B	PE800037B	PE800048B
MATRIX	SOIL	SOIL		SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	%	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5		5	5	5	5
ALDRIN	80 U	80 U		80 U	80 U	80 U	160 U
ALPHA CHLORDANE	800 U	800 U		800 U	800 U	800 U	1600 U
ALPHA-BHC	80 U	80 U		80 U	80 U	80 U	160 U
AROCLOR-1016	800 U	800 U		800 U	800 U	800 U	1600 U
AROCLOR-1221	800 U	800 U		800 U	800 U	800 U	1600 U
AROCLOR-1232	800 U	800 U		800 U	800 U	800 U	1600 U
AROCLOR-1242	800 U	800 U		800 U	800 U	800 U	1600 U
AROCLOR-1248	800 U	800 U		800 U	800 U	800 U	1600 U
AROCLOR-1254	1600 U	1600 U		1600 U	1600 U	1600 U	3200 U
AROCLOR-1260	1600 U	1600 U		1600 U	1600 U	1600 U	3200 U
BETA-BHC	80 U	80 U		80 U	80 U	80 U	160 U
COMBINED DBC			8.7				
DELTA-BHC	80 U	80 U		80 U	80 U	80 U	160 U
DIELDRIN	160 U	160 U		160 U	160 U	160 U	320 U
ENDOSULFAN I	80 U	80 U		80 U	80 U	80 U	160 U
ENDOSULFAN II	160 U	160 U		160 U	160 U	160 U	320 U
ENDOSULFAN SULFATE	160 U	160 U		160 U	160 U	160 U	320 U
ENDRIN	160 U	160 U	0	160 U	160 U	160 U	320 U
ENDRIN KETONE	160 U	160 U		160 U	160 U	160 U	320 U
GAMMA CHLORDANE	800 U	800 U		800 U	800 U	800 U	1600 U
GAMMA-BHC (LINDANE)	80 U	80 U		80 U	80 U	80 U	160 U
HEPTACHLOR	80 U	80 U		80 U	80 U	80 U	160 U
HEPTACHLOR EPOXIDE	80 U	80 U		80 U	80 U	80 U	160 U
METHOXYCHLOR	800 U	800 U		800 U	800 U	800 U	1600 U
MIREX							
TOXAPHENE	1600 U	1600 U		1600 U	1600 U	1600 U	3200 U
4,4'-DDD	160 U	160 U		160 U	160 U	160 U	320 U
4,4'-DDE	160 U	160 U		160 U	160 U	160 U	320 U
4,4'-DDT	160 U	160 U	0	160 U	160 U	160 U	320 U
SURR 1(DBC) %RECOVERY	197 *	163 *		229 *	137	257 *	135
ACTUAL(ALLOWED) EXTRACT TIME	5(14 D)	5(14 D)		5(14 D)	5(14 D)	5(14 D)	5(14 D)

TABLE D.2.2 PETC PCBS & OTHER EXTRACTABLES - SDG NUMBER: PE800015B

DRAFT DO NOT CITE

AREA		QA					
LOCATION	2.2 FIELD	CONT. CAL	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	% BREAKDOWN	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE800059B	PE092288	PE801038B	PE801049B	PE801050B	PE801061B	PE801072B
MATRIX	SOIL		SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	%	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5		5	5	5	5	5
ALDRIN	80 U		400 U	400 U	80 U	400 U	80 U
ALPHA CHLORDANE	800 U		4000 U	4000 U	800 U	4000 U	800 U
ALPHA-BHC	80 U		400 U	400 U	80 U	400 U	80 U
AROCLOR-1016	800 U		4000 U	4000 U	800 U	4000 U	800 U
AROCLOR-1221	800 U		4000 U	4000 U	800 U	4000 U	800 U
AROCLOR-1232	800 U		4000 U	4000 U	800 U	4000 U	800 U
AROCLOR-1242	800 U		4000 U	4000 U	800 U	4000 U	800 U
AROCLOR-1248	800 U		4000 U	4000 U	800 U	4000 U	800 U
AROCLOR-1254	1600 U		8000 U	8000 U	1600 U	8000 U	1600 U
AROCLOR-1260	1600 U		8000 U	8000 U	1600 U	8000 U	1600 U
BETA-BHC	80 U		400 U	400 U	80 U	400 U	80 U
COMBINED DBC		10					
DELTA-BHC	80 U		400 U	400 U	80 U	400 U	80 U
DIELDRIN	160 U		800 U	800 U	160 U	800 U	160 U
ENDOSULFAN I	80 U		400 U	400 U	80 U	400 U	80 U
ENDOSULFAN II	160 U		800 U	800 U	160 U	800 U	160 U
ENDOSULFAN SULFATE	160 U		800 U	800 U	160 U	800 U	160 U
ENDRIN	160 U	0	800 U	800 U	160 U	800 U	160 U
ENDRIN KETONE	160 U		800 U	800 U	160 U	800 U	160 U
GAMMA CHLORDANE	800 U		4000 U	4000 U	800 U	4000 U	800 U
GAMMA-BHC (LINDANE)	80 U		400 U	400 U	80 U	400 U	80 U
HEPTACHLOR	80 U		400 U	400 U	80 U	400 U	80 U
HEPTACHLOR EPOXIDE	80 U		400 U	400 U	80 U	400 U	80 U
METHOXYCHLOR	800 U		4000 U	4000 U	800 U	4000 U	800 U
MIREX							
TOXAPHENE	1600 U		8000 U	8000 U	1600 U	8000 U	1600 U
4,4'-DDD	160 U		800 U	800 U	160 U	800 U	160 U
4,4'-DDE	160 U		800 U	800 U	160 U	800 U	160 U
4,4'-DDT	160 U	0	800 U	800 U	160 U	800 U	160 U
SURR 1(DBC) %RECOVERY	148		143	141	174 *	159 *	198 *
ACTUAL(ALLOWED) EXTRACT TIME	5(14 D)		5(14 D)	5(14 D)	5(14 D)	5(14 D)	6(14 D)

TABLE D.2.2 PETC PCBS & OTHER EXTRACTABLES - SDG NUMBER: PE800015B

DRAFT DO NOT CITE

AREA	QA					
LOCATION	CONT. CAL	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	% BREAKDOWN	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE092288	PE801083B	PE801094B	PE801107B	PE801016B	PE801027B
MATRIX		SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO		5	5	5	5	5
ALDRIN		80 U	80 U	400 U	80 U	400 U
ALPHA CHLORDANE		800 U	800 U	4000 U	800 U	4000 U
ALPHA-BHC		80 U	80 U	400 U	80 U	400 U
AROCLOR-1016		800 U	800 U	4000 U	800 U	4000 U
AROCLOR-1221		800 U	800 U	4000 U	800 U	4000 U
AROCLOR-1232		800 U	800 U	4000 U	800 U	4000 U
AROCLOR-1242		800 U	800 U	4000 U	800 U	4000 U
AROCLOR-1248		800 U	800 U	4000 U	800 U	4000 U
AROCLOR-1254		1600 U	1600 U	8000 U	1600 U	8000 U
AROCLOR-1260		1600 U	1600 U	8000 U	1600 U	8000 U
BETA-BHC		80 U	80 U	400 U	80 U	400 U
COMBINED	17					
DBC						
DELTA-BHC		80 U	80 U	400 U	80 U	400 U
DIELDRIN		160 U	160 U	800 U	160 U	800 U
ENDOSULFAN I		80 U	80 U	400 U	80 U	400 U
ENDOSULFAN II		160 U	160 U	800 U	160 U	800 U
ENDOSULFAN SULFATE		160 U	160 U	800 U	160 U	800 U
ENDRIN	0	160 U	160 U	800 U	160 U	800 U
ENDRIN KETONE		160 U	160 U	800 U	160 U	800 U
GAMMA CHLORDANE		800 U	800 U	4000 U	800 U	4000 U
GAMMA-BHC (LINDANE)		80 U	80 U	400 U	80 U	400 U
HEPTACHLOR		80 U	80 U	400 U	80 U	400 U
HEPTACHLOR EPOXIDE		80 U	80 U	400 U	80 U	400 U
METHOXYCHLOR		800 U	800 U	4000 U	800 U	4000 U
MIREX						
TOXAPHENE		1600 U	1600 U	8000 U	1600 U	8000 U
4,4'-DDD		160 U	160 U	800 U	160 U	800 U
4,4'-DDE		160 U	160 U	800 U	160 U	800 U
4,4'-DDT	0	160 U	160 U	800 U	160 U	800 U
SURR 1(DBC) %RECOVERY		153 *	134	204 *	161 *	152 *
ACTUAL(ALLOWED) EXTRACT TIME		6(14 D)	6(14 D)	6(14 D)	5(14 D)	6(14 D)

TABLE D.2.3 PETC PCBS & OTHER EXTRACTABLES - SDG NUMBER: PE804064B DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	EVAL A TUNED	EVAL B TUNED	EVAL B TUNED	RSD	EVAL C TUNED	CONT. CAL	METHOD
TYPE OF LOCATION	CALIBRATION	CALIBRATION	CALIBRATION		CALIBRATION	% BREAKDOWN	BLANK
SAMPLE NUMBER	PE011189	PE011189	PE011189	PE011189	PE011189	PE011189	PBK80823
MATRIX							SOIL
UNITS	CF	%	CF	%	CF	%	UG/KG
ENV PROBLEM NO							
ALDRIN	396000		396000	0.8	402000		8 U
ALPHA CHLORDANE							80 U
ALPHA-BHC							8 U
AROCLOR-1016							80 U
AROCLOR-1221							80 U
AROCLOR-1232							80 U
AROCLOR-1242							80 U
AROCLOR-1248							80 U
AROCLOR-1254							160 U
AROCLOR-1260							160 U
BETA-BHC							8 U
COMBINED		7.5				6	
DBC	109000		108000	1.3	106000		
DELTA-BHC							8 U
DIELDRIN							16 U
ENDOSULFAN I							8 U
ENDOSULFAN II							16 U
ENDOSULFAN SULFATE							16 U
ENDRIN	192000	0	188000	1.9	185000	0	16 U
ENDRIN KETONE							16 U
GAMMA CHLORDANE							80 U
GAMMA-BHC (LINDANE)							8 U
HEPTACHLOR							8 U
HEPTACHLOR EPOXIDE							8 U
METHOXYCHLOR							80 U
MIREX	0		0	0	0		
TOXAPHENE							160 U
4,4'-DDD							16 U
4,4'-DDE							16 U
4,4'-DDT	111000	0	121000	10.4	136000	0	16 U
SURR 1(DBC) %RECOVERY							126
ACTUAL(ALLOWED) EXTRACT TIME							

TABLE D.2.3 PETC PCBS & OTHER EXTRACTABLES - SDG NUMBER: PE804064B DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA		
LOCATION	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM
TYPE OF LOCATION							
SAMPLE NUMBER	PE804064B	PE804064B	PE804064B	PE804064B	PE804064B	PE803018B	PE804019B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	%	%	UG/KG	%	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5	5	5	5	5
ALDRIN	180 U	0 *	0	170 U	0 *	97 U	170 U
ALPHA CHLORDANE	1800 U			1700 U		970 U	1700 U
ALPHA-BHC	180 U			170 U		97 U	170 U
AROCLOR-1016	1800 U			1700 U		970 U	1700 U
AROCLOR-1221	1800 U			1700 U		970 U	1700 U
AROCLOR-1232	1800 U			1700 U		970 U	1700 U
AROCLOR-1242	1800 U			1700 U		970 U	1700 U
AROCLOR-1248	1800 U			1700 U		970 U	1700 U
AROCLOR-1254	3500 U			3500 U		1900 U	3500 U
AROCLOR-1260	3500 U			3500 U		1900 U	3500 U
BETA-BHC	180 U			170 U		97 U	170 U
COMBINED DBC							
DELTA-BHC	180 U			170 U		97 U	170 U
DIELDRIN	67 J	91	13	76 J	104	190 U	350 U
ENDOSULFAN I	180 U			170 U		97 U	170 U
ENDOSULFAN II	350 U			350 U		190 U	350 U
ENDOSULFAN SULFATE	350 U			350 U		190 U	350 U
ENDRIN	80 J	109	18	95 J	130	190 U	350 U
ENDRIN KETONE	350 U			350 U		190 U	350 U
GAMMA CHLORDANE	1800 U			1700 U		970 U	1700 U
GAMMA-BHC (LINDANE)	26 J	89	15	30 J	103	97 U	170 U
HEPTACHLOR	180 U	0 *	0	170 U	0 *	97 U	170 U
HEPTACHLOR EPOXIDE	180 U			170 U		97 U	170 U
METHOXYCHLOR	1800 U			1700 U		970 U	1700 U
MIREX							
TOXAPHENE	3500 U			3500 U		1900 U	3500 U
4,4'-DDD	350 U			350 U		190 U	350 U
4,4'-DDE	350 U			350 U		190 U	350 U
4,4'-DDT	72 J	98	60 *	130 J	183 *	190 U	350 U
SURR 1(DBC) %RECOVERY	178 *			121		201 *	143
ACTUAL(ALLOWED) EXTRACT TIME	9(14 D)			9(14 D)		8(14 D)	9(14 D)

TABLE D.2.3 PETC PCBS & OTHER EXTRACTABLES - SDG NUMBER: PE804064B DRAFT DO NOT CITE

AREA				QA			
LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD	CONT. CAL	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	% BREAKDOWN	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE804020B	PE804031B	PE804042B	PE011289	PE804053B	PE804064B	PE804075B
MATRIX	SOIL	SOIL	SOIL		SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5		5	5	5
ALDRIN	350 U	350 U	360 U		360 U	350 U	1800 U
ALPHA CHLORDANE	3500 U	3500 U	3600 U		3600 U	3500 U	18000 U
ALPHA-BHC	350 U	350 U	360 U		360 U	350 U	1800 U
AROCLOR-1016	3500 U	3500 U	3600 U		3600 U	3500 U	18000 U
AROCLOR-1221	3500 U	3500 U	3600 U		3600 U	3500 U	18000 U
AROCLOR-1232	3500 U	3500 U	3600 U		3600 U	3500 U	18000 U
AROCLOR-1242	3500 U	3500 U	3600 U		3600 U	3500 U	18000 U
AROCLOR-1248	3500 U	3500 U	3600 U		3600 U	3500 U	18000 U
AROCLOR-1254	6900 U	7100 U	7300 U		7200 U	7000 U	35000 U
AROCLOR-1260	6900 U	7100 U	7300 U		7200 U	7000 U	35000 U
BETA-BHC	350 U	350 U	360 U		360 U	350 U	1800 U
COMBINED DBC				6.2			
DELTA-BHC	350 U	350 U	360 U		360 U	350 U	1800 U
DIELDRIN	690 U	710 U	730 U		720 U	700 U	3500 U
ENDOSULFAN I	350 U	350 U	360 U		360 U	350 U	1800 U
ENDOSULFAN II	690 U	710 U	730 U		720 U	700 U	3500 U
ENDOSULFAN SULFATE	690 U	710 U	730 U		720 U	700 U	3500 U
ENDRIN	690 U	710 U	730 U	0	720 U	700 U	3500 U
ENDRIN KETONE	690 U	710 U	730 U		720 U	700 U	3500 U
GAMMA CHLORDANE	3500 U	3500 U	3600 U		3600 U	3500 U	18000 U
GAMMA-BHC (LINDANE)	350 U	350 U	360 U		360 U	350 U	1800 U
HEPTACHLOR	350 U	350 U	360 U		360 U	350 U	1800 U
HEPTACHLOR EPOXIDE	350 U	350 U	360 U		360 U	350 U	1800 U
METHOXYCHLOR	3500 U	3500 U	3600 U		3600 U	3500 U	18000 U
MIREX							
TOXAPHENE	6900 U	7100 U	7300 U		7200 U	7000 U	35000 U
4,4'-DDD	690 U	710 U	730 U		720 U	700 U	3500 U
4,4'-DDE	690 U	710 U	730 U		720 U	700 U	3500 U
4,4'-DDT	690 U	710 U	730 U	0	720 U	700 U	3500 U
SURR 1(DBC) %RECOVERY	0 D	103	114		0 D	126	218 *
ACTUAL(ALLOWED) EXTRACT TIME	9(14 D)	9(14 D)	9(14 D)		9(14 D)	9(14 D)	9(14 D)

TABLE D.2.3 PETC PCBS & OTHER EXTRACTABLES - SDG NUMBER: PE804064B DRAFT DO NOT CITE

AREA				QA	QA	QA	QA
LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD	CONT. CAL	METHOD	MATRIX	MS %
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	% BREAKDOWN	BLANK	SPIKE	RECOVERY
SAMPLE NUMBER	PE804086B	PE803029B	PE803030B	PE011289	PBK80828	PE802051B	PE802051B
MATRIX	SOIL	SOIL	SOIL		SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	UG/KG	UG/KG	%
ENV PROBLEM NO	5	5	5			5	5
ALDRIN	360 U	8.9 U	9.3 U		8 U	28 J	96
ALPHA CHLORDANE	3600 U	89 U	93 U		80 U	440 U	
ALPHA-BHC	360 U	8.9 U	9.3 U		8 U	44 U	
AROCLOR-1016	3600 U	89 U	93 U		80 U	440 U	
AROCLOR-1221	3600 U	89 U	93 U		80 U	440 U	
AROCLOR-1232	3600 U	89 U	93 U		80 U	440 U	
AROCLOR-1242	3600 U	89 U	93 U		80 U	440 U	
AROCLOR-1248	3600 U	89 U	93 U		80 U	440 U	
AROCLOR-1254	7200 U	180 U	190 U		160 U	880 U	
AROCLOR-1260	7200 U	180 U	190 U		160 U	880 U	
BETA-BHC	360 U	8.9 U	9.3 U		8 U	44 U	
COMBINED DBC				5.4			
DELTA-BHC	360 U	8.9 U	9.3 U		8 U	44 U	
DIELDRIN	720 U	18 U	19 U		16 U	92	126
ENDOSULFAN I	360 U	8.9 U	9.3 U		8 U	44 U	
ENDOSULFAN II	720 U	18 U	19 U		16 U	88 U	
ENDOSULFAN SULFATE	720 U	18 U	19 U		16 U	88 U	
ENDRIN	720 U	18 U	19 U	0	16 U	120	165 *
ENDRIN KETONE	720 U	18 U	19 U		16 U	88 U	
GAMMA CHLORDANE	3600 U	89 U	93 U		80 U	440 U	
GAMMA-BHC (LINDANE)	360 U	8.9 U	9.3 U		8 U	44 U	0 *
HEPTACHLOR	360 U	8.9 U	9.3 U		8 U	37 J	126
HEPTACHLOR EPOXIDE	360 U	8.9 U	9.3 U		8 U	44 U	
METHOXYCHLOR	3600 U	89 U	93 U		80 U	440 U	
MIREX							
TOXAPHENE	7200 U	180 U	190 U		160 U	880 U	
4,4'-DDD	720 U	18 U	19 U		16 U	88 U	
4,4'-DDE	720 U	18 U	19 U		16 U	88 U	
4,4'-DDT	720 U	18 U	19 U	0	16 U	130	183 *
SURR 1(DBC) %RECOVERY	0 D	12 *	286 *		229 *	351 *	
ACTUAL(ALLOWED) EXTRACT TIME	9(14 D)	8(14 D)	8(14 D)			9(14 D)	

TABLE D.2.3 PETC PCBS & OTHER EXTRACTABLES - SDG NUMBER: PE804064B

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA			
LOCATION	RPD	CONT. CAL	MATRIX SPIKE	MSD %	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION		% BREAKDOWN	DUPLICATE	RECOVERY	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE802051B	PE011289	PE802051B	PE802051B	PE802017B	PE802028B	PE802039B
MATRIX	SOIL		SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	%	UG/KG	%	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5		5	5	5	5	5
ALDRIN	11		25 J	86	92 U	96 U	170 U
ALPHA CHLORDANE			880 U		920 U	960 U	1700 U
ALPHA-BHC			88 U		92 U	96 U	170 U
AROCLOR-1016			880 U		920 U	960 U	1700 U
AROCLOR-1221			880 U		920 U	960 U	1700 U
AROCLOR-1232			880 U		920 U	960 U	1700 U
AROCLOR-1242			880 U		920 U	960 U	1700 U
AROCLOR-1248			880 U		920 U	960 U	1700 U
AROCLOR-1254			1800 U		1800 U	1900 U	3500 U
AROCLOR-1260			1800 U		1800 U	1900 U	3500 U
BETA-BHC			88 U		92 U	96 U	170 U
COMBINED DBC		5.5					
DELTA-BHC			88 U		92 U	96 U	170 U
DIELDRIN	14		80 J	110	180 U	190 U	350 U
ENDOSULFAN I			88 U		92 U	96 U	170 U
ENDOSULFAN II			180 U		180 U	190 U	350 U
ENDOSULFAN SULFATE			180 U		180 U	190 U	350 U
ENDRIN	15	0	100 J	142 *	180 U	190 U	350 U
ENDRIN KETONE			180 U		180 U	190 U	350 U
GAMMA CHLORDANE			880 U		920 U	960 U	1700 U
GAMMA-BHC (LINDANE)	200 *		36 J	123	92 U	96 U	170 U
HEPTACHLOR	43 *		57 J	195 *	92 U	96 U	170 U
HEPTACHLOR EPOXIDE			88 U		92 U	96 U	170 U
METHOXYCHLOR			880 U		920 U	960 U	1700 U
MIREX							
TOXAPHENE			1800 U		1800 U	1900 U	3500 U
4,4'-DDD			180 U		180 U	190 U	350 U
4,4'-DDE			180 U		180 U	190 U	350 U
4,4'-DDT	1	0	130 J	182 *	180 U	190 U	350 U
SURR 1(DBC) %RECOVERY			343 *		154 *	318 *	461 *
ACTUAL(ALLOWED) EXTRACT TIME			9(14 D)		9(14 D)	9(14 D)	9(14 D)

TABLE D.2.3 PETC PCBS & OTHER EXTRACTABLES - SDG NUMBER: PE804064B

DRAFT DO NOT CITE

AREA

LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE802040B	PE802051B	PE802062B
MATRIX	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5
ALDRIN	210 U	88 U	220 U
ALPHA CHLORDANE	2100 U	880 U	2200 U
ALPHA-BHC	210 U	88 U	220 U
AROCLOR-1016	2100 U	880 U	2200 U
AROCLOR-1221	2100 U	880 U	2200 U
AROCLOR-1232	2100 U	880 U	2200 U
AROCLOR-1242	2100 U	880 U	2200 U
AROCLOR-1248	2100 U	880 U	2200 U
AROCLOR-1254	4100 U	1800 U	4400 U
AROCLOR-1260	4100 U	1800 U	4400 U
BETA-BHC	210 U	88 U	220 U
COMBINED DBC			
DELTA-BHC	210 U	88 U	220 U
DIELDRIN	410 U	180 U	440 U
ENDOSULFAN I	210 U	88 U	220 U
ENDOSULFAN II	410 U	180 U	440 U
ENDOSULFAN SULFATE	410 U	180 U	440 U
ENDRIN	410 U	180 U	440 U
ENDRIN KETONE	410 U	180 U	440 U
GAMMA CHLORDANE	2100 U	880 U	2200 U
GAMMA-BHC (LINDANE)	210 U	88 U	220 U
HEPTACHLOR	210 U	88 U	220 U
HEPTACHLOR EPOXIDE	210 U	88 U	220 U
METHOXYCHLOR	2100 U	880 U	2200 U
MIREX			
TOXAPHENE	4100 U	1800 U	4400 U
4,4'-DDD	410 U	180 U	440 U
4,4'-DDE	410 U	180 U	440 U
4,4'-DDT	410 U	180 U	440 U
SURR 1(DBC) %RECOVERY	227 *	197 *	0 D
ACTUAL(ALLOWED) EXTRACT TIME	9(14 D)	9(14 D)	9(14 D)

TABLE D.3.1 DIRECTORY FOR EXTRACTABLE ORGANICS QA/QC DATA

PROBLEM NUMBER	SAMPLE NUMBER	QA/QC ANALYTICAL SDG NUMBER	QA/QC TABLE NUMBER(PG)
1	PE300010A	PE300010A	D.3.2 (D-102)
1	PE300021A	PE300010A	D.3.2 (D-102)
1	PE300032A	PE300010A	D.3.2 (D-102)
1	PE301011E	PE301011E	D.3.3 (D-138)
1	PE301022E	PE301011E	D.3.3 (D-141)
1	PE301033E	PE301011E	D.3.3 (D-141)
1	PE302012A	PE302012A	D.3.4 (D-150)
1	PE302023A	PE301011E	D.3.3 (D-141)
1	PE302034A	PE302012A	D.3.4 (D-153)
1	PE303024A	PE303013A	D.3.5 (D-177)
1	PE303035A	PE303013A	D.3.5 (D-177)
1	PE303046A	PE302012A	D.3.4 (D-156)
1	PE304014A	PE300010A	D.3.2 (D-105)
1	PE304025A	PE300010A	D.3.2 (D-105)
1	PE304036A	PE300010A	D.3.2 (D-105)
1	PE309019A	PE302012A	D.3.4 (D-153)
1	PE309020A	PE302012A	D.3.4 (D-153)
1	PE309031A	PE302012A	D.3.4 (D-153)
1	PE310012A	PE303013A	D.3.5 (D-177)
1	PE310023A	PE303013A	D.3.5 (D-177)
1	PE310034A	PE303013A	D.3.5 (D-177)
2	PE305015F	PE301011E	D.3.3 (D-132)
2	PE305026G	PE301011E	D.3.3 (D-132)
2	PE305037G	PE301011E	D.3.3 (D-135)
2	PE305048E	PE301011E	D.3.3 (D-135)
2	PE308018A	PE302012A	D.3.4 (D-147)
2	PE308029C	PE302012A	D.3.4 (D-150)
2	PE308030A	PE302012A	D.3.4 (D-153)
2	PE308109A	PE302012A	D.3.4 (D-150)
3	PE400011A	PE301011E	D.3.3 (D-126)
3	PE400022A	PE301011E	D.3.3 (D-129)
3	PE400033A	PE301011E	D.3.3 (D-132)
3	PE401012A	PE301011E	D.3.3 (D-129)
3	PE401023A	PE301011E	D.3.3 (D-132)
3	PE401034C	PE301011E	D.3.3 (D-135)
4	PE402013A	PE301011E	D.3.3 (D-132)
4	PE403014A	PE301011E	D.3.3 (D-129)
4	PE403025A	PE301011E	D.3.3 (D-132)
4	PE403036A	PE301011E	D.3.3 (D-138)
5	PE800015B	PE300010A	D.3.2 (D-111)
5	PE800026B	PE300010A	D.3.2 (D-111)
5	PE800037B	PE300010A	D.3.2 (D-111)
5	PE800048B	PE300010A	D.3.2 (D-111)
5	PE800060B	PE300010A	D.3.2 (D-99)
5	PE800071B	PE300010A	D.3.2 (D-105)
5	PE800082B	PE300010A	D.3.2 (D-105)
5	PE800093B	PE300010A	D.3.2 (D-105)
5	PE800106B	PE300010A	D.3.2 (D-105)
5	PE800117B	PE300010A	D.3.2 (D-108)
5	PE800128B	PE300010A	D.3.2 (D-108)
5	PE800139B	PE300010A	D.3.2 (D-108)

TABLE D.3.1 DIRECTORY FOR EXTRACTABLE ORGANICS QA/QC DATA

PROBLEM NUMBER	SAMPLE NUMBER	QA/QC ANALYTICAL SDG NUMBER	QA/QC TABLE NUMBER(PG)
5	PE800140B	PE300010A	D.3.2 (D-111)
5	PE800151B	PE300010A	D.3.2 (D-111)
5	PE800162E	PE301011E	D.3.3 (D-132)
5	PE801016B	PE300010A	D.3.2 (D-117)
5	PE801027B	PE300010A	D.3.2 (D-120)
5	PE801038B	PE300010A	D.3.2 (D-114)
5	PE801049B	PE300010A	D.3.2 (D-114)
5	PE801050B	PE300010A	D.3.2 (D-114)
5	PE801061B	PE300010A	D.3.2 (D-117)
5	PE801072B	PE300010A	D.3.2 (D-117)
5	PE801083B	PE300010A	D.3.2 (D-117)
5	PE801094B	PE300010A	D.3.2 (D-117)
5	PE801107B	PE300010A	D.3.2 (D-117)
5	PE802017B	PE303013A	D.3.5 (D-171)
5	PE802028B	PE303013A	D.3.5 (D-174)
5	PE802039B	PE303013A	D.3.5 (D-174)
5	PE802040B	PE303013A	D.3.5 (D-174)
5	PE802051B	PE303013A	D.3.5 (D-177)
5	PE802062B	PE303013A	D.3.5 (D-177)
5	PE802073E	PE301011E	D.3.3 (D-138)
5	PE803018B	PE803018B	D.3.6 (D-189)
5	PE803029B	PE803018B	D.3.6 (D-198)
5	PE803030B	PE803018B	D.3.6 (D-198)
5	PE804019B	PE803018B	D.3.6 (D-192)
5	PE804020B	PE803018B	D.3.6 (D-195)
5	PE804031B	PE803018B	D.3.6 (D-195)
5	PE804042B	PE803018B	D.3.6 (D-195)
5	PE804053B	PE803018B	D.3.6 (D-195)
5	PE804064B	PE803018B	D.3.6 (D-192)
5	PE804075B	PE803018B	D.3.6 (D-195)
5	PE804086B	PE803018B	D.3.6 (D-198)

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0914886	PE0914886	PE0914885	PE0922885	PE0922887	PE0922887	PE0922888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
ACENAPHTHENE	0.617	4.3			0.589	4.5	
ACENAPHTHYLENE	2.017	7			1.92	4.8	
ANTHRACENE	1.024	3.1			0.992	3.1	
BENZO(A)ANTHRACENE	1.144	11.1			1.058	7.5	
BENZO(A)PYRENE	1.563	16			1.547	1	
BENZO(B)FLUORANTHENE	1.794	12			1.812	1	
BENZO(G,H,I)PERYLENE	1.08	15.8			0.964	10.8	
BENZO(K)FLUORANTHENE	1.822	19.6			1.794	1.5	
BENZOIC ACID	0.161	18			0.121	25.1	
BENZYL ALCOHOL	0.712	28.4			0.831	16.6	
BIS(-2-CHLOROETHOXY)METHANE	0.7	5			0.671	4.1	
BIS(2-CHLOROETHYL)ETHER	2.377	8			2.24	5.7	
BIS(2-CHLOROISOPROPYL)ETHER	1.714	8.3			1.682	1.9	
BIS(2-ETHYLHEXYL)PHTHALATE	1.549	5.8			1.44	7.1	
BUTYLBENZYLPHTHALATE	1.146	6.4			1.126	1.7	
CHRYSENE	1.057	13.9			0.984	6.9	
DI-N-BUTYLPHTHALATE	1.774	8			1.678	5.4	
DI-N-OCTYL PHTHALATE	4.334	5.6			4.392	1.3	
DIBENZO(A,H)ANTHRACENE	1.05	18.1			0.86	18.1	
DIBENZOFURAN	1.668	3.4			1.569	5.9	
DIETHYLPHTHALATE	1.484	1.7			1.415	4.6	
DIMETHYLPHTHALATE	1.438	3.1			1.377	4.2	
FLUORANTHENE	0.881	3.8			0.866	1.6	
FLUORENE	1.257	5.6			1.164	7.4	
HEXACHLOROBENZENE	0.357	3.3			0.344	3.6	
HEXACHLOROBUTADIENE	0.185	4.1			0.178	4	
HEXACHLOROCYCLOPENTADIENE	0.235	17.3			0.292	24.6	
HEXACHLOROETHANE	0.661	6.7			0.71	7.4	
INDENO(1,2,3-CD)PYRENE	1.108	14.3			0.947	14.5	
ISOPHORONE	0.782	27.9			0.941	20.4	
N-NITROSO-DI-N-PROPYLAMINE	1.104	3.9			1.137	3	
N-NITROSODIPHENYLAMINE	0.453	20.2			0.439	3.1	
NAPHTHALENE	1.08	8.4			1.026	5	
NITROBENZENE	0.485	2.5			0.486	0.2	
NITROBENZENE-D5	0.493	3.2			0.485	1.5	
PENTACHLOROPHENOL	0.119	11.2			0.126	6.1	
PHENANTHRENE	1.033	4.1			1.065	3.1	
PHENOL	2.406	9.1			2.124	11.7	
PHENOL-D5	2.1	6.4			1.968	6.3	

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0914886	PE0914886	PE0914885	PE0922885	PE0922887	PE0922887	PE0922888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
PYRENE	1.877	6.6			1.868	0.5	
TERPHENYL-D14	1.423	6.1			1.356	4.7	
1,2-DICHLOROBENZENE	1.513	5.7			1.482	2	
1,2,4-TRICHLOROBENZENE	0.321	4.1			0.315	1.9	
1,3-DICHLOROBENZENE	1.498	4			1.444	3.6	
1,4-DICHLOROBENZENE	1.581	7.4			1.529	3.3	
2-CHLORONAPHTHALENE	1.316	2.2			1.304	0.9	
2-CHLOROPHENOL	1.547	6.6			1.51	2.4	
2-FLUOROBIPHENYL	1.623	2.7			1.571	3.2	
2-FLUOROPHENOL	1.549	1.3			1.507	2.8	
2-METHYLNAPHTHALENE	0.833	7.8			0.769	7.7	
2-METHYLPHENOL	1.339	3.2			1.292	3.5	
2-NITROANILINE	0.49	3			0.471	3.9	
2-NITROPHENOL	0.21	5.5			0.197	6.3	
2,4-DICHLOROPHENOL	0.277	10.4			0.262	5.5	
2,4-DIMETHYLPHENOL	0.366	4			0.345	5.8	
2,4-DINITROPHENOL	0.092	21.8			0.062	32.2	
2,4-DINITROTOLUENE	0.412	8.1			0.384	6.6	
2,4,5-TRICHLOROPHENOL	0.404	6.1			0.364	9.9	
2,4,6-TRIBROMOPHENOL	0.229	9.3			0.203	11.3	
2,4,6-TRICHLOROPHENOL	0.42	9.5			0.416	1	
2,6-DINITROTOLUENE	0.338	7.1			0.31	8.4	
3-NITROANILINE	0.348	14.9			0.27	22.2	
3,3'-DICHLOROBENZIDINE	0.148	17.7			0	100	
4-BROMOPHENYL-PHENYLETHER	0.26	3.5			0.238	8.5	
4-CHLORO-3-METHYLPHENOL	0.304	6.6			0.283	7	
4-CHLOROANILINE	0.204	24.1			0.172	15.5	
4-CHLOROPHENYL-PHENYLETHER	0.584	5.6			0.544	6.8	
4-METHYLPHENOL	1.313	4.3			1.332	1.5	
4-NITROANILINE	0.176	25.6			0.16	9.4	
4-NITROPHENOL	0.082	26.7			0.073	10.8	
4,6-DINITRO-2-METHYLPHENOL	0.096	13.5			0.082	14.3	

SURR 1(NBZ) %RECOVERY
SURR 2(FBP) %RECOVERY
SURR 3(TPH) %RECOVERY
SURR 4(PHL) %RECOVERY
SURR 5(2FP) %RECOVERY
SURR 6(TBP) %RECOVERY

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0914886	PE0914886	PE0914885	PE0922885	PE0922887	PE0922887	PE0922888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
M/E 51			42	44			
M/E 68-1			0	0			
M/E 68-2			0	0			
M/E 69			72	75			
M/E 70-1			0	0			
M/E 70-2			0	0			
M/E 127			48	49			
M/E 197			0	0			
M/E 198			100	100			
M/E 199			6.2	7.2			
M/E 275			22	19			
M/E 365			1.2	1.5			
M/E 441			11	9.2			
M/E 442			72	56			
M/E 443-1			13	10			
M/E 443-2			18	18			
INTERNAL STD AREA(ANT)							46100
INTERNAL STD AREA(CRY)							28200
INTERNAL STD AREA(DCB)							40700
INTERNAL STD AREA(NPT)							129000
INTERNAL STD AREA(PHN)							63100
INTERNAL STD AREA(PRY)							12100
DILUTION FACTOR							
PERCENT MOISTURE							
ACTUAL(ALLOWED) EXTRACT TIME							

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD	MATRIX	MS %	RPD	MATRIX SPIKE	MSD %	2.2 FIELD
TYPE OF LOCATION	BLANK	SPIKE	RECOVERY		DUPLICATE	RECOVERY	WASTE ACCUM
SAMPLE NUMBER	SBK08789	PE800060B	PE800060B	PE800060B	PE800060B	PE800060B	PE800060B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	%	%	UG/KG	%	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
ACENAPHTHENE	330 U	1500	44 *	4	1500	42 *	350 U

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD BLANK	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY	2.2 FIELD WASTE ACCUM
TYPE OF LOCATION							
SAMPLE NUMBER	SBK08789	PE800060B	PE800060B	PE800060B	PE800060B	PE800060B	PE800060B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	%	%	UG/KG	%	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
ACENAPHTHYLENE	330 U	360 U			360 U		350 U
ANTHRACENE	330 U	360 U			360 U		350 U
BENZO(A)ANTHRACENE	330 U	360 U			360 U		350 U
BENZO(A)PYRENE	330 U	360 U			360 U		350 U
BENZO(B)FLUORANTHENE	330 U	360 U			360 U		350 U
BENZO(G,H,I)PERYLENE	330 U	360 U			360 U		350 U
BENZO(K)FLUORANTHENE	330 U	360 U			360 U		350 U
BENZOIC ACID	1700 U	1800 U			1800 U		1800 U
BENZYL ALCOHOL	330 U	360 U			360 U		350 U
BIS(-2-CHLOROETHOXY)METHANE	330 U	360 U			360 U		350 U
BIS(2-CHLOROETHYL)ETHER	330 U	360 U			360 U		350 U
BIS(2-CHLOROISOPROPYL)ETHER	330 U	360 U			360 U		350 U
BIS(2-ETHYLHEXYL)PHTHALATE	330 U	140 J			360 U		470
BUTYLBENZYLPHTHALATE	330 U	360 U			360 U		350 U
CHRYSENE	330 U	360 U			360 U		350 U
DI-N-BUTYLPHTHALATE	140 J	360 U			120 JB		75 JB
DI-N-OCTYL PHTHALATE	330 U	360 U			9 J		15 J
DIBENZO(A,H)ANTHRACENE	330 U	360 U			360 U		350 U
DIBENZOFURAN	330 U	360 U			360 U		350 U
DIETHYLPHTHALATE	330 U	360 U			360 U		350 U
DIMETHYLPHTHALATE	330 U	360 U			360 U		350 U
FLUORANTHENE	330 U	360 U			360 U		350 U
FLUORENE	330 U	360 U			360 U		350 U
HEXACHLOROBENZENE	330 U	360 U			360 U		350 U
HEXACHLOROBUTADIENE	330 U	360 U			360 U		350 U
HEXACHLOROCYCLOPENTADIENE	330 U	360 U			360 U		350 U
HEXACHLOROETHANE	330 U	360 U			360 U		350 U
INDENO(1,2,3-CD)PYRENE	330 U	360 U			360 U		350 U
ISOPHORONE	330 U	360 U			360 U		350 U
N-NITROSO-DI-N-PROPYLAMINE	330 U	1400	40 *	12	1300	36 *	350 U
N-NITROSODIPHENYLAMINE	330 U	360 U			360 U		350 U
NAPHTHALENE	330 U	360 U			360 U		350 U
NITROBENZENE	330 U	360 U			360 U		350 U
NITROBENZENE-D5							
PENTACHLOROPHENOL	1700 U	2200	31	53 *	3800	53	1800 U
PHENANTHRENE	330 U	360 U			360 U		350 U
PHENOL	330 U	3500	50	14	3100	43	10 J
PHENOL-D5							
PYRENE	330 U	2200	61	30	1600	45	350 U

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD	MATRIX	MS %	RPD	MATRIX SPIKE	MSD %	2.2 FIELD
TYPE OF LOCATION	BLANK	SPIKE	RECOVERY		DUPLICATE	RECOVERY	WASTE ACCUM
SAMPLE NUMBER	SBK08789	PE800060B	PE800060B	PE800060B	PE800060B	PE800060B	PE800060B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	%	%	UG/KG	%	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
TERPHENYL-D14							
1,2-DICHLOROBENZENE	330 U	360 U			360 U		350 U
1,2,4-TRICHLOROBENZENE	330 U	1400	38 *	7	1300	35 *	350 U
1,3-DICHLOROBENZENE	330 U	360 U			360 U		350 U
1,4-DICHLOROBENZENE	330 U	1500	42	11	1300	38	350 U
2-CHLORONAPHTHALENE	330 U	360 U			360 U		350 U
2-CHLOROPHENOL	330 U	3100	44	14	2700	38	350 U
2-FLUOROBIPHENYL							
2-FLUOROPHENOL							
2-METHYLNAPHTHALENE	330 U	360 U			360 U		350 U
2-METHYLPHENOL	330 U	360 U			360 U		350 U
2-NITROANILINE	1700 U	1800 U			1800 U		1800 U
2-NITROPHENOL	330 U	360 U			360 U		350 U
2,4-DICHLOROPHENOL	330 U	360 U			360 U		350 U
2,4-DIMETHYLPHENOL	330 U	360 U			360 U		350 U
2,4-DINITROPHENOL	1700 U	1800 U			1800 U		1800 U
2,4-DINITROTOLUENE	330 U	1700	47	5	1800	49	350 U
2,4,5-TRICHLOROPHENOL	1700 U	1800 U			1800 U		1800 U
2,4,6-TRIBROMOPHENOL							
2,4,6-TRICHLOROPHENOL	330 U	360 U			360 U		350 U
2,6-DINITROTOLUENE	330 U	360 U			360 U		350 U
3-NITROANILINE	1700 U	1800 U			1800 U		1800 U
3,3'-DICHLOROBENZIDINE	670 U	710 U			720 U		710 U
4-BROMOPHENYL-PHENYLETHER	330 U	360 U			360 U		350 U
4-CHLORO-3-METHYLPHENOL	330 U	3600	51	8	3400	47	350 U
4-CHLOROANILINE	330 U	360 U			360 U		350 U
4-CHLOROPHENYL-PHENYLETHER	330 U	360 U			360 U		350 U
4-METHYLPHENOL	330 U	360 U			360 U		350 U
4-NITROANILINE	1700 U	1800 U			1800 U		1800 U
4-NITROPHENOL	1700 U	2700	75	16	3100	88 *	1800 U
4,6-DINITRO-2-METHYLPHENOL	1700 U	1800 U			1800 U		1800 U
SURR 1(NBZ) %RECOVERY	27	42			35		37
SURR 2(FBP) %RECOVERY	29 *	39			35		35
SURR 3(TPH) %RECOVERY	59	65			57		59
SURR 4(PHL) %RECOVERY	30	52			42		40
SURR 5(2FP) %RECOVERY	32	46			38		44
SURR 6(TBP) %RECOVERY	30	43			42		19

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TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD	MATRIX	MS %	RPD	MATRIX SPIKE	MSD %	2.2 FIELD
TYPE OF LOCATION	BLANK	SPIKE	RECOVERY		DUPLICATE	RECOVERY	WASTE ACCUM
SAMPLE NUMBER	SBK08789	PE800060B	PE800060B	PE800060B	PE800060B	PE800060B	PE800060B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	%	%	UG/KG	%	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
M/E 68-1							
M/E 68-2							
M/E 69							
M/E 70-1							
M/E 70-2							
M/E 127							
M/E 197							
M/E 198							
M/E 199							
M/E 275							
M/E 365							
M/E 441							
M/E 442							
M/E 443-1							
M/E 443-2							
INTERNAL STD AREA(ANT)	67200	71000			69000		74900
INTERNAL STD AREA(CRY)	26700	30500			33500		29500
INTERNAL STD AREA(DCB)	53200	48100			53500		52200
INTERNAL STD AREA(NPT)	172000	165000			177000		187000
INTERNAL STD AREA(PHN)	82700	98500			104000		92400
INTERNAL STD AREA(PRY)	16600	15700			18600		16700
DILUTION FACTOR	1	1			1		1
PERCENT MOISTURE	0	6.3			6.3		6.3
ACTUAL(ALLOWED) EXTRACT TIME		4(14 D)			4(14 D)		5(14 D)

AREA				QA	QA	QA	QA
LOCATION	LICK RUN	LICK RUN	LICK RUN	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	STORM SEWER	STORM SEWER	STORM SEWER	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE300010A	PE300021A	PE300032A	PE0923885	PE0923887	PE0923887	PE0923888
MATRIX	SOIL	SOIL	SOIL				
UNITS	UG/KG	UG/KG	UG/KG	%	RRF	%	AREA
ENV PROBLEM NO	1	1	1				
ACENAPHTHENE	460 U	410 U	170 J		0.584	5.3	

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA				QA	QA	QA	QA
LOCATION	LICK RUN	LICK RUN	LICK RUN	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	STORM SEWER	STORM SEWER	STORM SEWER	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE300010A	PE300021A	PE300032A	PE0923885	PE0923887	PE0923887	PE0923888
MATRIX	SOIL	SOIL	SOIL				
UNITS	UG/KG	UG/KG	UG/KG	X	RRF	X	AREA
ENV PROBLEM NO	1	1	1				
ACENAPHTHYLENE	460 U	410 U	400 U		1.952	3.2	
ANTHRACENE	460 U	210 J	600		1	2.3	
BENZO(A)ANTHRACENE	340 J	640	1200		1.1	3.8	
BENZO(A)PYRENE	210 J	400 J	670		1.384	11.4	
BENZO(B)FLUORANTHENE	240 J	500	930		1.695	5.5	
BENZO(G,H,I)PERYLENE	460 U	260 J	440		0.893	17.3	
BENZO(K)FLUORANTHENE	220 J	230 J	340 J		1.599	12.2	
BENZOIC ACID	2300 U	2000 U	2000 U		0.149	7.7	
BENZYL ALCOHOL	460 U	410 U	400 U		0.733	2.9	
BIS(-2-CHLOROETHOXY)METHANE	460 U	410 U	400 U		0.692	1	
BIS(2-CHLOROETHYL)ETHER	460 U	410 U	400 U		2.235	6	
BIS(2-CHLOROISOPROPYL)ETHER	460 U	410 U	400 U		1.603	6.5	
BIS(2-ETHYLHEXYL)PHTHALATE	200 J	220 J	130 J		1.522	1.8	
BUTYLBENZYLPHTHALATE	180 J	410 U	400 U		1.109	3.2	
CHRYSENE	430 J	690	1200		0.99	6.3	
DI-N-BUTYLPHTHALATE	130 JB	360 JB	160 JB		1.671	5.8	
DI-N-OCTYL PHTHALATE	23 J	28 J	19 J		3.81	12.1	
DIBENZO(A,H)ANTHRACENE	460 U	410 U	140 J		0.871	17	
DIBENZOFURAN	53 J	94 J	160 J		1.664	0.2	
DIETHYLPHTHALATE	30 J	29 J	400 U		1.556	4.9	
DIMETHYLPHTHALATE	460 U	410 U	400 U		1.435	0.2	
FLUORANTHENE	700	1300	3000		0.848	3.7	
FLUORENE	460 U	410 U	210 J		1.251	0.5	
HEXACHLOROBENZENE	460 U	410 U	400 U		0.359	0.5	
HEXACHLOROBUTADIENE	460 U	410 U	400 U		0.178	3.8	
HEXACHLOROCYCLOPENTADIENE	460 U	410 U	400 U		0.297	26.7	
HEXACHLOROETHANE	460 U	410 U	400 U		0.681	3	
INDENO(1,2,3-CD)PYRENE	170 J	290 J	500		0.942	15	
ISOPHORONE	460 U	410 U	400 U		0.957	22.4	
N-NITROSO-DI-N-PROPYLAMINE	460 U	410 U	400 U		1.135	2.8	
N-NITROSODIPHENYLAMINE	460 U	410 U	400 U		0.468	3.5	
NAPHTHALENE	60 J	75 J	200 J		1.018	5.8	
NITROBENZENE	460 U	410 U	400 U		0.491	1.1	
NITROBENZENE-D5					0.503	2.1	
PENTACHLOROPHENOL	2300 U	2000 U	2000 U		0.146	22.4	
PHENANTHRENE	430 J	920	2000		1.034	0.2	
PHENOL	460 U	410 U	400 U		2.172	9.7	
PHENOL-D5					2.015	4	
PYRENE	680	1200	2400		1.717	8.5	

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA				QA	QA	QA	QA
LOCATION	LICK RUN	LICK RUN	LICK RUN	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	STORM SEWER	STORM SEWER	STORM SEWER	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE300010A	PE300021A	PE300032A	PE0923885	PE0923887	PE0923887	PE0923888
MATRIX	SOIL	SOIL	SOIL				
UNITS	UG/KG	UG/KG	UG/KG	%	RRF	%	AREA
ENV PROBLEM NO	1	1	1				
TERPHENYL-D14					1.308	8.1	
1,2-DICHLOROBENZENE	460 U	410 U	400 U		1.433	5.3	
1,2,4-TRICHLOROBENZENE	460 U	410 U	400 U		0.314	2.3	
1,3-DICHLOROBENZENE	460 U	410 U	400 U		1.4	6.5	
1,4-DICHLOROBENZENE	460 U	410 U	400 U		1.503	4.9	
2-CHLORONAPHTHALENE	460 U	410 U	400 U		1.35	2.6	
2-CHLOROPHENOL	460 U	410 U	400 U		1.466	5.2	
2-FLUOROBIPHENYL					1.573	3.1	
2-FLUOROPHENOL					1.453	6.2	
2-METHYLNAPHTHALENE	58 J	99 J	300 J		0.808	3.1	
2-METHYLPHENOL	460 U	410 U	400 U		1.286	3.9	
2-NITROANILINE	2300 U	2000 U	2000 U		0.468	4.5	
2-NITROPHENOL	460 U	410 U	400 U		0.21	0.1	
2,4-DICHLOROPHENOL	460 U	410 U	400 U		0.268	3.2	
2,4-DIMETHYLPHENOL	460 U	410 U	400 U		0.347	5.4	
2,4-DINITROPHENOL	2300 U	2000 U	2000 U		0.094	2.9	
2,4-DINITROTOLUENE	460 U	410 U	400 U		0.413	0.3	
2,4,5-TRICHLOROPHENOL	2300 U	2000 U	2000 U		0.392	3.1	
2,4,6-TRIBROMOPHENOL					0.249	8.4	
2,4,6-TRICHLOROPHENOL	460 U	410 U	400 U		0.418	0.4	
2,6-DINITROTOLUENE	460 U	410 U	400 U		0.316	6.5	
3-NITROANILINE	2300 U	2000 U	2000 U		0.302	13.2	
3,3'-DICHLOROBENZIDINE	910 U	810 U	790 U		0.164	10.9	
4-BROMOPHENYL-PHENYLETHER	460 U	410 U	400 U		0.248	4.7	
4-CHLORO-3-METHYLPHENOL	460 U	410 U	400 U		0.291	4.5	
4-CHLOROANILINE	460 U	410 U	400 U		0.161	20.8	
4-CHLOROPHENYL-PHENYLETHER	460 U	410 U	400 U		0.56	4.1	
4-METHYLPHENOL	460 U	410 U	400 U		1.332	1.5	
4-NITROANILINE	2300 U	2000 U	2000 U		0.183	4.1	
4-NITROPHENOL	2300 U	2000 U	2000 U		0.101	23	
4,6-DINITRO-2-METHYLPHENOL	2300 U	2000 U	2000 U		0.07	27.1	
SURR 1(NBZ) %RECOVERY	66	70	55				
SURR 2(FBP) %RECOVERY	66	79	62				
SURR 3(TPH) %RECOVERY	99	110	88				
SURR 4(PHL) %RECOVERY	58	76	50				
SURR 5(2FP) %RECOVERY	72	77	59				
SURR 6(TBP) %RECOVERY	62	69	74				

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A

DRAFT DO NOT CITE

AREA				QA	QA	QA	QA
LOCATION	LICK RUN	LICK RUN	LICK RUN	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	STORM SEWER	STORM SEWER	STORM SEWER	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE300010A	PE300021A	PE300032A	PE0923885	PE0923887	PE0923887	PE0923888
MATRIX	SOIL	SOIL	SOIL				
UNITS	UG/KG	UG/KG	UG/KG	%	RRF	%	AREA
ENV PROBLEM NO	1	1	1				
M/E 68-1				0			
M/E 68-2				0			
M/E 69				75			
M/E 70-1				0			
M/E 70-2				0			
M/E 127				49			
M/E 197				0			
M/E 198				100			
M/E 199				7.2			
M/E 275				19			
M/E 365				1.5			
M/E 441				9.2			
M/E 442				56			
M/E 443-1				10			
M/E 443-2				18			
INTERNAL STD AREA(ANT)	42100	44900	43100				48100
INTERNAL STD AREA(CRY)	20300	21100	23800				31700
INTERNAL STD AREA(DCB)	36200	35500	38400				41800
INTERNAL STD AREA(NPT)	111000	112000	112000				130000
INTERNAL STD AREA(PHN)	59100	59100	61500				67600
INTERNAL STD AREA(PRY)	13300	12800	13800				16600
DILUTION FACTOR	1	1	1				
PERCENT MOISTURE	27.5	20.3	16.3				
ACTUAL(ALLOWED) EXTRACT TIME	3(14 D)	3(14 D)	3(14 D)				

AREA							
LOCATION	LICK RUN	LICK RUN	LICK RUN	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	STORM SEWER	STORM SEWER	STORM SEWER	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE304014A	PE304025A	PE304036A	PE800071B	PE800082B	PE800093B	PE800106B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	1	1	1	5	5	5	5
ACENAPHTHENE	67 J	260 J	69 J	350 U	350 U	340 U	350 U

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA

LOCATION	LICK RUN	LICK RUN	LICK RUN	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	STORM SEWER	STORM SEWER	STORM SEWER	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE304014A	PE304025A	PE304036A	PE800071B	PE800082B	PE800093B	PE800106B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	1	1	1	5	5	5	5
ACENAPHTHYLENE	490 U	22 J	440 U	350 U	350 U	340 U	350 U
ANTHRACENE	270 J	990	310 J	350 U	350 U	340 U	350 U
BENZO(A)ANTHRACENE	960	2100	960	350 U	350 U	340 U	350 U
BENZO(A)PYRENE	1200	1100	720	88 J	350 U	340 U	350 U
BENZO(B)FLUORANTHENE	1200	1100	760	350 U	23 J	340 U	350 U
BENZO(G,H,I)PERYLENE	980	960	550	350 U	350 U	340 U	350 U
BENZO(K)FLUORANTHENE	870	780	520	350 U	17 J	340 U	350 U
BENZOIC ACID	2500 U	2400 U	2200 U	1700 U	1700 U	1700 U	1700 U
BENZYL ALCOHOL	490 U	480 U	440 U	350 U	350 U	340 U	350 U
BIS(-2-CHLOROETHOXY)METHANE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
BIS(2-CHLOROETHYL)ETHER	490 U	480 U	440 U	350 U	350 U	340 U	350 U
BIS(2-CHLOROISOPROPYL)ETHER	490 U	480 U	440 U	350 U	350 U	340 U	350 U
BIS(2-ETHYLHEXYL)PHTHALATE	470 J	360 J	440 U	350 U	390	1100	2600
BUTYLBENZYLPHTHALATE	180 J	480 U	440 U	350 U	350 U	50 J	350 U
CHRYSENE	1100	2100	1000	350 U	350 U	340 U	350 U
DI-N-BUTYLPHTHALATE	450 JB	190 JB	390 JB	130 JB	250 JB	330 JB	140 JB
DI-N-OCTYL PHTHALATE	220 J	30 J	37 J	350 U	350 U	12 J	350 U
DIBENZO(A,H)ANTHRACENE	950	280 J	220 J	350 U	350 U	340 U	350 U
DIBENZOFURAN	130 J	280 J	100 J	350 U	350 U	340 U	350 U
DIETHYLPHTHALATE	120 J	480 U	36 J	350 U	350 U	41 J	350 U
DIMETHYLPHTHALATE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
FLUORANTHENE	1500	5700	2200	350 U	350 U	340 U	350 U
FLUORENE	89 J	310 J	440 U	350 U	350 U	340 U	350 U
HEXACHLOROBENZENE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
HEXACHLOROBUTADIENE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
HEXACHLOROCYCLOPENTADIENE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
HEXACHLOROETHANE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
INDENO(1,2,3-CD)PYRENE	1100	960	600	110 J	45 J	340 U	350 U
ISOPHORONE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
N-NITROSO-DI-N-PROPYLAMINE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
N-NITROSODIPHENYLAMINE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
NAPHTHALENE	110 J	210 J	70 J	350 U	350 U	340 U	350 U
NITROBENZENE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
NITROBENZENE-D5							
PENTACHLOROPHENOL	2500 U	2400 U	2200 U	1700 U	1700 U	1700 U	1700 U
PHENANTHRENE	1100	3700	1500	350 U	350 U	340 U	350 U
PHENOL	490 U	89 J	440 U	350 U	350 U	340 U	350 U
PHENOL-D5							
PYRENE	1600	4800	2100	34 J	350 U	340 U	350 U

AREA

LOCATION	LICK RUN	LICK RUN	LICK RUN	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	STORM SEWER	STORM SEWER	STORM SEWER	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE304014A	PE304025A	PE304036A	PE800071B	PE800082B	PE800093B	PE800106B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	1	1	1	5	5	5	5
TERPHENYL-D14							
1,2-DICHLOROBENZENE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
1,2,4-TRICHLOROBENZENE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
1,3-DICHLOROBENZENE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
1,4-DICHLOROBENZENE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
2-CHLORONAPHTHALENE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
2-CHLOROPHENOL	490 U	480 U	440 U	350 U	350 U	340 U	350 U
2-FLUOROBIPHENYL							
2-FLUOROPHENOL							
2-METHYLNAPHTHALENE	150 J	260 J	82 J	350 U	350 U	340 U	350 U
2-METHYLPHENOL	490 U	480 U	440 U	350 U	350 U	340 U	350 U
2-NITROANILINE	2500 U	2400 U	2200 U	1700 U	1700 U	1700 U	1700 U
2-NITROPHENOL	490 U	480 U	440 U	350 U	350 U	340 U	350 U
2,4-DICHLOROPHENOL	490 U	480 U	440 U	350 U	350 U	340 U	350 U
2,4-DIMETHYLPHENOL	490 U	480 U	440 U	350 U	350 U	340 U	350 U
2,4-DINITROPHENOL	2500 U	2400 U	2200 U	1700 U	1700 U	1700 U	1700 U
2,4-DINITROTOLUENE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
2,4,5-TRICHLOROPHENOL	2500 U	2400 U	2200 U	1700 U	1700 U	1700 U	1700 U
2,4,6-TRIBROMOPHENOL							
2,4,6-TRICHLOROPHENOL	490 U	480 U	440 U	350 U	350 U	340 U	350 U
2,6-DINITROTOLUENE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
3-NITROANILINE	2500 U	2400 U	2200 U	1700 U	1700 U	1700 U	1700 U
3,3'-DICHLOROBENZIDINE	990 U	960 U	870 U	690 U	690 U	680 U	690 U
4-BROMOPHENYL-PHENYLETHER	490 U	480 U	440 U	350 U	350 U	340 U	350 U
4-CHLORO-3-METHYLPHENOL	490 U	480 U	440 U	350 U	350 U	340 U	350 U
4-CHLOROANILINE	490 U	480 U	440 U	350 U	350 U	340 U	350 U
4-CHLOROPHENYL-PHENYLETHER	490 U	480 U	440 U	350 U	350 U	340 U	350 U
4-METHYLPHENOL	490 U	480 U	440 U	350 U	350 U	340 U	350 U
4-NITROANILINE	2500 U	2400 U	2200 U	1700 U	1700 U	1700 U	1700 U
4-NITROPHENOL	2500 U	2400 U	2200 U	1700 U	1700 U	1700 U	1700 U
4,6-DINITRO-2-METHYLPHENOL	2500 U	2400 U	2200 U	1700 U	1700 U	1700 U	1700 U
SURR 1(NBZ) %RECOVERY	66	66	71	60	50	50	50
SURR 2(FBP) %RECOVERY	75	73	79	61	51	51	49
SURR 3(TPH) %RECOVERY	111	99	110	111	67	72	80
SURR 4(PHL) %RECOVERY	70	73	78	64	53	53	52
SURR 5(2FP) %RECOVERY	78	81	90	69	63	56	57
SURR 6(TBP) %RECOVERY	63	69	68	43	34	32	36

M/E 51

AREA

LOCATION	LICK RUN	LICK RUN	LICK RUN	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	STORM SEWER	STORM SEWER	STORM SEWER	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE304014A	PE304025A	PE304036A	PE800071B	PE800082B	PE800093B	PE800106B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	1	1	1	5	5	5	5
M/E 68-1							
M/E 68-2							
M/E 69							
M/E 70-1							
M/E 70-2							
M/E 127							
M/E 197							
M/E 198							
M/E 199							
M/E 275							
M/E 365							
M/E 441							
M/E 442							
M/E 443-1							
M/E 443-2							
INTERNAL STD AREA(ANT)	48100	48700	52900	53300	49200	49700	51500
INTERNAL STD AREA(CRY)	22500	23300	24300	23400	27100	26700	25300
INTERNAL STD AREA(DCB)	38600	35900	42000	40700	37900	39400	41100
INTERNAL STD AREA(NPT)	127000	120000	135000	134000	128000	128000	134000
INTERNAL STD AREA(PHN)	66400	64100	68700	66700	64900	65100	66700
INTERNAL STD AREA(PRY)	12500	21000	15400	15400	23200	18400	16200
DILUTION FACTOR	1	1	1	1	1	1	1
PERCENT MOISTURE	33	31	25	5.9	4.9	3	5.2
ACTUAL(ALLOWED) EXTRACT TIME	3(14 D)	3(14 D)	3(14 D)	5(14 D)	5(14 D)	5(14 D)	5(14 D)

AREA	QA	QA	QA	QA			
LOCATION	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE0924885	PE0924887	PE0924887	PE0924888	PE800117B	PE800128B	PE800139B
MATRIX					SOIL	SOIL	SOIL
UNITS	%	RRF	%	AREA	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO					5	5	5
ACENAPHTHENE		0.595	3.7		330 U	340 U	340 U

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA			
LOCATION	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE0924885	PE0924887	PE0924887	PE0924888	PE800117B	PE800128B	PE800139B
MATRIX					SOIL	SOIL	SOIL
UNITS	%	RRF	%	AREA	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO					5	5	5
ACENAPHTHYLENE		1.943	3.7		330 U	340 U	340 U
ANTHRACENE		0.949	7.3		330 U	340 U	340 U
BENZO(A)ANTHRACENE		1.086	5.1		110 J	340 U	340 U
BENZO(A)PYRENE		1.553	0.6		74 J	340 U	340 U
BENZO(B)FLUORANTHENE		1.851	3.2		69 J	340 U	340 U
BENZO(G,H,I)PERYLENE		1.095	1.4		49 J	340 U	340 U
BENZO(K)FLUORANTHENE		1.851	1.6		78 J	340 U	340 U
BENZOIC ACID		0.146	9.2		1700 U	1700 U	1700 U
BENZYL ALCOHOL		0.848	19.1		330 U	340 U	340 U
BIS(-2-CHLOROETHOXY)METHANE		0.673	3.8		330 U	340 U	340 U
BIS(2-CHLOROETHYL)ETHER		2.23	6.2		330 U	340 U	340 U
BIS(2-CHLOROISOPROPYL)ETHER		1.601	6.6		330 U	340 U	340 U
BIS(2-ETHYLHEXYL)PHTHALATE		1.388	10.4		150 J	190 J	340 U
BUTYLBENZYLPHTHALATE		1.049	8.4		330 U	340 U	340 U
CHRYSENE		1.026	2.9		120 J	340 U	340 U
DI-N-BUTYLPHTHALATE		1.635	7.8		150 JB	140 JB	130 JB
DI-N-OCTYL PHTHALATE		3.944	9		27 J	310 J	340 U
DIBENZO(A,H)ANTHRACENE		1.035	1.4		60 J	340 U	340 U
DIBENZOFURAN		1.689	1.3		330 U	340 U	340 U
DIETHYLPHTHALATE		1.593	7.3		72 J	340 U	340 U
DIMETHYLPHTHALATE		1.497	4.1		330 U	340 U	340 U
FLUORANTHENE		0.89	1.1		330 U	340 U	340 U
FLUORENE		1.242	1.2		330 U	340 U	340 U
HEXACHLOROBENZENE		0.347	2.7		330 U	340 U	340 U
HEXACHLOROBUTADIENE		0.176	5.2		330 U	340 U	340 U
HEXACHLOROCYCLOPENTADIENE		0.234	0.5		330 U	340 U	340 U
HEXACHLOROETHANE		0.666	0.7		330 U	340 U	340 U
INDENO(1,2,3-CD)PYRENE		1.159	4.6		54 J	340 U	340 U
ISOPHORONE		0.968	23.9		330 U	340 U	340 U
N-NITROSO-DI-N-PROPYLAMINE		1.209	9.5		330 U	340 U	340 U
N-NITROSODIPHENYLAMINE		0.467	3.2		330 U	340 U	340 U
NAPHTHALENE		1.009	6.6		330 U	340 U	340 U
NITROBENZENE		0.487	0.3		330 U	340 U	340 U
NITROBENZENE-D5		0.483	1.9				
PENTACHLOROPHENOL		0.141	18.5		1700 U	1700 U	1700 U
PHENANTHRENE		1.025	0.7		330 U	340 U	340 U
PHENOL		2.286	5		330 U	340 U	340 U
PHENOL-D5		2.05	2.4				
PYRENE		1.581	15.8		42 J	340 U	340 U

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA			
LOCATION	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE0924885	PE0924887	PE0924887	PE0924888	PE800117B	PE800128B	PE800139B
MATRIX					SOIL	SOIL	SOIL
UNITS	%	RRF	%	AREA	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO					5	5	5
TERPHENYL-D14		1.247	12.4				
1,2-DICHLOROBENZENE		1.461	3.4		330 U	340 U	340 U
1,2,4-TRICHLOROBENZENE		0.304	5.4		330 U	340 U	340 U
1,3-DICHLOROBENZENE		1.444	3.6		330 U	340 U	340 U
1,4-DICHLOROBENZENE		1.501	5		330 U	340 U	340 U
2-CHLORONAPHTHALENE		1.349	2.5		330 U	340 U	340 U
2-CHLOROPHENOL		1.518	1.9		330 U	340 U	340 U
2-FLUOROBIPHENYL		1.632	0.6				
2-FLUOROPHENOL		1.412	8.8				
2-METHYLNAPHTHALENE		0.808	3		330 U	340 U	340 U
2-METHYLPHENOL		1.334	0.4		330 U	340 U	340 U
2-NITROANILINE		0.504	2.8		1700 U	1700 U	1700 U
2-NITROPHENOL		0.2	4.9		330 U	340 U	340 U
2,4-DICHLOROPHENOL		0.279	0.7		330 U	340 U	340 U
2,4-DIMETHYLPHENOL		0.325	11.4		330 U	340 U	340 U
2,4-DINITROPHENOL		0.097	6		1700 U	1700 U	1700 U
2,4-DINITROTOLUENE		0.43	4.3		330 U	340 U	340 U
2,4,5-TRICHLOROPHENOL		0.412	1.9		1700 U	1700 U	1700 U
2,4,6-TRIBROMOPHENOL		0.24	4.4				
2,4,6-TRICHLOROPHENOL		0.428	2		330 U	340 U	340 U
2,6-DINITROTOLUENE		0.347	2.5		330 U	340 U	340 U
3-NITROANILINE		0.311	10.6		1700 U	1700 U	1700 U
3,3'-DICHLOROBENZIDINE		0.227	53.4		670 U	680 U	680 U
4-BROMOPHENYL-PHENYLETHER		0.253	2.6		330 U	340 U	340 U
4-CHLORO-3-METHYLPHENOL		0.297	2.4		330 U	340 U	340 U
4-CHLOROANILINE		0.172	15.5		330 U	340 U	340 U
4-CHLOROPHENYL-PHENYLETHER		0.559	4.3		330 U	340 U	340 U
4-METHYLPHENOL		1.343	2.4		330 U	340 U	340 U
4-NITROANILINE		0.166	5.7		1700 U	1700 U	1700 U
4-NITROPHENOL		0.104	27.1		1700 U	1700 U	1700 U
4,6-DINITRO-2-METHYLPHENOL		0.077	19.7		1700 U	1700 U	1700 U
SURR 1(NBZ) %RECOVERY					72	49	56
SURR 2(FBP) %RECOVERY					68	50	54
SURR 3(TPH) %RECOVERY					95	75	90
SURR 4(PHL) %RECOVERY					72	54	59
SURR 5(2FP) %RECOVERY					83	58	64
SURR 6(TBP) %RECOVERY					50	36	44

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TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA			
LOCATION	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE0924885	PE0924887	PE0924887	PE0924888	PE800117B	PE800128B	PE800139B
MATRIX					SOIL	SOIL	SOIL
UNITS	%	RRF	%	AREA	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO					5	5	5
M/E 68-1	0						
M/E 68-2	0						
M/E 69	66						
M/E 70-1	0						
M/E 70-2	0						
M/E 127	44						
M/E 197	0						
M/E 198	100						
M/E 199	6.2						
M/E 275	20						
M/E 365	2.1						
M/E 441	7.6						
M/E 442	58						
M/E 443-1	9.9						
M/E 443-2	17						
INTERNAL STD AREA(ANT)				49200	56300	58500	61200
INTERNAL STD AREA(CRY)				36100	25300	37400	32700
INTERNAL STD AREA(DCB)				41500	43200	41900	43000
INTERNAL STD AREA(NPT)				136000	141000	144000	147000
INTERNAL STD AREA(PHN)				68300	66700	82100	82800
INTERNAL STD AREA(PRY)				18100	16200	28000	23700
DILUTION FACTOR					1	1	1
PERCENT MOISTURE					2.6	2.8	3.9
ACTUAL(ALLOWED) EXTRACT TIME					5(14 D)	5(14 D)	5(14 D)

AREA							QA
LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	TUNED
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CALIBRATION
SAMPLE NUMBER	PE800140B	PE800151B	PE800015B	PE800026B	PE800037B	PE800048B	PE0927885
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO	5	5	5	5	5	5	
ACENAPHTHENE	330 U	330 U	350 U	340 U	340 U	360 U	

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA

LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	QA
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	TUNED CALIBRATION
SAMPLE NUMBER	PE800140B	PE800151B	PE800015B	PE800026B	PE800037B	PE800048B	PE0927885
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO	5	5	5	5	5	5	
ACENAPHTHYLENE	330 U	330 U	350 U	340 U	340 U	360 U	
ANTHRACENE	330 U	330 U	350 U	340 U	340 U	360 U	
BENZO(A)ANTHRACENE	330 U	330 U	350 U	340 U	340 U	360 U	
BENZO(A)PYRENE	330 U	330 U	350 U	340 U	340 U	360 U	
BENZO(B)FLUORANTHENE	330 U	330 U	350 U	340 U	340 U	360 U	
BENZO(G,H,I)PERYLENE	330 U	330 U	350 U	340 U	340 U	360 U	
BENZO(K)FLUORANTHENE	330 U	330 U	350 U	340 U	340 U	360 U	
BENZOIC ACID	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	
BENZYL ALCOHOL	330 U	330 U	350 U	340 U	340 U	360 U	
BIS(-2-CHLOROETHOXY)METHANE	330 U	330 U	350 U	340 U	340 U	360 U	
BIS(2-CHLOROETHYL)ETHER	330 U	330 U	350 U	340 U	340 U	360 U	
BIS(2-CHLOROISOPROPYL)ETHER	330 U	330 U	350 U	340 U	340 U	360 U	
BIS(2-ETHYLHEXYL)PHTHALATE	1600	530	2300	290 J	790	170 J	
BUTYLBENZYLPHTHALATE	330 U	330 U	350 U	340 U	340 U	360 U	
CHRYSENE	330 U	330 U	350 U	340 U	340 U	360 U	
DI-N-BUTYLPHTHALATE	140 JB	380 B	140 JB	75 JB	86 JB	310 JB	
DI-N-OCTYL PHTHALATE	37 J	21 J	350 U	340 U	340 U	9 J	
DIBENZO(A,H)ANTHRACENE	330 U	330 U	350 U	340 U	340 U	360 U	
DIBENZOFURAN	330 U	330 U	350 U	340 U	340 U	360 U	
DIETHYLPHTHALATE	330 U	330 U	350 U	12 J	340 U	360 U	
DIMETHYLPHTHALATE	330 U	330 U	350 U	340 U	340 U	360 U	
FLUORANTHENE	330 U	330 U	350 U	340 U	340 U	360 U	
FLUORENE	330 U	330 U	350 U	340 U	340 U	360 U	
HEXACHLOROBENZENE	330 U	330 U	350 U	340 U	340 U	360 U	
HEXACHLOROBUTADIENE	330 U	330 U	350 U	340 U	340 U	360 U	
HEXACHLOROCYCLOPENTADIENE	330 U	330 U	350 U	340 U	340 U	360 U	
HEXACHLOROETHANE	330 U	330 U	350 U	340 U	340 U	360 U	
INDENO(1,2,3-CD)PYRENE	330 U	330 U	350 U	340 U	340 U	360 U	
ISOPHORONE	330 U	330 U	350 U	340 U	340 U	360 U	
N-NITROSO-DI-N-PROPYLAMINE	330 U	330 U	350 U	340 U	340 U	360 U	
N-NITROSODIPHENYLAMINE	330 U	330 U	350 U	340 U	340 U	360 U	
NAPHTHALENE	330 U	330 U	350 U	340 U	340 U	360 U	
NITROBENZENE	330 U	330 U	350 U	340 U	340 U	360 U	
NITROBENZENE-D5							
PENTACHLOROPHENOL	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	
PHENANTHRENE	330 U	330 U	350 U	340 U	340 U	8 J	
PHENOL	330 U	330 U	350 U	340 U	340 U	360 U	
PHENOL-D5							
PYRENE	41 J	330 U	350 U	340 U	340 U	360 U	

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA							QA
LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	TUNED
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CALIBRATION
SAMPLE NUMBER	PE800140B	PE800151B	PE800015B	PE800026B	PE800037B	PE800048B	PE0927885
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO	5	5	5	5	5	5	
TERPHENYL-D14							
1,2-DICHLOROBENZENE	330 U	330 U	350 U	340 U	340 U	360 U	
1,2,4-TRICHLOROBENZENE	330 U	330 U	350 U	340 U	340 U	360 U	
1,3-DICHLOROBENZENE	330 U	330 U	350 U	340 U	340 U	360 U	
1,4-DICHLOROBENZENE	330 U	330 U	350 U	340 U	340 U	360 U	
2-CHLORONAPHTHALENE	330 U	330 U	350 U	340 U	340 U	360 U	
2-CHLOROPHENOL	330 U	330 U	350 U	340 U	340 U	360 U	
2-FLUOROBIPHENYL							
2-FLUOROPHENOL							
2-METHYLNAPHTHALENE	330 U	330 U	350 U	340 U	340 U	360 U	
2-METHYLPHENOL	330 U	330 U	350 U	340 U	340 U	360 U	
2-NITROANILINE	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	
2-NITROPHENOL	330 U	330 U	350 U	340 U	340 U	360 U	
2,4-DICHLOROPHENOL	330 U	330 U	350 U	340 U	340 U	360 U	
2,4-DIMETHYLPHENOL	330 U	330 U	350 U	340 U	340 U	360 U	
2,4-DINITROPHENOL	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	
2,4-DINITROTOLUENE	330 U	330 U	350 U	340 U	340 U	360 U	
2,4,5-TRICHLOROPHENOL	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	
2,4,6-TRIBROMOPHENOL							
2,4,6-TRICHLOROPHENOL	330 U	330 U	350 U	340 U	340 U	360 U	
2,6-DINITROTOLUENE	330 U	330 U	350 U	340 U	340 U	360 U	
3-NITROANILINE	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	
3,3'-DICHLOROBENZIDINE	670 U	660 U	700 U	690 U	690 U	710 U	
4-BROMOPHENYL-PHENYLETHER	330 U	330 U	350 U	340 U	340 U	360 U	
4-CHLORO-3-METHYLPHENOL	330 U	330 U	350 U	340 U	340 U	360 U	
4-CHLOROANILINE	330 U	330 U	350 U	340 U	340 U	360 U	
4-CHLOROPHENYL-PHENYLETHER	330 U	330 U	350 U	340 U	340 U	360 U	
4-METHYLPHENOL	330 U	330 U	350 U	340 U	340 U	360 U	
4-NITROANILINE	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	
4-NITROPHENOL	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	
4,6-DINITRO-2-METHYLPHENOL	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	
SURR 1(NBZ) %RECOVERY	55	55	56	49	69	58	
SURR 2(FBP) %RECOVERY	54	49	52	50	68	54	
SURR 3(TPH) %RECOVERY	83	81	73	79	118	78	
SURR 4(PHL) %RECOVERY	56	55	54	53	70	58	
SURR 5(2FP) %RECOVERY	60	60	61	60	81	65	
SURR 6(TBP) %RECOVERY	47	40	43	35	63	49	

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TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA							QA
LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	TUNED
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CALIBRATION
SAMPLE NUMBER	PE800140B	PE800151B	PE800015B	PE800026B	PE800037B	PE800048B	PE0927885
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO	5	5	5	5	5	5	
M/E 68-1							0
M/E 68-2							0
M/E 69							77
M/E 70-1							0
M/E 70-2							0
M/E 127							49
M/E 197							0
M/E 198							100
M/E 199							6.4
M/E 275							21
M/E 365							1.7
M/E 441							10
M/E 442							66
M/E 443-1							12
M/E 443-2							19
INTERNAL STD AREA(ANT)	67400	65000	60200	64600	57200	63700	
INTERNAL STD AREA(CRY)	39300	37300	36800	31800	33400	40400	
INTERNAL STD AREA(DCB)	47700	44300	43400	44500	42200	45000	
INTERNAL STD AREA(NPT)	164000	153000	144000	156000	142000	155000	
INTERNAL STD AREA(PHN)	92700	93200	84200	86700	78900	90400	
INTERNAL STD AREA(PRY)	35900	24100	26700	19200	22700	27300	
DILUTION FACTOR	1	1	1	1	1	1	
PERCENT MOISTURE	2.8	2.5	6.1	4.8	4.9	8.3	
ACTUAL(ALLOWED) EXTRACT TIME	5(14 D)	5(14 D)	5(14 D)	5(14 D)	5(14 D)	5(14 D)	

AREA	QA	QA	QA				
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	REANALYSIS	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT		WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE0927887	PE0927887	PE0927888	PE800059B	PE801038B	PE801049B	PE801050B
MATRIX				SOIL	SOIL	SOIL	SOIL
UNITS	RRF	%	AREA	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO				5	5	5	5
ACENAPHTHENE	0.614	0.6		340 U	380 U	370 U	340 U

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A

DRAFT DO NOT CITE

AREA	QA	QA	QA				
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	REANALYSIS	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT		WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE0927887	PE0927887	PE0927888	PE800059B	PE801038B	PE801049B	PE801050B
MATRIX				SOIL	SOIL	SOIL	SOIL
UNITS	RRF	%	AREA	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO				5	5	5	5
ACENAPHTHYLENE	1.947	3.5		340 U	380 U	370 U	340 U
ANTHRACENE	1.009	1.4		340 U	380 U	370 U	340 U
BENZO(A)ANTHRACENE	1.067	6.7		72 J	380 U	370 U	340 U
BENZO(A)PYRENE	1.38	11.7		130 J	380 U	370 U	340 U
BENZO(B)FLUORANTHENE	1.834	2.2		120 J	380 U	370 U	340 U
BENZO(G,H,I)PERYLENE	1.116	3.4		110 J	380 U	370 U	340 U
BENZO(K)FLUORANTHENE	1.553	14.8		120 J	380 U	370 U	340 U
BENZOIC ACID	0.132	18.3		1700 U	1900 U	1900 U	1700 U
BENZYL ALCOHOL	0.812	14		340 U	380 U	370 U	340 U
BIS(-2-CHLOROETHOXY)METHANE	0.687	1.8		340 U	380 U	370 U	340 U
BIS(2-CHLOROETHYL)ETHER	2.212	6.9		340 U	380 U	370 U	340 U
BIS(2-CHLOROISOPROPYL)ETHER	1.771	3.3		340 U	380 U	370 U	340 U
BIS(2-ETHYLHEXYL)PHTHALATE	1.553	0.2		180 J	380 U	370 U	140 J
BUTYLBENZYLPHTHALATE	1.116	2.6		340 U	380 U	370 U	340 U
CHRYSENE	1.017	3.8		70 J	380 U	370 U	340 U
DI-N-BUTYLPHTHALATE	1.586	10.6		84 JB	86 JB	86 JB	79 JB
DI-N-OCTYL PHTHALATE	4.583	5.8		110 J	380 U	370 U	120 J
DIBENZO(A,H)ANTHRACENE	1.079	2.7		140 J	380 U	370 U	340 U
DIBENZOFURAN	1.634	2.1		340 U	20 J	370 U	340 U
DIETHYLPHTHALATE	1.54	3.8		340 U	380 U	370 U	340 U
DIMETHYLPHTHALATE	1.436	0.1		340 U	380 U	370 U	340 U
FLUORANTHENE	0.906	2.9		340 U	380 U	370 U	340 U
FLUORENE	1.247	0.8		340 U	380 U	370 U	340 U
HEXACHLOROBENZENE	0.35	1.9		340 U	380 U	370 U	340 U
HEXACHLOROBUTADIENE	0.179	3.7		340 U	380 U	370 U	340 U
HEXACHLOROCYCLOPENTADIENE	0.299	27.3		340 U	380 U	370 U	340 U
HEXACHLOROETHANE	0.71	7.4		340 U	380 U	370 U	340 U
INDENO(1,2,3-CD)PYRENE	1.149	3.7		340 U	380 U	370 U	340 U
ISOPHORONE	0.979	25.3		340 U	380 U	370 U	340 U
N-NITROSO-DI-N-PROPYLAMINE	1.205	9.1		340 U	380 U	370 U	340 U
N-NITROSODIPHENYLAMINE	0.471	4.2		340 U	380 U	370 U	340 U
NAPHTHALENE	1.026	5		340 U	36 J	370 U	340 U
NITROBENZENE	0.509	4.9		340 U	380 U	370 U	340 U
NITROBENZENE-D5	0.501	1.6					
PENTACHLOROPHENOL	0.103	14		1700 U	1900 U	1900 U	1700 U
PHENANTHRENE	1.025	0.8		340 U	54 J	370 U	14 J
PHENOL	2.208	8.2		340 U	380 U	370 U	15 J
PHENOL-D5	2.062	1.8					
PYRENE	1.733	7.7		340 U	380 U	370 U	340 U

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA	QA	QA	QA				
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	REANALYSIS	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT		WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE0927887	PE0927887	PE0927888	PE800059B	PE801038B	PE801049B	PE801050B
MATRIX				SOIL	SOIL	SOIL	SOIL
UNITS	RRF	%	AREA	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO				5	5	5	5
TERPHENYL-D14	1.311	7.9					
1,2-DICHLOROBENZENE	1.469	2.9		340 U	380 U	370 U	340 U
1,2,4-TRICHLOROBENZENE	0.311	3.2		340 U	380 U	370 U	340 U
1,3-DICHLOROBENZENE	1.418	5.3		340 U	380 U	370 U	340 U
1,4-DICHLOROBENZENE	1.524	3.6		340 U	380 U	370 U	340 U
2-CHLORONAPHTHALENE	1.303	1		340 U	380 U	370 U	340 U
2-CHLOROPHENOL	1.458	5.7		340 U	380 U	370 U	340 U
2-FLUOROBIPHENYL	1.569	3.3					
2-FLUOROPHENOL	1.485	4.2					
2-METHYLNAPHTHALENE	0.845	1.4		340 U	42 J	370 U	340 U
2-METHYLPHENOL	1.325	1		340 U	380 U	370 U	340 U
2-NITROANILINE	0.507	3.5		1700 U	1900 U	1900 U	1700 U
2-NITROPHENOL	0.2	5		340 U	380 U	370 U	340 U
2,4-DICHLOROPHENOL	0.276	0.5		340 U	380 U	370 U	340 U
2,4-DIMETHYLPHENOL	0.349	4.6		340 U	380 U	370 U	340 U
2,4-DINITROPHENOL	0.099	8.3		1700 U	1900 U	1900 U	1700 U
2,4-DINITROTOLUENE	0.427	3.7		340 U	380 U	370 U	340 U
2,4,5-TRICHLOROPHENOL	0.374	7.4		1700 U	1900 U	1900 U	1700 U
2,4,6-TRIBROMOPHENOL	0.226	1.6					
2,4,6-TRICHLOROPHENOL	0.404	3.8		340 U	380 U	370 U	340 U
2,6-DINITROTOLUENE	0.329	2.6		340 U	380 U	370 U	340 U
3-NITROANILINE	0.353	1.5		1700 U	1900 U	1900 U	1700 U
3,3'-DICHLOROBENZIDINE	0.247	66.3		670 U	760 U	750 U	680 U
4-BROMOPHENYL-PHENYLETHER	0.242	7.1		340 U	380 U	370 U	340 U
4-CHLORO-3-METHYLPHENOL	0.321	5.4		340 U	380 U	370 U	340 U
4-CHLOROANILINE	0.212	4		340 U	380 U	370 U	340 U
4-CHLOROPHENYL-PHENYLETHER	0.578	1.1		340 U	380 U	370 U	340 U
4-METHYLPHENOL	1.375	4.7		340 U	380 U	370 U	340 U
4-NITROANILINE	0.252	42.8		1700 U	1900 U	1900 U	1700 U
4-NITROPHENOL	0.098	19		1700 U	1900 U	1900 U	1700 U
4,6-DINITRO-2-METHYLPHENOL	0.08	16.7		1700 U	1900 U	1900 U	1700 U
SURR 1(NBZ) %RECOVERY				50	50	67	66
SURR 2(FBP) %RECOVERY				51	52	73	68
SURR 3(TPH) %RECOVERY				79	73	89	93
SURR 4(PHL) %RECOVERY				63	53	72	73
SURR 5(2FP) %RECOVERY				61	56	74	78
SURR 6(TBP) %RECOVERY				39	54	73	65

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TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A

DRAFT DO NOT CITE

AREA	QA	QA	QA				
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	REANALYSIS	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT		WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE0927887	PE0927887	PE0927888	PE800059B	PE801038B	PE801049B	PE801050B
MATRIX				SOIL	SOIL	SOIL	SOIL
UNITS	RRF	%	AREA	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO				5	5	5	5
M/E 68-1							
M/E 68-2							
M/E 69							
M/E 70-1							
M/E 70-2							
M/E 127							
M/E 197							
M/E 198							
M/E 199							
M/E 275							
M/E 365							
M/E 441							
M/E 442							
M/E 443-1							
M/E 443-2							
INTERNAL STD AREA(ANT)			45900	53200	49300	50500	53600
INTERNAL STD AREA(CRY)			33800	33300	34200	35300	38800
INTERNAL STD AREA(DCB)			34700	36000	38000	37600	35700
INTERNAL STD AREA(NPT)			113000	135000	126000	131000	127000
INTERNAL STD AREA(PHN)			67100	70600	66100	72800	79600
INTERNAL STD AREA(PRY)			16100	22900	23700	25900	29100
DILUTION FACTOR				1	1	1	1
PERCENT MOISTURE				3.6	13.4	13.4	4.3
ACTUAL(ALLOWED) EXTRACT TIME				5(14 D)	5(14 D)	5(14 D)	5(14 D)

AREA							QA
LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	TUNED
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CALIBRATION
SAMPLE NUMBER	PE801061B	PE801072B	PE801083B	PE801094B	PE801107B	PE801016B	PE0928885
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO	5	5	5	5	5	5	
ACENAPHTHENE	370 U	350 U	360 U	360 U	360 U	380 U	

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA							QA
LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	TUNED
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CALIBRATION
SAMPLE NUMBER	PE801061B	PE801072B	PE801083B	PE801094B	PE801107B	PE801016B	PE0928885
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO	5	5	5	5	5	5	
ACENAPHTHYLENE	370 U	350 U	360 U	360 U	360 U	380 U	
ANTHRACENE	370 U	350 U	17 J	360 U	360 U	380 U	
BENZO(A)ANTHRACENE	50 J	350 U	360 U	360 U	360 U	380 U	
BENZO(A)PYRENE	30 J	350 U	360 U	360 U	360 U	380 U	
BENZO(B)FLUORANTHENE	72 J	350 U	28 J	360 U	360 U	380 U	
BENZO(G,H,I)PERYLENE	370 U	350 U	360 U	360 U	360 U	380 U	
BENZO(K)FLUORANTHENE	370 U	350 U	18 J	360 U	360 U	380 U	
BENZOIC ACID	1800 U	1800 U	1800 U	1800 U	1800 U	1900 U	
BENZYL ALCOHOL	370 U	350 U	360 U	360 U	360 U	380 U	
BIS(-2-CHLOROETHOXY)METHANE	370 U	350 U	360 U	360 U	360 U	380 U	
BIS(2-CHLOROETHYL)ETHER	370 U	350 U	360 U	360 U	360 U	380 U	
BIS(2-CHLOROISOPROPYL)ETHER	370 U	350 U	360 U	360 U	360 U	380 U	
BIS(2-ETHYLHEXYL)PHTHALATE	370 U	350 J	320 J	220 J	220 J	380 U	
BUTYLBENZYLPHTHALATE	370 U	350 U	360 U	360 U	360 U	380 U	
CHRYSENE	190 J	350 U	40 J	360 U	28 J	29 J	
DI-N-BUTYLPHTHALATE	88 JB	350 U	93 JB	51 JB	360 U	380 U	
DI-N-OCTYL PHTHALATE	25 J	17 J	17 J	11 J	360 U	380 U	
DIBENZO(A,H)ANTHRACENE	370 U	350 U	360 U	360 U	360 U	380 U	
DIBENZOFURAN	350 J	12 J	24 J	38 J	32 J	380 U	
DIETHYLPHTHALATE	370 U	350 U	360 U	360 U	360 U	380 U	
DIMETHYLPHTHALATE	370 U	350 U	360 U	360 U	360 U	380 U	
FLUORANTHENE	71 J	16 J	66 J	21 J	360 U	25 J	
FLUORENE	370 U	350 U	360 U	360 U	360 U	380 U	
HEXACHLOROBENZENE	370 U	350 U	360 U	360 U	360 U	380 U	
HEXACHLOROBUTADIENE	370 U	350 U	360 U	360 U	360 U	380 U	
HEXACHLOROCYCLOPENTADIENE	370 U	350 U	360 U	360 U	360 U	380 U	
HEXACHLOROETHANE	370 U	350 U	360 U	360 U	360 U	380 U	
INDENO(1,2,3-CD)PYRENE	370 U	350 U	360 U	360 U	360 U	380 U	
ISOPHORONE	370 U	350 U	360 U	360 U	360 U	380 U	
N-NITROSO-DI-N-PROPYLAMINE	370 U	350 U	360 U	360 U	360 U	380 U	
N-NITROSODIPHENYLAMINE	370 U	350 U	360 U	360 U	360 U	380 U	
NAPHTHALENE	660	350 U	39 J	58 J	49 J	29 J	
NITROBENZENE	370 U	350 U	360 U	360 U	360 U	380 U	
NITROBENZENE-D5							
PENTACHLOROPHENOL	1800 U	1800 U	1800 U	1800 U	1800 U	1900 U	
PHENANTHRENE	690	40 J	88 J	88 J	94 J	66 J	
PHENOL	370 U	350 U	360 U	360 U	360 U	380 U	
PHENOL-D5							
PYRENE	120 J	18 J	58 J	29 J	30 J	27 J	

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A DRAFT DO NOT CITE

AREA							QA
LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	TUNED
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CALIBRATION
SAMPLE NUMBER	PE801061B	PE801072B	PE801083B	PE801094B	PE801107B	PE801016B	PE0928885
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO	5	5	5	5	5	5	
TERPHENYL-D14							
1,2-DICHLOROBENZENE	370 U	350 U	360 U	360 U	360 U	380 U	
1,2,4-TRICHLOROBENZENE	370 U	350 U	360 U	360 U	360 U	380 U	
1,3-DICHLOROBENZENE	370 U	350 U	360 U	360 U	360 U	380 U	
1,4-DICHLOROBENZENE	370 U	350 U	360 U	360 U	360 U	380 U	
2-CHLORONAPHTHALENE	370 U	350 U	360 U	360 U	360 U	380 U	
2-CHLOROPHENOL	370 U	350 U	360 U	360 U	360 U	380 U	
2-FLUOROBIPHENYL							
2-FLUOROPHENOL							
2-METHYLNAPHTHALENE	760	23 J	40 J	59 J	45 J	33 J	
2-METHYLPHENOL	370 U	350 U	360 U	360 U	360 U	380 U	
2-NITROANILINE	1800 U	1800 U	1800 U	1800 U	1800 U	1900 U	
2-NITROPHENOL	370 U	350 U	360 U	360 U	360 U	380 U	
2,4-DICHLOROPHENOL	370 U	350 U	360 U	360 U	360 U	380 U	
2,4-DIMETHYLPHENOL	370 U	350 U	360 U	360 U	360 U	380 U	
2,4-DINITROPHENOL	1800 U	1800 U	1800 U	1800 U	1800 U	1900 U	
2,4-DINITROTOLUENE	370 U	350 U	360 U	360 U	360 U	380 U	
2,4,5-TRICHLOROPHENOL	1800 U	1800 U	1800 U	1800 U	1800 U	1900 U	
2,4,6-TRIBROMOPHENOL							
2,4,6-TRICHLOROPHENOL	370 U	350 U	360 U	360 U	360 U	380 U	
2,6-DINITROTOLUENE	370 U	350 U	360 U	360 U	360 U	380 U	
3-NITROANILINE	1800 U	1800 U	1800 U	1800 U	1800 U	1900 U	
3,3'-DICHLOROBENZIDINE	730 U	710 U	720 U	710 U	730 U	760 U	
4-BROMOPHENYL-PHENYLETHER	370 U	350 U	360 U	360 U	360 U	380 U	
4-CHLORO-3-METHYLPHENOL	370 U	350 U	360 U	360 U	360 U	380 U	
4-CHLOROANILINE	370 U	350 U	360 U	360 U	360 U	380 U	
4-CHLOROPHENYL-PHENYLETHER	370 U	350 U	360 U	360 U	360 U	380 U	
4-METHYLPHENOL	370 U	350 U	360 U	360 U	360 U	380 U	
4-NITROANILINE	1800 U	1800 U	1800 U	1800 U	1800 U	1900 U	
4-NITROPHENOL	1800 U	1800 U	1800 U	1800 U	1800 U	1900 U	
4,6-DINITRO-2-METHYLPHENOL	1800 U	1800 U	1800 U	1800 U	1800 U	1900 U	
SURR 1(NBZ) %RECOVERY	74	49	74	64	53	56	
SURR 2(FBP) %RECOVERY	82	59	79	70	54	58	
SURR 3(TPH) %RECOVERY	99	88	100	100	91	89	
SURR 4(PHL) %RECOVERY	76	54	79	64	62	70	
SURR 5(2FP) %RECOVERY	86	53	85	69	66	74	
SURR 6(TBP) %RECOVERY	78	62	83	73	61	63	

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A

DRAFT DO NOT CITE

AREA							QA
LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	TUNED
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CALIBRATION
SAMPLE NUMBER	PE801061B	PE801072B	PE801083B	PE801094B	PE801107B	PE801016B	PE0928885
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO	5	5	5	5	5	5	
M/E 68-1							0
M/E 68-2							0
M/E 69							77
M/E 70-1							0
M/E 70-2							0
M/E 127							49
M/E 197							0
M/E 198							100
M/E 199							6.5
M/E 275							21
M/E 365							1.4
M/E 441							10
M/E 442							61
M/E 443-1							11
M/E 443-2							18
INTERNAL STD AREA(ANT)	44000	63300	55000	52600	51500	58400	
INTERNAL STD AREA(CRY)	31800	46400	45900	37900	32400	37200	
INTERNAL STD AREA(DCB)	32900	45800	39000	40700	36000	39700	
INTERNAL STD AREA(NPT)	115000	157000	135000	134000	125000	145000	
INTERNAL STD AREA(PHN)	66300	88700	82700	74200	69900	77900	
INTERNAL STD AREA(PRY)	20500	32000	31700	25900	22400	24600	
DILUTION FACTOR	1	1	1	1	1	1	
PERCENT MOISTURE	10.8	6.4	10.1	8.1	9.6	11.6	
ACTUAL(ALLOWED) EXTRACT TIME	5(14 D)	5(14 D)	6(14 D)	6(14 D)	6(14 D)	6(14 D)	

AREA	QA	QA	QA				
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD			
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM			
SAMPLE NUMBER	PE0928887	PE0928887	PE0928888	PE801027B			
MATRIX				SOIL			
UNITS	RRF	%	AREA	UG/KG			
ENV PROBLEM NO				5			
ACENAPHTHENE	0.577	6.6		390 U			

AREA	QA	QA	QA				
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD			
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM			
SAMPLE NUMBER	PE0928887	PE0928887	PE0928888	PE801027B			
MATRIX				SOIL			
UNITS	RRF	%	AREA	UG/KG			
ENV PROBLEM NO				5			
ACENAPHTHYLENE	1.78	11.8		390 U			
ANTHRACENE	0.974	4.8		55 J			
BENZO(A)ANTHRACENE	1.1	3.8		580			
BENZO(A)PYRENE	1.401	10.4		560			
BENZO(B)FLUORANTHENE	1.659	7.5		580			
BENZO(G,H,I)PERYLENE	0.915	15.2		390 U			
BENZO(K)FLUORANTHENE	1.818	0.2		580			
BENZOIC ACID	0.141	12.5		2000 U			
BENZYL ALCOHOL	0.687	3.5		390 U			
BIS(-2-CHLOROETHOXY)METHANE	0.733	4.8		390 U			
BIS(2-CHLOROETHYL)ETHER	2.398	0.9		390 U			
BIS(2-CHLOROISOPROPYL)ETHER	2.026	18.2		390 U			
BIS(2-ETHYLHEXYL)PHTHALATE	1.478	4.6		770			
BUTYLBENZYLPHTHALATE	1.116	2.6		420			
CHRYSENE	0.998	5.5		620			
DI-N-BUTYLPHTHALATE	1.621	8.6		160 JB			
DI-N-OCTYL PHTHALATE	4.017	7.3		320 J			
DIBENZO(A,H)ANTHRACENE	0.885	15.8		390 U			
DIBENZOFURAN	1.572	5.8		390 U			
DIETHYLPHTHALATE	1.575	6.1		48 J			
DIMETHYLPHTHALATE	1.53	6.4		390 U			
FLUORANTHENE	0.709	19.5		390 U			
FLUORENE	1.14	9.3		390 U			
HEXACHLOROBENZENE	0.385	7.7		390 U			
HEXACHLOROBUTADIENE	0.182	1.8		390 U			
HEXACHLOROCYCLOPENTADIENE	0.272	16		390 U			
HEXACHLOROETHANE	0.748	13.2		390 U			
INDENO(1,2,3-CD)PYRENE	0.98	11.5		340 J			
ISOPHORONE	1.096	40.2		390 U			
N-NITROSO-DI-N-PROPYLAMINE	1.269	14.9		390 U			
N-NITROSODIPHENYLAMINE	0.342	24.4		390 U			
NAPHTHALENE	1.015	6		390 U			
NITROBENZENE	0.569	17.2		390 U			
NITROBENZENE-D5	0.557	13					
PENTACHLOROPHENOL	0.123	3.1		2000 U			
PHENANTHRENE	0.975	5.6		390 U			
PHENOL	2.404	0.1		390 U			
PHENOL-D5	2.216	5.5					
PYRENE	1.77	5.7		300 J			

TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A

DRAFT DO NOT CITE

AREA	QA	QA	QA				
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD			
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM			
SAMPLE NUMBER	PE0928887	PE0928887	PE0928888	PE801027B			
MATRIX				SOIL			
UNITS	RRF	%	AREA	UG/KG			
ENV PROBLEM NO				5			
TERPHENYL-D14	1.38	3					
1,2-DICHLOROBENZENE	1.505	0.5		390 U			
1,2,4-TRICHLOROBENZENE	0.303	5.5		390 U			
1,3-DICHLOROBENZENE	1.485	0.9		390 U			
1,4-DICHLOROBENZENE	1.591	0.6		390 U			
2-CHLORONAPHTHALENE	1.346	2.3		390 U			
2-CHLOROPHENOL	1.544	0.1		390 U			
2-FLUOROBIPHENYL	1.622	0					
2-FLUOROPHENOL	1.677	8.2					
2-METHYLNAPHTHALENE	0.795	4.6		390 U			
2-METHYLPHENOL	1.339	0		390 U			
2-NITROANILINE	0.497	1.3		2000 U			
2-NITROPHENOL	0.204	3.1		390 U			
2,4-DICHLOROPHENOL	0.279	0.7		390 U			
2,4-DIMETHYLPHENOL	0.375	2.3		390 U			
2,4-DINITROPHENOL	0.082	10.3		2000 U			
2,4-DINITROTOLUENE	0.383	6.9		390 U			
2,4,5-TRICHLOROPHENOL	0.39	3.4		2000 U			
2,4,6-TRIBROMOPHENOL	0.183	20.2					
2,4,6-TRICHLOROPHENOL	0.424	0.9		390 U			
2,6-DINITROTOLUENE	0.354	4.5		390 U			
3-NITROANILINE	0.062	82		2000 U			
3,3'-DICHLOROBENZIDINE	0.062	58		780 U			
4-BROMOPHENYL-PHENYLETHER	0.264	1.6		390 U			
4-CHLORO-3-METHYLPHENOL	0.298	1.9		390 U			
4-CHLOROANILINE	0.041	80.1		390 U			
4-CHLOROPHENYL-PHENYLETHER	0.549	5.9		390 U			
4-METHYLPHENOL	1.445	10.1		390 U			
4-NITROANILINE	0.05	71.9		2000 U			
4-NITROPHENOL	0.077	6.3		2000 U			
4,6-DINITRO-2-METHYLPHENOL	0.071	25.7		2000 U			
SURR 1(NBZ) %RECOVERY				35			
SURR 2(FBP) %RECOVERY				38			
SURR 3(TPH) %RECOVERY				77			
SURR 4(PHL) %RECOVERY				43			
SURR 5(2FP) %RECOVERY				44			
SURR 6(TBP) %RECOVERY				46			

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TABLE D.3.2 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE300010A

DRAFT DO NOT CITE

AREA	QA	QA	QA				
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD			
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM			
SAMPLE NUMBER	PE0928887	PE0928887	PE0928888	PE801027B			
MATRIX				SOIL			
UNITS	RRF	%	AREA	UG/KG			
ENV PROBLEM NO				5			
M/E 68-1							
M/E 68-2							
M/E 69							
M/E 70-1							
M/E 70-2							
M/E 127							
M/E 197							
M/E 198							
M/E 199							
M/E 275							
M/E 365							
M/E 441							
M/E 442							
M/E 443-1							
M/E 443-2							
INTERNAL STD AREA(ANT)			39700	33100			
INTERNAL STD AREA(CRY)			16400	10900			
INTERNAL STD AREA(DCB)			36400	30500			
INTERNAL STD AREA(NPT)			112000	95300			
INTERNAL STD AREA(PHN)			45000	36700			
INTERNAL STD AREA(PRY)			7500	6280			
DILUTION FACTOR				1			
PERCENT MOISTURE				15.1			
ACTUAL(ALLOWED) EXTRACT TIME				6(14 D)			

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0914886	PE0914886	PE0914885	PE0915885	PE0915887	PE0915887	PE0915888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
ACENAPHTHENE	0.617	4.3			0.569	7.8	
ACENAPHTHYLENE	2.017	7			1.86	7.8	
ANTHRACENE	1.024	3.1			0.959	6.3	
BENZO(A)ANTHRACENE	1.144	11.1			1.081	5.4	
BENZO(A)PYRENE	1.563	16			1.562	0.1	
BENZO(B)FLUORANTHENE	1.794	12			1.708	4.8	
BENZO(G,H,I)PERYLENE	1.08	15.8			1.104	2.2	
BENZO(K)FLUORANTHENE	1.822	19.6			1.794	1.5	
BENZOIC ACID	0.161	18			0.163	1.1	
BENZYL ALCOHOL	0.712	28.4			0.773	8.5	
BIS(-2-CHLOROETHOXY)METHANE	0.7	5			0.696	0.5	
BIS(2-CHLOROETHYL)ETHER	2.377	8			2.293	3.5	
BIS(2-CHLOROISOPROPYL)ETHER	1.714	8.3			1.716	0.1	
BIS(2-ETHYLHEXYL)PHTHALATE	1.549	5.8			1.378	11.1	
BUTYLBENZYLPHTHALATE	1.146	6.4			1.073	6.4	
CHRYSENE	1.057	13.9			1.109	4.9	
DI-N-BUTYLPHTHALATE	1.774	8			1.6	9.8	
DI-N-OCTYL PHTHALATE	4.334	5.6			4.175	3.7	
DIBENZO(A,H)ANTHRACENE	1.05	18.1			1.026	2.3	
DIBENZOFURAN	1.668	3.4			1.603	3.9	
DIETHYLPHTHALATE	1.484	1.7			1.457	1.8	
DIMETHYLPHTHALATE	1.438	3.1			1.378	4.2	
FLUORANTHENE	0.881	3.8			0.811	8	
FLUORENE	1.257	5.6			1.164	7.5	
HEXACHLOROBENZENE	0.357	3.3			0.346	3.1	
HEXACHLOROBUTADIENE	0.185	4.1			0.184	0.7	
HEXACHLOROCYCLOPENTADIENE	0.235	17.3			0.248	5.8	
HEXACHLOROETHANE	0.661	6.7			0.705	6.6	
INDENO(1,2,3-CD)PYRENE	1.108	14.3			1.019	8.1	
ISOPHORONE	0.782	27.9			0.977	25	
N-NITROSO-DI-N-PROPYLAMINE	1.104	3.9			1.166	5.6	
N-NITROSODIPHENYLAMINE	0.453	20.2			0.454	0.2	
NAPHTHALENE	1.08	8.4			1.037	4	
NITROBENZENE	0.485	2.5			0.484	0.3	
NITROBENZENE-D5	0.493	3.2			0.498	1	
PENTACHLOROPHENOL	0.119	11.2			0.113	5	
PHENANTHRENE	1.033	4.1			0.983	4.8	
PHENOL	2.406	9.1			2.338	2.8	
PHENOL-D5	2.1	6.4			1.963	6.5	

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0914886	PE0914886	PE0914885	PE0915885	PE0915887	PE0915887	PE0915888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
PYRENE	1.877	6.6			2.017	7.5	
TERPHENYL-D14	1.423	6.1			1.453	2.1	
1,2-DICHLOROBENZENE	1.513	5.7			1.474	2.6	
1,2,4-TRICHLOROBENZENE	0.321	4.1			0.314	2.1	
1,3-DICHLOROBENZENE	1.498	4			1.46	2.5	
1,4-DICHLOROBENZENE	1.581	7.4			1.565	1	
2-CHLORONAPHTHALENE	1.316	2.2			1.246	5.4	
2-CHLOROPHENOL	1.547	6.6			1.51	2.3	
2-FLUOROBIPHENYL	1.623	2.7			1.525	6.1	
2-FLUOROPHENOL	1.549	1.3			1.535	0.9	
2-METHYLNAPHTHALENE	0.833	7.8			0.801	3.8	
2-METHYLPHENOL	1.339	3.2			1.272	5	
2-NITROANILINE	0.49	3			0.468	4.5	
2-NITROPHENOL	0.21	5.5			0.202	3.9	
2,4-DICHLOROPHENOL	0.277	10.4			0.263	5.3	
2,4-DIMETHYLPHENOL	0.366	4			0.342	6.6	
2,4-DINITROPHENOL	0.092	21.8			0.066	28.5	
2,4-DINITROTOLUENE	0.412	8.1			0.383	7.1	
2,4,5-TRICHLOROPHENOL	0.404	6.1			0.379	6.2	
2,4,6-TRIBROMOPHENOL	0.229	9.3			0.205	10.5	
2,4,6-TRICHLOROPHENOL	0.42	9.5			0.393	6.4	
2,6-DINITROTOLUENE	0.338	7.1			0.313	7.5	
3-NITROANILINE	0.348	14.9			0.294	15.3	
3,3'-DICHLOROBENZIDINE	0.148	17.7			0.117	21.2	
4-BROMOPHENYL-PHENYLETHER	0.26	3.5			0.242	7.1	
4-CHLORO-3-METHYLPHENOL	0.304	6.6			0.307	0.8	
4-CHLOROANILINE	0.204	24.1			0.196	3.9	
4-CHLOROPHENYL-PHENYLETHER	0.584	5.6			0.553	5.3	
4-METHYLPHENOL	1.313	4.3			1.298	1.1	
4-NITROANILINE	0.176	25.6			0.152	13.9	
4-NITROPHENOL	0.082	26.7			0.084	3	
4,6-DINITRO-2-METHYLPHENOL	0.096	13.5			0.078	19.1	

SURR 1(NBZ) %RECOVERY
SURR 2(FBP) %RECOVERY
SURR 3(TPH) %RECOVERY
SURR 4(PHL) %RECOVERY
SURR 5(2FP) %RECOVERY
SURR 6(TBP) %RECOVERY

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0914886	PE0914886	PE0914885	PE0915885	PE0915887	PE0915887	PE0915888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
M/E 51			42	41			
M/E 68-1			0	0			
M/E 68-2			0	0			
M/E 69			72	71			
M/E 70-1			0	0			
M/E 70-2			0	0			
M/E 127			48	49			
M/E 197			0	0			
M/E 198			100	100			
M/E 199			6.2	5.9			
M/E 275			22	19			
M/E 365			1.2	1.4			
M/E 441			11	8.9			
M/E 442			72	58			
M/E 443-1			13	11			
M/E 443-2			18	19			
INTERNAL STD AREA(ANT)							52700
INTERNAL STD AREA(CRY)							28000
INTERNAL STD AREA(DCB)							41900
INTERNAL STD AREA(NPT)							131000
INTERNAL STD AREA(PHN)							71400
INTERNAL STD AREA(PRY)							12100
DILUTION FACTOR							
ACTUAL(ALLOWED) EXTRACT TIME							

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD	MS %	RPD	MATRIX	MSD %	MATRIX SPIKE	B. 62
TYPE OF LOCATION	BLANK	RECOVERY		SPIKE	RECOVERY	DUPLICATE	SPRING
SAMPLE NUMBER	SBK08722	PE400022A	PE400022A	PE400022B	PE400022A	PE400022C	PE400011A
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	%	%	UG/L	%	UG/L	UG/L
ENV PROBLEM NO		3	3	3	3	3	3
ACENAPHTHENE	10 U	84	2	84	82	82	10 U

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD BLANK	MS % RECOVERY	RPD	MATRIX SPIKE	MSD % RECOVERY	MATRIX SPIKE DUPLICATE	B. 62 SPRING
TYPE OF LOCATION							
SAMPLE NUMBER	SBK08722	PE400022A	PE400022A	PE400022B	PE400022A	PE400022C	PE400011A
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	%	%	UG/L	%	UG/L	UG/L
ENV PROBLEM NO		3	3	3	3	3	3
ACENAPHTHYLENE	10 U			10 U		10 U	10 U
ANTHRACENE	10 U			10 U		10 U	10 U
BENZO(A)ANTHRACENE	10 U			10 U		10 U	10 U
BENZO(A)PYRENE	10 U			10 U		10 U	10 U
BENZO(B)FLUORANTHENE	10 U			10 U		10 U	10 U
BENZO(G,H,I)PERYLENE	10 U			10 U		10 U	10 U
BENZO(K)FLUORANTHENE	10 U			10 U		10 U	10 U
BENZOIC ACID	50 U			50 U		50 U	50 U
BENZYL ALCOHOL	10 U			10 U		10 U	10 U
BIS(-2-CHLOROETHOXY)METHANE	10 U			10 U		10 U	10 U
BIS(2-CHLOROETHYL)ETHER	10 U			10 U		10 U	10 U
BIS(2-CHLOROISOPROPYL)ETHER	10 U			10 U		10 U	10 U
BIS(2-ETHYLHEXYL)PHTHALATE	10 U			10 U		39	10 U
BUTYLBENZYLPHTHALATE	10 U			10 U		10 U	10 U
CHRYSENE	10 U			10 U		10 U	10 U
DI-N-BUTYLPHTHALATE	10 U			10 U		10 U	10 U
DI-N-OCTYL PHTHALATE	10 U			0.9 J		2 J	10 U
DIBENZO(A,H)ANTHRACENE	10 U			10 U		10 U	10 U
DIBENZOFURAN	10 U			10 U		10 U	10 U
DIETHYLPHTHALATE	10 U			10 U		10 U	3 J
DIMETHYLPHTHALATE	10 U			10 U		10 U	10 U
FLUORANTHENE	10 U			10 U		10 U	10 U
FLUORENE	10 U			10 U		10 U	10 U
HEXACHLOROBENZENE	10 U			10 U		10 U	10 U
HEXACHLOROBUTADIENE	10 U			10 U		10 U	10 U
HEXACHLOROCYCLOPENTADIENE	10 U			10 U		10 U	10 U
HEXACHLOROETHANE	10 U			10 U		10 U	10 U
INDENO(1,2,3-CD)PYRENE	10 U			10 U		10 U	10 U
ISOPHORONE	10 U			10 U		10 U	10 U
N-NITROSO-DI-N-PROPYLAMINE	10 U	71	16	72	60	61	10 U
N-NITROSODIPHENYLAMINE	10 U			10 U		10 U	10 U
NAPHTHALENE	10 U			10 U		10 U	10 U
NITROBENZENE	10 U			10 U		10 U	10 U
NITROBENZENE-D5							
PENTACHLOROPHENOL	50 U	48	28	97 J	64	130	50 U
PHENANTHRENE	10 U			10 U		10 U	10 U
PHENOL	10 U	36	17	73	43	86	10 U
PHENOL-D5							
PYRENE	10 U	73	5	73	69	69	10 U

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD BLANK	MS % RECOVERY	RPD	MATRIX SPIKE	MSD % RECOVERY	MATRIX SPIKE DUPLICATE	B. 62 SPRING
TYPE OF LOCATION							
SAMPLE NUMBER	SBK08722	PE400022A	PE400022A	PE400022B	PE400022A	PE400022C	PE400011A
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	%	%	UG/L	%	UG/L	UG/L
ENV PROBLEM NO		3	3	3	3	3	3
TERPHENYL-D14							
1,2-DICHLOROBENZENE	10 U			10 U		10 U	10 U
1,2,4-TRICHLOROBENZENE	10 U	67	9	67	74	75	10 U
1,3-DICHLOROBENZENE	10 U			10 U		10 U	10 U
1,4-DICHLOROBENZENE	10 U	72	14	73	83	83	10 U
2-CHLORONAPHTHALENE	10 U			10 U		10 U	10 U
2-CHLOROPHENOL	10 U	76	8	150	70	140	10 U
2-FLUOROBIPHENYL							
2-FLUOROPHENOL							
2-METHYLNAPHTHALENE	10 U			10 U		10 U	10 U
2-METHYLPHENOL	10 U			10 U		10 U	10 U
2-NITROANILINE	50 U			50 U		50 U	50 U
2-NITROPHENOL	10 U			10 U		10 U	10 U
2,4-DICHLOROPHENOL	10 U			10 U		10 U	10 U
2,4-DIMETHYLPHENOL	10 U			10 U		10 U	10 U
2,4-DINITROPHENOL	50 U			50 U		50 U	50 U
2,4-DINITROTOLUENE	10 U	86	8	86	79	79	10 U
2,4,5-TRICHLOROPHENOL	50 U			50 U		50 U	50 U
2,4,6-TRIBROMOPHENOL							
2,4,6-TRICHLOROPHENOL	10 U			10 U		10 U	10 U
2,6-DINITROTOLUENE	10 U			10 U		10 U	10 U
3-NITROANILINE	50 U			50 U		50 U	50 U
3,3'-DICHLOROBENZIDINE	20 U			20 U		20 U	20 U
4-BROMOPHENYL-PHENYLETHER	10 U			10 U		10 U	10 U
4-CHLORO-3-METHYLPHENOL	10 U	82	11	160	73	150	10 U
4-CHLOROANILINE	10 U			10 U		10 U	10 U
4-CHLOROPHENYL-PHENYLETHER	10 U			10 U		10 U	10 U
4-METHYLPHENOL	10 U			10 U		10 U	10 U
4-NITROANILINE	50 U			50 U		50 U	50 U
4-NITROPHENOL	50 U	47	37	50 U	69	50 U	50 U
4,6-DINITRO-2-METHYLPHENOL	50 U			50 U		50 U	50 U
SURR 1(NBZ) %RECOVERY	62			71		79	90
SURR 2(FBP) %RECOVERY	52			66		77	78
SURR 3(TPH) %RECOVERY	62			76		83	92
SURR 4(PHL) %RECOVERY	30			34		47	29
SURR 5(2FP) %RECOVERY	55			47		63	52
SURR 6(TBP) %RECOVERY	58			70		77	77

M/E 51

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD	MS %	RPD	MATRIX	MSD %	MATRIX SPIKE	B. 62
TYPE OF LOCATION	BLANK	RECOVERY		SPIKE	RECOVERY	DUPLICATE	SPRING
SAMPLE NUMBER	SBK08722	PE400022A	PE400022A	PE400022B	PE400022A	PE400022C	PE400011A
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	%	%	UG/L	%	UG/L	UG/L
ENV PROBLEM NO		3	3	3	3	3	3
M/E 68-1							
M/E 68-2							
M/E 69							
M/E 70-1							
M/E 70-2							
M/E 127							
M/E 197							
M/E 198							
M/E 199							
M/E 275							
M/E 365							
M/E 441							
M/E 442							
M/E 443-1							
M/E 443-2							
INTERNAL STD AREA(ANT)	51700			50500		51700	49200
INTERNAL STD AREA(CRY)	29600			27600		27700	24900
INTERNAL STD AREA(DCB)	29400			37900		39200	36300
INTERNAL STD AREA(NPT)	108000			122000		125000	112000
INTERNAL STD AREA(PHN)	74700			70200		68800	69500
INTERNAL STD AREA(PRY)	14700			13400		13100	11000
DILUTION FACTOR	1			1		1	1
ACTUAL(ALLOWED) EXTRACT TIME				2(7 D)		2(7 D)	3(7 D)

AREA			QA	QA	QA	QA	
LOCATION	B. 62	B. 62	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.1 FIELD
TYPE OF LOCATION	SPRING	SPRING	CALIBRATION	CALIBRATION	CAL %D	SHIFT	SPRING
SAMPLE NUMBER	PE400022A	PE401012A	PE0916885	PE0916887	PE0916887	PE0916888	PE403014A
MATRIX	WATER	WATER					WATER
UNITS	UG/L	UG/L	%	RRF	%	AREA	UG/L
ENV PROBLEM NO	3	3					4
ACENAPHTHENE	11 U	11 U		0.612	1		10 U
ACENAPHTHYLENE	11 U	11 U		1.896	6		10 U

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E

DRAFT DO NOT CITE

AREA			QA	QA	QA	QA	
LOCATION	B. 62	B. 62	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.1 FIELD
TYPE OF LOCATION	SPRING	SPRING	CALIBRATION	CALIBRATION	CAL %D	SHIFT	SPRING
SAMPLE NUMBER	PE400022A	PE401012A	PE0916885	PE0916887	PE0916887	PE0916888	PE403014A
MATRIX	WATER	WATER					WATER
UNITS	UG/L	UG/L	%	RRF	%	AREA	UG/L
ENV PROBLEM NO	3	3					4
ANTHRACENE	11 U	11 U		0.954	6.8		10 U
BENZO(A)ANTHRACENE	11 U	11 U		1.063	7		9 J
BENZO(A)PYRENE	11 U	11 U		1.581	1.1		17
BENZO(B)FLUORANTHENE	11 U	11 U		1.859	3.6		16
BENZO(G,H,I)PERYLENE	11 U	11 U		1.134	5		10 U
BENZO(K)FLUORANTHENE	11 U	11 U		1.859	2		18
BENZOIC ACID	53 U	55 U		0.134	16.9		50 U
BENZYL ALCOHOL	11 U	11 U		0.764	7.3		10 U
BIS(-2-CHLOROETHOXY)METHANE	11 U	11 U		0.659	5.9		10 U
BIS(2-CHLOROETHYL)ETHER	11 U	11 U		2.24	5.8		10 U
BIS(2-CHLOROISOPROPYL)ETHER	11 U	11 U		1.701	0.8		10 U
BIS(2-ETHYLHEXYL)PHTHALATE	11 U	11 U		1.523	1.7		4 J
BUTYLBENZYLPHTHALATE	11 U	11 U		1.137	0.8		4 J
CHRYSENE	11 U	11 U		1.013	4.2		8 J
DI-N-BUTYLPHTHALATE	11 U	11 U		1.666	6.1		10 U
DI-N-OCTYL PHTHALATE	11 U	1 J		4.387	1.2		6 J
DIBENZO(A,H)ANTHRACENE	11 U	11 U		1.003	4.5		13
DIBENZOFURAN	11 U	11 U		1.583	5.1		10 U
DIETHYLPHTHALATE	11 U	11 U		1.461	1.6		10 U
DIMETHYLPHTHALATE	11 U	11 U		1.417	1.4		10 U
FLUORANTHENE	11 U	11 U		0.833	5.5		10 U
FLUORENE	11 U	11 U		1.174	6.6		10 U
HEXACHLOROBENZENE	11 U	11 U		0.335	6.2		10 U
HEXACHLOROBUTADIENE	11 U	11 U		0.175	5.8		10 U
HEXACHLOROCYCLOPENTADIENE	11 U	11 U		0.231	1.5		10 U
HEXACHLOROETHANE	11 U	11 U		0.705	6.6		10 U
INDENO(1,2,3-CD)PYRENE	11 U	11 U		1.069	3.5		10 U
ISOPHORONE	11 U	11 U		0.947	21.1		10 U
N-NITROSO-DI-N-PROPYLAMINE	11 U	11 U		1.156	4.7		10 U
N-NITROSODIPHENYLAMINE	11 U	11 U		0.456	0.8		10 U
NAPHTHALENE	11 U	11 U		1.013	6.2		10 U
NITROBENZENE	11 U	11 U		0.505	4		10 U
NITROBENZENE-D5				0.509	3.3		
PENTACHLOROPHENOL	53 U	55 U		0.102	14.2		50 U
PHENANTHRENE	11 U	11 U		0.982	4.9		10 U
PHENOL	11 U	11 U		2.157	10.3		10 U
PHENOL-D5				1.961	6.6		
PYRENE	11 U	11 U		1.873	0.2		10 U
TERPHENYL-D14				1.428	0.3		

AREA			QA	QA	QA	QA	
LOCATION	B. 62	B. 62	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.1 FIELD
TYPE OF LOCATION	SPRING	SPRING	CALIBRATION	CALIBRATION	CAL %D	SHIFT	SPRING
SAMPLE NUMBER	PE400022A	PE401012A	PE0916885	PE0916887	PE0916887	PE0916888	PE403014A
MATRIX	WATER	WATER					WATER
UNITS	UG/L	UG/L	%	RRF	%	AREA	UG/L
ENV PROBLEM NO	3	3					4
1,2-DICHLOROBENZENE	11 U	11 U		1.497	1		10 U
1,2,4-TRICHLOROBENZENE	11 U	11 U		0.311	3.2		10 U
1,3-DICHLOROBENZENE	11 U	11 U		1.494	0.3		10 U
1,4-DICHLOROBENZENE	11 U	11 U		1.518	4		10 U
2-CHLORONAPHTHALENE	11 U	11 U		1.323	0.5		10 U
2-CHLOROPHENOL	11 U	11 U		1.467	5.2		10 U
2-FLUOROBIPHENYL				1.559	3.9		
2-FLUOROPHENOL				1.553	0.2		
2-METHYLNAPHTHALENE	11 U	11 U		0.76	8.8		10 U
2-METHYLPHENOL	11 U	11 U		1.268	5.3		10 U
2-NITROANILINE	53 U	55 U		0.494	0.9		50 U
2-NITROPHENOL	11 U	11 U		0.203	3.5		10 U
2,4-DICHLOROPHENOL	11 U	11 U		0.271	2.2		10 U
2,4-DIMETHYLPHENOL	11 U	11 U		0.342	6.7		10 U
2,4-DINITROPHENOL	53 U	55 U		0.062	32		50 U
2,4-DINITROTOLUENE	11 U	11 U		0.412	0.1		10 U
2,4,5-TRICHLOROPHENOL	53 U	55 U		0.359	11		50 U
2,4,6-TRIBROMOPHENOL				0.212	7.7		
2,4,6-TRICHLOROPHENOL	11 U	11 U		0.398	5.2		10 U
2,6-DINITROTOLUENE	11 U	11 U		0.33	2.4		10 U
3-NITROANILINE	53 U	55 U		0.304	12.6		50 U
3,3'-DICHLOROBENZIDINE	21 U	22 U		0.157	6.2		20 U
4-BROMOPHENYL-PHENYLETHER	11 U	11 U		0.233	10.3		10 U
4-CHLORO-3-METHYLPHENOL	11 U	11 U		0.297	2.2		10 U
4-CHLOROANILINE	11 U	11 U		0.182	10.8		10 U
4-CHLOROPHENYL-PHENYLETHER	11 U	11 U		0.553	5.2		10 U
4-METHYLPHENOL	11 U	11 U		1.231	6.2		10 U
4-NITROANILINE	53 U	55 U		0.162	8		50 U
4-NITROPHENOL	53 U	55 U		0.081	0.7		50 U
4,6-DINITRO-2-METHYLPHENOL	53 U	55 U		0.071	25.7		50 U
SURR 1(NBZ) %RECOVERY	68	84					85
SURR 2(FBP) %RECOVERY	63	79					76
SURR 3(TPH) %RECOVERY	65	82					74
SURR 4(PHL) %RECOVERY	43	35					29
SURR 5(2FP) %RECOVERY	63	61					53
SURR 6(TBP) %RECOVERY	67	76					79

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E DRAFT DO NOT CITE

AREA			QA	QA	QA	QA	
LOCATION	B. 62	B. 62	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.1 FIELD
TYPE OF LOCATION	SPRING	SPRING	CALIBRATION	CALIBRATION	CAL %D	SHIFT	SPRING
SAMPLE NUMBER	PE400022A	PE401012A	PE0916885	PE0916887	PE0916887	PE0916888	PE403014A
MATRIX	WATER	WATER					WATER
UNITS	UG/L	UG/L	%	RRF	%	AREA	UG/L
ENV PROBLEM NO	3	3					4
M/E 68-1			0.4				
M/E 68-2			0.5				
M/E 69			80				
M/E 70-1			0				
M/E 70-2			0				
M/E 127			50				
M/E 197			0				
M/E 198			100				
M/E 199			6.7				
M/E 275			18				
M/E 365			1.6				
M/E 441			9.7				
M/E 442			62				
M/E 443-1			12				
M/E 443-2			20				
INTERNAL STD AREA(ANT)	52000	45500				46500	50100
INTERNAL STD AREA(CRY)	34500	22500				28900	33700
INTERNAL STD AREA(DCB)	39100	38900				39200	38100
INTERNAL STD AREA(NPT)	125000	119000				124000	117000
INTERNAL STD AREA(PHN)	70900	56500				67000	64700
INTERNAL STD AREA(PRY)	17900	11200				12400	16300
DILUTION FACTOR	1	1					1
ACTUAL(ALLOWED) EXTRACT TIME	2(7 D)	3(7 D)					3(7 D)

AREA							
LOCATION	B. 62	B. 62	2.1 FIELD	2.1 FIELD	2.2 FIELD	B. B-141	B. B-141
TYPE OF LOCATION	SPRING	SPRING	SPRING	SPRING	WASTE ACCUM	UNDGR TANK	UNDGR TANK
SAMPLE NUMBER	PE401023A	PE400033A	PE403025A	PE402013A	PE800162E	PE305015F	PE305026G
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO	3	3	4	4	5	2	2
ACENAPHTHENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
ACENAPHTHYLENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U

AREA

LOCATION	B. 62	B. 62	2.1 FIELD	2.1 FIELD	2.2 FIELD	B. B-141	B. B-141
TYPE OF LOCATION	SPRING	SPRING	SPRING	SPRING	WASTE ACCUM	UNDGR TANK	UNDGR TANK
SAMPLE NUMBER	PE401023A	PE400033A	PE403025A	PE402013A	PE800162E	PE305015F	PE305026G
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO	3	3	4	4	5	2	2
ANTHRACENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
BENZO(A)ANTHRACENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
BENZO(A)PYRENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
BENZO(B)FLUORANTHENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
BENZO(G,H,I)PERYLENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
BENZO(K)FLUORANTHENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
BENZOIC ACID	50 U	60 U	55 U	60 U	50 U	50 U	50 U
BENZYL ALCOHOL	10 U	12 U	11 U	12 U	10 U	10 U	10 U
BIS(-2-CHLOROETHOXY)METHANE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
BIS(2-CHLOROETHYL)ETHER	10 U	12 U	11 U	12 U	10 U	10 U	10 U
BIS(2-CHLOROISOPROPYL)ETHER	10 U	12 U	11 U	12 U	10 U	10 U	10 U
BIS(2-ETHYLHEXYL)PHTHALATE	10 U	12 U	11 U	12 U	7 J	18	13 J
BUTYLBENZYLPHTHALATE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
CHRYSENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
DI-N-BUTYLPHTHALATE	10 U	12 U	11 U	12 U	10 U	0.8 J	10 U
DI-N-OCTYL PHTHALATE	10 U	0.9 J	0.8 J	3 J	2 J	10 U	10 U
DIBENZO(A,H)ANTHRACENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
DIBENZOFURAN	10 U	12 U	11 U	12 U	10 U	10 U	10 U
DIETHYLPHTHALATE	10 U	12 U	11 U	12 U	10 U	2 J	1 J
DIMETHYLPHTHALATE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
FLUORANTHENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
FLUORENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
HEXACHLOROBENZENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
HEXACHLOROBUTADIENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
HEXACHLOROCYCLOPENTADIENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
HEXACHLOROETHANE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
INDENO(1,2,3-CD)PYRENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
ISOPHORONE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
N-NITROSO-DI-N-PROPYLAMINE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
N-NITROSODIPHENYLAMINE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
NAPHTHALENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
NITROBENZENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
NITROBENZENE-D5							
PENTACHLOROPHENOL	50 U	60 U	55 U	60 U	50 U	50 U	50 U
PHENANTHRENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
PHENOL	10 U	12 U	11 U	12 U	10 U	10 U	10 U
PHENOL-D5							
PYRENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
TERPHENYL-D14							

AREA

LOCATION	B. 62	B. 62	2.1 FIELD	2.1 FIELD	2.2 FIELD	B. B-141	B. B-141
TYPE OF LOCATION	SPRING	SPRING	SPRING	SPRING	WASTE ACCUM	UNDGR TANK	UNDGR TANK
SAMPLE NUMBER	PE401023A	PE400033A	PE403025A	PE402013A	PE800162E	PE305015F	PE305026G
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO	3	3	4	4	5	2	2
1,2-DICHLOROBENZENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
1,2,4-TRICHLOROBENZENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
1,3-DICHLOROBENZENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
1,4-DICHLOROBENZENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
2-CHLORONAPHTHALENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
2-CHLOROPHENOL	10 U	12 U	11 U	12 U	10 U	10 U	10 U
2-FLUOROBIPHENYL							
2-FLUOROPHENOL							
2-METHYLNAPHTHALENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
2-METHYLPHENOL	10 U	12 U	11 U	12 U	10 U	10 U	10 U
2-NITROANILINE	50 U	60 U	55 U	60 U	50 U	50 U	50 U
2-NITROPHENOL	10 U	12 U	11 U	12 U	10 U	10 U	10 U
2,4-DICHLOROPHENOL	10 U	12 U	11 U	12 U	10 U	10 U	10 U
2,4-DIMETHYLPHENOL	10 U	12 U	11 U	12 U	10 U	10 U	10 U
2,4-DINITROPHENOL	50 U	60 U	55 U	60 U	50 U	50 U	50 U
2,4-DINITROTOLUENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
2,4,5-TRICHLOROPHENOL	50 U	60 U	55 U	60 U	50 U	50 U	50 U
2,4,6-TRIBROMOPHENOL							
2,4,6-TRICHLOROPHENOL	10 U	12 U	11 U	12 U	10 U	10 U	10 U
2,6-DINITROTOLUENE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
3-NITROANILINE	50 U	60 U	55 U	60 U	50 U	50 U	50 U
3,3'-DICHLOROBENZIDINE	20 U	24 U	22 U	24 U	20 U	20 U	20 U
4-BROMOPHENYL-PHENYLETHER	10 U	12 U	11 U	12 U	10 U	10 U	10 U
4-CHLORO-3-METHYLPHENOL	10 U	12 U	11 U	12 U	10 U	10 U	10 U
4-CHLOROANILINE	10 U	12 U	11 U	12 U	10 U	10 U	10 U
4-CHLOROPHENYL-PHENYLETHER	10 U	12 U	11 U	12 U	10 U	10 U	10 U
4-METHYLPHENOL	10 U	12 U	11 U	12 U	10 U	10 U	10 U
4-NITROANILINE	50 U	60 U	55 U	60 U	50 U	50 U	50 U
4-NITROPHENOL	50 U	60 U	55 U	60 U	50 U	50 U	50 U
4,6-DINITRO-2-METHYLPHENOL	50 U	60 U	55 U	60 U	50 U	50 U	50 U
SURR 1(NBZ) %RECOVERY	79	77	79	59	29 *	91	69
SURR 2(FBP) %RECOVERY	77	72	73	59	28 *	78	58
SURR 3(TPH) %RECOVERY	85	83	77	63	33	88	64
SURR 4(PHL) %RECOVERY	90	39	33	27	15	50	22
SURR 5(2FP) %RECOVERY	68	61	58	44	24	73	41
SURR 6(TBP) %RECOVERY	78	68	74	51	22	44	33

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TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E DRAFT DO NOT CITE

AREA

LOCATION	B. 62	B. 62	2.1 FIELD	2.1 FIELD	2.2 FIELD	B. B-141	B. B-141
TYPE OF LOCATION	SPRING	SPRING	SPRING	SPRING	WASTE ACCUM	UNDGR TANK	UNDGR TANK
SAMPLE NUMBER	PE401023A	PE400033A	PE403025A	PE402013A	PE800162E	PE305015F	PE305026G
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO	3	3	4	4	5	2	2
M/E 68-1							
M/E 68-2							
M/E 69							
M/E 70-1							
M/E 70-2							
M/E 127							
M/E 197							
M/E 198							
M/E 199							
M/E 275							
M/E 365							
M/E 441							
M/E 442							
M/E 443-1							
M/E 443-2							
INTERNAL STD AREA(ANT)	51500	54000	53200	52100	54300	47400	41000
INTERNAL STD AREA(CRY)	28300	29500	30000	26500	28200	21500	18900
INTERNAL STD AREA(DCB)	36800	39700	39600	41600	40100	39300	33700
INTERNAL STD AREA(NPT)	121000	122000	120000	128000	132000	119000	103000
INTERNAL STD AREA(PHN)	70500	69200	75100	71300	73200	61300	52600
INTERNAL STD AREA(PRY)	13400	14100	14700	12300	13200	10100	8410
DILUTION FACTOR	1	1	1	1	1	1	1
ACTUAL(ALLOWED) EXTRACT TIME	2(7 D)	1(7 D)	2(7 D)	3(7 D)	3(7 D)	3(7 D)	2(7 D)

AREA	QA	QA	QA	QA			
LOCATION	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	B. B-141	B. B-141	B. 62
TYPE OF LOCATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT	UNDGR TANK	UNDGR TANK	SPRING
SAMPLE NUMBER	PE0919885	PE0919887	PE0919887	PE0919888	PE305048E	PE305037G	PE401034C
MATRIX					WATER	WATER	WATER
UNITS	%	RRF	%	AREA	UG/L	UG/L	UG/L
ENV PROBLEM NO					2	2	3
ACENAPHTHENE		0.573	7.2		11 U	10 U	10 U
ACENAPHTHYLENE		1.824	9.6		11 U	10 U	10 U

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E DRAFT DO NOT CITE

AREA	QA	QA	QA	QA			
LOCATION	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	B. B-141	B. B-141	B. 62
TYPE OF LOCATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT	UNDGR TANK	UNDGR TANK	SPRING
SAMPLE NUMBER	PE0919885	PE0919887	PE0919887	PE0919888	PE305048E	PE305037G	PE401034C
MATRIX					WATER	WATER	WATER
UNITS	%	RRF	%	AREA	UG/L	UG/L	UG/L
ENV PROBLEM NO					2	2	3
ANTHRACENE		0.972	5.1		11 U	10 U	10 U
BENZO(A)ANTHRACENE		1.062	7.1		11 U	10 U	10 U
BENZO(A)PYRENE		1.478	5.4		11 U	10 U	10 U
BENZO(B)FLUORANTHENE		1.829	2		11 U	10 U	10 U
BENZO(G,H,I)PERYLENE		0.945	12.5		11 U	10 U	10 U
BENZO(K)FLUORANTHENE		1.854	1.8		11 U	10 U	10 U
BENZOIC ACID		0.141	12.7		53 U	50 U	50 U
BENZYL ALCOHOL		0.767	7.8		11 U	10 U	10 U
BIS(-2-CHLOROETHOXY)METHANE		0.679	2.9		11 U	10 U	10 U
BIS(2-CHLOROETHYL)ETHER		2.229	6.2		11 U	10 U	10 U
BIS(2-CHLOROISOPROPYL)ETHER		1.595	7		11 U	10 U	10 U
BIS(2-ETHYLHEXYL)PHTHALATE		1.434	7.4		11 U	4 J	10 U
BUTYLBENZYLPHTHALATE		1.128	1.5		11 U	10 U	10 U
CHRYSENE		1.071	1.4		11 U	10 U	10 U
DI-N-BUTYLPHTHALATE		1.755	1.1		11 U	10 U	10 U
DI-N-OCTYL PHTHALATE		4.399	1.5		11 U	0.6 J	10 U
DIBENZO(A,H)ANTHRACENE		0.917	12.6		11 U	10 U	10 U
DIBENZOFURAN		1.612	3.3		11 U	10 U	10 U
DIETHYLPHTHALATE		1.416	4.6		11 U	1 J	0.9 J
DIMETHYLPHTHALATE		1.36	5.4		11 U	10 U	10 U
FLUORANTHENE		0.868	1.4		11 U	10 U	10 U
FLUORENE		1.201	4.4		11 U	10 U	10 U
HEXACHLOROBENZENE		0.354	0.7		11 U	10 U	10 U
HEXACHLOROBUTADIENE		0.181	2.4		11 U	10 U	10 U
HEXACHLOROCYCLOPENTADIENE		0.239	1.6		11 U	10 U	10 U
HEXACHLOROETHANE		0.682	3.1		11 U	10 U	10 U
INDENO(1,2,3-CD)PYRENE		0.951	14.1		11 U	10 U	10 U
ISOPHORONE		0.944	20.8		11 U	10 U	10 U
N-NITROSO-DI-N-PROPYLAMINE		1.112	0.7		11 U	10 U	10 U
N-NITROSODIPHENYLAMINE		0.46	1.5		11 U	10 U	10 U
NAPHTHALENE		1.044	3.3		11 U	10 U	10 U
NITROBENZENE		0.485	0		11 U	10 U	10 U
NITROBENZENE-D5		0.489	0.7				
PENTACHLOROPHENOL		0.12	0.8		53 U	50 U	50 U
PHENANTHRENE		1.046	1.3		11 U	10 U	10 U
PHENOL		2.204	8.4		11 U	2 J	6 J
PHENOL-D5		1.958	6.7				
PYRENE		1.888	0.6		11 U	10 U	10 U
TERPHENYL-D14		1.473	3.6				

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E DRAFT DO NOT CITE

AREA	QA	QA	QA	QA			
LOCATION	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	B. B-141	B. B-141	B. 62
TYPE OF LOCATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT	UNDGR TANK	UNDGR TANK	SPRING
SAMPLE NUMBER	PE0919885	PE0919887	PE0919887	PE0919888	PE305048E	PE305037G	PE401034C
MATRIX					WATER	WATER	WATER
UNITS	%	RRF	%	AREA	UG/L	UG/L	UG/L
ENV PROBLEM NO					2	2	3
1,2-DICHLOROBENZENE		1.483	2		11 U	10 U	10 U
1,2,4-TRICHLOROBENZENE		0.32	0.3		11 U	10 U	10 U
1,3-DICHLOROBENZENE		1.469	1.9		11 U	10 U	10 U
1,4-DICHLOROBENZENE		1.516	4.1		11 U	10 U	10 U
2-CHLORONAPHTHALENE		1.255	4.6		11 U	10 U	10 U
2-CHLOROPHENOL		1.493	3.5		11 U	10 U	10 U
2-FLUOROBIPHENYL		1.533	5.6				
2-FLUOROPHENOL		1.555	8.4				
2-METHYLNAPHTHALENE		0.83	8.4		11 U	10 U	10 U
2-METHYLPHENOL		1.273	4.9		11 U	10 U	10 U
2-NITROANILINE		0.442	9.7		53 U	50 U	50 U
2-NITROPHENOL		0.205	2.5		11 U	10 U	10 U
2,4-DICHLOROPHENOL		0.273	1.4		11 U	10 U	10 U
2,4-DIMETHYLPHENOL		0.342	6.8		11 U	10 U	10 U
2,4-DINITROPHENOL		0.057	38		53 U	50 U	50 U
2,4-DINITROTOLUENE		0.381	7.6		11 U	10 U	10 U
2,4,5-TRICHLOROPHENOL		0.353	12.6		53 U	50 U	50 U
2,4,6-TRIBROMOPHENOL		0.218	4.9				
2,4,6-TRICHLOROPHENOL		0.383	8.8		11 U	10 U	10 U
2,6-DINITROTOLUENE		0.315	7		11 U	10 U	10 U
3-NITROANILINE		0.28	19.3		53 U	50 U	50 U
3,3'-DICHLOROBENZIDINE		0.104	29.6		22 U	20 U	20 U
4-BROMOPHENYL-PHENYLETHER		0.249	4.3		11 U	10 U	10 U
4-CHLORO-3-METHYLPHENOL		0.287	5.7		11 U	10 U	10 U
4-CHLOROANILINE		0.183	10		11 U	10 U	10 U
4-CHLOROPHENYL-PHENYLETHER		0.549	5.9		11 U	10 U	10 U
4-METHYLPHENOL		1.245	5.1		11 U	10 U	3 J
4-NITROANILINE		0.158	10.1		53 U	50 U	50 U
4-NITROPHENOL		0.078	4.7		53 U	50 U	50 U
4,6-DINITRO-2-METHYLPHENOL		0.072	24.8		53 U	50 U	50 U
SURR 1(NBZ) %RECOVERY					66	72	92
SURR 2(FBP) %RECOVERY					65	64	82
SURR 3(TPH) %RECOVERY					68	70	81
SURR 4(PHL) %RECOVERY					26	41	60
SURR 5(2FP) %RECOVERY					49	62	85
SURR 6(TBP) %RECOVERY					20	58	85

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TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA			
LOCATION	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	B. B-141	B. B-141	B. 62
TYPE OF LOCATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT	UNDGR TANK	UNDGR TANK	SPRING
SAMPLE NUMBER	PE0919885	PE0919887	PE0919887	PE0919888	PE305048E	PE305037G	PE401034C
MATRIX					WATER	WATER	WATER
UNITS	%	RRF	%	AREA	UG/L	UG/L	UG/L
ENV PROBLEM NO					2	2	3
M/E 68-1	0.3						
M/E 68-2	0.4						
M/E 69	74						
M/E 70-1	0						
M/E 70-2	0						
M/E 127	48						
M/E 197	0						
M/E 198	100						
M/E 199	6						
M/E 275	22						
M/E 365	1.5						
M/E 441	10						
M/E 442	68						
M/E 443-1	13						
M/E 443-2	19						
INTERNAL STD AREA(ANT)				53000	49600	53600	55300
INTERNAL STD AREA(CRY)				31700	26800	32400	32900
INTERNAL STD AREA(DCB)				43000	38900	40500	41400
INTERNAL STD AREA(NPT)				134000	120000	129000	134000
INTERNAL STD AREA(PHN)				71800	62600	69200	74500
INTERNAL STD AREA(PRY)				13300	12600	16100	16100
DILUTION FACTOR					1	1	1
ACTUAL(ALLOWED) EXTRACT TIME					1(7 D)	1(7 D)	2(7 D)

AREA				QA	QA	QA	QA
LOCATION	2.1 FIELD	2.2 FIELD	LICK RUN	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	SPRING	WASTE ACCUM	STORM SEWER	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE403036A	PE802073E	PE301011E	PE0920885	PE0920887	PE0920887	PE0920888
MATRIX	WATER	WATER	WATER				
UNITS	UG/L	UG/L	UG/L	%	RRF	%	AREA
ENV PROBLEM NO	4	5	1				
ACENAPHTHENE	10 U	10 U	10 U		0.63	2.1	
ACENAPHTHYLENE	10 U	10 U	10 U		2.012	0.2	

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E DRAFT DO NOT CITE

AREA				QA	QA	QA	QA
LOCATION	2.1 FIELD	2.2 FIELD	LICK RUN	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	SPRING	WASTE ACCUM	STORM SEWER	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE403036A	PE802073E	PE301011E	PE0920885	PE0920887	PE0920887	PE0920888
MATRIX	WATER	WATER	WATER				
UNITS	UG/L	UG/L	UG/L	%	RRF	%	AREA
ENV PROBLEM NO	4	5	1				
ANTHRACENE	10 U	10 U	10 U		0.995	2.8	
BENZO(A)ANTHRACENE	10 U	10 U	10 U		1.102	3.7	
BENZO(A)PYRENE	10 U	10 U	10 U		1.521	2.7	
BENZO(B)FLUORANTHENE	10 U	10 U	10 U		1.782	0.6	
BENZO(G,H,I)PERYLENE	10 U	10 U	10 U		1.094	1.3	
BENZO(K)FLUORANTHENE	10 U	10 U	10 U		1.811	0.6	
BENZOIC ACID	50 U	50 U	50 U		0.133	17.2	
BENZYL ALCOHOL	10 U	10 U	10 U		0.766	7.5	
BIS(-2-CHLOROETHOXY)METHANE	10 U	10 U	10 U		0.662	5.4	
BIS(2-CHLOROETHYL)ETHER	10 U	10 U	10 U		2.211	7	
BIS(2-CHLOROISOPROPYL)ETHER	10 U	10 U	10 U		1.591	7.2	
BIS(2-ETHYLHEXYL)PHTHALATE	10 U	7 J	10 U		1.35	12.9	
BUTYLBENZYLPHTHALATE	10 U	10 U	10 U		1.059	7.5	
CHRYSENE	10 U	10 U	10 U		1.029	2.6	
DI-N-BUTYLPHTHALATE	10 U	2 J	10 U		1.703	4	
DI-N-OCTYL PHTHALATE	10 U	1 J	1 J		3.893	10.2	
DIBENZO(A,H)ANTHRACENE	10 U	10 U	10 U		1.045	0.5	
DIBENZOFURAN	10 U	10 U	10 U		1.653	0.9	
DIETHYLPHTHALATE	10 U	10 U	10 U		1.489	0.4	
DIMETHYLPHTHALATE	10 U	10 U	10 U		1.395	3	
FLUORANTHENE	10 U	10 U	10 U		0.904	2.7	
FLUORENE	10 U	10 U	10 U		1.229	2.2	
HEXACHLOROBENZENE	10 U	10 U	10 U		0.358	0.4	
HEXACHLOROBUTADIENE	10 U	10 U	10 U		0.184	0.6	
HEXACHLOROCYCLOPENTADIENE	10 U	10 U	10 U		0.258	10	
HEXACHLOROETHANE	10 U	10 U	10 U		0.687	3.9	
INDENO(1,2,3-CD)PYRENE	10 U	10 U	10 U		1.119	1	
ISOPHORONE	10 U	10 U	10 U		0.946	21	
N-NITROSO-DI-N-PROPYLAMINE	10 U	10 U	10 U		1.112	0.7	
N-NITROSODIPHENYLAMINE	10 U	10 U	10 U		0.457	1	
NAPHTHALENE	10 U	10 U	10 U		1.016	5.9	
NITROBENZENE	10 U	10 U	10 U		0.467	3.7	
NITROBENZENE-D5					0.479	2.8	
PENTACHLOROPHENOL	50 U	50 U	50 U		0.121	1.7	
PHENANTHRENE	10 U	10 U	10 U		1.02	1.3	
PHENOL	2 J	10 U	10 U		2.097	12.8	
PHENOL-D5					1.941	7.5	
PYRENE	10 U	10 U	10 U		1.742	7.2	
TERPHENYL-D14					1.255	11.8	

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E DRAFT DO NOT CITE

AREA				QA	QA	QA	QA
LOCATION	2.1 FIELD	2.2 FIELD	LICK RUN	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	SPRING	WASTE ACCUM	STORM SEWER	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE403036A	PE802073E	PE301011E	PE0920885	PE0920887	PE0920887	PE0920888
MATRIX	WATER	WATER	WATER				
UNITS	UG/L	UG/L	UG/L	%	RRF	%	AREA
ENV PROBLEM NO	4	5	1				
1,2-DICHLOROBENZENE	10 U	10 U	10 U		1.478	2.3	
1,2,4-TRICHLOROBENZENE	10 U	10 U	10 U		0.31	3.5	
1,3-DICHLOROBENZENE	10 U	10 U	10 U		1.461	2.4	
1,4-DICHLOROBENZENE	10 U	10 U	10 U		1.533	3	
2-CHLORONAPHTHALENE	10 U	10 U	10 U		1.289	2	
2-CHLOROPHENOL	10 U	10 U	10 U		1.475	4.6	
2-FLUOROBIPHENYL					1.571	3.2	
2-FLUOROPHENOL					1.49	3.8	
2-METHYLNAPHTHALENE	10 U	10 U	10 U		0.808	3.1	
2-METHYLPHENOL	10 U	10 U	10 U		1.241	7.3	
2-NITROANILINE	50 U	50 U	50 U		0.466	5	
2-NITROPHENOL	10 U	10 U	10 U		0.198	6	
2,4-DICHLOROPHENOL	10 U	10 U	10 U		0.256	7.8	
2,4-DIMETHYLPHENOL	10 U	10 U	10 U		0.331	9.7	
2,4-DINITROPHENOL	50 U	50 U	50 U		0.062	32	
2,4-DINITROTOLUENE	10 U	10 U	10 U		0.395	4.1	
2,4,5-TRICHLOROPHENOL	50 U	50 U	50 U		0.384	5.1	
2,4,6-TRIBROMOPHENOL					0.235	2.3	
2,4,6-TRICHLOROPHENOL	10 U	10 U	10 U		0.409	2.6	
2,6-DINITROTOLUENE	10 U	10 U	10 U		0.331	2	
3-NITROANILINE	50 U	50 U	50 U		0.305	12.2	
3,3'-DICHLOROBENZIDINE	20 U	20 U	20 U		0.168	13.1	
4-BROMOPHENYL-PHENYLETHER	10 U	10 U	10 U		0.251	3.4	
4-CHLORO-3-METHYLPHENOL	10 U	10 U	10 U		0.297	2.4	
4-CHLOROANILINE	10 U	10 U	10 U		0.187	8.4	
4-CHLOROPHENYL-PHENYLETHER	10 U	10 U	10 U		0.559	4.3	
4-METHYLPHENOL	10 U	10 U	10 U		1.28	2.5	
4-NITROANILINE	50 U	50 U	50 U		0.184	4.2	
4-NITROPHENOL	50 U	50 U	50 U		0.085	3.2	
4,6-DINITRO-2-METHYLPHENOL	50 U	50 U	50 U		0.078	18.5	
SURR 1(NBZ) %RECOVERY	59	72	54				
SURR 2(FBP) %RECOVERY	52	66	40 *				
SURR 3(TPH) %RECOVERY	59	85	79				
SURR 4(PHL) %RECOVERY	38	29	22				
SURR 5(2FP) %RECOVERY	59	48	37				
SURR 6(TBP) %RECOVERY	46	73	57				

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E DRAFT DO NOT CITE

AREA

LOCATION	2.1 FIELD SPRING	2.2 FIELD WASTE ACCUM	LICK RUN STORM SEWER	QA TUNED CALIBRATION	QA CONTINUING CALIBRATION	QA CONTINUING CAL %D	QA ISTD RET TIM SHIFT
TYPE OF LOCATION	SPRING	WASTE ACCUM	STORM SEWER	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE403036A	PE802073E	PE301011E	PE0920885	PE0920887	PE0920887	PE0920888
MATRIX	WATER	WATER	WATER				
UNITS	UG/L	UG/L	UG/L	%	RRF	%	AREA
ENV PROBLEM NO	4	5	1				
M/E 68-1				0.2			
M/E 68-2				0.3			
M/E 69				71			
M/E 70-1				0			
M/E 70-2				0			
M/E 127				47			
M/E 197				0			
M/E 198				100			
M/E 199				6.3			
M/E 275				20			
M/E 365				2			
M/E 441				9.9			
M/E 442				66			
M/E 443-1				12			
M/E 443-2				18			
INTERNAL STD AREA(ANT)	51800	52800	55700				53900
INTERNAL STD AREA(CRY)	28200	30400	26700				38300
INTERNAL STD AREA(DCB)	40800	41400	41200				44500
INTERNAL STD AREA(NPT)	128000	130000	129000				142000
INTERNAL STD AREA(PHN)	67800	70000	72000				76200
INTERNAL STD AREA(PRY)	13700	15100	12300				17500
DILUTION FACTOR	1	1	1				
ACTUAL(ALLOWED) EXTRACT TIME	2(7 D)	6(7 D)	6(7 D)				

AREA

LOCATION	LICK RUN STORM SEWER	LICK RUN STORM SEWER	LICK RUN STORM SEWER
TYPE OF LOCATION	STORM SEWER	STORM SEWER	STORM SEWER
SAMPLE NUMBER	PE301022E	PE301033E	PE302023A
MATRIX	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L
ENV PROBLEM NO	1	1	1
ACENAPHTHENE	10 U	10 U	10 U
ACENAPHTHYLENE	10 U	10 U	10 U

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E

DRAFT DO NOT CITE

AREA

LOCATION	LICK RUN	LICK RUN	LICK RUN
TYPE OF LOCATION	STORM SEWER	STORM SEWER	STORM SEWER
SAMPLE NUMBER	PE301022E	PE301033E	PE302023A
MATRIX	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L
ENV PROBLEM NO	1	1	1
ANTHRACENE	10 U	10 U	10 U
BENZO(A)ANTHRACENE	7 J	10 U	10 U
BENZO(A)PYRENE	16	10 U	10 U
BENZO(B)FLUORANTHENE	14	10 U	10 U
BENZO(G,H,I)PERYLENE	14	10 U	10 U
BENZO(K)FLUORANTHENE	14	10 U	1 J
BENZOIC ACID	50 U	50 U	50 U
BENZYL ALCOHOL	10 U	10 U	10 U
BIS(-2-CHLOROETHOXY)METHANE	10 U	10 U	10 U
BIS(2-CHLOROETHYL)ETHER	10 U	10 U	10 U
BIS(2-CHLOROISOPROPYL)ETHER	10 U	10 U	10 U
BIS(2-ETHYLHEXYL)PHTHALATE	5 J	10 U	12 J
BUTYLBENZYLPHTHALATE	4 J	10 U	10 U
CHRYSENE	7 J	10 U	10 U
DI-N-BUTYLPHTHALATE	10 U	10 U	10 U
DI-N-OCTYL PHTHALATE	5 J	1 J	3 J
DIBENZO(A,H)ANTHRACENE	15	10 U	10 U
DIBENZOFURAN	10 U	10 U	10 U
DIETHYLPHTHALATE	10 U	10 U	10 U
DIMETHYLPHTHALATE	10 U	10 U	10 U
FLUORANTHENE	10 U	10 U	10 U
FLUORENE	10 U	10 U	10 U
HEXACHLOROBENZENE	10 U	10 U	10 U
HEXACHLOROBUTADIENE	10 U	10 U	10 U
HEXACHLOROCYCLOPENTADIENE	10 U	10 U	10 U
HEXACHLOROETHANE	10 U	10 U	10 U
INDENO(1,2,3-CD)PYRENE	14	10 U	4 J
ISOPHORONE	10 U	10 U	10 U
N-NITROSO-DI-N-PROPYLAMINE	10 U	10 U	10 U
N-NITROSODIPHENYLAMINE	10 U	10 U	10 U
NAPHTHALENE	10 U	10 U	10 U
NITROBENZENE	10 U	10 U	10 U
NITROBENZENE-D5			
PENTACHLOROPHENOL	50 U	50 U	50 U
PHENANTHRENE	10 U	10 U	10 U
PHENOL	10 U	10 U	10 U
PHENOL-D5			
PYRENE	10 U	10 U	10 U
TERPHENYL-D14			

TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E

DRAFT DO NOT CITE

AREA

LOCATION	LICK RUN	LICK RUN	LICK RUN
TYPE OF LOCATION	STORM SEWER	STORM SEWER	STORM SEWER
SAMPLE NUMBER	PE301022E	PE301033E	PE302023A
MATRIX	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L
ENV PROBLEM NO	1	1	1
1,2-DICHLOROBENZENE	10 U	10 U	10 U
1,2,4-TRICHLOROBENZENE	10 U	10 U	10 U
1,3-DICHLOROBENZENE	10 U	10 U	10 U
1,4-DICHLOROBENZENE	10 U	10 U	10 U
2-CHLORONAPHTHALENE	10 U	10 U	10 U
2-CHLOROPHENOL	10 U	10 U	10 U
2-FLUOROBIPHENYL			
2-FLUOROPHENOL			
2-METHYLNAPHTHALENE	10 U	10 U	10 U
2-METHYLPHENOL	10 U	10 U	10 U
2-NITROANILINE	50 U	50 U	50 U
2-NITROPHENOL	10 U	10 U	10 U
2,4-DICHLOROPHENOL	10 U	10 U	10 U
2,4-DIMETHYLPHENOL	10 U	10 U	10 U
2,4-DINITROPHENOL	50 U	50 U	50 U
2,4-DINITROTOLUENE	10 U	10 U	10 U
2,4,5-TRICHLOROPHENOL	50 U	50 U	50 U
2,4,6-TRIBROMOPHENOL			
2,4,6-TRICHLOROPHENOL	10 U	10 U	10 U
2,6-DINITROTOLUENE	10 U	10 U	10 U
3-NITROANILINE	50 U	50 U	50 U
3,3'-DICHLOROBENZIDINE	20 U	20 U	20 U
4-BROMOPHENYL-PHENYLETHER	10 U	10 U	10 U
4-CHLORO-3-METHYLPHENOL	10 U	10 U	10 U
4-CHLOROANILINE	10 U	10 U	10 U
4-CHLOROPHENYL-PHENYLETHER	10 U	10 U	10 U
4-METHYLPHENOL	10 U	10 U	10 U
4-NITROANILINE	50 U	50 U	50 U
4-NITROPHENOL	50 U	50 U	50 U
4,6-DINITRO-2-METHYLPHENOL	50 U	50 U	50 U
SURR 1(NBZ) %RECOVERY	64	61	75
SURR 2(FBP) %RECOVERY	46	55	62
SURR 3(TPH) %RECOVERY	92	91	100
SURR 4(PHL) %RECOVERY	25	10	24
SURR 5(2FP) %RECOVERY	46	29	47
SURR 6(TBP) %RECOVERY	63	59	67

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TABLE D.3.3 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE301011E

DRAFT DO NOT CITE

AREA

LOCATION	LICK RUN	LICK RUN	LICK RUN
TYPE OF LOCATION	STORM SEWER	STORM SEWER	STORM SEWER
SAMPLE NUMBER	PE301022E	PE301033E	PE302023A
MATRIX	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L
ENV PROBLEM NO	1	1	1
M/E 68-1			
M/E 68-2			
M/E 69			
M/E 70-1			
M/E 70-2			
M/E 127			
M/E 197			
M/E 198			
M/E 199			
M/E 275			
M/E 365			
M/E 441			
M/E 442			
M/E 443-1			
M/E 443-2			
INTERNAL STD AREA(ANT)	52900	58400	56700
INTERNAL STD AREA(CRY)	30000	35000	30800
INTERNAL STD AREA(DCB)	43100	43900	41100
INTERNAL STD AREA(NPT)	139000	144000	134000
INTERNAL STD AREA(PHN)	68600	79000	71900
INTERNAL STD AREA(PRY)	22400	25400	23600
DILUTION FACTOR	1	1	1
ACTUAL(ALLOWED) EXTRACT TIME	5(7 D)	5(7 D)	5(7 D)

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0914886	PE0914886	PE0914885	PE0920885	PE0920887	PE0920887	PE0920888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
ACENAPHTHENE	0.617	4.3			0.63	2.1	
ACENAPHTHYLENE	2.017	7			2.012	0.2	
ANTHRACENE	1.024	3.1			0.995	2.8	
BENZO(A)ANTHRACENE	1.144	11.1			1.102	3.7	
BENZO(A)PYRENE	1.563	16			1.521	2.7	
BENZO(B)FLUORANTHENE	1.794	12			1.782	0.6	
BENZO(G,H,I)PERYLENE	1.08	15.8			1.094	1.3	
BENZO(K)FLUORANTHENE	1.822	19.6			1.811	0.6	
BENZOIC ACID	0.161	18			0.133	17.2	
BENZYL ALCOHOL	0.712	28.4			0.766	7.5	
BIS(-2-CHLOROETHOXY)METHANE	0.7	5			0.662	5.4	
BIS(2-CHLOROETHYL)ETHER	2.377	8			2.211	7	
BIS(2-CHLOROISOPROPYL)ETHER	1.714	8.3			1.591	7.2	
BIS(2-ETHYLHEXYL)PHTHALATE	1.549	5.8			1.35	12.9	
BUTYLBENZYLPHTHALATE	1.146	6.4			1.059	7.5	
CHRYSENE	1.057	13.9			1.029	2.6	
DI-N-BUTYLPHTHALATE	1.774	8			1.703	4	
DI-N-OCTYL PHTHALATE	4.334	5.6			3.893	10.2	
DIBENZO(A,H)ANTHRACENE	1.05	18.1			1.045	0.5	
DIBENZOFURAN	1.668	3.4			1.653	0.9	
DIETHYLPHTHALATE	1.484	1.7			1.489	0.4	
DIMETHYLPHTHALATE	1.438	3.1			1.395	3	
FLUORANTHENE	0.881	3.8			0.904	2.7	
FLUORENE	1.257	5.6			1.229	2.2	
HEXACHLOROBENZENE	0.357	3.3			0.358	0.4	
HEXACHLOROBUTADIENE	0.185	4.1			0.184	0.6	
HEXACHLOROCYCLOPENTADIENE	0.235	17.3			0.258	10	
HEXACHLOROETHANE	0.661	6.7			0.687	3.9	
INDENO(1,2,3-CD)PYRENE	1.108	14.3			1.119	1	
ISOPHORONE	0.782	27.9			0.946	21	
N-NITROSO-DI-N-PROPYLAMINE	1.104	3.9			1.112	0.7	
N-NITROSODIPHENYLAMINE	0.453	20.2			0.457	1	
NAPHTHALENE	1.08	8.4			1.016	5.9	
NITROBENZENE	0.485	2.5			0.467	3.7	
NITROBENZENE-D5	0.493	3.2			0.479	2.8	
PENTACHLOROPHENOL	0.119	11.2			0.121	1.7	
PHENANTHRENE	1.033	4.1			1.02	1.3	
PHENOL	2.406	9.1			2.097	12.8	
PHENOL-D5	2.1	6.4			1.941	7.5	

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0914886	PE0914886	PE0914885	PE0920885	PE0920887	PE0920887	PE0920888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
PYRENE	1.877	6.6			1.742	7.2	
TERPHENYL-D14	1.423	6.1			1.255	11.8	
1,2-DICHLOROBENZENE	1.513	5.7			1.478	2.3	
1,2,4-TRICHLOROBENZENE	0.321	4.1			0.31	3.5	
1,3-DICHLOROBENZENE	1.498	4			1.461	2.4	
1,4-DICHLOROBENZENE	1.581	7.4			1.533	3	
2-CHLORONAPHTHALENE	1.316	2.2			1.289	2	
2-CHLOROPHENOL	1.547	6.6			1.475	4.6	
2-FLUOROBIPHENYL	1.623	2.7			1.571	3.2	
2-FLUOROPHENOL	1.549	1.3			1.49	3.8	
2-METHYLNAPHTHALENE	0.833	7.8			0.808	3.1	
2-METHYLPHENOL	1.339	3.2			1.241	7.3	
2-NITROANILINE	0.49	3			0.466	5	
2-NITROPHENOL	0.21	5.5			0.198	6	
2,4-DICHLOROPHENOL	0.277	10.4			0.256	7.8	
2,4-DIMETHYLPHENOL	0.366	4			0.331	9.7	
2,4-DINITROPHENOL	0.092	21.8			0.062	32	
2,4-DINITROTOLUENE	0.412	8.1			0.395	4.1	
2,4,5-TRICHLOROPHENOL	0.404	6.1			0.384	5.1	
2,4,6-TRIBROMOPHENOL	0.229	9.3			0.235	2.3	
2,4,6-TRICHLOROPHENOL	0.42	9.5			0.409	2.6	
2,6-DINITROTOLUENE	0.338	7.1			0.331	2	
3-NITROANILINE	0.348	14.9			0.305	12.2	
3,3'-DICHLOROBENZIDINE	0.148	17.7			0.168	13.1	
4-BROMOPHENYL-PHENYLETHER	0.26	3.5			0.251	3.4	
4-CHLORO-3-METHYLPHENOL	0.304	6.6			0.297	2.4	
4-CHLOROANILINE	0.204	24.1			0.187	8.4	
4-CHLOROPHENYL-PHENYLETHER	0.584	5.6			0.559	4.3	
4-METHYLPHENOL	1.313	4.3			1.28	2.5	
4-NITROANILINE	0.176	25.6			0.184	4.2	
4-NITROPHENOL	0.082	26.7			0.085	3.2	
4,6-DINITRO-2-METHYLPHENOL	0.096	13.5			0.078	18.5	

SURR 1(NBZ) %RECOVERY
SURR 2(FBP) %RECOVERY
SURR 3(TPH) %RECOVERY
SURR 4(PHL) %RECOVERY
SURR 5(2FP) %RECOVERY
SURR 6(TBP) %RECOVERY

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0914886	PE0914886	PE0914885	PE0920885	PE0920887	PE0920887	PE0920888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
M/E 51			42	40			
M/E 68-1			0	0.2			
M/E 68-2			0	0.3			
M/E 69			72	71			
M/E 70-1			0	0			
M/E 70-2			0	0			
M/E 127			48	47			
M/E 197			0	0			
M/E 198			100	100			
M/E 199			6.2	6.3			
M/E 275			22	20			
M/E 365			1.2	2			
M/E 441			11	9.9			
M/E 442			72	66			
M/E 443-1			13	12			
M/E 443-2			18	18			
INTERNAL STD AREA(ANT)							53900
INTERNAL STD AREA(CRY)							38300
INTERNAL STD AREA(DCB)							44500
INTERNAL STD AREA(NPT)							142000
INTERNAL STD AREA(PHN)							76200
INTERNAL STD AREA(PRY)							17500
DILUTION FACTOR							
ACTUAL(ALLOWED) EXTRACT TIME							

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD	MS %	RPD	MATRIX	MSD %	MATRIX SPIKE	B. B-141
TYPE OF LOCATION	BLANK	RECOVERY		SPIKE	RECOVERY	DUPLICATE	UNDGR TANK
SAMPLE NUMBER	SBK08762	PE308018A	PE308018A	PE308018B	PE308018A	PE308018C	PE308018A
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	%	%	UG/L	%	UG/L	UG/L
ENV PROBLEM NO		2	2	2	2	2	2
ACENAPHTHENE	10 U	61	20	61 S	75	75 S	10 U

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD BLANK	MS % RECOVERY	RPD	MATRIX SPIKE	MSD % RECOVERY	MATRIX SPIKE DUPLICATE	B. B-141 UNDGR TANK
TYPE OF LOCATION							
SAMPLE NUMBER	SBK08762	PE308018A	PE308018A	PE308018B	PE308018A	PE308018C	PE308018A
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	%	%	UG/L	%	UG/L	UG/L
ENV PROBLEM NO		2	2	2	2	2	2
ACENAPHTHYLENE	10 U			10 U		10 U	10 U
ANTHRACENE	10 U			10 U		10 U	10 U
BENZO(A)ANTHRACENE	10 U			10 U		10 U	10 U
BENZO(A)PYRENE	10 U			10 U		10 U	10 U
BENZO(B)FLUORANTHENE	10 U			10 U		10 U	10 U
BENZO(G,H,I)PERYLENE	10 U			10 U		10 U	10 U
BENZO(K)FLUORANTHENE	1 J			10 U		10 U	10 U
BENZOIC ACID	50 U			50 U		50 U	50 U
BENZYL ALCOHOL	10 U			10 U		10 U	10 U
BIS(-2-CHLOROETHOXY)METHANE	10 U			10 U		10 U	10 U
BIS(2-CHLOROETHYL)ETHER	10 U			10 U		10	10 U
BIS(2-CHLOROISOPROPYL)ETHER	10 U			10 U		10 U	10 U
BIS(2-ETHYLHEXYL)PHTHALATE	9 J			88 B		66 B	48 B
BUTYLBENZYLPHTHALATE	10 U			10 U		10 U	10 U
CHRYSENE	10 U			10 U		10 U	10 U
DI-N-BUTYLPHTHALATE	10 U			10 U		10 U	10 U
DI-N-OCTYL PHTHALATE	0.4 J			10 U		10 U	10 U
DIBENZO(A,H)ANTHRACENE	10 U			10 U		10 U	10 U
DIBENZOFURAN	10 U			10 U		10 U	10 U
DIETHYLPHTHALATE	10 U			10 U		10 U	10 U
DIMETHYLPHTHALATE	10 U			10 U		10 U	10 U
FLUORANTHENE	10 U			10 U		10 U	10 U
FLUORENE	10 U			10 U		10 U	10 U
HEXACHLOROBENZENE	10 U			10 U		10 U	10 U
HEXACHLOROBUTADIENE	10 U			10 U		10 U	10 U
HEXACHLOROCYCLOPENTADIENE	10 U			10 U		10 U	10 U
HEXACHLOROETHANE	10 U			10 U		10 U	10 U
INDENO(1,2,3-CD)PYRENE	4 J			10 U		10 U	10 U
ISOPHORONE	10 U			10 U		10 U	10 U
N-NITROSO-DI-N-PROPYLAMINE	10 U	60	22	60 S	75	75 S	10 U
N-NITROSODIPHENYLAMINE	10 U			10 U		10 U	10 U
NAPHTHALENE	10 U			10 U		10 U	10 U
NITROBENZENE	10 U			10 U		10 U	10 U
NITROBENZENE-D5							
PENTACHLOROPHENOL	50 U	30	31	59 S	41	82 S	50 U
PHENANTHRENE	10 U			10 U		10 U	10 U
PHENOL	10 U	26	20	53 S	32	65 S	10 U
PHENOL-D5							
PYRENE	10 U	75	27	75 S	98	98 S	10 U

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD BLANK	MS % RECOVERY	RPD	MATRIX SPIKE	MSD % RECOVERY	MATRIX SPIKE DUPLICATE	B. B-141 UNDGR TANK
TYPE OF LOCATION							
SAMPLE NUMBER	SBK08762	PE308018A	PE308018A	PE308018B	PE308018A	PE308018C	PE308018A
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	%	%	UG/L	%	UG/L	UG/L
ENV PROBLEM NO		2	2	2	2	2	2
TERPHENYL-D14							
1,2-DICHLOROBENZENE	10 U			10 U		10 U	10 U
1,2,4-TRICHLOROBENZENE	10 U	57	25	57 S	75	75 S	10 U
1,3-DICHLOROBENZENE	10 U			10 U		10 U	10 U
1,4-DICHLOROBENZENE	10 U	64	29 *	64 S	85	85 S	10 U
2-CHLORONAPHTHALENE	10 U			10 U		10 U	10 U
2-CHLOROPHENOL	10 U	55	27	210 S	71	140 S	10 U
2-FLUOROBIPHENYL							
2-FLUOROPHENOL							
2-METHYLNAPHTHALENE	10 U			10 U		10 U	10 U
2-METHYLPHENOL	10 U			10 U		10 U	10 U
2-NITROANILINE	50 U			50 U		50 U	50 U
2-NITROPHENOL	10 U			10 U		10 U	10 U
2,4-DICHLOROPHENOL	10 U			10 U		10 U	10 U
2,4-DIMETHYLPHENOL	10 U			10 U		10 U	10 U
2,4-DINITROPHENOL	50 U			50 U		50 U	50 U
2,4-DINITROTOLUENE	10 U	62	20	62 S	77	77 S	10 U
2,4,5-TRICHLOROPHENOL	50 U			50 U		50 U	50 U
2,4,6-TRIBROMOPHENOL							
2,4,6-TRICHLOROPHENOL	10 U			10 U		10 U	10 U
2,6-DINITROTOLUENE	10 U			10 U		10 U	10 U
3-NITROANILINE	50 U			50 U		50 U	50 U
3,3'-DICHLOROBENZIDINE	20 U			20 U		20 U	20 U
4-BROMOPHENYL-PHENYLETHER	10 U			10 U		10 U	10 U
4-CHLORO-3-METHYLPHENOL	10 U	60	23	120 S	77	150 S	10 U
4-CHLOROANILINE	10 U			10 U		10 U	10 U
4-CHLOROPHENYL-PHENYLETHER	10 U			10 U		10 U	10 U
4-METHYLPHENOL	10 U			10 U		10 U	10 U
4-NITROANILINE	50 U			50 U		50 U	50 U
4-NITROPHENOL	50 U	6 *	37	12 JS	8 *	17 JS	50 U
4,6-DINITRO-2-METHYLPHENOL	50 U			50 U		50 U	50 U
SURR 1(NBZ) %RECOVERY	53			57		68	53
SURR 2(FBP) %RECOVERY	42 *			53		67	47
SURR 3(TPH) %RECOVERY	70			77		101	74
SURR 4(PHL) %RECOVERY	20			24		26	19
SURR 5(2FP) %RECOVERY	38			38		46	36
SURR 6(TBP) %RECOVERY	42			50		66	36

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TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD	MS %	RPD	MATRIX	MSD %	MATRIX SPIKE	B. B-141
TYPE OF LOCATION	BLANK	RECOVERY		SPIKE	RECOVERY	DUPLICATE	UNDGR TANK
SAMPLE NUMBER	SBK08762	PE308018A	PE308018A	PE308018B	PE308018A	PE308018C	PE308018A
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	%	%	UG/L	%	UG/L	UG/L
ENV PROBLEM NO		2	2	2	2	2	2
M/E 68-1							
M/E 68-2							
M/E 69							
M/E 70-1							
M/E 70-2							
M/E 127							
M/E 197							
M/E 198							
M/E 199							
M/E 275							
M/E 365							
M/E 441							
M/E 442							
M/E 443-1							
M/E 443-2							
INTERNAL STD AREA(ANT)	59700			56900		50800	57200
INTERNAL STD AREA(CRY)	33700			29000		26000	26900
INTERNAL STD AREA(DCB)	39500			41800		38300	42100
INTERNAL STD AREA(NPT)	133000			143000		128000	143000
INTERNAL STD AREA(PHN)	83400			75300		69600	73800
INTERNAL STD AREA(PRY)	25000			17700		17300	18900
DILUTION FACTOR	1			1		1	1
ACTUAL(ALLOWED) EXTRACT TIME				6(7 D)		6(7 D)	6(7 D)

AREA			QA	QA	QA	QA	
LOCATION	B. B-141	B. B-141	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	LICK RUN
TYPE OF LOCATION	UNDGR TANK	UNDGR TANK	CALIBRATION	CALIBRATION	CAL %D	SHIFT	STORM SEWER
SAMPLE NUMBER	PE308109A	PE308029C	PE0921885	PE0921887	PE0921887	PE0921888	PE302012A
MATRIX	WATER	WATER					WATER
UNITS	UG/L	UG/L	%	RRF	%	AREA	UG/L
ENV PROBLEM NO	2	2					1
ACENAPHTHENE	10 U	10 U		0.603	2.4		10 U
ACENAPHTHYLENE	10 U	10 U		1.919	4.9		10 U

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A

DRAFT DO NOT CITE

AREA			QA	QA	QA	QA	
LOCATION	B. B-141	B. B-141	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	LICK RUN
TYPE OF LOCATION	UNDGR TANK	UNDGR TANK	CALIBRATION	CALIBRATION	CAL %D	SHIFT	STORM SEWER
SAMPLE NUMBER	PE308109A	PE308029C	PE0921885	PE0921887	PE0921887	PE0921888	PE302012A
MATRIX	WATER	WATER					WATER
UNITS	UG/L	UG/L	%	RRF	%	AREA	UG/L
ENV PROBLEM NO	2	2					1
ANTHRACENE	10 U	10 U		0.992	3		10 U
BENZO(A)ANTHRACENE	10 U	10 U		1.082	5.4		10 U
BENZO(A)PYRENE	10 U	10 U		1.63	4.3		14 J
BENZO(B)FLUORANTHENE	10 U	10 U		1.968	9.7		11 J
BENZO(G,H,I)PERYLENE	10 U	10 U		1.018	5.7		11
BENZO(K)FLUORANTHENE	10 U	10 U		1.774	2.6		13 J
BENZOIC ACID	50 U	50 U		0.137	15.1		50 U
BENZYL ALCOHOL	10 U	10 U		0.793	11.4		10 U
BIS(-2-CHLOROETHOXY)METHANE	10 U	10 U		0.664	5.1		10 U
BIS(2-CHLOROETHYL)ETHER	10 U	10 U		2.273	4.4		10 U
BIS(2-CHLOROISOPROPYL)ETHER	10 U	10 U		1.772	3.3		10 U
BIS(2-ETHYLHEXYL)PHTHALATE	13 B	71 B		1.404	9.4		8 JB
BUTYLBENZYLPHTHALATE	10 U	10 U		1.141	0.4		10 U
CHRYSENE	10 U	10 U		1.04	1.5		10 U
DI-N-BUTYLPHTHALATE	10 U	10 U		1.645	7.3		2 J
DI-N-OCTYL PHTHALATE	0.5 JB	10 U		4.571	5.5		4 JB
DIBENZO(A,H)ANTHRACENE	10 U	10 U		0.912	13.2		9 J
DIBENZOFURAN	10 U	10 U		1.6	4.1		10 U
DIETHYLPHTHALATE	10 U	10 U		1.468	1.1		10 U
DIMETHYLPHTHALATE	10 U	10 U		1.428	0.7		10 U
FLUORANTHENE	10 U	10 U		0.84	4.6		1 J
FLUORENE	10 U	10 U		1.196	4.9		10 U
HEXACHLOROBENZENE	10 U	10 U		0.342	4.2		10 U
HEXACHLOROBUTADIENE	10 U	10 U		0.173	6.6		10 U
HEXACHLOROCYCLOPENTADIENE	10 U	10 U		0.248	5.6		10 U
HEXACHLOROETHANE	10 U	10 U		0.708	7.1		10 U
INDENO(1,2,3-CD)PYRENE	10 U	10 U		0.971	12.4		10 J
ISOPHORONE	10 U	10 U		0.967	23.7		10 U
N-NITROSO-DI-N-PROPYLAMINE	10 U	10 U		1.165	5.5		10 U
N-NITROSODIPHENYLAMINE	10 U	10 U		0.442	2.4		10 U
NAPHTHALENE	10 U	10 U		1.034	4.2		10 U
NITROBENZENE	10 U	3 J		0.462	4.7		10 U
NITROBENZENE-D5				0.474	3.7		
PENTACHLOROPHENOL	50 U	50 U		0.108	9.4		50 U
PHENANTHRENE	10 U	10 U		1.026	0.7		0.7 J
PHENOL	10 U	10 U		2.243	6.7		10 U
PHENOL-D5				1.951	7.1		
PYRENE	10 U	10 U		1.877	0		10 U
TERPHENYL-D14				1.395	1.9		

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A DRAFT DO NOT CITE

AREA			QA	QA	QA	QA	
LOCATION	B. B-141	B. B-141	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	LICK RUN
TYPE OF LOCATION	UNDGR TANK	UNDGR TANK	CALIBRATION	CALIBRATION	CAL %D	SHIFT	STORM SEWER
SAMPLE NUMBER	PE308109A	PE308029C	PE0921885	PE0921887	PE0921887	PE0921888	PE302012A
MATRIX	WATER	WATER					WATER
UNITS	UG/L	UG/L	%	RRF	%	AREA	UG/L
ENV PROBLEM NO	2	2					1
1,2-DICHLOROBENZENE	10 U	10 U		1.487	1.7		10 U
1,2,4-TRICHLOROBENZENE	10 U	10 U		0.315	1.9		10 U
1,3-DICHLOROBENZENE	10 U	10 U		1.487	0.7		10 U
1,4-DICHLOROBENZENE	10 U	10 U		1.573	0.5		10 U
2-CHLORONAPHTHALENE	10 U	10 U		1.299	1.3		10 U
2-CHLOROPHENOL	10 U	10 U		1.471	4.9		10 U
2-FLUOROBIPHENYL				1.614	0.6		
2-FLUOROPHENOL				1.544	0.4		
2-METHYLNAPHTHALENE	10 U	10 U		0.827	0.8		10 U
2-METHYLPHENOL	10 U	10 U		1.283	4.2		10 U
2-NITROANILINE	50 U	50 U		0.451	8		50 U
2-NITROPHENOL	10 U	10 U		0.198	6		10 U
2,4-DICHLOROPHENOL	10 U	10 U		0.263	5		10 U
2,4-DIMETHYLPHENOL	10 U	10 U		0.325	11.2		10 U
2,4-DINITROPHENOL	50 U	50 U		0.059	35.6		50 U
2,4-DINITROTOLUENE	10 U	10 U		0.381	7.4		10 U
2,4,5-TRICHLOROPHENOL	50 U	50 U		0.368	9		50 U
2,4,6-TRIBROMOPHENOL				0.209	9		
2,4,6-TRICHLOROPHENOL	10 U	10 U		0.401	4.4		10 U
2,6-DINITROTOLUENE	10 U	10 U		0.316	6.5		10 U
3-NITROANILINE	50 U	50 U		0.295	15.1		50 U
3,3'-DICHLOROBENZIDINE	20 U	20 U		0.12	19		20 U
4-BROMOPHENYL-PHENYLETHER	10 U	10 U		0.248	4.5		10 U
4-CHLORO-3-METHYLPHENOL	10 U	10 U		0.286	5.9		10 U
4-CHLOROANILINE	10 U	10 U		0.189	7.2		10 U
4-CHLOROPHENYL-PHENYLETHER	10 U	10 U		0.57	2.3		10 U
4-METHYLPHENOL	10 U	10 U		1.311	0.1		10 U
4-NITROANILINE	50 U	50 U		0.157	11.1		50 U
4-NITROPHENOL	50 U	50 U		0.066	19.6		50 U
4,6-DINITRO-2-METHYLPHENOL	50 U	50 U		0.068	28.8		50 U
SURR 1(NBZ) %RECOVERY	56	62					57
SURR 2(FBP) %RECOVERY	48	52					46
SURR 3(TPH) %RECOVERY	73	75					63
SURR 4(PHL) %RECOVERY	20	23					19
SURR 5(2FP) %RECOVERY	36	40					35
SURR 6(TBP) %RECOVERY	40	46					41

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TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A DRAFT DO NOT CITE

AREA			QA	QA	QA	QA	
LOCATION	B. B-141	B. B-141	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	LICK RUN
TYPE OF LOCATION	UNDGR TANK	UNDGR TANK	CALIBRATION	CALIBRATION	CAL %D	SHIFT	STORM SEWER
SAMPLE NUMBER	PE308109A	PE308029C	PE0921885	PE0921887	PE0921887	PE0921888	PE302012A
MATRIX	WATER	WATER					WATER
UNITS	UG/L	UG/L	%	RRF	%	AREA	UG/L
ENV PROBLEM NO	2	2					1
M/E 68-1			0				
M/E 68-2			0				
M/E 69			71				
M/E 70-1			0				
M/E 70-2			0				
M/E 127			46				
M/E 197			0				
M/E 198			100				
M/E 199			6.2				
M/E 275			21				
M/E 365			1.2				
M/E 441			9.5				
M/E 442			62				
M/E 443-1			12				
M/E 443-2			19				
INTERNAL STD AREA(ANT)	55200	55700				50200	55800
INTERNAL STD AREA(CRY)	30300	31300				30600	33900
INTERNAL STD AREA(DCB)	39100	39800				41400	43600
INTERNAL STD AREA(NPT)	130000	132000				135000	135000
INTERNAL STD AREA(PHN)	72200	74400				70500	71000
INTERNAL STD AREA(PRY)	21900	23000				12000	16600
DILUTION FACTOR	1	1					1
ACTUAL(ALLOWED) EXTRACT TIME	4(7 D)	5(7 D)					4(7 D)

AREA						QA	QA
LOCATION	B. B-141	LICK RUN	LICK RUN	LICK RUN	LICK RUN	TUNED	CONTINUING
TYPE OF LOCATION	UNDGR TANK	STORM SEWER	STORM SEWER	STORM SEWER	STORM SEWER	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE308030A	PE309019A	PE309020A	PE309031A	PE302034A	PE0922885	PE0922887
MATRIX	WATER	WATER	WATER	WATER	WATER		
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	%	RRF
ENV PROBLEM NO	2	1	1	1	1		
ACENAPHTHENE	10 U	10 U	10 U	10 U	10 U		0.589
ACENAPHTHYLENE	10 U	10 U	10 U	10 U	10 U		1.92

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A

DRAFT DO NOT CITE

AREA						QA	QA
LOCATION	B. B-141	LICK RUN	LICK RUN	LICK RUN	LICK RUN	TUNED	CONTINUING
TYPE OF LOCATION	UNDGR TANK	STORM SEWER	STORM SEWER	STORM SEWER	STORM SEWER	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE308030A	PE309019A	PE309020A	PE309031A	PE302034A	PE0922885	PE0922887
MATRIX	WATER	WATER	WATER	WATER	WATER		
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	%	RRF
ENV PROBLEM NO	2	1	1	1	1		
ANTHRACENE	10 U	10 U	10 U	10 U	10 U		0.992
BENZO(A)ANTHRACENE	10 U	10 U	10 U	10 U	10 U		1.058
BENZO(A)PYRENE	10 U	10 U	10 U	10 U	10 U		1.547
BENZO(B)FLUORANTHENE	10 U	10 U	10 U	10 U	10 U		1.812
BENZO(G,H,I)PERYLENE	10 U	10 U	10 U	10 U	10 U		0.964
BENZO(K)FLUORANTHENE	10 U	10 U	10 U	10 U	10 U		1.794
BENZOIC ACID	50 U	50 U	50 U	50 U	50 U		0.121
BENZYL ALCOHOL	10 U	10 U	10 U	10 U	10 U		0.831
BIS(-2-CHLOROETHOXY)METHANE	10 U	10 U	10 U	10 U	10 U		0.671
BIS(2-CHLOROETHYL)ETHER	10 U	10 U	10 U	10 U	10 U		2.24
BIS(2-CHLOROISOPROPYL)ETHER	10 U	10 U	10 U	10 U	10 U		1.682
BIS(2-ETHYLHEXYL)PHTHALATE	1200 BE	47 B	24 B	23 B	550 BE		1.44
BUTYLBENZYLPHTHALATE	2 J	10 U	10 U	10 U	10 U		1.126
CHRYSENE	10 U	10 U	10 U	10 U	10 U		0.984
DI-N-BUTYLPHTHALATE	10 U	10 U	10 U	10 U	10 U		1.678
DI-N-OCTYL PHTHALATE	0.8 JB	4 JB	2 JB	0.7 JB	10 U		4.392
DIBENZO(A,H)ANTHRACENE	10 U	10 U	10 U	10 U	10 U		0.86
DIBENZOFURAN	10 U	10 U	10 U	10 U	10 U		1.569
DIETHYLPHTHALATE	10 U	10 U	10 U	10 U	10 U		1.415
DIMETHYLPHTHALATE	10 U	10 U	10 U	10 U	10 U		1.377
FLUORANTHENE	10 U	10 U	10 U	10 U	10 U		0.866
FLUORENE	10 U	10 U	10 U	10 U	10 U		1.164
HEXACHLOROBENZENE	10 U	10 U	10 U	10 U	10 U		0.344
HEXACHLOROBUTADIENE	10 U	10 U	10 U	10 U	10 U		0.178
HEXACHLOROCYCLOPENTADIENE	10 U	10 U	10 U	10 U	10 U		0.292
HEXACHLOROETHANE	10 U	10 U	10 U	10 U	10 U		0.71
INDENO(1,2,3-CD)PYRENE	10 U	10 U	10 U	10 U	10 U		0.947
ISOPHORONE	10 U	10 U	10 U	10 U	10 U		0.941
N-NITROSO-DI-N-PROPYLAMINE	10 U	10 U	10 U	10 U	10 U		1.137
N-NITROSODIPHENYLAMINE	10 U	10 U	10 U	10 U	10 U		0.439
NAPHTHALENE	10 U	10 U	10 U	10 U	10 U		1.026
NITROBENZENE	10 U	10 U	10 U	10 U	10 U		0.486
NITROBENZENE-D5							0.485
PENTACHLOROPHENOL	50 U	50 U	50 U	50 U	50 U		0.126
PHENANTHRENE	10 U	10 U	10 U	10 U	10 U		1.065
PHENOL	10 U	10 U	10 U	10 U	10 U		2.124
PHENOL-D5							1.968
PYRENE	10 U	10 U	10 U	10 U	10 U		1.868
TERPHENYL-D14							1.356

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A DRAFT DO NOT CITE

AREA						QA	QA
LOCATION	B. B-141	LICK RUN	LICK RUN	LICK RUN	LICK RUN	TUNED	CONTINUING
TYPE OF LOCATION	UNDGR TANK	STORM SEWER	STORM SEWER	STORM SEWER	STORM SEWER	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE308030A	PE309019A	PE309020A	PE309031A	PE302034A	PE0922885	PE0922887
MATRIX	WATER	WATER	WATER	WATER	WATER		
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	%	RRF
ENV PROBLEM NO	2	1	1	1	1		
1,2-DICHLOROBENZENE	10 U	10 U	10 U	10 U	10 U		1.482
1,2,4-TRICHLOROBENZENE	10 U	10 U	10 U	10 U	10 U		0.315
1,3-DICHLOROBENZENE	10 U	10 U	10 U	10 U	10 U		1.444
1,4-DICHLOROBENZENE	10 U	10 U	10 U	10 U	10 U		1.529
2-CHLORONAPHTHALENE	10 U	10 U	10 U	10 U	10 U		1.304
2-CHLOROPHENOL	10 U	10 U	10 U	10 U	10 U		1.51
2-FLUOROBIPHENYL							1.571
2-FLUOROPHENOL							1.507
2-METHYLNAPHTHALENE	10 U	10 U	10 U	10 U	10 U		0.769
2-METHYLPHENOL	10 U	10 U	10 U	10 U	10 U		1.292
2-NITROANILINE	50 U	50 U	50 U	50 U	50 U		0.471
2-NITROPHENOL	10 U	10 U	10 U	10 U	10 U		0.197
2,4-DICHLOROPHENOL	10 U	10 U	10 U	10 U	10 U		0.262
2,4-DIMETHYLPHENOL	10 U	10 U	10 U	10 U	10 U		0.345
2,4-DINITROPHENOL	50 U	50 U	50 U	50 U	50 U		0.062
2,4-DINITROTOLUENE	10 U	10 U	10 U	10 U	10 U		0.384
2,4,5-TRICHLOROPHENOL	50 U	50 U	50 U	50 U	50 U		0.364
2,4,6-TRIBROMOPHENOL							0.203
2,4,6-TRICHLOROPHENOL	10 U	10 U	10 U	10 U	10 U		0.416
2,6-DINITROTOLUENE	10 U	10 U	10 U	10 U	10 U		0.31
3-NITROANILINE	50 U	50 U	50 U	50 U	50 U		0.27
3,3'-DICHLOROBENZIDINE	20 U	20 U	20 U	20 U	20 U		0
4-BROMOPHENYL-PHENYLETHER	10 U	10 U	10 U	10 U	10 U		0.238
4-CHLORO-3-METHYLPHENOL	10 U	10 U	10 U	10 U	10 U		0.283
4-CHLOROANILINE	10 U	10 U	10 U	10 U	10 U		0.172
4-CHLOROPHENYL-PHENYLETHER	10 U	10 U	10 U	10 U	10 U		0.544
4-METHYLPHENOL	10 U	10 U	10 U	10 U	10 U		1.332
4-NITROANILINE	50 U	50 U	50 U	50 U	50 U		0.16
4-NITROPHENOL	50 U	50 U	50 U	50 U	50 U		0.073
4,6-DINITRO-2-METHYLPHENOL	50 U	50 U	50 U	50 U	50 U		0.082
SURR 1(NBZ) %RECOVERY	53	61	67	51	48		
SURR 2(FBP) %RECOVERY	47	49	56	44	42 *		
SURR 3(TPH) %RECOVERY	58	47	84	63	56		
SURR 4(PHL) %RECOVERY	20	22	24	16	15		
SURR 5(2FP) %RECOVERY	34	40	47	31	28		
SURR 6(TBP) %RECOVERY	46	50	98	36	28		

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TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A

DRAFT DO NOT CITE

AREA						QA	QA
LOCATION	B. B-141	LICK RUN	LICK RUN	LICK RUN	LICK RUN	TUNED	CONTINUING
TYPE OF LOCATION	UNDGR TANK	STORM SEWER	STORM SEWER	STORM SEWER	STORM SEWER	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE308030A	PE309019A	PE309020A	PE309031A	PE302034A	PE0922885	PE0922887
MATRIX	WATER	WATER	WATER	WATER	WATER		
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	%	RRF
ENV PROBLEM NO	2	1	1	1	1		
M/E 68-1						0	
M/E 68-2						0	
M/E 69						75	
M/E 70-1						0	
M/E 70-2						0	
M/E 127						49	
M/E 197						0	
M/E 198						100	
M/E 199						7.2	
M/E 275						19	
M/E 365						1.5	
M/E 441						9.2	
M/E 442						56	
M/E 443-1						10	
M/E 443-2						18	
INTERNAL STD AREA(ANT)	61900	61100	46400	60000	51600		
INTERNAL STD AREA(CRY)	38900	32900	18200	28800	27700		
INTERNAL STD AREA(DCB)	41400	41800	33400	43900	37200		
INTERNAL STD AREA(NPT)	139000	135000	109000	136000	125000		
INTERNAL STD AREA(PHN)	79300	79300	57000	77000	67600		
INTERNAL STD AREA(PRY)	18700	16400	7300	12800	12900		
DILUTION FACTOR	1	1	1	1	1		
ACTUAL(ALLOWED) EXTRACT TIME	4(7 D)	4(7 D)	3(7 D)	3(7 D)	3(7 D)		

AREA	QA	QA		QA	QA	QA	QA
LOCATION	CONTINUING	ISTD RET TIM	LICK RUN	INITIAL CAL	INITIAL CAL	TUNED	TUNED
TYPE OF LOCATION	CAL %D	SHIFT	STORM SEWER	RRF	% RSD	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE0922887	PE0922888	PE303046A	PE1017886	PE1017886	PE1017885	PE1028885
MATRIX			WATER				
UNITS	%	AREA	UG/L	RRF	%	%	%
ENV PROBLEM NO			1				
ACENAPHTHENE	4.5		10 U	0.567	9.6		
ACENAPHTHYLENE	4.8		10 U	1.822	7.9		

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A

DRAFT DO NOT CITE

AREA	QA	QA		QA	QA	QA	QA
LOCATION	CONTINUING	ISTD RET TIM	LICK RUN	INITIAL CAL	INITIAL CAL	TUNED	TUNED
TYPE OF LOCATION	CAL %D	SHIFT	STORM SEWER	RRF	% RSD	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE0922887	PE0922888	PE303046A	PE1017886	PE1017886	PE1017885	PE1028885
MATRIX			WATER				
UNITS	%	AREA	UG/L	RRF	%	%	%
ENV PROBLEM NO			1				
ANTHRACENE	3.1		10 U	0.9	8.8		
BENZO(A)ANTHRACENE	7.5		7 J	1.085	2.9		
BENZO(A)PYRENE	1		20	1.086	4.8		
BENZO(B)FLUORANTHENE	1		19	1.239	6.7		
BENZO(G,H,I)PERYLENE	10.8		16	0.695	6.6		
BENZO(K)FLUORANTHENE	1.5		20	1.289	7.5		
BENZOIC ACID	25.1		50 U	0.126	22		
BENZYL ALCOHOL	16.6		10 U	0.547	27.7		
BIS(-2-CHLOROETHOXY)METHANE	4.1		10 U	0.49	2.9		
BIS(2-CHLOROETHYL)ETHER	5.7		10 U	1.492	5.5		
BIS(2-CHLOROISOPROPYL)ETHER	1.9		10 U	0.571	7.3		
BIS(2-ETHYLHEXYL)PHTHALATE	7.1		10 U	1.497	7.1		
BUTYLBENZYLPHTHALATE	1.7		4 J	1.118	9		
CHRYSENE	6.9		10	1.056	7.5		
DI-N-BUTYLPHTHALATE	5.4		4 J	1.429	4.9		
DI-N-OCTYL PHTHALATE	1.3		5 JB	2.981	8.4		
DIBENZO(A,H)ANTHRACENE	18.1		16	0.586	16.1		
DIBENZOFURAN	5.9		10 U	1.573	5.8		
DIETHYLPHTHALATE	4.6		10 U	1.541	2.6		
DIMETHYLPHTHALATE	4.2		10 U	1.467	2.2		
FLUORANTHENE	1.6		1 J	0.629	9.1		
FLUORENE	7.4		10 U	1.16	8.6		
HEXACHLOROBENZENE	3.6		10 U	0.28	8.2		
HEXACHLOROBUTADIENE	4		10 U	0.167	5.9		
HEXACHLOROCYCLOPENTADIENE	24.6		10 U	0.195	13.6		
HEXACHLOROETHANE	7.4		10 U	0.656	4.1		
INDENO(1,2,3-CD)PYRENE	14.5		24	0.65	7.6		
ISOPHORONE	20.4		10 U	0.602	24.4		
N-NITROSO-DI-N-PROPYLAMINE	3		10 U	0.758	5.2		
N-NITROSODIPHENYLAMINE	3.1		10 U	0.482	7.4		
NAPHTHALENE	5		10 U	0.919	4.7		
NITROBENZENE	0.2		10 U	0.369	3.7		
NITROBENZENE-D5	1.5			0.393	5.2		
PENTACHLOROPHENOL	6.1		50 U	0.083	12.3		
PHENANTHRENE	3.1		10 U	0.903	8.5		
PHENOL	11.7		10 U	1.603	3.2		
PHENOL-D5	6.3			1.564	1.4		
PYRENE	0.5		2 J	2.317	3.3		
TERPHENYL-D14	4.7			1.465	4.6		

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A DRAFT DO NOT CITE

AREA	QA	QA		QA	QA	QA	QA
LOCATION	CONTINUING	ISTD RET TIM	LICK RUN	INITIAL CAL	INITIAL CAL	TUNED	TUNED
TYPE OF LOCATION	CAL %D	SHIFT	STORM SEWER	RRF	% RSD	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE0922887	PE0922888	PE303046A	PE1017886	PE1017886	PE1017885	PE1028885
MATRIX			WATER				
UNITS	%	AREA	UG/L	RRF	%	%	%
ENV PROBLEM NO			1				
1,2-DICHLOROBENZENE	2		10 U	1.34	3.9		
1,2,4-TRICHLOROBENZENE	1.9		10 U	0.303	3.4		
1,3-DICHLOROBENZENE	3.6		10 U	1.401	3		
1,4-DICHLOROBENZENE	3.3		10 U	1.376	3.2		
2-CHLORONAPHTHALENE	0.9		10 U	1.196	6.7		
2-CHLOROPHENOL	2.4		10 U	1.205	1.8		
2-FLUOROBIPHENYL	3.2			1.398	11.5		
2-FLUOROPHENOL	2.8			1.377	6.1		
2-METHYLNAPHTHALENE	7.7		10 U	0.61	14.8		
2-METHYLPHENOL	3.5		10 U	1.068	5.2		
2-NITROANILINE	3.9		50 U	0.351	0.8		
2-NITROPHENOL	6.3		10 U	0.176	7		
2,4-DICHLOROPHENOL	5.5		10 U	0.266	6.5		
2,4-DIMETHYLPHENOL	5.8		10 U	0.332	3.8		
2,4-DINITROPHENOL	32.2		50 U	0.06	19.6		
2,4-DINITROTOLUENE	6.6		10 U	0.419	4.2		
2,4,5-TRICHLOROPHENOL	9.9		50 U	0.345	11.1		
2,4,6-TRIBROMOPHENOL	11.3			0.161	11.5		
2,4,6-TRICHLOROPHENOL	1		10 U	0.326	6.7		
2,6-DINITROTOLUENE	8.4		10 U	0.331	4.2		
3-NITROANILINE	22.2		50 U	0.275	21.9		
3,3'-DICHLOROBENZIDINE	100		20 U	0.084	19.6		
4-BROMOPHENYL-PHENYLETHER	8.5		10 U	0.206	7.2		
4-CHLORO-3-METHYLPHENOL	7		10 U	0.272	6.7		
4-CHLOROANILINE	15.5		10 U	0.375	16.5		
4-CHLOROPHENYL-PHENYLETHER	6.8		10 U	0.505	7.7		
4-METHYLPHENOL	1.5		10 U	1.078	2.5		
4-NITROANILINE	9.4		50 U	0.158	18.9		
4-NITROPHENOL	10.8		50 U	0.088	10.2		
4,6-DINITRO-2-METHYLPHENOL	14.3		50 U	0.07	13.8		
SURR 1(NBZ) %RECOVERY			36				
SURR 2(FBP) %RECOVERY			34 *				
SURR 3(TPH) %RECOVERY			56				
SURR 4(PHL) %RECOVERY			14				
SURR 5(2FP) %RECOVERY			27				
SURR 6(TBP) %RECOVERY			32				
M/E 51						36	33

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A

DRAFT DO NOT CITE

AREA	QA	QA		QA	QA	QA	QA
LOCATION	CONTINUING	ISTD RET TIM	LICK RUN	INITIAL CAL	INITIAL CAL	TUNED	TUNED
TYPE OF LOCATION	CAL %D	SHIFT	STORM SEWER	RRF	% RSD	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE0922887	PE0922888	PE303046A	PE1017886	PE1017886	PE1017885	PE1028885
MATRIX			WATER				
UNITS	%	AREA	UG/L	RRF	%	%	%
ENV PROBLEM NO			1				
M/E 68-1						0	0
M/E 68-2						0	0
M/E 69						61	61
M/E 70-1						0	0
M/E 70-2						0	0
M/E 127						53	54
M/E 197						0	0.1
M/E 198						100	100
M/E 199						6.7	6.7
M/E 275						18	16
M/E 365						1.4	2
M/E 441						9.8	8.6
M/E 442						61	51
M/E 443-1						11	9.1
M/E 443-2						17	18
INTERNAL STD AREA(ANT)		46100	52800				
INTERNAL STD AREA(CRY)		28200	21800				
INTERNAL STD AREA(DCB)		40700	42700				
INTERNAL STD AREA(NPT)		129000	142000				
INTERNAL STD AREA(PHN)		63100	65700				
INTERNAL STD AREA(PRY)		12100	13000				
DILUTION FACTOR			1				
ACTUAL(ALLOWED) EXTRACT TIME			3(7 D)				

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	METHOD	TUNED	CONTINUING	CONTINUING
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT	BLANK	CALIBRATION	CALIBRATION	CAL %D
SAMPLE NUMBER	PE1028887	PE1028887	PE1028888	SBK09064	PE1116885	PE1116887	PE1116887
MATRIX				WATER			
UNITS	RRF	%	AREA	UG/L	%	RRF	%
ENV PROBLEM NO							
ACENAPHTHENE	0.666	17.4		10 U		0.633	20.3
ACENAPHTHYLENE	2.146	17.8		10 U		2.008	23

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	METHOD	TUNED	CONTINUING	CONTINUING
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT	BLANK	CALIBRATION	CALIBRATION	CAL %D
SAMPLE NUMBER	PE1028887	PE1028887	PE1028888	SBK09064	PE1116885	PE1116887	PE1116887
MATRIX				WATER			
UNITS	RRF	%	AREA	UG/L	%	RRF	%
ENV PROBLEM NO							
ANTHRACENE	1.054	17.1		10 U		1.067	26.3
BENZO(A)ANTHRACENE	1.127	3.9		10 U		1.193	20.9
BENZO(A)PYRENE	1.077	0.9		10 U		1.215	12.8
BENZO(B)FLUORANTHENE	1.183	4.5		10 U		1.456	19.9
BENZO(G,H,I)PERYLENE	0.715	3		10 U		0.836	19.6
BENZO(K)FLUORANTHENE	1.164	9.6		10 U		1.311	8.8
BENZOIC ACID	0.145	14.9		50 U		0.144	16.5
BENZYL ALCOHOL	0.012	97.8		10 U		0.688	53.6
BIS(-2-CHLOROETHOXY)METHANE	0.533	8.7		10 U		0.616	22.4
BIS(2-CHLOROETHYL)ETHER	1.643	10.1		10 U		1.749	20.9
BIS(2-CHLOROISOPROPYL)ETHER	0.768	34.3		10 U		1.046	48.7
BIS(2-ETHYLHEXYL)PHTHALATE	1.603	7.1		10 U		1.747	5
BUTYLBENZYLPHTHALATE	1.117	0.1		10 U		1.259	6.3
CHRYSENE	1.141	8.1		10 U		1.146	23.7
DI-N-BUTYLPHTHALATE	1.821	27.4		10 U		1.761	20.7
DI-N-OCTYL PHTHALATE	2.738	8.1		10 U		3.447	10.7
DIBENZO(A,H)ANTHRACENE	0.65	10.9		10 U		0.786	17.9
DIBENZOFURAN	1.771	12.6		10 U		1.747	18.5
DIETHYLPHTHALATE	1.711	11.1		10 U		1.787	12.8
DIMETHYLPHTHALATE	1.644	12.1		10 U		1.619	16.5
FLUORANTHENE	0.773	22.9		10 U		0.756	16.6
FLUORENE	1.345	16		10 U		1.308	23.9
HEXACHLOROBENZENE	0.288	3		10 U		0.306	20.1
HEXACHLOROBUTADIENE	0.18	8		10 U		0.172	20.7
HEXACHLOROCYCLOPENTADIENE	0.229	17.5		10 U		0.214	5.7
HEXACHLOROETHANE	0.723	10.3		10 U		0.72	18.3
INDENO(1,2,3-CD)PYRENE	0.744	14.5		10 U		0.813	15.9
ISOPHORONE	0.809	34.5		10 U		0.87	18.6
N-NITROSO-DI-N-PROPYLAMINE	0.876	15.5		10 U		1.038	28.4
N-NITROSODIPHENYLAMINE	0.536	11.3		10 U		0.477	19.8
NAPHTHALENE	1.019	11		10 U		1.022	18.7
NITROBENZENE	0.439	19.1		10 U		0.45	25.6
NITROBENZENE-D5	0.44	12				0.466	16.5
PENTACHLOROPHENOL	0.066	20.2		50 U		0.074	9.8
PHENANTHRENE	1.026	13.6		10 U		1.042	24.2
PHENOL	1.698	5.9		10 U		1.874	15.2
PHENOL-D5	1.487	5				1.73	18.9
PYRENE	1.786	22.9		0.9 J		2.124	9.6
TERPHENYL-D14	1.171	20.1				1.502	13.9

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	METHOD	TUNED	CONTINUING	CONTINUING
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT	BLANK	CALIBRATION	CALIBRATION	CAL %D
SAMPLE NUMBER	PE1028887	PE1028887	PE1028888	SBK09064	PE1116885	PE1116887	PE1116887
MATRIX				WATER			
UNITS	RRF	%	AREA	UG/L	%	RRF	%
ENV PROBLEM NO							
1,2-DICHLOROBENZENE	1.451	8.3		10 U		1.466	16.1
1,2,4-TRICHLOROBENZENE	0.328	8.3		10 U		0.326	14.7
1,3-DICHLOROBENZENE	1.506	7.5		10 U		1.501	18.5
1,4-DICHLOROBENZENE	1.491	8.4		10 U		1.526	19.6
2-CHLORONAPHTHALENE	1.366	14.2		10 U		1.332	26.1
2-CHLOROPHENOL	1.385	15		10 U		1.364	17.8
2-FLUOROBIPHENYL	1.604	14.7				1.585	21.8
2-FLUOROPHENOL	1.305	5.3				1.468	14.6
2-METHYLNAPHTHALENE	0.632	3.6		10 U		0.802	46.2
2-METHYLPHENOL	1.118	4.7		10 U		1.253	16.2
2-NITROANILINE	0.43	22.4		50 U		0.459	32
2-NITROPHENOL	0.214	21.1		10 U		0.21	16.1
2,4-DICHLOROPHENOL	0.312	17.4		10 U		0.304	17.5
2,4-DIMETHYLPHENOL	0.117	64.8		10 U		0.397	24.2
2,4-DINITROPHENOL	0.071	18.7		50 U		0.084	31.1
2,4-DINITROTOLUENE	0.49	16.7		10 U		0.473	16.4
2,4,5-TRICHLOROPHENOL	0.213	38.5		50 U		0.429	23.3
2,4,6-TRIBROMOPHENOL	0.104	35.2				0.188	31.3
2,4,6-TRICHLOROPHENOL	0.286	12.3		10 U		0.374	13
2,6-DINITROTOLUENE	0.387	17		10 U		0.371	12.4
3-NITROANILINE	0.152	44.8		50 U		0.274	17.6
3,3'-DICHLOROBENZIDINE	0.127	51.5		20 U		0.091	26.5
4-BROMOPHENYL-PHENYLETHER	0.214	3.5		10 U		0.24	30.7
4-CHLORO-3-METHYLPHENOL	0.32	17.8		10 U		0.323	24.8
4-CHLOROANILINE	0.386	3		10 U		0.378	22.4
4-CHLOROPHENYL-PHENYLETHER	0.564	11.8		10 U		0.542	19.1
4-METHYLPHENOL	1.138	5.5		10 U		1.282	25.3
4-NITROANILINE	0.197	24.8		50 U		0.17	18.2
4-NITROPHENOL	0.077	11.9		50 U		0.07	10.2
4,6-DINITRO-2-METHYLPHENOL	0.082	17.6		50 U		0.058	2.9
SURR 1(NBZ) %RECOVERY				46			
SURR 2(FBP) %RECOVERY				46			
SURR 3(TPH) %RECOVERY				79			
SURR 4(PHL) %RECOVERY				14			
SURR 5(2FP) %RECOVERY				25			
SURR 6(TBP) %RECOVERY				78			

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TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	CONTINUING CALIBRATION	CONTINUING CAL %D	ISTD RET TIM SHIFT	METHOD BLANK	TUNED CALIBRATION	CONTINUING CALIBRATION	CONTINUING CAL %D
TYPE OF LOCATION							
SAMPLE NUMBER	PE1028887	PE1028887	PE1028888	SBK09064	PE1116885	PE1116887	PE1116887
MATRIX				WATER			
UNITS	RRF	%	AREA	UG/L	%	RRF	%
ENV PROBLEM NO							
M/E 68-1					0.2		
M/E 68-2					0.3		
M/E 69					66		
M/E 70-1					0.3		
M/E 70-2					0.4		
M/E 127					52		
M/E 197					0		
M/E 198					100		
M/E 199					6.2		
M/E 275					17		
M/E 365					1.4		
M/E 441					9.9		
M/E 442					57		
M/E 443-1					11		
M/E 443-2					19		
INTERNAL STD AREA(ANT)			69500	76400			
INTERNAL STD AREA(CRY)			50800	44800			
INTERNAL STD AREA(DCB)			53700	54600			
INTERNAL STD AREA(NPT)			172000	174000			
INTERNAL STD AREA(PHN)			108000	108000			
INTERNAL STD AREA(PRY)			39600	32000			
DILUTION FACTOR				1			
ACTUAL(ALLOWED) EXTRACT TIME							

AREA	QA		QA	QA	QA	QA	
LOCATION	ISTD RET TIM SHIFT	REANALYSIS	TUNED CALIBRATION	CONTINUING CALIBRATION	CONTINUING CAL %D	ISTD RET TIM SHIFT	REANALYSIS
TYPE OF LOCATION							
SAMPLE NUMBER	PE1116888	PE307017B	PE1121885	PE1121887	PE1121887	PE1121888	PE307028B
MATRIX		WATER					WATER
UNITS	AREA	UG/L	%	RRF	%	AREA	UG/L
ENV PROBLEM NO		2					2
ACENAPHTHENE		10 U		0.636	20.9		10 U
ACENAPHTHYLENE		10 U		1.785	9.4		10 U

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A DRAFT DO NOT CITE

AREA	QA		QA	QA	QA	QA	
LOCATION	ISTD RET TIM SHIFT	REANALYSIS	TUNED CALIBRATION	CONTINUING CALIBRATION	CONTINUING CAL %D	ISTD RET TIM SHIFT	REANALYSIS
TYPE OF LOCATION							
SAMPLE NUMBER	PE1116888	PE307017B	PE1121885	PE1121887	PE1121887	PE1121888	PE307028B
MATRIX		WATER					WATER
UNITS	AREA	UG/L	%	RRF	%	AREA	UG/L
ENV PROBLEM NO		2					2
ANTHRACENE		10 U		1.082	28.1		10 U
BENZO(A)ANTHRACENE		10 U		1.135	14.9		8 J
BENZO(A)PYRENE		10 U		1.063	1.3		22
BENZO(B)FLUORANTHENE		10 U		1.23	1.3		19 J
BENZO(G,H,I)PERYLENE		10 U		0.624	10.8		37
BENZO(K)FLUORANTHENE		10 U		1.25	3.8		19 J
BENZOIC ACID		50 U		0.152	22.9		50 U
BENZYL ALCOHOL		10 U		0.72	60.6		10 U
BIS(-2-CHLOROETHOXY)METHANE		10 U		0.621	23.3		10 U
BIS(2-CHLOROETHYL)ETHER		10 U		1.802	24.5		10 U
BIS(2-CHLOROISOPROPYL)ETHER		10 U		1.049	49.1		10 U
BIS(2-ETHYLHEXYL)PHTHALATE		150		1.583	4.8		25
BUTYLBENZYLPHTHALATE		13 J		1.243	5		5 J
CHRYSENE		10 U		1.102	19		10 U
DI-N-BUTYLPHTHALATE		10 U		1.775	21.7		10 U
DI-N-OCTYL PHTHALATE		12 J		3.219	16.6		5 J
DIBENZO(A,H)ANTHRACENE		10 U		0.617	7.4		31
DIBENZOFURAN		10 U		1.69	14.6		10 U
DIETHYLPHTHALATE		3 J		1.609	1.5		2 J
DIMETHYLPHTHALATE		10 U		1.523	9.6		10 U
FLUORANTHENE		10 U		0.711	9.6		3 J
FLUORENE		10 U		1.241	17.5		10 U
HEXACHLOROBENZENE		10 U		0.3	17.7		10 U
HEXACHLOROBUTADIENE		10 U		0.177	24.3		10 U
HEXACHLOROCYCLOPENTADIENE		10 U		0.23	13.6		10 U
HEXACHLOROETHANE		10 U		0.75	23.2		10 U
INDENO(1,2,3-CD)PYRENE		10 U		0.645	8.1		34
ISOPHORONE		10 U		0.89	21.2		10 U
N-NITROSO-DI-N-PROPYLAMINE		10 U		1.023	26.5		10 U
N-NITROSODIPHENYLAMINE		10 U		0.41	2.9		10 U
NAPHTHALENE		10 U		1.017	18.1		10 U
NITROBENZENE		10 U		0.471	31.4		10 U
NITROBENZENE-D5				0.496	23.9		
PENTACHLOROPHENOL		50 U		0.079	17.2		50 U
PHENANTHRENE		10 U		1.044	24.5		10 U
PHENOL		10 U		1.901	16.9		10 U
PHENOL-D5				1.693	16.4		
PYRENE		10 U		1.97	1.7		3 J
TERPHENYL-D14				1.346	2.1		

AREA	QA		QA	QA	QA	QA	
LOCATION	ISTD RET TIM SHIFT	REANALYSIS.	TUNED CALIBRATION	CONTINUING CALIBRATION	CONTINUING CAL %D	ISTD RET TIM SHIFT	REANALYSIS
TYPE OF LOCATION							
SAMPLE NUMBER	PE1116888	PE307017B	PE1121885	PE1121887	PE1121887	PE1121888	PE307028B
MATRIX		WATER					WATER
UNITS	AREA	UG/L	%	RRF	%	AREA	UG/L
ENV PROBLEM NO		2					2
1,2-DICHLOROBENZENE		10 U		1.488	17.9		10 U
1,2,4-TRICHLOROBENZENE		10 U		0.338	18.8		10 U
1,3-DICHLOROBENZENE		10 U		1.439	13.6		10 U
1,4-DICHLOROBENZENE		10 U		1.488	16.7		10 U
2-CHLORONAPHTHALENE		10 U		1.35	27.8		10 U
2-CHLOROPHENOL		10 U		1.335	15.3		10 U
2-FLUOROBIPHENYL				1.579	21.2		
2-FLUOROPHENOL				1.434	11.9		
2-METHYLNAPHTHALENE		10 U		0.788	43.8		10 U
2-METHYLPHENOL		10 U		1.251	16		10 U
2-NITROANILINE		50 U		0.429	23.6		50 U
2-NITROPHENOL		10 U		0.207	14		10 U
2,4-DICHLOROPHENOL		10 U		0.297	14.8		10 U
2,4-DIMETHYLPHENOL		10 U		0.394	23.3		10 U
2,4-DINITROPHENOL		50 U		0.11	72.8		50 U
2,4-DINITROTOLUENE		10 U		0.436	7.2		10 U
2,4,5-TRICHLOROPHENOL		50 U		0.404	16.1		50 U
2,4,6-TRIBROMOPHENOL				0.18	25.6		
2,4,6-TRICHLOROPHENOL		10 U		0.395	19.3		10 U
2,6-DINITROTOLUENE		10 U		0.346	4.8		10 U
3-NITROANILINE		50 U		0.159	31.9		50 U
3,3'-DICHLOROBENZIDINE		20 U		0.141	94.6		20 U
4-BROMOPHENYL-PHENYLETHER		10 U		0.229	24.5		10 U
4-CHLORO-3-METHYLPHENOL		10 U		0.306	18.2		10 U
4-CHLOROANILINE		10 U		0.333	7.9		10 U
4-CHLOROPHENYL-PHENYLETHER		10 U		0.517	16.2		10 U
4-METHYLPHENOL		10 U		1.272	24.4		48
4-NITROANILINE		50 U		0.144	0.5		50 U
4-NITROPHENOL		50 U		0.083	30.8		50 U
4,6-DINITRO-2-METHYLPHENOL		50 U		0.059	1.1		50 U
SURR 1(NBZ) %RECOVERY		43					14 *
SURR 2(FBP) %RECOVERY		48					26 *
SURR 3(TPH) %RECOVERY		53					34
SURR 4(PHL) %RECOVERY		14					10
SURR 5(2FP) %RECOVERY		18 *					14 *
SURR 6(TBP) %RECOVERY		60					32

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A

DRAFT DO NOT CITE

AREA

LOCATION	QA		QA	QA	QA	QA	
TYPE OF LOCATION	ISTD RET TIM SHIFT	REANALYSIS	TUNED CALIBRATION	CONTINUING CALIBRATION	CONTINUING CAL %D	ISTD RET TIM SHIFT	REANALYSIS
SAMPLE NUMBER	PE1116888	PE307017B	PE1121885	PE1121887	PE1121887	PE1121888	PE307028B
MATRIX		WATER					WATER
UNITS	AREA	UG/L	%	RRF	%	AREA	UG/L
ENV PROBLEM NO		2					2
M/E 68-1			0.5				
M/E 68-2			0.8				
M/E 69			65				
M/E 70-1			0				
M/E 70-2			0				
M/E 127			54				
M/E 197			0				
M/E 198			100				
M/E 199			6.1				
M/E 275			17				
M/E 365			1.7				
M/E 441			9.3				
M/E 442			50				
M/E 443-1			9.7				
M/E 443-2			19				
INTERNAL STD AREA(ANT)	69100	60600				62100	64700
INTERNAL STD AREA(CRY)	32200	24300				33200	38500
INTERNAL STD AREA(DCB)	50900	49300				49600	44600
INTERNAL STD AREA(NPT)	169000	156000				158000	150000
INTERNAL STD AREA(PHN)	96700	78900				81100	89200
INTERNAL STD AREA(PRY)	19800	13900				22200	19800
DILUTION FACTOR		1					1
ACTUAL(ALLOWED) EXTRACT TIME		51(7 D)					51(7 D)

AREA

LOCATION	REANALYSIS
TYPE OF LOCATION	
SAMPLE NUMBER	PE307039B
MATRIX	WATER
UNITS	UG/L
ENV PROBLEM NO	2
ACENAPHTHENE	10 U
ACENAPHTHYLENE	10 U

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A

DRAFT DO NOT CITE

AREA

LOCATION	REANALYSIS
TYPE OF LOCATION	
SAMPLE NUMBER	PE307039B
MATRIX	WATER
UNITS	UG/L
ENV PROBLEM NO	2
ANTHRACENE	10 U
BENZO(A)ANTHRACENE	10 U
BENZO(A)PYRENE	10 U
BENZO(B)FLUORANTHENE	10 U
BENZO(G,H,I)PERYLENE	10 U
BENZO(K)FLUORANTHENE	10 U
BENZOIC ACID	50 U
BENZYL ALCOHOL	10 U
BIS(-2-CHLOROETHOXY)METHANE	10 U
BIS(2-CHLOROETHYL)ETHER	10 U
BIS(2-CHLOROISOPROPYL)ETHER	10 U
BIS(2-ETHYLHEXYL)PHTHALATE	23 B
BUTYLBENZYLPHTHALATE	10 U
CHRYSENE	10 U
DI-N-BUTYLPHTHALATE	0.7 J
DI-N-OCTYL PHTHALATE	1 JB
DIBENZO(A,H)ANTHRACENE	10 U
DIBENZOFURAN	10 U
DIETHYLPHTHALATE	10 U
DIMETHYLPHTHALATE	10 U
FLUORANTHENE	10 U
FLUORENE	10 U
HEXACHLOROBENZENE	10 U
HEXACHLOROBUTADIENE	10 U
HEXACHLOROCYCLOPENTADIENE	10 U
HEXACHLOROETHANE	10 U
INDENO(1,2,3-CD)PYRENE	10 U
ISOPHORONE	10 U
N-NITROSO-DI-N-PROPYLAMINE	10 U
N-NITROSODIPHENYLAMINE	10 U
NAPHTHALENE	10 U
NITROBENZENE	10 U
NITROBENZENE-D5	
PENTACHLOROPHENOL	50 U
PHENANTHRENE	10 U
PHENOL	10 U
PHENOL-D5	
PYRENE	10 U
TERPHENYL-D14	

TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A DRAFT DO NOT CITE

AREA

LOCATION	REANALYSIS						
TYPE OF LOCATION							
SAMPLE NUMBER	PE307039B						
MATRIX	WATER						
UNITS	UG/L						
ENV PROBLEM NO	2						
1,2-DICHLOROBENZENE	10 U						
1,2,4-TRICHLOROBENZENE	10 U						
1,3-DICHLOROBENZENE	10 U						
1,4-DICHLOROBENZENE	10 U						
2-CHLORONAPHTHALENE	10 U						
2-CHLOROPHENOL	10 U						
2-FLUOROBIPHENYL							
2-FLUOROPHENOL							
2-METHYLNAPHTHALENE	10 U						
2-METHYLPHENOL	10 U						
2-NITROANILINE	50 U						
2-NITROPHENOL	10 U						
2,4-DICHLOROPHENOL	10 U						
2,4-DIMETHYLPHENOL	10 U						
2,4-DINITROPHENOL	50 U						
2,4-DINITROTOLUENE	10 U						
2,4,5-TRICHLOROPHENOL	50 U						
2,4,6-TRIBROMOPHENOL							
2,4,6-TRICHLOROPHENOL	10 U						
2,6-DINITROTOLUENE	10 U						
3-NITROANILINE	50 U						
3,3'-DICHLOROBENZIDINE	20 U						
4-BROMOPHENYL-PHENYLETHER	10 U						
4-CHLORO-3-METHYLPHENOL	10 U						
4-CHLOROANILINE	10 U						
4-CHLOROPHENYL-PHENYLETHER	10 U						
4-METHYLPHENOL	10 U						
4-NITROANILINE	50 U						
4-NITROPHENOL	50 U						
4,6-DINITRO-2-METHYLPHENOL	50 U						
SURR 1(NBZ) %RECOVERY	47						
SURR 2(FBP) %RECOVERY	45						
SURR 3(TPH) %RECOVERY	51						
SURR 4(PHL) %RECOVERY	18						
SURR 5(2FP) %RECOVERY	29						
SURR 6(TBP) %RECOVERY	56						

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TABLE D.3.4 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE302012A

DRAFT DO NOT CITE

AREA

LOCATION	REANALYSIS
TYPE OF LOCATION	
SAMPLE NUMBER	PE307039B
MATRIX	WATER
UNITS	UG/L
ENV PROBLEM NO	2
M/E 68-1	
M/E 68-2	
M/E 69	
M/E 70-1	
M/E 70-2	
M/E 127	
M/E 197	
M/E 198	
M/E 199	
M/E 275	
M/E 365	
M/E 441	
M/E 442	
M/E 443-1	
M/E 443-2	
INTERNAL STD AREA(ANT)	74200
INTERNAL STD AREA(CRY)	46300
INTERNAL STD AREA(DCB)	44500
INTERNAL STD AREA(NPT)	167000
INTERNAL STD AREA(PHN)	108000
INTERNAL STD AREA(PRY)	22100
DILUTION FACTOR	1
ACTUAL(ALLOWED) EXTRACT TIME	51(7 D)

TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE1031886	PE1031886	PE1031885	PE1115885	PE1115887	PE1115887	PE1115888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
ACENAPHTHENE	0.526	10.7			0.65	23.5	
ACENAPHTHYLENE	1.632	6.4			1.997	22.3	
ANTHRACENE	0.844	6.8			1.033	22.3	
BENZO(A)ANTHRACENE	0.987	3.4			1.127	14.2	
BENZO(A)PYRENE	1.077	3.8			1.019	5.3	
BENZO(B)FLUORANTHENE	1.214	6			1.177	3.1	
BENZO(G,H,I)PERYLENE	0.699	6			0.581	16.9	
BENZO(K)FLUORANTHENE	1.204	8.2			1.24	3	
BENZOIC ACID	0.123	19.2			0.163	32.4	
BENZYL ALCOHOL	0.448	54.5			0.703	56.8	
BIS(-2-CHLOROETHOXY)METHANE	0.503	2.4			0.58	15.3	
BIS(2-CHLOROETHYL)ETHER	1.447	7.1			1.734	19.8	
BIS(2-CHLOROISOPROPYL)ETHER	0.704	6			0.964	37.1	
BIS(2-ETHYLHEXYL)PHTHALATE	1.664	19.8			1.812	8.9	
BUTYLBENZYLPHTHALATE	1.184	11			1.36	14.9	
CHRYSENE	0.926	7.5			1.126	21.6	
DI-N-BUTYLPHTHALATE	1.459	11.4			1.653	13.3	
DI-N-OCTYL PHTHALATE	3.858	18.3			3.363	12.8	
DIBENZO(A,H)ANTHRACENE	0.667	6.9			0.555	16.8	
DIBENZOFURAN	1.474	4.5			1.754	19	
DIETHYLPHTHALATE	1.585	29			1.762	11.2	
DIMETHYLPHTHALATE	1.389	5.4			1.655	19.1	
FLUORANTHENE	0.648	5.2			0.756	16.7	
FLUORENE	1.056	4.3			1.277	20.9	
HEXACHLOROBENZENE	0.255	16.5			0.287	12.7	
HEXACHLOROBUTADIENE	0.142	1.9			0.17	19	
HEXACHLOROCYCLOPENTADIENE	0.203	17.2			0.19	6.3	
HEXACHLOROETHANE	0.609	7.8			0.695	14.1	
INDENO(1,2,3-CD)PYRENE	0.702	4.9			0.596	15.1	
ISOPHORONE	0.734	1.7			0.879	19.8	
N-NITROSO-DI-N-PROPYLAMINE	0.809	6.6			0.982	21.5	
N-NITROSODIPHENYLAMINE	0.399	10.7			0.47	18	
NAPHTHALENE	0.861	5.5			0.965	12.2	
NITROBENZENE	0.358	1.6			0.44	22.9	
NITROBENZENE-D5	0.4	4.3			0.457	14.1	
PENTACHLOROPHENOL	0.068	16.9			0.082	21.6	
PHENANTHRENE	0.839	8.6			0.994	18.4	
PHENOL	1.626	5.5			1.956	20.3	
PHENOL-D5	1.455	3.9			1.724	18.5	

TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE1031886	PE1031886	PE1031885	PE1115885	PE1115887	PE1115887	PE1115888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
PYRENE	1.937	9.8			2.174	12.2	
TERPHENYL-D14	1.319	13.1			1.502	13.9	
1,2-DICHLOROBENZENE	1.262	4.5			1.443	14.3	
1,2,4-TRICHLOROBENZENE	0.284	3.1			0.313	10.3	
1,3-DICHLOROBENZENE	1.267	5.2			1.477	16.6	
1,4-DICHLOROBENZENE	1.276	4.5			1.484	16.3	
2-CHLORONAPHTHALENE	1.056	15.9			1.31	24	
2-CHLOROPHENOL	1.158	5.1			1.354	17	
2-FLUOROBIPHENYL	1.302	12.5			1.49	14.4	
2-FLUOROPHENOL	1.28	5			1.391	8.7	
2-METHYLNAPHTHALENE	0.548	22.3			0.796	45.2	
2-METHYLPHENOL	1.078	3.3			1.239	14.9	
2-NITROANILINE	0.347	3.3			0.459	32.2	
2-NITROPHENOL	0.181	7.1			0.205	13.4	
2,4-DICHLOROPHENOL	0.259	3.8			0.301	16.2	
2,4-DIMETHYLPHENOL	0.32	5.9			0.371	16.1	
2,4-DINITROPHENOL	0.064	30.2			0.117	83.4	
2,4-DINITROTOLUENE	0.407	6.9			0.498	22.5	
2,4,5-TRICHLOROPHENOL	0.348	8.8			0.395	13.5	
2,4,6-TRIBROMOPHENOL	0.143	21.4			0.215	50	
2,4,6-TRICHLOROPHENOL	0.331	5.6			0.371	12	
2,6-DINITROTOLUENE	0.33	1.9			0.383	16.1	
3-NITROANILINE	0.233	27.3			0.389	67.1	
3,3'-DICHLOROBENZIDINE	0.072	59.5			0.232	221	
4-BROMOPHENYL-PHENYLETHER	0.184	14.7			0.218	18.7	
4-CHLORO-3-METHYLPHENOL	0.259	3.3			0.297	14.9	
4-CHLOROANILINE	0.308	31.4			0.417	35	
4-CHLOROPHENYL-PHENYLETHER	0.455	7.9			0.559	23	
4-METHYLPHENOL	1.023	4.8			1.279	25	
4-NITROANILINE	0.144	21.6			0.212	47.2	
4-NITROPHENOL	0.064	34.1			0.11	71.8	
4,6-DINITRO-2-METHYLPHENOL	0.06	15.8			0.073	21.3	

SURR 1(NBZ) %RECOVERY
SURR 2(FBP) %RECOVERY
SURR 3(TPH) %RECOVERY
SURR 4(PHL) %RECOVERY
SURR 5(2FP) %RECOVERY
SURR 6(TBP) %RECOVERY

TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE1031886	PE1031886	PE1031885	PE1115885	PE1115887	PE1115887	PE1115888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
M/E 51			33	38			
M/E 68-1			0	0			
M/E 68-2			0	0			
M/E 69			58	62			
M/E 70-1			0	0.3			
M/E 70-2			0	0.5			
M/E 127			50	52			
M/E 197			0	0			
M/E 198			100	100			
M/E 199			6.3	6.7			
M/E 275			17	18			
M/E 365			1.6	1.1			
M/E 441			8.9	9.4			
M/E 442			57	54			
M/E 443-1			10	9.8			
M/E 443-2			18	18			
INTERNAL STD AREA(ANT)							67400
INTERNAL STD AREA(CRY)							33300
INTERNAL STD AREA(DCB)							50800
INTERNAL STD AREA(NPT)							165000
INTERNAL STD AREA(PHN)							102000
INTERNAL STD AREA(PRY)							22300
DILUTION FACTOR							
PERCENT MOISTURE							
ACTUAL(ALLOWED) EXTRACT TIME							

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD	MATRIX	MS %	RPD	MATRIX SPIKE	MSD %	2.2 FIELD
TYPE OF LOCATION	BLANK	SPIKE	RECOVERY		DUPLICATE	RECOVERY	WASTE ACCUM
SAMPLE NUMBER	SBK09210	PE802051B	PE802051B	PE802051B	PE802051B	PE802051B	PE802017B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	%	%	UG/KG	%	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
ACENAPHTHENE	330 U	2200 S	59	3	2300 S	61	380 U

TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD BLANK	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY	2.2 FIELD WASTE ACCUM
TYPE OF LOCATION							
SAMPLE NUMBER	SBK09210	PE802051B	PE802051B	PE802051B	PE802051B	PE802051B	PE802017B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	%	%	UG/KG	%	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
ACENAPHTHYLENE	330 U	370 U			360 U		380 U
ANTHRACENE	330 U	370 U			360 U		53 J
BENZO(A)ANTHRACENE	330 U	370 U			360 U		410
BENZO(A)PYRENE	330 U	370 U			360 U		380 J
BENZO(B)FLUORANTHENE	330 U	370 U			360 U		510
BENZO(G,H,I)PERYLENE	330 U	370 U			360 U		380 U
BENZO(K)FLUORANTHENE	330 U	370 U			360 U		490
BENZOIC ACID	1700 U	1800 U			1800 U		37 J
BENZYL ALCOHOL	330 U	370 U			360 U		380 U
BIS(-2-CHLOROETHOXY)METHANE	330 U	370 U			360 U		380 U
BIS(2-CHLOROETHYL)ETHER	330 U	370 U			360 U		380 U
BIS(2-CHLOROISOPROPYL)ETHER	330 U	370 U			360 U		380 U
BIS(2-ETHYLHEXYL)PHTHALATE	170 J	350 JB			360 U		220 JB
BUTYLBENZYLPHTHALATE	330 U	370 U			360 U		26 JB
CHRYSENE	330 U	370 U			360 U		460
DI-N-BUTYLPHTHALATE	45 J	63 JB			240 JB		290 JB
DI-N-OCTYL PHTHALATE	59 J	57 JB			31 JB		67 JB
DIBENZO(A,H)ANTHRACENE	330 U	370 U			360 U		380 U
DIBENZOFURAN	330 U	12 J			11 J		130 J
DIETHYLPHTHALATE	7 J	370 U			17 JB		41 JB
DIMETHYLPHTHALATE	330 U	370 U			360 U		380 U
FLUORANTHENE	330 U	24 J			360 U		540
FLUORENE	330 U	370 U			360 U		18 J
HEXACHLOROBENZENE	330 U	370 U			360 U		380 U
HEXACHLOROBUTADIENE	330 U	370 U			360 U		380 U
HEXACHLOROCYCLOPENTADIENE	330 U	370 U			360 U		380 U
HEXACHLOROETHANE	330 U	370 U			360 U		380 U
INDENO(1,2,3-CD)PYRENE	330 U	370 U			360 U		300 J
ISOPHORONE	330 U	370 U			360 U		380 U
N-NITROSO-DI-N-PROPYLAMINE	330 U	2000 S	53	14	2300 S	61	380 U
N-NITROSODIPHENYLAMINE	330 U	370 U			360 U		380 U
NAPHTHALENE	330 U	120 J			360 U		180 J
NITROBENZENE	330 U	370 U			360 U		380 U
NITROBENZENE-D5							
PENTACHLOROPHENOL	1700 U	2800 S	38	0	2800 S	38	1900 U
PHENANTHRENE	330 U	51 J			44 J		470
PHENOL	330 U	4400 S	60	11	4900 S	67	380 U
PHENOL-D5							
PYRENE	330 U	2800 S	75	6	3000 S	80	650

TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD BLANK	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY	2.2 FIELD WASTE ACCUM
TYPE OF LOCATION							
SAMPLE NUMBER	SBK09210	PE802051B	PE802051B	PE802051B	PE802051B	PE802051B	PE802017B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	%	%	UG/KG	%	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
TERPHENYL-D14							
1,2-DICHLOROBENZENE	330 U	370 U			360 U		380 U
1,2,4-TRICHLOROBENZENE	330 U	2000 S	55	9	1800 S	50	380 U
1,3-DICHLOROBENZENE	330 U	370 U			360 U		380 U
1,4-DICHLOROBENZENE	330 U	1800 S	50	27	1400 S	38	380 U
2-CHLORONAPHTHALENE	330 U	370 U			360 U		380 U
2-CHLOROPHENOL	330 U	3800 S	51	12	4300 S	58	380 U
2-FLUOROBIPHENYL							
2-FLUOROPHENOL							
2-METHYLNAPHTHALENE	330 U	370 U			360 U		240 J
2-METHYLPHENOL	330 U	370 U			360 U		380 U
2-NITROANILINE	1700 U	1800 U			1800 U		1900 U
2-NITROPHENOL	330 U	370 U			360 U		380 U
2,4-DICHLOROPHENOL	330 U	370 U			360 U		380 U
2,4-DIMETHYLPHENOL	330 U	370 U			360 U		380 U
2,4-DINITROPHENOL	1700 U	1800 U			1800 U		1900 U
2,4-DINITROTOLUENE	330 U	2300 S	63	11	2600 S	71	380 U
2,4,5-TRICHLOROPHENOL	1700 U	1800 U			1800 U		1900 U
2,4,6-TRIBROMOPHENOL							
2,4,6-TRICHLOROPHENOL	330 U	370 U			360 U		380 U
2,6-DINITROTOLUENE	330 U	370 U			360 U		380 U
3-NITROANILINE	1700 U	1800 U			1800 U		1900 U
3,3'-DICHLOROBENZIDINE	670 U	730 U			730 U		770 U
4-BROMOPHENYL-PHENYLETHER	330 U	370 U			360 U		380 U
4-CHLORO-3-METHYLPHENOL	330 U	4700 S	63	11	5200 S	71	380 U
4-CHLOROANILINE	330 U	370 U			360 U		380 U
4-CHLOROPHENYL-PHENYLETHER	330 U	370 U			360 U		380 U
4-METHYLPHENOL	330 U	370 U			360 U		380 U
4-NITROANILINE	1700 U	1800 U			1800 U		1900 U
4-NITROPHENOL	1700 U	3500 S	48	23	4500 S	61	1900 U
4,6-DINITRO-2-METHYLPHENOL	1700 U	1800 U			1800 U		1900 U
SURR 1(NBZ) %RECOVERY	62	76			68		70
SURR 2(FBP) %RECOVERY	60	74			70		72
SURR 3(TPH) %RECOVERY	76	96			96		100
SURR 4(PHL) %RECOVERY	66	76			76		84
SURR 5(2FP) %RECOVERY	62	74			76		78
SURR 6(TBP) %RECOVERY	44	58			58		38

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TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD	MATRIX	MS %	RPD	MATRIX SPIKE	MSD %	2.2 FIELD
TYPE OF LOCATION	BLANK	SPIKE	RECOVERY		DUPLICATE	RECOVERY	WASTE ACCUM
SAMPLE NUMBER	SBK09210	PE802051B	PE802051B	PE802051B	PE802051B	PE802051B	PE802017B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	%	%	UG/KG	%	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
M/E 68-1							
M/E 68-2							
M/E 69							
M/E 70-1							
M/E 70-2							
M/E 127							
M/E 197							
M/E 198							
M/E 199							
M/E 275							
M/E 365							
M/E 441							
M/E 442							
M/E 443-1							
M/E 443-2							
INTERNAL STD AREA(ANT)	83400	83100			82600		84100
INTERNAL STD AREA(CRY)	31900	34100			33800		30300
INTERNAL STD AREA(DCB)	57000	58500			55000		58400
INTERNAL STD AREA(NPT)	201000	195000			192000		202000
INTERNAL STD AREA(PHN)	112000	119000			115000		122000
INTERNAL STD AREA(PRY)	15800	16300			15900		14100
DILUTION FACTOR	1	1			1		1
PERCENT MOISTURE	0	9.4			9.4		13.2
ACTUAL(ALLOWED) EXTRACT TIME		9(14 D)			9(14 D)		9(14 D)

AREA			QA	QA	QA	QA	
LOCATION	2.2 FIELD	2.2 FIELD	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	CALIBRATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM
SAMPLE NUMBER	PE802028B	PE802039B	PE1116885	PE1116887	PE1116887	PE1116888	PE802040B
MATRIX	SOIL	SOIL					SOIL
UNITS	UG/KG	UG/KG	%	RRF	%	AREA	UG/KG
ENV PROBLEM NO	5	5					5
ACENAPHTHENE	400 U	240 J		0.633	20.3		430 U

TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A DRAFT DO NOT CITE

AREA			QA	QA	QA	QA	
LOCATION	2.2 FIELD	2.2 FIELD	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	CALIBRATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM
SAMPLE NUMBER	PE802028B	PE802039B	PE1116885	PE1116887	PE1116887	PE1116888	PE802040B
MATRIX	SOIL	SOIL					SOIL
UNITS	UG/KG	UG/KG	%	RRF	%	AREA	UG/KG
ENV PROBLEM NO	5	5					5
ACENAPHTHYLENE	400 U	25 J		2.808	23		430 U
ANTHRACENE	400 U	85 J		1.067	26.3		30 J
BENZO(A)ANTHRACENE	400 U	120 J		1.193	20.9		230 J
BENZO(A)PYRENE	400 U	360 U		1.215	12.8		450
BENZO(B)FLUORANTHENE	400 U	170 J		1.456	19.9		440
BENZO(G,H,I)PERYLENE	400 U	360 U		0.836	19.6		430 U
BENZO(K)FLUORANTHENE	400 U	160 J		1.311	8.8		490
BENZOIC ACID	2000 U	1800 U		0.144	16.5		2100 U
BENZYL ALCOHOL	400 U	360 U		0.688	53.6		430 U
BIS(-2-CHLOROETHOXY)METHANE	400 U	360 U		0.616	22.4		430 U
BIS(2-CHLOROETHYL)ETHER	400 U	360 U		1.749	20.9		430 U
BIS(2-CHLOROISOPROPYL)ETHER	400 U	360 U		1.046	48.7		430 U
BIS(2-ETHYLHEXYL)PHTHALATE	420 B	880 B		1.747	5		960 B
BUTYLBENZYLPHTHALATE	400 U	360 U		1.259	6.3		430 U
CHRYSENE	63 J	180 J		1.146	23.7		290 J
DI-N-BUTYLPHTHALATE	250 JB	220 JB		1.761	20.7		270 JB
DI-N-OCTYL PHTHALATE	70 JB	15000 BE		3.447	10.7		190 JB
DIBENZO(A,H)ANTHRACENE	400 U	360 U		0.786	17.9		420 J
DIBENZOFURAN	33 J	150 J		1.747	18.5		47 J
DIETHYLPHTHALATE	400 U	34 JB		1.787	12.8		170 J
DIMETHYLPHTHALATE	400 U	14 J		1.619	16.5		430 U
FLUORANTHENE	87 J	290 J		0.756	16.6		120 J
FLUORENE	400 U	130 J		1.308	23.9		430 U
HEXACHLOROBENZENE	400 U	360 U		0.306	20.1		430 U
HEXACHLOROBUTADIENE	400 U	360 U		0.172	20.7		430 U
HEXACHLOROCYCLOPENTADIENE	400 U	360 U		0.214	5.7		430 U
HEXACHLOROETHANE	400 U	360 U		0.72	18.3		430 U
INDENO(1,2,3-CD)PYRENE	400 U	360 U		0.813	15.9		430 U
ISOPHORONE	400 U	360 U		0.87	18.6		430 U
N-NITROSO-DI-N-PROPYLAMINE	400 U	360 U		1.038	28.4		430 U
N-NITROSODIPHENYLAMINE	400 U	360 U		0.477	19.8		430 U
NAPHTHALENE	50 J	640		1.022	18.7		51 J
NITROBENZENE	400 U	48 J		0.45	25.6		430 U
NITROBENZENE-D5				0.466	16.5		
PENTACHLOROPHENOL	2000 U	1800 U		0.074	9.8		2100 U
PHENANTHRENE	140 J	650		1.042	24.2		170 J
PHENOL	400 U	37 J		1.874	15.2		430 U
PHENOL-D5				1.73	18.9		
PYRENE	100 J	350 J		2.124	9.6		150 J

TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A DRAFT DO NOT CITE

AREA			QA	QA	QA	QA	
LOCATION	2.2 FIELD	2.2 FIELD	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	CALIBRATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM
SAMPLE NUMBER	PE802028B	PE802039B	PE1116885	PE1116887	PE1116887	PE1116888	PE802040B
MATRIX	SOIL	SOIL					SOIL
UNITS	UG/KG	UG/KG	%	RRF	%	AREA	UG/KG
ENV PROBLEM NO	5	5					5
TERPHENYL-D14				1.502	13.9		
1,2-DICHLOROBENZENE	400 U	360 U		1.466	16.1		430 U
1,2,4-TRICHLOROBENZENE	400 U	360 U		0.326	14.7		430 U
1,3-DICHLOROBENZENE	400 U	360 U		1.501	18.5		430 U
1,4-DICHLOROBENZENE	400 U	360 U		1.526	19.6		430 U
2-CHLORONAPHTHALENE	400 U	360 U		1.332	26.1		430 U
2-CHLOROPHENOL	400 U	360 U		1.364	17.8		430 U
2-FLUOROBIPHENYL				1.585	21.8		
2-FLUOROPHENOL				1.468	14.6		
2-METHYLNAPHTHALENE	22 J	440		0.802	46.2		110 J
2-METHYLPHENOL	400 U	360 U		1.253	16.2		430 U
2-NITROANILINE	2000 U	1800 U		0.459	32		2100 U
2-NITROPHENOL	400 U	360 U		0.21	16.1		430 U
2,4-DICHLOROPHENOL	400 U	360 U		0.304	17.5		430 U
2,4-DIMETHYLPHENOL	400 U	360 U		0.397	24.2		430 U
2,4-DINITROPHENOL	2000 U	1800 U		0.084	31.1		2100 U
2,4-DINITROTOLUENE	400 U	360 U		0.473	16.4		430 U
2,4,5-TRICHLOROPHENOL	2000 U	1800 U		0.429	23.3		2100 U
2,4,6-TRIBROMOPHENOL				0.188	31.3		
2,4,6-TRICHLOROPHENOL	400 U	360 U		0.374	13		430 U
2,6-DINITROTOLUENE	400 U	360 U		0.371	12.4		430 U
3-NITROANILINE	2000 U	1800 U		0.274	17.6		2100 U
3,3'-DICHLOROBENZIDINE	800 U	730 U		0.091	26.5		860 U
4-BROMOPHENYL-PHENYLETHER	400 U	360 U		0.24	30.7		430 U
4-CHLORO-3-METHYLPHENOL	400 U	360 U		0.323	24.8		430 U
4-CHLOROANILINE	400 U	50 J		0.378	22.4		430 U
4-CHLOROPHENYL-PHENYLETHER	400 U	360 U		0.542	19.1		430 U
4-METHYLPHENOL	400 U	23 J		1.282	25.3		430 U
4-NITROANILINE	2000 U	1800 U		0.17	18.2		2100 U
4-NITROPHENOL	2000 U	1800 U		0.07	10.2		2100 U
4,6-DINITRO-2-METHYLPHENOL	2000 U	1800 U		0.058	2.9		2100 U
SURR 1(NBZ) %RECOVERY	62	78					66
SURR 2(FBP) %RECOVERY	58	76					72
SURR 3(TPH) %RECOVERY	84	86					90
SURR 4(PHL) %RECOVERY	72	80					74
SURR 5(2FP) %RECOVERY	64	76					68
SURR 6(TBP) %RECOVERY	38	30					34

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TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A DRAFT DO NOT CITE

AREA			QA	QA	QA	QA	
LOCATION	2.2 FIELD	2.2 FIELD	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	CALIBRATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM
SAMPLE NUMBER	PE802028B	PE802039B	PE1116885	PE1116887	PE1116887	PE1116888	PE802040B
MATRIX	SOIL	SOIL					SOIL
UNITS	UG/KG	UG/KG	X	RRF	X	AREA	UG/KG
ENV PROBLEM NO	5	5					5
M/E 68-1			0.2				
M/E 68-2			0.3				
M/E 69			66				
M/E 70-1			0.3				
M/E 70-2			0.4				
M/E 127			52				
M/E 197			0				
M/E 198			100				
M/E 199			6.2				
M/E 275			17				
M/E 365			1.4				
M/E 441			9.9				
M/E 442			57				
M/E 443-1			11				
M/E 443-2			19				
INTERNAL STD AREA(ANT)	94600	68100				69100	60600
INTERNAL STD AREA(CRY)	45400	25500				32200	24300
INTERNAL STD AREA(DCB)	66100	49800				50900	49300
INTERNAL STD AREA(NPT)	223000	167000				169000	156000
INTERNAL STD AREA(PHN)	125000	92400				96700	78900
INTERNAL STD AREA(PRY)	20300	12200				19800	13900
DILUTION FACTOR	1	1					1
PERCENT MOISTURE	16.8	8.6					23.4
ACTUAL(ALLOWED) EXTRACT TIME	9(14 D)	9(14 D)					9(14 D)

AREA							
LOCATION	2.2 FIELD	2.2 FIELD	LICK RUN	LICK RUN	LICK RUN	LICK RUN	LICK RUN
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	STORM SEWER	STORM SEWER	STORM SEWER	STORM SEWER	STORM SEWER
SAMPLE NUMBER	PE802051B	PE802062B	PE303024A	PE303035A	PE310012A	PE310023A	PE310034A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	1	1	1	1	1
ACENAPHTHENE	360 U	460 U	340 J	110 J	68 J	59 J	460 U

TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A

DRAFT DO NOT CITE

AREA

LOCATION	2.2 FIELD	2.2 FIELD	LICK RUN	LICK RUN	LICK RUN	LICK RUN	LICK RUN
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	STORM SEWER	STORM SEWER	STORM SEWER	STORM SEWER	STORM SEWER
SAMPLE NUMBER	PE802051B	PE802062B	PE303024A	PE303035A	PE310012A	PE310023A	PE310034A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	1	1	1	1	1
ACENAPHTHYLENE	360 U	460 U	17 J	420 U	400 U	12 J	460 U
ANTHRACENE	360 U	460 U	670	270 J	180 J	140 J	460 U
BENZO(A)ANTHRACENE	360 U	460 U	1800	1000	1100	720	460 U
BENZO(A)PYRENE	360 U	460 U	1700	1300	1300	950	460 U
BENZO(B)FLUORANTHENE	360 U	460 U	2300	1500	1300	970	460 U
BENZO(G,H,I)PERYLENE	360 U	460 U	1000	690	740	430	460 U
BENZO(K)FLUORANTHENE	360 U	460 U	1300	1000	1500	1000	460 U
BENZOIC ACID	1800 U	2300 U	2200 U	2100 U	2000 U	2100 U	2300 U
BENZYL ALCOHOL	360 U	460 U	450 U	420 U	400 U	420 U	460 U
BIS(-2-CHLOROETHOXY)METHANE	360 U	460 U	450 U	29 J	400 U	420 U	460 U
BIS(2-CHLOROETHYL)ETHER	360 U	460 U	450 U	420 U	400 U	420 U	460 U
BIS(2-CHLOROISOPROPYL)ETHER	360 U	460 U	450 U	420 U	400 U	420 U	460 U
BIS(2-ETHYLHEXYL)PHTHALATE	450 B	400 JB	1400 B	1700 B	2500 B	460 B	50000 BE
BUTYLBENZYLPHTHALATE	360 U	460 U	220 J	200 J	400 U	420 U	460 U
CHRYSENE	360 U	460 U	2200	1400	1400	980	460 U
DI-N-BUTYLPHTHALATE	250 JB	280 JB	240 JB	230 JB	160 JB	170 JB	320 JB
DI-N-OCTYL PHTHALATE	68 JB	66 JB	350 JB	420 JB	130 JB	79 JB	93 JB
DIBENZO(A,H)ANTHRACENE	360 U	460 U	370 J	420 U	250 J	420 U	460 U
DIBENZOFURAN	9 J	12 J	280 J	120 J	50 J	52 J	28 J
DIETHYLPHTHALATE	36 J	47 JB	41 J	37 JB	29 JB	34 J	46 JB
DIMETHYLPHTHALATE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
FLUORANTHENE	360 U	44 J	4600	2700	2800	1800	48 J
FLUORENE	360 U	460 U	430 J	190 J	65 J	420 U	460 U
HEXACHLOROBENZENE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
HEXACHLOROBUTADIENE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
HEXACHLOROCYCLOPENTADIENE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
HEXACHLOROETHANE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
INDENO(1,2,3-CD)PYRENE	360 U	460 U	1200	710	760	450	460 U
ISOPHORONE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
N-NITROSO-DI-N-PROPYLAMINE	360 U	460 U	450 U	420 U	400 U	420 U	370 J
N-NITROSODIPHENYLAMINE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
NAPHTHALENE	22 J	460 U	260 J	94 J	400 U	82 J	26 J
NITROBENZENE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
NITROBENZENE-D5							
PENTACHLOROPHENOL	1800 U	2300 U	2200 U	2100 U	2000 U	2100 U	2300 U
PHENANTHRENE	48 J	66 J	3500	2000	1200	1000	70 J
PHENOL	360 U	460 U	450 U	420 U	400 U	22 J	35 J
PHENOL-D5							
PYRENE	18 J	37 J	4000	2500	2100	1400	44 J

TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A DRAFT DO NOT CITE

AREA

LOCATION	2.2 FIELD	2.2 FIELD	LICK RUN	LICK RUN	LICK RUN	LICK RUN	LICK RUN
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	STORM SEWER	STORM SEWER	STORM SEWER	STORM SEWER	STORM SEWER
SAMPLE NUMBER	PE802051B	PE802062B	PE303024A	PE303035A	PE310012A	PE310023A	PE310034A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	1	1	1	1	1
TERPHENYL-D14							
1,2-DICHLOROBENZENE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
1,2,4-TRICHLOROBENZENE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
1,3-DICHLOROBENZENE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
1,4-DICHLOROBENZENE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
2-CHLORONAPHTHALENE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
2-CHLOROPHENOL	360 U	460 U	450 U	420 U	400 U	420 U	460 U
2-FLUOROBIPHENYL							
2-FLUOROPHENOL							
2-METHYLNAPHTHALENE	14 J	12 J	260 J	110 J	20 J	36 J	33 J
2-METHYLPHENOL	360 U	460 U	450 U	420 U	400 U	420 U	460 U
2-NITROANILINE	1800 U	2300 U	2200 U	39 J	2000 U	2100 U	2200 U
2-NITROPHENOL	360 U	460 U	450 U	420 U	400 U	420 U	460 U
2,4-DICHLOROPHENOL	360 U	460 U	450 U	420 U	400 U	420 U	460 U
2,4-DIMETHYLPHENOL	360 U	460 U	75 J	36 J	400 U	420 U	460 U
2,4-DINITROPHENOL	1800 U	2300 U	2200 U	2100 U	2000 U	2100 U	2300 U
2,4-DINITROTOLUENE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
2,4,5-TRICHLOROPHENOL	1800 U	2300 U	2200 U	2100 U	2000 U	2100 U	2300 U
2,4,6-TRIBROMOPHENOL							
2,4,6-TRICHLOROPHENOL	360 U	460 U	450 U	420 U	400 U	420 U	460 U
2,6-DINITROTOLUENE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
3-NITROANILINE	1800 U	2300 U	2200 U	2100 U	2000 U	2100 U	2300 U
3,3'-DICHLOROBENZIDINE	730 U	920 U	900 U	850 U	800 U	850 U	920 U
4-BROMOPHENYL-PHENYLETHER	360 U	460 U	450 U	420 U	400 U	420 U	460 U
4-CHLORO-3-METHYLPHENOL	360 U	460 U	450 U	420 U	400 U	420 U	460 U
4-CHLOROANILINE	360 U	460 U	450 U	420 U	400 U	420 U	460 U
4-CHLOROPHENYL-PHENYLETHER	360 U	460 U	450 U	420 U	400 U	420 U	460 U
4-METHYLPHENOL	360 U	460 U	140 J	27 J	400 U	420 U	460 U
4-NITROANILINE	1800 U	2300 U	2200 U	2100 U	2000 U	2100 U	2300 U
4-NITROPHENOL	1800 U	2300 U	2200 U	2100 U	2000 U	2100 U	2300 U
4,6-DINITRO-2-METHYLPHENOL	1800 U	2300 U	2200 U	2100 U	2000 U	2100 U	2300 U
SURR 1(NBZ) %RECOVERY	74	84	74	84	64	82	88
SURR 2(FBP) %RECOVERY	72	80	76	86	66	84	82
SURR 3(TPH) %RECOVERY	92	94	80	86	66	80	88
SURR 4(PHL) %RECOVERY	66	82	74	92	64	80	82
SURR 5(2FP) %RECOVERY	64	84	74	90	62	78	72
SURR 6(TBP) %RECOVERY	58	60	56	60	68	62	50

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TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A

AREA							
LOCATION	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	LICK RUN STORM SEWER	LICK RUN STORM SEWER	LICK RUN STORM SEWER	LICK RUN STORM SEWER	LICK RUN STORM SEWER
TYPE OF LOCATION							
SAMPLE NUMBER	PE802051B	PE802062B	PE303024A	PE303035A	PE310012A	PE310023A	PE310034A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	1	1	1	1	1
M/E 68-1							
M/E 68-2							
M/E 69							
M/E 70-1							
M/E 70-2							
M/E 127							
M/E 197							
M/E 198							
M/E 199							
M/E 275							
M/E 365							
M/E 441							
M/E 442							
M/E 443-1							
M/E 443-2							
INTERNAL STD AREA(ANT)	77700	81100	79200	72800	73800	74000	72000
INTERNAL STD AREA(CRY)	35200	41800	33200	20800	38900	30100	30800
INTERNAL STD AREA(DCB)	58800	56700	55900	52200	55800	54400	50700
INTERNAL STD AREA(NPT)	195000	189000	180000	183000	177000	178000	176000
INTERNAL STD AREA(PHN)	107000	117000	100000	77800	103000	84700	91500
INTERNAL STD AREA(PRY)	17300	21600	17200	10500	15400	14800	15900
DILUTION FACTOR	1	1	1	1	1	1	1
PERCENT MOISTURE	9.4	27.9	26.6	22.1	18.3	21.5	28.6
ACTUAL(ALLOWED) EXTRACT TIME	9(14 D)	9(14 D)	8(14 D)	8(14 D)	9(14 D)	9(14 D)	9(14 D)
AREA	QA	QA	QA	QA	QA	QA	QA

LOCATION	TUNED CALIBRATION	CONTINUING CALIBRATION	CONTINUING CAL %D	ISTD RET TIM SHIFT	METHOD BLANK	TUNED CALIBRATION	CONTINUING CALIBRATION
TYPE OF LOCATION							
SAMPLE NUMBER	PE1214885	PE1214887	PE1214887	PE1214888	SBK09388	PE1215885	PE1215887
MATRIX					SOIL		
UNITS	%	RRF	%	AREA	UG/KG	%	RRF
ENV PROBLEM NO							
ACENAPHTHENE		0.631	19.9		330 U		0.636

TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	METHOD	TUNED	CONTINUING
TYPE OF LOCATION	CALIBRATION	CALIBRATION	CAL xD	SHIFT	BLANK	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE1214885	PE1214887	PE1214887	PE1214888	SBK09388	PE1215885	PE1215887
MATRIX					SOIL		
UNITS	%	RRF	%	AREA	UG/KG	%	RRF
ENV PROBLEM NO							
ACENAPHTHYLENE		1.979	21.2		330 U		1.96
ANTHRACENE		1.083	18.8		330 U		0.878
BENZO(A)ANTHRACENE		1.086	9.9		330 U		1.093
BENZO(A)PYRENE		1.209	12.3		330 U		1.042
BENZO(B)FLUORANTHENE		1.338	10.2		330 U		1.331
BENZO(G,H,I)PERYLENE		0.726	5.9		330 U		0.694
BENZO(K)FLUORANTHENE		1.428	18.6		330 U		1.551
BENZOIC ACID		0.108	12.6		1600 U		0.043
BENZYL ALCOHOL		0.908	102.5		330 U		0.757
BIS(-2-CHLOROETHOXY)METHANE		0.655	30.1		330 U		0.688
BIS(2-CHLOROETHYL)ETHER		2.064	42.6		330 U		2.044
BIS(2-CHLOROISOPROPYL)ETHER		1.313	86.6		330 U		1.44
BIS(2-ETHYLHEXYL)PHTHALATE		2.144	28.8		330 U		2.136
BUTYLBENZYLPHTHALATE		1.556	31.5		330 U		1.567
CHRYSENE		1.075	16.1		330 U		1.037
DI-N-BUTYLPHTHALATE		1.771	21.4		15 J		1.681
DI-N-OCTYL PHTHALATE		4.431	14.9		330 U		4.818
DIBENZO(A,H)ANTHRACENE		0.691	3.7		330 U		0.585
DIBENZOFURAN		1.723	16.8		330 U		1.707
DIETHYLPHTHALATE		1.623	2.4		330 U		1.73
DIMETHYLPHTHALATE		1.557	12.1		330 U		1.625
FLUORANTHENE		0.703	8.5		330 U		0.67
FLUORENE		1.194	13.1		330 U		1.225
HEXACHLOROBENZENE		0.323	26.7		330 U		0.289
HEXACHLOROBUTADIENE		0.175	22.8		330 U		0.166
HEXACHLOROCYCLOPENTADIENE		0.204	0.5		330 U		0.146
HEXACHLOROETHANE		0.85	39.6		330 U		0.828
INDENO(1,2,3-CD)PYRENE		0.736	4.9		330 U		0.619
ISOPHORONE		1.012	37.9		330 U		1.088
N-NITROSO-DI-N-PROPYLAMINE		0.96	18.7		130 J		0.79
N-NITROSODIPHENYLAMINE		0.49	23		330 U		0.348
NAPHTHALENE		1.053	22.3		330 U		1.055
NITROBENZENE		0.53	48.1		330 U		0.559
NITROBENZENE-D5		0.562	40.3				0.566
PENTACHLOROPHENOL		0.074	8.7		1600 U		0.075
PHENANTHRENE		1.032	23		330 U		0.975
PHENOL		1.956	20.3		330 U		1.909
PHENOL-D5		1.999	37.4				2.084
PYRENE		2.496	28.8		330 U		2.428

TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	METHOD	TUNED	CONTINUING
TYPE OF LOCATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT	BLANK	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE1214885	PE1214887	PE1214887	PE1214888	SBK09388	PE1215885	PE1215887
MATRIX					SOIL		
UNITS	%	RRF	%	AREA	UG/KG	%	RRF
ENV PROBLEM NO							
TERPHENYL-D14		1.711	29.7				1.76
1,2-DICHLOROBENZENE		1.646	30.4		330 U		1.652
1,2,4-TRICHLOROBENZENE		0.342	20.4		330 U		0.347
1,3-DICHLOROBENZENE		1.628	28.5		330 U		1.61
1,4-DICHLOROBENZENE		1.376	7.9		330 U		1.328
2-CHLORONAPHTHALENE		1.349	27.7		330 U		1.307
2-CHLOROPHENOL		1.496	29.2		330 U		1.559
2-FLUOROBIPHENYL		1.562	20				1.517
2-FLUOROPHENOL		1.777	38.8				1.795
2-METHYLNAPHTHALENE		0.824	50.3		330 U		0.853
2-METHYLPHENOL		1.438	33.4		330 U		1.417
2-NITROANILINE		0.231	33.5		1600 U		0.234
2-NITROPHENOL		0.206	13.6		330 U		0.222
2,4-DICHLOROPHENOL		0.289	11.8		330 U		0.314
2,4-DIMETHYLPHENOL		0.409	27.9		330 U		0.352
2,4-DINITROPHENOL		0.051	19.4		1600 U		0.053
2,4-DINITROTOLUENE		0.425	4.6		330 U		0.452
2,4,5-TRICHLOROPHENOL		0.335	3.6		1600 U		0.389
2,4,6-TRIBROMOPHENOL		0.166	15.8				0.164
2,4,6-TRICHLOROPHENOL		0.379	14.4		330 U		0.376
2,6-DINITROTOLUENE		0.357	8.2		330 U		0.385
3-NITROANILINE		0.086	62.9		1600 U		0.147
3,3'-DICHLOROBENZIDINE		0.133	83.9		660 U		0.036
4-BROMOPHENYL-PHENYLETHER		0.234	27.1		330 U		0.211
4-CHLORO-3-METHYLPHENOL		0.279	7.7		330 U		0.254
4-CHLOROANILINE		0.202	34.4		330 U		0.038
4-CHLOROPHENYL-PHENYLETHER		0.522	14.9		330 U		0.532
4-METHYLPHENOL		1.413	38.2		330 U		1.453
4-NITROANILINE		0.079	44.8		1600 U		0.086
4-NITROPHENOL		0.064	0.2		1600 U		0.078
4,6-DINITRO-2-METHYLPHENOL		0.058	3.6		1600 U		0.06
SURR 1(NBZ) %RECOVERY					34		
SURR 2(FBP) %RECOVERY					44		
SURR 3(TPH) %RECOVERY					70		
SURR 4(PHL) %RECOVERY					46		
SURR 5(2FP) %RECOVERY					32		
SURR 6(TBP) %RECOVERY					28		
M/E 51	45					31	

TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	METHOD	TUNED	CONTINUING
TYPE OF LOCATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT	BLANK	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE1214885	PE1214887	PE1214887	PE1214888	SBK09388	PE1215885	PE1215887
MATRIX					SOIL		
UNITS	%	RRF	%	AREA	UG/KG	%	RRF
ENV PROBLEM NO							
M/E 68-1	8.3					8.8	
M/E 68-2	0.4					1.4	
M/E 69	76					57	
M/E 70-1	0					0	
M/E 70-2	0					0	
M/E 127	58					47	
M/E 197	0					0	
M/E 198	100					100	
M/E 199	6.7					6.1	
M/E 275	18					22	
M/E 365	2.5					1.9	
M/E 441	8.1					8.7	
M/E 442	51					65	
M/E 443-1	8.9					12	
M/E 443-2	17					19	
INTERNAL STD AREA(ANT)				48600	56600		
INTERNAL STD AREA(CRY)				15900	17200		
INTERNAL STD AREA(DCB)				38500	39600		
INTERNAL STD AREA(NPT)				125000	134000		
INTERNAL STD AREA(PHN)				60700	69400		
INTERNAL STD AREA(PRY)				7930	8030		
DILUTION FACTOR					1		
PERCENT MOISTURE					0		
ACTUAL(ALLOWED) EXTRACT TIME							

AREA	QA	QA					
LOCATION	CONTINUING	ISTD RET TIM	REANALYSIS				
TYPE OF LOCATION	CAL %D	SHIFT					
SAMPLE NUMBER	PE1215887	PE1215888	PE303013A				
MATRIX			SOIL				
UNITS	%	AREA	UG/KG				
ENV PROBLEM NO			1				
ACENAPHTHENE	20.7		220 J				

TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A

DRAFT DO NOT CITE

AREA	QA	QA					
LOCATION	CONTINUING	ISTD RET TIM	REANALYSIS				
TYPE OF LOCATION	CAL %D	SHIFT					
SAMPLE NUMBER	PE1215887	PE1215888	PE303013A				
MATRIX			SOIL				
UNITS	%	AREA	UG/KG				
ENV PROBLEM NO			1				
ACENAPHTHYLENE	20.1		1700 U				
ANTHRACENE	3.9		1700 U				
BENZO(A)ANTHRACENE	10.7		4200				
BENZO(A)PYRENE	3.3		4700				
BENZO(B)FLUORANTHENE	9.6		4100				
BENZO(G,H,I)PERYLENE	0.8		1700 U				
BENZO(K)FLUORANTHENE	28.8		3500				
BENZOIC ACID	64.8		8600 U				
BENZYL ALCOHOL	69		1700 U				
BIS(-2-CHLOROETHOXY)METHANE	36.6		1700 U				
BIS(2-CHLOROETHYL)ETHER	41.2		1700 U				
BIS(2-CHLOROISOPROPYL)ETHER	104.6		1700 U				
BIS(2-ETHYLHEXYL)PHTHALATE	28.4		1700 U				
BUTYLBENZYLPHTHALATE	32.4		760 J				
CHRYSENE	11.9		5600				
DI-N-BUTYLPHTHALATE	15.2		1700 U				
DI-N-OCTYL PHTHALATE	24.9		780 J				
DIBENZO(A,H)ANTHRACENE	12.3		4600				
DIBENZOFURAN	15.7		170 J				
DIETHYLPHTHALATE	9.2		1700 U				
DIMETHYLPHTHALATE	16.9		1700 U				
FLUORANTHENE	3.4		5800				
FLUORENE	16		390 J				
HEXACHLOROBENZENE	13.6		1700 U				
HEXACHLOROBUTADIENE	16.8		1700 U				
HEXACHLOROCYCLOPENTADIENE	28.1		1700 U				
HEXACHLOROETHANE	36.1		1700 U				
INDENO(1,2,3-CD)PYRENE	11.7		5700				
ISOPHORONE	48.2		36 JB				
N-NITROSO-DI-N-PROPYLAMINE	2.3		1700 U				
N-NITROSODIPHENYLAMINE	12.7		1700 U				
NAPHTHALENE	22.6		1700 U				
NITROBENZENE	56.1		1700 U				
NITROBENZENE-D5	41.3						
PENTACHLOROPHENOL	11.3		8600 U				
PHENANTHRENE	16.2		4000				
PHENOL	17.4		1700 U				
PHENOL-D5	43.2						
PYRENE	25.3		5400				

TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A

DRAFT DO NOT CITE

AREA	QA	QA					
LOCATION	CONTINUING	ISTD RET TIM	REANALYSIS				
TYPE OF LOCATION	CAL %D	SHIFT					
SAMPLE NUMBER	PE1215887	PE1215888	PE303013A				
MATRIX			SOIL				
UNITS	%	AREA	UG/KG				
ENV PROBLEM NO			1				
TERPHENYL-D14	33.5						
1,2-DICHLOROBENZENE	30.8		1700 U				
1,2,4-TRICHLOROBENZENE	22.1		1700 U				
1,3-DICHLOROBENZENE	27.1		1700 U				
1,4-DICHLOROBENZENE	4.1		1700 U				
2-CHLORONAPHTHALENE	23.7		1700 U				
2-CHLOROPHENOL	34.7		1700 U				
2-FLUOROBIPHENYL	16.5						
2-FLUOROPHENOL	40.2						
2-METHYLNAPHTHALENE	55.6		74 J				
2-METHYLPHENOL	31.4		1700 U				
2-NITROANILINE	32.6		8600 U				
2-NITROPHENOL	22.6		1700 U				
2,4-DICHLOROPHENOL	21.2		1700 U				
2,4-DIMETHYLPHENOL	9.9		1700 U				
2,4-DINITROPHENOL	17		8600 U				
2,4-DINITROTOLUENE	11.3		1700 U				
2,4,5-TRICHLOROPHENOL	12		8600 U				
2,4,6-TRIBROMOPHENOL	14.9						
2,4,6-TRICHLOROPHENOL	13.5		1700 U				
2,6-DINITROTOLUENE	16.8		1700 U				
3-NITROANILINE	36.8		8600 U				
3,3'-DICHLOROBENZIDINE	50.7		3400 U				
4-BROMOPHENYL-PHENYLETHER	14.5		1700 U				
4-CHLORO-3-METHYLPHENOL	1.8		1700 U				
4-CHLOROANILINE	87.7		1700 U				
4-CHLOROPHENYL-PHENYLETHER	16.9		1700 U				
4-METHYLPHENOL	42.1		1700 U				
4-NITROANILINE	40.4		8600 U				
4-NITROPHENOL	22.9		8600 U				
4,6-DINITRO-2-METHYLPHENOL	0.7		8600 U				
SURR 1(NBZ) %RECOVERY			34				
SURR 2(FBP) %RECOVERY			92				
SURR 3(TPH) %RECOVERY			130				
SURR 4(PHL) %RECOVERY			92				
SURR 5(2FP) %RECOVERY			100				
SURR 6(TBP) %RECOVERY			110				

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TABLE D.3.5 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE303013A

DRAFT DO NOT CITE

AREA	QA	QA					
LOCATION	CONTINUING	ISTD RET TIM	REANALYSIS				
TYPE OF LOCATION	CAL %D	SHIFT					
SAMPLE NUMBER	PE1215887	PE1215888	PE303013A				
MATRIX			SOIL				
UNITS	%	AREA	UG/KG				
ENV PROBLEM NO			1				
M/E 68-1							
M/E 68-2							
M/E 69							
M/E 70-1							
M/E 70-2							
M/E 127							
M/E 197							
M/E 198							
M/E 199							
M/E 275							
M/E 365							
M/E 441							
M/E 442							
M/E 443-1							
M/E 443-2							
INTERNAL STD AREA(ANT)		57200	28900				
INTERNAL STD AREA(CRY)		19900	6380				
INTERNAL STD AREA(DCB)		40900	34100				
INTERNAL STD AREA(NPT)		133000	90300				
INTERNAL STD AREA(PHN)		79200	30000				
INTERNAL STD AREA(PRY)		9360	5740				
DILUTION FACTOR			4				
PERCENT MOISTURE			23.4				
ACTUAL(ALLOWED) EXTRACT TIME			109(14 D)				

TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0914886	PE0914886	PE0914885	PE0928885	PE0928887	PE0928887	PE0928888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
ACENAPHTHENE	0.617	4.3			0.577	6.6	
ACENAPHTHYLENE	2.017	7			1.78	11.8	
ANTHRACENE	1.024	3.1			0.974	4.8	
BENZO(A)ANTHRACENE	1.144	11.1			1.1	3.8	
BENZO(A)PYRENE	1.563	16			1.401	10.4	
BENZO(B)FLUORANTHENE	1.794	12			1.659	7.5	
BENZO(G,H,I)PERYLENE	1.08	15.8			0.915	15.2	
BENZO(K)FLUORANTHENE	1.822	19.6			1.818	0.2	
BENZOIC ACID	0.161	18			0.141	12.5	
BENZYL ALCOHOL	0.712	28.4			0.687	3.5	
BIS(-2-CHLOROETHOXY)METHANE	0.7	5			0.733	4.8	
BIS(2-CHLOROETHYL)ETHER	2.377	8			2.398	0.9	
BIS(2-CHLOROISOPROPYL)ETHER	1.714	8.3			2.026	18.2	
BIS(2-ETHYLHEXYL)PHTHALATE	1.549	5.8			1.478	4.6	
BUTYLBENZYLPHTHALATE	1.146	6.4			1.116	2.6	
CHRYSENE	1.057	13.9			0.998	5.5	
DI-N-BUTYLPHTHALATE	1.774	8			1.621	8.6	
DI-N-OCTYL PHTHALATE	4.334	5.6			4.017	7.3	
DIBENZO(A,H)ANTHRACENE	1.05	18.1			0.885	15.8	
DIBENZOFURAN	1.668	3.4			1.572	5.8	
DIETHYLPHTHALATE	1.484	1.7			1.575	6.1	
DIMETHYLPHTHALATE	1.438	3.1			1.53	6.4	
FLUORANTHENE	0.881	3.8			0.709	19.5	
FLUORENE	1.257	5.6			1.14	9.3	
HEXACHLOROBENZENE	0.357	3.3			0.385	7.7	
HEXACHLOROBUTADIENE	0.185	4.1			0.182	1.8	
HEXACHLOROCYCLOPENTADIENE	0.235	17.3			0.272	16	
HEXACHLOROETHANE	0.661	6.7			0.748	13.2	
INDENO(1,2,3-CD)PYRENE	1.108	14.3			0.98	11.5	
ISOPHORONE	0.782	27.9			1.096	40.2	
N-NITROSO-DI-N-PROPYLAMINE	1.104	3.9			1.269	14.9	
N-NITROSODIPHENYLAMINE	0.453	20.2			0.342	24.4	
NAPHTHALENE	1.08	8.4			1.015	6	
NITROBENZENE	0.485	2.5			0.569	17.2	
NITROBENZENE-D5	0.493	3.2			0.557	13	
PENTACHLOROPHENOL	0.119	11.2			0.123	3.1	
PHENANTHRENE	1.033	4.1			0.975	5.6	
PHENOL	2.406	9.1			2.404	0.1	
PHENOL-D5	2.1	6.4			2.216	5.5	

TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0914886	PE0914886	PE0914885	PE0928885	PE0928887	PE0928887	PE0928888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
PYRENE	1.877	6.6			1.77	5.7	
TERPHENYL-D14	1.423	6.1			1.38	3	
1,2-DICHLOROBENZENE	1.513	5.7			1.505	0.5	
1,2,4-TRICHLOROBENZENE	0.321	4.1			0.303	5.5	
1,3-DICHLOROBENZENE	1.498	4			1.485	0.9	
1,4-DICHLOROBENZENE	1.581	7.4			1.591	0.6	
2-CHLORONAPHTHALENE	1.316	2.2			1.346	2.3	
2-CHLOROPHENOL	1.547	6.6			1.544	0.1	
2-FLUOROBIPHENYL	1.623	2.7			1.622	0	
2-FLUOROPHENOL	1.549	1.3			1.677	8.2	
2-METHYLNAPHTHALENE	0.833	7.8			0.795	4.6	
2-METHYLPHENOL	1.339	3.2			1.339	0	
2-NITROANILINE	0.49	3			0.497	1.3	
2-NITROPHENOL	0.21	5.5			0.204	3.1	
2,4-DICHLOROPHENOL	0.277	10.4			0.279	0.7	
2,4-DIMETHYLPHENOL	0.366	4			0.375	2.3	
2,4-DINITROPHENOL	0.092	21.8			0.082	10.3	
2,4-DINITROTOLUENE	0.412	8.1			0.383	6.9	
2,4,5-TRICHLOROPHENOL	0.404	6.1			0.39	3.4	
2,4,6-TRIBROMOPHENOL	0.229	9.3			0.183	20.2	
2,4,6-TRICHLOROPHENOL	0.42	9.5			0.424	0.9	
2,6-DINITROTOLUENE	0.338	7.1			0.354	4.5	
3-NITROANILINE	0.348	14.9			0.062	82	
3,3'-DICHLOROBENZIDINE	0.148	17.7			0.062	58	
4-BROMOPHENYL-PHENYLETHER	0.26	3.5			0.264	1.6	
4-CHLORO-3-METHYLPHENOL	0.304	6.6			0.298	1.9	
4-CHLOROANILINE	0.204	24.1			0.041	80.1	
4-CHLOROPHENYL-PHENYLETHER	0.584	5.6			0.549	5.9	
4-METHYLPHENOL	1.313	4.3			1.445	10.1	
4-NITROANILINE	0.176	25.6			0.05	71.9	
4-NITROPHENOL	0.082	26.7			0.077	6.3	
4,6-DINITRO-2-METHYLPHENOL	0.096	13.5			0.071	25.7	

SURR 1(NBZ) %RECOVERY
SURR 2(FBP) %RECOVERY
SURR 3(TPH) %RECOVERY
SURR 4(PHL) %RECOVERY
SURR 5(2FP) %RECOVERY
SURR 6(TBP) %RECOVERY

TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0914886	PE0914886	PE0914885	PE0928885	PE0928887	PE0928887	PE0928888
MATRIX							
UNITS	RRF	%	%	%	RRF	%	AREA
ENV PROBLEM NO							
M/E 51			42	41			
M/E 68-1			0	0			
M/E 68-2			0	0			
M/E 69			72	77			
M/E 70-1			0	0			
M/E 70-2			0	0			
M/E 127			48	49			
M/E 197			0	0			
M/E 198			100	100			
M/E 199			6.2	6.5			
M/E 275			22	21			
M/E 365			1.2	1.4			
M/E 441			11	10			
M/E 442			72	61			
M/E 443-1			13	11			
M/E 443-2			18	18			
INTERNAL STD AREA(ANT)							39700
INTERNAL STD AREA(CRY)							16400
INTERNAL STD AREA(DCB)							36400
INTERNAL STD AREA(NPT)							112000
INTERNAL STD AREA(PHN)							45000
INTERNAL STD AREA(PRY)							7500
DILUTION FACTOR							
PERCENT MOISTURE							
ACTUAL(ALLOWED) EXTRACT TIME							

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD	MATRIX	MS %	RPD	MATRIX SPIKE	MSD %	2.2 FIELD
TYPE OF LOCATION	BLANK	SPIKE	RECOVERY		DUPLICATE	RECOVERY	WASTE ACCUM
SAMPLE NUMBER	SBK08852	PE804064B	PE804064B	PE804064B	PE804064B	PE804064B	PE803018B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	%	%	UG/KG	%	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
ACENAPHTHENE	330 U	2500 S	68	17	2100 S	57	1200

TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD BLANK	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY	2.2 FIELD WASTE ACCUM
TYPE OF LOCATION							
SAMPLE NUMBER	SBK08852	PE804064B	PE804064B	PE804064B	PE804064B	PE804064B	PE803018B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	%	%	UG/KG	%	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
ACENAPHTHYLENE	330 U	370 U			370 U		410 U
ANTHRACENE	330 U	370 U			370 U		2300
BENZO(A)ANTHRACENE	330 U	370 U			370 U		3800
BENZO(A)PYRENE	330 U	370 U			370 U		2600
BENZO(B)FLUORANTHENE	330 U	370 U			370 U		3200
BENZO(G,H,I)PERYLENE	330 U	370 U			370 U		2200
BENZO(K)FLUORANTHENE	330 U	370 U			370 U		2900
BENZOIC ACID	1700 U	1800 U			1800 U		2000 U
BENZYL ALCOHOL	330 U	370 U			370 U		410 U
BIS(-2-CHLOROETHOXY)METHANE	330 U	370 U			370 U		410 U
BIS(2-CHLOROETHYL)ETHER	330 U	370 U			370 U		410 U
BIS(2-CHLOROISOPROPYL)ETHER	330 U	370 U			370 U		410 U
BIS(2-ETHYLHEXYL)PHTHALATE	330 U	1200			260 J		410 U
BUTYLBENZYLPHTHALATE	330 U	370 U			370 U		410 U
CHRYSENE	330 U	370 U			370 U		3600
DI-N-BUTYLPHTHALATE	330 U	370 U			370 U		92 J
DI-N-OCTYL PHTHALATE	31 J	72 JB			370 U		960 B
DIBENZO(A,H)ANTHRACENE	330 U	370 U			370 U		510
DIBENZOFURAN	330 U	370 U			370 U		770
DIETHYLPHTHALATE	330 U	28 J			370 U		43 J
DIMETHYLPHTHALATE	330 U	370 U			370 U		410 U
FLUORANTHENE	330 U	370 U			370 U		86 J
FLUORENE	330 U	370 U			370 U		1300
HEXACHLOROBENZENE	330 U	370 U			370 U		410 U
HEXACHLOROBUTADIENE	330 U	370 U			370 U		410 U
HEXACHLOROCYCLOPENTADIENE	330 U	370 U			370 U		410 U
HEXACHLOROETHANE	330 U	370 U			370 U		410 U
INDENO(1,2,3-CD)PYRENE	330 U	370 U			370 U		2000
ISOPHORONE	330 U	370 U			370 U		410 U
N-NITROSO-DI-N-PROPYLAMINE	330 U	2000 S	54	7	1900 S	50	410 U
N-NITROSODIPHENYLAMINE	330 U	370 U			370 U		410 U
NAPHTHALENE	330 U	370 U			370 U		46 J
NITROBENZENE	330 U	370 U			370 U		410 U
NITROBENZENE-D5							
PENTACHLOROPHENOL	1700 U	2500 S	33	6	2300 S	31	2000 U
PHENANTHRENE	330 U	40 J			370 U		7200 J
PHENOL	330 U	4800 S	65	16	4000 S	55	410 U
PHENOL-D5							
PYRENE	330 U	3600 S	97	14	3100 S	84	61 J

TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD	MATRIX	MS %	RPD	MATRIX SPIKE	MSD %	2.2 FIELD
TYPE OF LOCATION	BLANK	SPIKE	RECOVERY		DUPLICATE	RECOVERY	WASTE ACCUM
SAMPLE NUMBER	SBK08852	PE804064B	PE804064B	PE804064B	PE804064B	PE804064B	PE803018B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	%	%	UG/KG	%	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
TERPHENYL-D14							
1,2-DICHLOROBENZENE	330 U	370 U			370 U		410 U
1,2,4-TRICHLOROBENZENE	330 U	2000 S	55	5	1900 S	52	410 U
1,3-DICHLOROBENZENE	330 U	370 U			370 U		410 U
1,4-DICHLOROBENZENE	330 U	1800 S	48	6	1900 S	51	410 U
2-CHLORONAPHTHALENE	330 U	370 U			370 U		410 U
2-CHLOROPHENOL	330 U	4200 S	57	9	3900 S	52	410 U
2-FLUOROBIPHENYL							
2-FLUOROPHENOL							
2-METHYLNAPHTHALENE	330 U	370 U			370 U		63 J
2-METHYLPHENOL	330 U	370 U			370 U		410 U
2-NITROANILINE	1700 U	1800 U			1800 U		2000 U
2-NITROPHENOL	330 U	370 U			370 U		410 U
2,4-DICHLOROPHENOL	330 U	370 U			370 U		410 U
2,4-DIMETHYLPHENOL	330 U	370 U			370 U		410 U
2,4-DINITROPHENOL	1700 U	1800 U			1800 U		2000 U
2,4-DINITROTOLUENE	330 U	2500 S	68	14	2200 S	59	410 U
2,4,5-TRICHLOROPHENOL	1700 U	1800 U			1800 U		2000 U
2,4,6-TRIBROMOPHENOL							
2,4,6-TRICHLOROPHENOL	330 U	370 U			370 U		410 U
2,6-DINITROTOLUENE	330 U	370 U			370 U		410 U
3-NITROANILINE	1700 U	1800 U			1800 U		2000 U
3,3'-DICHLOROBENZIDINE	660 U	730 U			730 U		810 U
4-BROMOPHENYL-PHENYLETHER	330 U	370 U			370 U		410 U
4-CHLORO-3-METHYLPHENOL	330 U	4700 S	64	16	4000 S	54	410 U
4-CHLOROANILINE	330 U	370 U			370 U		410 U
4-CHLOROPHENYL-PHENYLETHER	330 U	370 U			370 U		410 U
4-METHYLPHENOL	330 U	370 U			370 U		410 U
4-NITROANILINE	1700 U	1800 U			1800 U		2000 U
4-NITROPHENOL	1700 U	4900 S	66	3	4700 S	64	2000 U
4,6-DINITRO-2-METHYLPHENOL	1700 U	1800 U			1800 U		2000 U
SURR 1(NBZ) %RECOVERY	60	54			56		60
SURR 2(FBP) %RECOVERY	56	62			50		66
SURR 3(TPH) %RECOVERY	90	100			78		86
SURR 4(PHL) %RECOVERY	56	64			54		64
SURR 5(2FP) %RECOVERY	64	56			56		66
SURR 6(TBP) %RECOVERY	50	56			44		62

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TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	
LOCATION	METHOD	MATRIX	MS %	RPD	MATRIX SPIKE	MSD %	2.2 FIELD
TYPE OF LOCATION	BLANK	SPIKE	RECOVERY		DUPLICATE	RECOVERY	WASTE ACCUM
SAMPLE NUMBER	SBK08852	PE804064B	PE804064B	PE804064B	PE804064B	PE804064B	PE803018B
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	%	%	UG/KG	%	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
M/E 68-1							
M/E 68-2							
M/E 69							
M/E 70-1							
M/E 70-2							
M/E 127							
M/E 197							
M/E 198							
M/E 199							
M/E 275							
M/E 365							
M/E 441							
M/E 442							
M/E 443-1							
M/E 443-2							
INTERNAL STD AREA(ANT)	42000	28900			34100		28900
INTERNAL STD AREA(CRY)	13400	7770			9730		10400
INTERNAL STD AREA(DCB)	37200	30000			31800		27900
INTERNAL STD AREA(NPT)	119000	93000			100000		86100
INTERNAL STD AREA(PHN)	43800	29000			33100		31600
INTERNAL STD AREA(PRY)	6040	4130			5560		7320
DILUTION FACTOR	1	1			1		1
PERCENT MOISTURE	0	9.3			9.3		17.9
ACTUAL(ALLOWED) EXTRACT TIME		9(14 D)			9(14 D)		8(14 D)

AREA			QA	QA	QA	QA	QA
LOCATION	2.2 FIELD	2.2 FIELD	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE804019B	PE804064B	PE1031886	PE1031886	PE1031885	PE1114885	PE1114887
MATRIX	SOIL	SOIL					
UNITS	UG/KG	UG/KG	RRF	%	%	%	RRF
ENV PROBLEM NO	5	5					
ACENAPHTHENE	360 U	360 U	0.526	10.7			0.649

TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA			QA	QA	QA	QA	QA
LOCATION	2.2 FIELD	2.2 FIELD	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE804019B	PE804064B	PE1031886	PE1031886	PE1031885	PE1114885	PE1114887
MATRIX	SOIL	SOIL					
UNITS	UG/KG	UG/KG	RRF	%	%	%	RRF
ENV PROBLEM NO	5	5					
ACENAPHTHYLENE	360 U	360 U	1.632	6.4			2.067
ANTHRACENE	360 U	360 U	0.844	6.8			1.026
BENZO(A)ANTHRACENE	290 J	140 J	0.987	3.4			1.143
BENZO(A)PYRENE	220 J	360 U	1.077	3.8			1.027
BENZO(B)FLUORANTHENE	140 J	200 J	1.214	6			1.208
BENZO(G,H,I)PERYLENE	360 U	360 U	0.699	6			0.585
BENZO(K)FLUORANTHENE	130 J	180 J	1.204	8.2			1.25
BENZOIC ACID	1800 U	1800 U	0.123	19.2			0.115
BENZYL ALCOHOL	360 U	360 U	0.448	54.5			0.669
BIS(-2-CHLOROETHOXY)METHANE	360 U	360 U	0.503	2.4			0.603
BIS(2-CHLOROETHYL)ETHER	360 U	360 U	1.447	7.1			1.812
BIS(2-CHLOROISOPROPYL)ETHER	360 U	360 U	0.704	6			0.947
BIS(2-ETHYLHEXYL)PHTHALATE	360 U	330 J	1.664	19.8			1.764
BUTYLBENZYLPHTHALATE	360 U	360 U	1.184	11			1.288
CHRYSENE	290 J	170 J	0.926	7.5			1.131
DI-N-BUTYLPHTHALATE	360 U	360 U	1.459	11.4			1.727
DI-N-OCTYL PHTHALATE	56 JB	100 JB	3.858	18.3			3.317
DIBENZO(A,H)ANTHRACENE	360 U	360 U	0.667	6.9			0.506
DIBENZOFURAN	19 J	360 U	1.474	4.5			1.675
DIETHYLPHTHALATE	360 U	360 U	1.585	29			1.69
DIMETHYLPHTHALATE	360 U	360 U	1.389	3.4			1.653
FLUORANTHENE	360 U	360 U	0.648	5.2			0.8
FLUORENE	360 U	360 U	1.056	4.3			1.299
HEXACHLOROBENZENE	360 U	360 U	0.255	16.5			0.312
HEXACHLOROBUTADIENE	360 U	360 U	0.142	1.9			0.173
HEXACHLOROCYCLOPENTADIENE	360 U	360 U	0.203	17.2			0.247
HEXACHLOROETHANE	360 U	360 U	0.609	7.8			0.767
INDENO(1,2,3-CD)PYRENE	360 U	140 J	0.702	4.9			0.604
ISOPHORONE	360 U	360 U	0.734	1.7			0.834
N-NITROSO-DI-N-PROPYLAMINE	360 U	360 U	0.809	6.6			0.977
N-NITROSODIPHENYLAMINE	360 U	360 U	0.399	10.7			0.478
NAPHTHALENE	35 J	360 U	0.861	5.5			0.985
NITROBENZENE	360 U	360 U	0.358	1.6			0.467
NITROBENZENE-D5			0.4	4.3			0.463
PENTACHLOROPHENOL	1800 U	1800 U	0.068	16.9			0.084
PHENANTHRENE	150 J	81 J	0.839	8.6			1.047
PHENOL	360 U	360 U	1.626	5.5			1.917
PHENOL-D5			1.455	3.9			1.739
PYRENE	520	360 U	1.937	9.8			2.247

TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA			QA	QA	QA	QA	QA
LOCATION	2.2 FIELD	2.2 FIELD	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE804019B	PE804064B	PE1031886	PE1031886	PE1031885	PE1114885	PE1114887
MATRIX	SOIL	SOIL					
UNITS	UG/KG	UG/KG	RRF	%	%	%	RRF
ENV PROBLEM NO	5	5					
TERPHENYL-D14			1.319	13.1			1.47
1,2-DICHLOROBENZENE	360 U	360 U	1.262	4.5			1.523
1,2,4-TRICHLOROBENZENE	360 U	360 U	0.284	3.1			0.319
1,3-DICHLOROBENZENE	360 U	360 U	1.267	5.2			1.536
1,4-DICHLOROBENZENE	360 U	360 U	1.276	4.5			1.531
2-CHLORONAPHTHALENE	360 U	360 U	1.056	15.9			1.358
2-CHLOROPHENOL	360 U	360 U	1.158	5.1			1.359
2-FLUOROBIPHENYL			1.302	12.5			1.625
2-FLUOROPHENOL			1.28	5			1.602
2-METHYLNAPHTHALENE	43 J	37 J	0.548	22.3			0.767
2-METHYLPHENOL	360 U	360 U	1.078	3.3			1.25
2-NITROANILINE	1800 U	1800 U	0.347	3.3			0.451
2-NITROPHENOL	360 U	360 U	0.181	7.1			0.203
2,4-DICHLOROPHENOL	360 U	360 U	0.259	3.8			0.28
2,4-DIMETHYLPHENOL	360 U	360 U	0.32	5.9			0.377
2,4-DINITROPHENOL	1800 U	1800 U	0.064	30.2			0.094
2,4-DINITROTOLUENE	360 U	360 U	0.407	6.9			0.464
2,4,5-TRICHLOROPHENOL	1800 U	1800 U	0.348	8.8			0.372
2,4,6-TRIBROMOPHENOL			0.143	21.4			0.178
2,4,6-TRICHLOROPHENOL	360 U	360 U	0.331	5.6			0.391
2,6-DINITROTOLUENE	360 U	360 U	0.33	1.9			0.389
3-NITROANILINE	1800 U	1800 U	0.233	27.3			0.328
3,3'-DICHLOROBENZIDINE	730 U	730 U	0.072	59.5			0.111
4-BROMOPHENYL-PHENYLETHER	360 U	360 U	0.184	14.7			0.237
4-CHLORO-3-METHYLPHENOL	360 U	360 U	0.259	3.3			0.304
4-CHLOROANILINE	360 U	360 U	0.308	31.4			0.405
4-CHLOROPHENYL-PHENYLETHER	360 U	360 U	0.455	7.9			0.528
4-METHYLPHENOL	360 U	360 U	1.023	4.8			1.275
4-NITROANILINE	1800 U	1800 U	0.144	21.6			0.149
4-NITROPHENOL	1800 U	1800 U	0.064	34.1			0.086
4,6-DINITRO-2-METHYLPHENOL	1800 U	1800 U	0.06	15.8			0.071
SURR 1(NBZ) %RECOVERY	50	72					
SURR 2(FBP) %RECOVERY	52	72					
SURR 3(TPH) %RECOVERY	76	94					
SURR 4(PHL) %RECOVERY	56	70					
SURR 5(2FP) %RECOVERY	58	82					
SURR 6(TBP) %RECOVERY	54	62					
M/E 51					33	39	

TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA			QA	QA	QA	QA	QA
LOCATION	2.2 FIELD	2.2 FIELD	INITIAL CAL	INITIAL CAL	TUNED	TUNED	CONTINUING
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	RRF	% RSD	CALIBRATION	CALIBRATION	CALIBRATION
SAMPLE NUMBER	PE804019B	PE804064B	PE1031886	PE1031886	PE1031885	PE1114885	PE1114887
MATRIX	SOIL	SOIL					
UNITS	UG/KG	UG/KG	RRF	%	%	%	RRF
ENV PROBLEM NO	5	5					
M/E 68-1					0	0.8	
M/E 68-2					0	1.2	
M/E 69					58	66	
M/E 70-1					0	0.2	
M/E 70-2					0	0.3	
M/E 127					50	52	
M/E 197					0	0.3	
M/E 198					100	100	
M/E 199					6.3	6.6	
M/E 275					17	19	
M/E 365					1.6	1.4	
M/E 441					8.9	9.7	
M/E 442					57	59	
M/E 443-1					10	10	
M/E 443-2					18	18	
INTERNAL STD AREA(ANT)	31800	31300					
INTERNAL STD AREA(CRY)	11700	9940					
INTERNAL STD AREA(DCB)	29500	29700					
INTERNAL STD AREA(NPT)	98600	95300					
INTERNAL STD AREA(PHN)	36500	33600					
INTERNAL STD AREA(PRY)	7120	6170					
DILUTION FACTOR	1	1					
PERCENT MOISTURE	10.9	9.3					
ACTUAL(ALLOWED) EXTRACT TIME	9(14 D)	9(14 D)					

AREA	QA	QA					
LOCATION	CONTINUING	ISTD RET TIM	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	CAL %D	SHIFT	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE1114887	PE1114888	PE804020B	PE804031B	PE804042B	PE804053B	PE804075B
MATRIX			SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	AREA	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO			5	5	5	5	5
ACENAPHTHENE	23.3		64 J	400 U	43 J	380 U	34 J

TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA	QA	QA					
LOCATION	CONTINUING	ISTD RET TIM	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	CAL %D	SHIFT	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE1114887	PE1114888	PE804020B	PE804031B	PE804042B	PE804053B	PE804075B
MATRIX			SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	AREA	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO			5	5	5	5	5
ACENAPHTHYLENE	26.6		13 U	400 U	380 U	380 U	370 U
ANTHRACENE	21.5		66 J	63 J	53 J	380 U	90 J
BENZO(A)ANTHRACENE	15.8		190 J	270 J	190 J	380 U	220 J
BENZO(A)PYRENE	4.6		290 J	320 J	200 J	380 U	190 J
BENZO(B)FLUORANTHENE	0.5		280 J	330 J	210 J	380 U	240 J
BENZO(G,H,I)PERYLENE	16.3		260 J	400 U	380 U	380 U	370 U
BENZO(K)FLUORANTHENE	3.8		270 J	400 U	160 J	380 U	100 J
BENZOIC ACID	6.4		1800 U	2000 U	1900 U	1900 U	1800 U
BENZYL ALCOHOL	49.4		360 U	400 U	380 U	380 U	370 U
BIS(-2-CHLOROETHOXY)METHANE	19.9		360 U	400 U	380 U	380 U	370 U
BIS(2-CHLOROETHYL)ETHER	25.2		360 U	400 U	380 U	380 U	370 U
BIS(2-CHLOROISOPROPYL)ETHER	34.6		360 U	400 U	380 U	380 U	370 U
BIS(2-ETHYLHEXYL)PHTHALATE	6		310 J	640	380 U	380 U	1000
BUTYLBENZYLPHTHALATE	8.8		160 J	210 J	92 J	380 U	370 U
CHRYSENE	22.1		220 J	400 J	240 J	380 U	220 J
DI-N-BUTYLPHTHALATE	18.4		58 J	90 J	89 J	61 J	370 U
DI-N-OCTYL PHTHALATE	14		98 JB	130 JB	200 JB	390 B	97 JB
DIBENZO(A,H)ANTHRACENE	24.1		360 U	400 U	380 U	380 U	370 U
DIBENZOFURAN	13.6		120 J	230 J	89 J	29 J	69 J
DIETHYLPHTHALATE	6.7		13 J	400 U	26 J	380 U	370 U
DIMETHYLPHTHALATE	19		360 U	400 U	380 U	380 U	370 U
FLUORANTHENE	23.4		290 J	470	320 J	37 J	400
FLUORENE	23		56 J	400 U	31 J	380 U	39 J
HEXACHLOROBENZENE	22.7		360 U	400 U	380 U	380 U	370 U
HEXACHLOROBUTADIENE	21.6		360 U	400 U	380 U	380 U	370 U
HEXACHLOROCYCLOPENTADIENE	21.7		360 U	400 U	380 U	380 U	370 U
HEXACHLOROETHANE	25.9		360 U	400 U	380 U	380 U	370 U
INDENO(1,2,3-CD)PYRENE	14		260 J	240 J	130 J	380 U	370 U
ISOPHORONE	13.6		360 U	400 U	380 U	380 U	370 U
N-NITROSO-DI-N-PROPYLAMINE	20.9		360 U	400 U	380 U	380 U	370 U
N-NITROSODIPHENYLAMINE	19.8		360 U	400 U	23 J	380 U	370 U
NAPHTHALENE	14.4		200 J	390 J	140 J	43 J	94 J
NITROBENZENE	30.5		360 U	400 U	380 U	380 U	370 U
NITROBENZENE-D5	15.7						
PENTACHLOROPHENOL	23.6		1800 U	2000 U	1900 U	1900 U	1800 U
PHENANTHRENE	24.8		460	900	480	85 J	410
PHENOL	17.9		360 U	400 U	380 U	380 U	370 U
PHENOL-D5	19.5						
PYRENE	16		360	620	370 J	54 J	420

TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA	QA	QA					
LOCATION	CONTINUING	ISTD RET TIM	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	CAL %D	SHIFT	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE1114887	PE1114888	PE804020B	PE804031B	PE804042B	PE804053B	PE804075B
MATRIX			SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	AREA	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO			5	5	5	5	5
TERPHENYL-D14	11.5						
1,2-DICHLOROBENZENE	20.7		360 U	400 U	380 U	380 U	370 U
1,2,4-TRICHLOROBENZENE	12.4		38 J	140 J	29 J	380 U	370 U
1,3-DICHLOROBENZENE	21.2		360 U	400 U	380 U	380 U	370 U
1,4-DICHLOROBENZENE	20		360 U	400 U	380 U	380 U	370 U
2-CHLORONAPHTHALENE	28.6		8 U	400 U	380 U	380 U	370 U
2-CHLOROPHENOL	17.4		14 J	400 U	380 U	380 U	26 J
2-FLUOROBIPHENYL	24.8						
2-FLUOROPHENOL	25.1						
2-METHYLNAPHTHALENE	39.9		590	610	160 J	59 J	130 J
2-METHYLPHENOL	15.9		360 U	400 U	380 U	380 U	370 U
2-NITROANILINE	29.9		1800 U	2000 U	1900 U	1900 U	1800 U
2-NITROPHENOL	12.2		360 U	400 U	380 U	380 U	370 U
2,4-DICHLOROPHENOL	8.3		360 U	400 U	380 U	380 U	370 U
2,4-DIMETHYLPHENOL	18		360 U	400 U	380 U	380 U	370 U
2,4-DINITROPHENOL	47.1		1800 U	2000 U	1900 U	1900 U	1800 U
2,4-DINITROTOLUENE	14		360 U	400 U	380 U	380 U	370 U
2,4,5-TRICHLOROPHENOL	7		1800 U	2000 U	1900 U	1900 U	1800 U
2,4,6-TRIBROMOPHENOL	24.7						
2,4,6-TRICHLOROPHENOL	18		360 U	400 U	380 U	380 U	370 U
2,6-DINITROTOLUENE	17.9		360 U	400 U	380 U	380 U	370 U
3-NITROANILINE	40.7		1800 U	2000 U	1900 U	1900 U	1800 U
3,3'-DICHLOROBENZIDINE	54.4		720 U	810 U	760 U	750 U	730 U
4-BROMOPHENYL-PHENYLETHER	29		360 U	400 U	380 U	380 U	370 U
4-CHLORO-3-METHYLPHENOL	17.6		360 U	400 U	380 U	380 U	370 U
4-CHLOROANILINE	31.1		360 U	400 U	380 U	15 J	370 U
4-CHLOROPHENYL-PHENYLETHER	16.2		360 U	400 U	380 U	380 U	370 U
4-METHYLPHENOL	24.7		360 U	20 J	380 U	380 U	370 U
4-NITROANILINE	3.5		1800 U	2000 U	1900 U	1900 U	1800 U
4-NITROPHENOL	34.2		1800 U	2000 U	1900 U	1900 U	1800 U
4,6-DINITRO-2-METHYLPHENOL	18.5		1800 U	2000 U	1900 U	1900 U	1800 U
SURR 1(NBZ) %RECOVERY			60	62	68	50	72
SURR 2(FBP) %RECOVERY			60	66	70	48	68
SURR 3(TPH) %RECOVERY			78	94	94	82	88
SURR 4(PHL) %RECOVERY			62	72	72	52	70
SURR 5(2FP) %RECOVERY			48	60	66	50	68
SURR 6(TBP) %RECOVERY			48	84	76	66	64

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TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA	QA	QA					
LOCATION	CONTINUING	ISTD RET TIM	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	CAL %D	SHIFT	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE1114887	PE1114888	PE804020B	PE804031B	PE804042B	PE804053B	PE804075B
MATRIX			SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	AREA	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO			5	5	5	5	5
M/E 68-1							
M/E 68-2							
M/E 69							
M/E 70-1							
M/E 70-2							
M/E 127							
M/E 197							
M/E 198							
M/E 199							
M/E 275							
M/E 365							
M/E 441							
M/E 442							
M/E 443-1							
M/E 443-2							
INTERNAL STD AREA(ANT)		51100	79000	68900	67600	74800	68400
INTERNAL STD AREA(CRY)		22800	31600	26500	26600	29700	24800
INTERNAL STD AREA(DCB)		43900	55600	45600	51900	52600	53200
INTERNAL STD AREA(NPT)		138000	193000	152000	171000	171000	170000
INTERNAL STD AREA(PHN)		69500	97800	97300	95400	104000	89300
INTERNAL STD AREA(PRY)		15000	17500	11600	14400	16100	13200
DILUTION FACTOR			1	1	1	1	1
PERCENT MOISTURE			8.4	19.3	12.3	11.8	9.7
ACTUAL(ALLOWED) EXTRACT TIME			9(14 D)	9(14 D)	9(14 D)	9(14 D)	9(14 D)

AREA		QA	QA	QA	QA		
LOCATION	2.2 FIELD	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	CALIBRATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE804086B	PE1115885	PE1115887	PE1115887	PE1115888	PE803029B	PE803030B
MATRIX	SOIL					SOIL	SOIL
UNITS	UG/KG	%	RRF	%	AREA	UG/KG	UG/KG
ENV PROBLEM NO	5					5	5
ACENAPHTHENE	370 U		0.65	23.5		370 U	23 J

TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA		QA	QA	QA	QA		
LOCATION	2.2 FIELD	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	CALIBRATION	CALIBRATION	CAL XD	SHIFT	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE804086B	PE1115885	PE1115887	PE1115887	PE1115888	PE803029B	PE803030B
MATRIX	SOIL					SOIL	SOIL
UNITS	UG/KG	X	RRF	X	AREA	UG/KG	UG/KG
ENV PROBLEM NO	5					5	5
ACENAPHTHYLENE	370 U		1.997	22.3		370 U	390 U
ANTHRACENE	17 J		1.033	22.3		42 J	49 J
BENZO(A)ANTHRACENE	60 J		1.127	14.2		230 J	110 J
BENZO(A)PYRENE	370 U		1.019	5.3		260 J	390 U
BENZO(B)FLUORANTHENE	370 U		1.177	3.1		210 J	58 J
BENZO(G,H,I)PERYLENE	370 U		0.581	16.9		440	58 J
BENZO(K)FLUORANTHENE	370 U		1.24	3		200 J	46 J
BENZOIC ACID	1900 U		0.163	32.4		1900 U	1900 U
BENZYL ALCOHOL	370 U		0.703	56.8		370 U	390 U
BIS(-2-CHLOROETHOXY)METHANE	370 U		0.58	15.3		370 U	390 U
BIS(2-CHLOROETHYL)ETHER	370 U		1.734	19.8		370 U	390 U
BIS(2-CHLOROISOPROPYL)ETHER	370 U		0.964	37.1		370 U	390 U
BIS(2-ETHYLHEXYL)PHTHALATE	200 J		1.812	8.9		210 J	2700
BUTYLBENZYLPHTHALATE	370 U		1.36	14.9		46 J	390 U
CHRYSENE	79 J		1.126	21.6		210 J	88 J
DI-N-BUTYLPHTHALATE	59 J		1.653	13.3		54 J	51 J
DI-N-OCTYL PHTHALATE	44 JB		3.363	12.8		42 JB	390 U
DIBENZO(A,H)ANTHRACENE	370 U		0.555	16.8		420	390 U
DIBENZOFURAN	33 J		1.754	19		9 J	8 J
DIETHYLPHTHALATE	370 U		1.762	11.2		370 U	390 U
DIMETHYLPHTHALATE	370 U		1.655	19.1		370 U	390 U
FLUORANTHENE	110 J		0.756	16.7		200 J	260 J
FLUORENE	370 U		1.277	20.9		370 U	19 J
HEXACHLOROBENZENE	370 U		0.287	12.7		370 U	390 U
HEXACHLOROBUTADIENE	370 U		0.17	19		370 U	390 U
HEXACHLOROCYCLOPENTADIENE	370 U		0.19	6.3		370 U	390 U
HEXACHLOROETHANE	370 U		0.695	14.1		370 U	390 U
INDENO(1,2,3-CD)PYRENE	370 U		0.596	15.1		420	390 U
ISOPHORONE	370 U		0.879	19.8		370 U	390 U
N-NITROSO-DI-N-PROPYLAMINE	370 U		0.982	21.5		370 U	390 U
N-NITROSODIPHENYLAMINE	370 U		0.47	18		370 U	390 U
NAPHTHALENE	55 J		0.965	12.2		370 U	390 U
NITROBENZENE	370 U		0.44	22.9		370 U	390 U
NITROBENZENE-D5			0.457	14.1			
PENTACHLOROPHENOL	1900 U		0.082	21.6		1900 U	1900 U
PHENANTHRENE	140 J		0.994	18.4		130 J	210 J
PHENOL	370 U		1.956	20.3		370 U	390 U
PHENOL-D5			1.724	18.5			
PYRENE	130 J		2.174	12.2		170 J	200 J

TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA		QA	QA	QA	QA		
LOCATION	2.2 FIELD	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	CALIBRATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE804086B	PE1115885	PE1115887	PE1115887	PE1115888	PE803029B	PE803030B
MATRIX	SOIL					SOIL	SOIL
UNITS	UG/KG	%	RRF	%	AREA	UG/KG	UG/KG
ENV PROBLEM NO	5					5	5
TERPHENYL-D14			1.502	13.9			
1,2-DICHLOROBENZENE	370 U		1.443	14.3		370 U	390 U
1,2,4-TRICHLOROBENZENE	370 U		0.313	10.3		370 U	390 U
1,3-DICHLOROBENZENE	370 U		1.477	16.6		370 U	390 U
1,4-DICHLOROBENZENE	370 U		1.484	16.3		370 U	390 U
2-CHLORONAPHTHALENE	370 U		1.31	24		370 U	390 U
2-CHLOROPHENOL	25 J		1.354	17		20 J	390 U
2-FLUOROBIPHENYL			1.49	14.4			
2-FLUOROPHENOL			1.391	8.7			
2-METHYLNAPHTHALENE	48 J		0.796	45.2		370 U	390 U
2-METHYLPHENOL	370 U		1.239	14.9		370 U	390 U
2-NITROANILINE	1900 U		0.459	32.2		1900 U	1900 U
2-NITROPHENOL	370 U		0.205	13.4		370 U	390 U
2,4-DICHLOROPHENOL	370 U		0.301	16.2		370 U	390 U
2,4-DIMETHYLPHENOL	370 U		0.371	16.1		370 U	390 U
2,4-DINITROPHENOL	1900 U		0.117	83.4		1900 U	1900 U
2,4-DINITROTOLUENE	370 U		0.498	22.5		370 U	390 U
2,4,5-TRICHLOROPHENOL	1900 U		0.395	13.5		1900 U	1900 U
2,4,6-TRIBROMOPHENOL			0.215	50			
2,4,6-TRICHLOROPHENOL	370 U		0.371	12		370 U	390 U
2,6-DINITROTOLUENE	370 U		0.383	16.1		370 U	390 U
3-NITROANILINE	1900 U		0.389	67.1		1900 U	1900 U
3,3'-DICHLOROBENZIDINE	750 U		0.232	221		740 U	770 U
4-BROMOPHENYL-PHENYLETHER	370 U		0.218	18.7		370 U	390 U
4-CHLORO-3-METHYLPHENOL	370 U		0.297	14.9		370 U	390 U
4-CHLOROANILINE	370 U		0.417	35		370 U	390 U
4-CHLOROPHENYL-PHENYLETHER	370 U		0.559	23		370 U	390 U
4-METHYLPHENOL	370 U		1.279	25		370 U	390 U
4-NITROANILINE	1900 U		0.212	47.2		1900 U	1900 U
4-NITROPHENOL	1900 U		0.11	71.8		1900 U	1900 U
4,6-DINITRO-2-METHYLPHENOL	1900 U		0.073	21.3		1900 U	1900 U
SURR 1(NBZ) %RECOVERY	72					68	62
SURR 2(FBP) %RECOVERY	68					70	62
SURR 3(TPH) %RECOVERY	90					78	86
SURR 4(PHL) %RECOVERY	72					68	72
SURR 5(2FP) %RECOVERY	68					72	46
SURR 6(TBP) %RECOVERY	60					50	38

TABLE D.3.6 PETC EXTRACTABLE ORGANICS - SDG NUMBER: PE803018B DRAFT DO NOT CITE

AREA		QA	QA	QA	QA		
LOCATION	2.2 FIELD	TUNED	CONTINUING	CONTINUING	ISTD RET TIM	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	CALIBRATION	CALIBRATION	CAL %D	SHIFT	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE804086B	PE1115885	PE1115887	PE1115887	PE1115888	PE803029B	PE803030B
MATRIX	SOIL					SOIL	SOIL
UNITS	UG/KG	%	RRF	%	AREA	UG/KG	UG/KG
ENV PROBLEM NO	5					5	5
M/E 68-1		0					
M/E 68-2		0					
M/E 69		62					
M/E 70-1		0.3					
M/E 70-2		0.5					
M/E 127		52					
M/E 197		0					
M/E 198		100					
M/E 199		6.7					
M/E 275		18					
M/E 365		1.1					
M/E 441		9.4					
M/E 442		54					
M/E 443-1		9.8					
M/E 443-2		18					
INTERNAL STD AREA(ANT)	65800				67400	72300	80200
INTERNAL STD AREA(CRY)	26500				53300	39200	38500
INTERNAL STD AREA(DCB)	44800				50800	53300	50600
INTERNAL STD AREA(NPT)	149000				165000	177000	199000
INTERNAL STD AREA(PHN)	94700				102000	104000	110000
INTERNAL STD AREA(PRY)	12900				22300	39000	36200
DILUTION FACTOR	1					1	1
PERCENT MOISTURE	12.5					11.1	14.2
ACTUAL(ALLOWED) EXTRACT TIME	9(14 D)					8(14 D)	8(14 D)

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
PE300010A					
	PE300010A		ALKYLHYDROCARBON(10.80)	52 JB	10.80
	PE300010A		ALKYLHYDROCARBON(11.00)	55 JB	11.00
	PE300010A		ALKYLHYDROCARBON(11.40)	36 JB	11.40
	PE300010A		ALKYLHYDROCARBON(11.70)	45 JB	11.70
	PE300010A		PHTHALATE ESTER(25.00)	500 JB	25.00
	PE300010A		PROPANOATEESTER(17.30)	490 JB	17.30
	PE300010A		PROPANOATEESTER(17.70)	700 JB	17.70
	PE300010A		UNKNOWN(5.52)	40 J	5.52
	PE300010A		UNKNOWN(8.04)	35 JB	8.04
	PE300010A		UNKNOWN(9.49)	50 JB	9.49
	PE300010A		UNKNOWN(27.50)	210 JB	27.50
	PE300010A		UNKNOWNKETONE(6.56)	57 JB	6.56
	PE300010A	10544500	SULFUR(27.10)	780 J	27.10
	PE300010A	123422	DIACETONEALCOHOL*(6.34)	3400 JAB	6.34
	PE300021A	123422	DIACETONEALCOHOL(6.33)	93000 JAB	6.33
	PE300032A		ALKYLHYDROCARBON(10.80)	190 JB	10.80
	PE300032A		ALKYLHYDROCARBON(10.90)	62 JB	10.90
	PE300032A		ALKYLHYDROCARBON(11.00)	210 JB	11.00
	PE300032A		ALKYLHYDROCARBON(11.40)	180 JB	11.40
	PE300032A		ALKYLHYDROCARBON(11.70)	180 JB	11.70
	PE300032A		ALKYLHYDROCARBON(12.20)	71 JB	12.20
	PE300032A		ALKYLHYDROCARBON(21.30)	280 J	21.30
	PE300032A		ALKYLHYDROCARBON(25.50)	260 J	25.50
	PE300032A		PHTHALATEESTER(25.00)	790 JB	25.00
	PE300032A		PROPANOATEESTER(17.30)	430 JB	17.30
	PE300032A		PROPANOATEESTER(17.70)	740 JB	17.70
	PE300032A		UNKNOWN(5.44)	88 JB	5.44
	PE300032A		UNKNOWN(8.00)	88 JB	8.00
	PE300032A		UNKNOWN(9.47)	110 JB	9.47
	PE300032A		UNKNOWN(27.60)	2400 JB	27.60
	PE300032A		UNKNOWNKETONE(6.54)	140 JB	6.54
	PE300032A	10544500	SULFUR(27.10)	1600 J	27.10
	PE300032A	123422	DIACETONEALCOHOL*(6.28)	8700 JAB	6.28
	PE300032A	123795	DIOCTYLADIPATE(31.20)	200 JB	31.20
	PE304014A		ALKYLHYDROCARBON(10.80)	1800 JB	10.80
	PE304014A		ALKYLHYDROCARBON(10.90)	2000 JB	10.90
	PE304014A		ALKYLHYDROCARBON(11.40)	1700 JB	11.40
	PE304014A		ALKYLHYDROCARBON(11.60)	1800 JB	11.60
	PE304014A		ALKYLHYDROCARBON(12.10)	680 JB	12.10
	PE304014A		ALKYLHYDROCARBON(12.40)	570 JB	12.40
	PE304014A		ALKYLHYDROCARBON(21.30)	670 J	21.30
	PE304014A		ALKYLHYDROCARBON(25.40)	720 J	25.40
	PE304014A		PHTHALATEESTER(25.00)	1300 JB	25.00
	PE304014A		PROPANOATEESTER(17.30)	2400 JB	17.30
	PE304014A		PROPANOATEESTER(17.60)	3200 JB	17.60
	PE304014A		UNKNOWN(3.92)	730 J	3.92

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX		RETENTION TIME
PE300010A						
	PE304014A		UNKNOWN(5.55)	960	J	5.55
	PE304014A		UNKNOWN(8.02)	1100	JB	8.02
	PE304014A		UNKNOWN(9.47)	1300	JB	9.47
	PE304014A		UNKNOWN(27.50)	4500	JB	27.50
	PE304014A		UNKNOWNKETONE(6.57)	1500	JB	6.57
	PE304014A	10544500	SULFUR(27.10)	3600	J	27.10
	PE304014A	123422	DIACETONEALCOHOL*(6.36)	100000	JAB	6.36
	PE304014A	123795	DIOCTYLADIPATE(31.10)	2400	JB	31.10
	PE304025A	123422	DIACETONEALCOHOL(6.34)	140000	JAB	6.34
	PE304036A		ALKYLHYDROCARBON(10.80)	590	JB	10.80
	PE304036A		ALKYLHYDROCARBON(11.00)	620	JB	11.00
	PE304036A		ALKYLHYDROCARBON(11.40)	710	JB	11.40
	PE304036A		ALKYLHYDROCARBON(11.60)	620	JB	11.60
	PE304036A		ALKYLHYDROCARBON(12.20)	270	JB	12.20
	PE304036A		ALKYLHYDROCARBON(21.30)	170	J	21.30
	PE304036A		ALKYLHYDROCARBON(25.40)	160	J	25.40
	PE304036A		PHTHALATEESTER(25.00)	370	JB	25.00
	PE304036A		PROPANOATEESTER(17.30)	680	JB	17.30
	PE304036A		PROPANOATEESTER(17.60)	860	JB	17.60
	PE304036A		UNKNOWN(3.88)	310	J	3.88
	PE304036A		UNKNOWN(5.53)	490	J	5.53
	PE304036A		UNKNOWN(8.00)	710	JB	8.00
	PE304036A		UNKNOWN(9.46)	780	JB	9.46
	PE304036A		UNKNOWN(13.00)	250	J	13.00
	PE304036A		UNKNOWN(27.50)	840	JB	27.50
	PE304036A		UNKNOWNKETONE(6.55)	970	JB	6.55
	PE304036A	10544500	SULFUR(27.10)	820	J	27.10
	PE304036A	123422	DIACETONEALCOHOL*(6.37)	71000	JAB	6.37
	PE304036A	123795	DIOCTYLADIPATE(31.10)	340	JB	31.10
	PE800015B		PHTHALATEESTER(25.00)	170	JB	25.00
	PE800015B		PROPANOATEESTER(17.20)	210	JB	17.20
	PE800015B		PROPANOATEESTER(17.60)	350	JB	17.60
	PE800015B		UNKNOWN(5.45)	100	JB	5.45
	PE800015B		UNKNOWN(7.96)	62	JB	7.96
	PE800015B		UNKNOWN(9.42)	58	JB	9.42
	PE800015B		UNKNOWNKETONE(6.51)	86	JB	6.51
	PE800015B	123422	DIACETONEALCOHOL*(6.29)	6800	JAB	6.29
	PE800015B	123795	DIOCTYLADIPATE(31.50)	1400	JB	31.50
	PE800026B		ALKYLHYDROCARBON(6.65)	140	J	6.65
	PE800026B		ALKYLHYDROCARBON(6.84)	180	J	6.84
	PE800026B		PROPANOATEESTER(17.20)	190	JB	17.20
	PE800026B		PROPANOATEESTER(17.60)	280	JB	17.60
	PE800026B		UNKNOWN(3.57)	260	JB	3.57
	PE800026B		UNKNOWN(4.82)	270	J	4.82
	PE800026B		UNKNOWN(5.46)	890	JB	5.46
	PE800026B		UNKNOWN(7.96)	520	JB	7.96
	PE800026B		UNKNOWN(9.41)	510	JB	9.41

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
PE300010A					
	PE800026B		UNKNOWN(9.71)	160 J	9.71
	PE800026B		UNKNOWNKETONE(6.50)	740 JB	6.50
	PE800026B	123422	DIACETONEALCOHOL*(6.28)	62000 JAB	6.28
	PE800026B	123795	DIOCTYLADIPATE(31.50)	1400 JB	31.50
	PE800037B		UNKNOWN(5.44)	390 JB	5.44
	PE800037B		UNKNOWN(7.97)	430 JB	7.97
	PE800037B		UNKNOWN(9.42)	430 JB	9.42
	PE800037B		UNKNOWNKETONE(6.51)	600 JB	6.51
	PE800037B	123422	DIACETONEALCOHOL*(6.29)	41000 JAB	6.29
	PE800037B	123795	DIOCTYLADIPATE(31.50)	1400 JB	31.50
	PE800048B		PROPANOATEESTER(17.60)	140 JB	17.60
	PE800048B		UNKNOWN(5.45)	210 JB	5.45
	PE800048B	10544500	SULFUR(27.20)	280 J	27.20
	PE800048B	123422	DIACETONEALCOHOL*(6.33)	11000 JAB	6.33
	PE800059B		UNKNOWN(9.38)	94 JB	9.38
	PE800059B		UNKNOWNKETONE(6.48)	140 JB	6.48
	PE800059B	123422	DIACETONEALCOHOL*(6.31)	10000 JAB	6.31
	PE800059B	123795	DIOCTYLADIPATE(31.60)	1300 JB	31.60
	PE800060B		PHTHALATEESTER(25.00)	490 JB	25.00
	PE800060B		PROPANOATEESTER(17.30)	440 JB	17.30
	PE800060B		PROPANOATEESTER(17.70)	760 JB	17.70
	PE800060B		UNKNOWN(5.44)	370 JB	5.44
	PE800060B		UNKNOWN(8.00)	420 JB	8.00
	PE800060B		UNKNOWN(9.47)	430 JB	9.47
	PE800060B		UNKNOWNKETONE(4.81)	280 JB	4.81
	PE800060B		UNKNOWNKETONE(6.56)	660 JB	6.56
	PE800060B	123422	DIACETONEALCOHOL*(6.33)	56000 JAB	6.33
	PE800060B	123795	DIOCTYLADIPATE(31.20)	600 JB	31.20
	PE800071B		PHTHALATEESTER(25.00)	1100 JB	25.00
	PE800071B		PROPANOATEESTER(17.30)	870 JB	17.30
	PE800071B		PROPANOATEESTER(17.60)	1400 JB	17.60
	PE800071B		UNKNOWN(5.41)	500 JB	5.41
	PE800071B		UNKNOWN(7.97)	500 JB	7.97
	PE800071B		UNKNOWN(9.44)	490 JB	9.44
	PE800071B		UNKNOWN(9.74)	140 J	9.74
	PE800071B		UNKNOWN(21.30)	100 J	21.30
	PE800071B		UNKNOWNKETONE(6.50)	780 JB	6.50
	PE800071B	123422	DIACETONEALCOHOL*(6.25)	56000 JAB	6.25
	PE800071B	123795	DIOCTYLADIPATE(31.10)	410 JB	31.10
	PE800082B	123422	DIACETONEALCOHOL*(6.37)	85000 JAB	6.37
	PE800093B		PROPANOATEESTER(17.60)	140 JB	17.60
	PE800093B	123422	DIACETONEALCOHOL*(6.37)	11000 JAB	6.37
	PE800106B	123422	DIACETONEALCOHOL*(6.31)	62000 JAB	6.31
	PE800117B		PHTHALATEESTER(25.10)	510 JB	25.10
	PE800117B		PROPANOATEESTER(17.20)	410 JB	17.20
	PE800117B		PROPANOATEESTER(17.60)	610 JB	17.60
	PE800117B		UNKNOWN(5.49)	300 JB	5.49

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX		RETENTION TIME
PE300010A						
	PE800117B		UNKNOWN(7.98)	380	JB	7.98
	PE800117B		UNKNOWN(9.44)	400	JB	9.44
	PE800117B		UNKNOWNKETONE(6.54)	610	JB	6.54
	PE800117B	123422	DIACETONEALCOHOL*(6.33)	43000	JAB	6.33
	PE800117B	123795	DIOCTYLADIPATE(31.50)	260	JB	31.50
	PE800128B		UNKNOWNKETONE(6.51)	150	JB	6.51
	PE800128B	123422	DIACETONEALCOHOL*(6.32)	75000	JAB	6.32
	PE800128B	123795	DIOCTYLADIPATE(31.50)	200	JB	31.50
	PE800139B		PHTHALATEESTER(25.00)	760	JB	25.00
	PE800139B		PROPANOATEESTER(17.20)	330	JB	17.20
	PE800139B		PROPANOATEESTER(17.60)	430	JB	17.60
	PE800139B		UNKNOWN(5.45)	710	JB	5.45
	PE800139B		UNKNOWN(7.96)	680	J	7.96
	PE800139B		UNKNOWN(9.43)	710	JB	9.43
	PE800139B		UNKNOWN(9.71)	150	J	9.71
	PE800139B		UNKNOWN(21.20)	140	J	21.20
	PE800139B		UNKNOWN(27.80)	160	J	27.80
	PE800139B		UNKNOWNKETONE(6.51)	1000	JB	6.51
	PE800139B	10544500	SULFUR(27.20)	880	J	27.20
	PE800139B	123422	DIACETONEALCOHOL*(6.30)	70000	JAB	6.30
	PE800139B	123795	DIOCTYLADIPATE(31.50)	1400	JB	31.50
	PE800140B		HYDROCARBONFRACTION*(30.10)	23000	J	30.10
	PE800140B		UNKNOWN(5.48)	43	JB	5.48
	PE800140B		UNKNOWN(36.80)	220	J	36.80
	PE800140B	123422	DIACETONEALCOHOL*(6.33)	2000	JAB	6.33
	PE800140B	123795	DIOCTYLADIPATE(31.50)	1300	JB	31.50
	PE800151B	123422	DIACETONEALCOHOL(6.36)	72000	JAB	6.36
	PE801016B		ALKYLHYDROCARBON(19.70)	160	J	19.70
	PE801016B		ALKYLHYDROCARBON(21.20)	190	J	21.20
	PE801016B		ALKYLHYDROCARBON(22.70)	210	J	22.70
	PE801016B		ALKYLHYDROCARBON(24.10)	190	J	24.10
	PE801016B		ALKYLHYDROCARBON(25.50)	210	J	25.50
	PE801016B		ALKYLHYDROCARBON(26.80)	200	J	26.80
	PE801016B		ALKYLHYDROCARBON(28.10)	230	J	28.10
	PE801016B		ALKYLHYDROCARBON(29.30)	220	J	29.30
	PE801016B		ALKYLHYDROCARBON(30.40)	220	J	30.40
	PE801016B		ALKYLHYDROCARBON(32.50)	170	J	32.50
	PE801016B		UNKNOWN(4.68)	9	J	4.68
	PE801016B		UNKNOWN(5.42)	17	JB	5.42
	PE801016B		UNKNOWN(7.90)	17	JB	7.90
	PE801016B		UNKNOWNKETONE(6.46)	36	JB	6.46
	PE801016B	10544500	SULFUR(27.20)	520	J	27.20
	PE801016B	123422	DIACETONEALCOHOL*(6.26)	2200	JAB	6.26
	PE801016B	123795	DIOCTYLADIPATE(31.50)	1500	JB	31.50
	PE801027B		UNKNOWN(5.39)	43	JB	5.39
	PE801027B		UNKNOWN(7.91)	38	JB	7.91
	PE801027B		UNKNOWN(9.37)	46	JB	9.37

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX		RETENTION TIME
PE300010A						
	PE801027B		UNKNOWNKETONE(6.47)	69	JB	6.47
	PE801027B	10544500	SULFUR(27.00)	1600	J	27.00
	PE801027B	123422	DIACETONEALCOHOL*(6.25)	3800	JAB	6.25
	PE801027B	123795	DIOCTYLADIPATE(31.10)	1600	JB	31.10
	PE801038B		UNKNOWN(9.38)	18	JB	9.38
	PE801038B		UNKNOWNKETONE(6.45)	25	JB	6.45
	PE801038B	10544500	SULFUR(27.10)	1500	J	27.10
	PE801038B	123422	DIACETONEALCOHOL(6.23)	1500	JAB	6.23
	PE801038B	123795	DIOCTYLADIPATE(31.40)	1500	JB	31.40
	PE801049B		PROPANOATEESTER(17.60)	150	JB	17.60
	PE801049B		UNKNOWN(5.41)	400	JB	5.41
	PE801049B		UNKNOWN(7.91)	440	JB	7.91
	PE801049B		UNKNOWN(9.38)	640	JB	9.38
	PE801049B		UNKNOWNKETONE(4.68)	470	J	4.68
	PE801049B		UNKNOWNKETONE(6.46)	920	JB	6.46
	PE801049B	10544500	SULFUR(27.00)	1500	J	27.00
	PE801049B	123422	DIACETONEALCOHOL*(6.25)	56000	JAB	6.25
	PE801049B	123795	DIOCTYLADIPATE(31.30)	1500	JB	31.30
	PE801050B	123422	DIACETONEALCOHOL*(6.24)	2400	JAB	6.24
	PE801050B	123795	DIOCTYLADIPATE(31.30)	1400	JB	31.30
	PE801061B		ALKYLHYDROCARBON(18.10)	230	J	18.10
	PE801061B		ALKYLHYDROCARBON(19.70)	220	J	19.70
	PE801061B		ALKYLHYDROCARBON(21.20)	210	J	21.20
	PE801061B		ALKYLHYDROCARBON(22.70)	210	J	22.70
	PE801061B		ALKYLHYDROCARBON(22.80)	200	J	22.80
	PE801061B		ALKYLHYDROCARBON(24.10)	190	J	24.10
	PE801061B		ALKYLHYDROCARBON(25.40)	220	J	25.40
	PE801061B		ALKYLHYDROCARBON(26.70)	190	J	26.70
	PE801061B		ALKYLHYDROCARBON(27.90)	220	J	27.90
	PE801061B		ALKYLHYDROCARBON(29.10)	200	J	29.10
	PE801061B		ALKYLHYDROCARBON(30.20)	200	J	30.20
	PE801061B		ALKYLHYDROCARBON(32.40)	150	J	32.40
	PE801061B		PROPANOATEESTER(16.30)	130	JB	16.30
	PE801061B		UNKNOWNKETONE(6.49)	120	JB	6.49
	PE801061B	10544500	SULFUR*(27.30)	3800	J	27.30
	PE801061B	123422	DIACETONEALCOHOL*(6.36)	11000	JAB	6.36
	PE801061B	123795	DIOCTYLADIPATE(31.40)	1500	JB	31.40
	PE801072B	123422	DIACETONEALCOHOL*(6.24)	2000	JAB	6.24
	PE801072B	123795	DIOCTYLADIPATE(31.50)	1400	JB	31.50
	PE801083B	123422	DIACETONEALCOHOL*(6.29)	1900	JAB	6.29
	PE801083B	123795	DIOCTYLADIPATE(31.50)	1400	JB	31.50
	PE801094B	123422	DIACETONEALCOHOL(6.27)	1400	JAB	6.27
	PE801094B	123795	DIOCTYLADIPATE(31.50)	1400	JB	31.50
	PE801107B		ALKYLHYDROCARBON(19.70)	210	J	19.70
	PE801107B		ALKYLHYDROCARBON(21.20)	240	J	21.20
	PE801107B		ALKYLHYDROCARBON(22.70)	140	J	22.70
	PE801107B		ALKYLHYDROCARBON(22.80)	140	J	22.80

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TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
PE300010A					
	PE801107B		ALKYLHYDROCARBON(24.10)	140 J	24.10
	PE801107B		ALKYLHYDROCARBON(25.50)	170 J	25.50
	PE801107B		ALKYLHYDROCARBON(26.80)	160 J	26.80
	PE801107B		ALKYLHYDROCARBON(28.10)	160 J	28.10
	PE801107B		ALKYLHYDROCARBON(29.30)	130 J	29.30
	PE801107B		ALKYLHYDROCARBON(30.40)	130 J	30.40
	PE801107B		UNKNOWN(4.67)	260 J	4.67
	PE801107B		UNKNOWN(5.39)	500 JB	5.39
	PE801107B		UNKNOWN(7.91)	380 JB	7.91
	PE801107B		UNKNOWN(9.38)	580 JB	9.38
	PE801107B		UNKNOWNKETONE(6.45)	820 JB	6.45
	PE801107B	10544500	SULFUR(27.30)	1500 J	27.30
	PE801107B	123422	DIACETONEALCOHOL*(6.25)	54000 JAB	6.25
	PE801107B	123795	DIOCTYLADIPATE(31.50)	790 JB	31.50
	SBK08789		ALKYLHYDROCARBON(10.80)	540 J	10.80
	SBK08789		ALKYLHYDROCARBON(10.90)	210 J	10.90
	SBK08789		ALKYLHYDROCARBON(11.00)	620 J	11.00
	SBK08789		ALKYLHYDROCARBON(11.40)	680 J	11.40
	SBK08789		ALKYLHYDROCARBON(11.70)	560 J	11.70
	SBK08789		ALKYLHYDROCARBON(12.20)	180 J	12.20
	SBK08789		PHTHALATEESTER(25.00)	310 J	25.00
	SBK08789		PROPANOATEESTER(17.30)	580 J	17.30
	SBK08789		PROPANOATEESTER(17.60)	830 J	17.60
	SBK08789		UNKNOWN(3.61)	180 J	3.61
	SBK08789		UNKNOWN(4.86)	170 J	4.86
	SBK08789		UNKNOWN(5.38)	280 J	5.38
	SBK08789		UNKNOWN(7.98)	340 J	7.98
	SBK08789		UNKNOWN(9.45)	320 J	9.45
	SBK08789		UNKNOWN(27.60)	120 J	27.60
	SBK08789		UNKNOWNKETONE(4.82)	130 J	4.82
	SBK08789		UNKNOWNKETONE(6.53)	410 J	6.53
	SBK08789	123422	DIACETONEALCOHOL*(6.25)	35000 JA	6.25
	SBK08789	123795	DIOCTYLADIPATE(31.20)	230 J	31.20
PE301011E					
	PE301011E		ALKENE/ETHER/ALCOHOL*(27.50)	1700 JB	27.50
	PE301011E		ETHER/ALCOHOL(30.90)	34 J	30.90
	PE301011E		PROPANOATEESTER(17.60)	4 JB	17.60
	PE301011E		UNKNOWN(6.31)	5 J	6.31
	PE301011E		UNKNOWN(10.50)	16 J	10.50
	PE301022E		ALKENE/ETHER/ALCOHOL(25.00)	9 J	25.00
	PE301022E		ALKENE/ETHER/ALCOHOL*(27.50)	640 JB	27.50
	PE301022E		UNKNOWN(6.32)	6 J	6.32
	PE301022E		UNKNOWN(10.60)	16 J	10.60
	PE301022E		UNKNOWN(17.60)	3 JB	17.60
	PE301022E		UNKNOWN(37.80)	12 J	37.80

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
PE301011E					
	PE301022E		UNKNOWNSILOXANE(16.90)	5 J	16.90
	PE301022E		UNKNOWNSILOXANE(19.80)	3 J	19.80
	PE301033E		ALKENE/ETHER/ALCOHOL(25.00)	6 J	25.00
	PE301033E		ALKENE/ETHER/ALCOHOL*(27.50)	1100 JB	27.50
	PE301033E		ETHER/ALCOHOL(30.80)	13 J	30.80
	PE301033E		PROPANOATEESTER(17.70)	4 JB	17.70
	PE301033E		UNKNOWN(6.28)	12 J	6.28
	PE301033E		UNKNOWN(9.73)	7 J	9.73
	PE301033E		UNKNOWN(10.60)	37 J	10.60
	PE301033E		UNKNOWN(11.40)	12 J	11.40
	PE301033E		UNKNOWN(11.50)	9 J	11.50
	PE301033E		UNKNOWN(14.40)	11 J	14.40
	PE302023A		ALKENE/ETHER/ALCOHOL(25.00)	9 J	25.00
	PE302023A		ALKENE/ETHER/ALCOHOL*(27.50)	1100 JB	27.50
	PE302023A		ETHER/ALCOHOL(30.80)	24 J	30.80
	PE302023A		PROPANOATEESTER(17.60)	4 JB	17.60
	PE302023A		UNKNOWN(6.32)	7 J	6.32
	PE302023A		UNKNOWN(10.60)	21 J	10.60
	PE302023A		UNKNOWN(11.50)	7 J	11.50
	PE302023A		UNKNOWN(12.30)	2 J	12.30
	PE302023A		UNKNOWN(16.10)	5 J	16.10
	PE302023A		UNKNOWN(34.90)	22 J	34.90
	PE305015F		ALKENE/ETHER/ALCOHOL*(27.60)	2100 JB	27.60
	PE305015F		ETHER/ALCOHOL(31.20)	13 J	31.20
	PE305015F		UNKNOWN(10.80)	7 J	10.80
	PE305015F		UNKNOWN(35.20)	9 J	35.20
	PE305015F	10544500	SULFUR(27.20)	10 J	27.20
	PE305026G		ALKENE/ETHER/ALCOHOL*(27.70)	140 JB	27.70
	PE305026G		ETHER/ALCOHOL(31.20)	0.7 J	31.20
	PE305026G		PROPANOATEESTER(17.60)	11 JB	17.60
	PE305037G		ALKENE/ETHER/ALCOHOL(24.30)	3 J	24.30
	PE305037G		ALKENE/ETHER/ALCOHOL(25.00)	4 J	25.00
	PE305037G		ALKENE/ETHER/ALCOHOL(26.60)	2 J	26.60
	PE305037G		ALKENE/ETHER/ALCOHOL*(27.50)	1100 JB	27.50
	PE305037G		PROPANOATEESTER(17.70)	3 JB	17.70
	PE305037G		UNKNOWN(3.81)	3 J	3.81
	PE305037G		UNKNOWN(25.20)	4 J	25.20
	PE305037G		UNKNOWN(26.90)	3 J	26.90
	PE305037G		UNKNOWN(30.90)	7 J	30.90
	PE305037G		UNKNOWN(35.30)	19 J	35.30
	PE305037G	123795	DIOCTYLADIPATE(31.20)	4 J	31.20
	PE305037G	541059	HEXAMETHYLCYCLOTRISILOX(5.82)	2 J	5.82
	PE305048E		ALKENE/ETHER/ALCOHOL(25.00)	5 J	25.00
	PE305048E		ALKENE/ETHER/ALCOHOL*(27.50)	1700 JB	27.50
	PE305048E		PROPANOATEESTER(17.70)	13 JB	17.70
	PE400011A		ALKENE/ETHER/ALCOHOL*(27.50)	1800 JB	27.50
	PE400011A		ALKYLHYDROCARBON(11.00)	5 J	11.00

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TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX		RETENTION TIME
PE301011E						
	PE400011A		ETHER/ALCOHOL(30.90)	24	J	30.90
	PE400011A		PROPANOATEESTER(17.60)	15	JB	17.60
	PE400011A		UNKNOWN(24.90)	5	J	24.90
	PE400011A		UNKNOWN(34.80)	10	J	34.80
	PE400022A		ALKENE/ETHER/ALCOHOL(25.00)	5	J	25.00
	PE400022A		ALKENE/ETHER/ALCOHOL*(27.50)	1900	JB	27.50
	PE400022A		ETHER/ALCOHOL(30.90)	42	J	30.90
	PE400022A		PROPANOATEESTER(17.70)	14	JB	17.70
	PE400022A		UNKNOWN(17.30)	5	JB	17.30
	PE400033A		ALKENE/ETHER/ALCOHOL(25.00)	5	J	25.00
	PE400033A		ALKENE/ETHER/ALCOHOL*(27.60)	1700	JB	27.60
	PE400033A		PROPANOATEESTER(17.60)	17	JB	17.60
	PE400033A		UNKNOWN(17.30)	5	JB	17.30
	PE400033A		UNKNOWN(35.30)	11	J	35.30
	PE401012A		ALKENE/ETHER/ALCOHOL(30.20)	9	J	30.20
	PE401012A		ALKENE/ETHER/ALCOHOL*(27.50)	2200	JB	27.50
	PE401012A		ALKYLHYDROCARBON(10.80)	4	J	10.80
	PE401012A		ALKYLHYDROCARBON(11.00)	5	J	11.00
	PE401012A		ALKYLHYDROCARBON(11.40)	4	J	11.40
	PE401012A		ALKYLHYDROCARBON(11.60)	4	J	11.60
	PE401012A		ETHER/ALCOHOL(30.90)	52	J	30.90
	PE401012A		PHENYLHYDROCARBON(13.80)	7	J	13.80
	PE401012A		PROPANOATEESTER(17.60)	11	JB	17.60
	PE401012A		UNKNOWN(12.90)	9	J	12.90
	PE401012A		UNKNOWN(25.00)	6	J	25.00
	PE401012A	10544500	SULFUR(27.10)	280	J	27.10
	PE401023A		ALKENE/ETHER/ALCOHOL*(27.60)	1400	JB	27.60
	PE401023A		ALKYLHYDROCARBON(10.80)	3	J	10.80
	PE401023A		ALKYLHYDROCARBON(10.90)	4	J	10.90
	PE401023A		ETHER/ALCOHOL(31.20)	46	J	31.20
	PE401023A		PROPANOATEESTER(17.60)	16	JB	17.60
	PE401023A		UNKNOWN(6.31)	3	J	6.31
	PE401023A		UNKNOWN(25.00)	7	J	25.00
	PE401023A		UNKNOWN(26.80)	5	J	26.80
	PE401023A		UNKNOWN(30.50)	9	J	30.50
	PE401023A	10544500	SULFUR(27.20)	10	J	27.20
	PE401034C		ALKENE/ETHER/ALCOHOL*(27.50)	2100	JB	27.50
	PE401034C		ETHER/ALCOHOL(30.80)	25	J	30.80
	PE401034C		ETHER/ALCOHOL(33.60)	7	J	33.60
	PE401034C		PHENYLHYDROCARBON(13.90)	19	J	13.90
	PE401034C		UNKNOWN(13.00)	9	J	13.00
	PE401034C		UNKNOWN(25.50)	15	J	25.50
	PE401034C		UNKNOWN(30.20)	7	J	30.20
	PE401034C		UNKNOWN(34.80)	8	J	34.80
	PE401034C	10544500	SULFUR(27.20)	320	J	27.20
	PE402013A		ALKENE/ETHER/ALCOHOL*(27.60)	140	JB	27.60
	PE402013A		ETHER/ALCOHOL(31.20)	1	J	31.20

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX		RETENTION TIME
PE301011E						
	PE402013A		PROPANOATEESTER(17.60)	9	JB	17.60
	PE402013A		UNKNOWN(30.50)	0.6	J	30.50
	PE403014A		ALKENE/ETHER/ALCOHOL(25.00)	33	J	25.00
	PE403014A		ALKENE/ETHER/ALCOHOL(27.70)	26	J	27.70
	PE403014A		ALKENE/ETHER/ALCOHOL*(27.60)	1300	JB	27.60
	PE403014A		PROPANOATEESTER(17.60)	13	JB	17.60
	PE403014A		UNKNOWNSILOXANE(19.80)	4	J	19.80
	PE403025A		ALKENE/ETHER/ALCOHOL*(27.60)	1700	JB	27.60
	PE403025A		ETHER/ALCOHOL(31.20)	25	J	31.20
	PE403025A		UNKNOWN(17.70)	5	J	17.70
	PE403025A		UNKNOWN(30.50)	13	J	30.50
	PE403036A		ALKENE/ETHER/ALCOHOL(25.00)	5	J	25.00
	PE403036A		ALKENE/ETHER/ALCOHOL*(27.50)	1300	JB	27.50
	PE403036A		PROPANOATEESTER(17.60)	11	JB	17.60
	PE403036A		UNKNOWN(17.30)	3	JB	17.30
	PE403036A		UNKNOWN(30.80)	16	J	30.80
	PE800162E		ALKENE/ETHER/ALCOHOL(25.00)	4	J	25.00
	PE800162E		ALKENE/ETHER/ALCOHOL*(27.60)	1000	JB	27.60
	PE800162E		PROPANOATEESTER(17.60)	7	JB	17.60
	PE800162E		UNKNOWN(6.31)	3	J	6.31
	PE800162E		UNKNOWN(17.30)	3	JB	17.30
	PE800162E		UNKNOWN(18.10)	4	J	18.10
	PE800162E		UNKNOWN(35.20)	10	J	35.20
	PE802073E		ALKENE/ETHER/ALCOHOL*(27.50)	1500	JB	27.50
	PE802073E		ETHER/ALCOHOL(30.80)	12	J	30.80
	SBK08722		ALKENE/ETHER/ALCOHOL*(27.50)	1800	J	27.50
	SBK08722		PROPANOATEESTER(17.70)	15	J	17.70
	SBK08722		UNKNOWN(17.30)	6	J	17.30
PE302012A						
	PE302012A		HYDROCARBON(27.50)	17	J	27.50
	PE302012A	111762	2-BUTOXY-ETHANOL(7.78)	43	J	7.78
	PE302034A		HYDROCARBON(27.62)	39	JB	27.62
	PE302034A		PHTHALATE ESTER(30.94)	8	J	30.94
	PE302034A		PHTHALATE ESTER(31.58)	17	J	31.58
	PE302034A		PHTHALATE ESTER(31.67)	21	J	31.67
	PE303046A		ESTER(17.62)	9	JB	17.62
	PE303046A		HYDROCARBON(24.93)	16	J	24.93
	PE303046A		HYDROCARBON(27.61)	21	JB	27.61
	PE303046A		PHTHALATE ESTER(32.79)	14	J	32.79
	PE303046A		PHTHALATE ESTER(36.35)	9	J	36.35
	PE307017B		ACID(26.43)	500	J	26.43
	PE307017B		ACID(27.51)	35	J	27.51
	PE307017B		ACID(28.54)	270	J	28.54
	PE307017B		ACID(28.79)	1100	J	28.79
	PE307017B		ALCOHOL(10.68)	52	J	10.68

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
PE302012A					
	PE307017B		AROMATIC HYDROCARBON(22.84)	64 J	22.84
	PE307017B		HYDROCARBON(26.74)	50 J	26.74
	PE307017B		HYDROCARBON(28.42)	420 J	28.42
	PE307017B		HYDROCARBON(31.45)	800 J	31.45
	PE307017B		HYDROCARBON(37.92)	160 J	37.92
	PE307017B		PHENOLIC(22.34)	35 J	22.34
	PE307017B		PHENOLIC(22.96)	160 J	22.96
	PE307017B		PHENOLIC(23.09)	290 J	23.09
	PE307017B		PHENOLIC(23.23)	220 J	23.23
	PE307017B		PHENOLIC(23.39)	110 J	23.39
	PE307017B		PHENOLIC(23.51)	72 J	23.51
	PE307017B		PHENOLIC(23.63)	210 J	23.63
	PE307017B		PHENOLIC(23.74)	90 J	23.74
	PE307017B		SULFUR COMPOUND(27.20)	22 J	27.20
	PE307028B		ACID(23.65)	31 J	23.65
	PE307028B		ACID(24.98)	26 J	24.98
	PE307028B		ACID(26.39)	390 J	26.39
	PE307028B		ACID(28.75)	650 J	28.75
	PE307028B		ACID/ESTER(28.52)	190 J	28.52
	PE307028B		BENZENEACETIC ACID(15.63)	31 J	15.63
	PE307028B		HYDROCARBON(10.79)	17 J	10.79
	PE307028B		HYDROCARBON(21.34)	17 J	21.34
	PE307028B		HYDROCARBON(22.79)	24 J	22.79
	PE307028B		HYDROCARBON(22.89)	16 J	22.89
	PE307028B		HYDROCARBON(24.18)	22 J	24.18
	PE307028B		HYDROCARBON(24.38)	26 J	24.38
	PE307028B		HYDROCARBON(26.69)	16 J	26.69
	PE307028B		HYDROCARBON(26.75)	15 J	26.75
	PE307028B		HYDROCARBON(28.40)	79 J	28.40
	PE307028B		HYDROCARBON(31.36)	45 J	31.36
	PE307028B		HYDROCARBON(37.88)	78 J	37.88
	PE307028B		HYDROCARBON(38.13)	190 J	38.13
	PE307028B		HYROCARBON(25.49)	18 J	25.49
	PE307028B		SULFUR COMPOUND(27.15)	20 J	27.15
	PE307039B		ACID(23.79)	23 J	23.79
	PE307039B		ACID(24.98)	11 J	24.98
	PE307039B		ACID(26.38)	230 J	26.38
	PE307039B		ACID(26.43)	110 J	26.43
	PE307039B		ACID(26.46)	8 J	26.46
	PE307039B		ACID(27.49)	10 J	27.49
	PE307039B		ACID(28.43)	240 J	28.43
	PE307039B		ACID(28.55)	270 J	28.55
	PE307039B		ACID(28.82)	1000 J	28.82
	PE307039B		HYDROCARBON(24.41)	22 J	24.41
	PE307039B		HYDROCARBON(26.22)	11 J	26.22
	PE307039B		HYDROCARBON(26.71)	18 J	26.71
	PE307039B		HYDROCARBON(27.00)	10 J	27.00

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
PE302012A					
	PE307039B		HYDROCARBON(31.38)	25 J	31.38
	PE307039B		HYDROCARBON(37.88)	170 J	37.88
	PE307039B		HYDROCARBON(38.03)	90 J	38.03
	PE307039B		HYDROCARBON(39.87)	30 J	39.87
	PE307039B		UNKNOWN(29.05)	13 J	29.05
	PE308029C		ESTER(17.63)	10 JB	17.63
	PE308029C		HYDROCARBON(27.64)	13 JB	27.64
	PE308030A		DIOCTYL ADIPATE(31.16)	8 JB	31.16
	PE308030A		HYDROCARBON(27.43)	69 JB	27.43
	PE308030A		PHTHALATE ESTER(30.96)	24 J	30.96
	PE308030A		PHTHALATE ESTER(31.03)	12 J	31.03
	PE308030A		PHTHALATE ESTER(31.61)	52 J	31.61
	PE308030A		PHTHALATE ESTER(31.69)	51 J	31.69
	PE308030A		PHTHALATE ESTER(32.19)	11 J	32.19
	PE308109A		DIOCTYL ADIPATE(31.15)	50 JB	31.15
	PE308109A		ESTER(17.64)	9 JB	17.64
	PE308109A		HYDROCARBON(27.42)	120 JB	27.42
	PE309019A		DIOCTYL ADIPATE(31.16)	300 JB	31.16
	PE309019A		HYDROCARBON(27.41)	14 JB	27.41
	PE309019A		HYDROCARBON(27.56)	32 J	27.56
	PE309019A		PHTHALATE ESTER(36.17)	9 J	36.17
	PE309020A		DIOCTYL ADIPATE(31.15)	83 JB	31.15
	PE309020A		HYDROCARBON(27.75)	160 JB	27.75
	PE309020A		SILOXANE(47.00)	12 J	47.00
	PE309020A		UNKNOWN(38.64)	9 J	38.64
	PE309020A		UNKNOWN(42.11)	11 J	42.11
	PE309031A		DIOCTYL ADIPATE(31.17)	98 JB	31.17
	SBK08762		DIOCTYL ADIPATE(31.17)	29 J	31.17
	SBK08762		ESTER(17.64)	11 J	17.64
	SBK08762		HYDROCARBON(27.42)	15 J	27.42
PE303013A					
	PE303013A		HYDROCARBON(9.99)	850 J	9.99
	PE303013A		HYDROCARBON(22.82)	1700 J	22.82
	PE303013A		HYDROCARBON(24.25)	1000 J	24.25
	PE303013A		HYDROCARBON(24.92)	1100 J	24.92
	PE303013A		HYDROCARBON(26.69)	1100 J	26.69
	PE303013A		HYDROCARBON(27.88)	2600 J	27.88
	PE303013A		PHENOLIC(30.44)	8500 J	30.44
	PE303013A		PHTHALATE ESTER(32.63)	3000 J	32.63
	PE303013A		SULFUR(19.55)	2800 J	19.55
	PE303013A		SULFUR(27.10)	21000 J	27.10
	PE303013A		UNKNOWN(4.93)	2700 J	4.93
	PE303013A		UNKNOWN(5.83)	2200 J	5.83
	PE303013A		UNKNOWN(8.88)	770 JB	8.88
	PE303013A		UNKNOWN(25.15)	1300 J	25.15

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TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX		RETENTION TIME
PE303013A						
	PE303013A		UNKNOWN(28.93)	2500	J	28.93
	PE303013A	123422	DIACETONE ALCOHOL(5.99)	2100	JAB	5.99
	PE303013A	763939	3-HEXEN-2-ONE(4.81)	760	JAB	4.81
	PE303024A		HYDROCARBON FRACTION(29.90)	340000	J	29.90
	PE303024A		HYDROCARBON(7.02)	1000	J	7.02
	PE303024A		PHENOLIC(14.59)	950	J	14.59
	PE303024A		PHENOLIC(23.64)	1000	J	23.64
	PE303024A		SULFUR(27.38)	12000	J	27.38
	PE303024A		UNKNOWN(5.98)	1700	JB	5.98
	PE303024A		UNKNOWN(8.20)	1100	J	8.20
	PE303024A	123422	DIACETONE ALCOHOL(6.29)	32000	JBA	6.29
	PE303035A		DIOCTYL ADIPATE(31.27)	1500	J	31.27
	PE303035A		HYDROCARBON(7.02)	1400	J	7.02
	PE303035A		HYDROCARBON(11.42)	600	J	11.42
	PE303035A		HYDROCARBON(11.51)	550	J	11.51
	PE303035A		HYDROCARBON(21.38)	730	J	21.38
	PE303035A		HYDROCARBON(22.86)	840	J	22.86
	PE303035A		HYDROCARBON(22.95)	1800	J	22.95
	PE303035A		HYDROCARBON(24.24)	850	J	24.24
	PE303035A		HYDROCARBON(24.37)	950	J	24.37
	PE303035A		HYDROCARBON(25.56)	740	J	25.56
	PE303035A		HYDROCARBON(27.81)	1700	J	27.81
	PE303035A		PHTHALATE ESTER(25.13)	1300	J	25.13
	PE303035A		SULFUR(27.37)	22000	J	27.37
	PE303035A		UNKNOWN(8.22)	1600	J	8.22
	PE303035A		UNKNOWN(8.56)	820	J	8.56
	PE303035A		UNKNOWN(9.30)	630	J	9.30
	PE303035A	123422	DIACETONE ALCOHOL(6.46)	35000	JBA	6.46
	PE310012A		HYDROCARBON(6.84)	680	J	6.84
	PE310012A		HYDROCARBON(7.03)	1100	J	7.03
	PE310012A		HYDROCARBON(27.74)	4500	J	27.74
	PE310012A		HYDROCARBON(28.01)	780	J	28.01
	PE310012A		KETONE(6.77)	860	J	6.77
	PE310012A		PHTHALATE ESTER(25.16)	1100	J	25.16
	PE310012A		PNA(25.57)	340	J	25.57
	PE310012A		PNA(25.79)	350	J	25.79
	PE310012A		PNA(28.29)	460	J	28.29
	PE310012A		SULFUR(27.28)	2500	J	27.28
	PE310012A		UNKNOWN(5.51)	350	JB	5.51
	PE310012A		UNKNOWN(5.87)	1400	JB	5.87
	PE310012A		UNKNOWN(8.20)	970	J	8.20
	PE310012A		UNKNOWN(8.55)	400	J	8.55
	PE310012A		UNKNOWN(10.18)	410	J	10.18
	PE310012A		UNKNOWN(21.41)	340	J	21.41
	PE310012A	123422	DIACETONE ALCOHOL(6.41)	51000	JBA	6.41
	PE310012A	123795	DIOCTYL ADIPATE(31.29)	840	JB	31.29
	PE310012A	763939	3-HEXEN-2-ONE(4.92)	350	JB	4.92

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
PE303013A					
	PE310023A		HYDROCARBON(6.98)	290 J	6.98
	PE310023A		HYDROCARBON(7.03)	910 JB	7.03
	PE310023A		HYDROCARBON(10.88)	480 J	10.88
	PE310023A		HYDROCARBON(11.07)	490 J	11.07
	PE310023A		HYDROCARBON(11.52)	460 J	11.52
	PE310023A		HYDROCARBON(11.75)	390 J	11.75
	PE310023A		HYDROCARBON(21.37)	500 J	21.37
	PE310023A		HYDROCARBON(25.54)	360 J	25.54
	PE310023A		HYDROCARBON(27.83)	2800 J	27.83
	PE310023A		HYDROCARBON(27.98)	800 J	27.98
	PE310023A		PHTHALATE ESTER(25.12)	1200 J	25.12
	PE310023A		SULFUR(27.25)	3100 J	27.25
	PE310023A		UNKNOWN(5.99)	1200 JB	5.99
	PE310023A		UNKNOWN(8.19)	1000 J	8.19
	PE310023A		UNKNOWN(8.55)	430 J	8.55
	PE310023A		UNKNOWN(11.41)	510 J	11.41
	PE310023A	105420	4-METHYL-2-HEXANONE(6.79)	1900 JB	6.79
	PE310023A	123422	DIACETONE ALCOHOL(6.38)	40000 JBA	6.38
	PE310023A	123795	DIOCTYL ADIPATE(31.26)	910 JB	31.26
	PE310034A		ESTER(21.37)	420 J	21.37
	PE310034A		FLUOROPHENOL(11.43)	1200 J	11.43
	PE310034A		HYDROCARBON(7.00)	1400 JB	7.00
	PE310034A		HYDROCARBON(10.87)	380 J	10.87
	PE310034A		HYDROCARBON(11.06)	390 J	11.06
	PE310034A		HYDROCARBON(11.75)	340 J	11.75
	PE310034A		HYDROCARBON(12.53)	270 J	12.53
	PE310034A		PHTHALATE ESTER(25.11)	1700 J	25.11
	PE310034A		PHTHALATE ESTER(31.05)	930 J	31.05
	PE310034A		PHTHALATE ESTER(31.70)	2000 J	31.70
	PE310034A		PHTHALATE ESTER(31.78)	2200 J	31.78
	PE310034A		PHTHALATE ESTER(32.29)	890 J	32.29
	PE310034A		UNKNOWN(8.25)	1600 J	8.25
	PE310034A		UNKNOWN(9.32)	1100 J	9.32
	PE310034A		UNKNOWN(10.13)	340 J	10.13
	PE310034A	123422	DIACETONE ALCOHOL(6.28)	28000 JBA	6.28
	PE310034A	123795	DIOCTYL ADIPATE(31.25)	1100 J	31.25
	PE310034A	763939	3-HEXEN-2-ONE(4.93)	660 JB	4.93
	PE802017B		HYDROCARBON(6.82)	750 BJ	6.82
	PE802017B		HYDROCARBON(7.02)	1000 BJ	7.02
	PE802017B		HYDROCARBON(17.83)	460 J	17.83
	PE802017B		HYDROCARBON(18.23)	520 J	18.23
	PE802017B		HYDROCARBON(19.85)	550 J	19.85
	PE802017B		HYDROCARBON(21.39)	530 J	21.39
	PE802017B		HYDROCARBON(22.85)	590 J	22.85
	PE802017B		HYDROCARBON(22.96)	770 J	22.96
	PE802017B		HYDROCARBON(24.23)	610 J	24.23
	PE802017B		HYDROCARBON(25.54)	750 J	25.54

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX		RETENTION TIME
PE303013A						
	PE802017B		HYDROCARBON(26.79)	570	J	26.79
	PE802017B		HYDROCARBON(27.98)	1600	J	27.98
	PE802017B		PHTHALATE ESTER(25.13)	1000	J	25.13
	PE802017B		UNKNOWN KETONE(9.29)	960	AJ	9.29
	PE802017B		UNKNOWN(5.95)	3300	BJ	5.95
	PE802017B		UNKNOWN(8.17)	710	BJ	8.17
	PE802017B	123422	DIACETONE ALCOHOL(6.71)	39000	BJA	6.71
	PE802017B	123795	DIOCTYL ADIPATE(31.25)	1900	JB	31.25
	PE802017B	7704349	SULFUR(27.29)	4400	J	27.29
	PE802028B		HYDROCARBON(6.83)	680	JB	6.83
	PE802028B		HYDROCARBON(7.03)	1100	JB	7.03
	PE802028B		PHTHALATE ESTER(25.12)	1100	J	25.12
	PE802028B		UNKNOWN KETONE(9.27)	230	J	9.27
	PE802028B		UNKNOWN(5.98)	2500	JB	5.98
	PE802028B		UNKNOWN(8.18)	720	JB	8.18
	PE802028B		UNKNOWN(10.49)	580	J	10.49
	PE802028B		UNKNOWN(11.41)	300	J	11.41
	PE802028B		UNKNOWN(21.37)	180	J	21.37
	PE802028B	105420	4-METHYL-2-HEXANONE(6.78)	410	JAB	6.78
	PE802028B	123422	DIACETONE ALCOHOL(6.72)	23000	JAB	6.72
	PE802028B	123795	DIOCTYL ADIPATE(31.24)	1200	JB	31.24
	PE802028B	57103	HEXADECANOIC ACID(27.08)	140	JB	27.08
	PE802039B		HYDROCARBON FRACTION(21.00)	300000	J	21.00
	PE802039B		PHTHALATE ESTER FRACTIO(35.00)	53000	J	35.00
	PE802039B		SULFUR(27.26)	2800	J	27.26
	PE802039B	123422	DIACETONE ALCOHOL(6.45)	43000	JAB	6.45
	PE802040B		HYDROCARBON(6.88)	980	JB	6.88
	PE802040B		HYDROCARBON(7.05)	1400	JB	7.05
	PE802040B		HYDROCARBON(16.46)	370	J	16.46
	PE802040B		HYDROCARBON(18.22)	890	J	18.22
	PE802040B		HYDROCARBON(19.84)	760	J	19.84
	PE802040B		HYDROCARBON(21.38)	960	J	21.38
	PE802040B		HYDROCARBON(22.84)	750	J	22.84
	PE802040B		HYDROCARBON(22.93)	580	J	22.93
	PE802040B		HYDROCARBON(24.21)	600	J	24.21
	PE802040B		HYDROCARBON(25.53)	600	J	25.53
	PE802040B		HYDROCARBON(26.79)	420	J	26.79
	PE802040B		PHTHALATE ESTER(25.21)	750	J	25.21
	PE802040B		SULFUR(27.23)	2000	J	27.23
	PE802040B		UNKNOWN(5.87)	3500	J	5.87
	PE802040B		UNKNOWN(8.17)	830	JB	8.17
	PE802040B		UNKNOWN(10.15)	650	J	10.15
	PE802040B		3-HEXEN-2-ONE(4.97)	810	JB	4.97
	PE802040B	123422	DIACETONE ALCOHOL(6.34)	31000	JBA	6.34
	PE802040B	123795	DIOCTYL ADIPATE(31.24)	1200	JB	31.24
	PE802051B		HYDROCARBON(6.82)	710	JB	6.82
	PE802051B		HYDROCARBON(7.01)	980	JB	7.01

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
PE303013A					
	PE802051B		HYDROCARBON(21.38)	210 J	21.38
	PE802051B		HYDROCARBON(27.98)	460 J	27.98
	PE802051B		PHTHALATE ESTER(25.12)	1100 J	25.12
	PE802051B		UNKNOWN(5.51)	190 J	5.51
	PE802051B		UNKNOWN(5.88)	2200 J	5.88
	PE802051B		UNKNOWN(8.15)	610 JB	8.15
	PE802051B		UNKNOWN(9.26)	250 JB	9.26
	PE802051B		UNKNOWN(10.50)	470 J	10.50
	PE802051B		3-HEXEN-2-ONE(4.92)	320 JB	4.92
	PE802051B		4-METHYL-2-HEXANONE(6.73)	1300 J	6.73
	PE802051B	123422	DIACETONE ALCOHOL(6.34)	27000 JBA	6.34
	PE802051B	123795	DIOCTYL ADIPATE(31.26)	1500 JB	31.26
	PE802051B	57103	HEXADECANOIC ACID(27.08)	360 JB	27.08
	PE802062B		ESTER(21.38)	280 J	21.38
	PE802062B		HYDROCARBON(6.84)	1100 JB	6.84
	PE802062B		HYDROCARBON(7.03)	1400 J	7.03
	PE802062B		HYDROCARBON(10.18)	540 J	10.18
	PE802062B		HYDROCARBON(10.50)	250 J	10.50
	PE802062B		HYDROCARBON(11.36)	350 J	11.36
	PE802062B		HYDROCARBON(27.98)	1400 J	27.98
	PE802062B		PHTHALATE ESTER(25.13)	1100 J	25.13
	PE802062B		SULFUR(19.72)	470 J	19.72
	PE802062B		SULFUR(27.33)	8400 J	27.33
	PE802062B		UNKNOWN(4.92)	310 JB	4.92
	PE802062B		UNKNOWN(5.88)	3900 JB	5.88
	PE802062B		UNKNOWN(8.17)	950 J	8.17
	PE802062B		UNKNOWN(8.53)	270 J	8.53
	PE802062B		UNKNOWN(9.28)	320 J	9.28
	PE802062B	123422	DIACETONE ALCOHOL(6.30)	23000 JBA	6.30
	PE802062B	123795	DIOCTYL ADIPATE(31.25)	1500 JB	31.25
	SBK09210		HYDROCARBON(6.88)	660 J	6.88
	SBK09210		HYDROCARBON(7.07)	1100 J	7.07
	SBK09210		HYDROCARBON(27.85)	480 J	27.85
	SBK09210		UNKNOWN(6.00)	1700 J	6.00
	SBK09210		UNKNOWN(8.21)	500 J	8.21
	SBK09210		UNKNOWN(9.07)	210 J	9.07
	SBK09210		UNKNOWN(25.11)	150 J	25.11
	SBK09210		UNKNOWN(28.68)	140 J	28.68
	SBK09210	105420	4-METHYL-2-HEXANONE(6.81)	630 JA	6.81
	SBK09210	123422	DIACETONE ALCOHOL(6.50)	18000 JA	6.50
	SBK09210	123795	DIOCTYL ADIPATE(31.31)	21000 J	31.31
	SBK09210	57103	HEXADECANOIC ACID(27.10)	260 J	27.10
	SBK09388		HYDROCARBON(6.44)	160 J	6.44
	SBK09388		HYDROCARBON(6.69)	130 J	6.69
	SBK09388		UNKNOWN(8.87)	300 J	8.87
	SBK09388	123422	DIACETONE ALCOHOL(6.03)	2500 JA	6.03
	SBK09388	763939	3-HEXEN-2-ONE(4.82)	190 JA	4.82

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX		RETENTION TIME
PE803018B						
	PE803018B		ALKYL KETONE(6.45)	240	JB	6.45
	PE803018B		AMIDE(9.36)	180	JB	9.36
	PE803018B		AROMATIC HYDROCARBON(17.99)	810	J	17.99
	PE803018B		DIACETONE ALCOHOL(6.16)	22000	JBA	6.16
	PE803018B		DIOCTYL ADIPATE(31.10)	1600	JB	31.10
	PE803018B		HYDROCARBON(21.18)	240	J	21.18
	PE803018B		HYDROCARBON(22.66)	210	J	22.66
	PE803018B		HYDROCARBON(22.75)	190	J	22.75
	PE803018B		HYDROCARBON(38.02)	130	J	38.02
	PE803018B		KETONE(7.91)	200	JB	7.91
	PE803018B		PHTHALATE ESTER(36.13)	150	J	36.13
	PE803018B		PNA(25.32)	270	J	25.32
	PE803018B		PNA(25.53)	210	J	25.53
	PE803018B		PNA(26.23)	210	J	26.23
	PE803018B		PNA(28.05)	130	J	28.05
	PE803018B		SULFUR(27.00)	1000	J	27.00
	PE803029B		ALKYL KETONE(5.67)	340	JB	5.67
	PE803029B		ALKYL KETONE(6.73)	730	JB	6.73
	PE803029B		DIACETONE ALCOHOL(6.38)	40000	JBA	6.38
	PE803029B		HYDROCARBON(25.07)	160	J	25.07
	PE803029B		KETONE(8.18)	460	J	8.18
	PE803030B		ALKYL KETONE(6.66)	550	JB	6.66
	PE803030B		AMIDE(9.58)	620	J	9.58
	PE803030B		DIACETONE ALCOHOL(6.32)	14000	JBA	6.32
	PE803030B		DIOCTYL ADIPATE(31.28)	20000	JBA	31.28
	PE803030B		HYDROCARBON(25.08)	190	J	25.08
	PE803030B		HYDROCARBON(31.71)	200	J	31.71
	PE803030B		KETONE(8.12)	350	J	8.12
	PE804019B		ALKYL KETONE(5.38)	190	JB	5.38
	PE804019B		ALKYL KETONE(6.46)	99	J	6.46
	PE804019B		DIACETONE ALCOHOL(6.16)	8000	JBA	6.16
	PE804019B		DIOCTYL ADIPATE(31.10)	1500	JB	31.10
	PE804019B		SULFUR(26.99)	360	J	26.99
	PE804020B		ALKYL KETONE(5.80)	970	JB	5.80
	PE804020B		DIACETONE ALCOHOL(6.54)	47000	JBA	6.54
	PE804020B		DIOCTYL ADIPATE(31.43)	25000	JB	31.43
	PE804020B		HYDROCARBON(18.36)	1500	J	18.36
	PE804020B		HYDROCARBON(19.40)	1300	J	19.40
	PE804020B		HYDROCARBON(20.01)	1900	J	20.01
	PE804020B		HYDROCARBON(20.74)	830	J	20.74
	PE804020B		HYDROCARBON(21.57)	1300	J	21.57
	PE804020B		HYDROCARBON(22.30)	4400	J	22.30
	PE804020B		HYDROCARBON(23.05)	3000	J	23.05
	PE804020B		HYDROCARBON(23.15)	8300	J	23.15
	PE804020B		HYDROCARBON(24.43)	2100	J	24.43
	PE804020B		HYDROCARBON(24.58)	6200	J	24.58

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
PE803018B					
	PE804020B		HYDROCARBON(25.64)	1300 J	25.64
	PE804020B		HYDROCARBON(25.73)	2200 J	25.73
	PE804020B		HYDROCARBON(26.99)	1700 J	26.99
	PE804020B		HYDROCARBON(28.17)	4200 J	28.17
	PE804020B		SULFUR(27.48)	5000 J	27.48
	PE804031B		ALKYL KETONE(5.73)	2000 JB	5.73
	PE804031B		DIACETONE ALCOHOL(6.54)	62000 JBA	6.54
	PE804031B		DIMETHYLNAPHTHALENE(18.62)	780 J	18.62
	PE804031B		DIOCTYL ADIPATE(31.41)	26000 JB	31.41
	PE804031B		HYDROCARBON(18.34)	1000 J	18.34
	PE804031B		HYDROCARBON(19.36)	660 J	19.36
	PE804031B		HYDROCARBON(19.96)	600 J	19.96
	PE804031B		HYDROCARBON(21.50)	690 J	21.50
	PE804031B		HYDROCARBON(22.97)	870 J	22.97
	PE804031B		HYDROCARBON(23.06)	2400 J	23.06
	PE804031B		HYDROCARBON(24.35)	1600 J	24.35
	PE804031B		HYDROCARBON(25.67)	1100 J	25.67
	PE804031B		HYDROCARBON(26.91)	630 J	26.91
	PE804031B		HYDROCARBON(28.10)	1800 J	28.10
	PE804031B		KETONE(8.23)	830 J	8.23
	PE804031B		KETONE(9.70)	670 J	9.70
	PE804031B		METHYLNAPHTHALENE(16.70)	660 J	16.70
	PE804031B		SULFUR(27.43)	7200 J	27.43
	PE804031B		TRIMETHYLNAPHTHALENE(20.94)	570 J	20.94
	PE804031B		TRIMETHYLNAPHTHALENE(21.31)	530 J	21.31
	PE804042B		ALKYL KETONE(5.74)	1100 JB	5.74
	PE804042B		ALKYL KETONE(6.79)	600 JB	6.79
	PE804042B		AMIDE(9.71)	680 JB	9.71
	PE804042B		AROMATIC HYDROCARBON(18.34)	310 J	18.34
	PE804042B		DIACETONE ALCOHOL(6.34)	14000 JBA	6.34
	PE804042B		DIOCTYL ADIPATE(31.42)	17000 JB	31.42
	PE804042B		HYDROCARBON(19.97)	340 J	19.97
	PE804042B		HYDROCARBON(22.97)	360 J	22.97
	PE804042B		HYDROCARBON(23.06)	1200 J	23.06
	PE804042B		HYDROCARBON(25.68)	510 J	25.68
	PE804042B		KETONE(8.25)	680 J	8.25
	PE804042B		PHOSPHATE ESTER(24.45)	9000 J	24.45
	PE804042B		PHOSPHATE ESTER(24.63)	6800 J	24.63
	PE804042B		PHOSPHATE ESTER(24.78)	2500 J	24.78
	PE804042B		PHOSPHATE ESTER(24.88)	590 J	24.88
	PE804042B		PHOSPHATE ESTER(30.75)	1800 J	30.75
	PE804042B		SULFUR(27.49)	11000 J	27.49
	PE804042B		XYLENE(6.93)	340 J	6.93
	PE804042B	108-88-3	TOLUENE(4.07)	370 J	4.07
	PE804053B		ALKYL KETONE(5.69)	460 JB	5.69
	PE804053B		ALKYL KETONE(6.77)	1000 JB	6.77
	PE804053B		AMIDE(9.71)	870 JB	9.71

TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
PE803018B					
	PE804053B		DIACETONE ALCOHOL(6.53)	56000 JBA	6.53
	PE804053B		DIOCTYL ADIPATE(31.40)	20000 JB	31.40
	PE804053B		HYDROCARBON(23.05)	230 J	23.05
	PE804053B		HYDROCARBON(25.65)	170 J	25.65
	PE804053B		HYDROCARBON(28.09)	310 J	28.09
	PE804053B		KETONE(8.23)	580 J	8.23
	PE804053B		PHTHALATE ESTER(25.22)	310 J	25.22
	PE804053B		PHTHALATE ESTER(32.87)	310 J	32.87
	PE804053B		SULFUR(27.39)	3300 J	27.39
	PE804064B		ALKYL KETONE(5.44)	50 JB	5.44
	PE804064B		ALKYL KETONE(6.48)	130 JB	6.48
	PE804064B		AMIDE(9.38)	82 JB	9.38
	PE804064B		DIACETONE ALCOHOL(6.22)	7300 JBA	6.22
	PE804064B		DIOCTYL ADIPATE(31.10)	1500 JB	31.10
	PE804064B		KETONE(7.49)	78 J	7.49
	PE804064B		SULFUR(27.06)	1500 J	27.06
	PE804075B		ALKYL KETONE(5.77)	480 JB	5.77
	PE804075B		ALKYL KETONE(6.81)	810 JB	6.81
	PE804075B		DIACETONE ALCOHOL(6.56)	42000 JBA	6.56
	PE804075B		DIOCTYL ADIPATE(31.44)	22000 JB	31.44
	PE804075B		HYDROCARBON(17.97)	180 J	17.97
	PE804075B		HYDROCARBON(18.37)	270 J	18.37
	PE804075B		HYDROCARBON(20.00)	240 J	20.00
	PE804075B		HYDROCARBON(21.54)	220 J	21.54
	PE804075B		HYDROCARBON(22.98)	300 J	22.98
	PE804075B		HYDROCARBON(23.09)	490 J	23.09
	PE804075B		HYDROCARBON(25.24)	270 J	25.24
	PE804075B		HYDROCARBON(25.69)	310 J	25.69
	PE804075B		KETONE(8.27)	590 J	8.27
	PE804075B		PHOSPHATE ESTER(24.39)	440 J	24.39
	PE804075B		SULFUR(27.48)	7200 J	27.48
	PE804086B		ALKYL KETONE(5.69)	570 JB	5.69
	PE804086B		ALKYL KETONE(6.77)	970 JB	6.77
	PE804086B		AROMATIC HYDROCARBON(18.33)	480 J	18.33
	PE804086B		DIACETONE ALCOHOL(6.38)	50000 JBA	6.38
	PE804086B		DIOCTYL ADIPATE(31.40)	24000 JB	31.40
	PE804086B		HYDROCARBON(19.95)	360 J	19.95
	PE804086B		HYDROCARBON(22.50)	280 J	22.50
	PE804086B		HYDROCARBON(22.95)	340 J	22.95
	PE804086B		HYDROCARBON(23.04)	500 J	23.04
	PE804086B		HYDROCARBON(24.47)	560 J	24.47
	PE804086B		HYDROCARBON(25.21)	320 J	25.21
	PE804086B		HYDROCARBON(26.94)	330 J	26.94
	PE804086B		KETONE(8.23)	660 J	8.23
	PE804086B		PHOSPHATE ESTER(24.38)	3400 J	24.38
	PE804086B		PHOSPHATE ESTER(24.56)	2000 J	24.56
	PE804086B		PHOSPHATE ESTER(24.71)	720 J	24.71

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TABLE D 3.7 PETC QC TIC EXTRACTABLE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
PE8030188					
	PE804086B		SULFUR(27.50)	17000 J	27.50
	PE804086B		UNKNOWN(24.28)	330 J	24.28
	SBK08852		ALKYL KETONE(5.48)	2300 J	5.48
	SBK08852		ALKYL KETONE(6.48)	680 J	6.48
	SBK08852		AMIDE(9.37)	430 J	9.37
	SBK08852		DIACETONE ALCOHOL(6.32)	86000 JA	6.32
	SBK08852		DIOCTYL ADIPATE(31.07)	1000 J	31.07
	SBK08852		HYDROCARBON(4.71)	350 J	4.71
	SBK08852		HYDROCARBON(6.62)	360 J	6.62
	SBK08852		HYDROCARBON(6.80)	520 J	6.80
	SBK08852		KETONE(7.92)	670 J	7.92

TABLE D.4.1 DIRECTORY FOR VOLATILE ORGANICS QA/QC DATA

PROBLEM NUMBER	SAMPLE NUMBER	QA/QC ANALYTICAL SDG NUMBER	QA/QC TABLE NUMBER(PG)
1	PE301011A	PE301011A	D.4.2 (D-224)
1	PE301022A	PE301011A	D.4.2 (D-226)
1	PE301033A	PE301011A	D.4.2 (D-226)
2	PE305015B	PE305026A	D.4.3 (D-232)
2	PE305026A	PE305026A	D.4.3 (D-232)
2	PE305037A	PE305026A	D.4.3 (D-232)
2	PE305048A	PE305026A	D.4.3 (D-230)
5	PE800015A	PE800015A	D.4.4 (D-236)
5	PE800026A	PE800015A	D.4.4 (D-238)
5	PE800037A	PE800037A	D.4.5 (D-242)
5	PE800048A	PE800048A	D.4.6 (D-254)
5	PE800059A	PE800037A	D.4.5 (D-244)
5	PE800060A	PE800037A	D.4.5 (D-244)
5	PE800071A	PE800037A	D.4.5 (D-244)
5	PE800082A	PE800037A	D.4.5 (D-244)
5	PE800093A	PE800037A	D.4.5 (D-244)
5	PE800106A	PE800037A	D.4.5 (D-244)
5	PE800117A	PE800048A	D.4.6 (D-248)
5	PE800128A	PE800048A	D.4.6 (D-254)
5	PE800139A	PE800048A	D.4.6 (D-248)
5	PE800140A	PE800048A	D.4.6 (D-248)
5	PE800151A	PE800048A	D.4.6 (D-248)
5	PE800162A	PE305026A	D.4.3 (D-232)
5	PE801016A	PE800048A	D.4.6 (D-248)
5	PE801027A	PE800048A	D.4.6 (D-254)
5	PE801038A	PE800048A	D.4.6 (D-250)
5	PE801049A	PE800048A	D.4.6 (D-252)
5	PE801050A	PE800048A	D.4.6 (D-252)
5	PE801061A	PE800048A	D.4.6 (D-252)
5	PE801072A	PE800048A	D.4.6 (D-252)
5	PE801083A	PE801083A	D.4.7 (D-258)
5	PE801094A	PE801083A	D.4.7 (D-260)
5	PE801107A	PE801083A	D.4.7 (D-260)
5	PE802017A	PE802017A	D.4.8 (D-264)
5	PE802028A	PE802017A	D.4.8 (D-266)
5	PE802039A	PE802017A	D.4.8 (D-266)
5	PE802040A	PE802017A	D.4.8 (D-266)
5	PE802051A	PE802017A	D.4.8 (D-268)
5	PE802062A	PE802017A	D.4.8 (D-266)
5	PE802073A	PE305026A	D.4.3 (D-232)
5	PE803018A	PE803018A	D.4.9 (D-274)
5	PE803029A	PE802017A	D.4.8 (D-264)
5	PE803030A	PE802017A	D.4.8 (D-268)
5	PE804019A	PE803018A	D.4.9 (D-272)
5	PE804020A	PE801083A	D.4.7 (D-260)
5	PE804031A	PE803018A	D.4.9 (D-274)
5	PE804042A	PE803018A	D.4.9 (D-274)
5	PE804053A	PE803018A	D.4.9 (D-274)
5	PE804064A	PE803018A	D.4.9 (D-274)
5	PE804075A	PE803018A	D.4.9 (D-274)
5	PE804086A	PE802017A	D.4.8 (D-266)

TABLE D.4.1 DIRECTORY FOR VOLATILE ORGANICS QA/QC DATA

PROBLEM NUMBER	SAMPLE NUMBER	QA/QC ANALYTICAL SDG NUMBER	QA/QC TABLE NUMBER(PG)
99	PEN03014A	PE305026A	D.4.3 (D-232)
99	PEN10013A	PE305026A	D.4.3 (D-232)
99	PEN13016A	PE301011A	D.4.2 (D-224)

TABLE D.4.2 PETC VOLATILE ORGANICS - SDG NUMBER: PE301011A

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AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	INITIAL CAL	INITIAL CAL	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	CALIBRATION	RRF	% RSD	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0813885	PE0813886	PE0813886	PE0825885	PE0825887	PE0825887	PE0825888
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	%	RRF	%	%	RRF	%	AREA
ENV PROBLEM NO							
ACETONE		0.349	43.5		0.469	34.5	
BENZENE		1.116	3.2		1.077	3.5	
BROMODICHLOROMETHANE		0.782	1.9		0.802	2.5	
BROMOFORM		0.32	12.7		0.316	1.2	
BROMOMETHANE		0.658	57.4		0.669	1.6	
CARBON DISULFIDE		5.882	3.8		5.763	2	
CARBON TETRACHLORIDE		0.801	3		0.85	6.1	
CHLOROBENZENE		1.004	1.3		0.979	2.4	
CHLOROETHANE		0.749	7.9		0.666	11.1	
CHLOROFORM		3.756	3.3		3.736	0.5	
CHLOROMETHANE		2.265	7.8		2.253	0.5	
CIS-1,3-DICHLOROPROPENE		0.662	2.2		0.647	2.3	
DIBROMOCHLOROMETHANE		0.541	5.2		0.547	1.2	
ETHYLBENZENE		0.506	1		0.505	0.2	
METHYLENE CHLORIDE		1.366	6.7		1.275	6.7	
STYRENE		0.678	2.7		0.666	1.6	
TETRACHLOROETHENE		0.44	2		0.433	1.6	
TOLUENE		0.805	1.6		0.789	2	
TOLUENE-D8		0.468	1.5		0.462	1.1	
TRANS-1,3-DICHLOROPROPENE		0.615	1.5		0.617	0.4	
TRICHLOROETHENE		0.44	1.5		0.431	2.1	
VINYL ACETATE		0.559	22.5		0.706	26.4	
VINYL CHLORIDE		1.5	13.7		1.378	8.1	
XYLENE (TOTAL)		0.68	2.7		0.681	0.2	
1,1-DICHLOROETHANE		3.122	3.3		3.098	0.8	
1,1-DICHLOROETHENE		1.514	2.6		1.484	2	
1,1,1-TRICHLOROETHANE		0.843	1.9		0.869	3.1	
1,1,2-TRICHLOROETHANE		0.299	3		0.305	1.9	
1,1,2,2-TETRACHLOROETHANE		0.448	6.8		0.468	4.6	
1,2-DICHLOROETHANE		2.951	2.2		2.979	0.9	
1,2-DICHLOROETHANE-D4		1.201	2.6		1.198	0.2	
1,2-DICHLOROETHENE		1.576	3.2		1.564	0.8	
1,2-DICHLOROPROPANE		0.413	2.9		0.412	0.2	
1,4-BROMOFLUOROBENZENE		0.704	1.4		0.703	0.2	
2-BUTANONE		0.03	14.9		0.036	21.3	
2-HEXANONE		0.251	3.9		0.269	7.2	
4-METHYL-2-PENTANONE		0.307	6		0.346	12.8	
SURR 1(TOL) %RECOVERY							

TABLE D.4.2 PETC VOLATILE ORGANICS - SDG NUMBER: PE301011A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	INITIAL CAL	INITIAL CAL	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	CALIBRATION	RRF	% RSD	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0813885	PE0813886	PE0813886	PE0825885	PE0825887	PE0825887	PE0825888
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	%	RRF	%	%	RRF	%	AREA
ENV PROBLEM NO							
SURR 2(BFB) %RECOVERY							
SURR 3(DCE) %RECOVERY							
M/E 50	28			28			
M/E 75	58			58			
M/E 95	100			100			
M/E 96	6.7			6.3			
M/E 173-1	0			0			
M/E 173-2	0			0			
M/E 174	82			84			
M/E 175-1	5.5			7.1			
M/E 175-2	6.6			8.5			
M/E 176-1	82			80			
M/E 176-2	100			95			
M/E 177-1	6			5.7			
M/E 177-2	7.3			7.1			
INTERNAL STD AREA(BCM)							27100
INTERNAL STD AREA(CBZ)							85800
INTERNAL STD AREA(DFB)							103000
DILUTION FACTOR							
ACTUAL(ALLOWED) HOLD TIME							

AREA	QA			QA	QA	QA	QA
LOCATION	METHOD	TRIP BLANK	LICK RUN	MATRIX	MS %	RPD	MATRIX SPIKE
TYPE OF LOCATION	BLANK	TRIP BLANK	STORM SEWER	SPIKE	RECOVERY		DUPLICATE
SAMPLE NUMBER	VBK08410	PEN13016A	PE301011A	PE301011A	PE301011A	PE301011A	PE301011A
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L	UG/L	%	%	UG/L
ENV PROBLEM NO		99	1	1	1	1	1
ACETONE	10 U	10 U	10 U	10 U			10 U
BENZENE	5 U	5 U	5 U	50 S	100	2	49 S
BROMODICHLOROMETHANE	5 U	5 U	6	6			6
BROMOFORM	5 U	5 U	5 U	5 U			5 U

TABLE D.4.2 PETC VOLATILE ORGANICS - SDG NUMBER: PE301011A DRAFT DO NOT CITE

AREA	QA			QA	QA	QA	QA
LOCATION	METHOD BLANK	TRIP BLANK	LICK RUN STORM SEWER	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE
TYPE OF LOCATION		TRIP BLANK					
SAMPLE NUMBER	VBK08410	PEN13016A	PE301011A	PE301011A	PE301011A	PE301011A	PE301011A
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L	UG/L	%	%	UG/L
ENV PROBLEM NO		99	1	1	1	1	1
BROMOMETHANE	10 U	10 U	10 U	10 U			10 U
CARBON DISULFIDE	5 U	5 U	5 U	5 U			5 U
CARBON TETRACHLORIDE	5 U	5 U	5 U	5 U			5 U
CHLOROBENZENE	5 U	5 U	5 U	50 S	100	5	53 S
CHLOROETHANE	10 U	10 U	10 U	10 U			10 U
CHLOROFORM	5 U	5 U	10	10			10
CHLOROMETHANE	10 U	10 U	10 U	10 U			10 U
CIS-1,3-DICHLOROPROPENE	5 U	5 U	5 U	5 U			5 U
DIBROMOCHLOROMETHANE	5 U	5 U	5	5			5
ETHYLBENZENE	5 U	5 U	5 U	5 U			5 U
METHYLENE CHLORIDE	5 U	5 U	5 U	5 U			5 U
STYRENE	5 U	5 U	5 U	5 U			5 U
TETRACHLOROETHENE	5 U	5 U	5 U	5 U			5 U
TOLUENE	5 U	5 U	5 U	49 S	98	3	51 S
TOLUENE-D8							
TRANS-1,3-DICHLOROPROPENE	5 U	5 U	5 U	5 U			5 U
TRICHLOROETHENE	5 U	2 J	5 U	51 S	102	0	51 S
VINYL ACETATE	10 U	10 U	10 U	10 U			10 U
VINYL CHLORIDE	10 U	10 U	10 U	10 U			10 U
XYLENE (TOTAL)	5 U	5 U	5 U	5 U			5 U
1,1-DICHLOROETHANE	5 U	5 U	5 U	5 U			5 U
1,1-DICHLOROETHENE	5 U	5 U	5 U	54 S	108	2	53 S
1,1,1-TRICHLOROETHANE	5 U	5 U	5 U	5 U			5 U
1,1,2-TRICHLOROETHANE	5 U	5 U	5 U	5 U			5 U
1,1,2,2-TETRACHLOROETHANE	5 U	5 U	5 U	5 U			5 U
1,2-DICHLOROETHANE	5 U	5 U	5 U	5 U			5 U
1,2-DICHLOROETHANE-D4							
1,2-DICHLOROETHENE	5 U	5 U	5 U	5 U			5 U
1,2-DICHLOROPROPANE	5 U	5 U	5 U	5 U			5 U
1,4-BROMOFLUOROBENZENE							
2-BUTANONE	10 U	10 U	10 U	10 U			10 U
2-HEXANONE	10 U	10 U	10 U	10 U			10 U
4-METHYL-2-PENTANONE	10 U	10 U	10 U	10 U			10 U
SURR 1(TOL) %RECOVERY	103	102	101	100			102
SURR 2(BFB) %RECOVERY	102	102	99	97			96
SURR 3(DCE) %RECOVERY	96	102	102	100			98

M/E 50

TABLE D.4.2 PETC VOLATILE ORGANICS - SDG NUMBER: PE301011A

DRAFT DO NOT CITE

AREA	QA			QA	QA	QA	QA
LOCATION	METHOD	TRIP BLANK	LICK RUN	MATRIX	MS %	RPD	MATRIX SPIKE
TYPE OF LOCATION	BLANK	TRIP BLANK	STORM SEWER	SPIKE	RECOVERY		DUPLICATE
SAMPLE NUMBER	VBK08410	PEN13016A	PE301011A	PE301011A	PE301011A	PE301011A	PE301011A
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L	UG/L	%	%	UG/L
ENV PROBLEM NO		99	1	1	1	1	1
M/E 75							
M/E 95							
M/E 96							
M/E 173-1							
M/E 173-2							
M/E 174							
M/E 175-1							
M/E 175-2							
M/E 176-1							
M/E 176-2							
M/E 177-1							
M/E 177-2							
INTERNAL STD AREA(BCM)	22200	23000	20700	21700			22700
INTERNAL STD AREA(CBZ)	72400	77700	72800	78400			79100
INTERNAL STD AREA(DFB)	90600	97100	90200	92900			97500
DILUTION FACTOR	1	1	1	1			1
ACTUAL(ALLOWED) HOLD TIME		3(14 D)	6(14 D)	6(14 D)			6(14 D)

AREA	QA						
LOCATION	MSD %	LICK RUN	LICK RUN				
TYPE OF LOCATION	RECOVERY	STORM SEWER	STORM SEWER				
SAMPLE NUMBER	PE301011A	PE301022A	PE301033A				
MATRIX	WATER	WATER	WATER				
UNITS	%	UG/L	UG/L				
ENV PROBLEM NO	1	1	1				
ACETONE		10 U	10 U				
BENZENE	98	5 U	5 U				
BROMODICHLOROMETHANE		5	6				
BROMOFORM		5 U	5 U				
BROMOMETHANE		10 U	10 U				
CARBON DISULFIDE		5 U	5 U				
CARBON TETRACHLORIDE		5 U	5 U				
CHLOROBENZENE	106	5 U	5 U				

TABLE D.4.2 PETC VOLATILE ORGANICS - SDG NUMBER: PE301011A

DRAFT DO NOT CITE

AREA	QA		
LOCATION	MSD % RECOVERY	LICK RUN STORM SEWER	LICK RUN STORM SEWER
TYPE OF LOCATION			
SAMPLE NUMBER	PE301011A	PE301022A	PE301033A
MATRIX	WATER	WATER	WATER
UNITS	%	UG/L	UG/L
ENV PROBLEM NO	1	1	1
CHLOROETHANE		10 U	10 U
CHLOROFORM		8	8
CHLOROMETHANE		10 U	10 U
CIS-1,3-DICHLOROPROPENE		5 U	5 U
DIBROMOCHLOROMETHANE		5	6
ETHYLBENZENE		5 U	5 U
METHYLENE CHLORIDE		5 U	5 U
STYRENE		5 U	5 U
TETRACHLOROETHENE		5 U	5 U
TOLUENE	101	5 U	5 U
TOLUENE-D8			
TRANS-1,3-DICHLOROPROPENE		5 U	5 U
TRICHLOROETHENE	102	5 U	5 U
VINYL ACETATE		10 U	10 U
VINYL CHLORIDE		10 U	10 U
XYLENE (TOTAL)		5 U	5 U
1,1-DICHLOROETHANE		5 U	5 U
1,1-DICHLOROETHENE	105	5 U	5 U
1,1,1-TRICHLOROETHANE		5 U	5 U
1,1,2-TRICHLOROETHANE		5 U	5 U
1,1,2,2-TETRACHLOROETHANE		5 U	5 U
1,2-DICHLOROETHANE		5 U	5 U
1,2-DICHLOROETHANE-D4			
1,2-DICHLOROETHENE		5 U	5 U
1,2-DICHLOROPROPANE		5 U	5 U
1,4-BROMOFLUOROBENZENE			
2-BUTANONE		10 U	10 U
2-HEXANONE		10 U	10 U
4-METHYL-2-PENTANONE		10 U	10 U
SURR 1(TOL) %RECOVERY		100	102
SURR 2(BFB) %RECOVERY		98	100
SURR 3(DCE) %RECOVERY		95	98

M/E 50
M/E 75
M/E 95
M/E 96
M/E 173-1

TABLE D.4.2 PETC VOLATILE ORGANICS - SDG NUMBER: PE301011A

DRAFT DO NOT CITE

AREA	QA						
LOCATION	MSD % RECOVERY	LICK RUN STORM SEWER	LICK RUN STORM SEWER				
TYPE OF LOCATION							
SAMPLE NUMBER	PE301011A	PE301022A	PE301033A				
MATRIX	WATER	WATER	WATER				
UNITS	%	UG/L	UG/L				
ENV PROBLEM NO	1	1	1				
M/E 173-2							
M/E 174							
M/E 175-1							
M/E 175-2							
M/E 176-1							
M/E 176-2							
M/E 177-1							
M/E 177-2							
INTERNAL STD AREA(BCM)		23000	20900				
INTERNAL STD AREA(CBZ)		82100	73800				
INTERNAL STD AREA(DFB)		101000	87100				
DILUTION FACTOR		1	1				
ACTUAL(ALLOWED) HOLD TIME		5(14 D)	5(14 D)				

TABLE D.4.3 PETC VOLATILE ORGANICS - SDG NUMBER: PE505026A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	INITIAL CAL	INITIAL CAL	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	CALIBRATION	RRF	% RSD	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0813885	PE0813886	PE0813886	PE0823885	PE0823887	PE0823887	PE0823888
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	%	RRF	%	%	RRF	%	AREA
ENV PROBLEM NO							
ACETONE		0.349	43.5		0.299	14.1	
BENZENE		1.116	3.2		1.122	0.5	
BROMODICHLOROMETHANE		0.782	1.9		0.785	0.3	
BROMOFORM		0.32	12.7		0.286	10.5	
BROMOMETHANE		0.658	57.4		0.95	44.3	
CARBON DISULFIDE		5.882	3.8		5.892	0.2	
CARBON TETRACHLORIDE		0.801	3		0.843	5.2	
CHLOROBENZENE		1.004	1.3		1.026	2.3	
CHLOROETHANE		0.749	7.9		0.745	0.5	
CHLOROFORM		3.756	3.3		3.775	0.5	
CHLOROMETHANE		2.265	7.8		2.113	6.7	
CIS-1,3-DICHLOROPROPENE		0.662	2.2		0.645	2.6	
DIBROMOCHLOROMETHANE		0.541	5.2		0.526	2.7	
ETHYLBENZENE		0.506	1		0.524	3.5	
METHYLENE CHLORIDE		1.366	6.7		1.28	6.3	
STYRENE		0.678	2.7		0.693	2.3	
TETRACHLOROETHENE		0.44	2		0.464	5.5	
TOLUENE		0.805	1.6		0.821	2	
TOLUENE-D8		0.468	1.5		0.478	2.2	
TRANS-1,3-DICHLOROPROPENE		0.615	1.5		0.595	3.3	
TRICHLOROETHENE		0.44	1.5		0.443	0.7	
VINYL ACETATE		0.559	22.5		0.651	16.4	
VINYL CHLORIDE		1.5	13.7		1.507	0.4	
XYLENE (TOTAL)		0.68	2.7		0.692	1.7	
1,1-DICHLOROETHANE		3.122	3.3		3.154	1	
1,1-DICHLOROETHENE		1.514	2.6		1.555	2.7	
1,1,1-TRICHLOROETHANE		0.843	1.9		0.87	3.2	
1,1,2-TRICHLOROETHANE		0.299	3		0.286	4.3	
1,1,2,2-TETRACHLOROETHANE		0.448	6.8		0.415	7.2	
1,2-DICHLOROETHANE		2.951	2.2		2.842	3.7	
1,2-DICHLOROETHANE-D4		1.201	2.6		1.157	3.7	
1,2-DICHLOROETHENE		1.576	3.2		1.582	0.4	
1,2-DICHLOROPROPANE		0.413	2.9		0.415	0.7	
1,4-BROMOFLUOROBENZENE		0.704	1.4		0.704	0	
2-BUTANONE		0.03	14.9		0.028	5.3	
2-HEXANONE		0.251	3.9		0.223	11	
4-METHYL-2-PENTANONE		0.307	6		0.285	6.9	
SURR 1(TOL) %RECOVERY							

TABLE D.4.3 PETC VOLATILE ORGANICS - SDG NUMBER: PE305026A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	INITIAL CAL	INITIAL CAL	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	CALIBRATION	RRF	% RSD	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0813885	PE0813886	PE0813886	PE0823885	PE0823887	PE0823887	PE0823888
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	%	RRF	%	%	RRF	%	AREA
ENV PROBLEM NO							
SURR 2(BFB) %RECOVERY							
SURR 3(DCE) %RECOVERY							
M/E 50	28			22			
M/E 75	58			56			
M/E 95	100			100			
M/E 96	6.7			7.5			
M/E 173-1	0			0			
M/E 173-2	0			0			
M/E 174	82			86			
M/E 175-1	5.5			5			
M/E 175-2	6.6			5.9			
M/E 176-1	82			83			
M/E 176-2	100			97			
M/E 177-1	6			5.5			
M/E 177-2	7.3			6.6			
INTERNAL STD AREA(BCM)							30500
INTERNAL STD AREA(CBZ)							93300
INTERNAL STD AREA(DFB)							115000
DILUTION FACTOR							
ACTUAL(ALLOWED) HOLD TIME							

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD	B. B-141	MATRIX	MS %	RPD	MATRIX SPIKE	MSD %
TYPE OF LOCATION	BLANK	UNDGR TANK	SPIKE	RECOVERY		DUPLICATE	RECOVERY
SAMPLE NUMBER	VBK08384	PE305048A	PE305048A	PE305048A	PE305048A	PE305048A	PE305048A
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L	%	%	UG/L	%
ENV PROBLEM NO		2	2	2	2	2	2
ACETONE	10 U	10 U	10 U			10 U	
BENZENE	5 U	5 U	48 S	95	1	48 S	96
BROMODICHLOROMETHANE	5 U	5 U	5 U			5 U	
BROMOFORM	5 U	5 U	5 U			5 U	

TABLE D.4.3 PETC VOLATILE ORGANICS - SDG NUMBER: PE305026A DRAFT DO NOT CITE

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD BLANK	B. B-141 UNDGR TANK	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY
TYPE OF LOCATION							
SAMPLE NUMBER	VBK08384	PE305048A	PE305048A	PE305048A	PE305048A	PE305048A	PE305048A
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L	%	%	UG/L	%
ENV PROBLEM NO		2	2	2	2	2	2
BROMOMETHANE	10 U	10 U	10 U			10 U	
CARBON DISULFIDE	5 U	5 U	5 U			5 U	
CARBON TETRACHLORIDE	5 U	5 U	5 U			5 U	
CHLOROBENZENE	5 U	5 U	50 S	99	1	50 S	100
CHLOROETHANE	10 U	10 U	10 U			10 U	
CHLOROFORM	5 U	5 U	5 U			5 U	
CHLOROMETHANE	10 U	10 U	10 U			10 U	
CIS-1,3-DICHLOROPROPENE	5 U	5 U	5 U			5 U	
DIBROMOCHLOROMETHANE	5 U	5 U	5 U			5 U	
ETHYLBENZENE	5 U	5 U	5 U			5 U	
METHYLENE CHLORIDE	5 U	5 U	3 J			3 J	
STYRENE	5 U	5 U	5 U			5 U	
TETRACHLOROETHENE	5 U	5 U	5 U			5 U	
TOLUENE	0.5 J	2 JB	50 BS	95	0	50 BS	95
TOLUENE-D8							
TRANS-1,3-DICHLOROPROPENE	5 U	5 U	5 U			5 U	
TRICHLOROETHENE	5 U	5 U	49 S	98	0	49 S	98
VINYL ACETATE	10 U	10 U	10 U			10 U	
VINYL CHLORIDE	10 U	10 U	10 U			10 U	
XYLENE (TOTAL)	5 U	5 U	5 U			5 U	
1,1-DICHLOROETHANE	5 U	5 U	5 U			5 U	
1,1-DICHLOROETHENE	5 U	5 U	49 S	98	4	52 S	103
1,1,1-TRICHLOROETHANE	5 U	5 U	5 U			5 U	
1,1,2-TRICHLOROETHANE	5 U	5 U	5 U			5 U	
1,1,2,2-TETRACHLOROETHANE	5 U	5 U	5 U			5 U	
1,2-DICHLOROETHANE	5 U	5 U	5 U			5 U	
1,2-DICHLOROETHANE-D4							
1,2-DICHLOROETHENE	5 U	5 U	5 U			5 U	
1,2-DICHLOROPROPANE	5 U	5 U	5 U			5 U	
1,4-BROMOFLUOROBENZENE							
2-BUTANONE	10	10 U	10 U			24 B	
2-HEXANONE	10 U	10 U	10 U			10 U	
4-METHYL-2-PENTANONE	10 U	10 U	10 U			10 U	
SURR 1(TOL) %RECOVERY	98	99	98			98	
SURR 2(BFB) %RECOVERY	100	103	100			98	
SURR 3(DCE) %RECOVERY	99	99	98			99	

M/E 50

TABLE D.4.3 PETC VOLATILE ORGANICS - SDG NUMBER: PE305026A

DRAFT DO NOT CITE

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD BLANK	B. B-141 UNDGR TANK	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY
TYPE OF LOCATION							
SAMPLE NUMBER	VBK08384	PE305048A	PE305048A	PE305048A	PE305048A	PE305048A	PE305048A
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L	%	%	UG/L	%
ENV PROBLEM NO		2	2	2	2	2	2
M/E 75							
M/E 95							
M/E 96							
M/E 173-1							
M/E 173-2							
M/E 174							
M/E 175-1							
M/E 175-2							
M/E 176-1							
M/E 176-2							
M/E 177-1							
M/E 177-2							
INTERNAL STD AREA(BCM)	24900	25700	20300			23700	
INTERNAL STD AREA(CBZ)	81100	86300	69000			85600	
INTERNAL STD AREA(DFB)	98400	108000	84100			103000	
DILUTION FACTOR	1	1	1			1	
ACTUAL(ALLOWED) HOLD TIME		4(14 D)	4(14 D)			4(14 D)	

AREA							
LOCATION	TRIP BLANK	TRIP BLANK	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	B. B-141 UNDGR TANK	B. B-141 UNDGR TANK	B. B-141 UNDGR TANK
TYPE OF LOCATION	TRIP BLANK	TRIP BLANK					
SAMPLE NUMBER	PEN03014A	PEN10013A	PE800162A	PE802073A	PE305037A	PE305026A	PE305015B
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO	99	99	5	5	2	2	2
ACETONE	10 U	10 U	43	10 U	17000 E	19000 E	22000 E
BENZENE	5 U	5 U	2 J	5 U	5 U	5 U	5 U
BROMODICHLOROMETHANE	5 U	5 U	5 U	5 U	2 J	2 J	5 U
BROMOFORM	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BROMOMETHANE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
CARBON DISULFIDE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CARBON TETRACHLORIDE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CHLOROBENZENE	5 U	5 U	5 U	5 U	5 U	5 U	5 U

TABLE D.4.3 PETC VOLATILE ORGANICS - SDG NUMBER: PE305026A DRAFT DO NOT CITE

AREA

LOCATION	TRIP BLANK	TRIP BLANK	2.2 FIELD	2.2 FIELD	B. B-141	B. B-141	B. B-141
TYPE OF LOCATION	TRIP BLANK	TRIP BLANK	WASTE ACCUM	WASTE ACCUM	UNDGR TANK	UNDGR TANK	UNDGR TANK
SAMPLE NUMBER	PEN03014A	PEN10013A	PE800162A	PE802073A	PE305037A	PE305026A	PE305015B
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO	99	99	5	5	2	2	2
CHLOROETHANE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
CHLOROFORM	5 U	5 U	5	10	5	5	6
CHLOROMETHANE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
CIS-1,3-DICHLOROPROPENE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DIBROMOCHLOROMETHANE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
ETHYLBENZENE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
METHYLENE CHLORIDE	5 U	5 U	5 U	3 J	5 U	3 J	3 J
STYRENE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TETRACHLOROETHENE	5 U	5 U	5 U	5 U	3 J	4 J	5 U
TOLUENE	2 JB	5 U	7 B	5 U	5 U	0.6 JB	5 U
TOLUENE-D8							
TRANS-1,3-DICHLOROPROPENE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TRICHLOROETHENE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
VINYL ACETATE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
VINYL CHLORIDE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
XYLENE (TOTAL)	5 U	5 U	6	5 U	5 U	5 U	5 U
1,1-DICHLOROETHANE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-DICHLOROETHENE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,1-TRICHLOROETHANE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-TRICHLOROETHANE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-TETRACHLOROETHANE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-DICHLOROETHANE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-DICHLOROETHANE-D4							
1,2-DICHLOROETHENE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-DICHLOROPROPANE	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,4-BROMOFLUOROBENZENE							
2-BUTANONE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-HEXANONE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-METHYL-2-PENTANONE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
SURR 1(TOL) %RECOVERY	97	98	97	99	97	97	99
SURR 2(BFB) %RECOVERY	96	95	96	93	93	94	98
SURR 3(DCE) %RECOVERY	99	96	99	95	95	94	93

M/E 50
M/E 75
M/E 95
M/E 96
M/E 173-1

TABLE D.4.3 PETC VOLATILE ORGANICS - SDG NUMBER: PE305026A

DRAFT DO NOT CITE

AREA

LOCATION	TRIP BLANK	TRIP BLANK	2.2 FIELD	2.2 FIELD	B. B-141	B. B-141	B. B-141
TYPE OF LOCATION	TRIP BLANK	TRIP BLANK	WASTE ACCUM	WASTE ACCUM	UNDGR TANK	UNDGR TANK	UNDGR TANK
SAMPLE NUMBER	PEN03014A	PEN10013A	PE800162A	PE802073A	PE305037A	PE305026A	PE305015B
MATRIX	WATER	WATER	WATER	WATER	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
ENV PROBLEM NO	99	99	5	5	2	2	2
M/E 173-2							
M/E 174							
M/E 175-1							
M/E 175-2							
M/E 176-1							
M/E 176-2							
M/E 177-1							
M/E 177-2							
INTERNAL STD AREA(BCM)	23500	24500	24800	25500	25500	27100	24600
INTERNAL STD AREA(CBZ)	85300	89000	88500	91900	93100	96000	84200
INTERNAL STD AREA(DFB)	104000	108000	108000	111000	115000	118000	100000
DILUTION FACTOR	1	1	1	1	1	1	1
ACTUAL(ALLOWED) HOLD TIME	6(14 D)	3(14 D)	7(14 D)	4(14 D)	4(14 D)	5(14 D)	6(14 D)

TABLE D.4.4 PETC VOLATILE ORGANICS - SDG NUMBER: PE800015A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	INITIAL CAL	INITIAL CAL	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	CALIBRATION	RRF	% RSD	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0816885	PE0816886	PE0816886	PE0822885	PE0822887	PE0822887	PE0822888
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	RRF	%	%	RRF	%	AREA
ENV PROBLEM NO							
ACETONE		0.391	14.9		0.503	28.6	
BENZENE		2.666	1.5		2.693	1	
BROMODICHLOROMETHANE		1.272	2.4		1.312	3.1	
BROMOFORM		1.149	9.6		1.171	1.9	
BROMOMETHANE		1.483	3.7		1.553	4.7	
CARBON DISULFIDE		2.26	11.8		2.454	8.6	
CARBON TETRACHLORIDE		2.956	2.1		2.938	0.6	
CHLOROBENZENE		1.056	3.1		1.107	4.9	
CHLOROETHANE		0.608	5.8		0.633	4.1	
CHLOROFORM		3.379	2.5		3.344	1	
CHLOROMETHANE		1.144	2.4		1.103	3.5	
CIS-1,3-DICHLOROPROPENE		0.639	2.1		0.677	5.9	
DIBROMOCHLOROMETHANE		0.967	7.2		1.027	6.2	
ETHYLBENZENE		0.539	7.4		0.574	6.6	
METHYLENE CHLORIDE		1.068	15.3		1.111	4	
STYRENE		0.613	14.1		0.692	12.9	
TETRACHLOROETHENE		0.378	6.4		0.405	7.3	
TOLUENE		0.479	3.4		0.513	7	
TOLUENE-D8		0.788	4.9		0.767	2.7	
TRANS-1,3-DICHLOROPROPENE		0.532	6.2		0.567	6.7	
TRICHLOROETHENE		0.595	8.5		0.573	3.6	
VINYL ACETATE		2.929	10.9		3.463	18.2	
VINYL CHLORIDE		1.07	1.3		1.049	2	
XYLENE (TOTAL)		0.494	11.9		0.548	10.7	
1,1-DICHLOROETHANE		2.479	8.1		2.564	3.4	
1,1-DICHLOROETHENE		0.894	11.8		1.023	14.5	
1,1,1-TRICHLOROETHANE		2.617	2.5		2.567	1.9	
1,1,2-TRICHLOROETHANE		0.392	4.8		0.405	3.3	
1,1,2,2-TETRACHLOROETHANE		1.451	21.5		1.364	6	
1,2-DICHLOROETHANE		2.153	4.1		2.105	6.4	
1,2-DICHLOROETHANE-D4		1.901	3.3		1.812	4.7	
1,2-DICHLOROETHENE		1.079	12.4		1.152	6.8	
1,2-DICHLOROPROPANE		0.521	2.5		0.539	3.4	
1,4-BROMOFLUOROBENZENE		1.204	12.6		1.165	3.2	
2-BUTANONE		0.212	17		0.202	4.7	
2-HEXANONE		0.51	9.6		0.57	11.7	
4-METHYL-2-PENTANONE		0.69	7.5		0.677	1.8	
SURR 1(TOL) %RECOVERY							

TABLE D.4.4 PETC VOLATILE ORGANICS - SDG NUMBER: PE800015A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	INITIAL CAL	INITIAL CAL	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	CALIBRATION	RRF	% RSD	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0816885	PE0816886	PE0816886	PE0822885	PE0822887	PE0822887	PE0822888
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	RRF	%	%	RRF	%	AREA
ENV PROBLEM NO							
SURR 2(BFB) %RECOVERY							
SURR 3(DCE) %RECOVERY							
M/E 50	29			27			
M/E 75	52			54			
M/E 95	100			100			
M/E 96	5.1			6.1			
M/E 173-1	1			0			
M/E 173-2	1.7			0			
M/E 174	57			68			
M/E 175-1	4.6			5.9			
M/E 175-2	8.1			8.7			
M/E 176-1	57			68			
M/E 176-2	100			100			
M/E 177-1	4.4			5			
M/E 177-2	7.6			7.3			
INTERNAL STD AREA(BCM)							33200
INTERNAL STD AREA(CBZ)							77300
INTERNAL STD AREA(DFB)							93800
DILUTION FACTOR							
PERCENT MOISTURE							
ACTUAL(ALLOWED) HOLD TIME							

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD	2.2 FIELD	MATRIX SPIKE	MSD %	MATRIX	MS %	RPD
TYPE OF LOCATION	BLANK	WASTE ACCUM	DUPLICATE	RECOVERY	SPIKE	RECOVERY	
SAMPLE NUMBER	VBK01696	PE800015A	PE800015A	PE800015A	PE800015A	PE800015A	PE800015A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	UG/KG	%	%
ENV PROBLEM NO		5	5	5	5	5	5
ACETONE	21	16 B	26 B		28 B		
BENZENE	5 U	5 U	51 S	96	53 S	101	5
BROMODICHLOROMETHANE	5 U	5 U	5 U		5 U		

TABLE D.4.4 PETC VOLATILE ORGANICS - SDG NUMBER: PE800015A

DRAFT DO NOT CITE

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD BLANK	2.2 FIELD WASTE ACCUM	MATRIX SPIKE DUPLICATE	MSD % RECOVERY	MATRIX SPIKE	MS % RECOVERY	RPD
TYPE OF LOCATION							
SAMPLE NUMBER	VBK01696	PE800015A	PE800015A	PE800015A	PE800015A	PE800015A	PE800015A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	UG/KG	%	%
ENV PROBLEM NO		5	5	5	5	5	5
BROMOFORM	5 U	5 U	5 U		5 U		
BROMOMETHANE	10 U	11 U	11 U		11 U		
CARBON DISULFIDE	5 U	5 U	5 U		5 U		
CARBON TETRACHLORIDE	5 U	5 U	5 U		5 U		
CHLOROBENZENE	5 U	5 U	49 S	92	50 S	95	3
CHLOROETHANE	10 U	11 U	11 U		11 U		
CHLOROFORM	5 U	5 U	5 U		5 U		
CHLOROMETHANE	10 U	11 U	11 U		11 U		
CIS-1,3-DICHLOROPROPENE	5 U	5 U	5 U		5 U		
DIBROMOCHLOROMETHANE	5 U	5 U	5 U		5 U		
ETHYLBENZENE	5 U	5 U	5 U		5 U		
METHYLENE CHLORIDE	5 U	5 U	5 U		5 U		
STYRENE	5 U	5 U	5 U		5 U		
TETRACHLOROETHENE	5 U	5 U	5 U		5 U		
TOLUENE	5 U	5 U	51 S	96	51 S	96	0
TOLUENE-D8							
TRANS-1,3-DICHLOROPROPENE	5 U	5 U	5 U		5 U		
TRICHLOROETHENE	5 U	5 U	47 S	88	48 S	91	3
VINYL ACETATE	10 U	11 U	11 U		11 U		
VINYL CHLORIDE	10 U	11 U	11 U		11 U		
XYLENE (TOTAL)	5 U	5 U	5 U		5 U		
1,1-DICHLOROETHANE	5 U	5 U	5 U		5 U		
1,1-DICHLOROETHENE	5 U	5 U	43 S	81	49 S	93	13
1,1,1-TRICHLOROETHANE	5 U	5 U	5 U		5 U		
1,1,2-TRICHLOROETHANE	5 U	5 U	5 U		5 U		
1,1,2,2-TETRACHLOROETHANE	5 U	5 U	5 U		5 U		
1,2-DICHLOROETHANE	5 U	5 U	5 U		0.8 J		
1,2-DICHLOROETHANE-D4							
1,2-DICHLOROETHENE	5 U	5 U	5 U		5 U		
1,2-DICHLOROPROPANE	5 U	5 U	5 U		5 U		
1,4-BROMOFLUOROBENZENE							
2-BUTANONE	19	16 B	11 U		17 B		
2-HEXANONE	10 U	11 U	11 U		11 U		
4-METHYL-2-PENTANONE	10 U	11 U	11 U		11 U		
SURR 1(TOL) %RECOVERY	116	106	107		102		
SURR 2(BFB) %RECOVERY	109	98	98		91		
SURR 3(DCE) %RECOVERY	108	102	108		101		

M/E 50

TABLE D.4.4 PETC VOLATILE ORGANICS - SDG NUMBER: PE800015A

DRAFT DO NOT CITE

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD BLANK	2.2 FIELD WASTE ACCUM	MATRIX SPIKE DUPLICATE	MSD % RECOVERY	MATRIX SPIKE	MS % RECOVERY	RPD
TYPE OF LOCATION							
SAMPLE NUMBER	VBK01696	PE800015A	PE800015A	PE800015A	PE800015A	PE800015A	PE800015A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	UG/KG	%	%
ENV PROBLEM NO		5	5	5	5	5	5
M/E 75							
M/E 95							
M/E 96							
M/E 173-1							
M/E 173-2							
M/E 174							
M/E 175-1							
M/E 175-2							
M/E 176-1							
M/E 176-2							
M/E 177-1							
M/E 177-2							
INTERNAL STD AREA(BCM)	26400	30700	24600		26200		
INTERNAL STD AREA(CBZ)	56000	69000	61800		65300		
INTERNAL STD AREA(DFB)	62600	81900	69700		77800		
DILUTION FACTOR	1	1	1		1		
PERCENT MOISTURE	0.1	5.3	5.3		5.3		
ACTUAL(ALLOWED) HOLD TIME		6(14 D)	6(14 D)		6(14 D)		

AREA	
LOCATION	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM
SAMPLE NUMBER	PE800026A
MATRIX	SOIL
UNITS	UG/KG
ENV PROBLEM NO	5
ACETONE	35 B
BENZENE	5 U
BROMODICHLOROMETHANE	5 U
BROMOFORM	5 U
BROMOMETHANE	10 U
CARBON DISULFIDE	5 U
CARBON TETRACHLORIDE	5 U

TABLE D.4.4 PETC VOLATILE ORGANICS - SDG NUMBER: PE800015A DRAFT DO NOT CITE

AREA

LOCATION	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM
SAMPLE NUMBER	PE800026A
MATRIX	SOIL
UNITS	UG/KG
ENV PROBLEM NO	5
CHLOROBENZENE	5 U
CHLOROETHANE	10 U
CHLOROFORM	5 U
CHLOROMETHANE	10 U
CIS-1,3-DICHLOROPROPENE	5 U
DIBROMOCHLOROMETHANE	5 U
ETHYLBENZENE	5 U
METHYLENE CHLORIDE	5 U
STYRENE	5 U
TETRACHLOROETHENE	5 U
TOLUENE	5 U
TOLUENE-D8	
TRANS-1,3-DICHLOROPROPENE	5 U
TRICHLOROETHENE	5 U
VINYL ACETATE	10 U
VINYL CHLORIDE	10 U
XYLENE (TOTAL)	5 U
1,1-DICHLOROETHANE	5 U
1,1-DICHLOROETHENE	5 U
1,1,1-TRICHLOROETHANE	5 U
1,1,2-TRICHLOROETHANE	5 U
1,1,2,2-TETRACHLOROETHANE	5 U
1,2-DICHLOROETHANE	5 U
1,2-DICHLOROETHANE-D4	
1,2-DICHLOROETHENE	5 U
1,2-DICHLOROPROPANE	5 U
1,4-BROMOFLUOROBENZENE	
2-BUTANONE	19 B
2-HEXANONE	10 U
4-METHYL-2-PENTANONE	10 U
SURR 1(TOL) %RECOVERY	110
SURR 2(BFB) %RECOVERY	100
SURR 3(DCE) %RECOVERY	114
M/E 50	
M/E 75	
M/E 95	
M/E 96	

TABLE D.4.4 PETC VOLATILE ORGANICS - SDG NUMBER: PE800015A

AREA

LOCATION	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM
SAMPLE NUMBER	PE800026A
MATRIX	SOIL
UNITS	UG/KG
ENV PROBLEM NO	5
M/E 173-1	
M/E 173-2	
M/E 174	
M/E 175-1	
M/E 175-2	
M/E 176-1	
M/E 176-2	
M/E 177-1	
M/E 177-2	
INTERNAL STD AREA(DCM)	20000
INTERNAL STD AREA(CBZ)	46400
INTERNAL STD AREA(DFB)	51600
DILUTION FACTOR	1
PERCENT MOISTURE	4.3
ACTUAL(ALLOWED) HOLD TIME	6(14 D)

TABLE D.4.5 PETC VOLATILE ORGANICS - SDG NUMBER: PE800037A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	INITIAL CAL	INITIAL CAL	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	CALIBRATION	RRF	% RSD	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0816885	PE0816886	PE0816886	PE0823885	PE0823887	PE0823887	PE0823888
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	RRF	%	%	RRF	%	AREA
ENV PROBLEM NO							
ACETONE		0.391	14.9		0.47	20.2	
BENZENE		2.666	1.5		2.846	6.8	
BROMODICHLOROMETHANE		1.272	2.4		1.418	11.4	
BROMOFORM		1.149	9.6		1.161	1	
BROMOMETHANE		1.483	3.7		1.643	10.8	
CARBON DISULFIDE		2.26	11.8		2.794	23.6	
CARBON TETRACHLORIDE		2.956	2.1		3.052	3.2	
CHLOROBENZENE		1.056	3.1		1.094	3.6	
CHLOROETHANE		0.608	5.8		0.702	15.4	
CHLOROFORM		3.379	2.5		3.488	3.2	
CHLOROMETHANE		1.144	2.4		1.219	6.6	
CIS-1,3-DICHLOROPROPENE		0.639	2.1		0.754	18	
DIBROMOCHLOROMETHANE		0.967	7.2		1.219	26	
ETHYLBENZENE		0.539	7.4		0.592	10	
METHYLENE CHLORIDE		1.068	15.3		1.256	17.6	
STYRENE		0.613	14.1		0.715	16.6	
TETRACHLOROETHENE		0.378	6.4		0.447	18.3	
TOLUENE		0.479	3.4		0.559	16.7	
TOLUENE-D8		0.788	4.9		0.832	5.5	
TRANS-1,3-DICHLOROPROPENE		0.532	6.2		0.592	11.4	
TRICHLOROETHENE		0.595	8.5		0.664	11.6	
VINYL ACETATE		2.929	10.9		3.33	13.7	
VINYL CHLORIDE		1.07	1.3		1.177	9.9	
XYLENE (TOTAL)		0.494	11.9		0.566	14.5	
1,1-DICHLOROETHANE		2.479	8.1		2.8	13	
1,1-DICHLOROETHENE		0.894	11.8		1.073	20.1	
1,1,1-TRICHLOROETHANE		2.617	2.5		2.73	4.3	
1,1,2-TRICHLOROETHANE		0.392	4.8		0.44	12.3	
1,1,2,2-TETRACHLOROETHANE		1.451	21.5		1.262	13.1	
1,2-DICHLOROETHANE		2.153	4.1		2.274	5.6	
1,2-DICHLOROETHANE-D4		1.901	3.3		1.935	1.8	
1,2-DICHLOROETHENE		1.079	12.4		1.242	15.1	
1,2-DICHLOROPROPANE		0.521	2.5		0.577	10.8	
1,4-BROMOFLUOROBENZENE		1.204	12.6		1.109	7.9	
2-BUTANONE		0.212	17		0.265	24.9	
2-HEXANONE		0.51	9.6		0.742	45.5	
4-METHYL-2-PENTANONE		0.69	7.5		0.836	21.2	
SURR 1(TOL) %RECOVERY							

TABLE D.4.5 PETC VOLATILE ORGANICS - SDG NUMBER: PE800037A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	INITIAL CAL	INITIAL CAL	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	CALIBRATION	RRF	% RSD	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0816885	PE0816886	PE0816886	PE0823885	PE0823887	PE0823887	PE0823888
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	RRF	%	%	RRF	%	AREA
ENV PROBLEM NO							
SURR 2(BFB) %RECOVERY							
SURR 3(DCE) %RECOVERY							
M/E 50	29			33			
M/E 75	52			58			
M/E 95	100			100			
M/E 96	5.1			7.7			
M/E 173-1	1			1			
M/E 173-2	1.7			1.5			
M/E 174	57			63			
M/E 175-1	4.6			4.9			
M/E 175-2	8.1			7.8			
M/E 176-1	57			63			
M/E 176-2	100			99			
M/E 177-1	4.4			5.6			
M/E 177-2	7.6			9			
INTERNAL STD AREA(BCM)							28000
INTERNAL STD AREA(CBZ)							68100
INTERNAL STD AREA(DFB)							77700
DILUTION FACTOR							
PERCENT MOISTURE							
ACTUAL(ALLOWED) HOLD TIME							

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD	2.2 FIELD	MATRIX	MS %	RPD	MATRIX SPIKE	MSD %
TYPE OF LOCATION	BLANK	WASTE ACCUM	SPIKE	RECOVERY		DUPLICATE	RECOVERY
SAMPLE NUMBER	VBK01710	PE800037A	PE800037A	PE800037A	PE800037A	PE800037A	PE800037A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	%	UG/KG	%
ENV PROBLEM NO		5	5	5	5	5	5
ACETONE	25 U	46	77			63	
BENZENE	13 U	13 U	130 S	100	21	110 S	85
BROMODICHLOROMETHANE	13 U	13 U	13 U			13 U	

TABLE D.4.5 PETC VOLATILE ORGANICS - SDG NUMBER: PE800037A DRAFT DO NOT CITE

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD BLANK	2.2 FIELD WASTE ACCUM	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY
TYPE OF LOCATION							
SAMPLE NUMBER	VBK01710	PE800037A	PE800037A	PE800037A	PE800037A	PE800037A	PE800037A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	%	UG/KG	%
ENV PROBLEM NO		5	5	5	5	5	5
BROMOFORM	13 U	13 U	13 U			13 U	
BROMOMETHANE	25 U	26 U	26 U			26 U	
CARBON DISULFIDE	13 U	13 U	13 U			13 U	
CARBON TETRACHLORIDE	13 U	13 U	13 U			13 U	
CHLOROBENZENE	13 U	13 U	140 S	108	9	130 S	100
CHLOROETHANE	25 U	26 U	26 U			26 U	
CHLOROFORM	13 U	13 U	13 U			13 U	
CHLOROMETHANE	25 U	26 U	26 U			26 U	
CIS-1,3-DICHLOROPROPENE	13 U	13 U	13 U			13 U	
DIBROMOCHLOROMETHANE	13 U	13 U	13 U			13 U	
ETHYLBENZENE	13 U	13 U	13 U			13 U	
METHYLENE CHLORIDE	13 U	13 U	13 U			13 U	
STYRENE	13 U	13 U	13 U			13 U	
TETRACHLOROETHENE	13 U	13 U	13 U			13 U	
TOLUENE	13 U	13 U	130 S	100	10	120 S	92
TOLUENE-D8							
TRANS-1,3-DICHLOROPROPENE	13 U	13 U	13 U			13 U	
TRICHLOROETHENE	13 U	13 U	110 S	85	16	93 S	72
VINYL ACETATE	25 U	26 U	26 U			26 U	
VINYL CHLORIDE	25 U	26 U	26 U			26 U	
XYLENE (TOTAL)	13 U	13 U	13 U			13 U	
1,1-DICHLOROETHANE	13 U	13 U	13 U			13 U	
1,1-DICHLOROETHENE	13 U	13 U	120 S	91	28 *	90 S	69
1,1,1-TRICHLOROETHANE	13 U	13 U	13 U			13 U	
1,1,2-TRICHLOROETHANE	13 U	13 U	13 U			13 U	
1,1,2,2-TETRACHLOROETHANE	13 U	13 U	13 U			13 U	
1,2-DICHLOROETHANE	13 U	13 U	13 U			13 U	
1,2-DICHLOROETHANE-D4							
1,2-DICHLOROETHENE	13 U	13 U	13 U			13 U	
1,2-DICHLOROPROPANE	13 U	13 U	13 U			13 U	
1,4-BROMOFLUOROBENZENE							
2-BUTANONE	28	26 U	27 B			41 B	
2-HEXANONE	25 U	26 U	26 U			25 U	
4-METHYL-2-PENTANONE	25 U	26 U	26 U			25 U	
SURR 1(TOL) %RECOVERY	104	101	101			92	
SURR 2(BFB) %RECOVERY	105	107	106			99	
SURR 3(DCE) %RECOVERY	102	98	102			96	

M/E 50

TABLE D.4.5 PETC VOLATILE ORGANICS - SDG NUMBER: PE800037A

DRAFT DO NOT CITE

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD BLANK	2.2 FIELD WASTE ACCUM	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY
TYPE OF LOCATION	VBK01710	PE800037A	PE800037A	PE800037A	PE800037A	PE800037A	PE800037A
SAMPLE NUMBER	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
MATRIX	UG/KG	UG/KG	UG/KG	%	%	UG/KG	%
UNITS		5	5	5	5	5	5
ENV PROBLEM NO							
M/E 75							
M/E 95							
M/E 96							
M/E 173-1							
M/E 173-2							
M/E 174							
M/E 175-1							
M/E 175-2							
M/E 176-1							
M/E 176-2							
M/E 177-1							
M/E 177-2							
INTERNAL STD AREA(BCM)	24000	25400	21800			22400	
INTERNAL STD AREA(CBZ)	57000	59100	52400			50700	
INTERNAL STD AREA(DFB)	66400	68600	59100			56500	
DILUTION FACTOR	1	1	1			1	
PERCENT MOISTURE	0.1	5.3	5.3			5.3	
ACTUAL(ALLOWED) HOLD TIME		7(14 D)	7(14 D)			7(14 D)	

AREA							
LOCATION	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	
TYPE OF LOCATION	PE800059A	PE800060A	PE800071A	PE800082A	PE800093A	PE800106A	
SAMPLE NUMBER	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
MATRIX	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	
UNITS	5	5	5	5	5	5	
ENV PROBLEM NO							
ACETONE	26 U	28 U	83	75	83	26 U	
BENZENE	13 U	14 U	13 U	13 U	13 U	13 U	
BROMODICHLOROMETHANE	13 U	14 U	13 U	13 U	13 U	13 U	
BROMOFORM	13 U	14 U	13 U	13 U	13 U	13 U	
BROMOMETHANE	26 U	28 U	26 U	26 U	26 U	26 U	
CARBON DISULFIDE	13 U	14 U	13 U	13 U	13 U	13 U	
CARBON TETRACHLORIDE	13 U	14 U	13 U	13 U	13 U	13 U	

TABLE D.4.5 PETC VOLATILE ORGANICS - SDG NUMBER: PE800037A DRAFT DO NOT CITE

AREA

LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE800059A	PE800060A	PE800071A	PE800082A	PE800093A	PE800106A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5	5	5	5
CHLOROBENZENE	13 U	14 U	13 U	13 U	13 U	13 U
CHLOROETHANE	26 U	28 U	26 U	26 U	26 U	26 U
CHLOROFORM	13 U	14 U	13 U	13 U	13 U	13 U
CHLOROMETHANE	26 U	28 U	26 U	26 U	26 U	26 U
CIS-1,3-DICHLOROPROPENE	13 U	14 U	13 U	13 U	13 U	13 U
DIBROMOCHLOROMETHANE	13 U	14 U	13 U	13 U	13 U	13 U
ETHYLBENZENE	13 U	14 U	13 U	13 U	13 U	13 U
METHYLENE CHLORIDE	13 U	14 U	13 U	13 U	13 U	13 U
STYRENE	13 U	14 U	13 U	13 U	13 U	13 U
TETRACHLOROETHENE	13 U	14 U	13 U	13 U	13 U	13 U
TOLUENE	13 U	14 U	13 U	13 U	13 U	13 U
TOLUENE-D8						
TRANS-1,3-DICHLOROPROPENE	13 U	14 U	13 U	13 U	13 U	13 U
TRICHLOROETHENE	13 U	14 U	13 U	13 U	13 U	13 U
VINYL ACETATE	26 U	28 U	26 U	26 U	26 U	26 U
VINYL CHLORIDE	26 U	28 U	26 U	26 U	26 U	26 U
XYLENE (TOTAL)	13 U	14 U	13 U	13 U	13 U	13 U
1,1-DICHLOROETHANE	13 U	14 U	13 U	13 U	13 U	13 U
1,1-DICHLOROETHENE	13 U	14 U	13 U	13 U	13 U	13 U
1,1,1-TRICHLOROETHANE	13 U	14 U	13 U	13 U	13 U	13 U
1,1,2-TRICHLOROETHANE	13 U	14 U	13 U	13 U	13 U	13 U
1,1,2,2-TETRACHLOROETHANE	13 U	14 U	13 U	13 U	13 U	13 U
1,2-DICHLOROETHANE	13 U	14 U	13 U	13 U	13 U	13 U
1,2-DICHLOROETHANE-D4						
1,2-DICHLOROETHENE	13 U	14 U	13 U	13 U	13 U	13 U
1,2-DICHLOROPROPANE	13 U	14 U	13 U	13 U	13 U	13 U
1,4-BROMOFLUOROBENZENE						
2-BUTANONE	33 B	34 B	26 U	26 U	26 U	27 B
2-HEXANONE	26 U	28 U	26 U	26 U	26 U	26 U
4-METHYL-2-PENTANONE	26 U	28 U	26 U	26 U	26 U	26 U
SURR 1(TOL) %RECOVERY	103	103	103	102	102	105
SURR 2(BFB) %RECOVERY	104	106	120	109	108	109
SURR 3(DCE) %RECOVERY	109	109	111	106	113	105

M/E 50
M/E 75
M/E 95
M/E 96

TABLE D.4.5 PETC VOLATILE ORGANICS - SDG NUMBER: PE800037A DRAFT DO NOT CITE

AREA

LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE800059A	PE800060A	PE800071A	PE800082A	PE800093A	PE800106A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5	5	5	5
M/E 173-1						
M/E 173-2						
M/E 174						
M/E 175-1						
M/E 175-2						
M/E 176-1						
M/E 176-2						
M/E 177-1						
M/E 177-2						
INTERNAL STD AREA(BCM)	21300	20500	17200	21200	17800	19600
INTERNAL STD AREA(CBZ)	55200	53100	35800	53600	44800	49200
INTERNAL STD AREA(DFB)	63300	61700	48000	62100	54400	56100
DILUTION FACTOR	1	1	1	1	1	1
PERCENT MOISTURE	3.9	9.2	3.4	5.6	3.5	3.6
ACTUAL(ALLOWED) HOLD TIME	7(14 D)	7(14 D)	7(14 D)	7(14 D)	7(14 D)	7(14 D)

TABLE D.4.6 PETC VOLATILE ORGANICS - SDG NUMBER: PE800048A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	INITIAL CAL	INITIAL CAL	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	CALIBRATION	RRF	% RSD	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0816885	PE0816886	PE0816886	PE0824885	PE0824887	PE0824887	PE0824888
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	RRF	%	%	RRF	%	AREA
ENV PROBLEM NO							
ACETONE		0.391	14.9		0.765	95.8	
BENZENE		2.666	1.5		2.858	7.2	
BROMODICHLOROMETHANE		1.272	2.4		1.421	11.7	
BROMOFORM		1.149	9.6		1.181	2.8	
BROMOMETHANE		1.483	3.7		1.594	7.4	
CARBON DISULFIDE		2.26	11.8		2.501	10.7	
CARBON TETRACHLORIDE		2.956	2.1		2.914	1.4	
CHLOROBENZENE		1.056	3.1		1.19	12.7	
CHLOROETHANE		0.608	5.8		0.678	11.6	
CHLOROFORM		3.379	2.5		3.486	3.2	
CHLOROMETHANE		1.144	2.4		1.224	7	
CIS-1,3-DICHLOROPROPENE		0.639	2.1		0.75	17.4	
DIBROMOCHLOROMETHANE		0.967	7.2		1.132	17	
ETHYLBENZENE		0.539	7.4		0.456	15.3	
METHYLENE CHLORIDE		1.068	15.3		1.25	17	
STYRENE		0.613	14.1		0.737	20.2	
TETRACHLOROETHENE		0.378	6.4		0.445	17.9	
TOLUENE		0.479	3.4		0.565	17.9	
TOLUENE-D8		0.788	4.9		0.797	1.1	
TRANS-1,3-DICHLOROPROPENE		0.532	6.2		0.616	15.9	
TRICHLOROETHENE		0.595	8.5		0.602	1.1	
VINYL ACETATE		2.929	10.9		3.95	34.9	
VINYL CHLORIDE		1.07	1.3		1.134	5.9	
XYLENE (TOTAL)		0.494	11.9		0.607	22.8	
1,1-DICHLOROETHANE		2.479	8.1		2.825	14	
1,1-DICHLOROETHENE		0.894	11.8		0.978	9.4	
1,1,1-TRICHLOROETHANE		2.617	2.5		2.67	2	
1,1,2-TRICHLOROETHANE		0.392	4.8		0.44	12.2	
1,1,2,2-TETRACHLOROETHANE		1.451	21.5		1.482	2.1	
1,2-DICHLOROETHANE		2.153	4.1		2.235	3.8	
1,2-DICHLOROETHANE-D4		1.901	3.3		1.883	0.9	
1,2-DICHLOROETHENE		1.079	12.4		1.215	12.5	
1,2-DICHLOROPROPANE		0.521	2.5		0.591	13.3	
1,4-BROMOFLUOROBENZENE		1.204	12.6		1.149	4.5	
2-BUTANONE		0.212	17		0.299	41.3	
2-HEXANONE		0.51	9.6		0.704	38	
4-METHYL-2-PENTANONE		0.69	7.5		0.833	20.8	
SURR 1(TOL) %RECOVERY							

TABLE D.4.6 PETC VOLATILE ORGANICS - SDG NUMBER: PE800048A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED CALIBRATION	INITIAL CAL RRF	INITIAL CAL % RSD	TUNED CALIBRATION	CONTINUING CALIBRATION	CONTINUING CAL %D	ISTD RET TIM SHIFT
TYPE OF LOCATION	PE0816885	PE0816886	PE0816886	PE0824885	PE0824887	PE0824887	PE0824888
SAMPLE NUMBER	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
MATRIX	%	RRF	%	%	RRF	%	AREA
UNITS							
ENV PROBLEM NO							
SURR 2(BFB) %RECOVERY							
SURR 3(DCE) %RECOVERY							
M/E 50	29			30			
M/E 75	52			60			
M/E 95	100			100			
M/E 96	5.1			6.3			
M/E 173-1	1			0			
M/E 173-2	1.7			0			
M/E 174	57			60			
M/E 175-1	4.6			4.6			
M/E 175-2	8.1			7.7			
M/E 176-1	57			60			
M/E 176-2	100			100			
M/E 177-1	4.4			4.3			
M/E 177-2	7.6			7.2			
INTERNAL STD AREA(BCM)							28600
INTERNAL STD AREA(CBZ)							65000
INTERNAL STD AREA(DFB)							76600
DILUTION FACTOR							
PERCENT MOISTURE							
ACTUAL(ALLOWED) HOLD TIME							

AREA	QA						QA
LOCATION	METHOD BLANK	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	TUNED CALIBRATION
TYPE OF LOCATION	VBK01724	PE800117A	PE800139A	PE800140A	PE800151A	PE801016A	PE0825885
SAMPLE NUMBER	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
MATRIX	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	%
UNITS		5	5	5	5	5	
ENV PROBLEM NO							
ACETONE	34	36 B	47 B	26 U	60 B	110 B	
BENZENE	13 U	13 U	14 U	13 U	13 U	28 U	
BROMODICHLOROMETHANE	13 U	13 U	14 U	13 U	13 U	28 U	

TABLE D.4.6 PETC VOLATILE ORGANICS - SDG NUMBER: PE800048A DRAFT DO NOT CITE

AREA	QA						QA
LOCATION	METHOD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	TUNED
TYPE OF LOCATION	BLANK	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CALIBRATION
SAMPLE NUMBER	VBK01724	PE800117A	PE800139A	PE800140A	PE800151A	PE801016A	PE0825885
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO		5	5	5	5	5	
BROMOFORM	13 U	13 U	14 U	13 U	13 U	28 U	
BROMOMETHANE	25 U	26 U	26 U	26 U	26 U	56 U	
CARBON DISULFIDE	13 U	13 U	14 U	13 U	13 U	28 U	
CARBON TETRACHLORIDE	13 U	13 U	14 U	13 U	13 U	28 U	
CHLOROBENZENE	13 U	13 U	14 U	13 U	13 U	28 U	
CHLOROETHANE	25 U	26 U	26 U	26 U	26 U	56 U	
CHLOROFORM	13 U	13 U	14 U	13 U	13 U	28 U	
CHLOROMETHANE	25 U	26 U	26 U	26 U	26 U	56 U	
CIS-1,3-DICHLOROPROPENE	13 U	13 U	14 U	13 U	13 U	28 U	
DIBROMOCHLOROMETHANE	13 U	13 U	14 U	13 U	13 U	28 U	
ETHYLBENZENE	13 U	13 U	14 U	13 U	13 U	28 U	
METHYLENE CHLORIDE	13 U	13 U	14 U	13 U	13 U	28 U	
STYRENE	13 U	13 U	14 U	13 U	13 U	28 U	
TETRACHLOROETHENE	13 U	13 U	14 U	13 U	13 U	28 U	
TOLUENE	13 U	13 U	14 U	13 U	13 U	28 U	
TOLUENE-D8							
TRANS-1,3-DICHLOROPROPENE	13 U	13 U	14 U	13 U	13 U	28 U	
TRICHLOROETHENE	13 U	13 U	14 U	13 U	13 U	28 U	
VINYL ACETATE	25 U	26 U	26 U	26 U	26 U	56 U	
VINYL CHLORIDE	25 U	26 U	26 U	26 U	26 U	56 U	
XYLENE (TOTAL)	13 U	13 U	14 U	13 U	13 U	28 U	
1,1-DICHLOROETHANE	13 U	13 U	14 U	13 U	13 U	28 U	
1,1-DICHLOROETHENE	13 U	13 U	14 U	13 U	13 U	28 U	
1,1,1-TRICHLOROETHANE	13 U	13 U	14 U	13 U	13 U	28 U	
1,1,2-TRICHLOROETHANE	13 U	13 U	14 U	13 U	13 U	28 U	
1,1,2,2-TETRACHLOROETHANE	13 U	13 U	14 U	13 U	13 U	28 U	
1,2-DICHLOROETHANE	13 U	13 U	14 U	13 U	13 U	28 U	
1,2-DICHLOROETHANE-D4							
1,2-DICHLOROETHENE	13 U	13 U	14 U	13 U	13 U	28 U	
1,2-DICHLOROPROPANE	13 U	13 U	14 U	13 U	13 U	28 U	
1,4-BROMOFLUOROBENZENE							
2-BUTANONE	26	26 B	34 B	34 B	38 B	53 JB	
2-HEXANONE	25 U	26 U	26 U	26 U	26 U	56 U	
4-METHYL-2-PENTANONE	25 U	26 U	26 U	26 U	26 U	56 U	
SURR 1(TOL) %RECOVERY	111	109	108	111	116	106	
SURR 2(BFB) %RECOVERY	104	103	102	103	107	108	
SURR 3(DCE) %RECOVERY	107	106	115	112	113	111	

M/E 50 30

TABLE D.4.6 PETC VOLATILE ORGANICS - SDG NUMBER: PE800048A DRAFT DO NOT CITE

AREA	QA						QA
LOCATION	METHOD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	TUNED
TYPE OF LOCATION	BLANK	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CALIBRATION
SAMPLE NUMBER	VBK01724	PE800117A	PE800139A	PE800140A	PE800151A	PE801016A	PE0825885
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO		5	5	5	5	5	
M/E 75							58
M/E 95							100
M/E 96							7.9
M/E 173-1							0
M/E 173-2							0
M/E 174							55
M/E 175-1							3.9
M/E 175-2							7
M/E 176-1							53
M/E 176-2							96
M/E 177-1							3.6
M/E 177-2							6.8
INTERNAL STD AREA(BCM)	20900	22200	19300	18500	19100	19200	
INTERNAL STD AREA(CBZ)	48600	55600	48700	45300	47400	43800	
INTERNAL STD AREA(DFB)	53400	64300	55600	52700	53100	50900	
DILUTION FACTOR	1	1	1	1	1	1	
PERCENT MOISTURE	0.1	2.1	4.3	2.7	2.6	10.5	
ACTUAL(ALLOWED) HOLD TIME		8(14 D)	8(14 D)	8(14 D)	8(14 D)	8(14 D)	

AREA	QA	QA	QA	QA		QA	QA
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	METHOD	2.2 FIELD	MATRIX	MS %
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT	BLANK	WASTE ACCUM	SPIKE	RECOVERY
SAMPLE NUMBER	PE0825887	PE0825887	PE0825888	VBK01740	PE801038A	PE801038A	PE801038A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	RRF	%	AREA	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO					5	5	5
ACETONE	0.47	20.2		53	97 B	98 B	
BENZENE	2.875	7.8		13 U	15 U	140 S	92
BROMODICHLOROMETHANE	1.529	20.2		13 U	15 U	15 U	
BROMOFORM	1.192	3.7		13 U	15 U	15 U	
BROMOMETHANE	1.696	14.3		25 U	30 U	30 U	
CARBON DISULFIDE	2.879	27.4		13 U	15 U	15 U	
CARBON TETRACHLORIDE	3.059	3.5		13 U	15 U	15 U	

TABLE D.4.6 PETC VOLATILE ORGANICS - SDG NUMBER: PE800848A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA		QA	QA
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	METHOD	2.2 FIELD	MATRIX	MS %
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT	BLANK	WASTE ACCUM	SPIKE	RECOVERY
SAMPLE NUMBER	PE0825887	PE0825887	PE0825888	VBK01740	PE801038A	PE801038A	PE801038A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	RRF	%	AREA	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO					5	5	5
CHLOROBENZENE	1.192	12.9		13 U	15 U	140 S	95
CHLOROETHANE	0.73	20.1		25 U	30 U	30 U	
CHLOROFORM	3.577	5.9		13 U	15 U	15 U	
CHLOROMETHANE	1.309	14.4		25 U	30 U	30 U	
CIS-1,3-DICHLOROPROPENE	0.786	23		13 U	15 U	15 U	
DIBROMOCHLOROMETHANE	1.132	17		13 U	15 U	15 U	
ETHYLBENZENE	0.63	17		13 U	15 U	15 U	
METHYLENE CHLORIDE	1.276	19.4		13 U	15 U	15 U	
STYRENE	0.754	23		13 U	15 U	15 U	
TETRACHLOROETHENE	0.44	16.6		13 U	15 U	15 U	
TOLUENE	0.577	20.3		13 U	15 U	130 S	88
TOLUENE-D8	0.859	8.9					
TRANS-1,3-DICHLOROPROPENE	0.645	21.2		13 U	15 U	15 U	
TRICHLOROETHENE	0.595	0		13 U	15 U	130 S	85
VINYL ACETATE	4.291	46.5		25 U	30 U	30 U	
VINYL CHLORIDE	1.214	13.4		25 U	30 U	30 U	
XYLENE (TOTAL)	0.609	23.1		13 U	15 U	15 U	
1,1-DICHLOROETHANE	2.931	18.2		13 U	15 U	15 U	
1,1-DICHLOROETHENE	1.028	15		13 U	15 U	130 S	84
1,1,1-TRICHLOROETHANE	2.711	3.6		13 U	15 U	15 U	
1,1,2-TRICHLOROETHANE	0.472	20.4		13 U	15 U	15 U	
1,1,2,2-TETRACHLOROETHANE	1.661	14.5		13 U	15 U	15 U	
1,2-DICHLOROETHANE	2.284	6.1		13 U	15 U	15 U	
1,2-DICHLOROETHANE-D4	1.984	4.4					
1,2-DICHLOROETHENE	1.323	22.5		13 U	15 U	15 U	
1,2-DICHLOROPROPANE	0.643	23.3		13 U	15 U	15 U	
1,4-BROMOFLUOROBENZENE	1.22	1.3					
2-BUTANONE	0.259	22.4		28	30 U	55 B	
2-HEXANONE	0.602	18.1		25 U	30 U	30 U	
4-METHYL-2-PENTANONE	0.924	33.9		25 U	30 U	30 U	
SURR 1(TOL) %RECOVERY				98	101	93	
SURR 2(BFB) %RECOVERY				98	97	119	
SURR 3(DCE) %RECOVERY				105	99	97	

M/E 50
M/E 75
M/E 95
M/E 96

TABLE D.4.6 PETC VOLATILE ORGANICS - SDG NUMBER: PE800048A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA		QA	QA
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	METHOD	2.2 FIELD	MATRIX	MS %
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT	BLANK	WASTE ACCUM	SPIKE	RECOVERY
SAMPLE NUMBER	PE0825887	PE0825887	PE0825888	VBK01740	PE801038A	PE801038A	PE801038A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	RRF	%	AREA	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO					5	5	5
M/E 173-1							
M/E 173-2							
M/E 174							
M/E 175-1							
M/E 175-2							
M/E 176-1							
M/E 176-2							
M/E 177-1							
M/E 177-2							
INTERNAL STD AREA(BCM)			26300	23100	28200	24500	
INTERNAL STD AREA(CBZ)			59500	55500	67600	44700	
INTERNAL STD AREA(DFB)			69800	65000	78900	64200	
DILUTION FACTOR				1	1	1	
PERCENT MOISTURE				0.1	15.3	15.3	
ACTUAL(ALLOWED) HOLD TIME					9(14 D)	9(14 D)	

AREA	QA	QA	QA				
LOCATION	RPD	MATRIX SPIKE	MSD %	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION		DUPLICATE	RECOVERY	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE801038A	PE801038A	PE801038A	PE801049A	PE801050A	PE801061A	PE801072A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	UG/KG	%	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5	5	5	5	5
ACETONE		100 B		28 U	84 B	200 B	76 B
BENZENE	12	150 S	104	14 U	14 U	28 U	13 U
BROMODICHLOROMETHANE		15 U		14 U	14 U	28 U	13 U
BROMOFORM		15 U		14 U	14 U	28 U	13 U
BROMOMETHANE		30 U		28 U	26 U	56 U	27 U
CARBON DISULFIDE		15 U		14 U	14 U	28 U	13 U
CARBON TETRACHLORIDE		15 U		14 U	14 U	28 U	13 U
CHLOROBENZENE	2	140 S	93	14 U	14 U	28 U	13 U
CHLOROETHANE		30 U		28 U	26 U	56 U	27 U
CHLOROFORM		15 U		14 U	14 U	28 U	13 U

TABLE D.4.6 PETC VOLATILE ORGANICS - SDG NUMBER: PE800048A

DRAFT DO NOT CITE

AREA	QA	QA	QA				
LOCATION	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM
TYPE OF LOCATION							
SAMPLE NUMBER	PE801038A	PE801038A	PE801038A	PE801049A	PE801050A	PE801061A	PE801072A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	UG/KG	%	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5	5	5	5	5
CHLOROMETHANE		30 U		28 U	26 U	56 U	27 U
CIS-1,3-DICHLOROPROPENE		15 U		14 U	14 U	28 U	13 U
DIBROMOCHLOROMETHANE		15 U		14 U	14 U	28 U	13 U
ETHYLBENZENE		15 U		14 U	14 U	28 U	13 U
METHYLENE CHLORIDE		15 U		14 U	14 U	28 U	13 U
STYRENE		15 U		14 U	14 U	28 U	13 U
TETRACHLOROETHENE		15 U		14 U	14 U	28 U	13 U
TOLUENE	1	130 S	87	14 U	14 U	28 U	13 U
TOLUENE-D8							
TRANS-1,3-DICHLOROPROPENE		15 U		14 U	14 U	28 U	13 U
TRICHLOROETHENE	2	130 S	87	14 U	14 U	28 U	13 U
VINYL ACETATE		30 U		28 U	26 U	56 U	27 U
VINYL CHLORIDE		30 U		28 U	26 U	56 U	27 U
XYLENE (TOTAL)		15 U		14 U	14 U	28 U	13 U
1,1-DICHLOROETHANE		15 U		14 U	14 U	28 U	13 U
1,1-DICHLOROETHENE	14	140 S	97	14 U	14 U	28 U	13 U
1,1,1-TRICHLOROETHANE		15 U		14 U	14 U	28 U	13 U
1,1,2-TRICHLOROETHANE		15 U		14 U	14 U	28 U	13 U
1,1,2,2-TETRACHLOROETHANE		15 U		14 U	14 U	28 U	13 U
1,2-DICHLOROETHANE		15 U		14 U	14 U	28 U	13 U
1,2-DICHLOROETHANE-D4							
1,2-DICHLOROETHENE		15 U		14 U	14 U	28 U	13 U
1,2-DICHLOROPROPANE		15 U		14 U	14 U	28 U	13 U
1,4-BROMOFLUOROBENZENE							
2-BUTANONE		30 U		44 B	26 U	56 U	27 U
2-HEXANONE		30 U		28 U	26 U	56 U	27 U
4-METHYL-2-PENTANONE		30 U		28 U	26 U	56 U	27 U
SURR 1(TOL) %RECOVERY		97		98	98	103	108
SURR 2(BFB) %RECOVERY		97		101	118	94	103
SURR 3(DCE) %RECOVERY		110		108	104	109	106

M/E 50
M/E 75
M/E 95
M/E 96
M/E 173-1
M/E 173-2
M/E 174

TABLE D.4.6 PETC VOLATILE ORGANICS - SDG NUMBER: PE800048A

DRAFT DO NOT CITE

AREA	QA	QA	QA				
LOCATION	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM
TYPE OF LOCATION							
SAMPLE NUMBER	PE801038A	PE801038A	PE801038A	PE801049A	PE801050A	PE801061A	PE801072A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	UG/KG	%	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5	5	5	5	5
M/E 175-1							
M/E 175-2							
M/E 176-1							
M/E 176-2							
M/E 177-1							
M/E 177-2							
INTERNAL STD AREA(BCM)		21700		23000	23900	21200	22200
INTERNAL STD AREA(CBZ)		55600		55400	44000	53300	53300
INTERNAL STD AREA(DFB)		64700		67700	68700	62500	61200
DILUTION FACTOR		1		1	1	1	1
PERCENT MOISTURE		15.3		11.7	4.4	11.5	7.4
ACTUAL(ALLOWED) HOLD TIME		9(14 D)		9(14 D)	9(14 D)	9(14 D)	9(14 D)

AREA			
LOCATION	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM
TYPE OF LOCATION			
SAMPLE NUMBER	PE800048A	PE800128A	PE801027A
MATRIX	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5
ACETONE	76 B	77 B	240 B
BENZENE	13 U	13 U	37 U
BROMODICHLOROMETHANE	13 U	13 U	74 U
BROMOFORM	13 U	13 U	37 U
BROMOMETHANE	26 U	26 U	74 U
CARBON DISULFIDE	13 U	13 U	37 U
CARBON TETRACHLORIDE	13 U	13 U	37 U
CHLOROBENZENE	13 U	13 U	37 U
CHLOROETHANE	26 U	26 U	74 U
CHLOROFORM	13 U	13 U	37 U
CHLOROMETHANE	26 U	26 U	74 U
CIS-1,3-DICHLOROPROPENE	13 U	13 U	37 U
DIBROMOCHLOROMETHANE	13 U	13 U	37 U

TABLE D.4.6 PETC VOLATILE ORGANICS - SDG NUMBER: PE800048A

DRAFT DO NOT CITE

AREA

LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE800048A	PE800128A	PE801027A
MATRIX	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5
ETHYLBENZENE	13 U	13 U	37 U
METHYLENE CHLORIDE	13 U	13 U	37 U
STYRENE	13 U	13 U	37 U
TETRACHLOROETHENE	13 U	13 U	37 U
TOLUENE	13 U	13 U	37 U
TOLUENE-D8			
TRANS-1,3-DICHLOROPROPENE	13 U	13 U	37 U
TRICHLOROETHENE	13 U	13 U	37 U
VINYL ACETATE	26 U	26 U	76 U
VINYL CHLORIDE	26 U	26 U	74 U
XYLENE (TOTAL)	13 U	13 U	37 U
1,1-DICHLOROETHANE	13 U	13 U	37 U
1,1-DICHLOROETHENE	13 U	13 U	37 U
1,1,1-TRICHLOROETHANE	13 U	13 U	37 U
1,1,2-TRICHLOROETHANE	13 U	13 U	37 U
1,1,2,2-TETRACHLOROETHANE	13 U	13 U	37 U
1,2-DICHLOROETHANE	13 U	13 U	37 U
1,2-DICHLOROETHANE-D4			
1,2-DICHLOROETHENE	13 U	13 U	37 U
1,2-DICHLOROPROPANE	13 U	13 U	74 U
1,4-BROMOFLUOROBENZENE			
2-BUTANONE	33 B	30 B	76 B
2-HEXANONE	26 U	26 U	74 U
4-METHYL-2-PENTANONE	26 U	26 U	74 U
SURR 1(TOL) %RECOVERY	101	101	96
SURR 2(BFB) %RECOVERY	100	100	96
SURR 3(DCE) %RECOVERY	110	110	101
M/E 50			
M/E 75			
M/E 95			
M/E 96			
M/E 173-1			
M/E 173-2			
M/E 174			
M/E 175-1			
M/E 175-2			
M/E 176-1			

TABLE D.4.6 PETC VOLATILE ORGANICS - SDG NUMBER: PE800048A

AREA

LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE800048A	PE800128A	PE801027A
MATRIX	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5
M/E 176-2			
M/E 177-1			
M/E 177-2			
INTERNAL STD AREA(BCM)	22900	19900	22500
INTERNAL STD AREA(CBZ)	30200	46500	57500
INTERNAL STD AREA(DFB)	63800	51600	67800
DILUTION FACTOR	1	1	1
PERCENT MOISTURE	6.8	2.7	32.5
ACTUAL(ALLOWED) HOLD TIME	9(14 D)	9(14 D)	9(14 D)

TABLE D.4.7 PETC VOLATILE ORGANICS - SDG NUMBER: PE801083A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	INITIAL CAL	INITIAL CAL	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	CALIBRATION	RRF	% RSD	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0816885	PE0816886	PE0816886	PE0826885	PE0826887	PE0826887	PE0826888
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	RRF	%	%	RRF	%	AREA
ENV PROBLEM NO							
ACETONE		0.391	14.9		0.474	21.4	
BENZENE		2.666	1.5		2.88	8	
BROMODICHLOROMETHANE		1.272	2.4		1.425	12	
BROMOFORM		1.149	9.6		1.283	11.6	
BROMOMETHANE		1.483	3.7		1.578	6.4	
CARBON DISULFIDE		2.26	11.8		2.61	15.5	
CARBON TETRACHLORIDE		2.956	2.1		2.885	2.4	
CHLOROBENZENE		1.056	3.1		1.106	4.8	
CHLOROETHANE		0.608	5.8		0.676	11.2	
CHLOROFORM		3.379	2.5		3.464	2.5	
CHLOROMETHANE		1.144	2.4		1.276	11.6	
CIS-1,3-DICHLOROPROPENE		0.639	2.1		0.714	11.7	
DIBROMOCHLOROMETHANE		0.967	7.2		1.025	5.9	
ETHYLBENZENE		0.539	7.4		0.487	9.6	
METHYLENE CHLORIDE		1.068	15.3		1.221	14.4	
STYRENE		0.613	14.1		0.524	14.5	
TETRACHLOROETHENE		0.378	6.4		0.406	7.4	
TOLUENE		0.479	3.4		0.528	10.2	
TOLUENE-D8		0.788	4.9		0.843	6.9	
TRANS-1,3-DICHLOROPROPENE		0.532	6.2		0.588	10.5	
TRICHLOROETHENE		0.595	8.5		0.543	8.7	
VINYL ACETATE		2.929	10.9		3.389	15.7	
VINYL CHLORIDE		1.07	1.3		1.137	6.2	
XYLENE (TOTAL)		0.494	11.9		0.444	10.1	
1,1-DICHLOROETHANE		2.479	8.1		2.689	8.5	
1,1-DICHLOROETHENE		0.894	11.8		0.995	11.4	
1,1,1-TRICHLOROETHANE		2.617	2.5		2.567	1.9	
1,1,2-TRICHLOROETHANE		0.392	4.8		0.459	17.2	
1,1,2,2-TETRACHLOROETHANE		1.451	21.5		1.822	25.5	
1,2-DICHLOROETHANE		2.153	4.1		2.379	10.5	
1,2-DICHLOROETHANE-D4		1.901	3.3		2.154	13.3	
1,2-DICHLOROETHENE		1.079	12.4		1.176	9	
1,2-DICHLOROPROPANE		0.521	2.5		0.605	16	
1,4-BROMOFLUOROBENZENE		1.204	12.6		1.343	11.5	
2-BUTANONE		0.212	17		0.216	2	
2-HEXANONE		0.51	9.6		0.578	13.3	
4-METHYL-2-PENTANONE		0.69	7.5		0.905	31.1	
SURR 1(TOL) %RECOVERY							

TABLE D.4.7 PETC VOLATILE ORGANICS - SDG NUMBER: PE801083A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	INITIAL CAL	INITIAL CAL	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	CALIBRATION	RRF	% RSD	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0816885	PE0816886	PE0816886	PE0826885	PE0826887	PE0826887	PE0826888
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	RRF	%	%	RRF	%	AREA
ENV PROBLEM NO							
SURR 2(BFB) %RECOVERY							
SURR 3(DCE) %RECOVERY							
M/E 50	29			36			
M/E 75	52			59			
M/E 95	100			100			
M/E 96	5.1			6.7			
M/E 173-1	1			0			
M/E 173-2	1.7			0			
M/E 174	57			68			
M/E 175-1	4.6			5.8			
M/E 175-2	8.1			8.5			
M/E 176-1	57			68			
M/E 176-2	100			100			
M/E 177-1	4.4			4.5			
M/E 177-2	7.6			6.5			
INTERNAL STD AREA(BCM)							25200
INTERNAL STD AREA(CBZ)							37500
INTERNAL STD AREA(DFB)							70300
DILUTION FACTOR							
PERCENT MOISTURE							
ACTUAL(ALLOWED) HOLD TIME							

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD	2.2 FIELD	MATRIX	MS %	RPD	MATRIX SPIKE	MSD %
TYPE OF LOCATION	BLANK	WASTE ACCUM	SPIKE	RECOVERY		DUPLICATE	RECOVERY
SAMPLE NUMBER	VBK01754	PE801083A	PE801083A	PE801083A	PE801083A	PE801083A	PE801083A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	%	UG/KG	%
ENV PROBLEM NO		5	5	5	5	5	5
ACETONE	59	72 B	61 B			74 B	
BENZENE	13 U	14 U	140 S	99	11	120 S	88
BROMODICHLOROMETHANE	13 U	14 U	14 U			14 U	

TABLE D.4.7 PETC VOLATILE ORGANICS - SDG NUMBER: PE801083A DRAFT DO NOT CITE

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD BLANK	2.2 FIELD WASTE ACCUM	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY
TYPE OF LOCATION							
SAMPLE NUMBER	VBK01754	PE801083A	PE801083A	PE801083A	PE801083A	PE801083A	PE801083A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	%	UG/KG	%
ENV PROBLEM NO		5	5	5	5	5	5
BROMOFORM	13 U	14 U	14 U			14 U	
BROMOMETHANE	25 U	27 U	27 U			27 U	
CARBON DISULFIDE	13 U	14 U	14 U			14 U	
CARBON TETRACHLORIDE	13 U	14 U	14 U			14 U	
CHLOROBENZENE	13 U	14 U	150 S	110	14	130 S	95
CHLOROETHANE	25 U	27 U	27 U			27 U	
CHLOROFORM	13 U	14 U	14 U			14 U	
CHLOROMETHANE	25 U	27 U	27 U			27 U	
CIS-1,3-DICHLOROPROPENE	13 U	14 U	14 U			14 U	
DIBROMOCHLOROMETHANE	13 U	14 U	14 U			14 U	
ETHYLBENZENE	13 U	14 U	14 U			14 U	
METHYLENE CHLORIDE	13 U	14 U	14 U			14 U	
STYRENE	13 U	14 U	14 U			14 U	
TETRACHLOROETHENE	13 U	14 U	14 U			14 U	
TOLUENE	13 U	14 U	140 S	103	3	140 S	99
TOLUENE-D8							
TRANS-1,3-DICHLOROPROPENE	13 U	14 U	14 U			14 U	
TRICHLOROETHENE	13 U	14 U	140 S	103	11	130 S	92
VINYL ACETATE	25 U	27 U	27 U			27 U	
VINYL CHLORIDE	25 U	27 U	27 U			27 U	
XYLENE (TOTAL)	13 U	14 U	14 U			14 U	
1,1-DICHLOROETHANE	13 U	14 U	14 U			14 U	
1,1-DICHLOROETHENE	13 U	14 U	140 S	100	9	130 S	91
1,1,1-TRICHLOROETHANE	13 U	14 U	14 U			14 U	
1,1,2-TRICHLOROETHANE	13 U	14 U	14 U			14 U	
1,1,2,2-TETRACHLOROETHANE	13 U	14 U	14 U			14 U	
1,2-DICHLOROETHANE	13 U	14 U	14 U			14 U	
1,2-DICHLOROETHANE-D4							
1,2-DICHLOROETHENE	13 U	14 U	14 U			14 U	
1,2-DICHLOROPROPANE	13 U	14 U	14 U			14 U	
1,4-BROMOFLUOROBENZENE							
2-BUTANONE	25 U	50	61			27 U	
2-HEXANONE	25 U	27 U	27 U			27 U	
4-METHYL-2-PENTANONE	25 U	27 U	27 U			27 U	
SURR 1(TOL) %RECOVERY	105	106	102			97	
SURR 2(BFB) %RECOVERY	88	93	115			84	
SURR 3(DCE) %RECOVERY	97	95	96			93	

M/E 50

TABLE D.4.7 PETC VOLATILE ORGANICS - SDG NUMBER: PE801083A

DRAFT DO NOT CITE

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD BLANK	2.2 FIELD WASTE ACCUM	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY
TYPE OF LOCATION							
SAMPLE NUMBER	VBK01754	PE801083A	PE801083A	PE801083A	PE801083A	PE801083A	PE801083A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	%	UG/KG	%
ENV PROBLEM NO		5	5	5	5	5	5
M/E 75							
M/E 95							
M/E 96							
M/E 173-1							
M/E 173-2							
M/E 174							
M/E 175-1							
M/E 175-2							
M/E 176-1							
M/E 176-2							
M/E 177-1							
M/E 177-2							
INTERNAL STD AREA(BCM)	21800	26700	23500			22800	
INTERNAL STD AREA(CBZ)	52000	60300	39700			54600	
INTERNAL STD AREA(DFB)	58600	72100	62600			59800	
DILUTION FACTOR	1	1	1			1	
PERCENT MOISTURE	0.1	8.7	8.7			8.7	
ACTUAL(ALLOWED) HOLD TIME		10(14 D)	10(14 D)			10(14 D)	

AREA			
LOCATION	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM
TYPE OF LOCATION			
SAMPLE NUMBER	PE801094A	PE801107A	PE804020A
MATRIX	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5
ACETONE	87 B	170 B	85 B
BENZENE	13 U	28 U	15 U
BROMODICHLOROMETHANE	13 U	28 U	15 U
BROMOFORM	13 U	28 U	15 U
BROMOMETHANE	27 U	56 U	30 U
CARBON DISULFIDE	13 U	28 U	15 U
CARBON TETRACHLORIDE	13 U	28 U	15 U

TABLE D.4.7 PETC VOLATILE ORGANICS - SDG NUMBER: PE801083A DRAFT DO NOT CITE

AREA

LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE801094A	PE801107A	PE804020A
MATRIX	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5
CHLOROBENZENE	13 U	28 U	15 U
CHLOROETHANE	27 U	56 U	30 U
CHLOROFORM	13 U	28 U	15 U
CHLOROMETHANE	27 U	56 U	30 U
CIS-1,3-DICHLOROPROPENE	13 U	28 U	15 U
DIBROMOCHLOROMETHANE	13 U	28 U	15 U
ETHYLBENZENE	13 U	28 U	15 U
METHYLENE CHLORIDE	13 U	28 U	15 U
STYRENE	13 U	28 U	15 U
TETRACHLOROETHENE	13 U	28 U	15 U
TOLUENE	13 U	28 U	15 U
TOLUENE-D8			
TRANS-1,3-DICHLOROPROPENE	13 U	28 U	15 U
TRICHLOROETHENE	13 U	28 U	15 U
VINYL ACETATE	27 U	56 U	30 U
VINYL CHLORIDE	27 U	56 U	30 U
XYLENE (TOTAL)	13 U	28 U	15 U
1,1-DICHLOROETHANE	13 U	28 U	15 U
1,1-DICHLOROETHENE	13 U	28 U	15 U
1,1,1-TRICHLOROETHANE	13 U	28 U	15 U
1,1,2-TRICHLOROETHANE	13 U	28 U	15 U
1,1,2,2-TETRACHLOROETHANE	13 U	28 U	15 U
1,2-DICHLOROETHANE	13 U	28 U	15 U
1,2-DICHLOROETHANE-D4			
1,2-DICHLOROETHENE	13 U	28 U	15 U
1,2-DICHLOROPROPANE	13 U	28 U	15 U
1,4-BROMOFLUOROBENZENE			
2-BUTANONE	54	56 U	30 U
2-HEXANONE	27 U	56 U	30 U
4-METHYL-2-PENTANONE	27 U	56 U	30 U
SURR 1(TOL) %RECOVERY	100	99	112
SURR 2(BFB) %RECOVERY	75	88	91
SURR 3(DCE) %RECOVERY	96	103	107

M/E 50
M/E 75
M/E 95
M/E 96

TABLE D.4.7 PETC VOLATILE ORGANICS - SDG NUMBER: PE801083A

DRAFT DO NOT CITE

AREA

LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE801094A	PE801107A	PE804020A
MATRIX	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5
M/E 173-1			
M/E 173-2			
M/E 174			
M/E 175-1			
M/E 175-2			
M/E 176-1			
M/E 176-2			
M/E 177-1			
M/E 177-2			
INTERNAL STD AREA(BCM)	22900	20400	20400
INTERNAL STD AREA(CBZ)	30200	51000	49600
INTERNAL STD AREA(DFB)	62500	59100	58300
DILUTION FACTOR	1	1	1
PERCENT MOISTURE	6.6	10.4	15.3
ACTUAL(ALLOWED) HOLD TIME	10(14 D)	10(14 D)	8(14 D)

TABLE D.4.8 PETC VOLATILE ORGANICS - SDG NUMBER: PE802017A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	INITIAL CAL	INITIAL CAL	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	CALIBRATION	RRF	% RSD	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0816885	PE0816886	PE0816886	PE0829885	PE0829887	PE0829887	PE0829888
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	RRF	%	%	RRF	%	AREA
ENV PROBLEM NO							
ACETONE		0.391	14.9		0.419	7.2	
BENZENE		2.666	1.5		2.933	10	
BROMODICHLOROMETHANE		1.272	2.4		1.387	9	
BROMOFORM		1.149	9.6		1.147	0.2	
BROMOMETHANE		1.483	3.7		1.636	10.3	
CARBON DISULFIDE		2.26	11.8		2.843	25.8	
CARBON TETRACHLORIDE		2.956	2.1		3.071	3.9	
CHLOROBENZENE		1.056	3.1		1.122	6.3	
CHLOROETHANE		0.608	5.8		0.708	16.4	
CHLOROFORM		3.379	2.5		3.628	7.4	
CHLOROMETHANE		1.144	2.4		1.328	16.1	
CIS-1,3-DICHLOROPROPENE		0.639	2.1		0.757	18.4	
DIBROMOCHLOROMETHANE		0.967	7.2		1.046	8.2	
ETHYLBENZENE		0.539	7.4		0.592	9.9	
METHYLENE CHLORIDE		1.068	15.3		1.246	16.6	
STYRENE		0.613	14.1		0.726	18.5	
TETRACHLOROETHENE		0.378	6.4		0.443	17.2	
TOLUENE		0.479	3.4		0.555	15.9	
TOLUENE-D8		0.788	4.9		0.802	1.7	
TRANS-1,3-DICHLOROPROPENE		0.532	6.2		0.608	14.4	
TRICHLOROETHENE		0.595	8.5		0.578	2.8	
VINYL ACETATE		2.929	10.9		3.288	12.3	
VINYL CHLORIDE		1.07	1.3		1.201	12.2	
XYLENE (TOTAL)		0.494	11.9		0.579	17.1	
1,1-DICHLOROETHANE		2.479	8.1		2.939	18.6	
1,1-DICHLOROETHENE		0.894	11.8		1.145	28.1	
1,1,1-TRICHLOROETHANE		2.617	2.5		2.821	7.8	
1,1,2-TRICHLOROETHANE		0.392	4.8		0.439	12.1	
1,1,2,2-TETRACHLOROETHANE		1.451	21.5		1.379	5	
1,2-DICHLOROETHANE		2.153	4.1		2.211	2.7	
1,2-DICHLOROETHANE-D4		1.901	3.3		1.856	2.4	
1,2-DICHLOROETHENE		1.079	12.4		1.333	23.5	
1,2-DICHLOROPROPANE		0.521	2.5		0.577	10.6	
1,4-BROMOFLUOROBENZENE		1.204	12.6		1.106	8.1	
2-BUTANONE		0.212	17		0.265	24.9	
2-HEXANONE		0.51	9.6		0.613	20.2	
4-METHYL-2-PENTANONE		0.69	7.5		0.769	11.5	
SURR 1(TOL) %RECOVERY							

TABLE D.4.8 PETC VOLATILE ORGANICS - SDG NUMBER: PE802017A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	INITIAL CAL	INITIAL CAL	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	CALIBRATION	RRF	% RSD	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0816885	PE0816886	PE0816886	PE0829885	PE0829887	PE0829887	PE0829888
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	RRF	%	%	RRF	%	AREA
ENV PROBLEM NO							
SURR 2(BFB) %RECOVERY							
SURR 3(DCE) %RECOVERY							
M/E 50	29			33			
M/E 75	52			58			
M/E 95	100			100			
M/E 96	5.1			5.6			
M/E 173-1	1			0			
M/E 173-2	1.7			0			
M/E 174	57			58			
M/E 175-1	4.6			3.7			
M/E 175-2	8.1			6.5			
M/E 176-1	57			57			
M/E 176-2	100			99			
M/E 177-1	4.4			3.7			
M/E 177-2	7.6			6.5			
INTERNAL STD AREA(BCM)							32400
INTERNAL STD AREA(CBZ)							77500
INTERNAL STD AREA(DFB)							89700
DILUTION FACTOR							
PERCENT MOISTURE							
ACTUAL(ALLOWED) HOLD TIME							

AREA	QA		QA	QA	QA		QA
LOCATION	METHOD	2.2 FIELD	MATRIX	MS %	RPD	2.2 FIELD	MATRIX SPIKE
TYPE OF LOCATION	BLANK	WASTE ACCUM	SPIKE	RECOVERY		WASTE ACCUM	DUPLICATE
SAMPLE NUMBER	VBK01782	PE803029A	PE803029A	PE803029A	PE803029A	PE802017A	PE803029A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	%	UG/KG	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
ACETONE	41	56 B	71 B			25 U	26 U
BENZENE	13 U	13 U	140 S	104	15	13 U	160 S
BROMODICHLOROMETHANE	13 U	13 U	13 U			13 U	13 U

TABLE D.4.8 PETC VOLATILE ORGANICS - SDG NUMBER: PE802017A DRAFT DO NOT CITE

AREA	QA		QA	QA	QA		QA
LOCATION	METHOD BLANK	2.2 FIELD WASTE ACCUM	MATRIX SPIKE	MS % RECOVERY	RPD	2.2 FIELD WASTE ACCUM	MATRIX SPIKE DUPLICATE
TYPE OF LOCATION							
SAMPLE NUMBER	VBK01782	PE803029A	PE803029A	PE803029A	PE803029A	PE802017A	PE803029A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	%	UG/KG	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
BROMOFORM	13 U	13 U	13 U			13 U	13 U
BROMOMETHANE	25 U	26 U	26 U			25 U	26 U
CARBON DISULFIDE	13 U	13 U	13 U			13 U	13 U
CARBON TETRACHLORIDE	13 U	13 U	13 U			13 U	13 U
CHLOROBENZENE	13 U	13 U	130 S	102	0	13 U	130 S
CHLOROETHANE	25 U	26 U	26 U			25 U	26 U
CHLOROFORM	13 U	13 U	13 U			13 U	13 U
CHLOROMETHANE	25 U	26 U	26 U			25 U	26 U
CIS-1,3-DICHLOROPROPENE	13 U	13 U	13 U			13 U	13 U
DIBROMOCHLOROMETHANE	13 U	13 U	13 U			13 U	13 U
ETHYLBENZENE	13 U	13 U	13 U			13 U	13 U
METHYLENE CHLORIDE	13 U	13 U	13 U			13 U	13 U
STYRENE	13 U	13 U	13 U			13 U	13 U
TETRACHLOROETHENE	13 U	13 U	13 U			13 U	13 U
TOLUENE	13 U	13 U	130 S	100	2	4 J	130 S
TOLUENE-D8							
TRANS-1,3-DICHLOROPROPENE	13 U	13 U	13 U			13 U	13 U
TRICHLOROETHENE	13 U	13 U	130 S	96	1	13 U	120 S
VINYL ACETATE	25 U	26 U	26 U			25 U	26 U
VINYL CHLORIDE	25 U	26 U	26 U			25 U	26 U
XYLENE (TOTAL)	13 U	13 U	13 U			13 U	13 U
1,1-DICHLOROETHANE	13 U	13 U	13 U			13 U	13 U
1,1-DICHLOROETHENE	13 U	13 U	120 S	91	18	13 U	140 S
1,1,1-TRICHLOROETHANE	13 U	13 U	13 U			13 U	13 U
1,1,2-TRICHLOROETHANE	13 U	13 U	13 U			13 U	13 U
1,1,2,2-TETRACHLOROETHANE	13 U	13 U	13 U			13 U	13 U
1,2-DICHLOROETHANE	13 U	13 U	13 U			13 U	13 U
1,2-DICHLOROETHANE-D4							
1,2-DICHLOROETHENE	13 U	13 U	13 U			13 U	13 U
1,2-DICHLOROPROPANE	13 U	13 U	13 U			13 U	13 U
1,4-BROMOFLUOROBENZENE							
2-BUTANONE	25 U	26 U	26 U			26	26 U
2-HEXANONE	25 U	26 U	26 U			25 U	26 U
4-METHYL-2-PENTANONE	25 U	26 U	7 J			25 U	26 U
SURR 1(TOL) %RECOVERY	102	106	112			113	104
SURR 2(BFB) %RECOVERY	103	109	112			112	96
SURR 3(DCE) %RECOVERY	102	114	116			116	105

M/E 50

TABLE D.4.8 PETC VOLATILE ORGANICS - SDG NUMBER: PE802017A DRAFT DO NOT CITE

AREA	QA		QA	QA	QA		QA
LOCATION	METHOD	2.2 FIELD	MATRIX	MS %	RPD	2.2 FIELD	MATRIX SPIKE
TYPE OF LOCATION	BLANK	WASTE ACCUM	SPIKE	RECOVERY		WASTE ACCUM	DUPLICATE
SAMPLE NUMBER	VBK01782	PE803029A	PE803029A	PE803029A	PE803029A	PE802017A	PE803029A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	%	UG/KG	UG/KG
ENV PROBLEM NO		5	5	5	5	5	5
M/E 75							
M/E 95							
M/E 96							
M/E 173-1							
M/E 173-2							
M/E 174							
M/E 175-1							
M/E 175-2							
M/E 176-1							
M/E 176-2							
M/E 177-1							
M/E 177-2							
INTERNAL STD AREA(BCM)	26600	22700	20200			21400	16800
INTERNAL STD AREA(CBZ)	64500	55600	48200			50900	48700
INTERNAL STD AREA(DFB)	76300	64100	55700			59100	55700
DILUTION FACTOR	1	1	1			1	1
PERCENT MOISTURE		3.6	3.6				3.6
ACTUAL(ALLOWED) HOLD TIME		10(14 D)	10(14 D)			10(14 D)	10(14 D)

AREA	QA						QA
LOCATION	MSD %	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	TUNED
TYPE OF LOCATION	RECOVERY	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CALIBRATION
SAMPLE NUMBER	PE803029A	PE802028A	PE802039A	PE802040A	PE802062A	PE804086A	PE0830885
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO	5	5	5	5	5	5	
ACETONE		85 B	81 B	70 B	84 B	28 U	
BENZENE	122	13 U	13 U	13 U	13 U	6 J	
BROMODICHLOROMETHANE		13 U	13 U	13 U	13 U	14 U	
BROMOFORM		13 U	13 U	13 U	13 U	14 U	
BROMOMETHANE		25 U	25 U	25 U	25 U	28 U	
CARBON DISULFIDE		13 U	13 U	13 U	13 U	3 J	
CARBON TETRACHLORIDE		13 U	13 U	13 U	13 U	14 U	

TABLE D.4.8 PETC VOLATILE ORGANICS - SDG NUMBER: PE802017A DRAFT DO NOT CITE

AREA	QA						QA
LOCATION	MSD % RECOVERY	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	TUNED CALIBRATION
TYPE OF LOCATION							
SAMPLE NUMBER	PE803029A	PE802028A	PE802039A	PE802040A	PE802062A	PE804086A	PE0830885
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO	5	5	5	5	5	5	
CHLOROBENZENE	102	13 U	13 U	13 U	13 U	14 U	
CHLOROETHANE		25 U	25 U	25 U	25 U	28 U	
CHLOROFORM		13 U	13 U	13 U	13 U	14 U	
CHLOROMETHANE		25 U	25 U	25 U	25 U	28 U	
CIS-1,3-DICHLOROPROPENE		13 U	13 U	13 U	13 U	14 U	
DIBROMOCHLOROMETHANE		13 U	13 U	13 U	13 U	14 U	
ETHYLBENZENE		13 U	13 U	13 U	13 U	14 U	
METHYLENE CHLORIDE		13 U	13 U	13 U	6 J	14 U	
STYRENE		13 U	13 U	13 U	13 U	14 U	
TETRACHLOROETHENE		13 U	13 U	13 U	13 U	14 U	
TOLUENE	98	13 U	13 U	13 U	13 U	14 U	
TOLUENE-D8							
TRANS-1,3-DICHLOROPROPENE		13 U	13 U	13 U	13 U	14 U	
TRICHLOROETHENE	95	13 U	13 U	13 U	13 U	14 U	
VINYL ACETATE		25 U	25 U	25 U	25 U	28 U	
VINYL CHLORIDE		25 U	25 U	25 U	25 U	28 U	
XYLENE (TOTAL)		13 U	13 U	13 U	13 U	14 U	
1,1-DICHLOROETHANE		13 U	13 U	13 U	13 U	14 U	
1,1-DICHLOROETHENE	109	13 U	13 U	13 U	13 U	14 U	
1,1,1-TRICHLOROETHANE		13 U	13 U	13 U	13 U	14 U	
1,1,2-TRICHLOROETHANE		13 U	13 U	13 U	13 U	14 U	
1,1,2,2-TETRACHLOROETHANE		13 U	13 U	13 U	13 U	14 U	
1,2-DICHLOROETHANE		13 U	13 U	13 U	13 U	14 U	
1,2-DICHLOROETHANE-D4							
1,2-DICHLOROETHENE		13 U	13 U	13 U	13 U	14 U	
1,2-DICHLOROPROPANE		13 U	13 U	13 U	13 U	14 U	
1,4-BROMOFLUOROBENZENE							
2-BUTANONE		25 U	25 U	32	25 U	28 U	
2-HEXANONE		25 U	25 U	25 U	25 U	28 U	
4-METHYL-2-PENTANONE		25 U	25 U	25 U	25 U	28 U	
SURR 1(TOL) %RECOVERY		112	106	111	114	110	
SURR 2(BFB) %RECOVERY		109	104	113	116	105	
SURR 3(DCE) %RECOVERY		114	112	115	115	112	
M/E 50							38
M/E 75							56
M/E 95							100
M/E 96							8.3

TABLE D.4.8 PETC VOLATILE ORGANICS - SDG NUMBER: PE802017A DRAFT DO NOT CITE

AREA	QA						QA
LOCATION	MSD %	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	TUNED
TYPE OF LOCATION	RECOVERY	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	CALIBRATION
SAMPLE NUMBER	PE803029A	PE802028A	PE802039A	PE802040A	PE802062A	PE804086A	PE0830885
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	%
ENV PROBLEM NO	5	5	5	5	5	5	
M/E 173-1							0
M/E 173-2							0
M/E 174							55
M/E 175-1							4.5
M/E 175-2							8.3
M/E 176-1							55
M/E 176-2							101
M/E 177-1							3.8
M/E 177-2							6.9
INTERNAL STD AREA(BCM)		20300	19000	20200	18900	20300	
INTERNAL STD AREA(CBZ)		47800	42400	48300	45300	51300	
INTERNAL STD AREA(DFB)		53800	49100	59600	50500	59500	
DILUTION FACTOR		1	1	1	1	1	
PERCENT MOISTURE						11.8	
ACTUAL(ALLOWED) HOLD TIME		10(14 D)	10(14 D)	10(14 D)	10(14 D)	11(14 D)	

AREA	QA	QA	QA	QA			
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	METHOD	2.2 FIELD	2.2 FIELD	
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT	BLANK	WASTE ACCUM	WASTE ACCUM	
SAMPLE NUMBER	PE0830887	PE0830887	PE0830888	VBK01799	PE803030A	PE802051A	
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
UNITS	RRF	%	AREA	UG/KG	UG/KG	UG/KG	
ENV PROBLEM NO					5	5	
ACETONE	0.48	22.8		13 U	13 U	13 U	
BENZENE	3.021	13.3		13 U	13 U	13 U	
BROMODICHLOROMETHANE	1.463	15		13 U	13 U	13 U	
BROMOFORM	1.22	6.2		13 U	13 U	13 U	
BROMOMETHANE	1.691	14		25 U	25 U	25 U	
CARBON DISULFIDE	2.832	25.3		13 U	13 U	13 U	
CARBON TETRACHLORIDE	3.071	3.9		13 U	13 U	13 U	
CHLOROBENZENE	1.208	14.4		13 U	13 U	13 U	
CHLOROETHANE	0.741	22		25 U	25 U	25 U	
CHLOROFORM	3.698	9.4		13 U	13 U	13 U	

TABLE D.4.8 PETC VOLATILE ORGANICS - SDG NUMBER: PE802017A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA		
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	METHOD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT	BLANK	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE0830887	PE0830887	PE0830888	VBK01799	PE803030A	PE802051A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	RRF	%	AREA	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO					5	5
CHLOROMETHANE	1.323	15.7		25 U	25 U	25 U
CIS-1,3-DICHLOROPROPENE	0.831	30		13 U	13 U	13 U
DIBROMOCHLOROMETHANE	1.281	32.4		13 U	13 U	13 U
ETHYLBENZENE	0.61	13.2		13 U	13 U	13 U
METHYLENE CHLORIDE	1.324	23.9		13 U	13 U	13 U
STYRENE	0.752	22.8		13 U	13 U	13 U
TETRACHLOROETHENE	0.48	27		13 U	13 U	13 U
TOLUENE	0.535	11.7		13 U	13 U	13 U
TOLUENE-D8	0.88	11.6				
TRANS-1,3-DICHLOROPROPENE	0.678	27.6		13 U	13 U	13 U
TRICHLOROETHENE	0.632	6.1		13 U	13 U	13 U
VINYL ACETATE	3.764	28.5		25 U	25 U	25 U
VINYL CHLORIDE	1.224	14.3		25 U	25 U	25 U
XYLENE (TOTAL)	0.602	21.8		13 U	13 U	13 U
1,1-DICHLOROETHANE	3.015	21.6		13 U	13 U	13 U
1,1-DICHLOROETHENE	1.03	15.2		13 U	13 U	13 U
1,1,1-TRICHLOROETHANE	2.898	10.8		13 U	13 U	13 U
1,1,2-TRICHLOROETHANE	0.497	26.9		13 U	13 U	13 U
1,1,2,2-TETRACHLOROETHANE	1.619	11.6		13 U	13 U	13 U
1,2-DICHLOROETHANE	2.407	11.8		13 U	13 U	13 U
1,2-DICHLOROETHANE-D4	2.001	5.3				
1,2-DICHLOROETHENE	1.291	19.6		13 U	13 U	13 U
1,2-DICHLOROPROPANE	0.597	14.5		13 U	13 U	13 U
1,4-BROMOFLUOROBENZENE	1.137	5.6				
2-BUTANONE	0.217	2.6		25 U	25 U	25 U
2-HEXANONE	0.741	45.2		25 U	25 U	25 U
4-METHYL-2-PENTANONE	0.908	31.5		25 U	25 U	25 U
SURR 1(TOL) %RECOVERY				109	108	107
SURR 2(BFB) %RECOVERY				109	109	110
SURR 3(DCE) %RECOVERY				102	105	110

M/E 50
M/E 75
M/E 95
M/E 96
M/E 173-1
M/E 173-2
M/E 174

TABLE D.4.8 PETC VOLATILE ORGANICS - SDG NUMBER: PE802017A DRAFT DO NOT CITE

AREA	QA	QA	QA	QA			
LOCATION	CONTINUING	CONTINUING	ISTD RET TIM	METHOD	2.2 FIELD	2.2 FIELD	
TYPE OF LOCATION	CALIBRATION	CAL %D	SHIFT	BLANK	WASTE ACCUM	WASTE ACCUM	
SAMPLE NUMBER	PE0830887	PE0830887	PE0830888	VBK01799	PE803030A	PE802051A	
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
UNITS	RRF	%	AREA	UG/KG	UG/KG	UG/KG	
ENV PROBLEM NO					5	5	
M/E 175-1							
M/E 175-2							
M/E 176-1							
M/E 176-2							
M/E 177-1							
M/E 177-2							
INTERNAL STD AREA(BCM)			28200	23500	24500	22000	
INTERNAL STD AREA(CBZ)			68500	58400	58900	53900	
INTERNAL STD AREA(DFB)			74300	66800	65500	62300	
DILUTION FACTOR				1	1	1	
PERCENT MOISTURE				0.1			
ACTUAL(ALLOWED) HOLD TIME					11(14 D)	11(14 D)	

TABLE D.4.9 PETC VOLATILE ORGANICS - SDG NUMBER: PE803018A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED	INITIAL CAL	INITIAL CAL	TUNED	CONTINUING	CONTINUING	ISTD RET TIM
TYPE OF LOCATION	CALIBRATION	RRF	% RSD	CALIBRATION	CALIBRATION	CAL %D	SHIFT
SAMPLE NUMBER	PE0816885	PE0816886	PE0816886	PE0827885	PE0827887	PE0827887	PE0827888
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	%	RRF	%	%	RRF	%	AREA
ENV PROBLEM NO							
ACETONE		0.391	14.9		0.501	28.1	
BENZENE		2.666	1.5		2.824	5.9	
BROMODICHLOROMETHANE		1.272	2.4		1.242	2.4	
BROMOFORM		1.149	9.6		1.156	0.6	
BROMOMETHANE		1.483	3.7		1.58	6.5	
CARBON DISULFIDE		2.26	11.8		2.581	14.2	
CARBON TETRACHLORIDE		2.956	2.1		2.852	3.5	
CHLOROBENZENE		1.056	3.1		1.043	1.2	
CHLOROETHANE		0.608	5.8		0.686	12.8	
CHLOROFORM		3.379	2.5		3.359	0.6	
CHLOROMETHANE		1.144	2.4		1.28	11.9	
CIS-1,3-DICHLOROPROPENE		0.639	2.1		0.655	2.5	
DIBROMOCHLOROMETHANE		0.967	7.2		0.922	4.7	
ETHYLBENZENE		0.539	7.4		0.517	4	
METHYLENE CHLORIDE		1.068	15.3		1.187	11.1	
STYRENE		0.613	14.1		0.747	21.9	
TETRACHLOROETHENE		0.378	6.4		0.372	1.5	
TOLUENE		0.479	5.4		0.489	2.2	
TOLUENE-D8		0.788	4.9		0.764	3.1	
TRANS-1,3-DICHLOROPROPENE		0.532	6.2		0.53	0.4	
TRICHLOROETHENE		0.595	8.5		0.508	14.7	
VINYL ACETATE		2.929	10.9		3.96	35.2	
VINYL CHLORIDE		1.07	1.3		1.127	5.3	
XYLENE (TOTAL)		0.494	11.9		0.423	14.4	
1,1-DICHLOROETHANE		2.479	8.1		2.827	14	
1,1-DICHLOROETHENE		0.894	11.8		0.982	9.9	
1,1,1-TRICHLOROETHANE		2.617	2.5		2.603	0.5	
1,1,2-TRICHLOROETHANE		0.392	4.8		0.386	1.4	
1,1,2,2-TETRACHLOROETHANE		1.451	21.5		1.46	0.6	
1,2-DICHLOROETHANE		2.153	4.1		2.176	1.1	
1,2-DICHLOROETHANE-D4		1.901	3.3		1.947	2.4	
1,2-DICHLOROETHENE		1.079	12.4		1.244	15.2	
1,2-DICHLOROPROPANE		0.521	2.5		0.527	1.1	
1,4-BROMOFLUOROBENZENE		1.204	12.6		1.135	5.7	
2-BUTANONE		0.212	17		0.262	23.7	
2-HEXANONE		0.51	9.6		0.543	6.5	
4-METHYL-2-PENTANONE		0.69	7.5		0.756	9.6	
SURR 1(TOL) %RECOVERY							

TABLE D.4.9 PETC VOLATILE ORGANICS - SDG NUMBER: PE803018A

DRAFT DO NOT CITE

AREA	QA	QA	QA	QA	QA	QA	QA
LOCATION	TUNED CALIBRATION	INITIAL CAL RRF	INITIAL CAL % RSD	TUNED CALIBRATION	CONTINUING CALIBRATION	CONTINUING CAL %D	ISTD RET TIM SHIFT
TYPE OF LOCATION	PE0816885	PE0816886	PE0816886	PE0827885	PE0827887	PE0827887	PE0827888
SAMPLE NUMBER	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
MATRIX	%	RRF	%	%	RRF	%	AREA
UNITS							
ENV PROBLEM NO							
SURR 2(BFB) %RECOVERY							
SURR 3(DCE) %RECOVERY							
M/E 50	29			32			
M/E 75	52			58			
M/E 95	100			100			
M/E 96	5.1			7			
M/E 173-1	1			0			
M/E 173-2	1.7			0			
M/E 174	57			62			
M/E 175-1	4.6			4.5			
M/E 175-2	8.1			7.3			
M/E 176-1	57			60			
M/E 176-2	100			97			
M/E 177-1	4.4			3.9			
M/E 177-2	7.6			6.5			
INTERNAL STD AREA(BCM)							30100
INTERNAL STD AREA(CBZ)							47200
INTERNAL STD AREA(DFB)							90700
DILUTION FACTOR							
PERCENT MOISTURE							
ACTUAL(ALLOWED) HOLD TIME							

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD BLANK	2.2 FIELD WASTE ACCUM	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY
TYPE OF LOCATION	VBK01768	PE804019A	PE804019A	PE804019A	PE804019A	PE804019A	PE804019A
SAMPLE NUMBER	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
MATRIX	UG/KG	UG/KG	UG/KG	%	%	UG/KG	%
UNITS		5	5	5	5	5	5
ENV PROBLEM NO							
ACETONE	61	53 B	64 B			58 B	
BENZENE	13 U	13 U	130 S	106	0	130 S	107
BROMODICHLOROMETHANE	13 U	13 U	13 U			13 U	

TABLE D.4.9 PETC VOLATILE ORGANICS - SDG NUMBER: PE803018A

DRAFT DO NOT CITE

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD BLANK	2.2 FIELD WASTE ACCUM	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY
TYPE OF LOCATION							
SAMPLE NUMBER	VBK01768	PE804019A	PE804019A	PE804019A	PE804019A	PE804019A	PE804019A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	%	UG/KG	%
ENV PROBLEM NO		5	5	5	5	5	5
BROMOFORM	13 U	13 U	13 U			13 U	
BROMOMETHANE	25 U	25 U	25 U			25 U	
CARBON DISULFIDE	13 U	13 U	13 U			13 U	
CARBON TETRACHLORIDE	13 U	13 U	13 U			13 U	
CHLOROBENZENE	13 U	13 U	140 S	111	10	130 S	100
CHLOROETHANE	25 U	25 U	25 U			25 U	
CHLOROFORM	13 U	13 U	13 U			13 U	
CHLOROMETHANE	25 U	25 U	25 U			25 U	
CIS-1,3-DICHLOROPROPENE	13 U	13 U	13 U			13 U	
DIBROMOCHLOROMETHANE	13 U	13 U	13 U			13 U	
ETHYLBENZENE	13 U	13 U	13 U			13 U	
METHYLENE CHLORIDE	13 U	13 U	13 U			13 U	
STYRENE	13 U	13 U	13 U			13 U	
TETRACHLOROETHENE	13 U	13 U	13 U			13 U	
TOLUENE	13 U	13 U	140 S	111	7	130 S	105
TOLUENE-D8							
TRANS-1,3-DICHLOROPROPENE	13 U	13 U	13 U			13 U	
TRICHLOROETHENE	13 U	13 U	130 S	104	5	120 S	98
VINYL ACETATE	25 U	25 U	25 U			25 U	
VINYL CHLORIDE	25 U	25 U	25 U			25 U	
XYLENE (TOTAL)	13 U	13 U	13 U			13 U	
1,1-DICHLOROETHANE	13 U	13 U	13 U			13 U	
1,1-DICHLOROETHENE	13 U	13 U	130 S	101	1	130 S	103
1,1,1-TRICHLOROETHANE	13 U	13 U	13 U			13 U	
1,1,2-TRICHLOROETHANE	13 U	13 U	13 U			13 U	
1,1,2,2-TETRACHLOROETHANE	13 U	13 U	13 U			13 U	
1,2-DICHLOROETHANE	13 U	13 U	13 U			13 U	
1,2-DICHLOROETHANE-D4							
1,2-DICHLOROETHENE	13 U	13 U	13 U			13 U	
1,2-DICHLOROPROPANE	13 U	13 U	13 U			13 U	
1,4-BROMOFLUOROBENZENE							
2-BUTANONE	25 U	41	25 U			20 J	
2-HEXANONE	25 U	25 U	25 U			25 U	
4-METHYL-2-PENTANONE	25 U	25 U	25 U			25 U	
SURR 1(TOL) %RECOVERY	111	106	114			108	
SURR 2(BFB) %RECOVERY	107	77	102			100	
SURR 3(DCE) %RECOVERY	109	104	106			106	

M/E 50

TABLE D.4.9 PETC VOLATILE ORGANICS - SDG NUMBER: PE803018A

DRAFT DO NOT CITE

AREA	QA		QA	QA	QA	QA	QA
LOCATION	METHOD BLANK	2.2 FIELD WASTE ACCUM	MATRIX SPIKE	MS % RECOVERY	RPD	MATRIX SPIKE DUPLICATE	MSD % RECOVERY
TYPE OF LOCATION							
SAMPLE NUMBER	VBK01768	PE804019A	PE804019A	PE804019A	PE804019A	PE804019A	PE804019A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	%	%	UG/KG	%
ENV PROBLEM NO		5	5	5	5	5	5
M/E 75							
M/E 95							
M/E 96							
M/E 173-1							
M/E 173-2							
M/E 174							
M/E 175-1							
M/E 175-2							
M/E 176-1							
M/E 176-2							
M/E 177-1							
M/E 177-2							
INTERNAL STD AREA(BCM)	21000	24000	21300			21700	
INTERNAL STD AREA(CBZ)	52300	33200	51600			55300	
INTERNAL STD AREA(DFB)	60800	71900	61300			66900	
DILUTION FACTOR	1	1	1			1	
PERCENT MOISTURE							
ACTUAL(ALLOWED) HOLD TIME		9(14 D)	9(14 D)			9(14 D)	

AREA							
LOCATION	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	2.2 FIELD WASTE ACCUM	
TYPE OF LOCATION							
SAMPLE NUMBER	PE804031A	PE804042A	PE804053A	PE804064A	PE804075A	PE803018A	
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	
ENV PROBLEM NO	5	5	5	5	5	5	
ACETONE	25 U	63 B	73 B	56 B	67 B	50 U	
BENZENE	13 U	13 U	13 U	13 U	13 U	25 U	
BROMODICHLOROMETHANE	13 U	13 U	13 U	13 U	13 U	25 U	
BROMOFORM	13 U	13 U	13 U	13 U	13 U	25 U	
BROMOMETHANE	25 U	25 U	25 U	25 U	25 U	50 U	
CARBON DISULFIDE	13 U	13 U	13 U	13 U	13 U	25 U	
CARBON TETRACHLORIDE	13 U	13 U	13 U	13 U	13 U	25 U	

TABLE D.4.9 PETC VOLATILE ORGANICS - SDG NUMBER: PE803018A

DRAFT DO NOT CITE

AREA

LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE804031A	PE804042A	PE804053A	PE804064A	PE804075A	PE803018A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5	5	5	5
CHLOROBENZENE	13 U	13 U	13 U	13 U	13 U	25 U
CHLOROETHANE	25 U	25 U	25 U	25 U	25 U	50 U
CHLOROFORM	13 U	13 U	13 U	13 U	13 U	25 U
CHLOROMETHANE	25 U	25 U	5 J	25 U	25 U	50 U
CIS-1,3-DICHLOROPROPENE	13 U	13 U	13 U	13 U	13 U	25 U
DIBROMOCHLOROMETHANE	13 U	13 U	13 U	13 U	13 U	25 U
ETHYLBENZENE	13 U	13 U	13 U	13 U	13 U	25 U
METHYLENE CHLORIDE	13 U	13 U	13 U	13 U	13 U	25 U
STYRENE	13 U	13 U	13 U	13 U	13 U	25 U
TETRACHLOROETHENE	13 U	13 U	13 U	13 U	13 U	25 U
TOLUENE	13 U	13 U	13 U	13 U	13 U	25 U
TOLUENE-D8						
TRANS-1,3-DICHLOROPROPENE	13 U	13 U	13 U	13 U	13 U	25 U
TRICHLOROETHENE	13 U	13 U	13 U	13 U	13 U	25 U
VINYL ACETATE	25 U	25 U	25 U	25 U	25 U	50 U
VINYL CHLORIDE	25 U	25 U	25 U	25 U	25 U	50 U
XYLENE (TOTAL)	13 U	13 U	13 U	13 U	13 U	41
1,1-DICHLOROETHANE	13 U	13 U	13 U	13 U	13 U	25 U
1,1-DICHLOROETHENE	13 U	13 U	13 U	13 U	13 U	25 U
1,1,1-TRICHLOROETHANE	13 U	13 U	13 U	13 U	13 U	25 U
1,1,2-TRICHLOROETHANE	13 U	13 U	13 U	13 U	13 U	25 U
1,1,2,2-TETRACHLOROETHANE	13 U	13 U	13 U	13 U	13 U	25 U
1,2-DICHLOROETHANE	13 U	13 U	13 U	13 U	13 U	25 U
1,2-DICHLOROETHANE-D4						
1,2-DICHLOROETHENE	13 U	13 U	13 U	13 U	13 U	25 U
1,2-DICHLOROPROPANE	13 U	13 U	13 U	13 U	13 U	25 U
1,4-BROMOFLUOROBENZENE						
2-BUTANONE	25 U	19 J	33	25 U	34	60
2-HEXANONE	25 U	25 U	25 U	25 U	25 U	50 U
4-METHYL-2-PENTANONE	25 U	25 U	25 U	25 U	25 U	50 U
SURR 1(TOL) %RECOVERY	105	93	108	107	106	102
SURR 2(BFB) %RECOVERY	96	121	98	102	99	103
SURR 3(DCE) %RECOVERY	100	109	106	106	103	103

M/E 50
M/E 75
M/E 95
M/E 96

TABLE D.4.9 PETC VOLATILE ORGANICS - SDG NUMBER: PE803018A DRAFT DO NOT CITE

AREA

LOCATION	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD	2.2 FIELD
TYPE OF LOCATION	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM	WASTE ACCUM
SAMPLE NUMBER	PE804031A	PE804042A	PE804053A	PE804064A	PE804075A	PE803018A
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ENV PROBLEM NO	5	5	5	5	5	5
M/E 173-1						
M/E 173-2						
M/E 174						
M/E 175-1						
M/E 175-2						
M/E 176-1						
M/E 176-2						
M/E 177-1						
M/E 177-2						
INTERNAL STD AREA(BCM)	20300	20400	19300	19200	18800	19700
INTERNAL STD AREA(CBZ)	51000	27700	43800	44500	43900	46900
INTERNAL STD AREA(DFB)	59600	53400	55800	56500	52200	59100
DILUTION FACTOR	1	1	1	1	1	1
PERCENT MOISTURE						
ACTUAL(ALLOWED) HOLD TIME	9(14 D)	9(14 D)	9(14 D)	9(14 D)	9(14 D)	8(14 D)

TABLE D 4.10 PETC QC TIC VOLATILE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
PE800015A					
	PE800015A		PROBABLE HYDROCARBON(8.78)	5 J	8.78
	PE800015A		PROBABLE HYDROCARBON(17.36)	10 J	17.36
	PE800015A		PROBABLE HYDROCARBON(20.15)	7 J	20.15
	PE800015A		PROBABLE HYDROCARBON(24.00)	6 J	24.00
	PE800026A		PROBABLE HYDROCARBON(17.35)	6 J	17.35
	PE800026A		PROBABLE HYDROCARBON(21.41)	7 J	21.41
	PE800026A		PROBABLE HYDROCARBON(23.99)	11 J	23.99
PE800037A					
	PE800037A		PROBABLE HYDROCARBON(17.36)	22 JB	17.36
	PE800037A		PROBABLE HYDROCARBON(20.15)	20 JB	20.15
	PE800059A		PROBABLE HYDROCARBON(17.35)	20 JB	17.35
	PE800059A		PROBABLE HYDROCARBON(20.16)	16 JB	20.16
	PE800060A		PROBABLE HYDROCARBON(17.38)	21 JB	17.38
	PE800060A		PROBABLE HYDROCARBON(20.19)	20 JB	20.19
	PE800060A		PROBABLE HYDROCARBON(24.00)	16 JB	24.00
	PE800071A		PROBABLE HYDROCARBON(17.36)	14 JB	17.36
	PE800071A		PROBABLE HYDROCARBON(20.15)	11 JB	20.15
	PE800071A		PROBABLE HYDROCARBON(24.02)	14 JB	24.02
	PE800082A		PROBABLE HYDROCARBON(17.37)	22 JB	17.37
	PE800082A		PROBABLE HYDROCARBON(20.16)	19 JB	20.16
	PE800082A		PROBABLE HYDROCARBON(21.41)	13 JB	21.41
	PE800082A		PROBABLE HYDROCARBON(23.99)	22 JB	23.99
	PE800093A		PROBABLE HYDROCARBON(17.36)	21 JB	17.36
	PE800093A		PROBABLE HYDROCARBON(20.17)	22 JB	20.17
	PE800093A		PROBABLE HYDROCARBON(24.00)	20 JB	24.00
	PE800106A	76-13-1	PROBABLE FREON 113	23 J	2.17
	PE800106A		PROBABLE HYDROCARBON(17.35)	21 JB	17.35
	PE800106A		PROBABLE HYDROCARBON(20.16)	22 JB	20.16
	PE800106A		PROBABLE HYDROCARBON(21.41)	10 JB	21.41
	PE800106A		PROBABLE HYDROCARBON(23.98)	12 JB	23.98
	VBK01710		PROBABLE HYDROCARBON(17.34)	19 J	17.34
	VBK01710		PROBABLE HYDROCARBON(20.15)	17 J	20.15
	VBK01710		PROBABLE HYDROCARBON(21.42)	14 J	21.42
	VBK01710		PROBABLE HYDROCARBON(23.98)	23 J	23.98
PE800048A					
	PE800048A		PROBABLE HYDROCARBON(17.34)	32 JB	17.34
	PE800048A		PROBABLE HYDROCARBON(20.14)	23 JB	20.14
	PE800048A		PROBABLE HYDROCARBON(21.44)	19 J	21.44
	PE800048A		PROBABLE HYDROCARBON(24.00)	29 J	24.00
	PE800117A		PROBABLE HYDROCARBON(8.77)	15 J	8.77
	PE800117A		PROBABLE HYDROCARBON(17.37)	20 JB	17.37
	PE800117A		PROBABLE HYDROCARBON(20.16)	20 JB	20.16

TABLE D 4.10 PETC QC TIC VOLATILE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
PE800048A					
	PE800128A		PROBABLE HYDROCARBON(17.37)	23 JB	17.37
	PE800128A		PROBABLE HYDROCARBON(20.16)	20 JB	20.16
	PE800128A		PROBABLE HYDROCARBON(21.41)	12 J	21.41
	PE800128A		PROBABLE HYDROCARBON(24.01)	17 J	24.01
	PE800139A		PROBABLE HYDROCARBON(17.37)	21 JB	17.37
	PE800139A		PROBABLE HYDROCARBON(20.17)	16 JB	20.17
	PE800139A		PROBABLE HYDROCARBON(24.01)	21 JB	24.01
	PE800140A		PROBABLE HYDROCARBON(17.39)	17 JB	17.39
	PE800140A		PROBABLE HYDROCARBON(20.18)	12 JB	20.18
	PE800140A		PROBABLE HYDROCARBON(21.43)	11 J	21.43
	PE800140A		PROBABLE HYDROCARBON(24.02)	22 JB	24.02
	PE800151A		PROBABLE HYDROCARBON(17.38)	21 JB	17.38
	PE800151A		PROBABLE HYDROCARBON(20.17)	20 JB	20.17
	PE800151A		PROBABLE HYDROCARBON(21.42)	12 J	21.42
	PE800151A		PROBABLE HYDROCARBON(24.02)	20 JB	24.02
	PE801016A		PROBABLE HYDROCARBON(17.35)	35 JB	17.35
	PE801016A		PROBABLE HYDROCARBON(20.17)	26 JB	20.17
	PE801016A		PROBABLE HYDROCARBON(24.01)	28 JB	24.01
	PE801027A		PROBABLE HYDROCARBON(17.36)	64 JB	17.36
	PE801027A		PROBABLE HYDROCARBON(20.15)	58 JB	20.15
	PE801027A		PROBABLE HYDROCARBON(21.42)	34 J	21.42
	PE801027A		PROBABLE HYDROCARBON(24.00)	50 J	24.00
	PE801038A		PROBABLE HYDROCARBON(17.37)	24 JB	17.37
	PE801038A		PROBABLE HYDROCARBON(20.16)	24 JB	20.16
	PE801049A		PROBABLE HYDROCARBON(17.36)	20 JB	17.36
	PE801049A		PROBABLE HYDROCARBON(20.17)	17 JB	20.17
	PE801049A		PROBABLE HYDROCARBON(24.02)	20 JB	24.02
	PE801050A		PROBABLE HYDROCARBON(17.38)	13 JB	17.38
	PE801050A		PROBABLE HYDROCARBON(20.17)	9 JB	20.17
	PE801050A		PROBABLE HYDROCARBON(21.42)	12 J	21.42
	PE801050A		PROBABLE HYDROCARBON(23.99)	19 J	23.99
	PE801061A		PROBABLE HYDROCARBON(17.38)	28 JB	17.38
	PE801061A		PROBABLE HYDROCARBON(18.65)	24 J	18.65
	PE801061A		PROBABLE HYDROCARBON(21.42)	53 J	21.42
	PE801061A		PROBABLE HYDROCARBON(24.00)	110 J	24.00
	PE801072A		PROBABLE HYDROCARBON(17.37)	21 JB	17.37
	PE801072A		PROBABLE HYDROCARBON(20.19)	14 JB	20.19
	PE801072A		PROBABLE HYDROCARBON(21.43)	13 J	21.43
	PE801072A		PROBABLE HYDROCARBON(24.01)	22 J	24.01
	VBK01724		PROBABLE DICHLOROBENZEN(18.52)	20 J	18.52
	VBK01724		PROBABLE HYDROCARBON(17.37)	22 J	17.37
	VBK01724		PROBABLE HYDROCARBON(20.18)	22 J	20.18
	VBK01724		PROBABLE HYDROCARBON(24.00)	13 J	24.00
	VBK01740		PROBABLE HYDROCARBON(17.38)	23 J	17.38
	VBK01740		PROBABLE HYDROCARBON(20.17)	21 J	20.17
PE801083A					

TABLE D 4.10 PETC QC TIC VOLATILE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
	PE801083A		PROBABLE HYDROCARBON(17.38)	19 J	17.38
	PE801083A		PROBABLE HYDROCARBON(20.19)	15 J	20.19
	PE801083A		PROBABLE HYDROCARBON(24.01)	12 J	24.01
	PE801094A		PROBABLE HYDROCARBON(17.32)	27 J	17.32
	PE801094A		PROBABLE HYDROCARBON(20.17)	20 J	20.17
	PE801094A		PROBABLE HYDROCARBON(24.01)	29 J	24.01
	PE801107A		PROBABLE HYDROCARBON(17.39)	38 J	17.39
	PE801107A		PROBABLE HYDROCARBON(20.18)	27 J	20.18
	PE801107A		PROBABLE HYDROCARBON(21.43)	27 J	21.43
	PE801107A		PROBABLE HYDROCARBON(24.00)	52 J	24.00
	PE804020A		PROBABLE HYDROCARBON(17.37)	13 J	17.37
	PE804020A		PROBABLE HYDROCARBON(21.43)	14 J	21.43
	PE804020A		PROBABLE HYDROCARBON(24.01)	30 J	24.01
PE802017A					
	PE802017A		PROBABLE HYDROCARBON(17.38)	18 JB	17.38
	PE802017A		PROBABLE HYDROCARBON(20.17)	15 JB	20.17
	PE802028A		PROBABLE HYDROCARBON(17.37)	19 JB	17.37
	PE802028A		PROBABLE HYDROCARBON(20.17)	18 JB	20.17
	PE802028A		PROBABLE HYDROCARBON(23.99)	14 J	23.99
	PE802039A		PROB. SUBSTITUTED NAPHT(25.74)	22 J	25.74
	PE802039A		PROB. SUBSTITUTED NAPHT(26.29)	59 J	26.29
	PE802039A		PROBABLE AROMATIC HYDRO(20.17)	36 J	20.17
	PE802039A		PROBABLE AROMATIC HYDRO(22.24)	32 J	22.20
	PE802039A		PROBABLE AROMATIC HYDRO(23.10)	33 J	23.10
	PE802039A		PROBABLE AROMATIC HYDRO(23.36)	27 J	23.36
	PE802039A		PROBABLE DIMETHYLNAPHTH(28.70)	40 J	28.70
	PE802039A		PROBABLE DIMETHYLNAPHTH(29.03)	78 J	29.03
	PE802039A		PROBABLE HYDROCARBON(23.10)	33 J	23.10
	PE802039A		PROBABLE HYDROCARBON(27.50)	25 J	27.50
	PE802040A		PROBABLE AROMATIC HYDRO(26.99)	12 J	26.99
	PE802040A		PROBABLE DIMETHYLNAPHTH(28.68)	37 J	28.68
	PE802040A		PROBABLE DIMETHYLNAPHTH(29.03)	59 J	29.03
	PE802040A		PROBABLE HYDROCARBON(17.37)	19 JB	17.37
	PE802040A		PROBABLE HYDROCARBON(20.16)	18 JB	20.16
	PE802040A		PROBABLE HYDROCARBON(23.99)	15 J	23.99
	PE802040A		PROBABLE HYDROCARBON(25.77)	11 J	25.77
	PE802040A		PROBABLE HYDROCARBON(27.49)	18 J	27.49
	PE802051A		PROBABLE HYDROCARBON(17.36)	20 JB	17.36
	PE802051A		PROBABLE HYDROCARBON(20.16)	17 JB	20.16
	PE802062A		PROBABLE HYDROCARBON(17.38)	21 JB	17.38
	PE802062A		PROBABLE HYDROCARBON(20.17)	19 JB	20.17
	PE803029A		PROBABLE HYDROCARBON(17.36)	21 JB	17.36
	PE803029A		PROBABLE HYDROCARBON(20.15)	22 JB	20.15
	PE803030A		PROBABLE HYDROCARBON(17.36)	19 JB	17.36
	PE803030A		PROBABLE HYDROCARBON(20.16)	16 JB	20.16
	PE804086A		PROBABLE HYDROCARBON(17.39)	19 JB	17.39

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TABLE D 4.10 PETC QC TIC VOLATILE ORGANICS BY SDG NUM

SDG NUM	SMP ID	CAS NUM	ANALYSIS	RESULTS & PREFIX	RETENTION TIME
PE802017A					
	PE804086A		PROBABLE HYDROCARBON(20.20)	15 JB	20.20
	PE804086A		PROBABLE HYDROCARBON(21.47)	15 J	21.47
	PE804086A		PROBABLE HYDROCARBON(24.03)	24 J	24.03
	VBK01782		PROBABLE HYDROCARBON(17.39)	22 J	17.39
	VBK01782		PROBABLE HYDROCARBON(20.18)	23 J	20.18
	VBK01799		PROBABLE HYDROCARBON(17.37)	21 J	17.37
	VBK01799		PROBABLE HYDROCARBON(20.16)	17 J	20.16
PE803018A					
	PE803018A		PROBABLE AROMATIC HYDRO(17.02)	200 J	17.02
	PE803018A		PROBABLE AROMATIC HYDRO(17.38)	55 J	17.38
	PE803018A		PROBABLE AROMATIC HYDRO(17.81)	150 J	17.81
	PE803018A		PROBABLE AROMATIC HYDRO(19.02)	160 J	18.67
	PE803018A		PROBABLE AROMATIC HYDRO(19.02)	160 J	19.02
	PE803018A		PROBABLE AROMATIC HYDRO(19.58)	56 J	19.58
	PE803018A		PROBABLE AROMATIC HYDRO(20.15)	39 J	20.15
	PE803018A		PROBABLE AROMATIC HYDRO(20.38)	53 J	20.38
	PE803018A		PROBABLE AROMATIC HYDRO(21.38)	86 J	21.38
	PE803018A		PROBABLE AROMATIC HYDRO(28.49)	110 J	28.49
	PE804019A		PROBABLE HYDROCARBON(17.25)	24 JB	17.25
	PE804019A		PROBABLE HYDROCARBON(20.10)	21 JB	20.10
	PE804031A		PROBABLE HYDROCARBON(17.38)	16 JB	17.38
	PE804031A		PROBABLE HYDROCARBON(20.19)	11 JB	20.19
	PE804031A		PROBABLE HYDROCARBON(24.00)	16 JB	24.00
	PE804042A		PROBABLE HYDROCARBON(17.37)	13 JB	17.37
	PE804042A		PROBABLE HYDROCARBON(20.16)	10 JB	20.16
	PE804042A		PROBABLE HYDROCARBON(24.01)	13 JB	24.01
	PE804053A		PROBABLE HYDROCARBON(17.39)	14 JB	17.39
	PE804053A		PROBABLE HYDROCARBON(20.17)	13 JB	20.17
	PE804053A		PROBABLE HYDROCARBON(24.01)	16 JB	24.01
	PE804064A		PROBABLE HYDROCARBON(24.01)	14 JB	24.01
	PE804075A		PROBABLE HYDROCARBON(17.36)	13 JB	17.36
	PE804075A		PROBABLE HYDROCARBON(21.42)	12 JB	21.42
	PE804075A		PROBABLE HYDROCARBON(24.02)	19 JB	24.02
	VBK01768		PROBABLE HYDROCARBON(17.37)	21 J	17.37
	VBK01768		PROBABLE HYDROCARBON(20.15)	16 J	20.15
	VBK01768		PROBABLE HYDROCARBON(23.99)	17 J	23.99

TABLE D.5 ANALYTICAL DATA SUMMARY FOR TRAVEL BLANKS DRAFT DO NOT CITE

AREA

LOCATION	TRIP BLANK	TRIP BLANK	TRIP BLANK
TYPE OF LOCATION	TRIP BLANK	TRIP BLANK	TRIP BLANK
SAMPLE NUMBER	PEN03014A	PEN10013A	PEN13016A
MATRIX	WATER	WATER	WATER
UNITS	UG/L	UG/L	UG/L
ENV PROBLEM NO	99	99	99
ACETONE	10 U	10 U	10 U
BENZENE	5 U	5 U	5 U
BROMODICHLOROMETHANE	5 U	5 U	5 U
BROMOFORM	5 U	5 U	5 U
BROMOMETHANE	10 U	10 U	10 U
CARBON DISULFIDE	5 U	5 U	5 U
CARBON TETRACHLORIDE	5 U	5 U	5 U
CHLOROBENZENE	5 U	5 U	5 U
CHLOROETHANE	10 U	10 U	10 U
CHLOROFORM	5 U	5 U	5 U
CHLOROMETHANE	10 U	10 U	10 U
CIS-1,3-DICHLOROPROPENE	5 U	5 U	5 U
DIBROMOCHLOROMETHANE	5 U	5 U	5 U
ETHYLBENZENE	5 U	5 U	5 U
METHYLENE CHLORIDE	5 U	5 U	5 U
STYRENE	5 U	5 U	5 U
TETRACHLOROETHENE	5 U	5 U	5 U
TOLUENE	2 JB	5 U	5 U
TRANS-1,3-DICHLOROPROPENE	5 U	5 U	5 U
TRICHLOROETHENE	5 U	5 U	2 J
VINYL ACETATE	10 U	10 U	10 U
VINYL CHLORIDE	10 U	10 U	10 U
XYLENE (TOTAL)	5 U	5 U	5 U
1,1-DICHLOROETHANE	5 U	5 U	5 U
1,1-DICHLOROETHENE	5 U	5 U	5 U
1,1,1-TRICHLOROETHANE	5 U	5 U	5 U
1,1,2-TRICHLOROETHANE	5 U	5 U	5 U
1,1,2,2-TETRACHLOROETHANE	5 U	5 U	5 U
1,2-DICHLOROETHANE	5 U	5 U	5 U
1,2-DICHLOROETHENE	5 U	5 U	5 U
1,2-DICHLOROPROPANE	5 U	5 U	5 U
2-BUTANONE	10 U	10 U	10 U
2-HEXANONE	10 U	10 U	10 U
4-METHYL-2-PENTANONE	10 U	10 U	10 U
SURR 1(TOL) %RECOVERY	97	98	102
SURR 2(BFB) %RECOVERY	96	95	102
SURR 3(DCE) %RECOVERY	99	96	102
INTERNAL STD AREA(BCM)	23500	24500	23000

TABLE D.5 ANALYTICAL DATA SUMMARY FOR TRAVEL BLANKS

AREA

LOCATION	TRIP BLANK	TRIP BLANK	TRIP BLANK				
TYPE OF LOCATION	TRIP BLANK	TRIP BLANK	TRIP BLANK				
SAMPLE NUMBER	PEN03014A	PEN10013A	PEN13016A				
MATRIX	WATER	WATER	WATER				
UNITS	UG/L	UG/L	UG/L				
ENV PROBLEM NO	99	99	99				
INTERNAL STD AREA(CBZ)	85300	89000	77700				
INTERNAL STD AREA(DFB)	104000	108000	97100				
DILUTION FACTOR	1	1	1				
ACTUAL(ALLOWED) HOLD TIME	6(14 D)	3(14 D)	3(14 D)				